

GROVE GEAR®

**PRODUCT
CATALOG**



**GROVE GEAR® PRODUCT
CATALOG 8050**



RegalRexnord™

PROVIDING THE WORLD'S BEST GEARING

GROVE GEAR®

- INTERCHANGEABILITY – REPLACES ALL MAJOR WORLDWIDE BRANDS
- QUALITY – SUPERIOR DESIGN & PRECISION MANUFACTURING
- RELIABILITY – BEST LEAD TIME IN THE INDUSTRY

Grove Gear® manufactures standard and custom gear drives for industrial and specialty applications. The product line is the most extensive line of gear reducers in North America and offers a solution for every power transmission need.

GROVE GEAR IRONMAN offers a comprehensive and superior line of gear reducers, available in right angle worm and high efficiency options.

ELECTRA-GEAR® aluminum products are a light weight, yet durable alternative to today's cast iron and steel models, and are available off-the-shelf or customized to your exact specifications.

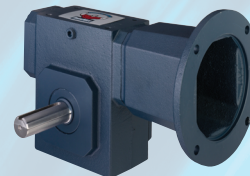
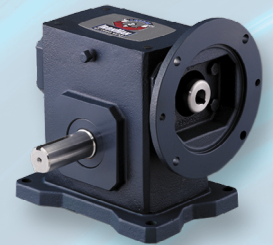
BRAVO® and **QUADRO®** reducers are lightweight, sealed for life, aluminum worm reducers designed for small spaces including OEM designs with difficult installations as well as mobile equipment.

Grove Gear offers a full line of **RATIO MULTIPLIERS**. The compact and cost effective dual purpose design can be used as a stand-alone single reduction inline reducer or as a bolt-on to the input of any c-faced gear reducer to multiply overall reduction ratio.

Grove Gear designs and builds long lasting energy efficient gear reducers and **GEAR + MOTORS** to meet the increasing demands for efficiency.

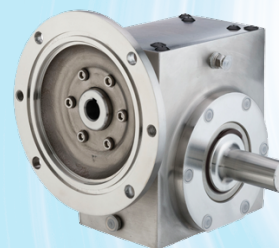
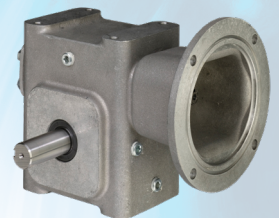
Beyond our standard and modified standard products, our engineers will work with you to design and build custom solutions in several gearing technologies to fit your needs.

Grove Gear IRONMAN®
GR Series
Worm Gear Reducers



Grove Gear IRONMAN
NH Series
Worm Gear Reducers

Electra-Gear
EL Series
Worm Gear Reducers



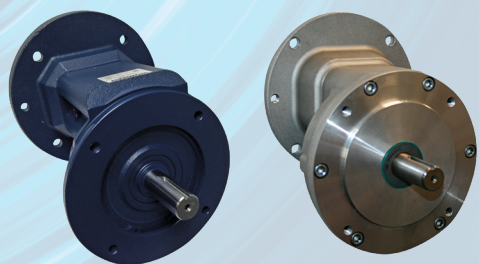
Grove Gear
Stainless Steel
Worm Gear Reducers

Grove Gear
BRAVO®
Gear Reducers

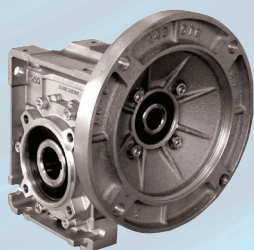


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Ratio Multipliers



Grove Gear
QUADRO®
Gear Reducers

Single Reduction
Worm Gear Reducers

Double Reduction
Worm-Worm Gear Reducers

Double Reduction
Helical-Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories



CAST IRON GEAR REDUCERS AND GEAR PLUS MOTORS BUILT FOR INDUSTRIAL USE

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Precision mounting surfaces and extra threaded bolt holes on top and bottom for flexibility and to accept a wide range of stock mounting accessories.

Cast aluminum NEMA* C-input with machined fits for precision alignment of motors and bearings.

Push-off holes drilled and tapped into flange for quick motor removal on quill input styles (56 & 140TC frames).

Seal Guard** on quill-input styles protects input seal from damage during motor installation.

** Sizes 813 through 852 only

IronMan® fine-grained, one-piece cast housing for rigidity and alignment. Machined for precision alignment of worm, worm gear, bearings and mounting surfaces. Superior resistance to environmental contaminants with high heat dissipation and noise reduction.

Bronze alloy worm gear is premium quality bronze for maximum strength, lubricity and superior life.

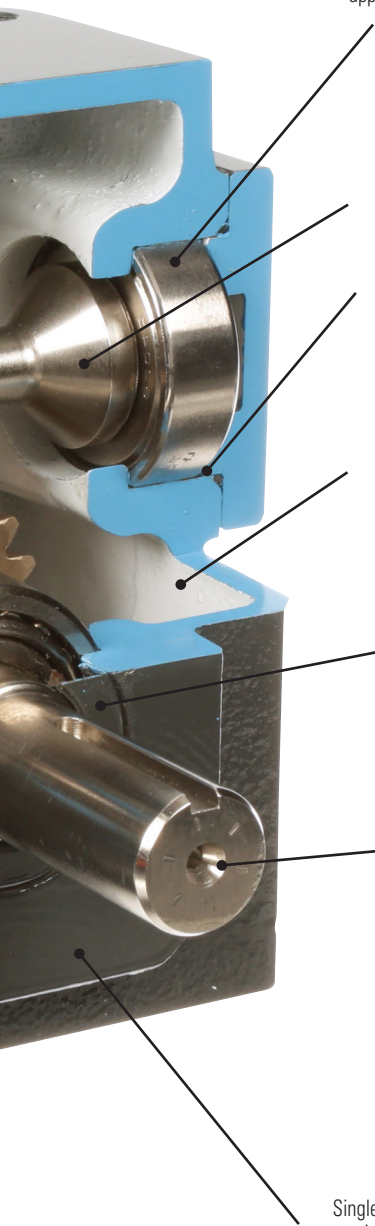
Tapered roller bearings on output shaft for high over-hung and thrust load capacities.

Mounting dimensions are interchangeable with Baldor 900 series, Boston Gear, Browning Raider, Falk, Morse Invader and other "industry standard" reducers.

*NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation.

**CAST IRON
GR SERIES**

**CAST IRON
NH SERIES**



Oversized positively-retained high speed input shaft bearing for higher shock load capacity, shaft alignment and seal life. Ideal for frequent starting and reversing applications.

Single-piece, alloy steel input worm shaft. High lead angle worm is case-hardened, ground and polished for enhanced efficiency and noise reduction.

O-rings on input and output covers eliminate gaskets, sealants and leaks.

High capacity oil reservoir reduces noise, aids heat dissipation and lubricates for life. Multiple venting options for multi-position mounting. Factory filled with premium Mobil Glygoyle* 460 polyalkalene glycol (PAG) lubricant.

Viton® premium quality, double lip seals** throughout —on micro-finished surfaces— mean extended life, resistance to high temperature, abrasion and chemicals.

Robust output shaft of high strength steel alloy for superior torque and overhung load capacities.

Single output cover design provides precise centering of gear for lower noise levels and higher overall gear efficiencies.

SERIES COMPARISON

**CAST IRON
GR SERIES**



- Grove Gear® IRONMAN® 800 Series
- Cast Iron Housing Construction
- Mounting dimensions are interchangeable with most industry standard reducers
- Designed with industry leading premium features as standard
- Combines the premium features of the LEESON IRONMAN with the industry's broadest product offering of the Grove Gear Flexaline
- GEAR+MOTOR™ Available

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

**CAST IRON
NH SERIES**

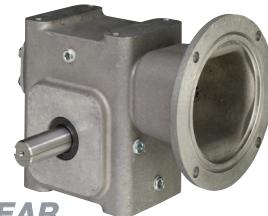


- Grove Gear IRONMAN Narrow Housing 800 Series
- Cast Iron Housing Construction
- Designed with industry leading premium features as standard
- Replacement for Grove Gear OE Series and original Alling Lander gear reducers
- Compact housing design to fit where other reducer brands cannot
- GEAR+MOTOR™ Available

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

**ALUMINUM
EL SERIES**



ELECTRA-GEAR

- Electra-Gear 800 Series
- Aluminum Housing Construction
- Lightweight design with all the premium features of the GR and NH series as standard
- Replacement to original Electra-Gear reducers
- GEAR+MOTOR™ Available

Ratio Multipliers

Accessories
Additional Capabilities

*The following trade names, trademarks and/or registered trademarks are not owned by Regal Rexnord Corporation and are believed to be owned by the following party: Mobil and Glygoyle are believed to be the trademarks and/or trade names of Exxon Mobil Corporation and are not owned or controlled by Regal Rexnord Corporation

ELECTRA-GEAR®

Aluminum Gear Reducers Built For Industrial Use

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Oversized positively-retained high speed input shaft bearing for higher shock load capacity, shaft alignment and seal life. Ideal for frequent starting and reversing applications.

Single-piece, alloy steel input worm shaft. High lead angle worm is case-hardened, ground and polished for enhanced efficiency and noise reduction.

DIN1705 (CuSn45Ni4) bronze alloy provides maximum strength, lubricity and superior life.

Tapered roller bearings on output shaft for high overhung and thrust load capacities.

Viton® premium quality, double lip seals provide extended life and resistance to high temperature, abrasion and chemicals. Only non-rusting rubber O.D. seals used in all exposed locations.

EL Series One piece 356T cast aluminum housing to provide strength and rigidity. Polished finish also available.

Robust output shaft of high strength steel alloy for superior torque and overhung load capacities.

O-rings on input and output covers eliminate gaskets, sealants and leaks.

Precision mounting surfaces and extra threaded bolt holes on top and bottom for flexibility and to accept a wide range of stock mounting accessories.

High capacity oil reservoir reduces noise, aids heat dissipation and lubricates for life. Multiple venting options for multi-position mounting. Factory filled with premium synthetic Mobil Glygoyle® 460 polyalkylene glycol (PAG) lubricant.

Single output cover design provides precise centering of gear for lower noise levels and higher overall gear efficiencies. Output shaft comes out non-cover side as standard.

EL Series Mounting dimensions same as the original Electra-Gear product with an option to match the industry standard dimensions of Grove Gear.

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ALL FEATURES SHOWN ARE SAME FOR ALL GR, NH AND EL SERIES EXCEPT WHERE NOTED.

Seal Guard** on quill-input styles protects input seal from damage during motor installation

** Sizes 813 through 852 only

Cast aluminum NEMA* C-input with machined fits for precision alignment of motors and bearings. (EL Series)

Push-off holes drilled and tapped into flange for quick motor removal on quill input styles (56 & 140TC frames).

Premium Grade 5 zinc-plated bolts used throughout.



SERIES COMPARISON

CAST IRON GR SERIES



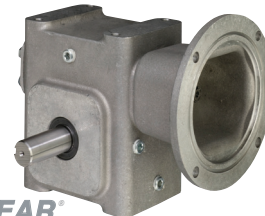
- Grove Gear® IRONMAN® 800 Series
- Cast Iron Housing Construction
- Mounting dimensions are interchangeable with most industry standard reducers
- Designed with industry leading premium features as standard
- Combines the premium features of the LEESON® IRONMAN with the industry's broadest product offering of the Grove Gear Flexaline®
- GEAR+MOTOR™ Available

CAST IRON NH SERIES



- Grove Gear IRONMAN Narrow Housing 800 Series
- Cast Iron Housing Construction
- Designed with industry leading premium features as standard
- Replacement for Grove Gear OE Series and original Alling Lander gear reducers
- Compact housing design to fit where other reducer brands cannot
- GEAR+MOTOR™ Available

ALUMINUM EL SERIES



ELECTRA-GEAR®

- Electra-Gear 800 Series
- Aluminum Housing Construction
- Lightweight design with all the premium features of the GR and NH series as standard
- Replacement to original Electra-Gear® reducers
- GEAR+MOTOR™ Available

GR and NH Series Mounting dimensions are interchangeable with Baldor** 900 series, Boston Gear**, Browning Raider, Falk**, Morse Invader and other "industry standard" reducers.

*NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation.

**The following trade names, trademarks and/or registered trademarks are used in this material by Regal Rexnord Corporation for comparison purposes only, are NOT owned or controlled by Regal Rexnord Corporation and are believed to be owned by the following parties. Baldor: ABB ASEA Brown Boveri Ltd.; Boston: Boston Gear LLC; Dodge and Tigear: Baldor Electric Company; Falk and Omnibox: Rexnord Industries, LLC.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



INTERCHANGE GUIDE

SINGLE REDUCTION

CAST IRON GR SERIES **CAST IRON NH SERIES** **ALUMINUM EL SERIES**

Reducer Style

Replaces Original GROVE GEAR® OE Series Reducer Style

Replaces Original ELECTRA-GEAR® Reducer Style

B	U	M
BM & BMQ	UFC & UF	MC & MSC
B★	N/A	ML
BM & BMQ★	N/A	MLC & MLSC
T & U	Z & UB	A
TM & TMQ	ZFC & ZF	AC & ASC
T★	N/A	AL
TM & TMQ★	N/A	ALC & ALSC
UM & UMQ	UBFC & UBF	NEW
J	J	JB
JM & JMQ	JFC & JF	JBC & JBSC
VL & VH	SL & SH	B
VLM & VLMQ	SLFC & SLF	BC & BSC
VHM	SHFC	N/A
VHMQ	SHF	N/A
F	K & V	N/A
FM & FMQ	KFC & KF / VFC & VF	N/A
C	P	N/A
CM & CMQ	PFC & PF	N/A
FE	E	N/A
FEM & FEMQ	EFC & EF	N/A
H	Y	MH_ & H_
HM & HMQ	YFC & YF	MH_C/ MH_SC & H_C/H_SC
JH	N/A	JBH_
JHM & JHMQ	N/A	JBH_C & JBH_SC
VLHM & VLHMQ	SHFC & SHF	BH_C & BH_SC
FH	M	RH_
FHM & FHMQ	MFC & MF	RH_C & H_C/H_SC & RH_SC
FR	N/A	NEW
FRM & FRMQ	N/A	New
FL	N/A	RL
FLM & FLMQ	N/A	RLC & RLSC
BL (Torque Limiter Reducer)	UL	N/A
BLM & BLMQ (Torque Limiter Reducer)	ULFC & ULF	N/A
ABC	N/A	ABC (contact factory)

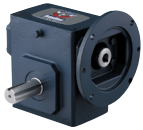
Accessory

Horizontal Base Kit (T & U)	Horizontal Base Kit (Z & UB)	Horizontal Base Kit (AK Kit #s)
Vert. Output Shaft Base Kit (VL & VH)	Vert. Output Shaft Base Kit (SL & SH)	Vert. Output Shaft Base Kit (BK Kit #s)
Vertical Input Shaft Base Kit (J)	Vert. Input Shaft Base Kit (J)	Vert. Input Shaft Base Kit (JBK Kit #s)
Cast Iron Output Flange (F)	Cast Iron Output Flange (K & V)	Cast Iron Output Flange (Square)
ABC Base Kit	N/A	ABC
Cast Iron Output Flange for Solid Output Shaft Styles (FR)	N/A	Cast Iron Output Flange (Round)
Coupling Input "C" Flange Kit – Single Red.✦	C-Flange Mounting Kit	N/A
Coupling Input "C" Flange Kit – Double Red.✦	C-Flange Mounting Kit	N/A
Hollow Shaft Tie Rod Kit	Hollow Shaft Tie Rod Kit	Hollow Shaft Tie Rod Kit
Hollow Shaft Torque Arm Bracket	Hollow Shaft Torque Arm Bracket	Hollow Shaft Torque Arm Bracket (TAK Kit #s)

★ Confirm required output shaft length

✦ Convert Style B to BM using coupling input kit

Single Reduction
Worm Gear Reducers



Style BMQ

Double Reduction
Worm - Worm Gear Reducers



Style TMQ

Double Reduction
Helical - Worm Gear Reducers



Style JMQ

WASHGUARD® Reducers
and GEAR+MOTOR™

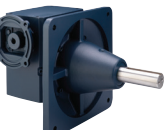


Style FMQ

Ratio Multipliers



Style CMQ



Style FEMQ

Accessories
Additional Capabilities



Style HMQ



Style JHMQ



Style VLHMQ

SEE PAGE B2 FOR DOUBLE REDUCTION

MODEL NUMBER SYSTEM

GR • NH • EL SERIES

800 Series Gear Reducer Model Number Nomenclature

All new stock and custom 800 Series Grove Gear® and Electra-Gear® worm gear reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

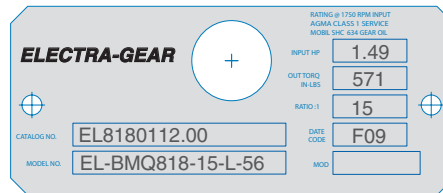
NOTE: All reducers also have a catalog number—for example EL8130001 and GR8130001. Reducers and renewal parts should be ordered by catalog number. If a stock reducer has been Factory modified by the addition of an optional base for example, the modification number T818EL is stamped in the blank column of the nameplate. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 3000 and higher (for example, GR8133000 and NH8133000) are WASHGUARD® reducers for washdown service.

Catalog numbers 5000 and higher (for example, GR8135000 and EL8135000) are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered by catalog number.

TYPICAL NAMEPLATE

(Electra-Gear shown)



Series Code	Style	Output Size	Ratio	Output Shaft Orientation	Motor Flange	Bore Code																																							
<p>GR - Grove Gear IRONMAN Cast Iron Reducers</p> <p>NH - Grove Gear IRONMAN Narrow Housing Cast Iron Reducers</p> <p>EL - Electra-Gear Aluminum Reducers</p> <p>GRG - Grove Gear® Flexaline Interchange (Sizes 821, 826, 832)</p> <p>GRL - Leeson IRONMAN Interchange (Sizes 821, 826, 832)</p> <p>SS - Grove Gear Premium Washguard All Stainless Reducers</p>	<p>SOLID OUTPUT SHAFT</p> <p>BMQ – Motorized, Quill Input</p> <p>BM – Motorized, Flexible Coupling Input</p> <p>B – Non-Flanged</p> <p>See pages 10, 11, 14, 15 for other styles</p> <p>HOLLOW OUTPUT SHAFT</p> <p>HMQ – Motorized, Quill Input</p> <p>HM – Motorized, Flexible Coupling Input</p> <p>H – Non-Flanged</p> <p>See pages 12, 13, 16, 17 for other styles.</p> <p>WASHGUARD STYLES</p> <p>W prefix; i.e. WBMQ denotes WASHDOWN Reducer</p>	<p>See Selection Tables on pages A22-A48, for all available ratios.</p>	<p>See Selection Tables on pages A22-A48, for all available ratios.</p>	<p>L – Left-hand Output Shaft*</p> <p>R – Right-hand Output Shaft*</p> <p>D – Double Output Shaft</p> <p>H – Hollow Output Shaft</p> <p>* Viewed from drive end of reducer.</p>	<p>Hollow Shaft Only</p> <p>See bottom right hand pages of Max Ratings Tables starting on page A27.</p>	<p>See Selection Tables on pages A22-A48, for all available ratios.</p>																																							
<p>800 SERIES CENTER DISTANCES</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th>Size</th> <th>Center Distance (Inches)</th> </tr> </thead> <tbody> <tr><td>813</td><td>1.33</td></tr> <tr><td>815**</td><td>1.54</td></tr> <tr><td>818</td><td>1.75</td></tr> <tr><td>821</td><td>2.06</td></tr> <tr><td>824</td><td>2.38</td></tr> <tr><td>826</td><td>2.62</td></tr> <tr><td>830</td><td>3.00</td></tr> <tr><td>832</td><td>3.25</td></tr> <tr><td>842</td><td>4.25</td></tr> <tr><td>852</td><td>5.25</td></tr> <tr><td>860**</td><td>6.00</td></tr> <tr><td>870*</td><td>7.00</td></tr> <tr><td>880*</td><td>8.00</td></tr> <tr><td>8100*</td><td>10.00</td></tr> </tbody> </table> <p>* GR Series only ** Not available in EL Series</p>							Size	Center Distance (Inches)	813	1.33	815**	1.54	818	1.75	821	2.06	824	2.38	826	2.62	830	3.00	832	3.25	842	4.25	852	5.25	860**	6.00	870*	7.00	880*	8.00	8100*	10.00									
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			<p>Input Code</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th>Single Input</th> <th>Dual Input</th> <th>For Input Type</th> </tr> </thead> <tbody> <tr><td>blank</td><td>A</td><td>non-motorized</td></tr> <tr><td>48**</td><td>48A</td><td>48CZ</td></tr> <tr><td>56</td><td>56A</td><td>56C</td></tr> <tr><td>140</td><td>140A</td><td>143-5TC</td></tr> <tr><td>180</td><td>180A</td><td>182-4TC</td></tr> <tr><td>210</td><td>210A</td><td>213-5TC</td></tr> <tr><td>250</td><td>250A</td><td>254-6TC</td></tr> <tr><td>63</td><td rowspan="4" style="text-align: center;">Contact Factory</td><td>D63D B5</td></tr> <tr><td>71</td><td>D71D B5</td></tr> <tr><td>80</td><td>D80D B5</td></tr> <tr><td>90</td><td>D90D B5</td></tr> <tr><td>110</td><td rowspan="2" style="text-align: center;">Contact Factory</td><td>D100LD/D112MD B5</td></tr> <tr><td>132</td><td>D132D</td></tr> </tbody> </table> <p>** Not available in EL Series</p>	Single Input	Dual Input	For Input Type	blank	A	non-motorized	48**	48A	48CZ	56	56A	56C	140	140A	143-5TC	180	180A	182-4TC	210	210A	213-5TC	250	250A	254-6TC	63	Contact Factory	D63D B5	71	D71D B5	80	D80D B5	90	D90D B5	110	Contact Factory	D100LD/D112MD B5	132	D132D				
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110	Contact Factory	D100LD/D112MD B5																																											
132		D132D																																											

Sample Model Numbers

Solid Output Shaft-GR Series

Cast iron, single reduction, 2.38" reducer with 56C motorized quill input, left-hand output shaft, 30:1 ratio.

GR - BMQ 824 - 30 - L - 56
 Series Style Size Ratio Shaft Orientation Input Type

Hollow Output Shaft-EL Series

Aluminum, single reduction, 1.75" reducer with 56C motorized quill input, 1.00" hollow output bore, 10:1 ratio.

EL - HMQ 818 - 10 - H - 56 - 16
 Series Style Size Ratio Shaft Orientation Input Type Output Bore Code

Single Reduction Worm Gear Reducers
 Double Reduction Worm - Worm Gear Reducers
 Double Reduction Helical - Worm Gear Reducers
 WASHGUARD® Reducers and GEAR+MOTOR™
 Ratio Multipliers
 Accessories Additional Capabilities



CAST IRON SOLID SHAFT OUTPUT STYLES

**CAST IRON
GR SERIES**

**CAST IRON
NH SERIES**

Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles BMO, BM and B can be field or Factory modified into a wide range of styles. See pages Section F for details.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

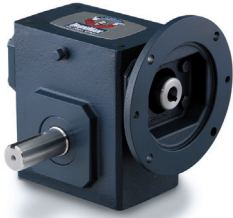
Accessories
Additional Capabilities

**MOTORIZED
C-FLANGE
QUILL INPUT**

**MOTORIZED C-FLANGE
FLEXIBLE COUPLING
INPUT**

**NON-
FLANGED
INPUT**

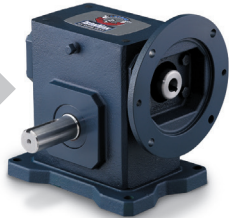
Style BMO



Ratings Pages: A22-A48

Dimension Pages:
GR Series A52-A53
NH Series A74-A75

Style TMO



Ratings Pages: A22-A48

Dimension Pages:
GR Series A54-A55
NH Series A76-A77

Style UMO



Ratings Pages: A22-A48

Dimension Pages:
GR Series A56-A57
NH Series A78-A79

Style RMO



Ratings Pages: A22-A48

Dimension Pages:
GR Series A62-A63

Style JMO



Ratings Pages: A22-A48

Dimension Pages:
GR Series A58-A59
NH Series A80-A81

Style BM



Ratings Pages: A22-A48

Dimension Pages:
GR Series A52-A53
NH Series A74-A75

Style TM



Ratings Pages: A22-A48

Dimension Pages:
GR Series A54-A55
NH Series A76-A77

Style UM



Ratings Pages: A22-A48

Dimension Pages:
GR Series A56-A57
NH Series A78-A79

Style RM



Ratings Pages: A22-A48

Dimension Pages:
GR Series A62-A63

Style JM



Ratings Pages: A22-A48

Dimension Pages:
GR Series A58-A59
NH Series A80-A81

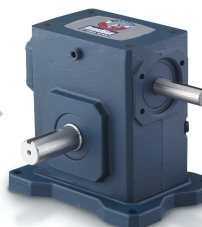
Style B



Ratings Pages: A22-A48

Dimension Pages:
GR Series A52-A53
NH Series A74-A75

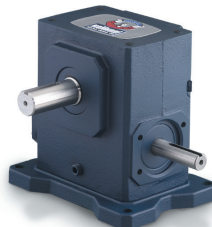
Style T



Ratings Pages: A22-A48

Dimension Pages:
GR Series A54-A55
NH Series A76-A77

Style U



Ratings Pages: A22-A48

Dimension Pages:
GR Series A56-A57
NH Series A78-A79

Style R



Ratings Pages: A22-A48

Dimension Pages:
GR Series A62-A63

Style J



Ratings Pages: A22-A48

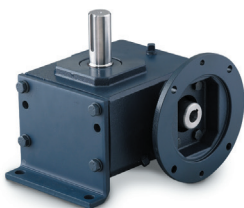
Dimension Pages:
GR Series A58-A59
NH Series A80-A81

Additional accessories, options and assembly services are available, contact Factory for details.



**Vertical
Output Shaft
Low Base**

Style VLMO**



Ratings Pages: A22-A48

Dimension Pages:
GR Series A60-A61
NH Series A82-A83

**Vertical
Output Shaft
High Base**

Style VHMO**



Ratings Pages: A22-A48

Dimension Pages:
GR Series A60-A61
NH Series A82-A83

**Flange
Mounted
Output Shaft**

Style FMQ



Ratings Pages: A22-A48

Dimension Pages:
GR Series A64-A65
NH Series A84-A85

**"C" Flange
Mounted
Output Shaft**

Style CMQ

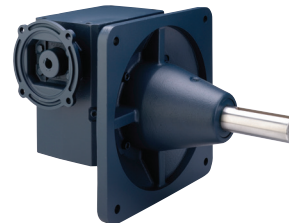


Ratings Pages: A22-A48

Dimension Pages:
GR Series A66-A67

**Extended Flange
Mounted
Output Shaft**

Style FEMQ



Ratings Pages: A22-A48

Dimension Pages:
GR Series A72-A73
NH Series A90-A91

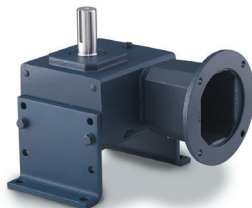
Style VLM**



Ratings Pages: A22-A48

Dimension Pages:
GR Series A60-A61
NH Series A82-A83

Style VHM**



Ratings Pages: A22-A48

Dimension Pages:
GR Series A60-A61
NH Series A82-A83

Style FM



Ratings Pages: A22-A48

Dimension Pages:
GR Series A64-A65
NH Series A84-A85

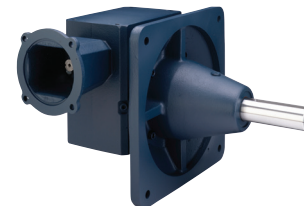
Style CM



Ratings Pages: A22-A48

Dimension Pages:
GR Series A66-A67

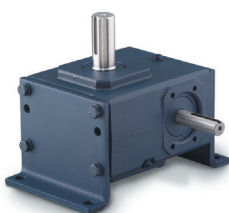
Style FEM



Ratings Pages: A22-A48

Dimension Pages:
GR Series A72-A73
NH Series A90-A91

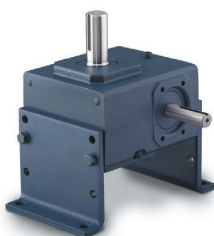
Style VL**



Ratings Pages: A22-A48

Dimension Pages:
GR Series A60-A61
NH Series A82-A83

Style VH**



Ratings Pages: A22-A48

Dimension Pages:
GR Series A60-A61
NH Series A82-A83

Style F



Ratings Pages: A22-A48

Dimension Pages:
GR Series A64-A65
NH Series A84-A85

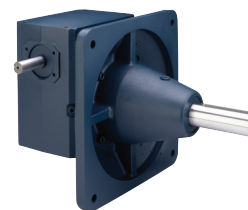
Style C



Ratings Pages: A22-A48

Dimension Pages:
GR Series A66-A67

Style FE



Ratings Pages: A22-A48

Dimension Pages:
GR Series A72-A73
NH Series A90-A91

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



CAST IRON HOLLOW SHAFT OUTPUT STYLES

**CAST IRON
GR SERIES**

**CAST IRON
NH SERIES**

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Stock Styles

Modified Stock Styles

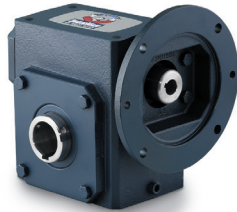
Using off-the-shelf accessories, stock styles HMQ, HM and H can be field or Factory modified into a wide range of styles. See Section F for details.

**MOTORIZED
C-FLANGE
QUILL
INPUT**

**MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT**

**NON-
FLANGED
INPUT**

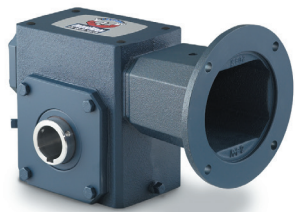
Style HMQ



Ratings Pages: A22-A48

Dimension Pages:
GR Series A68-A69
NH Series A86-A87

Style HM



Ratings Pages: A22-A48

Dimension Pages:
GR Series A68-A69
NH Series A86-A87

Style H



Ratings Pages: A22-A48

Dimension Pages:
GR Series A68-A69
NH Series A86-A87

Vertical Input Shaft

Style JHMQ



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

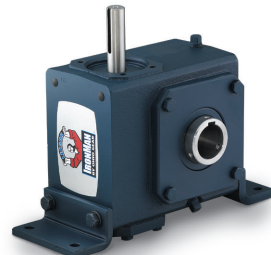
Style JHM



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

Style JH



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

**Additional accessories, options and assembly services are available,
Contact Factory for details.**



Single Reduction
Worm Gear Reducers

Vertical Output Shaft Low Base

Style VLHMQ

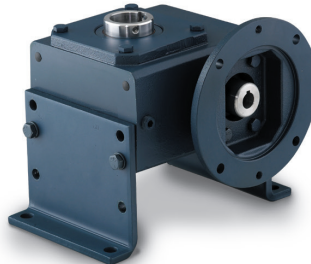


Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

Vertical Output Shaft High Base

Style VHHMQ



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

Flange Mounted Output Shaft

Style FHMQ



Ratings Pages: A22-A48

Dimension Pages:
GR Series A70-A71
NH Series A88-A89

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

Style VLHM



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

Style VHHM



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

Style FHM

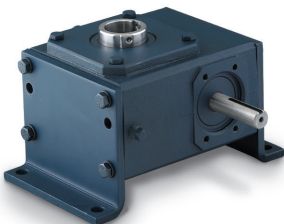


Ratings Pages: A22-A48

Dimension Pages:
GR Series A70-A71
NH Series A88-A89

WASHGUARD® Reducers
and GEAR+MOTOR™

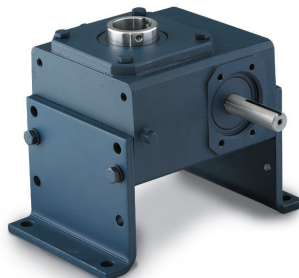
Style VLH



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

Style VHH



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

Style FH



Ratings Pages: A22-A48

Dimension Pages:
GR Series A70-A71
NH Series A88-A89

Ratio Multipliers

Accessories
Additional Capabilities

ELECTRA-GEAR[®] ALUMINUM SOLID SHAFT OUTPUT STYLES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD[®] Reducers
and GEAR+MOTOR[™]

Ratio Multipliers

Accessories
Additional Capabilities

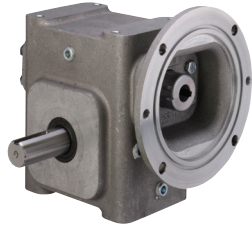
Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles BMQ, BM and B can be field or Factory modified into a wide range of styles. See Section F for details.

MOTORIZED
C-FLANGE
QUILL
INPUT

Style BMQ

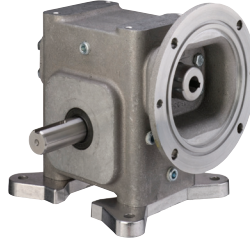


Ratings Pages: A22-A48

Dimension Pages:
EL Series A94-A95

Horizontal Base Worm Over

Style TMQ

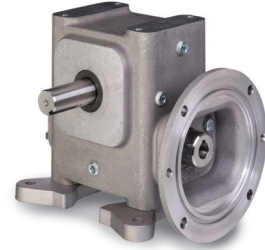


Ratings Pages: A22-A48

Dimension Pages:
EL Series A96-A97

Horizontal Base Worm Under

Style UMQ*

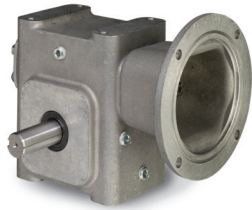


Ratings Pages: A22-A48

Dimension Pages:
EL Series A98-A99

MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT

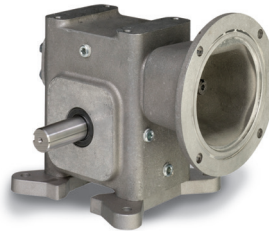
Style BM



Ratings Pages: A22-A48

Dimension Pages:
EL Series A94-A95

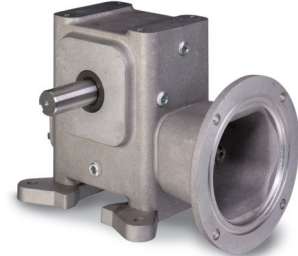
Style TM



Ratings Pages: A22-A48

Dimension Pages:
EL Series A96-A97

Style UM*

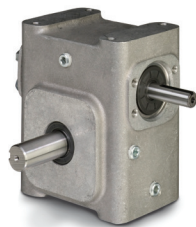


Ratings Pages: A22-A48

Dimension Pages:
EL Series A98-A99

NON-
FLANGED
INPUT

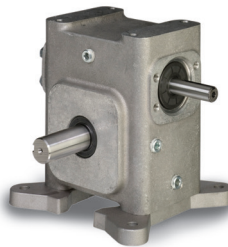
Style B



Ratings Pages: A22-A48

Dimension Pages:
EL Series A94-A95

Style T



Ratings Pages: A22-A48

Dimension Pages:
EL Series A96-A97

Style U*



Ratings Pages: A22-A48

Dimension Pages:
EL Series A98-A99

* Not a recommended mounting style.
Contact Factory for selection assistance.

**Additional accessories, options and assembly services are available,
Contact Factory for details.**

**Vertical
Input Shaft**

Style JMQ**



Ratings Pages: A22-A48

Dimension Pages:
EL Series A90-A91

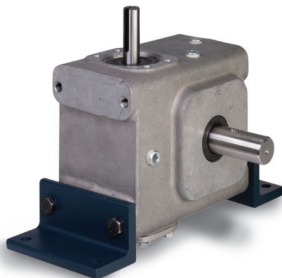
Style JM**



Ratings Pages: A22-A48

Dimension Pages:
EL Series A90-A91

Style J**

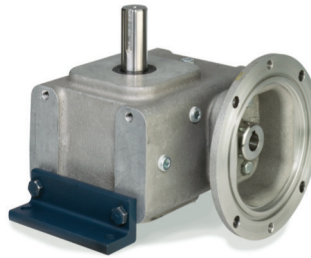


Ratings Pages: A22-A48

Dimension Pages:
EL Series A90-A91

**Vertical
Output Shaft
Low Base**

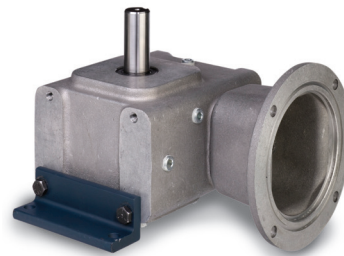
Style VLMQ**



Ratings Pages: A22-A48

Dimension Pages:
EL Series A92-A93

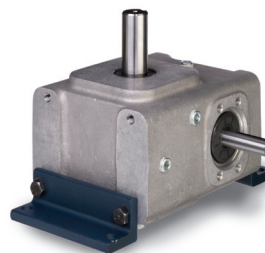
Style VLM**



Ratings Pages: A22-A48

Dimension Pages:
EL Series A92-A93

Style VL**

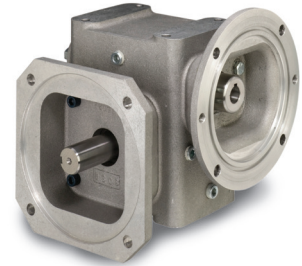


Ratings Pages: A22-A48

Dimension Pages:
EL Series A92-A93

**Flange
Mounted
Output Shaft**

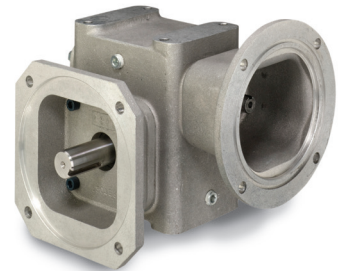
Style FRMQ



Ratings Pages: A22-A48

Dimension Pages:
EL Series A94-A95

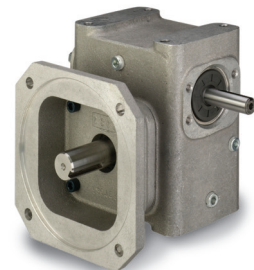
Style FRM



Ratings Pages: A22-A48

Dimension Pages:
EL Series A94-A95

Style FR



Ratings Pages: A22-A48

Dimension Pages:
EL Series A94-A95

**SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

ELECTRA-GEAR[®] ALUMINUM HOLLOW SHAFT OUTPUT STYLES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD[®] Reducers
and GEAR+MOTOR[™]

Ratio Multipliers

Accessories
Additional Capabilities

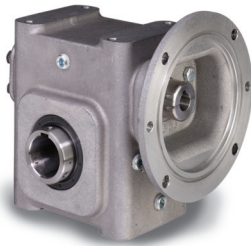
Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles HMQ, HM and H can be field or Factory modified into a wide range of styles. See Section F for details.

**MOTORIZED
C-FLANGE
QUILL
INPUT**

Style HMQ



Ratings Pages: A22-A48

Dimension Pages:
EL Series A106-A107

**Vertical
Input Shaft**

Style JHMQ

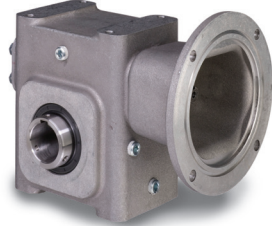


Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

**MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT**

Style HM



Ratings Pages: A22-A48

Dimension Pages:
EL Series A106-A107

Style JHM



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

**NON-
FLANGE
INPUT**

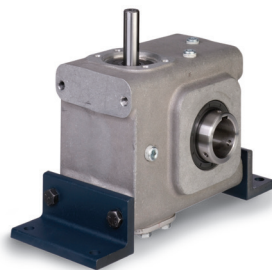
Style H



Ratings Pages: A22-A48

Dimension Pages:
EL Series A106-A107

Style JH



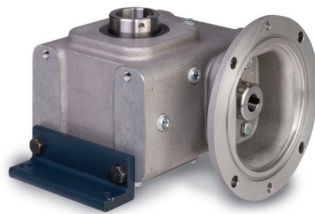
Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

**Additional accessories, options and assembly services are available,
Contact Factory for details.**

**Vertical
Output Shaft
Low Base**

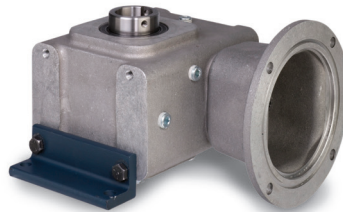
Style VLHMQ



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

Style VLHM



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

Style VLH



Ratings Pages: A22-A48

Dimension Pages:
Contact Factory

**Flange
Mounted
Output Shaft**

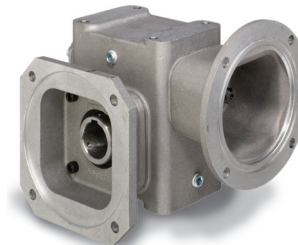
Style FHMQ



Ratings Pages: A22-A48

Dimension Pages:
EL Series A108-A109

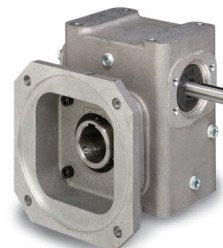
Style FHM



Ratings Pages: A22-A48

Dimension Pages:
EL Series A108-A109

Style FH



Ratings Pages: A22-A48

Dimension Pages:
EL Series A108-A109

**Additional accessories, options and assembly services are available,
Contact Factory for details.**

QUICK SELECTIONS



How to Use

Based on required output RPM and input motor horsepower, read across chart for the appropriate reducer size. As a rule of thumb, use 1.00 service factor chart for applications having uniform loads with up to 10 hours service duration per day. Use 1.25 service factor chart for longer service or shock loading. These charts are to be considered as guides only. Refer to Section L or Contact Factory with specific application information.

1.0 Service Factor

Nominal Ratio [▲]	Output RPM	Input Horsepower @ 1750 RPM																			
		1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	25	30	40	50	60	75
5	350	813	813	813	813	813	813	815	818	821	824	830*	832**	842	852	852	860	870	880	8100	8100
7.5	233	813	813	813	813	813	813	815	818	821	824	826	832	842	852	852	860	870	880	8100	8100
10	175	813	813	813	813	813	815	818	821	824	826	830	832**	842	842	852	860	870	880	8100	8100
15	117	813	813	813	813	815	815	821	824	826	832	842	842	852	870	870	880	8100	8100		
20	88	813	813	813	813	815	818	821	824	826	832**	842	852	860	870	880	8100	8100			
25	70	813	813	813	815	815	821	824	826	830*	842	842	852	870	880	8100	8100				
30	58	813	813	813	815	821	821	824	826	832	842	852	852	880	8100	8100					
40	44	813	813	813	815	821	824	826	830*	842	842	852	870	8100	8100						
50	35	813	813	815	818	821	824	830	832**	842	852	870	880	8100							
60	29	813	813	815	821	824	826	830*	832**	842	852	880	8100								
70	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	870	880	8100								
80	22	815	821	824	826	830	832	842	852	860											
100	18	821	824	826	830	842	842	852	852												

1.25 Service Factor

Nominal Ratio [▲]	Output RPM	Input Horsepower @ 1750 RPM																			
		1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	25	30	40	50	60	75
5	350	813	813	813	813	813	813	815	821	824	826	832**	842	852	852	870	870	880	8100	8100	
7.5	233	813	813	813	813	813	815	818	821	824	830*	842	842	852	852	870	870	880	8100	8100	
10	175	813	813	813	813	815	815	821	824	826	832	842	842	852	860	870	880	8100	8100		
15	117	813	813	813	813	815	818	821	824	830	842	842	852	860	870	880	8100	8100			
20	88	813	813	813	815	818	821	824	826	830*	842	842	852	870	880	8100	8100				
25	70	813	813	813	815	821	821	824	826	832**	842	852	860	880	8100	8100					
30	58	813	813	815	815	821	824	826	830*	842	842	852	870	8100	8100						
40	44	813	813	815	821	824	824	830*	832**	842	852	870	880	8100							
50	35	813	815	815	821	824	826	830*	842	842	852	880	8100								
60	29	813	815	818	821	824	830	832	842	852	870	8100	8100								
70	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	870	880	8100									
80	22	815	821	824	830	832	842	852	852												
100	18	815	824	830	832	842	852	852	860												

Note: This chart is meant as a guide for reducer selections at specific motor horsepower. Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages A22-A48.

▲ Refer to page A20 for exact ratio of single reduction worm gear reducers.

* Size 832 must be used for NH Series for this selection.

** Size 842 must be used for NH Series for this selection.

Light blue indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.

Dark blue indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHBOARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



QUICK SELECTIONS

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

1.50 Service Factor

Nominal Ratio [▲]	Output RPM	Input Horsepower @ 1750 RPM																		
		1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	25	30	40	50	60
5	350	813	813	813	813	813	815	818	821	824	826	830*	832**	842	852	852	870	870	880	8100
7.5	233	813	813	813	813	815	815	821	821	824	826	832	842	852	860	870	880	8100	8100	
10	175	813	813	813	813	815	818	821	824	826	830*	842	852	852	870	880	8100	8100		
15	117	813	813	813	815	818	821	824	826	830*	842	852	852	870	880	8100	8100			
20	88	813	813	815	815	821	821	824	826	832**	842	852	860	880	8100	8100				
25	70	813	813	815	815	821	824	826	826	830*	842	842	852	870	8100	8100				
30	58	813	813	815	821	821	824	830	832	842	852	870	880	8100						
40	44	813	815	815	821	824	826	830*	832**	842	852	880	8100							
50	35	813	815	818	821	824	830	832**	842	852	870	880	8100							
60	29	813	815	821	824	826	830*	842	842	852	880	8100								
70	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	870	880	8100								
80	22	821	824	826	830	842	842	852	860											
100	18	824	826	830	842	842	852	860												

1.75 Service Factor

Nominal Ratio [▲]	Output RPM	Input Horsepower @ 1750 RPM																		
		1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	25	30	40	50	60
5	350	813	813	813	813	815	815	818	821	824	830*	842	842	852	860	870	880	8100	8100	8100
7.5	233	813	813	813	813	815	818	821	824	830	832**	842	852	852	870	880	880	8100	8100	
10	175	813	813	813	815	818	821	824	824	830	842	842	852	870	870	880	8100	8100		
15	117	813	813	813	815	818	821	824	826	832	842	852	852	870	8100	8100				
20	88	813	813	815	815	821	824	826	830*	842	842	852	870	8100	8100					
25	70	813	813	815	818	821	824	830	832	842	852	870	880	8100						
30	58	813	815	815	821	824	826	830*	832**	842	852	870	880	8100						
40	44	813	815	818	821	824	830	832**	842	842	860	880	8100							
50	35	813	815	821	824	826	830*	842	842	852	870	8100	8100							
60	29	815	818	821	824	830*	832**	842	842	852	880	8100								
70	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	870	8100									
80	22	821	824	826	830	842	842	852	860											
100	18	824	830	830	842	852	852													

2.00 Service Factor

Nominal Ratio [▲]	Output RPM	Input Horsepower @ 1750 RPM																		
		1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	25	30	40	50	
5	350	813	813	813	813	815	818	821	824	826	832**	842	852	852	870	870	880	8100	8100	8100
7.5	233	813	813	813	813	815	821	824	824	830	842	842	852	860	870	880	8100	8100	8100	
10	175	813	813	813	815	818	821	824	826	830*	842	852	852	870	880	8100	8100	8100		
15	117	813	813	815	815	821	824	826	830	832**	842	852	870	880	8100	8100	8100			
20	88	813	813	815	818	821	824	826	832	842	852	860	880	8100	8100					
25	70	813	815	815	821	824	824	830*	832**	842	852	870	880	8100						
30	58	813	815	818	821	824	826	832	842	842	852	880	8100							
40	44	813	815	821	824	826	830*	842	842	852	870	8100	8100							
50	35	815	818	821	824	830	832**	842	842	852	880	8100								
60	29	815	821	821	826	830*	832**	842	852	860	8100									
70	25	N/A	N/A	N/A	N/A	N/A	N/A	870	870	880	8100									
80	22	824	826	830	832	842	852	860												
100	18	826	830	832	842	852	852													

Note: This chart is meant as a guide for reducer selections at specific motor horsepower.

Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages A22-A48.

▲ Refer to page A20 for exact ratio of single reduction worm gear reducers.

* Size 832 must be used for NH Series for this selection.

** Size 842 must be used for NH Series for this selection.

Light green indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.

Light blue indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

EXACT RATIOS



Unit	5	7.5	10	15	20	25	30	40	50	60	70	80	100
813	X	X	X	X	X	X	X	X	X	X	NA	X	X
815	X	X	X	X	X	X	X	X	X	X	NA	X	X
818	X	X	X	X	X	X	X	X	X	X	NA	X	X
821	X	X	X	X	X	X	X	X	X	X	NA	X	X
824	X	X	X	X	X	X	X	X	X	X	NA	X	X
826	5 1/6	X	X	X	X	X	X	X	X	X	NA	X	X
830	X	X	X	X	X	X	X	X	X	X	NA	X	X
832	5 1/6	X	X	X	X	X	X	X	X	X	NA	X	X
842	5 1/6	X	X	X	X	X	X	X	X	X	NA	X	X
852	5 1/8	X	X	X	X	X	X	X	X	X	NA	X	X
860	X	X	X	X	X	X	X	X	X	X	NA	X	X
870	5 1/8	7 2/5	9 3/4	14 2/3	20 1/2	24 1/2	29 1/2	X	X	X	X	NA	NA
880	5 1/8	7 2/5	9 3/4	14 2/3	20 1/2	24 1/2	29 1/2	X	X	X	X	NA	NA
8100	5 1/8	7 1/3	9 3/4	14 2/3	20 1/2	24 1/2	29 1/2	X	X	X	X	NA	NA

HOLLOW SHAFT BORE SIZES (Inches)*

Fraction Size	Decimal Size	Output Bore Code	813	815	818	821	824	826	830	832	842	852	860	870	880	8100	Keyway**
5/8	0.625	10															3/16 x 3/32
11/16	0.688	11															3/16 x 3/32
3/4	0.750	12															3/16 x 3/32
7/8	0.875	14															3/16 x 3/32
1	1.000	16															1/4 x 1/8
1-1/8	1.125	18															1/4 x 1/8
1-3/16	1.188	19															1/4 x 1/8
1-1/4	1.250	20															1/4 x 1/8
1-7/16	1.438	23															3/8 x 3/16
1-1/2	1.500	24															3/8 x 3/16
1-5/8	1.625	26															3/8 x 3/16
1-11/16	1.688	27															3/8 x 3/16
1-3/4	1.750	28															3/8 x 3/16
1-7/8	1.875	30															1/2 x 1/4
1-15/16	1.938	31															1/2 x 1/4
2	2.000	32															1/2 x 1/4
2-3/16	2.188	35															1/2 x 1/4
2-1/4	2.250	36															1/2 x 1/4
2-7/16	2.438	39															5/8 x 5/16
2-1/2	2.500	40															5/8 x 5/16
2-11/16	2.688	43															5/8 x 5/16
2-15/16	2.938	47															3/4 x 3/8
3	3.000	48															3/4 x 3/8
3-3/16	3.188	51															3/4 x 3/8
3-7/16	3.438	55															7/8 x 7/16
3-15/16	3.938	63															1 x 1/2
4-3/16	4.188	67															1 x 1/2
4-7/16	4.438	71															1 x 1/2
4-15/16	4.938	79															1-1/4 x 5/8
5-7/16	5.438	87															1-1/4 x 5/8

Stock Bore Sizes.
 * Other bore sizes are available. Contact Factory for sizes and availability.
 ** Dimensions refer to customer driven shaft.
 NOTE: Specify the required bore size when ordering. The suffix "XX" can be substituted with the bore code from table above.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

"HOW TO USE" MAXIMUM RATING TABLES

How To Use Maximum Rating Tables

Maximum Rating Tables for Single Reduction Gear Reducers are shown on pages A22-A48. Selection of the appropriate gear reducer can be made using these tables or the Quick Selection Tables (pages A18-A19).

BEFORE YOU START:

Identify the Service Factor of the application (see page L7).

Determine the actual input horsepower of the motor by multiplying the motor's nameplate horsepower by the Service Factor.

Determine the output speed (RPM) required at output shaft of reducer.

Identify the mounting style required by your application from the style charts shown on pages A10-A17. Note the basic mounting style (BMQ, BM, etc.).

To select the proper gear reducer size, use the Maximum Rating Tables as shown:

MAXIMUM RATING TABLES
SIZE 813 • GR, NH, EL SERIES

1 Find the appropriate Maximum Rating Tables pages for your basic mounting style. The tables begin on page A22.

4 Select motor frame size.

CAST IRON GR SERIES CAST IRON NH SERIES ALUMINUM EL SERIES

Style BM

5 Identify the model number and catalog number of the basic reducer by continuing to the right. See page 9 for detailed information on building an exact model number.

2 Locate the Input RPM and Output RPM columns on the left side of the table. Scroll down the Input RPM column to locate a listing where the desired input speed corresponds to the output speed required in your application. (Input RPM listings are rounded to the nearest hundred. Your actual input speed of 1750 can be correlated to 1800 with no material change in performance.)

3 Move across the table to the Input HP column until you find a rating that is equal to or greater than the actual input horsepower required. Once located, check the top of the table to identify the correct gear reducer size (818, 821, 824, etc.).

						Style B			Style H	
						Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.	
5	Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)				
	2500	500	1.528	1.429	180					
	1750	350	1.248	1.158	209					
	1170	234	0.952	0.872	235					
	100	20	0.140	0.095	298					
	2500	500	1.281	1.178	223					
7.5	1750	233	1.025	0.933	252					
	1170	156	0.770	0.689	278					
	100	13	0.118	0.072	338					
	2500	500	0.401	0.304	270					
	1750	350	0.395	0.290	314					
	1170	234	0.308	0.215	348					
10	100	3.3	0.071	0.023	429					
	2500	62	0.400	0.283	285					
	1750	43	0.329	0.223	322					
15	1170	29	0.258	0.165	355					
	100	2.5	0.066	0.017	432					
	2500	50	0.346	0.232	292					
20	1750	35	0.285	0.182	327					
	1170	23	0.224	0.133	359					
	100	2.0	0.061	0.014	431					
30	2500	44	0.297	0.184	279					
	1750	29	0.246	0.145	313					
	1170	19	0.195	0.107	345					
40	100	1.7	0.058	0.011	415					
	2500	31	0.144	0.081	163					
	1750	21	0.112	0.064	183					
50	100	1.5	0.051	0.009	201					
	2500	24	0.122	0.074	237					
	1750	16	0.094	0.055	128					
60	100	1.4	0.048	0.008	143					
	2500	21	0.112	0.074	156					
	1750	14	0.084	0.055	184					

Find a Part Number For Size GR813, NH813, EL813

1. Select the correct selection table. 2. Replace leading " _ " with series code (GR, NH, EL)

Example:

6 Verify physical dimensions using the dimensional drawings shown on pages A52-A109.

Single Reduction Worm Gear Reducers

Double Reduction Worm - Worm Gear Reducers

Helical - Worm Gear Reducers

Double Reduction Helical - Worm Gear Reducers

WASHGUARD® Reducers and GEAR+MOTOR™

Ratio Multipliers

Accessories Additional Capabilities

MAXIMUM RATING TABLES

SIZE 813 • GR, NH, EL SERIES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

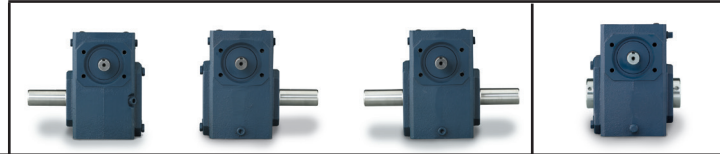
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style B

Style H



Size 813




Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
5	2500	500	1.528	1.429	180	_8130001	_8130013	_8130025	_8130501.10
	1750	350	1.248	1.158	209				
	1170	234	0.952	0.872	235				
	100	20	0.140	0.095	298				
7.5	2500	333	1.281	1.178	223	_8130002	_8130014	_8130026	_8130502.10
	1750	233	1.025	0.933	252				
	1170	156	0.770	0.689	278				
	100	13	0.118	0.072	339				
10	2500	250	1.016	0.912	230	_8130003	_8130015	_8130027	_8130503.10
	1750	175	0.823	0.729	263				
	1170	117	0.626	0.543	293				
	100	10	0.103	0.058	363				
15	2500	166	0.790	0.678	257	_8130004	_8130016	_8130028	_8130504.10
	1750	116	0.642	0.541	292				
	1170	78	0.491	0.402	325				
	100	6.7	0.090	0.042	401				
20	2500	125	0.681	0.562	283	_8130005	_8130017	_8130029	_8130505.10
	1750	87	0.551	0.445	320				
	1170	58	0.422	0.328	354				
	100	5.0	0.084	0.034	431				
25	2500	100	0.544	0.431	272	_8130006	_8130018	_8130030	_8130506.10
	1750	70	0.445	0.344	309				
	1170	46	0.344	0.255	344				
	100	4.0	0.074	0.027	423				
30	2500	83	0.481	0.364	276	_8130007	_8130019	_8130031	_8130507.10
	1750	58	0.395	0.290	314				
	1170	39	0.308	0.215	348				
	100	3.3	0.071	0.023	429				
40	2500	62	0.400	0.283	285	_8130008	_8130020	_8130032	_8130508.10
	1750	43	0.329	0.223	322				
	1170	29	0.258	0.165	355				
	100	2.5	0.066	0.017	432				
50	2500	50	0.346	0.232	292	_8130009	_8130021	_8130033	_8130509.10
	1750	35	0.285	0.182	327				
	1170	23	0.224	0.133	359				
	100	2.0	0.061	0.014	431				
60	2500	41	0.297	0.184	279	_8130010	_8130022	_8130034	_8130510.10
	1750	29	0.246	0.145	313				
	1170	19	0.195	0.107	345				
	100	1.7	0.058	0.011	415				
80	2500	31	0.144	0.081	163	_8130011	_8130023	_8130035	_8130511.10
	1750	21	0.121	0.064	183				
	1170	14	0.096	0.047	201				
	100	1.3	0.014	0.005	237				
100	2500	25	0.100	0.051	128	_8130012	_8130024	_8130036	_8130512.10
	1750	17	0.084	0.040	143				
	1170	11	0.067	0.029	156				
	100	1.0	0.010	0.003	184				

How To Build a Part Number For Size GR813, NH813, EL813

1. Select partial catalog number from the selection table
2. Replace leading “_” with series code (GR, NH, EL)

Example:

style B, 5:1 ratio, left hand output
GR-B813-5-L
GR8130001

	Style BM			Style HM	Style BMQ			Style HMQ	
									
NEMA* C Input Flange ▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.	Ratio
48CZ 56C	<u>8130109</u> <u>8130037</u>	<u>8130121</u> <u>8130049</u>	<u>8130133</u> <u>8130061</u>	<u>8130537.10</u> <u>8130513.10</u>	<u>8130181</u> <u>8130073</u>	<u>8130193</u> <u>8130085</u>	<u>8130205</u> <u>8130097</u>	<u>8130561.10</u> <u>8130525.10</u>	5
48CZ 56C	<u>8130110</u> <u>8130038</u>	<u>8130122</u> <u>8130050</u>	<u>8130134</u> <u>8130062</u>	<u>8130538.10</u> <u>8130514.10</u>	<u>8130182</u> <u>8130074</u>	<u>8130194</u> <u>8130086</u>	<u>8130206</u> <u>8130098</u>	<u>8130562.10</u> <u>8130526.10</u>	7.5
48CZ 56C	<u>8130111</u> <u>8130039</u>	<u>8130123</u> <u>8130051</u>	<u>8130135</u> <u>8130063</u>	<u>8130539.10</u> <u>8130515.10</u>	<u>8130183</u> <u>8130075</u>	<u>8130195</u> <u>8130087</u>	<u>8130207</u> <u>8130099</u>	<u>8130563.10</u> <u>8130527.10</u>	10
48CZ 56C	<u>8130112</u> <u>8130040</u>	<u>8130124</u> <u>8130052</u>	<u>8130136</u> <u>8130064</u>	<u>8130540.10</u> <u>8130516.10</u>	<u>8130184</u> <u>8130076</u>	<u>8130196</u> <u>8130088</u>	<u>8130208</u> <u>8130100</u>	<u>8130564.10</u> <u>8130528.10</u>	15
48CZ 56C	<u>8130113</u> <u>8130041</u>	<u>8130125</u> <u>8130053</u>	<u>8130137</u> <u>8130065</u>	<u>8130541.10</u> <u>8130517.10</u>	<u>8130185</u> <u>8130077</u>	<u>8130197</u> <u>8130089</u>	<u>8130209</u> <u>8130101</u>	<u>8130565.10</u> <u>8130529.10</u>	20
48CZ 56C	<u>8130114</u> <u>8130042</u>	<u>8130126</u> <u>8130054</u>	<u>8130138</u> <u>8130066</u>	<u>8130542.10</u> <u>8130518.10</u>	<u>8130186</u> <u>8130078</u>	<u>8130198</u> <u>8130090</u>	<u>8130210</u> <u>8130102</u>	<u>8130566.10</u> <u>8130530.10</u>	25
48CZ 56C	<u>8130115</u> <u>8130043</u>	<u>8130127</u> <u>8130055</u>	<u>8130139</u> <u>8130067</u>	<u>8130543.10</u> <u>8130519.10</u>	<u>8130187</u> <u>8130079</u>	<u>8130199</u> <u>8130091</u>	<u>8130211</u> <u>8130103</u>	<u>8130567.10</u> <u>8130531.10</u>	30
48CZ 56C	<u>8130116</u> <u>8130044</u>	<u>8130128</u> <u>8130056</u>	<u>8130140</u> <u>8130068</u>	<u>8130544.10</u> <u>8130520.10</u>	<u>8130188</u> <u>8130080</u>	<u>8130200</u> <u>8130092</u>	<u>8130212</u> <u>8130104</u>	<u>8130568.10</u> <u>8130532.10</u>	40
48CZ 56C	<u>8130117</u> <u>8130045</u>	<u>8130129</u> <u>8130057</u>	<u>8130141</u> <u>8130069</u>	<u>8130545.10</u> <u>8130521.10</u>	<u>8130189</u> <u>8130081</u>	<u>8130201</u> <u>8130093</u>	<u>8130213</u> <u>8130105</u>	<u>8130569.10</u> <u>8130533.10</u>	50
48CZ 56C	<u>8130118</u> <u>8130046</u>	<u>8130130</u> <u>8130058</u>	<u>8130142</u> <u>8130070</u>	<u>8130546.10</u> <u>8130522.10</u>	<u>8130190</u> <u>8130082</u>	<u>8130202</u> <u>8130094</u>	<u>8130214</u> <u>8130106</u>	<u>8130570.10</u> <u>8130534.10</u>	60
48CZ 56C	<u>8130119</u> <u>8130047</u>	<u>8130131</u> <u>8130059</u>	<u>8130143</u> <u>8130071</u>	<u>8130547.10</u> <u>8130523.10</u>	<u>8130191</u> <u>8130083</u>	<u>8130203</u> <u>8130095</u>	<u>8130215</u> <u>8130107</u>	<u>8130571.10</u> <u>8130535.10</u>	80
48CZ 56C	<u>8130120</u> <u>8130048</u>	<u>8130132</u> <u>8130060</u>	<u>8130144</u> <u>8130072</u>	<u>8130548.10</u> <u>8130524.10</u>	<u>8130192</u> <u>8130084</u>	<u>8130204</u> <u>8130096</u>	<u>8130216</u> <u>8130108</u>	<u>8130572.10</u> <u>8130536.10</u>	100

For input/ output shaft overhung load and thrust load ratings, refer to pages L8-L11.

▲ Consult Factory for other motor flanges available.

*NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

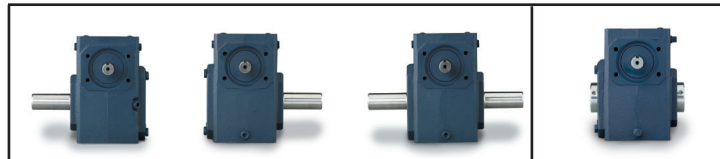
MAXIMUM RATING TABLES

SIZE 815 • GR, NH SERIES



Style B

Style H



Size 815

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	2.310	2.151	271	_8150001	_8150013	_8150025	_8150501.10
	1750	350	1.939	1.794	323				
	1170	234	1.537	1.408	379				
	100	20	0.235	0.167	526				
7.5	2500	333	1.785	1.619	306	_8150002	_8150014	_8150026	_8150502.10
	1750	233	1.522	1.368	370				
	1170	156	1.205	1.068	431				
	100	13	0.196	0.125	591				
10	2500	250	1.500	1.324	334	_8150003	_8150015	_8150027	_8150503.10
	1750	175	1.279	1.116	402				
	1170	117	1.014	0.869	468				
	100	10	0.176	0.101	639				
15	2500	166	1.174	0.982	371	_8150004	_8150016	_8150028	_8150504.10
	1750	116	1.003	0.826	446				
	1170	78	0.800	0.643	519				
	100	6.7	0.155	0.075	706				
20	2500	125	1.077	0.860	434	_8150005	_8150017	_8150029	_8150505.10
	1750	87	0.919	0.719	518				
	1170	58	0.734	0.557	600				
	100	5.0	0.155	0.064	807				
25	2500	100	0.881	0.670	422	_8150006	_8150018	_8150030	_8150506.10
	1750	70	0.752	0.559	503				
	1170	46	0.602	0.431	580				
	100	4.0	0.137	0.049	775				
30	2500	83	0.729	0.526	398	_8150007	_8150019	_8150031	_8150507.10
	1750	58	0.630	0.442	478				
	1170	39	0.510	0.344	555				
	100	3.3	0.124	0.040	754				
40	2500	62	0.649	0.432	435	_8150008	_8150020	_8150032	_8150508.10
	1750	43	0.560	0.361	520				
	1170	29	0.456	0.279	601				
	100	2.5	0.122	0.032	808				
50	2500	50	0.536	0.329	415	_8150009	_8150021	_8150033	_8150509.10
	1750	35	0.464	0.274	494				
	1170	23	0.379	0.211	569				
	100	2.0	0.110	0.024	760				
60	2500	41	0.451	0.257	389	_8150010	_8150022	_8150034	_8150510.10
	1750	29	0.391	0.214	462				
	1170	19	0.321	0.165	532				
	100	1.7	0.099	0.019	707				
80	2500	31	0.219	0.109	220	_8150011	_8150023	_8150035	_8150511.10
	1750	21	0.204	0.093	269				
	1170	14	0.176	0.073	314				
	100	1.3	0.032	0.008	418				
100	2500	25	0.155	0.069	175	_8150012	_8150024	_8150036	_8150512.10
	1750	17	0.145	0.059	213				
	1170	11	0.126	0.046	248				
	100	1.0	0.024	0.005	328				

How To Build a Part Number For Size GR815 & NH815

1. Select partial catalog number from the selection table
2. Replace leading “_” with series code (GR, NH)

Example:

Grove Gear® IRONMAN®, style B, 5:1 ratio, left hand output

GR-B815-5-L

GR8150001

Single Reduction
Worm Gear Reducers

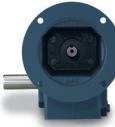




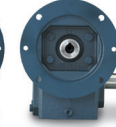
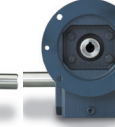

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHBOARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

	Style BM			Style HM	Style BMQ			Style HMQ	
									
NEMA* C Input Flange ▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.	Ratio
56C 143-5TC	<u>8150073</u> <u>8150109</u>	<u>8150085</u> <u>8150121</u>	<u>8150097</u> <u>8150133</u>	<u>8150525.10</u> <u>8150537.10</u>	<u>8150181</u> <u>8150217</u>	<u>8150193</u> <u>8150229</u>	<u>8150205</u> <u>8150241</u>	<u>8150561.10</u> <u>8150573.10</u>	5
56C 143-5TC	<u>8150074</u> <u>8150110</u>	<u>8150086</u> <u>8150122</u>	<u>8150098</u> <u>8150134</u>	<u>8150526.10</u> <u>8150538.10</u>	<u>8150182</u> <u>8150218</u>	<u>8150194</u> <u>8150230</u>	<u>8150206</u> <u>8150242</u>	<u>8150562.10</u> <u>8150574.10</u>	7.5
56C 143-5TC	<u>8150075</u> <u>8150111</u>	<u>8150087</u> <u>8150123</u>	<u>8150099</u> <u>8150135</u>	<u>8150527.10</u> <u>8150539.10</u>	<u>8150183</u> <u>8150219</u>	<u>8150195</u> <u>8150231</u>	<u>8150207</u> <u>8150243</u>	<u>8150563.10</u> <u>8150575.10</u>	10
56C 143-5TC	<u>8150076</u> <u>8150112</u>	<u>8150088</u> <u>8150124</u>	<u>8150100</u> <u>8150136</u>	<u>8150528.10</u> <u>8150540.10</u>	<u>8150184</u> <u>8150220</u>	<u>8150196</u> <u>8150232</u>	<u>8150208</u> <u>8150244</u>	<u>8150564.10</u> <u>8150576.10</u>	15
56C 143-5TC	<u>8150077</u> <u>8150113</u>	<u>8150089</u> <u>8150125</u>	<u>8150101</u> <u>8150137</u>	<u>8150529.10</u> <u>8150541.10</u>	<u>8150185</u> <u>8150221</u>	<u>8150197</u> <u>8150233</u>	<u>8150209</u> <u>8150245</u>	<u>8150565.10</u> <u>8150577.10</u>	20
56C	<u>8150078</u>	<u>8150090</u>	<u>8150102</u>	<u>8150530.10</u>	<u>8150186</u>	<u>8150198</u>	<u>8150210</u>	<u>8150566.10</u>	25
48CZ 56C	<u>8150043</u> <u>8150079</u>	<u>8150055</u> <u>8150091</u>	<u>8150067</u> <u>8150103</u>	<u>8150519.10</u> <u>8150531.10</u>	<u>8150151</u> <u>8150187</u>	<u>8150163</u> <u>8150199</u>	<u>8150175</u> <u>8150211</u>	<u>8150555.10</u> <u>8150567.10</u>	30
48CZ 56C	<u>8150044</u> <u>8150080</u>	<u>8150056</u> <u>8150092</u>	<u>8150068</u> <u>8150104</u>	<u>8150520.10</u> <u>8150532.10</u>	<u>8150152</u> <u>8150188</u>	<u>8150164</u> <u>8150200</u>	<u>8150176</u> <u>8150212</u>	<u>8150556.10</u> <u>8150568.10</u>	40
48CZ 56C	<u>8150045</u> <u>8150081</u>	<u>8150057</u> <u>8150093</u>	<u>8150069</u> <u>8150105</u>	<u>8150521.10</u> <u>8150533.10</u>	<u>8150153</u> <u>8150189</u>	<u>8150165</u> <u>8150201</u>	<u>8150177</u> <u>8150213</u>	<u>8150557.10</u> <u>8150569.10</u>	50
48CZ 56C	<u>8150046</u> <u>8150082</u>	<u>8150058</u> <u>8150094</u>	<u>8150070</u> <u>8150106</u>	<u>8150522.10</u> <u>8150534.10</u>	<u>8150154</u> <u>8150190</u>	<u>8150166</u> <u>8150202</u>	<u>8150178</u> <u>8150214</u>	<u>8150558.10</u> <u>8150570.10</u>	60
48CZ 56C	<u>8150047</u> <u>8150083</u>	<u>8150059</u> <u>8150095</u>	<u>8150071</u> <u>8150107</u>	<u>8150523.10</u> <u>8150535.10</u>	<u>8150155</u> <u>8150191</u>	<u>8150167</u> <u>8150203</u>	<u>8150179</u> <u>8150215</u>	<u>8150559.10</u> <u>8150571.10</u>	80
48CZ 56C	<u>8150048</u> <u>8150084</u>	<u>8150060</u> <u>8150096</u>	<u>8150072</u> <u>8150108</u>	<u>8150524.10</u> <u>8150536.10</u>	<u>8150156</u> <u>8150192</u>	<u>8150168</u> <u>8150204</u>	<u>8150180</u> <u>8150216</u>	<u>8150560.10</u> <u>8150572.10</u>	100

For input/ output shaft overhung load and thrust load ratings, refer to pages L8-L11.

▲ Consult Factory for other motor flanges available.

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Single Reduction
Worm Gear Reducers

Worm - Worm Reduction
Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

MAXIMUM RATING TABLES

SIZE 818 • GR, NH, EL SERIES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

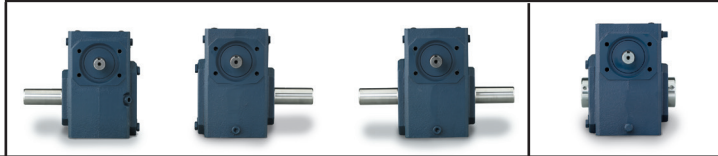
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style B

Style H



Size 818

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	3.095	2.900	366	_8180001	_8180013	_8180025	_8180501.XX
	1750	350	2.600	2.422	436				
	1170	234	2.066	1.906	513				
7.5	100	20	0.312	0.228	717	_8180002	_8180014	_8180026	_8180502.XX
	2500	333	2.307	2.127	402				
	1750	233	1.909	1.745	471				
10	1170	156	1.473	1.328	537	_8180003	_8180015	_8180027	_8180503.XX
	100	13	0.227	0.147	697				
	2500	250	1.996	1.820	459				
15	1750	175	1.625	1.466	528	_8180004	_8180016	_8180028	_8180504.XX
	1170	117	1.239	1.099	592				
	100	10	0.196	0.118	744				
20	2500	166	1.485	1.301	492	_8180005	_8180017	_8180029	_8180505.XX
	1750	116	1.224	1.058	571				
	1170	78	0.945	0.799	645				
25	100	6.7	0.165	0.087	823	_8180006	_8180018	_8180030	_8180506.XX
	2500	125	1.283	1.093	551				
	1750	87	1.046	0.875	630				
30	1170	58	0.803	0.652	702	_8180007	_8180019	_8180031	_8180507.XX
	100	5.0	0.150	0.069	872				
	2500	100	1.088	0.900	567				
40	1750	70	0.884	0.715	644	_8180008	_8180020	_8180032	_8180508.XX
	1170	46	0.678	0.530	713				
	100	4.0	0.135	0.055	874				
50	2500	83	0.892	0.702	531	_8180009	_8180021	_8180033	_8180509.XX
	1750	58	0.741	0.569	614				
	1170	39	0.580	0.428	692				
60	100	3.3	0.126	0.047	880	_8180010	_8180022	_8180034	_8180510.XX
	2500	62	0.739	0.551	556				
	1750	43	0.609	0.440	634				
80	1170	29	0.476	0.328	706	_8180011	_8180023	_8180035	_8180511.XX
	100	2.5	0.113	0.035	874				
	2500	50	0.625	0.444	559				
100	1750	35	0.515	0.352	634	_8180012	_8180024	_8180036	_8180512.XX
	1170	23	0.404	0.260	701				
	100	2.0	0.103	0.027	857				
100	2500	41	0.542	0.363	550	_8180010	_8180022	_8180034	_8180510.XX
	1750	29	0.449	0.288	623				
	1170	19	0.354	0.213	689				
100	100	1.7	0.097	0.022	842	_8180011	_8180023	_8180035	_8180511.XX
	2500	31	0.247	0.156	314				
	1750	21	0.208	0.124	356				
100	1170	14	0.164	0.091	392	_8180012	_8180024	_8180036	_8180512.XX
	100	1.3	0.023	0.009	470				
	2500	25	0.167	0.097	245				
100	1750	17	0.141	0.077	277	_8180012	_8180024	_8180036	_8180512.XX
	1170	11	0.111	0.057	304				
	100	1.0	0.016	0.006	362				

How To Build a Part Number For Size GR818, NH818 & EL818

1. Select partial catalog number from the selection table
2. Replace leading “_” with series code (GR, NH, EL)
3. For hollow output, replace “XX” suffix with bore code (see next page for codes)

Example:

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output
GR-B818-5-L
GR8180001



MAXIMUM RATING TABLES

SIZE 818 • GR, NH, EL SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style BM

Style HM

Style BMQ

Style HMQ

NEMA C Input Flange ▲	Style BM			Style HM	Style BMQ			Style HMQ	Ratio
	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	
56C 143-5TC	<u>8180037</u> <u>8180073</u>	<u>8180049</u> <u>8180085</u>	<u>8180061</u> <u>8180097</u>	<u>8180513.XX</u> <u>8180525.XX</u>	<u>8180109</u> <u>8180145</u>	<u>8180121</u> <u>8180157</u>	<u>8180133</u> <u>8180169</u>	<u>8180537.XX</u> <u>8180549.XX</u>	5
56C 143-5TC	<u>8180038</u> <u>8180074</u>	<u>8180050</u> <u>8180086</u>	<u>8180062</u> <u>8180098</u>	<u>8180514.XX</u> <u>8180526.XX</u>	<u>8180110</u> <u>8180146</u>	<u>8180122</u> <u>8180158</u>	<u>8180134</u> <u>8180170</u>	<u>8180538.XX</u> <u>8180550.XX</u>	7.5
56C 143-5TC	<u>8180039</u> <u>8180075</u>	<u>8180051</u> <u>8180087</u>	<u>8180063</u> <u>8180099</u>	<u>8180515.XX</u> <u>8180527.XX</u>	<u>8180111</u> <u>8180147</u>	<u>8180123</u> <u>8180159</u>	<u>8180135</u> <u>8180171</u>	<u>8180539.XX</u> <u>8180551.XX</u>	10
56C 143-5TC	<u>8180040</u> <u>8180076</u>	<u>8180052</u> <u>8180088</u>	<u>8180064</u> <u>8180100</u>	<u>8180516.XX</u> <u>8180528.XX</u>	<u>8180112</u> <u>8180148</u>	<u>8180124</u> <u>8180160</u>	<u>8180136</u> <u>8180172</u>	<u>8180540.XX</u> <u>8180552.XX</u>	15
56C 143-5TC	<u>8180041</u> <u>8180077</u>	<u>8180053</u> <u>8180089</u>	<u>8180065</u> <u>8180101</u>	<u>8180517.XX</u> <u>8180529.XX</u>	<u>8180113</u> <u>8180149</u>	<u>8180125</u> <u>8180161</u>	<u>8180137</u> <u>8180173</u>	<u>8180541.XX</u> <u>8180553.XX</u>	20
56C 143-5TC	<u>8180042</u> <u>8180078</u>	<u>8180054</u> <u>8180090</u>	<u>8180066</u> <u>8180102</u>	<u>8180518.XX</u> <u>8180530.XX</u>	<u>8180114</u> <u>8180150</u>	<u>8180126</u> <u>8180162</u>	<u>8180138</u> <u>8180174</u>	<u>8180542.XX</u> <u>8180554.XX</u>	25
56C 143-5TC	<u>8180043</u> <u>8180079</u>	<u>8180055</u> <u>8180091</u>	<u>8180067</u> <u>8180103</u>	<u>8180519.XX</u> <u>8180531.XX</u>	<u>8180115</u> <u>8180151</u>	<u>8180127</u> <u>8180163</u>	<u>8180139</u> <u>8180175</u>	<u>8180543.XX</u> <u>8180555.XX</u>	30
48CZ 56C 143-5TC	<u>8180188</u> <u>8180044</u> <u>8180080</u>	<u>8180200</u> <u>8180056</u> <u>8180092</u>	<u>8180212</u> <u>8180068</u> <u>8180104</u>	<u>8180568.XX</u> <u>8180520.XX</u> <u>8180532.XX</u>	<u>8180224</u> <u>8180116</u> <u>8180152</u>	<u>8180236</u> <u>8180128</u> <u>8180164</u>	<u>8180248</u> <u>8180140</u> <u>8180176</u>	<u>8180580.XX</u> <u>8180544.XX</u> <u>8180556.XX</u>	40
48CZ 56C 143-5TC	<u>8180189</u> <u>8180045</u> <u>8180081</u>	<u>8180201</u> <u>8180057</u> <u>8180093</u>	<u>8180213</u> <u>8180069</u> <u>8180105</u>	<u>8180569.XX</u> <u>8180521.XX</u> <u>8180533.XX</u>	<u>8180225</u> <u>8180117</u> <u>8180153</u>	<u>8180237</u> <u>8180129</u> <u>8180165</u>	<u>8180249</u> <u>8180141</u> <u>8180177</u>	<u>8180581.XX</u> <u>8180545.XX</u> <u>8180557.XX</u>	50
48CZ 56C 143-5TC	<u>8180190</u> <u>8180046</u> <u>8180082</u>	<u>8180202</u> <u>8180058</u> <u>8180094</u>	<u>8180214</u> <u>8180070</u> <u>8180106</u>	<u>8180570.XX</u> <u>8180522.XX</u> <u>8180534.XX</u>	<u>8180226</u> <u>8180118</u> <u>8180154</u>	<u>8180238</u> <u>8180130</u> <u>8180166</u>	<u>8180250</u> <u>8180142</u> <u>8180178</u>	<u>8180582.XX</u> <u>8180546.XX</u> <u>8180558.XX</u>	60
48CZ 56C	<u>8180191</u> <u>8180047</u>	<u>8180203</u> <u>8180059</u>	<u>8180215</u> <u>8180071</u>	<u>8180571.XX</u> <u>8180523.XX</u>	<u>8180227</u> <u>8180119</u>	<u>8180239</u> <u>8180131</u>	<u>8180251</u> <u>8180143</u>	<u>8180583.XX</u> <u>8180547.XX</u>	80
48CZ 56C	<u>8180192</u> <u>8180048</u>	<u>8180204</u> <u>8180060</u>	<u>8180216</u> <u>8180072</u>	<u>8180572.XX</u> <u>8180524.XX</u>	<u>8180228</u> <u>8180120</u>	<u>8180240</u> <u>8180132</u>	<u>8180252</u> <u>8180144</u>	<u>8180584.XX</u> <u>8180548.XX</u>	100

For input/ output shaft overhung load and thrust load ratings, refer to pages L8-L11.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers.

When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

Fraction Size	5/8"	11/16"	3/4"	7/8"	1"
Decimal Size	0.625	0.688	0.750	0.875	1.000
Output Bore Code	10	11	12	14	16

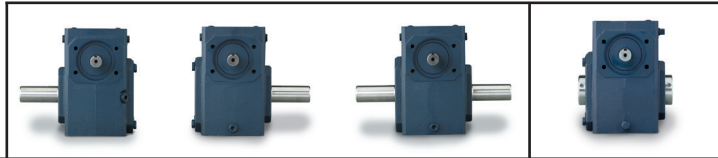
MAXIMUM RATING TABLES

SIZE 821 • GR, NH, EL SERIES



Style B

Style H



Size 821

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	4.305	4.043	510	_8210001	_8210013	_8210025	_8210501.XX
	1750	350	3.653	3.410	614				
	1170	234	2.873	2.657	716				
	100	20	0.433	0.310	977				
7.5	2500	333	3.300	3.051	577	_8210002	_8210014	_8210026	_8210502.XX
	1750	233	2.793	2.562	692				
	1170	156	2.194	1.989	804				
	100	13	0.341	0.230	1089				
10	2500	250	2.973	2.722	686	_8210003	_8210015	_8210027	_8210503.XX
	1750	175	2.464	2.235	805				
	1170	117	1.905	1.702	917				
	100	10	0.300	0.189	1192				
15	2500	166	2.284	2.035	769	_8210004	_8210016	_8210028	_8210504.XX
	1750	116	1.887	1.661	897				
	1170	78	1.459	1.259	1017				
	100	6.7	0.245	0.138	1309				
20	2500	125	1.914	1.642	828	_8210005	_8210017	_8210029	_8210505.XX
	1750	87	1.584	1.338	964				
	1170	58	1.229	1.012	1090				
	100	5.0	0.226	0.111	1397				
25	2500	100	1.623	1.359	857	_8210006	_8210018	_8210030	_8210506.XX
	1750	70	1.333	1.094	985				
	1170	46	1.030	0.820	1104				
	100	4.0	0.200	0.088	1386				
30	2500	83	1.359	1.102	833	_8210007	_8210019	_8210031	_8210507.XX
	1750	58	1.129	0.896	968				
	1170	39	0.882	0.677	1095				
	100	3.3	0.181	0.074	1399				
40	2500	62	1.096	0.829	836	_8210008	_8210020	_8210032	_8210508.XX
	1750	43	0.916	0.674	971				
	1170	29	0.722	0.509	1097				
	100	2.5	0.167	0.056	1401				
50	2500	50	0.925	0.670	845	_8210009	_8210021	_8210033	_8210509.XX
	1750	35	0.769	0.539	970				
	1170	23	0.606	0.403	1086				
	100	2.0	0.149	0.043	1359				
60	2500	41	0.799	0.535	809	_8210010	_8210022	_8210034	_8210510.XX
	1750	29	0.674	0.435	940				
	1170	19	0.539	0.328	1061				
	100	1.7	0.145	0.036	1354				
80	2500	31	0.357	0.236	476	_8210011	_8210023	_8210035	_8210511.XX
	1750	21	0.304	0.190	547				
	1170	14	0.241	0.141	609				
	100	1.3	0.034	0.015	743				
100	2500	25	0.251	0.150	379	_8210012	_8210024	_8210036	_8210512.XX
	1750	17	0.217	0.122	439				
	1170	11	0.175	0.091	491				
	100	1.0	0.026	0.010	605				

How To Build a Part Number For Size GRG821, GRL821, NH821, EL821

1. Select partial catalog number from the selection table
2. Replace leading " _ " with series code (GRG, GRL, NH, EL)
3. For hollow output, replace "XX" suffix with bore code (see next page for codes)

Example:

Direct replacement to LEESON IRONMAN, style B, 5:1 ratio, left hand output
 GRL-B821-5-L
 GRL8210001

GRG = **GROVE GEAR®**

- Direct replacement to Grove Gear Flexaline
- Mounting footprint 3.00" x 4.75"
- See pages A52-A73 for dimensions

GRL = **LEESON® IRONMAN®** reducers Interchange

- Direct replacement to LEESON IRONMAN & major brands.
- Mounting footprint 2.88" x 5.00"
- See pages A52-A73 for dimensions

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

NEMA C Input Flange ▲	Style BM			Style HM	Style BMQ			Style HMQ	Ratio
	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	
56C 143-5TC	<u>8210037</u> <u>8210073</u>	<u>8210049</u> <u>8210085</u>	<u>8210061</u> <u>8210097</u>	<u>8210513.XX</u> <u>8210525.XX</u>	<u>8210109</u> <u>8210145</u>	<u>8210121</u> <u>8210157</u>	<u>8210133</u> <u>8210169</u>	<u>8210537.XX</u> <u>8210549.XX</u>	5
56C 143-5TC	<u>8210038</u> <u>8210074</u>	<u>8210050</u> <u>8210086</u>	<u>8210062</u> <u>8210098</u>	<u>8210514.XX</u> <u>8210526.XX</u>	<u>8210110</u> <u>8210146</u>	<u>8210122</u> <u>8210158</u>	<u>8210134</u> <u>8210170</u>	<u>8210538.XX</u> <u>8210550.XX</u>	7.5
56C 143-5TC	<u>8210039</u> <u>8210075</u>	<u>8210051</u> <u>8210087</u>	<u>8210063</u> <u>8210099</u>	<u>8210515.XX</u> <u>8210527.XX</u>	<u>8210111</u> <u>8210147</u>	<u>8210123</u> <u>8210159</u>	<u>8210135</u> <u>8210171</u>	<u>8210539.XX</u> <u>8210551.XX</u>	10
56C 143-5TC	<u>8210040</u> <u>8210076</u>	<u>8210052</u> <u>8210088</u>	<u>8210064</u> <u>8210100</u>	<u>8210516.XX</u> <u>8210528.XX</u>	<u>8210112</u> <u>8210148</u>	<u>8210124</u> <u>8210160</u>	<u>8210136</u> <u>8210172</u>	<u>8210540.XX</u> <u>8210552.XX</u>	15
56C 143-5TC	<u>8210041</u> <u>8210077</u>	<u>8210053</u> <u>8210089</u>	<u>8210065</u> <u>8210101</u>	<u>8210517.XX</u> <u>8210529.XX</u>	<u>8210113</u> <u>8210149</u>	<u>8210125</u> <u>8210161</u>	<u>8210137</u> <u>8210173</u>	<u>8210541.XX</u> <u>8210553.XX</u>	20
56C 143-5TC	<u>8210042</u> <u>8210078</u>	<u>8210054</u> <u>8210090</u>	<u>8210066</u> <u>8210102</u>	<u>8210518.XX</u> <u>8210530.XX</u>	<u>8210114</u> <u>8210150</u>	<u>8210126</u> <u>8210162</u>	<u>8210138</u> <u>8210174</u>	<u>8210542.XX</u> <u>8210554.XX</u>	25
56C 143-5TC	<u>8210043</u> <u>8210079</u>	<u>8210055</u> <u>8210091</u>	<u>8210067</u> <u>8210103</u>	<u>8210519.XX</u> <u>8210531.XX</u>	<u>8210115</u> <u>8210151</u>	<u>8210127</u> <u>8210163</u>	<u>8210139</u> <u>8210175</u>	<u>8210543.XX</u> <u>8210555.XX</u>	30
56C 143-5TC	<u>8210044</u> <u>8210080</u>	<u>8210056</u> <u>8210092</u>	<u>8210068</u> <u>8210104</u>	<u>8210520.XX</u> <u>8210532.XX</u>	<u>8210116</u> <u>8210152</u>	<u>8210128</u> <u>8210164</u>	<u>8210140</u> <u>8210176</u>	<u>8210544.XX</u> <u>8210556.XX</u>	40
56C 143-5TC	<u>8210045</u> <u>8210081</u>	<u>8210057</u> <u>8210093</u>	<u>8210069</u> <u>8210105</u>	<u>8210521.XX</u> <u>8210533.XX</u>	<u>8210117</u> <u>8210153</u>	<u>8210129</u> <u>8210165</u>	<u>8210141</u> <u>8210177</u>	<u>8210545.XX</u> <u>8210557.XX</u>	50
48CZ 56C 143-5TC	<u>8210190</u> <u>8210046</u> <u>8210082</u>	<u>8210202</u> <u>8210058</u> <u>8210094</u>	<u>8210214</u> <u>8210070</u> <u>8210106</u>	<u>8210570.XX</u> <u>8210522.XX</u> <u>8210534.XX</u>	<u>8210226</u> <u>8210118</u> <u>8210154</u>	<u>8210238</u> <u>8210130</u> <u>8210166</u>	<u>8210250</u> <u>8210142</u> <u>8210178</u>	<u>8210582.XX</u> <u>8210546.XX</u> <u>8210558.XX</u>	60
48CZ 56C	<u>8210191</u> <u>8210047</u>	<u>8210203</u> <u>8210059</u>	<u>8210215</u> <u>8210071</u>	<u>8210571.XX</u> <u>8210523.XX</u>	<u>8210227</u> <u>8210119</u>	<u>8210239</u> <u>8210131</u>	<u>8210251</u> <u>8210143</u>	<u>8210583.XX</u> <u>8210547.XX</u>	80
48CZ 56C	<u>8210192</u> <u>8210048</u>	<u>8210204</u> <u>8210060</u>	<u>8210216</u> <u>8210072</u>	<u>8210572.XX</u> <u>8210524.XX</u>	<u>8210228</u> <u>8210120</u>	<u>8210240</u> <u>8210132</u>	<u>8210252</u> <u>8210144</u>	<u>8210584.XX</u> <u>8210548.XX</u>	100

For input/output shaft overhung load and thrust load ratings, refer to pages L8-L11.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers.

When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

MAXIMUM RATING TABLES

SIZE 824 • GR, NH, EL SERIES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

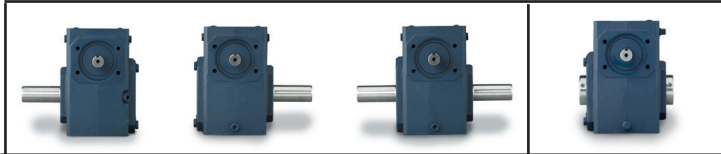
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style B

Style H



Size 824

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	6.322	5.950	750	_8240001	_8240013	_8240025	_8240501.XX
	1750	350	5.323	4.985	898				
	1170	234	4.280	3.976	1071				
7.5	100	20	0.655	0.489	1540	_8240002	_8240014	_8240026	_8240502.XX
	2500	333.3	4.739	4.401	832				
	1750	233.3	3.992	3.685	995				
10	1170	156	3.204	2.929	1183	_8240003	_8240015	_8240027	_8240503.XX
	100	13.3	0.502	0.357	1689				
	2500	250	4.199	3.862	974				
15	1750	175	3.564	3.253	1172	_8240004	_8240016	_8240028	_8240504.XX
	1170	117	2.808	2.531	1364				
	100	10	0.442	0.295	1857				
20	2500	166.7	3.268	2.913	1102	_8240005	_8240017	_8240029	_8240505.XX
	1750	116.7	2.765	2.439	1318				
	1170	78	2.178	1.888	1526				
25	100	6.7	0.369	0.217	2056	_8240006	_8240018	_8240030	_8240506.XX
	2500	125	2.750	2.365	1192				
	1750	87.5	2.326	1.972	1421				
30	1170	58.5	1.835	1.522	1640	_8240007	_8240019	_8240031	_8240507.XX
	100	5	0.337	0.174	2193				
	2500	100	2.335	1.949	1228				
40	1750	70	1.967	1.615	1454	_8240008	_8240020	_8240032	_8240508.XX
	1170	46.8	1.551	1.239	1669				
	100	4	0.302	0.140	2205				
50	2500	83.3	1.945	1.579	1194	_8240009	_8240021	_8240033	_8240509.XX
	1750	58.3	1.653	1.317	1423				
	1170	39	1.314	1.16	1642				
60	100	3.3	0.270	0.116	2197	_8240010	_8240022	_8240034	_8240510.XX
	2500	62.5	1.574	1.195	1205				
	1750	43.8	1.342	0.994	1433				
80	1170	29.3	1.74	0.766	1650	_8240011	_8240023	_8240035	_8240511.XX
	100	2.5	0.245	0.087	2198				
	2500	50	1.335	0.961	1211				
100	1750	35	1.137	0.795	1432	_8240012	_8240024	_8240036	_8240512.XX
	1170	23.4	0.911	0.609	1641				
	100	2	0.224	0.069	2163				
	2500	41.7	1.149	0.806	1219				
	1750	29.2	0.967	0.656	1418				
	1170	19.5	0.770	0.496	1604				
	100	1.7	0.197	0.054	2054				
	2500	31.3	0.520	0.348	701				
	1750	21.9	0.455	0.288	830				
	1170	14.6	0.370	0.219	946				
	100	1.3	0.056	0.024	1202				
	2500	25	0.351	0.219	551				
	1750	17.5	0.307	0.180	648				
	1170	11.7	0.251	0.136	735				
	100	1	0.039	0.015	926				

How To Build a Part Number For Size GR824, NH824, EL824

1. Select partial catalog number from the selection table
2. Replace leading “_” with series code (GR, NH, EL)
3. For hollow output, replace “XX” suffix with bore code (see next page for codes)

Example:

Grove Gear IRONMAN, style B, 5:1 ratio, left hand output
GR-B824-5-L
GR8240001



MAXIMUM RATING TABLES

SIZE 824 • GR, NH, EL SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style BM

Style HM

Style BMQ

Style HMQ

NEMA C Input Flange ▲	Style BM			Style HM	Style BMQ			Style HMQ	Ratio
	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	
143-5TC 182-4TC	<u>8240073</u> <u>8240109</u>	<u>8240085</u> <u>8240121</u>	<u>8240097</u> <u>8240133</u>	<u>8240525.XX</u> <u>8240537.XX</u>	<u>8240181</u> <u>8240217</u>	<u>8240193</u> <u>8240229</u>	<u>8240205</u> <u>8240241</u>	<u>8240561.XX</u> <u>8240573.XX</u>	5
143-5TC 182-4TC	<u>8240074</u> <u>8240110</u>	<u>8240086</u> <u>8240122</u>	<u>8240098</u> <u>8240134</u>	<u>8240526.XX</u> <u>8240538.XX</u>	<u>8240182</u> <u>8240218</u>	<u>8240194</u> <u>8240230</u>	<u>8240206</u> <u>8240242</u>	<u>8240562.XX</u> <u>8240574.XX</u>	7.5
143-5TC 182-4TC	<u>8240075</u> <u>8240111</u>	<u>8240087</u> <u>8240123</u>	<u>8240099</u> <u>8240135</u>	<u>8240527.XX</u> <u>8240539.XX</u>	<u>8240183</u> <u>8240219</u>	<u>8240195</u> <u>8240231</u>	<u>8240207</u> <u>8240243</u>	<u>8240563.XX</u> <u>8240575.XX</u>	10
56C 143-5TC	<u>8240040</u> <u>8240076</u>	<u>8240052</u> <u>8240088</u>	<u>8240064</u> <u>8240100</u>	<u>8240516.XX</u> <u>8240528.XX</u>	<u>8240148</u> <u>8240184</u>	<u>8240160</u> <u>8240196</u>	<u>8240172</u> <u>8240208</u>	<u>8240552.XX</u> <u>8240564.XX</u>	15
56C 143-5TC	<u>8240041</u> <u>8240077</u>	<u>8240053</u> <u>8240089</u>	<u>8240065</u> <u>8240101</u>	<u>8240517.XX</u> <u>8240529.XX</u>	<u>8240149</u> <u>8240185</u>	<u>8240161</u> <u>8240197</u>	<u>8240173</u> <u>8240209</u>	<u>8240553.XX</u> <u>8240565.XX</u>	20
56C 143-5TC	<u>8240042</u> <u>8240078</u>	<u>8240054</u> <u>8240090</u>	<u>8240066</u> <u>8240102</u>	<u>8240518.XX</u> <u>8240530.XX</u>	<u>8240150</u> <u>8240186</u>	<u>8240162</u> <u>8240198</u>	<u>8240174</u> <u>8240210</u>	<u>8240554.XX</u> <u>8240566.XX</u>	25
56C 143-5TC	<u>8240043</u> <u>8240079</u>	<u>8240055</u> <u>8240091</u>	<u>8240067</u> <u>8240103</u>	<u>8240519.XX</u> <u>8240531.XX</u>	<u>8240151</u> <u>8240187</u>	<u>8240163</u> <u>8240199</u>	<u>8240175</u> <u>8240211</u>	<u>8240555.XX</u> <u>8240567.XX</u>	30
56C 143-5TC	<u>8240044</u> <u>8240080</u>	<u>8240056</u> <u>8240092</u>	<u>8240068</u> <u>8240104</u>	<u>8240520.XX</u> <u>8240532.XX</u>	<u>8240152</u> <u>8240188</u>	<u>8240164</u> <u>8240200</u>	<u>8240176</u> <u>8240212</u>	<u>8240556.XX</u> <u>8240568.XX</u>	40
56C 143-5TC	<u>8240045</u> <u>8240081</u>	<u>8240057</u> <u>8240093</u>	<u>8240069</u> <u>8240105</u>	<u>8240521.XX</u> <u>8240533.XX</u>	<u>8240153</u> <u>8240189</u>	<u>8240165</u> <u>8240201</u>	<u>8240177</u> <u>8240213</u>	<u>8240557.XX</u> <u>8240569.XX</u>	50
56C 143-5TC	<u>8240046</u> <u>8240082</u>	<u>8240058</u> <u>8240094</u>	<u>8240070</u> <u>8240106</u>	<u>8240522.XX</u> <u>8240534.XX</u>	<u>8240154</u> <u>8240190</u>	<u>8240166</u> <u>8240202</u>	<u>8240178</u> <u>8240214</u>	<u>8240558.XX</u> <u>8240570.XX</u>	60
56C	<u>8240047</u>	<u>8240059</u>	<u>8240071</u>	<u>8240523.XX</u>	<u>8240155</u>	<u>8240167</u>	<u>8240179</u>	<u>8240559.XX</u>	80
56C	<u>8240048</u>	<u>8240060</u>	<u>8240072</u>	<u>8240524.XX</u>	<u>8240156</u>	<u>8240168</u>	<u>8240180</u>	<u>8240560.XX</u>	100

For input/ output shaft overhung load and thrust load ratings, refer to pages L8-L11.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers.

When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

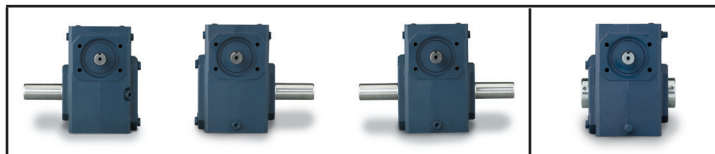
MAXIMUM RATING TABLES

SIZE 826 • GR, NH, EL SERIES



Style B

Style H



Size 826

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	7.946	7.486	944	_8260001	_8260013	_8260025	_8260501.XX
	1750	350	6.693	6.276	1130				
	1170	234	5.439	5.061	1363				
	100	20	0.844	0.638	2010				
7.5	2500	333	5.877	5.453	1031	_8260002	_8260014	_8260026	_8260502.XX
	1750	233	4.956	4.571	1235				
	1170	156	4.018	3.671	1483				
	100	13	0.640	0.458	2166				
10	2500	250	5.338	4.904	1236	_8260003	_8260015	_8260027	_8260503.XX
	1750	175	4.492	4.097	1475				
	1170	117	3.579	3.226	1738				
	100	10	0.572	0.386	2431				
15	2500	166	4.316	3.881	1468	_8260004	_8260016	_8260028	_8260504.XX
	1750	116	3.614	3.216	1737				
	1170	78	2.821	2.468	1994				
	100	6.7	0.467	0.279	2637				
20	2500	125	3.503	3.050	1538	_8260005	_8260017	_8260029	_8260505.XX
	1750	87	2.965	2.549	1836				
	1170	58	2.339	1.970	2123				
	100	5.0	0.419	0.226	2849				
25	2500	100	2.955	2.505	1579	_8260006	_8260018	_8260030	_8260506.XX
	1750	70	2.487	2.076	1869				
	1170	46	1.957	1.594	2146				
	100	4.0	0.370	0.180	2837				
30	2500	83	2.556	2.115	1600	_8260007	_8260019	_8260031	_8260507.XX
	1750	58	2.145	1.743	1883				
	1170	39	1.687	1.332	2152				
	100	3.3	0.335	0.149	2816				
40	2500	62	1.989	1.545	1558	_8260008	_8260020	_8260032	_8260508.XX
	1750	43	1.695	1.287	1854				
	1170	29	1.354	0.993	2139				
	100	2.5	0.299	0.113	2857				
50	2500	50	1.672	1.237	1560	_8260009	_8260021	_8260033	_8260509.XX
	1750	35	1.420	1.023	1843				
	1170	23	1.135	0.784	2112				
	100	2.0	0.269	0.088	2783				
60	2500	41	1.433	1.015	1536	_8260010	_8260022	_8260034	_8260510.XX
	1750	29	1.216	0.835	1805				
	1170	19	0.973	0.637	2060				
	100	1.7	0.245	0.071	2689				
80	2500	31	0.659	0.456	919	_8260011	_8260023	_8260035	_8260511.XX
	1750	21	0.577	0.379	1092				
	1170	14	0.469	0.289	1247				
	100	1.3	0.070	0.032	1593				
100	2500	25	0.441	0.286	721	_8260012	_8260024	_8260036	_8260512.XX
	1750	17	0.386	0.236	851				
	1170	11	0.314	0.179	966				
	100	1.0	0.048	0.019	1222				

How To Build a Part Number For Size GRG826, GRL826, NH826, EL826

1. Select partial catalog number from the selection table
2. Replace leading “_” with series code (GRG, GRL, NH, EL)
3. For hollow output, replace “XX” suffix with bore code (see next page for codes)

Example:

Direct replacement to LEESON IRONMAN, 1-3/16” hollow output shaft, 5:1 ratio, 180TC coupling input
 GRL-HM826-5-H-180TC-19
 GRL8260537.19

GRG = **GROVE GEAR®**

- Direct replacement to Grove Gear Flexaline
- 1-1/4” solid output shaft diameter
- For hollow bores, specify GRL Interchange
- Solid output shaft only

GRL = **LEESON® IRONMAN®**

- Direct replacement to LEESON IRONMAN & major brands.
- Hollow shaft option available
- 1-1/8” solid output shaft diameter

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHBOARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

	Style BM			Style HM	Style BMQ			Style HMQ	
NEMA C Input Flange ▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Ratio
143-5TC 182-4TC	<u>8260073</u> <u>8260109</u>	<u>8260085</u> <u>8260121</u>	<u>8260097</u> <u>8260133</u>	<u>8260525.XX</u> <u>8260537.XX</u>	<u>8260181</u> <u>8260217</u>	<u>8260193</u> <u>8260229</u>	<u>8260205</u> <u>8260241</u>	<u>8260561.XX</u> <u>8260573.XX</u>	5
143-5TC 182-4TC	<u>8260074</u> <u>8260110</u>	<u>8260086</u> <u>8260122</u>	<u>8260098</u> <u>8260134</u>	<u>8260526.XX</u> <u>8260538.XX</u>	<u>8260182</u> <u>8260218</u>	<u>8260194</u> <u>8260230</u>	<u>8260206</u> <u>8260242</u>	<u>8260562.XX</u> <u>8260574.XX</u>	7.5
143-5TC 182-4TC	<u>8260075</u> <u>8260111</u>	<u>8260087</u> <u>8260123</u>	<u>8260099</u> <u>8260135</u>	<u>8260527.XX</u> <u>8260539.XX</u>	<u>8260183</u> <u>8260219</u>	<u>8260195</u> <u>8260231</u>	<u>8260207</u> <u>8260243</u>	<u>8260563.XX</u> <u>8260575.XX</u>	10
143-5TC 182-4TC	<u>8260076</u> <u>8260112</u>	<u>8260088</u> <u>8260124</u>	<u>8260100</u> <u>8260136</u>	<u>8260528.XX</u> <u>8260540.XX</u>	<u>8260184</u> <u>8260220</u>	<u>8260196</u> <u>8260232</u>	<u>8260208</u> <u>8260244</u>	<u>8260564.XX</u> <u>8260576.XX</u>	15
56C 143-5TC 182-4TC	<u>8260041</u> <u>8260077</u> <u>8260113</u>	<u>8260053</u> <u>8260089</u> <u>8260125</u>	<u>8260065</u> <u>8260101</u> <u>8260137</u>	<u>8260517.XX</u> <u>8260529.XX</u> <u>8260541.XX</u>	<u>8260149</u> <u>8260185</u> <u>8260221</u>	<u>8260161</u> <u>8260197</u> <u>8260233</u>	<u>8260173</u> <u>8260209</u> <u>8260245</u>	<u>8260553.XX</u> <u>8260565.XX</u> <u>8260577.XX</u>	20
56C 143-5TC	<u>8260042</u> <u>8260078</u>	<u>8260054</u> <u>8260090</u>	<u>8260066</u> <u>8260102</u>	<u>8260518.XX</u> <u>8260530.XX</u>	<u>8260150</u> <u>8260186</u>	<u>8260162</u> <u>8260198</u>	<u>8260174</u> <u>8260210</u>	<u>8260554.XX</u> <u>8260566.XX</u>	25
56C 143-5TC	<u>8260043</u> <u>8260079</u>	<u>8260055</u> <u>8260091</u>	<u>8260067</u> <u>8260103</u>	<u>8260519.XX</u> <u>8260531.XX</u>	<u>8260151</u> <u>8260187</u>	<u>8260163</u> <u>8260199</u>	<u>8260175</u> <u>8260211</u>	<u>8260555.XX</u> <u>8260567.XX</u>	30
56C 143-5TC	<u>8260044</u> <u>8260080</u>	<u>8260056</u> <u>8260092</u>	<u>8260068</u> <u>8260104</u>	<u>8260520.XX</u> <u>8260532.XX</u>	<u>8260152</u> <u>8260188</u>	<u>8260164</u> <u>8260200</u>	<u>8260176</u> <u>8260212</u>	<u>8260556.XX</u> <u>8260568.XX</u>	40
56C 143-5TC	<u>8260045</u> <u>8260081</u>	<u>8260057</u> <u>8260093</u>	<u>8260069</u> <u>8260105</u>	<u>8260521.XX</u> <u>8260533.XX</u>	<u>8260153</u> <u>8260189</u>	<u>8260165</u> <u>8260201</u>	<u>8260177</u> <u>8260213</u>	<u>8260557.XX</u> <u>8260569.XX</u>	50
56C 143-5TC	<u>8260046</u> <u>8260082</u>	<u>8260058</u> <u>8260094</u>	<u>8260070</u> <u>8260106</u>	<u>8260522.XX</u> <u>8260534.XX</u>	<u>8260154</u> <u>8260190</u>	<u>8260166</u> <u>8260202</u>	<u>8260178</u> <u>8260214</u>	<u>8260558.XX</u> <u>8260570.XX</u>	60
56C 143-5TC	<u>8260047</u> <u>8260083</u>	<u>8260059</u> <u>8260095</u>	<u>8260071</u> <u>8260107</u>	<u>8260523.XX</u> <u>8260535.XX</u>	<u>8260155</u> <u>8260191</u>	<u>8260167</u> <u>8260203</u>	<u>8260179</u> <u>8260215</u>	<u>8260559.XX</u> <u>8260571.XX</u>	80
56C	<u>8260048</u>	<u>8260060</u>	<u>8260072</u>	<u>8260524.XX</u>	<u>8260156</u>	<u>8260168</u>	<u>8260180</u>	<u>8260560.XX</u>	100

For input/output shaft overhung load and thrust load ratings, refer to pages L8-L11.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers.

When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

MAXIMUM RATING TABLES

SIZE 830 • GR & EL SERIES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

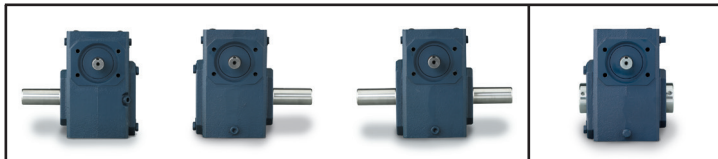
WASHBOARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style B

Style H



Size 830



Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	10.661	10.091	1272	_ 8300001	_ 8300013	_ 8300025	_ 8300501.XX
	1750	350	9.093	8.573	1544				
	1170	234	7.434	6.966	1876				
7.5	100	20	1.177	0.928	2925	_ 8300002	_ 8300014	_ 8300026	_ 8300502.XX
	2500	333	8.178	7.669	1450				
	1750	233	6.879	6.421	1734				
	1170	156	5.668	5.251	2122				
10	100	13	0.898	0.683	3228	_ 8300003	_ 8300015	_ 8300027	_ 8300503.XX
	2500	250	7.293	6.745	1701				
	1750	175	6.151	5.655	2037				
	1170	117	4.989	4.541	2446				
15	100	10	0.799	0.567	3573	_ 8300004	_ 8300016	_ 8300028	_ 8300504.XX
	2500	166	5.734	5.149	1947				
	1750	116	4.843	4.311	2329				
	1170	78	3.903	3.426	2768				
20	100	6.7	0.663	0.418	3949	_ 8300005	_ 8300017	_ 8300029	_ 8300505.XX
	2500	125	4.662	4.067	2051				
	1750	87	3.947	3.407	2454				
	1170	58	3.198	2.713	2923				
25	100	5.0	0.579	0.332	4189	_ 8300006	_ 8300018	_ 8300030	_ 8300506.XX
	2500	100	3.957	3.355	2114				
	1750	70	3.355	2.807	2527				
	1170	46	2.713	2.223	2993				
30	100	4.0	0.519	0.269	4238	_ 8300007	_ 8300019	_ 8300031	_ 8300507.XX
	2500	83	3.389	2.787	2108				
	1750	58	2.879	2.332	2519				
	1170	39	2.335	1.845	2982				
40	100	3.3	0.472	0.223	4217	_ 8300008	_ 8300020	_ 8300032	_ 8300508.XX
	2500	62	2.639	2.054	2071				
	1750	43	2.251	1.720	2477				
	1170	29	1.843	1.366	2944				
50	100	2.5	0.407	0.167	4200	_ 8300009	_ 8300021	_ 8300033	_ 8300509.XX
	2500	50	2.238	1.654	2084				
	1750	35	1.915	1.383	2490				
	1170	23	1.569	1.094	2945				
60	100	2.0	0.372	0.132	4156	_ 8300010	_ 8300022	_ 8300034	_ 8300510.XX
	2500	41	1.907	1.336	2020				
	1750	29	1.637	1.117	2413				
	1170	19	1.348	0.883	2854				
80	100	1.7	0.341	0.106	4026	_ 8300011	_ 8300023	_ 8300035	_ 8300511.XX
	2500	31	0.972	0.671	1352				
	1750	21	0.895	0.585	1684				
	1170	14	0.757	0.463	1996				
100	100	1.3	0.126	0.054	2731	_ 8300012	_ 8300024	_ 8300036	_ 8300512.XX
	2500	25	0.656	0.424	1069				
	1750	17	0.603	0.367	1321				
	1170	11	0.511	0.289	1554				
	100	1.0	0.087	0.033	2100				

How To Build a Part Number For Size GR830 & EL830

1. Select partial catalog number from the selection table
2. Replace leading “_” with series code (GR, EL)
3. For hollow output, replace “XX” suffix with bore code (see next page for codes)

Example:

Grove Gear® IRONMAN®, style B, 5:1 ratio, left hand output
 GR-B830-5-L
 GR8300001

	Style BM			Style HM	Style BMQ			Style HMQ	
									
NEMA C Input Flange ▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Ratio
182-4TC 213-5TC	<u>8300109</u> <u>8300145</u>	<u>8300121</u> <u>8300157</u>	<u>8300133</u> <u>8300169</u>	<u>8300537.XX</u> <u>8300549.XX</u>	<u>8300253</u> <u>8300289</u>	<u>8300265</u> <u>8300301</u>	<u>8300277</u> <u>8300313</u>	<u>8300585.XX</u> <u>8300597.XX</u>	5
182-4TC	<u>8300110</u>	<u>8300122</u>	<u>8300134</u>	<u>8300538.XX</u>	<u>8300254</u>	<u>8300266</u>	<u>8300278</u>	<u>8300586.XX</u>	7.5
143-5TC 182-4TC	<u>8300075</u> <u>8300111</u>	<u>8300087</u> <u>8300123</u>	<u>8300099</u> <u>8300135</u>	<u>8300527.XX</u> <u>8300539.XX</u>	<u>8300219</u> <u>8300255</u>	<u>8300231</u> <u>8300267</u>	<u>8300243</u> <u>8300279</u>	<u>8300575.XX</u> <u>8300587.XX</u>	10
143-5TC 182-4TC	<u>8300076</u> <u>8300112</u>	<u>8300088</u> <u>8300124</u>	<u>8300100</u> <u>8300136</u>	<u>8300528.XX</u> <u>8300540.XX</u>	<u>8300220</u> <u>8300256</u>	<u>8300232</u> <u>8300268</u>	<u>8300244</u> <u>8300280</u>	<u>8300576.XX</u> <u>8300588.XX</u>	15
143-5TC 182-4TC	<u>8300077</u> <u>8300113</u>	<u>8300089</u> <u>8300125</u>	<u>8300101</u> <u>8300137</u>	<u>8300529.XX</u> <u>8300541.XX</u>	<u>8300221</u> <u>8300257</u>	<u>8300233</u> <u>8300269</u>	<u>8300245</u> <u>8300281</u>	<u>8300577.XX</u> <u>8300589.XX</u>	20
143-5TC 182-4TC	<u>8300078</u> <u>8300114</u>	<u>8300090</u> <u>8300126</u>	<u>8300102</u> <u>8300138</u>	<u>8300530.XX</u> <u>8300542.XX</u>	<u>8300222</u> <u>8300258</u>	<u>8300234</u> <u>8300270</u>	<u>8300246</u> <u>8300282</u>	<u>8300578.XX</u> <u>8300590.XX</u>	25
143-5TC 182-4TC	<u>8300079</u> <u>8300115</u>	<u>8300091</u> <u>8300127</u>	<u>8300103</u> <u>8300139</u>	<u>8300531.XX</u> <u>8300543.XX</u>	<u>8300223</u> <u>8300259</u>	<u>8300235</u> <u>8300271</u>	<u>8300247</u> <u>8300283</u>	<u>8300579.XX</u> <u>8300591.XX</u>	30
56C 143-5TC	<u>8300044</u> <u>8300080</u>	<u>8300056</u> <u>8300092</u>	<u>8300068</u> <u>8300104</u>	<u>8300520.XX</u> <u>8300532.XX</u>	<u>8300188</u> <u>8300224</u>	<u>8300200</u> <u>8300236</u>	<u>8300212</u> <u>8300248</u>	<u>8300568.XX</u> <u>8300580.XX</u>	40
56C 143-5TC	<u>8300045</u> <u>8300081</u>	<u>8300057</u> <u>8300093</u>	<u>8300069</u> <u>8300105</u>	<u>8300521.XX</u> <u>8300533.XX</u>	<u>8300189</u> <u>8300225</u>	<u>8300201</u> <u>8300237</u>	<u>8300213</u> <u>8300249</u>	<u>8300569.XX</u> <u>8300581.XX</u>	50
56C 143-5TC	<u>8300046</u> <u>8300082</u>	<u>8300058</u> <u>8300094</u>	<u>8300070</u> <u>8300106</u>	<u>8300522.XX</u> <u>8300534.XX</u>	<u>8300190</u> <u>8300226</u>	<u>8300202</u> <u>8300238</u>	<u>8300214</u> <u>8300250</u>	<u>8300570.XX</u> <u>8300582.XX</u>	60
56C 143-5TC	<u>8300047</u> <u>8300083</u>	<u>8300059</u> <u>8300095</u>	<u>8300071</u> <u>8300107</u>	<u>8300523.XX</u> <u>8300535.XX</u>	<u>8300191</u> <u>8300227</u>	<u>8300203</u> <u>8300239</u>	<u>8300215</u> <u>8300251</u>	<u>8300571.XX</u> <u>8300583.XX</u>	80
56C 143-5TC	<u>8300048</u> <u>8300084</u>	<u>8300060</u> <u>8300096</u>	<u>8300072</u> <u>8300108</u>	<u>8300524.XX</u> <u>8300536.XX</u>	<u>8300192</u> <u>8300228</u>	<u>8300204</u> <u>8300240</u>	<u>8300216</u> <u>8300252</u>	<u>8300572.XX</u> <u>8300584.XX</u>	100

For input/ output shaft overhung load and thrust load ratings, refer to pages L8-L11.
▲ Consult Factory for other motor flanges available.
* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

Fraction Size	1-3/16"	1-1/4"	1-7/16"	1-1/2"	1-5/8"	1-11/16"	1-3/4"	1-7/8"	1-15/16"	2"	2-3/16"
Decimal Size	1.188	1.250	1.438	1.500	1.625	1.688	1.750	1.875	1.938	2.000	2.188
Output Bore Code	19	20	23	24	26	27	28	30	31	32	35

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

MAXIMUM RATING TABLES

SIZE 830 • NH SERIES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

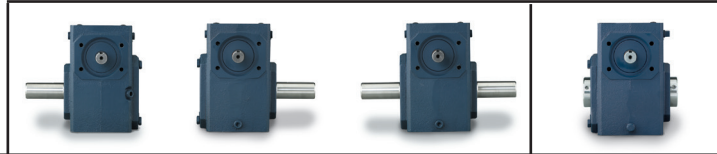
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style B

Style H

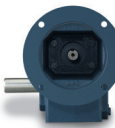



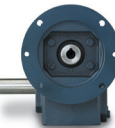
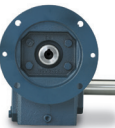
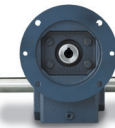



Size 830

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	7.726	7.325	923	NH8300001	NH8300013	NH8300025	NH8300501.XX
	1750	350	6.683	6.285	1131				
	1170	234	5.645	5.249	1413				
	100	20	0.918	0.779	2454				
7.5	2500	333	7.145	6.713	1269	NH8300002	NH8300014	NH8300026	NH8300502.XX
	1750	233	6.049	5.624	1519				
	1170	156	5.210	4.779	1930				
	100	13	0.765	0.636	3003				
10	2500	250	6.344	5.897	1486	NH8300003	NH8300015	NH8300027	NH8300503.XX
	1750	175	5.450	5.005	1802				
	1170	117	4.586	4.144	2232				
	100	10	0.649	0.526	3312				
15	2500	166	4.858	4.404	1665	NH8300004	NH8300016	NH8300028	NH8300504.XX
	1750	116	4.207	3.751	2026				
	1170	78	3.507	3.062	2473				
	100	6.7	0.498	0.378	3573				
20	2500	125	3.720	3.288	1657	NH8300005	NH8300017	NH8300029	NH8300505.XX
	1750	87	3.233	2.799	2015				
	1170	58	2.717	2.291	2467				
	100	5.0	0.400	0.284	3584				
25	2500	100	3.170	2.737	1724	NH8300006	NH8300018	NH8300030	NH8300506.XX
	1750	70	2.768	2.332	2099				
	1170	46	2.319	1.895	2551				
	100	4.0	0.345	0.232	3653				
30	2500	83	2.717	2.287	1729	NH8300007	NH8300019	NH8300031	NH8300507.XX
	1750	58	2.382	1.949	2105				
	1170	39	2.004	1.582	2556				
	100	3.3	0.305	0.193	3656				
40	2500	62	2.063	1.645	1659	NH8300008	NH8300020	NH8300032	NH8300508.XX
	1750	43	1.822	1.402	2018				
	1170	29	1.557	1.144	2464				
	100	2.5	0.252	0.141	3559				
50	2500	50	1.727	1.320	1663	NH8300009	NH8300021	NH8300033	NH8300509.XX
	1750	35	1.535	1.125	2026				
	1170	23	1.312	0.912	2456				
	100	2.0	0.217	0.111	3505				
60	2500	41	1.430	1.045	1580	NH8300010	NH8300022	NH8300034	NH8300510.XX
	1750	29	1.279	0.891	1924				
	1170	19	1.100	0.722	2332				
	100	1.7	0.188	0.088	3327				
80	2500	31	0.972	0.671	1352	NH8300011	NH8300023	NH8300035	NH8300511.XX
	1750	21	0.895	0.585	1684				
	1170	14	0.757	0.463	1996				
	100	1.3	0.126	0.054	2731				
100	2500	25	0.656	0.424	1069	NH8300012	NH8300024	NH8300036	NH8300512.XX
	1750	17	0.603	0.367	1321				
	1170	11	0.511	0.289	1554				
	100	1.0	0.087	0.033	2100				

How To Build a Part Number For Size NH830

1. Select catalog number from the selection table
2. For hollow output, replace "XX" suffix with bore code (see next page for codes)

	Style BM			Style HM	Style BMQ			Style HMQ	
									
NEMA C Input Flange ▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Ratio
182-4TC 213-5TC	NH8300109 NH8300145	NH8300121 NH8300157	NH8300133 NH8300169	NH8300537.XX NH8300549.XX	NH8300253 NH8300289	NH8300265 NH8300301	NH8300277 NH8300313	NH8300585.XX NH8300597.XX	5
182-4TC	NH8300110	NH8300122	NH8300134	NH8300538.XX	NH8300254	NH8300266	NH8300278	NH8300586.XX	7.5
143-5TC 182-4TC	NH8300075 NH8300111	NH8300087 NH8300123	NH8300099 NH8300135	NH8300527.XX NH8300539.XX	NH8300219 NH8300255	NH8300231 NH8300267	NH8300243 NH8300279	NH8300575.XX NH8300587.XX	10
143-5TC 182-4TC	NH8300076 NH8300112	NH8300088 NH8300124	NH8300100 NH8300136	NH8300528.XX NH8300540.XX	NH8300220 NH8300256	NH8300232 NH8300268	NH8300244 NH8300280	NH8300576.XX NH8300588.XX	15
143-5TC 182-4TC	NH8300077 NH8300113	NH8300089 NH8300125	NH8300101 NH8300137	NH8300529.XX NH8300541.XX	NH8300221 NH8300257	NH8300233 NH8300269	NH8300245 NH8300281	NH8300577.XX NH8300589.XX	20
143-5TC 182-4TC	NH8300078 NH8300114	NH8300090 NH8300126	NH8300102 NH8300138	NH8300530.XX NH8300542.XX	NH8300222 NH8300258	NH8300234 NH8300270	NH8300246 NH8300282	NH8300578.XX NH8300590.XX	25
143-5TC 182-4TC	NH8300079 NH8300115	NH8300091 NH8300127	NH8300103 NH8300139	NH8300531.XX NH8300543.XX	NH8300223 NH8300259	NH8300235 NH8300271	NH8300247 NH8300283	NH8300579.XX NH8300591.XX	30
56C 143-5TC	NH8300044 NH8300080	NH8300056 NH8300092	NH8300068 NH8300104	NH8300520.XX NH8300532.XX	NH8300188 NH8300224	NH8300200 NH8300236	NH8300212 NH8300248	NH8300568.XX NH8300580.XX	40
56C 143-5TC	NH8300045 NH8300081	NH8300057 NH8300093	NH8300069 NH8300105	NH8300521.XX NH8300533.XX	NH8300189 NH8300225	NH8300201 NH8300237	NH8300213 NH8300249	NH8300569.XX NH8300581.XX	50
56C 143-5TC	NH8300046 NH8300082	NH8300058 NH8300094	NH8300070 NH8300106	NH8300522.XX NH8300534.XX	NH8300190 NH8300226	NH8300202 NH8300238	NH8300214 NH8300250	NH8300570.XX NH8300582.XX	60
56C 143-5TC	NH8300047 NH8300083	NH8300059 NH8300095	NH8300071 NH8300107	NH8300523.XX NH8300535.XX	NH8300191 NH8300227	NH8300203 NH8300239	NH8300215 NH8300251	NH8300571.XX NH8300583.XX	80
56C 143-5TC	NH8300048 NH8300084	NH8300060 NH8300096	NH8300072 NH8300108	NH8300524.XX NH8300536.XX	NH8300192 NH8300228	NH8300204 NH8300240	NH8300216 NH8300252	NH8300572.XX NH8300584.XX	100

For input/ output shaft overhung load and thrust load ratings, refer to pages L8-L11.
▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

Fraction Size	1-3/16"	1-1/4"	1-7/16"	1-1/2"	1-5/8"	1-11/16"	1-3/4"	1-7/8"	1-15/16"	2"	2-3/16"
Decimal Size	1.188	1.250	1.438	1.500	1.625	1.688	1.750	1.875	1.938	2.000	2.188
Output Bore Code	19	20	23	24	26	27	28	30	31	32	35

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

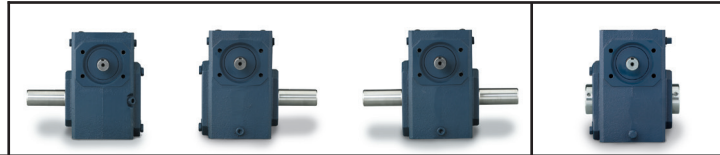
MAXIMUM RATING TABLES

SIZE 832 • GR & EL SERIES



Style B

Style H



Size 832

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	13.94	13.24	1669	__8320097	__8320101	__8320105	__8320557.XX
	1750	350	11.92	11.29	2033				
	1170	234	9.790	9.220	2483				
	100	20	1.567	1.267	3994				
7.5	2500	333	10.36	9.695	1833	__8320098	__8320102	__8320106	__8320558.XX
	1750	233	8.863	8.264	2232				
	1170	156	7.286	6.747	2726				
	100	13	1.201	0.926	4375				
10	2500	250	9.601	8.943	2254	__8320001	__8320009	__8320017	__8320501.XX
	1750	175	8.092	7.497	2700				
	1170	117	6.604	6.066	3268				
	100	10	1.048	0.770	4853				
15	2500	166	7.258	6.582	2489	__8320002	__8320010	__8320018	__8320502.XX
	1750	116	6.127	5.516	2980				
	1170	78	5.031	4.478	3618				
	100	6.7	0.853	0.573	5413				
20	2500	125	6.122	5.412	2729	__8320003	__8320011	__8320019	__8320503.XX
	1750	87	5.180	4.536	3267				
	1170	58	4.215	3.636	3917				
	100	5.0	0.746	0.452	5695				
25	2500	100	5.162	4.457	2809	__8320004	__8320012	__8320020	__8320504.XX
	1750	70	4.373	3.732	3360				
	1170	46	3.543	2.968	3996				
	100	4.0	0.655	0.362	5710				
30	2500	83	4.262	3.562	2694	__8320005	__8320013	__8320021	__8320505.XX
	1750	58	3.619	2.986	3226				
	1170	39	2.987	2.415	3902				
	100	3.3	0.593	0.306	5787				
40	2500	62	3.434	2.736	2759	__8320006	__8320014	__8320022	__8320506.XX
	1750	43	2.926	2.293	3303				
	1170	29	2.402	1.833	3950				
	100	2.5	0.513	0.227	5710				
50	2500	50	2.883	2.199	2772	__8320007	__8320015	__8320023	__8320507.XX
	1750	35	2.462	1.841	3315				
	1170	23	2.018	1.461	3935				
	100	2.0	0.458	0.178	5601				
60	2500	41	2.471	1.812	2741	__8320008	__8320016	__8320024	__8320508.XX
	1750	29	2.114	1.515	3274				
	1170	19	1.733	1.197	3869				
	100	1.7	0.414	0.144	5448				
80	2500	31	1.122	0.796	1605	__8320099	__8320103	__8320107	__8320559.XX
	1750	21	1.030	0.695	2000				
	1170	14	0.869	0.551	2371				
	100	1.3	0.143	0.064	3246				
100	2500	25	0.754	0.503	1268	__8320100	__8320104	__8320108	__8320560.XX
	1750	17	0.691	0.435	1567				
	1170	11	0.584	0.343	1846				
	100	1.0	0.097	0.040	2496				

How To Build a Part Number For Size GRG832, GRL832, EL832

1. Select partial catalog number from the selection table
2. Replace leading “__” with series code (GRG, GRL, EL)
3. For hollow output, replace “XX” suffix with bore code (see next page for codes)

Example:

Direct replacement to LEESON® IRONMAN®, 1-3/16” hollow output shaft, 5:1 ratio, 180TC coupling input
 GRL-HM832-5-H-180TC-19
 GRL8320569.19

GRG = **GROVE GEAR®**

- Direct replacement to Grove Gear Flexaline
- 1-1/2” solid output shaft diameter
- For hollow bores, specify GRL Interchange
- Solid output shaft only

GRL = **LEESON® IRONMAN®**

- Direct replacement to LEESON IRONMAN & major brands.
- Hollow shaft option available
- 1-1/8” solid output shaft diameter

Single Reduction
Worm Gear Reducers

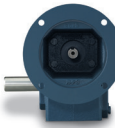



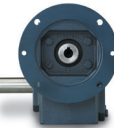


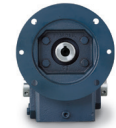
Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

	Style BM			Style HM	Style BMQ			Style HMQ	
									
NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Ratio
182-4TC 213-5TC	<u>8320205</u> <u>8320217</u>	<u>8320209</u> <u>8320229</u>	<u>8320213</u> <u>8320241</u>	<u>8320569.XX</u> <u>8320573.XX</u>	<u>8320277</u> <u>8320289</u>	<u>8320281</u> <u>8320301</u>	<u>8320285</u> <u>8320313</u>	<u>8320593.XX</u> <u>8320597.XX</u>	5
182-4TC 213-5TC	<u>8320206</u> <u>8320218</u>	<u>8320210</u> <u>8320230</u>	<u>8320214</u> <u>8320242</u>	<u>8320570.XX</u> <u>8320574.XX</u>	<u>8320278</u> <u>8320290</u>	<u>8320282</u> <u>8320302</u>	<u>8320286</u> <u>8320314</u>	<u>8320594.XX</u> <u>8320598.XX</u>	7.5
143-5TC 182-4TC 213-5TC	<u>8320049</u> <u>8320073</u> <u>8320219</u>	<u>8320057</u> <u>8320081</u> <u>8320231</u>	<u>8320065</u> <u>8320089</u> <u>8320243</u>	<u>8320517.XX</u> <u>8320525.XX</u> <u>8320575.XX</u>	<u>8320145</u> <u>8320169</u> <u>8320291</u>	<u>8320153</u> <u>8320177</u> <u>8320303</u>	<u>8320161</u> <u>8320185</u> <u>8320315</u>	<u>8320541.XX</u> <u>8320549.XX</u> <u>8320599.XX</u>	10
143-5TC 182-4TC	<u>8320050</u> <u>8320074</u>	<u>8320058</u> <u>8320082</u>	<u>8320066</u> <u>8320090</u>	<u>8320518.XX</u> <u>8320526.XX</u>	<u>8320146</u> <u>8320170</u>	<u>8320154</u> <u>8320178</u>	<u>8320162</u> <u>8320186</u>	<u>8320542.XX</u> <u>8320550.XX</u>	15
143-5TC 182-4TC	<u>8320051</u> <u>8320075</u>	<u>8320059</u> <u>8320083</u>	<u>8320067</u> <u>8320091</u>	<u>8320519.XX</u> <u>8320527.XX</u>	<u>8320147</u> <u>8320171</u>	<u>8320155</u> <u>8320179</u>	<u>8320163</u> <u>8320187</u>	<u>8320543.XX</u> <u>8320551.XX</u>	20
143-5TC 182-4TC	<u>8320052</u> <u>8320076</u>	<u>8320060</u> <u>8320084</u>	<u>8320068</u> <u>8320092</u>	<u>8320520.XX</u> <u>8320528.XX</u>	<u>8320148</u> <u>8320172</u>	<u>8320156</u> <u>8320180</u>	<u>8320164</u> <u>8320188</u>	<u>8320544.XX</u> <u>8320552.XX</u>	25
143-5TC 182-4TC	<u>8320053</u> <u>8320077</u>	<u>8320061</u> <u>8320085</u>	<u>8320069</u> <u>8320093</u>	<u>8320521.XX</u> <u>8320529.XX</u>	<u>8320149</u> <u>8320173</u>	<u>8320157</u> <u>8320181</u>	<u>8320165</u> <u>8320189</u>	<u>8320545.XX</u> <u>8320553.XX</u>	30
56C 143-5TC 182-4TC	<u>8320030</u> <u>8320054</u> <u>8320078</u>	<u>8320038</u> <u>8320062</u> <u>8320086</u>	<u>8320046</u> <u>8320070</u> <u>8320094</u>	<u>8320514.XX</u> <u>8320522.XX</u> <u>8320530.XX</u>	<u>8320126</u> <u>8320150</u> <u>8320174</u>	<u>8320134</u> <u>8320158</u> <u>8320182</u>	<u>8320142</u> <u>8320166</u> <u>8320190</u>	<u>8320538.XX</u> <u>8320546.XX</u> <u>8320554.XX</u>	40
56C 143-5TC 182-4TC	<u>8320031</u> <u>8320055</u> <u>8320079</u>	<u>8320039</u> <u>8320063</u> <u>8320087</u>	<u>8320047</u> <u>8320071</u> <u>8320095</u>	<u>8320515.XX</u> <u>8320523.XX</u> <u>8320531.XX</u>	<u>8320127</u> <u>8320151</u> <u>8320175</u>	<u>8320135</u> <u>8320159</u> <u>8320183</u>	<u>8320143</u> <u>8320167</u> <u>8320191</u>	<u>8320539.XX</u> <u>8320547.XX</u> <u>8320555.XX</u>	50
56C 143-5TC 182-4TC	<u>8320032</u> <u>8320056</u> <u>8320080</u>	<u>8320040</u> <u>8320064</u> <u>8320088</u>	<u>8320048</u> <u>8320072</u> <u>8320096</u>	<u>8320516.XX</u> <u>8320524.XX</u> <u>8320532.XX</u>	<u>8320128</u> <u>8320152</u> <u>8320176</u>	<u>8320136</u> <u>8320160</u> <u>8320184</u>	<u>8320144</u> <u>8320168</u> <u>8320192</u>	<u>8320540.XX</u> <u>8320548.XX</u> <u>8320556.XX</u>	60
56C 143-5TC	<u>8320111</u> <u>8320195</u>	<u>8320115</u> <u>8320199</u>	<u>8320119</u> <u>8320203</u>	<u>8320563.XX</u> <u>8320567.XX</u>	<u>8320255</u> <u>8320267</u>	<u>8320259</u> <u>8320271</u>	<u>8320263</u> <u>8320275</u>	<u>8320587.XX</u> <u>8320591.XX</u>	80
56C	<u>8320112</u>	<u>8320116</u>	<u>8320120</u>	<u>8320564.XX</u>	<u>8320256</u>	<u>8320260</u>	<u>8320264</u>	<u>8320588.XX</u>	100

For input/ output shaft overhung load and thrust load ratings, refer to pages L8-L11.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

Fraction Size	1-3/16"	1-1/4"	1-7/16"	1-1/2"	1-5/8"	1-11/16"	1-3/4"	1-7/8"	1-15/16"	2"	2-3/16"
Decimal Size	1.188	1.250	1.438	1.500	1.625	1.688	1.750	1.875	1.938	2.000	2.188
Output Bore Code	19	20	23	24	26	27	28	30	31	32	35

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

MAXIMUM RATING TABLES

SIZE 832 • NH SERIES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

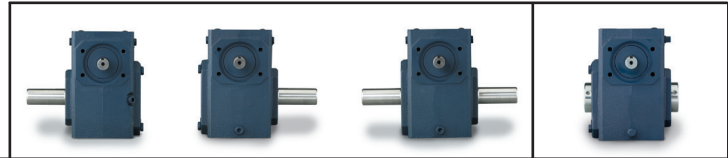
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style B

Style H

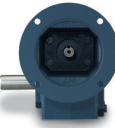




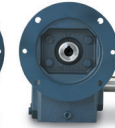
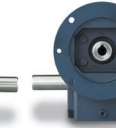
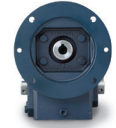


Size 832

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	10.56	10.03	1306	NH8320097	NH8320101	NH8320105	NH8320557.XX
	1750	350	9.135	8.611	1602				
	1170	234	7.694	7.172	1995				
7.5	100	20	1.289	1.097	3571	NH8320098	NH8320102	NH8320106	NH8320558.XX
	2500	333	9.053	8.527	1612				
	1750	233	7.844	7.317	1976				
10	1170	156	6.642	6.114	2469	NH8320001	NH8320009	NH8320017	NH8320501.XX
	100	13	1.136	0.949	4075				
	2500	250	8.232	7.701	1941				
15	1750	175	7.034	6.507	2343	NH8320002	NH8320010	NH8320018	NH8320502.XX
	1170	117	5.974	5.446	2932				
	100	10	0.857	0.704	4437				
20	2500	166	6.161	5.603	2118	NH8320003	NH8320011	NH8320019	NH8320503.XX
	1750	116	5.277	4.724	2551				
	1170	78	4.531	3.971	3207				
25	100	6.7	0.682	0.518	4895	NH8320004	NH8320012	NH8320020	NH8320504.XX
	2500	125	4.836	4.306	2170				
	1750	87	4.188	3.658	2633				
30	1170	58	3.547	3.020	3253	NH8320005	NH8320013	NH8320021	NH8320505.XX
	100	5.0	0.528	0.381	4802				
	2500	100	3.977	3.468	2185				
40	1750	70	3.465	2.953	2658	NH8320006	NH8320014	NH8320022	NH8320506.XX
	1170	46	2.914	2.413	3248				
	100	4.0	0.434	0.298	4701				
50	2500	83	3.452	2.903	2195	NH8320007	NH8320015	NH8320023	NH8320507.XX
	1750	58	3.003	2.454	2651				
	1170	39	2.604	2.052	3315				
60	100	3.3	0.425	0.265	5007	NH8320008	NH8320016	NH8320024	NH8320508.XX
	2500	62	2.669	2.157	2174				
	1750	43	2.348	1.834	2641				
80	1170	29	2.019	1.509	3251	NH8320009	NH8320103	NH8320107	NH8320509.XX
	100	2.5	0.330	0.189	4769				
	2500	50	2.152	1.674	2110				
100	1750	35	1.907	1.426	2568	NH8320100	NH8320104	NH8320108	NH8320560.XX
	1170	23	1.634	1.163	3130				
	100	2.0	0.270	0.143	4510				
100	2500	41	1.764	1.323	2001	NH8320099	NH8320103	NH8320107	NH8320559.XX
	1750	29	1.573	1.128	2437				
	1170	19	1.346	0.913	2951				
100	100	1.7	0.225	0.111	4201	NH8320100	NH8320104	NH8320108	NH8320560.XX
	2500	31	1.122	0.796	1605				
	1750	21	1.030	0.695	2000				
100	1170	14	0.869	0.551	2371	NH8320100	NH8320104	NH8320108	NH8320560.XX
	100	1.3	0.143	0.064	3246				
	2500	25	0.754	0.503	1268				
100	1750	17	0.691	0.435	1567	NH8320100	NH8320104	NH8320108	NH8320560.XX
	1170	11	0.584	0.343	1846				
	100	1.0	0.097	0.040	2496				

How To Build a Part Number For Size NH832

1. Select catalog number from the selection table
2. For hollow output, replace "XX" suffix with bore code (see next page for codes)

	Style BM			Style HM	Style BMQ			Style HMQ	
									
NEMA C Input Flange ▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Ratio
182-4TC 213-5TC	NH8320205 NH8320217	NH8320209 NH8320229	NH8320213 NH8320241	NH8320569.XX NH8320573.XX	NH8320277 NH8320289	NH8320281 NH8320301	NH8320285 NH8320313	NH8320593.XX NH8320597.XX	5
182-4TC 213-5TC	NH8320206 NH8320218	NH8320210 NH8320230	NH8320214 NH8320242	NH8320570.XX NH8320574.XX	NH8320278 NH8320290	NH8320282 NH8320302	NH8320286 NH8320314	NH8320594.XX NH8320598.XX	7.5
143-5TC 182-4TC 213-5TC	NH8320049 NH8320073 NH8320219	NH8320057 NH8320081 NH8320231	NH8320065 NH8320089 NH8320243	NH8320517.XX NH8320525.XX NH8320575.XX	NH8320145 NH8320169 NH8320291	NH8320153 NH8320177 NH8320303	NH8320161 NH8320185 NH8320315	NH8320541.XX NH8320549.XX NH8320599.XX	10
143-5TC 182-4TC	NH8320050 NH8320074	NH8320058 NH8320082	NH8320066 NH8320090	NH8320518.XX NH8320526.XX	NH8320146 NH8320170	NH8320154 NH8320178	NH8320162 NH8320186	NH8320542.XX NH8320550.XX	15
143-5TC 182-4TC	NH8320051 NH8320075	NH8320059 NH8320083	NH8320067 NH8320091	NH8320519.XX NH8320527.XX	NH8320147 NH8320171	NH8320155 NH8320179	NH8320163 NH8320187	NH8320543.XX NH8320551.XX	20
143-5TC 182-4TC	NH8320052 NH8320076	NH8320060 NH8320084	NH8320068 NH8320092	NH8320520.XX NH8320528.XX	NH8320148 NH8320172	NH8320156 NH8320180	NH8320164 NH8320188	NH8320544.XX NH8320552.XX	25
143-5TC 182-4TC	NH8320053 NH8320077	NH8320061 NH8320085	NH8320069 NH8320093	NH8320521.XX NH8320529.XX	NH8320149 NH8320173	NH8320157 NH8320181	NH8320165 NH8320189	NH8320545.XX NH8320553.XX	30
56C 143-5TC 182-4TC	NH8320030 NH8320054 NH8320078	NH8320038 NH8320062 NH8320086	NH8320046 NH8320070 NH8320094	NH8320514.XX NH8320522.XX NH8320530.XX	NH8320126 NH8320150 NH8320174	NH8320134 NH8320158 NH8320182	NH8320142 NH8320166 NH8320190	NH8320538.XX NH8320546.XX NH8320554.XX	40
56C 143-5TC 182-4TC	NH8320031 NH8320055 NH8320079	NH8320039 NH8320063 NH8320087	NH8320047 NH8320071 NH8320095	NH8320515.XX NH8320523.XX NH8320531.XX	NH8320127 NH8320151 NH8320175	NH8320135 NH8320159 NH8320183	NH8320143 NH8320167 NH8320191	NH8320539.XX NH8320547.XX NH8320555.XX	50
56C 143-5TC 182-4TC	NH8320032 NH8320056 NH8320080	NH8320040 NH8320064 NH8320088	NH8320048 NH8320072 NH8320096	NH8320516.XX NH8320524.XX NH8320532.XX	NH8320128 NH8320152 NH8320176	NH8320136 NH8320160 NH8320184	NH8320144 NH8320168 NH8320192	NH8320540.XX NH8320548.XX NH8320556.XX	60
56C 143-5TC	NH8320111 NH8320195	NH8320115 NH8320199	NH8320119 NH8320203	NH8320563.XX NH8320567.XX	NH8320255 NH8320267	NH8320259 NH8320271	NH8320263 NH8320275	NH8320587.XX NH8320591.XX	80
56C	NH8320112	NH8320116	NH8320120	NH8320564.XX	NH8320256	NH8320260	NH8320264	NH8320588.XX	100

For input/ output shaft overhung load and thrust load ratings, refer to pages L8-L11.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

Fraction Size	1-3/16"	1-1/4"	1-7/16"	1-1/2"	1-5/8"	1-11/16"	1-3/4"	1-7/8"	1-15/16"	2"	2-3/16"
Decimal Size	1.188	1.250	1.438	1.500	1.625	1.688	1.750	1.875	1.938	2.000	2.188
Output Bore Code	19	20	23	24	26	27	28	30	31	32	35

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

MAXIMUM RATING TABLES

SIZE 842 • GR, NH & EL SERIES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

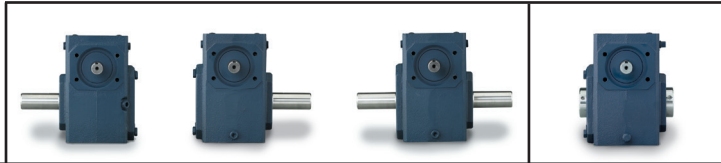
WASHBOARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style B

Style H



Size 842

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	20.79	19.87	2589	_8420001	_8420013	_8420025	_8420501.XX
	1750	350	18.08	17.25	3209				
	1170	234	15.18	14.43	4016				
7.5	100	20	2.751	2.376	7738	_8420002	_8420014	_8420026	_8420502.XX
	2500	333	18.84	17.83	3372				
	1750	233	16.27	15.36	4148				
10	1170	156	13.42	12.61	5094	_8420003	_8420015	_8420027	_8420503.XX
	100	13	2.342	1.931	9126				
	2500	250	17.39	16.37	4127				
15	1750	175	14.93	14.00	5042	_8420004	_8420016	_8420028	_8420504.XX
	1170	117	12.31	11.47	6180				
	100	10	2.051	1.629	10629				
20	2500	166	12.94	11.92	4507	_8420005	_8420017	_8420029	_8420505.XX
	1750	116	11.13	10.20	5508				
	1170	78	9.193	8.357	6752				
25	100	6.7	1.608	1.190	11245	_8420006	_8420018	_8420030	_8420506.XX
	2500	125	11.02	9.91	4999				
	1750	87	9.462	8.458	6092				
30	1170	58	7.816	6.913	7447	_8420007	_8420019	_8420031	_8420507.XX
	100	5.0	1.407	0.956	12056				
	2500	100	9.256	8.164	5145				
40	1750	70	7.940	6.946	6254	_8420008	_8420020	_8420032	_8420508.XX
	1170	46	6.551	5.658	7619				
	100	4.0	1.210	0.764	12038				
50	2500	83	7.517	6.455	4882	_8420009	_8420021	_8420033	_8420509.XX
	1750	58	6.481	5.517	5960				
	1170	39	5.384	4.518	7300				
60	100	3.3	1.066	0.636	12026	_8420010	_8420022	_8420034	_8420510.XX
	2500	62	6.101	5.013	5055				
	1750	43	5.262	4.274	6156				
80	1170	29	4.379	3.490	7520	_8420011	_8420023	_8420035	_8420511.XX
	100	2.5	0.920	0.480	12090				
	2500	50	5.088	4.029	5078				
100	1750	35	4.389	3.426	6170	_8420012	_8420024	_8420036	_8420512.XX
	1170	23	3.655	2.788	7510				
	100	2.0	0.804	0.375	11809				
	2500	41	4.333	3.317	5017				
	1750	29	3.681	2.772	5989				
	1170	19	3.116	2.285	7386				
	100	1.7	0.715	0.302	11439				
	2500	31	2.019	1.486	2995				
	1750	21	1.760	1.257	3620				
	1170	14	1.585	1.049	4519				
	100	1.3	0.290	0.135	6804				
	2500	25	1.341	0.933	2351				
	1750	17	1.201	0.792	2852				
	1170	11	1.062	0.655	3527				
	100	1.0	0.197	0.083	5219				

How To Build a Part Number For Size GR842, NH842, EL842

1. Select partial catalog number from the selection table
2. Replace leading “_” with series code (GR, NH, EL)
3. For hollow output, replace “XX” suffix with bore code (see next page for codes)

Example:

Grove Gear® IRONMAN®, style B, 5:1 ratio, left hand output
GR-B842-5-L
GR8420001



MAXIMUM RATING TABLES

SIZE 842 • GR, NH & EL SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

NEMA C Input Flange ▲	Style BM			Style HM	Style BMQ			Style HMQ	Ratio
	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	
182-4TC 213-5TC 254-6TC	<u>8420109</u> <u>8420145</u> <u>8420181</u>	<u>8420121</u> <u>8420157</u> <u>8420193</u>	<u>8420133</u> <u>8420169</u> <u>8420205</u>	<u>8420537.XX</u> <u>8420549.XX</u> <u>8420561.XX</u>	<u>8420289</u> <u>8420325</u> <u>8420361</u>	<u>8420301</u> <u>8420337</u> <u>8420373</u>	<u>8420313</u> <u>8420349</u> <u>8420385</u>	<u>8420597.XX</u> <u>8420609.XX</u> <u>8420621.XX</u>	5
182-4TC 213-5TC 254-6TC	<u>8420110</u> <u>8420146</u> <u>8420182</u>	<u>8420122</u> <u>8420158</u> <u>8420194</u>	<u>8420134</u> <u>8420170</u> <u>8420206</u>	<u>8420538.XX</u> <u>8420550.XX</u> <u>8420562.XX</u>	<u>8420290</u> <u>8420326</u> <u>8420362</u>	<u>8420302</u> <u>8420338</u> <u>8420374</u>	<u>8420314</u> <u>8420350</u> <u>8420386</u>	<u>8420598.XX</u> <u>8420610.XX</u> <u>8420622.XX</u>	7.5
182-4TC 213-5TC 254-6TC	<u>8420111</u> <u>8420147</u> <u>8420183</u>	<u>8420123</u> <u>8420159</u> <u>8420195</u>	<u>8420135</u> <u>8420171</u> <u>8420207</u>	<u>8420539.XX</u> <u>8420551.XX</u> <u>8420563.XX</u>	<u>8420291</u> <u>8420327</u> <u>8420363</u>	<u>8420303</u> <u>8420339</u> <u>8420375</u>	<u>8420315</u> <u>8420351</u> <u>8420387</u>	<u>8420599.XX</u> <u>8420611.XX</u> <u>8420623.XX</u>	10
182-4TC 213-5TC	<u>8420112</u> <u>8420148</u>	<u>8420124</u> <u>8420160</u>	<u>8420136</u> <u>8420172</u>	<u>8420540.XX</u> <u>8420552.XX</u>	<u>8420292</u> <u>8420328</u>	<u>8420304</u> <u>8420340</u>	<u>8420316</u> <u>8420352</u>	<u>8420600.XX</u> <u>8420612.XX</u>	15
182-4TC 213-5TC	<u>8420113</u> <u>8420149</u>	<u>8420125</u> <u>8420161</u>	<u>8420137</u> <u>8420173</u>	<u>8420541.XX</u> <u>8420553.XX</u>	<u>8420293</u> <u>8420329</u>	<u>8420305</u> <u>8420341</u>	<u>8420317</u> <u>8420353</u>	<u>8420601.XX</u> <u>8420613.XX</u>	20
143-5TC 182-4TC 213-5TC	<u>8420078</u> <u>8420114</u> <u>8420150</u>	<u>8420090</u> <u>8420126</u> <u>8420162</u>	<u>8420102</u> <u>8420138</u> <u>8420174</u>	<u>8420530.XX</u> <u>8420542.XX</u> <u>8420554.XX</u>	<u>8420258</u> <u>8420294</u> <u>8420330</u>	<u>8420270</u> <u>8420306</u> <u>8420342</u>	<u>8420282</u> <u>8420318</u> <u>8420354</u>	<u>8420590.XX</u> <u>8420602.XX</u> <u>8420614.XX</u>	25
143-5TC 182-4TC	<u>8420079</u> <u>8420115</u>	<u>8420091</u> <u>8420127</u>	<u>8420103</u> <u>8420139</u>	<u>8420531.XX</u> <u>8420543.XX</u>	<u>8420259</u> <u>8420295</u>	<u>8420271</u> <u>8420307</u>	<u>8420283</u> <u>8420319</u>	<u>8420591.XX</u> <u>8420603.XX</u>	30
143-5TC 182-4TC	<u>8420080</u> <u>8420116</u>	<u>8420092</u> <u>8420128</u>	<u>8420104</u> <u>8420140</u>	<u>8420532.XX</u> <u>8420544.XX</u>	<u>8420260</u> <u>8420296</u>	<u>8420272</u> <u>8420308</u>	<u>8420284</u> <u>8420320</u>	<u>8420592.XX</u> <u>8420604.XX</u>	40
143-5TC 182-4TC	<u>8420081</u> <u>8420117</u>	<u>8420093</u> <u>8420129</u>	<u>8420105</u> <u>8420141</u>	<u>8420533.XX</u> <u>8420545.XX</u>	<u>8420261</u> <u>8420297</u>	<u>8420273</u> <u>8420309</u>	<u>8420285</u> <u>8420321</u>	<u>8420593.XX</u> <u>8420605.XX</u>	50
56C 143-5TC 182-4TC	<u>8420046</u> <u>8420082</u> <u>8420118</u>	<u>8420058</u> <u>8420094</u> <u>8420130</u>	<u>8420070</u> <u>8420106</u> <u>8420142</u>	<u>8420522.XX</u> <u>8420534.XX</u> <u>8420546.XX</u>	<u>8420226</u> <u>8420262</u> <u>8420298</u>	<u>8420238</u> <u>8420274</u> <u>8420310</u>	<u>8420250</u> <u>8420286</u> <u>8420322</u>	<u>8420582.XX</u> <u>8420594.XX</u> <u>8420606.XX</u>	60
56C 143-5TC	<u>8420047</u> <u>8420083</u>	<u>8420059</u> <u>8420095</u>	<u>8420071</u> <u>8420107</u>	<u>8420523.XX</u> <u>8420535.XX</u>	<u>8420227</u> <u>8420263</u>	<u>8420239</u> <u>8420275</u>	<u>8420251</u> <u>8420287</u>	<u>8420583.XX</u> <u>8420595.XX</u>	80
56C 143-5TC	<u>8420048</u> <u>8420084</u>	<u>8420060</u> <u>8420096</u>	<u>8420072</u> <u>8420108</u>	<u>8420524.XX</u> <u>8420536.XX</u>	<u>8420228</u> <u>8420264</u>	<u>8420240</u> <u>8420276</u>	<u>8420252</u> <u>8420288</u>	<u>8420584.XX</u> <u>8420596.XX</u>	100

For input/ output shaft overhung load and thrust load ratings, refer to pages L8-L11.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers.

When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

Fraction Size	1-7/16"	1-1/2"	1-5/8"	1-11/16"	1-3/4"	1-7/8"	1-15/16"	2"	2-3/16"
Decimal Size	1.438	1.500	1.625	1.688	1.750	1.875	1.938	2.000	2.188
Output Bore Code	23	24	26	27	28	30	31	32	35

MAXIMUM RATING TABLES

SIZE 852 • GR, NH & EL SERIES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

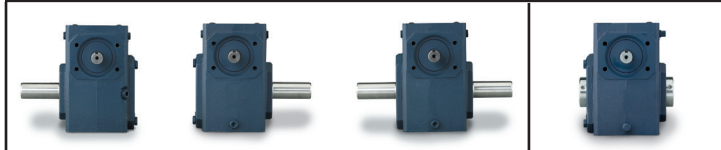
WASHBOARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style B

Style H



Size 852

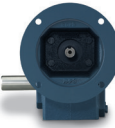



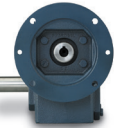
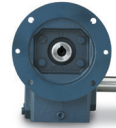
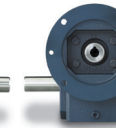

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	37.08	35.61	4601	_8520085	_8520090	_8520095	_8520501.XX
	1750	350	32.51	31.17	5753				
	1170	234	27.55	26.35	7276				
	100	20	5.390	4.794	15484				
7.5	2500	333	32.21	30.68	5800	_8520086	_8520091	_8520096	_8520502.XX
	1750	233	28.10	26.70	7213				
	1170	156	23.67	22.42	9058				
	100	13	4.442	3.821	18062				
10	2500	250	26.55	24.99	6300	_8520001	_8520008	_8520015	_8520503.XX
	1750	175	23.15	21.73	7827				
	1170	117	19.50	18.23	9818				
	100	10	3.701	3.073	19367				
15	2500	166	20.77	19.05	7204	_8520002	_8520009	_8520016	_8520504.XX
	1750	116	18.11	16.55	8941				
	1170	78	15.26	13.86	11201				
	100	6.7	2.997	2.309	21826				
20	2500	125	16.69	14.95	7538	_8520003	_8520010	_8520017	_8520505.XX
	1750	87	14.56	12.98	9351				
	1170	58	12.29	10.87	11709				
	100	5.0	2.499	1.802	22716				
25	2500	100	13.95	12.18	7674	_8520087	_8520092	_8520097	_8520506.XX
	1750	70	12.19	10.57	9517				
	1170	46	10.298	8.848	11915				
	100	4.0	2.176	1.464	23068				
30	2500	83	12.056	10.264	7763	_8520004	_8520011	_8520018	_8520507.XX
	1750	58	10.538	8.910	9627				
	1170	39	8.918	7.457	12051				
	100	3.3	1.949	1.233	23305				
40	2500	62	9.258	7.533	7596	_8520005	_8520012	_8520019	_8520508.XX
	1750	43	8.105	6.538	9419				
	1170	29	6.878	5.471	11789				
	100	2.5	1.592	0.903	22772				
50	2500	50	7.727	5.990	7550	_8520006	_8520013	_8520020	_8520509.XX
	1750	35	6.777	5.199	9362				
	1170	23	5.766	4.350	11717				
	100	2.0	1.411	0.718	22622				
60	2500	41	6.621	4.912	7429	_8520007	_8520014	_8520021	_8520510.XX
	1750	29	5.816	4.263	9212				
	1170	19	4.961	3.567	11528				
	100	1.7	1.270	0.588	22251				
80	2500	31	3.226	2.217	4469	_8520088	_8520093	_8520098	_8520511.XX
	1750	21	2.906	1.902	5478				
	1170	14	2.618	1.600	6894				
	100	1.3	0.744	0.280	14089				
100	2500	25	2.285	1.504	3790	_8520089	_8520094	_8520099	_8520512.XX
	1750	17	2.072	1.291	4646				
	1170	11	1.820	1.052	5663				
	100	1.0	0.515	0.180	11331				

How To Build a Part Number For Size GR852, NH852, EL852

1. Select partial catalog number from the selection table
2. Replace leading “_” with series code (GR, NH, EL)
3. For hollow output, replace “XX” suffix with bore code (see next page for codes)

Example:

Grove Gear® IRONMAN®, style B, 5:1 ratio, left hand output
 GR-B852-5-L
 GR8520085

	Style BM			Style HM	Style BMQ			Style HMQ	
									
NEMA C Input Flange ▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Ratio
213-5TC 254-6TC	8520187 8520202	8520192 8520207	8520197 8520212	8520549.XX 8520561.XX	8520325 8520361	8520337 8520373	8520349 8520385	8520609.XX 8520621.XX	5
213-5TC 254-6TC	8520188 8520203	8520193 8520208	8520198 8520213	8520550.XX 8520562.XX	8520326 8520362	8520338 8520374	8520350 8520386	8520610.XX 8520622.XX	7.5
213-5TC 254-6TC	8520043 8520064	8520050 8520071	8520057 8520078	8520551.XX 8520563.XX	8520327 8520363	8520339 8520375	8520351 8520387	8520611.XX 8520623.XX	10
213-5TC 254-6TC	8520044 8520065	8520051 8520072	8520058 8520079	8520552.XX 8520564.XX	8520328 8520364	8520340 8520376	8520352 8520388	8520612.XX 8520624.XX	15
182-4TC 213-5TC 254-6TC	8520024 8520045 8520066	8520031 8520052 8520073	8520038 8520059 8520080	8520541.XX 8520553.XX 8520565.XX	8520293 8520329 8520365	8520305 8520341 8520377	8520317 8520353 8520389	8520601.XX 8520613.XX 8520625.XX	20
182-4TC 213-5TC	8520174 8520189	8520179 8520194	8520184 8520199	8520542.XX 8520554.XX	8520294 8520330	8520306 8520342	8520318 8520354	8520602.XX 8520614.XX	25
182-4TC 213-5TC	8520025 8520046	8520032 8520053	8520039 8520060	8520543.XX 8520555.XX	8520295 8520331	8520307 8520343	8520319 8520355	8520603.XX 8520615.XX	30
143-5TC 182-4TC 213-5TC	8520143 8520026 8520047	8520155 8520033 8520054	8520167 8520040 8520061	8520532.XX 8520544.XX 8520556.XX	8520260 8520296 8520332	8520272 8520308 8520344	8520284 8520320 8520356	8520592.XX 8520604.XX 8520616.XX	40
143-5TC 182-4TC	8520144 8520027	8520156 8520034	8520168 8520041	8520533.XX 8520545.XX	8520261 8520297	8520273 8520309	8520285 8520321	8520593.XX 8520605.XX	50
143-5TC 182-4TC	8520145 8520028	8520157 8520035	8520169 8520042	8520534.XX 8520546.XX	8520262 8520298	8520274 8520310	8520286 8520322	8520594.XX 8520606.XX	60
143-5TC 182-4TC	8520146 8520175	8520158 8520180	8520170 8520185	8520535.XX 8520547.XX	8520263 8520299	8520275 8520311	8520287 8520323	8520595.XX 8520607.XX	80
143-5TC	8520147	8520159	8520171	8520536.XX	8520264	8520276	8520288	8520596.XX	100

For input/ output shaft overhung load and thrust load ratings, refer to pages L8-L11.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

Fraction Size	2"	2-3/16"	2-1/4"	2-7/16"	2-1/2"	2-11/16"	2-15/16"	3"	3-3/16"	3-7/16"
Decimal Size	2.000	2.188	2.250	2.438	2.500	2.688	2.938	3.000	3.188	3.438
Output Bore Code	32	35	36	39	40	43	47	48	51	55

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

MAXIMUM RATING TABLES

SIZE 860 • GR SERIES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

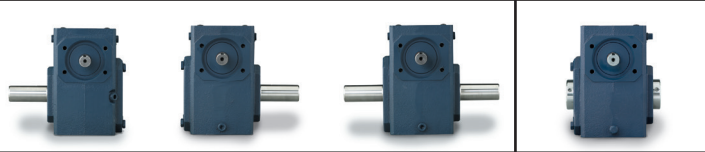
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style B

Style H



Size 860

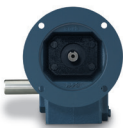




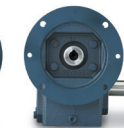
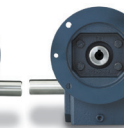

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*
5	2500	500	39.83	38.29	4827	_8600085	_8600090	_8600095	_8600501.XX
	1750	350	35.10	33.70	6068				
	1170	234	29.94	28.69	7726				
7.5	100	20	6.203	5.581	17587	_8600086	_8600091	_8600096	_8600502.XX
	2500	333	34.20	32.60	6163				
	1750	233	29.98	28.52	7704				
10	1170	156	25.41	24.11	9740	_8600001	_8600008	_8600015	_8600503.XX
	100	13	5.018	4.371	20662				
	2500	250	28.53	26.90	6782				
15	1750	175	24.99	23.51	8467	_8600002	_8600009	_8600016	_8600504.XX
	1170	117	21.17	19.84	10687				
	100	10	4.198	3.542	22324				
20	2500	166	21.95	20.17	7628	_8600003	_8600010	_8600017	_8600505.XX
	1750	116	19.23	17.61	9515				
	1170	78	16.30	14.85	11996				
25	100	6.7	3.337	2.623	24797	_8600007	_8600092	_8600097	_8600506.XX
	2500	125	17.93	16.11	8123				
	1750	87	15.71	14.06	10127				
30	1170	58	13.32	11.84	12758	_8600004	_8600011	_8600018	_8600507.XX
	100	5.0	2.805	2.078	26194				
	2500	100	14.89	13.04	8219				
40	1750	70	13.06	11.378	10245	_8600005	_8600012	_8600019	_8600508.XX
	1170	46	11.094	9.582	12903				
	100	4.0	2.418	1.678	26436				
50	2500	83	12.73	10.87	8222	_8600006	_8600013	_8600020	_8600509.XX
	1750	58	11.177	9.486	10249				
	1170	39	9.507	7.989	12911				
60	100	3.3	2.143	1.400	26480	_8600007	_8600014	_8600021	_8600510.XX
	2500	62	9.922	8.119	8187				
	1750	43	8.722	7.083	10203				
80	1170	29	7.433	5.963	12848	_8600008	_8600093	_8600098	_8600511.XX
	100	2.5	1.761	1.042	26260				
	2500	50	8.226	6.417	8088				
100	1750	35	7.242	5.597	10079	_8600009	_8600094	_8600099	_8600512.XX
	1170	23	6.188	4.712	12691				
	100	2.0	1.544	0.823	25925				
100	2500	41	6.977	5.202	7869	_8600088	_8600093	_8600098	_8600511.XX
	1750	29	6.152	4.539	9808				
	1170	19	5.269	3.822	12352				
100	100	1.7	1.376	0.669	25283	_8600089	_8600094	_8600099	_8600512.XX
	2500	31	4.130	2.939	5962				
	1750	21	3.702	2.522	7264				
100	1170	14	3.315	2.122	9142	_8600089	_8600094	_8600099	_8600512.XX
	100	1.3	0.950	0.382	19249				
	2500	25	2.849	1.905	4802				
100	1750	17	2.571	1.635	5886	_8600089	_8600094	_8600099	_8600512.XX
	1170	11	2.323	1.376	7408				
	100	1.0	0.686	0.244	15389				

How To Build a Part Number For Size GR860

1. Select partial catalog number from the selection table
2. Replace leading “_” with series code GR
3. For hollow output, replace “XX” suffix with bore code (see next page for codes)

Example:

Grove Gear® IRONMAN®, style B, 5:1 ratio, left hand output
 GR-B860-5-L
 GR8600085

	Style BM			Style HM	Style BMQ			Style HMQ	
									
NEMA C Input Flange ▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.*	Ratio
254-6TC	<u>8600130</u>	<u>8600135</u>	<u>8600140</u>	<u>8600537.XX</u>	<u>8600289</u>	<u>8600301</u>	<u>8600313</u>	<u>8600597.XX</u>	5
254-6TC	<u>8600131</u>	<u>8600136</u>	<u>8600141</u>	<u>8600538.XX</u>	<u>8600290</u>	<u>8600302</u>	<u>8600314</u>	<u>8600598.XX</u>	7.5
213-5TC 254-6TC	<u>8600043</u> <u>8600064</u>	<u>8600050</u> <u>8600071</u>	<u>8600057</u> <u>8600078</u>	<u>8600527.XX</u> <u>8600539.XX</u>	<u>8600255</u> <u>8600291</u>	<u>8600267</u> <u>8600303</u>	<u>8600279</u> <u>8600315</u>	<u>8600587.XX</u> <u>8600599.XX</u>	10
213-5TC 254-6TC	<u>8600044</u> <u>8600065</u>	<u>8600051</u> <u>8600072</u>	<u>8600058</u> <u>8600079</u>	<u>8600528.XX</u> <u>8600540.XX</u>	<u>8600256</u> <u>8600292</u>	<u>8600268</u> <u>8600304</u>	<u>8600280</u> <u>8600316</u>	<u>8600588.XX</u> <u>8600600.XX</u>	15
182-4TC 213-5TC	<u>8600024</u> <u>8600045</u>	<u>8600031</u> <u>8600052</u>	<u>8600038</u> <u>8600059</u>	<u>8600517.XX</u> <u>8600529.XX</u>	<u>8600221</u> <u>8600257</u>	<u>8600233</u> <u>8600269</u>	<u>8600245</u> <u>8600281</u>	<u>8600577.XX</u> <u>8600589.XX</u>	20
182-4TC 213-5TC	<u>8600102</u> <u>8600117</u>	<u>8600107</u> <u>8600122</u>	<u>8600112</u> <u>8600127</u>	<u>8600518.XX</u> <u>8600530.XX</u>	<u>8600222</u> <u>8600258</u>	<u>8600234</u> <u>8600270</u>	<u>8600246</u> <u>8600282</u>	<u>8600578.XX</u> <u>8600590.XX</u>	25
182-4TC 213-5TC	<u>8600025</u> <u>8600046</u>	<u>8600032</u> <u>8600053</u>	<u>8600039</u> <u>8600060</u>	<u>8600519.XX</u> <u>8600531.XX</u>	<u>8600223</u> <u>8600259</u>	<u>8600235</u> <u>8600271</u>	<u>8600247</u> <u>8600283</u>	<u>8600579.XX</u> <u>8600591.XX</u>	30
182-4TC 213-5TC	<u>8600026</u> <u>8600047</u>	<u>8600033</u> <u>8600054</u>	<u>8600040</u> <u>8600061</u>	<u>8600520.XX</u> <u>8600532.XX</u>	<u>8600224</u> <u>8600260</u>	<u>8600236</u> <u>8600272</u>	<u>8600248</u> <u>8600284</u>	<u>8600580.XX</u> <u>8600592.XX</u>	40
182-4TC	<u>8600027</u>	<u>8600034</u>	<u>8600041</u>	<u>8600521.XX</u>	<u>8600225</u>	<u>8600237</u>	<u>8600249</u>	<u>8600581.XX</u>	50
143-5TC 182-4TC	<u>8600028</u>	<u>8600035</u>	<u>8600042</u>	<u>8600522.XX</u>	<u>8600190</u> <u>8600226</u>	<u>8600202</u> <u>8600238</u>	<u>8600214</u> <u>8600250</u>	<u>8600570.XX</u> <u>8600582.XX</u>	60
143-5TC 182-4TC	<u>8600103</u>	<u>8600108</u>	<u>8600113</u>	<u>8600523.XX</u>	<u>8600191</u> <u>8600227</u>	<u>8600203</u> <u>8600239</u>	<u>8600215</u> <u>8600251</u>	<u>8600571.XX</u> <u>8600583.XX</u>	80
143-5TC 182-4TC	<u>8600104</u>	<u>8600109</u>	<u>8600114</u>	<u>8600524.XX</u>	<u>8600192</u> <u>8600228</u>	<u>8600204</u> <u>8600240</u>	<u>8600216</u> <u>8600252</u>	<u>8600572.XX</u> <u>8600584.XX</u>	100

For input/ output shaft overhung load and thrust load ratings, refer to pages L8-L11.

▲ Consult Factory for other motor flanges available.

* Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

Available bore codes

Fraction Size	2"	2-3/16"	2-1/4"	2-7/16"	2-1/2"	2-11/16"	2-15/16"	3"	3-3/16"	3-7/16"
Decimal Size	2.000	2.188	2.250	2.438	2.500	2.688	2.938	3.000	3.188	3.438
Output Bore Code	32	35	36	39	40	43	47	48	51	55

MAXIMUM RATING TABLES

SIZE 870, 880, 8100 • GR SERIES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHBOARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Size 870, 880, 8100

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Input HP	Output HP	Output Torque (lb-in)	Input HP	Output HP	Output Torque (lb-in)
5 <small>(5.13 actual)</small>	1750	350	51.1	49.1	9062	66.8	64.3	11866	104.6	100.9	18619
	1170	234	43.3	41.3	11404	56.6	54.1	14932	88.5	84.9	23431
	100	20	9.2	8.18	26416	13.9	12.4	36447	22.1	19.8	63935
7.5 <small>(7.33 actual)</small>	1750	233	41.5	39.6	10572	54.3	52.0	13867	84.4	81.1	21413
	1170	156	35.2	33.3	13304	46.0	43.8	17451	71.4	68.2	26947
	100	13	6.97	6.09	28388	9.72	8.54	39793	16.5	14.6	67727
10 <small>(9.75 actual)</small>	1750	175	35.7	33.8	11893	43.3	41.1	14447	67.1	64.0	22466
	1170	117	30.3	28.5	14967	36.7	34.6	18181	56.8	53.8	28273
	100	10	6.15	5.26	32282	7.96	6.83	41958	13.6	11.8	72712
15 <small>(14.67 actual)</small>	1750	116	25.9	24.2	12827	33.8	31.7	16766	52.7	49.8	26308
	1170	78	22.1	20.4	16143	28.7	26.7	21099	44.8	41.9	33107
	100	6.7	4.16	3.44	31744	5.75	6.82	44195	9.95	8.37	77295
20 <small>(20.50 actual)</small>	1750	87	19.9	18.2	13431	25.9	23.8	17575	40.4	37.3	27597
	1170	58	17.0	15.3	16903	22.1	20.0	22118	34.4	31.4	34730
	100	5.0	3.35	2.60	33520	4.63	3.62	46792	8.01	6.35	82011
25 <small>(24.50 actual)</small>	1750	70	16.9	15.2	13462	21.9	19.9	17578	34.2	31.3	27618
	1170	46	14.0	12.4	16417	18.7	16.7	22122	29.2	26.3	34756
	100	4.0	2.82	2.12	32790	3.86	2.94	45421	6.70	5.18	79871
30 <small>(29.50 actual)</small>	1750	58	14.1	12.5	13356	17.9	16.1	17166	28.5	25.8	27433
	1170	39	11.9	10.3	16491	14.9	13.2	21058	24.4	21.7	34523
	100	3.3	2.30	1.68	31233	2.94	2.21	41088	5.49	4.12	76598
40	1750	43	10.8	9.31	13399	14.0	12.1	17507	21.8	19.0	27471
	1170	29	9.18	7.62	16416	12.1	10.2	22032	18.8	16.0	34571
	100	2.5	1.94	1.28	32194	2.64	1.77	44687	4.54	3.11	78246
50	1750	35	8.74	7.23	13011	11.3	9.46	17028	17.4	14.8	26703
	1170	23	7.43	5.93	15966	9.84	7.96	21429	15.1	12.4	33605
	100	2.0	1.62	0.99	31109	2.22	1.38	43469	3.79	2.41	75935
60	1750	29	7.00	5.66	12220	9.05	7.40	15982	13.9	11.6	25107
	1170	19	6.03	4.69	15143	7.63	6.01	19430	12.1	9.78	31597
	100	1.7	1.27	0.74	28131	1.75	1.04	39244	3.01	1.83	69119
70	1750	21	5.74	4.48	11300	7.37	5.85	14743	11.4	9.22	23235
	1170	14	4.96	3.71	13979	6.24	4.76	17921	9.98	7.76	29240
	100	1.3	1.09	0.60	26222	1.48	0.82	36215	2.59	1.46	64584

Specify model number when ordering reducer size 870, 880 or 8100. Refer to page A9 for how to build a model number.

Available bore codes-Size 870

Fraction Size	2-7/16"	2-1/2"	2-11/16"	2-15/16"	3"	3-7/16"	3-15/16"
Decimal Size	2.438	2.500	2.688	2.938	3.000	3.438	3.938
Output Bore Code	39	40	43	47	48	55	63

Available bore codes-Size 880

Fraction Size	3-7/16"	3-15/16"	4-3/16"	4-7/16"
Decimal Size	3.438	3.938	4.188	4.438
Output Bore Code	55	63	67	71

Available bore codes-Size 8100

Fraction Size	3-7/16"	3-15/16"	4-7/16"	4-15/16"	5-7/16"
Decimal Size	3.438	3.938	4.438	4.938	5.438
Output Bore Code	55	63	71	79	87



GR SERIES • SINGLE REDUCTION • APPROXIMATE WEIGHTS Δ (LBS.)

Reducer Style	Reducer Size													
	GR813	GR815	GR818	GR821	GR824	GR826	GR830	GR832	GR842	GR852	GR860	GR870	GR880	GR8100
Solid Output Shaft														
BMQ	17	21	24	29	45	56	68	75	146	247	331	---	---	---
BM	22	23	26	30	47	57	69	76	154	254	336	429	612	---
B	17	18	20	25	40	52	64	71	136	232	321	399	582	904
TMQ & UMQ	19	24	27	33	49	62	74	84	160	267	362	---	---	---
TM & UM	24	26	29	34	51	63	75	85	168	274	367	470	660	---
T & U	19	21	23	29	44	58	70	80	150	252	352	440	630	980
RMQ	---	28	31	38	54	68	83	106	170	262	---	---	---	---
RM	---	30	33	39	56	69	84	107	178	269	---	---	---	---
R	---	25	27	34	49	64	79	102	160	247	---	---	---	---
JMQ	18	22	26	32	48	61	74	81	156	262	---	---	---	---
JM	23	24	28	33	50	62	75	82	164	269	---	---	---	---
J	18	19	22	28	43	57	70	77	146	247	---	---	---	---
VHMQ & VLMQ	19	24	27	36	52	65	78	88	166	272	367	---	---	---
VHM & VLM	24	26	29	37	54	66	79	89	174	279	372	500	690	---
VH & VL	19	21	23	32	47	61	74	84	156	257	357	470	660	1060
FMQ	18	22	25	32	48	60	78	85	161	277	369	---	---	---
FM	23	24	27	33	50	61	79	86	169	284	374	489	630	---
F	18	19	21	28	43	56	74	81	151	262	359	459	600	925
BFMQ	19	---	26	32	49	62	---	---	---	---	---	---	---	---
BFM	24	---	28	33	51	63	---	---	---	---	---	---	---	---
BF	19	---	22	28	44	58	---	---	---	---	---	---	---	---
CMQ	19	---	26	---	51	---	---	---	---	---	---	---	---	---
CM	24	---	28	---	53	---	---	---	---	---	---	---	---	---
C	19	---	22	---	48	---	---	---	---	---	---	---	---	---
FEMQ	---	---	---	---	---	---	78	85	176	278	373	---	---	---
FEM	---	---	---	---	---	---	79	86	184	285	378	590	810	---
FE	---	---	---	---	---	---	74	71	166	263	363	560	780	1180

Hollow Output Shaft

HMQ	18	21	25	30	47	55	69	77	149	247	331	---	---	---
HM	22	23	27	31	49	56	70	78	157	254	336	429	612	---
H	18	19	21	26	42	51	65	73	139	232	321	399	582	904
FHMQ	19	22	27	33	50	59	79	87	164	277	369	---	---	---
FHM	23	24	29	34	51	60	80	88	172	284	374	444	630	---
FH	19	20	23	29	45	55	75	83	154	262	359	414	600	925
BFHMQ	20	---	27	33	51	61	---	---	---	---	---	---	---	---
BFHM	24	---	29	34	53	62	---	---	---	---	---	---	---	---
BFH	20	---	23	29	46	57	---	---	---	---	---	---	---	---

Δ Weights include oil. 870, 880, 8100 shipped without oil.

GR SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

Accessory	Reducer Size													
	GR813	GR815	GR818	GR821	GR824	GR826	GR830	GR832	GR842	GR852	GR860	GR870	GR880	GR8100
T/U-Base	2	3	3	4	4	6	6	9	14	20	31	41	48	76
J-Base	1	1	2	3	3	5	6	6	10	15	---	---	---	---
VL/VH-Base	2	3	3	7	7	9	10	13	20	25	36	**	**	**
F-Flange (Cast Iron)	1	1	2	3	3	4	10	10	15	30	38	**	**	**
BF-Flange (Steel)	2	---	2	3	4	6	---	---	---	---	---	---	---	---
R-Riser Block	---	7	7	9	9	12	15	31	24	15	---	---	---	---
Hollow Shaft Torque Arm Kit	5	5	5	5	5	5	5	5	5	8	8	---	---	---
Coupling Input C-Flange Kits														
48CZ, 56C, 140TC	7	7	7	7	8	8	11	11	14	16	---	---	---	---
180TC-210TC	---	---	---	---	11	11	11	11	16	18	22	30	30	---
250TC	---	---	---	---	---	---	---	28	30	30	32	34	36	---

** This accessory must be assembled at the Factory. It is not available as a kit for field installation.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES WEIGHTS



NH SERIES • SINGLE REDUCTION • APPROXIMATE WEIGHTS Δ (LBS.)

Reducer Style	Reducer Size									
	NH813	NH815	NH818	NH821	NH824	NH826	NH830	NH832	NH842	NH852
Solid Output Shaft										
BMQ	14	18	20	25	38	48	58	64	124	210
BM	19	20	22	26	40	48	59	65	131	216
B	14	15	17	21	34	44	54	60	116	197
TMQ & UMQ	16	21	23	29	42	54	64	73	138	230
TM & UM	21	23	25	30	44	54	65	74	145	236
T & U	16	18	20	25	38	50	60	69	130	217
JMQ	15	19	22	28	41	53	64	70	134	225
JM	20	21	24	29	43	53	65	71	141	231
J	15	16	19	24	37	49	60	66	126	212
VHMQ & VLMO	16	21	23	32	45	57	68	77	144	235
VHM & VLM	21	23	25	33	47	57	69	78	151	241
VH & VL	16	18	20	28	41	53	64	73	136	222
FMQ	15	19	22	28	41	52	68	74	139	240
FM	20	21	24	29	43	52	69	75	146	246
F	15	16	19	24	37	48	64	70	131	227
FEMQ	---	---	---	---	---	---	66	72	150	236
FEM	---	---	---	---	---	---	67	73	156	242
FE	---	---	---	---	---	---	63	60	141	224
BLMQ	---	---	20	---	38	---	---	---	---	---
BLM	---	---	22	---	40	---	---	---	---	---
BL	---	---	17	---	34	---	---	---	---	---
Hollow Output Shaft										
HMQ	15	18	21	26	40	47	59	65	127	210
HM	19	20	23	26	42	48	60	66	133	216
H	15	16	18	22	36	43	55	62	118	197
FHMQ	16	19	23	29	43	51	69	75	142	240
FHM	20	21	25	29	45	52	70	76	148	246
FH	16	17	20	25	39	47	65	72	133	227

Δ Weights include oil.

NH SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

Accessory	Reducer Size									
	NH813	NH815	NH818	NH821	NH824	NH826	NH830	NH832	NH842	NH852
T/U-Base	2	3	3	4	4	6	6	9	14	20
J-Base	1	1	2	3	3	5	6	6	10	15
VL/VH-Base	2	3	3	7	7	9	10	13	20	25
F-Flange (cast Iron)	1	1	2	3	3	4	10	10	15	30
Hollow Shaft Torque Arm Kit	5	5	5	5	5	5	5	5	5	8
Coupling Input C-Flange Kits										
48CZ, 56C, 140TC	7	7	7	7	8	8	11	11	14	16
180TC-210TC	---	---	---	---	11	11	11	11	16	18
250TC	---	---	---	---	---	---	---	28	30	30

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

EL SERIES • SINGLE REDUCTION • APPROXIMATE WEIGHTSΔ (LBS.)

Reducer Style	Reducer Size								
	EL813	EL818	EL821	EL824	EL826	EL830	EL832	EL842	EL852
Solid Output Shaft									
BMQ	11	16	19	30	37	45	50	96	163
BM	15	17	20	31	38	46	50	102	168
B	11	13	17	26	34	42	47	90	153
TMQ & UMQ	12	18	22	33	41	51	58	103	171
TM & UM	16	19	23	34	42	52	58	109	176
T & U	12	15	20	29	38	48	55	97	161
JMQ	12	18	22	33	41	50	55	102	171
JM	16	19	23	34	42	51	55	108	176
J	12	15	20	29	38	47	52	96	161
VLMQ	13	19	22	33	41	50	55	102	171
VLM	17	20	23	34	42	51	55	108	176
VL	13	16	20	29	38	47	52	96	161
FMQ	---	18	22	33	40	51	57	104	171
FM	---	19	23	34	41	52	57	110	176
F	---	15	20	29	37	48	54	98	161
Hollow Output Shaft									
HMQ	12	17	20	31	36	46	51	98	163
HM	15	18	20	32	37	46	51	104	168
H	12	14	17	28	34	43	48	92	153
FHMQ	---	19	23	34	39	52	58	106	171
FHM	---	20	23	35	40	52	58	112	176
FH	---	16	20	31	37	49	55	100	161

Δ Weights include oil.

EL SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

Accessory	Reducer Size								
	EL813	EL818	EL821	EL824	EL826	EL830	EL832	EL842	EL852
ABC-Base	1	2	3	3	4	6	8	7	8
T/U-Base	1	2	3	3	4	6	8	7	8
J-Base	1	2	3	3	4	5	5	6	8
VL Base	2	3	3	3	4	5	5	6	8
FR & F-Flange	---	2	3	3	3	6	7	8	8
Hollow Shaft Torque Arm Kit	5	5	5	5	5	5	5	5	8
Coupling Input C-Flange Kits									
48CZ, 56C, 140TC	3	3	3	4	4	5	5	7	7
180TC-210TC	---	---	---	5	5	5	5	8	8
250TC	---	---	---	---	---	---	8	8	8

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

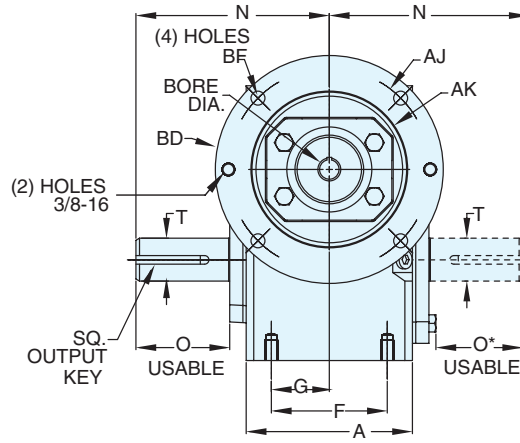
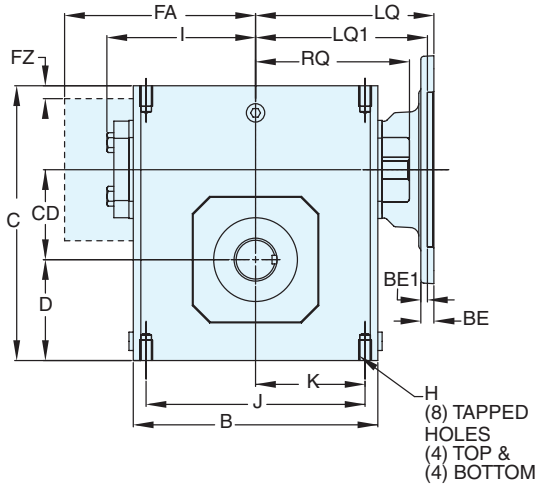


GR SERIES DIMENSIONS

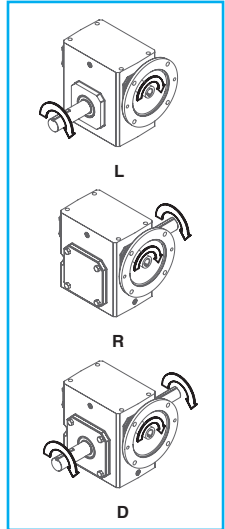
STYLES: BMQ, BM, B

CAST IRON
GR SERIES

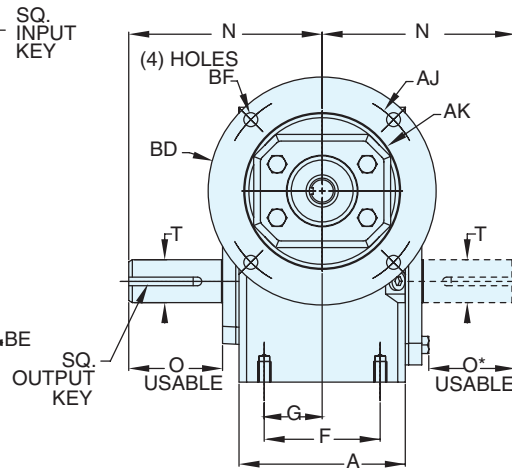
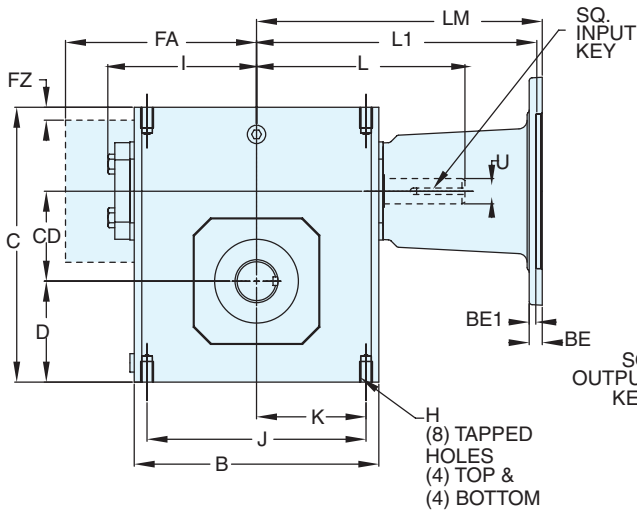
STYLE BMQ



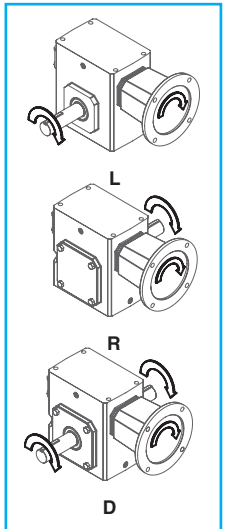
ASSEMBLIES



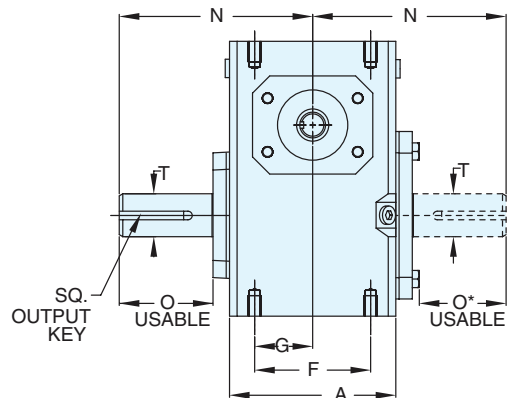
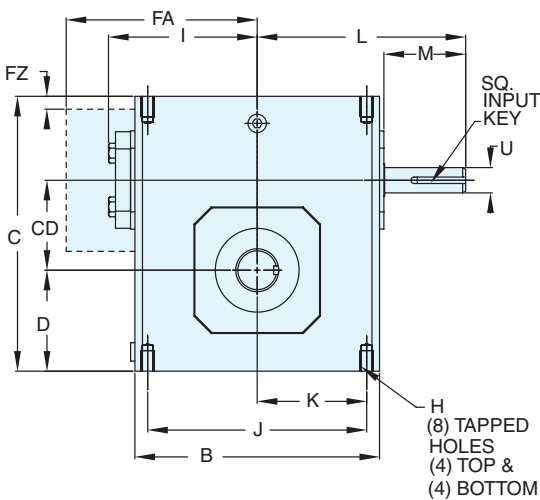
STYLE BM



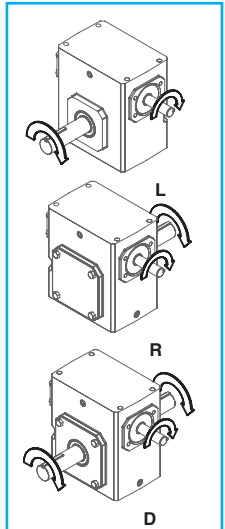
ASSEMBLIES



STYLE B



ASSEMBLIES



OBSBOPBB-11B-OOL T PD
CL OIL MM. PRGRK MGRPE>CCL
CL G>QF K>EFL K>GDS>@QL OVD
CL OIL GE BODI L AK QK DPIL OJ
>PPBJ ?I VML PRQE KP+

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: BMQ, BM, B



STYLE BMQ, BM, B DIMENSIONS (Inches)

Size	A	B	C	D	CD	F	FA▼	FZ▼	G	H		I	J	K	L	M	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
										Tap Size	Depth												
GR813	2.82	3.80	4.66	1.72	1.33	2.00	N/A	N/A	1.00	5/16-18 UNC	0.50	2.61	3.25	1.63	3.82	1.76	4.00	2.16	1.94	0.625	0.500	1/8 X 1.00	3/16 X 1.50
GR815	3.44	4.88	5.38	1.91	1.54	2.75	N/A	N/A	1.38	5/16-18 UNC	0.63	3.14	4.19	2.09	4.35	1.76	4.31	2.11	1.90	0.750	0.625	3/16 X 1.38	3/16 X 1.50
GR818	3.56	5.06	5.75	2.06	1.75	2.75	N/A	N/A	1.38	5/16-18 UNC	0.63	3.24	4.19	2.09	4.45	1.76	4.31	2.05	1.84	0.875	0.625	3/16 X 1.38	3/16 X 1.38
GR821	3.81	5.80	6.38	2.28	2.06	▲	N/A	N/A	1.44	5/16-18 UNC	0.63	3.61	▲	2.50	4.82	1.76	4.68	2.29	2.08	1.000	0.625	3/16 X 1.38	1/4 X 1.44
GR824	4.06	6.12	6.94	2.50	2.38	2.88	N/A	N/A	1.44	3/8-16 UNC	0.69	3.77	5.00	2.50	5.51	2.38	5.14	2.66	2.44	1.125	0.750	3/16 X 1.63	1/4 X 1.75
GR826	4.84	7.12	8.00	2.94	2.63	3.38	N/A	N/A	1.69	3/8-16 UNC	0.69	4.34	6.38	3.19	6.07	2.38	5.63	2.73	2.52	▲	0.750	3/16 X 1.63	1/4 X 1.75
GR830	5.25	8.12	8.88	3.25	3.00	4.00	N/A	N/A	2.00	7/16-14 UNC	0.88	4.84	7.00	3.50	6.57	2.38	6.75	3.60	3.36	1.250	0.875	3/16 X 1.63	1/4 X 1.75
GR832	5.75	8.50	9.38	3.50	3.25	4.00	N/A	N/A	2.00	7/16-14 UNC	0.88	5.02	7.50	3.75	6.76	2.38	7.06	3.66	3.42	▲	0.875	3/16 X 1.63	▲
GR842	6.13	10.25	11.38	4.44	4.25	5.00	N/A	N/A	2.50	5/8-11 UNC	1.00	6.10	8.50	4.25	9.57	3.47	8.12	4.50	4.21	1.875	1.250	1/4 X 2.50	1/2 X 3.06
GR852	7.19	13.00	14.00	5.12	5.25	5.81	N/A	N/A	2.91	5/8-11 UNC	1.25	7.50	11.00	5.50	10.88	3.38	9.06	4.78	4.53	2.000	1.250	1/4 X 3.00	1/2 X 3.50
GR860	8.13	14.25	16.50	6.50	6.00	6.38	11.13	0.33	3.19	5/8-11 UNC	1.00	N/A	12.75	6.38	11.78	3.41	10.00	4.65	4.65	2.500	1.500	3/8 X 3.00	5/8 X 4.00
GR870	7.63	14.88	18.91	7.59	7.00	5.50	11.37	0.35	2.75	1-8 UNC	1.56	N/A	12.50	6.25	11.50	2.97	11.76	5.65	5.65	2.750	1.625	3/8 x 2.87**	5/8 x 4.00**
GR880	8.63	17.00	20.96	8.86	8.00	6.50	12.52	0.57	3.25	1-8 UNC	1.66	N/A	14.25	7.13	12.50	2.84	12.25	5.98	5.98	3.000	1.875	1/2 x 2.81**	3/4 x 4.50**
GR8100	9.53	20.88	25.47	10.36	10.00	6.88	14.69	0.51	3.44	1-1/4 -7 UNC	2.04	N/A	17.75	8.88	15.50	3.76	14.75	6.76	6.76	3.750	2.250	1/2 x 3.69**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed⊕	Mounting Footprint Needed⊕	Output Key Needed⊕	All Other Features	Grove Gear® Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	(F)3.00" x (J)4.75"	Identical	Identical	✓	✓	GRG
		(F)2.88" x (J)5.00"					GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ			
	48CZ	56C/140TC	180TC/210TC	250TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	3.09	N/A	N/A	N/A
GR815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	3.62	N/A	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	3.59	N/A	N/A	N/A
GR821*	6.63	7.07	N/A	N/A	4.46	N/A	N/A	4.06	N/A	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	4.09	4.56	N/A	N/A
GR826*	N/A	8.32	9.32	N/A	5.19	5.62	N/A	4.82	5.13	N/A	N/A
GR830	N/A	8.82	9.82	N/A	5.95	6.15	6.56	5.32	5.63	6.06	N/A
GR832*	N/A	9.01	10.01	N/A	6.14	6.34	6.75	5.51	5.81	6.25	N/A
GR842	N/A	11.81	12.90	13.46	6.45	7.21	7.77	6.04	6.68	6.68	7.24
GR852	N/A	13.21	14.30	14.86	7.85	8.61	9.17	7.35	7.98	7.98	8.54
GR860	N/A	N/A	15.88	16.50	10.45	9.33	9.94	10.01	8.69	8.69	8.69
GR870	N/A	N/A	15.50	15.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GR880	N/A	N/A	16.58	16.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NEMA DIMENSIONS (Inches)

Frame	AJ ^b	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF ^c
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1			RQ								
	D63D	D71D	D80D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D13	
GR813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A	
GR815	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A	
GR818	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A	
GR821*	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A	
GR824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A	
GR826*	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	
GR830	N/A	4.78	5.41	5.41	5.88	N/A	N/A	4.59	5.22	5.22	5.57	
GR832*	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	
GR842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ⊕ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style BM with frame sizes 180TC-250TC.
- 48CZ not available
- 180TC not available

- ⊕ Metric IEC B5 input flange options are available only on quill input styles.
- ✖ Dimensions same for GRG and GRL Series
- * Style B and BM only.
- ▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR®

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: TMQ, TM, T

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

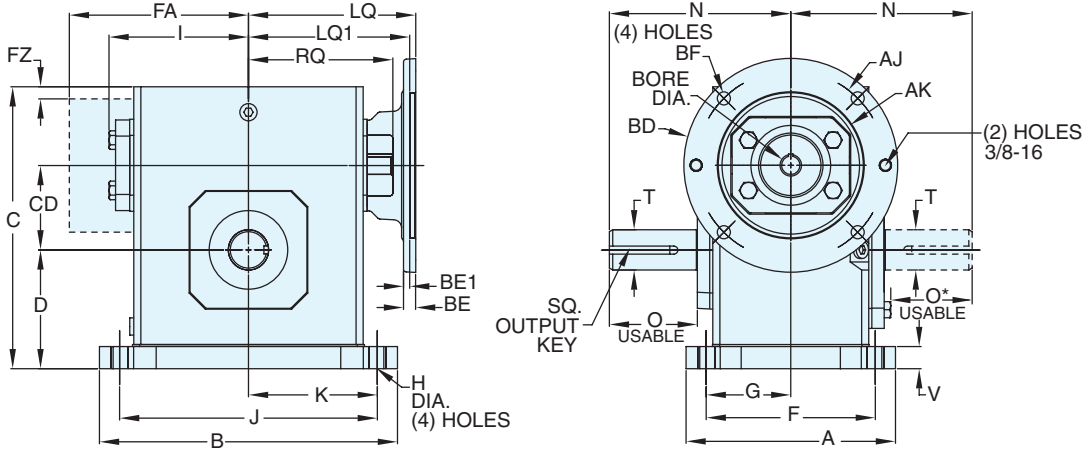
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

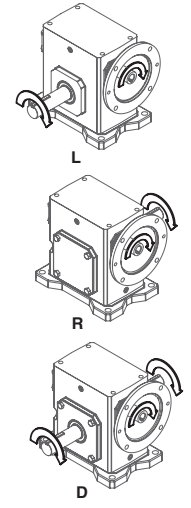
Ratio Multipliers

Accessories
Additional Capabilities

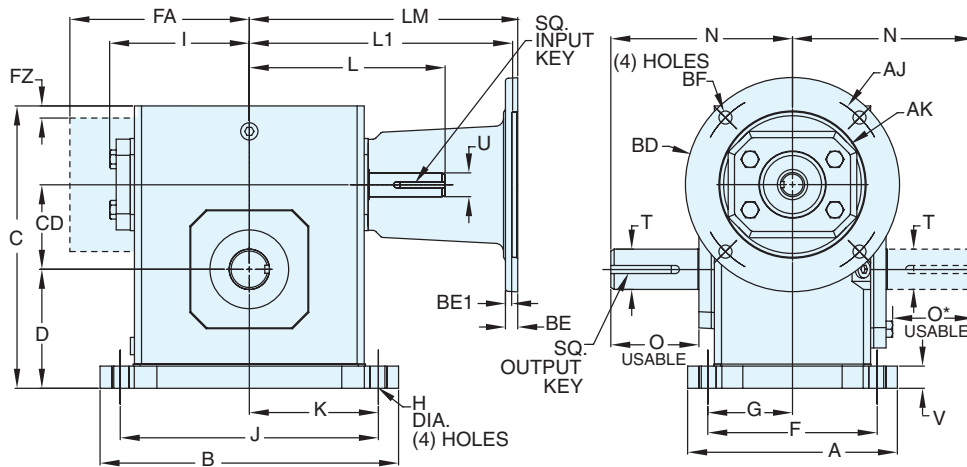
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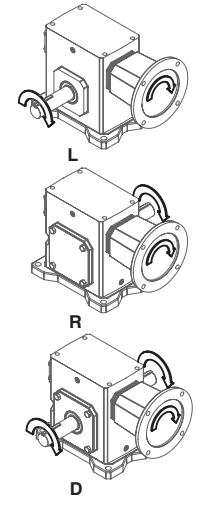
ASSEMBLIES



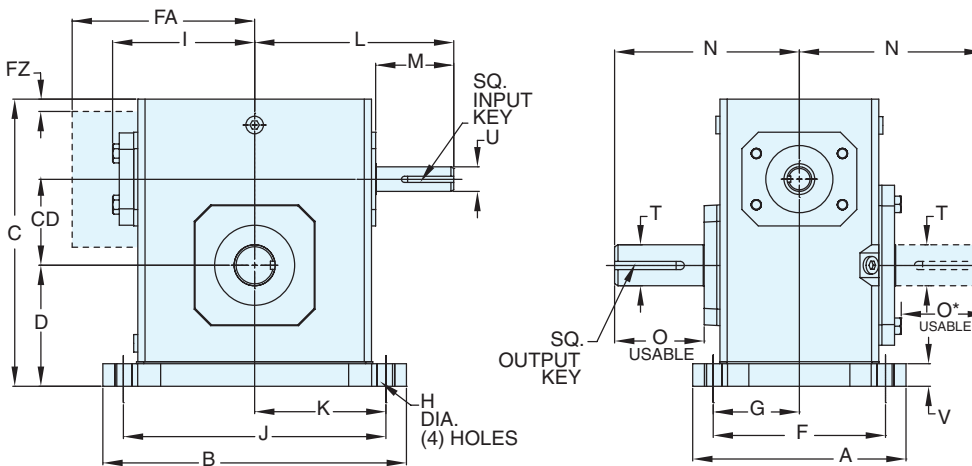
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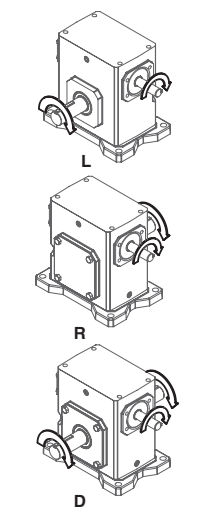
ASSEMBLIES



STYLE T



ASSEMBLIES



REVERSE ALL ARROWS
FOR OPPOSITE INPUT SHAFT
ROTATION. CONTACT FACTORY
FOR OTHER MOUNTINGS OR
ASSEMBLY POSITIONS.



STYLE TMQ, TM, T DIMENSIONS (Inches)

Size	A	B	C	D	CD	F	FA▼	FZ▼	G	H	I	J	K	L	M	N	O	O*	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*	Output Key
GR813	5.38	5.37	5.19	2.25	1.33	3.31	N/A	N/A	1.66	0.34	2.61	4.37	2.19	3.82	1.76	4.00	2.16	1.94	0.53	0.625	0.500	1/8 X 1.00	3/16 X 1.50
GR815	5.56	6.50	5.97	2.50	1.54	4.31	N/A	N/A	2.16	0.41	3.14	5.25	2.63	4.35	1.76	4.31	2.11	1.90	0.59	0.750	0.625	3/16 X 1.38	3/16 X 1.50
GR818	5.75	6.99	6.44	2.75	1.75	4.50	N/A	N/A	2.25	0.41	3.24	5.75	2.88	4.45	1.76	4.31	2.05	1.84	0.69	0.875	0.625	3/16 X 1.38	3/16 X 1.38
GR821	6.00	7.69	7.09	3.00	2.06	4.69	N/A	N/A	2.34	0.47	3.61	6.38	3.19	4.82	1.76	4.68	2.29	2.08	0.72	1.000	0.625	3/16 X 1.38	1/4 X 1.44
GR824	6.19	8.37	7.69	3.25	2.38	4.88	N/A	N/A	2.44	0.49	3.77	7.06	3.53	5.51	2.38	5.14	2.66	2.44	0.75	1.125	0.750	3/16 X 1.63	1/4 X 1.75
GR826	6.50	9.25	8.75	3.69	2.63	5.25	N/A	N/A	2.63	0.53	4.34	8.00	4.00	6.07	2.38	5.63	2.73	2.52	0.75	▲	0.750	3/16 X 1.63	1/4 X 1.75
GR830	7.50	10.00	9.63	4.00	3.00	5.88	N/A	N/A	2.94	0.53	4.84	8.44	4.22	6.57	2.38	6.75	3.60	3.36	0.75	1.250	0.875	3/16 X 1.63	1/4 X 1.75
GR832	7.75	11.12	10.25	4.38	3.25	6.13	N/A	N/A	3.06	0.53	5.02	9.50	4.75	6.76	2.38	7.06	3.66	3.42	0.81	▲	0.875	3/16 X 1.63	3/8 X 2.25
GR842	9.75	13.24	12.38	5.44	4.25	7.63	N/A	N/A	3.81	0.66	6.10	11.12	5.56	9.57	3.47	8.12	4.50	4.21	1.00	1.875	1.250	1/4 X 2.50	1/2 X 3.06
GR852	10.50	16.24	15.13	6.25	5.25	8.38	N/A	N/A	4.19	0.78	7.50	14.12	7.06	10.88	3.38	9.06	4.78	4.53	1.13	2.000	1.250	1/4 X 3.00	1/2 X 3.50
GR860	12.00	18.99	17.75	7.75	6.00	9.50	11.13	0.33	4.75	0.91	N/A	16.49	8.25	11.78	3.41	10.00	4.65	4.65	1.25	2.500	1.500	3/8 X 3.00	5/8 X 4.00
GR870	13.38	15.38	20.33	9.00	7.00	11.25	11.37	0.35	5.63	1.13	N/A	13.00	6.50	11.50	2.97	11.76	5.65	5.65	1.42	2.750	1.625	3/8 x 2.87**	5/8 x 4.00**
GR880	13.50	17.37	22.61	10.50	8.00	11.50	12.52	0.57	5.75	1.13	N/A	14.75	7.38	12.50	2.84	12.25	5.98	5.98	1.65	3.000	1.875	1/2 x 2.81**	3/4 x 4.50**
GR8100	16.88	21.14	27.12	12.00	10.00	14.00	14.69	0.51	7.00	1.44	N/A	17.00	8.50	15.50	3.76	14.75	6.76	6.76	1.65	3.750	2.250	1/2 x 3.69**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed◊	Mounting Footprint Needed◊	Output Key Needed◊	All Other Features	Grove Gear® Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical	Identical	Identical◊	✓	✓	GRG
							GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

◊ If Accessory kit is removed, dimensions will vary.

NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages A52-A53 (B, BM, BMO).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ			
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A
GR815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A
GR821*	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63■	5.06	N/A	N/A	4.09■	4.56	N/A
GR826*	N/A	8.32	9.32	N/A	5.19■	5.62	N/A	N/A	4.82■	5.13	N/A
GR830	N/A	8.82	9.82	N/A	5.95■	6.15	6.56	N/A	5.32■	5.63	N/A
GR832*	N/A	9.01	10.01	N/A	6.14■	6.34	6.75	N/A	5.51■	5.81	N/A
GR842	N/A	11.81	12.90	13.46	6.45■	7.21	7.21	7.77	6.04■	6.68	7.24
GR852	N/A	13.21	14.30	14.86	7.85■	8.61	8.61	9.17	7.35■	7.98	8.54
GR860	N/A	N/A	15.88	16.50	10.45■	9.33	9.33	9.94	10.01■	8.69	8.69
GR870	N/A	N/A	15.50	15.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GR880	N/A	N/A	16.58●	16.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*:

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
GR818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR821*	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
GR826*	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR830	N/A	4.78	5.41	5.41	5.88	N/A	N/A	4.59	5.22	5.22	5.57	N/A
GR832*	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ⊙ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style TM with frame sizes 180TC-250TC.
- 48CZ not available
- 180TC not available

- ⊕ Metric IEC B5 input flange options are available only on quill input styles.
- ✱ Dimensions same for GRG and GRL Series
- * Style T and TM only.
- ▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

NEMA DIMENSIONS (Inches)

Frame	AJ ^b	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BP ^c
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

▲ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: UMQ, UM, U

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

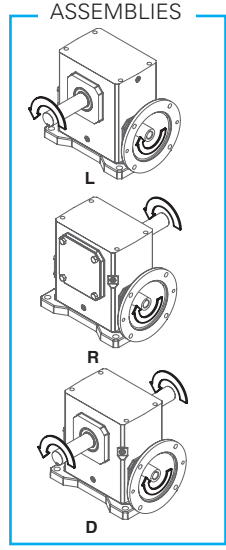
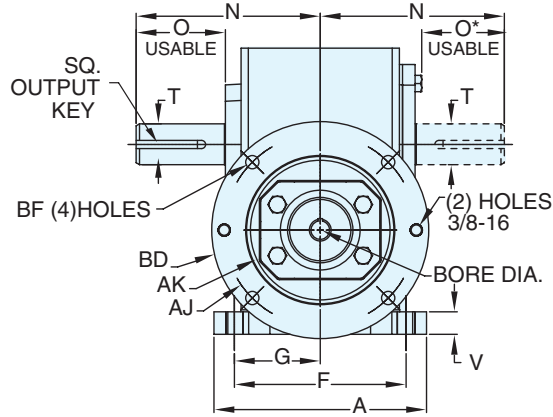
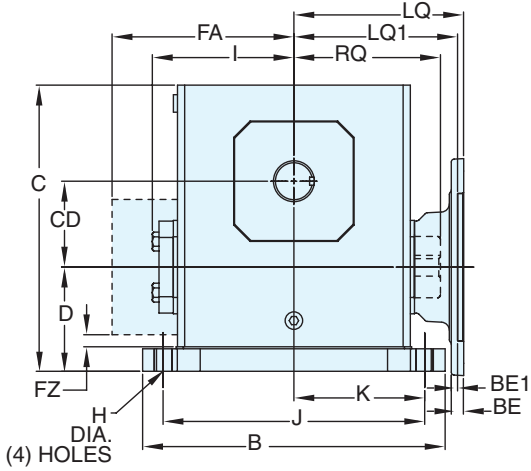
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

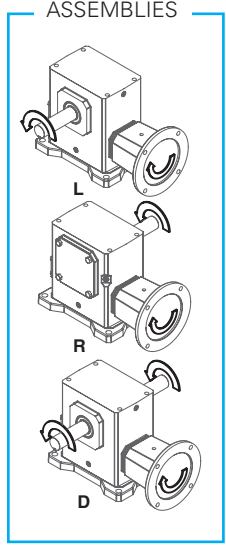
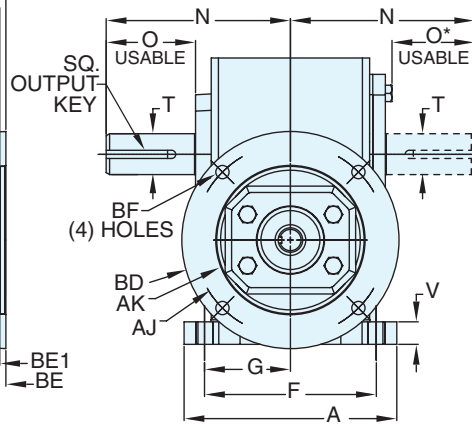
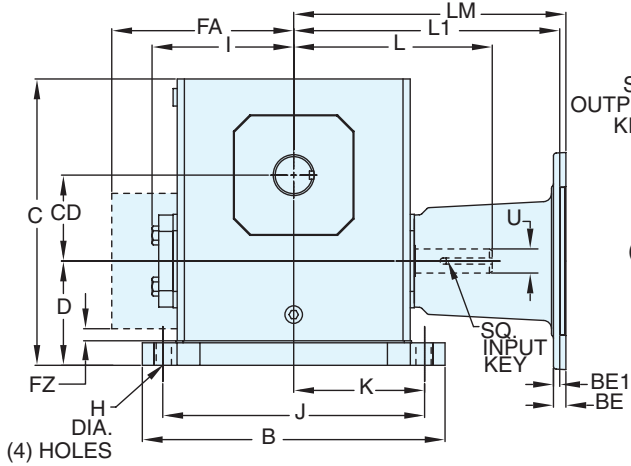
Ratio Multipliers

Accessories
Additional Capabilities

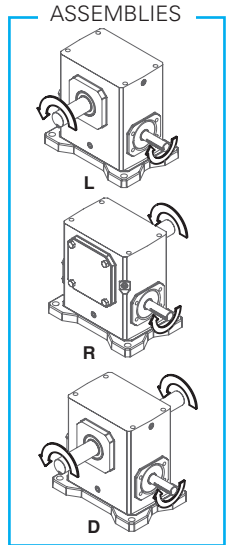
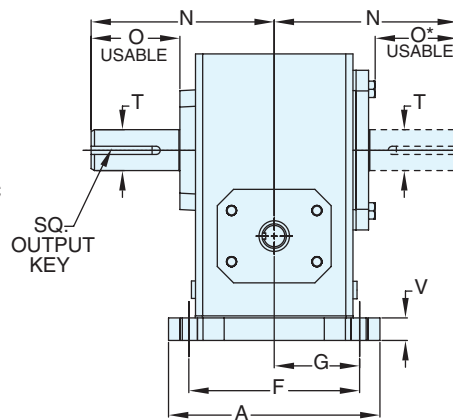
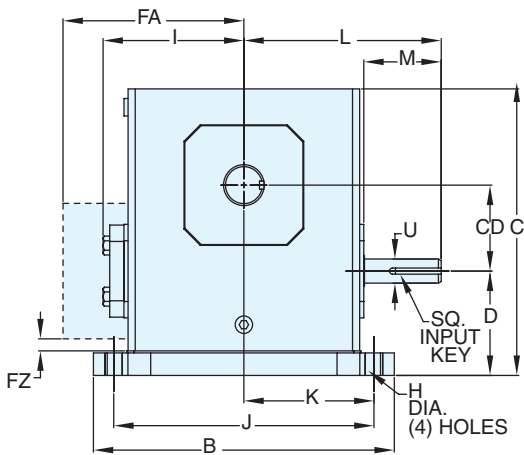
STYLE UMQ



STYLE UM



STYLE U



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



STYLE UMQ, UM, U DIMENSIONS (Inches)

Size	A	B	C	D	CD	F	FA▼	FZ▼	G	H	I	J	K	L	M	N	O	O*	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*	Output Key
GR813	4.24	5.37	5.19	2.14	1.33	3.31	N/A	N/A	1.66	0.34	2.61	4.37	2.19	3.82	1.76	4.00	2.16	1.94	0.53	0.625	0.500	1/8 X 1.00	3/16 X 1.50
GR815	5.56	6.50	5.97	2.52	1.54	4.31	N/A	N/A	2.16	0.41	3.14	5.25	2.63	4.35	1.76	4.31	2.11	1.90	0.59	0.750	0.625	3/16 X 1.38	3/16 X 1.50
GR818	5.75	6.99	6.44	2.63	1.75	4.50	N/A	N/A	2.25	0.41	3.24	5.75	2.88	4.45	1.76	4.31	2.05	1.84	0.69	0.875	0.625	3/16 X 1.38	3/16 X 1.38
GR821	6.00	7.69	7.09	2.75	2.06	4.69	N/A	N/A	2.34	0.47	3.61	6.38	3.19	4.82	1.76	4.68	2.29	2.08	0.72	1.000	0.625	3/16 X 1.38	1/4 X 1.44
GR824	6.19	8.37	7.69	2.81	2.38	4.88	N/A	N/A	2.44	0.49	3.77	7.06	3.53	5.51	2.38	5.14	2.66	2.44	0.75	1.125	0.750	3/16 X 1.63	1/4 X 1.75
GR826	6.50	9.25	8.75	3.19	2.63	5.25	N/A	N/A	2.63	0.53	4.34	8.00	4.00	6.07	2.38	5.63	2.73	2.52	0.75	▲	0.750	3/16 X 1.63	1/4 X 1.75
GR830	7.50	10.00	9.63	3.38	3.00	5.88	N/A	N/A	2.94	0.53	4.84	8.44	4.22	6.57	2.38	6.75	3.60	3.36	0.75	1.250	0.875	3/16 X 1.63	1/4 X 1.75
GR832	7.75	11.12	10.25	3.50	3.25	6.13	N/A	N/A	3.06	0.53	5.02	9.50	4.75	6.76	2.38	7.06	3.66	3.42	0.81	▲	0.875	3/16 X 1.63	3/8 X 2.25
GR842	9.75	13.24	12.38	3.69	4.25	7.63	N/A	N/A	3.81	0.66	6.10	11.12	5.56	9.57	3.47	8.12	4.50	4.21	1.00	1.875	1.250	1/4 X 2.50	1/2 X 3.06
GR852	10.50	16.24	15.13	4.76	5.25	8.38	N/A	N/A	4.19	0.78	7.50	14.12	7.06	10.88	3.38	9.06	4.78	4.53	1.13	2.000	1.250	1/4 X 3.00	1/2 X 3.50
GR860	12.00	18.99	17.75	5.25	6.00	9.50	11.13	0.33	4.75	0.91	N/A	16.49	8.25	11.78	3.41	10.00	4.65	4.65	1.25	2.500	1.500	3/8 X 3.00	5/8 X 4.00
GR870	13.38	15.38	20.33	5.74	7.00	11.25	11.37	0.35	5.63	1.13	N/A	13.00	6.50	11.50	2.97	11.76	5.65	5.65	1.42	2.750	1.625	3/8 x 2.87**	5/8 x 4.00**
GR880	13.50	17.37	22.61	5.75	8.00	11.50	12.52	0.57	5.75	1.13	N/A	14.75	7.38	12.50	2.84	12.25	5.98	5.98	1.65	3.000	1.875	1/2 x 2.81**	3/4 x 4.50**
GR8100	16.88	21.14	27.12	6.76	10.00	14.00	14.69	0.51	7.00	1.44	N/A	17.00	8.50	15.50	3.76	14.75	6.76	6.76	1.65	3.750	2.250	1/2 x 3.69**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed◊	Mounting Footprint Needed◊	Output Key Needed◊	All Other Features	Grove Gear® Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical◊	Identical	Identical	✓	✓	GRG GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages A52-A53 (B, BM, BMQ).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ		
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A
GR815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A
GR821*	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63■	5.06	N/A	N/A	4.09■	4.56	N/A
GR826*	N/A	8.32	9.32	N/A	5.19■	5.62	N/A	N/A	4.82■	5.13	N/A
GR830	N/A	8.82	9.82	N/A	5.95■	6.15	6.56	N/A	5.32■	5.63	N/A
GR832*	N/A	9.01	10.01	N/A	6.14■	6.34	6.75	N/A	5.51■	5.81	N/A
GR842	N/A	11.81	12.90	13.46	6.45■	7.21	7.21	7.77	6.04■	6.68	7.24
GR852	N/A	13.21	14.30	14.86	7.85■	8.61	8.61	9.17	7.35■	7.98	8.54
GR860	N/A	N/A	15.88	16.50	10.45■	9.33	9.33	9.94	10.01■	8.69	8.69
GR870	N/A	N/A	15.50	15.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GR880	N/A	N/A	16.58●	16.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NEMA DIMENSIONS (Inches)

Frame	AJ ⁶	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF ⁵
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

Note: Styles UMQ, UM and U are worm under mounting assemblies and not recommended due to increase potential for high speed shaft seal leakage and potential mounting interference. Motor flange may extend below base. Riser blocks are available upon request (see page F2). Contact Factory for selection assistance.

WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ⊙ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style UM with frame sizes 180TC-250TC.
- 48CZ not available
- 180TC not available

- ✦ Metric IEC B5 input flange options are available only on quill input styles.
- ✖ Dimensions same for GRG and GRL Series
- * Style U and UM only.
- ▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

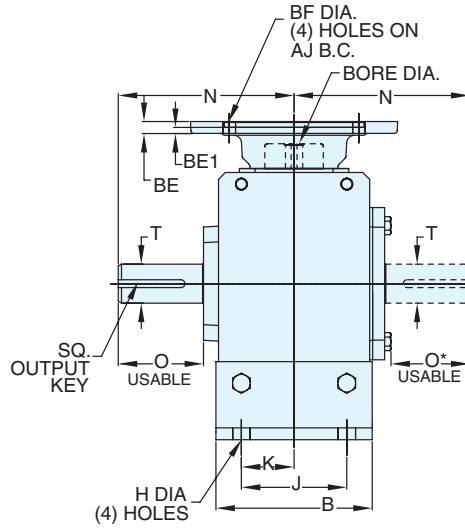
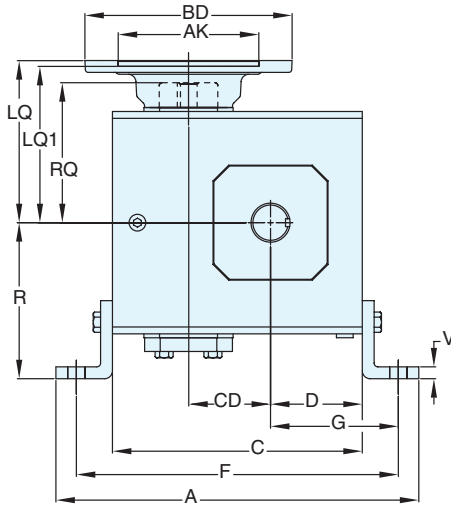


GR SERIES DIMENSIONS

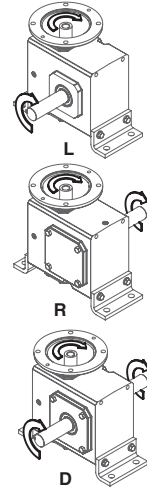
STYLES: JMQ, JM, J

CAST IRON
GR SERIES

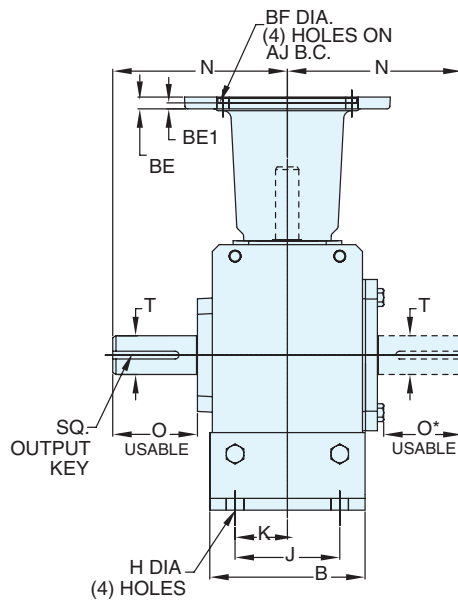
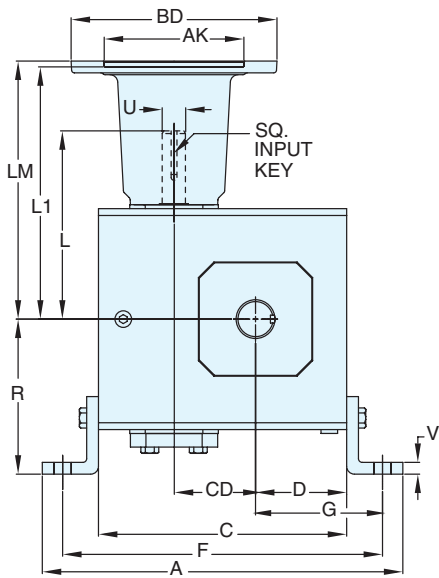
STYLE JMQ



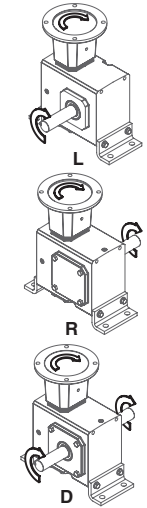
ASSEMBLIES



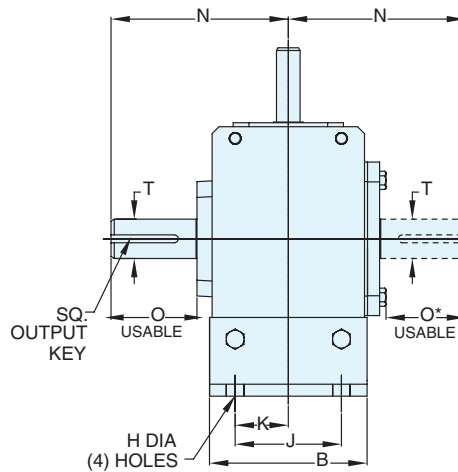
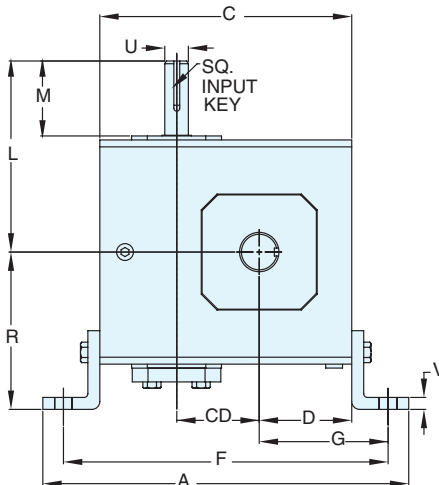
STYLE JM



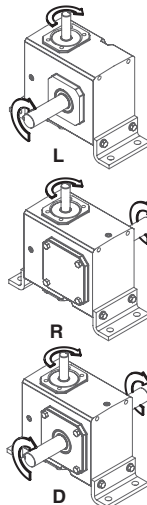
ASSEMBLIES



STYLE J



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



STYLE JMQ, JM, J DIMENSIONS (Inches)

Size	A	B	C	D	CD	F	G	H	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
GR813	7.42	2.75	4.66	1.72	1.33	6.42	2.60	0.38	2.00	1.00	3.82	1.76	4.00	2.16	1.94	2.94	0.25	0.625	0.500	1/8 X 1.00	3/16 X 1.50
GR815	8.14	3.50	5.38	1.91	1.54	7.08	2.76	0.44	2.75	1.38	4.35	1.76	4.31	2.11	1.90	3.50	0.25	0.750	0.625	3/16 X 1.38	3/16 X 1.50
GR818	8.51	3.50	5.75	2.06	1.75	7.45-7.63	3.00	.44 slot	2.50-2.75	1.25-1.38	4.45	1.76	4.31	2.05	1.84	3.50	0.25	0.875	0.625	3/16 X 1.38	3/16 X 1.38
GR821	9.76	4.00	6.38	2.28	2.06	8.63	3.40	.56 slot	2.63-2.75	1.31-1.38	4.82	1.76	4.68	2.29	2.08	4.01	0.38	1.000	0.625	3/16 X 1.38	1/4 X 1.44
GR824	10.31	4.00	6.94	2.50	2.38	9.19	3.63	0.69	2.88	1.44	5.51	2.38	5.14	2.66	2.44	4.06	0.38	1.125	0.750	3/16 X 1.63	1/4 X 1.75
GR826	11.62	5.00	8.00	2.94	2.63	10.38	4.13	0.56	3.38	1.69	6.07	2.38	5.63	2.73	2.52	5.00	0.38	▲	0.750	3/16 X 1.63	1/4 X 1.75
GR830	12.64	6.00	8.88	3.25	3.00	11.38	4.50	0.56	3.88	1.94	6.57	2.38	6.75	3.60	3.36	5.62	0.38	1.250	0.875	3/16 X 1.63	1/4 X 1.75
GR832	13.14	6.00	9.38	3.50	3.25	11.88	4.75	0.56	3.88	1.94	6.76	2.38	7.06	3.66	3.42	5.63	0.38	▲	0.875	3/16 X 1.63	3/8 X 2.25
GR842	16.38	7.00	11.38	4.44	4.25	14.88	6.19	0.69	5.00	2.50	9.57	3.47	8.12	4.50	4.21	6.50	0.50	1.875	1.250	1/4 X 2.50	1/2 X 3.06
GR852	19.00	7.00	14.00	5.12	5.25	17.50	6.87	0.69	5.81	2.91	10.88	3.38	9.06	4.78	4.53	7.75	0.50	2.000	1.250	1/4 X 3.00	1/2 X 3.50

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed∅	Mounting Footprint Needed∅	Output Key Needed∅	All Other Features	Grove Gear® Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical∅	Identical	Identical	✓	✓	GRG
							GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

∅ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages A52-A53 (B, BM, BMQ).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/56C/140TC	LQ1			RQ		
	48CZ	56C/140TC	180TC/210TC	250TC		180TC	210TC	250TC	48CZ/56C/140TC	180TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A
GR815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A
GR821*	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63■	5.06	N/A	N/A	4.09	4.56	N/A
GR826*	N/A	8.32	9.32	N/A	5.19■	5.62	N/A	N/A	4.82■	5.13	N/A
GR830	N/A	8.82	9.82	N/A	5.95■	6.15	6.56	N/A	5.32■	5.63	N/A
GR832*	N/A	9.01	10.01	N/A	6.14■	6.34	6.75	N/A	5.51■	5.81	N/A
GR842	N/A	11.81	12.90	13.46	6.45■	7.21	7.21	7.77	6.04■	6.68	7.24
GR852	N/A	13.21	14.30	14.86	7.85■	8.61	8.61	9.17	7.35■	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*:

Size	LQ1						RQ				
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	
GR815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	
GR818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	
GR821*	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	
GR824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	
GR826*	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	
GR830	N/A	4.78	5.41	5.41	5.88	N/A	N/A	4.59	5.22	5.22	
GR832*	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	
GR842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	
GR852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

▲ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ⊙ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style JM with frame sizes 180TC-250TC.
- 48CZ not available
- 180TC not available

- ◆ Metric IEC B5 input flange options are available only on quill input styles.
- * Dimensions same for GRG and GRL Series
- ⊙ Style J and JM only.
- ▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR®

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: V_MQ, V_M, V_

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

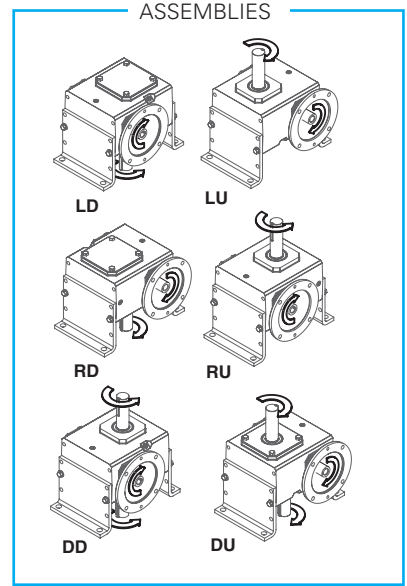
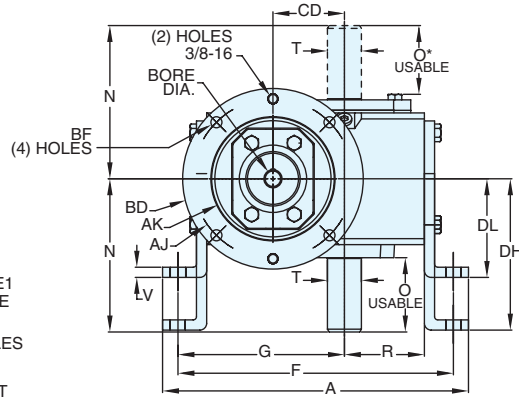
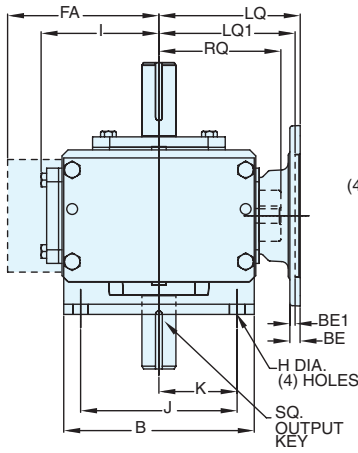
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

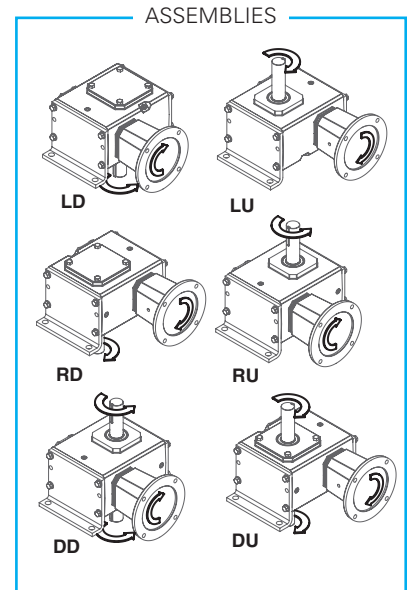
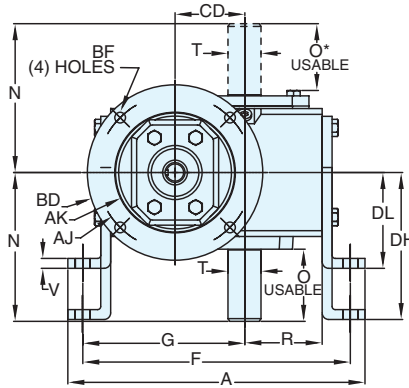
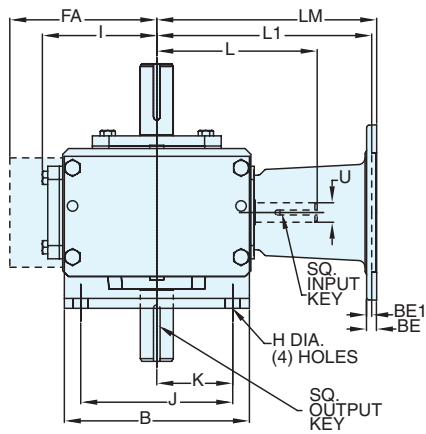
Ratio Multipliers

Accessories
Additional Capabilities

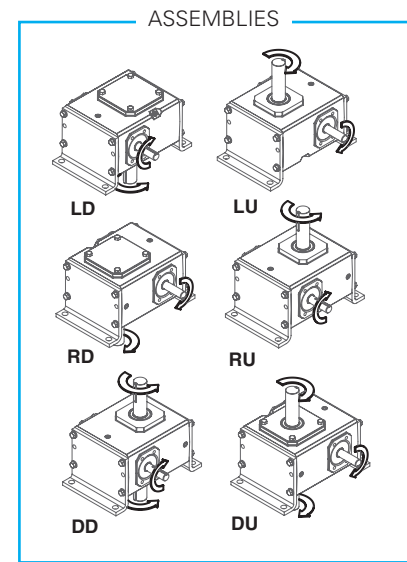
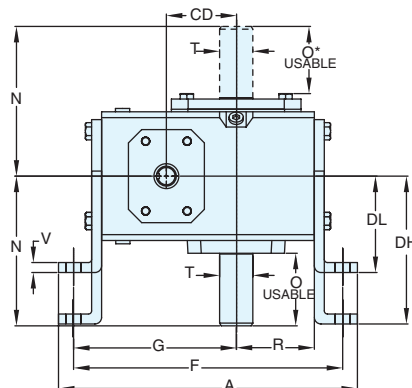
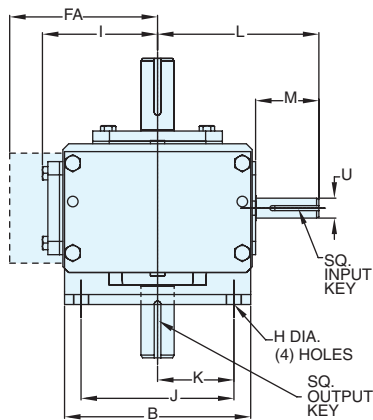
STYLE V(L or H)MQ



STYLE V(L or H)M



STYLE V(L or H)



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



STYLE V_MQ, V_M, V_ DIMENSIONS (Inches)

Size	A	B	CD	Model VLMQ DL	Model VHMQ DH	F	FA▼	FZ▼	G	H	I	J	K	L	M	N	O	O*	R	V	T MAX +0.000 -0.0015	U +0.000 -0.0015	Input Key*	Output Key
GR813	7.26	4.00	1.33	2.63	3.56	6.50	N/A	N/A	3.86	0.38	2.61	3.00	1.50	3.82	1.76	4.00	2.16	1.94	1.72	0.25	0.625	0.500	1/8 x 1.00	3/16 x 1.50
GR815	7.88	5.00	1.54	3.00	4.38	7.00	N/A	N/A	4.28	0.44	3.14	4.00	2.00	4.35	1.76	4.31	2.11	1.90	1.91	0.25	0.750	0.625	3/16 x 1.38	3/16 x 1.50
GR818	8.25	5.00	1.75	3.00	4.38	7.37	N/A	N/A	4.50	0.44	3.24	4.00	2.00	4.45	1.76	4.31	2.05	1.84	2.06	0.25	0.875	0.625	3/16 x 1.38	3/16 x 1.38
GR821	9.38	6.00	2.06	3.13	4.88	8.38	N/A	N/A	5.09	0.50	3.61	4.88	2.44	4.82	1.76	4.68	2.29	2.08	2.28	0.38	1.000	0.625	3/16 x 1.38	1/4 x 1.44
GR824	9.94	6.00	2.38	3.38	5.25	8.81	N/A	N/A	5.44	0.50	3.77	4.88	2.44	5.51	2.38	5.14	2.66	2.44	2.50	0.38	1.125	0.750	3/16 x 1.63	1/4 x 1.75
GR826	11.24	7.00	2.63	3.63	5.56	10.12	N/A	N/A	6.12	0.56	4.34	5.75	2.88	6.07	2.38	5.63	2.73	2.52	2.94	0.38	▲	0.750	3/16 x 1.63	1/4 x 1.75
GR830	12.50	8.00	3.00	3.94	5.88	11.13	N/A	N/A	6.75	0.56	4.84	6.00	3.00	6.57	2.38	6.75	3.60	3.36	3.25	0.38	1.250	0.875	3/16 x 1.63	1/4 x 1.75
GR832	13.00	8.50	3.25	4.69	6.25	11.88	N/A	N/A	7.13	0.56	5.02	6.13	3.06	6.76	2.38	7.06	3.66	3.42	3.50	0.38	▲	0.875	3/16 x 1.63	3/8 x 2.25
GR842	16.26	10.00	4.25	5.00	7.50	14.88	N/A	N/A	8.69	0.69	6.10	7.88	3.94	9.57	3.47	8.12	4.50	4.21	4.44	0.50	1.875	1.250	1/4 x 2.50	1/2 x 3.06
GR852	19.62	13.00	5.25	5.16	9.16	18.00	N/A	N/A	10.88	0.78	7.50	10.00	5.00	10.88	3.38	9.06	4.78	4.53	5.12	0.50	2.000	1.250	1/4 x 3.00	1/2 x 3.50
GR860	23.26	14.75	6.00	7.31	9.63	20.88	11.13	0.33	12.19	0.91	N/A	11.76	5.88	11.78	3.41	10.00	4.65	4.65	6.50	0.50	2.500	1.500	3/8 x 3.00	5/8 x 4.00
GR870	26.91	14.88	7.00	7.00	N/A	23.99	11.37	0.35	13.87	1.13	N/A	12.50	6.25	11.50	2.97	11.76	5.65	5.65	7.59	0.75	2.750	1.625	3/8 x 2.81**	5/8 x 4.00**
GR880	28.96	17.00	8.00	8.00	N/A	25.50	12.52	0.57	14.38	1.13	N/A	14.00	7.00	12.50	2.84	12.25	5.98	5.98	8.86	0.75	3.000	1.875	1/2 x 2.81**	3/4 x 4.50**
GR8100	37.47	20.88	10.00	9.00	N/A	30.75	14.69	0.51	17.76	1.44	N/A	17.75	8.88	15.50	3.76	14.75	6.76	6.76	10.36	1.00	3.750	2.250	1/2 x 3.69**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed∅	Mounting Footprint Needed∅	Output Key Needed∅	All Other Features	Grove Gear® Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical∅	Identical	Identical	✓	✓	GRG
							GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

∅ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages A52-A53 (B, BM, BMQ).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ			
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A
GR815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A
GR821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63■	5.06	N/A	N/A	4.09■	4.56	N/A
GR826*	N/A	8.32	9.32	N/A	5.19■	5.62	N/A	N/A	4.82■	5.13	N/A
GR830	N/A	8.82	9.82	N/A	5.95■	6.15	6.56	N/A	5.32■	5.63	N/A
GR832*	N/A	9.01	10.01	N/A	6.14■	6.34	6.75	N/A	5.51■	5.81	N/A
GR842	N/A	11.81	12.90	13.46	6.45■	7.21	7.21	7.77	6.04■	6.68	7.24
GR852	N/A	13.21	14.30	14.86	7.85■	8.61	8.61	9.17	7.35■	7.98	8.54
GR860	N/A	N/A	15.88	16.50	10.45■	9.33	9.33	9.94	10.01■	8.69	8.69
GR870	N/A	N/A	15.50	15.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GR880	N/A	N/A	16.58●	16.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NEMA DIMENSIONS (Inches)

Frame	AJ ^a	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF ^b
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	8.50	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	8.50	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	8.50	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1					RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A
GR815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A
GR818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A
GR821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A
GR824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
GR826*	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	N/A
GR830	N/A	4.78	5.41	5.41	5.88	N/A	N/A	4.59	5.22	5.22	N/A
GR832*	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	N/A
GR842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.93
GR852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

▲ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ⊙ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style V_M with frame sizes 180TC-250TC.
- 48CZ not available
- 180TC not available

- ⊕ Metric IEC B5 input flange options are available only on quill input styles.
- ✳ Dimensions same for GRG and GRL Series
- ✳ Style V_ and V_M only.
- ▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

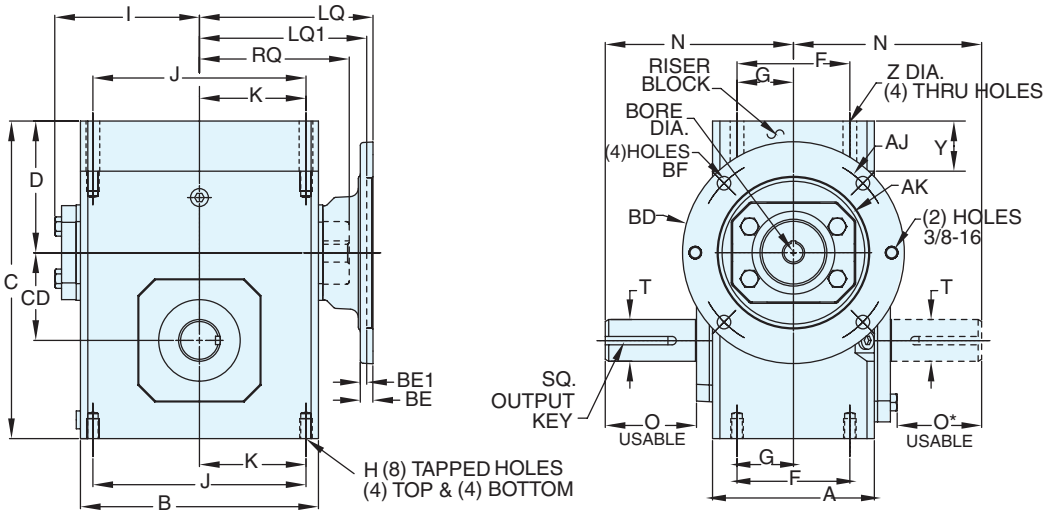


GR SERIES DIMENSIONS

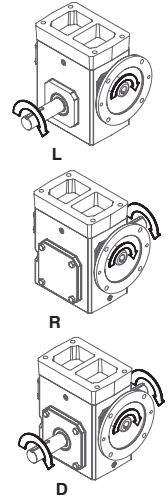
STYLES: RMQ, RM, R

CAST IRON
GR SERIES

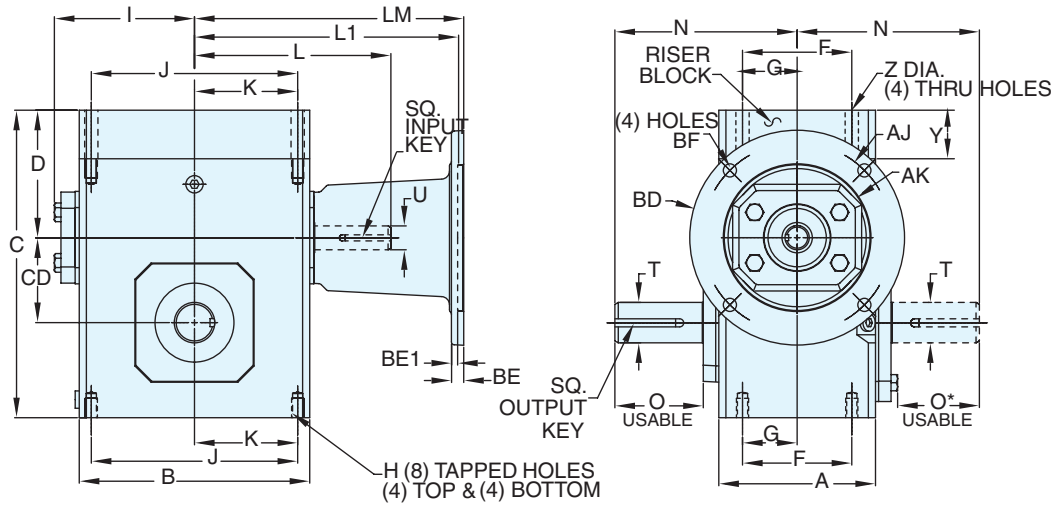
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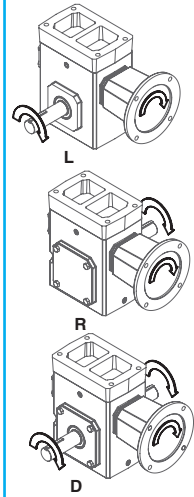
ASSEMBLIES



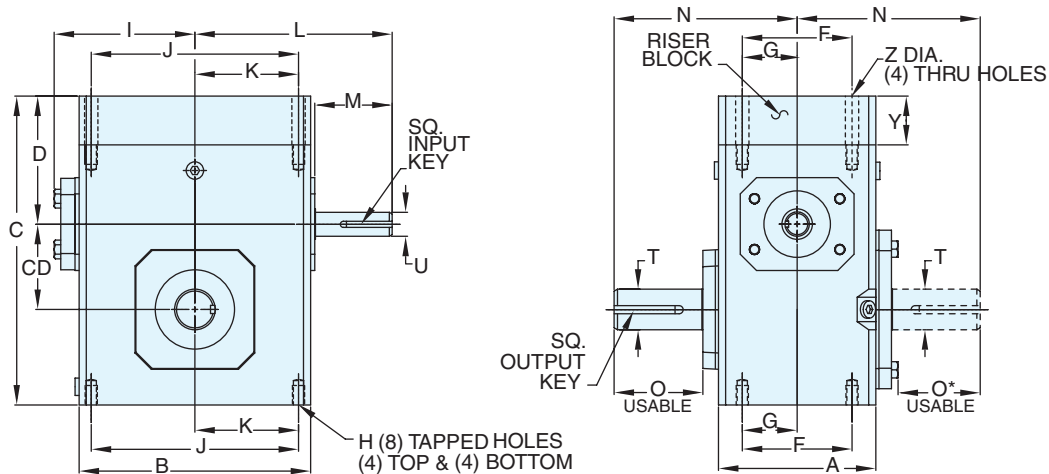
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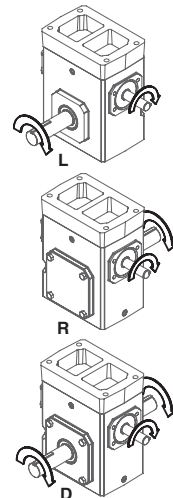
ASSEMBLIES



STYLE R



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



STYLE RMQ, RM, R DIMENSIONS (Inches)

Size	A	B	C	D	CD	F	G	H		I	J	K	L	M	N	O	O*	Y	Z	T +0.000 -0.0015*	U +0.000 -0.0015*	Input Key**	Output Key
								Tap Size	Depth														
GR815	3.44	4.88	7.38	3.93	1.54	2.75	1.38	5/16-18 UNC	0.63	3.14	4.19	2.09	4.35	1.76	4.31	2.11	1.90	2.00	0.34	0.750	0.625	3/16 X 1.38	3/16 X 1.50
GR818	3.56	5.06	7.75	3.94	1.75	2.75	1.38	5/16-18 UNC	0.63	3.24	4.19	2.09	4.45	1.76	4.31	2.05	1.84	2.00	0.34	0.875	0.625	3/16 X 1.38	3/16 X 1.38
GR821	3.81	5.80	8.38	4.03	2.06	▲	1.44	3/8-16 UNC	0.63	3.61	▲	2.50	4.82	1.76	4.68	2.29	2.08	2.00	0.41	1.000	0.625	3/16 X 1.38	1/4 X 1.44
GR824	4.06	6.12	8.94	4.06	2.38	2.88	1.44	3/8-16 UNC	0.69	3.77	5.00	2.50	5.51	2.38	5.14	2.66	2.44	2.00	0.41	1.125	0.750	3/16 X 1.63	1/4 X 1.75
GR826	4.84	7.12	9.50	3.94	2.63	3.38	1.69	3/8-16 UNC	0.69	4.34	6.38	3.19	6.07	2.38	5.63	2.73	2.52	1.50	0.41	▲	0.750	3/16 X 1.63	1/4 X 1.75
GR830	5.25	8.12	11.01	4.76	3.00	4.00	2.00	7/16-14 UNC	0.88	4.84	7.00	3.50	6.57	2.38	6.75	3.60	3.36	2.13	0.47	1.250	0.875	3/16 X 1.63	1/4 X 1.75
GR832	5.75	8.50	11.50	4.75	3.25	4.00	2.00	7/16-14 UNC	0.88	5.02	7.50	3.75	6.76	2.38	7.06	3.66	3.42	2.13	0.47	▲	0.875	3/16 X 1.63	3/8 X 2.25
GR842	6.13	10.25	13.51	4.82	4.25	5.00	2.50	5/8-11 UNC	1.00	6.10	8.50	4.25	9.57	3.47	8.12	4.50	4.21	2.13	0.66	1.875	1.250	1/4 X 2.50	1/2 X 3.06
GR852	7.19	13.00	15.25	4.88	5.25	5.81	2.91	5/8-11 UNC	1.25	7.50	11.00	5.50	10.88	3.38	9.06	4.78	4.53	1.25	0.66	2.000	1.250	1/4 X 3.00	1/2 X 3.50*

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed∅	Mounting Footprint Needed∅	Output Key Needed∅	All Other Features	Grove Gear® Flexaline Interchange	LEESON IRONMAN® Interchange	Replace With Series Code Below:
821	Identical	(F)3.00" x (J)4.75"	Identical	Identical	✓		GRG
		(F)2.88" x (J)5.00"					GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓		GRG
	1.375"		5/16 x 2.63				GRL

∅ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages A52-A53 (B, BM, BMQ).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
GR815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR821*	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63■	5.06	N/A	N/A	4.09■	4.56	N/A	N/A
GR826*	N/A	8.32	9.32	N/A	5.19■	5.62	N/A	N/A	4.82■	5.13	N/A	N/A
GR830	N/A	8.82	9.82	N/A	5.95■	6.15	6.56	N/A	5.32■	5.63	6.06	N/A
GR832*	N/A	9.01	10.01	N/A	6.14■	6.34	6.75	N/A	5.51■	5.81	6.25	N/A
GR842	N/A	11.81	12.90	13.46	6.45■	7.21	7.21	7.77	6.04■	6.68	6.68	7.24
GR852	N/A	13.21	14.30	14.86	7.85■	8.61	8.61	9.17	7.35■	7.98	7.98	8.54

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
GR815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
GR818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR821*	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A	N/A
GR826*	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR830	N/A	4.78	5.41	5.41	5.88	N/A	N/A	4.59	5.22	5.22	5.57	N/A
GR832*	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ⊙ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style RM with frame sizes 180TC-250TC.
- 48CZ not available
- 180TC not available

- ⊕ Metric IEC B5 input flange options are available only on quill input styles.
- ✱ Dimensions same for GRG and GRL Series
- * Style R and RM only.
- ▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR-MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

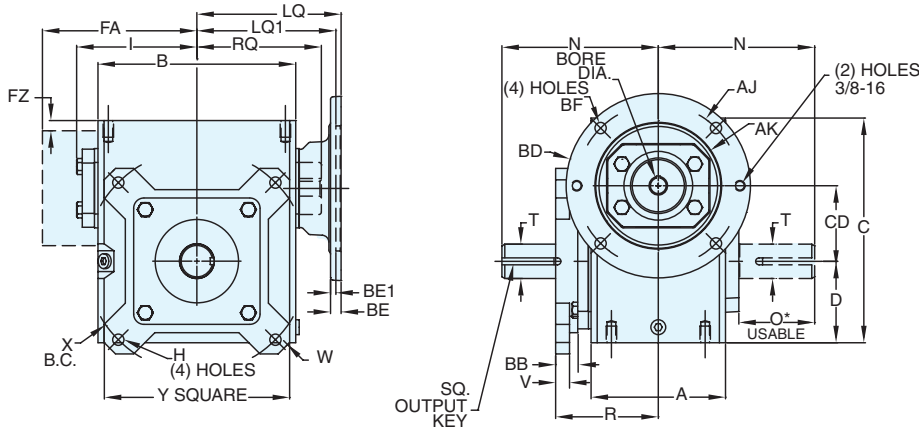


GR SERIES DIMENSIONS

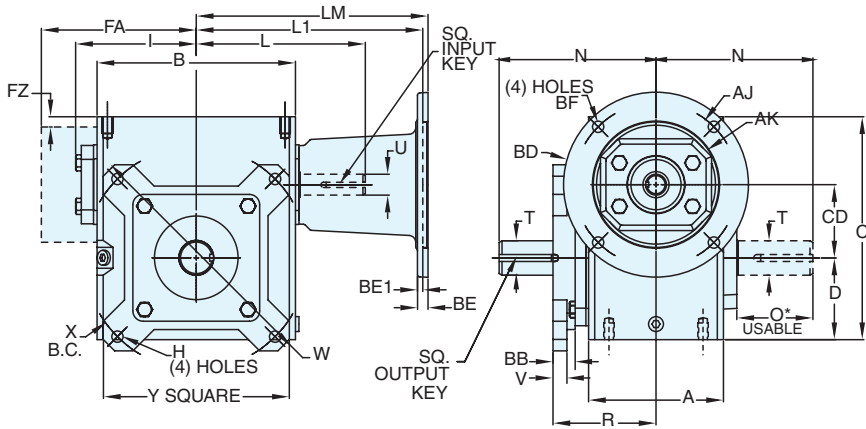
STYLES: FMQ, FM, F

CAST IRON
GR SERIES

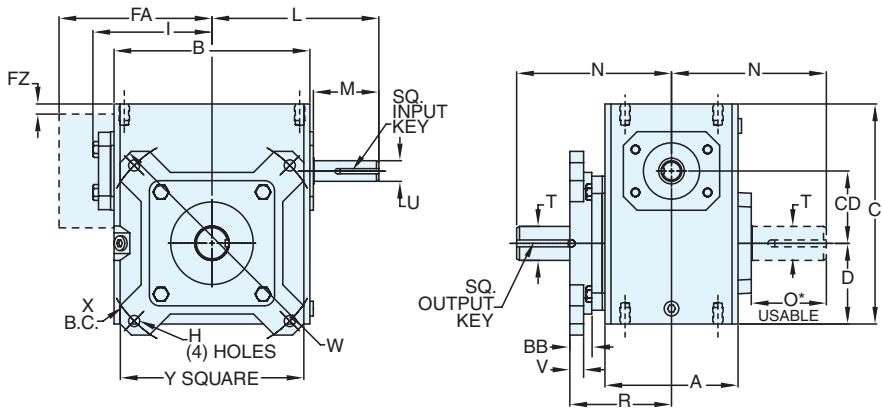
STYLE FMQ



STYLE FM

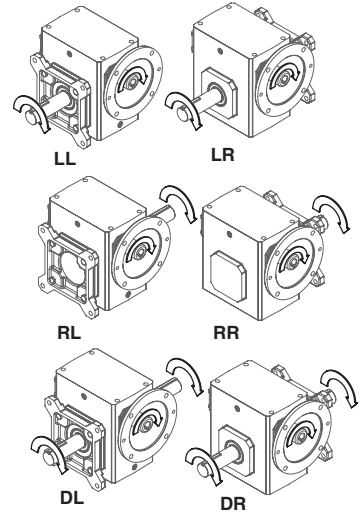


STYLE F

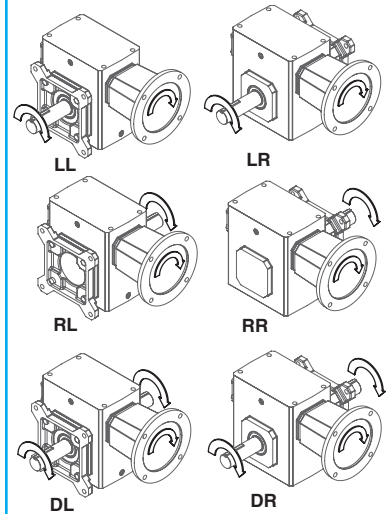


SIZES 813-8100 OUTPUT FLANGE MUST BE MOUNTED AT FACTORY ON STYLES FMQ, FM, F.

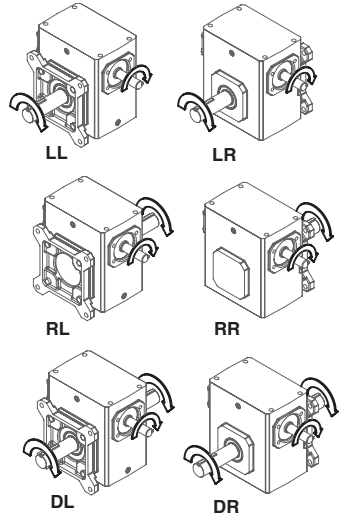
ASSEMBLIES



ASSEMBLIES



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
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Ratio Multipliers

Accessories
Additional Capabilities



STYLE FMQ, FM, F DIMENSIONS DIMENSIONS (Inches)

Size	A	B	BB	C	D	CD	FA▼	FZ▼	H	I	L	M	N	O	R	V	W	X	Y	T MAX+ -0.000 +0.0025	U +0.000 -0.0015	Input Key*	Output Key
GR813	2.82	3.80	0.675	4.66	1.72	1.33	N/A	N/A	0.03	2.61	3.82	1.76	4.00	1.94	2.52	0.38	5.92	5.00	4.50	0.625	0.500	1/8 x 1.00	3/16 x 1.50
GR815	3.44	4.88	0.675	5.38	1.91	1.54	N/A	N/A	0.03	3.14	4.35	1.76	4.31	1.90	2.87	0.38	5.88	5.00	4.50	0.750	0.625	3/16 x 1.38	3/16 x 1.50
GR818	3.56	5.06	0.925	5.75	2.06	1.75	N/A	N/A	0.03	3.24	4.45	1.76	4.31	1.84	3.18	0.38	6.64	5.88	5.00	0.875	0.625	3/16 x 1.38	3/16 x 1.38
GR821	3.81	5.80	1.300	6.38	2.28	2.06	N/A	N/A	0.41	3.61	4.82	1.76	4.68	2.08	3.69	0.44	7.88	7.00	5.99	1.000	0.625	3/16 x 1.38	1/4 x 1.44
GR824	4.06	6.12	1.243	6.94	2.50	2.38	N/A	N/A	0.41	3.77	5.51	2.38	5.14	2.44	3.73	0.44	8.39	7.50	6.27	1.125	0.750	3/16 x 1.63	1/4 x 1.75
GR826	4.84	7.12	0.796	8.00	2.94	2.63	N/A	N/A	0.41	4.34	6.07	2.38	5.63	2.52	3.70	0.50	8.88	8.00	6.67	▲	0.750	3/16 x 1.63	1/4 x 1.75
GR830	5.25	8.12	0.636	8.88	3.25	3.00	N/A	N/A	0.41	4.84	6.57	2.38	6.75	3.36	3.78	0.50	9.89	9.00	7.37	1.250	0.875	3/16 x 1.63	1/4 x 1.75
GR832	5.75	8.50	0.636	9.38	3.50	3.25	N/A	N/A	0.41	5.02	6.76	2.38	7.06	3.42	4.03	0.50	9.89	9.00	7.37	▲	0.875	3/16 x 1.63	3/8 x 2.25
GR842	6.13	10.25	0.940	11.38	4.44	4.25	N/A	N/A	0.56	6.10	9.57	3.47	8.12	4.21	4.56	0.62	12.95	11.50	9.65	1.875	1.250	1/4 x 2.50	1/2 x 3.06
GR852	7.19	13.00	1.340	14.00	5.12	5.25	N/A	N/A	0.69	7.50	10.88	3.38	9.16	4.53	5.62	0.75	15.50	14.00	11.75	2.000	1.250	1/4 x 3.00	1/2 x 3.50
GR860	8.13	14.25	2.603	16.50	6.50	6.00	11.13	0.33	0.69	N/A	11.78	3.41	10.00	4.65	7.26	0.75	18.00	15.63	14.00	2.500	1.500	3/8 x 3.00	5/8 x 4.00
GR870	7.63	14.88	2.770	18.91	7.59	7.00	11.37	0.35	0.78	N/A	11.50	2.97	11.76	5.65	7.45	0.75	21.00	18.38	15.63	2.750	1.625	3/8 x 2.87**	5/8 x 4.00**
GR880	8.63	17.00	3.090	20.96	8.86	8.00	12.52	0.57	1.03	N/A	12.50	2.84	12.25	5.98	8.34	0.75	24.00	21.00	17.88	3.000	1.875	1/2 x 2.81**	3/4 x 4.50**
GR8100	9.53	20.88	3.298	25.47	10.36	10.00	14.69	0.51	1.03	N/A	15.50	3.76	14.75	6.76	9.07	1.00	29.00	25.00	21.19	3.750	2.250	1/2 x 3.69**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed∅	Mounting Footprint Needed∅	Output Key Needed∅	All Other Features	Grove Gear® Flexaline Interchange	LEESON IRONMAN® Interchange	Replace With Series Code Below:
821	Identical	Identical∅	Identical	Identical	✓	✓	GRG
							GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

∅ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages A52-A53 (B, BM, BMQ).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ			
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A
GR815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A
GR821*	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63■	5.06	N/A	N/A	4.09■	4.56	N/A
GR826*	N/A	8.32	9.32	N/A	5.19■	5.62	N/A	N/A	4.82■	5.13	N/A
GR830	N/A	8.82	9.82	N/A	5.95■	6.15	6.56	N/A	5.32■	5.63	N/A
GR832*	N/A	9.01	10.01	N/A	6.14■	6.34	6.75	N/A	5.51■	5.81	N/A
GR842	N/A	11.81	12.90	13.46	6.45■	7.21	7.21	7.77	6.04■	6.68	7.24
GR852	N/A	13.21	14.30	14.86	7.85■	8.61	8.61	9.17	7.35■	7.98	8.54
GR860	N/A	N/A	15.88	16.50	10.45■	9.33	9.33	9.94	10.01■	8.69	8.69
GR870	N/A	N/A	15.50	15.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GR880	N/A	N/A	16.58●	16.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NEMA DIMENSIONS (Inches)

Frame	AJ ^b	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF ^b
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1					RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A
GR815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A
GR818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A
GR821*	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A
GR824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A
GR826*	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	N/A
GR830	N/A	4.78	5.41	5.41	5.88	N/A	N/A	4.59	5.22	5.22	N/A
GR832*	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	N/A
GR842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.93
GR852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ⊙ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style FM with frame sizes 180TC-250TC.
- 48CZ not available
- 180TC not available

- ✦ Metric IEC B5 input flange options are available only on quill input styles.
- ✦ Dimensions same for GRG and GRL Series
- * Style F and FM only.
- ▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: CMQ, CM, C

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

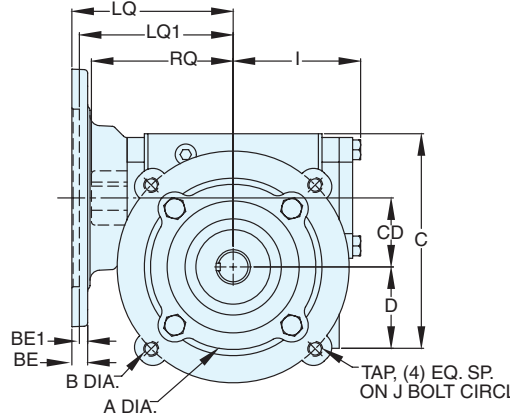
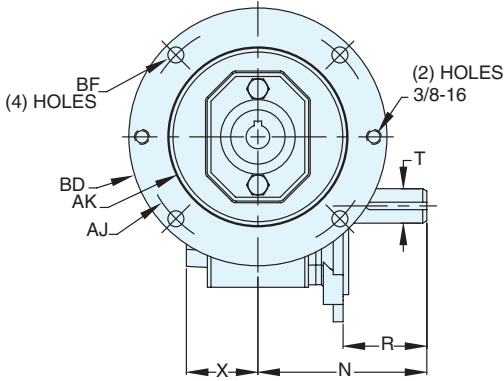
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
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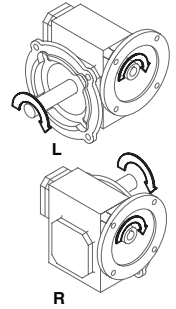
Ratio Multipliers

Accessories
Additional Capabilities

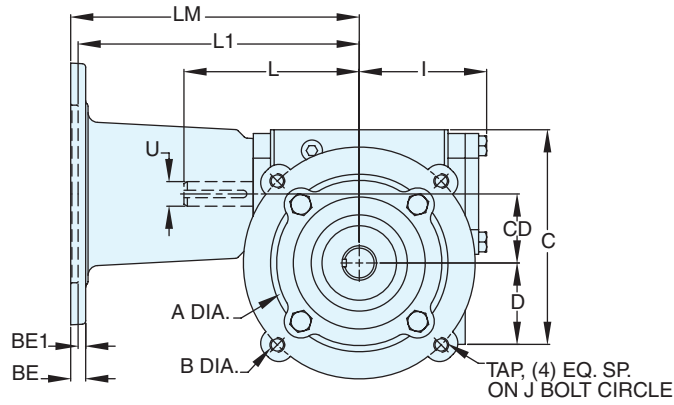
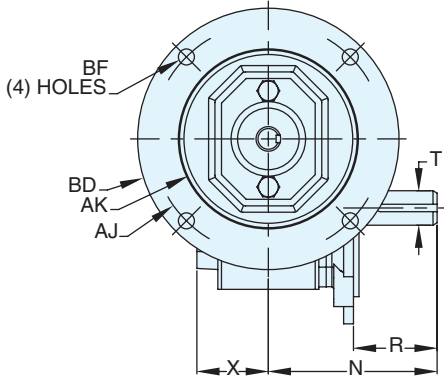
STYLE CMQ



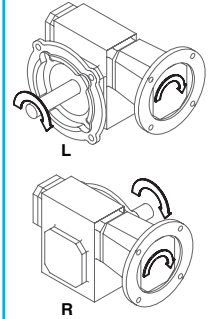
ASSEMBLIES



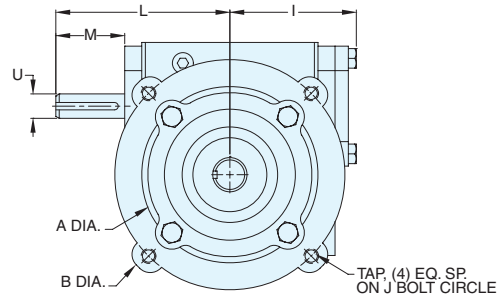
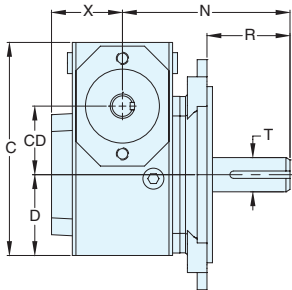
STYLE CM



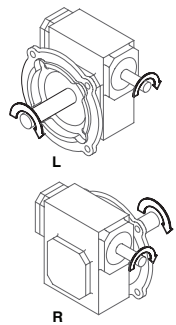
ASSEMBLIES



STYLE C



ASSEMBLIES



REVERSE ALL ARROWS
FOR OPPOSITE INPUT SHAFT
ROTATION. CONTACT FACTORY
FOR OTHER MOUNTINGS OR
ASSEMBLY POSITIONS.



STYLE CMQ, CM, C DIMENSIONS DIMENSIONS (Inches)

Series	Output C-Face Frame	A	B	C	D	CD	I	J	L	M	N	R	X	Tap Size	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*	Output Key
GR813	56C	4.50	6.64	4.66	1.72	1.33	2.61	5.88	3.82	1.76	5.00	2.06	1.84	3/8-16 UNC	0.625	0.500	1/8 X 1.00	3/16 X 1.50
GR818	140TC	4.50	6.64	5.44	2.06	1.75	3.24	5.88	4.45	1.76	4.28	2.13	1.81	3/8-16 UNC	0.875	0.625	3/16 X 1.38	3/16 X 1.38
GR824	180TC	8.50	9.00	6.88	2.69	2.38	3.77	7.25	5.51	2.38	6.59	2.37	1.97	1/2-13 UNC	1.125	0.750	3/16 X 1.63	1/4 X 1.75

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184

- ◆ Keyway width by depth
- 48CZ not available
- * Metric IEC B5 input flange options are available only on quill input styles.
- * Style C and CM only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: HMQ, HM, H

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

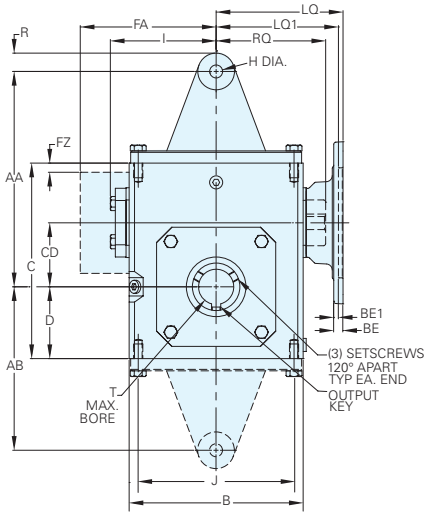
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

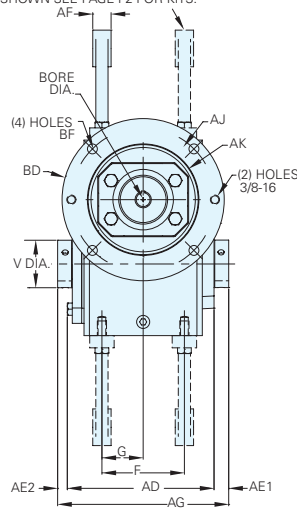
Ratio Multipliers

Accessories
Additional Capabilities

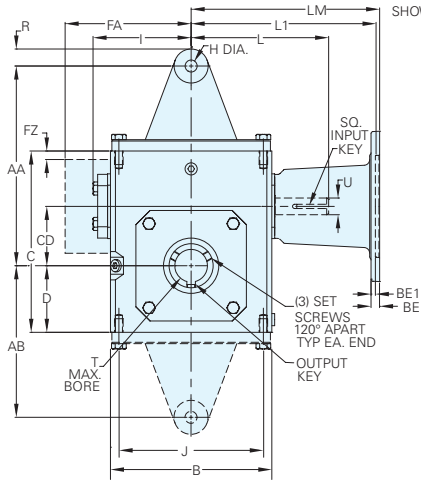
STYLE HMQ



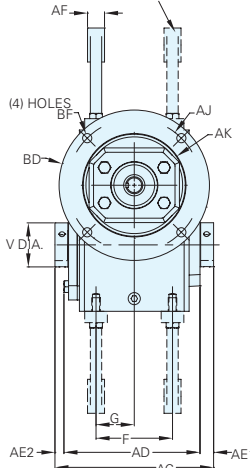
OPTIONAL TORQUE ARM BRACKET
(TORQUE ARM BRACKET IS NOT SUPPLIED WITH REDUCER AS STANDARD):
ALL POSSIBLE MOUNTING POSITIONS SHOWN SEE PAGE F2 FOR KITS.



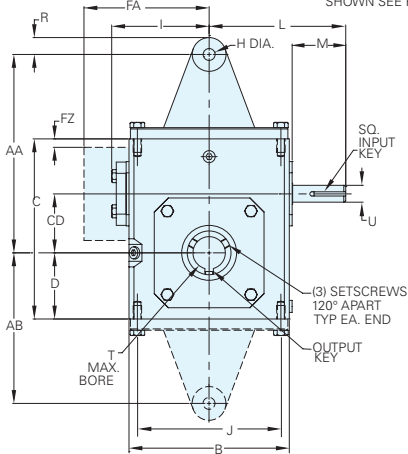
STYLE HM



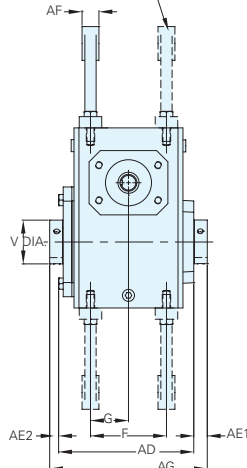
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(TORQUE ARM BRACKET IS NOT SUPPLIED WITH REDUCER AS STANDARD):
ALL POSSIBLE MOUNTING POSITIONS SHOWN SEE PAGE F2 FOR KITS.



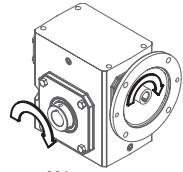
STYLE H



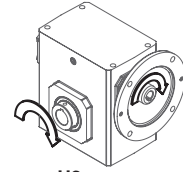
OPTIONAL TORQUE ARM BRACKET
(TORQUE ARM BRACKET IS NOT SUPPLIED WITH REDUCER AS STANDARD):
ALL POSSIBLE MOUNTING POSITIONS SHOWN SEE PAGE F2 FOR KITS.



ASSEMBLIES



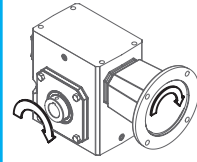
H1



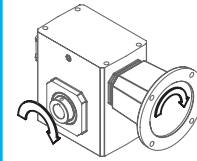
H2

H1 SUPPLIED AS STANDARD UNLESS SPECIFIED.

ASSEMBLIES



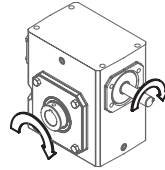
H1



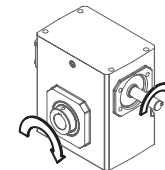
H2

E: IPRMM IBAB-PDQ-KA-OAD
RK1 BPPQMB@CBA+

ASSEMBLIES



H1



H2

OBSSBPB3-11B-COL T PD
OL OIL MM. PRBEMRQIPE>COO
OL Q-OL K-EBL KQ>@OII>@QL OVO
OL OIL CEBOO L RKQKDPIL OD
>PPBJ ?I VML PIGL KP+

E: IPRMM IBAB-PDQ-KA-OAD
RK1 BPPQMB@CBA+



GR SERIES DIMENSIONS

Styles: HMQ, HM, H



STYLE HMQ, HM, H DIMENSIONS (Inches)

Size	AD	AE1	AE2	AG	B	C	D	CD	F	FA▼	FZ▼	G	I	J	L	M	V	T MAX+ -0.000 +0.0025	U +0.000 -0.0015	Input Key*	Output Key +
GR813	3.90	0.53	0.32	4.75	3.80	4.66	1.72	1.33	2.00	N/A	N/A	1.00	2.61	3.25	3.82	1.76	1.000	0.625	0.500	1/8 x 1.00	3/16 x 1.50
GR815	4.61	0.51	0.30	5.42	5.19	5.38	1.91	1.54	2.75	N/A	N/A	1.38	3.14	4.19	4.35	1.76	1.000	0.625	0.625	3/16 x 1.38	3/16 x 1.50
GR818	4.73	0.49	0.28	5.50	5.19	5.75	2.06	1.75	2.75	N/A	N/A	1.38	3.24	4.19	4.45	1.76	1.440	1.000	0.625	3/16 x 1.38	1/4 x 3.00
GR821	4.99	0.61	0.40	6.00	5.80	6.38	2.28	2.06	▲	N/A	N/A	1.44	3.61	▲	4.82	1.76	1.940	1.500	0.625	3/16 x 1.38	3/8 x 3.00
GR824	5.18	0.51	0.31	6.00	6.12	6.94	2.50	2.38	2.88	N/A	N/A	1.44	3.77	5.00	5.51	2.38	1.940	1.500	0.750	3/16 x 1.63	3/8 x 3.00
GR826*	6.01	0.60	0.39	7.00	7.38	8.00	2.94	2.63	3.38	N/A	N/A	1.69	4.34	6.38	6.07	2.38	1.940	1.500	0.750	3/16 x 1.63	3/8 x 3.00
GR830	6.53	0.60	0.36	7.50	8.12	8.88	3.25	3.00	4.00	N/A	N/A	2.00	4.84	7.00	6.57	2.38	2.756	2.188	0.875	3/16 x 1.63	1/2 x 3.00
GR832*	7.04	0.54	0.29	7.88	8.75	9.38	3.50	3.25	4.00	N/A	N/A	2.00	5.02	7.50	6.38	2.756	2.188	0.875	3/16 x 1.63	1/2 x 3.00	
GR842	7.53	0.63	0.34	8.50	10.25	11.38	4.44	4.25	5.00	N/A	N/A	2.50	6.10	8.50	9.57	3.47	2.756	2.188	1.250	1/4 x 2.50	1/2 x 3.00
GR852	8.85	0.97	0.68	10.50	13.00	14.00	5.12	5.25	5.81	N/A	N/A	2.91	7.50	11.00	10.88	3.38	4.260	3.438	1.250	1/4 x 3.00	7/8 x 3.44
GR860	10.52	0.52	0.52	11.50	14.50	16.50	6.50	6.00	6.38	11.13	0.33	3.19	N/A	12.75	11.78	3.41	4.256	3.438	1.500	3/8 x 3.00	7/8 x 3.44
GR870	11.36	1.09	1.09	13.50	14.88	18.91	7.59	7.00	5.50	11.37	0.35	2.75	N/A	12.50	11.50	2.97	4.928	3.938	1.625	3/8 x 2.87**	1 x 1/2**
GR880	12.48	1.03	1.03	14.50	17.00	20.96	8.86	8.00	6.50	12.52	0.57	3.25	N/A	14.25	12.50	2.84	5.553	4.438	1.875	1/2 x 2.81**	1 x 1/2**
GR8100	15.78	1.39	1.39	18.50	20.88	25.47	10.36	10.00	6.88	14.69	0.51	3.44	N/A	14.75	15.50	3.76	4.256	5.438	2.250	1/2 x 3.69**	1-1/4 x 5/8**

▲ See feature comparison chart.

FEATURE COMPARISON (821)

Size	Output Shaft Diameter Needed [†]	Mounting Footprint Needed [‡]	Output Key Needed [‡]	All Other Features	Grove Gear [®] Flexaline Interchange	LEESON IRONMAN [®] Interchange	Replace With Series Code Below:
GR821	Identical	(F)3.00" x (J)4.75"	Identical	Identical	✓	✓	GRG
		(F)2.88" x (J)5.00"					GRL

NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages A52-A53 (B, BM, BMQ).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ				
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR821*	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A
GR826*	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
GR830	N/A	8.82	9.82	N/A	5.95	6.15	6.56	N/A	5.32	5.63	6.06	N/A
GR832*	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR842	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24
GR852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54
GR860	N/A	N/A	15.88	16.50	10.45	9.33	9.33	9.94	10.01	8.69	8.69	8.69
GR870	N/A	N/A	15.50	15.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GR880	N/A	N/A	16.58	16.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NEMA DIMENSIONS (Inches)

Frame	AJ ^b	AK	BD	BE	BE1	Bore Dia.	Keyway [◆]	BF ^b
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
GR818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR821*	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A	N/A
GR826*	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR830	N/A	4.78	5.41	5.41	5.88	N/A	N/A	4.59	5.22	5.22	5.57	N/A
GR832*	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway [◆]	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

- + Max bore dimensions shown. For additional bores available, refer to page A20.
- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ⊙ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style HM with frame sizes 180TC-250TC.
- 48CZ not available

- 180TC not available
- ◆ Metric IEC B5 input flange options are available only on quill input styles.
- ✳ Dimensions same for GRG and GRL Series
- * Style H and HM only.
- ▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD[®] Reducers
and GEAR+MOTOR[™]

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: FHMQ, FHM, FH

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

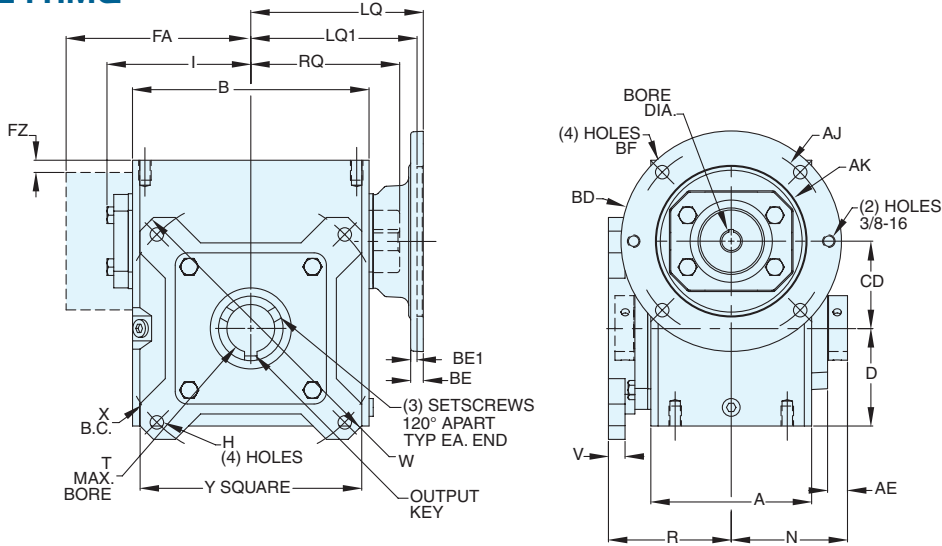
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

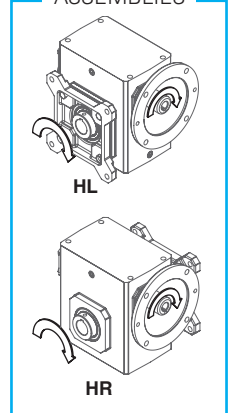
Ratio Multipliers

Accessories
Additional Capabilities

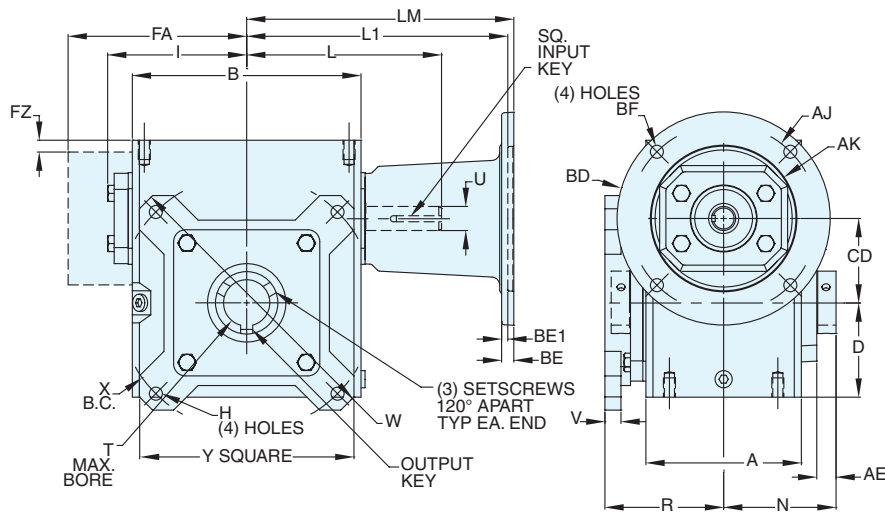
STYLE FHMQ



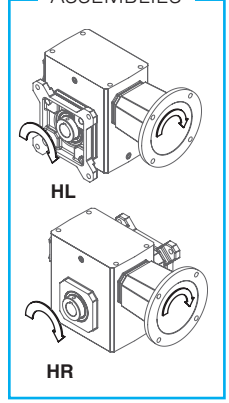
ASSEMBLIES



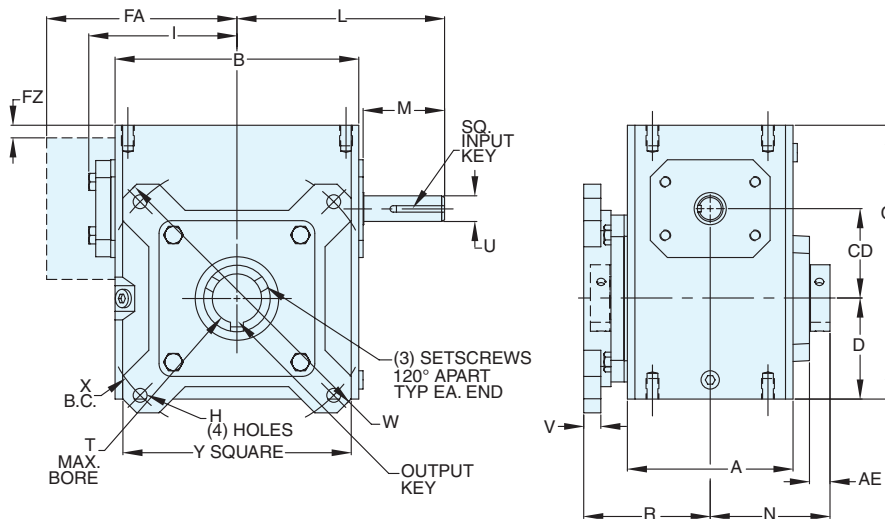
STYLE FHM



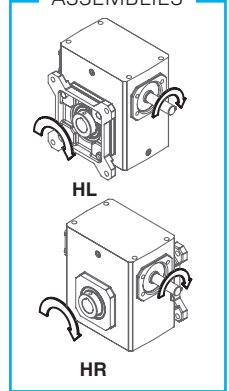
ASSEMBLIES



STYLE FH



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



STYLE FHM, FHM, FH DIMENSIONS (Inches)

Series	A	B	BB	C	D	CD	FA▼	FZ▼	H	I	L	M	N	O	R	V	W	X	Y	T MAX+ 0.000 +0.0025	U +0.000 -0.0015	Input Key*	Output Key
GR813	2.82	3.80	0.675	4.66	1.72	1.33	N/A	N/A	0.03	2.61	3.82	1.76	2.38	1.94	2.52	0.38	5.92	5.00	4.50	0.625	0.500	1/8 x 1.00	3/16 x 1.50
GR815	3.44	4.88	0.675	5.38	1.91	1.54	N/A	N/A	0.03	3.14	4.35	1.76	2.71	1.90	2.87	0.38	5.88	5.00	4.50	0.625	0.625	3/16 x 1.38	3/16 x 1.50
GR818	3.56	5.06	0.925	5.75	2.06	1.75	N/A	N/A	0.03	3.24	4.45	1.76	2.75	1.84	3.18	0.38	6.64	5.88	5.00	1.000	0.625	3/16 x 1.38	3/16 x 1.38
GR821	3.81	5.80	1.300	6.38	2.28	2.06	N/A	N/A	0.41	3.61	4.82	1.76	3.00	2.08	3.69	0.44	7.88	7.00	5.99	1.500	0.625	3/16 x 1.38	1/4 x 1.44
GR824	4.06	6.12	1.243	6.94	2.50	2.38	N/A	N/A	0.41	3.77	5.51	2.38	3.00	2.44	3.73	0.44	8.39	7.50	6.27	1.500	0.750	3/16 x 1.63	1/4 x 1.75
GR826*	4.84	7.12	0.796	8.00	2.94	2.63	N/A	N/A	0.41	4.34	6.07	2.38	3.50	2.52	3.70	0.50	8.88	8.00	6.67	1.500	0.750	3/16 x 1.63	1/4 x 1.75
GR830	5.25	8.12	0.636	8.88	3.25	3.00	N/A	N/A	0.41	4.84	6.57	2.38	3.75	3.36	3.78	0.50	9.89	9.00	7.37	2.188	0.875	3/16 x 1.63	1/4 x 1.75
GR832*	5.75	8.50	0.636	9.38	3.50	3.25	N/A	N/A	0.41	5.02	6.76	2.38	3.94	3.42	4.03	0.50	9.89	9.00	7.37	2.188	0.875	3/16 x 1.63	3/8 x 2.25
GR842	6.13	10.25	0.94	11.38	4.44	4.25	N/A	N/A	0.56	6.10	9.57	3.47	4.25	4.21	4.56	0.62	12.95	11.5	9.65	2.188	1.250	1/4 x 2.50	1/2 x 3.06
GR852	7.19	13.00	1.340	14.00	5.12	5.25	N/A	N/A	0.69	7.50	10.88	3.38	5.25	4.53	5.62	0.75	15.50	14.00	11.75	3.438	1.250	1/4 x 3.00	1/2 x 3.50
GR860	8.13	14.25	2.603	16.5	6.50	6.00	11.13	0.33	0.69	N/A	11.78	3.41	5.75	4.65	7.26	0.75	18	15.63	14	3.438	1.500	3/8 x 3.00	5/8 x 4.00
GR870	7.63	14.88	2.770	18.91	7.59	7.00	11.37	0.35	0.78	N/A	11.50	2.97	6.75	5.65	7.45	0.75	21.00	18.38	15.63	3.938	1.625	3/8 x 2.87**	5/8 x 4.00**
GR880	8.63	17	3.09	20.96	8.86	8.00	12.52	0.57	1.03	N/A	12.50	2.84	7.25	5.98	8.34	0.75	24	21	17.88	4.438	1.875	1/2 x 2.81**	3/4 x 4.50**
GR8100	9.53	20.88	3.298	25.47	10.36	10.00	14.69	0.51	1.03	N/A	15.50	3.76	9.25	6.76	9.07	1.00	29.00	25.00	21.19	5.438	2.250	1/2 x 3.69**	7/8 x 5.00**

FEATURE COMPARISON (821)

Size	Output Shaft Diameter Needed†	Mounting Footprint Needed‡	Output Key Needed‡	All Other Features	Grove Gear® Flexaline Interchange	LEESON IRONMAN® Interchange	Replace With Series Code Below:
821	Identical	Identical‡	Identical	Identical	✓	✓	GRL

† If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages A52-A53 (B, BM, BMQ).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ				
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
GR818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR821*	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A
GR826*	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
GR830	N/A	8.82	9.82	N/A	5.95	6.15	6.56	N/A	5.32	5.63	6.06	N/A
GR832*	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR842	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24
GR852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54
GR860	N/A	N/A	15.88	16.50	10.45	9.33	9.33	9.94	10.01	8.69	8.69	8.69
GR870	N/A	N/A	15.50	15.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GR880	N/A	N/A	16.58	16.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NEMA DIMENSIONS (Inches)

Frame	AJ ^b	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF ^b
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
GR818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR821*	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR824	N/A	3.72	4.34	N/A	N/A	N/A	3.43	3.46	3.71	N/A	N/A	N/A
GR826*	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR830	N/A	4.78	5.41	5.41	5.88	N/A	N/A	4.59	5.22	5.22	5.57	N/A
GR832*	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

- † Max bore dimensions shown. For additional bores available, refer to page A20.
- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- ⊙ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style FHM with frame sizes 180TC-250TC.
- 48CZ not available

- 180TC not available
- ◆ Metric IEC B5 input flange options are available only on quill input styles.
- ✖ Dimensions same for GRG and GRL Series
- * Style FH and FHM only.
- ▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

Single Reduction Worm Gear Reducers
 Double Reduction Worm - Worm Gear Reducers
 Double Reduction Helical - Worm Gear Reducers
 WASHGUARD® Reducers and GEAR+MOTOR™
 Ratio Multipliers
 Accessories
 Additional Capabilities

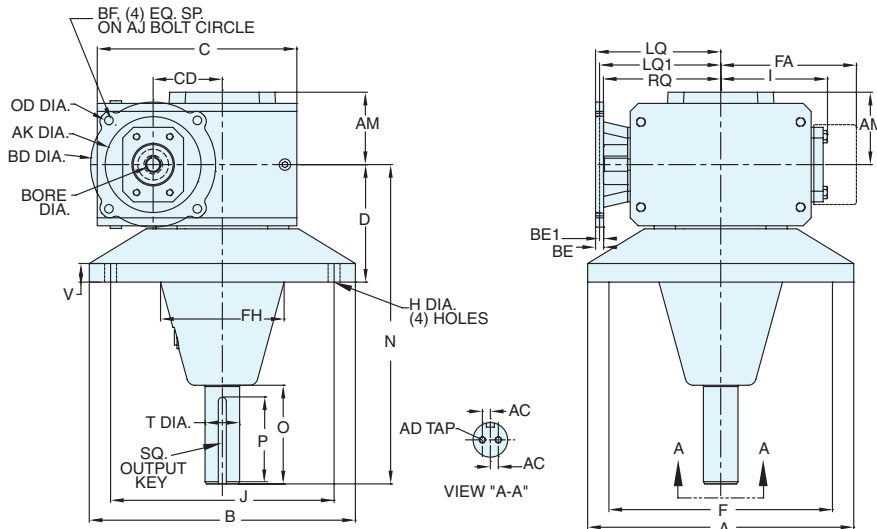


GR SERIES DIMENSIONS

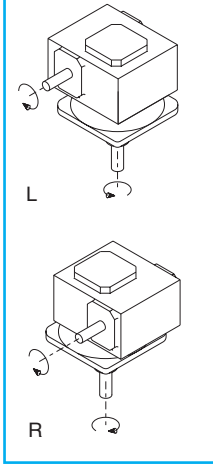
STYLES: FEMQ, FEM, FE

CAST IRON
GR SERIES

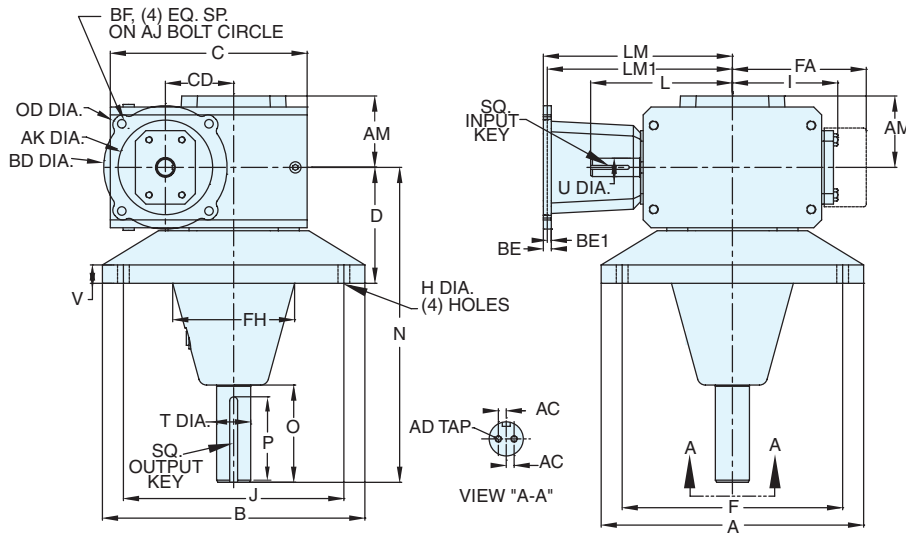
STYLE FEMQ



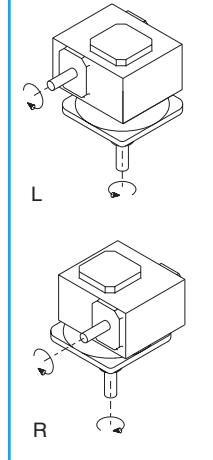
ASSEMBLIES



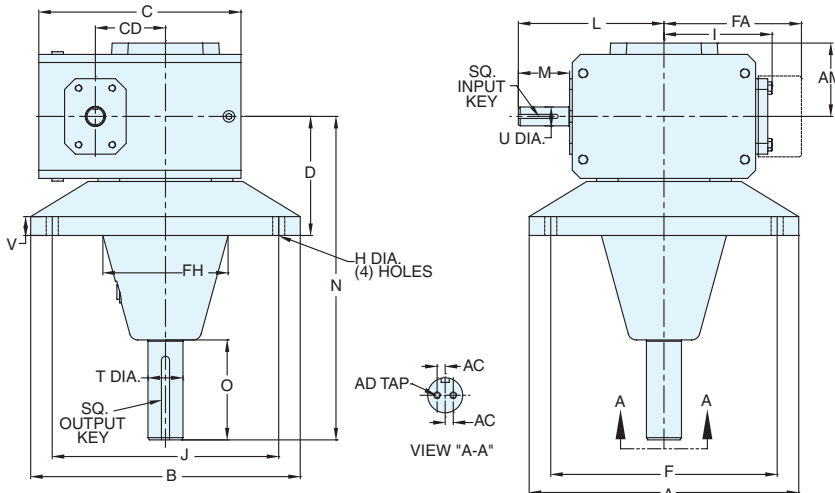
STYLE FEM



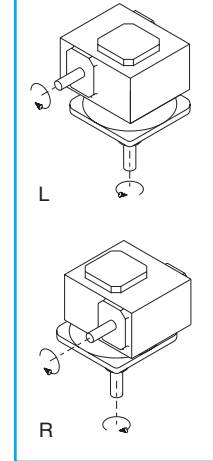
ASSEMBLIES



STYLE FE



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



STYLE FEMQ, FEM, FE DIMENSIONS (Inches)

Series	A	AC	AD	AM	B	D	CD	F	FA ▼	FH	H	I	J	L	M
GR830	11.00	0.375	.31-18 UNC X 1.00 DP	3.15	11.00	4.60	3.00	9.00	N/A	5.12	0.56	4.84	9.00	6.57	2.38
GR832	12.50	0.375	.31-18 UNC X 1.00 DP	3.40	12.50	5.52	3.25	10.50	N/A	5.75	0.56	5.02	10.50	6.76	2.38
GR842	14.00	0.500	.38-16 UNC X 1.00 DP	3.62	14.00	5.74	4.25	12.00	N/A	6.75	0.69	6.10	12.00	9.57	3.47
GR852	16.00	0.750	.38-16 UNC X 1.00 DP	4.28	16.00	6.00	5.25	14.00	N/A	8.00	0.81	7.50	14.00	10.88	3.38
GR860	19.50	0.750	.38-16 UNC X 1.00 DP	5.28	19.50	7.00	6.00	17.00	11.13	9.50	0.88	N/A	17.00	11.78	3.41
GR870	22.00	1.000	.38-16 UNC X 1.00 DP	6.06	22.00	8.50	7.00	19.00	11.37	10.75	1.13	N/A	19.00	11.50	2.97
GR880	28.00	1.062	.62-11 UNC X 1.50 DP	6.22	28.00	10.00	8.00	24.00	12.52	13.75	1.31	N/A	24.00	12.50	2.84
GR8100	32.00	1.118	.62-11 UNC X 1.50 DP	7.94	32.00	12.50	10.00	28.00	14.69	17.00	1.31	N/A	28.00	15.50	3.76

Series	N	O*	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*	P**
GR830	14.38	4.96	0.78	1.438	0.875	3/16 x 1.63	3/8 x 3.88
GR832	15.00	4.63	0.88	1.625	0.875	3/16 x 1.63	3/8 x 3.69
GR842	16.50	5.91	1.00	1.688	1.250	1/4 X 2.50	3/8 x 4.68
GR852	16.50	5.62	1.25	2.188	1.250	1/4 X 3.00	1/2 x 4.63
GR860	22.50	7.63	1.50	2.438	1.500	3/8 X 3.00	5/8 x 6.50
GR870	24.00	7.63	1.75	2.937	1.625	3/8 x 2.87**	3/4 x 6.44
GR880	27.06	9.25	2.00	3.438	1.875	1/2 x 2.81**	7/8 x 8.00
GR8100	29.50	9.43	2.25	3.938	2.250	1/2 x 3.69**	1 x 7.75

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM 56C/ 140TC	L1		LQ 56C/140TC	LQ1			RQ			
		180TC/ 210TC	250TC		180TC	210TC	250TC	56C/140TC	180TC	210TC	250TC
GR830	8.82	9.82	N/A	5.95	6.15	6.56	N/A	5.32	5.63	6.06	N/A
GR832	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR842	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24
GR852	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54
GR860	N/A	15.88	16.50	10.45	9.33	9.33	9.94	10.01	8.69	8.69	8.69
GR870	N/A	15.50	15.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GR880	N/A	16.58	16.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NEMA DIMENSIONS (Inches)

Frame	AJ ^b	AK	BD	BE	BE1	Bore Dia.	Keyway♦	BF ^b
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1					RQ				
	D71D	D80D	D90D	D100LD/ D112MD	D132D	D71D	D80D	D90D	D100LD/ D112MD	D132D
GR830	4.78	5.41	5.41	5.88	N/A	4.59	5.22	5.22	5.57	N/A
GR832	4.97	5.59	5.59	6.07	N/A	4.78	5.41	5.41	5.76	N/A
GR842	N/A	N/A	6.38	6.39	7.17	N/A	N/A	6.16	6.14	6.93
GR852	N/A	N/A	7.78	7.78	8.57	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway♦	BF TAP	OD
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

- ** Key not provided with gear reducer. Keyway dimension shown.
- ♦ Keyway width by depth
- ⊕ Mounting holes rotated 45 degrees from positions shown on Size GR860, Style FEM with frame sizes 180TC-250TC.
- 180TC not available
- Metric IEC B5 input flange options are available only on quill input styles.

- * Style F and FE only.
- ▼ Sizes 860-8100 are supplied with a fan. Dimensions refer to fan guard location.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: BMQ, BM, B

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

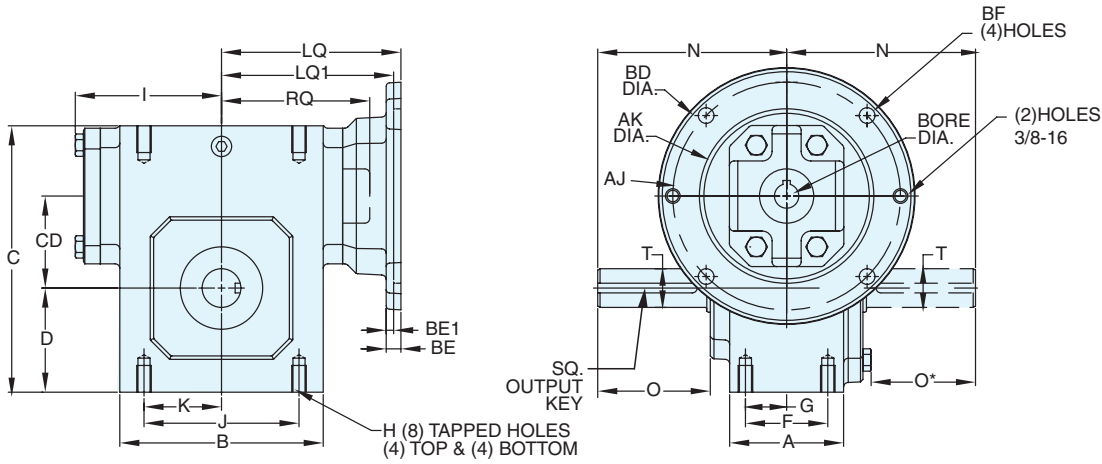
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

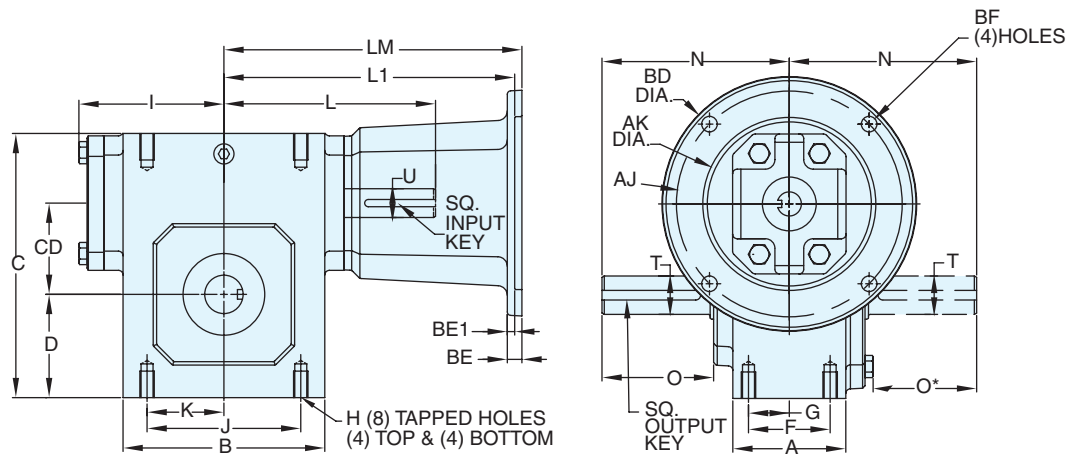
Ratio Multipliers

Accessories
Additional Capabilities

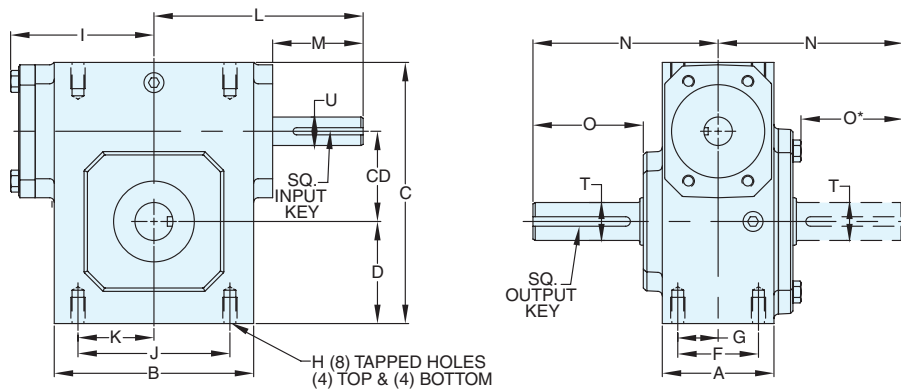
STYLE BMQ



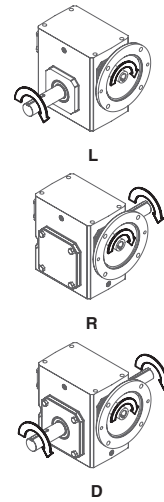
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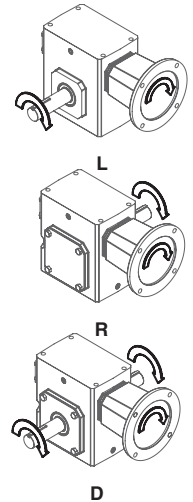
STYLE B



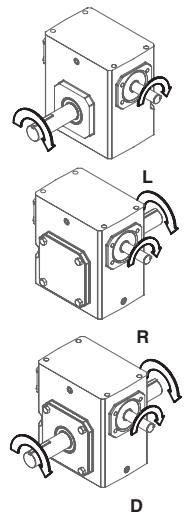
ASSEMBLIES



ASSEMBLIES



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



STYLE BMQ, BM, B DIMENSIONS (Inches)

Size	A	B	C	CD	D	F	G	H		I	J	K	L	M	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*	Output Key
								Tap Size	Depth												
NH813	2.82	3.80	4.66	1.33	1.72	2.00	1.00	5/16-18 UNC	0.50	2.61	3.25	1.63	3.82	1.76	4.00	2.16	1.94	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH815	2.57	4.06	5.00	1.54	1.88	1.88	0.94	5/16-18 UNC	0.63	3.14	3.25	1.63	4.35	1.76	4.25	2.56	2.35	0.750	0.625	3/16 X 1.38	3/16 X 1.50
NH818	2.56	4.50	5.44	1.75	2.06	1.88	0.94	5/16-18 UNC	0.63	3.24	3.75	1.88	4.45	1.76	4.75	2.94	2.73	1.000	0.625	3/16 X 1.38	1/4 X 1.75
NH821	2.50	4.50	6.00	2.06	2.31	1.88	0.94	5/16-18 UNC	0.63	3.61	3.25	1.63	4.82	1.76	4.34	2.66	2.45	0.875	0.625	3/16 X 1.38	3/16 X 1.50
NH824	2.94	5.25	6.88	2.38	2.69	2.13	1.06	3/8-16 UNC	0.69	3.77	4.00	2.00	5.51	2.38	4.88	2.91	2.69	1.000	0.750	3/16 X 1.63	1/4 X 1.75
NH826	2.88	5.75	7.38	2.63	2.94	2.13	1.06	3/8-16 UNC	0.69	4.34	4.00	2.00	6.07	2.38	5.25	3.28	3.07	1.125	0.750	3/16 X 1.63	1/4 X 1.75
NH830	3.12	6.62	8.25	3.00	3.38	2.38	1.19	3/8-16 UNC	0.75	4.84	4.63	2.31	6.57	2.38	5.77	3.56	3.31	1.250	0.875	3/16 X 1.63	1/4 X 1.75
NH832	4.44	8.00	10.06	3.25	4.19	3.50	1.75	1/2-13 UNC	1.00	5.02	7.00	3.50	6.76	2.38	7.03	4.24	3.99	1.500	0.875	3/16 X 1.63	3/8 X 2.25
NH842	4.75	9.75	11.50	4.25	4.59	3.75	1.88	1/2-13 UNC	1.00	6.10	7.50	3.75	9.57	3.47	7.50	3.88	3.59	1.750	1.250	1/4 X 2.50	3/8 X 2.25
NH852	6.19	11.00	12.69	5.25	4.88	4.50	2.25	5/8-11 UNC	1.25	7.50	9.00	4.50	10.88	3.38	9.00	4.72	4.47	2.000	1.250	1/4 X 3.00	1/2 X 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ				
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
NH813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
NH815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
NH818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
NH821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
NH824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A
NH826	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
NH830	N/A	8.82	9.82	N/A	5.69	6.12	6.56	N/A	5.32	5.63	6.06	N/A
NH832	N/A	9.01	10.01	N/A	5.88	6.31	6.75	N/A	5.51	5.81	6.25	N/A
NH842	N/A	11.81	12.90	13.46	6.77	7.21	7.21	7.77	6.04	6.68	6.68	7.24
NH852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
NH813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
NH815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
NH818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
NH821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
NH824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A	N/A
NH826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
NH830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
NH832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
NH842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
NH852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ⚙ Metric IEC B5 input flange options are available only on quill input styles.
- * Style B and BM only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

GROVE GEAR® OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
UF	BMQ
UFC	BM
U	B

Refer to page A8 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: TMO, TM, T

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

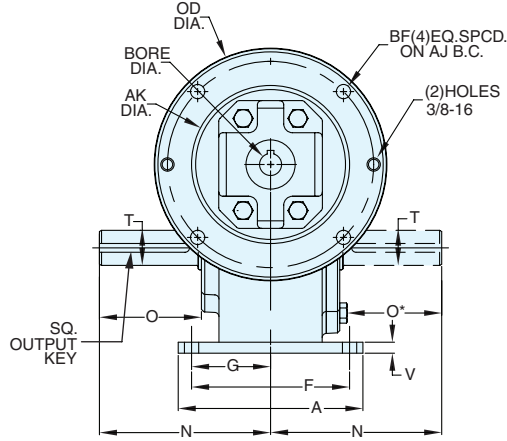
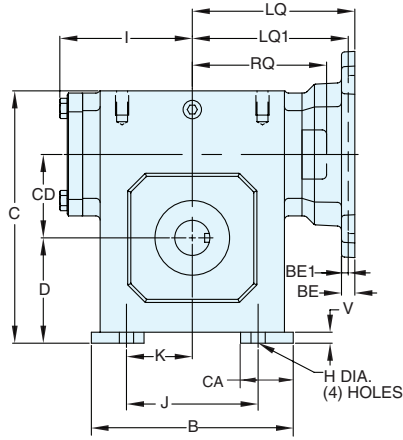
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

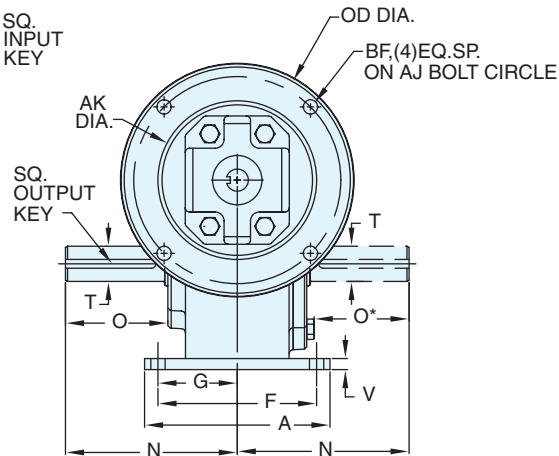
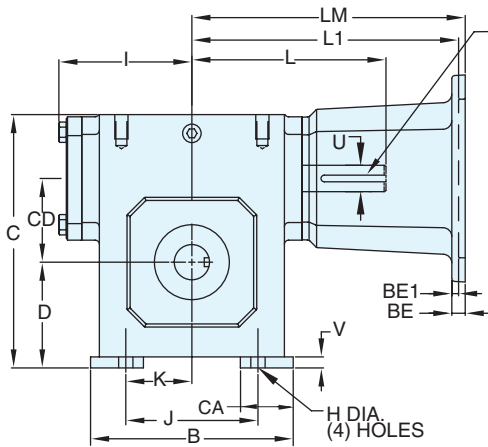
Ratio Multipliers

Accessories
Additional Capabilities

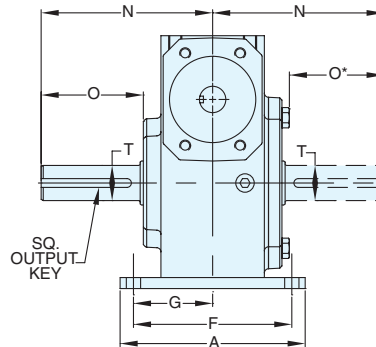
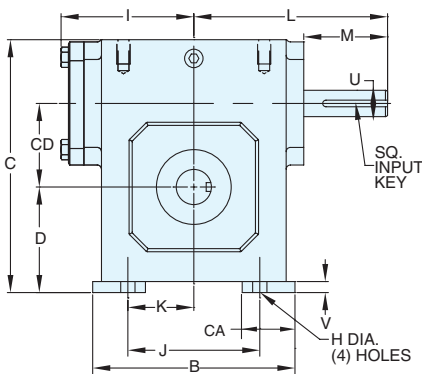
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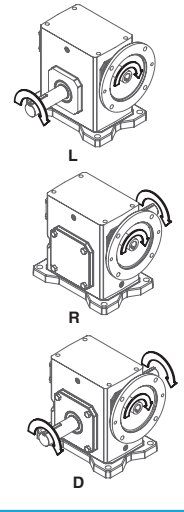
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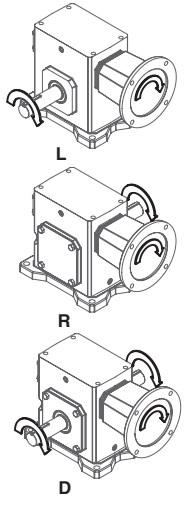
STYLE T



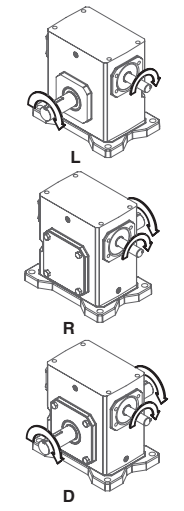
ASSEMBLIES



ASSEMBLIES



ASSEMBLIES



REVERSE ALL ARROWS
FOR OPPOSITE INPUT SHAFT
ROTATION. CONTACT FACTORY
FOR OTHER MOUNTINGS OR
ASSEMBLY POSITIONS.



STYLE TMQ, TM, T DIMENSIONS (Inches)

Size	A	B	C	CA	CD	D	F	G	H	I	J	K	L	M	N	O	O*	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*	Output Key
NH813	4.00	5.01	4.97	1.50	1.33	2.03	3.25	1.63	0.28	2.61	4.25	2.13	3.82	1.76	4.00	2.16	1.94	0.31	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH815	5.25	5.19	5.31	1.50	1.54	2.19	4.50	2.25	0.34	3.14	4.19	2.09	4.35	1.76	4.25	2.56	2.35	0.31	0.750	0.625	3/16 X 1.38	3/16 X 1.50
NH818	4.62	5.89	5.82	1.88	1.75	2.44	3.50	1.75	0.41	3.24	4.63	2.31	4.45	1.76	4.75	2.94	2.73	0.38	1.000	0.625	3/16 X 1.38	1/4 X 1.75
NH821	5.25	5.19	6.31	1.50	2.06	2.63	4.50	2.25	0.34	3.61	4.19	2.09	4.82	1.76	4.34	2.66	2.45	0.31	0.875	0.625	3/16 X 1.38	3/16 X 1.50
NH824	5.25	5.75	7.19	1.50	2.38	3.00	4.50	2.25	0.41	3.77	3.75	1.88	5.51	2.38	4.88	2.91	2.69	0.31	1.000	0.750	3/16 X 1.63	1/4 X 1.75
NH826	6.13	6.51	7.69	2.00	2.63	3.25	4.13	2.06	0.41	4.34	4.75	2.38	6.07	2.38	5.25	3.28	3.07	0.31	1.125	0.750	3/16 X 1.63	1/4 X 1.75
NH830	6.13	7.74	8.56	2.25	3.00	3.69	4.13	2.06	0.41	4.84	6.00	3.00	6.57	2.38	5.77	3.56	3.31	0.31	1.250	0.875	3/16 X 1.63	1/4 X 1.75
NH832	7.50	9.25	10.44	2.50	3.25	4.56	6.50	3.25	0.41	5.02	7.75	3.88	6.76	2.38	7.03	4.24	3.99	0.38	1.500	0.875	3/16 X 1.63	3/8 X 2.25
NH842	6.75	10.99	12.00	2.50	4.25	5.00	5.75	2.88	0.56	6.10	9.75	4.88	9.57	3.47	7.50	3.88	3.59	0.50	1.750	1.250	1/4 X 2.50	3/8 X 2.25
NH852	8.25	13.24	13.82	3.00	5.25	6.00	7.00	3.50	0.69	7.50	12.00	6.00	10.88	3.38	9.00	4.72	4.47	1.13	2.000	1.250	1/4 X 3.00	1/2 X 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ				
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
NH813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
NH815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
NH818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
NH821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
NH824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A
NH826	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
NH830	N/A	8.82	9.82	N/A	5.69	6.12	6.56	N/A	5.32	5.63	6.06	N/A
NH832	N/A	9.01	10.01	N/A	5.88	6.31	6.75	N/A	5.51	5.81	6.25	N/A
NH842	N/A	11.81	12.90	13.46	6.77	7.21	7.21	7.77	6.04	6.68	6.68	7.24
NH852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
NH813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
NH815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
NH818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
NH821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
NH824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A	N/A
NH826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
NH830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
NH832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
NH842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
NH852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- * Metric IEC B5 input flange options are available only on quill input styles.
- * Style T and TM only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

GROVE GEAR® OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
ZF	TMQ
ZFC	TM
Z	T

Refer to page A8 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: UMQ, UM, U

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

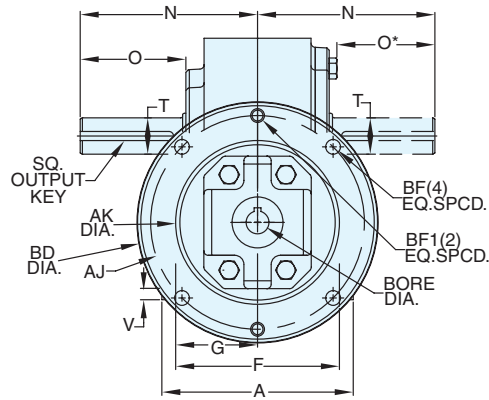
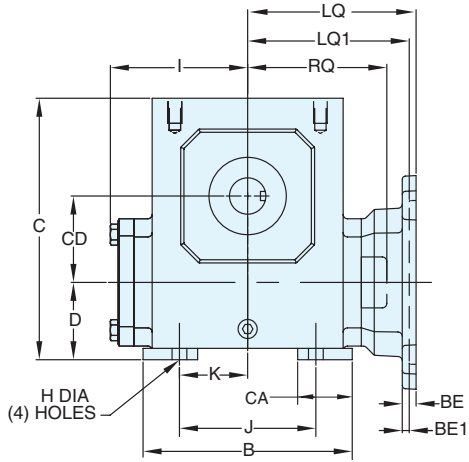
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

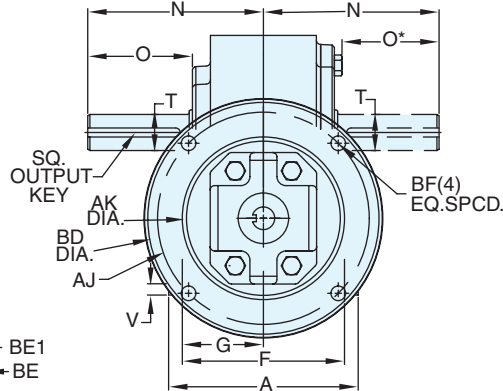
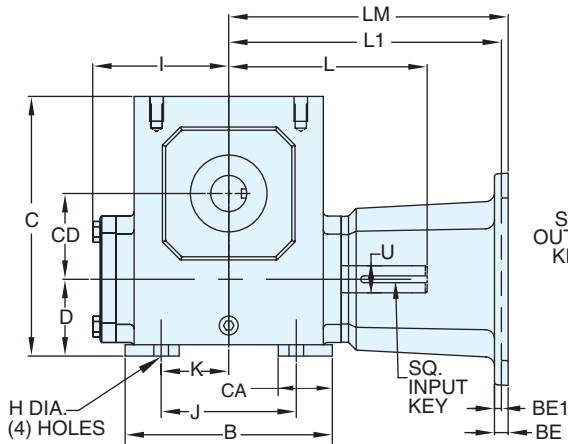
Accessories
Additional Capabilities

STYLE UMQ



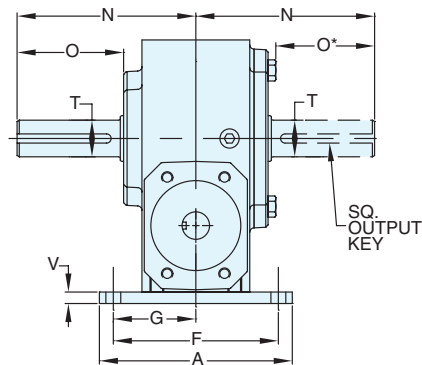
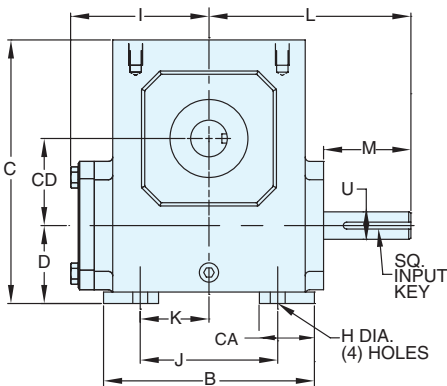
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STYLE UM

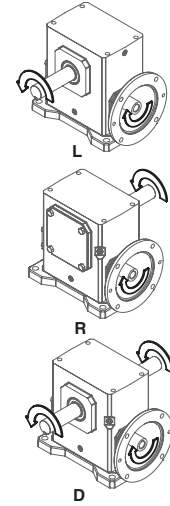


WARNING: "FLANGE MAY EXTEND BELOW BASE."

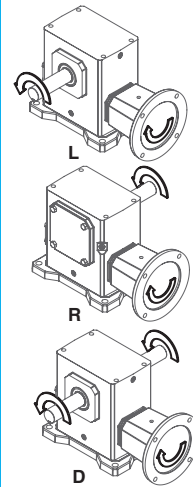
STYLE U



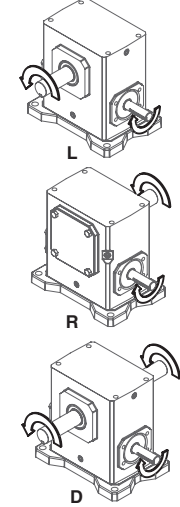
ASSEMBLIES



ASSEMBLIES



ASSEMBLIES



REVERSE ALL ARROWS
FOR OPPOSITE INPUT SHAFT
ROTATION. CONTACT FACTORY
FOR OTHER MOUNTINGS OR
ASSEMBLY POSITIONS.



STYLE UMQ, UM, U DIMENSIONS (Inches)

Size	A	B	C	CA	CD	D	F	G	H	I	J	K	L	M	N	O	O*	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*	Output Key
NH813	4.00	5.01	4.97	1.50	1.33	1.92	3.25	1.63	0.28	2.61	4.25	2.13	3.82	1.76	4.00	2.16	1.94	0.31	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH815	5.25	5.19	5.31	1.50	1.54	1.90	4.50	2.25	0.34	3.14	4.19	2.09	4.35	1.76	4.25	2.56	2.35	0.31	0.750	0.625	3/16 X 1.38	3/16 X 1.50
NH818	4.62	5.89	5.82	1.88	1.75	2.00	3.50	1.75	0.41	3.24	4.63	2.31	4.45	1.76	4.75	2.94	2.73	0.38	1.000	0.625	3/16 X 1.38	1/4 X 1.75
NH821	5.25	5.19	6.31	1.50	2.06	1.94	4.50	2.25	0.34	3.61	4.19	2.09	4.82	1.76	4.34	2.66	2.45	0.31	0.875	0.625	3/16 X 1.38	3/16 X 1.50
NH824	5.25	5.75	7.19	1.50	2.38	2.13	4.50	2.25	0.41	3.77	3.75	1.88	5.51	2.38	4.88	2.91	2.69	0.31	1.000	0.750	3/16 X 1.63	1/4 X 1.75
NH826	6.13	6.51	7.69	2.00	2.63	2.13	4.13	2.06	0.41	4.34	4.75	2.38	6.07	2.38	5.25	3.28	3.07	0.31	1.125	0.750	3/16 X 1.63	1/4 X 1.75
NH830	6.13	7.74	8.56	2.25	3.00	2.19	4.13	2.06	0.41	4.84	6.00	3.00	6.57	2.38	5.77	3.56	3.31	0.31	1.250	0.875	3/16 X 1.63	1/4 X 1.75
NH832	7.50	9.25	10.44	2.50	3.25	3.00	6.50	3.25	0.41	5.02	7.75	3.88	6.76	2.38	7.03	4.24	3.99	0.38	1.500	0.875	3/16 X 1.63	3/8 X 2.25
NH842	6.75	10.99	12.00	2.50	4.25	3.25	5.75	2.88	0.56	6.10	9.75	4.88	9.57	3.47	7.50	3.88	3.59	0.50	1.750	1.250	1/4 X 2.50	3/8 X 2.25
NH852	8.25	13.24	13.82	3.00	5.25	3.69	7.00	3.50	0.69	7.50	12.00	6.00	10.88	3.38	9.00	4.72	4.47	1.13	2.000	1.250	1/4 X 3.00	1/2 X 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ				
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
NH813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
NH815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
NH818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
NH821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
NH824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A
NH826	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
NH830	N/A	8.82	9.82	N/A	5.69	6.12	6.56	N/A	5.32	5.63	6.06	N/A
NH832	N/A	9.01	10.01	N/A	5.88	6.31	6.75	N/A	5.51	5.81	6.25	N/A
NH842	N/A	11.81	12.90	13.46	6.77	7.21	7.21	7.77	6.04	6.68	6.68	7.24
NH852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
NH813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
NH815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
NH818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
NH821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
NH824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A	N/A
NH826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
NH830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
NH832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
NH842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
NH852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ◆ Metric IEC B5 input flange options are available only on quill input styles.
- * Style U and UM only.

Note: Styles UMQ, UM and U are worm under mounting assemblies and not recommended due to increase potential for high speed shaft seal leakage and potential mounting interference. Motor flange may extend below base. Contact Factory for selection assistance.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

GROVE GEAR® OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
UBF	UMQ
UBFC	UM
UB	U

Refer to page A8 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

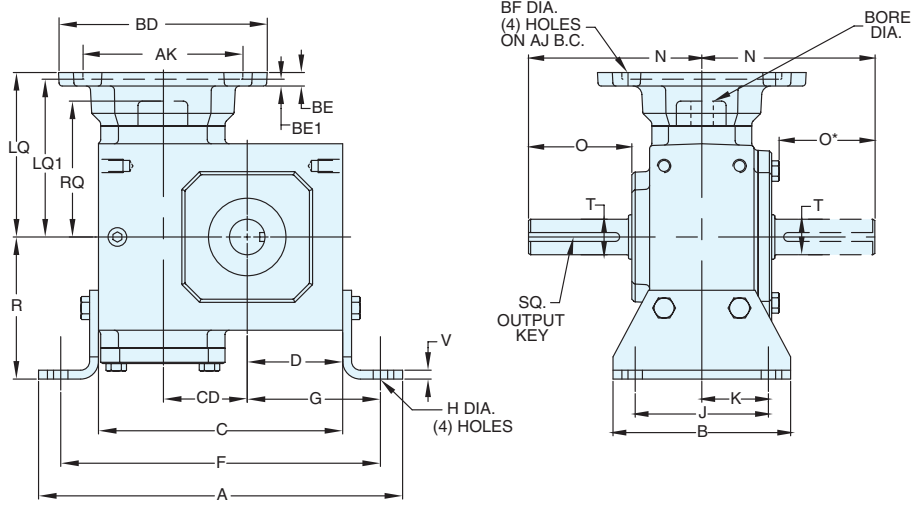


NH SERIES DIMENSIONS

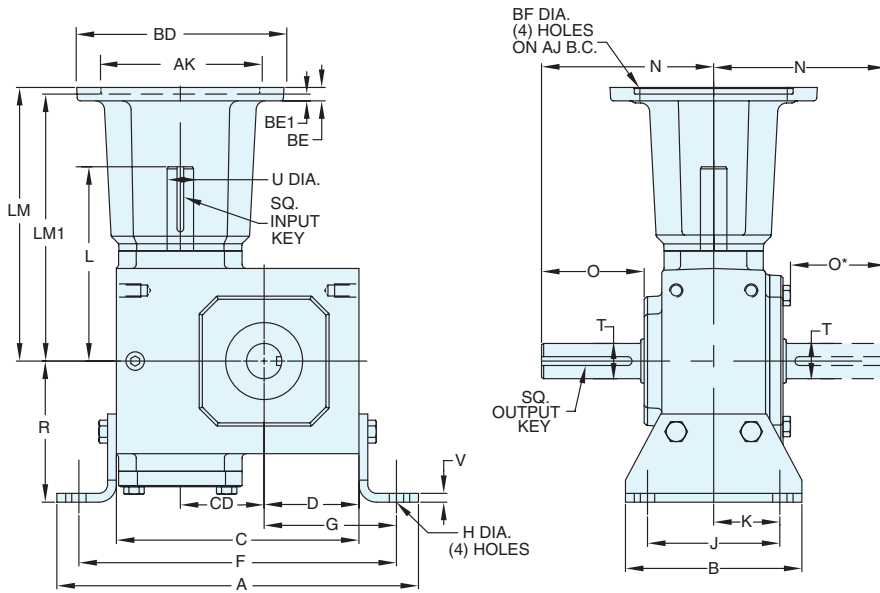
STYLES: JMQ, JM, J

CAST IRON
NH SERIES

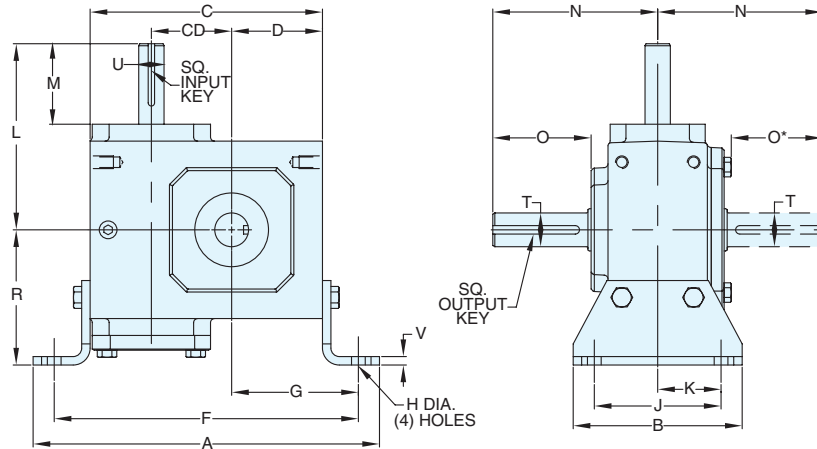
STYLE JMQ



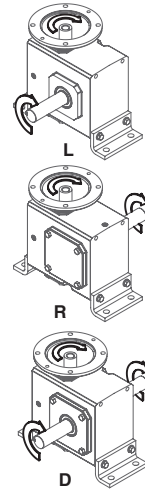
STYLE JM



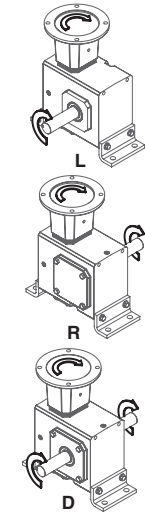
STYLE J



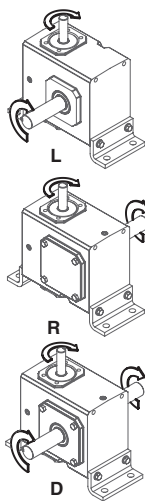
ASSEMBLIES



ASSEMBLIES



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



STYLE JMQ, JM, J DIMENSIONS (Inches)

Size	A	B	C	CD	D	F	G	H	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*	Output Key
NH813	7.42	2.75	4.66	1.33	1.72	6.42	2.60	0.38	2.00	1.00	3.82	1.76	4.00	2.16	1.94	2.94	0.25	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH815	8.06	3.75	5.00	1.54	1.88	7.06	2.91	0.34	2.75	1.38	4.35	1.76	4.25	2.56	2.35	3.75	0.25	0.750	0.625	3/16 X 1.38	3/16 X 1.50
NH818	8.50	3.75	5.44	1.75	2.06	7.50	3.09	0.34	2.75	1.38	4.45	1.76	4.75	2.94	2.73	4.00	0.25	1.000	0.625	3/16 X 1.38	1/4 X 1.75
NH821	9.06	3.75	6.00	2.06	2.31	8.06	3.34	0.34	2.75	1.38	4.82	1.76	4.34	2.66	2.45	3.75	0.25	0.875	0.625	3/16 X 1.38	3/16 X 1.50
NH824	9.96	5.00	6.88	2.38	2.69	8.70	3.60	0.41	3.75	1.88	5.51	2.38	4.88	2.91	2.69	4.44	0.25	1.000	0.750	3/16 X 1.63	1/4 X 1.75
NH826	10.46	5.00	7.38	2.63	2.94	9.20	3.85	0.41	3.75	1.88	6.07	2.38	5.25	3.28	3.07	4.44	0.25	1.125	0.750	3/16 X 1.63	1/4 X 1.75
NH830	12.01	5.25	8.25	3.00	3.38	10.75	4.63	0.41	4.00	2.00	6.57	2.38	5.77	3.56	3.31	4.94	0.31	1.250	0.875	3/16 X 1.63	1/4 X 1.75
NH832	14.00	6.25	10.06	3.25	4.19	12.50	5.41	0.53	5.00	2.50	6.76	2.38	7.03	4.24	3.99	5.25	0.31	1.500	0.875	3/16 X 1.63	3/8 X 2.25
NH842	16.50	6.75	11.50	4.25	4.50	15.00	6.25	0.69	5.00	2.50	9.57	3.47	7.50	3.88	3.59	6.50	0.50	1.750	1.250	1/4 X 2.50	3/8 X 2.25
NH852	17.69	7.20	12.69	5.25	4.88	16.31	6.69	0.69	5.81	2.91	10.88	3.38	9.00	4.72	4.47	7.75	0.50	2.000	1.250	1/4 X 3.00	1/2 X 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ				
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
NH813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
NH815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
NH818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
NH821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
NH824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A
NH826	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
NH830	N/A	8.82	9.82	N/A	5.69	6.12	6.56	N/A	5.32	5.63	6.06	N/A
NH832	N/A	9.01	10.01	N/A	5.88	6.31	6.75	N/A	5.51	5.81	6.25	N/A
NH842	N/A	11.81	12.90	13.46	6.77	7.21	7.21	7.77	6.04	6.68	6.68	7.24
NH852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
NH813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
NH815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
NH818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
NH821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
NH824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A	N/A
NH826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
NH830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
NH832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
NH842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
NH852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- * Metric IEC B5 input flange options are available only on quill input styles.
- * Style J and JM only.

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For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

GROVE GEAR® OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
JF	JMQ
JFC	JM
J	J

Refer to page A8 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

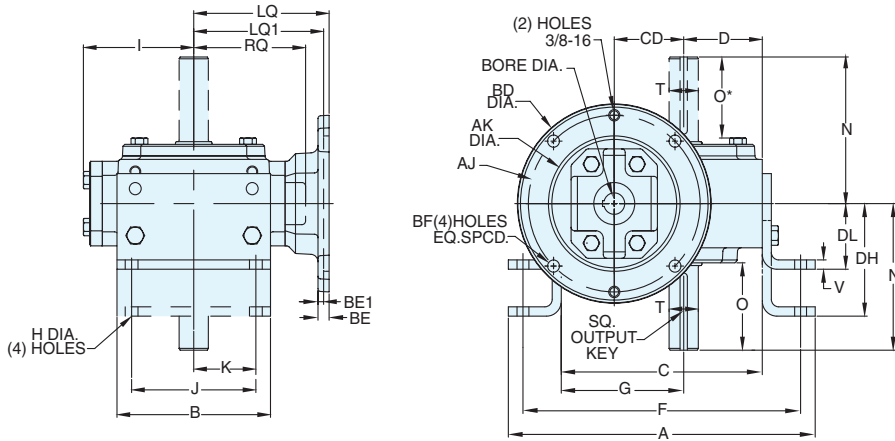


NH SERIES DIMENSIONS

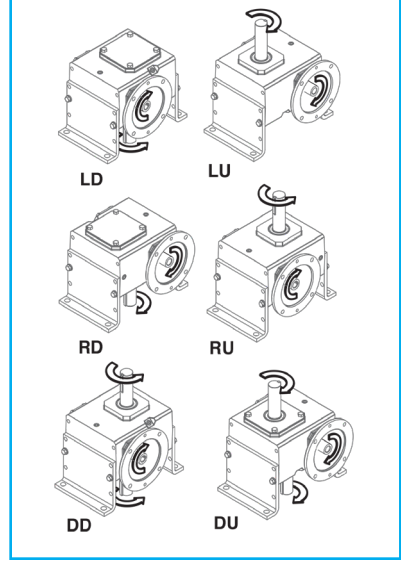
STYLES: V_MQ, V_M, V_

CAST IRON
NH SERIES

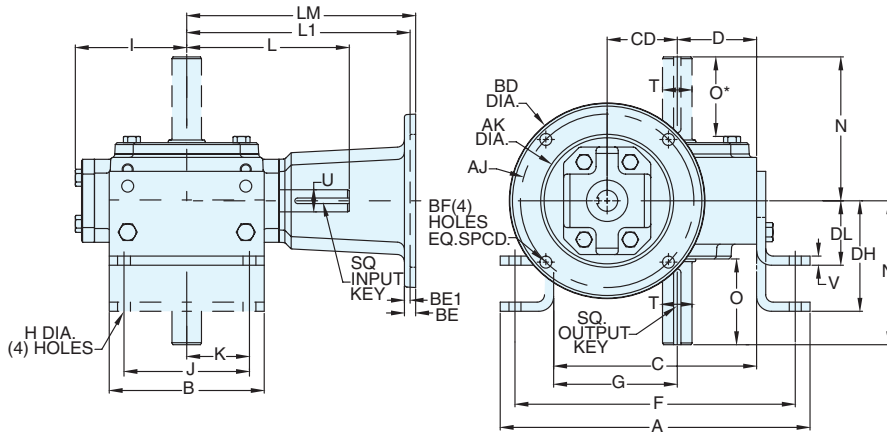
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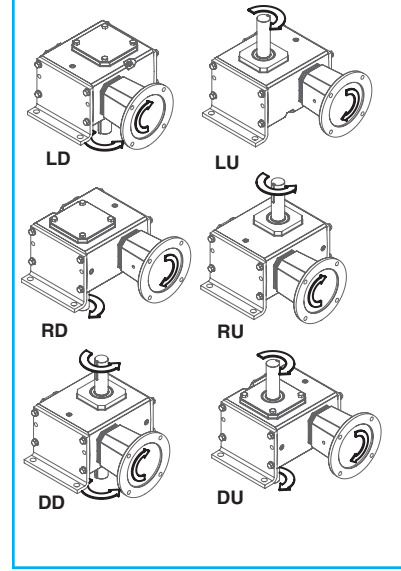
ASSEMBLIES



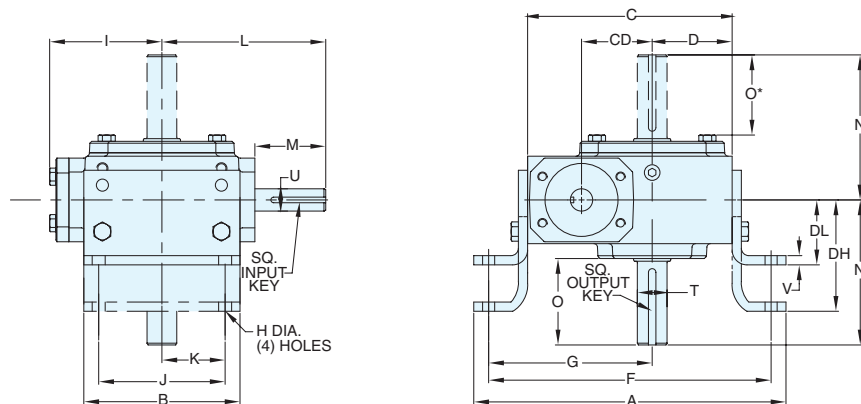
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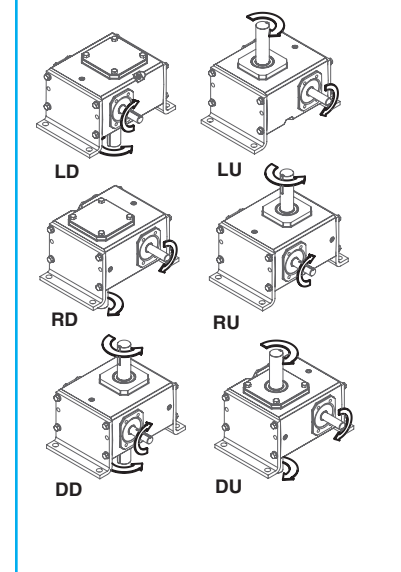
ASSEMBLIES



STYLE V(L OR H)



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

Styles: V_MQ, V_M, V_



STYLE V_MQ, V_M, V_ DIMENSIONS (Inches)

Size	A	B	CD	DL	DH	F	G	H	I	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key	Output Key
NH813	7.78	4.00	1.33	2.00	3.88	6.78	4.00	0.44	2.61	3.00	1.50	3.82	1.76	4.00	2.16	1.94	1.72	0.31	0.750	0.500	1/8 X 1.00	3/16 X 1.50	3/16 X 1.50
NH815	8.12	4.00	1.54	1.94	3.82	7.12	4.18	0.44	3.14	3.00	1.50	4.35	1.76	4.25	2.56	2.35	1.88	0.31	0.750	0.625	3/16 X 1.38	3/16 X 1.50	3/16 X 1.50
NH818	8.56	4.75	1.75	1.94	3.82	7.56	4.44	0.44	3.24	3.00	1.50	4.45	1.76	4.75	2.94	2.73	2.06	0.31	1.000	0.625	3/16 X 1.38	1/4 X 1.75	1/4 X 1.75
NH821	9.12	4.00	2.06	1.94	3.82	8.12	4.75	0.44	3.61	3.00	1.50	4.82	1.76	4.34	2.66	2.45	2.31	0.31	0.875	0.625	3/16 X 1.38	3/16 X 1.50	3/16 X 1.50
NH824	10.50	5.25	2.38	2.18	3.74	9.50	5.50	0.44	3.77	4.25	2.13	5.51	2.38	4.88	2.91	2.69	2.69	0.31	1.000	0.750	3/16 X 1.63	1/4 X 1.75	1/4 X 1.75
NH826	11.00	5.25	2.63	2.18	3.74	10.00	5.75	0.44	4.34	4.25	2.13	6.07	2.38	5.25	3.28	3.07	2.94	0.31	1.125	0.750	3/16 X 1.63	1/4 X 1.75	1/4 X 1.75
NH830	11.87	6.00	3.00	2.31	3.69	10.87	6.18	0.44	4.84	4.75	2.38	6.57	2.38	5.77	3.56	3.31	3.38	0.31	1.250	0.875	3/16 X 1.63	1/4 X 1.75	1/4 X 1.75
NH832	13.86	8.00	3.25	3.50	4.81	12.82	7.25	0.47	5.02	7.00	3.50	6.76	2.38	7.03	4.24	3.99	4.19	0.31	1.500	0.875	3/16 X 1.63	3/8 X 2.25	3/8 X 2.25
NH842	16.38	9.50	4.25	5.00	7.50	15.00	8.75	0.69	6.10	7.88	3.94	9.57	3.47	7.50	3.88	3.59	4.50	0.50	1.750	1.250	1/4 X 2.50	3/8 X 2.25	3/8 X 2.25
NH852	18.29	11.50	5.25	5.16	9.16	16.69	9.81	0.78	7.50	10.00	5.00	10.88	3.38	9.00	4.72	4.47	4.88	0.50	2.000	1.250	1/4 X 3.00	1/2 X 2.50	1/2 X 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ				
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
NH813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
NH815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
NH818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
NH821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
NH824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A
NH826	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
NH830	N/A	8.82	9.82	N/A	5.69	6.12	6.56	N/A	5.32	5.63	6.06	N/A
NH832	N/A	9.01	10.01	N/A	5.88	6.31	6.75	N/A	5.51	5.81	6.25	N/A
NH842	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24
NH852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
NH813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
NH815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
NH818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
NH821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
NH824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A	N/A
NH826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
NH830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
NH832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
NH842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
NH852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- * Metric IEC B5 input flange options are available only on quill input styles.
- * Style V_ and V_M only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

GROVE GEAR® OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
SLF	VLMQ
SLFC	VLM
SL	VL
SHF	VHMQ
SHFC	VHM
SH	VH

Refer to page A8 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: FMQ, FM, F

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

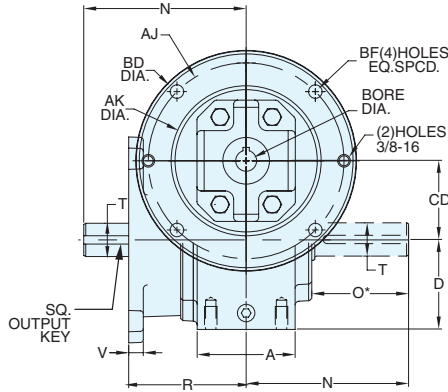
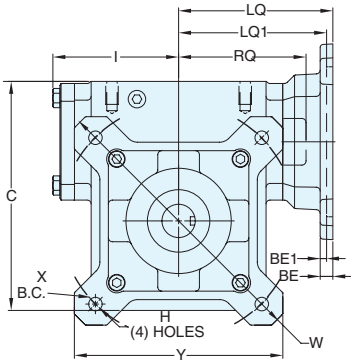
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

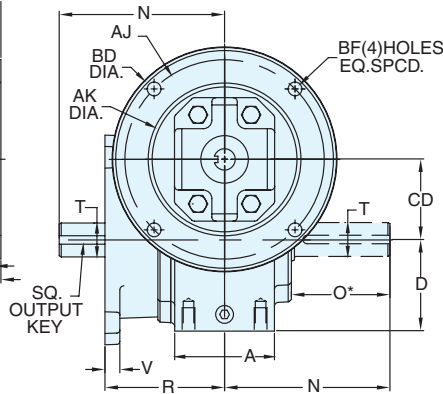
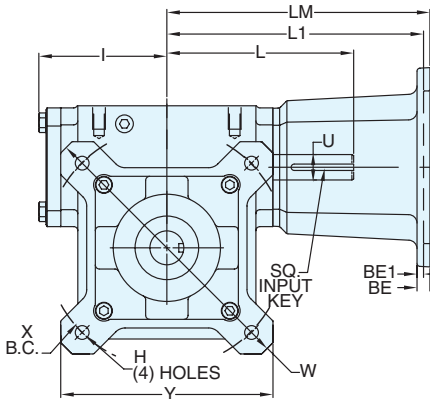
Ratio Multipliers

Accessories
Additional Capabilities

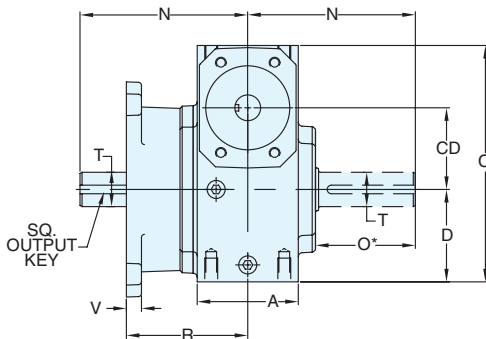
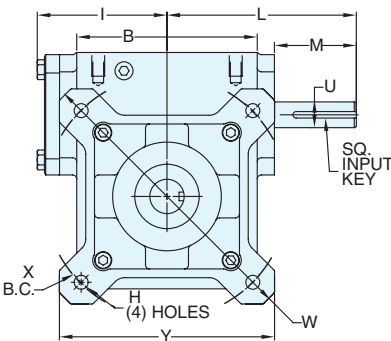
STYLE FMQ



STYLE FM

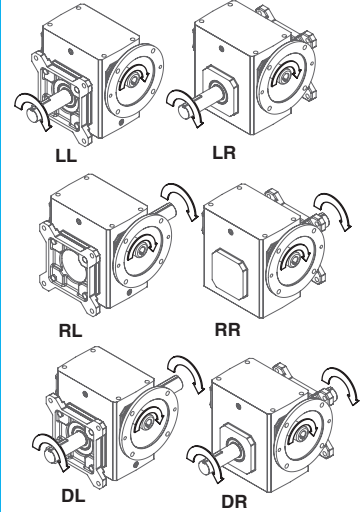


STYLE F

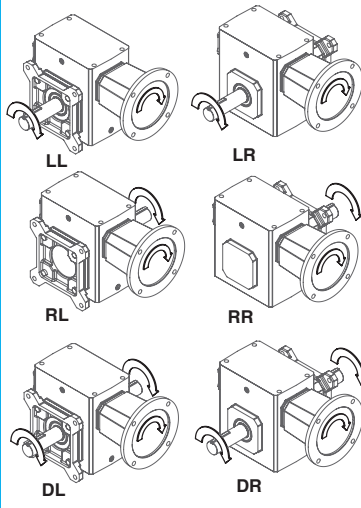


**SIZES 815-852 OUTPUT FLANGE MUST BE MOUNTED AT
FACTORY ON STYLES FMQ, FM, F.**

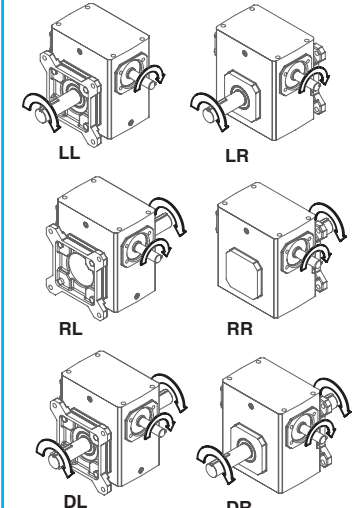
ASSEMBLIES



ASSEMBLIES



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



**NH SERIES
DIMENSIONS**
Styles: FMQ, FM, F



STYLE FMQ, FM, F DIMENSIONS (Inches)

Size	A	B	BL	C	CD	D	H	I	L	M	N	O*	R	W	X	Y	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*	Output Key
NH813	2.82	3.80	0.38	4.66	1.33	1.72	0.34	2.61	3.82	1.76	4.00	1.94	2.52	5.92	5.00	4.50	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH815	2.57	4.06	0.38	5.00	1.54	1.88	0.34	3.14	4.35	1.76	4.25	2.35	3.50	6.79	5.88	5.12	0.750	0.625	3/16 X 1.38	3/16 X 1.50
NH818	2.56	4.50	0.38	5.44	1.75	2.06	0.34	3.24	4.45	1.76	4.75	2.73	2.73	6.64	5.88	5.00	1.000	0.625	3/16 X 1.38	1/4 X 1.75
NH821	2.50	4.50	0.38	6.00	2.06	2.31	0.34	3.61	4.82	1.76	4.34	2.45	3.51	7.37	6.25	5.56	0.875	0.625	3/16 X 1.38	3/16 X 1.50
NH824	2.94	5.25	0.44	6.88	2.38	2.69	0.34	3.77	5.51	2.38	4.88	2.69	3.47	8.29	7.06	6.24	1.000	0.750	3/16 X 1.63	1/4 X 1.75
NH826	2.88	5.75	0.50	7.38	2.63	2.94	0.34	4.34	6.07	2.38	5.25	3.07	3.56	8.90	7.63	6.68	1.125	0.750	3/16 X 1.63	1/4 X 1.75
NH830	3.12	6.62	0.50	8.25	3.00	3.38	0.41	4.84	6.57	2.38	5.77	3.31	3.69	9.50	8.63	7.34	1.250	0.875	3/16 X 1.63	1/4 X 1.75
NH832	4.44	8.00	0.56	10.06	3.25	4.19	0.53	5.02	6.76	2.38	7.03	3.99	5.00	11.84	10.63	9.00	1.500	0.875	3/16 X 1.63	3/8 X 2.25
NH842	4.75	9.75	0.62	11.50	4.25	4.50	0.56	6.10	9.57	3.47	7.50	3.59	4.50	12.95	11.50	9.66	1.750	1.250	1/4 X 2.50	3/8 X 2.25
NH852	6.19	11.00	0.75	12.69	5.25	4.88	0.69	7.50	10.88	3.38	9.00	4.47	5.56	15.50	14.00	11.76	2.000	1.250	1/4 X 3.00	1/2 X 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ				
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
NH813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
NH815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
NH818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
NH821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
NH824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A
NH826	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
NH830	N/A	8.82	9.82	N/A	5.69	6.12	6.56	N/A	5.32	5.63	6.06	N/A
NH832	N/A	9.01	10.01	N/A	5.88	6.31	6.75	N/A	5.51	5.81	6.25	N/A
NH842	N/A	11.81	12.90	13.46	6.77	7.21	7.21	7.77	6.04	6.68	6.68	7.24
NH852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
NH813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
NH815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
NH818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
NH821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
NH824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A	N/A
NH826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
NH830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
NH832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
NH842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
NH852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- * Metric IEC B5 input flange options are available only on quill input styles.
- * Style F and FM only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

GROVE GEAR® OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
KF & VF	FMQ
KFC & VFC	FM
K&V	F

Refer to page A8 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Worm - Worm Reduction
Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

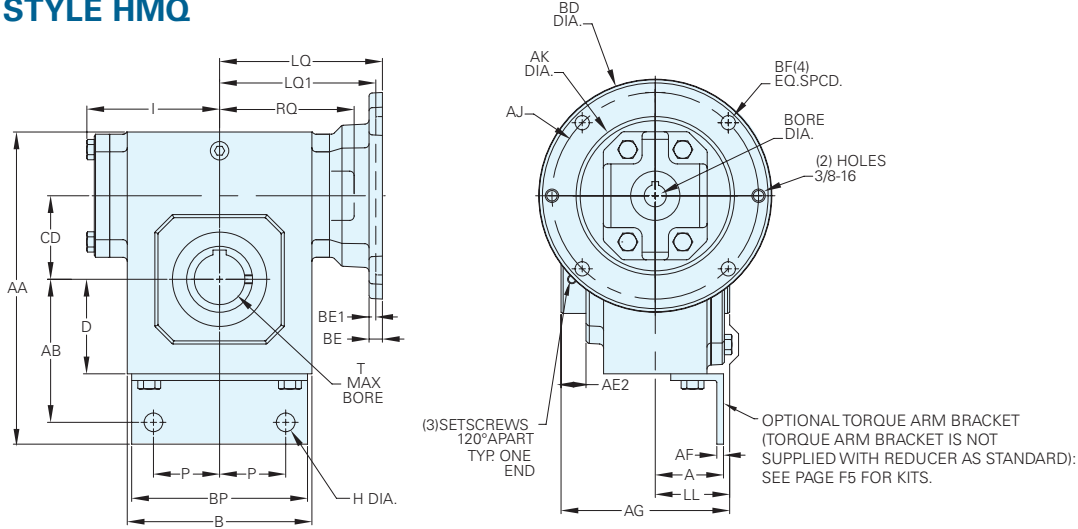


NH SERIES DIMENSIONS

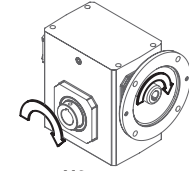
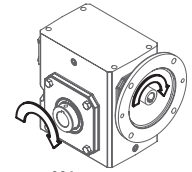
STYLES: HMQ, HM, H

CAST IRON
NH SERIES

STYLE HMQ

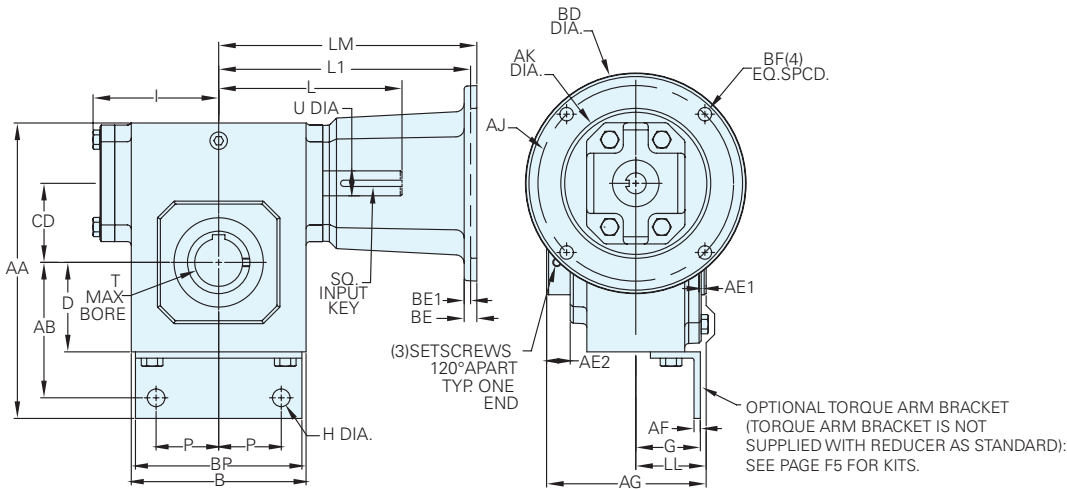


ASSEMBLIES

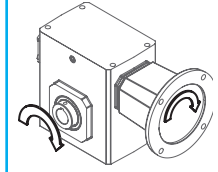
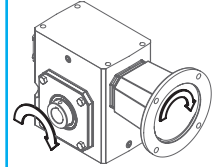


H1 SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE HM

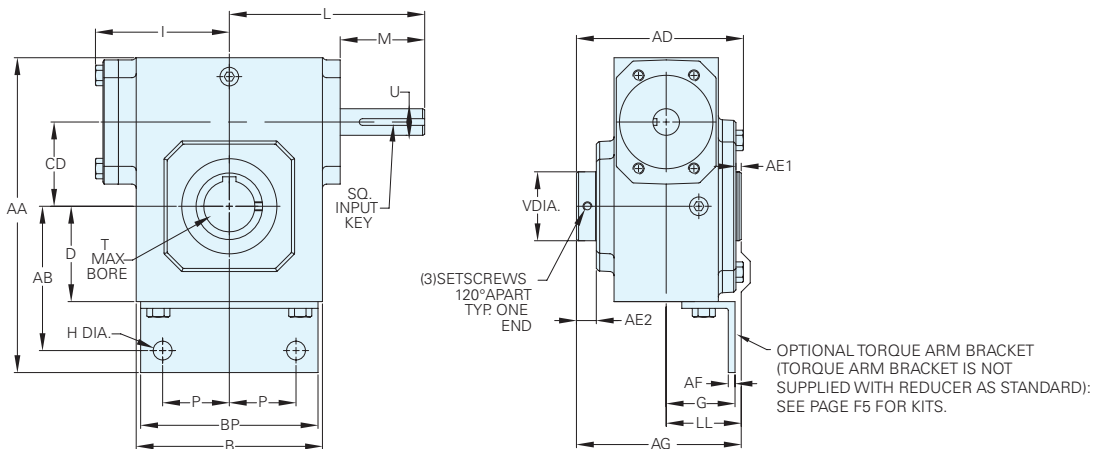


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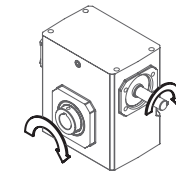
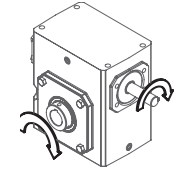


H1 SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE H



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



STYLE HMQ, HM, H DIMENSIONS (Inches)

Size	AA	AB	AD	AE1	AE2	AF	AG	B	C	CD	D	G	H	I	L	LL	M	P	V	T MAX +0.000 +0.0025	U +0.000 -0.0015	Input Key*	Output Key
NH813	6.660	3.100	3.900	0.500	0.530	0.190	4.750	3.800	4.660	1.330	1.720	1.880	0.530	2.610	3.820	2.380	1.760	1.380	1.000	0.625	0.500	1/8 x 1.00	3/16 x 1.50
NH815	7.000	3.260	3.590	0.376	0.510	0.190	4.080	4.060	5.000	1.540	1.880	1.820	0.530	3.140	4.350	1.880	1.760	1.380	1.000	0.625	0.625	3/16 x 1.38	3/16 x 1.50
NH818	7.440	3.440	3.830	0.551	0.560	0.190	4.290	4.500	5.440	1.750	2.060	1.820	0.530	3.240	4.450	1.980	1.760	1.380	1.440	1.000	0.625	3/16 x 1.38	1/4 x 3.00
NH821	8.000	3.690	3.570	0.300	0.850	0.190	4.650	4.500	6.000	2.060	2.310	1.820	0.530	3.610	4.820	2.120	1.760	1.380	1.940	1.500	0.625	3/16 x 1.38	3/8 x 3.00
NH824	8.880	4.070	4.160	0.180	0.560	0.190	4.650	5.250	6.880	2.380	2.690	1.940	0.530	3.770	5.510	2.120	2.380	1.880	1.940	1.500	0.750	3/16 x 1.38	3/8 x 3.00
NH826	9.380	4.320	4.150	0.595	0.560	0.190	4.650	5.750	7.380	2.630	2.940	1.940	0.530	4.340	6.070	2.120	2.380	1.880	1.940	1.500	0.750	3/16 x 1.63	3/8 x 3.00
NH830	10.250	4.760	4.670	0.460	0.560	0.250	5.160	6.620	8.250	3.000	3.380	2.320	0.530	4.840	6.570	2.380	2.380	2.380	2.510	1.938	0.875	3/16 x 1.63	1/2 x 3.00
NH832	12.060	5.570	5.830	0.490	0.570	0.250	6.310	8.000	10.060	3.250	4.190	2.870	0.530	5.020	6.760	2.950	2.380	3.510	2.510	1.938	0.875	3/16 x 1.63	1/2 x 3.00
NH842	14.000	6.380	7.530	1.000	0.630	0.380	8.500	9.750	11.500	4.250	4.500	3.260	0.530	6.100	9.570	4.250	3.470	3.690	2.750	2.188	1.250	1/4 x 2.50	1/2 x 3.00
NH852	15.190	6.760	8.810	1.620	0.970	0.380	10.500	11.000	12.690	5.250	4.880	3.630	0.530	7.500	10.880	5.250	3.380	4.620	4.260	3.438	1.250	1/4 x 3.00	7/8 x 3.44

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ				
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
NH813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
NH815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
NH818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
NH821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
NH824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A
NH826	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
NH830	N/A	8.82	9.82	N/A	5.69	6.12	6.56	N/A	5.32	5.63	6.06	N/A
NH832	N/A	9.01	10.01	N/A	5.88	6.31	6.75	N/A	5.51	5.81	6.25	N/A
NH842	N/A	11.81	12.90	13.46	6.47	7.21	7.21	7.77	6.04	6.68	6.68	7.24
NH852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)◆

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
NH813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
NH815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
NH818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
NH821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
NH824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A	N/A
NH826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
NH830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
NH832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
NH842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
NH852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ◆ Metric IEC B5 input flange options are available only on quill input styles.
- * Style H and HM only.

Note: Torque arm bracket available separately. Refer to page F5 for kits. If a special bracket is required, refer to Style BMQ dimensions for mounting pad dimensions on top/bottom of reducer.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

GROVE GEAR® OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
YF	HMQ
YFC	HM
Y	H

Refer to page A8 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: FHM, FHM, FH



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

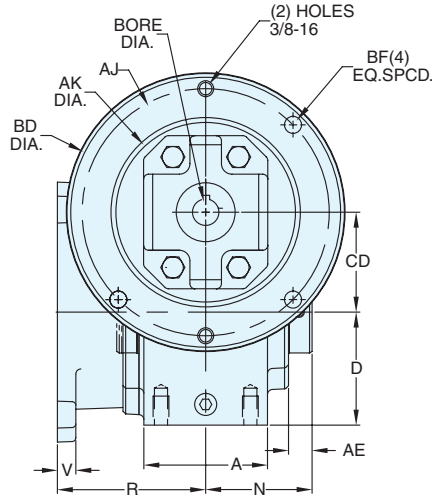
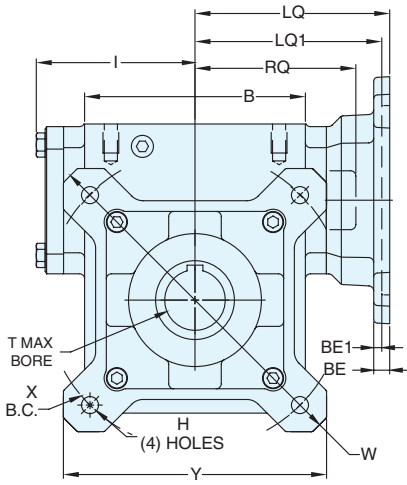
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

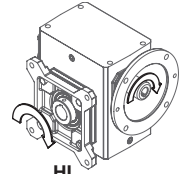
Ratio Multipliers

Accessories
Additional Capabilities

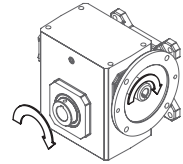
STYLE FHMQ



ASSEMBLIES

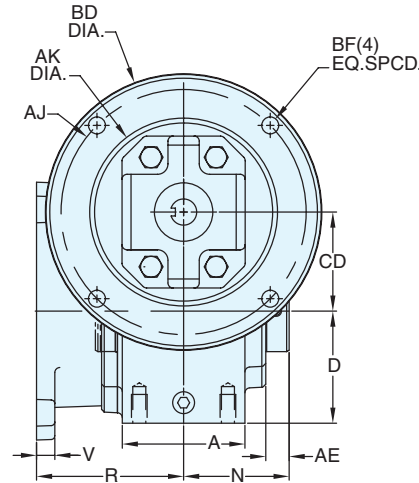
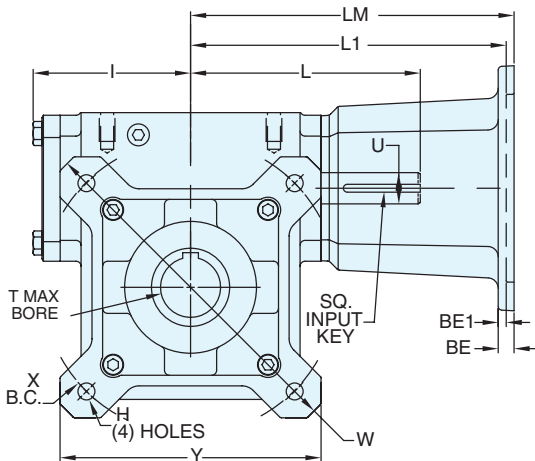


HL

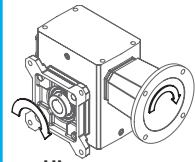


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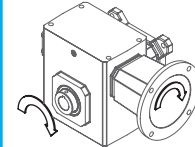
STYLE FHM



ASSEMBLIES

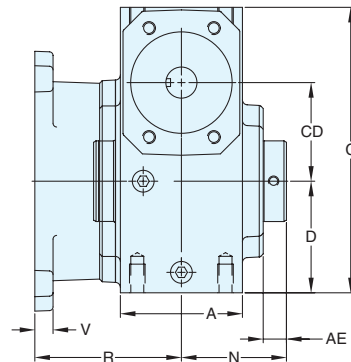
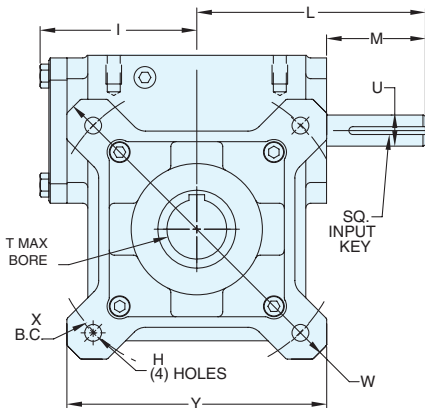


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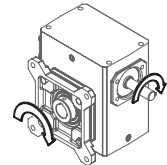


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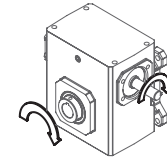
STYLE FH



ASSEMBLIES



HL



HR

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



NH SERIES DIMENSIONS
Styles: FHM, FHM, FH



STYLE FHM, FHM, FH DIMENSIONS (Inches)

Size	A	AE	B	BL	C	CD	D	H	I	L	LL	M	N	R	V	W	X	Y	T MAX -0.000 +0.0025	U +0.000 -0.0015	Input Key*	Output Key
NH813	2.82	0.53	3.80	0.38	4.66	1.33	1.72	0.34	2.61	3.82	2.38	1.76	2.37	2.52	1.00	5.92	5.00	4.50	0.625	0.500	1/8 X 1.00	3/16 x 1.50
NH815	2.57	0.51	4.06	0.38	5.00	1.54	1.88	0.34	3.14	4.35	1.88	1.76	2.20	3.50	1.00	6.79	5.88	5.12	0.625	0.625	3/16 X 1.38	3/16 x 1.50
NH818	2.56	0.56	4.50	0.38	5.44	1.75	2.06	0.34	3.24	4.45	1.92	1.76	2.37	2.74	1.44	6.64	5.88	5.00	1.000	0.625	3/16 X 1.38	1/4 x 3.00
NH821	2.50	0.85	4.50	0.38	6.00	2.06	2.31	0.34	3.61	4.82	2.12	1.76	2.53	3.50	1.94	7.37	6.25	5.56	1.500	0.625	3/16 X 1.38	3/8 x 3.00
NH824	2.94	0.56	5.25	0.44	6.88	2.38	2.69	0.34	3.77	5.51	2.12	2.38	2.53	3.53	1.94	8.29	7.06	6.24	1.500	0.750	3/16 X 1.63	3/8 x 3.00
NH826	2.88	0.56	5.75	0.50	7.38	2.63	2.94	0.34	4.34	6.07	2.12	2.38	2.53	3.62	1.94	8.90	7.63	6.68	1.500	0.750	3/16 X 1.63	3/8 x 3.00
NH830	3.12	0.56	6.62	0.50	8.25	3.00	3.38	0.41	4.84	6.57	2.38	2.38	2.78	3.75	2.51	9.50	8.63	7.34	2.188	0.875	3/16 X 1.63	1/2 x 3.00
NH832	4.44	0.57	8.00	0.56	10.06	3.25	4.19	0.53	5.02	6.76	2.95	2.38	3.36	5.06	2.51	11.84	10.63	9.00	2.188	0.875	3/16 X 1.63	1/2 x 3.00
NH842	4.75	0.63	9.75	0.62	11.50	4.25	4.50	0.56	6.10	9.57	4.25	3.47	4.25	4.56	2.75	12.95	11.50	9.66	2.188	1.250	1/4 X 2.50	1/2 x 3.00
NH852	6.19	0.97	11.00	0.75	12.69	5.25	4.88	0.69	7.50	10.88	5.25	3.38	5.25	5.62	4.26	15.50	14.00	11.76	3.438	1.250	1/4 X 3.00	7/8 x 3.44

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ				
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
NH813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
NH815	6.16	6.60	N/A	N/A	3.99	N/A	N/A	N/A	3.62	N/A	N/A	N/A
NH818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
NH821	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
NH824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A
NH826	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
NH830	N/A	8.82	9.82	N/A	5.69	6.12	6.56	N/A	5.32	5.63	6.06	N/A
NH832	N/A	9.01	10.01	N/A	5.88	6.31	6.75	N/A	5.51	5.81	6.25	N/A
NH842	N/A	11.81	12.90	13.46	6.77	7.21	7.21	7.77	6.04	6.68	6.68	7.24
NH852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
NH813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
NH815	3.15	3.18	3.42	N/A	N/A	N/A	2.98	3.00	3.24	N/A	N/A	N/A
NH818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
NH821	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
NH824	N/A	3.72	4.34	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A	N/A
NH826	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
NH830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
NH832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
NH842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
NH852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- * Metric IEC B5 input flange options are available only on quill input styles.
- * Style FH and FHM only.

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For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

GROVE GEAR® OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
MF	FHM
MFC	FHM
M	FH

Refer to page A8 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

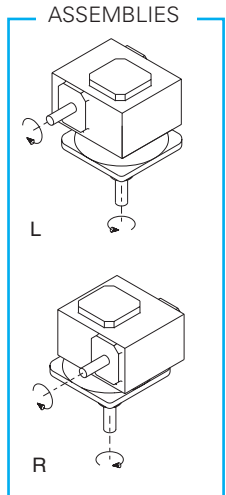
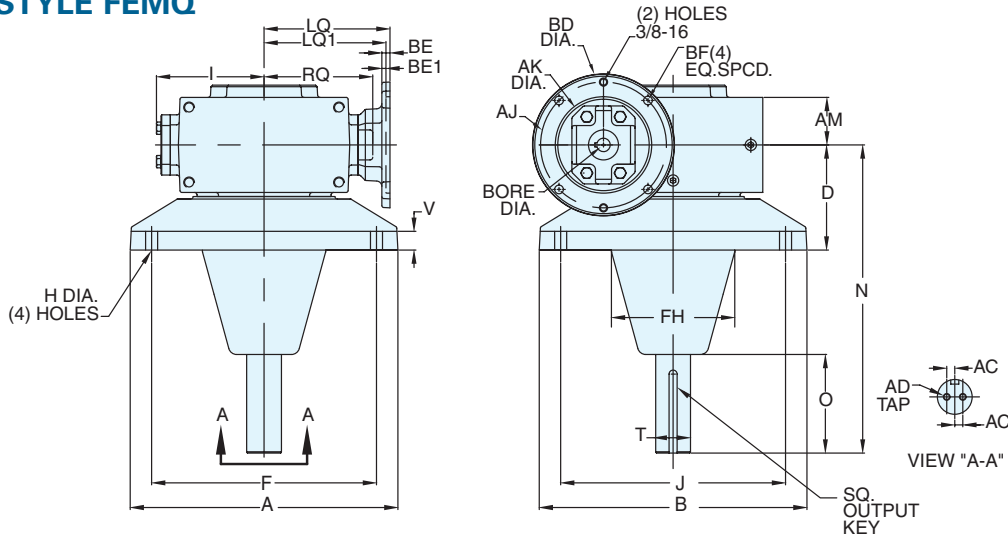


NH SERIES DIMENSIONS

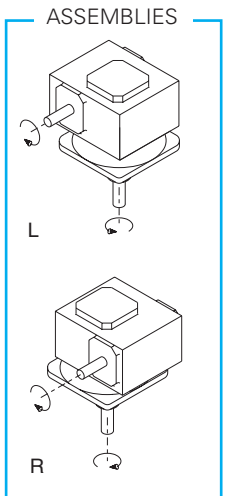
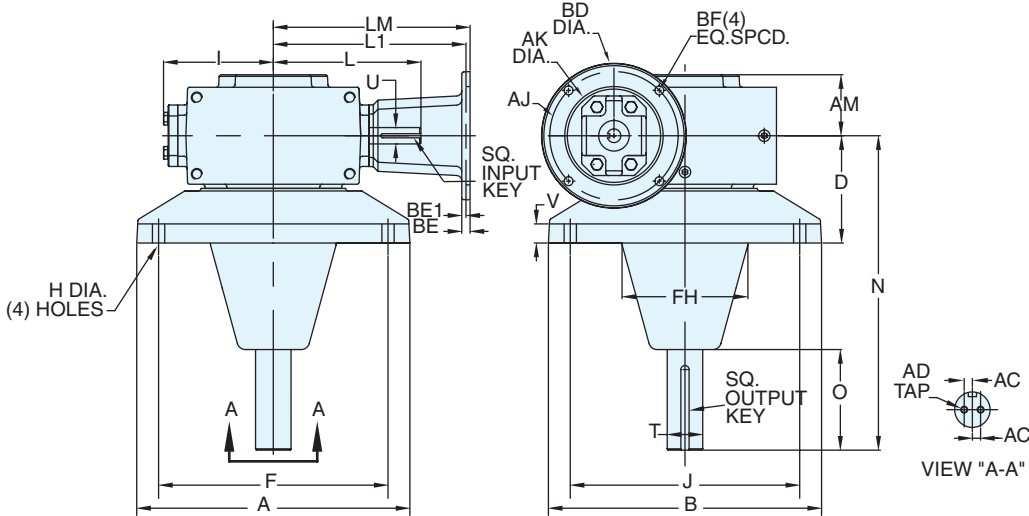
STYLES: FEMQ, FEM, FE

CAST IRON
NH SERIES

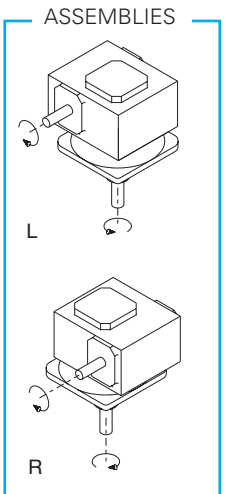
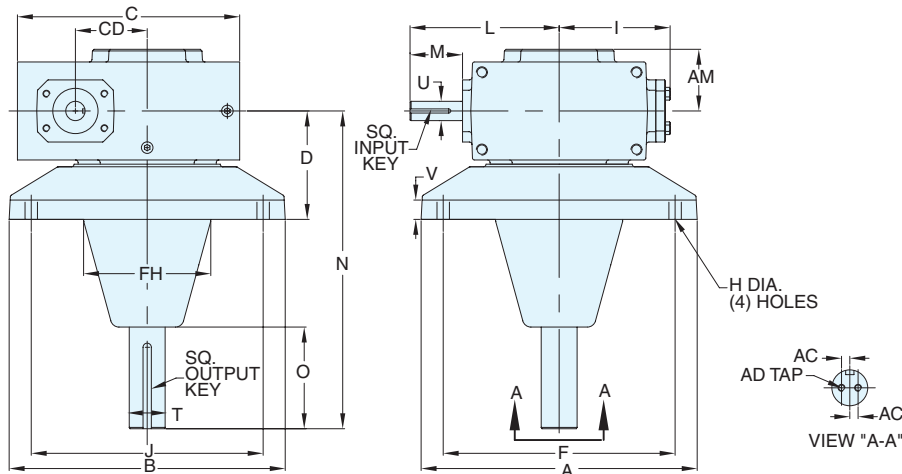
STYLE FEMQ



STYLE FEM



STYLE FE



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Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

Styles: FEMQ, FEM, FE



STYLE FEMQ, FEM, FE DIMENSIONS (Inches)

Size	A	AC	AD	AM	B	C	CD	D	F	FH	H	I	J	L	M	N	O	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*	P**
NH830	11.00	0.375	.31-18 UNC X 1.00 DP	2.22	11.00	8.25	3.00	3.67	9.00	5.12	0.56	4.84	9.00	6.57	2.38	13.15	4.66	0.78	1.438	0.875	3/16 X 1.63	3/8 x 3.88
NH832	12.50	0.375	.31-18 UNC X 1.00 DP	2.79	12.50	10.06	3.25	4.91	10.50	5.75	0.56	5.02	10.50	6.76	2.38	14.39	4.63	0.88	1.625	0.875	3/16 X 1.63	3/8 x 3.69
NH842	14.00	0.500	.38-16 UNC X 1.00 DP	3.62	14.00	11.50	4.25	5.74	12.00	6.75	0.69	6.10	12.00	9.57	3.47	16.25	5.66	1.00	1.688	1.25	1/4 X 2.50	3/8 x 4.68
NH852	16.00	0.750	.38-16 UNC X 1.00 DP	4.28	16.00	12.69	5.25	6.00	14.00	8.00	0.81	7.50	14.00	10.88	3.38	16.50	5.62	1.25	2.188	1.25	1/4 X 3.00	1/2 x 4.63

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
NH830	N/A	8.82	9.82	N/A	5.69	6.12	6.56	N/A	5.32	5.63	6.06	N/A
NH832	N/A	9.01	10.01	N/A	5.88	6.31	6.75	N/A	5.51	5.81	6.25	N/A
NH842	N/A	11.81	12.90	13.46	6.77	7.21	7.21	7.77	6.04	6.68	6.68	7.24
NH852	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1					RQ						
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
NH830	N/A	4.78	5.41	5.41	5.80	N/A	N/A	4.59	5.22	5.22	5.57	N/A
NH832	N/A	4.97	5.59	5.59	5.99	N/A	N/A	4.78	5.41	5.41	5.76	N/A
NH842	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
NH852	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ⚙ Metric IEC B5 input flange options are available only on quill input styles.
- * Style FE and FEM only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

GROVE GEAR® OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
EF	FEMQ
EFC	FEM
E	FE

Refer to page A8 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: BLMQ, BLM, BL



TORQUE LIMITING DESIGN

FEATURES

- ★ No external parts to align, assemble, or adjust for easy installation.
- ★ Pre-set to your torque limit for reduced installation time.
- ★ Clutch slips automatically to reduce costly downtime and shock damage.
- ★ When overload is removed the reducer returns to normal operation without having to reset the clutch.
- ★ Internal slip clutch runs in oil bath for longer life, rust prevention and less maintenance.
- ★ Lifetime torque setting eliminates the need for frequent adjustments.
- ★ Easily adjusted in the field, eliminating the need for factory re-calibration.



STYLE BLMQ, BLM, BL DIMENSIONS (Inches)

Size	A	B	C	CD	D	F	G	H		I	J	K	L	LL	M	N	O	T +0.000 -0.0015	U +0.000 -0.0015	Input Key †	Output Key
								Tap Size	Depth												
NH818	2.56	4.50	5.44	1.75	2.06	1.88	0.94	5/16-18 UNC	0.63	3.24	3.75	1.88	4.45	3.60	1.76	4.75	2.94	1.000	0.625	3/16 X 1.38	1/4 X 1.75
NH824	2.94	5.25	6.88	2.38	2.69	2.13	1.06	3/8-16 UNC	0.69	3.77	4.00	2.00	5.51	3.78	2.38	4.88	2.91	1.000	0.750	3/16 X 1.63	1/4 X 1.75

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
NH818	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
NH824	N/A	7.76	8.76	N/A	4.63	5.06	N/A	N/A	4.09	4.56	N/A	N/A

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway ◆	BF ⚙
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches) ◆

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
NH818	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
NH824	N/A	3.72	4.34	N/A	N/A	N/A	N/A	3.46	3.71	N/A	N/A	N/A

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway ◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184

CAPACITY RATINGS

Ratings	NH818				NH824		
	Output RPM	Max. Input H.P.	Output H.P.	Output Torque	Max. Input H.P.	Output H.P.	Output Torque
5	350	1.70	1.56	281	3.89	3.63	653
7 1/2	233	1.67	1.52	407	3.47	3.20	863
10	175	1.37	1.23	442	3.08	2.81	1011
15	117	1.03	0.876	473	2.30	2.03	1095
20	87.5	0.814	0.677	487	1.83	1.56	1121
25	70.0	0.665	0.537	483	1.51	1.25	1124
30	58.3	0.597	0.451	487	1.32	1.05	1133
40	43.8	0.469	0.338	486	1.04	0.778	1121
50	35.0	0.377	0.258	465	0.847	0.602	1084
60	29.2	0.317	0.204	442	0.674	0.466	1007
80	21.9	0.208	0.124	356	0.455	0.288	830
100	17.5	0.141	0.077	277	0.307	0.180	468

NOTE: All ratings based on 1750 RPM input speed with service factor of 1.0.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

GROVE GEAR® OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
ULF	BLMQ
ULFC	BLM
UL	BL

Refer to page A8 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

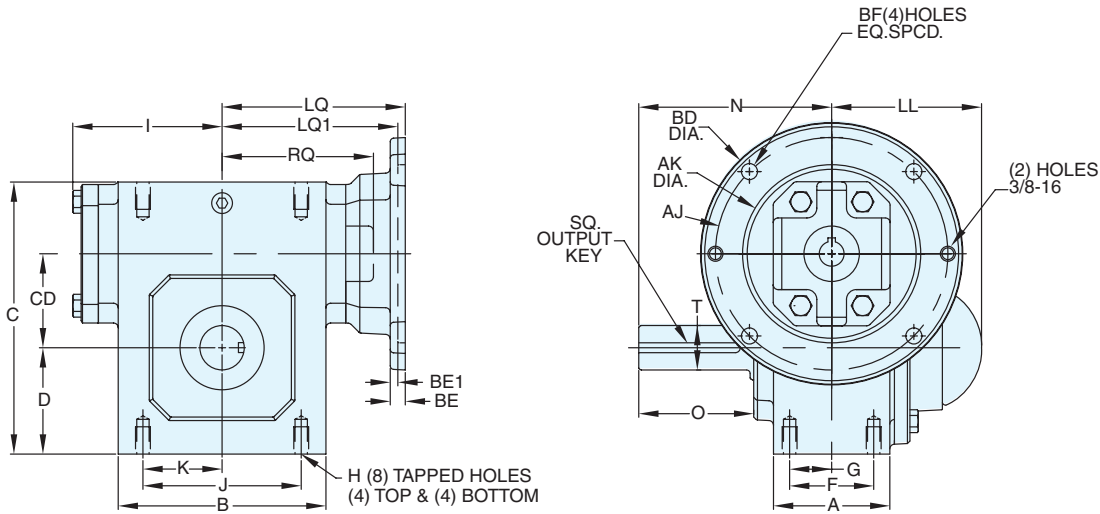
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

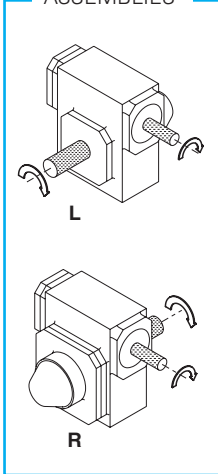
Ratio Multipliers

Accessories
Additional Capabilities

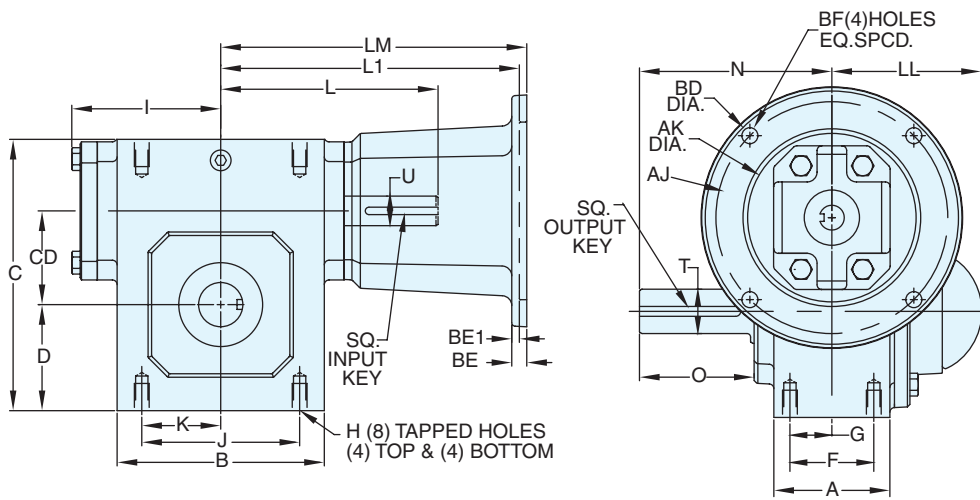
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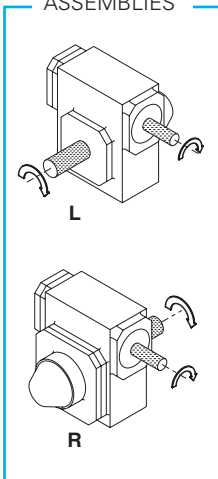
ASSEMBLIES



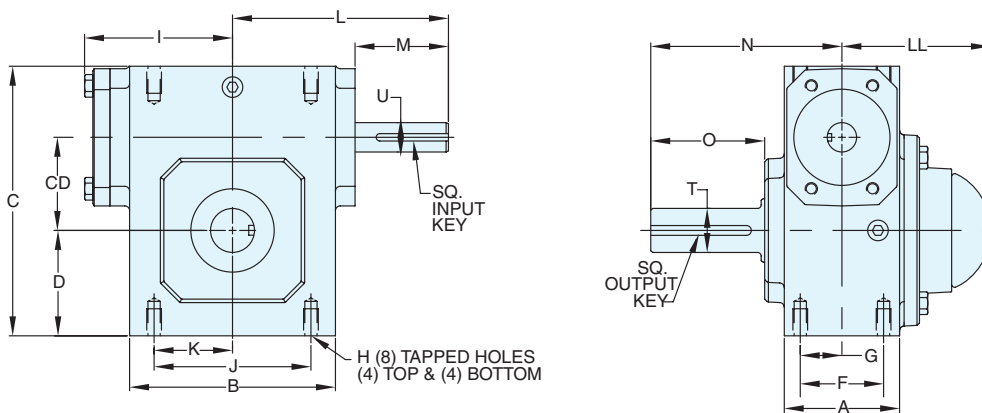
STYLE BLM



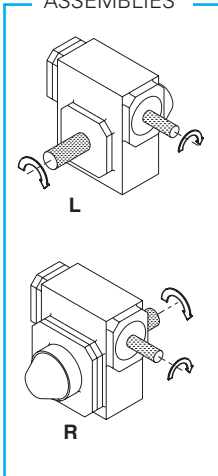
ASSEMBLIES



STYLE BL



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

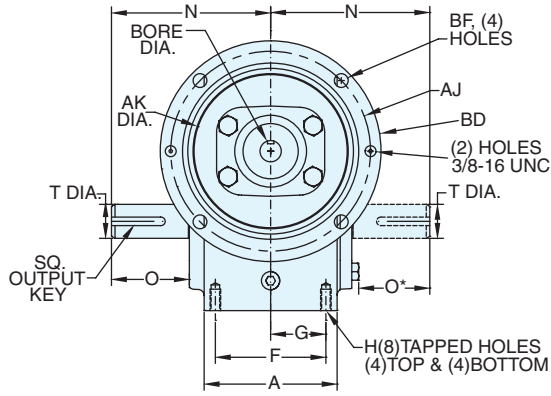
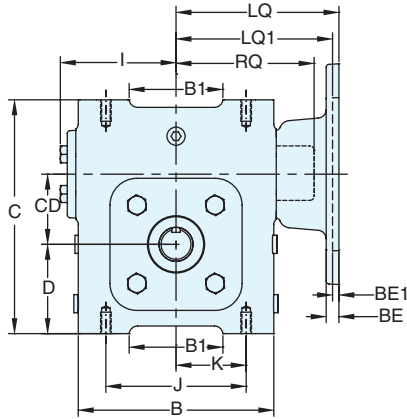
ELECTRA-GEAR®

EL SERIES DIMENSIONS

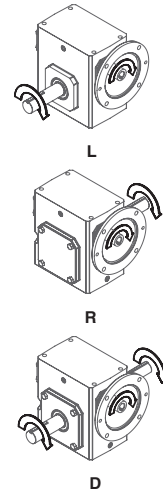
STYLES: BMQ, BM, B



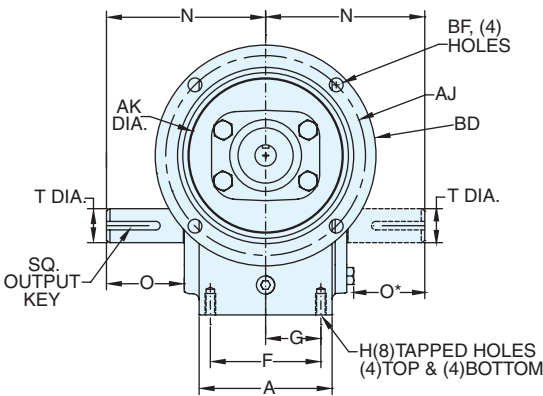
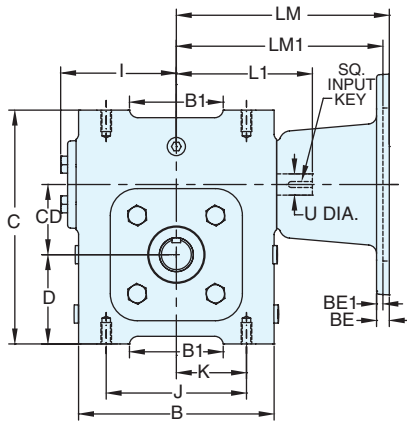
STYLE BMQ



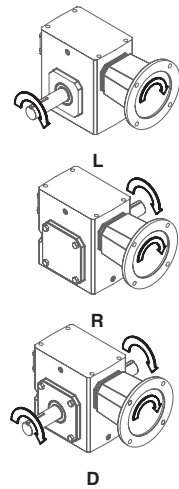
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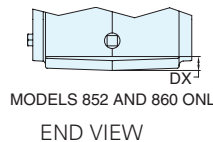
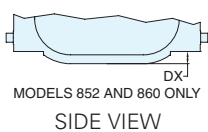
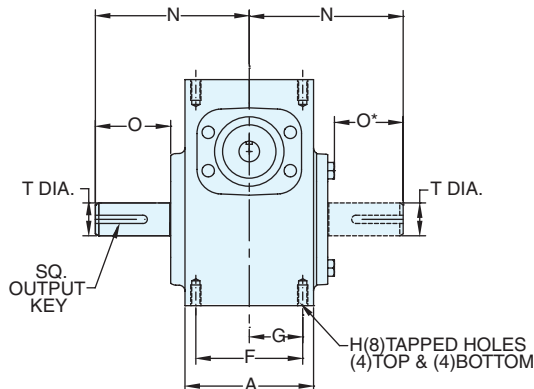
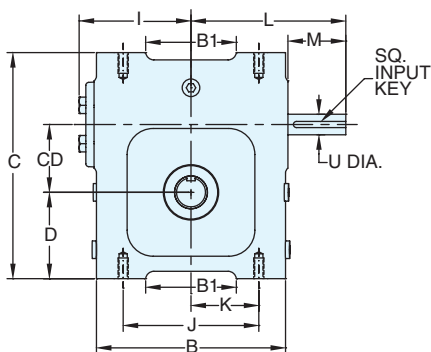
STYLE BM



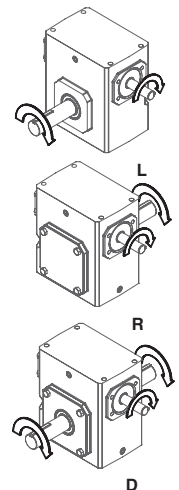
ASSEMBLIES



STYLE B



ASSEMBLIES



REVERSE ALL ARROWS
FOR OPPOSITE INPUT SHAFT
ROTATION. CONTACT FACTORY
FOR OTHER MOUNTINGS OR
ASSEMBLY POSITIONS.

STYLE BMQ, BM, B DIMENSIONS (Inches)

Size	A	B	B1	C	CD	D	DX	F	G	H		I	J	K	L	M	N	O	O*	T +0.000 -0.0015	U +0.000 -0.0015	Input Key (Style B Only)	Input Key (Style BM only)	Output Key
										Tap Size	Depth													
EL813	2.82	3.80	--	4.66	1.33	1.72	--	2.00	1.00	5/16-18	0.50	2.40	3.25	1.63	3.82	1.87	4.00	2.16	1.96	0.625	0.500	1/8 x 1.00	1/8 x 1.00	3/16 x 1.38
EL818	3.50	4.83	2.48	5.86	1.75	2.31	--	2.94	1.47	5/16-18	0.63	3.03	3.69	1.84	4.45	1.78	4.39	2.05	1.85	0.750	0.625	3/16 x 1.38	3/16 x .500	3/16 x 1.38
EL821	3.91	5.75	2.76	6.88	2.06	2.63	--	3.25	1.63	3/8-16	0.87	3.40	4.13	2.06	4.82	1.76	4.68	2.29	2.09	1.000	0.625	3/16 x 1.38	3/16 x .500	1/4 x 1.44
EL824	4.06	5.86	--	6.94	2.38	2.50	--	2.88	1.44	3/8-16	0.69	3.61	5.00	2.50	5.51	2.45	5.14	2.66	2.46	1.125	0.750	3/16 x 1.63	3/16 x .500	1/4 x 1.62
EL826	4.84	7.17	4.21	8.00	2.63	3.25	--	3.38	1.69	3/8-16	0.69	4.17	5.00	2.50	6.07	2.45	5.63	2.73	2.53	1.250	0.750	3/16 x 1.63	3/16 x .500	1/4 x 1.62
EL830	5.25	8.11	4.50	8.94	3.00	3.50	--	4.13	2.06	1/2-13	1.00	4.81	5.75	2.88	6.56	2.31	6.62	3.60	3.37	1.500	0.875	3/16 x 1.63	3/16 x .500	3/8 x 2.25
EL832	5.25	8.11	4.53	10.50	3.25	4.00	--	4.13	2.06	1/2-13	1.00	5.00	6.63	3.31	6.75	2.31	6.62	3.60	3.37	1.625	0.875	3/16 x 1.63	3/16 x .500	3/8 x 2.25
EL842	6.13	9.63	5.71	11.69	4.25	4.50	--	3.75	1.88	5/8-11	1.19	6.15	7.00	3.50	9.57	3.47	8.12	4.50	4.22	1.750	1.250	1/4 x 2.50	1/4 x 2.50	3/8 x 3.00
EL852	7.19	11.50	7.82	12.25	5.25	4.25	0.75	5.25	2.63	3/4-10	1.44	7.55	9.62	4.81	10.88	3.38	9.06	4.78	4.50	2.000	1.250	1/4 x 3.00	1/4 x 3.00	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	5.89	--	3.64	--	4.42	--	3.59	--
EL821	6.26	--	4.00	--	4.79	--	4.06	--
EL824	6.48	7.30	4.29	4.29	4.77	4.77	4.09	4.09
EL826	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82
EL830	7.67	8.31	5.38	5.38	5.97	5.97	5.32	5.32
EL832	7.86	8.50	5.56	5.56	6.16	6.16	5.51	5.51
EL842	11.25	12.53	9.57	9.57	6.45	6.45	6.04	6.04
EL852	12.65	13.93	10.88	10.88	7.85	7.85	7.35	7.35

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- * Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR® product with an option to match the industry standard dimensions of GR Series.
- See page A52 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
MSC or MLSC	BMQ
MC or MLC	BM
M or ML	B
M + "KV" Kit	B + "KV" Kit

Convert Style B to motorized coupling input using kits shown on page F6.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

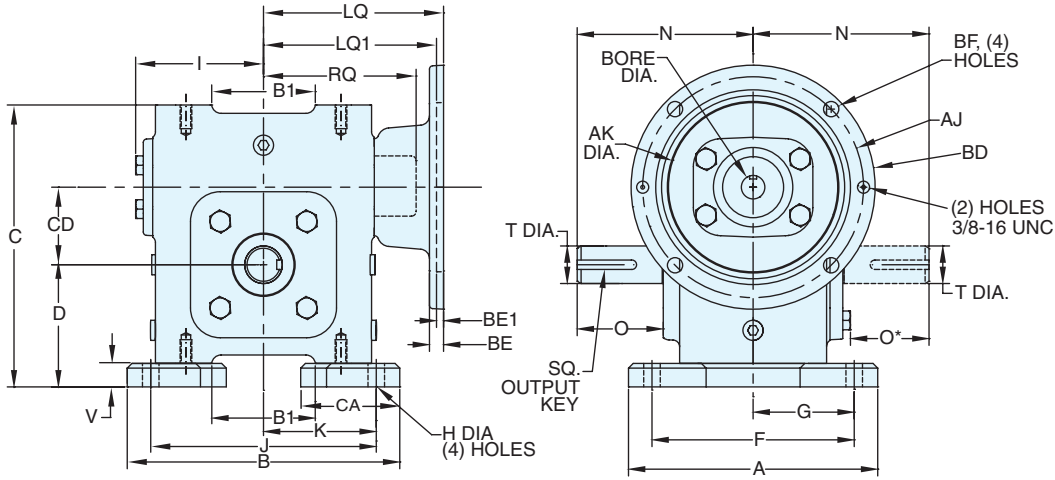
ELECTRA-GEAR®

EL SERIES DIMENSIONS

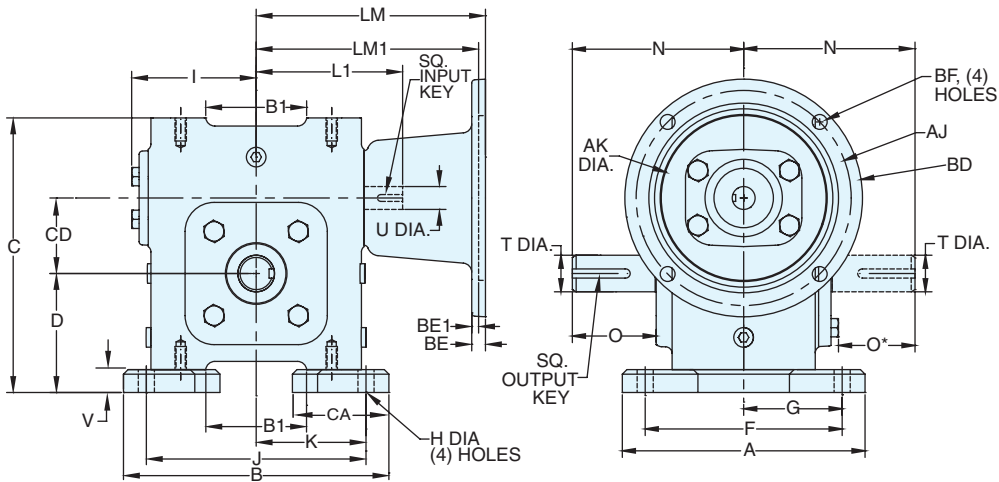
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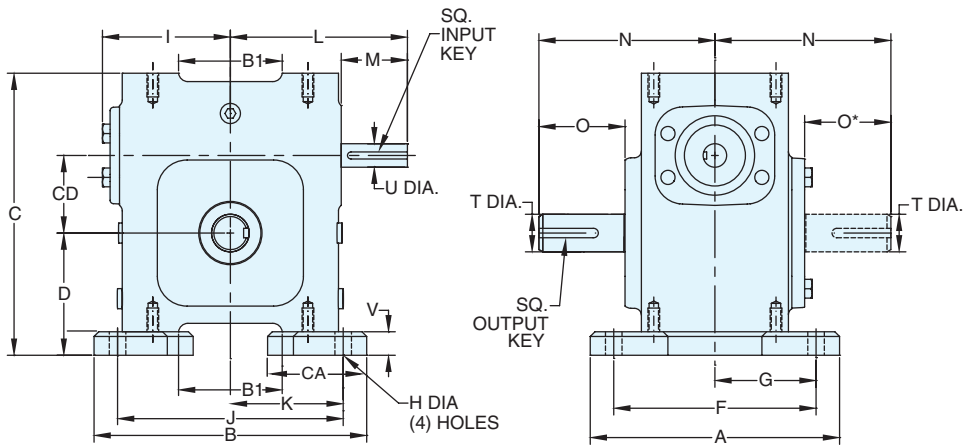
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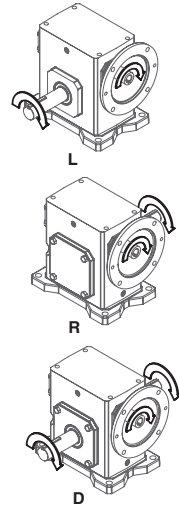
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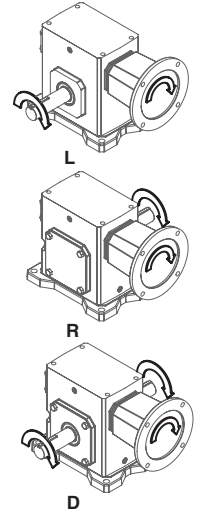
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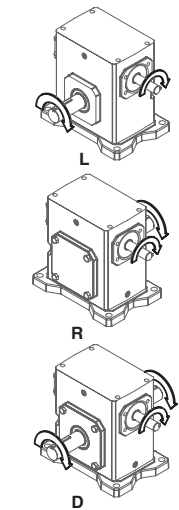
ASSEMBLIES



ASSEMBLIES



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE TMQ, TM, T DIMENSIONS (Inches)

Size	A	B	B1	C	CA	CD	D	F	G	H	I	J	K	L	M	N	O	O*	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key (Style T Only)	Input Key (Style TM only)	Output Key
EL813	4.06	5.13	--	5.19	1.56	1.33	2.25	3.31	1.66	0.34	2.40	4.38	2.19	3.82	1.87	4.00	2.16	1.96	0.53	0.625	0.500	1/8 x 1.00	1/8 x 1.00	3/16 x 1.38
EL818	5.19	6.06	2.48	6.42	2.15	1.75	2.84	4.38	2.19	0.38	3.03	5.25	2.63	4.35	1.78	4.39	2.05	1.85	0.56	0.750	0.625	3/16 x 1.38	3/16 x .500	3/16 x 1.38
EL821	6.63	7.25	2.76	7.51	2.66	2.06	3.25	5.38	2.69	0.44	3.40	6.00	3.00	4.71	1.76	4.68	2.29	2.09	0.63	1.000	0.625	3/16 x 1.38	3/16 x .500	1/4 x 1.44
EL824	6.38	7.69	--	7.63	2.59	2.38	3.25	4.88	2.44	0.47	3.61	6.19	3.09	5.51	2.45	5.14	2.66	2.46	0.75	1.125	0.750	3/16 x 1.63	3/16 x .500	1/4 x 1.62
EL826	6.63	8.13	4.21	8.69	2.81	2.63	3.94	5.38	2.69	0.50	4.17	6.88	3.44	6.07	2.45	5.63	2.73	2.53	0.69	1.250	0.750	3/16 x 1.63	3/16 x .500	1/4 x 1.62
EL830	9.00	9.88	4.50	9.69	3.69	3.00	4.25	7.50	3.75	0.56	4.81	8.38	4.19	6.56	2.31	6.62	3.60	3.37	0.75	1.500	0.875	3/16 x 1.63	3/16 x .500	3/8 x 2.25
EL832	9.13	10.88	4.53	11.25	3.69	3.25	4.75	7.63	3.82	0.56	5.00	9.38	4.69	6.75	2.31	6.62	3.60	3.37	0.75	1.625	0.875	3/16 x 1.63	3/16 x .500	3/8 x 2.25
EL842	10.00	10.50	5.71	12.94	3.38	4.25	5.75	8.00	4.00	0.81	6.15	8.50	4.25	9.57	3.47	8.12	4.50	4.22	1.25	1.750	1.250	1/4 x 2.50	1/4 x 2.50	3/8 x 3.00
EL852	10.75	12.13	7.82	13.75	2.50	5.25	5.75	8.75	4.38	0.81	7.55	9.75	4.88	10.88	3.38	9.06	4.78	4.50	1.50	2.000	1.250	1/4 x 3.00	1/4 x 3.00	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	5.89	--	3.64	--	4.42	--	3.59	--
EL821	6.26	--	4.00	--	4.79	--	4.06	--
EL824	6.48	7.30	4.29	4.29	4.77	4.77	4.09	4.09
EL826	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82
EL830	7.67	8.31	5.38	5.38	5.97	5.97	5.32	5.32
EL832	7.86	8.50	5.56	5.56	6.16	6.16	5.51	5.51
EL842	11.25	12.53	9.57	9.57	6.45	6.45	6.04	6.04
EL852	12.65	13.93	10.88	10.88	7.85	7.85	7.35	7.35

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ✱ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR® product with an option to match the industry standard dimensions of GR Series.
- See page A52 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
ASC or ALSC	TMQ
AC or ALC	TM
A or AL	T
A + "KV" Kit	T + "KV" Kit

Convert Style T to motorized coupling input using kits shown on page F6.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

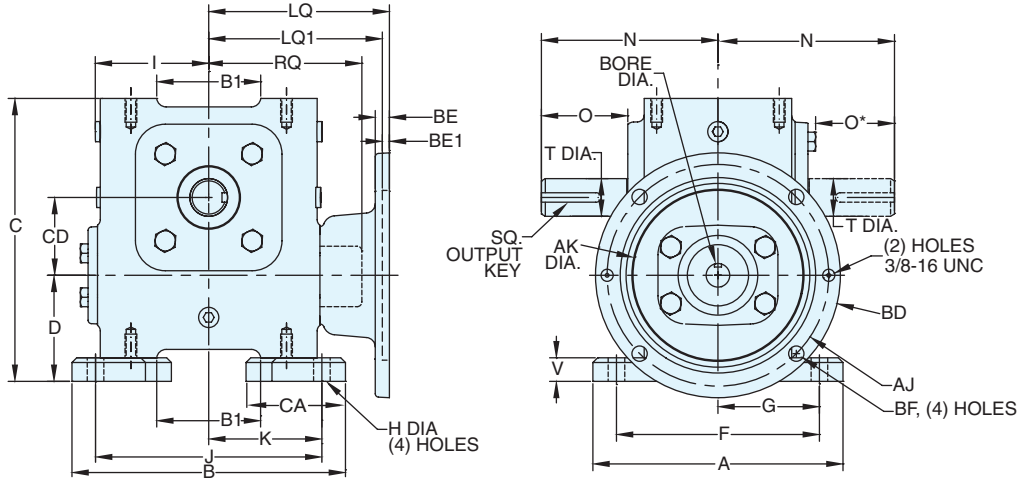
ELECTRA-GEAR®

EL SERIES DIMENSIONS

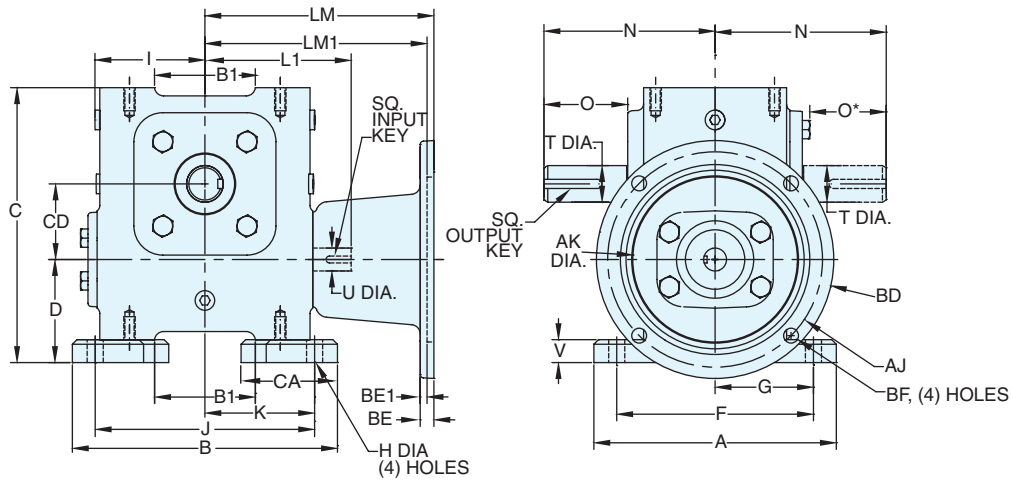
STYLES: UMQ, UM, U



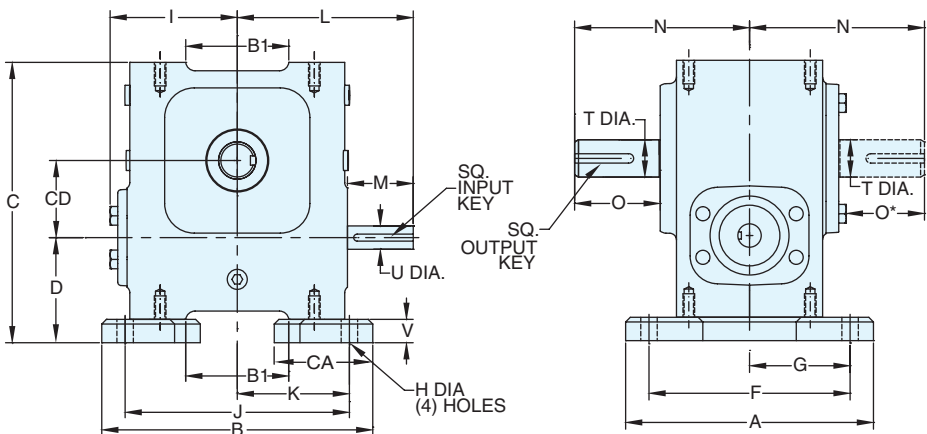
STYLE UMQ



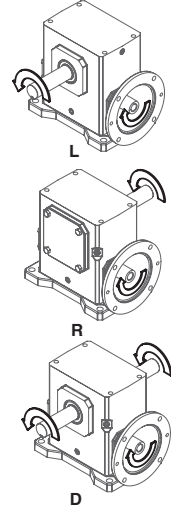
STYLE UM



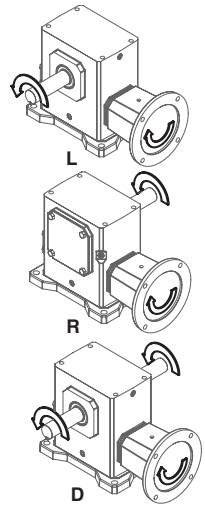
STYLE U



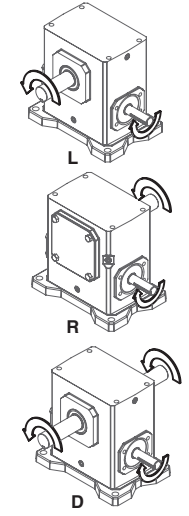
ASSEMBLIES



ASSEMBLIES



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE UMQ, UM, U (Inches)

Size	A	B	B1	C	CA	CD	D	F	G	H	I	J	K	L	M	N	O	O*	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key (Style U Only)	Input Key (Style UM only)	Output Key
EL813	4.06	5.13	--	5.19	1.56	1.33	2.13	3.31	1.66	0.34	2.40	4.38	2.19	3.82	1.87	4.00	2.16	1.96	0.53	0.625	0.500	1/8 x 1.00	1/8 x 1.00	3/16 x 1.38
EL818	5.19	6.06	2.48	6.42	2.15	1.75	2.37	4.38	2.19	0.38	3.03	5.25	2.63	4.35	1.78	4.39	2.05	1.85	0.56	0.750	0.625	3/16 x 1.38	3/16 x .500	3/16 x 1.38
EL821	6.63	7.25	2.76	7.51	2.66	2.06	2.82	5.38	2.69	0.44	3.40	6.00	3.00	4.71	1.76	4.68	2.29	2.09	0.63	1.000	0.625	3/16 x 1.38	3/16 x .500	1/4 x 1.44
EL824	6.38	7.69	--	7.63	2.59	2.38	2.81	4.88	2.44	0.47	3.61	6.19	3.09	5.51	2.45	5.14	2.66	2.46	0.75	1.125	0.750	3/16 x 1.63	3/16 x .500	1/4 x 1.62
EL826	6.63	8.13	4.21	8.69	2.81	2.63	2.81	5.38	2.69	0.50	4.17	6.88	3.44	6.07	2.45	5.63	2.73	2.53	0.69	1.250	0.750	3/16 x 1.63	3/16 x .500	1/4 x 1.62
EL830	9.00	9.88	4.50	9.69	3.69	3.00	3.19	7.50	3.75	0.56	4.81	8.38	4.19	6.56	2.31	6.62	3.60	3.37	0.75	1.500	0.875	3/16 x 1.63	3/16 x .500	3/8 x 2.25
EL832	9.13	10.88	4.53	11.25	3.69	3.25	4.00	7.63	3.82	0.56	5.00	9.38	4.69	6.75	2.31	6.62	3.60	3.37	0.75	1.625	0.875	3/16 x 1.63	3/16 x .500	3/8 x 2.25
EL842	10.00	10.50	5.71	12.94	3.38	4.25	4.19	8.00	4.00	0.81	6.15	8.50	4.25	9.57	3.47	8.12	4.50	4.22	1.25	1.750	1.250	1/4 x 2.50	1/4 x 2.50	3/8 x 3.00
EL852	10.75	12.13	7.82	13.75	2.50	5.25	4.25	8.75	4.38	0.81	7.55	9.75	4.88	10.88	3.38	9.06	4.78	4.50	1.50	2.000	1.250	1/4 x 3.00	1/4 x 3.00	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	5.89	--	3.64	--	4.42	--	3.59	--
EL821	6.26	--	4.00	--	4.79	--	4.06	--
EL824	6.48	7.30	4.29	4.29	4.77	4.77	4.09	4.09
EL826	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82
EL830	7.67	8.31	5.38	5.38	5.97	5.97	5.32	5.32
EL832	7.86	8.50	5.56	5.56	6.16	6.16	5.51	5.51
EL842	11.25	12.53	9.57	9.57	6.45	6.45	6.04	6.04
EL852	12.65	13.93	10.88	10.88	7.85	7.85	7.35	7.35

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- * Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR® product with an option to match the industry standard dimensions of GR Series.
- See page A52 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
NOT A STANDARD CATALOG OPTION	UMQ
	UM
	U

Convert Style U to motorized coupling input using kits shown on page F6.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

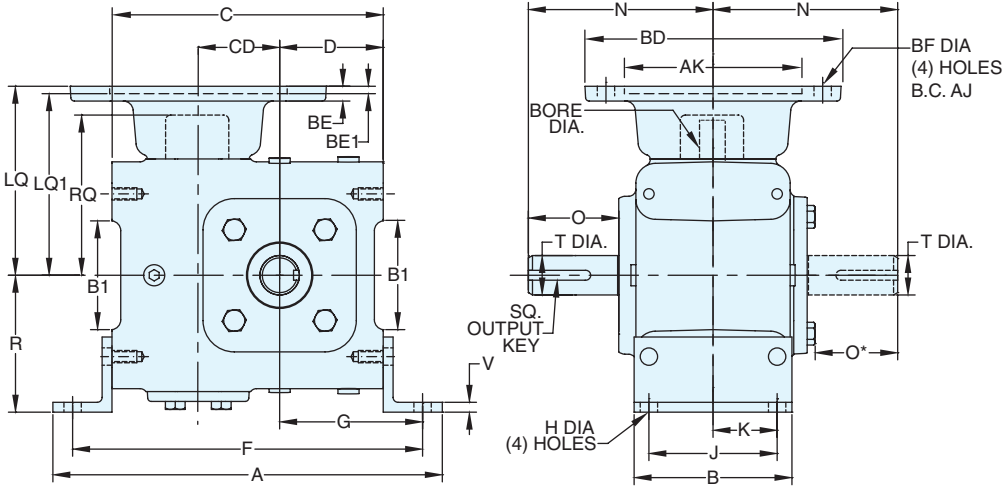
Accessories
Additional Capabilities

ELECTRA-GEAR®

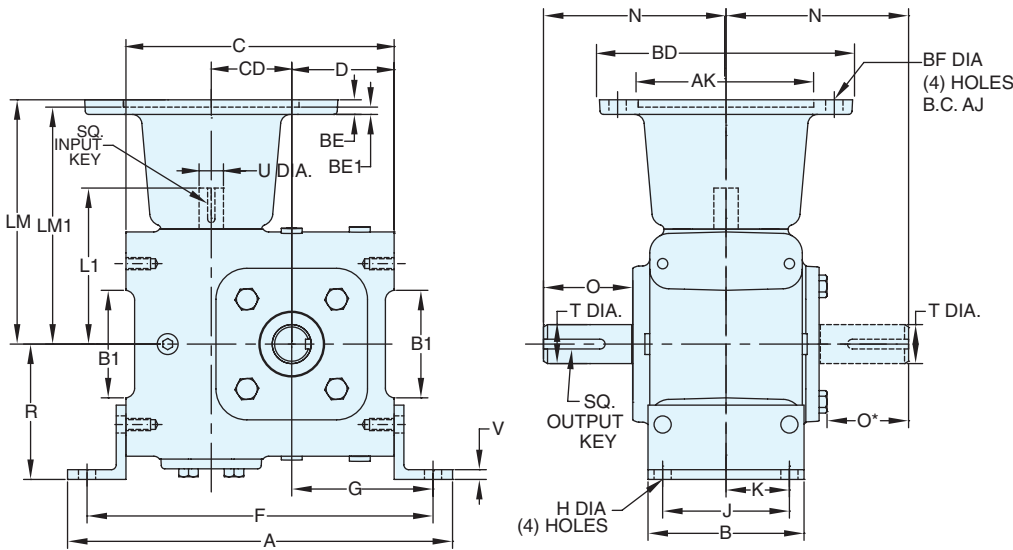
EL SERIES DIMENSIONS

STYLES: JMQ, JM, J

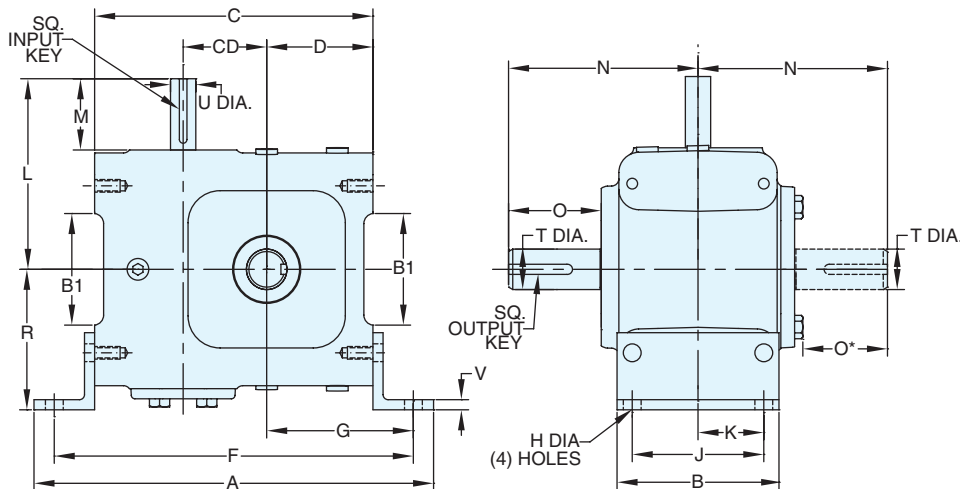
STYLE JMQ



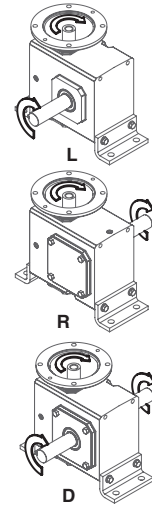
STYLE JM



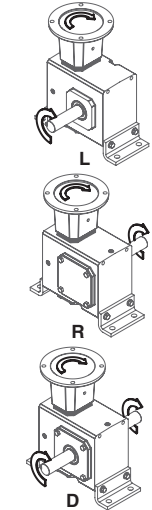
STYLE J



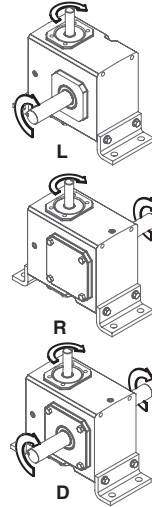
ASSEMBLIES



ASSEMBLIES



ASSEMBLIES



REVERSE ALL ARROWS
FOR OPPOSITE INPUT SHAFT
ROTATION. CONTACT FACTORY
FOR OTHER MOUNTINGS OR
ASSEMBLY POSITIONS.

ALUMINUM
EL SERIES

STYLE JMQ, JM, J DIMENSIONS (Inches)

Size	A	B	B1	C	CD	D	F	G	H	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key (Style J Only)	Input Key (Style JM only)	Output Key
EL813	7.16	2.91	--	4.66	1.33	1.72	6.41	2.60	0.34	2.00	1.00	3.82	1.87	4.00	2.16	1.96	2.94	0.19	0.625	0.500	1/8 x 1.00	1/8 x 1.00	3/16 x 1.38
EL818	8.88	3.56	2.48	5.86	1.75	2.31	7.88	3.32	0.38	2.94	1.47	4.35	1.78	4.39	2.05	1.85	2.97	0.38	0.750	0.625	3/16 x 1.38	3/16 x .500	3/16 x 1.38
EL821	987.00	4.00	2.76	6.88	2.06	2.63	8.87	3.62	0.44	3.25	1.63	4.71	1.76	4.68	2.29	2.09	3.47	0.25	1.000	0.625	3/16 x 1.38	3/16 x .500	1/4 x 1.44
EL824	10.31	4.00	--	6.94	2.38	2.50	9.19	3.63	0.47	2.88	1.44	5.51	2.45	5.14	2.66	2.46	4.06	0.38	1.125	0.750	3/16 x 1.63	3/16 x .500	1/4 x 1.62
EL826	12.00	4.38	4.21	8.00	2.63	3.25	10.50	4.50	0.50	3.38	1.69	6.07	2.45	5.63	2.73	2.53	4.03	0.31	1.250	0.750	3/16 x 1.63	3/16 x .500	1/4 x 1.62
EL830	12.94	5.13	4.50	8.94	3.00	3.50	11.44	4.75	0.56	4.13	2.06	6.56	2.31	6.62	3.60	3.37	4.81	0.80	1.500	0.875	3/16 x 1.63	3/16 x .500	3/8 x 2.25
EL832	14.50	5.13	4.53	10.50	3.25	4.00	13.00	5.25	0.56	4.13	2.06	6.75	2.31	6.62	3.60	3.37	5.25	0.38	1.625	0.875	3/16 x 1.63	3/16 x .500	3/8 x 2.25
EL842	17.50	5.13	5.71	11.69	4.25	4.50	14.50	5.91	0.81	3.75	1.88	9.57	3.47	8.12	4.50	4.22	5.63	0.50	1.750	1.250	1/4 x 2.50	1/4 x 2.50	3/8 x 3.00
EL852	20.25	6.50	7.82	12.25	5.25	4.25	16.75	6.50	0.81	5.25	2.63	10.88	3.38	9.06	4.78	4.50	7.63	0.50	2.000	1.250	1/4 x 3.00	1/4 x 3.00	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	5.89	--	3.64	--	4.42	--	3.59	--
EL821	6.26	--	4.00	--	4.79	--	4.06	--
EL824	6.48	7.30	4.29	4.29	4.77	4.77	4.09	4.09
EL826	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82
EL830	7.67	8.31	5.38	5.38	5.97	5.97	5.32	5.32
EL832	7.86	8.50	5.56	5.56	6.16	6.16	5.51	5.51
EL842	11.25	12.53	9.57	9.57	6.45	6.45	6.04	6.04
EL852	12.65	13.93	10.88	10.88	7.85	7.85	7.35	7.35

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- * Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR® product with an option to match the industry standard dimensions of GR Series.
- See page A52 for GR Series dimensions.

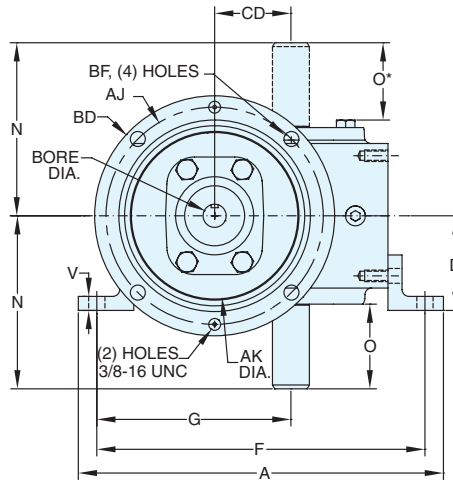
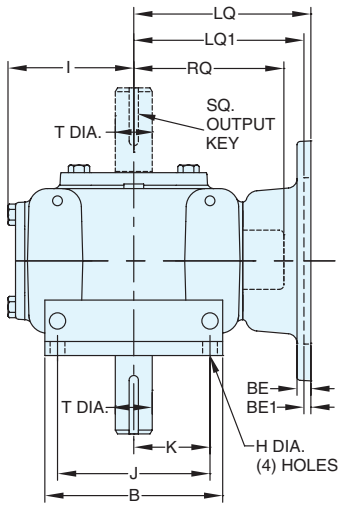
ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
JBSC or JBLSC	JMQ
JBC or JBLC	JM
JB or JBL	J
JB + "KV" Kit	J + "KV" Kit

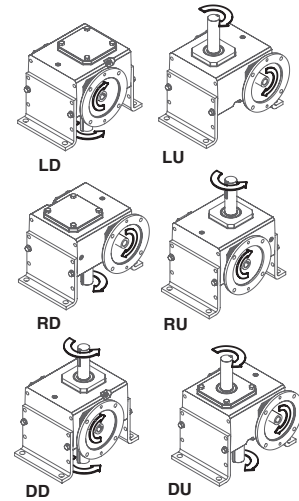
Convert Style J to motorized coupling input using kits shown on page F6.

EL SERIES DIMENSIONS

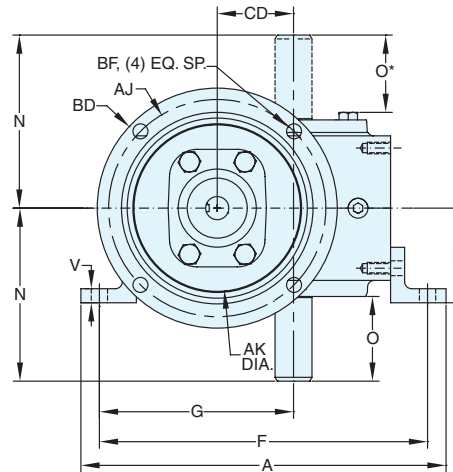
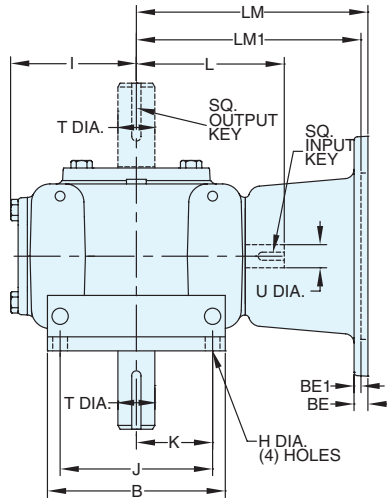
STYLES: VLMQ, VLM, VL
STYLE VLMQ



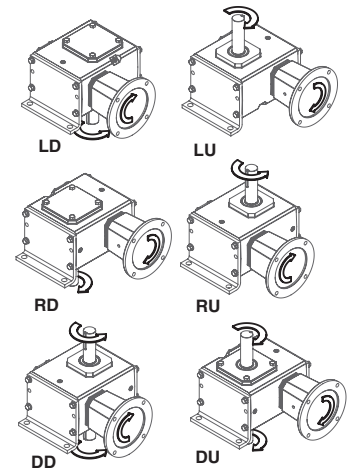
ASSEMBLIES



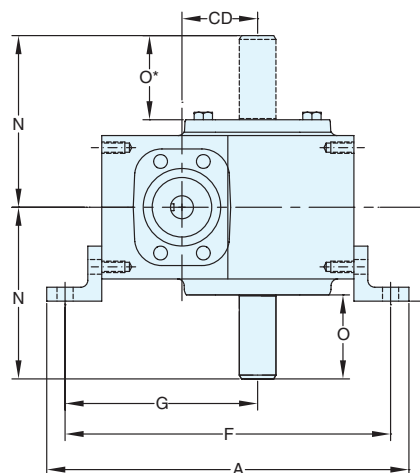
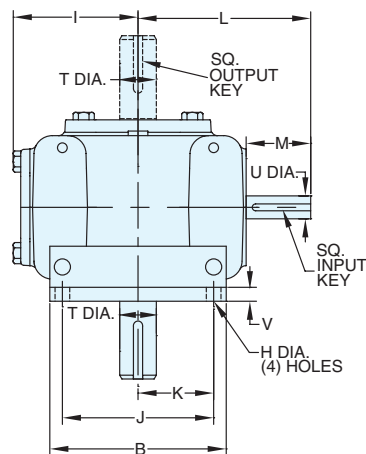
STYLE VLM



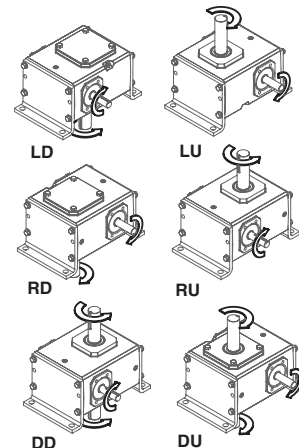
ASSEMBLIES



STYLE VL



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

STYLE VLMQ, VLM, VL DIMENSIONS (Inches)

Size	A	B	CD	D	F	G	H	I	J	K	L	M	N	O	O*	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key (Style VL Only)	Input Key (Style VLM only)	Output Key
EL813	7.16	4.13	1.33	2.31	6.16	3.69	0.34	2.40	3.25	1.63	3.82	1.87	4.00	2.16	1.96	0.19	0.625	0.500	1/8 x 1.00	1/8 x 1.00	3/16 x 1.38
EL818	8.88	4.25	1.75	2.28	7.88	4.57	0.38	3.03	3.69	1.84	4.35	1.78	4.39	2.05	1.85	0.38	0.750	0.625	3/16 x 1.38	3/16 x .500	3/16 x 1.38
EL821	9.87	4.81	2.06	2.56	8.87	5.25	0.44	3.40	4.13	2.06	4.71	1.76	4.68	2.29	2.09	0.38	1.000	0.625	3/16 x 1.38	3/16 x .500	1/4 x 1.44
EL824	10.88	5.88	2.38	2.75	9.38	5.66	0.47	3.61	5.00	2.50	5.51	2.45	5.14	2.66	2.46	0.31	1.125	0.750	3/16 x 1.63	3/16 x .500	1/4 x 1.62
EL826	12.00	5.88	2.63	2.81	10.50	6.00	0.50	4.17	5.00	2.50	6.07	2.45	5.63	2.73	2.53	0.31	1.250	0.750	3/16 x 1.63	3/16 x .500	1/4 x 1.62
EL830	12.94	6.75	3.00	3.75	11.44	6.69	0.56	4.81	5.75	2.88	6.56	2.31	6.62	3.60	3.37	0.25	1.500	0.875	3/16 x 1.63	3/16 x .500	3/8 x 2.25
EL832	14.50	7.63	3.25	3.75	13.00	7.75	0.56	5.00	6.63	3.31	6.75	2.31	6.62	3.60	3.37	0.38	1.625	0.875	3/16 x 1.63	3/16 x .500	3/8 x 2.25
EL842	17.50	8.38	4.25	4.59	14.69	8.69	0.81	6.15	7.00	3.50	9.57	3.47	8.12	4.50	4.22	0.50	1.750	1.250	1/4 x 2.50	1/4 x 2.50	3/8 x 3.00
EL852	19.25	11.50	5.25	5.88	16.88	10.35	0.81	7.55	9.63	4.82	10.88	3.38	9.06	4.78	4.50	0.50	2.000	1.250	1/4 x 3.00	1/4 x 3.00	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	5.89	--	3.64	--	4.42	--	3.59	--
EL821	6.26	--	4.00	--	4.79	--	4.06	--
EL824	6.48	7.30	4.29	4.29	4.77	4.77	4.09	4.09
EL826	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82
EL830	7.67	8.31	5.38	5.38	5.97	5.97	5.32	5.32
EL832	7.86	8.50	5.56	5.56	6.16	6.16	5.51	5.51
EL842	11.25	12.53	9.57	9.57	6.45	6.45	6.04	6.04
EL852	12.65	13.93	10.88	10.88	7.85	7.85	7.35	7.35

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- ※ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR® product with an option to match the industry standard dimensions of GR Series.
- See page A52 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
BSC or BLSC	VLMQ
BC or BLC	VLM
B or BL	VL
B + "KV" Kit	VL + "KV" Kit

Convert Style VL to motorized coupling input using kits shown on page F6.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

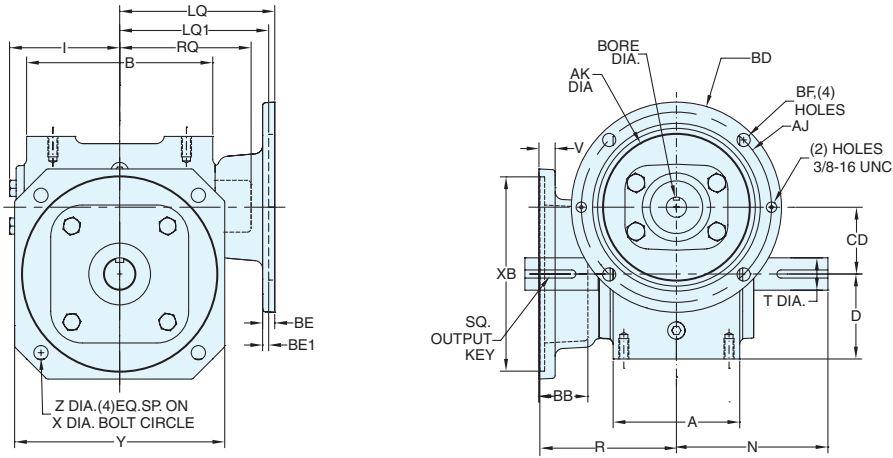
ELECTRA-GEAR®

EL SERIES DIMENSIONS

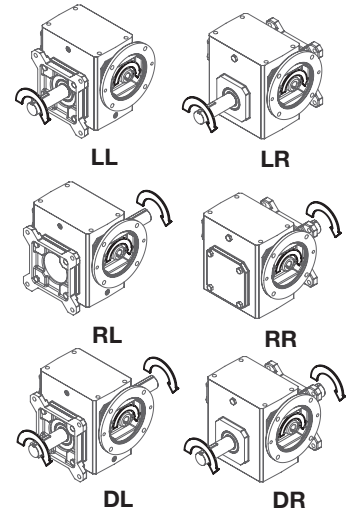
STYLES: FRMQ, FRM, FR



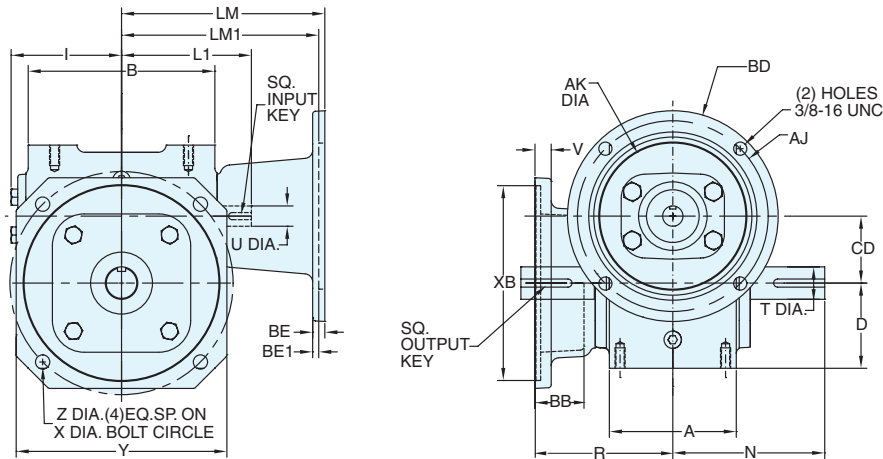
STYLE FRMQ



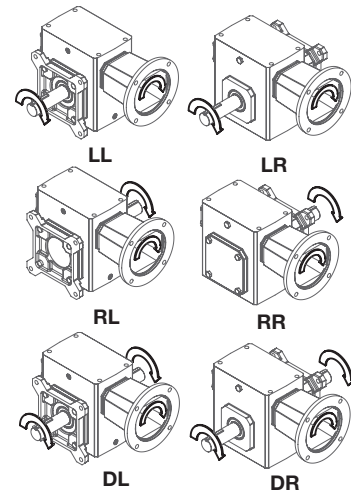
ASSEMBLIES



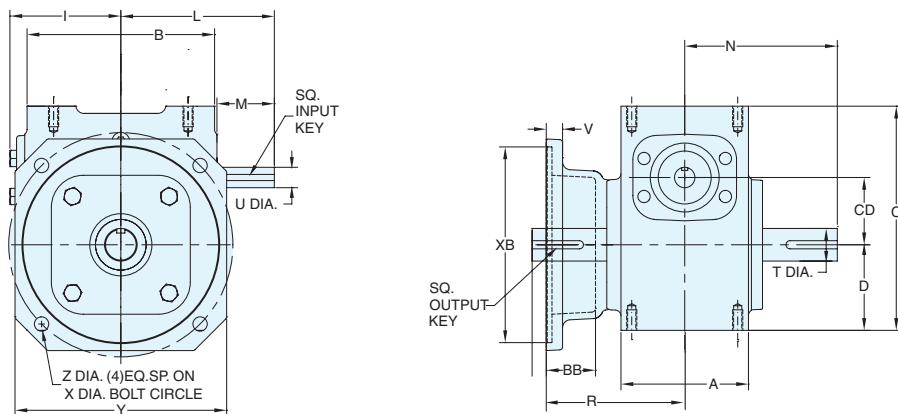
STYLE FRM



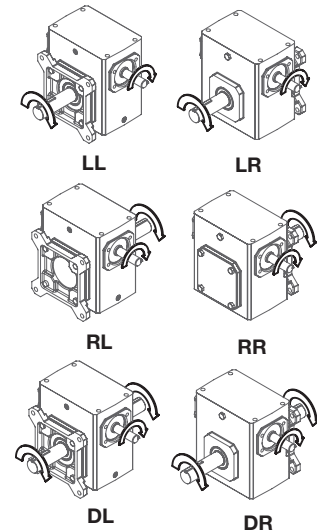
ASSEMBLIES



STYLE FR



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE FRMQ, FRM, FR DIMENSIONS (Inches)

Size	A	B	BB	C	CD	D	I	L	M	N	R	V	X	XB	Y	Z	T +0.000 -0.0015	U +0.000 -0.0015	Input Key (Style F Only)	Input Key (Style FM only)	Output Key
EL818	3.50	4.83	1.27	5.86	1.75	2.31	3.03	4.35	1.78	4.39	3.53	0.38	3.13	-	4.00	0.34	0.750	0.625	3/16 x1.38	3/16 x .500	3/16 x 1.38
EL821	3.91	5.75	1.51	6.88	2.06	2.63	3.40	4.71	1.76	4.68	4.25	0.50	6.88	6.00	6.49	0.44	1.000	0.625	3/16 x1.38	3/16 x .500	1/4 x 1.44
EL824	4.06	5.86	1.35	6.94	2.38	2.50	3.61	5.51	2.45	5.14	4.15	0.63	7.75	6.50	6.99	0.50	1.125	0.750	3/16 x1.63	3/16 x .500	1/4 x 1.62
EL826	4.84	7.17	1.35	8.00	2.63	3.25	4.17	6.07	2.45	5.63	4.56	0.63	7.75	6.50	6.99	0.50	1.250	0.750	3/16 x1.63	3/16 x .500	1/4 x 1.62
EL830	5.25	8.11	2.36	8.94	3.00	3.50	4.81	6.56	2.31	6.62	5.75	0.81	9.125-9.500	8.25	8.74	0.56	1.500	0.875	3/16 x1.63	3/16 x .500	3/8 x 2.25
EL832	5.25	8.11	2.54	10.50	3.25	4.00	5.00	6.75	2.31	6.62	5.94	0.81	9.125-9.500	8.25	8.74	0.56	1.625	0.875	3/16 x1.63	3/16 x .500	3/8 x 2.25
EL842	6.13	9.63	2.06	11.69	4.25	4.50	6.15	9.57	3.47	8.12	6.06	0.75	10.75	9.75	11.00	0.69	1.750	1.250	1/4 x 2.50	1/4 x 2.50	3/8 x 3.00
EL852	7.19	11.50	1.18	12.25	5.25	4.25	7.55	10.88	3.38	9.06	5.75	0.69	12.75	11.50	14.24	0.81	2.000	1.250	1/4 x 3.00	1/4 x 3.00	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC
EL818	5.89	--	3.64	--	4.42	--	3.59	--
EL821	6.26	--	4.00	--	4.79	--	4.06	--
EL824	6.48	7.30	4.29	4.29	4.77	4.77	4.09	4.09
EL826	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82
EL830	7.67	8.31	5.38	5.38	5.97	5.97	5.32	5.32
EL832	7.86	8.50	5.56	5.56	6.16	6.16	5.51	5.51
EL842	11.25	12.53	9.57	9.57	6.45	6.45	6.04	6.04
EL852	12.65	13.93	10.88	10.88	7.85	7.85	7.35	7.35

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ※ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR® product with an option to match the industry standard dimensions of GR Series.
- See page A52 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
NOT A STANDARD CATALOG OPTION	UMQ
	UM
	U

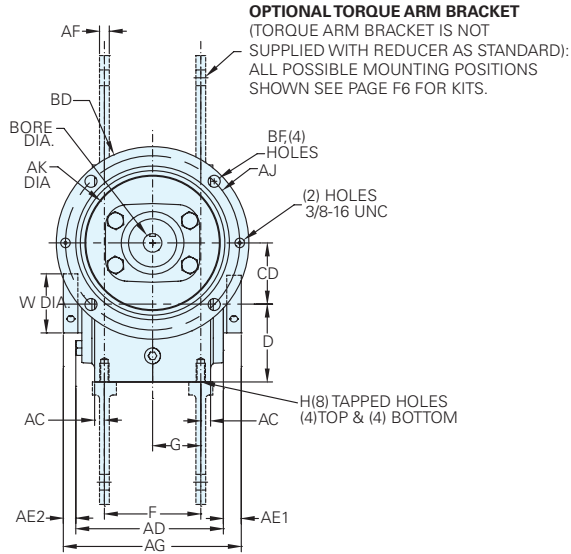
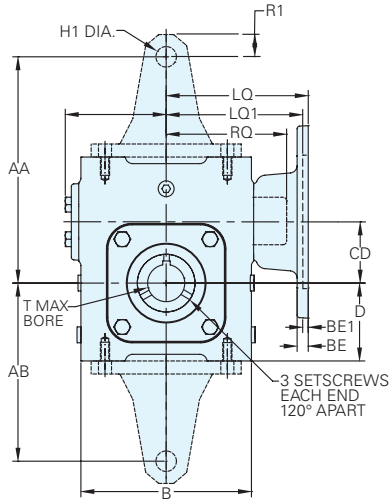
NOTE: Not a direct replacement to original ring base mounts. Styles R, RC, RSC. Convert Style FR to motorized coupling input using kits shown on page F6.

ELECTRA-GEAR®

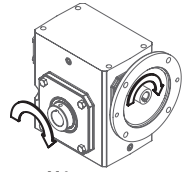
EL SERIES
DIMENSIONS

STYLES: HMQ, HM, H

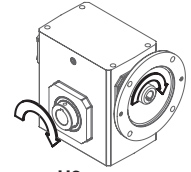
STYLE HMQ



ASSEMBLIES



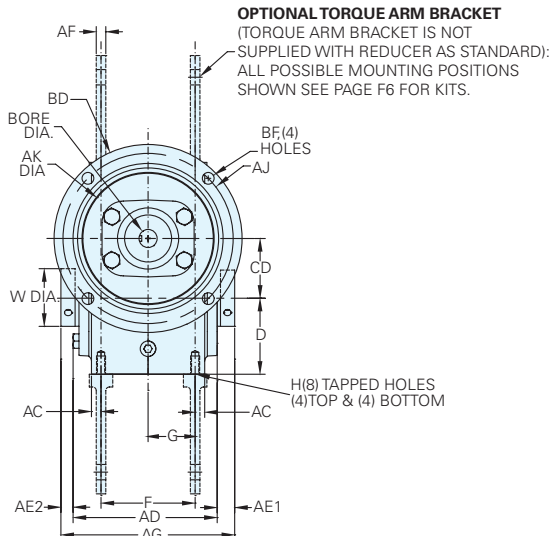
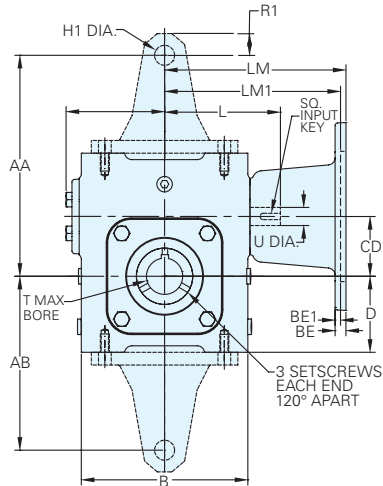
H1



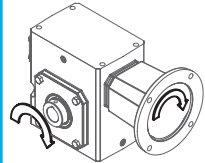
H2

H1 SUPPLIED AS STANDARD UNLESS SPECIFIED, ACCESSORY KITS CAN MOUNT TO EITHER OUTPUT SIDE OF REDUCER.

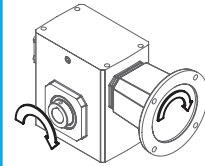
STYLE HM



ASSEMBLIES



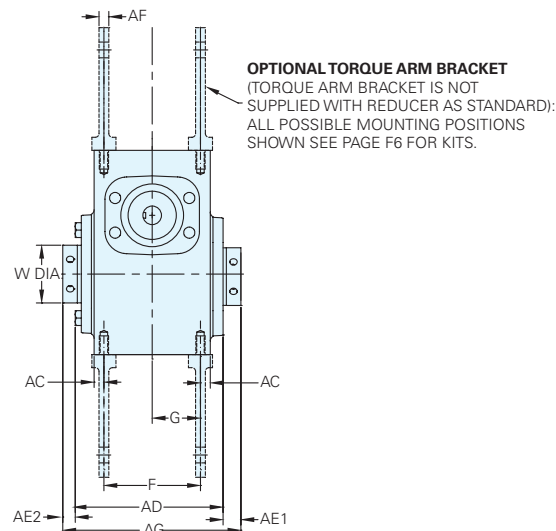
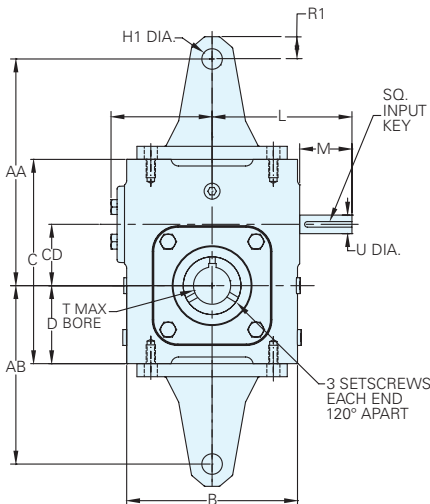
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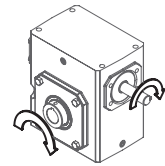
H2

H1 SUPPLIED AS STANDARD UNLESS SPECIFIED, ACCESSORY KITS CAN MOUNT TO EITHER OUTPUT SIDE OF REDUCER.

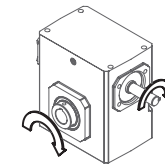
STYLE H



ASSEMBLIES



H1



H2

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 SUPPLIED AS STANDARD UNLESS SPECIFIED, ACCESSORY KITS CAN MOUNT TO EITHER OUTPUT SIDE OF REDUCER.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

STYLE HMQ, HM, H DIMENSIONS (Inches)

Size	AA	AB	AC	AD	AE1	AE2	AF	AG	B	C	CD	D	F	G	H1	I	L	M	R1	V	T MAX +0.000 -0.0025	U +0.000 -0.0015	Input Key (Style H only)*	Input Key (Style HM only)*	Output Key
EL813	--	--	0.41	3.89	0.58	0.26	--	4.75	3.80	4.66	1.33	1.72	2.00	1.00	--	2.40	3.82	1.87	-	1.00	0.625	0.500	1/8 x 1.00	--	3/16 x 1.50
EL818	6.25	5.00	0.28	4.72	0.49	0.29	0.69	5.50	4.83	5.86	1.75	2.31	2.95	1.48	0.53	3.03	4.35	1.78	0.66	1.44	1.000	0.625	3/16 x 1.38	3/16 x .500	1/4 x 3.00
EL821	7.63	6.00	0.33	4.98	0.60	0.42	0.69	6.00	5.75	6.88	2.06	2.63	3.25	1.63	0.53	3.40	4.71	1.76	0.75	1.94	1.500*	0.625	3/16 X 1.38	3/16 x .500	3/8 x 3.00
EL824	7.81	5.87	0.59	5.17	1.02	0.81	0.69	6.00	5.86	6.94	2.38	2.50	2.88	1.44	0.53	3.61	5.51	2.45	0.75	1.94	1.500*	0.750	3/16 X 1.63	3/16 x .500	3/8 x 3.00
EL826	8.50	7.00	0.73	6.00	0.60	0.40	0.69	7.00	7.17	8.00	2.63	3.25	3.37	1.69	0.53	4.17	6.07	2.45	0.75	1.94	1.500*	0.750	3/16 x 1.63	3/16 x .500	3/8 x 3.00
EL830	9.94	8.00	0.56	6.52	0.60	0.38	0.69	7.50	8.11	8.94	3.00	3.50	4.13	2.07	0.53	4.81	6.56	2.31	0.81	2.75	2.188	0.875	3/16 x 1.63	3/16 x .500	1/2 x 3.00
EL832	12.50	10.00	0.56	6.52	0.60	0.38	0.69	7.50	8.11	10.50	3.25	4.00	4.13	2.07	0.53	5.00	6.75	2.31	0.88	2.75	2.188	0.875	3/16 x 1.63	3/16 x .500	1/2 x 3.00
EL842	14.69	12.00	1.19	7.52	0.63	0.35	0.69	8.50	9.63	11.69	4.25	4.50	3.75	1.88	0.53	6.15	9.57	3.47	0.88	2.75	2.188	1.250	1/4 x 2.50	1/4 x 2.50	3/8 x 3.00
EL852	17.75	14.00	0.97	8.84	0.97	0.69	0.81	10.50	11.50	12.25	5.25	4.25	5.25	2.63	0.66	7.55	10.88	3.38	1.13	4.26	3.438	1.250	1/4 X 3.00	1/4 x 3.00	7/8 x 4.00

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	5.89	--	3.64	--	4.42	--	3.59	--
EL821	6.26	--	4.00	--	4.79	--	4.06	--
EL824	6.48	7.30	4.29	4.29	4.77	4.77	4.09	4.09
EL826	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82
EL830	7.67	8.31	5.38	5.38	5.97	5.97	5.32	5.32
EL832	7.86	8.50	5.56	5.56	6.16	6.16	5.51	5.51
EL842	11.25	12.53	9.57	9.57	6.45	6.45	6.04	6.04
EL852	12.65	13.93	10.88	10.88	7.85	7.85	7.35	7.35

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- Max bore dimensions shown. For additional bores available, refer to page A20.
- ◆ Keyway width by depth
- * Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

Note: Torque arm bracket available separately. Refer to page F6 for kits. If a special bracket is required, refer to Style BMQ dimensions for mounting pad dimensions on top/bottom of reducer.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR® product with an option to match the industry standard dimensions of GR Series.
- See page A52 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
MHSC	HMQ
MHC	HM
MH	H
MH + "KV" Kit	H + "KV" Kit

Convert Style H to motorized coupling input using kits shown on page F6.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

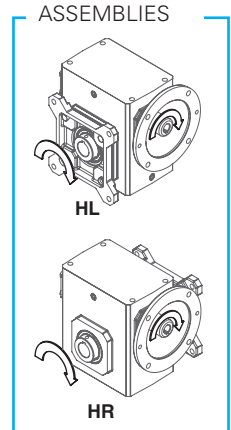
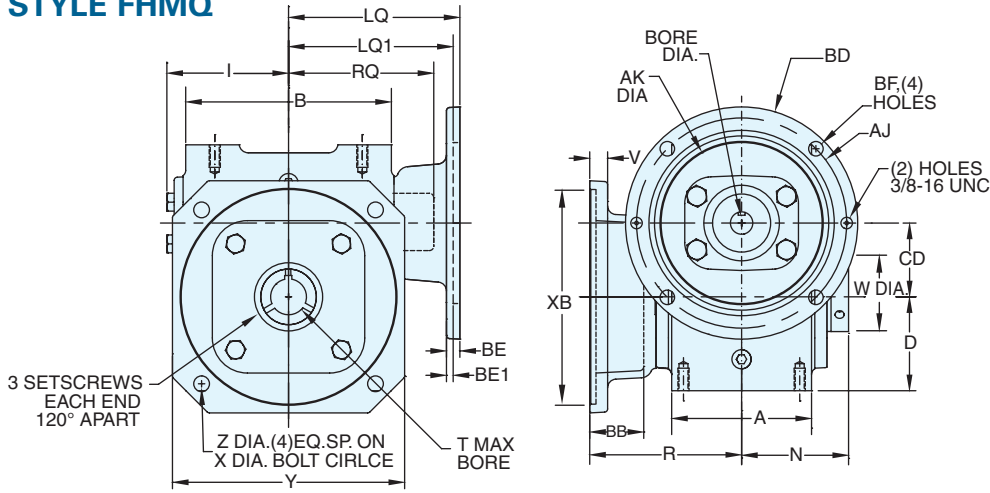
ELECTRA-GEAR®

EL SERIES DIMENSIONS

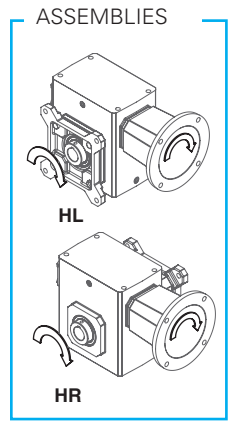
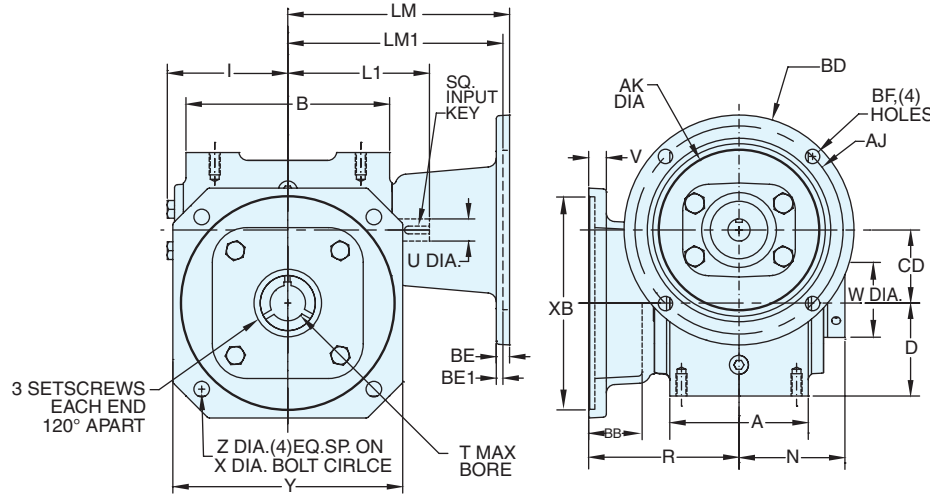
STYLES: FHMQ, FHM, FH



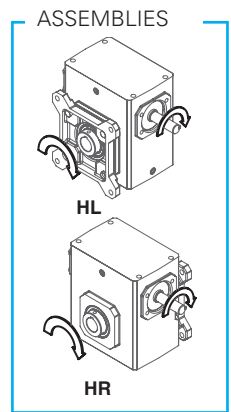
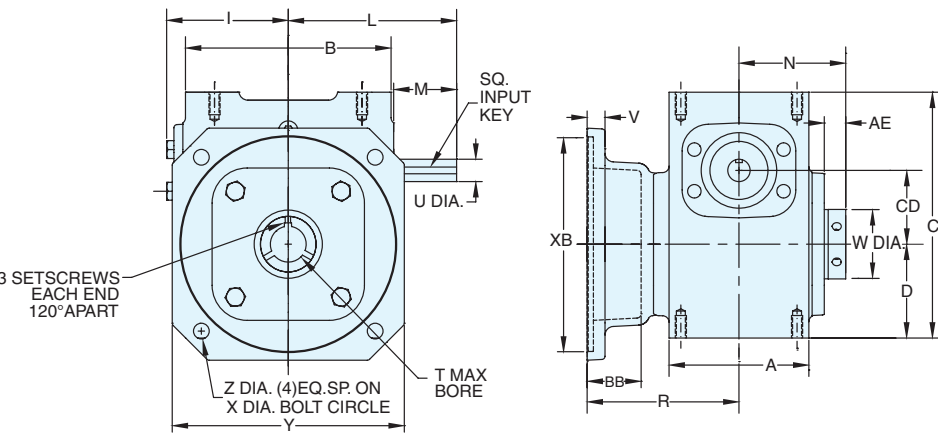
STYLE FHMQ



STYLE FHM



STYLE FH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE FHM, FHM, FH DIMENSIONS (Inches)

Size	A	AE	B	BB	C	CD	D	I	L	M	N	R	V	X	XB	Y	Z	T MAX +0.000 -0.0025	U +0.000 -0.0015	Input Key (Style FH only)※	Input Key (Style FHM only)※	Output Key
EL818	3.50	0.49	4.83	1.27	5.86	1.75	2.31	3.03	4.35	1.78	2.75	3.53	0.38	3.13	-	4.00	0.34	1.000	0.625	3/16 x 1.38	3/16 x .500	1/4 x 3.00
EL821	3.91	0.60	5.75	1.51	6.88	2.06	2.63	3.40	4.71	1.76	2.99	4.25	0.50	6.88	6.00	6.49	0.44	1.500*	0.625	3/16 X 1.38	3/16 x .500	3/8 x 3.00
EL824	4.06	1.05	5.86	1.35	6.94	2.38	2.50	3.61	5.51	2.45	3.51	4.15	0.63	7.38	6.50	6.99	0.50	1.500*	0.750	3/16 X 1.63	3/16 x .500	3/8 x 3.00
EL826	4.84	0.60	7.17	1.35	8.00	2.63	3.25	4.17	6.07	2.45	3.19	4.56	0.63	7.38	6.50	6.99	0.50	1.500*	0.750	3/16 x 1.63	3/16 x .500	3/8 x 3.00
EL830	5.25	0.60	8.11	2.36	8.94	3.00	3.50	4.81	6.56	2.31	3.75	5.75	0.81	9.125-9.500	8.25	8.74	0.56	2.188	0.875	3/16 x 1.63	3/16 x .500	1/2 x 3.00
EL832	5.25	0.60	8.11	2.54	10.50	3.25	4.00	5.00	6.75	2.31	3.75	5.94	0.81	10.75	9.75	10.24	0.56	2.188	0.875	3/16 x 1.63	3/16 x .500	1/2 x 3.00
EL842	6.13	0.63	9.63	2.06	11.69	4.25	4.50	6.15	9.57	3.47	4.25	6.06	0.75	10.75	10.25	11.00	0.69	2.188	1.250	1/4 x 2.50	1/4 x 2.50	3/8 x 3.00
EL852	7.19	0.97	11.50	1.18	12.25	5.25	4.25	7.55	10.88	3.38	5.25	5.75	0.69	12.75	11.50	14.24	0.81	3.438	1.250	1/4 X 3.00	1/4 x 3.00	7/8 x 4.00

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC	56C/ 140TC	180TC/ 210TC
EL818	5.89	--	3.64	--	4.42	--	3.59	--
EL821	6.26	--	4.00	--	4.79	--	4.06	--
EL824	6.48	7.30	4.29	4.29	4.77	4.77	4.09	4.09
EL826	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82
EL830	7.67	8.31	5.38	5.38	5.97	5.97	5.32	5.32
EL832	7.86	8.50	5.56	5.56	6.16	6.16	5.51	5.51
EL842	11.25	12.53	9.57	9.57	6.45	6.45	6.04	6.04
EL852	12.65	13.93	10.88	10.88	7.85	7.85	7.35	7.35

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- Max bore dimensions shown. For additional bores available, refer to page A20.
- ◆ Keyway width by depth
- ※ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon. Failure to take these precautions could result in death or serious injury.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR® product with an option to match the industry standard dimensions of GR Series.
- See page A52 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
RHSC	FHM
RHC	FHM
RH	FH
RH + "KV" Kit	FH + "KV" Kit

Convert Style FH to motorized coupling input using kits shown on page F6.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

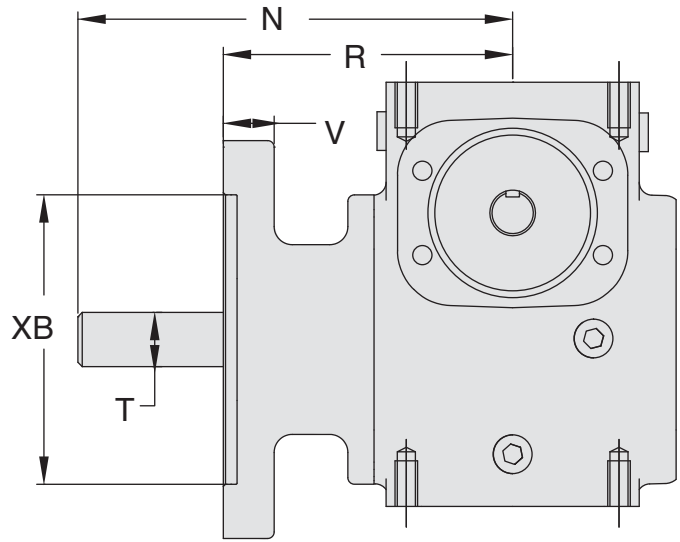
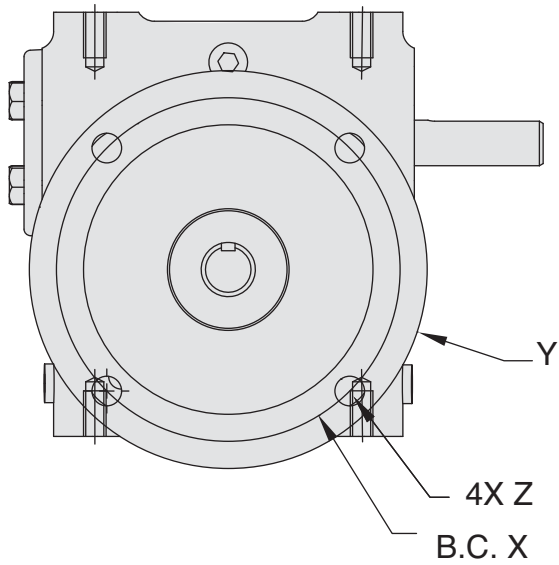
Accessories
Additional Capabilities

ELECTRA-GEAR®

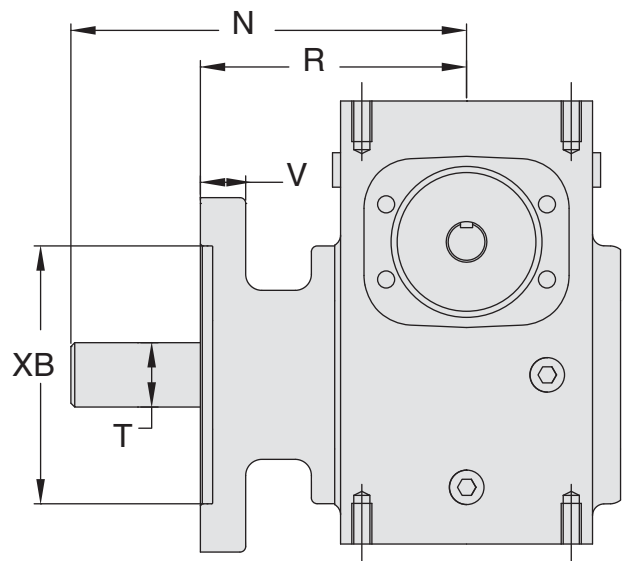
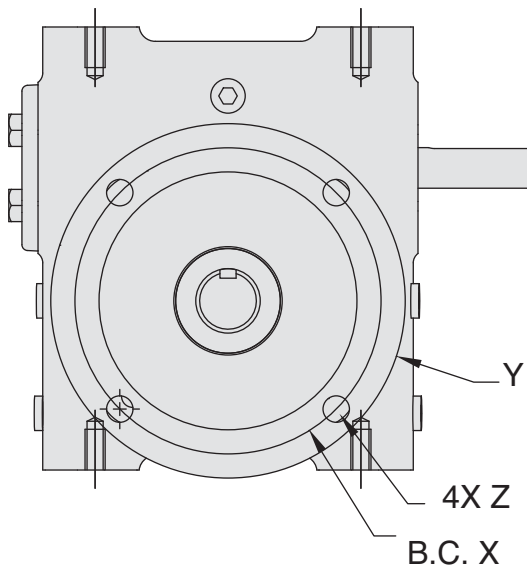


FL (Ring Base) Output Flange

SIZE 818



SIZE 821





ELECTRA-GEAR®

FL (Ring Base) Output Flange

FL DIMENSIONS (inches)

Size	N	R	T +0.000 -0.0015	V	X	XB	Y	Z
818	6.01	400	0.750	0.703	4.75	4.002	5.50	0.41
821	6.14	4.13	1.000	0.703	4.75	4.002	5.50	0.41

FL Flange Kit must be assembled at Factory. Contact Factory to order. Must designate LL (left) or RR (right).

ELECTRA-GEAR® REDUCER INTERCHANGE GUIDE

Original Style	New Style
RL	FL
RLC	FLM
RLSC	FLMQ

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

MODEL NUMBER SYSTEM

Double Reduction Worm - Worm



800 Series Gear Reducer Model Number Nomenclature

All new stock and custom 800 Series Grove Gear and Electra-Gear worm reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

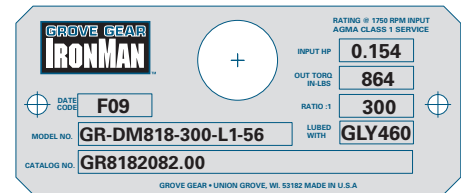
NOTE: All reducers also have a catalog number—for example EL8130001 and GR8130001. Reducers and renewal parts should be ordered by catalog number. If a stock reducer has been Factory modified by the addition of an optional accessory, the modification number T818EL, for example, is stamped in the catalog number field of the nameplate. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 3000 and higher (for example, GR8133000 and NH8133000) are WASHGUARD® reducers for washdown service.

Catalog numbers 5000 (for example, GR8135000 and EL8135000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered by catalog number.

TYPICAL NAMEPLATE

(Grove Gear shown)



Series Code	Style	Size	Ratio	Output Shaft Orientation	Mounting Assembly	Motor Flange	Output Bore Code																																																																					
<p>GR - Grove Gear IRONMAN Cast Iron Reducers</p> <p>NH - Grove Gear IRONMAN Narrow Housing Cast Iron Reducers</p> <p>EL - Electra-Gear Aluminum Reducers</p> <p>GRG - Grove Gear Flexaline Interchange (Sizes 821, 826, 832)</p> <p>GRL - Leeson IRONMAN Interchange (Sizes 821, 826, 832)</p> <p>SS - Grove Gear Washguard Premium All-Stainless Reducer</p>	<p>SOLID OUTPUT SHAFT</p> <p>DMQ – Motorized, Quill Input</p> <p>DM – Motorized, Flexible Coupling Input</p> <p>D – Non-Flanged</p>	<p>See Selection Tables on pages B11 - B15, For all available ratios</p>	<p>See Selection Tables on pages B11 - B15, For all available ratios</p>	<p>L – Left-hand Output Shaft*</p> <p>R – Right-hand Output Shaft*</p> <p>D – Double Output Shaft</p> <p>H – Hollow Output Shaft</p> <p>* Viewed from drive end of reducer.</p>			<p>Hollow Shaft Only</p> <p>See page B19.</p>																																																																					
	<p>HOLLOW OUTPUT SHAFT</p> <p>DHMQ – Motorized, Quill Input</p> <p>DHM – Motorized, Flexible Coupling Input</p> <p>DH – Non-Flanged</p>			<p>800 SERIES CENTER DISTANCES</p> <table border="1"> <thead> <tr> <th>Size</th> <th>Center Distance (Inches)</th> </tr> </thead> <tbody> <tr><td>813</td><td>1.33</td></tr> <tr><td>815</td><td>1.54</td></tr> <tr><td>818</td><td>1.75</td></tr> <tr><td>821</td><td>2.06</td></tr> <tr><td>824</td><td>2.38</td></tr> <tr><td>826</td><td>2.62</td></tr> <tr><td>830</td><td>3.00</td></tr> <tr><td>832</td><td>3.25</td></tr> <tr><td>842</td><td>4.25</td></tr> <tr><td>852</td><td>5.25</td></tr> <tr><td>860</td><td>6.00</td></tr> <tr><td>870*</td><td>7.00</td></tr> <tr><td>880*</td><td>8.00</td></tr> <tr><td>8100*</td><td>10.00</td></tr> </tbody> </table> <p>* GR series only</p>				Size	Center Distance (Inches)	813	1.33	815	1.54	818	1.75	821	2.06	824	2.38	826	2.62	830	3.00	832	3.25	842	4.25	852	5.25	860	6.00	870*	7.00	880*	8.00	8100*	10.00	<table border="1"> <thead> <tr> <th>Input Code</th> <th>Dual Input</th> <th>For Input Type</th> </tr> </thead> <tbody> <tr><td>blank</td><td>A</td><td>non-motorized</td></tr> <tr><td>48</td><td>48A</td><td>48CZ</td></tr> <tr><td>56</td><td>56A</td><td>56C</td></tr> <tr><td>140</td><td>140A</td><td>143-5TC</td></tr> <tr><td>180</td><td>180A</td><td>182-4TC</td></tr> <tr><td>210</td><td>210A</td><td>213-5TC</td></tr> <tr><td>250</td><td>250A</td><td>254-6TC</td></tr> <tr><td>63</td><td rowspan="5">Contact Factory</td><td>D63D B5</td></tr> <tr><td>71</td><td>D71D B5</td></tr> <tr><td>80</td><td>D80D B5</td></tr> <tr><td>90</td><td>D90D B5</td></tr> <tr><td>110</td><td>D100LD/D112MD B5</td></tr> <tr><td>132</td><td></td><td>D132D</td></tr> </tbody> </table>	Input Code	Dual Input	For Input Type	blank	A	non-motorized	48	48A	48CZ	56	56A	56C	140	140A	143-5TC	180	180A	182-4TC	210	210A	213-5TC	250	250A	254-6TC	63	Contact Factory	D63D B5	71	D71D B5	80	D80D B5	90	D90D B5	110	D100LD/D112MD B5	132		D132D
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132		D132D																																																																										

Sample Model Number

Solid Output Shaft - GR Series

Cast iron, double reduction, 2.38" reducer with 56C motorized quill input, left-hand output shaft, 300:1 ratio.

GR	- DMQ	824	- 300	- L1	- 56
Series	Style	Size	Ratio	Shaft Orientation	Input Type

Hollow Output Shaft - EL Series

Aluminum housing, double reduction, 1.75" reducer with 56C motorized quill input, 1.00" hollow output bore, 100:1 ratio.

EL	- DHMQ	818	- 100	- H1	- 56	- 16
Series	Style	Size	Ratio	Shaft Orientation	Input Type	Output Bore Code



INTERCHANGE GUIDE

DOUBLE REDUCTION



CAST IRON
GR SERIES

CAST IRON
NH SERIES

ALUMINUM
EL SERIES

Reducer Style

Replaces Original **GROVE GEAR** OE Series Reducer Style

Replaces Original **ELECTRA-GEAR** Reducer Style

D	DU	D_M
DM & DMQ	DUFC & DUF	D_MC & D_MSC
DT & DU	DZ & DUB	D_A
DTM & DTMQ	DZFC & DZF	D_AC & D_ASC
DUM & DUMQ	DUBFC & DUBF	New
DJ	DJ	D_JB
DJM & DJMQ	DJFC & DJF	D_JBC & D_JBSC
DF	DK & DV	N/A
DFM & DFMQ	DKFC & DKF / DVFC & DVF	N/A
DFE	DE	N/A
DFEM & DFEMQ	DEFC & DEF	N/A
DH	HWY	D_MH
DHM & DHMQ	HWYFC & HWYF	D_MHC & D_MHSC
DFH	DM	N/A
DFHM	DMFC	N/A
DFHMQ	DMF	N/A
DX	HWU	H_M
DXM	HWUFC	H_MC
DXMQ	HWUF	NEW
DXT & DXU	HWZ	H_A
DXTM	HWZFC	H_AC
DXTMQ	HWZF	NEW
DXUM	HWUBFC	H_AC
DXUMQ	HWUBF	NEW
DXJ	N/A	H_JB
DXJM	N/A	H_JBC
DXJMQ	N/A	NEW
DXVL	N/A	H_B
DXVLM	N/A	H_BC
DXVLMQ	N/A	NEW
DXFE	HWE	N/A
DXFEM & DXFEMQ	HWEFC & HWEF	N/A
DXH	HWY	H_MH
DXHM & DXHMQ	HWYFC & HWYF	H_MHC & H_MHSC
DFL	N/A	D_RL
DFLM & DFLMQ	N/A	D_RLC & D_RLSC
DFR	N/A	New
DFRM & DFRMQ	N/A	New
DVL & DVH	DSL & DSH	D_B
DVLM & DVLMQ	DSLFC & DSLF	D_BC & D_BSC
DVHM & DVHMQ	DSHFC & DSHF	N/A
DXFR	N/A	New
DXFRM	N/A	New
DXFRMQ	N/A	New
DXFL	N/A	H_RL
DXFLM & DXFLMQ	N/A	H_RLC



Style DMQ



Style DUMQ



Style DJMQ



Style DFMQ



Style DFEMQ



Style DHMQ



Style DFHMQ



Style DXMQ



Style DXJMQ

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



CAST IRON SOLID SHAFT OUTPUT STYLES

**CAST IRON
GR SERIES**

**CAST IRON
NH SERIES**

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR-H-MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles DMQ, DM and D can be field or Factory modified into a wide range of styles.

**MOTORIZED
C-FLANGE
QUILL
INPUT**

Style DMQ



Horizontal Base Worm Over

Style DTMQ



Horizontal Base Worm Under

Style DUMQ *



Ratings Pages: B11-B15

Dimension Pages:
GR Series B21-B22
NH Series B39-B40

Ratings Pages: B11-B15

Dimension Pages:
GR Series B23-B24
NH Series B41-B42

Ratings Pages: B11-B15

Dimension Pages:
GR Series B25-B26
NH Series B43-B44

**MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT**

Style DM



Style DTM



Style DUM *



Ratings Pages: B11-B15

Dimension Pages:
GR Series B21-B22
NH Series B39-B40

Ratings Pages: B11-B15

Dimension Pages:
GR Series B23-B24
NH Series B41-B42

Ratings Pages: B11-B15

Dimension Pages:
GR Series B25-B26
NH Series B43-B44

Style D



Style DT



Style DU *



Ratings Pages: B11-B15

Dimension Pages:
GR Series B21-B22
NH Series B39-B40

Ratings Pages: B11-B15

Dimension Pages:
GR Series B23-B24
NH Series B41-B42

Ratings Pages: B11-B15

Dimension Pages:
GR Series B25-B26
NH Series B43-B44

**Additional accessories, options and assembly services are available,
Contact Factory for details.**

* Not a recommended mounting style. Consult Factory for selection assistance.



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

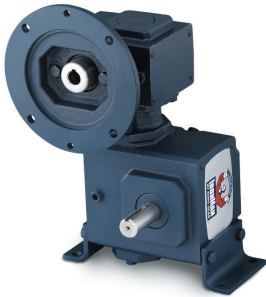
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

**Vertical
Input Shaft**

Style DJMQ

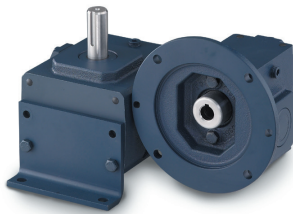


Ratings Pages: B11-B15

Dimension Pages:
GR Series B27-B28
NH Series B45-B46

**Vertical Output Shaft
High/Low Base**

Style DV_HMQ**



Ratings Pages: B11-B15

Dimension Pages:
GR Series B29-B30
NH Series B47-B48

**Flange Mounted
Output Shaft**

Style DFMQ



Ratings Pages: B11-B15

Dimension Pages:
GR Series B31-B32
NH Series B49-B50

**Drop Bearing
Output Flange**

Style DFEMQ



Ratings Pages: B11-B15

Dimension Pages:
GR Series B37-B38
NH Series B55-B56

Style DJM



Ratings Pages: B11-B15

Dimension Pages:
GR Series B27-B28
NH Series B45-B46

Style DV_HM**



Ratings Pages: B11-B15

Dimension Pages:
GR Series B29-B30
NH Series B47-B48

Style DFM



Ratings Pages: B11-B15

Dimension Pages:
GR Series B31-B32
NH Series B49-B50

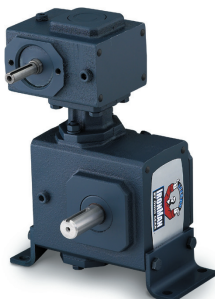
Style DFEM



Ratings Pages: B11-B15

Dimension Pages:
GR Series B37-B38
NH Series B55-B56

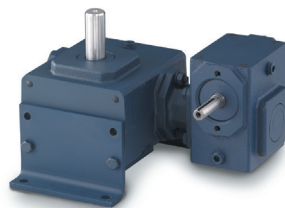
Style DJ



Ratings Pages: B11-B15

Dimension Pages:
GR Series B27-B28
NH Series B45-B46

Style DV_H**



Ratings Pages: B11-B15

Dimension Pages:
GR Series B29-B30
NH Series B47-B48

Style DF



Ratings Pages: B11-B15

Dimension Pages:
GR Series B31-B32
NH Series B49-B50

Style DFE



Ratings Pages: B11-B15

Dimension Pages:
GR Series B37-B38
NH Series B55-B56

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.



CAST IRON HOLLOW SHAFT OUTPUT STYLES

**CAST IRON
GR SERIES**

**CAST IRON
NH SERIES**

Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles DHMQ, DHM and DH can be field or Factory modified into a wide range of styles.

Style DHMQ

**MOTORIZED
C-FLANGE
QUILL
INPUT**



Ratings Pages: B11-B15

Dimension Pages:
GR Series B33-B34
NH Series B51-B52

Style DFHMQ

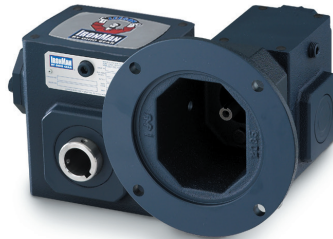


Ratings Pages: B11-B15

Dimension Pages:
GR Series B35-B36
NH Series B53-B54

Style DHM

**MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT**



Ratings Pages: B11-B15

Dimension Pages:
GR Series B33-B34
NH Series B51-B52

Style DFHM



Ratings Pages: B11-B15

Dimension Pages:
GR Series B35-B36
NH Series B53-B54

Style DH

**NON-FLANGED
INPUT**



Ratings Pages: B11-B15

Dimension Pages:
GR Series B33-B34
NH Series B51-B52

Style DFH



Ratings Pages: B11-B15

Dimension Pages:
GR Series B35-B36
NH Series B53-B54

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

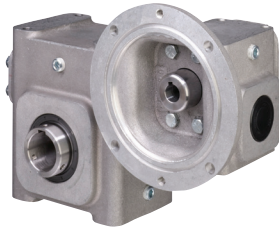
Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles DHMQ, DHM and DH can be field or Factory modified into a wide range of styles.

Style DHMQ

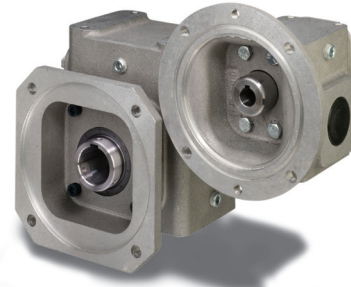
**MOTORIZED
C-FLANGE
QUILL
INPUT**



Ratings Pages: B11-B15

Dimension Pages:
EL Series B69-B70

Style DFHMQ

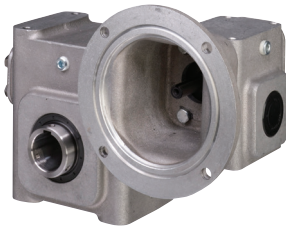


Ratings Pages: B11-B15

Dimension Pages:
EL Series B71-B72

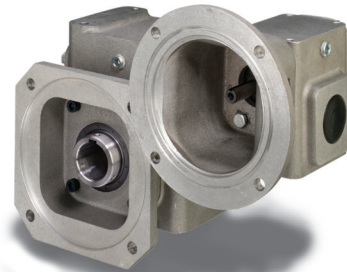
Style DHM

**MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT**



Dimension Pages:
EL Series B69-B70

Style DFHM



Ratings Pages: B11-B15

Dimension Pages:
EL Series B71-B72

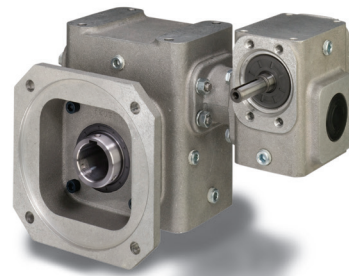
Style DH

**NON-
FLANGED
INPUT**



Dimension Pages:
EL Series B69-B70

Style DFH



Ratings Pages: B11-B15

Dimension Pages:
EL Series B71-B72

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

ELECTRA-GEAR ALUMINUM SOLID SHAFT OUTPUT STYLES



Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles DMQ, DM and D can be field or Factory modified into a wide range of styles.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

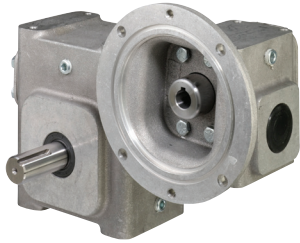
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

MOTORIZED
C-FLANGE
QUILL
INPUT

Style DMQ

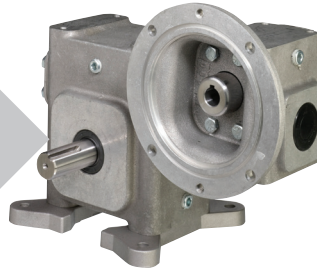


Ratings Pages: B11-B15

Dimension Pages:
EL Series B57-B58

Horizontal Base Worm Over

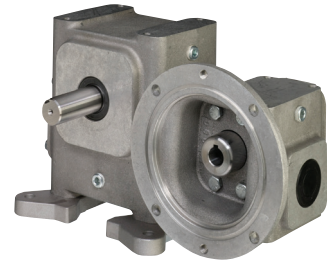
Style DTMQ



Ratings Pages: B11-B15

Dimension Pages:
EL Series B59-B60

Style DUMQ

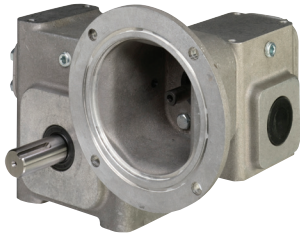


Ratings Pages: B11-B15

Dimension Pages:
EL Series B61-B62

MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT

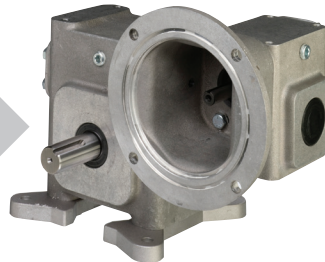
Style DM



Ratings Pages: B11-B15

Dimension Pages:
EL Series B57-B58

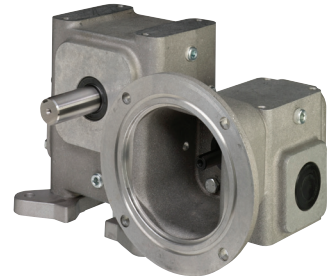
Style DTM



Ratings Pages: B11-B15

Dimension Pages:
EL Series B59-B60

Style DUM*

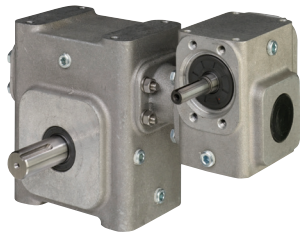


Ratings Pages: B11-B15

Dimension Pages:
EL Series B61-B62

NON-
FLANGED
INPUT

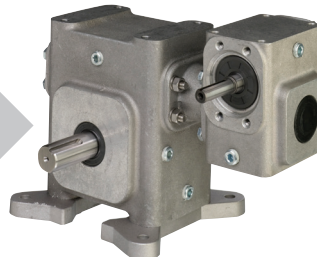
Style D



Ratings Pages: B11-B15

Dimension Pages:
EL Series B57-B58

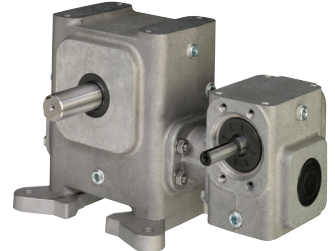
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Ratings Pages: B11-B15

Dimension Pages:
EL Series B59-B60

Style DU*



Ratings Pages: B11-B15

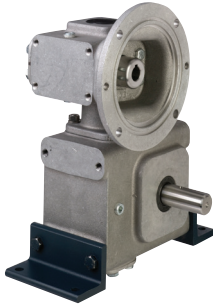
Dimension Pages:
EL Series B61-B62

Additional accessories, options and assembly services are available, Contact Factory for details.

* Not a recommended mounting style. Consult Factory for selection assistance.

**Vertical
Input Shaft**

Style DJMQ

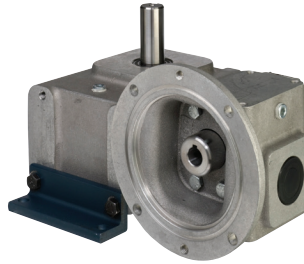


Ratings Pages: B11-B15

Dimension Pages:
EL Series B63-B64

**Vertical Output Shaft
Low Base**

Style DVLMQ**

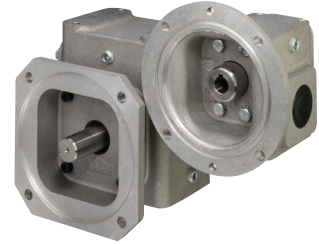


Ratings Pages: B11-B15

Dimension Pages:
EL Series B65-B66

**Flange Mounted
Output Shaft**

Style DFRMQ



Ratings Pages: B11-B15

Dimension Pages:
EL Series B67-B68

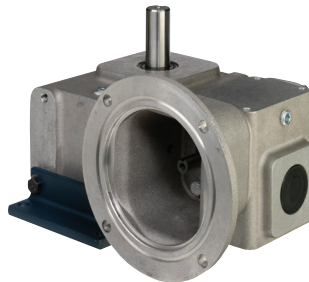
Style DJM



Ratings Pages: B11-B15

Dimension Pages:
EL Series B63-B64

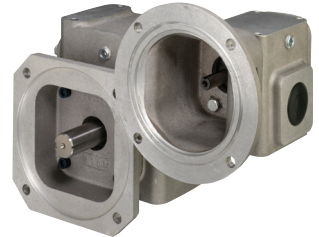
Style DVLM**



Ratings Pages: B11-B15

Dimension Pages:
EL Series B65-B66

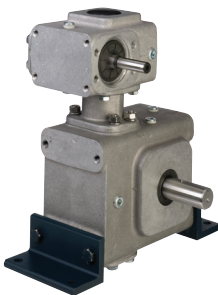
Style DFRM



Ratings Pages: B11-B15

Dimension Pages:
EL Series B67-B68

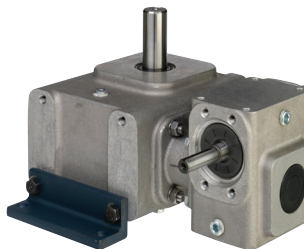
Style DJ



Ratings Pages: B11-B15

Dimension Pages:
EL Series B63-B64

Style DVL**



Ratings Pages: B11-B15

Dimension Pages:
EL Series B65-B66

Style DFR



Ratings Pages: B11-B15

Dimension Pages:
EL Series B67-B68

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

QUICK SELECTIONS



How to Use

Based on required output RPM and input motor horsepower, read across chart for the appropriate reducer size. As a rule of thumb, use 1.00 service factor chart for applications having uniform loads with up to 10 hours service duration per day. Use 1.25 service factor chart for longer service or shock loading. These charts are to be considered as guides only. Typically double reduction reducers are selected based on application torque, not necessarily HP. Refer to page L7 or contact Factory with specific application information. Reducer size corresponds to center distances of secondary stage reducer, as shown in the chart below.

1.00 Service Factor

Nominal Ratio▲	Output RPM	Input Horsepower @ 1750 RPM															
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	25
75	23.3	813	813	815	815	821	824	826	830	832**	842	852	860	880	880	8100	8100
100	17.5	813	813	815	815	821	824	826	830*	842	842	852	860	880	8100	8100	
150	11.7	813	815	821	821	824	826	830*	832**	842	852	852	880	8100	8100		
200	8.75	815	815	821	824	826	830	832	842	842	852	870	880	8100			
250	7.00	815	818	821	824	826	830*	832**	842	852	852	880	8100	8100			
300	5.83	815	821	824	824	830	832	842	842	852	852	880	8100	8100			
400	4.38	821	821	824	826	830*	842	842	852	852	860	8100	8100				
500	3.50	821	824	826	830	832	842	842	852	852	860	8100					
600	2.92	821	824	826	830	832	842	852	852	860	880	8100					
750	2.33	824	824	830	830*	842	842	852	852	870	8100	8100					
900	1.94	824	826	830	832	842	842	852	852	880	8100						
1000	1.75	824	830	830	832	842	842	852	860	880	8100						
1200	1.46	824	830	830*	832	842	852	852	870	880	8100						
1500	1.17	830	830	832	842	842	852	860	880	8100	8100						
1800	9.72	830	830	832	842	852	852	860	8100	8100							
2400	0.729	830	830*	842	842	852	852	880	8100	8100							
3000	0.583	830	830*	842	842	852	852	880	8100								
3600	0.486	830*	832**	842	852	852	880	8100									

1.25 Service Factor

Nominal Ratio▲	Output RPM	Input Horsepower @ 1750 RPM															
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	25
75	23.3	813	813	815	818	821	824	830	832**	842	842	852	880	880	8100	8100	
100	17.5	813	815	815	821	824	826	830	832**	842	842	852	880	880	8100		
150	11.7	815	815	821	824	826	830	832	842	842	852	870	880	8100			
200	8.75	815	821	824	824	830	832	842	842	852	852	880	8100	8100			
250	7.00	815	821	824	826	830	832**	842	842	852	852	880	8100	8100			
300	5.83	818	821	824	826	830*	842	842	852	852	870	8100	8100				
400	4.38	821	824	826	830	832	842	842	852	852	860	8100					
500	3.50	824	824	830	830*	842	842	852	852	860	880	8100					
600	2.92	824	824	830	832	842	842	852	852	870	8100	8100					
750	2.33	824	826	830	832	842	852	852	860	880	8100						
900	1.94	824	830	830*	832**	842	852	852	880	880	8100						
1000	1.75	826	830	830*	842	842	852	852	880	8100	8100						
1200	1.46	830	830	832	842	842	852	852	880	8100	8100						
1500	1.17	830	830	842	842	852	852	880	8100	8100							
1800	9.72	830	832	842	842	852	860	880	8100	8100							
2400	0.729	830	842	842	852	852	880	8100	8100								
3000	0.583	830*	842	842	852	852	880	8100									
3600	0.486	832**	842	842	852	852	8100	8100									

Note: This chart is meant as a guide for reducer selections at specific motor horsepower. Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages B11-B15.
 ▲ Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page B20 for exact ratio of double reduction worm-worm gear reducers.
 * Size 832 must be used for NH Series for this selection.
 ** Size 842 must be used for NH Series for this selection.

Indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.
 Indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

1.50 Service Factor

Nominal Ratio▲	Output RPM	Input Horsepower @ 1750 RPM													
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15
75	23.3	813	815	815	821	824	826	830	842	842	852	860	880	880	8100
100	17.5	815	815	821	821	824	824	830	830*	842	842	852	860	880	8100
150	11.7	815	821	821	824	824	826	832**	832**	842	852	852	880	8100	8100
200	8.75	815	821	824	826	830	832**	842	842	852	852	860	880	8100	
250	7.00	821	821	824	826	830*	842	842	852	852	870	8100	8100		
300	5.83	821	824	826	830	832	842	842	852	852	880	8100			
400	4.38	824	824	830	830*	842	842	852	852	860	880	8100			
500	3.50	824	826	830	832	842	842	852	852	880	8100				
600	2.92	824	826	830*	832**	842	852	852	870	880	8100				
750	2.33	826	830	832**	842	842	852	852	880	8100	8100				
900	1.94	826	830	832**	842	842	852	852	880	8100					
1000	1.75	830	830	832**	842	842	852	860	880	8100					
1200	1.46	830	830*	832**	842	852	852	870	8100	8100					
1500	1.17	830	832	842	842	852	852	860	880	8100	8100				
1800	9.72	830	842	842	852	852	880	8100	8100						
2400	0.729	842	842	852	852	852	880	8100							
3000	0.583	842	842	852	852	852	880	8100							
3600	0.486	842	842	852	852	880	8100								

1.75 Service Factor

Nominal Ratio▲	Output RPM	Input Horsepower @ 1750 RPM													
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15
75	23.3	813	815	821	821	824	830	830	842	842	852	860	880	8100	8100
100	17.5	815	815	821	824	826	830	832	842	842	852	870	8100	8100	
150	11.7	815	821	824	826	830	832	842	842	852	852	880	8100		
200	8.75	821	821	824	826	830*	842	842	852	852	870	8100	8100		
250	7.00	821	824	826	830	832**	842	842	852	852	880	8100			
300	5.83	821	824	826	830*	832**	842	852	852	860	880	8100			
400	4.38	824	826	830	832	842	842	852	852	880	8100				
500	3.50	824	826	830*	832**	842	852	852	870	880	8100				
600	2.92	826	830	832	842	842	852	852	880	8100	8100				
750	2.33	826	830	832**	842	842	852	860	880	8100					
900	1.94	830	830*	832**	842	852	852	880	8100	8100					
1000	1.75	830	830*	842	842	852	852	880	8100	8100					
1200	1.46	830	832	842	842	852	852	880	8100	8100					
1500	1.17	832	842	842	852	852	880	8100	8100						
1800	9.72	832	842	842	852	852	8100	8100							
2400	0.729	842	842	852	852	870	8100	8100							
3000	0.583	842	842	852	852	880	8100	8100							
3600	0.486	842	842	852	852	8100	8100								

2.00 Service Factor

Nominal Ratio▲	Output RPM	Input Horsepower @ 1750 RPM													
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15
75	23.3	815	815	821	824	826	830	832**	842	852	852	880	880	8100	
100	17.5	815	815	821	824	826	830*	842	842	852	852	880	8100	8100	
150	11.7	821	821	824	826	830*	832**	842	852	852	870	8100	8100		
200	8.75	821	824	826	830	832	842	842	852	852	880	8100			
250	7.00	821	824	826	830*	832**	842	852	852	860	880	8100			
300	5.83	824	824	830	832	842	842	852	852	870	8100	8100			
400	4.38	824	826	830*	832**	842	852	852	860	880	8100				
500	3.50	826	830	832	842	842	852	852	880	8100	8100				
600	2.92	826	830	832**	842	852	852	860	880	8100	8100				
750	2.33	830	830*	842	842	852	852	870	8100	8100					
900	1.94	830	832	842	842	852	852	880	8100	8100					
1000	1.75	830	832	842	842	852	860	880	8100	8100					
1200	1.46	830*	832**	842	842	852	870	880	8100						
1500	1.17	832	842	842	852	860	880	8100	8100						
1800	9.72	842	842	852	852	860	8100	8100							
2400	0.729	842	842	852	852	880	8100	8100							
3000	0.583	842	842	852	852	880	8100								
3600	0.486	842	852	852	852	8100									

Note: This chart is meant as a guide for reducer selections at specific motor horsepower. Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages B11-B15.
 ▲ Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page B20 for exact ratio of double reduction worm-worm gear reducers.
 * Size 832 must be used for NH Series for this selection.
 ** Size 842 must be used for NH Series for this selection.

Indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.
 Indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

Single Reduction Worm Gear Reducers
 Double Reduction Worm - Worm Gear Reducers
 Double Reduction Helical - Worm Gear Reducers
 WASHGUARD® Reducers and GEAR+MOTOR™
 Ratio Multipliers
 Accessories and Additional Capabilities

MAXIMUM RATING TABLES

GR, NH & EL SERIES • ALL STOCK STYLES

CAST IRON
GR SERIES

CAST IRON
NH SERIES

ALUMINUM
EL SERIES



SIZE 813, 815, 818 • 1.0 S.F.

Overall Ratio	Input RPM	Output RPM	SIZE 813			SIZE 815**			SIZE 818		
			Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)
75	1750	23.30	0.215	0.141	381	0.391	0.242	654	0.415	0.287	776
	1170	15.60	0.154	0.097	390	0.286	0.168	678	0.295	0.197	797
100	1750	17.50	0.183	0.114	411	0.339	0.194	698	0.344	0.230	827
	1170	11.70	0.130	0.078	420	0.249	0.134	721	0.244	0.157	847
150	1750	11.70	0.122	0.073	395	0.233	0.125	674	0.235	0.150	809
	1170	7.80	0.085	0.050	400	0.166	0.085	690	0.166	0.101	820
200	1750	8.75	0.104	0.059	425	0.187	0.095	686	0.195	0.119	858
	1170	5.85	0.075	0.040	430	0.136	0.065	698	0.137	0.081	868
250	1750	7.00	0.090	0.046	417	0.158	0.073	660	0.165	0.096	861
	1170	4.68	0.064	0.031	422	0.113	0.050	671	0.115	0.065	871
300	1750	5.83	0.084	0.039	422	0.139	0.064	699	0.154	0.080	864
	1170	3.90	0.060	0.026	427	0.099	0.044	706	0.110	0.054	876
400	1750	4.38	0.062	0.030	432	0.111	0.049	705	0.114	0.061	874
	1170	2.93	0.043	0.020	435	0.081	0.033	711	0.081	0.040	879
500	1750	3.50	0.053	0.024	424	0.098	0.039	708	0.097	0.049	877
	1170	2.34	0.007	0.016	427	0.069	0.026	713	0.068	0.032	882
600	1750	2.92	0.048	0.020	430	0.086	0.033	711	0.090	0.041	882
	1170	1.95	0.034	0.013	432	0.065	0.022	714	0.066	0.027	888
750	1750	2.33	0.040	0.016	427	0.071	0.025	683	0.080	0.032	886
	1170	1.56	0.030	0.011	429	0.055	0.017	686	0.061	0.023	891
900	1750	1.94	0.036	0.013	432	0.067	0.020	665	0.068	0.027	888
	1170	1.30	0.028	0.009	434	0.048	0.014	668	0.050	0.018	893
1000	1750	1.75	0.038	0.012	428	0.063	0.020	715	0.064	0.025	884
	1170	1.17	0.029	0.008	429	0.045	0.014	718	0.045	0.017	886
1200	1750	1.46	0.034	0.010	434	0.052	0.017	717	0.059	0.021	892
	1170	0.975	0.025	0.007	435	0.041	0.011	719	0.043	0.014	895
1500	1750	1.17	0.030	0.008	429	0.052	0.013	689	0.054	0.017	893
	1170	0.780	0.022	0.005	430	0.038	0.009	691	0.038	0.011	896
1800	1750	0.972	0.028	0.007	435	0.045	0.010	601	0.048	0.014	895
	1170	0.650	0.018	0.005	436	0.032	0.007	603	0.038	0.010	897
2400	1750	0.729	0.021	0.005	438	0.039	0.007	644	0.036	0.010	887
	1170	0.488	0.014	0.003	439	0.032	0.005	646	0.030	0.007	889
3000	1750	0.583	0.021	0.004	437	0.033	0.006	605	0.032	0.008	869
	1170	0.390	0.014	0.003	438	0.028	0.004	607	0.023	0.006	871
3600	1750	0.486	0.020	0.003	421	0.029	0.004	562	0.027	0.007	854
	1170	0.325	0.009	0.002	422	0.017	0.003	564	0.020	0.004	856

Select and order double reduction reducers with model number. Refer to page B1 for Model Number System.

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page B20 for exact ratio of worm gear primary stage and worm gear secondary stage. At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required. For input/output shaft overhung load and thrust load ratings, refer to pages L9-L11.

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Select and order double reduction reducers with model number. Refer to page B1 for Model Number System.

SIZES 821, 824, 826 • 1.0 S.F.

Overall Ratio	Input RPM	Output RPM	SIZE 821			SIZE 824			SIZE 826		
			Input HP	Output HP	"Output TQ (lb-in)"	Input HP	Output HP	"Output TQ (lb-in)"	Input HP	Output HP	"Output TQ (lb-in)"
75	1750	23.30	0.631	0.455	1230	0.979	0.707	1910	1.226	0.911	2461
	1170	15.60	0.451	0.313	1266	0.702	0.489	1975	0.872	0.629	2540
100	1750	17.50	0.537	0.365	1315	0.829	0.567	2041	1.048	0.736	2649
	1170	11.70	0.384	0.251	1352	0.597	0.392	2109	0.755	0.508	2739
150	1750	11.70	0.366	0.238	1284	0.572	0.373	2010	0.753	0.509	2740
	1170	7.80	0.253	0.161	1303	0.397	0.253	2045	0.532	0.347	2803
200	1750	8.75	0.305	0.190	1372	0.478	0.298	2145	0.602	0.387	2787
	1170	5.85	0.216	0.129	1392	0.339	0.203	2182	0.426	0.263	2835
250	1750	7.00	0.252	0.151	1363	0.405	0.240	2160	0.501	0.309	2779
	1170	4.68	0.180	0.103	1381	1.276	0.164	2195	0.356	0.211	2824
300	1750	5.83	0.222	0.128	1392	0.346	0.201	2182	0.436	0.261	2835
	1170	3.90	0.158	0.087	1405	0.248	0.137	2207	0.312	0.177	2868
400	1750	4.38	0.179	0.098	1402	0.280	0.154	2201	0.353	0.200	2860
	1170	2.93	0.126	0.065	1412	0.197	0.102	2220	0.249	0.133	2885
500	1750	3.50	0.154	0.078	1408	0.241	0.123	2212	0.303	0.160	2875
	1170	2.34	0.108	0.052	1416	0.169	0.081	2227	0.215	0.106	2895
600	1750	2.92	0.134	0.065	1412	0.213	0.101	2205	0.253	0.127	2752
	1170	1.95	0.098	0.044	1419	0.154	0.069	2224	0.171	0.079	2568
750	1750	2.33	0.114	0.051	1409	0.181	0.081	2217	0.219	0.105	2871
	1170	1.56	0.087	0.036	1417	0.137	0.057	2232	0.166	0.073	2887
900	1750	1.94	0.100	0.043	1413	0.159	0.067	2224	0.189	0.086	2848
	1170	1.30	0.076	0.029	1420	0.118	0.046	2237	0.141	0.059	2863
1000	1750	1.75	0.099	0.041	1420	0.152	0.062	2175	0.156	0.066	2309
	1170	1.17	0.072	0.027	1424	0.099	0.038	1989	0.050	0.040	2107
1200	1750	1.46	0.088	0.034	1418	0.139	0.053	2234	0.125	0.048	2029
	1170	0.975	0.061	0.022	1423	0.100	0.035	2244	0.081	0.029	1882
1500	1750	1.17	0.076	0.027	1421	0.119	0.043	2240	0.113	0.042	2209
	1170	0.780	0.056	0.018	1426	0.087	0.029	2248	0.077	0.026	2044
1800	1750	0.972	0.068	0.023	1424	0.111	0.036	2244	0.107	0.038	2365
	1170	0.650	0.053	0.016	1427	0.085	0.025	2250	0.075	0.024	2184
2400	1750	0.729	0.056	0.016	1425	0.087	0.025	2244	0.096	0.028	2563
	1170	0.488	0.043	0.011	1429	0.069	0.018	2250	0.070	0.019	2336
3000	1750	0.583	0.053	0.013	1381	0.080	0.021	2206	0.091	0.026	2691
	1170	0.390	0.040	0.009	1384	0.057	0.014	2212	0.061	0.016	2456
3600	1750	0.486	0.048	0.011	1378	0.064	0.017	2090	0.084	0.022	2741
	1170	0.325	0.034	0.007	1381	0.042	0.010	2095	0.055	0.013	2748

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page B20 for exact ratio of worm gear primary stage and worm gear secondary stage. At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required. For input/output shaft overhung load and thrust load ratings, refer to pages L9-L11.

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Select and order double reduction reducers with model number. Refer to page B1 for Model Number System.

SIZES 830, 832 • 1.0 S.F.

Overall Ratio	Input RPM	Output RPM	SIZE GR830 & EL830			SIZE NH830			SIZE GR832 & EL832			SIZE NH832		
			Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)
75	1750	23.30	1.811	1.338	3615	1.610	1.190	3206	2.005	1.482	4002	1.610	1.190	3214
	1170	15.60	1.312	0.932	3764	1.190	0.845	3412	1.569	1.109	4481	1.320	0.933	3770
100	1750	17.50	1.528	1.063	3830	1.310	0.912	3284	1.984	1.405	5059	1.610	1.140	4114
	1170	11.70	1.108	0.741	3990	0.950	0.635	3420	1.528	1.038	5592	1.250	0.849	4574
150	1750	11.70	1.075	0.714	3844	0.970	0.644	3482	1.537	0.973	5243	1.330	0.842	4547
	1170	7.80	0.766	0.486	3925	0.694	0.440	3552	1.136	0.679	5485	0.984	0.588	4755
200	1750	8.75	0.904	0.566	4076	0.775	0.485	3491	1.208	0.768	5534	1.020	0.649	4673
	1170	5.85	0.649	0.386	4163	0.556	0.331	3563	0.870	0.525	5658	0.734	0.443	4773
250	1750	7.00	0.770	0.458	4128	0.665	0.396	3563	1.016	0.617	5557	0.838	0.509	4581
	1170	4.68	0.557	0.314	4213	0.479	0.270	3633	0.735	0.423	5675	0.603	0.347	4673
300	1750	5.83	0.638	0.365	3967	0.580	0.332	3589	0.931	0.517	5615	0.811	0.450	4865
	1170	3.90	0.462	0.248	4010	0.417	0.224	3625	0.680	0.356	5747	0.589	0.308	4975
400	1750	4.38	0.549	0.294	4209	0.467	0.250	3599	0.735	0.399	5722	0.616	0.335	4824
	1170	2.93	0.389	0.196	4254	0.336	0.169	3636	0.523	0.266	5786	0.444	0.226	4876
500	1750	3.50	0.466	0.236	4257	0.402	0.204	3669	0.591	0.302	5440	0.528	0.270	4855
	1170	2.34	0.330	0.157	4301	0.290	0.138	3705	0.414	0.197	5400	0.382	0.182	4896
600	1750	2.92	0.409	0.195	4235	0.357	0.170	3671	0.571	0.268	5817	0.497	0.233	5032
	1170	1.95	0.297	0.132	4279	0.258	0.115	3707	0.419	0.182	5886	0.361	0.157	5088
750	1750	2.33	0.359	0.157	4301	0.313	0.137	3705	0.484	0.214	5858	0.429	0.188	5066
	1170	1.56	0.274	0.110	4331	0.229	0.092	3729	0.370	0.150	5914	0.313	0.127	5111
900	1750	1.94	0.315	0.129	4279	0.278	0.114	3707	0.440	0.177	5886	0.389	0.157	5088
	1170	1.30	0.234	0.089	4309	0.203	0.077	3731	0.330	0.122	5933	0.286	0.106	5127
1000	1750	1.75	0.314	0.123	4324	0.262	0.103	3723	0.411	0.165	5776	0.334	0.134	4821
	1170	1.17	0.234	0.083	4346	0.195	0.069	3741	0.301	0.111	5827	0.244	0.090	4861
1200	1750	1.46	0.277	0.102	4302	0.233	0.086	3725	0.378	0.136	5731	0.327	0.118	5117
	1170	0.975	0.200	0.067	4324	0.174	0.058	3743	0.258	0.085	5503	0.241	0.079	5146
1500	1750	1.17	0.206	0.067	3537	0.211	0.069	3741	0.282	0.093	4905	0.287	0.095	5134
	1170	0.780	0.148	0.043	3395	0.158	0.046	3754	0.201	0.059	4684	0.216	0.064	5158
1800	1750	0.972	0.193	0.059	3746	0.188	0.058	3743	0.221	0.067	4221	0.261	0.079	5146
	1170	0.650	0.145	0.040	3580	0.142	0.039	3755	0.169	0.045	4045	0.199	0.053	5165
2400	1750	0.729	0.173	0.046	4136	0.158	0.042	3646	0.183	0.051	4565	0.206	0.057	4892
	1170	0.488	0.133	0.031	3900	0.120	0.028	3659	0.141	0.034	4318	0.156	0.038	4909
3000	1750	0.583	0.168	0.041	4261	0.137	0.033	3588	0.182	0.046	4823	0.170	0.043	4620
	1170	0.390	0.149	0.027	4276	0.104	0.019	3600	0.129	0.029	4553	0.129	0.029	4636
3600	1750	0.486	0.151	0.033	4128	0.120	0.026	3406	0.174	0.040	5064	0.143	0.033	4300
	1170	0.325	0.100	0.020	4142	0.091	0.018	3417	0.112	0.023	4767	0.109	0.022	4314

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page B20 for exact ratio of worm gear primary stage and worm gear secondary stage. At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required. For input/output shaft overhung load and thrust load ratings, refer to pages L9-L11.

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Select and order double reduction reducers with model number. Refer to page B1 for Model Number System.

SIZES 842, 852, 860 • 1.0 S.F.

Overall Ratio	Input RPM	Output RPM	SIZE 842			SIZE 852			SIZE 860**		
			Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)
75	1750	23.30	3.845	2.941	7945	7.099	5.472	14782	9.100	7.135	19271
	1170	15.60	3.001	2.215	8949	5.800	4.296	17357	6.941	5.231	21133
100	1750	17.50	3.820	2.815	10140	7.206	5.269	18977	8.665	5.947	21417
	1170	11.70	2.978	2.099	11307	5.470	3.822	20589	6.123	4.355	23458
150	1750	11.70	2.870	2.029	10931	5.336	3.724	20059	5.945	4.357	23471
	1170	7.80	2.182	1.479	11950	4.273	2.845	22985	3.283	3.093	24995
200	1750	8.75	2.347	1.612	11613	4.438	2.983	21487	4.954	3.416	24607
	1170	5.85	1.689	1.109	11953	3.258	2.082	22429	2.728	2.397	25821
250	1750	7.00	1.960	1.290	11619	3.834	2.424	21825	4.251	2.759	24841
	1170	4.68	1.417	0.890	11941	2.827	1.699	22777	2.354	1.943	26061
300	1750	5.83	1.704	1.100	11955	3.230	2.065	22434	3.607	2.376	25821
	1170	3.90	1.226	0.754	12191	2.358	1.429	23097	2.627	1.652	26689
400	1750	4.38	1.376	0.847	12132	2.660	1.601	22932	3.009	1.848	26473
	1170	2.93	0.973	0.567	12313	1.895	1.079	23443	2.138	1.249	27140
500	1750	3.50	1.149	0.679	12219	2.249	1.290	23238	2.516	1.492	26872
	1170	2.34	0.787	0.441	12092	1.591	0.863	23655	1.801	1.000	27416
600	1750	2.92	0.936	0.524	11386	1.951	1.079	23447	2.242	1.249	27151
	1170	1.95	0.665	0.348	11241	1.411	0.736	23798	1.629	0.854	27602
750	1750	2.33	0.873	0.446	12217	1.686	0.869	23807	1.929	0.999	27386
	1170	1.56	0.650	0.314	12369	1.270	0.613	24161	1.458	0.707	27851
900	1750	1.94	0.766	0.371	12293	1.516	0.725	24049	1.622	0.827	27434
	1170	1.30	0.566	0.256	12420	1.121	0.503	24406	1.218	0.575	27900
1000	1750	1.75	0.749	0.351	12273	1.467	0.687	24072	1.611	0.792	27737
	1170	1.17	0.538	0.236	12417	1.059	0.463	24342	1.171	0.535	28088
1200	1750	1.46	0.665	0.295	12389	1.325	0.579	24316	1.403	0.659	27683
	1170	0.975	0.465	0.192	12485	0.931	0.378	24589	1.000	0.433	28138
1500	1750	1.17	0.538	0.226	11853	0.938	0.393	20658	1.240	0.535	28088
	1170	0.780	0.361	0.141	11117	0.654	0.254	19979	0.903	0.360	28328
1800	1750	0.972	0.439	0.168	10608	0.915	0.356	22441	1.000	0.401	25273
	1170	0.650	0.320	0.111	10016	0.666	0.238	21472	0.767	0.283	25490
2400	1750	0.729	0.371	0.129	11595	0.785	0.267	24026	0.839	0.310	27893
	1170	0.488	0.272	0.086	10782	0.618	0.192	24206	0.694	0.223	28130
3000	1750	0.583	0.360	0.116	12214	0.756	0.227	23866	0.750	0.255	26792
	1170	0.390	0.269	0.078	12271	0.557	0.153	24044	0.602	0.171	27020
3600	1750	0.486	0.315	0.094	11816	0.688	0.186	23474	0.653	0.183	23067
	1170	0.325	0.213	0.057	11870	0.456	0.113	23649	0.436	0.111	23264

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page B20 for exact ratio of worm gear primary stage and worm gear secondary stage. At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required. Size 860 is only available in GR Series. For input/output shaft overhung load and thrust load ratings, refer to pages L9-L11.

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SIZE 870, 880, 8100 • 1.0 S.F.

Overall Ratio	Input RPM	Output RPM	SIZE GR870			SIZE GR880			SIZE GR8100		
			Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)	Input HP	Output HP	Output TQ (lb-in)
75	1750	23.30	9.13	7.55	20601	15.50	13.00	35507	26.50	22.50	61010
	1170	15.60	7.69	6.16	25161	12.00	9.78	39931	20.40	16.90	68348
100	1750	17.50	9.13	7.22	27535	12.60	10.10	38575	20.80	17.00	64363
	1170	11.70	7.04	5.37	30607	9.55	7.40	42191	16.20	12.80	72302
150	1750	11.70	7.25	5.53	30621	9.82	7.62	42212	16.50	13.00	72069
	1170	7.80	5.31	3.90	32270	7.23	5.41	44811	12.30	9.38	77678
200	1750	8.75	5.81	4.32	31857	7.92	5.98	44158	13.50	10.30	76261
	1170	5.85	4.21	3.00	33136	5.75	4.18	46181	9.93	7.31	80671
250	1750	7.00	4.90	3.54	31238	6.61	4.88	43010	11.30	8.45	74571
	1170	4.68	3.55	2.46	32432	4.80	3.40	44863	8.31	5.96	78638
300	1750	5.83	4.27	2.99	33136	5.82	4.17	46181	10.10	7.29	80671
	1170	3.90	3.06	2.05	34024	4.19	2.87	47593	7.29	5.06	83779
400	1750	4.38	3.41	2.29	33805	4.65	3.20	47245	8.12	5.62	83011
	1170	2.93	2.43	1.56	34477	3.33	2.19	48316	5.85	3.87	85377
500	1750	3.50	2.86	1.85	34209	3.88	2.60	45835	6.89	4.57	84431
	1170	2.34	2.04	1.26	34752	2.78	1.77	46812	4.96	3.13	86351
600	1750	2.92	2.53	1.56	34477	3.43	2.18	48316	6.03	3.86	85377
	1170	1.95	1.81	1.06	34936	2.46	1.48	49049	4.34	2.63	87006
750	1750	2.33	2.13	1.27	33682	2.87	1.77	46812	5.04	3.13	82964
	1170	1.56	1.53	0.86	34109	2.05	1.20	47481	3.63	2.13	84459
900	1750	1.94	1.73	1.01	32016	2.50	1.47	46627	4.13	2.49	79353
	1170	1.30	1.24	0.68	32391	1.80	0.99	46972	2.97	1.69	80681
1000	1750	1.75	1.73	0.95	35031	2.34	1.33	49201	4.21	2.37	87344
	1170	1.17	1.24	0.64	35308	1.68	0.90	49644	3.05	1.60	88332
1200	1750	1.46	1.52	0.79	35168	2.05	1.12	49420	3.73	1.98	87832
	1170	0.975	1.10	0.53	35402	1.48	0.75	49793	2.72	1.34	88666
1500	1750	1.17	1.28	0.65	34325	1.71	0.90	47819	3.13	1.61	85216
	1170	0.780	0.93	0.44	34542	1.23	0.61	48159	2.28	1.09	85980
1800	1750	0.972	1.04	0.51	32580	1.29	0.67	42944	2.56	1.28	81353
	1170	0.650	0.76	0.34	32770	0.93	0.45	43207	1.86	0.86	82031
2400	1750	0.729	0.90	0.39	33661	1.20	0.54	46987	2.17	0.96	83314
	1170	0.488	0.65	0.26	33868	0.87	0.37	47314	1.59	0.65	84037
3000	1750	0.583	0.76	0.30	32512	1.02	0.42	45708	1.83	0.78	80836
	1170	0.390	0.55	0.20	32710	0.74	0.29	46025	1.35	0.51	81535
3600	1750	0.486	0.60	0.23	29307	0.80	0.32	41112	1.46	0.57	73284
	1170	0.325	0.44	0.15	29473	0.58	0.21	41376	1.07	0.38	73877

Select and order double reduction reducers with model number. Refer to page 110 for Model Number System.

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page B20 for exact ratio of worm gear primary stage and worm gear secondary stage.

At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

For input/ output shaft overhung load and thrust load ratings, refer to pages L9.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

GR SERIES • DOUBLE REDUCTION WORM - WORM • APPROXIMATE WEIGHTSΔ (LBS.)

Reducer Style	Reducer Size													
	GR813	GR815	GR818	GR821	GR824	GR826	GR830	GR832	GR842	GR852	GR860	GR870	GR880	GR8100
Solid Output Shaft														
DMQ	34	38	41	46	62	73	89	96	175	303	406	482	728	1151
DM	39	43	46	51	67	78	91	98	176	304	407	493	736	1158
D	34	38	41	46	62	73	86	93	171	299	402	478	718	1136
DTMQ & DUMQ	36	41	44	50	66	79	95	105	189	323	437	523	776	1227
DTM & DUM	41	46	49	55	71	84	97	107	190	324	438	534	784	1234
DT & DU	36	41	44	50	66	79	92	102	185	319	433	519	766	1212
DJMQ	35	39	43	49	65	78	95	102	185	318	---	---	---	---
DJM	40	44	48	54	70	83	97	104	186	319	---	---	---	---
DJ	35	39	43	49	65	78	92	99	181	314	---	---	---	---
DVLMQ & DVHMQ	36	41	44	53	69	82	99	109	195	328	442	553	806	1307
DVLM & DVHM	41	46	49	58	74	87	101	111	196	329	443	564	814	1314
DVL & DVH	36	41	44	53	69	82	96	106	191	324	438	549	796	1292
DFMQ	35	39	43	49	65	77	99	106	190	333	444	497	746	1172
DFM	40	44	48	54	70	82	101	108	191	334	445	508	754	1179
DF	35	39	43	49	65	77	96	103	186	329	440	493	736	1157
DFEMQ	---	---	---	---	---	---	99	106	205	334	448	647	930	1431
DFEM	---	---	---	---	---	---	101	108	206	335	449	658	938	1438
DFE	---	---	---	---	---	---	96	103	201	330	444	643	920	1406
Hollow Output Shaft														
DHMQ	35	38	42	47	64	72	90	98	178	303	406	482	728	1151
DHM	40	42	46	51	68	76	92	100	179	304	407	493	736	1158
DH	35	38	42	47	64	72	87	95	174	299	402	478	718	1136
DFHMQ	36	39	44	50	67	76	100	108	193	333	444	497	746	1172
DFHM	41	43	48	54	71	80	102	110	194	334	445	508	754	1179
DFH	36	39	44	50	67	76	97	105	189	329	440	493	736	1157
DBFHMQ	37	---	44	50	68	78	---	---	---	---	---	---	---	---
DBFHM	42	---	48	54	72	82	---	---	---	---	---	---	---	---
DBFH	37	---	44	50	68	78	---	---	---	---	---	---	---	---

Δ Weights include oil. 870, 880, 8100 shipped without oil.

GR SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

Accessory	IRONMAN Reducer Size													
	GR813	GR815	GR818	GR821	GR824	GR826	GR830	GR832	GR842	GR852	GR860	GR870	GR880	GR8100
T/U-Base	2	3	3	4	4	6	6	9	14	20	31	41	48	76
J-Base	1	1	2	3	3	5	6	6	10	15	---	---	---	---
VL/VH-Base	2	3	3	7	7	9	10	13	20	25	36	**	**	**
**F-Flange (cast Iron)	1	1	2	3	3	4	10	10	15	30	38	**	**	**
BF-Flange (Steel)	2	---	2	3	4	6	---	---	---	---	---	---	---	---
R-Riser Block	---	7	7	9	9	12	15	31	24	15	---	---	---	---
Hollow Shaft Torque Arm Kit	5	5	5	5	5	5	5	5	5	8	8	---	---	---
Coupling Input C-Flange Kits														
48CZ, 56C, 140TC	7	7	7	7	8	8	11	11	14	16	---	---	---	---
180TC-210TC	---	---	---	---	11	11	11	11	16	18	22	30	30	---
250TC	---	---	---	---	---	---	---	28	30	30	32	34	36	---

** This accessory must be assembled at the Factory. It is not available as a kit for field installation.



NH SERIES WEIGHTS



NH SERIES • DOUBLE REDUCTION WORM-WORM • APPROXIMATE WEIGHTS Δ (LBS.)

Reducer Style	Reducer Size									
	NH813	NH815	NH818	NH821	NH824	NH826	NH830	NH832	NH842	NH852
Solid Output Shaft										
DMQ	29	32	35	39	53	62	76	82	149	258
DM	33	37	39	43	57	66	77	83	150	258
D	29	32	35	39	53	62	73	79	145	254
DTMQ & DUMQ	31	35	38	43	57	68	82	91	163	278
DTM & DUM	35	40	42	47	61	72	83	92	164	278
DT & DU	31	35	38	43	57	68	79	88	159	274
DJMQ	30	33	37	42	56	67	82	88	159	273
DJM	34	38	41	46	60	71	83	89	160	273
DJ	30	33	37	42	56	67	79	85	155	269
DVLMQ & DVHMQ	31	35	38	46	60	71	86	95	169	283
DVLM & DVHM	35	40	42	50	64	75	87	96	170	283
DVL & DVH	31	35	38	46	60	71	83	92	165	279
DFMQ	30	33	37	42	56	66	86	92	164	288
DFM	34	38	41	46	60	70	87	93	165	288
DF	30	33	37	42	56	66	83	89	160	284
DFEMQ	---	---	---	---	---	---	99	106	205	334
DFEM	---	---	---	---	---	---	101	108	206	335
DFE	---	---	---	---	---	---	96	103	201	330
Hollow Output Shaft										
DHMQ	30	32	36	40	54	61	77	83	151	258
DHM	34	36	39	43	58	65	78	85	152	258
DH	30	32	36	40	54	61	74	81	148	254
DFHMQ	31	33	38	43	57	65	87	93	166	288
DFHM	35	37	41	46	61	69	88	95	167	288
DFH	31	33	38	43	57	65	84	91	163	284

Δ Weights include oil.

NH SERIES • ACCESSORIES • APPROXIMATE WEIGHTS Δ (LBS.)

Accessory	IRONMAN Reducer Size									
	NH813	NH815	NH818	NH821	NH824	NH826	NH830	NH832	NH842	NH852
T/U-Base	2	3	3	4	4	6	6	9	14	20
J-Base	1	1	2	3	3	5	6	6	10	15
VL/VH-Base	2	3	3	7	7	9	10	13	20	25
F-Flange (cast Iron)	1	1	2	3	3	4	10	10	15	30
Hollow Shaft Torque Arm Kit	5	5	5	5	5	5	5	5	5	8
Coupling Input C-Flange Kits										
48CZ, 56C, 140TC	7	7	7	7	8	8	11	11	14	16
180TC-210TC	---	---	---	---	11	11	11	11	16	18
250TC	---	---	---	---	---	---	---	28	30	30

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

EL SERIES • DOUBLE REDUCTION WORM-WORM • APPROXIMATE WEIGHTS Δ (LBS.)

Reducer Style	Reducer Size								
	EL813	EL818	EL821	EL824	EL826	EL830	EL832	EL842	EL852
Solid Output Shaft									
DMQ	22	27	30	41	48	59	63	116	200
DM	26	30	34	44	51	60	65	116	201
D	22	27	30	41	48	57	61	113	197
DTMQ & DUMQ	23	29	33	44	52	65	71	123	208
DTM & DUM	27	32	37	47	55	66	73	123	209
DT & DU	23	29	33	44	52	63	69	120	205
DJMQ	23	29	33	44	52	64	68	122	208
DJM	27	32	37	47	55	65	70	122	209
DJ	23	29	33	44	52	62	66	119	205
DVLMQ	24	30	33	44	52	64	68	122	208
DVLM	28	33	37	47	55	65	70	122	209
DVL	24	30	33	44	52	62	66	119	205
DFMQ	---	29	33	44	51	65	70	124	208
DFM	---	32	37	47	54	66	72	124	209
DF	---	29	33	44	51	63	68	121	205
Hollow Output Shaft									
DHMQ	23	28	31	42	48	59	65	117	200
DHM	26	30	34	45	50	61	66	118	201
DH	23	28	31	42	48	57	63	115	197
DFHMQ	---	30	34	45	51	65	72	125	208
DFHM	---	32	37	48	53	67	73	126	209
DFH	---	30	34	45	51	63	70	123	205

Δ Weights include oil.

EL SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

Accessory	Reducer Size								
	EL813	EL818	EL821	EL824	EL826	EL830	EL832	EL842	EL852
ABC Base	1	2	3	3	4	6	8	7	8
T/U-Base	1	2	3	3	4	6	8	7	8
J-Base	1	2	3	3	4	5	5	6	8
VL Base	2	3	3	3	4	5	5	6	8
FR and F-Flange	---	2	3	3	3	6	7	8	8
Hollow Shaft Torque Arm Kit	5	5	5	5	5	5	5	5	8
Coupling Input C-Flange Kits									
48CZ, 56C, 140TC	3	3	3	4	4	5	5	7	7
180TC-210TC	---	---	---	5	5	5	5	8	8
250TC	---	---	---	---	---	---	8	8	8

* Will not fit solid output shaft models.

⦿ Will not fit hollow output shaft models.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

HOLLOW BORE SHAFT SIZES

GR, NH, EL SERIES



HOLLOW SHAFT BORE SIZES (Inches)*

Fraction Size	Decimal Size	Output Bore Code	813	815	818	821	824	826	830	832	842	852	860	870	880	8100	Keyway**
5/8	0.625	10	■	■	■												3/16 x 3/32
11/16	0.688	11			■												3/16 x 3/32
3/4	0.750	12			■												3/16 x 3/32
7/8	0.875	14			■												3/16 x 3/32
1	1.000	16			■	■	■	■									1/4 x 1/8
1-1/8	1.125	18				■	■	■									1/4 x 1/8
1-3/16	1.188	19				■	■	■	■	■							1/4 x 1/8
1-1/4	1.250	20				■	■	■	■	■							1/4 x 1/8
1-7/16	1.438	23				■	■	■	■	■	■						3/8 x 3/16
1-1/2	1.500	24							■	■	■	■					3/8 x 3/16
1-5/8	1.625	26							■	■	■	■					3/8 x 3/16
1-11/16	1.688	27							■	■	■	■					3/8 x 3/16
1-3/4	1.750	28							■	■	■	■					3/8 x 3/16
1-7/8	1.875	30							■	■	■	■					1/2 x 1/4
1-15/16	1.938	31							■	■	■	■	■				1/2 x 1/4
2	2.000	32							■	■	■	■	■	■			1/2 x 1/4
2-3/16	2.188	35							■	■	■	■	■				1/2 x 1/4
2-1/4	2.250	36										■	■				1/2 x 1/4
2-7/16	2.438	39										■	■				5/8 x 5/16
2-1/2	2.500	40										■	■				5/8 x 5/16
2-11/16	2.688	43										■	■				5/8 x 5/16
2-15/16	2.938	47										■	■				3/4 x 3/8
3	3.000	48										■	■				3/4 x 3/8
3-3/16	3.188	51										■	■				3/4 x 3/8
3-7/16	3.438	55										■	■	■	■	■	7/8 x 7/16
3-15/16	3.938	63												■	■	■	1 x 1/2
4-3/16	4.188	67													■		1 x 1/2
4-7/16	4.438	71													■	■	1 x 1/2
4-15/16	4.938	79														■	1-1/4 x 5/8
5-7/16	5.438	87														■	1-1/4 x 5/8

■ Stock Bore Sizes

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

DOUBLE REDUCTION & WORM-WORM EXACT RATIO COMBINATIONS

Total Ratio	GEAR REDUCER SIZE													
	813		815 (GR+NH)		818		821		824		826		830**	
	P 813	S 813	P 813	S 815	P 813	S 818	P 813	S 821	P 813	S 824	P 813	S 826	P 818	S 830
75	5	15	5	15	5	15	5	15	5	15	5	15	5	15
100	5	20	5	20	5	20	5	20	5	20	5	20	5	20
150	10	15	7.5	20	10	15	10	15	10	15	7.5	20	10	15
200	10	20	10	20	10	20	10	20	10	20	10	20	10	20
250	10	25	10	25	10	25	10	25	10	25	10	25	10	25
300	10	30	15	20	10	30	15	20	15	20	15	20	20	15
400	20	20	20	20	20	20	20	20	20	20	20	20	20	20
500	20	25	25	20	25	20	25	20	25	20	25	20	20	25
600	20	30	30	20	20	30	30	20	20	30	30	20	20	30
750	30	25	30	25	25	30	25	30	25	30	30	25	30	25
900	30	30	30	30	30	30	30	30	30	30	30	30	30	30
1000	40	25	50	20	50	20	50	20	50	20	50	20	40	25
1200	40	30	60	20	40	30	40	30	40	30	60	20	40	30
1500	60	25	60	25	50	30	50	30	50	30	60	25	60	25
1800	60	30	60	30	60	30	60	30	60	30	60	30	60	30
2400	60	40	60	40	60	40	60	40	60	40	60	40	60	40
3000	60	50	60	50	60	50	60	50	60	50	60	50	60	50
3600	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Total Ratio	GEAR REDUCER SIZE													
	832**		842		852		860		870		880		8100	
	P 818	S 832	P 821	S 842	P 826	S 852	P 832	S 860	P 832	S 870	P 842	S 880	P 852	S 8100
75	5	15	5	15	5.17	15	5.17	15	5.17	14.67	5.17	14.67	5.13	14.67
100	5	20	5	20	5.17	20	5.17	20	5.17	20.50	5.17	20.50	5.13	20.50
150	5	30	7.5	20	7.5	20	10	15	7.5	20.50	7.5	20.50	10	14.67
200	10	20	10	20	10	20	10	20	10	20.50	10	20.50	10	20.50
250	10	25	10	25	10	25	10	25	10	24.50	10	24.50	10	24.50
300	10	30	15	20	15	20	20	15	15	20.50	15	20.50	20	14.67
400	20	20	20	20	20	20	20	20	20	20.50	20	20.50	20	20.50
500	25	20	25	20	25	20	25	20	25	20.50	25	20.50	25	20.50
600	20	30	30	20	30	20	30	20	30	20.50	30	20.50	30	20.50
750	25	30	25	30	30	25	30	25	30	24.50	30	24.50	30	24.50
900	30	30	30	30	30	30	60	15	30	29.50	30	29.50	60	14.67
1000	25	40	25	40	40	25	50	20	50	20.50	40	24.50	50	20.50
1200	40	30	40	30	40	30	60	20	60	20.50	40	29.50	60	20.50
1500	50	30	50	30	60	25	60	25	60	24.50	60	24.50	60	24.50
1800	60	30	60	30	60	30	60	30	60	29.50	60	29.50	60	29.50
2400	60	40	60	40	60	40	60	40	60	40	60	40	60	40
3000	60	50	60	50	60	50	60	50	60	50	60	50	60	50
3600	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Note: Exact ratios are listed. P = Primary stage reducer ratio S = Secondary stage reducer ratio
 * Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
 ** For NH Series, P = 815
 For exact total of double reduction package multiply "P" by the "S" ratio.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DMQ, DM, D

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

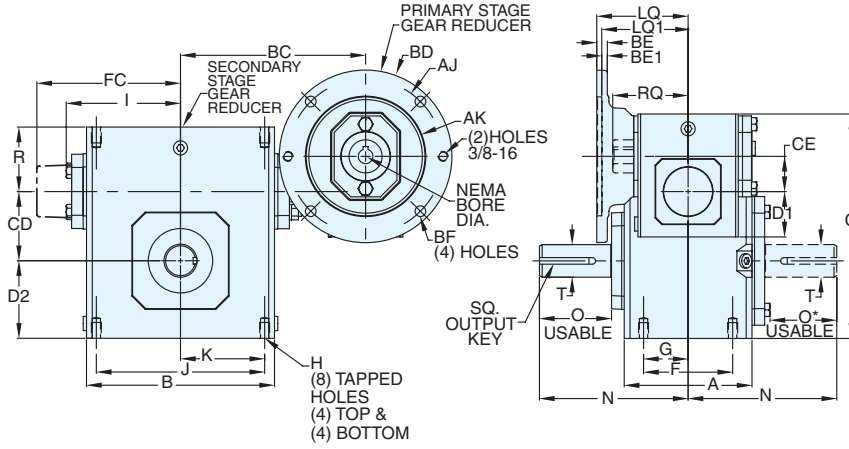
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

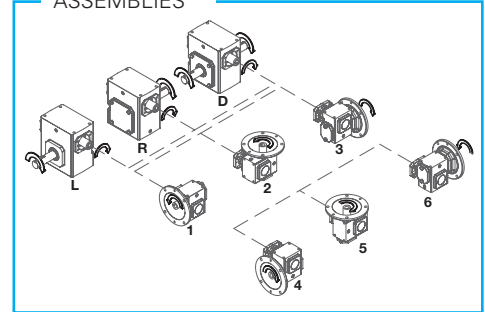
Ratio Multipliers

Accessories
Additional Capabilities

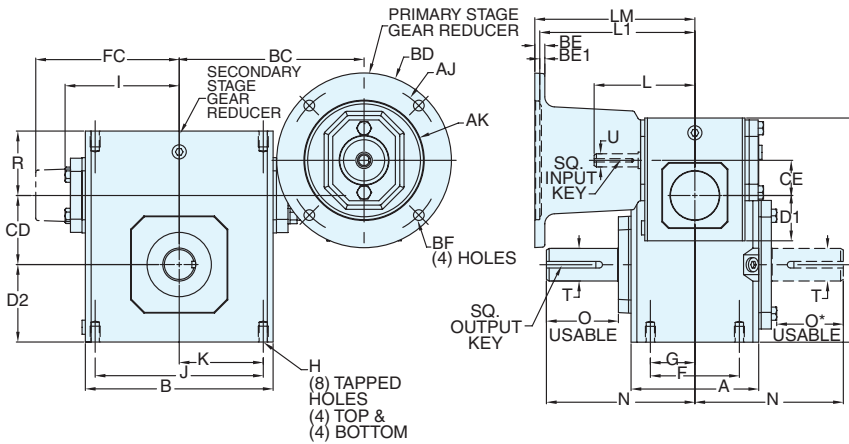
STYLE DMQ



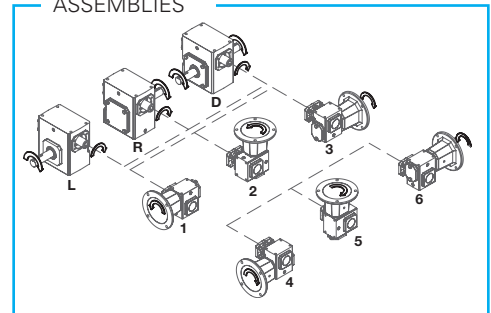
ASSEMBLIES



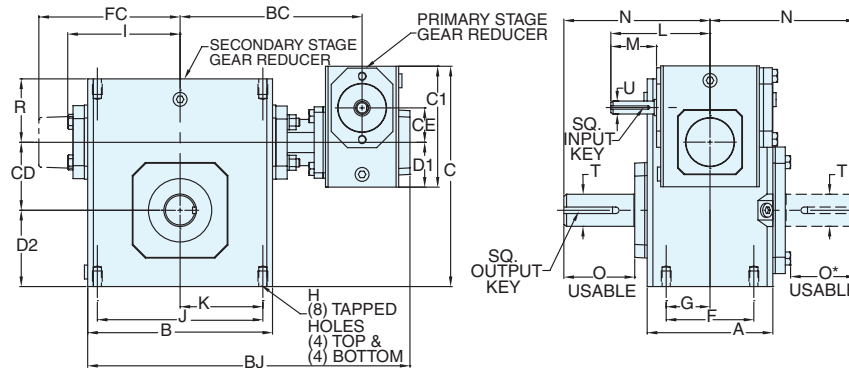
STYLE DM



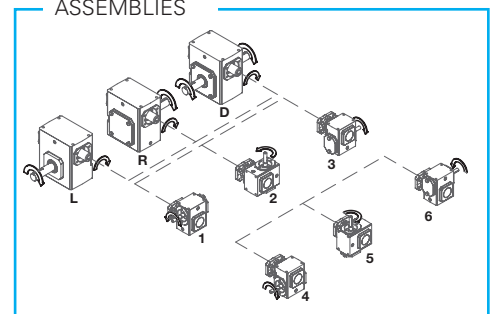
ASSEMBLIES



STYLE D



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



STYLE DMQ, DM, D DIMENSIONS (Inches)

Size	A	B	BC	BJ	C	CD	CE	C1	D1	D2	F	FC▼	G	H		I	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	Input Key:*	Output Key
														Tap Size	Depth													
GR813	2.82	3.80	5.32	9.06	5.99	1.33	1.33	4.66	1.72	1.72	2.00	N/A	1.00	5/16-18 UNC	0.50	2.61	3.25	1.63	3.82	1.76	4.00	2.16	1.94	1.61	0.625	0.500	1/8 x 1.00	3/16 X 1.50
GR815	3.44	4.88	5.85	10.13	6.38	1.54	1.33	4.66	1.72	1.91	2.75	N/A	1.38	5/16-18 UNC	0.63	3.14	4.19	2.09	3.82	1.76	4.31	2.11	1.90	1.93	0.750	0.500	1/8 x 1.00	3/16 X 1.50
GR818	3.56	5.06	5.94	10.32	6.75	1.75	1.33	4.66	1.72	2.06	2.75	N/A	1.38	5/16-18 UNC	0.63	3.24	4.19	2.09	3.82	1.76	4.31	2.05	1.84	1.94	0.875	0.500	1/8 x 1.00	3/16 X 1.38
GR821	3.81	5.80	6.32	11.06	7.28	2.06	1.33	4.66	1.72	2.28	▲	N/A	1.44	3/8-16 UNC	0.63	3.61	▲	2.50	3.82	1.76	4.68	2.29	2.08	2.03	1.000	0.500	1/8 x 1.00	1/4 X 1.44
GR824	4.06	6.12	6.44	11.35	7.81	2.38	1.33	4.66	1.72	2.50	2.88	N/A	1.44	3/8-16 UNC	0.69	3.77	5.00	2.50	3.82	1.76	5.14	2.66	2.44	2.06	1.125	0.500	1/8 x 1.00	1/4 X 1.75
GR826	4.84	7.12	7.01	12.41	8.50	2.63	1.33	4.66	1.72	2.94	3.38	N/A	1.69	3/8-16 UNC	0.69	4.34	6.38	3.19	3.82	1.76	5.63	2.73	2.52	2.44	▲	0.500	1/8 x 1.00	1/4 X 1.75
GR830	5.25	8.12	7.86	14.12	9.94	3.00	1.75	5.38	2.06	3.25	4.00	N/A	2.00	7/16-14 UNC	0.88	4.84	7.00	3.50	4.45	1.76	6.75	3.60	3.36	2.63	1.250	0.625	3/16 x 1.38	1/4 X 1.75
GR832	5.75	8.50	8.05	14.50	10.44	3.25	1.75	5.38	2.06	3.50	4.00	N/A	2.00	7/16-14 UNC	0.88	5.02	7.50	3.75	4.45	1.76	7.06	3.66	3.42	2.63	▲	0.625	3/16 x 1.38	3/8 X 2.25
GR842	6.13	10.25	9.18	16.69	12.78	4.25	2.06	6.38	2.28	4.44	5.00	N/A	2.50	5/8-11 UNC	1.00	6.10	8.50	4.25	4.82	1.76	8.12	4.50	4.21	2.69	1.875	0.625	3/16 x 1.38	1/2 X 3.06
GR852	7.19	13.00	11.57	20.97	15.43	5.25	2.63	8.00	2.94	5.12	5.81	N/A	2.91	5/8-11 UNC	1.25	7.50	11.00	5.50	6.07	2.38	9.06	4.78	4.53	3.63	2.000	0.750	3/16 x 1.63	1/2 X 3.50
GR860	8.13	14.25	13.30	23.82	18.38	6.00	3.25	9.38	3.50	6.50	6.38	10.24	3.19	5/8-11 UNC	1.00	N/A	12.75	6.38	6.76	2.38	10.00	4.65	4.65	4.00	2.500	0.875	3/16 x 1.63	5/8 X 4.00
GR870	7.63	14.88	12.96	24.33	20.46	7.00	3.25	9.38	3.50	7.59	5.50	10.63	2.75	1-8 UNC	1.56	N/A	12.50	6.25	6.76	2.38	11.76	5.65	5.65	4.33	2.750	0.875	3/16 x 1.75**	5/8 x 4.00**
GR880	8.63	17.00	13.94	26.69	23.79	8.00	4.25	11.38	4.44	8.86	6.50	11.93	3.25	1-8 UNC	1.66	N/A	14.25	7.13	9.57	3.47	12.25	5.98	5.98	4.11	3.000	1.250	1/4 X 2.88**	3/4 x 4.50**
GR8100	9.53	20.88	17.05	32.74	29.24	10.00	5.25	14.00	5.12	10.36	6.88	14.34	3.44	1-1/4 - 7 UNC	2.04	N/A	17.75	8.88	10.88	3.38	14.75	6.76	6.76	5.12	3.750	1.250	1/4 X 3.00**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	(F)3.00" x (J)4.75"	Identical	Identical	✓		GRG
		(F)2.88" x (J)5.00"					✓
826	1.250"	Identical	Identical	Identical	✓		GRG
	1.125"						✓
832	1.500"	Identical	3/8 x 2.63	Identical	✓		GRG
	1.375"		5/16 x 2.63				✓

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR815	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR818	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR821*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR824	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR826*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR830	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR832*	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR842	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR852	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
GR860	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR870	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR880	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24
GR8100	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway♦	BfB
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR818	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR821*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR824	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR826*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR830	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR832*	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR842	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR852	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR860	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR870	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR880	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR8100	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway♦	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

▲ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ♦ Keyway width by depth
- 48CZ not available

- ✱ Style D and DM only
- ✱ Metric IEC B5 input flange options are available only on quill input styles.
- ✱ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DTMQ, DTM, DT

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

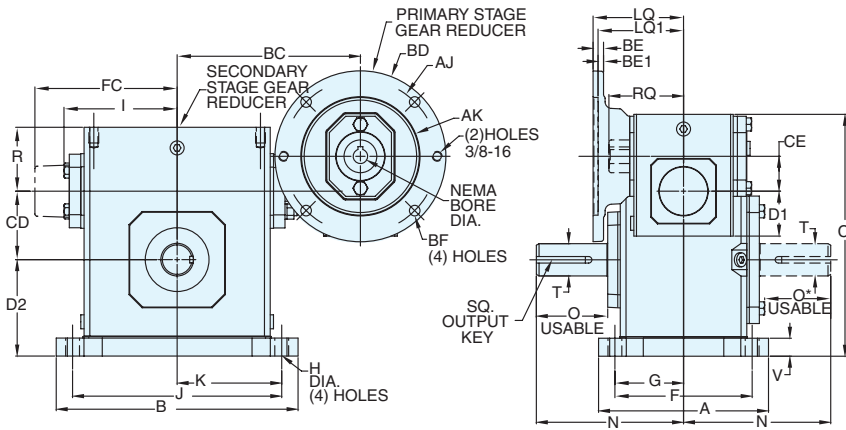
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

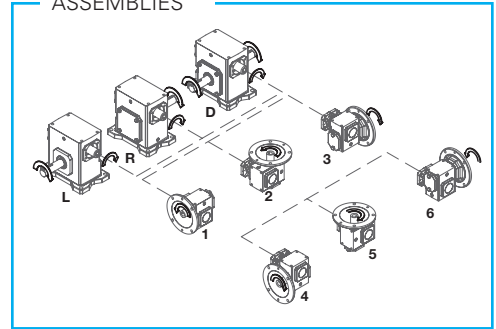
Ratio Multipliers

Accessories
Additional Capabilities

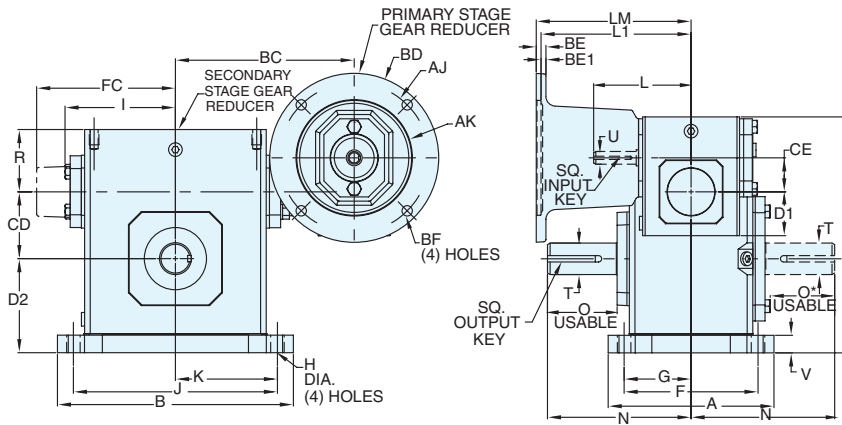
STYLE DTMQ



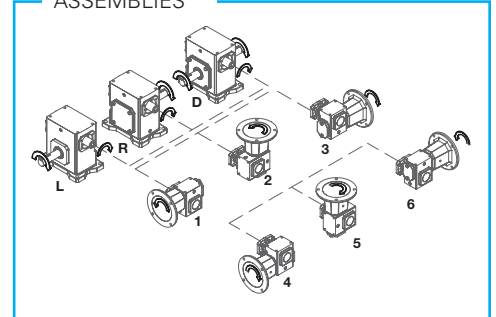
ASSEMBLIES



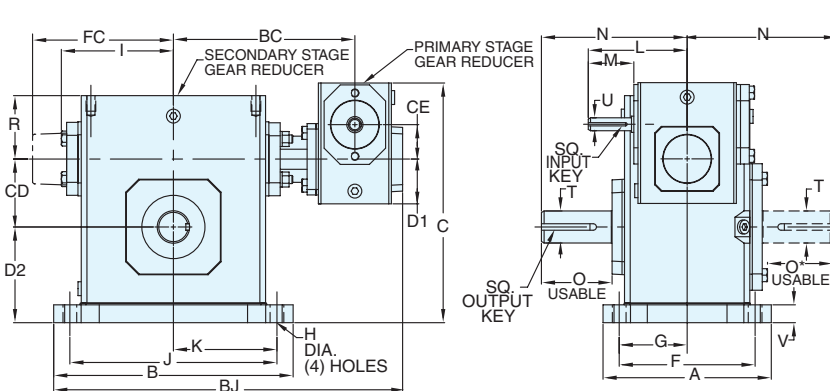
STYLE DTM



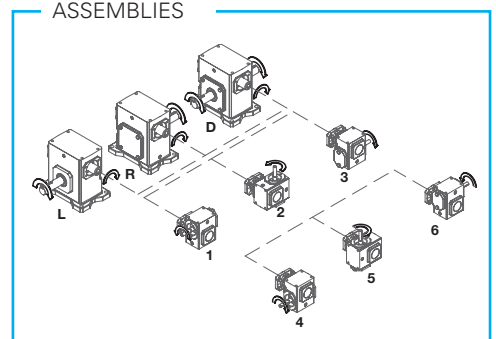
ASSEMBLIES



STYLE DT



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



GR SERIES DIMENSIONS

Styles: DTMQ, DTM, DT



STYLE DTMQ, DTM, DT DIMENSIONS (Inches)

Size	A	B	BC	BJ	C	CD	CE	C1	D1	D2	F	FC▼	G	H	I	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
GR813	4.24	5.37	5.32	9.85	6.52	1.33	1.33	4.66	1.72	2.25	3.31	N/A	1.66	0.34	2.61	4.37	2.19	3.82	1.76	4.00	2.16	1.94	1.61	0.53	0.625	0.500	1/8 x 1.00	3/16 X 1.50
GR815	5.56	6.50	5.85	10.94	6.98	1.54	1.33	4.66	1.72	2.50	4.31	N/A	2.16	0.41	3.14	5.25	2.63	3.82	1.76	4.31	2.11	1.90	1.93	0.59	0.750	0.500	1/8 x 1.00	3/16 X 1.50
GR818	5.75	6.99	5.94	11.28	7.44	1.75	1.33	4.66	1.72	2.75	4.50	N/A	2.25	0.41	3.24	5.75	2.88	3.82	1.76	4.31	2.05	1.84	1.94	0.69	0.875	0.500	1/8 x 1.00	3/16 X 1.38
GR821	6.00	7.69	6.32	12.01	8.00	2.06	1.33	4.66	1.72	3.00	4.69	N/A	2.34	0.47	3.61	6.38	3.19	3.82	1.76	4.68	2.29	2.08	2.03	0.72	1.000	0.500	1/8 x 1.00	1/4 X 1.44
GR824	6.19	8.37	6.44	12.48	8.56	2.38	1.33	4.66	1.72	3.25	4.88	N/A	2.44	0.49	3.77	7.06	3.53	3.82	1.76	5.14	2.66	2.44	2.06	0.75	1.125	0.500	1/8 x 1.00	1/4 X 1.75
GR826	6.50	9.25	7.01	13.48	9.25	2.63	1.33	4.66	1.72	3.69	5.25	N/A	2.63	0.53	4.34	8.00	4.00	3.82	1.76	5.63	2.73	2.52	2.44	0.75	▲	0.500	1/8 x 1.00	1/4 X 1.75
GR830	7.50	10.00	7.86	15.08	9.94	3.00	1.75	5.38	2.06	4.00	5.88	N/A	2.94	0.53	4.84	8.44	4.22	4.35	1.76	6.75	3.60	3.36	2.63	0.75	1.250	0.625	3/16 x 1.38	1/4 X 1.75
GR832	7.75	11.12	8.05	15.81	10.44	3.25	1.75	5.38	2.06	4.38	6.13	N/A	3.06	0.53	5.02	9.50	4.75	4.35	1.76	7.06	3.66	3.42	2.63	0.81	▲	0.625	3/16 x 1.38	3/8 X 2.25
GR842	9.75	13.24	9.18	18.19	13.78	4.25	2.06	6.38	2.28	5.44	7.63	N/A	3.81	0.66	6.10	11.12	5.56	4.82	1.76	8.12	4.50	4.21	2.69	1.00	1.875	0.625	3/16 x 1.38	1/2 X 3.50
GR852	10.50	16.24	11.57	22.59	16.56	5.25	2.63	8.00	2.94	6.25	8.38	N/A	4.19	0.78	7.50	14.12	7.06	6.07	2.38	9.06	4.78	4.53	3.63	1.13	2.000	0.750	3/16 x 1.63	1/2 X 3.50
GR860	12.00	18.99	13.30	26.19	19.63	6.00	3.25	9.38	3.50	7.75	9.50	10.24	4.75	0.91	N/A	16.49	8.25	6.76	2.38	10.00	4.65	4.65	4.00	1.25	2.500	0.875	3/16 x 1.63	5/8 X 4.00
GR870	13.38	15.38	12.96	24.58	21.88	7.00	3.25	9.38	3.50	9.00	11.25	10.63	5.63	1.13	N/A	13.00	6.50	6.76	2.38	11.76	5.65	5.65	4.33	1.42	2.750	0.875	3/16 x 1.75**	5/8 x 4.00**
GR880	13.50	17.37	13.94	26.88	25.44	8.00	4.25	11.38	4.44	10.50	11.50	11.93	5.75	1.13	N/A	14.75	7.38	9.57	3.47	12.25	5.98	5.98	4.11	1.65	3.000	1.250	1/4 X 2.88**	3/4 x 4.50**
GR8100	16.88	21.14	17.05	32.92	30.88	10.00	5.25	14.00	5.12	12.00	14.00	14.34	7.00	1.44	N/A	17.00	8.50	10.88	3.38	14.75	6.76	6.76	5.12	1.65	3.750	1.250	1/4 X 3.00**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical ◊	Identical	Identical	✓	✓	GRG
	1.250"						GRL
826	1.250"	Identical	Identical	Identical	✓		GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓		GRG
	1.375"		5/16 x 2.63				GRL

◊ If Accessory kit is removed, dimensions will vary.

NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages B21-B22 (DMQ, DM, D).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR815	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR818	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR821*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR824	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR826*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR830	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR832*	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR842	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR852	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
GR860	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR870	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR880	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24
GR8100	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BP
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR818	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR821*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR824	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR826*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR830	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR832*	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR842	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR852	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR860	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR870	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR880	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR8100	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available

- ✱ Style DT and DTM only.
- ✱ Metric IEC B5 input flange options are available only on quill input styles.
- ✱ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.



GR SERIES DIMENSIONS

STYLES: DUMQ, DUM, DU

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

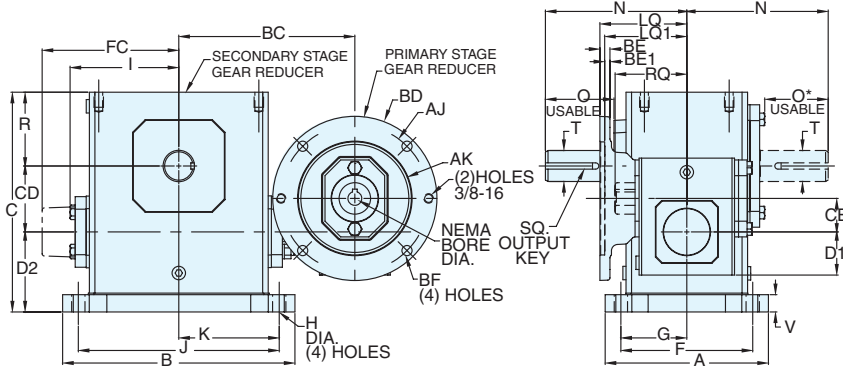
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

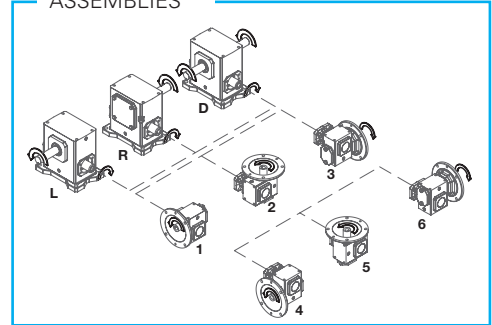
Ratio Multipliers

Accessories
Additional Capabilities

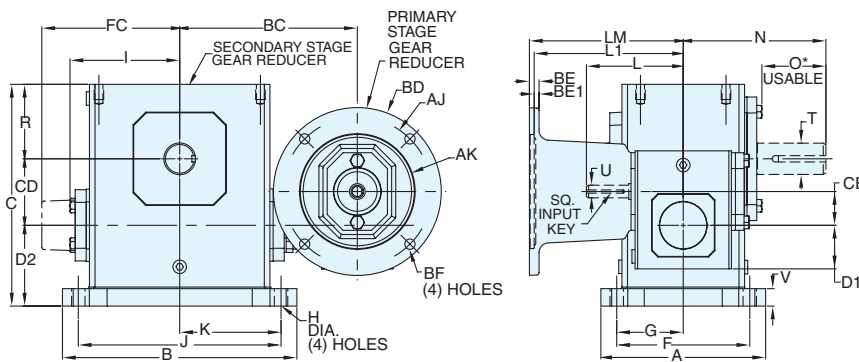
STYLE DUMQ



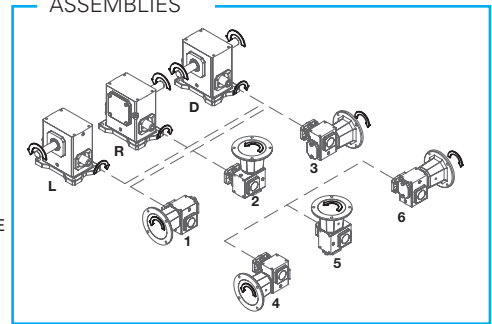
ASSEMBLIES



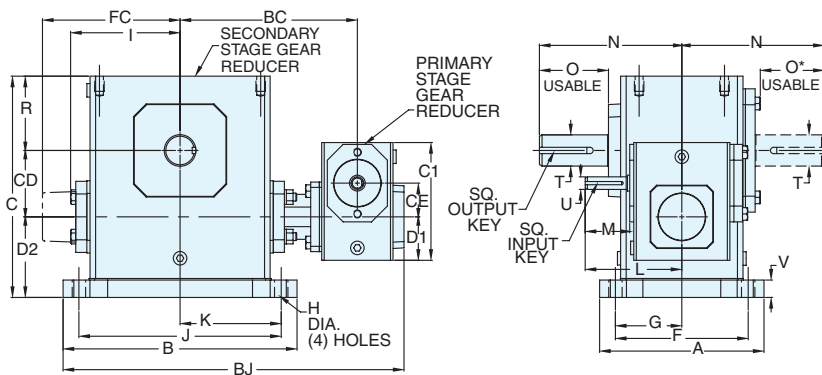
STYLE DUM



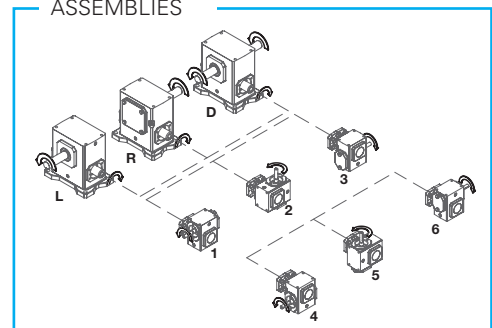
ASSEMBLIES



STYLE DU



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



GR SERIES DIMENSIONS

Styles: DUMQ, DUM, DU



STYLE DUMQ, DUM, DU DIMENSIONS (Inches)

Size	A	B	BC	BJ	C	CD	CE	C1	D1	D2	F	FC▼	G	H	I	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
GR813	4.24	5.37	5.32	9.85	5.19	1.33	1.33	4.66	1.72	2.14	3.31	N/A	1.66	0.34	2.61	4.37	2.19	3.82	1.76	4.00	2.16	1.94	1.72	0.53	0.625	0.500	1/8 x 1.00	3/16 X 1.50
GR815	5.56	6.50	5.85	10.94	5.97	1.54	1.33	4.66	1.72	2.52	4.31	N/A	2.16	0.41	3.14	5.25	2.63	3.82	1.76	4.31	2.11	1.90	1.91	0.59	0.750	0.500	1/8 x 1.00	3/16 X 1.50
GR818	5.75	6.99	5.94	11.28	6.44	1.75	1.33	4.66	1.72	2.63	4.50	N/A	2.25	0.41	3.24	5.75	2.88	3.82	1.76	4.31	2.05	1.84	2.06	0.69	0.875	0.500	1/8 x 1.00	3/16 X 1.38
GR821	6.00	7.69	6.32	12.01	7.09	2.06	1.33	4.66	1.72	2.75	4.69	N/A	2.34	0.47	3.61	6.38	3.19	3.82	1.76	4.68	2.29	2.08	2.28	0.72	1.000	0.500	1/8 x 1.00	1/4 X 1.44
GR824	6.19	8.37	6.44	12.48	7.69	2.38	1.33	4.66	1.72	2.81	4.88	N/A	2.44	0.49	3.77	7.06	3.53	3.82	1.76	5.14	2.66	2.44	2.50	0.75	1.125	0.500	1/8 x 1.00	1/4 X 1.75
GR826	6.50	9.25	7.01	13.48	8.75	2.63	1.33	4.66	1.72	3.19	5.25	N/A	2.63	0.53	4.34	8.00	4.00	3.82	1.76	5.63	2.73	2.52	2.94	0.75	▲	0.500	1/8 x 1.00	1/4 X 1.75
GR830	7.50	10.00	7.86	15.08	9.94	3.00	1.75	5.38	2.06	3.38	5.88	N/A	2.94	0.53	4.84	8.44	4.22	4.35	1.76	6.75	3.60	3.36	3.25	0.75	1.250	0.625	3/16 x 1.38	1/4 X 1.75
GR832	7.75	11.12	8.05	15.81	10.44	3.25	1.75	5.38	2.06	3.50	6.13	N/A	3.06	0.53	5.02	9.50	4.75	4.35	1.76	7.06	3.66	3.42	3.50	0.81	▲	0.625	3/16 x 1.38	3/8 X 2.25
GR842	9.75	13.24	9.18	18.19	12.38	4.25	2.06	6.38	2.28	3.69	7.63	N/A	3.81	0.66	6.10	11.12	5.56	4.82	1.76	8.12	4.50	4.21	4.44	1.00	1.875	0.625	3/16 x 1.38	1/2 X 3.06
GR852	10.50	16.24	11.57	22.59	15.13	5.25	2.63	8.00	2.94	4.76	8.38	N/A	4.19	0.78	7.50	14.12	7.06	6.07	2.38	9.06	4.78	4.53	5.12	1.13	2.000	0.750	3/16 x 1.63	1/2 X 3.50
GR860	12.00	18.99	13.30	26.19	17.75	6.00	3.25	9.38	3.50	5.25	9.50	10.24	4.75	0.91	N/A	16.49	8.25	6.76	2.38	10.00	4.65	4.65	6.50	1.25	2.500	0.875	3/16 x 1.63	5/8 X 4.00
GR870	13.38	15.38	12.96	24.58	20.33	7.00	3.25	9.38	3.50	5.74	11.25	10.63	5.63	1.13	N/A	13.00	6.50	6.76	2.38	11.76	5.65	5.65	7.59	1.42	2.750	0.875	3/16 x 1.75**	5/8 x 4.00**
GR880	13.50	17.37	13.94	26.88	22.61	8.00	4.25	11.38	4.44	5.75	11.50	11.93	5.75	1.13	N/A	14.75	7.38	9.57	3.47	12.25	5.98	5.98	8.86	1.65	3.000	1.250	1/4 X 2.88**	3/4 x 4.50**
GR8100	16.88	21.14	17.05	32.92	27.12	10.00	5.25	14.00	5.12	6.76	14.00	14.34	7.00	1.44	N/A	17.00	8.50	10.88	3.38	14.75	6.76	6.76	10.36	1.65	3.750	1.250	1/4 X 3.00**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical ◊	Identical	Identical	✓	✓	GRG
	1.250"						GRL
826	1.250"	Identical	Identical	Identical	✓		GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓		GRG
	1.375"		5/16 x 2.63				GRL

◊ If Accessory kit is removed, dimensions will vary.

NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages B21-B22 (DMQ, DM, D).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR815	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR818	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR821*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR824	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR826*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR830	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR832*	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR842	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR852	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
GR860	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR870	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR880	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24
GR8100	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR818	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR821*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR824	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR826*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR830	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR832*	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR842	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR852	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR860	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR870	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR880	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR8100	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

* Applies to double output shaft

** Key not provided with gear reducer. Keyway dimension shown.

◆ Keyway width by depth

■ 48CZ not available

✱ Style DU and DUM only.

✱ Metric IEC B5 input flange options are available only on quill input styles.

✱ Dimensions same for GRG and GRL Series

▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BP
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

WARNING

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Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DJMQ, DJM, DJ

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

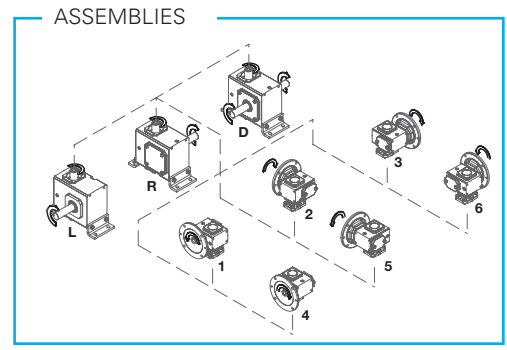
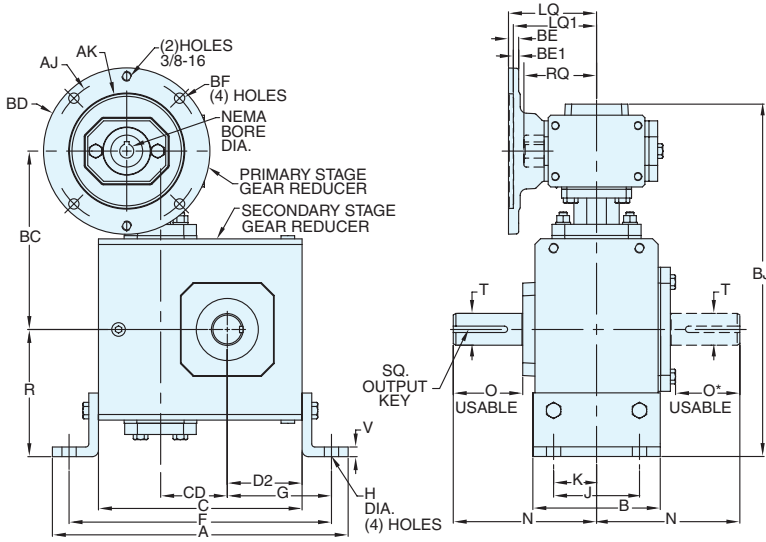
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

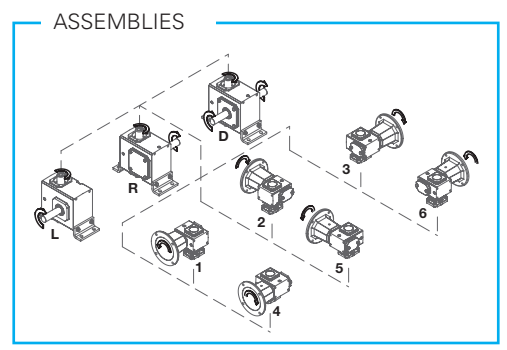
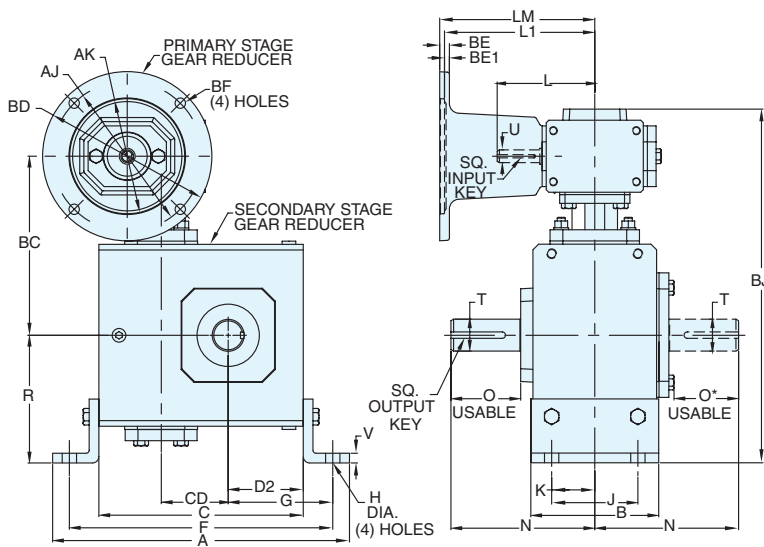
Ratio Multipliers

Accessories
Additional Capabilities

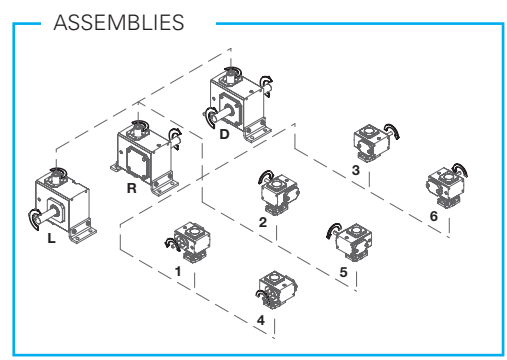
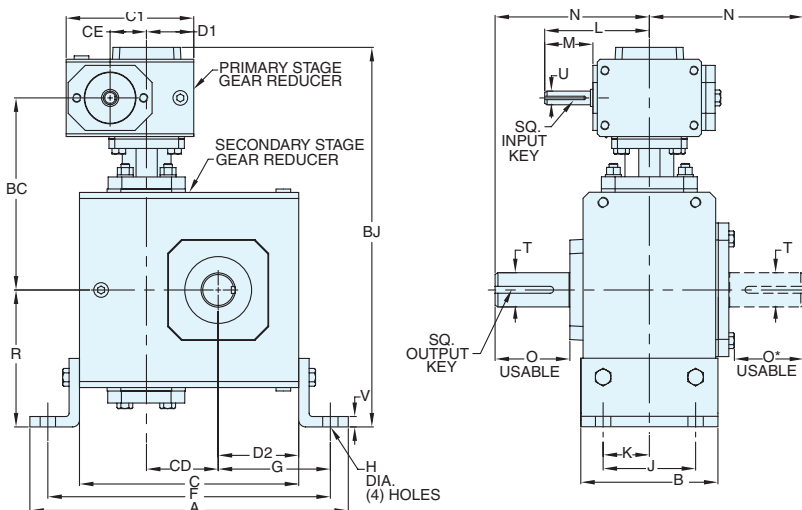
STYLE DJMQ



STYLE DJM



STYLE DJ



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



GR SERIES DIMENSIONS

Styles: DJMQ, DJM, DJ



STYLE DJMQ, DJM, DJ DIMENSIONS (Inches)

Size	A	B	BC	BJ	C	CD	CE	C1	D1	D2	F	G	H	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
GR813	7.42	2.75	5.32	10.10	4.66	1.33	1.33	4.66	1.72	1.72	6.42	2.60	0.38	2.00	1.00	3.82	1.76	4.00	2.16	1.94	2.94	0.25	0.625	0.500	1/8 x 1.00	3/16 X 1.50
GR815	8.14	3.50	5.85	11.20	5.38	1.54	1.33	4.66	1.72	1.91	7.08	2.76	0.44	2.75	1.38	3.82	1.76	4.31	2.11	1.90	3.50	0.25	0.750	0.500	1/8 x 1.00	3/16 X 1.50
GR818	8.51	3.50	5.94	11.29	5.75	1.75	1.33	4.66	1.72	2.06	7.45 - 7.63	3.00	.44 slot	2.50 - 2.75	1.25 - 1.38	3.82	1.76	4.31	2.05	1.84	3.50	0.25	0.875	0.500	1/8 x 1.00	3/16 X 1.38
GR821	9.76	4.00	6.32	12.17	6.38	2.06	1.33	4.66	1.72	2.28	8.63	3.40	.56 slot	2.63 - 2.75	1.31-1.38	3.82	1.76	4.68	2.29	2.08	4.01	0.38	1.000	0.500	1/8 x 1.00	1/4 X 1.44
GR824	10.31	4.00	6.44	12.35	6.94	2.38	1.33	4.66	1.72	2.50	9.19	3.63	0.69	2.88	1.44	3.82	1.76	5.14	2.66	2.44	4.06	0.38	1.125	0.500	1/8 x 1.00	1/4 X 1.75
GR826	11.62	5.00	7.01	13.85	8.00	2.63	1.33	4.66	1.72	2.94	10.38	4.13	0.56	3.38	1.69	3.82	1.76	5.63	2.73	2.52	5.00	0.38	▲	0.500	1/8 x 1.00	1/4 X 1.75
GR830	12.64	6.00	7.86	15.68	9.94	3.00	1.75	5.38	2.06	3.25	11.38	4.50	0.56	3.88	1.94	4.35	1.76	6.75	3.60	3.36	5.62	0.38	1.250	0.625	3/16 x 1.38	1/4 X 1.75
GR832	13.14	6.00	8.05	15.88	10.44	3.25	1.75	5.38	2.06	3.50	11.88	4.75	0.56	3.88	1.94	4.35	1.76	7.06	3.66	3.42	5.63	0.38	▲	0.625	3/16 x 1.38	3/8 X 2.25
GR842	16.38	7.00	9.18	18.07	11.38	4.25	2.06	6.38	2.28	4.44	14.88	6.19	0.69	5.00	2.50	4.82	1.76	8.12	4.50	4.21	6.50	0.50	1.875	0.625	1/4 X 2.88**	1/2 X 3.06
GR852	19.00	7.00	11.57	22.22	14.00	5.25	2.63	8.00	2.94	5.12	17.50	6.87	0.69	5.81	2.91	6.07	2.38	9.06	4.78	4.53	7.75	0.50	2.000	0.750	1/4 X 3.00**	1/2 X 3.50

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical ◊	Identical	Identical	✓	✓	GRG
							GRL
826	1.250"	Identical	Identical	Identical	✓		GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓		GRG
	1.375"		5/16 x 2.63				GRL

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages B21-B22 (DMQ, DM, D).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR815	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR818	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR821*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR824	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR826*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR830	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR832*	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR842	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR852	N/A	8.32	9.32	N/A	5.19■	5.62	N/A	N/A	4.82■	5.13	N/A	N/A

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BP
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR818	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR821*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR824	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR826*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR830	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR832*	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR842	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR852	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

▲ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available

- ✱ Style DJ and DJM only.
- ✱ Metric IEC B5 input flange options are available only on quill input styles.
- ✱ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DV_MQ, DV_M, DV_

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

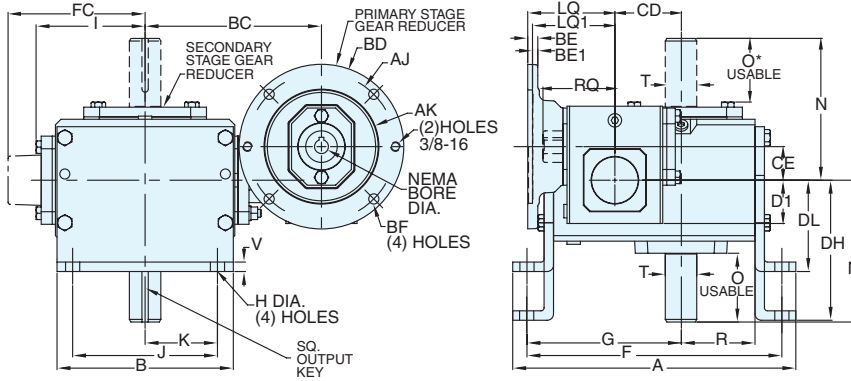
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

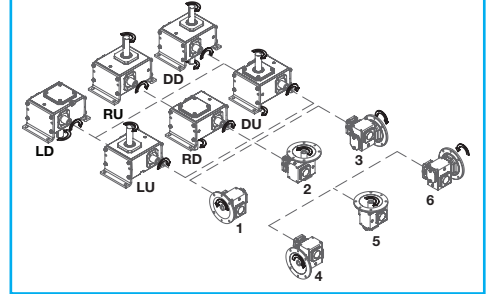
Ratio Multipliers

Accessories
Additional Capabilities

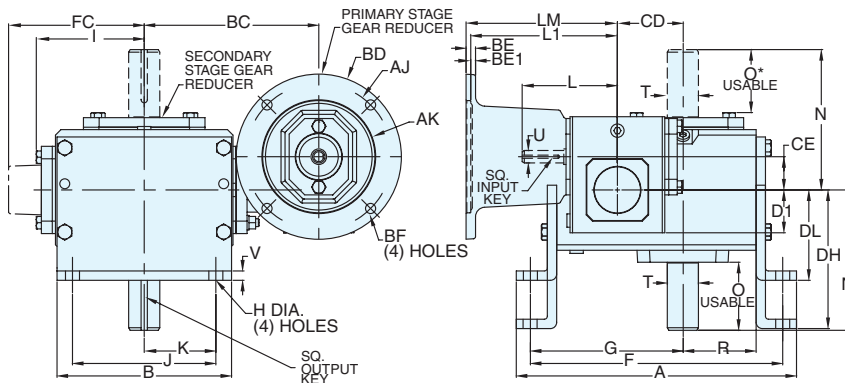
STYLE DV(L or H)MQ



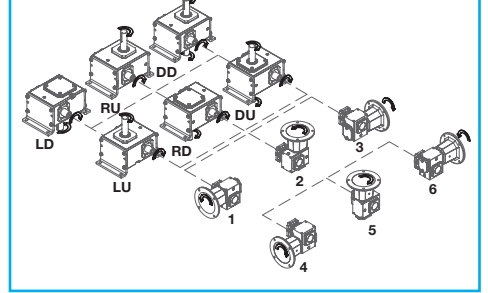
ASSEMBLIES



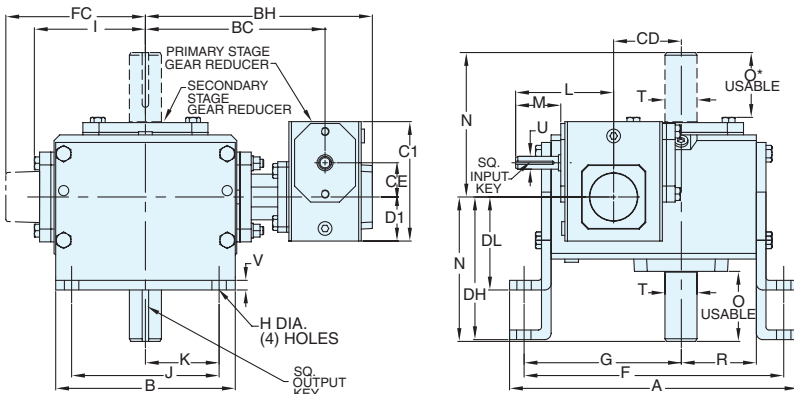
STYLE DV(L or H)M



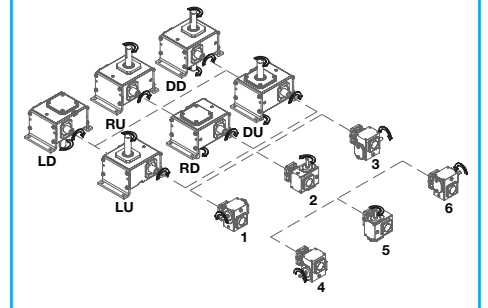
ASSEMBLIES



STYLE DV(L or H)



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



GR SERIES DIMENSIONS

Styles: DV_MQ, DV_M, DV_



STYLE DV_MQ, DV_M, DV_ DIMENSIONS (Inches)

Size	A	B	BC	BH	CD	CE	C1	D1	DL	DH	F	FC▼	G	H	I	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
GR813	7.26	4.00	5.32	7.16	1.33	1.33	4.66	1.72	2.63	3.56	6.50	N/A	3.86	0.38	2.61	3.00	1.50	3.82	1.76	4.00	2.16	1.94	1.72	0.25	0.625	0.500	1/8 x 1.00	3/16 X 1.50
GR815	7.88	5.00	5.85	7.69	1.54	1.33	4.66	1.72	3.00	4.38	7.00	N/A	4.28	0.44	3.14	4.00	2.00	3.82	1.76	4.31	2.11	1.90	1.91	0.25	0.750	0.500	1/8 x 1.00	3/16 X 1.50
GR818	8.25	5.00	5.94	7.79	1.75	1.33	4.66	1.72	3.00	4.38	7.37	N/A	4.50	0.44	3.24	4.00	2.00	3.82	1.76	4.31	2.05	1.84	2.06	0.25	0.875	0.500	1/8 x 1.00	3/16 X 1.38
GR821	9.38	6.00	6.32	8.16	2.06	1.33	4.66	1.72	3.13	4.88	8.38	N/A	5.09	0.50	3.61	4.88	2.44	3.82	1.76	4.68	2.29	2.08	2.28	0.38	1.000	0.500	1/8 x 1.00	1/4 X 1.44
GR824	9.94	6.00	6.44	8.29	2.38	1.33	4.66	1.72	3.38	5.25	8.81	N/A	5.44	0.50	3.77	4.88	2.44	3.82	1.76	5.14	2.66	2.44	2.50	0.38	1.125	0.500	1/8 x 1.00	1/4 X 1.75
GR826	11.24	7.00	7.01	8.85	2.63	1.33	4.66	1.72	3.63	5.56	10.12	N/A	6.12	0.56	4.34	5.75	2.88	3.82	1.76	5.63	2.73	2.52	2.94	0.38	▲	0.500	1/8 x 1.00	1/4 X 1.75
GR830	12.50	8.00	7.86	10.06	3.00	1.75	5.38	2.06	3.94	5.88	11.13	N/A	6.75	0.56	4.84	6.00	3.00	4.35	1.76	6.75	3.60	3.36	3.25	0.38	1.250	0.625	3/16 x 1.38	1/4 X 1.75
GR832	13.00	8.50	8.05	10.25	3.25	1.75	5.38	2.06	4.69	6.25	11.88	N/A	7.13	0.56	5.02	6.13	3.06	4.35	1.76	7.06	3.66	3.42	3.50	0.38	▲	0.625	3/16 x 1.38	3/8 X 2.25
GR842	16.26	10.00	9.18	11.57	4.25	2.06	6.38	2.28	5.00	7.50	14.88	N/A	8.69	0.69	6.10	7.88	3.94	4.82	1.76	8.12	4.50	4.21	4.44	0.50	1.875	0.625	3/16 x 1.38	1/2 X 3.06
GR852	19.62	13.00	11.57	14.47	5.25	2.63	8.00	2.94	5.16	9.16	18.00	N/A	10.88	0.78	7.50	10.00	5.00	6.07	2.38	9.06	4.78	4.53	5.12	0.50	2.000	0.750	3/16 x 1.63	1/2 X 3.50
GR860	23.26	14.75	13.30	16.70	6.00	3.25	9.38	3.50	7.31	9.63	20.88	10.24	12.19	0.91	N/A	11.76	5.88	6.76	2.38	10.00	4.65	4.65	6.50	0.50	2.500	0.875	3/16 x 1.63	5/8 X 4.00
GR870	26.91	14.88	12.96	16.90	7.00	3.25	9.38	3.50	7.00	N/A	23.99	10.63	13.87	1.13	N/A	12.50	6.25	6.76	2.38	11.76	5.65	5.65	7.59	0.75	2.750	0.875	3/16 x 1.75**	5/8 x 4.00**
GR880	28.96	17.00	13.94	18.19	8.00	4.25	11.38	4.44	8.00	N/A	25.50	11.93	14.38	1.13	N/A	14.00	7.00	9.57	3.47	12.25	5.98	5.98	8.86	0.75	3.000	1.250	1/4 X 2.88**	3/4 x 4.50**
GR8100	37.47	20.88	17.05	22.30	10.00	5.25	14.00	5.12	9.00	N/A	30.75	14.34	17.76	1.44	N/A	17.75	8.88	10.88	3.38	14.75	6.76	6.76	10.36	1.00	3.750	1.250	1/4 X 3.00**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical ◊	Identical	Identical	✓	✓	GRG GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages B21-B22 (DMQ, DM, D).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/56C/140TC	LQ1			RQ			
	48CZ	56C/140TC	180TC/210TC	250TC		180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR815	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR818	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR821*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR824	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR826*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR830	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR832*	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR842	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR852	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
GR860	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR870	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR880	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	7.24	N/A
GR8100	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	8.54	N/A

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR818	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR821*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR824	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR826*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR830	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR832*	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR842	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR852	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR860	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR870	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR880	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR8100	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available

- ✱ Style DVL/DVH and DVLM/DVHM only.
- ✱ Metric IEC B5 input flange options are available only on quill input styles.
- ✱ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BP ⁸
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

▲ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR-MOTOR®

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DFMQ, DFM, DF

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

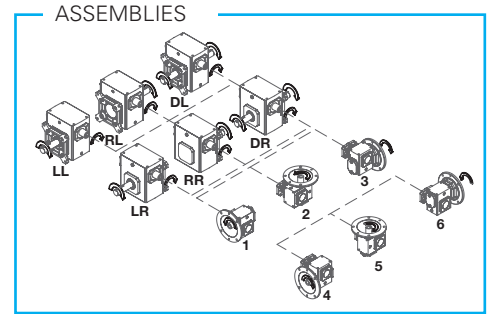
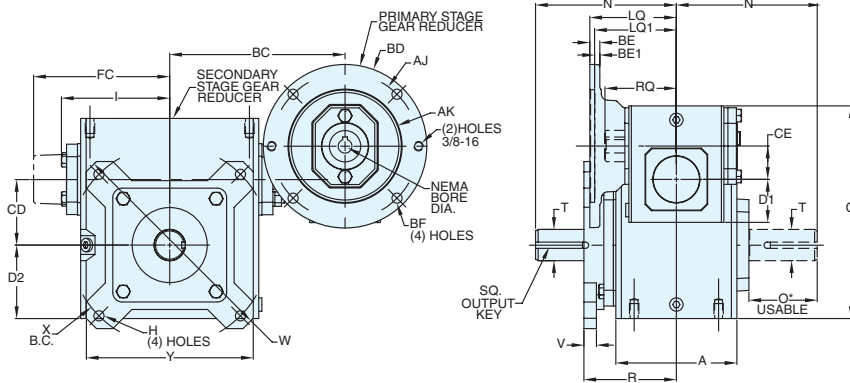
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

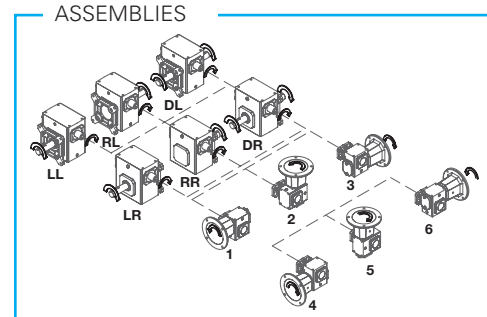
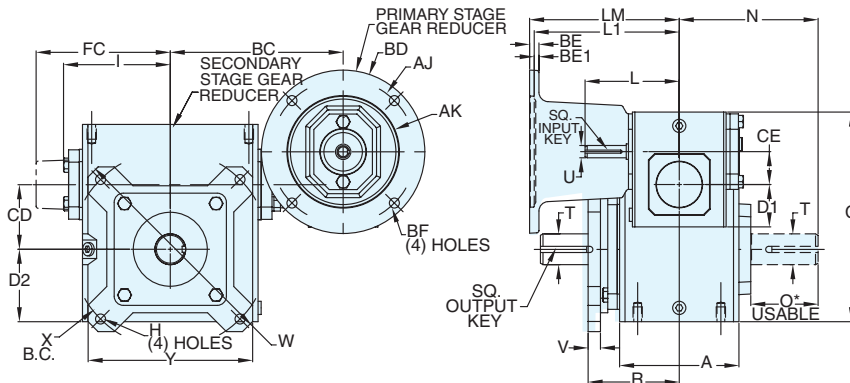
Ratio Multipliers

Accessories
Additional Capabilities

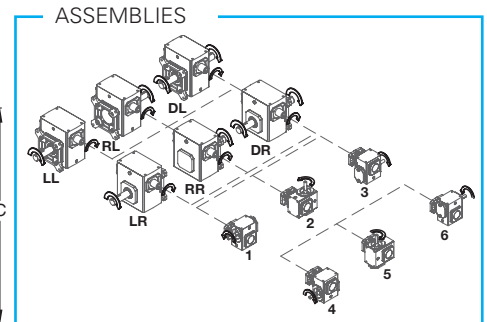
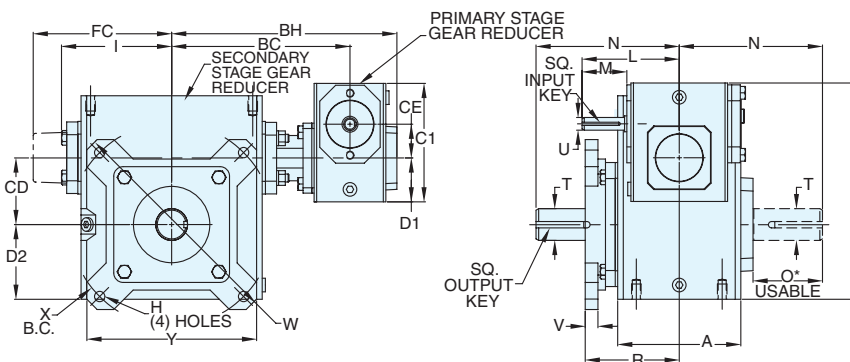
STYLE DFMQ



STYLE DFM



STYLE DF



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Sizes 813-8100 output flange must be mounted at
Factory on styles FMQ, FM, F.



GR SERIES DIMENSIONS

Styles: DFMQ, DFM, DF



STYLE DFMQ, DFM, DF DIMENSIONS (Inches)

Size	A	BC	BH	C	CD	CE	C1	D1	D2	FC▼	H	I	L	M	N	O*	R	V	W	X	Y	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
GR813	2.82	5.32	7.16	5.99	1.33	1.33	4.66	1.72	1.72	N/A	0.34	2.61	3.82	1.76	4.00	1.94	2.52	0.38	5.92	5.00	4.50	0.625	0.500	1/8 x 1.00	3/16 X 1.50
GR815	3.44	5.85	7.69	6.38	1.54	1.33	4.66	1.72	1.91	N/A	0.34	3.14	3.82	1.76	4.31	1.90	2.87	0.38	5.88	5.00	4.50	0.750	0.500	1/8 x 1.00	3/16 X 1.50
GR818	3.56	5.94	7.79	6.75	1.75	1.33	4.66	1.72	2.06	N/A	0.34	3.24	3.82	1.76	4.31	1.84	3.18	0.38	6.64	5.88	5.00	0.875	0.500	1/8 x 1.00	3/16 X 1.38
GR821	3.81	6.32	8.16	7.28	2.06	1.33	4.66	1.72	2.28	N/A	0.41	3.61	3.82	1.76	4.68	2.08	3.69	0.44	7.88	7.00	5.99	1.000	0.500	1/8 x 1.00	1/4 X 1.44
GR824	4.06	6.44	8.29	7.81	2.38	1.33	4.66	1.72	2.50	N/A	0.41	3.77	3.82	1.76	5.14	2.44	3.73	0.44	8.39	7.50	6.27	1.125	0.500	1/8 x 1.00	1/4 X 1.75
GR826	4.84	7.01	8.85	8.50	2.63	1.33	4.66	1.72	2.94	N/A	0.41	4.34	3.82	1.76	5.63	2.52	3.70	0.50	8.88	8.00	6.67	▲	0.500	1/8 x 1.00	1/4 X 1.75
GR830	5.25	7.86	10.06	9.94	3.00	1.75	5.38	2.06	3.25	N/A	0.41	4.84	4.35	1.76	6.75	3.36	3.78	0.50	9.89	9.00	7.37	1.250	0.625	3/16 x 1.38	1/4 X 1.75
GR832	5.75	8.05	10.25	10.44	3.25	1.75	5.38	2.06	3.50	N/A	0.41	5.02	4.35	1.76	7.06	3.42	4.03	0.50	9.89	9.00	7.37	▲	0.625	3/16 x 1.38	3/8 X 2.25
GR842	6.13	9.18	11.57	12.78	4.25	2.06	6.38	2.28	4.44	N/A	0.56	6.10	4.82	1.76	8.12	4.21	4.56	0.62	12.95	11.50	9.65	1.875	0.625	3/16 x 1.38	1/2 X 3.06
GR852	7.19	11.57	14.47	15.43	5.25	2.63	8.00	2.94	5.12	N/A	0.69	7.50	6.07	2.38	9.06	4.53	5.62	0.75	15.50	14.00	11.75	2.000	0.750	3/16 x 1.63	1/2 X 3.50
GR860	8.13	13.30	16.70	18.38	6.00	3.25	9.38	3.50	6.50	10.24	0.69	N/A	6.76	2.38	10.00	4.65	7.26	0.75	18.00	15.63	14.00	2.500	0.875	3/16 x 1.63	5/8 X 4.00
GR870	7.63	12.96	16.90	20.46	7.00	3.25	9.38	3.50	7.59	10.63	0.78	N/A	6.76	2.38	11.76	5.65	7.45	0.75	21.00	18.38	15.63	2.750	0.875	3/16 x 1.75**	5/8 x 4.00**
GR880	8.63	13.94	18.19	23.79	8.00	4.25	11.38	4.44	8.86	11.93	1.03	N/A	9.57	3.47	12.25	5.98	8.34	0.75	24.00	21.00	17.88	3.000	1.250	1/4 X 2.88**	3/4 x 4.50**
GR8100	9.53	17.05	22.30	29.24	10.00	5.25	14.00	5.12	10.36	14.34	1.03	N/A	10.88	3.38	14.75	6.76	9.07	1.00	29.00	25.00	21.19	3.750	1.250	1/4 X 3.00**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
GR821	Identical	Identical ◊	Identical	Identical	✓	✓	GRG GRL
GR826	1.250"	Identical	Identical	Identical	✓	✓	GRG GRL
	1.125"						GRG GRL
GR832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG GRL
	1.375"		5/16 x 2.63				GRG GRL

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages B21-B22 (DMQ, DM, D).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR815	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR818	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR821*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR824	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR826*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR830	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR832*	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR842	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR852	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
GR860	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR870	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR880	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24
GR8100	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR818	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR821*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR824	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR826*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR830	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR832*	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR842	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR852	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR860	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR870	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR880	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR8100	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available

- ✱ Style DF and DFM only.
- ✱ Metric IEC B5 input flange options are available only on quill input styles.
- ✱ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF◆
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

▲ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR-MOTOR®

Ratio Multipliers

Accessories
Additional Capabilities

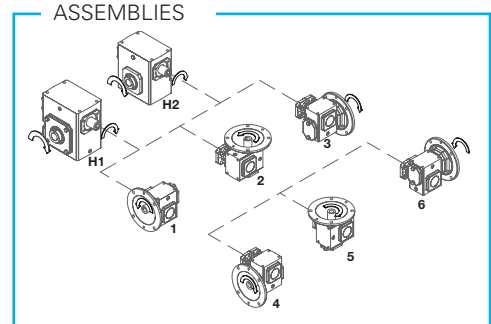
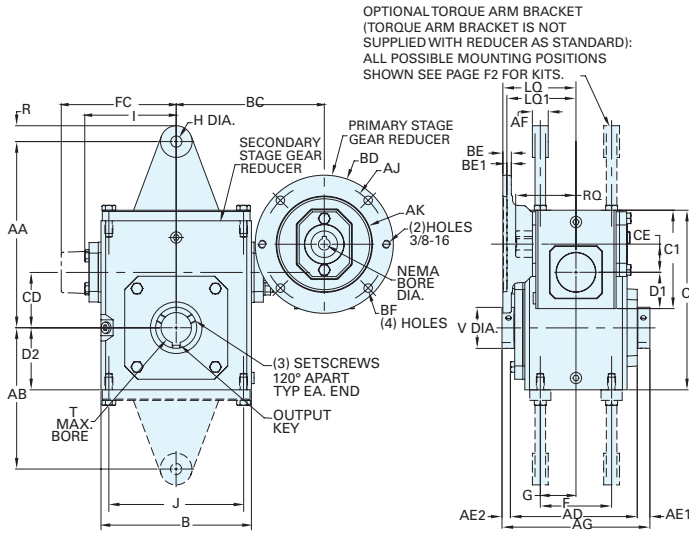


GR SERIES DIMENSIONS

STYLES: DHMQ, DHM, DH

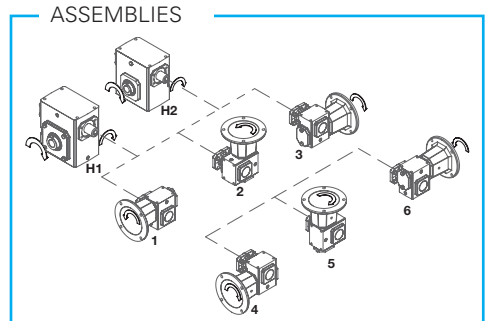
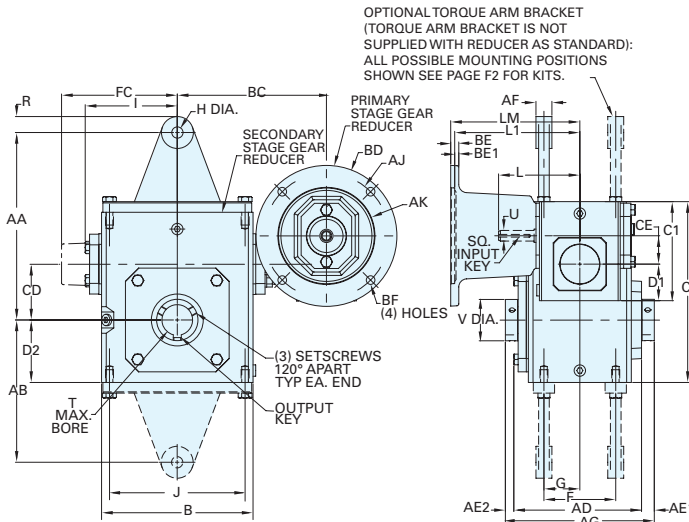
CAST IRON
GR SERIES

STYLE DHMQ



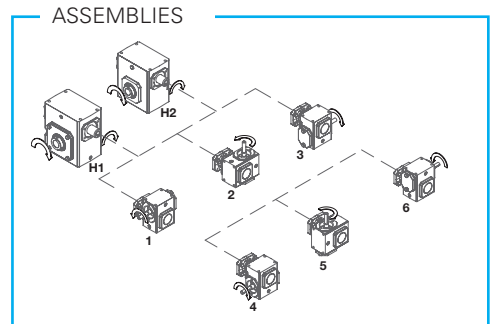
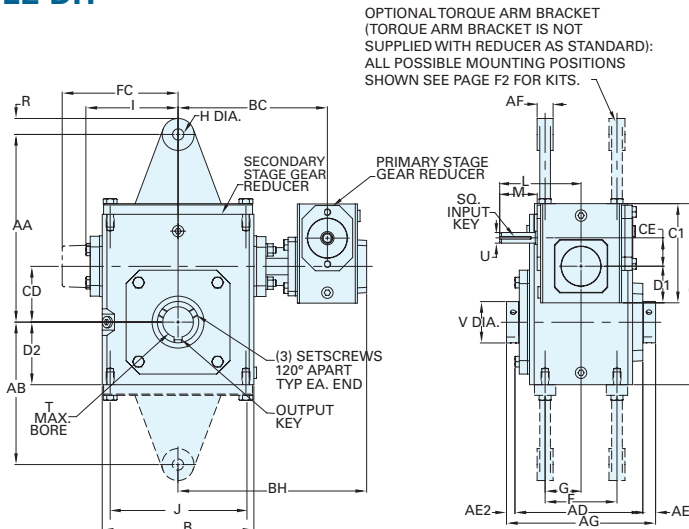
H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DHM



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

Styles: DHMQ, DHM, DH



STYLE DHMQ, DHM, DH DIMENSIONS (Inches)

Size	AA	AB	AD	AE1	AE2	AF	AG	B	BC	BH	C	CD	CE	C1	C2	D1	D2	F	FC▼	G	H	I	J	L	M	R	V	T MAX• -0.000 +0.0025	U +0.000 -0.0015	Input Key**	Output Key	
GR813	4.19	2.97	3.90	0.53	0.32	0.75	4.75	3.80	5.32	7.16	5.99	1.33	1.33	4.66	4.66	1.72	1.72	2.00	N/A	1.00	0.53	2.61	3.25	3.82	1.76	0.50	1.00	0.625	0.500	1/8 x 1.00	3/16 x 1.50	
GR815	5.97	4.41	4.61	0.51	0.30	0.75	5.42	5.19	5.85	7.69	6.38	1.54	1.33	4.66	5.38	1.72	1.91	2.75	N/A	1.38	0.53	3.14	4.19	3.82	1.76	0.75	1.00	0.625	0.500	1/8 x 1.00	3/16 x 1.50	
GR818	6.19	4.56	4.73	0.49	0.28	0.75	5.50	5.19	5.94	7.79	6.75	1.75	1.33	4.66	5.75	1.72	2.06	2.75	N/A	1.38	0.53	3.24	4.19	3.82	1.76	0.75	1.44	1.000	0.500	1/8 x 1.00	1/4 x 3.00	
GR821	7.24	5.43	4.99	0.61	0.40	0.75	6.00	5.80	6.32	8.16	7.28	2.06	1.33	4.66	6.38	1.72	2.28	▲	N/A	1.44	0.53	3.61	▲	3.82	1.76	0.75	1.44	1.500	0.500	1/8 x 1.00	3/8 x 3.00	
GR824	7.89	5.75	5.18	0.51	0.31	0.75	6.00	6.12	6.44	8.29	7.81	2.38	1.33	4.66	6.94	1.72	2.50	2.88	N/A	1.44	0.53	3.77	▲	3.00	3.82	1.76	0.75	1.94	1.500	0.500	1/8 x 1.00	3/8 x 3.00
GR826	8.81	6.69	6.01	0.60	0.39	0.75	7.00	7.38	7.01	8.85	8.50	2.63	1.33	4.66	8.00	1.72	2.94	3.38	N/A	1.69	0.53	4.34	6.38	3.82	1.76	0.75	1.94	1.500	0.500	1/8 x 1.00	3/8 x 3.00	
GR830	10.63	8.25	6.53	0.60	0.36	0.75	7.50	8.12	7.86	10.06	9.94	3.00	1.75	5.38	8.88	2.06	3.25	4.00	N/A	2.00	0.53	4.84	7.00	4.35	1.76	0.88	2.51	2.188	0.625	3/16 x 1.38	1/2 x 3.00	
GR832	10.88	8.50	7.04	0.54	0.29	0.75	7.88	8.75	8.05	10.25	10.44	3.25	1.75	5.38	9.38	2.06	3.50	4.00	N/A	2.00	0.53	5.02	7.50	4.35	1.76	0.88	2.51	2.188	0.625	3/16 x 1.38	1/2 x 3.00	
GR842	11.94	9.44	7.53	0.63	0.34	0.75	8.50	10.25	9.18	11.57	12.78	4.25	2.06	6.38	11.38	2.28	4.44	5.00	N/A	2.50	0.53	6.10	8.50	4.82	1.76	0.75	2.75	2.188	0.625	3/16 x 1.38	1/2 x 3.00	
GR852	13.88	10.12	8.85	0.97	0.68	1.00	10.50	13.00	11.57	14.47	15.43	5.25	2.63	8.00	14.00	2.94	5.12	5.81	N/A	2.91	0.66	7.50	11.00	6.07	2.38	1.00	4.26	3.438	0.750	3/16 x 1.63	7/8 x 3.44	
GR860	15.00	11.50	10.52	0.52	0.52	0.38	11.50	14.50	13.30	16.70	18.38	6.00	3.25	9.38	16.50	3.50	6.50	6.38	10.24	3.19	0.66	N/A	12.75	6.76	2.38	0.69	4.18	3.438	0.875	3/16 x 1.63	7/8 x 3.44	
GR870	N/A	N/A	11.36	1.09	1.09	N/A	13.50	14.88	12.96	16.90	20.46	7.00	3.25	9.38	18.91	3.50	7.59	5.50	10.63	2.75	N/A	N/A	12.50	6.76	2.38	N/A	4.92	3.938	0.875	3/16 x 1.75**	1 x 1/2**	
GR880	N/A	N/A	12.48	1.03	1.03	N/A	14.50	17.00	13.94	18.19	23.79	8.00	4.25	11.38	20.96	4.44	8.86	6.50	11.93	3.25	N/A	N/A	14.25	9.57	3.47	N/A	5.55	4.438	1.250	1/4 X 2.88**	1 x 1/2**	
GR8100	N/A	N/A	15.78	1.39	1.39	N/A	18.50	20.88	17.05	22.30	29.24	10.00	5.25	14.00	25.47	5.12	10.36	6.88	14.34	3.44	N/A	N/A	17.75	10.88	3.38	N/A	6.67	5.438	1.250	1/4 X 3.00**	1-1/4 x 5/8**	

▲ See feature comparison chart.

FEATURE COMPARISON CHART (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	(F)3.00" x (J)4.75"	Identical	✓	✓	GRG
		(F)2.88" x (J)5.00"				GRL

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ1			RQ				
	48CZ	56C/140TC	180TC/210TC	250TC	LQ 48CZ/56C/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR815	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR818	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR821*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR824	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR826	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR830	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR832	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR842	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR852	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
GR860	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR870	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR880	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24
GR8100	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1					RQ						
	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR818	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR821*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR824	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR826	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR830	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR832	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR842	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR852	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR860	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR870	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR880	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR8100	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

- Max bore dimensions shown. For additional bores available, refer to page B19.
- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available

- ※ Style DH and DHM only.
- ◆ Metric IEC B5 input flange options are available only on quill input styles.
- * Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF◆
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	5	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

▲ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

Note: Torque arm bracket available separately. Refer to page F2 for kits. If a special bracket is required, refer to Style DMQ dimensions for mounting pad dimensions on top/bottom of reducer.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DFHMQ, DFHM, DFH

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

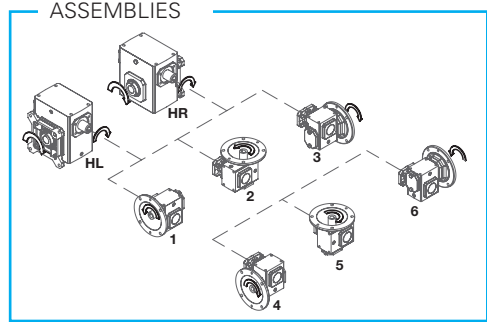
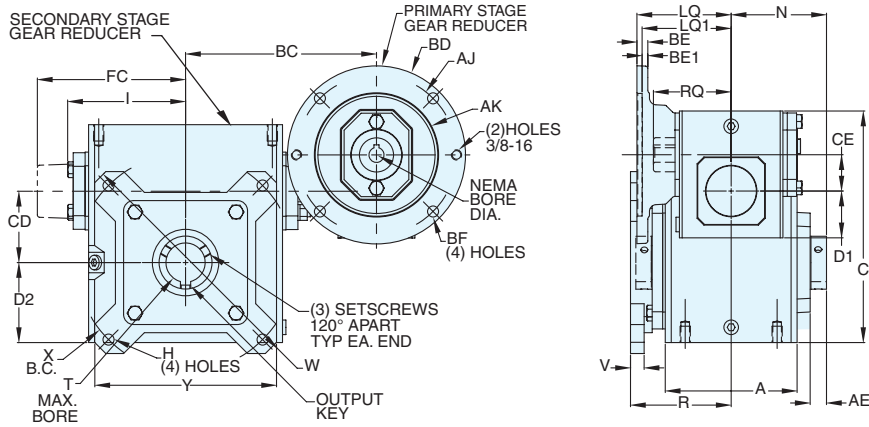
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

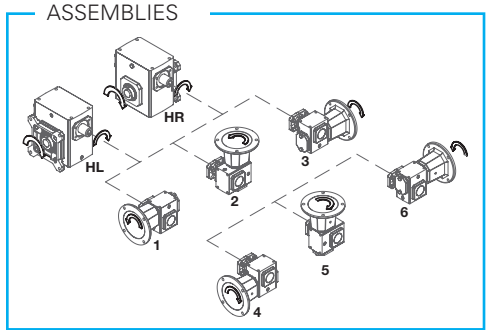
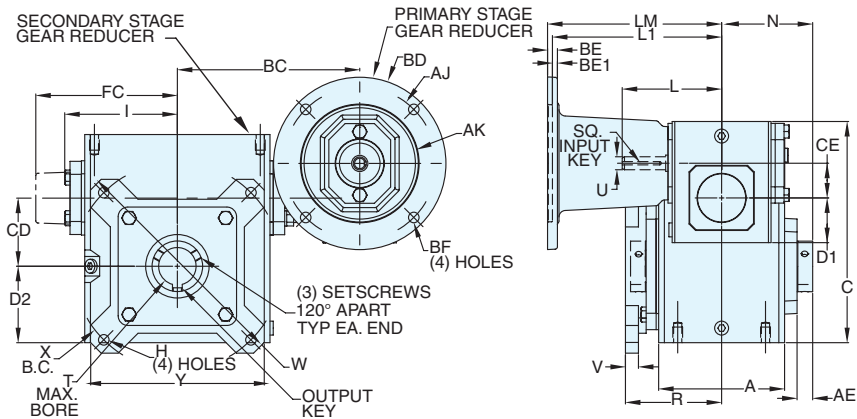
Ratio Multipliers

Accessories
Additional Capabilities

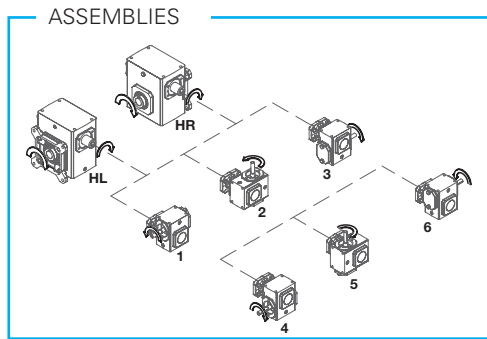
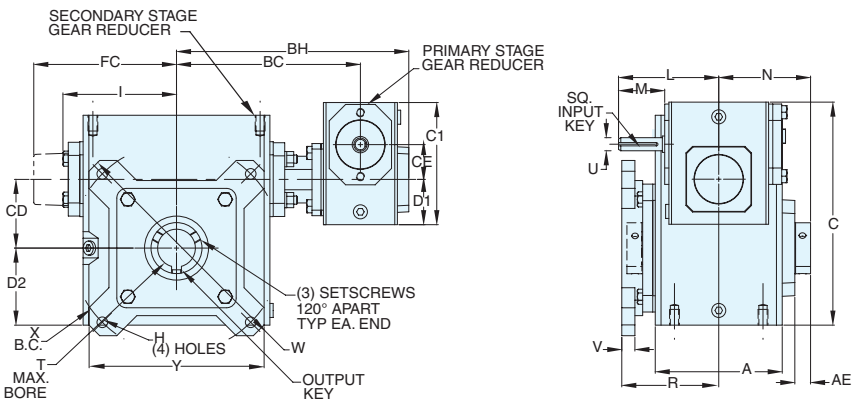
STYLE DFHMQ



STYLE DFHM



STYLE DFH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



GR SERIES DIMENSIONS

Styles: DFHMQ, DFHM, DFH



STYLE DFHMQ, DFHM, DFH DIMENSIONS (Inches)

Size	A	AE	BC	BH	C	CD	CE	C1	D1	D2	FC▼	H	I	L	M	N	R	V	W	X	Y	T MAX* -0.000 +0.0025	U +0.000 -0.0015	Input Key**	Output Key
GR813	2.82	0.53	5.32	7.16	5.99	1.33	1.33	4.66	1.72	1.72	N/A	0.34	2.61	3.82	1.76	2.38	2.52	0.38	5.92	5.00	4.50	0.625	0.500	1/8 x 1.00	3/16 x 1.50
GR815	3.44	0.51	5.85	7.69	6.38	1.54	1.33	4.66	1.72	1.91	N/A	0.34	3.14	3.82	1.76	2.71	2.87	0.38	5.88	5.00	4.50	0.625	0.500	1/8 x 1.00	3/16 x 1.50
GR818	3.56	0.49	5.94	7.79	6.75	1.75	1.33	4.66	1.72	2.06	N/A	0.34	3.24	3.82	1.76	2.75	3.18	0.38	6.64	5.88	5.00	1.000	0.500	1/8 x 1.00	1/4 x 3.00
GR821	3.81	0.61	6.32	8.16	7.28	2.06	1.33	4.66	1.72	2.28	N/A	0.41	3.61	3.82	1.76	3.00	3.69	0.44	7.88	7.00	5.99	1.500	0.500	1/8 x 1.00	3/8 x 3.00
GR824	4.06	0.51	6.44	8.29	7.81	2.38	1.33	4.66	1.72	2.50	N/A	0.41	3.77	3.82	1.76	3.00	3.73	0.44	8.39	7.50	6.27	1.500	0.500	1/8 x 1.00	3/8 x 3.00
GR826	4.84	0.60	7.01	8.85	8.50	2.63	1.33	4.66	1.72	2.94	N/A	0.41	4.34	3.82	1.76	3.50	3.70	0.50	8.88	8.00	6.67	1.500	0.500	1/8 x 1.00	3/8 x 3.00
GR830	5.25	0.60	7.86	10.06	9.94	3.00	1.75	5.38	2.06	3.25	N/A	0.41	4.84	4.35	1.76	3.75	3.78	0.50	9.89	9.00	7.37	2.188	0.625	3/16 x 1.38	1/2 x 3.00
GR832	5.75	0.54	8.05	10.25	10.44	3.25	1.75	5.38	2.06	3.50	N/A	0.41	5.02	4.35	1.76	3.94	4.03	0.50	9.89	9.00	7.37	2.188	0.625	3/16 x 1.38	1/2 x 3.00
GR842	6.13	0.63	9.18	11.57	12.78	4.25	2.06	6.38	2.28	4.44	N/A	0.56	6.10	4.82	1.76	4.25	4.56	0.62	12.95	11.50	9.65	2.188	0.625	3/16 x 1.38	1/2 x 3.00
GR852	7.19	0.97	11.57	14.47	15.43	5.25	2.63	8.00	2.94	5.12	N/A	0.69	7.50	6.07	2.38	5.25	5.62	0.75	15.50	14.00	11.75	3.438	0.750	3/16 x 1.63	7/8 x 3.44
GR860	8.13	0.52	13.30	16.70	18.38	6.00	3.25	9.38	3.50	6.50	10.24	0.69	N/A	6.76	2.38	5.75	7.26	0.75	18.00	15.63	14.00	3.438	0.875	3/16 x 1.63	7/8 x 3.44
GR870	7.63	1.09	12.96	16.90	20.46	7.00	3.25	9.38	3.50	7.59	10.63	0.78	N/A	6.76	2.38	6.75	7.45	0.75	21.00	18.38	15.63	3.938	0.875	3/16 x 1.75**	1 x 1/2**
GR880	8.63	1.03	13.94	18.19	23.79	8.00	4.25	11.38	4.44	8.86	11.93	1.03	N/A	9.57	3.47	7.25	8.34	0.75	24.00	21.00	17.88	4.438	1.250	1/4 X 2.88**	1 x 1/2**
GR8100	9.53	1.39	17.05	22.30	29.24	10.00	5.25	14.00	5.12	10.36	14.34	1.03	N/A	10.88	3.38	9.25	9.07	1.00	29.00	25.00	21.19	5.438	1.250	1/4 X 3.00**	1-1/4 x 5/8**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical ◊	Identical	✓	✓	GRG GRL

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages B21-B22 (DMQ, DM, D).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
GR813	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR815	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR818	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR821*	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR824	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR826	5.63	6.07	N/A	N/A	3.46	N/A	N/A	N/A	3.09	N/A	N/A	N/A
GR830	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR832	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR842	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR852	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
GR860	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR870	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR880	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	7.24	
GR8100	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	8.54	

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
GR813	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR815	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR818	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR821*	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR824	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR826	2.62	2.65	2.89	N/A	N/A	N/A	2.45	2.47	2.71	N/A	N/A	N/A
GR830	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR832	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR842	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR852	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR860	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR870	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR880	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR8100	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

- Max bore dimensions shown. For additional bores available, refer to page B19.
- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available

- ◆ Style DH and DHM only.
- ◆ Metric IEC B5 input flange options are available only on quill input styles.
- ◆ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28	
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41	
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41	
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53	
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53	
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53	

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

▲ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DFEMQ, DFEM, DFE

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

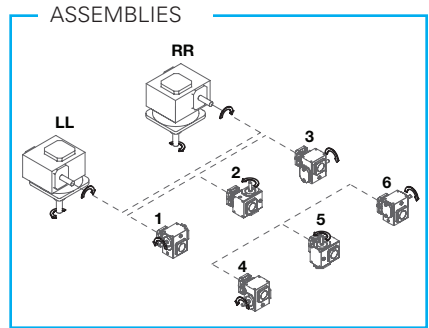
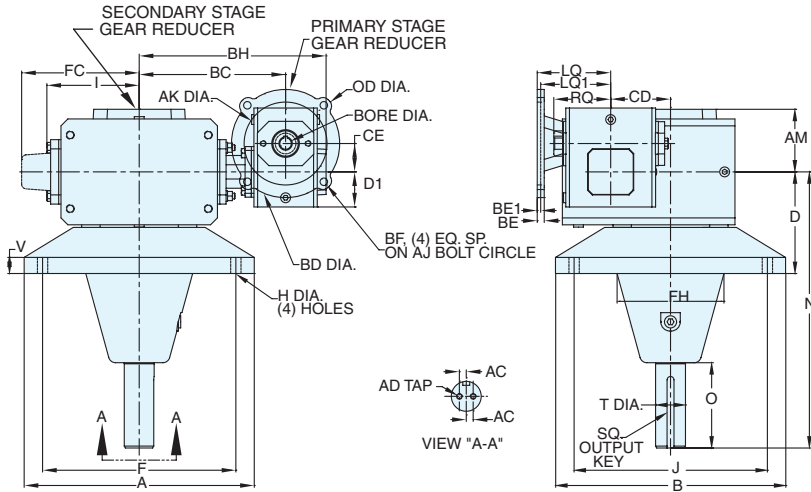
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

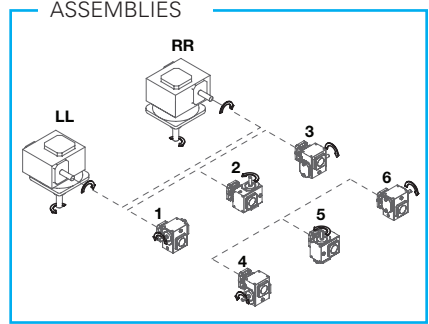
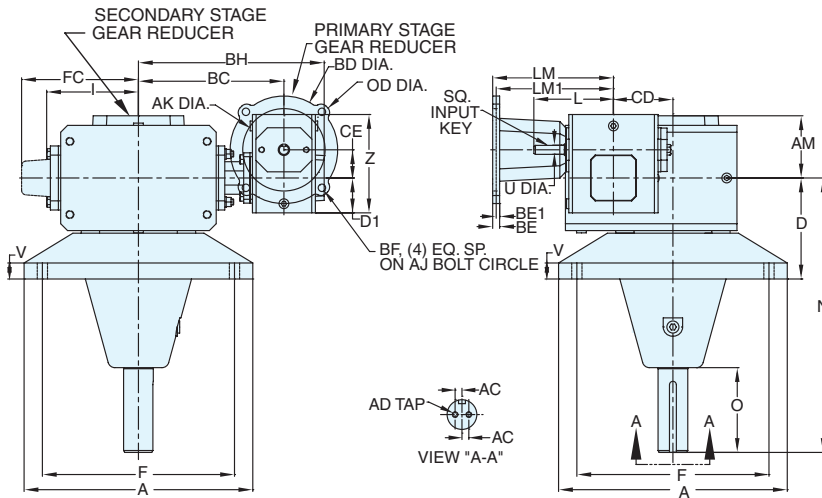
Ratio Multipliers

Accessories
Additional Capabilities

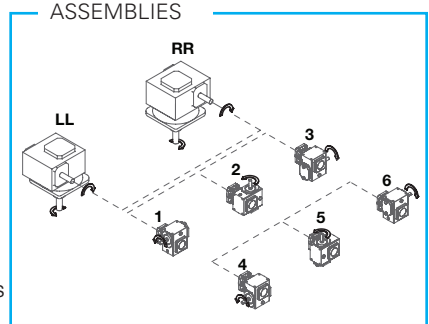
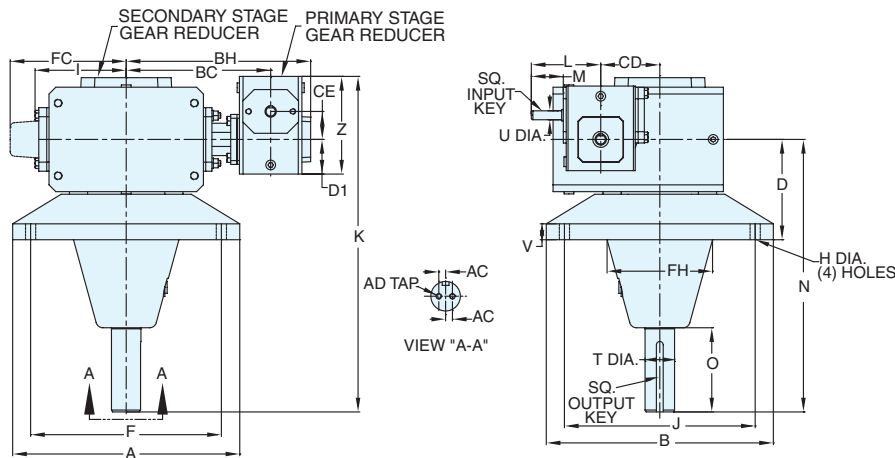
STYLE DFEMQ



STYLE DFEM



STYLE DFE



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



GR SERIES DIMENSIONS

Styles: DFEMQ, DFEM, DFE



STYLE DFEMQ, DFEM, DFE DIMENSIONS (Inches)

Size	A	AC	AD	AM	B	BC	BH	CD	CE	C1	D	D1	F	FC▼	FH
GR830	11.00	0.375	.31-18 UNC X 1.00 DP	3.15	11.00	7.86	10.06	3.00	1.75	5.38	4.60	2.06	9.00	N/A	5.12
GR832	12.50	0.375	.31-18 UNC X 1.00 DP	3.40	12.50	8.05	10.25	3.25	1.75	5.38	5.52	2.06	10.50	N/A	5.75
GR842	14.00	0.500	.38-16 UNC X 1.00 DP	3.62	14.00	9.18	11.57	4.25	2.06	6.38	5.74	2.28	12.00	N/A	6.75
GR852	16.00	0.750	.38-16 UNC X 1.00 DP	4.28	16.00	11.57	14.47	5.25	2.62	8.00	6.00	2.94	14.00	N/A	8.00
GR860	19.50	0.750	.38-16 UNC X 1.00 DP	5.28	19.50	13.30	16.70	6.00	3.25	9.38	7.00	3.50	17.00	10.24	9.50
GR870	22.00	1.000	.38-16 UNC X 1.00 DP	6.06	22.00	12.96	16.90	7.00	3.25	9.38	8.50	3.50	19.00	10.63	10.75
GR880	28.00	1.062	.62-11 UNC X 1.50 DP	6.22	28.00	13.94	18.19	8.00	4.25	11.38	10.00	4.44	24.00	11.93	13.75
GR8100	32.00	1.118	.62-11 UNC X 1.50 DP	7.94	32.00	17.05	22.30	10.00	5.25	14.00	12.50	5.12	28.00	14.34	17.00

Size	H	I	J	K	L	M	N	O ^o	^v -0.0015"	^T -0.000 -0.0015"	^U +0.000"	P*:	Output Key*:
GR830	0.56	4.84	9.00	17.85	4.35	1.76	14.38	4.96	0.78	1.438	0.625	3/16 x 1.38	3/8 x 3.88
GR832	0.56	5.02	10.50	18.47	4.35	1.76	15.00	4.63	0.88	1.438	0.625	3/16 x 1.38	3/8 x 3.69
GR842	0.69	6.10	12.00	20.59	4.82	1.76	16.50	5.91	1.00	1.688	0.625	3/16 x 1.38	3/8 x 4.68
GR852	0.81	7.50	14.00	21.56	6.07	2.38	16.50	5.62	1.25	2.188	0.750	3/16 x 1.63	1/2 x 4.63
GR860	0.88	N/A	17.00	28.36	6.76	2.38	22.50	7.63	1.50	2.438	0.875	3/16 x 1.63	5/8 x 6.50
GR870	1.13	N/A	19.00	29.88	6.76	2.38	24.00	7.63	1.75	2.937	0.875	3/16 x 1.75**	3/4 x 6.44
GR880	1.31	N/A	24.00	34.00	9.57	3.47	27.06	9.25	2.00	3.438	1.250	1/4 X 2.88**	7/8 x 8.00
GR8100	1.31	N/A	28.00	38.38	10.88	3.38	29.50	9.43	2.25	3.938	1.250	1/4 X 3.00**	1 x 7.75

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1		LQ 48CZ/ 56C/140TC	LQ1			RQ			
	48CZ	56C/ 140TC	180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
GR830	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR832	6.26	6.70	N/A	N/A	4.09	N/A	N/A	N/A	3.59	N/A	N/A	N/A
GR842	6.63	7.07	N/A	N/A	4.46	N/A	N/A	N/A	4.06	N/A	N/A	N/A
GR852	N/A	8.32	9.32	N/A	5.19	5.62	N/A	N/A	4.82	5.13	N/A	N/A
GR860	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR870	N/A	9.01	10.01	N/A	6.14	6.34	6.75	N/A	5.51	5.81	6.25	N/A
GR880	N/A	11.81	12.90	13.46	6.45	7.21	7.21	7.77	6.04	6.68	6.68	7.24
GR8100	N/A	13.21	14.30	14.86	7.85	8.61	8.61	9.17	7.35	7.98	7.98	8.54

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF⊕
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1						RQ					
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D	D63D	D71D	D80D	D90D	D100LD/ D112MD	D132D
GR830	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR832	3.25	3.28	3.52	N/A	N/A	N/A	2.95	2.97	3.21	N/A	N/A	N/A
GR842	3.62	3.65	3.89	N/A	N/A	N/A	3.43	3.44	3.68	N/A	N/A	N/A
GR852	N/A	4.28	4.90	4.90	5.30	N/A	N/A	4.09	4.72	4.72	5.07	N/A
GR860	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR870	N/A	4.97	5.59	5.59	6.07	N/A	N/A	4.78	5.41	5.41	5.76	N/A
GR880	N/A	N/A	N/A	6.38	6.39	7.17	N/A	N/A	N/A	6.16	6.14	6.93
GR8100	N/A	N/A	N/A	7.78	7.78	8.57	N/A	N/A	N/A	7.46	7.45	8.24

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237
D132D	265	230	267	18	38	10 X 4	M12 X 1.75	290

▲ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

** Key not provided with gear reducer. Keyway dimension shown.
◆ Keyway width by depth
■ 48CZ not available
⊖ "O" dimension is the minimum dimension to output or screw head on sizes GR860-GR8100

* Style DFE and DFEM only.
⊕ Metric IEC B5 input flange options are available only on quill input styles.
▼ Sizes 860-8100 have extended cap. Dimensions refer to cap location.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: DMQ, DM, D

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

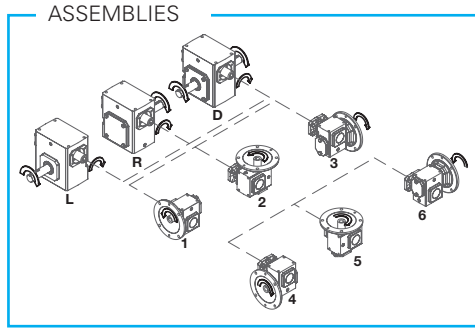
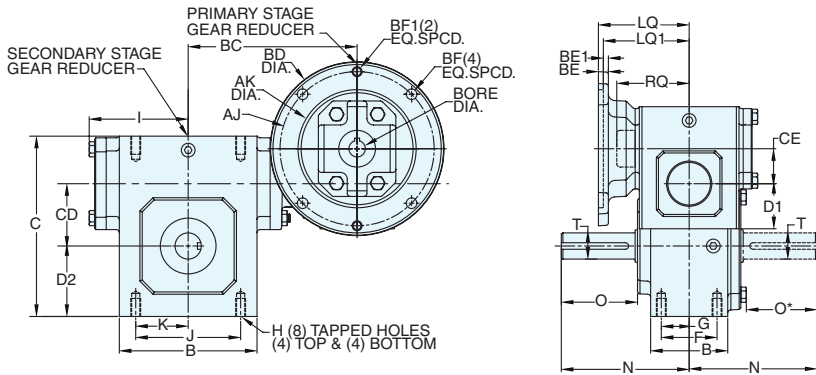
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

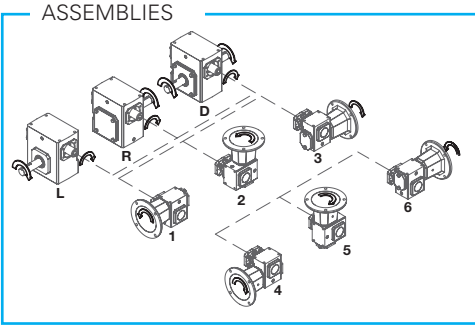
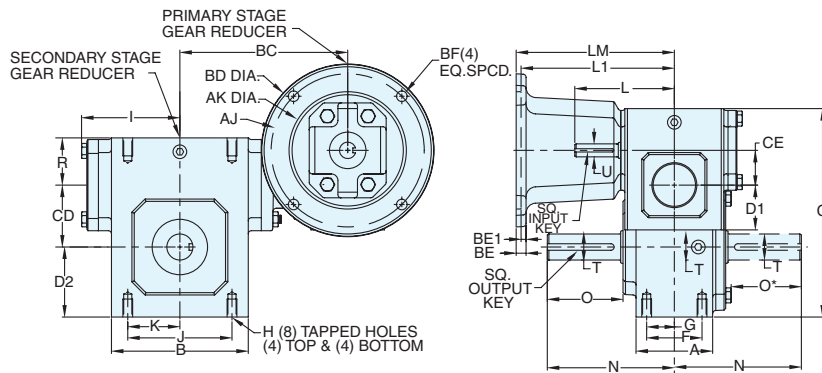
Ratio Multipliers

Accessories
Additional Capabilities

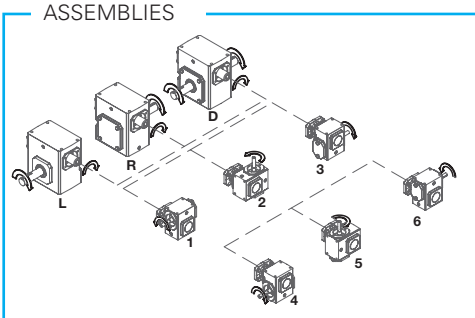
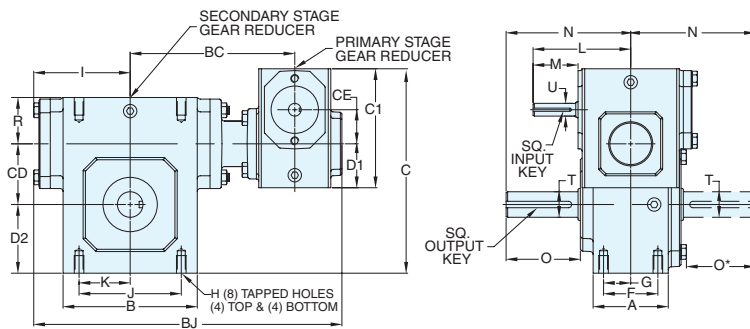
STYLE DMQ



STYLE DM



STYLE D



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



NH SERIES DIMENSIONS

Styles: DMQ, DM, D



STYLE DMQ, DM, D DIMENSIONS (Inches)

Size	A	B	BC	BJ	C	CD	CE	C1	D1	D2	F	G	H		I	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	Input Key:‡	Output Key
													Tap Size	Depth													
NH813	2.82	3.80	5.32	9.06	4.66	1.33	1.33	4.66	1.72	1.72	2.00	1.00	5/16-18 UNC	0.50	2.61	3.25	1.63	3.82	1.76	4.00	2.16	1.94	1.61	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH815	2.57	4.06	5.85	9.72	5.03	1.54	1.33	4.66	1.72	1.88	1.88	0.94	5/16-18 UNC	0.63	3.14	3.25	1.63	3.82	1.76	4.25	2.56	2.35	1.58	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH818	2.56	4.50	5.94	10.03	5.42	1.75	1.33	4.66	1.72	2.06	1.88	0.94	5/16-18 UNC	0.63	3.24	3.75	1.88	3.82	1.76	4.75	2.94	2.73	1.63	1.000	0.500	1/8 X 1.00	1/4 X 1.75
NH821	2.50	4.50	6.32	10.41	5.98	2.06	1.33	4.66	1.72	2.31	1.88	0.94	5/16-18 UNC	0.63	3.61	3.25	1.63	3.82	1.76	4.34	2.66	2.45	1.63	0.875	0.500	1/8 X 1.00	3/16 X 1.50
NH824	2.94	5.25	6.44	10.91	6.68	2.38	1.33	4.66	1.72	2.69	2.13	1.06	3/8-16 UNC	0.69	3.77	4.00	2.00	3.82	1.76	4.88	2.91	2.69	1.81	1.000	0.500	1/8 X 1.00	1/4 X 1.75
NH826	2.88	5.75	7.01	11.73	7.18	2.63	1.33	4.66	1.72	2.94	2.13	1.06	3/8-16 UNC	0.69	4.34	4.00	2.00	3.82	1.76	5.25	3.28	3.07	1.81	1.125	0.500	1/8 X 1.00	1/4 X 1.75
NH830	3.12	6.62	7.35	12.35	8.22	3.00	1.54	5.00	2.06	3.38	2.38	1.19	3/8-16 UNC	0.75	4.84	4.63	2.31	4.35	1.76	5.77	3.56	3.31	1.87	1.250	0.625	3/16 X 1.38	1/4 X 1.75
NH832	4.44	8.00	7.53	13.22	9.28	3.25	1.54	5.00	2.06	4.19	3.50	1.75	1/2-13 UNC	1.00	5.02	7.00	3.50	4.35	1.76	7.03	4.24	3.99	2.62	1.500	0.625	3/16 X 1.38	3/8 X 2.25
NH842	4.75	9.75	8.47	15.03	10.38	4.25	2.06	6.00	2.31	4.50	3.75	1.88	1/2-13 UNC	1.00	6.10	7.50	3.75	4.82	1.76	7.50	3.88	3.59	2.75	1.750	0.625	3/16 X 1.38	3/8 X 2.25
NH852	6.19	11.00	10.64	18.11	11.94	5.25	2.63	7.38	2.94	4.88	4.50	2.25	5/8-11 UNC	1.25	7.50	9.00	4.50	6.07	2.38	9.00	4.72	4.47	2.56	2.000	0.750	3/16 X 1.63	1/2 X 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	RQ	
	48CZ	56C/ 140TC				48CZ/ 56C/140TC	180TC
NH813	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH815	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH818	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH821	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH824	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH826	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH830	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH832	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH842	6.63	7.07	N/A	4.46	N/A	4.06	N/A
NH852	N/A	8.32	9.32	5.19	5.62	4.82	5.13

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):‡

Size	LQ1					RQ				
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D63D	D71D	D80D	D90D	D100LD/ D112MD
NH813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH830	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH832	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
NH852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ‡ Metric IEC B5 input flange options are available only on quill input styles.
- ‡ Style D and DM only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
DUF	DMQ
DUFC	DM
DU	D

Refer to page B2 for complete interchange guide for original Grove Gear OE Series.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: DTMQ, DTM, DT

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

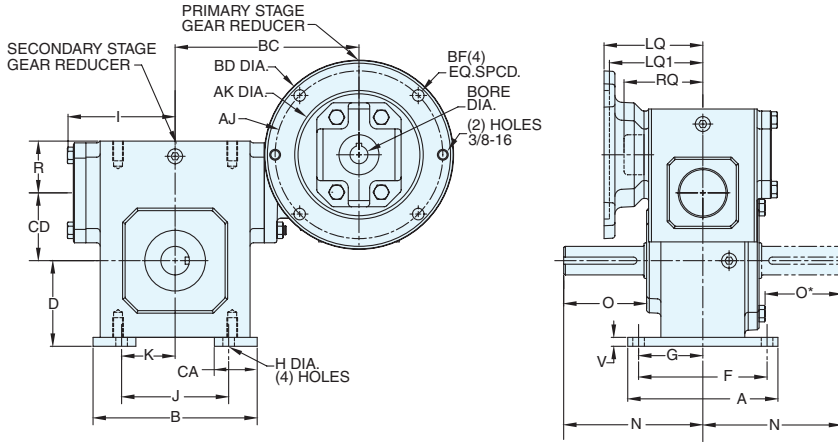
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

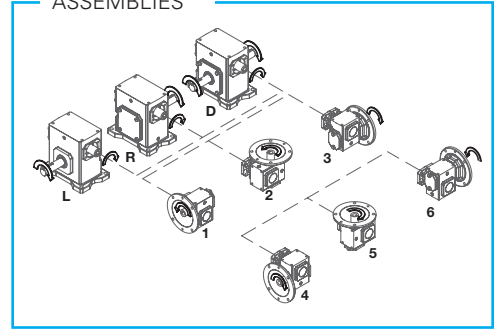
Ratio Multipliers

Accessories
Additional Capabilities

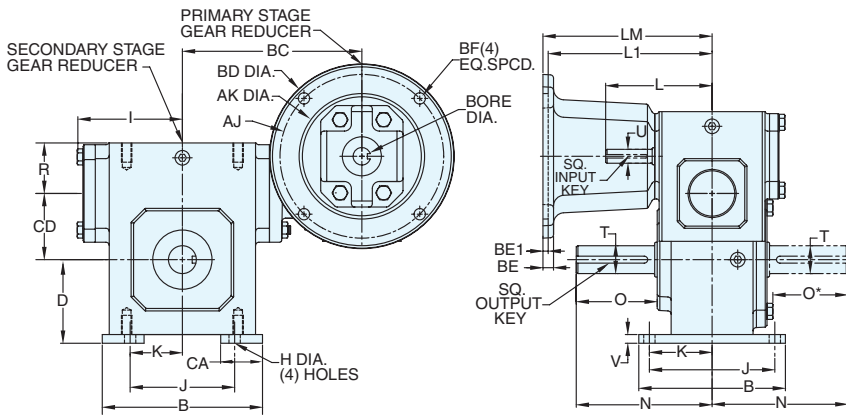
STYLE DTMQ



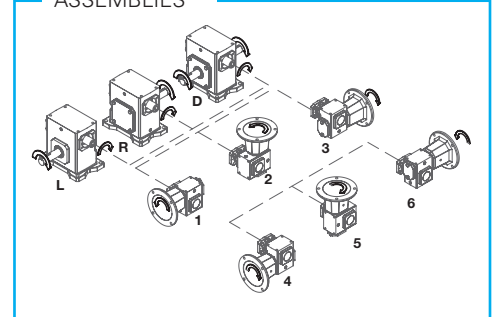
ASSEMBLIES



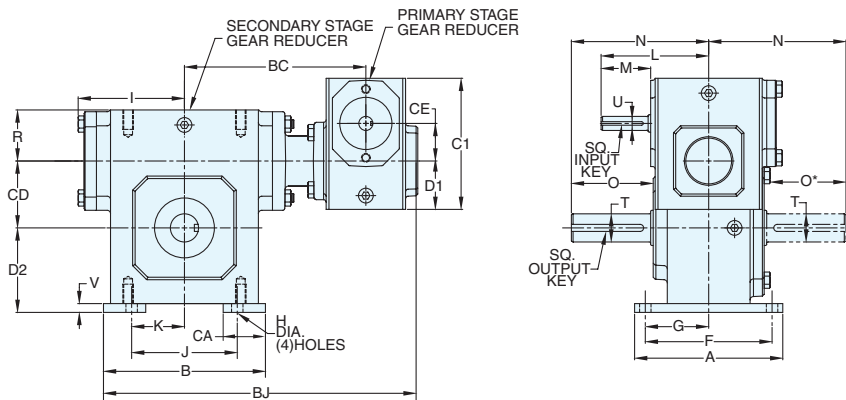
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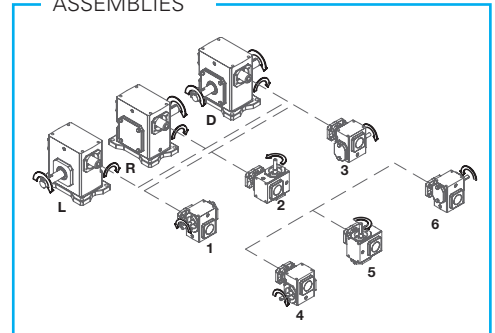
ASSEMBLIES



STYLE DT



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



NH SERIES DIMENSIONS

Styles: DTMQ, DTM, DT



STYLE DTMQ, DTM, DT DIMENSIONS (Inches)

Size	A	B	BC	BJ	C	CA	CD	CE	C1	D1	D2	F	G	H	I	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*‡	Output Key
NH813	4.00	5.01	5.32	9.67	4.97	1.50	1.33	1.33	4.66	1.72	2.03	3.25	1.63	0.28	2.61	4.25	2.13	3.82	1.76	4.00	2.16	1.94	1.61	0.31	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH815	5.25	5.19	5.85	10.29	5.34	1.50	1.54	1.33	4.66	1.72	2.19	4.50	2.25	0.34	3.14	4.19	2.09	3.82	1.76	4.25	2.56	2.35	1.58	0.31	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH818	4.62	5.89	5.94	10.73	5.80	1.88	1.75	1.33	4.66	1.72	2.44	3.50	1.75	0.41	3.24	4.63	2.31	3.82	1.76	4.75	2.94	2.73	1.63	0.38	1.000	0.500	1/8 X 1.00	1/4 X 1.75
NH821	5.25	5.19	6.32	10.76	6.29	1.50	2.06	1.33	4.66	1.72	2.63	4.50	2.25	0.34	3.61	4.19	2.09	3.82	1.76	4.34	2.66	2.45	1.63	0.31	0.875	0.500	1/8 X 1.00	3/16 X 1.50
NH824	5.25	5.75	6.44	11.16	6.99	1.50	2.38	1.33	4.66	1.72	3.00	4.50	2.25	0.41	3.77	3.75	1.88	3.82	1.76	4.88	2.91	2.69	1.81	0.31	1.000	0.500	1/8 X 1.00	1/4 X 1.75
NH826	6.13	6.51	7.01	12.11	7.49	2.00	2.63	1.33	4.66	1.72	3.25	4.13	2.06	0.41	4.34	4.75	2.38	3.82	1.76	5.25	3.28	3.07	1.81	0.31	1.125	0.500	1/8 X 1.00	1/4 X 1.75
NH830	6.13	7.74	7.35	12.91	8.22	2.25	3.00	1.54	5.00	2.06	3.69	4.13	2.06	0.41	4.84	6.00	3.00	4.35	1.76	5.77	3.56	3.31	1.87	0.31	1.250	0.625	3/16 X 1.38	1/4 X 1.75
NH832	7.50	9.25	7.53	13.85	9.28	2.50	3.25	1.54	5.00	2.06	4.56	6.50	3.25	0.41	5.02	7.75	3.88	4.35	1.76	7.03	4.24	3.99	2.62	0.38	1.500	0.625	3/16 X 1.38	3/8 X 2.25
NH842	6.75	10.99	8.47	15.65	10.88	2.50	4.25	2.06	6.00	2.31	5.00	5.75	2.88	0.56	6.10	9.75	4.88	4.82	1.76	7.50	3.88	3.59	2.75	0.50	1.750	0.625	3/16 X 1.38	3/8 X 2.25
NH852	8.25	13.24	10.64	19.23	13.07	3.00	5.25	2.63	7.38	2.94	6.00	7.00	3.50	0.69	7.50	12.00	6.00	6.07	2.38	9.00	4.72	4.47	2.56	1.13	2.000	0.750	3/16 X 1.63	1/2 X 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	RQ	
	48CZ	56C/ 140TC				48CZ/ 56C/140TC	180TC
NH813	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH815	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH818	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH821	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH824	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH826	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH830	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH832	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH842	6.63	7.07	N/A	4.46	N/A	4.06	N/A
NH852	N/A	8.32	9.32	5.19	5.62	4.82	5.13

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)*

Size	LQ1					RQ				
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D63D	D71D	D80D	D90D	D100LD/ D112MD
NH813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH830	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH832	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
NH852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- *‡ Metric IEC B5 input flange options are available only on quill input styles.
- *‡ Style DT and DTM only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
DZF	DTMQ
DZFC	DTM
DZ	DT

Refer to page B2 for complete interchange guide for original Grove Gear OE Series.



NH SERIES DIMENSIONS

STYLES: DUMQ, DUM, DU

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

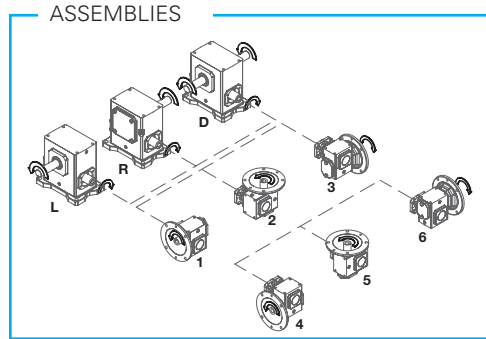
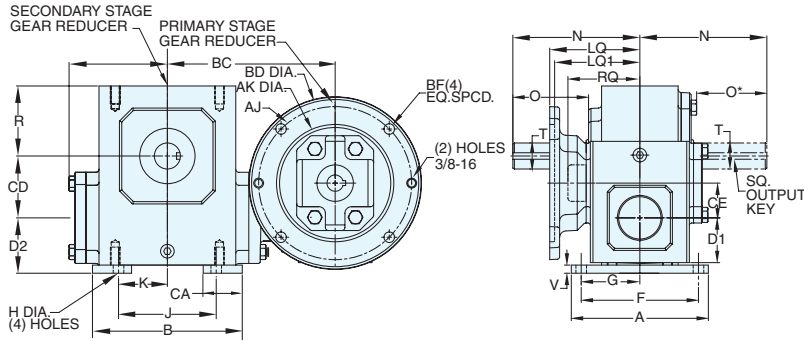
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

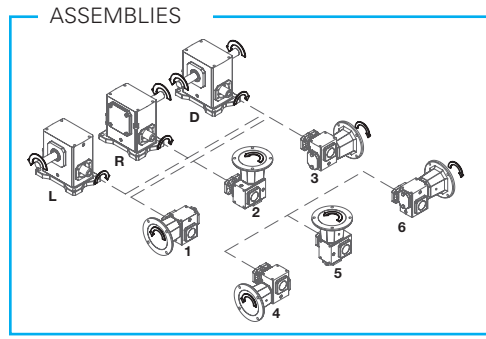
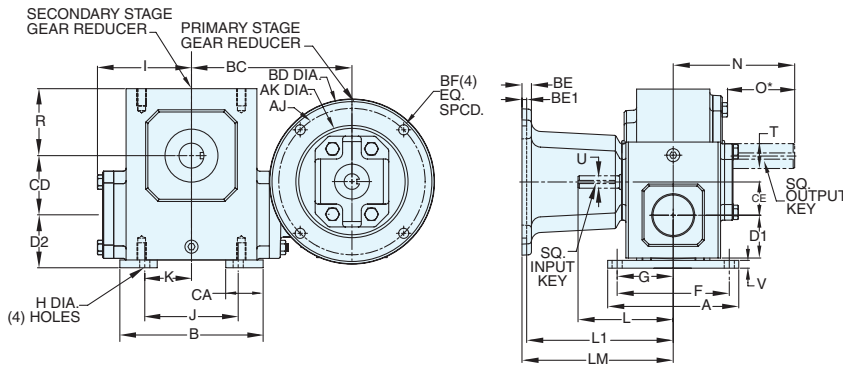
Ratio Multipliers

Accessories
Additional Capabilities

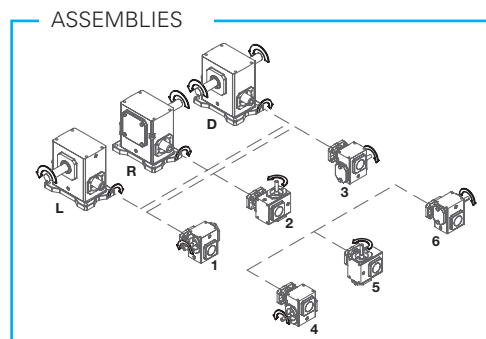
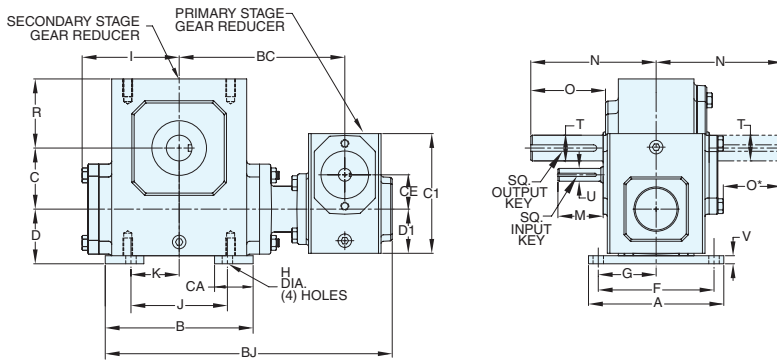
STYLE DUMQ



STYLE DUM



STYLE DU



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



NH SERIES DIMENSIONS

Styles: DUMQ, DUM, DU



STYLE DUMQ, DUM, DU DIMENSIONS (Inches)

Size	A	B	BC	BJ	C	CA	CD	CE	C1	D1	D2	F	G	H	I	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key*‡	Output Key
NH813	4.00	5.01	5.32	9.67	4.97	1.50	1.33	1.33	4.66	1.72	1.92	3.25	1.63	0.28	2.61	4.25	2.13	3.82	1.76	4.00	2.16	1.94	1.72	0.31	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH815	5.25	5.19	5.85	10.29	5.34	1.50	1.54	1.33	4.66	1.72	1.90	4.50	2.25	0.34	3.14	4.19	2.09	3.82	1.76	4.25	2.56	2.35	1.88	0.31	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH818	4.62	5.89	5.94	10.73	5.80	1.88	1.75	1.33	4.66	1.72	2.00	3.50	1.75	0.41	3.24	4.63	2.31	3.82	1.76	4.75	2.94	2.73	2.06	0.38	1.000	0.500	1/8 X 1.00	1/4 X 1.75
NH821	5.25	5.19	6.32	10.76	6.29	1.50	2.06	1.33	4.66	1.72	1.94	4.50	2.25	0.34	3.61	4.19	2.09	3.82	1.76	4.34	2.66	2.45	2.31	0.31	0.875	0.500	1/8 X 1.00	3/16 X 1.50
NH824	5.25	5.75	6.44	11.16	6.99	1.50	2.38	1.33	4.66	1.72	2.13	4.50	2.25	0.41	3.77	3.75	1.88	3.82	1.76	4.88	2.91	2.69	2.69	0.31	1.000	0.500	1/8 X 1.00	1/4 X 1.75
NH826	6.13	6.51	7.01	12.11	7.49	2.00	2.63	1.33	4.66	1.72	2.13	4.13	2.06	0.41	4.34	4.75	2.38	3.82	1.76	5.25	3.28	3.07	2.94	0.31	1.125	0.500	1/8 X 1.00	1/4 X 1.75
NH830	6.13	7.74	7.35	12.91	8.22	2.25	3.00	1.54	5.00	2.06	2.19	4.13	2.06	0.41	4.84	6.00	3.00	4.35	1.76	5.77	3.56	3.31	3.38	0.31	1.250	0.625	3/16 X 1.38	1/4 X 1.75
NH832	7.50	9.25	7.53	13.85	9.28	2.50	3.25	1.54	5.00	2.06	3.00	6.50	3.25	0.41	5.02	7.75	3.88	4.35	1.76	7.03	4.24	3.99	4.19	0.38	1.500	0.625	3/16 X 1.38	3/8 X 2.25
NH842	6.75	10.99	8.47	15.65	10.88	2.50	4.25	2.06	6.00	2.31	3.25	5.75	2.88	0.56	6.10	9.75	4.88	4.82	1.76	7.50	3.88	3.59	4.50	0.50	1.750	0.625	3/16 X 1.38	3/8 X 2.25
NH852	8.25	13.24	10.64	19.23	13.07	3.00	5.25	2.63	7.38	2.94	3.69	7.00	3.50	0.69	7.50	12.00	6.00	6.07	2.38	9.00	4.72	4.47	4.88	1.13	2.000	0.750	3/16 X 1.63	1/2 X 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	RQ	
	48CZ	56C/ 140TC				48CZ/ 56C/140TC	180TC
NH813	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH815	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH818	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH821	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH824	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH826	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH830	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH832	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH842	6.63	7.07	N/A	4.46	N/A	4.06	N/A
NH852	N/A	8.32	9.32	5.19	5.62	4.82	5.13

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):‡

Size	LQ1					RQ				
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D63D	D71D	D80D	D90D	D100LD/ D112MD
NH813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH830	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH832	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
NH852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ‡ Metric IEC B5 input flange options are available only on quill input styles.
- *‡ Style DU and DUM only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
DUBF	DUMQ
DUBFC	DUM
DUB	DU

Refer to page B2 for complete interchange guide for original Grove Gear OE Series.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: DJMQ, DJM, DJ

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

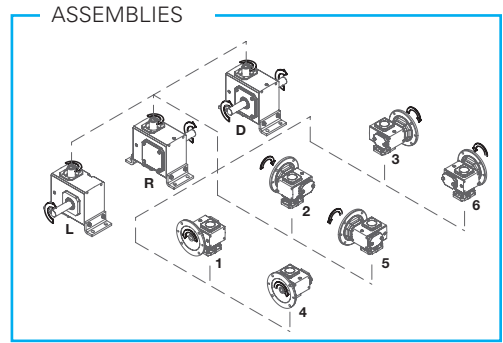
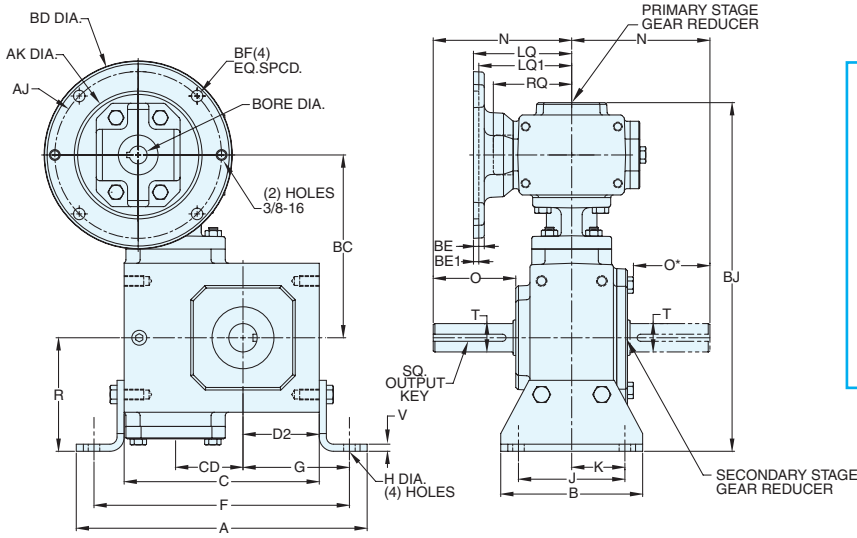
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

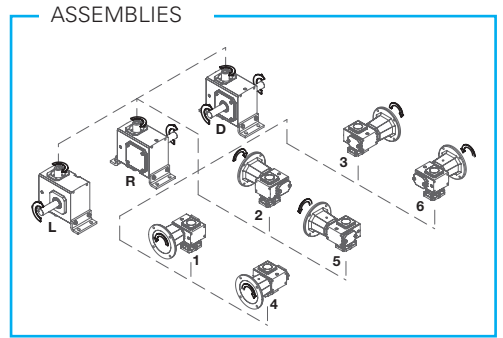
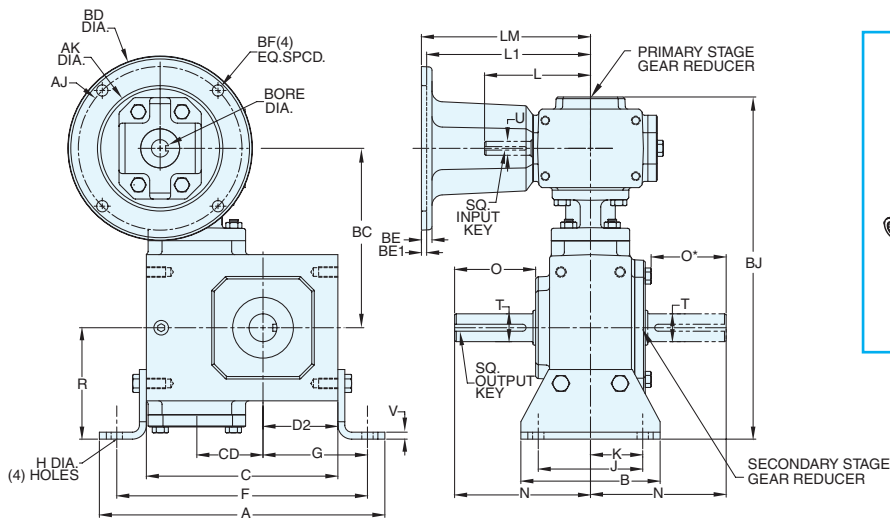
Ratio Multipliers

Accessories
Additional Capabilities

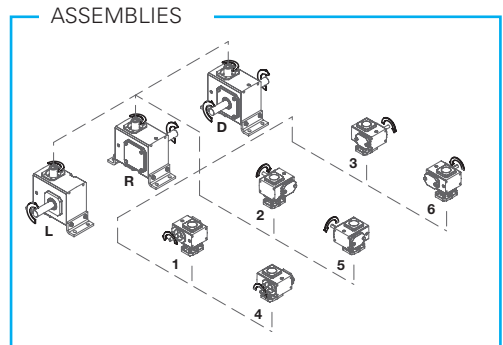
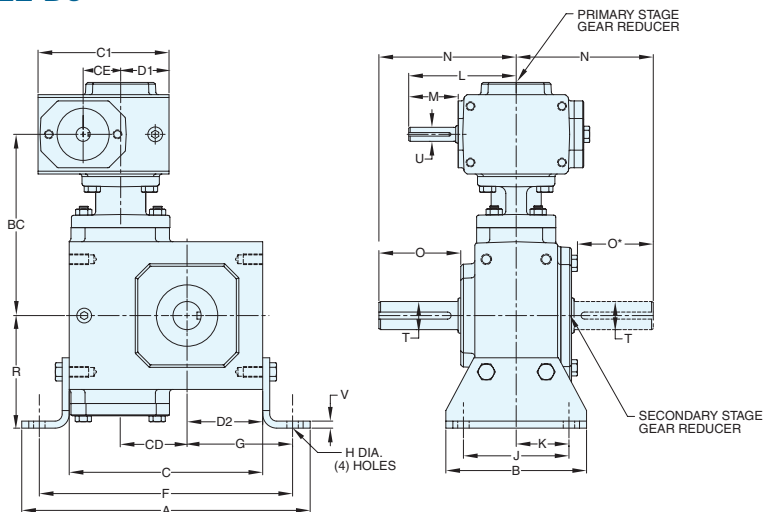
STYLE DJMQ



STYLE DJM



STYLE DJ



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



NH SERIES DIMENSIONS

Styles: DJMQ, DJM, DJ



STYLE DJMQ, DJM, DJ DIMENSIONS (Inches)

Size	A	B	BC	BJ	C	CD	CE	C1	D1	D2	F	G	H	I	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
NH813	7.42	2.75	5.32	10.10	4.66	1.33	1.33	4.66	1.72	1.72	6.42	2.60	0.38	2.00	1.00	3.82	1.76	4.00	2.16	1.94	2.94	0.25	0.750	0.500	1/8 X 1.00	3/16 X 1.50	3/16 X 1.50
NH815	8.06	3.75	5.85	11.44	5.00	1.54	1.33	4.66	1.72	1.88	7.06	2.91	0.34	2.75	1.38	3.82	1.76	4.25	2.56	2.35	3.75	0.25	0.750	0.500	1/8 X 1.00	3/16 X 1.50	3/16 X 1.50
NH818	8.50	3.75	5.94	11.78	5.44	1.75	1.33	4.66	1.72	2.06	7.50	3.09	0.34	2.75	1.38	3.82	1.76	4.75	2.94	2.73	4.00	0.25	1.000	0.500	1/8 X 1.00	1/4 X 1.75	1/4 X 1.75
NH821	9.06	3.75	6.32	11.91	6.00	2.06	1.33	4.66	1.72	2.31	8.06	3.34	0.34	2.75	1.38	3.82	1.76	4.34	2.66	2.45	3.75	0.25	0.875	0.500	1/8 X 1.00	3/16 X 1.50	3/16 X 1.50
NH824	9.96	5.00	6.44	12.72	6.88	2.38	1.33	4.66	1.72	2.69	8.70	3.60	0.41	3.75	1.88	3.82	1.76	4.88	2.91	2.69	4.44	0.25	1.000	0.500	1/8 X 1.00	1/4 X 1.75	1/4 X 1.75
NH826	10.46	5.00	7.01	13.29	7.38	2.63	1.33	4.66	1.72	2.94	9.20	3.85	0.41	3.75	1.88	3.82	1.76	5.25	3.28	3.07	4.44	0.25	1.125	0.500	1/8 X 1.00	1/4 X 1.75	1/4 X 1.75
NH830	12.01	5.25	7.35	13.98	8.22	3.00	1.54	5.00	2.06	3.38	10.75	4.63	0.41	4.00	2.00	4.35	1.76	5.77	3.56	3.31	4.94	0.31	1.250	0.625	3/16 X 1.38	1/4 X 1.75	1/4 X 1.75
NH832	14.00	6.25	7.53	14.47	9.28	3.25	1.54	5.00	2.06	4.19	12.50	5.41	0.53	5.00	2.50	4.35	1.76	7.03	4.24	3.99	5.25	0.31	1.500	0.625	3/16 X 1.38	3/8 X 2.25	3/8 X 2.25
NH842	16.50	6.75	8.47	16.65	11.50	4.25	2.06	6.00	2.31	4.50	15.00	6.25	0.69	5.00	2.50	4.82	1.76	7.50	3.88	3.59	6.50	0.50	1.750	0.625	3/16 X 1.38	3/8 X 2.25	3/8 X 2.25
NH852	17.69	7.20	10.64	20.36	12.69	5.25	2.63	7.38	2.94	4.88	16.31	6.69	0.69	5.81	2.91	6.07	2.38	9.00	4.72	4.47	7.75	0.50	2.000	0.750	3/16 X 1.63	1/2 X 2.50	1/2 X 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	RQ	
	48CZ	56C/ 140TC				48CZ/ 56C/140TC	180TC
NH813	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH815	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH818	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH821	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH824	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH826	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH830	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH832	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH842	6.63	7.07	N/A	4.46	N/A	4.06	N/A
NH852	N/A	8.32	9.32	5.19	5.62	4.82	5.13

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1					RQ				
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D63D	D71D	D80D	D90D	D100LD/ D112MD
NH813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH830	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH832	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
NH852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ⊕ Metric IEC B5 input flange options are available only on quill input styles.
- ** Style DJ and DJM only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
DJF	DJMQ
DJFC	DJM
DJ	DJ

Refer to page B2 for complete interchange guide for original Grove Gear OE Series.



NH SERIES DIMENSIONS

STYLES: DV_MQ, DV_M, DV_

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

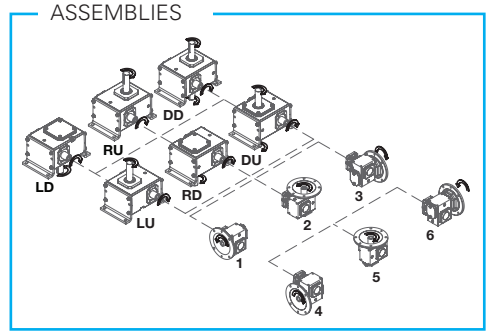
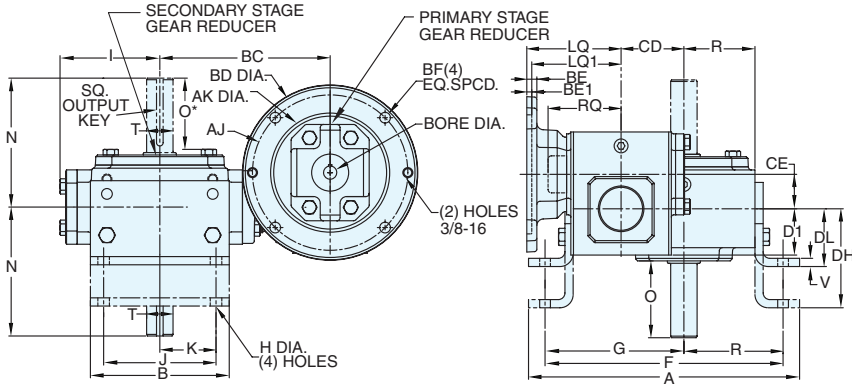
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

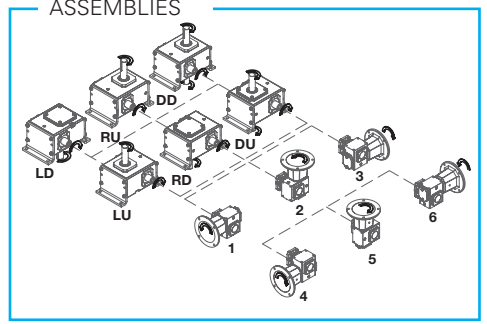
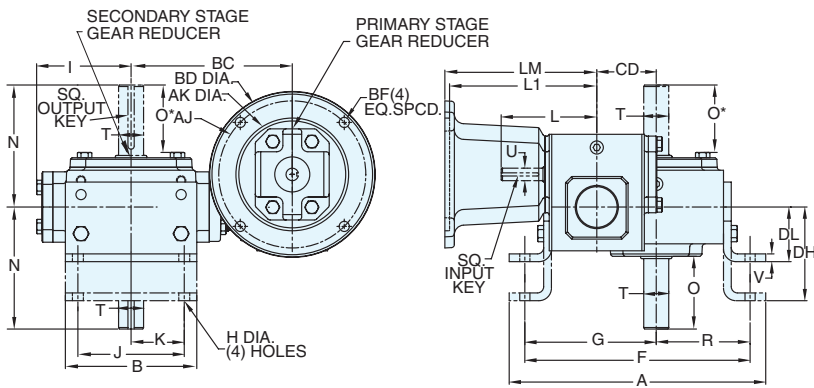
Ratio Multipliers

Accessories
Additional Capabilities

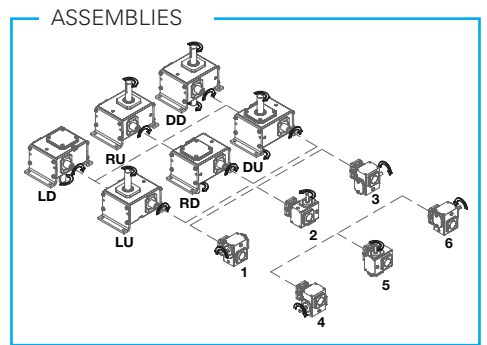
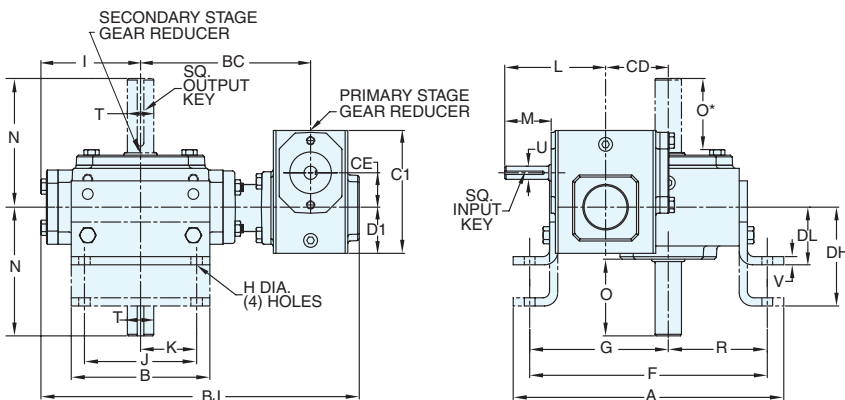
STYLE DV(L OR H)MQ



STYLE DV(L OR H)M



STYLE DV(L OR H)



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



NH SERIES DIMENSIONS

Styles: DV_MQ, DV_M, DV_



STYLE DV_MQ, DV_M, DV_ DIMENSIONS (Inches)

Size	A	B	BC	BH	CD	CE	C1	D1	DL	DH	F	G	H	I	J	K	L	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
NH813	7.78	4.00	5.32	7.16	1.33	1.33	4.66	1.72	2.00	3.88	6.78	0.38	0.44	2.61	3.00	1.50	3.82	1.76	4.00	2.16	1.94	0.750	0.31	0.750	0.500	1/8 x 1.00	3/16 x 1.50
NH815	8.12	4.00	5.85	7.69	1.54	1.33	4.66	1.72	1.94	3.82	7.12	0.34	0.44	3.14	3.00	1.50	3.82	1.76	4.25	2.56	2.35	0.750	0.31	0.750	0.500	1/8 x 1.00	3/69 x 1.50
NH818	8.56	4.75	5.94	7.78	1.75	1.33	4.66	1.72	1.94	3.82	7.56	0.34	0.44	3.24	3.00	1.50	3.82	1.76	4.75	2.94	2.73	1.000	0.31	1.000	0.500	1/8 x 1.00	1/4 x 1.75
NH821	9.12	4.00	6.32	8.16	2.06	1.33	4.66	1.72	1.94	3.82	8.12	0.34	0.44	3.61	3.00	1.50	3.82	1.76	4.34	2.66	2.45	0.875	0.31	0.875	0.500	1/8 x 1.00	3/16 x 1.50
NH824	10.5	5.25	6.44	8.28	2.38	1.33	4.66	1.72	2.18	3.74	9.50	0.41	0.44	3.77	4.25	2.13	3.82	1.76	4.88	2.91	2.69	1.000	0.31	1.000	0.500	1/8 x 1.00	1/4 x 1.75
NH826	11.00	5.25	7.01	8.85	2.63	1.33	4.66	1.72	2.18	3.74	10.00	0.41	0.44	4.34	4.25	2.13	3.82	1.76	5.25	3.28	3.07	1.125	0.31	1.125	0.500	1/8 x 1.00	1/4 x 1.75
NH830	11.87	6.00	7.35	9.04	3.00	1.54	5.00	2.06	2.31	3.69	10.87	0.41	0.44	4.84	4.75	2.38	4.35	1.76	5.77	3.56	3.31	1.250	0.31	1.250	0.625	3/16 x 1.38	1/4 x 1.75
NH832	13.86	8.00	7.53	9.22	3.25	1.54	5.00	2.06	3.50	4.81	12.82	0.53	0.47	5.02	7.00	3.50	4.35	1.76	7.03	4.24	3.99	1.500	0.31	1.500	0.625	3/16 x 1.38	3/8 x 2.25
NH842	16.38	9.50	8.47	10.15	4.25	2.06	6.00	2.31	5.00	7.50	15.00	0.69	0.69	6.10	7.88	3.94	4.82	1.76	7.50	3.88	3.59	1.750	0.50	1.750	0.625	3/16 x 1.38	3/8 x 2.25
NH852	18.29	11.50	10.64	12.61	5.25	2.63	7.38	2.94	5.16	9.16	16.69	0.69	0.78	7.50	10.00	5.00	6.07	2.38	9.00	4.72	4.47	2.000	0.50	2.000	0.750	3/16 x 1.38	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	RQ	
	48CZ	56C/ 140TC				48CZ/ 56C/140TC	180TC
NH813	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH815	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH818	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH821	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH824	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH826	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH830	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH832	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH842	6.63	7.07	N/A	4.46	N/A	4.06	N/A
NH852	N/A	8.32	9.32	5.19	5.62	4.82	5.13

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1					RQ				
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D63D	D71D	D80D	D90D	D100LD/ D112MD
NH813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH830	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH832	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
NH852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ⚙️ Metric IEC B5 input flange options are available only on quill input styles.
- ⚙️ Style DVL and DVLM only.

⚠️ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
DSL	DVLMQ
DSLFC	DVLM
DSL	DVL
DSHF	DVHMQ
DSHFC	DVHM
DSH	DVH

Refer to page B2 for complete interchange guide for original Grove Gear OE Series.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: DFMQ, DFM, DF

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

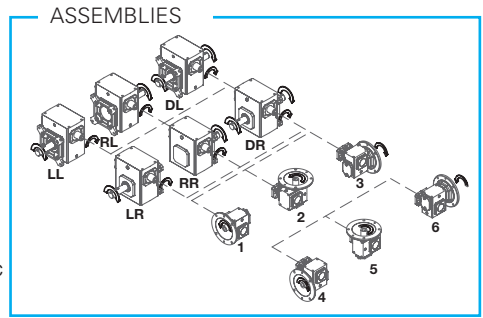
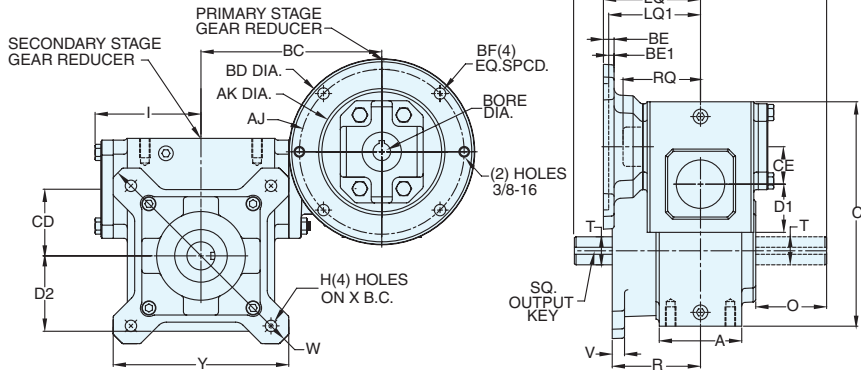
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

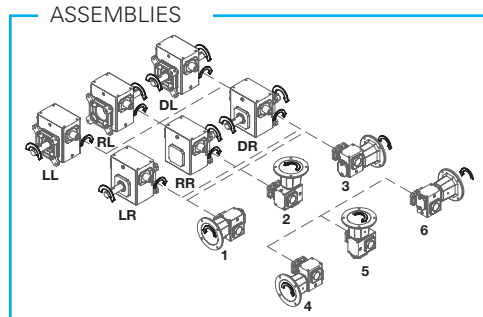
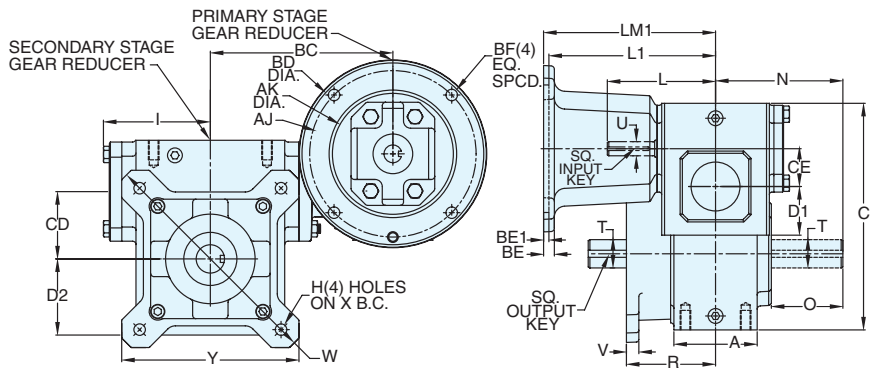
Ratio Multipliers

Accessories
Additional Capabilities

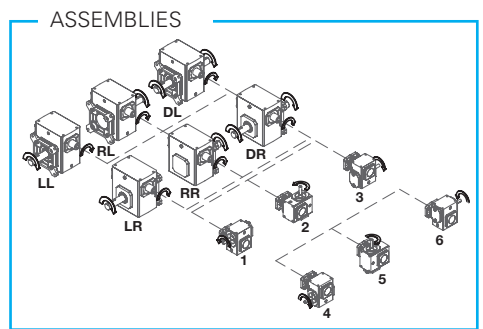
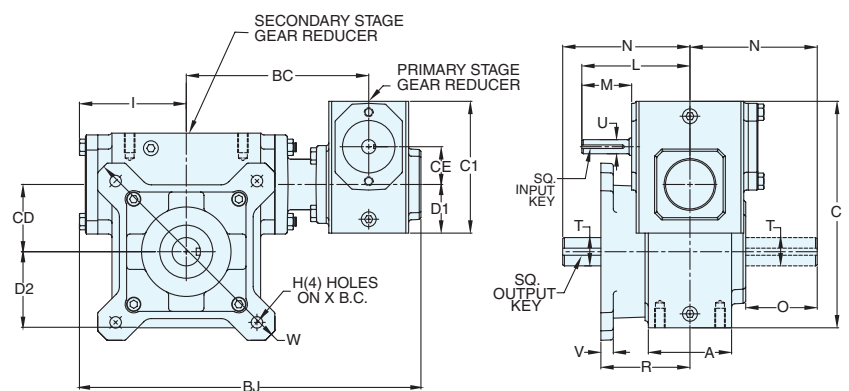
STYLE DFMQ



STYLE DFM



STYLE DF



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

**Sizes 813-8100 output flange must be mounted at
Factory on styles FMQ, FM, F.**



NH SERIES DIMENSIONS

Styles: DFMQ, DFM, DF



STYLE DFMQ, DFM, DF DIMENSIONS (Inches)

Size	A	B	BC	BH	BL	C	CD	CE	C1	D1	D2	H	I	L	M	N	O*	R	V	W	X	Y	T +0.000 -0.0015	U +0.000 -0.0015	Input Key❖	Output Key
NH813	2.82	3.80	5.32	7.16	0.38	4.66	1.33	1.33	4.66	1.72	1.72	0.34	2.61	3.82	1.76	4.00	1.94	2.52	0.25	5.92	5.00	4.50	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH815	2.57	4.06	5.85	7.69	0.38	5.03	1.54	1.33	4.66	1.72	1.88	0.34	3.14	3.82	1.76	4.25	2.35	3.50	0.25	6.79	5.88	5.12	0.750	0.500	1/8 X 1.00	3/16 X 1.50
NH818	2.56	4.50	5.94	7.78	0.38	5.42	1.75	1.33	4.66	1.72	2.06	0.34	3.24	3.82	1.76	4.75	2.73	2.73	0.25	6.64	5.88	5.00	1.000	0.500	1/8 X 1.00	1/4 X 1.75
NH821	2.50	4.50	6.32	8.16	0.38	5.98	2.06	1.33	4.66	1.72	2.31	0.34	3.61	3.82	1.76	4.34	2.45	3.51	0.25	7.37	6.25	5.56	0.875	0.500	1/8 X 1.00	3/16 X 1.50
NH824	2.94	5.25	6.44	8.28	0.44	6.68	2.38	1.33	4.66	1.72	2.69	0.34	3.77	3.82	1.76	4.88	2.69	3.47	0.25	8.29	7.06	6.24	1.000	0.500	1/8 X 1.00	1/4 X 1.75
NH826	2.88	5.75	7.01	8.85	0.50	7.18	2.63	1.33	4.66	1.72	2.94	0.34	4.34	3.82	1.76	5.25	3.07	3.56	0.25	8.90	7.63	6.68	1.125	0.500	1/8 X 1.00	1/4 X 1.75
NH830	3.12	6.62	7.35	9.04	0.50	8.22	3.00	1.54	5.00	2.06	3.38	0.41	4.84	4.35	1.76	5.77	3.31	3.69	0.31	9.50	8.63	7.34	1.250	0.625	3/16 X 1.38	1/4 X 1.75
NH832	4.44	8.00	7.53	9.22	0.56	9.28	3.25	1.54	5.00	2.06	4.19	0.53	5.02	4.35	1.76	7.03	3.99	5.00	0.31	11.84	10.63	9.00	1.500	0.625	3/16 X 1.38	3/8 X 2.25
NH842	4.75	9.75	8.47	10.15	0.62	10.38	4.25	2.06	6.00	2.31	4.50	0.56	6.10	4.82	1.76	7.50	3.59	4.50	0.50	12.95	11.50	9.66	1.750	0.625	3/16 X 1.38	3/8 X 2.25
NH852	6.19	11.00	10.64	12.61	0.75	11.94	5.25	2.63	7.38	2.94	4.88	0.69	7.50	6.07	2.38	9.00	4.47	5.56	0.50	15.50	14.00	11.76	2.000	0.750	3/16 X 1.63	1/2 X 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	RQ	
	48CZ	56C/ 140TC				48CZ/ 56C/140TC	180TC
NH813	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH815	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH818	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH821	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH824	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH826	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH830	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH832	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH842	6.63	7.07	N/A	4.46	N/A	4.06	N/A
NH852	N/A	8.32	9.32	5.19■	5.62	4.82■	5.13

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):❖

Size	LQ1					RQ				
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D63D	D71D	D80D	D90D	D100LD/ D112MD
NH813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH830	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH832	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
NH852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ❖ Metric IEC B5 input flange options are available only on quill input styles.
- ❖ Style DF and DFM only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
DKF & DVF	DFMQ
DKFC & DVFC	DFM
DK & DV	DF

Refer to page B2 for complete interchange guide for original Grove Gear OE Series.



NH SERIES DIMENSIONS

STYLES: DHMQ, DHM, DH

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

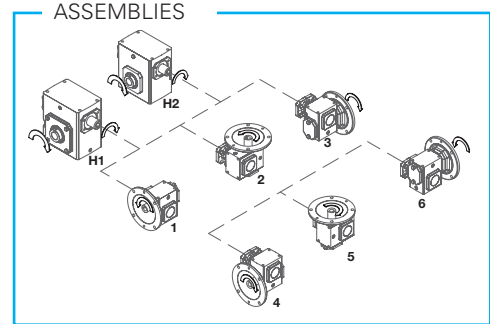
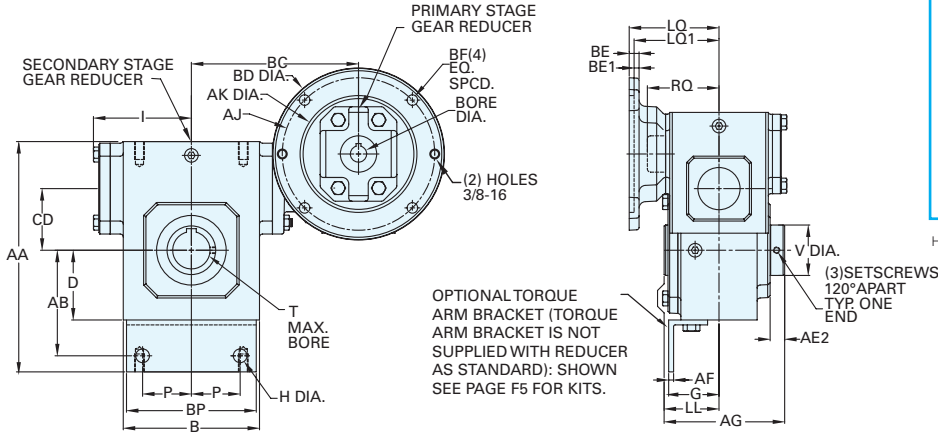
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

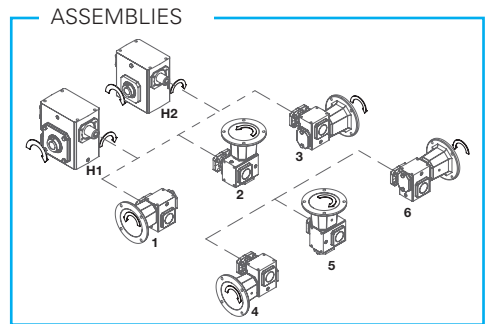
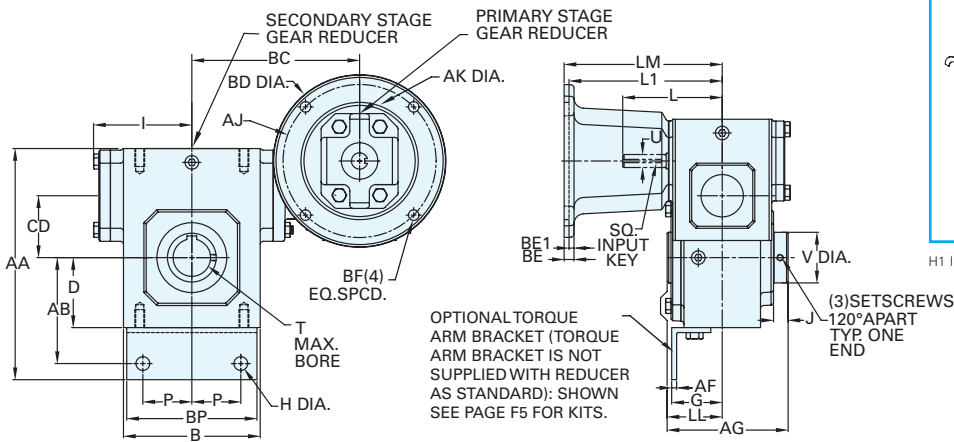
Accessories
Additional Capabilities

STYLE DHMQ



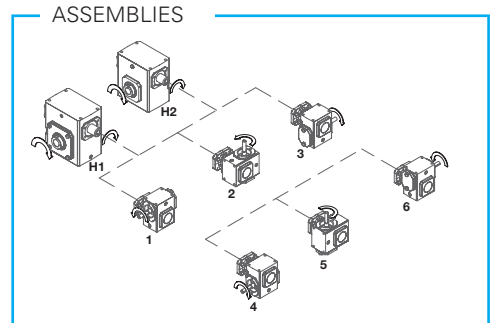
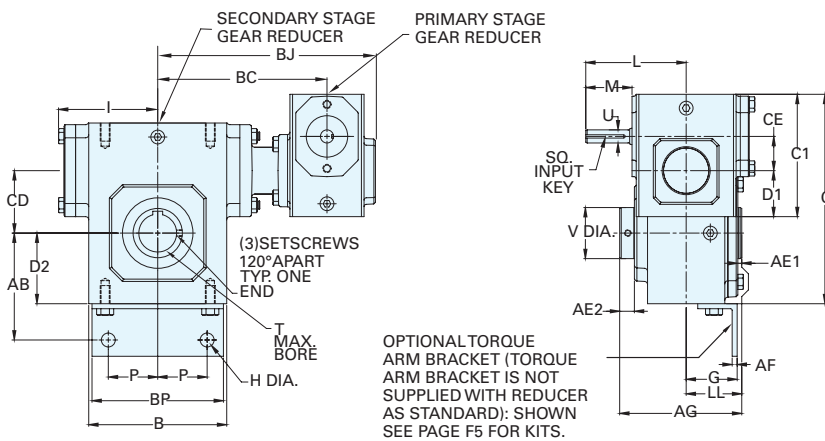
H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DHM



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.



NH SERIES DIMENSIONS

Styles: DHMQ, DHM, DH



STYLE DHMQ, DHM, DH DIMENSIONS (Inches)

Size	AA	AB	AD	AE2	AF	AG	B	BC	BH	C	CD	CE	C1	D1	D2	G	H	I	L	LL	M	P*	V	T MAX -0.000 +0.0025	U +0.000 -0.0015	Input Key**	Output Key
NH813	6.66	3.10	3.90	0.53	0.19	4.75	3.80	5.32	7.16	4.66	1.33	1.33	4.66	1.72	1.72	1.88	0.53	2.61	3.82	2.38	1.76	1.38	1.00	0.625	0.500	1/8 X 1.00	3/16 x 1.50
NH815	7.00	3.26	3.59	0.51	0.19	4.08	4.06	5.85	7.69	5.03	1.54	1.33	4.66	1.72	1.88	1.82	0.53	3.14	3.82	1.88	1.76	1.38	1.00	0.625	0.500	1/8 X 1.00	3/16 x 1.50
NH818	7.44	3.44	3.83	0.56	0.19	4.29	4.50	5.94	7.78	5.42	1.75	1.33	4.66	1.72	2.06	1.82	0.53	3.24	3.82	1.98	1.76	1.38	1.44	1.000	0.500	1/8 X 1.00	1/4 x 3.00
NH821	8.00	3.69	3.57	0.85	0.19	4.65	4.50	6.32	8.16	5.98	2.06	1.33	4.66	1.72	2.31	1.82	0.53	3.61	3.82	2.12	1.76	1.38	1.94	1.500	0.500	1/8 X 1.00	3/8 x 3.00
NH824	8.88	4.07	4.16	0.56	0.19	4.65	5.25	6.44	8.28	6.68	2.38	1.33	4.66	1.72	2.69	1.94	0.53	3.77	3.82	2.12	1.76	1.88	1.94	1.500	0.500	1/8 X 1.00	3/8 x 3.00
NH826	9.38	4.32	4.15	0.56	0.19	4.65	5.75	7.01	8.85	7.18	2.63	1.33	4.66	1.72	2.94	1.94	0.53	4.34	3.82	2.12	1.76	1.88	1.94	1.500	0.500	1/8 X 1.00	3/8 x 3.00
NH830	10.25	4.76	4.67	0.56	0.25	5.16	6.62	7.35	9.04	8.22	3.00	1.54	5.00	2.06	3.38	2.32	0.53	4.84	4.35	2.38	1.76	2.38	2.51	2.188	0.625	3/16 X 1.38	1/2 x 3.00
NH832	12.06	5.57	5.83	0.57	0.25	6.31	8.00	7.53	9.22	9.28	3.25	1.54	5.00	2.06	4.19	2.87	0.53	5.02	4.35	2.95	1.76	3.51	2.51	2.188	0.625	3/16 X 1.38	1/2 x 3.00
NH842	14.00	6.38	7.53	0.63	0.38	8.50	9.75	8.47	10.15	10.38	4.25	2.06	6.00	2.31	4.50	3.26	0.53	6.10	4.82	4.25	1.76	3.69	2.75	2.188	0.625	3/16 X 1.38	1/2 x 3.00
NH852	15.19	6.76	8.81	0.97	0.38	10.50	11.00	10.64	12.61	11.94	5.25	2.63	7.38	2.94	4.88	3.63	0.53	7.50	6.07	5.25	2.38	4.62	4.26	3.438	0.750	3/16 X 1.63	7/8 x 3.44

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	RQ	
	48CZ	56C/ 140TC				48CZ/ 56C/140TC	180TC
NH813	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH815	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH818	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH821	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH824	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH826	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH830	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH832	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH842	6.63	7.07	N/A	4.46	N/A	4.06	N/A
NH852	N/A	8.32	9.32	5.19	5.62	4.82	5.13

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1					RQ				
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D63D	D71D	D80D	D90D	D100LD/ D112MD
NH813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH830	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH832	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
NH852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

Note: Torque arm bracket available separately. Refer to page F5 for kits. If a special bracket is required, refer to Style DMQ dimensions for mounting pad dimensions on top/bottom of reducer.

- Max bore dimensions shown. For additional bores available, refer to page B19.
- ◆ Keyway width by depth
- 48CZ not available
- * Metric IEC B5 input flange options are available only on quill input styles.
- ** Style DH and DHM only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
DYF	DHMQ
DYFC	DHM
DY	DH

Refer to page B2 for complete interchange guide for original Grove Gear OE Series.



NH SERIES DIMENSIONS

STYLES: DFHMQ, DFHM, DFH

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

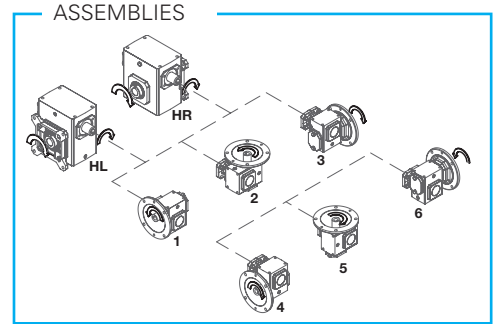
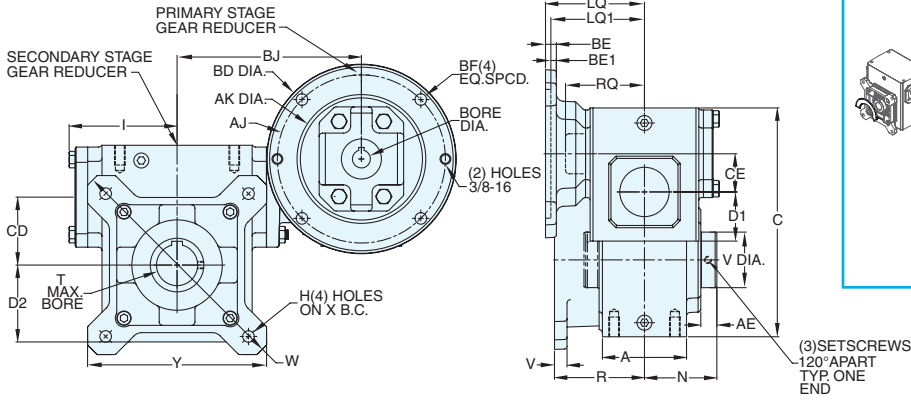
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

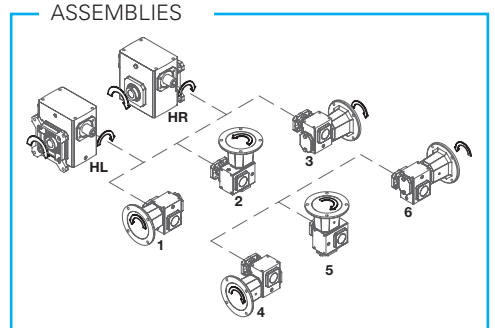
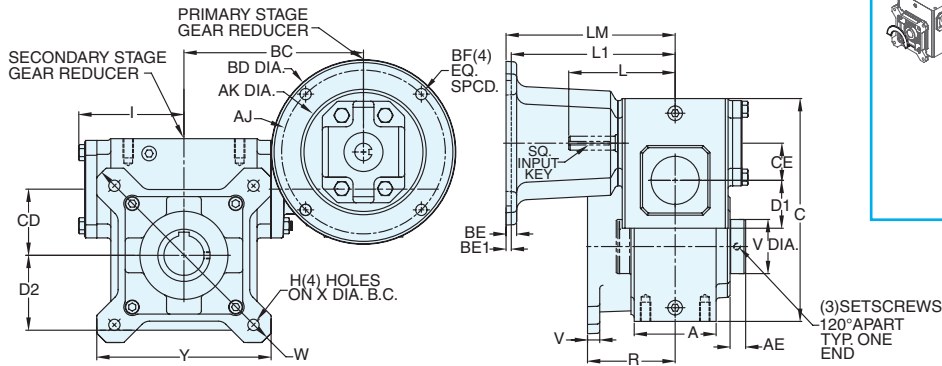
Ratio Multipliers

Accessories
Additional Capabilities

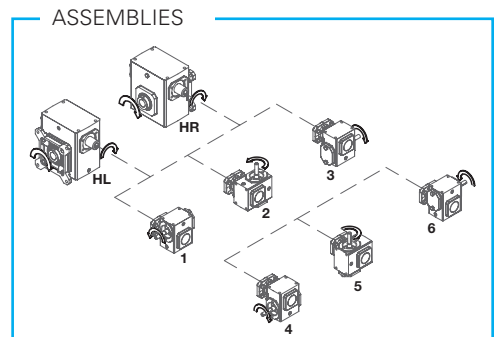
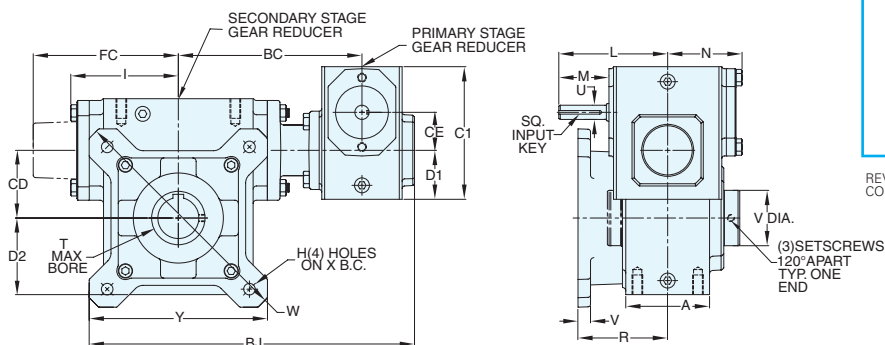
STYLE DFHMQ



STYLE DFHM



STYLE DFH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



NH SERIES DIMENSIONS

Styles: DFHMQ, DFHM, DFH



STYLE DFHMQ, DFHM, DFH DIMENSIONS (Inches)

Size	A	AE	B	BC	BH	BL	C	CD	CE	C1	D1	D2	H	I	L	M	N	R	V	W	X	Y	T MAX -0.000 +0.0025	U +0.000 -0.0015	Input Key**	Output Key•
NH813	2.82	0.53	3.80	5.32	7.16	0.38	4.66	1.33	1.33	4.66	1.72	1.72	0.34	2.61	3.82	1.76	2.37	2.52	1.00	5.92	5.00	4.50	0.625	0.500	1/8 X 1.00	3/16 x 1.50
NH815	2.57	0.51	4.06	5.85	7.69	0.38	5.03	1.54	1.33	4.66	1.72	1.88	0.34	3.14	3.82	1.76	2.20	3.50	1.00	6.79	5.88	5.12	0.625	0.500	1/8 X 1.00	3/16 x 1.50
NH818	2.56	0.56	4.50	5.94	7.78	0.38	5.42	1.75	1.33	4.66	1.72	2.06	0.34	3.24	3.82	1.76	2.37	2.74	1.44	6.64	5.88	5.00	1.000	0.500	1/8 X 1.00	1/4 x 3.00
NH821	2.50	0.85	4.50	6.32	8.16	0.38	5.98	2.06	1.33	4.66	1.72	2.31	0.34	3.61	3.82	1.76	2.53	3.50	1.94	7.37	6.25	5.56	1.500	0.500	1/8 X 1.00	3/8 x 3.00
NH824	2.94	0.56	5.25	6.44	8.28	0.44	6.68	2.38	1.33	4.66	1.72	2.69	0.34	3.77	3.82	1.76	2.53	3.53	1.94	8.29	7.06	6.24	1.500	0.500	1/8 X 1.00	3/8 x 3.00
NH826	2.88	0.56	5.75	7.01	8.85	0.50	7.18	2.63	1.33	4.66	1.72	2.94	0.34	4.34	3.82	1.76	2.53	3.62	1.94	8.90	7.63	6.68	1.500	0.500	1/8 X 1.00	3/8 x 3.00
NH830	3.12	0.56	6.62	7.35	9.04	0.50	8.22	3.00	1.54	5.00	2.06	3.38	0.41	4.84	4.35	1.76	2.78	3.75	2.51	9.50	8.63	7.34	2.188	0.625	3/16 X 1.38	1/2 x 3.00
NH832	4.44	0.57	8.00	7.53	9.22	0.56	9.28	3.25	1.54	5.00	2.06	4.19	0.53	5.02	4.35	1.76	3.36	5.06	2.51	11.84	10.63	9.00	2.188	0.625	3/16 X 1.38	1/2 x 3.00
NH842	4.75	0.63	9.75	8.47	10.15	0.62	10.38	4.25	2.06	6.00	2.31	4.50	0.56	6.10	4.82	1.76	4.25	4.56	2.75	12.95	11.50	9.66	2.188	0.625	3/16 X 1.38	1/2 x 3.00
NH852	6.19	0.97	11.00	10.64	12.61	0.75	11.94	5.25	2.63	7.38	2.94	4.88	0.69	7.50	6.07	2.38	5.25	5.62	4.26	15.50	14.00	11.76	3.438	0.750	3/16 X 1.63	7/8 x 3.44

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	RQ	
	48CZ	56C/ 140TC				48CZ/ 56C/140TC	180TC
NH813	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH815	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH818	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH821	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH824	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH826	5.63	6.07	N/A	3.46	N/A	3.09	N/A
NH830	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH832	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH842	6.63	7.07	N/A	4.46	N/A	4.06	N/A
NH852	N/A	8.32	9.32	5.19■	5.62	4.82■	5.13

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches):*

Size	LQ1					RQ				
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D63D	D71D	D80D	D90D	D100LD/ D112MD
NH813	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH815	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH818	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH821	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH824	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH826	2.62	2.65	2.89	N/A	N/A	2.45	2.47	2.71	N/A	N/A
NH830	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH832	3.25	3.28	3.52	N/A	N/A	2.95	2.97	3.21	N/A	N/A
NH842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
NH852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

- Max bore dimensions shown. For additional bores available, refer to page B19.
- ◆ Keyway width by depth
- 48CZ not available
- * Metric IEC B5 input flange options are available only on quill input styles.
- ** Style DF and DFH only.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
DMF	DFHMQ
DMFC	DFHM
DM	DFH

Refer to page B2 for complete interchange guide for original Grove Gear OE Series.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: DFEMQ, DFEM, DFE

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

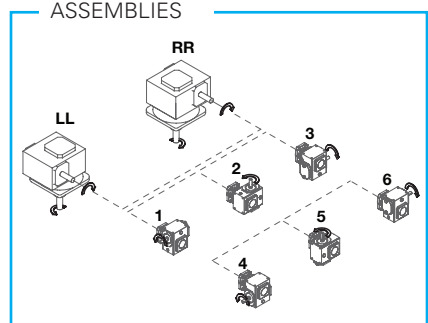
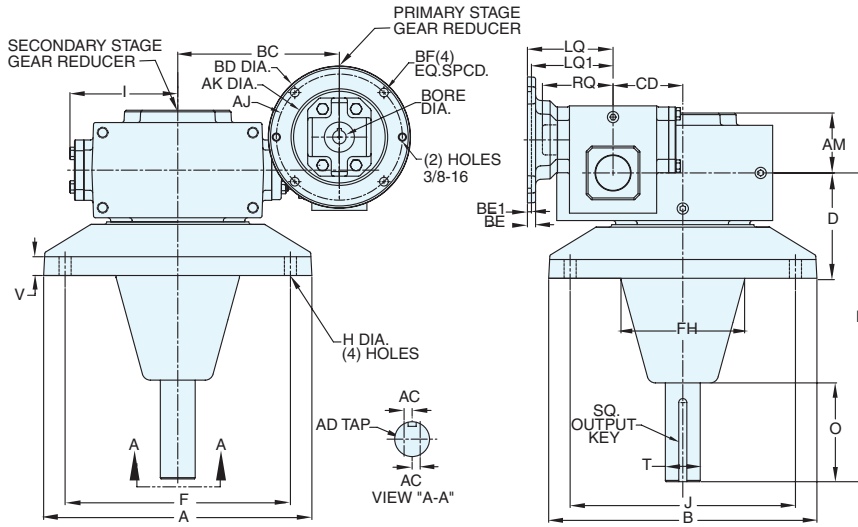
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

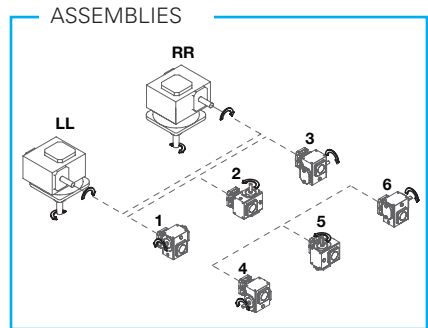
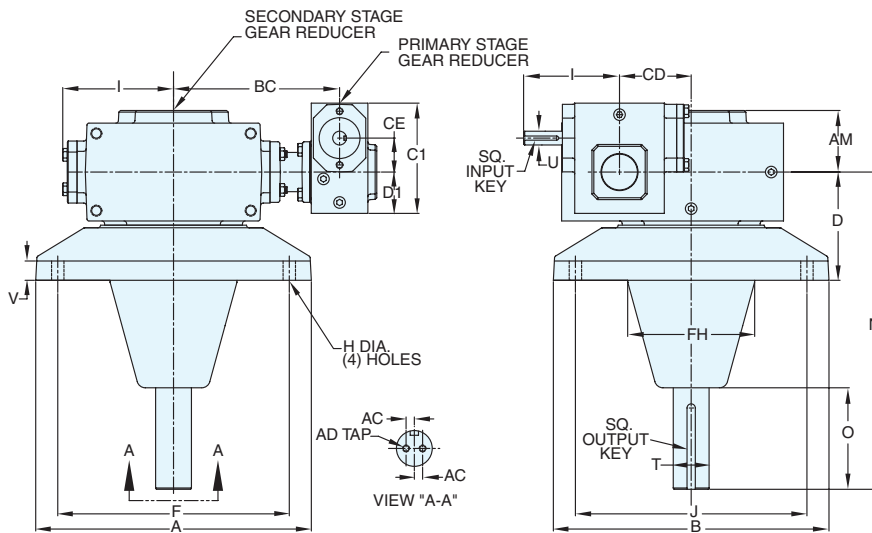
Ratio Multipliers

Accessories
Additional Capabilities

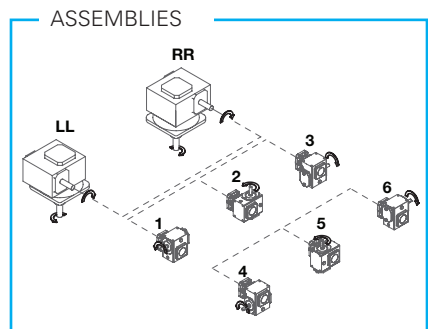
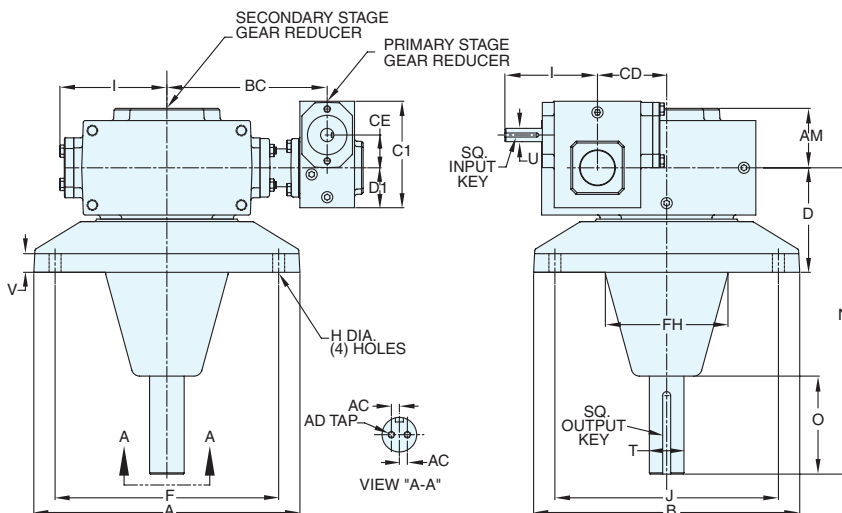
STYLE DFEMQ



STYLE DFEM



STYLE DFE



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION, CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



NH SERIES DIMENSIONS

Styles: DFEMQ, DFEM, DFE



STYLE DFEMQ, DFEM, DFE DIMENSIONS (Inches)

Size	A	AC	AD	AM	B	BC	BH	CD	CE	C1	D	D1	F	FH
NH830	11.00	0.375	.31-18 UNC X 1.00 DP	2.22	11.00	7.35	9.04	3.00	1.54	5.00	3.67	2.06	9.00	5.12
NH832	12.50	0.375	.31-18 UNC X 1.00 DP	2.79	12.50	7.53	9.22	3.25	1.54	5.00	4.91	2.06	10.50	5.75
NH842	14.00	0.500	.38-16 UNC X 1.00 DP	3.62	14.00	8.47	10.15	4.25	2.06	6.00	5.74	2.31	12.00	6.75
NH852	16.00	0.750	.38-16 UNC X 1.00 DP	4.28	16.00	10.64	12.61	5.25	2.63	7.38	6.00	2.94	14.00	8.00

Size	H	I	J	K	L	M	N	O	V	T MAX +0.000 +0.0015	U +0.000 -0.0015	Input Key*	P**
NH830	0.56	4.84	9.00	16.27	4.35	1.76	13.15	4.66	0.78	1.438	0.875	3/16 x 1.63	3/8 x 3.88
NH832	0.56	5.02	10.50	17.51	4.35	1.76	14.39	4.63	0.88	1.625	0.875	3/16 x 1.63	3/8 x 3.69
NH842	0.69	6.10	12.00	19.94	4.82	1.76	16.25	5.66	1.00	1.688	1.25	1/4 x 2.50	3/8 x 4.68
NH852	0.81	7.50	14.00	20.94	6.07	2.38	16.50	5.62	1.25	2.188	1.25	1/4 x 3.00	1/2 x 4.63

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1 180TC/ 210TC	LQ 48CZ/ 56C/140TC	LQ1 180TC	RQ	
	48CZ	56C/ 140TC				48CZ/ 56C/140TC	180TC
NH830	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH832	6.76	6.70	N/A	4.09	N/A	3.59	N/A
NH842	6.63	7.07	N/A	4.46	N/A	4.06	N/A
NH852	N/A	8.32	9.32	5.19	5.62	4.82	5.13

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

IEC B5 & B3/B5 METRIC DIMENSIONS (Inches)-:

Size	LQ1					RQ				
	D63D	D71D	D80D	D90D	D100LD/ D112MD	D63D	D71D	D80D	D90D	D100LD/ D112MD
NH830	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
NH832	3.15	3.18	3.42	N/A	N/A	2.98	3.00	3.24	N/A	N/A
NH842	3.62	3.65	3.89	N/A	N/A	3.43	3.44	3.68	N/A	N/A
NH852	N/A	4.28	4.90	4.90	5.30	N/A	4.09	4.72	4.72	5.07

IEC B5 & B3/B5 METRIC DIMENSIONS (MM)

Frame	AJ	AK	BD	BE	Bore Dia.	Keyway◆	BF TAP	OD
D63D	115	95	117	10	11	4 X 2	M8 X 1.25	131
D71D	130	110	132	11	14	5 X 2.5	M8 X 1.25	146
D80D	165	130	165	15	19	6 X 3	M10 X 1.50	184
D90D	165	130	165	15	24	8 X 3.5	M10 X 1.50	184
D100LD/ D112MD	215	180	216	18	28	8 X 3.5	M12 X 1.75	237

- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available
- ⊕ Metric IEC B5 input flange options are available only on quill input styles.
- * Style DFE and DFEM only.

WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

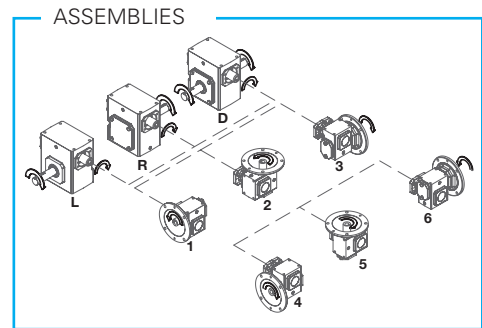
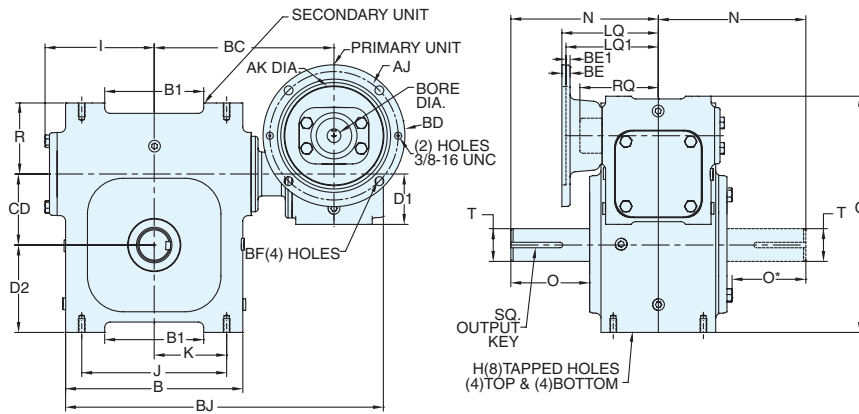
GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
DEF	DFEMQ
DEFC	DFEM
DE	DFE

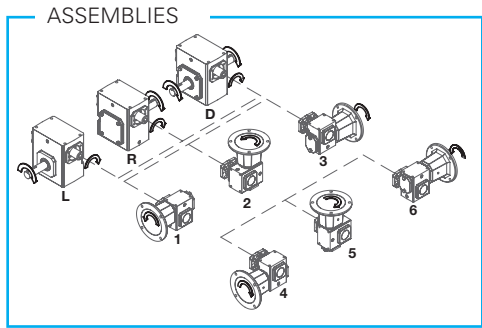
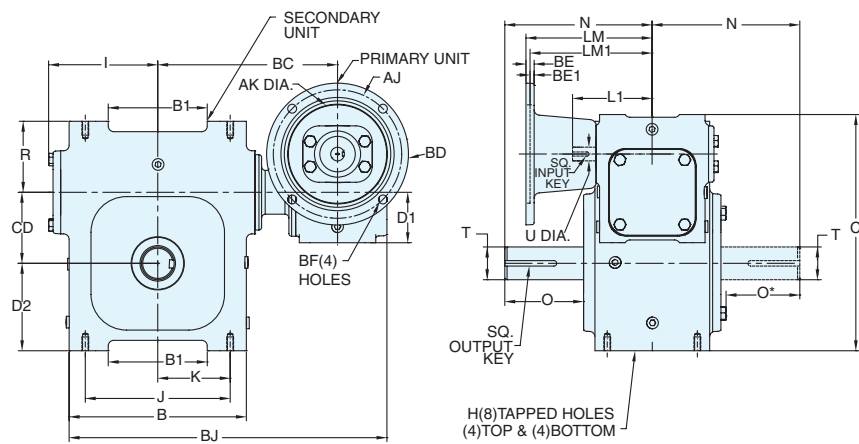
Refer to page B2 for complete interchange guide for original Grove Gear OE Series.

EL SERIES DIMENSIONS STYLES: DMQ, DM, D

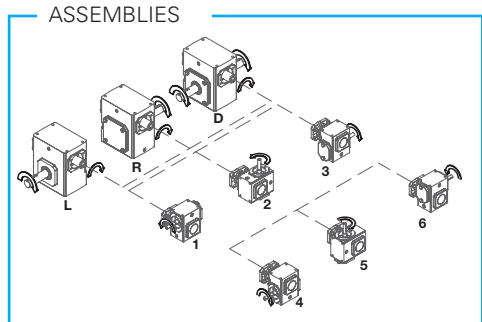
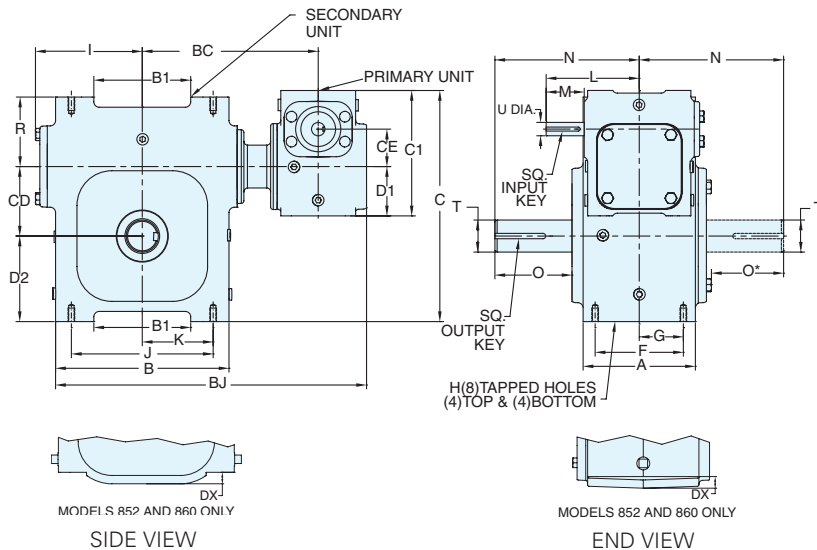
STYLE DMQ



STYLE DM



STYLE D



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DMQ, DM, D DIMENSIONS (Inches)

Size	A	B	B1	BC	BJ	C	CD	CE	C1	D1	D2	DX	F	G	H		I
															Tap Size	Depth	
EL813	2.82	3.80	--	5.32	9.02	5.99	1.33	1.33	4.66	1.72	1.72	--	2.00	1.00	5/16-18	0.50	2.40
EL818	3.50	4.83	2.48	5.94	10.05	7.00	1.75	1.33	4.66	1.72	2.31	--	2.94	1.47	5/16-18	0.63	3.03
EL821	3.91	5.75	2.76	6.32	10.97	7.63	2.06	1.33	4.66	1.72	2.63	--	3.25	1.63	3/8-16	0.87	3.40
EL824	4.06	5.86	--	6.43	11.08	7.81	2.38	1.33	4.66	1.72	2.50	--	2.88	1.44	3/8-16	0.69	3.61
EL826	4.84	7.17	4.21	6.99	12.39	8.81	2.63	1.33	4.66	1.72	3.25	--	3.38	1.69	3/8-16	0.69	4.17
EL830	5.25	8.11	4.50	8.04	14.16	10.06	3.00	1.75	5.86	2.31	3.50	--	4.13	2.06	1/2-13	1.00	4.81
EL832	5.25	8.11	4.53	8.23	14.16	10.81	3.25	1.75	5.86	2.31	4.00	--	4.13	2.06	1/2-13	1.00	5.00
EL842	6.13	9.63	5.71	9.17	11.56	13.00	4.25	2.06	6.88	2.63	4.50	--	3.75	1.88	5/8-11	1.19	6.15
EL852	7.19	11.50	7.82	11.57	14.47	13.75	5.25	2.63	8.00	3.25	4.25	0.75	5.25	2.63	3/4-10	1.44	7.55

Size	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	Input Key (Style D only)	Input Key (Style DM only)	Output Key
EL813	3.25	1.63	3.82	1.87	4.00	2.16	1.96	1.61	0.625	0.500	1/8 x 1.00	1/8 x 1.00	3/16 x 1.38
EL818	3.69	1.84	3.82	1.87	4.39	2.05	1.85	1.81	0.750	0.500	1/8 x 1.00	1/8 x 1.00	3/16 X 1.38
EL821	4.13	2.06	3.82	1.87	4.68	2.29	2.09	2.19	1.000	0.500	1/8 x 1.00	1/8 x 1.00	1/4 x 1.44
EL824	5.00	2.50	3.82	1.87	5.14	2.66	2.46	2.06	1.125	0.500	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL826	5.00	2.50	3.82	1.87	5.63	2.73	2.53	2.13	1.250	0.500	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL830	5.75	2.88	4.45	1.78	6.62	3.60	3.37	2.44	1.500	0.625	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL832	6.63	3.31	4.45	1.78	6.62	3.60	3.37	3.25	1.625	0.625	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL842	7.00	3.50	4.82	1.76	8.12	4.50	4.22	2.94	1.750	0.625	3/16 X 1.38	3/16 x .500	3/8 x 2.50
EL852	9.62	4.81	6.07	2.45	9.06	4.78	4.50	2.75	2.000	0.750	3/16 x 1.63	3/16 x .500	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	6.07	--	3.82	--	3.79	--	3.09	--
EL821	6.07	--	3.82	--	3.79	--	3.09	--
EL824	6.07	--	3.82	--	3.79	--	3.09	--
EL826	6.07	--	3.82	--	3.79	--	3.09	--
EL830	5.88	--	3.64	--	4.42	--	3.59	--
EL832	5.88	--	3.64	--	4.42	--	3.59	--
EL842	6.26	--	4.00	--	4.79	--	4.06	--
EL852	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- ※ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page B22-B23 for GR Series dimensions.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

ELECTRA-GEAR INTERCHANGE GUIDE

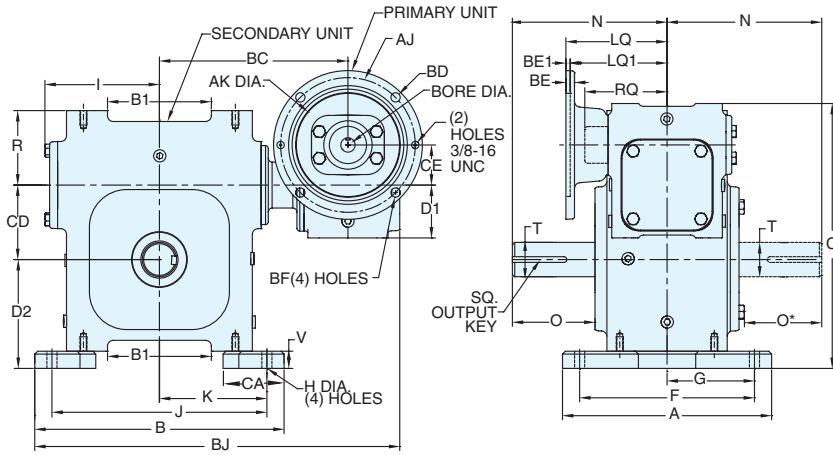
Original Style	New Style
D_MSC or D_MLSC	DMQ
D_MC or D_MLC	DM
D_M or D_ML	D

Convert Style D to motorized coupling input using kits shown on page F6.

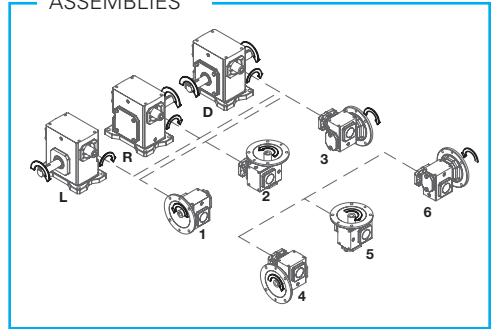
EL SERIES DIMENSIONS

STYLES: DTMQ, DTM, DT

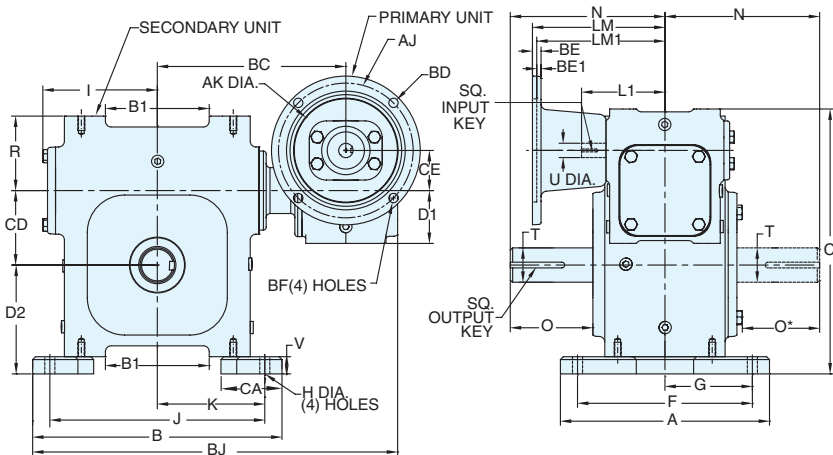
STYLE DTMQ



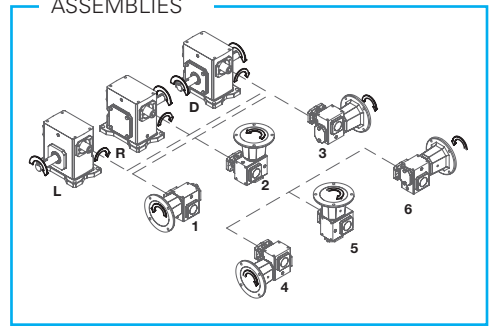
ASSEMBLIES



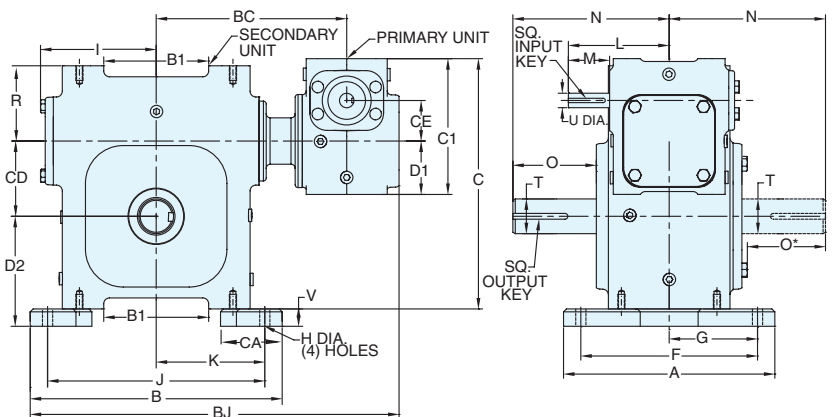
STYLE DTM



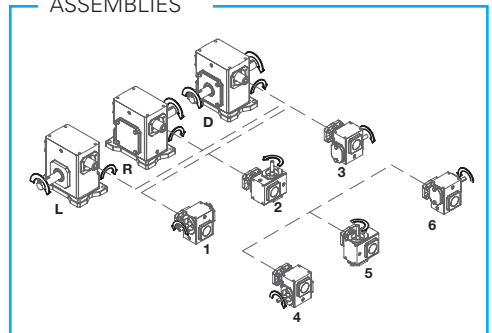
ASSEMBLIES



STYLE DT



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

STYLE DTMQ, DTM, DT DIMENSIONS (Inches)

Size	A	B	BC	BJ	B1	C	CA	CD	CE	C1	D1	D2	F	G	H
EL813	4.06	5.13	5.32	9.73	--	6.52	1.56	1.33	1.33	4.66	1.72	2.25	3.31	1.66	0.34
EL818	5.19	6.06	5.94	10.82	2.48	7.56	2.06	1.75	1.33	4.66	1.72	2.87	4.38	2.19	0.38
EL821	6.63	7.25	6.32	11.79	2.76	8.26	2.40	2.06	1.33	4.66	1.72	3.26	5.38	2.69	0.44
EL824	6.38	7.69	6.43	12.11	--	8.56	2.59	2.38	1.33	4.66	1.72	3.25	4.88	2.44	0.47
EL826	6.63	8.13	6.99	12.90	4.21	9.50	2.81	2.63	1.33	4.66	1.72	3.94	5.38	2.69	0.50
EL830	9.00	9.88	8.04	15.24	4.50	10.81	3.69	3.00	1.75	5.86	2.31	4.25	7.50	3.75	0.56
EL832	9.13	10.88	8.23	15.93	4.53	11.56	3.69	3.25	1.75	5.86	2.31	4.75	7.63	3.82	0.56
EL842	10.00	10.50	9.17	16.68	5.71	14.25	3.38	4.25	2.06	6.88	2.63	5.75	8.00	4.00	0.81
EL852	10.75	12.13	11.57	19.98	7.82	15.25	2.50	5.25	2.63	8.00	3.25	5.75	8.75	4.38	0.81

Size	I	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key (Style DT only)*:	Input Key (Style DTM only)*:	Output Key
EL813	2.40	4.38	2.19	3.82	1.87	4.00	2.16	1.96	1.61	0.625	0.500	0.53	1/8 x 1.00	1/8 x 1.00	3/16 x 1.38
EL818	3.03	5.25	2.63	3.82	1.87	4.39	2.05	1.85	1.81	0.750	0.500	0.56	1/8 x 1.00	1/8 x 1.00	3/16 X 1.38
EL821	3.40	6.00	3.00	3.82	1.87	4.68	2.29	2.09	2.19	1.000	0.500	0.63	1/8 x 1.00	1/8 x 1.00	1/4 x 1.44
EL824	3.61	6.19	3.09	3.82	1.87	5.14	2.66	2.46	2.06	1.125	0.500	0.75	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL826	4.17	6.88	3.44	3.82	1.87	5.63	2.73	2.53	2.13	1.250	0.500	0.69	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL830	4.81	8.38	4.19	4.45	1.78	6.62	3.60	3.37	2.44	1.500	0.625	0.75	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL832	5.00	9.38	4.69	4.45	1.78	6.62	3.60	3.37	3.25	1.625	0.625	0.75	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL842	6.15	8.50	4.25	4.82	1.76	8.12	4.50	4.22	2.94	1.750	0.625	1.25	3/16 X 1.38	3/16 x .500	3/8 x 2.50
EL852	7.55	9.75	4.88	6.07	2.45	9.06	4.78	4.50	2.75	2.000	0.750	1.50	3/16 x 1.63	3/16 x .500	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	6.07	--	3.82	--	3.79	--	3.09	--
EL821	6.07	--	3.82	--	3.79	--	3.09	--
EL824	6.07	--	3.82	--	3.79	--	3.09	--
EL826	6.07	--	3.82	--	3.79	--	3.09	--
EL830	5.88	--	3.64	--	4.42	--	3.59	--
EL832	5.88	--	3.64	--	4.42	--	3.59	--
EL842	6.26	--	4.00	--	4.79	--	4.06	--
EL852	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- *: Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page B22-B23 for GR Series dimensions.

⚠ WARNING

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ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
D_ASC or D_ALSC	DTMQ
D_AC or D_ALC	DTM
D_A or D_AL	DT

Convert Style D to motorized coupling input using kits shown on page F6.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

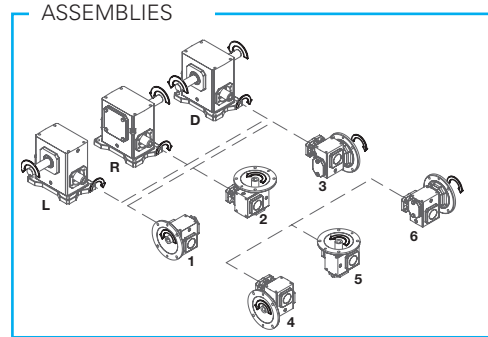
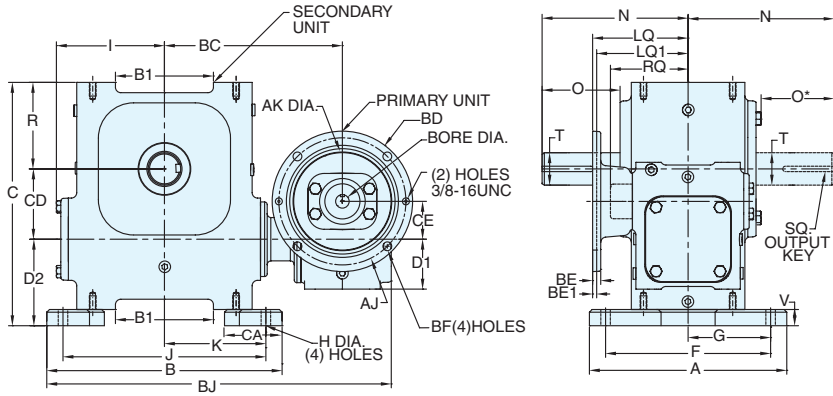
ELECTRA-GEAR



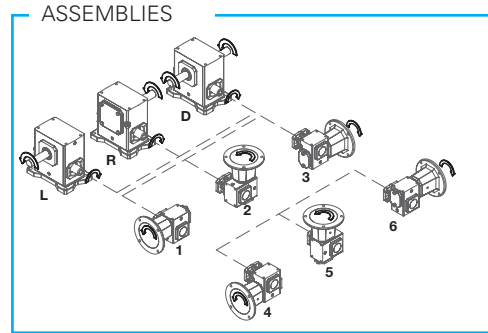
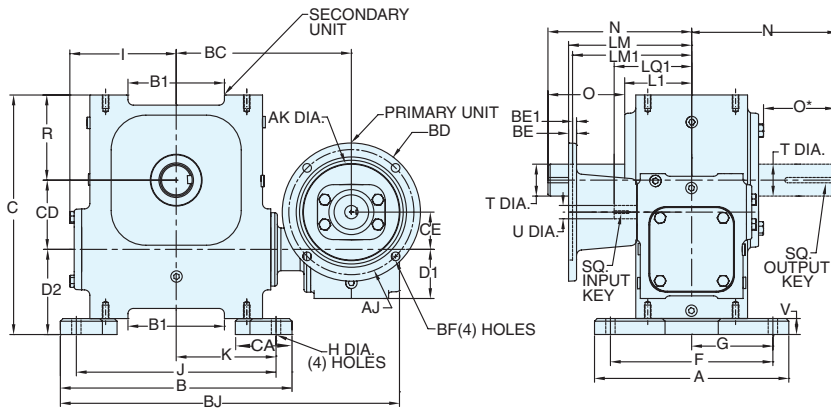
EL SERIES DIMENSIONS

STYLES: DUMQ, DUM, DU

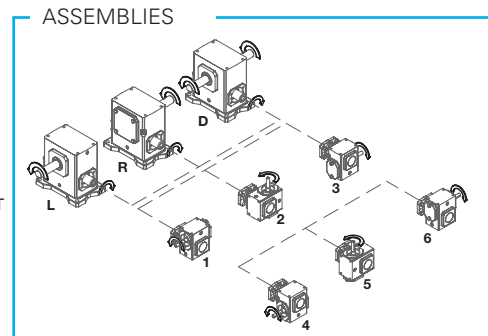
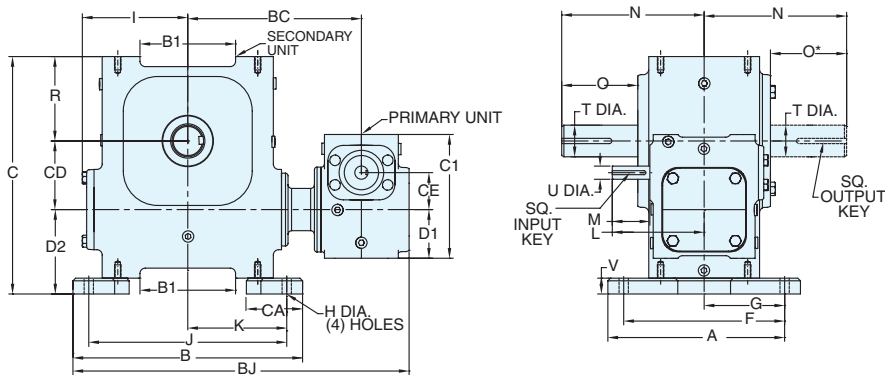
STYLE DUMQ



STYLE DUM



STYLE DU



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

STYLE DUMQ, DUM, DU DIMENSIONS (Inches)

Size	A	B	BC	BJ	B1	C	CA	CD	CE	C1	D1	D2	F	G	H
EL813	4.06	5.13	5.32	9.73	--	5.19	1.56	1.33	1.33	4.66	1.72	1.72	3.31	1.66	0.34
EL818	5.19	6.06	5.94	10.82	2.48	6.42	2.15	1.75	1.33	4.66	1.72	2.31	4.38	2.19	0.38
EL821	6.63	7.25	6.32	11.79	2.76	7.51	2.66	2.06	1.33	4.66	1.72	2.63	5.38	2.69	0.44
EL824	6.38	7.69	6.43	12.11	--	7.63	2.59	2.38	1.33	4.66	1.72	2.50	4.88	2.44	0.47
EL826	6.63	8.13	6.99	12.90	4.21	8.69	2.81	2.63	1.33	4.66	1.72	3.25	5.38	2.69	0.50
EL830	9.00	9.88	8.04	15.24	4.50	9.69	3.69	3.00	1.75	5.86	2.31	3.50	7.50	3.75	0.56
EL832	9.13	10.88	8.23	15.93	4.53	11.25	3.69	3.25	1.75	5.86	2.31	4.00	7.63	3.82	0.56
EL842	10.00	10.50	9.17	16.68	5.71	12.94	3.38	4.25	2.06	6.88	2.63	4.50	8.00	4.00	0.81
EL852	10.75	12.13	11.57	19.89	7.82	13.75	2.50	5.25	2.63	8.00	3.25	4.25	8.75	4.38	0.81

Size	I	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key (Style DT only)*	Input Key (Style DTM only)*	Output Key
EL813	2.40	4.38	2.19	3.82	1.87	4.00	2.16	1.96	1.72	0.625	0.500	0.53	1/8 x 1.00	1/8 x 1.00	3/16 x 1.38
EL818	3.03	5.25	2.63	3.82	1.87	4.39	2.05	1.85	2.30	0.750	0.500	0.56	1/8 x 1.00	1/8 x 1.00	3/16 X 1.38
EL821	3.40	6.00	3.00	3.82	1.87	4.68	2.29	2.09	2.63	1.000	0.500	0.63	1/8 x 1.00	1/8 x 1.00	1/4 x 1.44
EL824	3.61	6.19	3.09	3.82	1.87	5.14	2.66	2.46	2.50	1.125	0.500	0.75	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL826	4.17	6.88	3.44	3.82	1.87	5.63	2.73	2.53	3.25	1.250	0.500	0.69	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL830	4.81	8.38	4.19	4.45	1.78	6.62	3.60	3.37	3.50	1.500	0.625	0.75	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL832	5.00	9.38	4.69	4.45	1.78	6.62	3.60	3.37	4.00	1.625	0.625	0.75	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL842	6.15	8.50	4.25	4.82	1.76	8.12	4.50	4.22	4.19	1.750	0.625	1.25	3/16 X 1.38	3/16 x .500	3/8 x 2.50
EL852	7.55	9.75	4.88	6.07	2.45	9.06	4.78	4.50	4.25	2.000	0.750	1.50	3/16 x 1.63	3/16 x .500	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	6.07	--	3.82	--	3.79	--	3.09	--
EL821	6.07	--	3.82	--	3.79	--	3.09	--
EL824	6.07	--	3.82	--	3.79	--	3.09	--
EL826	6.07	--	3.82	--	3.79	--	3.09	--
EL830	5.88	--	3.64	--	4.42	--	3.59	--
EL832	5.88	--	3.64	--	4.42	--	3.59	--
EL842	6.26	--	4.00	--	4.79	--	4.06	--
EL852	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- ※ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page B22-B23 for GR Series dimensions.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
NOT A STANDARD CATALOGED OPTION	DUMQ DUM DU

Convert Style D to motorized coupling input using kits shown on page F6.

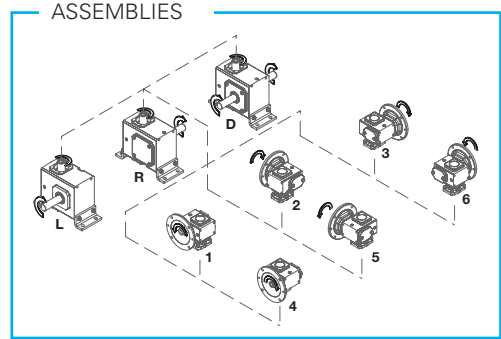
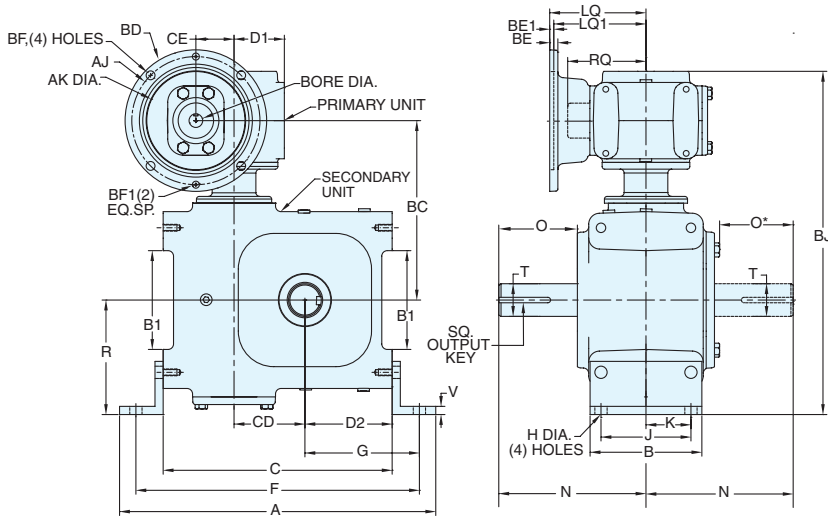
ELECTRA-GEAR



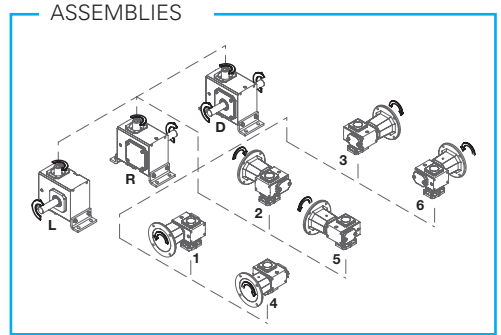
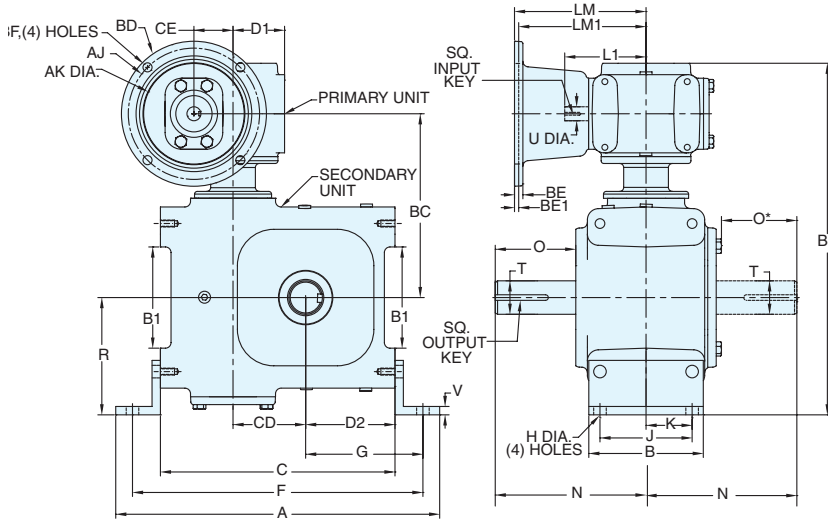
EL SERIES DIMENSIONS

STYLES: DJMQ, DJM, DJ

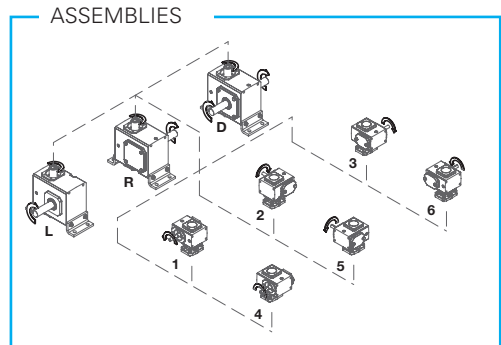
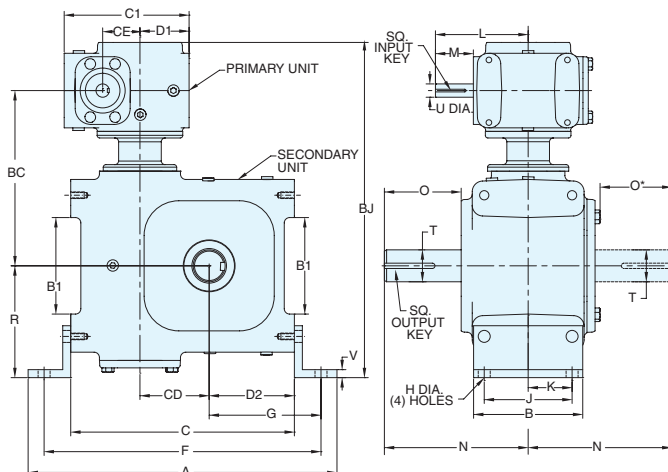
STYLE DJMQ



STYLE DJM



STYLE DJ



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

STYLE DJMQ, DJM, DJ DIMENSIONS (Inches)

Size	A	B	B1	BC	BJ	C	CD	CE	C1	D1	D2	F	G	H	J	K
EL813	7.16	2.91	--	5.32	10.10	4.66	1.33	1.33	4.66	1.72	1.72	6.41	2.60	0.34	2.00	1.00
EL818	8.88	3.56	2.48	5.94	10.76	5.86	1.75	1.33	4.66	1.72	2.31	7.88	3.32	0.38	2.94	1.47
EL821	9.87	4.00	2.76	6.32	11.63	6.88	2.06	1.33	4.66	1.72	2.63	8.87	3.62	0.44	3.25	1.63
EL824	10.31	4.00	--	6.43	12.33	6.94	2.38	1.33	4.66	1.72	2.50	9.19	3.63	0.69	2.88	1.44
EL826	12.00	4.38	4.21	6.99	12.86	8.00	2.63	1.33	4.66	1.72	3.25	10.50	4.50	0.50	3.38	1.69
EL830	12.94	5.13	4.50	8.04	15.11	8.94	3.00	1.75	5.86	2.31	3.50	11.44	4.75	0.56	4.13	2.06
EL832	14.50	5.13	4.53	8.23	15.74	10.50	3.25	1.75	5.86	2.31	4.00	13.00	5.25	0.56	4.13	2.06
EL842	17.50	5.13	5.71	9.17	17.06	11.69	4.25	2.06	6.88	2.63	4.50	14.50	5.91	0.81	3.75	1.88
EL852	20.25	6.50	7.82	11.57	21.46	12.25	5.25	2.63	8.00	3.25	4.25	16.75	6.50	0.81	5.25	2.63

Size	I	J	K	L	M	N	O	O*	R	T +0.000 -0.0015	U +0.000 -0.0015	V	Input Key (Style DT only)*	Input Key (Style DTM only)*	Output Key
EL813	2.40	4.38	2.19	3.82	1.87	4.00	2.16	1.96	1.72	0.625	0.500	0.53	1/8 x 1.00	1/8 x 1.00	3/16 x 1.38
EL818	3.03	5.25	2.63	3.82	1.87	4.39	2.05	1.85	2.30	0.750	0.500	0.56	1/8 x 1.00	1/8 x 1.00	3/16 X 1.38
EL821	3.40	6.00	3.00	3.82	1.87	4.68	2.29	2.09	2.63	1.000	0.500	0.63	1/8 x 1.00	1/8 x 1.00	1/4 x 1.44
EL824	3.61	6.19	3.09	3.82	1.87	5.14	2.66	2.46	2.50	1.125	0.500	0.75	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL826	4.17	6.88	3.44	3.82	1.87	5.63	2.73	2.53	3.25	1.250	0.500	0.69	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL830	4.81	8.38	4.19	4.45	1.78	6.62	3.60	3.37	3.50	1.500	0.625	0.75	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL832	5.00	9.38	4.69	4.45	1.78	6.62	3.60	3.37	4.00	1.625	0.625	0.75	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL842	6.15	8.50	4.25	4.82	1.76	8.12	4.50	4.22	4.19	1.750	0.625	1.25	3/16 X 1.38	3/16 x .500	3/8 x 2.50
EL852	7.55	9.75	4.88	6.07	2.45	9.06	4.78	4.50	4.25	2.000	0.750	1.50	3/16 x 1.63	3/16 x .500	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	6.07	--	3.82	--	3.79	--	3.09	--
EL821	6.07	--	3.82	--	3.79	--	3.09	--
EL824	6.07	--	3.82	--	3.79	--	3.09	--
EL826	6.07	--	3.82	--	3.79	--	3.09	--
EL830	5.88	--	3.64	--	4.42	--	3.59	--
EL832	5.88	--	3.64	--	4.42	--	3.59	--
EL842	6.26	--	4.00	--	4.79	--	4.06	--
EL852	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- * Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page B22-B23 for GR Series dimensions.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
D_JBSC or D_JBLSC	DJMQ
D_JBC or D_JBLC	DJM
D_JB or D_JBL	DJ

Convert Style D to motorized coupling input using kits shown on page F6.

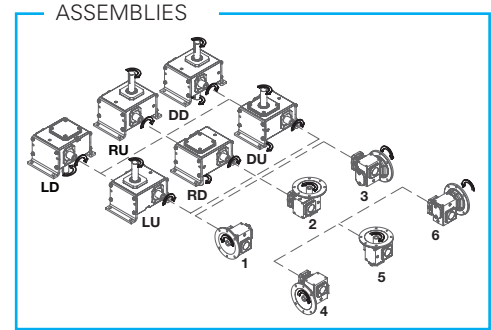
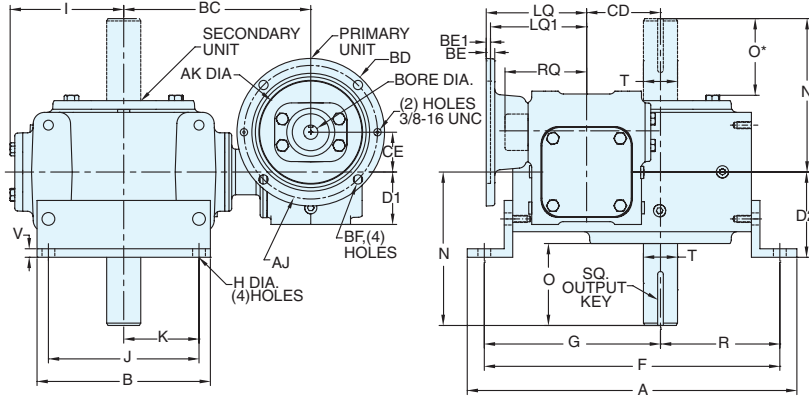
ELECTRA-GEAR



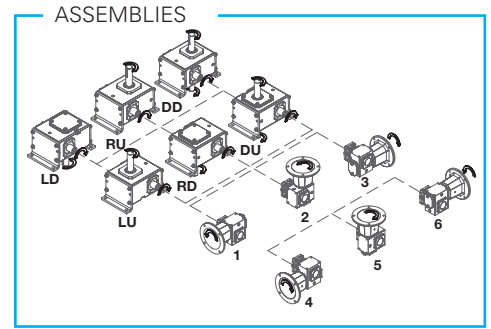
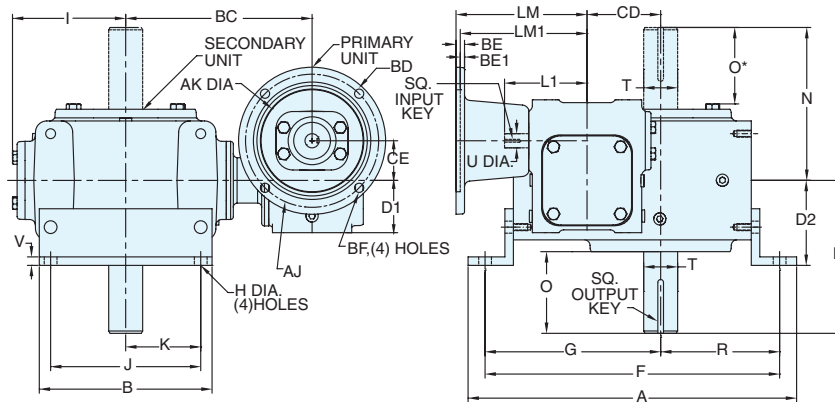
EL SERIES DIMENSIONS

STYLES: DVLMQ, DVLM, DVL

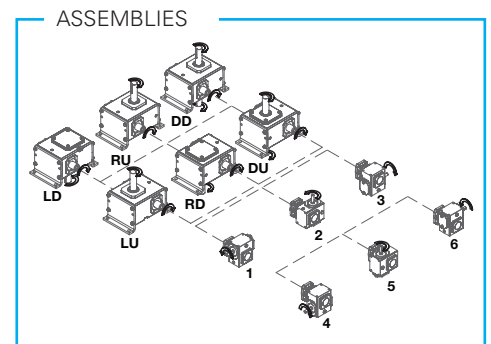
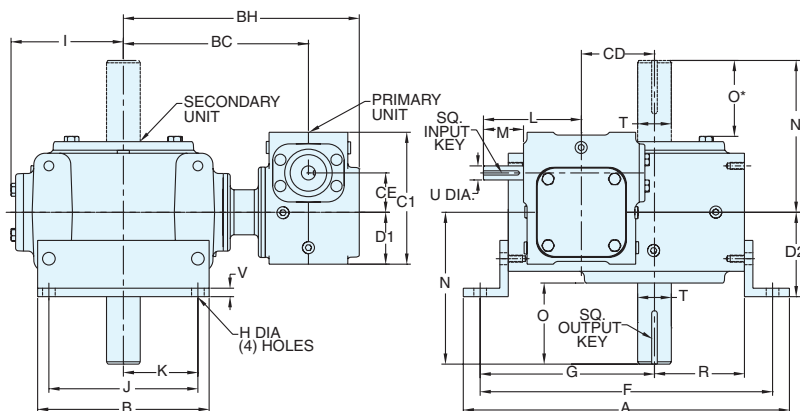
STYLE DVLMQ



STYLE DVLM



STYLE DVL



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

STYLE DVLMQ, DVLM, DVL DIMENSIONS (Inches)

Size	A	B	BC	BH	CD	CE	C1	D1	D2	F	G	H	I	J	K	L
EL813	7.16	4.13	5.32	7.16	1.33	1.33	4.66	1.72	2.31	6.16	3.69	0.34	2.40	3.25	1.63	3.82
EL818	8.88	4.25	5.94	7.79	1.75	1.33	4.66	1.72	2.28	7.88	4.57	0.38	3.03	3.69	1.84	3.82
EL821	9.87	4.81	6.32	8.16	2.06	1.33	4.66	1.72	2.56	8.87	5.25	0.44	3.40	4.13	2.06	3.82
EL824	10.88	5.88	6.43	8.27	2.38	1.33	4.66	1.72	2.75	9.38	5.66	0.50	3.61	5.00	2.50	3.82
EL826	12.00	5.88	6.99	8.83	2.63	1.33	4.66	1.72	2.81	10.50	6.00	0.50	4.17	5.00	2.50	3.82
EL830	12.94	6.75	8.04	10.30	3.00	1.75	5.86	2.31	3.75	11.44	6.69	0.56	4.81	5.75	2.88	4.45
EL832	14.50	7.63	8.23	10.49	3.25	1.75	5.86	2.31	3.75	13.00	7.75	0.56	5.00	6.63	3.31	4.45
EL842	17.50	8.38	9.17	11.56	4.25	2.06	6.88	2.63	4.59	14.50	8.60	0.81	6.15	7.00	3.50	4.82
EL852	19.25	11.50	11.57	14.47	5.25	2.63	8.00	3.25	5.88	16.88	9.19	0.81	7.55	9.63	4.82	6.07

Size	M	N	O	O*	R	V	T +0.000 -0.0015	U +0.000 -0.0015	Input Key (Style DVL only) ※	Input Key (Style DVLM only) ※	Output Key
EL813	1.87	4.00	2.16	1.96	1.72	0.19	0.625	0.500	1/8 x 1.00	1/8 x 1.00	3/16 x 1.38
EL818	1.87	4.39	2.05	1.85	2.31	0.38	0.750	0.500	1/8 x 1.00	1/8 x 1.00	3/16 X 1.38
EL821	1.87	4.68	2.29	2.09	2.63	0.38	1.000	0.500	1/8 x 1.00	1/8 x 1.00	1/4 x 1.44
EL824	1.87	5.14	2.66	2.46	2.50	0.31	1.125	0.500	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL826	1.87	5.63	2.73	2.53	3.25	0.31	1.250	0.500	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL830	1.78	6.62	3.60	3.37	3.50	0.25	1.500	0.625	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL832	1.78	6.62	3.60	3.37	4.00	0.38	1.625	0.625	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL842	1.76	8.12	4.50	4.22	4.50	0.50	1.750	0.625	3/16 X 1.38	3/16 x .500	3/8 x 2.50
EL852	2.45	9.06	4.78	4.50	4.25	0.50	2.000	0.750	3/16 x 1.63	3/16 x .500	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	6.07	--	3.82	--	3.79	--	3.09	--
EL821	6.07	--	3.82	--	3.79	--	3.09	--
EL824	6.07	--	3.82	--	3.79	--	3.09	--
EL826	6.07	--	3.82	--	3.79	--	3.09	--
EL830	5.88	--	3.64	--	4.42	--	3.59	--
EL832	5.88	--	3.64	--	4.42	--	3.59	--
EL842	6.26	--	4.00	--	4.79	--	4.06	--
EL852	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- ※ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page B22-B23 for GR Series dimensions.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
D_BSC or D_BLSC	DVLMQ
D_BC or D_BLC	DVLM
D_B or D_BL	DVL

Convert Style D to motorized coupling input using kits shown on page F6.

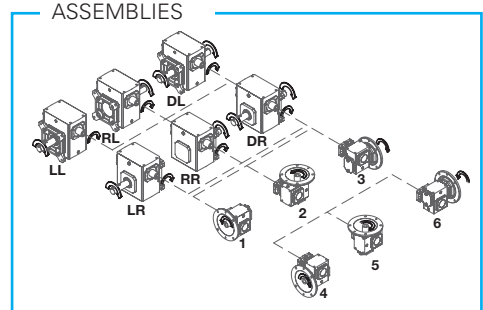
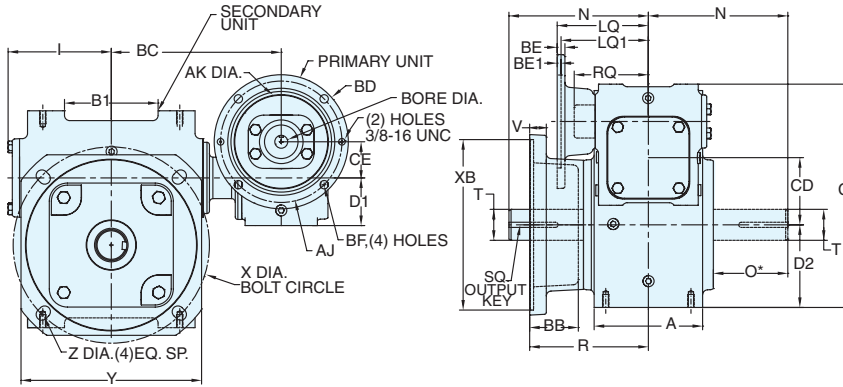
ELECTRA-GEAR



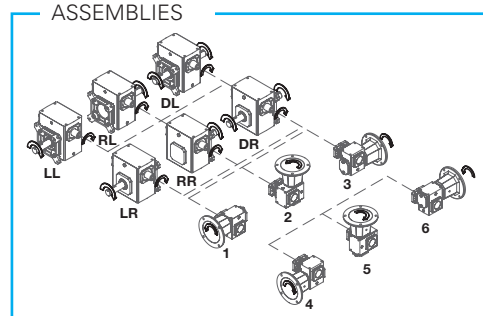
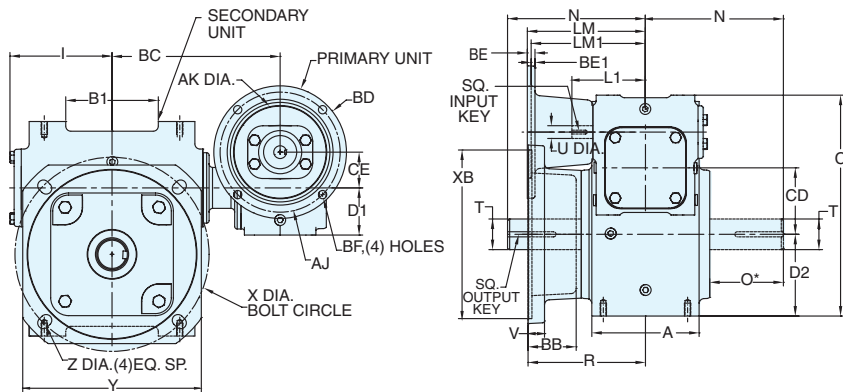
EL SERIES DIMENSIONS

STYLES: DFRMQ, DFRM, DFR

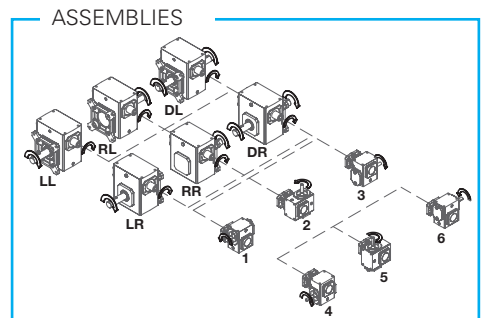
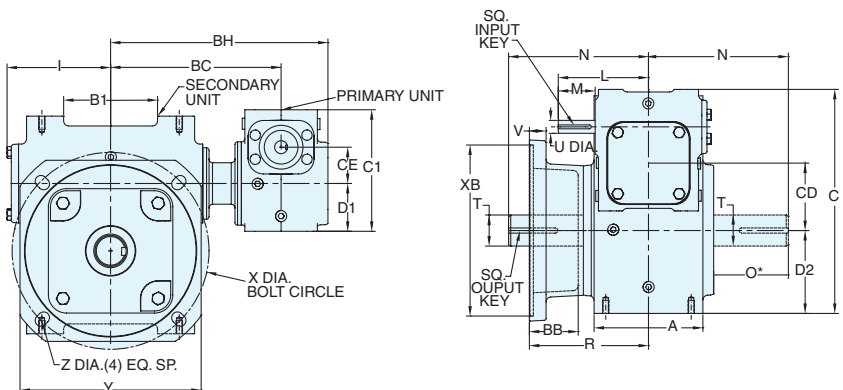
STYLE DFRMQ



STYLE DFRM



STYLE DFR



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

STYLE DFRMQ, DFRM, DFR DIMENSIONS (Inches)

Size	A	BB	BC	BH	B1	C	CD	CE	C1	D1	D2	I	L	M	N	O*
EL818	3.50	1.27	5.94	7.79	2.48	7.00	1.75	1.33	4.66	1.72	2.31	3.03	3.82	1.87	4.39	1.85
EL821	3.91	1.51	6.32	8.16	2.76	7.63	2.06	1.33	4.66	1.72	2.63	3.40	3.82	1.87	4.68	2.09
EL824	4.06	1.35	6.43	8.27	--	7.81	2.38	1.33	4.66	1.72	2.50	3.61	3.82	1.87	5.14	2.46
EL826	4.84	1.35	6.99	8.83	4.21	8.81	2.63	1.33	4.66	1.72	3.25	4.17	3.82	1.87	5.63	2.53
EL830	5.25	2.36	8.04	10.30	4.50	10.06	3.00	1.75	5.86	2.31	3.50	4.81	4.45	1.78	6.62	3.37
EL832	5.25	2.54	8.23	10.49	4.53	10.81	3.25	1.75	5.86	2.31	4.00	5.00	4.45	1.78	6.62	3.37
EL842	6.13	2.06	9.17	11.56	5.71	13.00	4.25	2.06	6.88	2.63	4.50	6.15	4.82	1.76	8.12	4.22
EL852	7.19	1.18	11.57	14.47	7.82	13.75	5.25	2.63	8.00	3.25	4.25	7.55	6.07	2.45	9.06	4.50

Size	R	V	X	XB	Y	Z	T +0.000 -0.0015	U +0.000 -0.0015	Input Key (Style DF only)*	Input Key (Style DFM only)*	Output Key
EL818	3.53	0.38	3.13	-	4.00	0.34	0.750	0.500	1/8 x 1.00	1/8 x 1.00	3/16 X 1.38
EL821	4.25	0.50	6.88	6.00	6.49	0.44	1.000	0.500	1/8 x 1.00	1/8 x 1.00	1/4 x 1.44
EL824	4.15	0.63	7.75	6.50	6.99	0.50	1.125	0.500	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL826	4.56	0.63	7.75	6.50	6.99	0.50	1.250	0.500	1/8 x 1.00	1/8 x 1.00	1/4 X 1.62
EL830	5.75	0.81	9.125-9.500	8.25	8.74	0.56	1.500	0.625	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL832	5.94	0.81	9.125-.9500	8.25	8.74	0.56	1.625	0.625	3/16 x 1.38	3/16 x .500	3/8 X 2.25
EL842	6.06	0.75	10.75	9.75	11.00	0.69	1.750	0.625	3/16 X 1.38	3/16 x .500	3/8 x 2.50
EL852	5.75	0.69	12.75	11.50	14.24	0.81	2.000	0.750	3/16 x 1.63	3/16 x .500	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC
EL818	6.07	--	3.82	--	3.79	--	3.09	--
EL821	6.07	--	3.82	--	3.79	--	3.09	--
EL824	6.07	--	3.82	--	3.79	--	3.09	--
EL826	6.07	--	3.82	--	3.79	--	3.09	--
EL830	5.88	--	3.64	--	4.42	--	3.59	--
EL832	5.88	--	3.64	--	4.42	--	3.59	--
EL842	6.26	--	4.00	--	4.79	--	4.06	--
EL852	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- * Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

- Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page B22-B23 for GR Series dimensions.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

ELECTRA-GEAR INTERCHANGE GUIDE

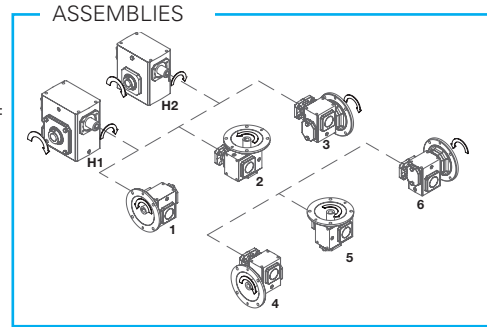
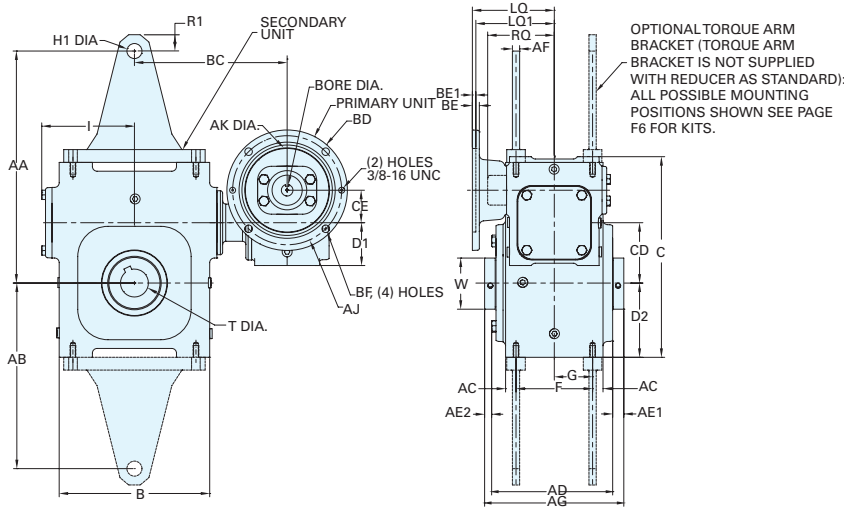
Original Style	New Style
NOT A STANDARD CATALOGED OPTION	DFRMQ
	DFRM
	DFR

Convert Style D to motorized coupling input using kits shown on page F6.

EL SERIES DIMENSIONS

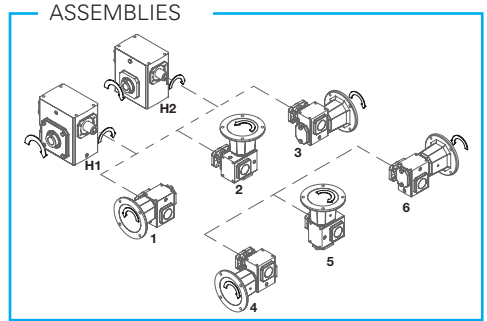
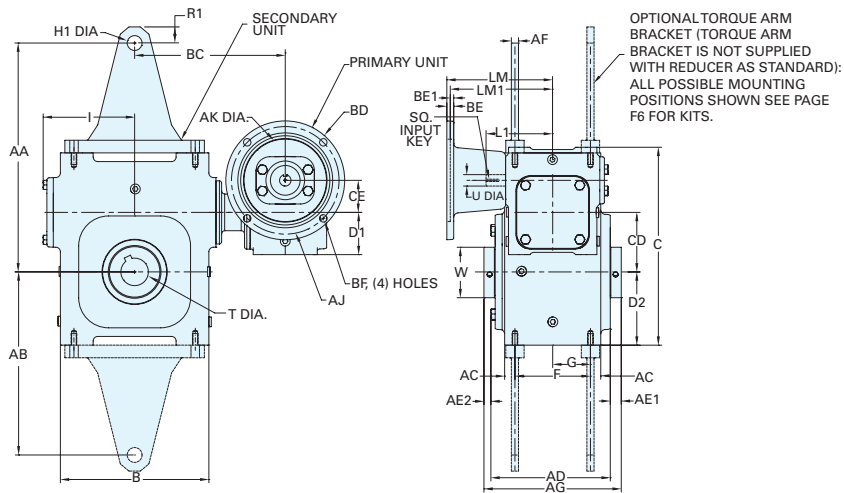
STYLES: DHMQ, DHM, DH

STYLE DHMQ



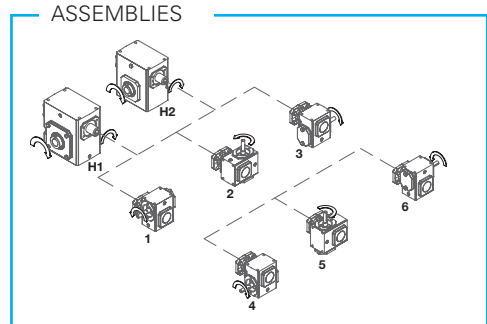
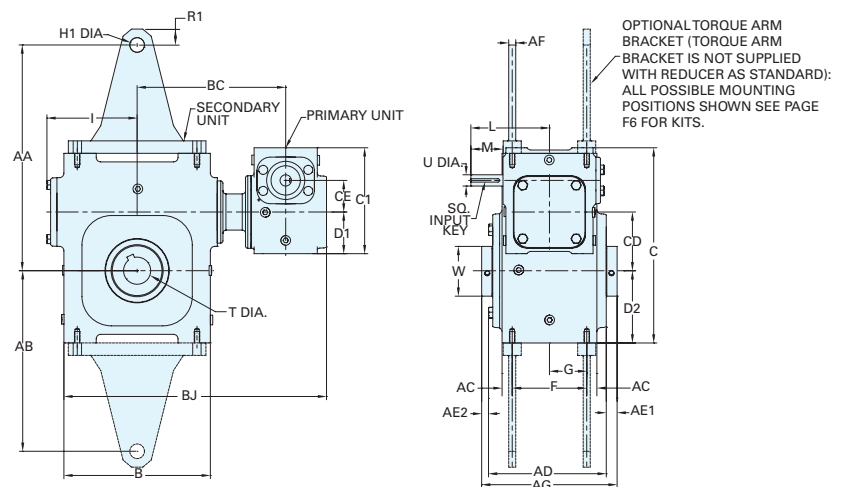
H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DHM



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

STYLE DHMQ, DHM, DH DIMENSIONS (Inches)

Size	AA	AB	AC	AD	AE1	AE2	AF	AG	B	BC	C	CD	CE	C1	D1	D2
EL813	--	--	0.41	3.89	0.58	0.26	--	4.75	3.80	5.32	5.99	1.33	1.33	4.66	1.72	1.72
EL818	6.25	5.00	0.28	4.72	0.49	0.29	0.69	5.50	4.83	5.94	7.00	1.75	1.33	4.66	1.72	2.31
EL821	7.63	6.00	0.33	4.98	0.60	0.42	0.69	6.00	5.75	6.32	7.63	2.06	1.33	4.66	1.72	2.63
EL824	7.81	5.87	0.59	5.17	1.02	0.81	0.69	6.00	5.86	6.43	7.81	2.38	1.33	4.66	1.72	2.50
EL826	8.50	7.00	0.73	6.00	0.60	0.40	0.69	7.00	7.17	6.99	8.81	2.63	1.33	4.66	1.72	3.25
EL830	9.94	8.00	0.56	6.52	0.60	0.38	0.69	7.50	8.11	8.04	10.06	3.00	1.75	5.86	2.31	3.50
EL832	12.50	10.00	0.56	6.52	0.60	0.38	0.69	7.50	8.11	8.23	10.81	3.25	1.75	5.86	2.31	4.00
EL842	14.69	12.00	1.19	7.52	0.63	0.35	0.69	8.50	9.63	9.17	13.00	4.25	2.06	6.88	2.63	4.50
EL852	17.75	14.00	0.97	8.84	0.97	0.69	0.81	10.50	11.50	11.57	15.50	5.25	2.63	8.00	3.25	4.25

Size	F	G	H1	I	L	M	R1	V	T MAX -0.000 +0.0025	U +0.000 -0.0015	Input Key (Style DH only) ✱	Input Key (Style DHM only) ✱	Output Key
EL813	2.00	1.00	--	2.40	3.82	1.87	-	1.00	0.625	0.500	1/8 x 1.00	1/8 x 1.00	3/16 x 1.50
EL818	2.94	1.47	0.53	3.03	3.82	1.87	0.66	1.44	1.000	0.500	1/8 x 1.00	1/8 x 1.00	1/4 x 3.00
EL821	3.25	1.63	0.53	3.40	3.82	1.87	0.75	1.94	1.500*	0.500	1/8 x 1.00	1/8 x 1.00	3/8 x 3.00
EL824	2.88	1.44	0.53	3.61	3.82	1.87	0.75	1.94	1.500*	0.500	1/8 x 1.00	1/8 x 1.00	3/8 x 3.00
EL826	3.38	1.69	0.53	4.17	3.82	1.87	0.75	1.94	1.500*	0.500	1/8 x 1.00	1/8 x 1.00	3/8 x 3.00
EL830	4.13	2.06	0.53	4.81	4.45	1.78	0.81	2.76	2.188	0.625	3/16 x 1.38	3/16 x .500	1/2 x 3.00
EL832	4.13	2.06	0.53	5.00	4.45	1.78	0.88	2.76	2.188	0.625	3/16 x 1.38	3/16 x .500	1/2 x 3.00
EL842	3.75	1.88	0.53	6.15	4.82	1.76	0.88	2.76	2.188	0.625	3/16 X 1.38	3/16 x .500	1/2 x 3.00
EL852	5.25	2.63	0.66	7.55	6.07	2.45	1.13	4.26	3.438	0.750	3/16 x 1.63	3/16 x .500	7/8 x 4.00

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC
EL813	6.07	--	3.82	--	3.79	--	3.09	--
EL818	6.07	--	3.82	--	3.79	--	3.09	--
EL821	6.07	--	3.82	--	3.79	--	3.09	--
EL824	6.07	--	3.82	--	3.79	--	3.09	--
EL826	6.07	--	3.82	--	3.79	--	3.09	--
EL830	5.88	--	3.64	--	4.42	--	3.59	--
EL832	5.88	--	3.64	--	4.42	--	3.59	--
EL842	6.26	--	4.00	--	4.79	--	4.06	--
EL852	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

Note: Torque arm bracket available separately. Refer to page F6 for kits. If a special bracket is required, refer to Style DMQ dimensions for mounting pad dimensions on top/bottom of reducer.

- Max bore dimensions shown. For additional bores available, refer to page B19.
- ◆ Keyway width by depth
- ✱ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page B22-B23 for GR Series dimensions.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
D_MHSC	DHMQ
D_MHC	DHM
D_MH	DH

Convert Style D to motorized coupling input using kits shown on page F6.

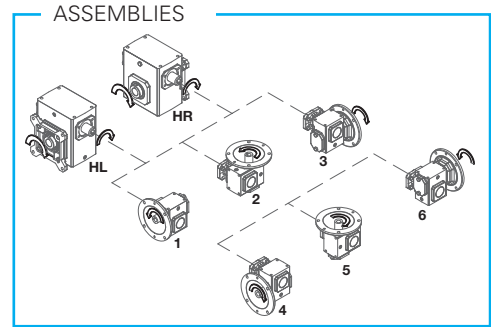
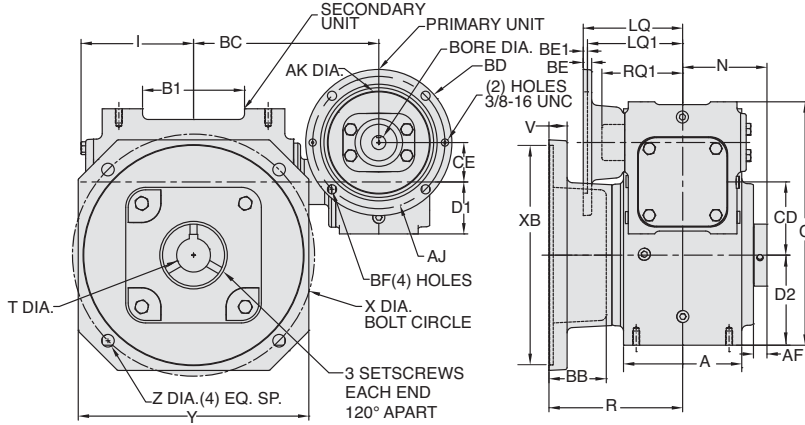
ELECTRA-GEAR



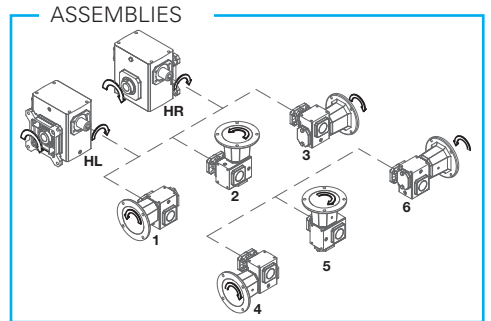
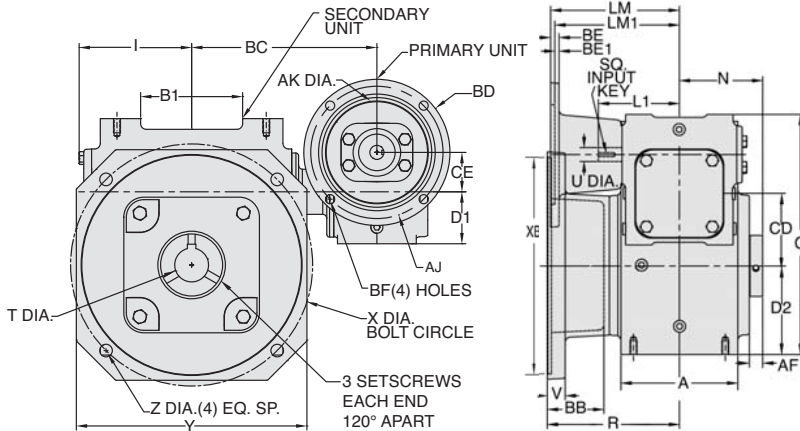
EL SERIES DIMENSIONS

STYLES: DFHMQ, DFHM, DFH

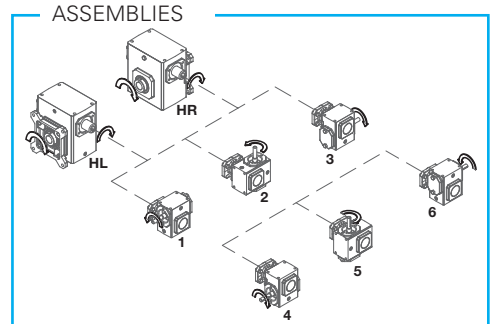
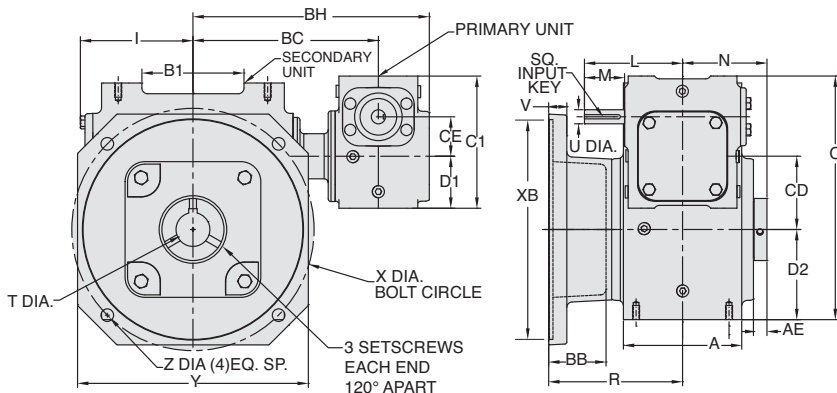
STYLE DFHMQ



STYLE DFHM



STYLE DFH



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

STYLE DFHMQ, DFHM, DFH DIMENSIONS (Inches)

Size	A	AE	B1	BB	BC	BH	C	CD	CE	C1	D1	D2	I	L	M	N
EL818	3.50	0.49	2.48	1.27	5.94	7.79	7.00	1.75	1.33	4.66	1.72	1.72	3.03	3.82	1.87	2.75
EL821	3.91	0.60	2.76	1.51	6.32	8.16	7.63	2.06	1.33	4.66	1.72	2.31	3.40	3.82	1.87	2.99
EL824	4.06	1.05	--	1.35	6.43	8.27	7.81	2.38	1.33	4.66	1.72	2.63	3.61	3.82	1.87	3.51
EL826	4.84	0.60	4.21	1.35	6.99	8.83	8.81	2.63	1.33	4.66	1.72	2.50	4.17	3.82	1.87	3.19
EL830	5.25	0.60	4.50	2.36	8.04	10.30	10.06	3.00	1.75	5.86	2.31	3.25	4.81	4.45	1.78	3.75
EL832	5.25	0.60	4.53	2.54	8.23	10.49	10.81	3.25	1.75	5.86	2.31	3.50	5.00	4.45	1.78	3.75
EL842	6.13	0.63	5.71	2.06	9.17	11.56	13.00	4.25	2.06	6.88	2.63	4.00	6.15	4.82	1.76	4.25
EL852	7.19	0.97	7.82	1.18	11.57	14.47	15.50	5.25	2.63	8.00	3.25	4.50	7.55	6.07	2.45	5.25

Size	R	V	X	XB	Y	Z	T MAX• -0.000 +0.0025	U +0.000 -0.0015	Input Key (Style DFH only)※	Input Key (Style DFHM only)※	Output Key
EL818	3.53	0.38	3.13	-	4.00	0.34	1.000	0.500	1/8 x 1.00	1/8 x 1.00	1/4 x 3.00
EL821	4.25	0.50	6.88	6.00	6.49	0.44	1.500*	0.500	1/8 x 1.00	1/8 x 1.00	3/8 x 3.00
EL824	4.15	0.63	7.38	6.50	6.99	0.50	1.500*	0.500	1/8 x 1.00	1/8 x 1.00	3/8 x 3.00
EL826	4.56	0.63	7.38	6.50	6.99	0.50	1.500*	0.500	1/8 x 1.00	1/8 x 1.00	3/8 x 3.00
EL830	5.75	0.81	11.50	8.25	8.74	0.56	2.188	0.625	3/16 x 1.38	3/16 x .500	1/2 x 3.00
EL832	5.94	0.81	11.50	9.75	8.74	0.56	2.188	0.625	3/16 x 1.38	3/16 x .500	1/2 x 3.00
EL842	6.06	0.75	11.50	10.25	11.00	0.69	2.188	0.625	3/16 x 1.38	3/16 x .500	1/2 x 3.00
EL852	5.75	0.69	12.75	11.50	14.24	0.81	3.438	0.750	3/16 x 1.63	3/16 x .500	7/8 x 4.00

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	L1		LQ	LQ1	RQ	
	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC	56C/140TC	180TC/210TC
EL818	6.07	--	3.82	--	3.79	--	3.09	--
EL821	6.07	--	3.82	--	3.79	--	3.09	--
EL824	6.07	--	3.82	--	3.79	--	3.09	--
EL826	6.07	--	3.82	--	3.79	--	3.09	--
EL830	5.88	--	3.64	--	4.42	--	3.59	--
EL832	5.88	--	3.64	--	4.42	--	3.59	--
EL842	6.26	--	4.00	--	4.79	--	4.06	--
EL852	7.04	7.86	4.88	4.88	5.33	5.33	4.82	4.82

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

- Max bore dimensions shown. For additional bores available, refer to page B19.
- ◆ Keyway width by depth
- ※ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

INTEGRAL GEARMOTOR INPUTS AVAILABLE

— Contact Factory for price and availability.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page B22-B23 for GR Series dimensions.

⚠ WARNING

For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
D_RHSC	DFHMQ
D_RHC	DFHM
D_RH	DFH

Convert Style D to motorized coupling input using kits shown on page F6.

MODEL NUMBER SYSTEM



800 Series Gear Reducer Model Number Nomenclature

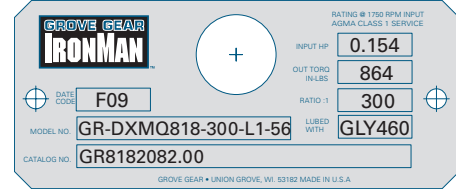
All new stock and custom 800 Series Grove Gear and Electra-Gear worm reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example EL8130001 and GR8130001. Reducers and renewal parts should be ordered by catalog number. If a stock reducer has been Factory modified by the addition of an optional base for example, the modification number T818, for example, is stamped in the blank column of the nameplate. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 3000 and higher (for example, GR8133000 and NH8133000) are WASHGUARD® reducers for washdown service.

Catalog numbers 5000 (for example, GR8135000 and EL8135000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered by catalog number.

TYPICAL NAMEPLATE (Grove Gear shown)



Series Code	Style	Size	Ratio	Output Shaft Orientation	Mounting Assembly	Motor Flange	Output Bore Code																																																																	
SOLID OUTPUT SHAFT DXMQ – Motorized, Quill Input DXM – Motorized, Flexible Coupling Input DX – Non-Flanged HOLLOW OUTPUT SHAFT DXHMQ – Motorized, Quill Input DXHM – Motorized, Flexible Coupling Input DXH – Non-Flanged WASHGUARD STYLES W prefix; i.e. WDXMQ denotes WASHDOWN Reducer S prefix; i.e. SDXMQ denotes All-Stainless Steel Reducer	See Selection Tables on pages C10-C14, for all available ratios. 800 SERIES CENTER DISTANCES <table border="1"> <thead> <tr> <th>Size</th> <th>Center Distance (Inches)</th> </tr> </thead> <tbody> <tr><td>813</td><td>1.33</td></tr> <tr><td>815</td><td>1.54</td></tr> <tr><td>818</td><td>1.75</td></tr> <tr><td>821</td><td>2.06</td></tr> <tr><td>824</td><td>2.38</td></tr> <tr><td>826</td><td>2.62</td></tr> <tr><td>830</td><td>3.00</td></tr> <tr><td>832</td><td>3.25</td></tr> <tr><td>842</td><td>4.25</td></tr> <tr><td>852</td><td>5.25</td></tr> <tr><td>860*</td><td>6.00</td></tr> <tr><td>870*</td><td>7.00</td></tr> <tr><td>880*</td><td>8.00</td></tr> <tr><td>8100*</td><td>10.00</td></tr> </tbody> </table> * GR series only	Size	Center Distance (Inches)	813	1.33	815	1.54	818	1.75	821	2.06	824	2.38	826	2.62	830	3.00	832	3.25	842	4.25	852	5.25	860*	6.00	870*	7.00	880*	8.00	8100*	10.00	Assembly numbers 1-6 are available. Refer to dimension layouts.	L – Left-hand Output Shaft* R – Right-hand Output Shaft* D – Double Output Shaft H – Hollow Output Shaft * Viewed from drive end of reducer.	Input Code <table border="1"> <thead> <tr> <th>Single Input</th> <th>Dual Input</th> <th>For Input Type</th> </tr> </thead> <tbody> <tr><td>blank</td><td>A</td><td>non-motorized</td></tr> <tr><td>48</td><td>48A</td><td>48CZ</td></tr> <tr><td>56</td><td>56A</td><td>56C</td></tr> <tr><td>140</td><td>140A</td><td>143-5TC</td></tr> <tr><td>180</td><td>180A</td><td>182-4TC</td></tr> <tr><td>210</td><td>210A</td><td>213-5TC</td></tr> <tr><td>250</td><td>250A</td><td>254-6TC</td></tr> <tr><td>63</td><td rowspan="3">Contact Grove Gear</td><td>D63D B5</td></tr> <tr><td>71</td><td>D71D B5</td></tr> <tr><td>80</td><td>D80D B5</td></tr> <tr><td>90</td><td>D90D B5</td></tr> <tr><td>110</td><td>D100LD/D112MD B5</td></tr> <tr><td>132</td><td>D132D</td></tr> </tbody> </table>	Single Input	Dual Input	For Input Type	blank	A	non-motorized	48	48A	48CZ	56	56A	56C	140	140A	143-5TC	180	180A	182-4TC	210	210A	213-5TC	250	250A	254-6TC	63	Contact Grove Gear	D63D B5	71	D71D B5	80	D80D B5	90	D90D B5	110	D100LD/D112MD B5	132	D132D	Hollow Shaft Only See page B19.
		Size	Center Distance (Inches)																																																																					
		813	1.33																																																																					
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826	2.62																																																																							
830	3.00																																																																							
832	3.25																																																																							
842	4.25																																																																							
852	5.25																																																																							
860*	6.00																																																																							
870*	7.00																																																																							
880*	8.00																																																																							
8100*	10.00																																																																							
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71		D71D B5																																																																						
80		D80D B5																																																																						
90	D90D B5																																																																							
110	D100LD/D112MD B5																																																																							
132	D132D																																																																							
GR - Grove Gear IRONMAN Cast Iron Reducers NH - Grove Gear IRONMAN Narrow Housing Cast Iron Reducers EL - Electra-Gear Aluminum Reducers GRG - Grove Gear Flexaline Interchange (Sizes 821, 826, 832) GRL - Leeson IRONMAN Interchange (Sizes 821, 826, 832) SS - Grove Gear Washguard Premium All Stainless Steel Reducer	NEMA Input IEC Input																																																																							

Sample Model Numbers

Solid Output Shaft - GR Series

Cast iron, double reduction, 2.38" reducer with 56C motorized quill input, left-hand output shaft, 300:1 ratio.

GR - DXMQ 824 - 300 - L1 - 56
 Series Style Size Ratio Shaft Input Orientation Type

Hollow Output Shaft - EL Series

Aluminum, double reduction, 1.75" reducer with 56C motorized quill input, 1.00" hollow output bore, 100:1 ratio.

EL - DXHMQ 818 - 100 - H1 - 56 - 16
 Series Style Size Ratio Shaft Input Output Bore Orientation Type Code



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles DXMQ, DXM and DX can be field or Factory modified into a wide range of styles.*

**MOTORIZED
C-FLANGE
QUILL
INPUT**

Style DXMQ



Ratings Pages: C10-C14

Dimension Pages:
GR Series C19-C20
NH Series C37-C38

Style DXTMQ



Ratings Pages: C10-C14

Dimension Pages:
GR Series C21-C22
NH Series C39-C40

Style DXJMQ



Ratings Pages: C10-C14

Dimension Pages:
GR Series C25-C26
NH Series Contact Factory

Style DXM



Ratings Pages: C10-C14

Dimension Pages:
GR Series C19-C20
NH Series C37-C38

Style DXTM



Ratings Pages: C10-C14

Dimension Pages:
GR Series C21-C22
NH Series C39-C40

Style DXJM



Ratings Pages: C10-C14

Dimension Pages:
GR Series C25-C26
NH Series Contact Factory

**MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT**

Style DX



Ratings Pages: C10-C14

Dimension Pages:
GR Series C19-C20
NH Series C37-C38

Style DXT



Ratings Pages: C10-C14

Dimension Pages:
GR Series C21-C22
NH Series C39-C40

Style DXJ



Ratings Pages: C10-C14

Dimension Pages:
GR Series C25-C26
NH Series Contact Factory

**NON-
FLANGED
INPUT**

*Additional accessories, options and assembly services are available, Contact Factory for details.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



CAST IRON SOLID SHAFT OUTPUT STYLES

**CAST IRON
GR SERIES**

**CAST IRON
NH SERIES**

Stock Styles

Modified Stock Styles

Vertical Output Shaft High / Low Base

Style DXV_MQ**



Ratings Pages: C10-C14

Dimension Pages:
GR Series C27-C28
NH Series Contact Factory

Flange Mounted Output Shaft

Style DXFMQ



Ratings Pages: C10-C14

Dimension Pages:
GR Series C29-C30
NH Series Contact Factory

Flange Mounted Output Shaft

Style DXFEMQ



Ratings Pages: C10-C14

Dimension Pages:
GR Series C35-C36
NH Series C45-C46

**MOTORIZED
C-FLANGE
QUILL
INPUT**

Style DXV_M**



Ratings Pages: C10-C14

Dimension Pages:
GR Series C27-C28
NH Series Contact Factory

Style DXFM



Ratings Pages: C10-C14

Dimension Pages:
GR Series C29-C30
NH Series Contact Factory

Style DXFEM



Ratings Pages: C10-C14

Dimension Pages:
GR Series C35-C36
NH Series C45-C46

**MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT**

Style DXV_**



Ratings Pages: C10-C14

Dimension Pages:
GR Series C27-C28
NH Series Contact Factory

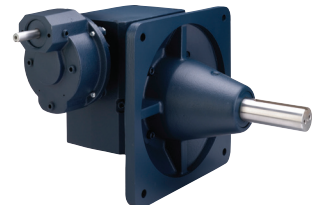
Style DXF



Ratings Pages: C10-C14

Dimension Pages:
GR Series C29-C30
NH Series Contact Factory

Style DXFE



Ratings Pages: C10-C14

Dimension Pages:
GR Series C35-C36
NH Series C45-C46

**NON-
FLANGED
INPUT**

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



Stock Style Modified Stock Styles

Using off-the-shelf accessories, stock styles DXHMO, DXHM and DXH can be field or factory modified into a wide range of styles.

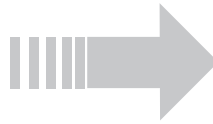
**MOTORIZED
C-FLANGE
QUILL
INPUT**

Style DXHMO



Ratings Pages: C10-C14

Dimension Pages:
GR Series C31-C32
NH Series C41-42



**Flange Mounted
Output Shaft**

Style DXFHMO



Ratings Pages: C10-C14

Dimension Pages:
GR Series C33-C34
NH Series C43-C44

**MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT**

Style DXHM



Ratings Pages: C10-C14

Dimension Pages:
GR Series C31-C32
NH Series C41-42



Style DXFHM



Ratings Pages: C10-C14

Dimension Pages:
GR Series C33-C34
NH Series C43-C44

**NON-FLANGED
INPUT**

Style DXH



Ratings Pages: C10-C14

Dimension Pages:
GR Series C31-C32
NH Series C41-42



Style DXFH



Ratings Pages: C10-C14

Dimension Pages:
GR Series C33-C34
NH Series C43-C44

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

ELECTRA-GEAR

ALUMINUM HOLLOW SHAFT OUTPUT STYLES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

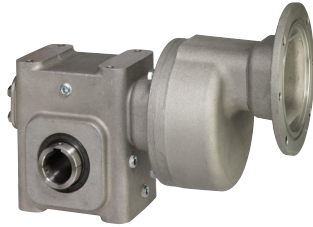
Stock Styles

Modified Stock Styles

Using off-the-shelf accessories, stock styles DXHMQ, DXHM and DXH can be field or factory modified into a wide range of styles.

MOTORIZED
C-FLANGE
QUILL
INPUT

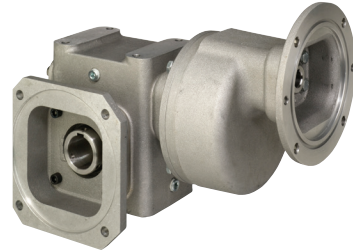
Style DXHMQ



Ratings Pages: C10-C14

Dimension Pages:
EL Series C59-C60

Style DXFHMQ



Ratings Pages: C10-C14

Dimension Pages:
EL Series C61-C62

MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT

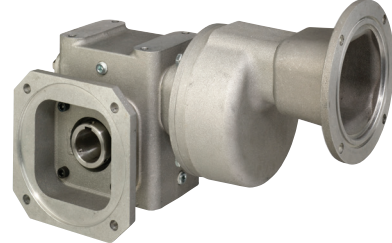
Style DXHM



Ratings Pages: C10-C14

Dimension Pages:
EL Series C59-C60

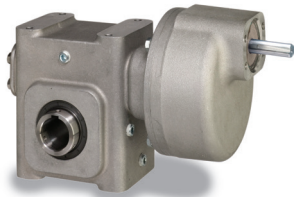
Style DXFHM



Ratings Pages: C10-C14

Dimension Pages:
EL Series C61-C62

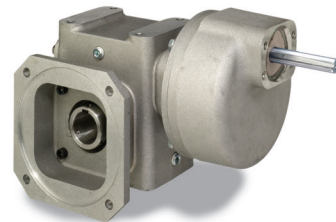
Style DXH



Ratings Pages: C10-C14

Dimension Pages:
EL Series C59-C60

Style DXFH



Ratings Pages: C10-C14

Dimension Pages:
EL Series C61-C62

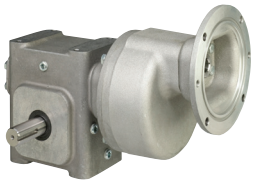
NON-FLANGED
INPUT

Stock Styles Modified Stock Styles

Using off-the-shelf accessories, stock styles DXMQ, DXM and DX can be field or factory modified into a wide range of styles.

**MOTORIZED
C-FLANGE
QUILL
INPUT**

Style DXMQ

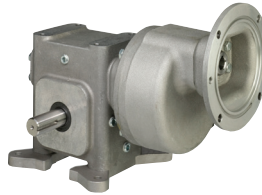


Ratings Pages: C10-C14

Dimension Pages:
EL Series C47-48

**Horizontal Base
Worm Over**

Style DXTMQ

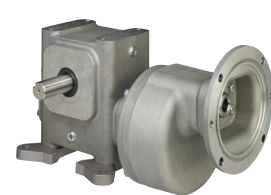


Ratings Pages: C10-C14

Dimension Pages:
EL Series C49-C50

**Horizontal Base
Worm Under**

Style DXUMQ*

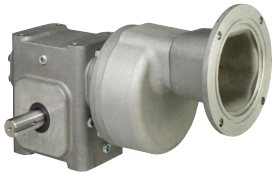


Ratings Pages: C10-C14

Dimension Pages:
EL Series C51-C52

**MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT**

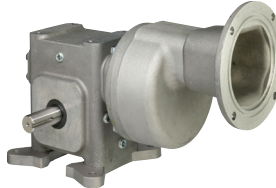
Style DXM



Ratings Pages: C10-C14

Dimension Pages:
EL Series C47-48

Style DXTM



Ratings Pages: C10-C14

Dimension Pages:
EL Series C49-C50

Style DXUM*

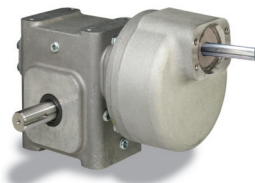


Ratings Pages: C10-C14

Dimension Pages:
EL Series C51-C52

**NON-
FLANGED
INPUT**

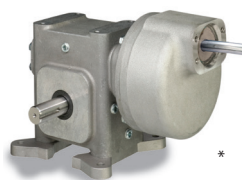
Style DX



Ratings Pages: C10-C14

Dimension Pages:
EL Series C47-48

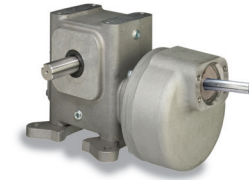
Style DXT



Ratings Pages: C10-C14

Dimension Pages:
EL Series C49-C50

Style DXU*



Ratings Pages: C10-C14

Dimension Pages:
EL Series C51-C52

**Additional accessories, options and assembly services are available,
Contact Factory for details.**

*Not a recommended mounting style.
Consult Factory for selection assistance.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

ELECTRA-GEAR



ALUMINUM SOLID SHAFT OUTPUT STYLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Stock Styles

Modified Stock Styles

Vertical Input Shaft

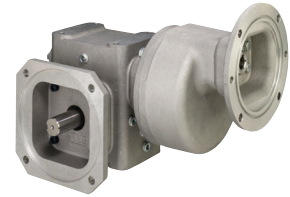
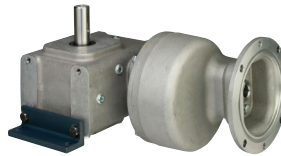
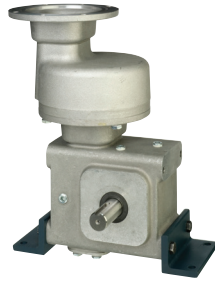
Vertical Output Shaft Low Base

Flange Mounted Output Shaft

Style DXJMO

Style DXVLMQ**

Style DXFRMO



Ratings Pages: C10-C14

Ratings Pages: C10-C14

Ratings Pages: C10-C14

Dimension Pages:
EL Series C53-C54

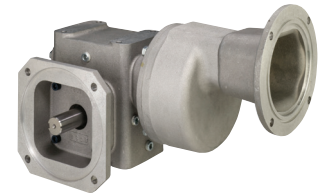
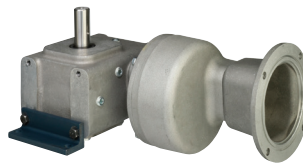
Dimension Pages:
EL Series C55-C56

Dimension Pages:
EL Series C57-C58

Style DXJM

Style DXVLM**

Style DXFRM



Ratings Pages: C10-C14

Ratings Pages: C10-C14

Ratings Pages: C10-C14

Dimension Pages:
EL Series C53-C54

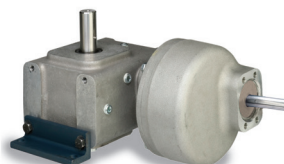
Dimension Pages:
EL Series C55-C56

Dimension Pages:
EL Series C57-C58

Style DXJ

Style DXVL**

Style DXFR



Ratings Pages: C10-C14

Ratings Pages: C10-C14

Ratings Pages: C10-C14

Dimension Pages:
EL Series C53-C54

Dimension Pages:
EL Series C55-C56

Dimension Pages:
EL Series C57-C58

** SPECIFY SHAFT UP OR DOWN FOR THESE STYLES.

MOTORIZED
C-FLANGE
QUILL
INPUT

MOTORIZED
C-FLANGE
FLEXIBLE
COUPLING
INPUT

NON-
FLANGED
INPUT



How to Use

Based on required output RPM and input motor horsepower, read across chart for the appropriate reducer size. As a rule of thumb, use 1.00 service factor chart for applications having uniform loads with up to 10 hours service duration per day. Use 1.25 service factor chart for longer service or shock loading. These charts are to be considered as guides only. Typically double reduction reducers are selected based on application torque, not necessarily HP. Refer to page L7 or contact Factory with specific application information. Series numbers correspond to center distances of secondary stage reducer, as shown in the chart below.

1.00 Service Factor

Nominal Ratio▲	Output RPM	Input Horsepower @ 1750 RPM																	
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	25	30	40
10	175.0	813	813	813	813	813	813	815	818	821	824	830	842	842	852	852	N/A	N/A	N/A
15	116.7	813	813	813	813	813	815	815	821	824	826	832	842	842	852	852	N/A	N/A	N/A
20	87.5	813	813	813	813	813	815	818	821	824	826	832	842	842	852	N/A	N/A	N/A	N/A
25	70.0	813	813	813	813	815	815	818	821	824	826	830*	842	842	852	870	880	880	880
30	58.3	813	813	813	813	815	815	818	821	824	826	830*	842	842	852	N/A	N/A	N/A	N/A
40	43.8	813	813	813	815	815	821	824	824	826	830	832	842	852	852	N/A	N/A	N/A	N/A
45	38.9	813	813	813	815	815	821	824	824	826	830	832	842	852	852	N/A	N/A	N/A	N/A
50	35.0	813	813	813	815	815	818	821	824	826	830	842	842	852	860	870	880	8100	8100
60	29.2	813	813	815	815	815	821	824	824	826	830*	842	842	852	860	N/A	N/A	N/A	N/A
75	23.3	813	813	815	815	821	824	826	830	832	842	852	852	870	880	8100	8100		
80	21.9	813	813	815	815	821	824	826	832	832**	842	852	860	N/A	N/A	N/A			
100	17.5	813	813	815	815	821	824	826	832	842	842	852	870	880	8100	8100			
125	14.0	813	815	815	821	824	826	830	832**	842	842	852	870	880	8100				
150	11.7	821	815	815	821	824	826	830*	842	842	852	860	880	8100	8100				
200	8.8	813	815	821	821	824	830*	832**	842	842	852	870	8100	8100					
250	7.0	815	815	821	824	826	830*	842	842	852	852	880	8100	8100					
300	5.8	815	815	821	824	830	832**	842	842	852	860	8100							
400	4.4	821	824	830	830	842	842	852	852	860									
500	3.5	826	830	832	842	842	852	852	860										
600	2.9	826	830	830	842	842	852	852	860										

1.25 Service Factor

Nominal Ratio▲	Output RPM	Input Horsepower @ 1750 RPM																	
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	25	30	
10	175.0	813	813	813	813	813	815	815	821	824	826	832	842	842	852	N/A	N/A	N/A	N/A
15	116.7	813	813	813	813	813	815	815	821	824	824	830	842	842	852	852	N/A	N/A	N/A
20	87.5	813	813	813	813	815	818	821	824	826	830	842	842	852	N/A	N/A	N/A	N/A	N/A
25	70.0	813	813	813	815	815	821	824	826	830	832	842	852	870	870	880	8100	8100	
30	58.3	813	813	813	815	815	821	824	826	830	832	842	852	852	N/A	N/A	N/A	N/A	N/A
40	43.8	813	813	813	815	821	824	824	830	830*	842	842	852	N/A	N/A	N/A	N/A	N/A	N/A
45	38.9	813	813	813	815	821	824	824	830	830*	842	842	852	N/A	N/A	N/A	N/A	N/A	N/A
50	35.0	813	813	815	815	821	824	826	830	832	842	852	852	870	880	8100	8100		
60	29.2	813	813	815	815	821	824	826	830	832**	842	852	860	N/A	N/A	N/A			
75	23.3	813	813	815	821	824	824	830	832	842	842	852	870	880	8100	8100			
80	21.9	813	813	815	821	824	824	830	832	842	842	852	N/A	N/A	N/A				
100	17.5	813	815	815	821	824	826	830*	832**	842	852	852	880	880	8100				
125	14.0	815	815	821	821	824	830	832	842	842	852	870	880	8100	8100				
150	11.7	815	815	821	824	826	830*	832	842	842	852	870	8100	8100					
200	8.8	815	818	821	824	826	832	842	842	852	860	870	8100	8100					
250	7.0	815	821	824	824	830*	832**	842	852	852	870	8100	8100						
300	5.8	815	821	824	826	830*	842	842	852	852	880	8100							
400	4.4	824	826	830	832	842	852	852	860										
500	3.5	830	830	842	842	852	852	860											
600	2.9	826	830	832	842	852	852	852											

Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages C10-C14.

▲ Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.

Refer to page C18 for exact ratio of helical primary stage and worm gear secondary stage.

* Size 832 must be used for NH Series for this selection.

** Size 842 must be used for NH Series for this selection.

Indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.

Indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

QUICK SELECTIONS

GR • NH • EL SERIES



1.50 Service Factor

Nominal Ratio	Output RPM	Input Horsepower @ 1750 RPM															
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	25
10	175.0	813	813	813	813	813	815	818	824	824	830	842	842	852	N/A	N/A	N/A
15	116.7	813	813	813	813	813	815	818	821	824	826	830	842	842	852	N/A	N/A
20	87.5	813	813	813	813	815	821	824	824	826	832	842	852	852	N/A	N/A	N/A
25	70.0	813	813	813	815	818	824	824	824	826	830*	842	852	870	870	880	880
30	58.3	813	813	813	815	818	821	824	824	826	830*	842	842	852	N/A	N/A	N/A
40	43.8	813	813	815	815	821	824	826	830	832	842	842	852	852	N/A	N/A	N/A
45	38.9	813	813	815	815	821	824	824	826	830*	832**	842	852	N/A	N/A	N/A	N/A
50	35.0	813	813	815	818	821	824	824	826	832	842	842	852	870	870	8100	8100
60	29.2	813	815	815	821	824	826	826	826	832	842	842	852	N/A	N/A	N/A	N/A
75	23.3	813	815	818	821	824	826	830	832**	842	852	852	870	880	8100		
80	21.9	813	815	815	821	824	826	830*	842	842	852	860	N/A	N/A	N/A		
100	17.5	815	815	821	821	824	830	832	842	842	852	870	880	8100	8100		
125	14.0	815	815	821	824	826	830*	832**	842	842	852	870	8100	8100			
150	11.7	815	815	821	824	826	832	842	842	852	852	880	8100	8100			
200	8.8	815	821	824	824	830*	832**	842	852	852	870	8100	8100				
250	7.0	815	821	824	824	826	830*	842	842	852	852	880	8100				
300	5.8	815	821	824	830	832**	842	842	852	860	880						
400	4.4	826	830	830	842	842	852	852									
500	3.5	830	832	842	842	852	852	860									
600	2.9	830	830	842	842	852	852	860									

1.75 Service Factor

Nominal Ratio	Output RPM	Input Horsepower @ 1750 RPM															
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	
10	175.0	813	813	813	813	815	818	821	824	824	830*	842	842	852	N/A	N/A	
15	116.7	813	813	813	813	815	818	821	824	826	830	842	852	852	N/A	N/A	
20	87.5	813	813	813	813	815	818	821	824	826	830	842	852	852	N/A	N/A	
25	70.0	813	813	815	815	821	824	824	824	830	842	842	852	870	870	880	8100
30	58.3	813	813	815	815	821	824	824	824	830	832	842	852	852	N/A	N/A	N/A
40	43.8	813	813	815	818	821	824	826	832	842	842	852	N/A	N/A	N/A	N/A	N/A
45	38.9	813	813	815	821	821	824	826	832	842	842	852	N/A	N/A	N/A	N/A	N/A
50	35.0	813	813	818	821	824	826	830	832	842	842	852	870	880	8100	8100	
60	29.2	813	815	818	821	824	826	830	832**	842	852	852	N/A	N/A	N/A		
75	23.3	813	815	821	821	824	830	832	842	842	852	852	N/A	880	8100	8100	
80	21.9	813	815	821	824	824	830	832	842	842	852	N/A	N/A	N/A			
100	17.5	815	815	821	824	826	830*	832**	842	842	852	870	8100	8100			
125	14.0	815	818	821	824	830	832**	842	842	852	852	880	8100	8100			
150	11.7	815	821	824	824	830	832**	842	842	852	852	860	880	8100			
200	8.8	815	821	824	826	830*	842	842	852	852	880	8100					
250	7.0	821	821	824	830	832**	842	842	852	860	880	8100					
300	5.8	821	824	826	830*	832**	842	852	852	880	8100						
400	4.4	826	830	832	842	852	852	860									
500	3.5	830	842	842	852	852	860										
600	2.9	830	832	842	842	852	852	860									

2.00 Service Factor

Nominal Ratio	Output RPM	Input Horsepower @ 1750 RPM															
		1/8	1/6	1/4	1/3	1/2	3/4	1	1-1/2	2	3	5	7-1/2	10	15	20	
10	175.0	813	813	813	813	815	818	821	824	826	830*	842	852	852	N/A	N/A	
15	116.7	813	813	813	813	815	818	821	824	826	830	832	842	852	852	N/A	N/A
20	87.5	813	813	813	813	815	818	821	824	826	830*	842	842	852	852	N/A	N/A
25	70.0	813	813	815	815	821	824	824	824	830*	842	842	852	870	870	880	8100
30	58.3	813	813	815	815	821	824	824	824	830*	832**	842	852	N/A	N/A	N/A	N/A
40	43.8	813	815	815	821	824	826	830	832	842	842	852	N/A	N/A	N/A	N/A	N/A
45	38.9	813	815	815	821	824	826	830	832**	842	842	852	N/A	N/A	N/A	N/A	N/A
50	35.0	813	815	821	821	824	826	830	842	842	852	860	870	880	8100		
60	29.2	815	815	821	821	824	826	830*	842	842	852	860	870	880	N/A	N/A	N/A
75	23.3	815	815	821	824	826	830	832	842	842	852	870	880	8100			
80	21.9	815	815	821	824	826	830*	832**	842	842	852	N/A	N/A	N/A			
100	17.5	815	815	821	824	826	832	842	842	852	852	880	8100	8100			
125	14.0	815	821	824	824	830	832**	842	842	852	852	870	880	8100			
150	11.7	815	821	824	826	830*	842	842	852	852	870	880	8100	8100			
200	8.8	821	821	824	830	832**	842	842	852	860	880	8100					
250	7.0	821	824	826	830*	842	842	852	852	880	8100	8100					
300	5.8	821	824	830	832**	842	842	852	860	880	8100						
400	4.4	830	830	842	842	852	852	860									
500	3.5	832	842	842	852	852	860										
600	2.9	830	842	842	852	852	860										

Note: This chart is meant as a guide for reducer selections at specific motor horsepower. Actual service factor may be greater than indicated. For actual service factors and maximum worm reducer ratings, refer to pages C10-C14. Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page C18 for exact ratio of helical primary stage and worm gear secondary stage. * Size 832 must be used for NH Series for this selection. ** Size 842 must be used for NH Series for this selection.

Indicates a selection where a smaller reducer (1 case size) can be used with redesigned product due to rating increase.

Indicates a selection where a smaller reducer (2 case sizes) can be used with redesigned product due to rating increase.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

"HOW TO USE" MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

How To Use Maximum Rating Tables

Maximum Rating Tables for Double Reduction Gear Reducers are shown on pages C10-C14. Selection of the appropriate gear reducer can be made using these tables or the Quick Selection Tables (pages C8-C9).

BEFORE YOU START:

Identify the Service Factor of the application (see page L7).

Determine the actual input horsepower of the motor by multiplying the motor's nameplate horsepower by the Service Factor.

Determine the output speed (RPM) required at output shaft of reducer.

Identify the mounting style required by your application from the style charts shown on pages C2-C7.

To select the proper gear reducer size, use the Maximum Rating Tables as shown:

CAST IRON
GR SERIES

CAST IRON
NH SERIES

ALUMINUM
EL SERIES

MAXIMUM RATING TABLES

GR, NH & EL SERIES • ALL STOCK STYLES

1 Locate the Input RPM and Output RPM columns in the charts beginning on page C11. Scroll down the Input RPM column to locate a listing where the desired input speed corresponds to the output speed required in your application. This will establish your overall gear ratio. (Input RPM listings are rounded to the nearest hundred. Your actual input speed of 1750 can be correlated to 1800 with no material change in performance.)

	Size NH830		Size GR832 & EL832		Size NH832	
	Input HP	Output HP	Input HP	Output HP	Input HP	Output HP
15	1750	116.7	4.857	4.376	2364	15.00
20	1750	87.5	4.242	3.747	2699	20.00
25	1750	70.0	3.000	2.642	2379	25.00
30	1750	58.3	3.256	2.830	2968	29.13
40	1750	43.8	2.574	2.187	3147	40.00
45	1750	38.9	2.545	2.110	3320	43.70
50	1750	35.0	2.157	1.805	3250	50.00
60	1750	31.2	1.625	1.357	3507	60.00
70	1750	27.5	1.338	1.115	3615	75.00
80	1750	21.9	1.684	1.291	3714	80.00
100	1750	17.5	1.441	1.049	3773	100.00
125	1750	14.0	1.226	0.863	3886	125.00
150	1750	11.7	1.074	0.716	3868	150.00
200	1750	8.8	0.879	0.534	3844	200.00
250	1750	7.0	0.766	0.424	3815	250.00
300	1750	5.8	0.696	0.386	3989	300.00
400	1750	4.4	0.500	0.280	3062	300.00
430.92	1750	4.00	0.400	0.200	3172	430.92
500.00	1750	3.24	0.240	0.110	1157	500.00
574.56	1750	2.90	0.270	0.130	3508	574.56

2 Move across the table to the Input HP columns until you find a rating that is equal to or greater than the actual input horsepower required. Once located, check the top of the table to identify the correct gear reducer size (818, 821, 824, etc.).

3 Identify the model number of the reducer by consulting page C1.

4 Check load capacities against the needs of your application. Do not exceed the overhung load (OHL) capacity or the thrust load (TL). Detailed instructions for calculating the actual overhung load are shown on page L9-L11. If overhung and thrust loads will be applied simultaneously or if the load exceeds listed capacities, Contact Factory.

5 Verify physical dimensions using the dimensional drawings shown on pages C19-C62.

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page C18 for exact ratio of helical primary stage and worm gear secondary stage.
 At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

MAXIMUM RATING TABLES

GR, NH & EL SERIES • ALL STOCK STYLES



SIZE 813, 815, 818 • 1.0 S.F.

Nominal Ratio	Input RPM	Nominal Output RPM	SIZE 813				SIZE 815**				SIZE 818			
			Input HP	Output HP	"Output TQ (lb-in)"	Exact Total Ratio*	Input HP	Output HP	"Output TQ (lb-in)"	Exact Total Ratio*	Input HP	Output HP	"Output TQ (lb-in)"	Exact Total Ratio*
10	1750	175.0	0.767	0.679	252	10.00	1.265	1.123	416	10.00	1.702	1.524	564	10.00
15	1750	116.7	0.616	0.530	294	15.00	0.993	0.849	472	15.00	1.196	1.041	578	15.00
20	1750	87.5	0.505	0.420	311	20.00	0.838	0.691	511	20.00	1.000	0.853	632	20.00
25	1750	70.0	0.370	0.306	282	25.00	0.629	0.528	486	25.00	0.844	0.718	662	25.00
30	1750	58.3	0.399	0.311	345	30.00	0.665	0.510	566	30.00	0.770	0.623	692	30.00
40	1750	43.8	0.302	0.235	338	40.00	0.516	0.401	576	40.00	0.595	0.479	690	40.00
45	1750	40.1	0.306	0.229	363	43.69	0.519	0.385	609	43.69	0.590	0.463	732	43.69
50	1750	35.0	0.251	0.187	345	50.00	0.429	0.322	593	50.00	0.492	0.382	705	50.00
60	1750	29.2	0.244	0.174	375	60.00	0.418	0.295	638	60.00	0.469	0.352	760	60.00
75	1750	23.3	0.205	0.138	382	75.00	0.352	0.237	656	75.00	0.392	0.281	777	75.00
80	1750	21.9	0.215	0.140	404	80.00	0.392	0.254	731	80.00	0.402	0.282	812	80.00
100	1750	17.5	0.179	0.110	395	100.00	0.327	0.196	704	100.00	0.345	0.227	818	100.00
125	1750	14.0	0.153	0.087	403	125.00	0.280	0.157	723	125.00	0.292	0.181	833	125.00
150	1750	11.7	0.142	0.074	408	150.00	0.246	0.127	701	150.00	0.261	0.150	831	150.00
200	1750	8.8	0.124	0.056	413	200.00	0.228	0.102	753	200.00	0.221	0.113	831	200.00
250	1750	7.0	0.111	0.045	413	250.00	0.196	0.077	709	250.00	0.194	0.089	817	250.00
300	1750	6.1	0.102	0.039	421	287.28	0.188	0.072	777	287.28	0.179	0.079	849	287.29
400	1750	4.4	0.040	0.015	228	400.00	0.086	0.027	392	400.00	0.068	0.031	451	400.00
500	1750	3.5	0.030	0.010	180	500.00	0.063	0.017	308	500.00	0.046	0.019	348	500.00
600	1750	3.0	0.029	0.011	232	574.56	0.065	0.019	403	574.56	0.049	0.021	459	574.56

*Actual ratio combinations supplied by factory may vary from above depending on application and manufacturing requirements. Refer to page C18 for exact ratio of helical primary stage and worm gear secondary stage.

** Size 815 is not available in EL Series.
At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

For input / output shaft overhung load and thrust load ratings, refer to pages L9-L11.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

**CAST IRON
GR SERIES**

**CAST IRON
NH SERIES**

**ALUMINUM
EL SERIES**

MAXIMUM RATING TABLES
GR, NH & EL SERIES • ALL STOCK STYLES



Sizes 821, 824 and 826 • 1.0 S.F.

NOM- INAL RATIO	Input RPM	Nominal Output RPM	Size 821				Size 824				Size 826			
			Input HP	Output HP	"Output TQ (lb-in)"	Exact Total Ratio*	Input HP	Output HP	"Output TQ (lb-in)"	Exact Total Ratio*	Input HP	Output HP	"Output TQ (lb-in)"	Exact Total Ratio*
10	1750	175.0	0.767	0.679	252	10.00	1.265	1.123	416	10.00	1.702	1.524	564	10.00
15	1750	116.7	0.616	0.530	294	15.00	0.993	0.849	472	15.00	1.196	1.041	578	15.00
20	1750	87.5	0.505	0.420	311	20.00	0.838	0.691	511	20.00	1.000	0.853	632	20.00
25	1750	70.0	0.370	0.306	282	25.00	0.629	0.528	486	25.00	0.844	0.718	662	25.00
30	1750	58.3	0.399	0.311	345	30.00	0.665	0.510	566	30.00	0.770	0.623	692	30.00
40	1750	43.8	0.302	0.235	338	40.00	0.516	0.401	576	40.00	0.595	0.479	690	40.00
45	1750	40.1	0.306	0.229	363	43.69	0.519	0.385	609	43.69	0.590	0.463	732	43.69
50	1750	35.0	0.251	0.187	345	50.00	0.429	0.322	593	50.00	0.492	0.382	705	50.00
60	1750	29.2	0.244	0.174	375	60.00	0.418	0.295	638	60.00	0.469	0.352	760	60.00
75	1750	23.3	0.205	0.138	382	75.00	0.352	0.237	656	75.00	0.392	0.281	777	75.00
80	1750	21.9	0.215	0.140	404	80.00	0.392	0.254	731	80.00	0.402	0.282	812	80.00
100	1750	17.5	0.179	0.110	395	100.00	0.327	0.196	704	100.00	0.345	0.227	818	100.00
125	1750	14.0	0.153	0.087	403	125.00	0.280	0.157	723	125.00	0.292	0.181	833	125.00
150	1750	11.7	0.142	0.074	408	150.00	0.246	0.127	701	150.00	0.261	0.150	831	150.00
200	1750	8.8	0.124	0.056	413	200.00	0.228	0.102	753	200.00	0.221	0.113	831	200.00
250	1750	7.0	0.111	0.045	413	250.00	0.196	0.077	709	250.00	0.194	0.089	817	250.00
300	1750	6.1	0.102	0.039	421	287.28	0.188	0.072	777	287.28	0.179	0.079	849	287.28
400	1750	4.4	0.040	0.015	228	400.00	0.086	0.027	392	400.00	0.068	0.031	451	400.00
500	1750	3.5	0.030	0.010	180	500.00	0.063	0.017	308	500.00	0.046	0.019	348	500.00
600	1750	3.0	0.029	0.011	232	574.56	0.065	0.019	403	574.56	0.049	0.021	459	574.56

*Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page C18 for exact ratio of helical primary stage and worm gear secondary stage.

At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

For input / output shaft overhung load and thrust load ratings, refer to pages L9-L11.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

MAXIMUM RATING TABLES

GR, NH & EL SERIES • ALL STOCK STYLES



Sizes 830 & 832 • 1.0 S.F.

NOM- INAL RATIO	Input RPM	Nominal Output RPM	Size GR830 & EL830				Size NH830				Size GR832 & EL832				Size NH832			
			Input HP	Output HP	Output TQ (lb-in)	Exact Total Ratio*	Input HP	Output HP	Output TQ (lb-in)	Exact Total Ratio*	Input HP	Output HP	Output TQ (lb-in)	Exact Total Ratio*	Input HP	Output HP	Output TQ (lb-in)	Exact Ratio Ratio*
10	1750	175.0	6.000	5.475	1972	10.00	5.080	4.570	1645	10.00	6.000	5.410	2011	10.34	6.000	5.410	2011	10.34
15	1750	116.7	4.857	4.376	2364	7.5	4.560	4.030	2180	7.5	6.000	5.407	2921	15.00	5.920	5.260	2839	15.00
20	1750	87.5	4.242	3.747	2699	10.00	3.970	3.450	2488	10.00	5.632	5.026	3620	20.00	5.190	4.560	3287	20.00
25	1750	70.0	3.000	2.642	2379	5.00	2.750	2.400	2157	5.00	3.000	2.669	2403	25.85	3.000	2.620	2360	25.85
30	1750	58.3	3.256	2.830	2968	30.00	2.930	2.560	2771	30.00	4.210	3.703	3884	29.13	3.850	3.410	3680	29.13
40	1750	43.8	2.574	2.187	3147	40.00	2.390	2.030	2924	40.00	3.427	2.953	4249	40.00	3.140	2.700	3894	40.00
45	1750	40.1	2.545	2.110	3320	43.69	2.230	1.870	3026	43.69	3.337	2.824	4442	43.69	2.970	2.500	4044	43.69
50	1750	35.0	2.157	1.805	3250	50.00	2.000	1.680	3020	50.00	2.870	2.441	4395	50.00	2.640	2.240	4028	50.00
60	1750	29.2	2.021	1.625	3507	60.00	1.820	1.470	3181	60.00	2.657	2.190	4727	60.00	2.440	1.980	4284	60.00
75	1750	23.3	1.702	1.338	3615	75.00	1.520	1.210	3279	75.00	2.238	1.811	4892	75.00	2.060	1.640	4434	75.00
80	1750	21.9	1.684	1.291	3714	80.00	1.430	1.100	3186	80.00	2.221	1.745	5023	80.00	1.890	1.470	4247	80.00
100	1750	17.5	1.441	1.049	3773	100.00	1.210	0.910	3284	100.00	1.872	1.409	5068	100.00	1.590	1.220	4385	100.00
125	1750	14.0	1.226	0.863	3886	125.00	1.030	0.750	3359	125.00	1.588	1.160	5224	125.00	1.300	0.958	4312	125.00
150	1750	11.7	1.074	0.716	3868	150.00	0.900	0.620	3362	150.00	1.392	0.970	5243	150.00	1.230	0.842	4547	150.00
200	1750	8.8	0.879	0.534	3844	200.00	0.730	0.450	3266	200.00	1.137	0.723	5208	200.00	0.951	0.606	4361	200.00
250	1750	7.0	0.766	0.424	3815	250.00	0.620	0.360	3226	250.00	0.971	0.570	5130	250.00	0.772	0.460	4141	250.00
300	1750	6.1	0.696	0.386	3989	300.00	0.530	0.280	3062	300.00	0.895	0.524	5412	300.00	0.639	0.358	3868	300.00
400	1750	4.1	0.400	0.200	3172	430.92	0.400	0.200	3172	430.92	0.483	0.258	4006	430.92	0.483	0.258	4006	430.92
500	1750	3.5	0.240	0.110	1157	500.00	0.240	0.110	1157	500.00	0.270	0.129	2326	500.00	0.270	0.129	2326	500.00
600	1750	3.0	0.270	0.130	3508	574.56	0.270	0.130	3508	574.56	0.307	0.150	3112	574.56	0.307	0.150	3112	574.56

*Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. Refer to page C18 for exact ratio of helical primary stage and worm gear secondary stage.

At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation, limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.

For input / output shaft overhung load and thrust load ratings, refer to pages L9-L11.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

**CAST IRON
GR SERIES**

**CAST IRON
NH SERIES**

**ALUMINUM
EL SERIES**

MAXIMUM RATING TABLES
GR, NH & EL SERIES • ALL STOCK STYLES



Sizes 842, 852 and 860 • 1.0 S.F.

NOM- INAL RATIO	Nominal Input RPM	Output RPM	Size 842				Size 852				Size 860**			
			Input HP	Output HP	Output TQ (lb-in)	Exact Total Ratio*	Input HP	Output HP	Output TQ (lb-in)	Exact Total Ratio*	Input HP	Output HP	Output TQ (lb-in)	Exact Total Ratio*
10	1750	175.0	13.43	12.469	4640	10.00	20.00	18.699	6902	10.00	20.00	18.74	6748	10.00
15	1750	116.7	11.93	10.934	5907	15.00	20.00	18.501	9994	15.00	20.00	18.54	10013	15.00
20	1750	87.5	10.76	9.770	7037	20.00	17.27	15.751	11345	20.00	18.67	17.08	12302	20.00
25	1750	65.5	7.471	6.797	6529	26.70	10.07	9.273	8835	26.70	10.07	9.32	8389	26.70
30	1750	58.3	8.056	7.120	7693	30.00	13.54	11.980	12944	30.00	14.41	12.80	13824	30.00
40	1750	43.8	6.701	5.950	8660	40.45	11.35	10.188	14828	40.45	11.35	10.24	14836	40.45
45	1750	39.4	6.293	5.480	8781	44.46	11.05	9.668	15492	44.46	11.99	10.54	16884	44.46
50	1750	33.9	5.568	4.881	9074	51.57	9.81	8.718	16208	51.57	10.07	9.02	16240	51.67
60	1750	28.8	5.061	4.340	9476	60.68	9.11	7.876	17195	60.68	9.82	8.39	17924	60.68
75	1750	23.3	4.121	3.527	9581	75.38	7.71	6.578	18345	77.38	8.21	6.78	18118	75.38
80	1750	21.6	4.277	3.525	10261	80.90	7.377	6.161	17934	80.90	8.22	6.93	20079	80.90
100	1750	16.9	3.575	2.884	10725	103.34	6.259	5.143	19122	103.34	6.89	5.60	20287	103.34
125	1750	13.5	2.989	2.318	10776	129.18	5.300	4.181	19432	129.18	5.71	4.55	22053	129.18
150	1750	11.6	2.685	2.078	11292	150.76	4.765	3.795	20618	150.76	5.32	4.29	23533	150.76
200	1750	8.5	2.099	1.449	10775	206.68	3.636	2.582	19198	206.68	3.93	2.83	21924	206.68
250	1750	6.7	1.765	1.139	10584	258.35	3.103	2.052	19075	258.35	3.32	2.23	21649	258.35
300	1750	5.8	1.618	1.043	11335	301.52	2.829	1.904	20687	301.52	3.13	2.15	23615	301.52
400	1750	4.2	0.781	0.417	6210	413.36	1.718	0.797	11864	413.36	2.19	1.08	16037	413.36
500	1750	3.4	0.526	0.257	4782	516.70	1.206	0.522	9707	516.70	1.56	0.69	12884	516.70
600	1750	3.0	0.588	0.298	6468	603.04	1.374	0.590	12810	603.04	1.75	0.80	17397	603.04

Sizes 870, 880 and 8100 • 1.0 S.F.

NOM- INAL RATIO	Nominal Input RPM	Output RPM	Size 870***				Size 880***				Size 8100***			
			Input HP	Output HP	Output TQ (lb-in)	Exact Total Ratio	Input HP	Output HP	Output TQ (lb-in)	Exact Total Ratio	Input HP	Output HP	Output TQ (lb-in)	Exact Total Ratio
25	1750	70.0	19.60	18.10	17000	26.05	31.90	29.70	26900	25.23	42.10	39.30	36800	26.02
37.5	1750	46.7	18.60	16.90	22900	37.61	26.80	24.60	32300	36.43	42.10	39.00	52300	37.23
50	1750	25.0	15.20	13.70	24400	49.56	21.70	19.70	34100	48.00	37.80	34.60	61700	49.50
75	1750	23.3	11.20	9.74	26200	74.55	16.20	14.30	37100	72.21	28.40	25.20	67700	74.46
100	1750	17.5	8.95	7.41	27800	104.20	12.60	10.60	38600	100.92	22.30	19.00	71400	104.08
125	1750	14.0	7.56	6.14	27500	124.53	10.80	8.90	38600	120.61	18.90	15.80	70600	124.39
138	1750	12.7	6.90	5.84	29000	138.08	10.20	8.75	41200	130.65	17.80	15.40	79000	139.22
150	1750	11.7	6.26	4.95	26700	149.95	9.05	7.27	38000	145.23	15.80	13.00	69000	149.77
185	1750	9.5	5.52	4.43	30800	192.99	8.00	6.53	42900	182.61	14.20	11.70	83900	194.59
200	1750	8.8	5.06	3.70	27100	203.32	7.00	5.22	37000	196.92	12.40	9.46	69200	203.08
210	1750	8.3	4.90	4.07	30200	205.92	6.94	5.84	43200	205.78	12.60	10.70	80800	212.23
250	1750	7.0	3.77	3.25	28500	244.04	5.35	4.63	41100	246.38	10.10	8.81	77300	243.65
280	1750	6.3	3.98	3.09	32000	287.82	5.50	4.38	45300	287.62	10.10	8.13	86800	296.64
300	1750	5.8	3.31	2.23	24500	304.98	4.78	3.23	34300	295.38	7.15	5.69	62400	304.62

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements.
 ** Size 860 is only available in GR Series
 *** Sizes 870, 880 and 8100 are only available in GR Series
 Refer to page C18 for exact ratio of helical primary stage and worm gear secondary stage.
 At speeds above 1750 input RPM, gear reducers may become thermally limited. For continuous operation,
 limit input HP to 1750 RPM input ratings shown. Contact Factory with application requirements if higher speeds are required.
 For input/output shaft overhung load and thrust load ratings, refer to pages L9-L11.
 EL Series sizes 842-860 and larger have cast iron primary. Contact Factory for dimensions.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR Series Weights



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

GR SERIES • DOUBLE REDUCTION HELICAL – WORM • APPROXIMATE WEIGHTSΔ (LBS.)

REDUCER STYLE	REDUCER SIZE													
	GR813	GR815	GR818	GR821	GR824	GR826	GR830	GR832	GR842	GR852	GR860	GR870	GR880	GR8100
SOLID OUTPUT SHAFT														
DXMQ	36	40	43	48	67	78	90	97	191	292	376	---	---	---
DXM	---	---	---	---	70	83	95	102	196	297	381	---	---	---
DX	---	---	---	---	65	76	88	95	187	288	372	510	770	1250
DXTMQ & DXUMQ	38	43	46	52	71	84	96	106	205	312	407	---	---	---
DXTM & DXUM	---	---	---	---	74	89	101	111	210	317	412	---	---	---
DXT & DXU	---	---	---	---	69	82	94	104	201	308	403	551	818	1326
DXJMQ	37	41	45	51	70	83	96	103	201	307	---	---	---	---
DXJM	---	---	---	---	73	88	101	108	206	312	---	---	---	---
DXJ	---	---	---	---	68	81	94	101	197	303	---	---	---	---
DXVLMQ & DXVHMQ	38	43	46	55	74	87	100	110	211	317	412	---	---	---
DXVLM & DXVHM	---	---	---	---	77	92	105	115	216	322	417	---	---	---
DXVL & DXVH	---	---	---	---	72	85	98	108	207	313	408	581	848	1403
DXFMQ	37	41	45	51	70	82	100	107	206	322	414	---	---	---
DXFM	---	---	---	---	73	87	105	112	211	327	419	---	---	---
DXF	---	---	---	---	68	80	98	105	202	318	410	540	788	1271
DXFEMQ	---	---	---	---	---	---	100	107	221	323	418	---	---	---
DXFEM	---	---	---	---	---	---	101	108	229	330	423	---	---	---
DXFE	---	---	---	---	---	---	96	103	211	308	408	671	968	1526
HOLLOW OUTPUT SHAFT														
DXHMQ	37	40	44	49	69	77	91	99	194	292	376	---	---	---
DXHM	---	---	---	---	71	78	92	100	202	299	381	---	---	---
DXH	---	---	---	---	64	73	87	95	184	277	366	510	770	1250
DXFHMQ	38	41	46	52	72	81	101	109	209	322	414	---	---	---
DXFHM	---	---	---	---	74	82	102	110	217	329	419	---	---	---
DXFH	---	---	---	---	67	77	97	105	199	307	404	540	788	1271
DXBFHMQ	39	---	46	52	73	83	---	---	---	---	---	---	---	---
DXBFHM	---	---	---	---	75	84	---	---	---	---	---	---	---	---
DXBFH	---	---	---	---	68	79	---	---	---	---	---	---	---	---

Δ Weights include oil. 870, 880, 8100 shipped without oil.

GR SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

ACCESSORY	REDUCER SIZE													
	GR813	GR815	GR818	GR821	GR824	GR826	GR830	GR832	GR842	GR852	GR860	GR870	GR880	GR8100
T/U-BASE	2	3	3	4	4	6	6	9	14	20	31	41	48	76
J-BASE	1	1	2	3	3	5	6	6	10	15	---	---	---	---
VL/VH-BASE	2	3	3	7	7	9	10	13	20	25	36	**	**	**
F-FLANGE (CAST IRON)	1	1	2	3	3	4	10	10	15	30	38	**	**	**
BF-FLANGE (STEEL)	2	---	2	3	4	6	---	---	---	---	---	---	---	---
R-RISER BLOCK	---	7	7	9	9	12	15	31	24	15	---	---	---	---
HOLLOW SHAFT TORQUE ARM KIT	5	5	5	5	5	5	5	5	5	8	8	---	---	---
COUPLING INPUT C-FLANGE KITS														
48CZ, 56C, 140TC	7	7	7	7	8	8	11	11	14	16	---	---	---	---
180TC-210TC	---	---	---	---	11	11	11	11	16	18	22	30	30	---
250TC	---	---	---	---	---	---	---	---	28	30	30	32	34	36

** This accessory must be assembled at the Factory. It is not available as a kit for field installation.



NH Series
Weights



NH SERIES • DOUBLE REDUCTION HELICAL – WORM • APPROXIMATE WEIGHTS^Δ (LBS.)

REDUCER STYLE	REDUCER SIZE									
	NH813	NH815	NH818	NH821	NH824	NH826	NH830	NH832	NH842	NH852
SOLID OUTPUT SHAFT										
DXMQ	31	34	37	41	57	66	77	82	162	248
DXM	---	---	---	---	60	71	81	87	167	252
DX	---	---	---	---	55	65	75	81	159	245
DXTMQ & DXUMQ	33	37	40	45	61	72	83	91	176	268
DXTM & DXUM	---	---	---	---	64	77	87	96	181	272
DXT & DXU	---	---	---	---	59	71	81	90	173	265
DXJMQ	32	35	39	44	60	71	83	88	172	263
DXJM	---	---	---	---	63	76	87	93	177	267
DXJ	---	---	---	---	58	70	81	87	169	260
DXVLMQ & DXVHMQ	33	37	40	48	64	75	87	95	182	273
DXVLM & DXVHM	---	---	---	---	67	80	91	100	187	277
DXVL & DXVH	---	---	---	---	62	74	85	94	179	270
DXFMQ	32	35	39	44	60	70	87	92	177	278
DXFM	---	---	---	---	63	75	91	97	182	282
DXF	---	---	---	---	58	69	85	91	174	275
DXFEMQ	---	---	---	---	---	---	72	77	160	233
DXFEM	---	---	---	---	---	---	73	78	165	238
DXFE	---	---	---	---	---	---	69	74	152	223
HOLLOW OUTPUT SHAFT										
DXHMQ	31	34	37	42	59	65	77	84	165	248
DXHM	---	---	---	---	60	66	78	85	172	254
DXH	---	---	---	---	54	62	74	81	156	235
DXFHMQ	32	35	39	45	62	69	87	94	180	278
DXFHM	---	---	---	---	63	70	88	95	187	284
DXFH	---	---	---	---	57	66	84	91	171	265

^Δ Weights include oil.

NH SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

ACCESSORY	REDUCER SIZE									
	NH813	NH815	NH818	NH821	NH824	NH826	NH830	NH832	NH842	NH852
T/U-BASE	2	3	3	4	4	6	6	9	14	20
J-BASE	1	1	2	3	3	5	6	6	10	15
VL/VH-BASE	2	3	3	7	7	9	10	13	20	25
F-FLANGE (CAST IRON)	1	1	2	3	3	4	10	10	15	30
HOLLOW SHAFT TORQUE ARM KIT	5	5	5	5	5	5	5	5	5	8
COUPLING INPUT C-FLANGE KITS										
48CZ, 56C, 140TC	7	7	7	7	8	8	11	11	14	16
180TC-210TC	---	---	---	---	11	11	11	11	16	18
250TC	---	---	---	---	---	---	---	28	30	30

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

EL Series Weights

EL SERIES • DOUBLE REDUCTION HELICAL – WORM • APPROXIMATE WEIGHTS Δ (LBS.)

REDUCER STYLE	REDUCER SIZE								
	EL813	EL818	EL821	EL824	EL826	EL830	EL832	EL842+	EL852+
SOLID OUTPUT SHAFT									
DXMQ	24	28	32	44	51	59	64	126	193
DXM	---	---	---	46	55	63	67	129	196
DX	---	---	---	43	50	58	63	123	190
DXTMQ & DXUMQ	25	30	35	47	55	65	72	133	201
DXTM & DXUM	---	---	---	49	59	69	75	136	204
DXT & DXU	---	---	---	46	54	64	71	130	198
DXJMQ	25	30	35	47	55	64	69	132	201
DXJM	---	---	---	49	59	68	72	135	204
DXJ	---	---	---	46	54	63	68	129	198
DXVLMQ	26	31	35	47	55	64	69	132	201
DXVLM	---	---	---	49	59	68	72	135	204
DXVL	---	---	---	46	54	63	68	129	198
DXFMQ	---	30	35	47	54	65	71	134	201
DXFM	---	---	---	49	58	69	74	137	204
DXF	---	---	---	46	53	64	70	131	198
HOLLOW OUTPUT SHAFT									
DXHMQ	24	29	32	46	51	60	65	128	193
DXHM	---	---	---	47	51	61	66	133	197
DXH	---	---	---	42	48	57	63	121	183
DXFHMQ	---	31	35	49	54	66	72	136	201
DXFHM	---	---	---	50	54	67	73	141	205
DXFH	---	---	---	45	51	63	70	129	191

+ Primary unit is cast iron. Contact Factory for dimensions.

Δ Weights include oil.

EL SERIES • ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

ACCESSORY	REDUCER SIZE								
	EL813	EL818	EL821	EL824	EL826	EL830	EL832	EL842	EL852
ABC-BASE	1	2	3	3	4	6	8	7	8
T/U-BASE	1	2	3	3	4	6	8	7	8
J-BASE	1	2	3	3	4	5	5	6	8
VL BASE	2	3	3	3	4	5	5	6	8
FR AND F-FLANGE	---	2	3	3	3	6	7	8	8
HOLLOW SHAFT TORQUE ARM KIT	5	5	5	5	5	5	5	5	8
COUPLING INPUT C-FLANGE KITS									
48CZ, 56C, 140TC	3	3	3	4	4	5	5	7	7
180TC-210TC	---	---	---	5	5	5	5	8	8
250TC	---	---	---	---	---	---	8	8	8

* Will not fit solid output shaft models.

⊗ Will not fit hollow output shaft models.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



DOUBLE REDUCTION • HELICAL – WORM • EXACT RATIO COMBINATIONS

TOTAL RATIO	GEAR REDUCER SIZE													
	813		815		818		821		824		826		830	
	P TX	S 813	P TX	S 815	P TX	S 818	P TX	S 821	P TX	S 824	P TX	S 826	P TX	S 830
10	2.000	5	2.000	5	2.000	5	2.000	5	2.000	5	2.000	5	2.000	5
15	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5
20	2.000	10	2.000	10	2.000	10	2.000	10	2.000	10	2.000	10	2.000	10
25	5.000	5	5.000	5	5.000	5	5.000	5	5.000	5	5.000	5	5.000	5
30	2.000	15	2.000	15	2.000	15	2.000	15	2.913	10	2.913	10	2.913	10
40	4.000	10	4.000	10	4.000	10	4.000	10	4.000	10	4.000	10	4.000	10
45	2.913	15	2.913	15	2.913	15	2.913	15	2.913	15	2.913	15	2.913	15
50	5.000	10	5.000	10	5.000	10	5.000	10	5.000	10	5.000	10	5.000	10
60	4.000	15	4.000	15	4.000	15	4.000	15	4.000	15	4.000	15	4.000	15
75	5.000	15	5.000	15	5.000	15	5.000	15	5.000	15	5.000	15	5.000	15
80	4.000	20	4.000	20	4.000	20	4.000	20	4.000	20	4.000	20	4.000	20
100	4.000	25	4.000	25	4.000	25	4.000	25	4.000	25	4.000	25	4.000	25
125	5.000	25	5.000	25	5.000	25	5.000	25	5.000	25	5.000	25	5.000	25
150	5.000	30	5.000	30	5.000	30	5.000	30	5.000	30	5.000	30	5.000	30
200	5.000	40	5.000	40	5.000	40	5.000	40	5.000	40	5.000	40	5.000	40
250	5.000	50	5.000	50	5.000	50	5.000	50	5.000	50	5.000	50	5.000	50
300	7.182	40	7.182	40	7.182	40	7.182	40	7.182	40	5.000	60	5.000	60
400	5.000	80	5.000	80	5.000	80	5.000	80	7.182	60	7.182	60	7.182	60
500	5.000	100	5.000	100	5.000	100	5.000	100	5.000	100	5.000	100	5.000	100
600	7.182	80	7.182	80	7.182	80	7.182	80	7.182	80	7.182	80	7.182	80

TOTAL RATIO	GEAR REDUCER SIZE													
	832		842		852		860		870		880		8100	
	P TX	S 832	P TX3	S 842	P TX3	S 852	P TX3	S 860	P HEL	S 870	P HEL	S 880	P HEL	S 8100
10	2.000	5.17	2.000	5.17	2.000	5.13	2.000	5	-	-	-	-	-	-
15	2.000	7.5	2.000	7.5	2.000	7.5	2.000	7.5	-	-	-	-	-	-
20	2.000	10	2.000	10	2.000	10	2.000	10	-	-	-	-	-	-
25	5.000	5.17	5.167	5.17	5.167	5.13	5.167	5	5.083	5.13	4.923	5.13	5.077	5.13
30	2.913	10	2.000	15	2.000	15	2.000	15	-	-	-	-	-	-
37.5	-	-	-	-	-	-	-	-	5.083	7.40	4.923	7.40	5.077	7.33
40	4.000	10	4.045	10	4.045	10	4.045	10	-	-	-	-	-	-
45	2.913	15	2.964	15	2.964	15	2.964	15	-	-	-	-	-	-
50	5.000	10	5.167	10	5.167	10	5.167	10	5.083	9.75	4.923	9.75	5.077	9.75
60	4.000	15	4.045	15	4.045	15	4.045	15	-	-	-	-	-	-
75	5.000	15	7.538	10	5.167	15	5.167	15	5.083	14.67	4.923	14.67	5.077	14.67
80	4.000	20	4.045	20	4.045	20	4.045	20	-	-	-	-	-	-
100	4.000	25	5.167	20	5.167	20	5.167	25	5.083	20.50	4.923	20.50	5.077	20.50
125	5.000	25	5.167	25	5.167	25	5.167	25	-	-	-	-	-	-
138	-	-	-	-	-	-	-	-	9.414	14.67	8.908	14.67	9.492	14.67
150	5.000	30	7.538	20	7.538	20	7.538	20	5.083	29.50	4.923	29.50	5.077	29.50
185	-	-	-	-	-	-	-	-	9.414	20.50	8.908	20.50	9.492	20.50
200	5.000	40	5.167	40	5.167	40	5.167	40	5.083	40.00	4.923	40.00	5.077	40.00
210	-	-	-	-	-	-	-	-	14.04	14.67	14.03	14.67	14.47	14.67
250	5.000	50	5.167	50	5.167	50	5.167	50	25.030	9.75	25.270	9.75	24.990	9.75
280	-	-	-	-	-	-	-	-	14.040	20.50	14.030	20.50	14.470	20.50
300	5.000	60	7.538	40	7.538	40	7.538	40	5.083	60.00	4.923	60.00	5.077	60.00
400	7.182	60	5.167	80	5.167	80	5.167	80	-	-	-	-	-	-
500	5.000	100	5.167	100	5.167	100	5.167	100	-	-	-	-	-	-
600	7.182	80	7.538	80	7.538	80	7.538	80	-	-	-	-	-	-

Note: Exact ratios are listed. P = Primary stage reducer ratio S = Secondary stage reducer ratio

* Actual ratio combinations supplied by Factory may vary from above depending on application and manufacturing requirements. For exact total ratio of the double reduction package, multiply "P" by "S" ratio.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DXMQ, DXM, DX

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

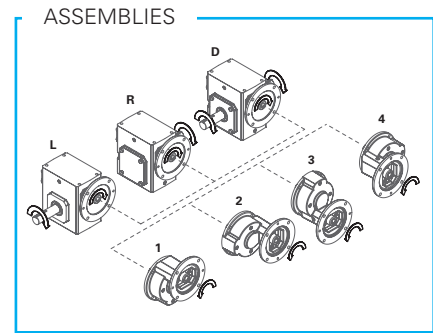
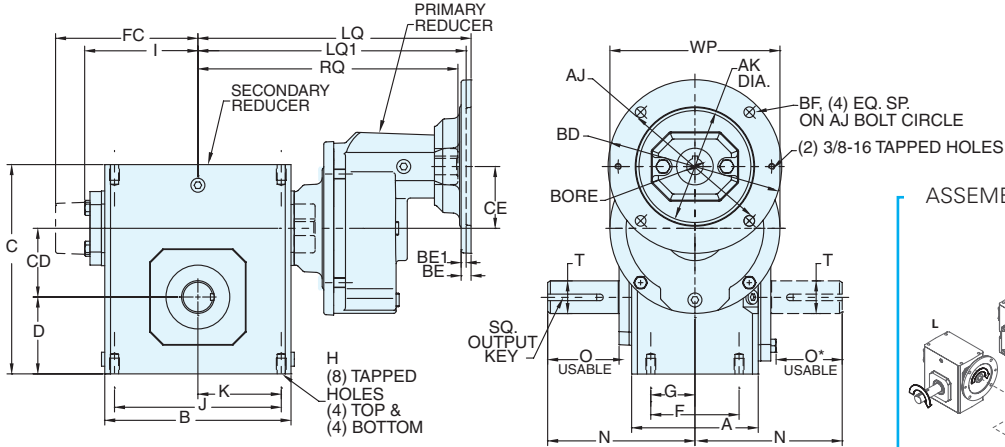
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

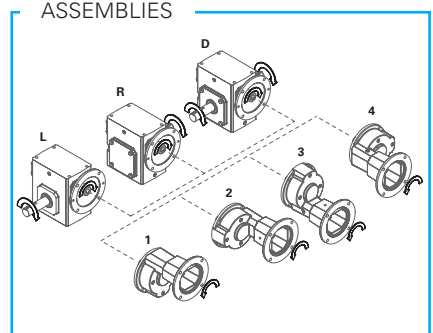
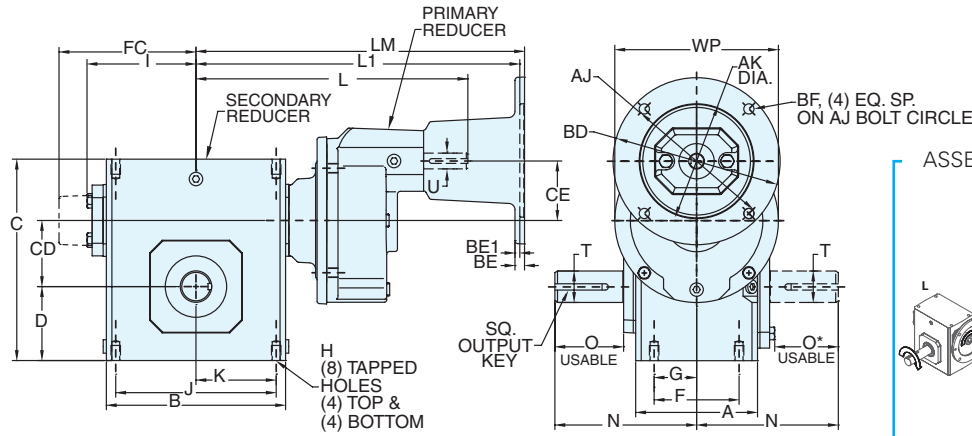
Ratio Multipliers

Accessories
Additional Capabilities

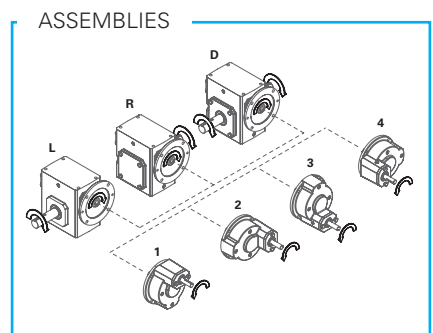
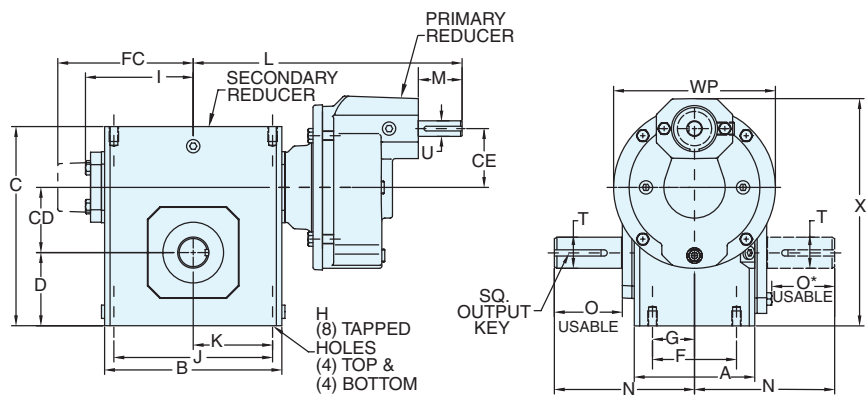
STYLE DXMQ



STYLE DXM



STYLE DX



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



GR SERIES DIMENSIONS

Styles: DXMQ, DXM, DX



STYLE DXMQ, DXM, DX DIMENSIONS (Inches)

Size	A	B	C	CD	CE	D	F	FC▼	G	H		I	J	K	L	M	N	O	O*	WP	X	T +0.000 -0.0015	U +0.000 -0.0015	Input Key:⚡	Output Key
										Tap Size	Depth														
GR813	2.82	3.80	4.66	1.33	1.91	1.72	2.00	N/A	1.00	5/16-18 UNC	0.50	2.61	3.25	1.63	7.75	1.76	4.00	2.16	1.94	6.50	6.16	0.625	0.625	3/16 x 3/32	3/16 x 1.50
GR815	3.44	4.88	5.38	1.54	1.91	1.91	2.75	N/A	1.38	5/16-18 UNC	0.63	3.14	4.19	2.09	8.28	1.76	4.31	2.11	1.90	6.50	6.56	0.750	0.625	3/16 x 3/32	3/16 x 1.50
GR818	3.56	5.06	5.75	1.75	1.91	2.06	2.75	N/A	1.38	5/16-18 UNC	0.63	3.24	4.19	2.09	8.38	1.76	4.31	2.05	1.84	6.50	6.92	0.875	0.625	3/16 x 3/32	3/16 x 1.38
GR821	3.81	5.80	6.38	2.06	1.91	2.28	▲	N/A	1.44	3/8-16 UNC	0.63	3.61	▲	2.50	8.75	1.76	4.68	2.29	2.08	6.50	7.45	1.000	0.625	3/16 x 3/32	1/4 x 1.44
GR824	4.06	6.12	6.94	2.38	2.36	2.50	2.88	N/A	1.44	3/8-16 UNC	0.69	3.77	5.00	2.50	8.92	1.76	5.14	2.66	2.44	6.50	8.45	1.125	0.625	3/16 x 3/32	1/4 x 1.75
GR826	4.84	7.12	8.00	2.63	2.36	2.94	3.38	N/A	1.69	3/8-16 UNC	0.69	4.34	6.38	3.19	9.48	1.76	5.63	2.73	2.52	6.50	9.13	▲	0.625	3/16 x 1.38	1/4 x 1.75
GR830	5.25	8.12	8.88	3.00	2.36	3.25	4.00	N/A	2.00	7/16-14 UNC	0.88	4.84	7.00	3.50	10.24	1.76	6.75	3.60	3.36	6.50	9.82	1.250	0.625	3/16 x 1.38	1/4 x 1.75
GR832	5.75	8.50	9.38	3.25	2.36	3.50	4.00	N/A	2.00	7/16-14 UNC	0.88	5.02	7.50	3.75	10.43	1.76	7.06	3.66	3.42	6.50	10.32	▲	0.625	3/16 x 1.38	3/8 x 2.25
GR842	6.13	10.25	11.38	4.25	2.87	4.44	5.00	N/A	2.50	5/8-11 UNC	1.00	6.10	8.50	4.25	17.48	3.61	8.12	4.50	4.21	8.50	13.31	1.875	1.250	1/4 x 2.00	1/2 x 3.06
GR852	7.19	13.00	14.00	5.25	2.87	5.12	5.81	N/A	2.91	5/8-11 UNC	1.25	7.50	11.00	5.50	18.88	3.61	9.06	4.78	4.53	8.50	14.99	2.000	1.250	1/4 x 2.00	1/2 x 3.50
GR860	8.13	14.25	16.50	6.00	2.87	6.50	6.38	10.24	3.19	5/8-11 UNC	1.00	N/A	12.75	6.38	19.60	3.61	10.00	4.65	4.65	8.50	17.12	2.500	1.250	1/4 x 2.00	5/8 x 4.00
GR870	7.63	14.88	18.91	7.00	3.49	7.59	5.50	10.63	2.75	1-8 UNC	1.56	N/A	12.50	6.25	19.68	2.50	11.76	5.65	5.65	10.36	21.84	2.750	1.250	1/4 x 2.25**	5/8 x 4.00**
GR880	8.63	17.00	20.96	8.00	4.07	8.86	6.50	11.93	3.25	1-8 UNC	1.66	N/A	14.25	7.13	21.30	3.00	12.25	5.98	5.98	11.64	25.93	3.000	1.375	5/16 x 2.75**	3/4 x 4.50**
GR8100	9.53	20.88	25.47	10.00	4.90	10.36	6.88	14.34	3.44	1-1/4-7 UNC	2.04	N/A	17.75	8.88	25.78	3.50	14.75	6.76	6.76	13.85	31.35	3.750	1.500	3/8 x 3.25**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	(F)3.00" x (J)4.75"	Identical	Identical	✓	✓	GRG
		(F)2.88" x (J)5.00"					GRL
826	1.250" 1.125"	Identical	Identical	Identical	✓	✓	GRG
							GRL
832	1.500" 1.375"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
			5/16 x 2.63				GRL

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM 56C/ 140TC	180TC/ 210TC	L1 250TC	LQ 48CZ/ 56TC/140TC	180TC	LQ1 210TC	250TC	RQ			
								48CZ/ 56C/140TC	180TC	210TC	250TC
GR813	10.0	N/A	N/A	8.52	N/A	N/A	N/A	8.13■	N/A	N/A	N/A
GR815	10.53	N/A	N/A	9.05	N/A	N/A	N/A	8.66■	N/A	N/A	N/A
GR818	10.63	N/A	N/A	9.15	N/A	N/A	N/A	8.76■	N/A	N/A	N/A
GR821*	11.00	N/A	N/A	9.52	N/A	N/A	N/A	9.13■	N/A	N/A	N/A
GR824	11.17	N/A	N/A	9.69■	N/A	N/A	N/A	9.30■	N/A	N/A	N/A
GR826*	11.73	N/A	N/A	10.25■	N/A	N/A	N/A	9.86■	N/A	N/A	N/A
GR830	12.49	N/A	N/A	11.01■	N/A	N/A	N/A	10.62■	N/A	N/A	N/A
GR832*	12.68	N/A	N/A	11.20■	N/A	N/A	N/A	10.81■	N/A	N/A	N/A
GR842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86
GR852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26
GR860	N/A	22.78	22.78	N/A	17.09	17.09	17.65	N/A	16.58	16.58	16.98

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

▲ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available
- ⚡ Style DX and DXM only
- ★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.

- ⚡ Metric IEC B5 input flange options are available only on quill input styles.
- ✖ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DXTMQ, DXTM, DXT

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

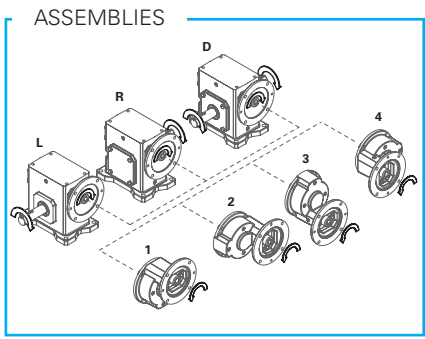
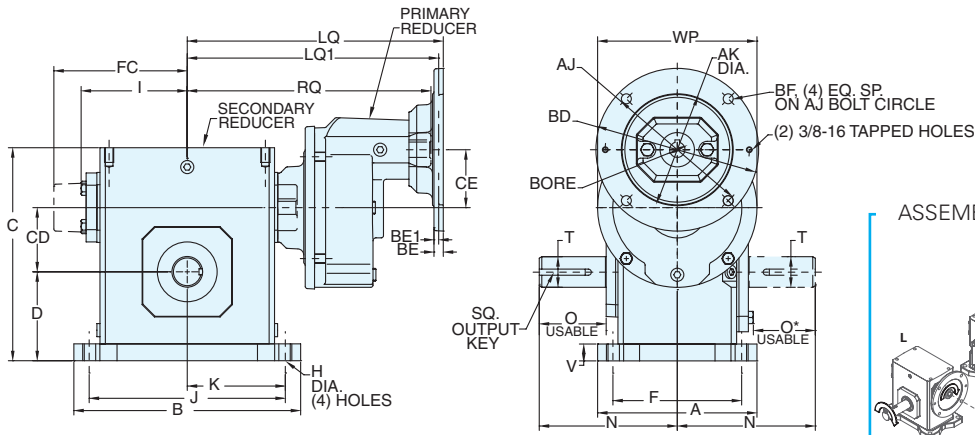
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

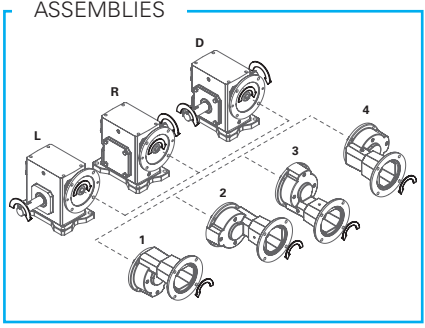
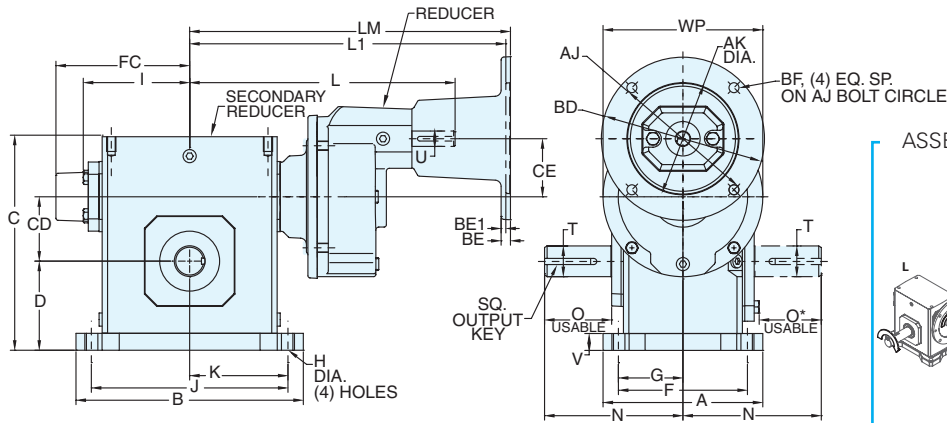
Ratio Multipliers

Accessories
Additional Capabilities

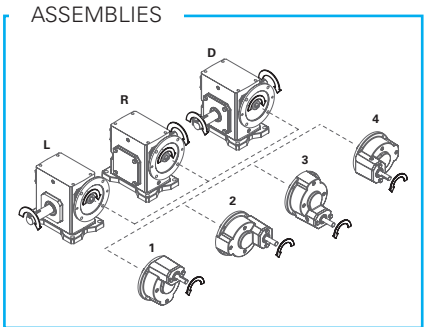
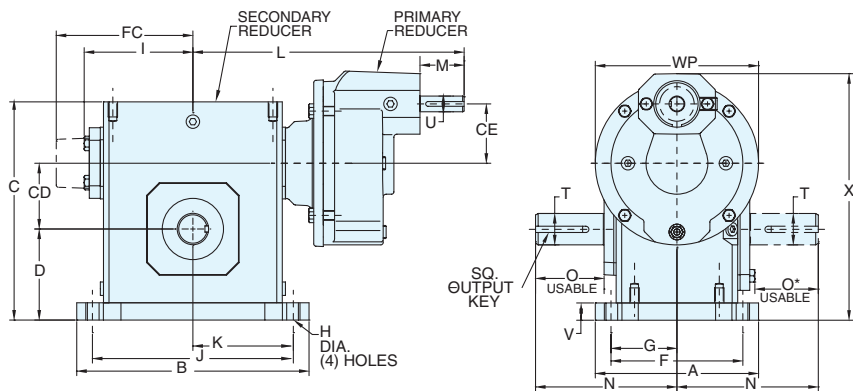
STYLE DXTMQ



STYLE DXTM



STYLE DXT



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



STYLE DXTMQ, DXTM, DXT DIMENSIONS (Inches)

Size	A	B	C	CD	CE	D	F	FC▼	G	H	I	J	K	L	M	N	O	O*	V	WP	X	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
GR813	4.24	5.37	5.19	1.33	1.91	2.25	3.31	N/A	1.66	0.34	2.61	4.37	2.19	7.75	1.76	4.00	2.16	1.94	0.53	6.50	6.16	0.625	0.625	3/16 x 3/32	3/16 x 1.50
GR815	5.56	6.50	5.97	1.54	1.91	2.50	4.31	N/A	2.16	0.41	3.14	5.25	2.63	8.28	1.76	4.31	2.11	1.90	0.59	6.50	7.15	0.750	0.625	3/16 x 3/32	3/16 x 1.50
GR818	5.75	6.99	6.44	1.75	1.91	2.75	4.50	N/A	2.25	0.41	3.24	5.75	2.88	8.38	1.76	4.31	2.05	1.84	0.69	6.50	7.61	0.875	0.625	3/16 x 3/32	3/16 x 1.38
GR821	6.00	7.69	7.09	2.06	1.91	3.00	4.69	N/A	2.34	0.47	3.61	6.38	3.19	8.75	1.76	4.68	2.29	2.08	0.72	6.50	8.17	1.000	0.625	3/16 x 3/32	1/4 x 1.44
GR824	6.19	8.37	7.69	2.38	2.36	3.25	4.88	N/A	2.44	0.49	3.77	7.06	3.53	8.92	1.76	5.14	2.66	2.44	0.75	6.50	9.20	1.125	0.625	3/16 x 3/32	1/4 x 1.75
GR826	6.50	9.25	8.75	2.63	2.36	3.69	5.25	N/A	2.63	0.53	4.34	8.00	4.00	9.48	1.76	5.63	2.73	2.52	0.75	6.50	9.88	▲	0.625	3/16 x 3/32	1/4 x 1.75
GR830	7.50	10.00	9.63	3.00	2.36	4.00	5.88	N/A	2.94	0.53	4.84	8.44	4.22	10.24	1.76	6.75	3.60	3.36	0.75	6.50	10.57	1.250	0.625	3/16 x 3/32	1/4 x 1.75
GR832	7.75	11.12	10.25	3.25	2.36	4.38	6.13	N/A	3.06	0.53	5.02	9.50	4.75	10.43	1.76	7.06	3.66	3.42	0.81	6.50	11.20	▲	0.625	3/16 x 3/32	3/8 x 2.25
GR842	9.75	13.24	12.38	4.25	2.87	5.44	7.63	N/A	3.81	0.66	6.10	11.12	5.56	17.48	3.61	8.12	4.50	4.21	1.00	8.50	14.31	1.875	1.250	1/4 x 2.00	1/2 x 3.06
GR852	10.50	16.24	15.13	5.25	2.87	6.25	8.38	N/A	4.19	0.78	7.50	14.12	7.06	18.88	3.61	9.06	4.78	4.53	1.13	8.50	16.12	2.000	1.250	1/4 x 2.00	1/2 x 3.50
GR860	12.00	18.99	17.75	6.00	2.87	7.75	9.50	N/A	4.75	0.91	N/A	16.49	8.25	19.60	3.61	10.00	4.65	4.65	1.25	8.50	18.37	2.500	1.250	1/4 x 2.00	5/8 x 4.00
GR870★	13.38	15.38	20.33	7.00	3.49	9.00	11.25	10.63	5.63	1.13	N/A	13.00	6.50	19.68	2.50	11.76	5.65	5.65	1.42	10.36	23.25	2.750	1.250	1/4 x 2.25**	5/8 x 4.00**
GR880★	13.50	17.37	22.61	8.00	4.07	10.50	11.50	11.93	5.75	1.13	N/A	14.75	7.38	21.30	3.00	12.25	5.98	5.98	1.65	11.64	27.57	3.000	1.375	5/16 x 2.75**	3/4 x 4.50**
GR8100★	16.88	21.14	27.12	10.00	4.90	12.00	14.00	14.34	7.00	1.44	N/A	17.00	8.50	25.78	3.50	14.75	6.76	6.76	1.65	13.85	32.99	3.750	1.500	3/8 x 3.25**	7/8 x 5.00*

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical◇	Identical	Identical	✓	✓	GRG GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

◇ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages C19-C20 (DXMQ, DXM, DX).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	L1		LQ	LQ1			RQ			
	56C/ 140TC	180TC/ 210TC	250TC	48CZ/ 56TC/140TC	180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
GR813	10.0	N/A	N/A	8.52	N/A	N/A	N/A	8.13■	N/A	N/A	N/A
GR815	10.53	N/A	N/A	9.05	N/A	N/A	N/A	8.66■	N/A	N/A	N/A
GR818	10.63	N/A	N/A	9.15	N/A	N/A	N/A	8.76■	N/A	N/A	N/A
GR821*	11.00	N/A	N/A	9.52	N/A	N/A	N/A	9.13■	N/A	N/A	N/A
GR824	11.17	N/A	N/A	9.69■	N/A	N/A	N/A	9.30■	N/A	N/A	N/A
GR826*	11.73	N/A	N/A	10.25■	N/A	N/A	N/A	9.86■	N/A	N/A	N/A
GR830	12.49	N/A	N/A	11.01■	N/A	N/A	N/A	10.62■	N/A	N/A	N/A
GR832*	12.68	N/A	N/A	11.20■	N/A	N/A	N/A	10.81■	N/A	N/A	N/A
GR842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86
GR852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26
GR860	N/A	22.78	22.78	N/A	17.09	17.09	17.65	N/A	16.58	16.58	16.98

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

▲ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available
- ※ Style DXT and DXTM only
- ★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.
- ✦ Metric IEC B5 input flange options are available only on quill input styles.
- ✖ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DXUMQ, DXUM, DXU



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

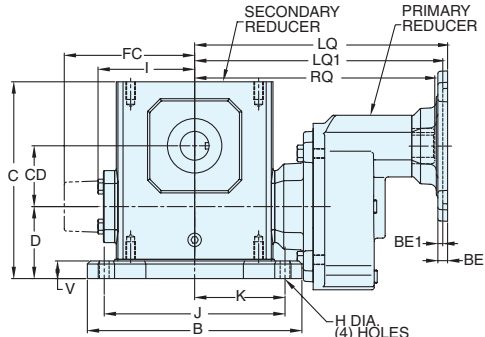
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

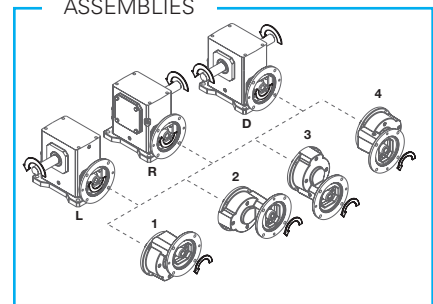
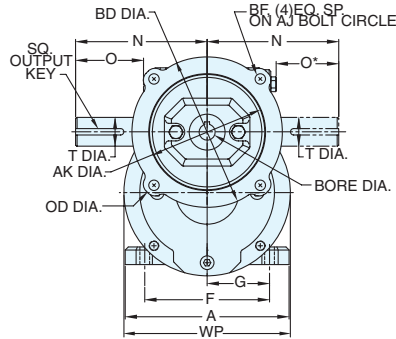
Ratio Multipliers

Accessories
Additional Capabilities

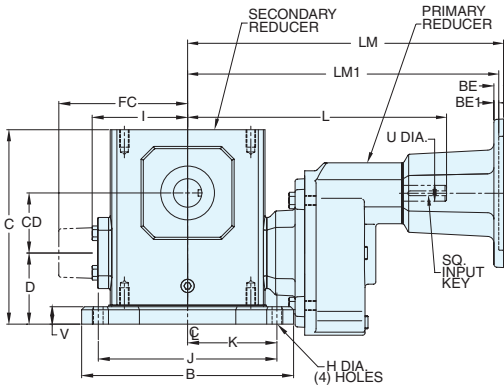
STYLE DXUMQ



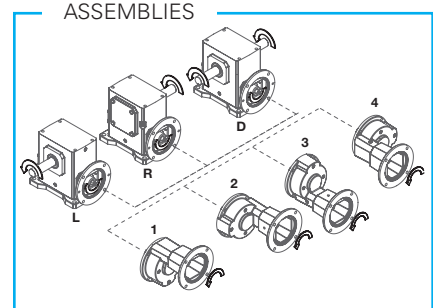
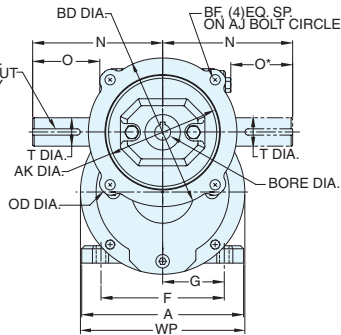
NOTE: PRIMARY MAY EXTEND BELOW BASE.



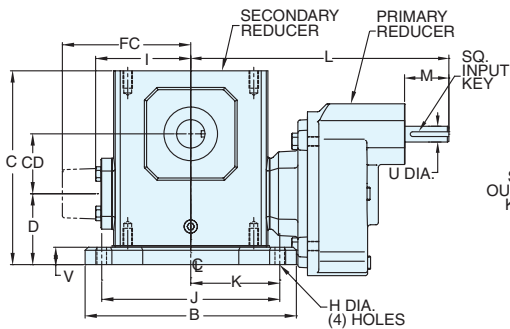
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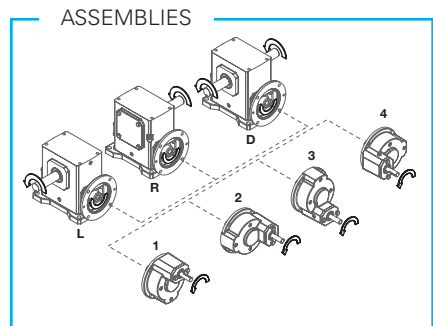
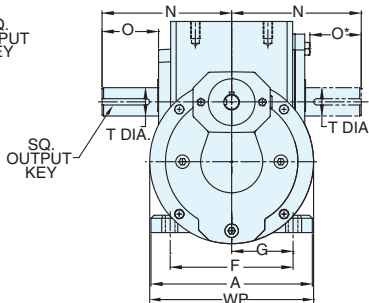
NOTE: PRIMARY MAY EXTEND BELOW BASE.



STYLE DXU



NOTE: PRIMARY MAY EXTEND BELOW BASE.



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



GR SERIES DIMENSIONS

STYLES: DXUMQ, DXUM, DXU



STYLE DXUMQ, DXUM, DXU DIMENSIONS (Inches)

Size	A	B	C	CD	CE	D	F	FC▼	G	H	I	J	K	L	M	N	O	O*	V	WP	X	T +0.000 -0.0015	U +0.000 -0.0015	Input Key※	Output Key
GR813	4.24	5.37	5.19	1.33	1.91	2.25	3.31	N/A	1.66	0.34	2.61	4.37	2.19	7.75	1.76	4.00	2.16	1.94	0.53	6.50	6.16	0.625	0.625	3/16 x 3/32	3/16 x 1.50
GR815	5.56	6.50	5.97	1.54	1.91	2.50	4.31	N/A	2.16	0.41	3.14	5.25	2.63	8.28	1.76	4.31	2.11	1.90	0.59	6.50	7.15	0.750	0.625	3/16 x 3/32	3/16 x 1.50
GR818	5.75	6.99	6.44	1.75	1.91	2.75	4.50	N/A	2.25	0.41	3.24	5.75	2.88	8.38	1.76	4.31	2.05	1.84	0.69	6.50	7.61	0.875	0.625	3/16 x 3/32	3/16 x 1.38
GR821	6.00	7.69	7.09	2.06	1.91	3.00	4.69	N/A	2.34	0.47	3.61	6.38	3.19	8.75	1.76	4.68	2.29	2.08	0.72	6.50	8.17	1.000	0.625	3/16 x 3/32	1/4 x 1.44
GR824	6.19	8.37	7.69	2.38	2.36	3.25	4.88	N/A	2.44	0.49	3.77	7.06	3.53	8.92	1.76	5.14	2.66	2.44	0.75	6.50	9.20	1.125	0.625	3/16 x 3/32	1/4 x 1.75
GR826	6.50	9.25	8.75	2.63	2.36	3.69	5.25	N/A	2.63	0.53	4.34	8.00	4.00	9.48	1.76	5.63	2.73	2.52	0.75	6.50	9.88	▲	0.625	3/16 x 3/32	1/4 x 1.75
GR830	7.50	10.00	9.63	3.00	2.36	4.00	5.88	N/A	2.94	0.53	4.84	8.44	4.22	10.24	1.76	6.75	3.60	3.36	0.75	6.50	10.57	1.250	0.625	3/16 x 3/32	1/4 x 1.75
GR832	7.75	11.12	10.25	3.25	2.36	4.38	6.13	N/A	3.06	0.53	5.02	9.50	4.75	10.43	1.76	7.06	3.66	3.42	0.81	6.50	11.20	▲	0.625	3/16 x 3/32	3/8 x 2.25
GR842	9.75	13.24	12.38	4.25	2.87	5.44	7.63	N/A	3.81	0.66	6.10	11.12	5.56	17.48	3.61	8.12	4.50	4.21	1.00	8.50	14.31	1.875	1.250	1/4 x 2.00	1/2 x 3.06
GR852	10.50	16.24	15.13	5.25	2.87	6.25	8.38	N/A	4.19	0.78	7.50	14.12	7.06	18.88	3.61	9.06	4.78	4.53	1.13	8.50	16.12	2.000	1.250	1/4 x 2.00	1/2 x 3.50
GR860	12.00	18.99	17.75	6.00	2.87	7.75	9.50	N/A	4.75	0.91	N/A	16.49	8.25	19.60	3.61	10.00	4.65	4.65	1.25	8.50	18.37	2.500	1.250	1/4 x 2.00	5/8 x 4.00
GR870★	13.38	15.38	20.33	7.00	3.49	9.00	11.25	10.63	5.63	1.13	N/A	13.00	6.50	19.68	2.50	11.76	5.65	5.65	1.42	10.36	23.25	2.750	1.250	1/4 x 2.25**	5/8 x 4.00**
GR880★	13.50	17.37	22.61	8.00	4.07	10.50	11.50	11.93	5.75	1.13	N/A	14.75	7.38	21.30	3.00	12.25	5.98	5.98	1.65	11.64	27.57	3.000	1.375	5/16 x 2.75**	3/4 x 4.50**
GR8100★	16.88	21.14	27.12	10.00	4.90	12.00	14.00	14.34	7.00	1.44	N/A	17.00	8.50	25.78	3.50	14.75	6.76	6.76	1.65	13.85	32.99	3.750	1.500	3/8 x 3.25**	7/8 x 5.00*

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical	Identical	Identical	✓	✓	GRG GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

⚠ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages C19-C20 (DXMQ, DXM, DX).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	L1	LQ	180TC	LQ1	250TC	48CZ/56C/140TC	RQ			
	56C/140TC							180TC/210TC	250TC	180TC	210TC
GR813	10.0	N/A	N/A	8.52	N/A	N/A	N/A	8.13	N/A	N/A	N/A
GR815	10.53	N/A	N/A	9.05	N/A	N/A	N/A	8.66	N/A	N/A	N/A
GR818	10.63	N/A	N/A	9.15	N/A	N/A	N/A	8.76	N/A	N/A	N/A
GR821*	11.00	N/A	N/A	9.52	N/A	N/A	N/A	9.13	N/A	N/A	N/A
GR824	11.17	N/A	N/A	9.69	N/A	N/A	N/A	9.30	N/A	N/A	N/A
GR826*	11.73	N/A	N/A	10.25	N/A	N/A	N/A	9.86	N/A	N/A	N/A
GR830	12.49	N/A	N/A	11.01	N/A	N/A	N/A	10.62	N/A	N/A	N/A
GR832*	12.68	N/A	N/A	11.20	N/A	N/A	N/A	10.81	N/A	N/A	N/A
GR842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86
GR852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26
GR860	N/A	22.78	22.78	N/A	17.09	17.09	17.65	N/A	16.58	16.58	16.98

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF⊗
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available
- ※ Style DXU and DXUM only
- ★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.

- ⊕ Metric IEC B5 input flange options are available only on quill input styles.
- ⊗ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DXJMQ, DXJM, DXJ

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

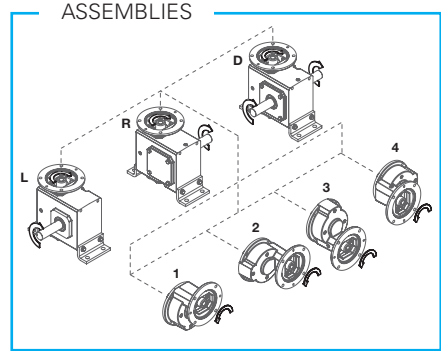
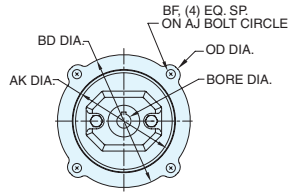
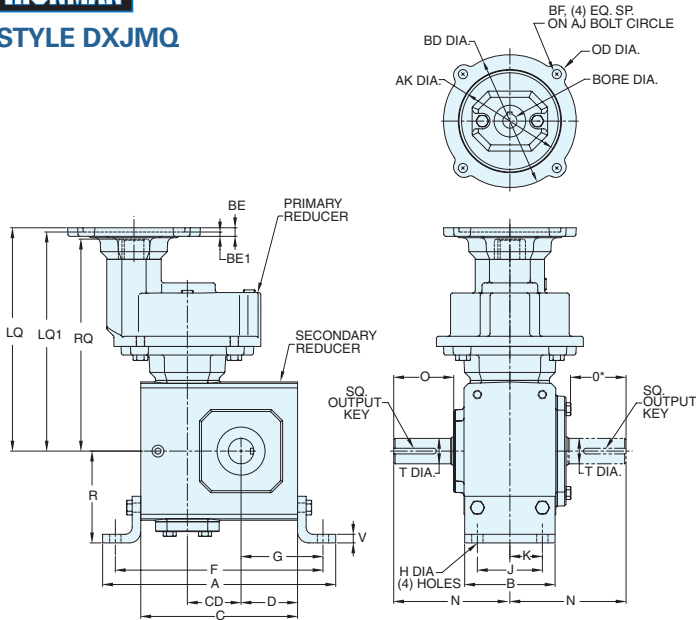
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

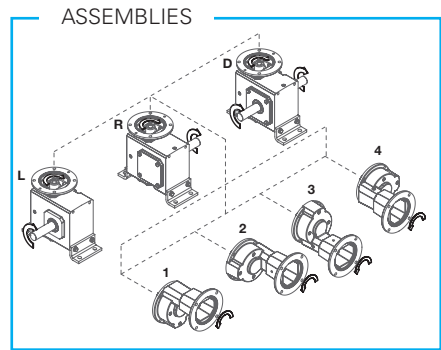
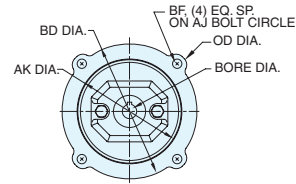
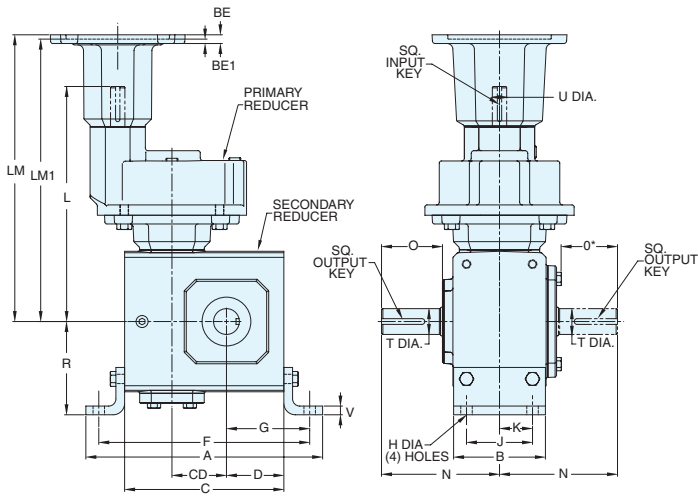
Ratio Multipliers

Accessories
Additional Capabilities

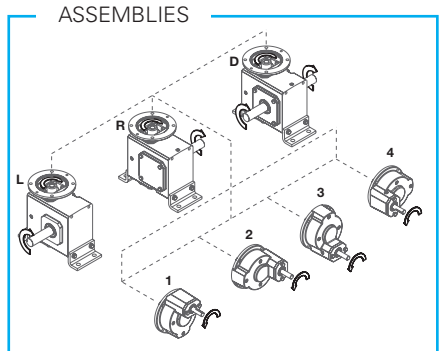
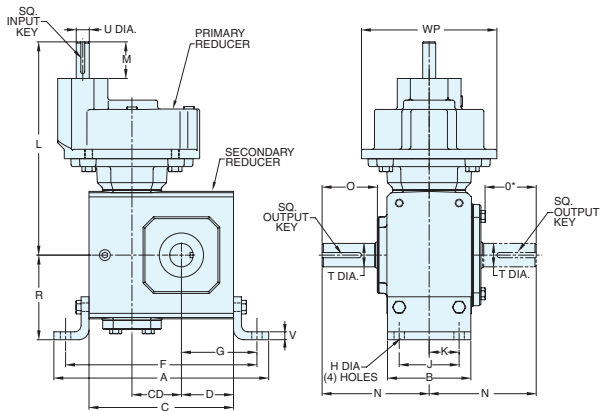
STYLE DXJMQ



STYLE DXJM



STYLE DXJ



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



GR SERIES DIMENSIONS

STYLES: DXJMQ, DXJM, DXJ



STYLE DXJMQ, DXJM, DXJ DIMENSIONS (Inches)

Size	A	B	C	CD	CE	D	F	G	H	I	J	K	L	M	N	O	O*	R	V	WP	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
GR813	7.42	2.75	4.66	1.33	1.91	1.72	6.42	2.60	.38	2.00	4.37	1.00	7.75	1.76	4.00	2.16	1.94	2.94	0.25	6.50	0.625	0.625	3/16 x 3/32	3/16 x 1.50
GR815	8.14	3.50	5.38	1.54	1.91	1.91	7.08	2.76	.44	2.75	5.25	1.38	8.28	1.76	4.31	2.11	1.90	3.50	0.25	6.50	0.750	0.625	3/16 x 3/32	3/16 x 1.50
GR818	8.51	3.50	5.75	1.75	1.91	2.06	7.45 - 7.63	3.00	.44 slot	2.50 - 2.75	5.75	1.25 - 1.38	8.38	1.76	4.31	2.05	1.84	3.50	0.25	6.50	0.875	0.625	3/16 x 3/32	3/16 x 1.38
GR821	9.76	4.00	6.38	2.06	1.91	2.28	8.63	3.40	.56 slot	2.63 - 2.75	6.38	1.31 - 1.38	8.75	1.76	4.68	2.29	2.08	4.01	0.38	6.50	1.000	0.625	3/16 x 3/32	1/4 x 1.44
GR824	10.31	4.00	6.94	2.38	2.36	2.50	9.19	3.63	.69	2.88	7.06	1.44	8.92	1.76	5.14	2.66	2.44	4.06	0.38	6.50	1.125	0.625	3/16 x 3/32	1/4 x 1.75
GR826	11.62	5.00	8.00	2.63	2.36	2.94	10.38	4.13	.56	3.38	8.00	1.69	9.48	1.76	5.63	2.73	2.52	5.00	0.38	6.50	▲	0.625	3/16 x 3/32	1/4 x 1.75
GR830	12.64	6.00	8.88	3.00	2.36	3.25	11.38	4.50	.56	3.88	8.44	1.94	10.24	1.76	6.75	3.60	3.36	5.62	0.38	6.50	1.250	0.625	3/16 x 3/32	1/4 x 1.75
GR832	13.14	6.00	9.38	3.25	2.36	3.50	11.88	4.75	.56	3.88	9.50	1.94	10.43	1.76	7.06	3.66	3.42	5.63	0.38	6.50	▲	0.625	3/16 x 3/32	3/8 x 2.25
GR842	16.38	7.00	11.38	4.25	2.87	4.44	14.88	6.19	.69	5.00	11.12	2.40	17.48	3.61	8.12	4.50	4.21	6.50	0.50	8.50	1.875	1.250	1/4 x 2.00	1/2 x 3.06
GR852	19.00	7.00	14.00	5.25	2.87	5.12	17.50	6.87	.69	5.81	14.12	2.91	18.88	3.61	9.06	4.78	4.53	7.75	0.50	8.50	2.000	1.250	1/4 x 2.00	1/2 x 3.50

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical	Identical	Identical	✓	✓	GRG
							GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages C19-C20 (DXMQ, DXM, DXJ).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	L1	LQ	LQ1			RQ			
	56C/140TC			180TC/210TC	250TC	48CZ/56TC/140TC	180TC	210TC	250TC	
GR813	10.0	N/A	8.52	N/A	N/A	N/A	8.13	N/A	N/A	N/A
GR815	10.53	N/A	9.05	N/A	N/A	N/A	8.66	N/A	N/A	N/A
GR818	10.63	N/A	9.15	N/A	N/A	N/A	8.76	N/A	N/A	N/A
GR821*	11.00	N/A	9.52	N/A	N/A	N/A	9.13	N/A	N/A	N/A
GR824	11.17	N/A	9.69	N/A	N/A	N/A	9.30	N/A	N/A	N/A
GR826*	11.73	N/A	10.25	N/A	N/A	N/A	9.86	N/A	N/A	N/A
GR830	12.49	N/A	11.01	N/A	N/A	N/A	10.62	N/A	N/A	N/A
GR832*	12.68	N/A	11.20	N/A	N/A	N/A	10.81	N/A	N/A	N/A
GR842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.86
GR852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	16.26
GR860	N/A	22.78	22.78	N/A	17.09	17.09	17.65	N/A	16.58	16.98

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ⚙ Style DXJ and DXJM only

- ⚙ Metric IEC B5 input flange options are available only on quill input styles.
- ✖ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DXV_MQ, DXV_M, DXV_

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

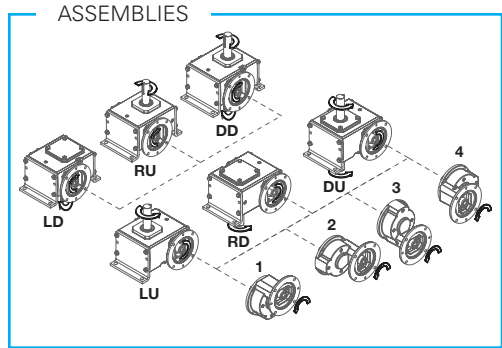
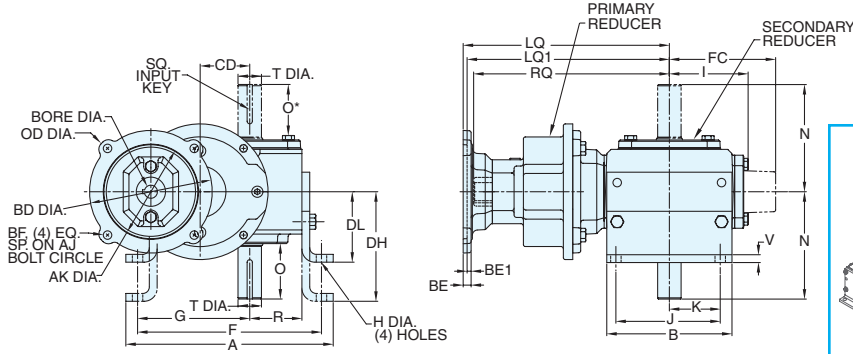
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

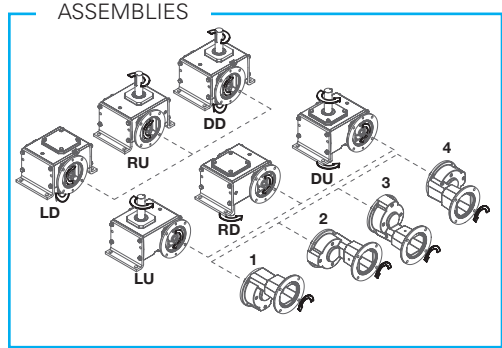
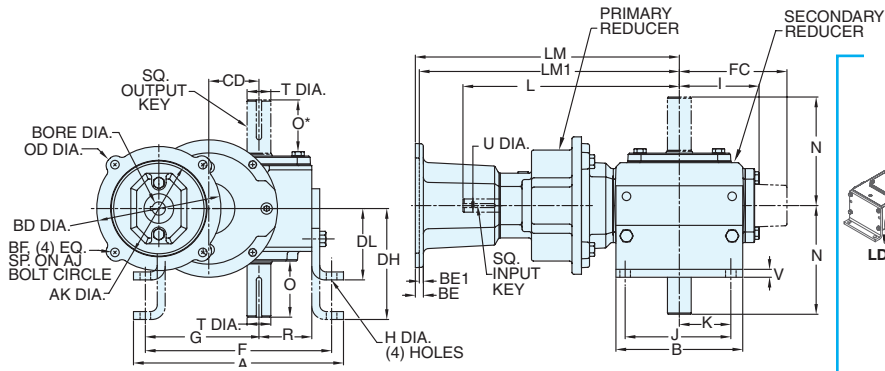
Ratio Multipliers

Accessories
Additional Capabilities

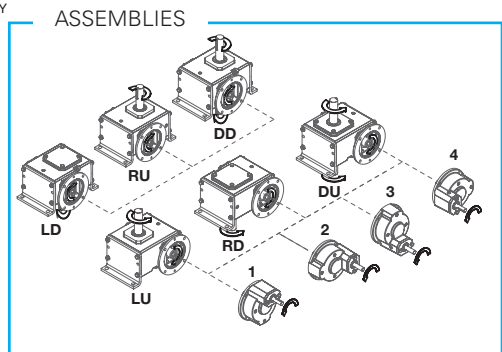
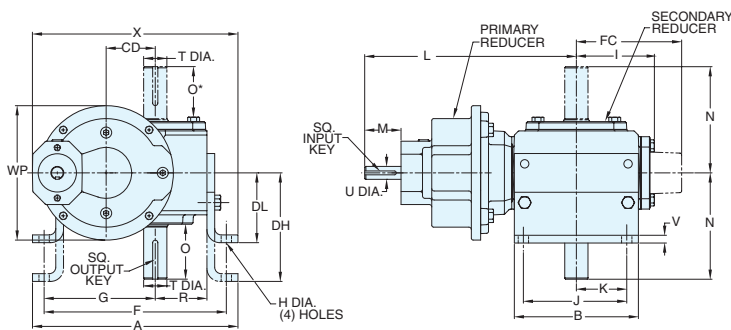
STYLE DXV (L OR H) MQ



STYLE DXV (L OR H) M



STYLE DXV (L OR H)



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



GR SERIES DIMENSIONS

STYLES: DXV_MQ, DXV_M, DXV_



STYLE DXV (L or H) MQ, DXV (L or H) M, DXV (L or H) DIMENSIONS (Inches)

Size	A	B	CD	CE	DL	DH	F	FC▼	G	H	I	J	K	L	M	N	O	O*	V	WP	X	T +0.000 -0.0015	U +0.000 -0.0015	Input Key⚙️	Output Key
GR813	7.26	4.00	1.33	1.91	2.63	3.56	6.50	N/A	3.86	0.38	2.61	3.00	1.50	7.75	1.76	4.00	2.16	1.94	0.25	6.50	7.46	0.625	0.625	3/16 x 3/32	3/16 x 1.50
GR815	7.88	5.00	1.54	1.91	3.00	4.38	7.00	N/A	4.28	0.44	3.14	4.00	2.00	8.28	1.76	4.31	2.11	1.90	0.25	6.50	7.81	0.750	0.625	3/16 x 3/32	3/16 x 1.50
GR818	8.25	5.00	1.75	1.91	3.00	4.38	7.37	N/A	4.50	0.44	3.24	4.00	2.00	8.38	1.76	4.31	2.05	1.84	0.25	6.50	8.17	0.875	0.625	3/16 x 3/32	3/16 x 1.38
GR821	9.38	6.00	2.06	1.91	3.13	4.88	8.38	N/A	5.09	0.50	3.61	4.88	2.44	8.75	1.76	4.68	2.29	2.08	0.38	6.50	8.95	1.000	0.625	3/16 x 3/32	1/4 x 1.44
GR824	9.94	6.00	2.38	2.36	3.38	5.25	8.81	N/A	5.44	0.50	3.77	4.88	2.44	8.92	1.76	5.14	2.66	2.44	0.38	6.50	9.95	1.125	0.625	3/16 x 3/32	1/4 x 1.75
GR826	11.24	7.00	2.63	2.36	3.63	5.56	10.12	N/A	6.12	0.56	4.34	5.75	2.88	9.48	1.76	5.63	2.73	2.52	0.38	6.50	10.75	▲	0.625	3/16 x 3/32	1/4 x 1.75
GR830	12.50	8.00	3.00	2.36	3.94	5.88	11.13	N/A	6.75	0.56	4.84	6.00	3.00	10.24	1.76	6.75	3.60	3.36	0.38	6.50	11.63	1.250	0.625	3/16 x 3/32	1/4 x 1.75
GR832	13.00	8.50	3.25	2.36	4.69	6.25	11.88	N/A	7.13	0.56	5.02	6.13	3.06	10.43	1.76	7.06	3.66	3.42	0.38	6.50	12.13	▲	0.625	3/16 x 3/32	3/8 x 2.25
GR842	16.26	10.00	4.25	2.87	5.00	7.50	14.88	N/A	8.69	0.69	6.10	7.88	3.94	17.48	3.61	8.12	4.50	4.21	0.50	8.50	15.75	1.875	1.250	1/4 x 2.00	1/2 x 3.06
GR852	19.62	13.00	5.25	2.87	5.16	9.16	18.00	N/A	10.88	0.78	7.50	10.00	5.00	18.88	3.61	9.06	4.78	4.53	0.50	8.50	17.80	2.000	1.250	1/4 x 2.00	1/2 x 3.50
GR860	23.26	14.75	6.00	2.87	7.31	9.63	20.88	10.24	12.19	0.91	N/A	11.76	5.88	19.60	3.61	10.00	4.65	4.65	0.50	8.50	20.50	2.500	1.250	1/4 x 2.00	5/8 x 4.00
GR870★	26.91	14.88	7.00	3.49	7.00	N/A	23.99	10.63	13.87	1.13	N/A	12.50	6.25	19.68	2.50	11.76	5.65	5.65	0.75	10.36	25.84	2.750	1.250	1/4 x 2.25**	5/8 x 4.00**
GR880★	28.96	17.00	8.00	4.07	8.00	N/A	25.50	11.93	14.38	1.13	N/A	14.00	7.00	21.30	3.00	12.25	5.98	5.98	0.75	11.64	29.93	3.000	1.375	5/16 x 2.75**	3/4 x 4.50**
GR8100★	37.47	20.88	10.00	4.90	9.00	N/A	30.75	14.34	17.76	1.44	N/A	17.75	8.88	25.78	3.50	14.75	6.76	6.76	1.00	13.85	37.35	3.750	1.500	3/8 x 3.25**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical	Identical	Identical		GRL	GRG
826	1.250"	Identical	Identical	Identical		GRL	GRG
	1.125"						
832	1.500"	Identical	3/8 x 2.63	Identical	GRG	GRL	
	1.375"		5/16 x 2.63				

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages C19-C20 (DXMQ, DXM, DX).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	L1		LQ	LQ1			RQ			
	56C/140TC	180TC/210TC	250TC	48CZ/56TC/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
GR813	10.0	N/A	N/A	8.52	N/A	N/A	N/A	8.13	N/A	N/A	N/A
GR815	10.53	N/A	N/A	9.05	N/A	N/A	N/A	8.66	N/A	N/A	N/A
GR818	10.63	N/A	N/A	9.15	N/A	N/A	N/A	8.76	N/A	N/A	N/A
GR821*	11.00	N/A	N/A	9.52	N/A	N/A	N/A	9.13	N/A	N/A	N/A
GR824	11.17	N/A	N/A	9.69	N/A	N/A	N/A	9.30	N/A	N/A	N/A
GR826*	11.73	N/A	N/A	10.25	N/A	N/A	N/A	9.86	N/A	N/A	N/A
GR830	12.49	N/A	N/A	11.01	N/A	N/A	N/A	10.62	N/A	N/A	N/A
GR832*	12.68	N/A	N/A	11.20	N/A	N/A	N/A	10.81	N/A	N/A	N/A
GR842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86
GR852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26
GR860	N/A	22.78	22.78	N/A	17.09	17.09	17.65	N/A	16.58	16.58	16.98

▲ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available
- ⚙️ Style DXV and DXV_M only
- ★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.
- ⚙️ Metric IEC B5 input flange options are available only on quill input styles.
- ✖ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.



GR SERIES DIMENSIONS

STYLES: DXFMQ, DXFM, DXF

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

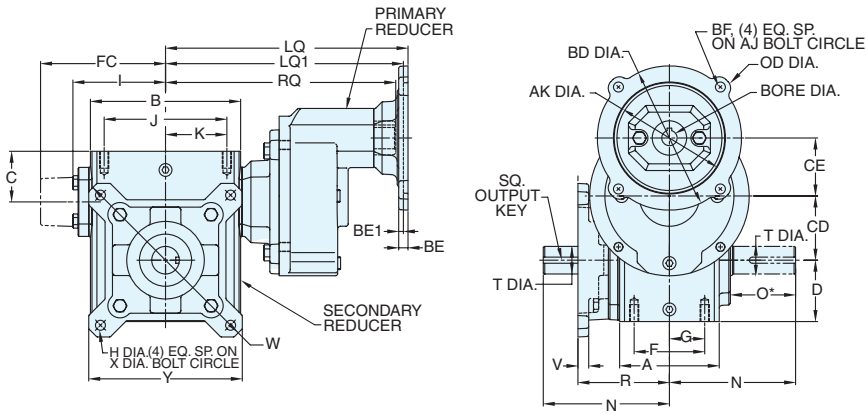
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

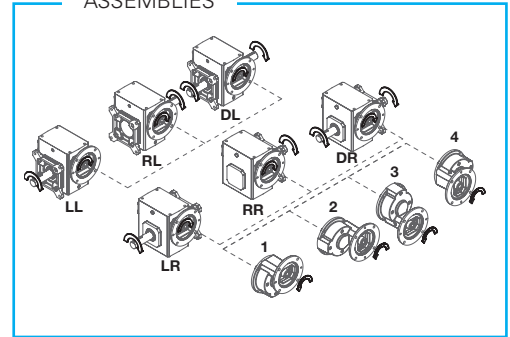
Ratio Multipliers

Accessories
Additional Capabilities

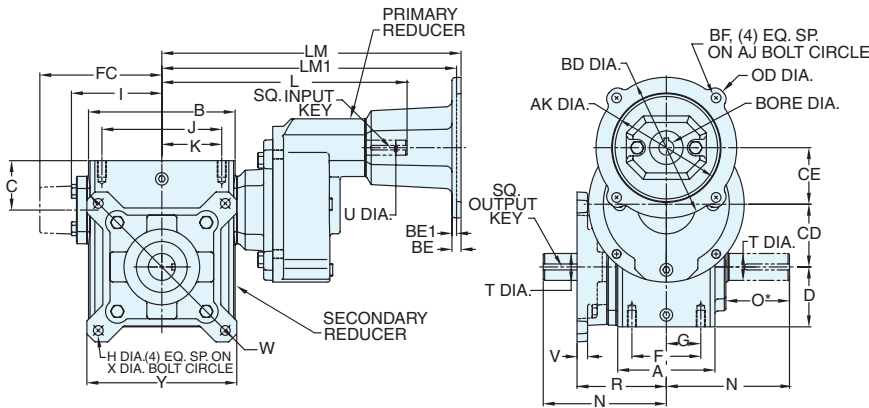
STYLE DXFMQ



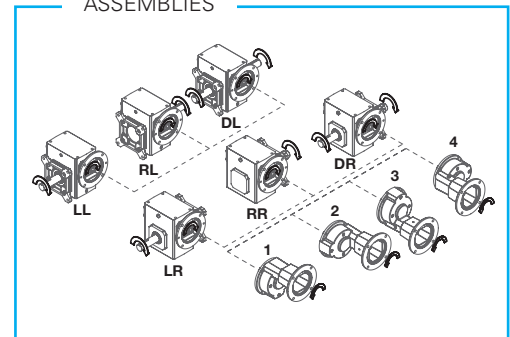
ASSEMBLIES



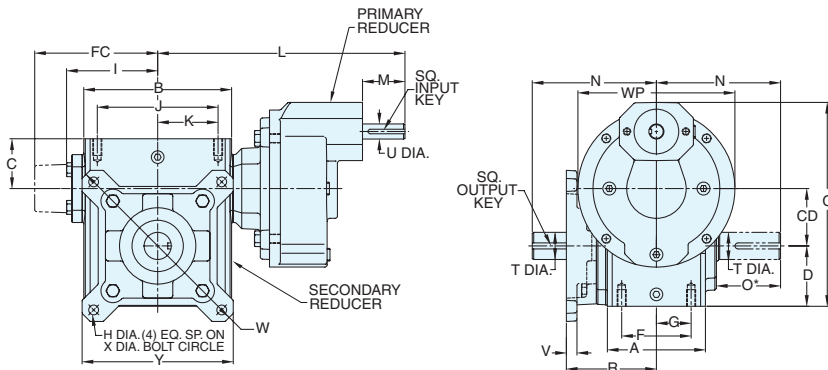
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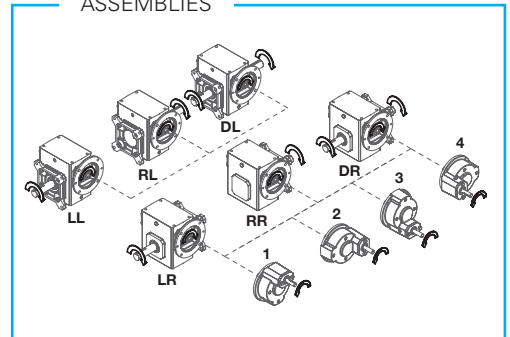
ASSEMBLIES



STYLE DXF



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

SIZES 815-8100 OUTPUT FLANGE MUST BE MOUNTED AT FACTORY ON STYLES FMQ, FM, F.



GR SERIES DIMENSIONS

STYLES: DXFMQ, DXFM, DXF



STYLE DXV DXFMQ, DXFM, DXF DIMENSIONS (Inches)

Size	A	B	C	CD	CE	D	FC▼	H	I	L	M	N	O*	V	WP	X	XA	Y	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
GR813	2.82	3.80	4.66	1.33	1.91	1.72	N/A	0.34	2.61	7.75	1.76	4.00	1.94	0.38	6.50	5.00	6.16	4.50	0.625	0.625	3/16 x 3/32	3/16 x 1.50
GR815	3.44	4.88	5.38	1.54	1.91	1.91	N/A	0.34	3.14	8.28	1.76	4.31	1.90	0.38	6.50	5.00	6.56	4.50	0.750	0.625	3/16 x 3/32	3/16 x 1.50
GR818	3.56	5.06	5.75	1.75	1.91	2.06	N/A	0.34	3.24	8.38	1.76	4.31	1.84	0.38	6.50	5.88	6.92	5.00	0.875	0.625	3/16 x 3/32	3/16 x 1.38
GR821	3.81	5.80	6.38	2.06	1.91	2.28	N/A	0.41	3.61	8.75	1.76	4.68	2.08	0.44	6.50	7.00	7.45	5.99	1.000	0.625	3/16 x 3/32	1/4 x 1.44
GR824	4.06	6.12	6.94	2.38	2.36	2.50	N/A	0.41	3.77	8.92	1.76	5.14	2.44	0.44	6.50	7.50	8.45	6.27	1.125	0.625	3/16 x 3/32	1/4 x 1.75
GR826	4.84	7.12	8.00	2.63	2.36	2.94	N/A	0.41	4.34	9.48	1.76	5.63	2.52	0.50	6.50	8.00	9.13	6.67	▲	0.625	3/16 x 3/32	1/4 x 1.75
GR830	5.25	8.12	8.88	3.00	2.36	3.25	N/A	0.41	4.84	10.24	1.76	6.75	3.36	0.50	6.50	9.00	9.82	7.37	1.250	0.625	3/16 x 3/32	1/4 x 1.75
GR832	5.75	8.50	9.38	3.25	2.36	3.50	N/A	0.41	5.02	10.43	1.76	7.06	3.42	0.50	6.50	9.00	10.32	7.37	▲	0.625	3/16 x 3/32	3/8 x 2.25
GR842	6.13	10.25	11.38	4.25	2.87	4.44	N/A	0.56	6.10	17.48	3.61	8.12	4.21	0.62	8.50	11.50	13.31	9.65	1.875	1.250	1/4 x 2.00	1/2 x 3.06
GR852	7.19	13.00	14.00	5.25	2.87	5.12	N/A	0.69	7.50	18.88	3.61	9.06	4.53	0.75	8.50	14.00	14.99	11.75	2.000	1.250	1/4 x 2.00	1/2 x 3.50
GR860	8.13	14.25	16.50	6.00	2.87	6.50	10.24	0.69	N/A	19.60	3.61	10.00	4.65	0.75	8.50	15.63	17.12	14.00	2.500	1.250	1/4 x 2.00	5/8 x 4.00
GR870★	7.63	14.88	18.91	7.00	3.49	7.59	10.63	0.78	N/A	19.68	2.50	11.76	5.65	0.75	10.36	18.38	21.84	15.63	2.750	1.250	1/4 x 2.25**	5/8 x 4.00**
GR880★	8.63	17.00	20.96	8.00	4.07	8.86	11.93	1.03	N/A	21.30	3.00	12.25	5.98	0.75	11.64	21.00	25.93	17.88	3.000	1.375	5/16 x 2.75**	3/4 x 4.50**
GR8100★	9.53	20.88	25.47	10.00	4.90	10.36	14.34	1.03	N/A	25.78	3.50	14.75	6.76	1.00	13.85	25.00	31.35	21.19	3.750	1.500	3/8 x 3.25**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	Output Key Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	Identical	Identical	Identical	✓	✓	GRG
							GRL
826	1.250"	Identical	Identical	Identical	✓	✓	GRG
	1.125"						GRL
832	1.500"	Identical	3/8 x 2.63	Identical	✓	✓	GRG
	1.375"		5/16 x 2.63				GRL

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages C19-C20 (DXMQ, DXM, DX).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	L1		LQ	LQ1			RQ			
	56C/140TC	180TC/210TC	250TC	48CZ/56TC/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
GR813	10.0	N/A	N/A	8.52	N/A	N/A	N/A	8.13	N/A	N/A	N/A
GR815	10.53	N/A	N/A	9.05	N/A	N/A	N/A	8.66	N/A	N/A	N/A
GR818	10.63	N/A	N/A	9.15	N/A	N/A	N/A	8.76	N/A	N/A	N/A
GR821*	11.00	N/A	N/A	9.52	N/A	N/A	N/A	9.13	N/A	N/A	N/A
GR824	11.17	N/A	N/A	9.69	N/A	N/A	N/A	9.30	N/A	N/A	N/A
GR826*	11.73	N/A	N/A	10.25	N/A	N/A	N/A	9.86	N/A	N/A	N/A
GR830	12.49	N/A	N/A	11.01	N/A	N/A	N/A	10.62	N/A	N/A	N/A
GR832*	12.68	N/A	N/A	11.20	N/A	N/A	N/A	10.81	N/A	N/A	N/A
GR842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86
GR852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26
GR860	N/A	22.78	22.78	N/A	17.09	17.09	17.65	N/A	16.58	16.58	16.98

▲ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF⊕
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

- * Applies to double output shaft
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available
- ⊕ Style DXF and DXFM only
- ★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.

- ⊕ Metric IEC B5 input flange options are available only on quill input styles.
- ⊗ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DXHMQ, DXHM, DXH



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

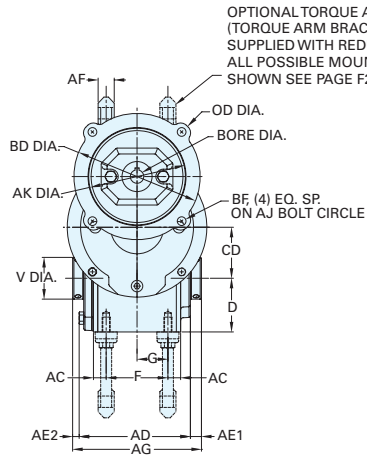
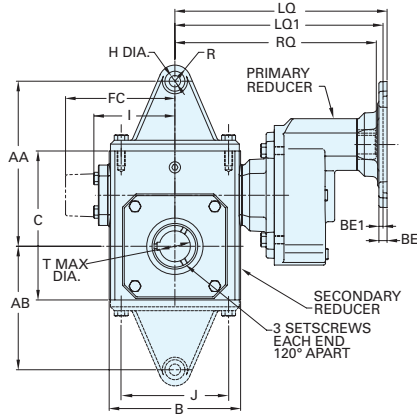
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

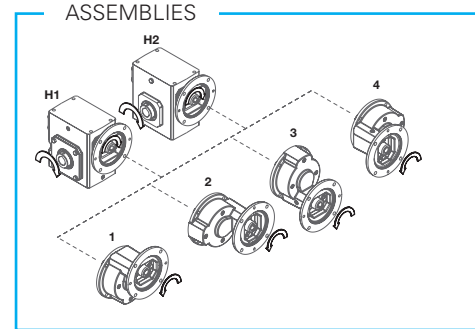
Ratio Multipliers

Accessories
Additional Capabilities

STYLE DXHMQ

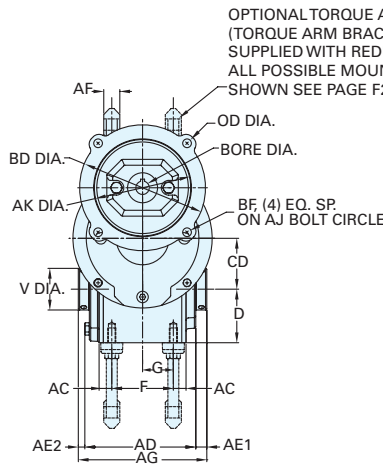
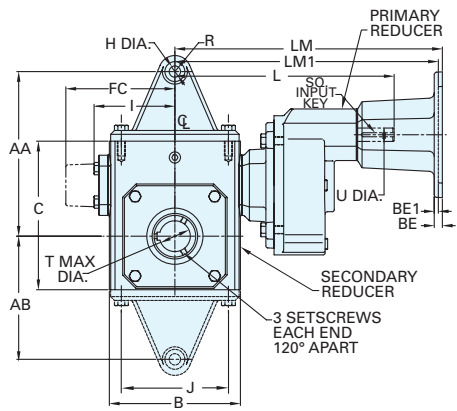


OPTIONAL TORQUE ARM BRACKET
(TORQUE ARM BRACKET IS NOT SUPPLIED WITH REDUCER AS STANDARD):
ALL POSSIBLE MOUNTING POSITIONS SHOWN SEE PAGE F2 FOR KITS.

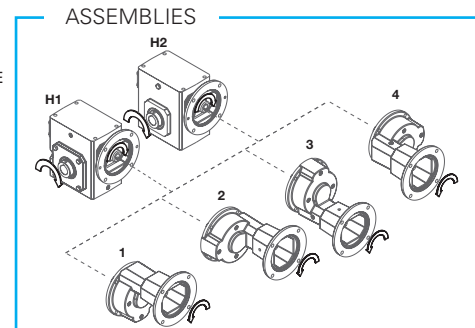


H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DXHM

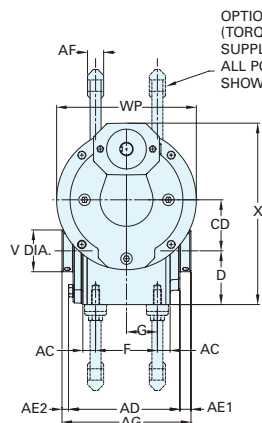
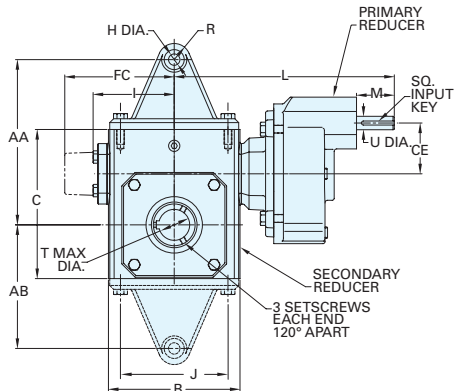


OPTIONAL TORQUE ARM BRACKET
(TORQUE ARM BRACKET IS NOT SUPPLIED WITH REDUCER AS STANDARD):
ALL POSSIBLE MOUNTING POSITIONS SHOWN SEE PAGE F2 FOR KITS.

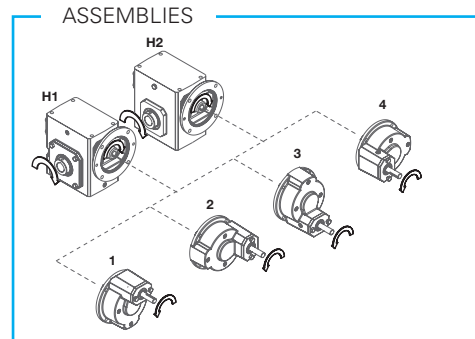


H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DXH



OPTIONAL TORQUE ARM BRACKET
(TORQUE ARM BRACKET IS NOT SUPPLIED WITH REDUCER AS STANDARD):
ALL POSSIBLE MOUNTING POSITIONS SHOWN SEE PAGE F2 FOR KITS.



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.



GR SERIES DIMENSIONS

STYLES: DXHMQ, DXHM, DXH



STYLE DXHMQ, DXHM, DXH DIMENSIONS (Inches)

Size	AA	AB	AC	AD	AE1	AE2	AF	AG	B	C	CD	CE	D	F	FC▼	G	H	I	J	L	M	R	V	WP	X	T -0.000 +0.0015	U +0.000 -0.0015	Input Key*	Output Key
GR813	4.19	2.97	0.41	3.90	0.53	0.32	0.75	4.75	3.80	4.66	1.33	1.91	1.72	2.00	N/A	1.00	0.53	2.61	3.25	7.75	1.76	0.50	1.00	6.50	6.16	0.625	0.625	3/16 x 3/32	3/16 x 1.50
GR815	5.97	4.41	0.35	4.61	0.51	0.30	0.75	5.42	5.19	5.38	1.54	1.91	1.91	2.75	N/A	1.38	0.53	3.14	4.19	8.28	1.76	0.75	1.00	6.50	6.56	0.625	0.625	3/16 x 3/32	3/16 x 1.50
GR818	6.19	4.56	0.41	4.73	0.49	0.28	0.75	5.50	5.19	5.75	1.75	1.91	2.06	2.75	N/A	1.38	0.53	3.24	4.19	8.38	1.76	0.75	1.44	6.50	6.92	1.000	0.625	3/16 x 3/32	3/16 x 1.38
GR821	7.24	5.43	0.41	4.99	0.61	0.40	0.75	6.00	5.80	6.38	2.06	1.91	2.28	3.00	N/A	1.44	0.53	3.61	▼	8.75	1.76	0.75	1.44	6.50	7.45	1.500	0.625	3/16 x 3/32	1/4 x 1.44
GR824	7.69	5.75	0.59	5.18	0.51	0.31	0.75	6.00	6.12	6.94	2.38	2.36	2.50	2.88	N/A	1.44	0.53	3.77	5.00	8.92	1.76	0.75	1.94	6.50	8.45	1.500	0.625	3/16 x 3/32	1/4 x 1.75
GR826	8.81	6.69	0.73	6.01	0.60	0.39	0.75	7.00	7.38	8.00	2.63	2.36	2.94	3.38	N/A	1.69	0.53	4.34	6.33	9.48	1.76	0.75	1.94	6.50	9.13	1.500	0.625	3/16 x 3/32	1/4 x 1.75
GR830	10.63	8.25	0.63	6.53	0.60	0.36	0.75	7.50	8.12	8.88	3.00	2.36	3.25	4.00	N/A	2.00	0.53	4.84	7.00	10.24	1.76	0.88	2.51	6.50	9.82	2.188	0.625	3/16 x 3/32	1/4 x 1.75
GR832	10.88	8.50	0.88	7.04	0.54	0.29	0.75	7.88	8.75	9.38	3.25	2.36	3.50	4.00	N/A	2.00	0.53	5.02	7.50	10.43	1.76	0.88	2.51	6.50	10.32	2.188	0.625	3/16 x 3/32	3/8 x 2.25
GR842	11.94	9.44	0.56	7.53	0.63	0.34	0.75	8.50	10.25	11.38	4.25	2.87	4.44	5.00	N/A	2.50	0.53	6.10	8.50	17.48	3.61	0.75	2.75	8.50	13.31	2.188	1.250	1/4 x 2.50	1/2 x 3.06
GR852	13.88	10.12	0.69	8.85	0.97	0.68	1.00	10.50	13.00	14.00	5.25	2.87	5.12	5.81	N/A	2.91	0.66	7.50	11.00	18.88	3.61	1.00	4.26	8.50	14.99	3.438	1.250	1/4 x 3.00	1/2 x 3.50
GR860	15.00	11.50	0.88	10.52	0.52	0.52	0.38	11.50	14.50	16.50	6.00	2.87	6.50	6.38	10.24	3.19	0.66	N/A	12.75	19.60	3.61	0.69	4.18	8.50	17.12	3.438	1.250	3/8 x 3.00	5/8 x 4.00
GR870★	N/A	N/A	1.06	11.36	1.09	1.09	N/A	13.50	14.88	18.91	7.00	3.49	7.59	5.50	10.63	2.75	N/A	N/A	12.50	19.68	2.50	N/A	4.92	10.36	21.84	3.938	1.250	3/8 x 2.87**	5/8 x 4.00**
GR880★	N/A	N/A	1.06	12.48	1.03	1.03	N/A	14.50	17.00	20.96	8.00	4.07	8.86	6.50	11.93	3.25	N/A	N/A	14.25	21.30	3.00	N/A	5.55	11.64	25.93	4.438	1.375	1/2 x 2.81**	3/4 x 4.50**
GR8100★	N/A	N/A	1.33	15.78	1.39	1.39	N/A	18.50	20.88	25.47	10.00	4.90	10.36	6.88	14.34	3.44	N/A	N/A	17.75	25.78	3.50	N/A	6.67	13.85	31.35	5.438	1.500	1/2 x 3.69**	7/8 x 5.00**

▲ See feature comparison chart.

FEATURE COMPARISON (821)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below:
821	Identical	(F)3.00" x (J)4.75" (F)2.88" x (J)5.00"	Identical	✓	✓	GRG GRL

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	180TC/ 210TC	L1 250TC	LQ	LQ1			RQ						
	56C/ 140TC			48CZ/ 56C/140TC	180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC			
GR813	10.0	N/A	N/A	8.52	N/A	N/A	N/A	8.13	N/A	N/A	N/A			
GR815	10.53	N/A	N/A	9.05	N/A	N/A	N/A	8.66	N/A	N/A	N/A			
GR818	10.63	N/A	N/A	9.15	N/A	N/A	N/A	8.76	N/A	N/A	N/A			
GR821*	11.00	N/A	N/A	9.52	N/A	N/A	N/A	9.13	N/A	N/A	N/A			
GR824	11.17	N/A	N/A	9.69	N/A	N/A	N/A	9.30	N/A	N/A	N/A			
GR826*	11.73	N/A	N/A	10.25	N/A	N/A	N/A	9.86	N/A	N/A	N/A			
GR830	12.49	N/A	N/A	11.01	N/A	N/A	N/A	10.62	N/A	N/A	N/A			
GR832*	12.68	N/A	N/A	11.20	N/A	N/A	N/A	10.81	N/A	N/A	N/A			
GR842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86			
GR852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26			
GR860	N/A	22.78	22.78	N/A	17.09	17.09	17.65	N/A	16.58	16.58	16.98			

NOTE: Sizes GR870-8100 torque arm not available.

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway♦	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

▲ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

- Max bore dimensions shown. For additional bores, refer to page B19
- ** Key not provided with gear reducer. Keyway dimension shown.
- ♦ Keyway width by depth
- 48CZ not available
- * Style DXH and DXHM only.
- ★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.
- ⚙ Metric IEC B5 input flange options are available only on quill input styles.
- ✖ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap. Torque arm bracket available separately. Refer to page F2 for kits. If a special bracket is required, refer to Style DXMQ dimensions for mounting pad dimensions on top/bottom of reducer.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DXFHM, DXFHM, DXFH



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

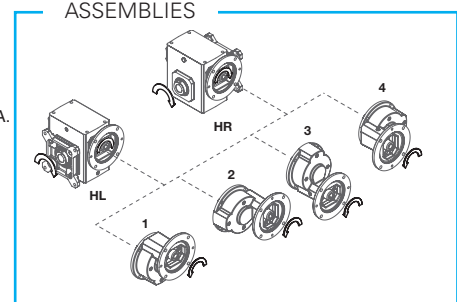
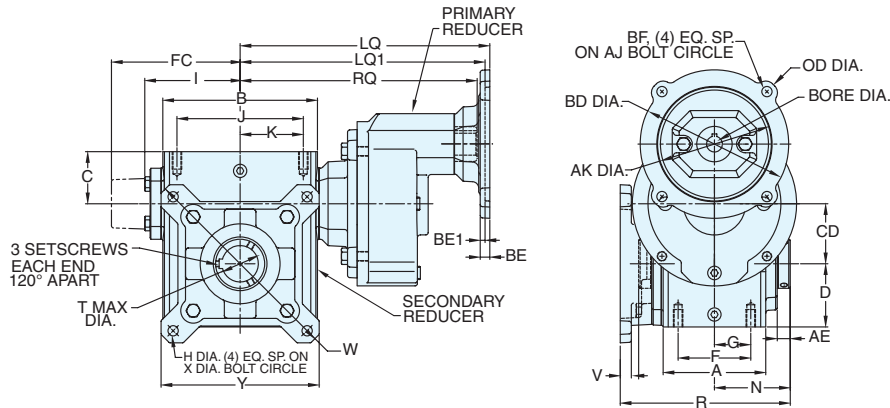
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

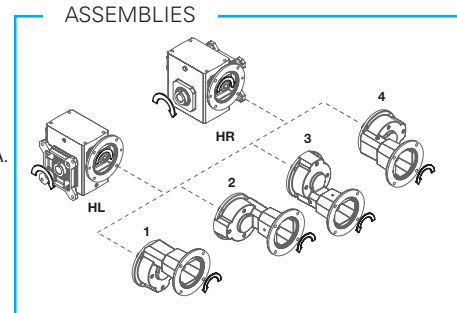
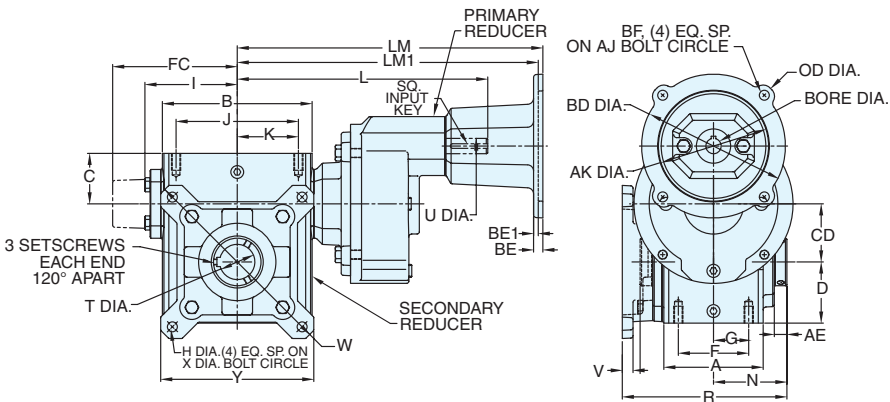
Ratio Multipliers

Accessories
Additional Capabilities

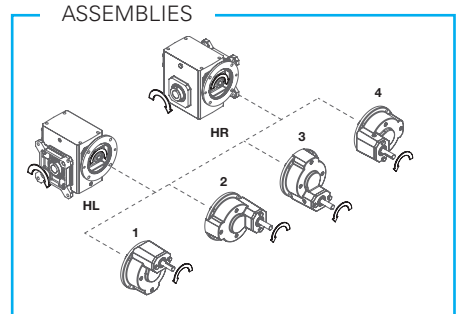
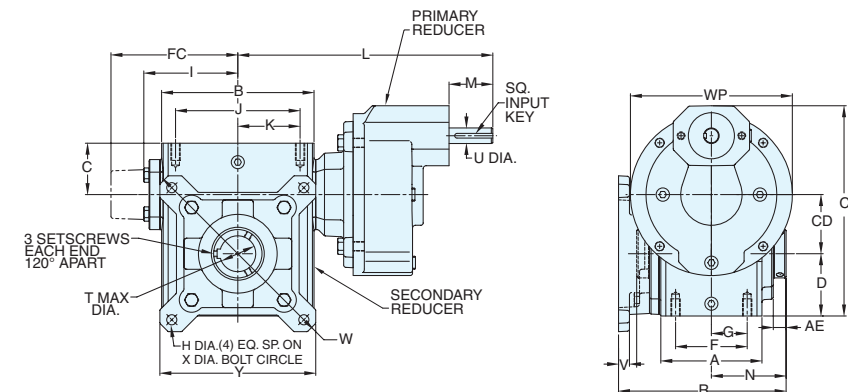
STYLE DXFHMQ



STYLE DXFHM



STYLE DXFH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



GR SERIES DIMENSIONS

STYLES: DXFHM, DXFHM, DXFH



STYLE DXFHM, DXFHM, DXFH DIMENSIONS (Inches)

Size	A	AE	B	C	CD	CE	D	FC▼	H	I	L	M	N	R	V	W	WP	X	T -0.000 +0.0015	U +0.000 -0.0015	Input Key**	Output Key
GR813	2.82	0.53	3.80	4.66	1.33	1.91	1.72	N/A	0.34	2.61	7.75	1.76	2.38	2.52	0.38	5.92	6.50	5.92	0.625	0.625	3/16 x 3/32	3/16 x 1.50
GR815	3.44	0.51	4.88	5.38	1.54	1.91	1.91	N/A	0.34	3.14	8.28	1.76	2.71	2.87	0.38	5.88	6.50	5.88	0.625	0.625	3/16 x 3/32	3/16 x 1.50
GR818	3.56	0.49	5.06	5.75	1.75	1.91	2.06	N/A	0.34	3.24	8.38	1.76	2.75	3.18	0.38	6.64	6.50	6.64	1.000	0.625	3/16 x 3/32	3/16 x 1.38
GR821	3.81	0.61	5.80	6.38	2.06	1.91	2.28	N/A	0.41	3.61	8.75	1.76	3.00	3.69	0.44	7.88	6.50	7.88	1.500	0.625	3/16 x 3/32	1/4 x 1.44
GR824	4.06	0.55	6.12	6.94	2.38	2.36	2.50	N/A	0.41	3.77	8.92	1.76	3.00	3.73	0.44	8.39	6.50	8.39	1.500	0.625	3/16 x 3/32	1/4 x 1.75
GR826	4.84	0.60	7.12	8.00	2.63	2.36	2.94	N/A	0.41	4.34	9.48	1.76	3.50	3.70	0.50	8.88	6.50	8.88	1.500	0.625	3/16 x 3/32	1/4 x 1.75
GR830	5.25	0.60	8.12	8.88	3.00	2.36	3.25	N/A	0.41	4.84	10.24	1.76	3.75	3.78	0.50	9.89	6.50	9.89	2.188	0.625	3/16 x 3/32	1/4 x 1.75
GR832	5.75	0.54	8.50	9.38	3.25	2.36	3.50	N/A	0.41	5.02	10.43	1.76	3.94	4.03	0.50	9.89	6.50	9.89	2.188	0.625	3/16 x 3/32	3/8 x 2.25
GR842	6.13	0.63	10.25	11.38	4.25	2.87	4.44	N/A	0.56	6.10	17.48	3.61	4.25	4.56	0.62	12.95	8.50	12.95	2.188	1.250	1/4 x 2.50	1/2 x 3.06
GR852	7.19	0.97	13.00	14.00	5.25	2.87	5.12	N/A	0.69	7.50	18.88	3.61	5.25	5.62	0.75	15.50	8.50	15.50	3.438	1.250	1/4 x 3.00	1/2 x 3.50
GR860	8.13	0.52	14.25	16.50	6.00	2.87	6.50	10.24	0.69	N/A	19.60	3.61	5.75	7.26	0.75	18.00	8.50	18.00	3.438	1.250	3/8 x 3.00	5/8 x 4.00
GR870★	7.63	1.09	14.88	18.91	7.00	3.49	7.59	10.63	0.78	N/A	19.68	2.50	6.75	7.45	0.75	21.00	10.36	21.00	3.938	1.250	3/8 x 2.87**	5/8 x 4.00**
GR880★	8.63	1.03	17.00	20.96	8.00	4.07	8.86	11.93	1.03	N/A	21.30	3.00	7.25	8.34	0.75	24.00	11.64	24.00	4.438	1.375	1/2 x 2.81**	3/4 x 4.50**
GR8100★	9.53	1.39	20.88	25.47	10.00	4.90	10.36	14.34	1.03	N/A	25.78	3.50	9.25	9.07	1.00	29.00	13.85	29.00	5.438	1.500	1/2 x 3.69**	7/8 x 5.00**

FEATURE COMPARISON (821, 826, 832)

Size	Output Shaft Diameter Needed?	Mounting Footprint Needed?	All Other Features	Grove Gear Flexaline Interchange	LEESON IRONMAN Interchange	Replace With Series Code Below
821	Identical	Identical	Identical	✓	✓	GRG GRL

◊ If Accessory kit is removed, dimensions will vary. NOTE: If reducer is used without the accessory mounted, select based mounting dimensions on pages C19-C20 (DXMQ, DXM, DX).

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM			LQ			RQ				
	56C/140TC	180TC/210TC	L1 250TC	48CZ/56TC/140TC	180TC	LQ1 210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
GR813	10.0	N/A	N/A	8.52	N/A	N/A	N/A	8.13	N/A	N/A	N/A
GR815	10.53	N/A	N/A	9.05	N/A	N/A	N/A	8.66	N/A	N/A	N/A
GR818	10.63	N/A	N/A	9.15	N/A	N/A	N/A	8.76	N/A	N/A	N/A
GR821*	11.00	N/A	N/A	9.52	N/A	N/A	N/A	9.13	N/A	N/A	N/A
GR824	11.17	N/A	N/A	9.69	N/A	N/A	N/A	9.30	N/A	N/A	N/A
GR826*	11.73	N/A	N/A	10.25	N/A	N/A	N/A	9.86	N/A	N/A	N/A
GR830	12.49	N/A	N/A	11.01	N/A	N/A	N/A	10.62	N/A	N/A	N/A
GR832*	12.68	N/A	N/A	11.20	N/A	N/A	N/A	10.81	N/A	N/A	N/A
GR842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86
GR852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26
GR860	N/A	22.78	22.78	N/A	17.09	17.09	17.65	N/A	16.58	16.58	16.98

NOTE: Sizes GR870-8100 torque arm not available.

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

- * Max bore dimensions shown. For additional bores available, refer to page B19.
- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available

- ※ Style DXFH and DXFHM only.
- ★ Sizes 870-8100 have an input shaft which is not aligned with centerline of primary stage reducer.
- ✳ Dimensions same for GRG and GRL Series
- ▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



GR SERIES DIMENSIONS

STYLES: DXFEMO, DXFEM, DXFE

CAST IRON
GR SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

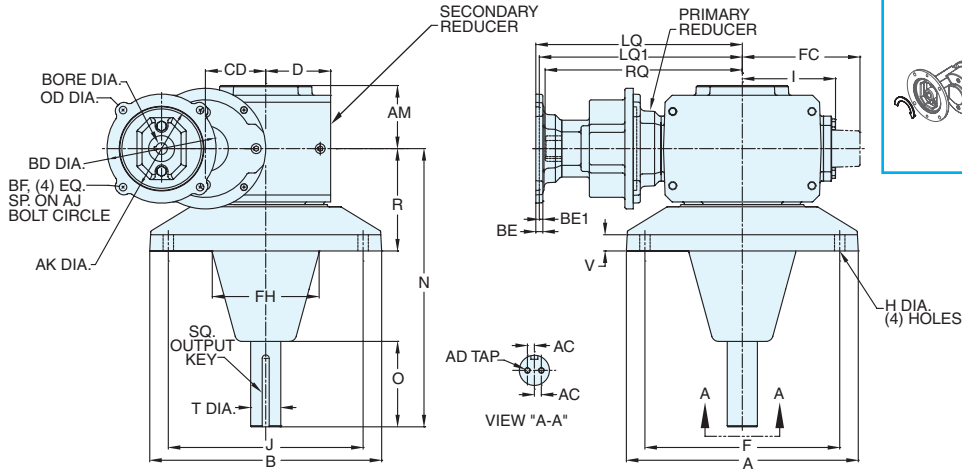
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

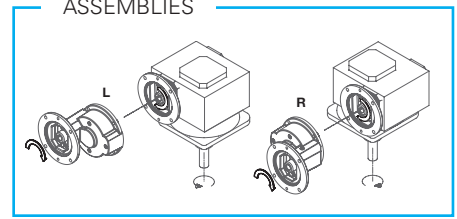
Ratio Multipliers

Accessories
Additional Capabilities

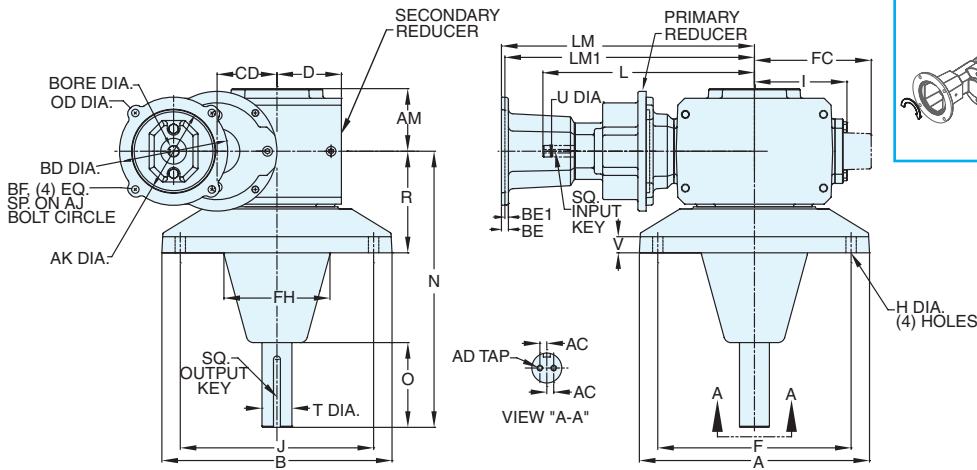
STYLE DXFEMO



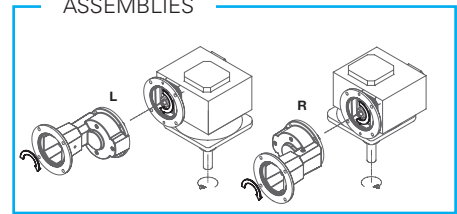
ASSEMBLIES



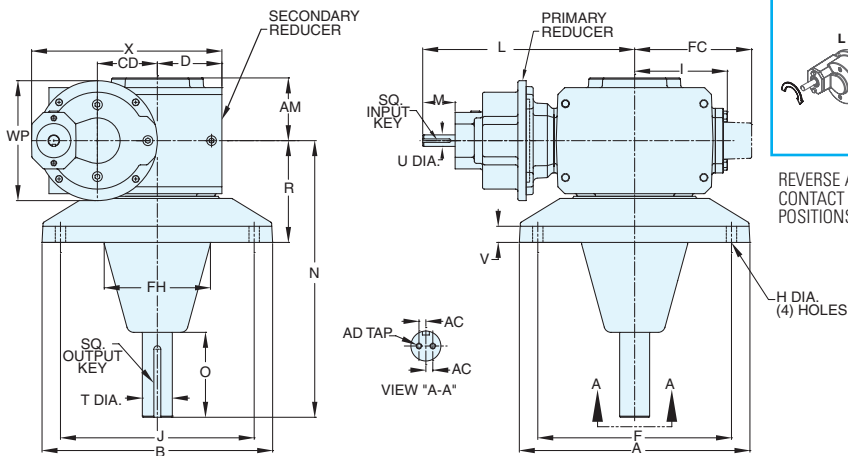
STYLE DXFEM



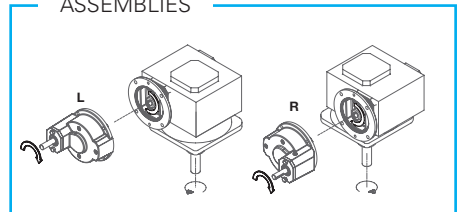
ASSEMBLIES



STYLE DXFE



ASSEMBLIES



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GR SERIES DIMENSIONS

STYLES: DXFEMO, DXFEM, DXFE



STYLE DXFEMO, DXFEM, DXFE DIMENSIONS (Inches)

Size	A	AC	AD	AM	B	CD	D	F	FC▼	H
GR830	11.00	0.375	.31-18 UNC X 1.00 DP	3.15	11.00	3.00	4.60	9.00	N/A	0.56
GR832	12.50	0.375	.31-18 UNC X 1.00 DP	3.40	12.50	3.25	5.52	10.50	N/A	0.56
GR842	14.00	0.500	.31-16 UNC X 1.00 DP	3.62	14.00	4.25	5.74	12.00	N/A	0.69
GR852	16.00	0.750	.31-16 UNC X 1.00 DP	4.28	16.00	5.25	6.00	14.00	N/A	0.81
GR860	19.50	0.750	.31-16 UNC X 1.00 DP	5.28	19.50	6.00	7.00	17.00	10.24	0.88
GR870★	22.00	1.000	.31-16 UNC X 1.00 DP	6.06	22.00	7.00	8.50	19.00	10.63	1.13
GR880★	28.00	1.062	.31-11 UNC X 1.50 DP	6.22	28.00	8.00	8.86	24.00	11.93	1.31
GR8100★	32.00	1.118	.31-11 UNC X 1.50 DP	7.94	32.00	10.00	12.50	28.00	14.34	1.31

Size	I	J	L	M	N	O [⊖]	R	V	WP	X	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	P**
GR830	4.84	9.00	10.24	1.76	14.38	4.96	3.25	0.78	6.50	9.82	1.438	0.875	3/16 x 3/32	3/8 x 3.88
GR832	5.02	10.50	10.43	1.76	15.00	4.63	3.50	0.88	6.50	10.32	1.625	0.875	3/16 x 3/32	3/8 x 3.69
GR842	6.10	12.00	17.48	1.76	16.50	5.91	4.44	1.00	8.50	13.31	1.688	1.250	3/16 x 3/32	3/8 x 4.68
GR852	7.50	14.00	18.88	1.76	16.50	5.62	5.12	1.25	8.50	14.99	2.188	1.250	3/16 x 3/32	1/2 x 4.63
GR860	N/A	17.00	19.60	1.76	22.50	7.63	6.50	1.50	8.50	17.12	2.438	1.500	3/16 x 3/32	5/8 x 6.50
GR870★	N/A	19.00	19.68	1.76	24.00	7.63	7.59	1.75	10.36	21.84	2.937	1.625	3/16 x 3/32	3/4 x 6.44
GR880★	N/A	24.00	21.30	1.76	27.06	9.25	8.86	2.00	11.64	25.93	3.438	1.375	3/16 x 3/32	7/8 x 8.00
GR8100★	N/A	28.00	25.78	1.76	29.50	9.43	10.36	2.25	13.85	31.35	3.938	2.250	3/16 x 3/32	1 x 7.75

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	L1		LQ	LQ1			RQ			
	56C/ 140TC	180TC/ 210TC	250TC	48CZ/ 56TC/140TC	180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
GR830	12.49	N/A	N/A	11.01■	N/A	N/A	N/A	10.62■	N/A	N/A	N/A
GR832	12.68	N/A	N/A	11.20■	N/A	N/A	N/A	10.81■	N/A	N/A	N/A
GR842	N/A	19.44	20.00	N/A	14.05	13.75	14.31	N/A	13.22	13.22	13.78
GR852	N/A	20.84	21.40	N/A	15.15	15.15	15.71	N/A	14.52	14.52	15.08
GR860	N/A	22.42	23.04	N/A	15.87	15.87	16.48	N/A	15.23	15.23	15.23

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available
- * Style DXFE and DXFEM only.

- ⊖ "O" dimension is the minimum dimension to output seal or screw head on sizes GR860-GR8100.
- ▼ Sizes 860-8100 have extended cap on input cover. Dimension FC is to back face of the cap.
- ❖ Metric IEC B5 input flange options are available only on quill input styles.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: DXMQ, DXM, DX

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

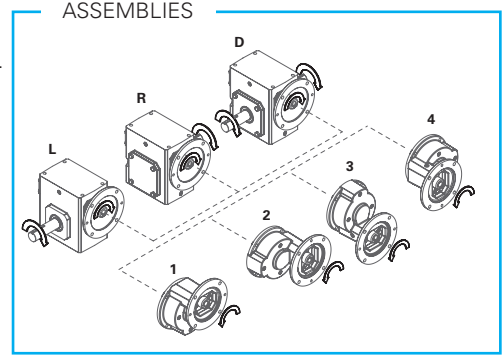
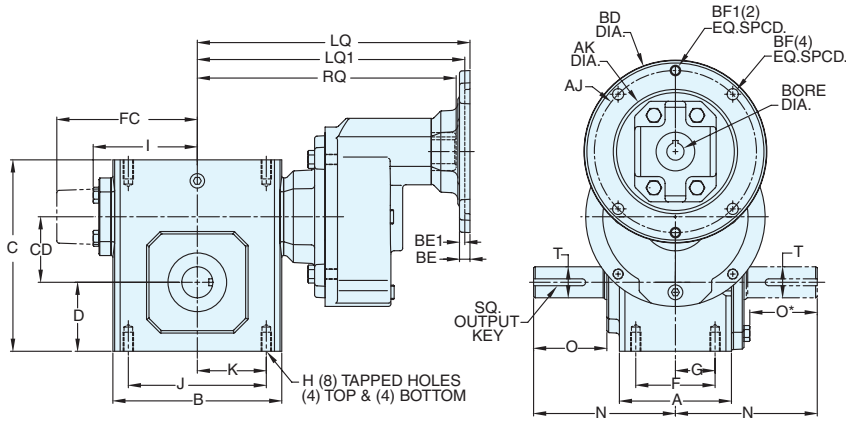
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

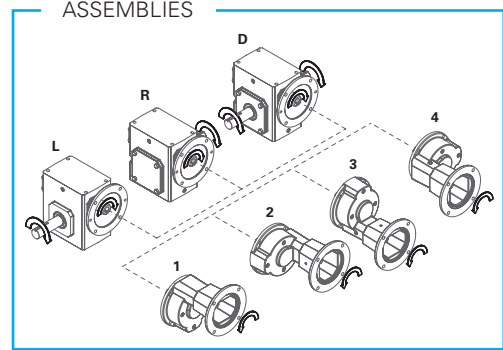
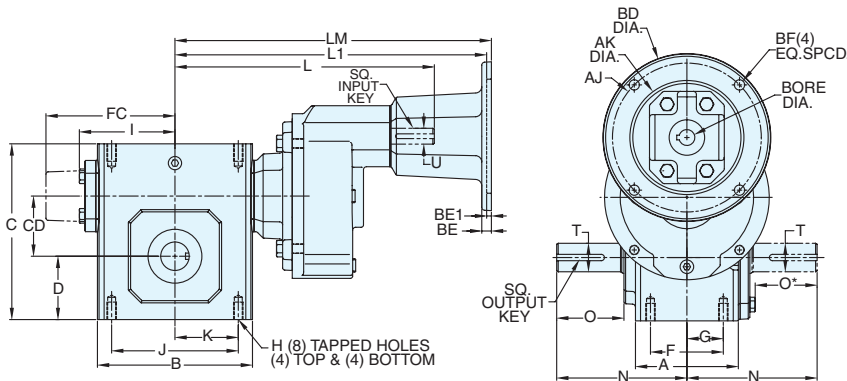
Ratio Multipliers

Accessories
Additional Capabilities

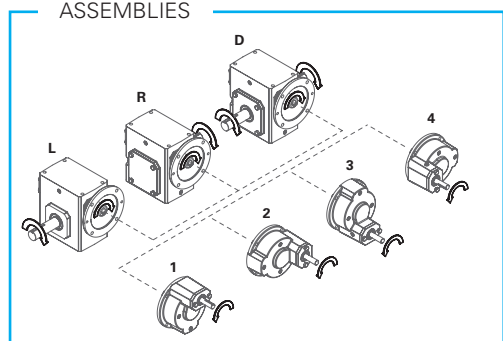
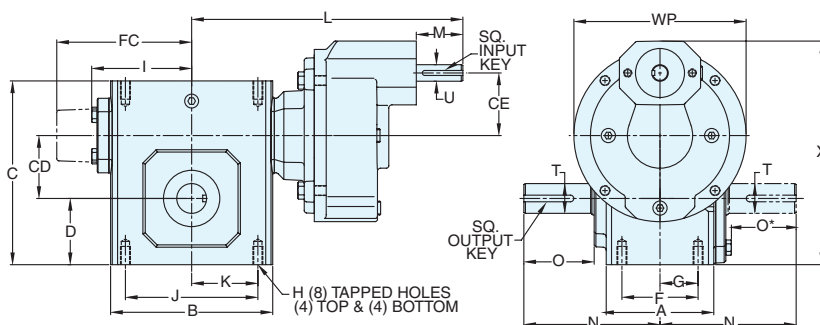
STYLE DXMQ



STYLE DXM



STYLE DX



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NH SERIES DIMENSIONS

STYLES: DXMQ, DXM, DX



STYLE DXMQ, DXM, DX DIMENSIONS (Inches)

Size	A	B	C	CD	CE	D	D1	E	F	G	H		I	J	K	L	M	N	O	O*	WP	X	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
											Tap Size	Depth														
NH813	2.82	3.80	4.66	1.33	1.91	1.72	2.81	2.47	2.00	1.00	5/16-18 UNC	.50	2.61	3.25	1.63	7.75	1.76	4.00	2.16	1.94	6.50	6.16	0.750	0.625	3/16 x 3/32	3/16 x 1.50
NH815	2.57	4.06	5.00	1.54	1.91	1.91	2.81	2.47	1.88	0.94	5/16-18 UNC	.63	3.14	3.25	1.63	8.28	1.76	4.25	2.56	2.35	6.50	6.53	0.750	0.625	3/16 x 3/32	3/16 x 1.50
NH818	2.56	4.50	5.44	1.75	1.91	2.06	2.81	2.47	1.88	0.94	5/16-18 UNC	.63	3.24	3.75	1.88	8.38	1.76	4.75	2.94	2.73	6.50	6.92	1.000	0.625	3/16 x 3/32	1/4 x 1.75
NH821	2.50	4.50	6.00	2.06	1.91	2.28	2.81	2.47	1.88	0.94	3/8-16 UNC	.63	3.61	3.25	1.63	8.75	1.76	4.34	2.66	2.45	6.50	7.48	0.875	0.625	3/16 x 3/32	3/16 x 1.50
NH824	2.94	5.25	6.88	2.38	2.36	2.50	3.25	2.82	2.13	1.06	3/8-16 UNC	.69	3.77	4.00	2.00	8.92	1.76	4.88	2.91	2.69	6.50	8.64	1.000	0.625	3/16 x 3/32	1/4 x 1.75
NH826	2.88	5.75	7.38	2.63	2.36	2.94	3.25	2.82	2.13	1.06	3/8-16 UNC	.69	4.34	4.00	2.00	9.48	1.76	5.25	3.28	3.07	6.50	9.13	1.125	0.625	3/16 x 3/32	1/4 x 1.75
NH830	3.12	6.62	8.25	3.00	2.36	3.25	3.25	2.82	2.38	1.19	3/8-16 UNC	.75	4.84	4.63	2.31	9.98	1.76	5.77	3.56	3.31	6.50	9.95	1.250	0.625	3/16 x 3/32	1/4 x 1.75
NH832	4.44	8.00	10.06	3.25	2.36	3.50	3.25	2.82	3.50	1.75	1/2-13 UNC	1.00	5.02	7.00	3.50	10.17	1.76	7.03	4.24	3.99	6.50	11.01	1.500	0.625	3/16 x 3/32	3/8 x 2.25
NH842	4.75	9.75	11.50	4.25	2.87	4.44	4.25	4.03	3.75	1.88	1/2-13 UNC	1.00	6.10	7.50	3.75	9.57	3.61	7.50	3.88	3.59	8.50	13.37	1.750	1.250	1/4 x 2.50	3/8 x 2.25
NH852	6.19	11.00	12.69	5.25	2.87	5.12	4.25	4.03	4.50	2.25	5/8-11 UNC	1.25	7.50	9.00	4.50	10.88	3.61	9.00	4.72	4.47	8.50	14.75	2.000	1.250	1/4 x 3.00	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	L1		LQ	LQ1			RQ			
	56C/ 140TC	180TC/ 210TC	250TC	48CZ/ 56TC/140TC	180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
NH813	10.00	N/A	N/A	8.52	N/A	N/A	N/A	8.13	N/A	N/A	N/A
NH815	10.53	N/A	N/A	9.05	N/A	N/A	N/A	8.66	N/A	N/A	N/A
NH818	10.63	N/A	N/A	9.15	N/A	N/A	N/A	8.76	N/A	N/A	N/A
NH821	11.00	N/A	N/A	9.52	N/A	N/A	N/A	9.13	N/A	N/A	N/A
NH824	11.17	N/A	N/A	9.96	N/A	N/A	N/A	9.30	N/A	N/A	N/A
NH826	11.73	N/A	N/A	10.25	N/A	N/A	N/A	9.86	N/A	N/A	N/A
NH830	12.23	N/A	N/A	10.75	N/A	N/A	N/A	10.36	N/A	N/A	N/A
NH832	12.42	N/A	N/A	10.94	N/A	N/A	N/A	10.55	N/A	N/A	N/A
NH842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86
NH852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ** Style D and DM only

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
HWUF	DXMQ
HWUFC	DXM
HWU	DX

Refer to page B2 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Worm - Worm Reduction
Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: DXTMQ, DXTM, DXT



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

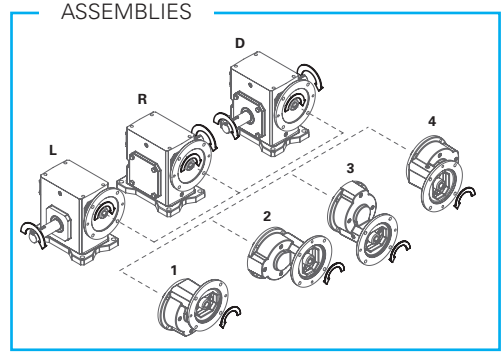
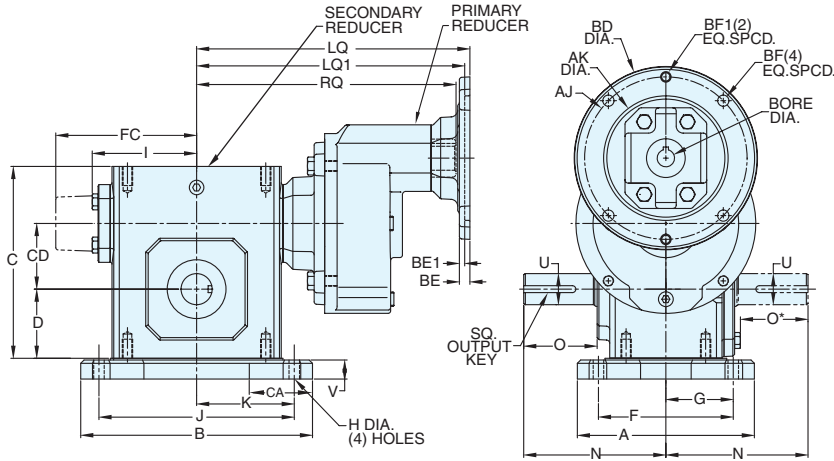
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

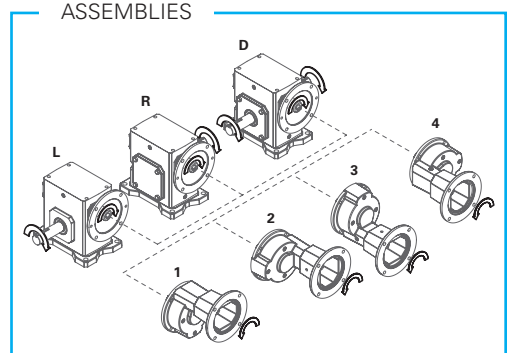
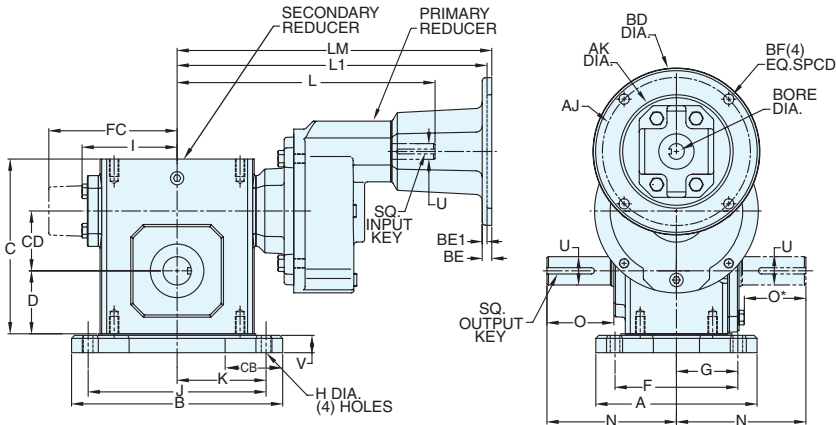
Ratio Multipliers

Accessories
Additional Capabilities

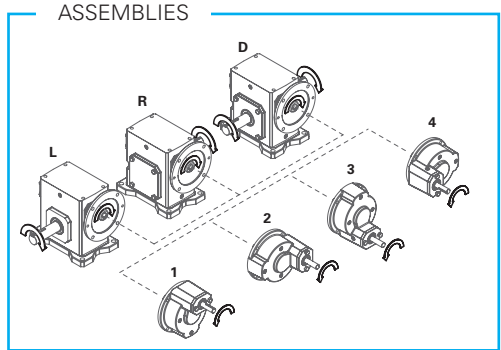
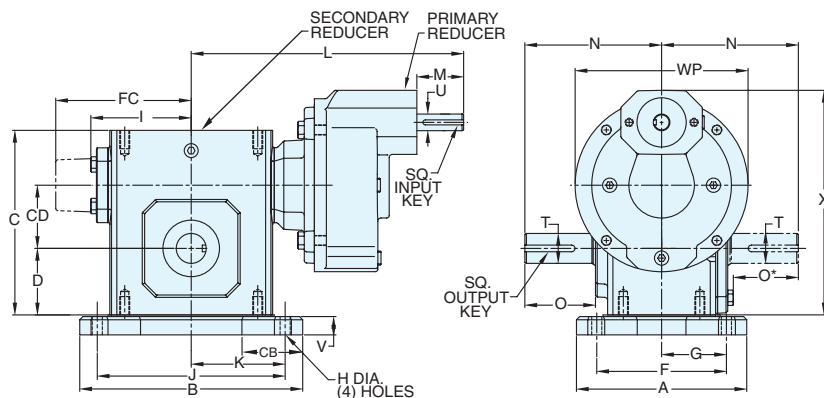
STYLE DXTMQ



STYLE DXTM



STYLE DXT



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NH SERIES DIMENSIONS

STYLES: DXTMQ, DXTM, DXT



STYLE DXTMQ, DXTM, DXT DIMENSIONS (Inches)

Size	A	B	C	CD	CA	CE	D	D1	E	F	G	H	I	J	K	L	M	N	O	O*	V	WP	X	T +0.000 -0.0015	U +0.000 -0.0015	Input Key	Output Key
NH813	4.00	5.01	4.97	1.33	1.50	1.91	1.72	2.81	2.47	3.25	1.63	0.28	2.61	4.25	2.13	7.75	1.76	4.00	2.16	1.94	0.31	6.50	6.47	0.750	0.625	3/16 x 3/32	3/16 x 1.50
NH815	5.25	5.19	5.31	1.54	1.50	1.91	1.88	2.81	2.47	4.50	2.25	0.34	3.14	4.19	2.09	8.28	1.76	4.25	2.56	2.35	0.31	6.50	6.84	0.750	0.625	3/16 x 3/32	3/16 x 1.50
NH818	4.62	5.89	5.82	1.75	1.88	1.91	2.06	2.81	2.47	3.50	1.75	0.41	3.24	4.63	2.31	8.38	1.76	4.75	2.94	2.73	0.38	6.50	7.30	1.000	0.625	3/16 x 3/32	1/4 x 1.75
NH821	5.25	5.19	6.31	2.06	1.50	1.91	2.31	2.81	2.47	4.50	2.25	0.34	3.61	4.19	2.09	8.75	1.76	4.34	2.66	2.45	0.31	6.50	7.79	0.875	0.625	3/16 x 3/32	3/16 x 1.50
NH824	5.25	5.75	7.19	2.38	1.50	2.36	2.69	3.25	2.82	4.50	2.25	0.41	3.77	3.75	1.88	8.92	1.76	4.88	2.91	2.69	0.31	6.50	8.95	1.000	0.625	3/16 x 3/32	1/4 x 1.75
NH826	6.13	6.51	7.69	2.63	2.00	2.36	2.94	3.25	2.82	4.13	2.06	0.41	4.34	4.75	2.38	9.48	1.76	5.25	3.28	3.07	0.31	6.50	9.44	1.125	0.625	3/16 x 3/32	1/4 x 1.75
NH830	6.13	7.74	8.56	3.00	2.25	2.36	3.38	3.25	2.82	4.13	2.06	0.41	4.84	6.00	3.00	9.98	1.76	5.77	3.56	3.31	0.31	6.50	10.26	1.250	0.625	3/16 x 3/32	1/4 x 1.75
NH832	7.50	9.25	10.44	3.25	2.50	2.36	4.19	3.25	2.82	6.50	3.25	0.41	5.02	7.75	3.88	10.17	1.76	7.03	4.24	3.99	0.38	6.50	11.39	1.500	0.625	3/16 x 3/32	3/8 x 2.25
NH842	6.75	10.99	12.00	4.25	2.50	2.87	4.50	4.25	4.03	5.75	2.88	0.56	6.10	9.75	4.88	9.57	3.61	7.50	3.88	3.59	0.50	8.50	13.87	1.750	1.250	1/4 x 2.50	3/8 x 2.25
NH852	8.25	13.24	13.82	5.25	3.00	2.87	4.88	4.25	4.03	7.00	3.50	0.69	7.50	12.00	6.00	10.88	3.61	9.00	4.72	4.47	1.13	8.50	15.88	2.000	1.250	1/4 x 3.00	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM		L1	LQ		LQ1			RQ			
	56C/140TC	180TC/210TC		250TC	48CZ/56TC/140TC	180TC	210TC	250TC	48CZ/56C/140TC	180TC	210TC	250TC
NH813	10.00	N/A	N/A	8.52	N/A	N/A	N/A	N/A	8.13	N/A	N/A	N/A
NH815	10.53	N/A	N/A	9.05	N/A	N/A	N/A	N/A	8.66	N/A	N/A	N/A
NH818	10.63	N/A	N/A	9.15	N/A	N/A	N/A	N/A	8.76	N/A	N/A	N/A
NH821	11.00	N/A	N/A	9.52	N/A	N/A	N/A	N/A	9.13	N/A	N/A	N/A
NH824	11.17	N/A	N/A	9.96	N/A	N/A	N/A	N/A	9.30	N/A	N/A	N/A
NH826	11.73	N/A	N/A	10.25	N/A	N/A	N/A	N/A	9.86	N/A	N/A	N/A
NH830	12.23	N/A	N/A	10.75	N/A	N/A	N/A	N/A	10.36	N/A	N/A	N/A
NH832	12.42	N/A	N/A	10.94	N/A	N/A	N/A	N/A	10.55	N/A	N/A	N/A
NH842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86	
NH852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26	

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

- * Applies to double output shaft
- ◆ Keyway width by depth
- 48CZ not available
- ✱ Style DXT and DXTM only

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
HWZF	DXTMQ
HWZFC	DXTM
HWZ	DXT

Refer to page B2 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: DXHMQ, DXHM, DXH



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

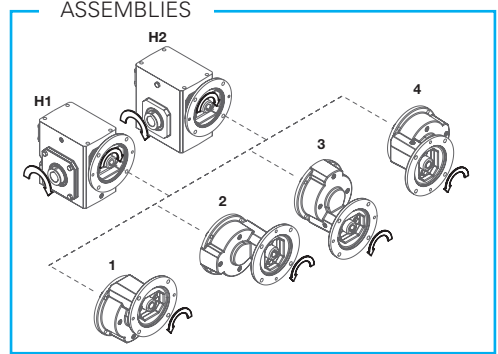
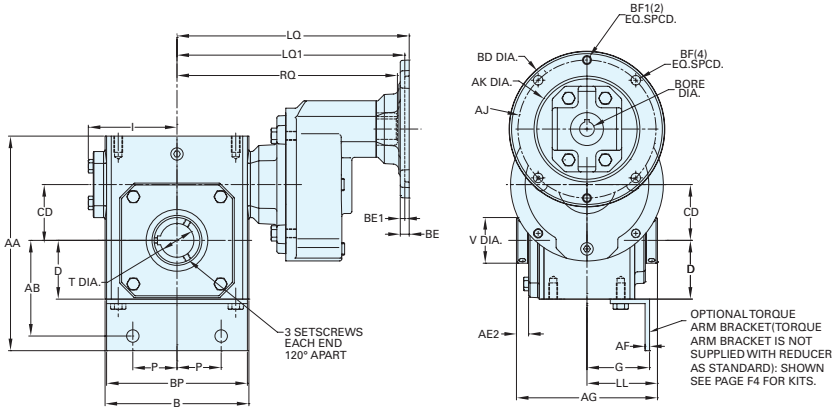
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

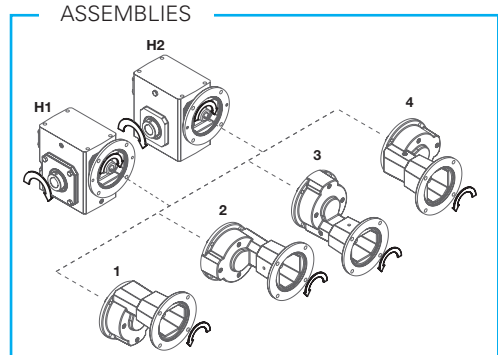
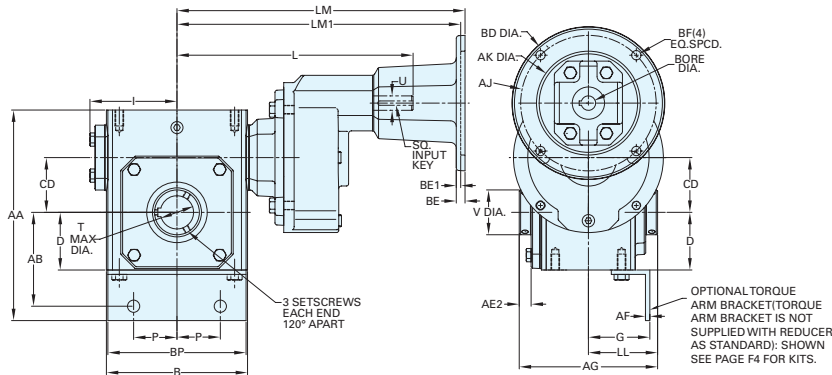
Accessories
Additional Capabilities

STYLE DXHMQ



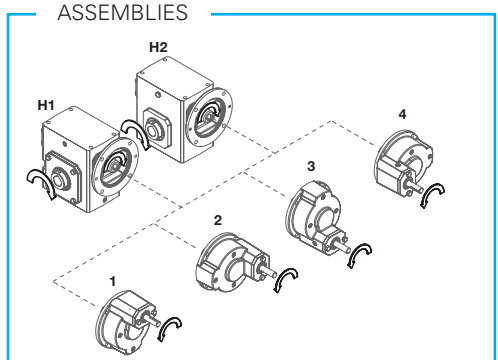
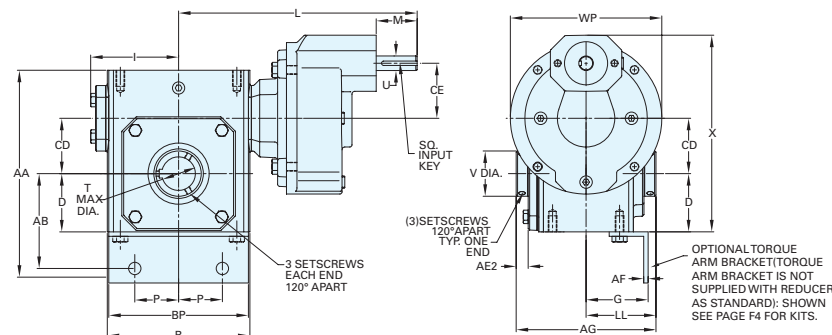
H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DXHM



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DXH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.



NH SERIES DIMENSIONS

STYLES: DXHMQ, DXHM, DXH



STYLE DXHMQ, DXHM, DXH DIMENSIONS (Inches)

Size	AA	AB	AD	AE2	AF	AG	B	C	CD	CE	D	D1	E	G	H	I	L	LL	M	P	V	WP	X	T -0.000 +0.0015	U +0.000 -0.0015	Input Key*	Output Key•
NH813	6.66	3.10	3.90	0.53	0.19	4.75	3.80	4.66	1.33	1.91	1.72	2.81	2.47	1.88	0.53	2.61	7.75	2.38	1.76	1.38	1.00	6.50	6.47	0.625	0.625	3/16 x 3/32	3/16 x 1.50
NH815	7.00	3.26	3.59	0.51	0.19	4.08	4.06	5.00	1.54	1.91	1.88	2.81	2.47	1.82	0.53	3.14	8.28	1.88	1.76	1.38	1.00	6.50	6.84	0.625	0.625	3/16 x 3/32	3/16 x 1.50
NH818	7.44	3.44	3.83	0.56	0.19	4.29	4.50	5.44	1.75	1.91	2.06	2.81	2.47	1.82	0.53	3.24	8.38	1.98	1.76	1.38	1.44	6.50	7.30	1.000	0.625	3/16 x 3/32	1/4 x 3.00
NH821	8.00	3.69	3.57	0.85	0.19	4.65	4.50	6.00	2.06	1.91	2.31	2.81	2.47	1.82	0.53	3.61	8.75	2.12	1.76	1.38	1.94	6.50	7.79	1.500	0.625	3/16 x 3/32	3/8 x 3.00
NH824	8.88	4.07	4.16	0.56	0.19	4.65	5.25	6.88	2.38	2.36	2.69	3.25	2.82	1.94	0.53	3.77	8.92	2.12	1.76	1.38	1.94	6.50	8.95	1.500	0.625	3/16 x 3/32	3/8 x 3.00
NH826	9.38	4.32	4.15	0.56	0.19	4.65	5.75	7.38	2.63	2.36	2.94	3.25	2.82	1.94	0.53	4.34	9.48	2.12	1.76	1.38	1.94	6.50	9.44	1.500	0.625	3/16 x 3/32	3/8 x 3.00
NH830	10.25	4.76	4.67	0.56	0.25	5.16	6.62	8.25	3.00	2.36	3.38	3.25	2.82	2.32	0.53	4.84	9.98	2.38	1.76	2.38	2.51	6.50	10.26	2.188	0.625	3/16 x 3/32	1/2 x 3.00
NH832	12.06	5.57	5.83	0.57	0.25	6.31	8.00	10.06	3.25	2.36	4.19	3.25	2.82	2.87	0.53	5.02	10.17	2.95	1.76	3.51	2.51	6.50	11.39	2.188	0.625	3/16 x 3/32	1/2 x 3.00
NH842	14.00	6.38	7.53	0.63	0.38	8.50	9.75	11.50	4.25	2.87	4.50	4.25	4.03	3.26	0.53	6.10	9.57	4.25	3.61	3.69	2.75	8.50	13.87	2.188	1.250	1/4 x 2.50	1/2 x 3.00
NH852	15.19	6.76	8.81	0.97	0.38	10.50	11.00	12.69	5.25	2.87	4.88	4.25	4.03	3.63	0.53	7.50	10.88	5.25	3.61	4.62	4.26	8.50	15.88	3.438	1.250	1/4 x 3.00	7/8 x 3.44

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	L1	250TC	LQ	180TC	LQ1	250TC	RQ					
	56C/ 140TC			180TC/ 210TC				48CZ/ 56TC/140TC	180TC	210TC	250TC		
NH813	10.00	N/A	N/A	8.52	N/A	N/A	N/A	8.13	N/A	N/A	N/A	N/A	N/A
NH815	10.53	N/A	N/A	9.05	N/A	N/A	N/A	8.66	N/A	N/A	N/A	N/A	N/A
NH818	10.63	N/A	N/A	9.15	N/A	N/A	N/A	8.76	N/A	N/A	N/A	N/A	N/A
NH821	11.00	N/A	N/A	9.52	N/A	N/A	N/A	9.13	N/A	N/A	N/A	N/A	N/A
NH824	11.17	N/A	N/A	9.96	N/A	N/A	N/A	9.30	N/A	N/A	N/A	N/A	N/A
NH826	11.73	N/A	N/A	10.25	N/A	N/A	N/A	9.86	N/A	N/A	N/A	N/A	N/A
NH830	12.23	N/A	N/A	10.75	N/A	N/A	N/A	10.36	N/A	N/A	N/A	N/A	N/A
NH832	12.42	N/A	N/A	10.94	N/A	N/A	N/A	10.55	N/A	N/A	N/A	N/A	N/A
NH842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86	14.86	14.86
NH852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26	16.26	16.26

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

- Max bore dimensions shown. For additional bores available, refer to page B19.
- ◆ Keyway width by depth
- 48CZ not available
- * Style DXH and DXHM only

Torque arm bracket available separately. Refer to page F4 for kits. If a special bracket is required, refer to Style DXMQ dimensions for mounting pad dimensions on top/bottom of reducer.

WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

Ratio Multipliers

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
HWYF	DXHMQ
HWYFC	DXHM
HWY	DXH

Refer to page B2 for complete interchange guide for original Grove Gear OE Series products.

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: DXFHMQ, DXFHM, DXFH

CAST IRON
NH SERIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

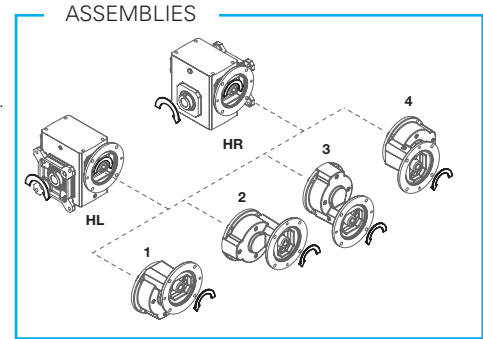
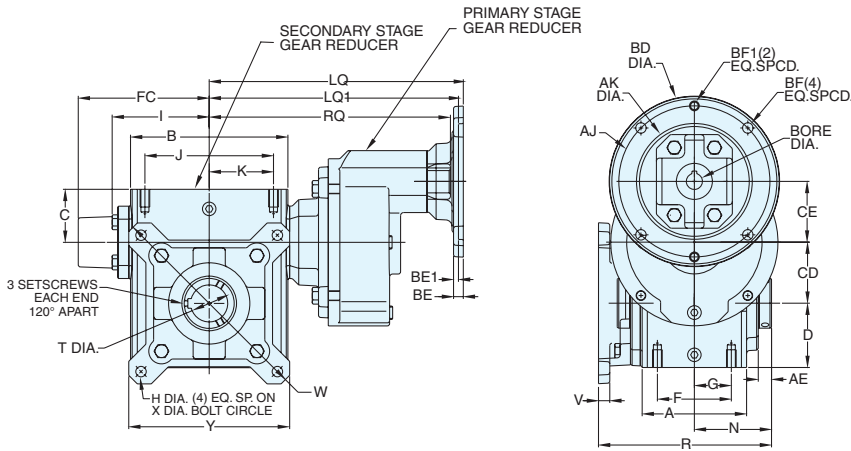
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

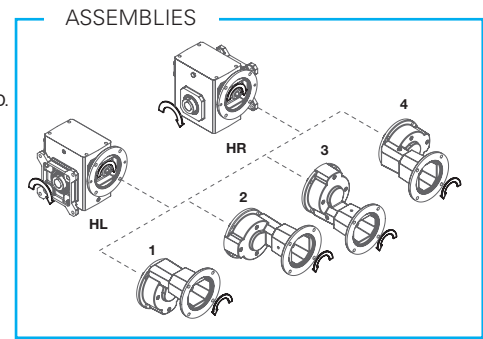
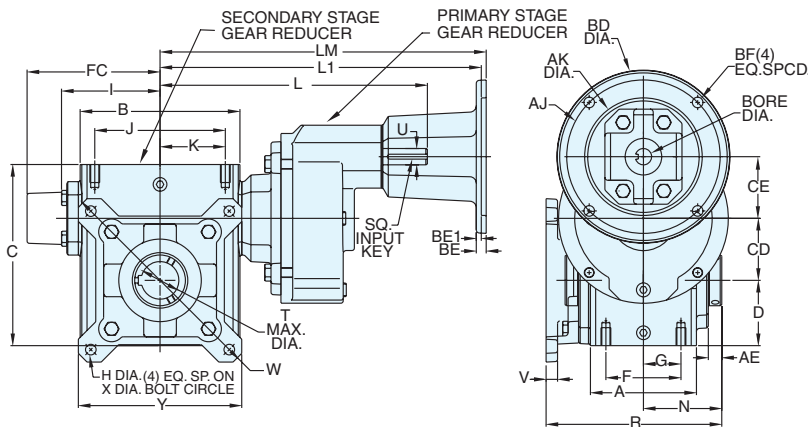
Ratio Multipliers

Accessories
Additional Capabilities

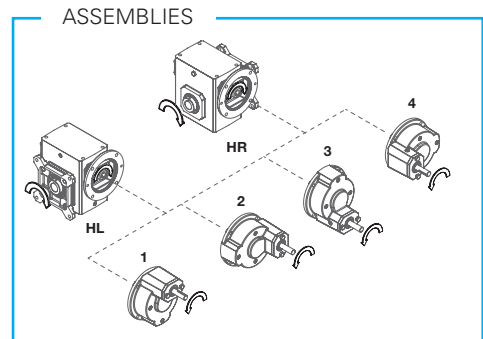
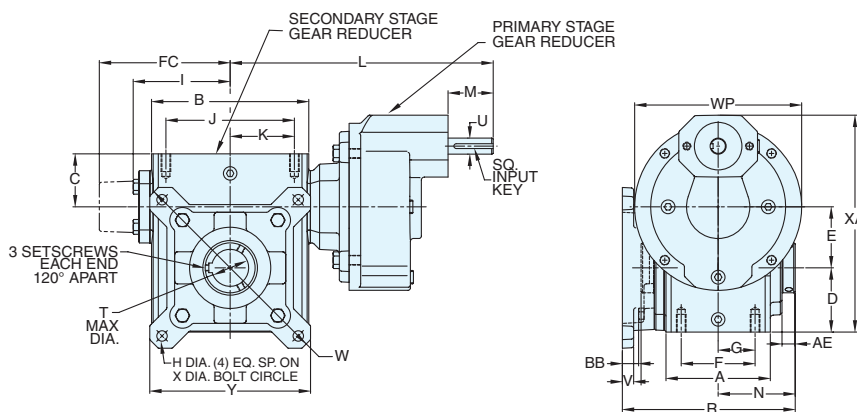
STYLE DXFHMQ



STYLE DXFHM



STYLE DXFH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.



NH SERIES DIMENSIONS

STYLES: DXFHMQ, DXFHM, DXFH



STYLE DXFHMQ, DXFHM, DXFH DIMENSIONS (Inches)

Size	A	AE	B	BL	C	CD	CE	D	D1	E	H	I	L	M	N	R	V	W	WP	X	XA	Y	T -0.000 +0.0015	U +0.000 -0.0015	Input Key*	Output Key
NH813	2.82	0.53	3.80	0.38	4.66	1.33	1.91	1.72	2.81	2.47	0.34	2.61	7.75	1.76	2.37	2.52	1.00	5.92	6.50	5.00	6.47	4.50	0.750	0.625	3/16 x 3/32	3/16 x 1.50
NH815	2.57	0.51	4.06	0.38	5.00	1.54	1.91	1.88	2.81	2.47	0.34	3.14	8.28	1.76	2.20	3.50	1.00	6.79	6.50	5.88	6.84	5.12	0.750	0.625	3/16 x 3/32	3/16 x 1.50
NH818	2.56	0.56	4.50	0.38	5.44	1.75	1.91	2.06	2.81	2.47	0.34	3.24	8.38	1.76	2.37	2.74	1.44	6.64	6.50	5.88	7.30	5.00	1.000	0.625	3/16 x 3/32	1/4 x 1.75
NH821	2.50	0.85	4.50	0.38	6.00	2.06	1.91	2.31	2.81	2.47	0.34	3.61	8.75	1.76	2.53	3.50	1.94	7.37	6.50	6.25	7.79	5.56	0.875	0.625	3/16 x 3/32	3/16 x 1.50
NH824	2.94	0.56	5.25	0.44	6.88	2.38	2.36	2.69	3.25	2.82	0.34	3.77	8.92	1.76	2.53	3.53	1.94	8.29	6.50	7.06	8.95	6.24	1.000	0.625	3/16 x 3/32	1/4 x 1.75
NH826	2.88	0.56	5.75	0.50	7.38	2.63	2.36	2.94	3.25	2.82	0.34	4.34	9.48	1.76	2.53	3.62	1.94	8.90	6.50	7.63	9.44	6.68	1.125	0.625	3/16 x 3/32	1/4 x 1.75
NH830	3.12	.56	6.62	.55	8.25	3.00	2.36	3.338	3.25	2.82	.41	4.84	9.98	1.76	2.78	3.75	2.51	9.50	6.50	8.64	10.26	7.34	1.25	0.62	3/16 x 3/32	1/4 x 1.75
NH832	4.44	0.57	8.00	0.56	10.06	3.25	2.36	4.19	3.25	2.82	0.53	5.02	10.17	1.76	3.36	5.06	2.51	11.84	6.50	10.63	11.39	9.00	1.500	0.625	3/16 x 3/32	3/8 x 2.25
NH842	4.75	0.63	9.75	0.62	11.50	4.25	2.87	4.50	4.25	4.03	0.56	6.10	9.57	3.61	4.25	4.56	2.75	12.95	8.50	11.50	13.87	9.66	1.750	1.250	1/4 x 2.50	3/8 x 2.25
NH852	6.19	0.97	11.00	0.75	12.69	5.25	2.87	4.88	4.25	4.03	0.69	7.50	10.88	3.61	5.25	5.62	4.26	15.50	8.50	14.00	15.88	11.76	2.000	1.250	1/4 x 3.00	1/2 x 2.50

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	L1		LO	LQ1			RQ			
	56C/ 140TC	180TC/ 210TC	250TC	48CZ/ 56TC/140TC	180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
NH813	10.00	N/A	N/A	8.52	N/A	N/A	N/A	8.13	N/A	N/A	N/A
NH815	10.53	N/A	N/A	9.05	N/A	N/A	N/A	8.66	N/A	N/A	N/A
NH818	10.63	N/A	N/A	9.15	N/A	N/A	N/A	8.76	N/A	N/A	N/A
NH821	11.00	N/A	N/A	9.52	N/A	N/A	N/A	9.13	N/A	N/A	N/A
NH824	11.17	N/A	N/A	9.96	N/A	N/A	N/A	9.30	N/A	N/A	N/A
NH826	11.73	N/A	N/A	10.25	N/A	N/A	N/A	9.86	N/A	N/A	N/A
NH830	12.23	N/A	N/A	10.75	N/A	N/A	N/A	10.36	N/A	N/A	N/A
NH832	12.42	N/A	N/A	10.94	N/A	N/A	N/A	10.55	N/A	N/A	N/A
NH842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86
NH852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

- Max bore dimensions shown. For additional bores available, refer to page B19.
- ◆ Keyway width by depth
- 48CZ not available
- * Style DXFH and DXFHM only

WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
HWMF	DXFHMQ
HWMFC	DXFHM
HMY	DXFH

Refer to page B2 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

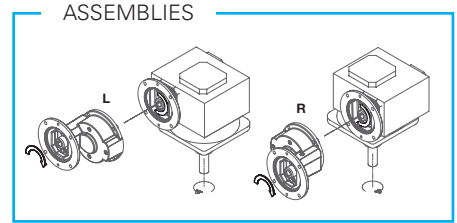
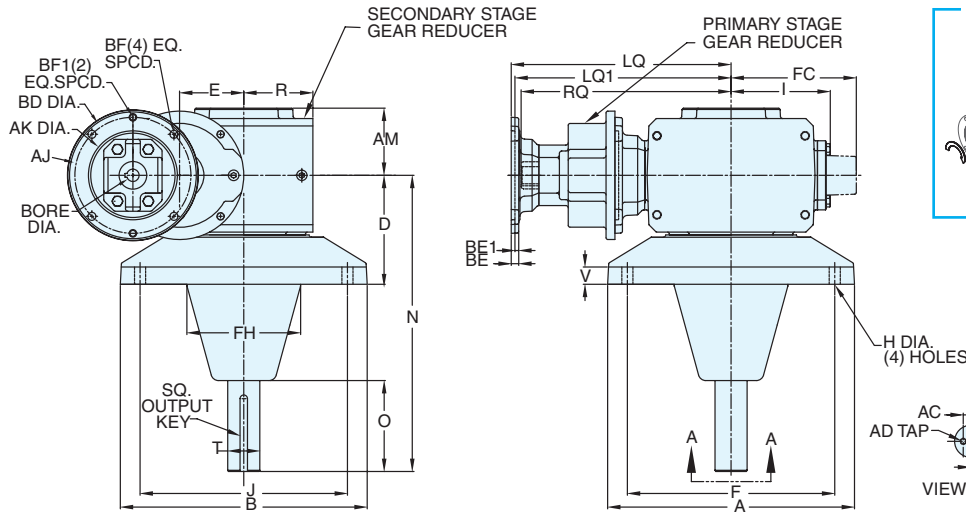


NH SERIES DIMENSIONS

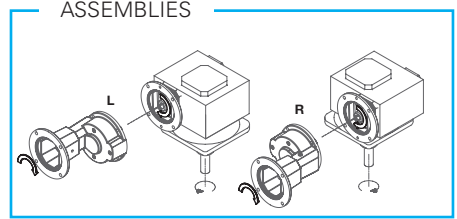
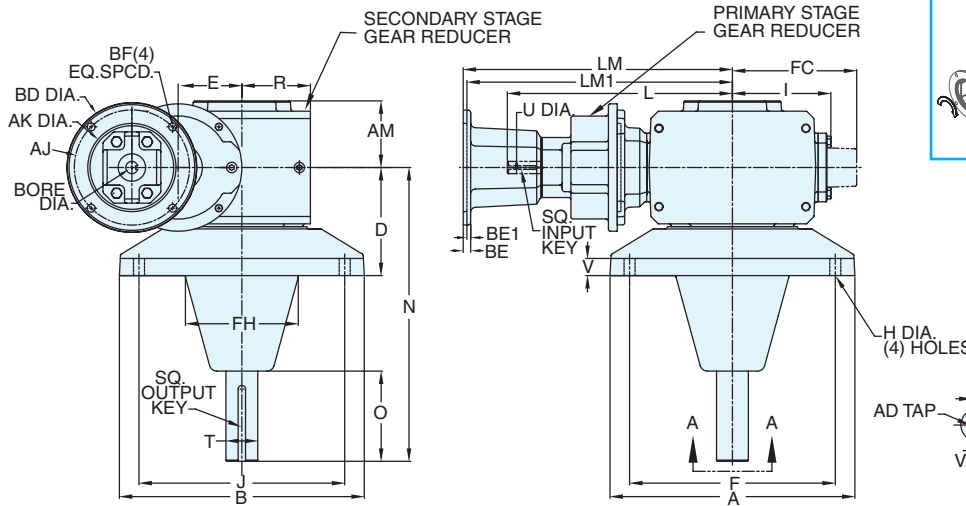
STYLES: DXFEMQ, DXFEM, DXFE

CAST IRON
NH SERIES

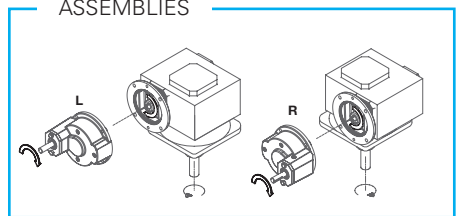
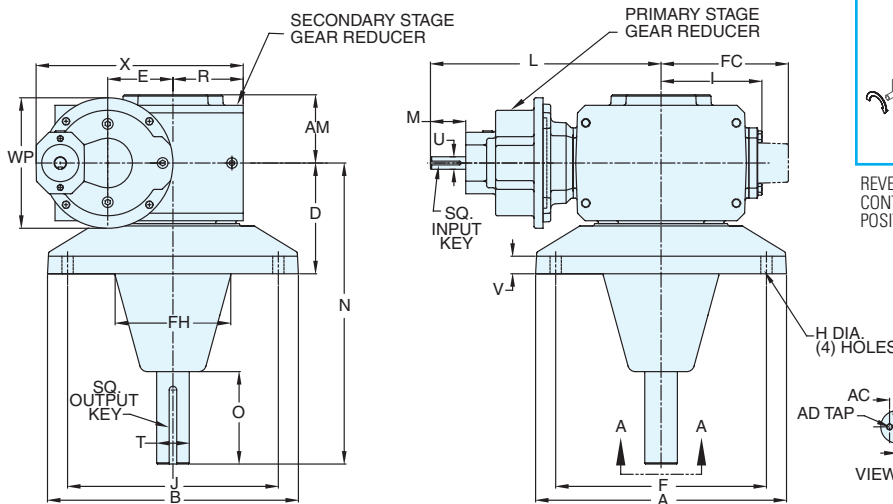
STYLE DXFEMQ



STYLE DXFEM



STYLE DXFE



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



NH SERIES DIMENSIONS

STYLES: DXFEMQ, DXFEM, DXFE



STYLE DXFEMQ, DXFEM, DXFE DIMENSIONS (Inches)

Size	A	AC	AD	AM	B	CD	D	F	FH	H	I	L	M	N	O	R	V	WP	X	T +0.000 -0.0015	U +0.000 -0.0015	Input Key†	p**
NH830	11.00	0.375	.31-18 UNC X 1.00 DP	2.22	11.00	3.00	3.67	9.00	5.12	0.56	4.84	9.98	1.76	2.78	4.66	3.38	0.78	6.50	8.63	1.438	0.625	3/16 x 3/32	3/8 x 3.88
NH832	12.50	0.375	.31-18 UNC X 1.00 DP	2.79	12.50	3.25	4.91	10.50	5.75	0.56	5.02	10.17	1.76	3.36	4.63	4.19	0.88	6.50	10.63	1.625	0.625	3/16 x 3/32	3/8 x 3.69
NH842	14.00	0.500	.38-16 UNC X 1.00 DP	3.62	14.00	4.25	5.74	12.00	6.75	0.69	6.10	10.75	1.76	4.25	5.66	4.50	1.00	6.50	11.50	1.688	1.250	3/16 x 3/32	3/8 x 4.68
NH852	16.00	0.750	.38-16 UNC X 1.00 DP	4.28	16.00	5.25	6.00	14.00	8.00	0.81	7.50	12.14	1.76	5.25	5.62	4.88	1.25	6.50	14.00	2.188	1.250	3/16 x 3/32	1/2 x 4.63

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM 56C/ 140TC	L1		LQ 48CZ/ 56TC/140TC	LQ1			RQ			
		180TC/ 210TC	250TC		180TC	210TC	250TC	48CZ/ 56C/140TC	180TC	210TC	250TC
NH830	12.23	N/A	N/A	10.75■	N/A	N/A	N/A	10.36■	N/A	N/A	N/A
NH832	12.42	N/A	N/A	10.94■	N/A	N/A	N/A	10.55■	N/A	N/A	N/A
NH842	N/A	20.66	20.66	N/A	14.97	14.97	15.53	N/A	14.46	14.46	14.86
NH852	N/A	22.06	22.06	N/A	16.37	16.37	16.93	N/A	15.86	15.86	16.26

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
48CZ	3.75	3.00	4.36	0.38	N/A	0.500	1/8 X 1/16	0.28
56C	5.88	4.50	6.50	0.38	N/A	0.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	0.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53
250TC	7.25	8.50	9.00	N/A	0.50	1.625	3/8 X 3/16	0.53

- ** Key not provided with gear reducer. Keyway dimension shown.
- ◆ Keyway width by depth
- 48CZ not available
- ‡ Metric IEC B5 input flange options are available only on quill input styles.
- ※ Style DXFE and DXFEM only

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

GROVE GEAR OE SERIES INTERCHANGE GUIDE

Grove Gear OE Series	Grove Gear IRONMAN NH Series
HWMF	DXFEMQ
HWMFC	DXFEM
HMY	DXFE

Refer to page B2 for complete interchange guide for original Grove Gear OE Series products.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

ELECTRA-GEAR

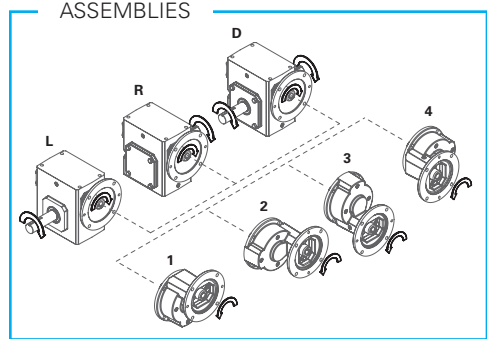
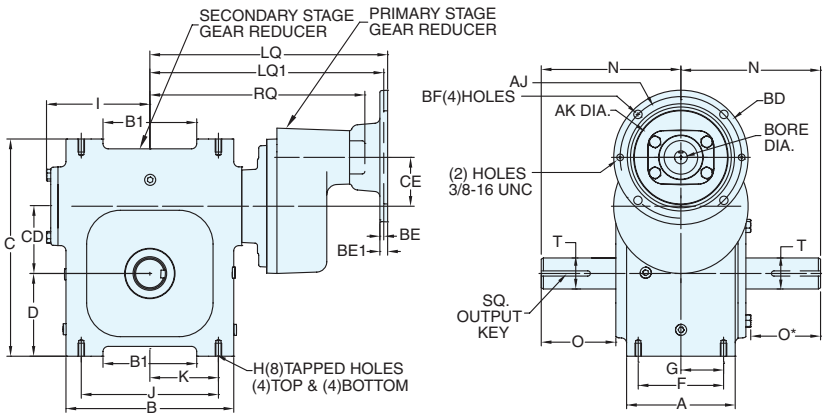
EL SERIES

DIMENSIONS

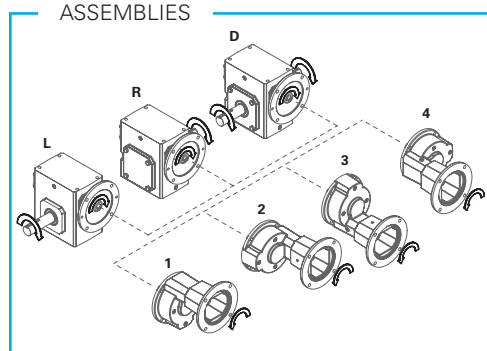
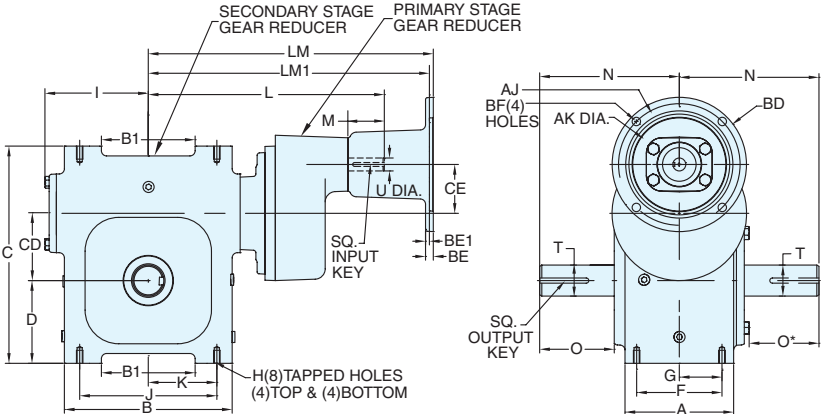
STYLES: DXMQ, DXM, DX



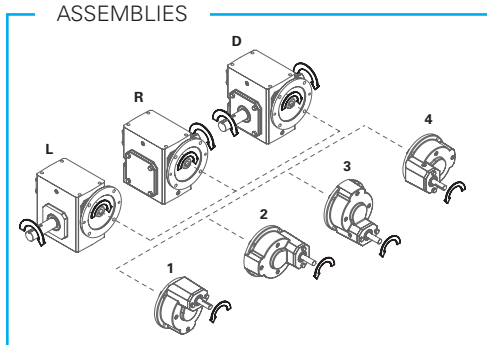
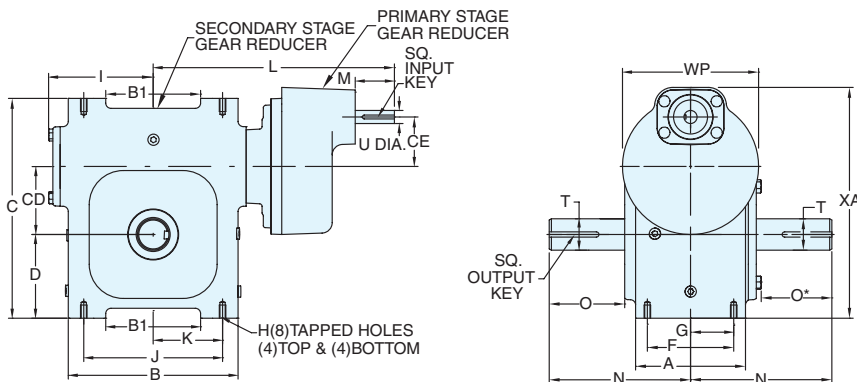
STYLE DXMQ



STYLE DXM



STYLE DX



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXMQ, DXM, DX DIMENSIONS (Inches)

Size	A	B	B1	C	CD	CE	D	DX	F	G	H		I	J	K	L	M
											Tap Size	Depth					
EL813	2.82	3.80	--	4.66	1.33	1.91	1.72	--	2.00	1.00	5/16-18 UNC	0.50	2.40	3.25	1.63	8.08	1.76
EL818	3.5	4.83	2.48	5.86	1.75	1.91	2.31	--	2.94	1.47	5/16-18UNC	.63	3.03	3.69	1.84	8.71	1.76
EL821	3.91	5.75	2.76	6.88	2.06	1.91	2.63	--	3.25	1.63	3/8-16UNC	.87	3.40	4.13	2.06	9.08	1.76
EL824	4.06	5.86	--	6.94	2.38	2.36	2.5	--	2.88	1.44	3/8-16 UNC	.69	3.61	5.00	2.50	9.06	1.76
EL826	4.84	7.17	4.21	8.00	2.63	2.36	3.25	--	3.38	1.69	3/8-16 UNC	0.69	4.17	5.00	2.50	9.62	1.76
EL830	5.25	8.11	4.50	8.94	3.00	2.36	3.50	--	4.13	2.06	3/8-16 UNC	1.00	4.81	5.75	2.88	10.26	1.76
EL832	5.25	8.11	4.53	10.50	3.25	2.36	4.00	--	4.13	2.06	1/2-13 UNC	1.00	5.00	6.63	3.31	10.45	1.76

Size	N	O	O*	WP	XA	T +0.000 -0.0015	U +0.000 -0.0015	Input Key**	Output Key
EL813	4.00	2.16	1.94	6.50	6.83	0.625	0.625	3/16 x 3/32	3/16 x 1.50
EL818	4.39	2.05	1.85	6.50	7.83	0.750	0.625	3/16 x 3/32	1/4 x 1.75
EL821	4.68	2.29	2.09	6.50	8.46	1.000	0.625	3/16 x 3/32	3/16 x 1.50
EL824	5.14	2.66	2.46	6.50	8.65	1.125	0.625	3/16 x 3/32	1/4 x 1.75
EL826	5.63	2.73	2.53	6.50	9.65	1.250	0.625	3/16 x 3/32	1/4 x 1.75
EL830	6.75	3.60	3.37	6.50	10.27	1.500	0.625	3/16 x 3/32	1/4 x 1.75
EL832	6.75	3.60	3.37	6.50	11.02	1.625	0.625	3/16 x 3/32	3/8 x 2.25

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	LQ	LQ1	RQ	
	56C/140TC	180TC/210TC	56TC/140TC	180TC/210TC	56C/140TC	180TC/210TC
EL813	10.33	--	8.85	--	8.46	7.47
EL818	10.96	--	9.48	--	9.09	8.10
EL821	11.33	--	9.85	--	9.46	8.41
EL824	11.31	--	9.83	10.04	9.44	9.01
EL826	11.87	--	10.39	10.60	10.00	9.57
EL830	12.51	--	11.03	11.23	10.64	10.20
EL832	12.70	--	11.22	11.42	10.83	10.39

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

NOTE: Larger sizes available with cast iron primary - Contact Factory.

- * Applies to double output shaft
- ◆ Keyway width by depth
- ** Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page C19 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
H_MSC or H_MLSC	DXMQ
H_MC or H_MLC	DXM
H_M or H_ML	DX

Convert Style DX to motorized coupling input using kits shown on page F6.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

ELECTRA-GEAR

EL SERIES

DIMENSIONS

STYLES: DXTMQ, DXTM, DXT



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

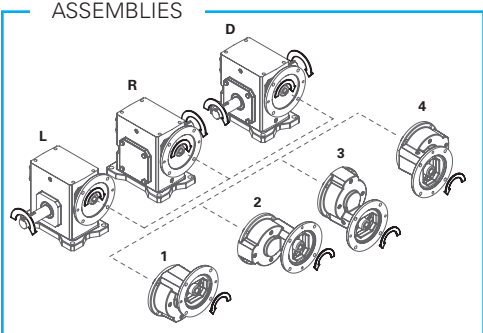
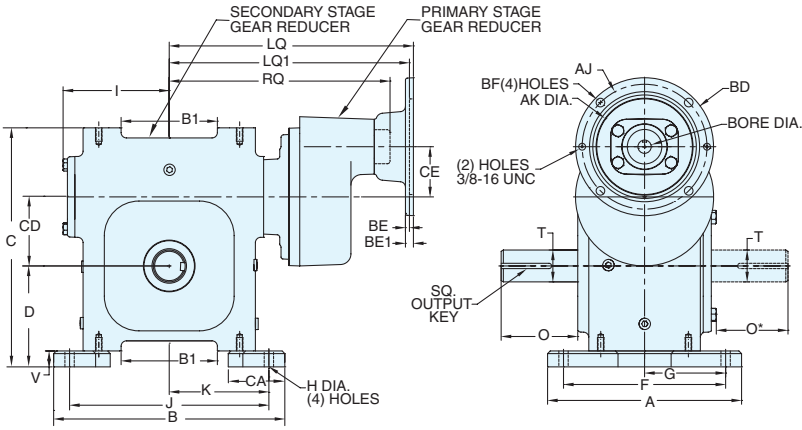
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

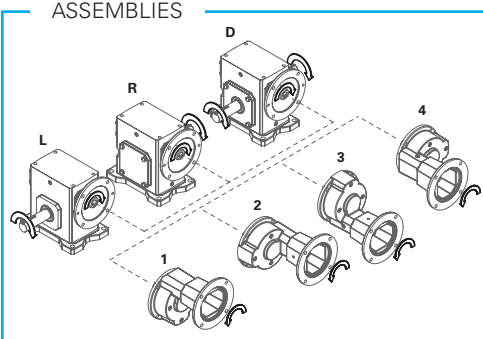
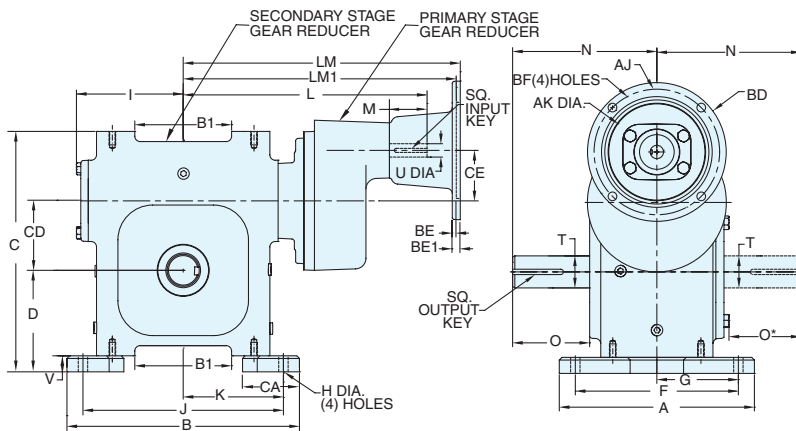
Ratio Multipliers

Accessories
Additional Capabilities

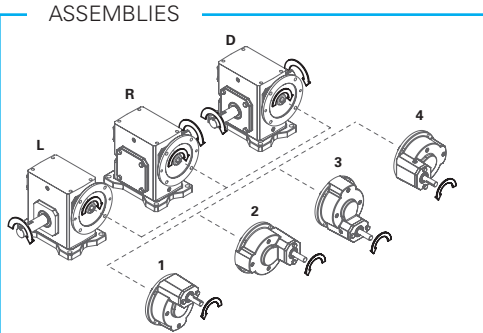
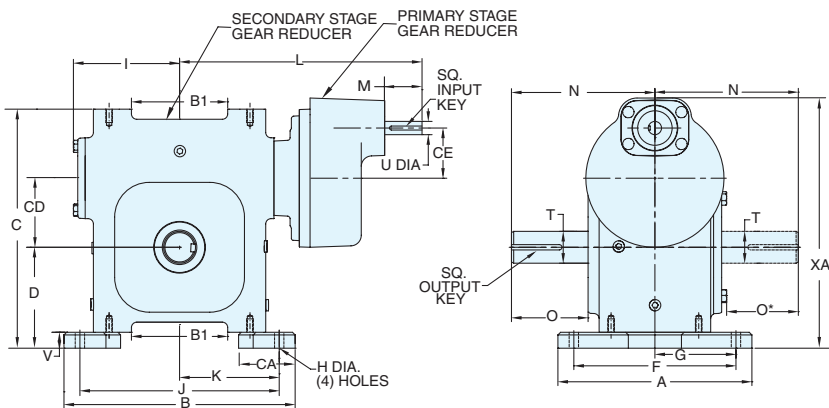
STYLE DXTMQ



STYLE DXTM



STYLE DXT



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXTMQ, DXTM, DXT DIMENSIONS (Inches)

Size	A	B	B1	C	CD	CA	CE	D	F	G	H	I	J	K	L	M
EL813	4.06	5.13	--	4.66	1.33	1.56	1.91	2.25	3.31	1.66	0.34	2.40	4.38	2.19	8.08	1.76
EL818	5.19	6.06	2.48	5.86	1.75	2.15	1.91	2.84	4.38	2.19	0.38	3.03	5.25	2.63	8.71	1.76
EL821	6.63	7.25	2.76	6.88	2.06	2.66	1.91	3.25	5.38	2.69	0.44	3.40	6.00	3.00	9.08	1.76
EL824	6.38	7.69	--	6.94	2.38	2.59	2.36	3.25	4.88	2.44	0.47	3.61	6.19	3.09	9.06	1.76
EL826	6.63	8.13	4.21	8.00	2.63	2.81	2.36	3.94	5.38	2.69	0.50	4.17	6.88	3.44	9.62	1.76
EL830	9.00	9.88	4.50	8.94	3.00	3.69	2.36	4.25	7.50	3.75	0.56	4.81	8.38	4.19	10.26	1.76
EL832	9.13	10.88	4.53	10.50	3.25	3.69	2.36	4.75	7.63	3.82	0.56	5.00	9.38	4.69	10.45	1.76

Size	N	O	O*	V	WP	XA	T +0.000 -0.0015	U +0.000 -0.0015	Input Key※	Output Key
EL813	4.00	2.16	1.96	0.53	6.50	7.36	0.625	0.625	3/16 x 3/32	3/16 x 1.38
EL818	4.39	2.05	1.85	0.56	6.50	8.39	0.750	0.625	3/16 x 3/32	3/16 x 1.38
EL821	4.68	2.29	2.09	0.63	6.50	9.09	1.000	0.625	3/16 x 3/32	1/4 x 1.44
EL824	5.14	2.66	2.46	0.75	6.50	9.40	1.125	0.625	3/16 x 3/32	1/4 x 1.62
EL826	5.63	2.73	2.53	0.69	6.50	10.34	1.250	0.625	3/16 x 3/32	1/4 x 1.62
EL830	6.75	3.60	3.37	0.75	6.50	11.02	1.500	0.625	3/16 x 3/32	3/8 x 2.25
EL832	6.75	3.60	3.37	0.75	6.50	11.77	1.625	0.625	3/16 x 3/32	3/8 x 2.25

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM 56C/140TC	LM1 180TC / 210TC	LQ 56TC/140TC	LQ1 180TC / 210TC	RQ 56C/140TC 180TC / 210TC
EL813	10.33	--	8.85	--	8.46 7.47
EL818	10.96	--	9.48	--	9.09 8.10
EL821	11.33	--	9.85	--	9.46 8.41
EL824	11.31	--	9.83	10.04	9.44 9.01
EL826	11.87	--	10.39	10.60	10.00 9.57
EL830	12.51	--	11.03	11.23	10.64 10.20
EL832	12.70	--	11.22	11.42	10.83 10.39

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

NOTE: Larger sizes available with cast iron primary - Contact Factory.

- * Applies to double output shaft
- ◆ Keyway width by depth
- ※ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page C21 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
H_ASC or H_ALSC	DXTMQ
H_AC or H_ALC	DXTM
H_A or H_AL	DXT

Convert Style DXT to motorized coupling input using kits shown on page F6.

ELECTRA-GEAR

EL SERIES

DIMENSIONS

STYLES: DXUMQ, DXUM, DXU



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

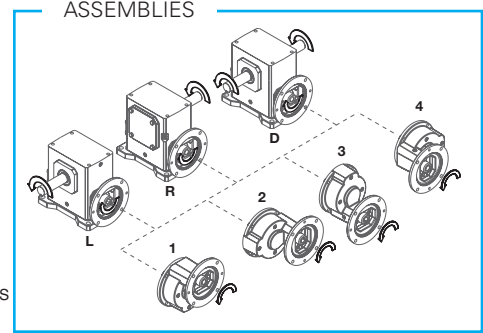
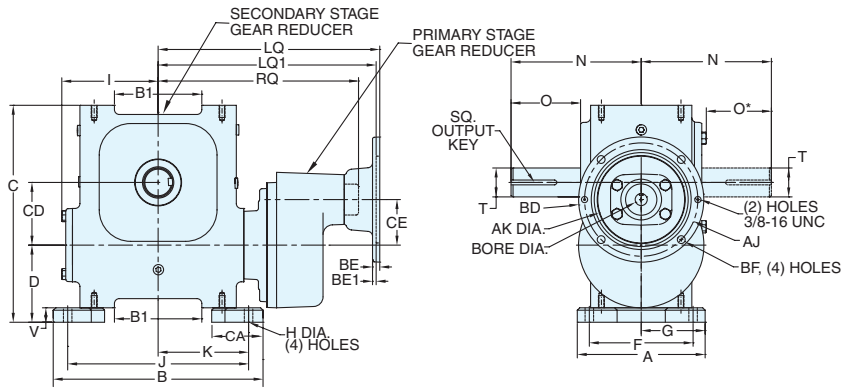
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

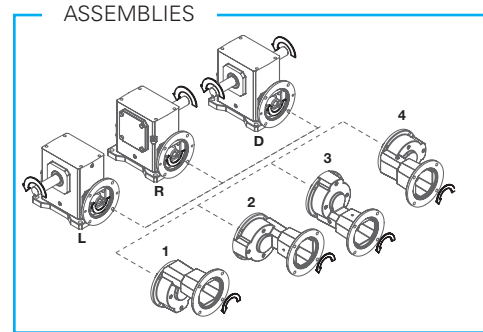
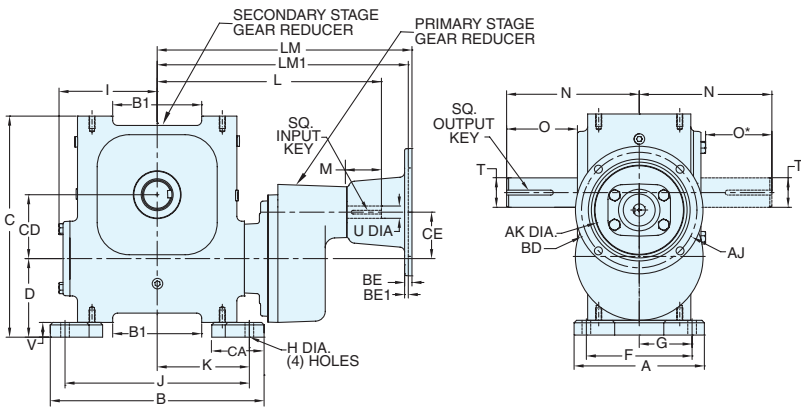
Ratio Multipliers

Accessories
Additional Capabilities

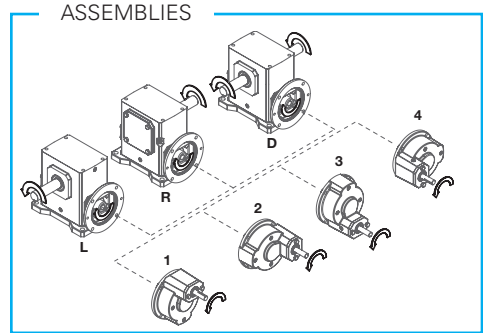
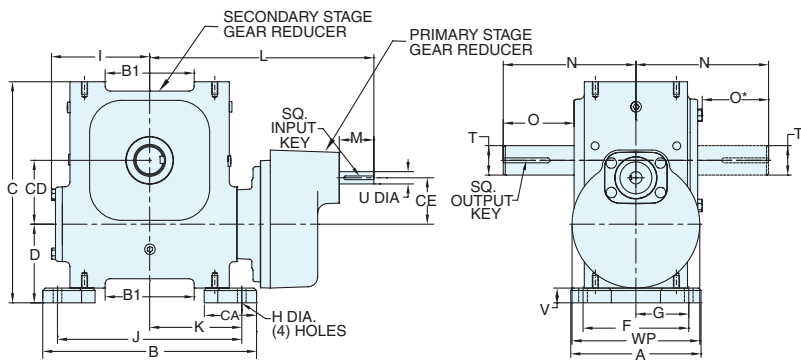
STYLE DXUMQ



STYLE DXUM



STYLE DXU



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXTMQ, DXTM, DXT DIMENSIONS (Inches)

Size	A	B	B1	C	CD	CA	CE	D	F	G	H	I	J	K	L	M
EL813	4.06	5.13	--	4.66	1.33	1.56	1.91	2.25	3.31	1.66	0.34	2.40	4.38	2.19	8.08	1.76
EL818	5.19	6.06	2.48	5.86	1.75	2.15	1.91	2.84	4.38	2.19	0.38	3.03	5.25	2.63	8.71	1.76
EL821	6.63	7.25	2.76	6.88	2.06	2.66	1.91	3.25	5.38	2.69	0.44	3.40	6.00	3.00	9.08	1.76
EL824	6.38	7.69	--	6.94	2.38	2.59	2.36	3.25	4.88	2.44	0.47	3.61	6.19	3.09	9.06	1.76
EL826	6.63	8.13	4.21	8.00	2.63	2.81	2.36	3.94	5.38	2.69	0.50	4.17	6.88	3.44	9.62	1.76
EL830	9.00	9.88	4.50	8.94	3.00	3.69	2.36	4.25	7.50	3.75	0.56	4.81	8.38	4.19	10.26	3.61
EL832	9.13	10.88	4.53	10.50	3.25	3.69	2.36	4.75	7.63	3.82	0.56	5.00	9.38	4.69	10.45	3.61

Size	N	O	O*	V	WP	XA	T +0.000 -0.0015	U +0.000 -0.0015	Input Key⚡	Output Key
EL813	4.00	2.16	1.96	0.53	6.50	7.36	0.625	0.625	3/16 x 3/32	3/16 x 1.38
EL818	4.39	2.05	1.85	0.56	6.50	8.39	0.750	0.625	3/16 x 3/32	3/16 x 1.38
EL821	4.68	2.29	2.09	0.63	6.50	9.09	1.000	0.625	3/16 x 3/32	1/4 x 1.44
EL824	5.14	2.66	2.46	0.75	6.50	9.40	1.125	0.625	3/16 x 3/32	1/4 x 1.62
EL826	5.63	2.73	2.53	0.69	6.50	10.34	1.250	0.625	3/16 x 3/32	1/4 x 1.62
EL830	6.75	3.60	3.37	0.75	6.50	11.02	1.500	0.625	3/16 x 3/32	3/8 x 2.25
EL832	6.75	3.60	3.37	0.75	6.50	11.77	1.625	0.625	3/16 x 3/32	3/8 x 2.25

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	LQ	LQ1	RQ	
	56C/140TC	180TC / 210TC	56C/140TC	180TC / 210TC	56C/140TC	180TC / 210TC
EL813	10.33	--	8.85	--	8.46	7.47
EL818	10.96	--	9.48	--	9.09	8.10
EL821	11.33	--	9.85	--	9.46	8.41
EL824	11.31	--	9.83	10.04	9.44	9.01
EL826	11.87	--	10.39	10.60	10.00	9.57
EL830	12.51	--	11.03	11.23	10.64	10.20
EL832	12.70	--	11.22	11.42	10.83	10.39

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

NOTE: Larger sizes available with cast iron primary - Contact Factory.

- * Applies to double output shaft
- ◆ Keyway width by depth
- ⚡ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page C23 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
NOT A STANDARD CATALOGED OPTION	DXJMQ
	DXJM
	DXJ

Convert Style DXU to motorized coupling input using kits shown on page F6.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

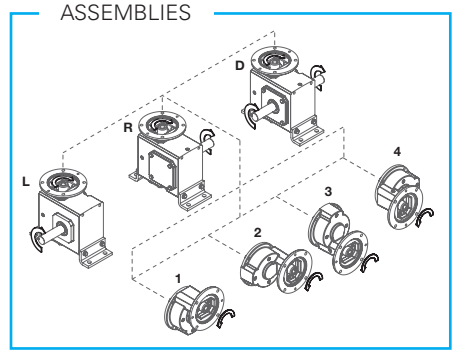
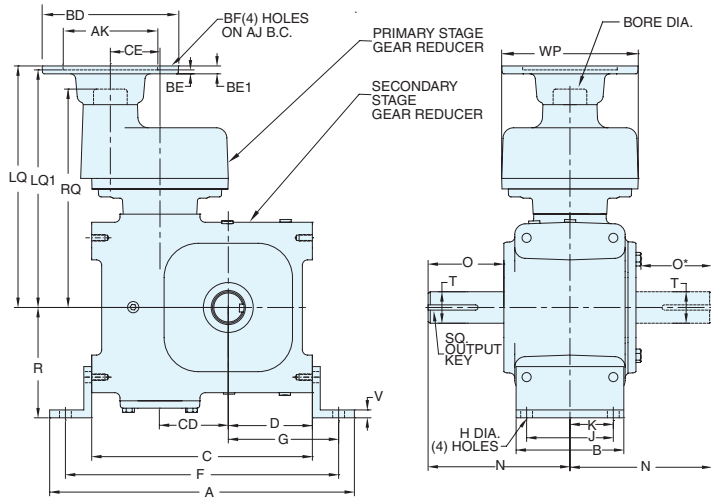
ELECTRA-GEAR

EL SERIES

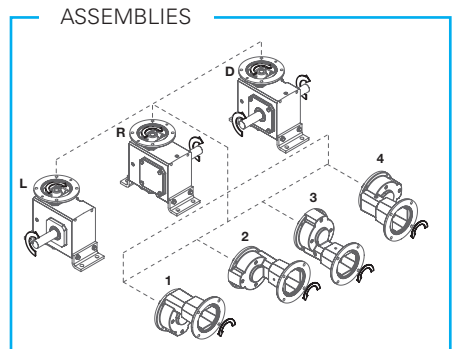
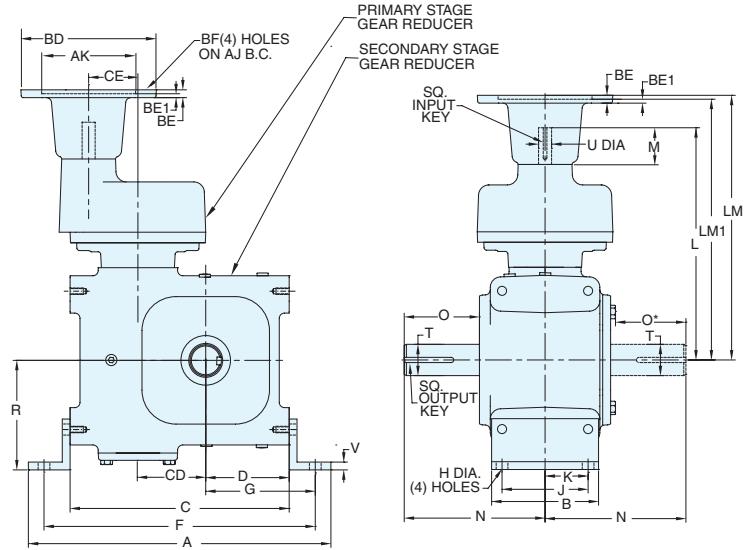
DIMENSIONS

STYLES: DXJMQ, DXJM, DXJ

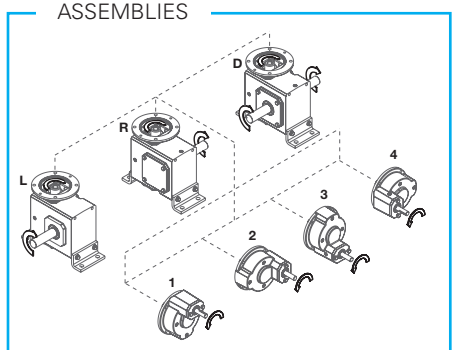
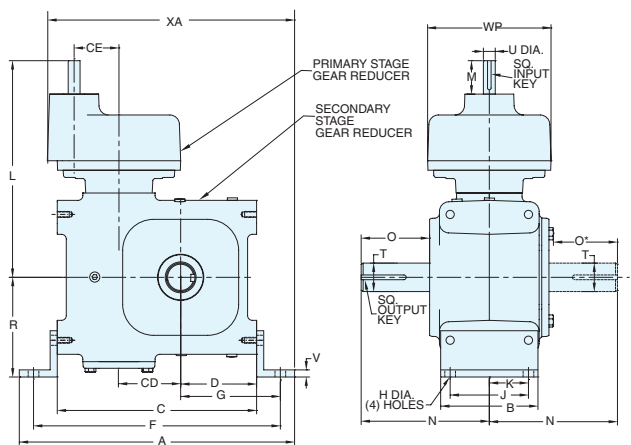
STYLE DXJMQ



STYLE DXJM



STYLE DXJ



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXJMQ, DXJM, DXJ DIMENSIONS (Inches)

Size	A	B	C	CD	CE	D	F	G	H	J	K	L	M
EL813	7.16	2.91	4.66	1.33	1.91	1.72	6.41	2.60	0.34	2.00	1.00	8.08	1.76
EL818	8.88	3.56	5.86	1.75	1.91	2.31	7.88	3.32	0.38	2.94	1.47	8.71	1.76
EL821	9.87	4.00	6.88	2.06	1.91	2.63	8.87	3.62	0.44	3.25	1.63	9.08	1.76
EL824	10.31	4.00	6.94	2.38	2.36	2.50	9.19	3.63	0.47	2.88	1.44	9.06	1.76
EL826	12.00	4.38	8.00	2.63	2.36	3.25	10.50	4.50	0.50	3.38	1.69	9.62	1.76
EL830	12.94	5.13	8.94	3.00	2.36	3.50	11.44	4.75	0.56	4.13	2.06	10.26	1.76
EL832	14.50	5.13	10.50	3.25	2.36	4.00	13.00	5.25	0.56	4.13	2.06	10.45	1.76

Size	N	O	O*	R	V	WP	XA	T +0.000 -0.0015	U +0.000 -0.0015	Input Key※	Output Key
EL813	4.00	2.16	1.96	2.94	0.53	6.50	7.36	0.625	0.625	3/16 x 3/32	3/16 x 1.38
EL818	4.39	2.05	1.85	2.97	0.56	6.50	8.39	0.750	0.625	3/16 x 3/32	3/16 x 1.38
EL821	4.68	2.29	2.09	3.47	0.63	6.50	9.09	1.000	0.625	3/16 x 3/32	1/4 x 1.44
EL824	5.14	2.66	2.46	4.06	0.75	6.50	9.40	1.125	0.625	3/16 x 3/32	1/4 x 1.62
EL826	5.63	2.73	2.53	4.03	0.69	6.50	10.34	1.250	0.625	3/16 x 3/32	1/4 x 1.62
EL830	6.75	3.60	3.37	4.81	0.75	6.50	11.02	1.500	0.625	3/16 x 3/32	3/8 x 2.25
EL832	6.75	3.60	3.37	5.25	0.75	6.50	11.77	1.625	0.625	3/16 x 3/32	3/8 x 2.25

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	LQ	LQ1	RQ	
	56C/140TC	180TC / 210TC	56TC/140TC	180TC / 210TC	56C/140TC	180TC / 210TC
EL813	10.33	--	8.85	--	8.46	7.47
EL818	10.96	--	9.48	--	9.09	8.10
EL821	11.33	--	9.85	--	9.46	8.41
EL824	11.31	--	9.83	10.04	9.44	9.01
EL826	11.87	--	10.39	10.60	10.00	9.57
EL830	12.51	--	11.03	11.23	10.64	10.20
EL832	12.70	--	11.22	11.42	10.83	10.39

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

NOTE: Larger sizes available with cast iron primary - Contact Factory.

- * Applies to double output shaft
- ◆ Keyway width by depth
- ※ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page C25 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
H_JBSC or H_JBLS	DXJMQ
H_JBC or H_JBC	DXJM
H_JB or H_JB	DXJ

Convert Style DXJ to motorized coupling input using kits shown on page F6.

Single Reduction Worm Gear Reducers
 Double Reduction Worm - Worm Gear Reducers
 Helical - Worm Gear Reducers
 WASHGUARD® Reducers and GEAR+MOTOR™
 Ratio Multipliers
 Accessories Additional Capabilities

ELECTRA-GEAR

EL SERIES DIMENSIONS

STYLES: DXVLMQ, DXVLM, DXVL

STYLE DXVLMQ



Single Reduction
Worm Gear Reducers

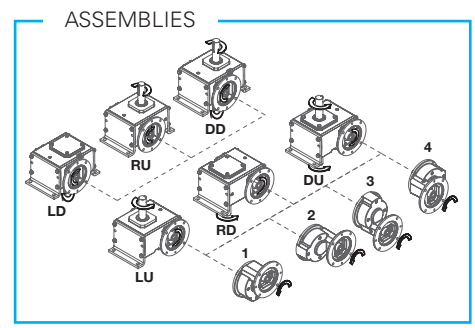
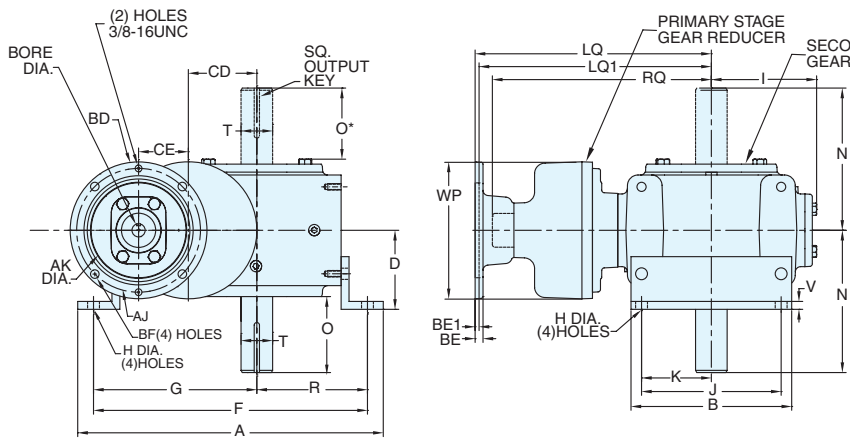
Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

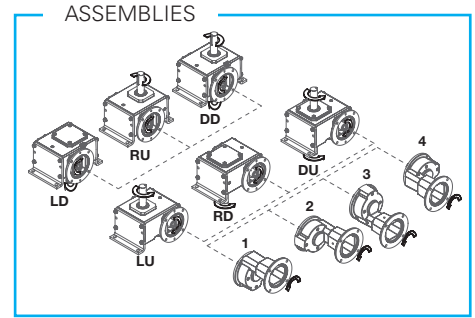
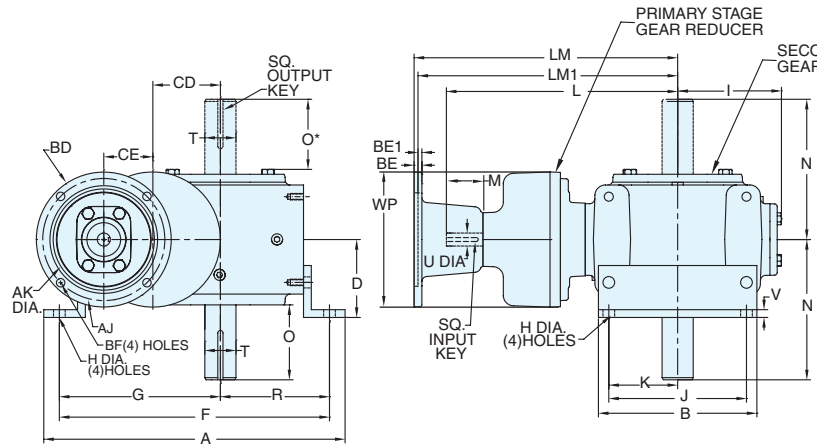
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

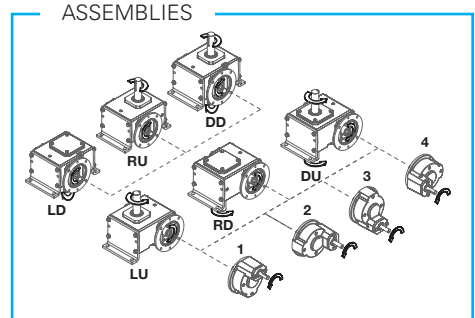
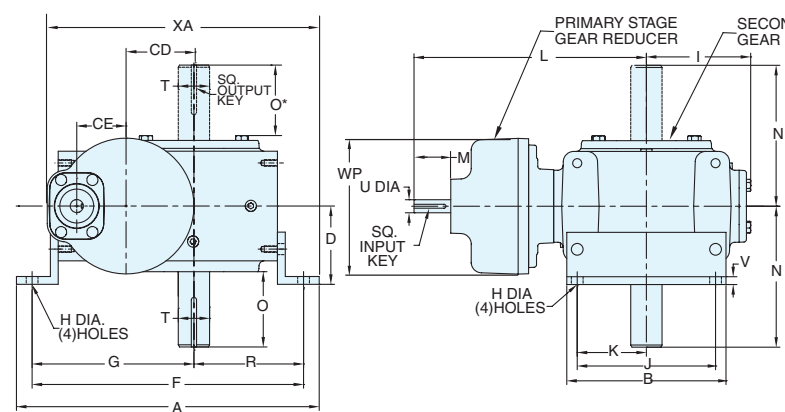
Accessories
Additional Capabilities



STYLE DXVLM



STYLE DXVL



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXVLMQ, DXVLM, DXVL DIMENSIONS (Inches)

Size	A	B	CD	CE	D	F	G	H	J	K	L	M
EL813	7.16	4.13	1.33	1.91	2.31	6.16	3.69	0.34	3.25	1.00	8.08	1.76
EL818	8.88	4.25	1.75	1.91	2.28	7.88	4.57	0.38	3.69	1.47	8.71	1.76
EL821	9.87	4.81	2.06	1.91	2.56	8.87	5.25	0.44	4.13	1.63	9.08	1.76
EL824	10.31	5.88	2.38	2.36	2.75	9.38	5.66	0.47	5.00	1.44	9.06	1.76
EL826	12.00	5.88	2.63	2.36	2.81	10.50	6.00	0.50	5.00	1.69	9.62	1.76
EL830	12.94	6.75	3.00	2.36	3.75	11.44	6.69	0.56	5.75	2.06	10.26	1.76
EL832	14.50	7.63	3.25	2.36	3.75	13.00	7.75	0.56	6.63	2.06	10.45	1.76

Size	N	O	O*	R	V	WP	XA	T +0.000 -0.0015	U +0.000 -0.0015	Input Key❖	Output Key
EL813	4.00	2.16	1.96	1.72	0.19	6.50	8.08	0.625	0.625	3/16 x 3/32	3/16 x 1.38
EL818	4.39	2.05	1.85	2.31	0.38	6.50	9.33	0.750	0.625	3/16 x 3/32	3/16 x 1.38
EL821	4.68	2.29	2.09	2.63	0.38	6.50	9.96	1.000	0.625	3/16 x 3/32	1/4 x 1.44
EL824	5.14	2.66	2.46	2.50	0.31	6.50	10.65	1.125	0.625	3/16 x 3/32	1/4 x 1.62
EL826	5.63	2.73	2.53	3.25	0.31	6.50	11.65	1.250	0.625	3/16 x 3/32	1/4 x 1.62
EL830	6.75	3.60	3.37	3.50	0.25	6.50	12.27	1.500	0.625	3/16 x 3/32	3/8 x 2.25
EL832	6.75	3.60	3.37	4.00	0.38	6.50	14.52	1.625	0.625	3/16 x 3/32	3/8 x 2.25

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	LQ	LQ1	RQ	
	56C/140TC	180TC / 210TC	56TC/140TC	180TC / 210TC	56C/140TC	180TC / 210TC
EL813	10.33	--	8.85	--	8.46	7.47
EL818	10.96	--	9.48	--	9.09	8.10
EL821	11.33	--	9.85	--	9.46	8.41
EL824	11.31	--	9.83	10.04	9.44	9.01
EL826	11.87	--	10.39	10.60	10.00	9.57
EL830	12.51	--	11.03	11.23	10.64	10.20
EL832	12.70	--	11.22	11.42	10.83	10.39

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

NOTE: Larger sizes available with cast iron primary - Contact Factory.

- * Applies to double output shaft
- ◆ Keyway width by depth
- ❖ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page C27 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
H_BSC or H_BLSC	DXVLMQ
H_BC or H_BLC	DXVLM
H_B or H_BL	DXVL

Convert Style DXVL to motorized coupling input using kits shown on page F6.

ELECTRA-GEAR EL SERIES DIMENSIONS

STYLES: DXFRMQ, DXFRM, DXFR



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

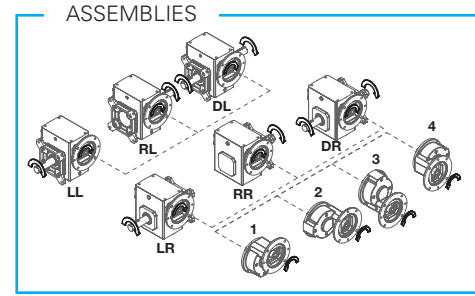
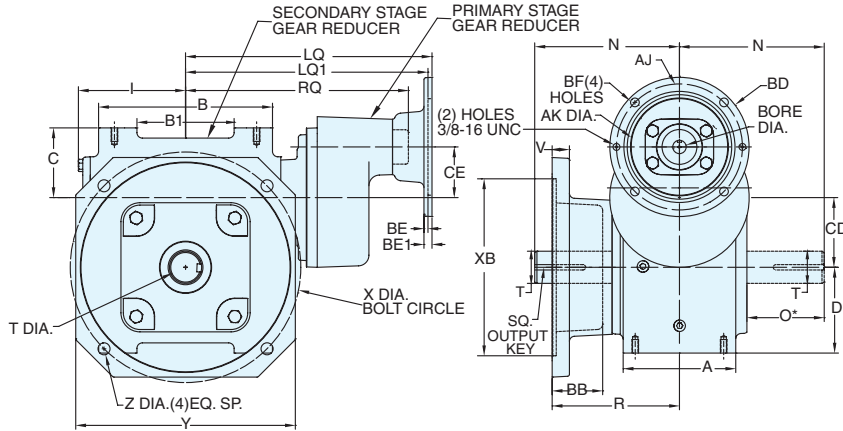
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

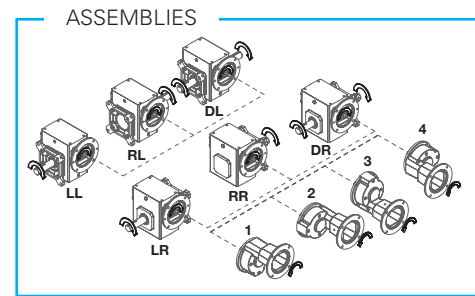
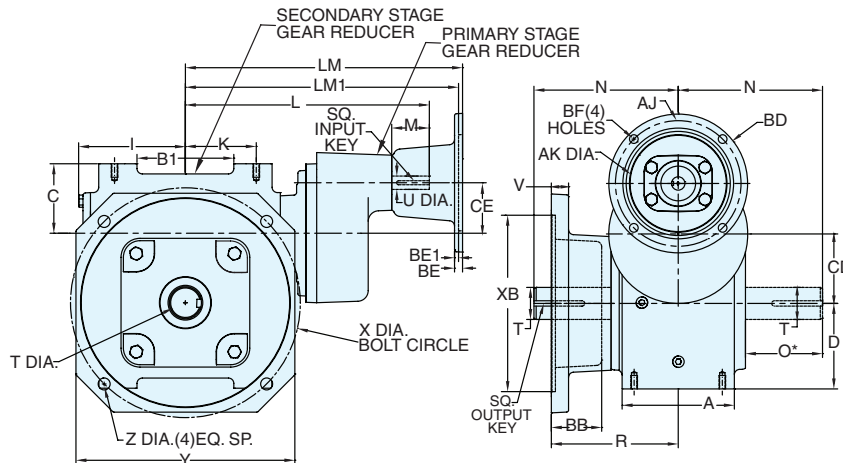
Ratio Multipliers

Accessories
Additional Capabilities

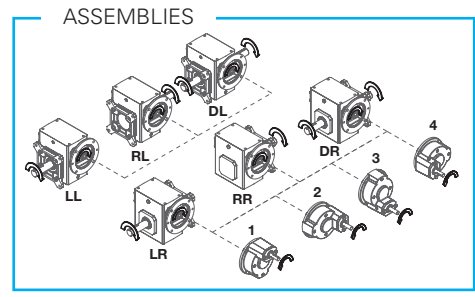
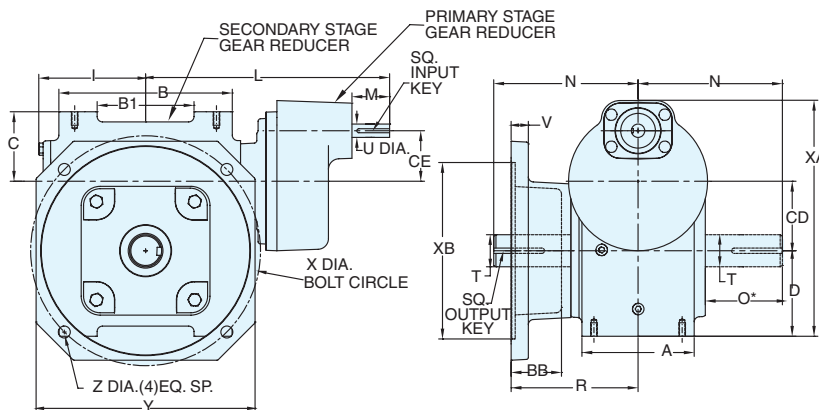
STYLE DXFRMQ



STYLE DXFRM



STYLE DXFR



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXFRMQ, DXFRM, DXFR DIMENSIONS (Inches)

Size	A	B	B1	BB	C	CD	CE	D	I	L	M	N	O*	R
EL818	3.50	4.83	2.48	1.27	1.81	1.75	1.91	2.28	3.03	8.71	1.76	4.39	1.85	3.53
EL821	3.91	5.75	2.76	1.51	2.19	2.06	1.91	2.56	3.40	9.08	1.76	4.68	2.09	4.25
EL824	4.06	5.86	--	1.35	2.06	2.38	2.36	2.75	3.61	9.06	1.76	5.14	2.46	4.15
EL826	4.84	7.17	4.21	1.35	2.12	2.63	2.36	2.81	4.17	9.62	1.76	5.63	2.53	4.56
EL830	5.25	8.11	4.50	2.36	2.44	3.00	2.36	3.75	4.81	10.26	1.76	6.75	3.37	5.75
EL832	5.25	8.11	4.53	2.54	3.25	3.25	2.36	3.75	5.00	10.45	1.76	6.75	3.37	5.94

Size	V	WP	X	XA	XB	Y	Z	T +0.000 -0.0015	U +0.000 -0.0015	Input Key※	Output Key
EL818	0.38	6.50	3.13	7.83	--	4.10	0.34	0.750	0.625	3/16 x 3/32	3/16 x 1.38
EL821	0.38	6.50	6.88	8.46	6.00	6.49	0.44	1.000	0.625	3/16 x 3/32	1/4 x 1.44
EL824	0.31	6.50	7.75	8.65	6.50	6.99	0.50	1.125	0.625	3/16 x 3/32	1/4 x 1.62
EL826	0.31	6.50	7.75	9.65	6.50	6.99	0.50	1.250	0.625	3/16 x 3/32	1/4 x 1.62
EL830	0.25	6.50	9.13-9.50 ▲	10.27	8.25	8.74	0.56	1.500	0.625	3/16 x 3/32	3/8 x 2.25
EL832	0.38	6.50	9.13-9.50 ▲	11.02	8.25	8.74	0.56	1.625	0.625	3/16 x 3/32	3/8 x 2.25

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	LQ	LQ1	RQ	
	56C/140TC	180TC / 210TC	56TC/140TC	180TC / 210TC	56C/140TC	180TC / 210TC
EL818	10.96	--	9.48	--	9.09	--
EL821	11.33	--	9.85	--	9.46	--
EL824	11.31	--	9.83	10.83	9.44	10.63
EL826	11.87	--	10.39	11.42	10.00	11.36
EL830	12.51	--	11.03	11.92	10.64	11.86
EL832	12.70	--	11.22	12.10	10.83	12.05

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

NOTE: Larger sizes available with cast iron primary - Contact Factory.

- * Applies to double output shaft
- ◆ Keyway width by depth
- ※ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page C19 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
NOT A STANDARD CATALOGED OPTION	DXFRMQ
	DXFRM
	DXFR

NOTE: New styles are not a direct replacement to original ring base. Convert Style DXFR to motorized coupling input using kits shown on page F6.

Single Reduction Worm Gear Reducers

Double Reduction Worm - Worm Gear Reducers

Double Reduction Helical - Worm Gear Reducers

WASHGUARD® Reducers and GEAR+MOTOR™

Ratio Multipliers

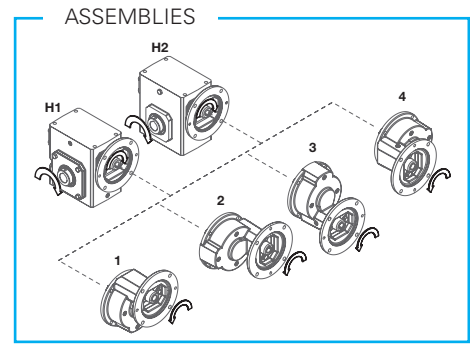
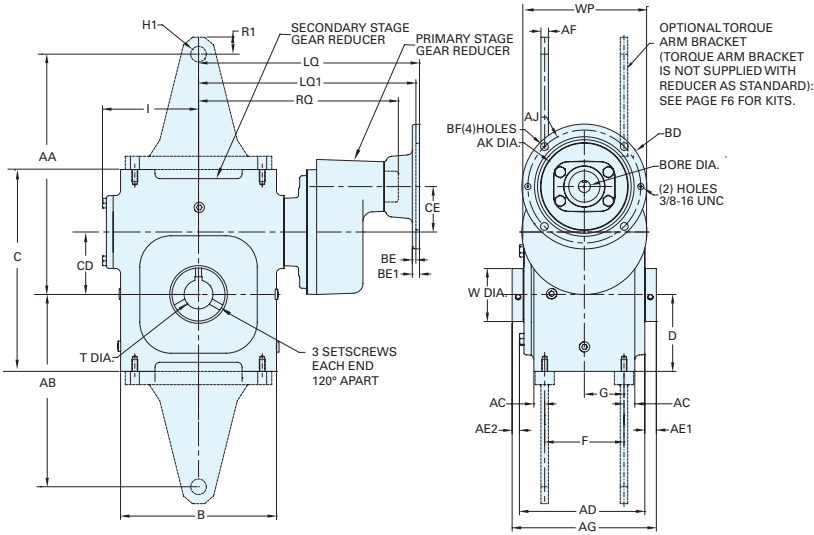
Accessories Additional Capabilities

ELECTRA-GEAR



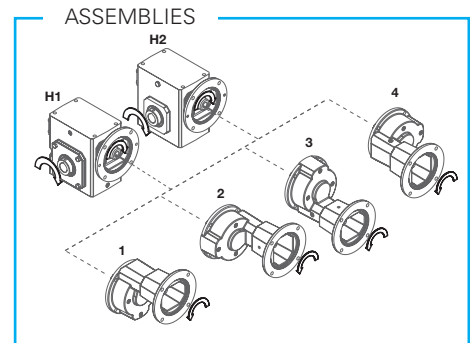
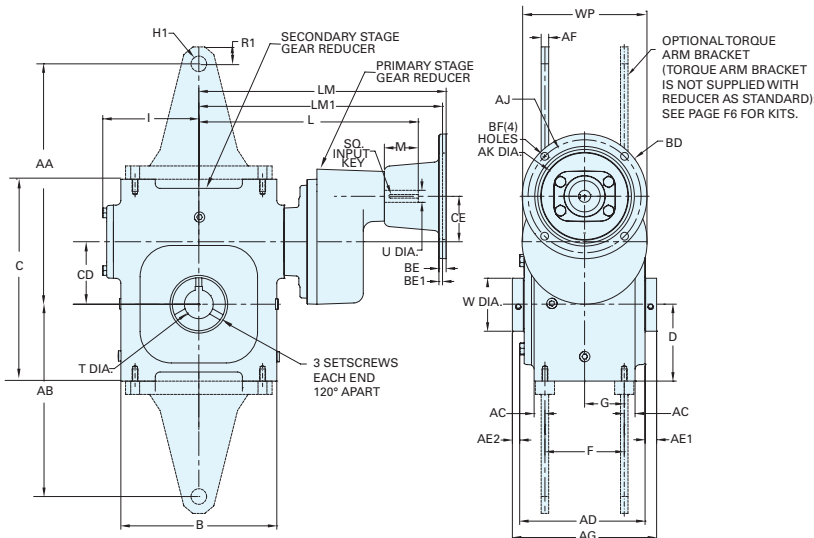
EL SERIES DIMENSIONS

STYLES: DXHMQ, DXHM, DXH
STYLE DXHMQ



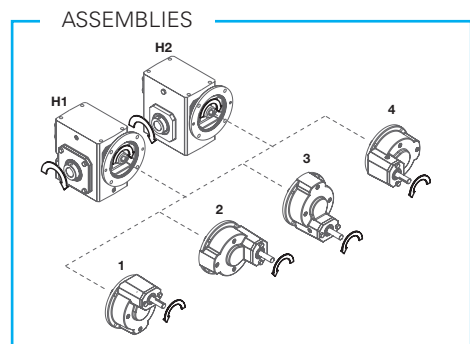
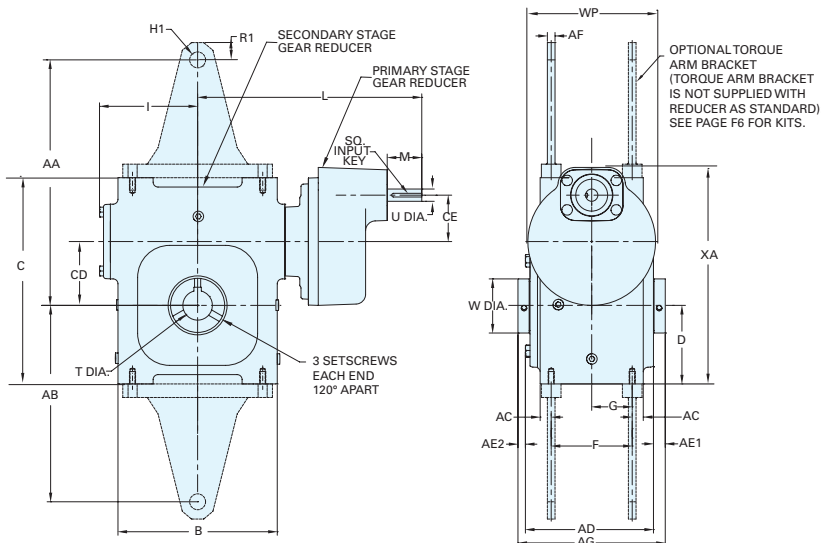
H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DXHM



H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

STYLE DXH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.
H1 IS SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

STYLE DXHMQ, DXHM, DXH DIMENSIONS (Inches)

Size	AA	AB	AC	AD	AE1	AE2	AF	AG	B	C	CD	CE	D	F	G	H1
EL813	--	--	0.41	3.89	0.58	0.26	--	4.73	3.80	4.66	1.33	1.91	1.72	2.00	1.00	--
EL818	6.25	5.00	0.28	4.72	0.49	0.29	0.69	5.50	4.83	5.86	1.75	1.91	2.31	2.94	1.47	0.53
EL821	7.63	6.00	0.33	4.98	0.60	0.42	0.69	6.00	5.75	6.88	2.06	1.91	2.63	3.25	1.63	0.53
EL824	7.81	5.87	0.59	5.17	1.02	0.81	0.69	7.00	5.86	6.94	2.38	2.36	2.50	2.88	1.44	0.53
EL826	8.50	7.00	0.73	6.00	0.60	0.40	0.69	7.00	7.17	8.00	2.63	2.36	3.25	3.38	1.69	0.53
EL830	9.94	8.00	0.56	6.52	0.60	0.38	0.69	7.50	8.11	8.94	3.00	2.36	3.50	4.13	2.06	0.53
EL832	12.50	10.00	0.56	6.52	0.60	0.38	0.69	7.50	8.11	10.50	3.25	2.36	4.00	4.13	2.06	0.53

Size	I	L	M	R1	W	WP	XA	T -0.000 +0.0015	U +0.000 -0.0015	Input Key※	Output Key
EL813	2.40	8.08	1.76	--	1.00	6.50	6.83	0.625	0.625	3/16 x 3/32	3/16 x 1.38
EL818	3.03	8.71	1.76	0.66	1.44	6.50	7.83	1.000	0.625	3/16 x 3/32	3/16 x 1.38
EL821	3.40	9.08	1.76	0.75	1.94	6.50	8.46	1.500*	0.625	3/16 x 3/32	1/4 x 1.44
EL824	3.61	9.06	1.76	0.75	1.94	6.50	8.56	1.500*	0.625	3/16 x 3/32	1/4 x 1.62
EL826	4.17	9.62	1.76	0.75	1.94	6.50	9.65	1.500*	0.625	3/16 x 3/32	1/4 x 1.62
EL830	4.81	10.26	1.76	0.81	2.76	6.50	10.27	2.188	0.625	3/16 x 3/32	3/8 x 2.25
EL832	5.00	10.45	1.76	0.88	2.76	6.50	11.02	2.188	0.625	3/16 x 3/32	3/8 x 2.25

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM 56C/140TC	LM1 180TC / 210TC	LQ 56TC/140TC	LQ1 180TC / 210TC	56C/140TC	RQ 180TC / 210TC
EL813	10.33	--	8.85	--	8.46	7.47
EL818	10.96	--	9.48	--	9.09	8.10
EL821	11.33	--	9.85	--	9.46	8.41
EL824	11.31	--	9.83	10.04	9.44	9.01
EL826	11.87	--	10.39	10.60	10.00	9.57
EL830	12.51	--	11.03	11.23	10.64	10.20
EL832	12.70	--	11.22	11.42	10.83	10.39

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway◆	BF
56C	5.88	4.50	6.50	0.38	N/A	.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

NOTE: Larger sizes available with cast iron primary - Contact Factory.

- Max bore dimensions shown. For additional bores, refer to page B19
- ◆ Keyway width by depth
- ※ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page C31 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
H_MHSC	DXHMQ
H_MHC	DXHM
H_MH	DXH

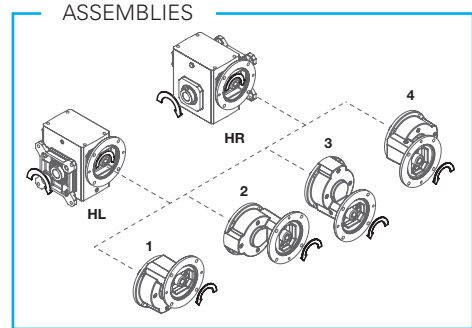
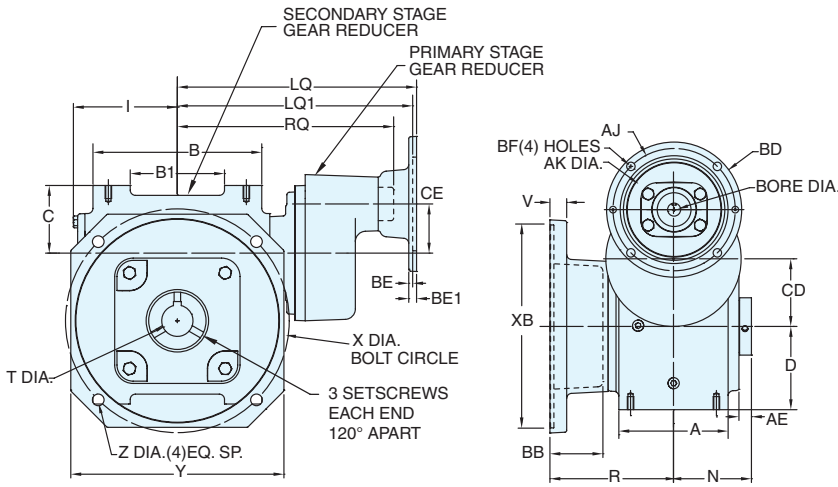
Convert Style DXH to motorized coupling input using kits shown on page F6.

ELECTRA-GEAR EL SERIES DIMENSIONS

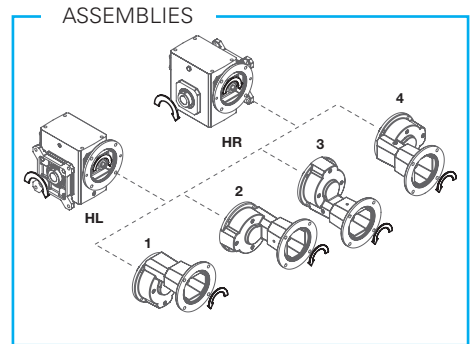
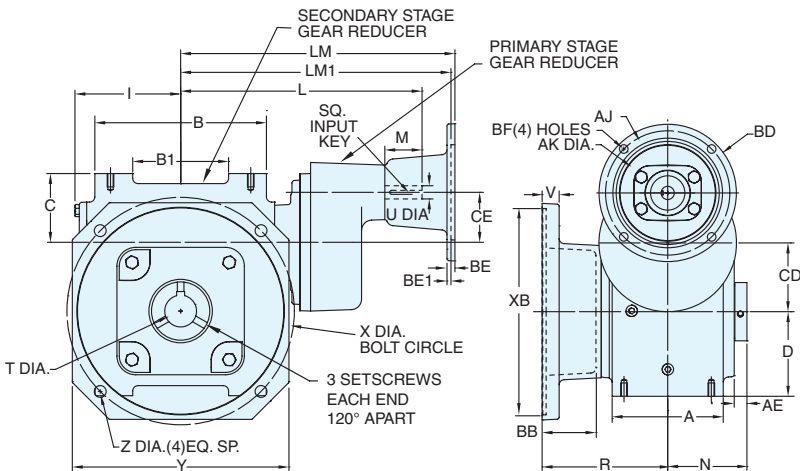


STYLES: DXFHM, DXFHM, DXFH

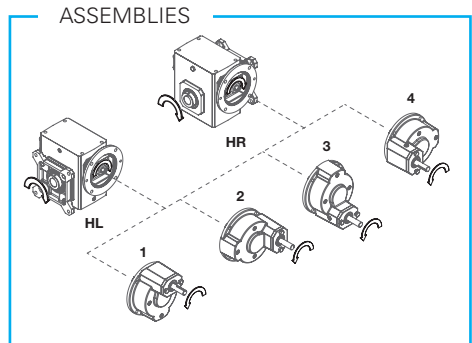
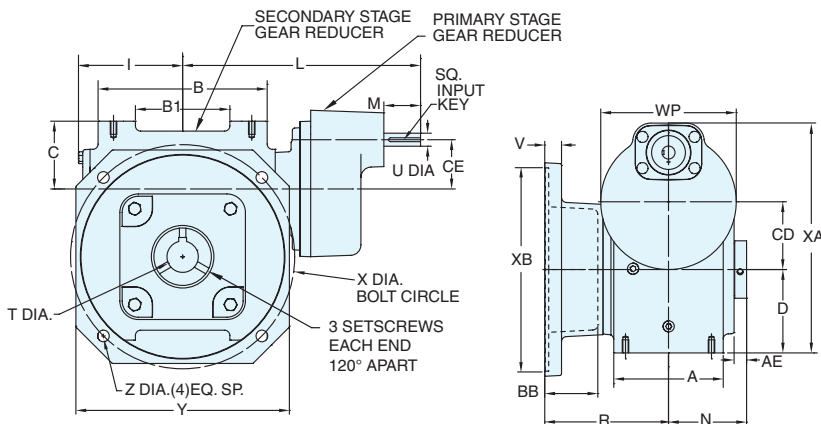
STYLE DXFHMQ



STYLE DXFHM



STYLE DXFH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION.
CONTACT Factory FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

STYLE DXFHM, DXFH, DXFH DIMENSIONS (Inches)

Size	A	AE	B	BB	B1	C	CD	CE	D	I	L	M	N	R	V
EL1818	3.50	0.49	4.83	1.27	2.48	1.81	1.75	1.91	2.31	3.03	8.71	1.76	2.75	3.53	0.38
EL821	3.91	0.60	5.75	1.51	2.76	2.19	2.06	1.91	2.63	3.40	9.08	1.76	2.99	4.25	0.50
EL824	4.06	1.05	5.86	1.35	--	2.06	2.38	2.36	2.50	3.61	9.06	1.76	3.51	4.15	0.63
EL826	4.84	0.60	7.17	1.35	4.21	2.12	2.63	2.36	3.25	4.17	9.62	1.76	3.19	4.56	0.63
EL830	5.25	0.60	8.11	2.36	4.50	2.44	3.00	2.36	3.50	4.81	10.26	1.76	3.75	5.75	0.81
EL832	5.25	0.60	8.11	2.54	4.53	3.25	3.25	2.36	4.00	5.00	10.45	1.76	3.75	5.94	0.81

Size	W	WP	X	XA	XB	Y	Z	T -0.000 +0.0015	U +0.000 -0.0015	Input Key ⚙	Output Key
EL1818	1.44	6.50	3.13	7.83	--	4.10	0.34	1.000	0.625	3/16 x 3/32	1/4 x 3.00
EL821	1.94	6.50	6.88	8.46	6.00	6.49	0.44	1.500*	0.625	3/16 x 3/32	3/8 x 3.00
EL824	1.94	6.50	7.38	8.65	6.50	6.99	0.50	1.500*	0.625	3/16 x 3/32	3/8 x 3.00
EL826	1.94	6.50	7.38	9.65	6.50	6.99	0.50	1.500*	0.625	3/16 x 3/32	3/8 x 3.00
EL830	2.76	6.50	9.13-9.50▲	10.27	8.25	8.74	0.56	2.188	0.625	3/16 x 3/32	1/2 x 3.00
EL832	2.76	6.50	10.75	11.02	8.25	10.24	0.56	2.188	0.625	3/16 x 3/32	1/2 x 3.00

Motor Mounting Dimensions

NEMA DIMENSIONS (Inches)

Size	LM	LM1	LQ	LQ1	RQ	
	56C/140TC	180TC / 210TC	56TC/140TC	180TC / 210TC	56C/140TC	180TC / 210TC
EL1818	10.96	--	9.48	--	9.09	--
EL821	11.33	--	9.85	--	9.46	--
EL824	11.31	--	9.83	10.83	9.44	10.63
EL826	11.87	--	10.39	11.42	10.00	11.36
EL830	12.51	--	11.03	11.92	10.64	11.86
EL832	12.70	--	11.22	12.10	10.83	12.05

NEMA DIMENSIONS (Inches)

Frame	AJ	AK	BD	BE	BE1	Bore Dia.	Keyway ⚙	BF
56C	5.88	4.50	6.50	0.38	N/A	.625	3/16 X 3/32	0.41
140TC	5.88	4.50	6.50	0.38	N/A	.875	3/16 X 3/32	0.41
180TC	7.25	8.50	9.00	N/A	0.50	1.125	1/4 X 1/8	0.53
210TC	7.25	8.50	9.00	N/A	0.50	1.375	5/16 X 5/32	0.53

NOTE: Larger sizes available with cast iron primary - Contact Factory.

- Max bore dimensions shown. For additional bores, refer to page B19
- ▲ Slotted holes
- ◆ Keyway width by depth
- ⚙ Solid input shaft and C-faced coupling input reducers have different input shaft length and key.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

WARNING! For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

EL SERIES MOUNTING DIMENSIONS

- EL Series mounting dimensions are the same as the original ELECTRA-GEAR product with an option to match the industry standard dimensions of GR Series.
- See page C33 for GR Series dimensions.

ELECTRA-GEAR INTERCHANGE GUIDE

Original Style	New Style
H_RHSC	DXFHM
H_RHC	DXFH
H_RH	DXFH

Convert Style DXFH to motorized coupling input using kits shown on page F6.

WASHGUARD GEAR REDUCERS & GEAR+MOTOR™

With gear reducers in epoxy painted cast iron, polished aluminum and stainless steel, Grove Gear offers a solution for any washdown application.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

GOOD



CAST IRON WASHGUARD® GEAR REDUCERS

Grove Gear **IRONMAN WASHGUARD®** reducers are designed and built to withstand the rigors of high pressure washdown environments in food service and other wet or humid conditions. A white, food-grade epoxy finish provides superior durability in wet environments and resists caustic cleaning solutions. All standard cast iron products are available enhanced with WASHGUARD® features assuring trouble-free operation.

BETTER



ALUMINUM PLATINUM GEAR REDUCERS

EL Series PLATINUM aluminum gear reducers are a lightweight, yet durable alternative for food processing and washguard environments featuring a smooth, polished and paint-free finish. They are available off-the-shelf or customized to your exact specifications. Available in worm gear reducers, ratio multipliers and small, helical-concentric reducers.

BEST



STAINLESS STEEL GEAR REDUCERS

Premium WASHGUARD® All-Stainless reducers offer superior corrosion protection. Our stainless steel housing, shaft, covers and external hardware offer an exceptionally long life. Each reducer comes with USDA H1 synthetic oil, eliminating the need for oil changes. Our premium stainless gear reducers are supplied with 316 grade stainless steel housing and covers. These premium reducers offer superior corrosion protection, and can withstand the harshest conditions. Available in worm gear reducers, ratio multipliers, helical-concentric and helical-bevel reducers.



STOCK GEAR+MOTOR™

Combining Grove Gear built tough, long lasting, energy efficient gear reducers with performance matched LEESON® or Lincoln motors, you can maximize system efficiency and rely on unmatched product strength, precision and dependability.

Save Money. Save Energy. Save the Environment.

REFER TO PAGES D3-D4 FOR FEATURES

GOOD

- Viton® double-lip seals - up to five times more durable than nitrile seals - provide added resistance to chemicals
- Patented Forsheda V-ring on output shaft provides extra protection from contaminants
- O-ring on “flat-faced” input flange provides a positive seal against moisture intrusion
- Food grade white epoxy paint
- Food-Grade Synthetic Lubricant, Mobil PAG 460 or equivalent, meets USDA Class H1 standards

BETTER

- Nine sizes available to 29 HP
- Available in single, double and triple reduction with ratios from 5:1 to 216,000:1
- Worm gear reducers and helical-worm gear reducers
- Clean, polished and paint-free finish
- Lightweight alternative to cast iron
- Lower cost alternative to stainless steel
- Superior corrosion resistance to painted cast iron
- Food-Grade Synthetic Lubricant, Mobil™* PAG 460 or equivalent, meets USDA Class H1 standards
- Stainless steel shafts and hardware

BEST

- O-ring on face of input flange provides a positive seal against moisture intrusion
- Stainless steel output shaft
- Stainless steel hardware, including square-head pipe plugs to eliminate particle entrapment in vent locations
- Viton® double-lip shaft seals for superior resistance to chemicals common in washdown applications
- Food-Grade Synthetic Lubricant, Mobil PAG 460 or equivalent, meets USDA Class H1 standards
- Housing and covers are 300 series cast stainless steel to withstand extreme environments

* Mobil is believed to be the trademark and/or trade name of Exxon Mobil Corporation, and is not owned or controlled by Regal Rexnord Corporation.

CHEMICAL COMPATIBILITY SUMMARY

Material	Reaction Level to Material		
	Cast Iron	Aluminum	316 Stainless
Ammonia Anhydrous	D	B	A
Acetic Acid	D	B	B
Arsenic Acid	D	D	A
Barium Chloride	C	D	A
Barium Sulfate	B	B	B
Beer	D	A	A
Butter	D	A	A
Butyl Alcohol	A	B	C
Calcium Chloride	C	D	B
Carbonic Acid	D	B	A
Catsup	D	D	A
Citric Acid	D	C	A
Chlorine (Dry)	A	C	A
Detergents	N/A	B	A
Diethylene Glycol	A	B	A
Formaldehyde	D	A	A
Grape Juice	D	N/A	A
Lactic Acid	D	B	B
Mayonaise	D	A	A
Nitric Acid (50%)	D	D	A
Salad Dressing	D	B	A
Soap Solutions	A	C	A
Sodium Hydroxide (80%)	D	D	B
Sodium Hypochlorite (<20%)	D	D	C
Sodium Sulfide	A	C	B
Soy Sauce	D	A	A
Sulfuric Acid (<10%)	C	D	B
Sulfur Dioxide	N/A	C	A
Tannic Acid	C	C	A
Turpentine	A	C	B
Vegetable Juice	D	D	A
Vinegar	D	D	A
Water, Fresh	D	B	A
Water, Salt	D	B	B
Whey	N/A	B	A
Whiskey and Wines	D	C	A
Zinc Chloride	D	D	B
Zinc Sulfate	D	D	A

A = Excellent
B = Good, minor effect
C = Fair, moderate affect (not recommended for continuous use)
D = Severe effect, not recommended
N/A = Information not available



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



WASHGUARD® Gear Reducers Designed For Washdown Duty

WASHGUARD® REDUCER FEATURES

Grove Gear® WASHGUARD gear reducers are designed and built to withstand the rigors of high-pressure washdowns in nearly any severe environment, including: food service, chemical and poultry processing, car washes and more. Built on the foundation of Grove Gear's industrial-duty Grove Gear Ironman™ line, these reducers add exclusive WASHGUARD All-Stainless features to ensure trouble-free operation.

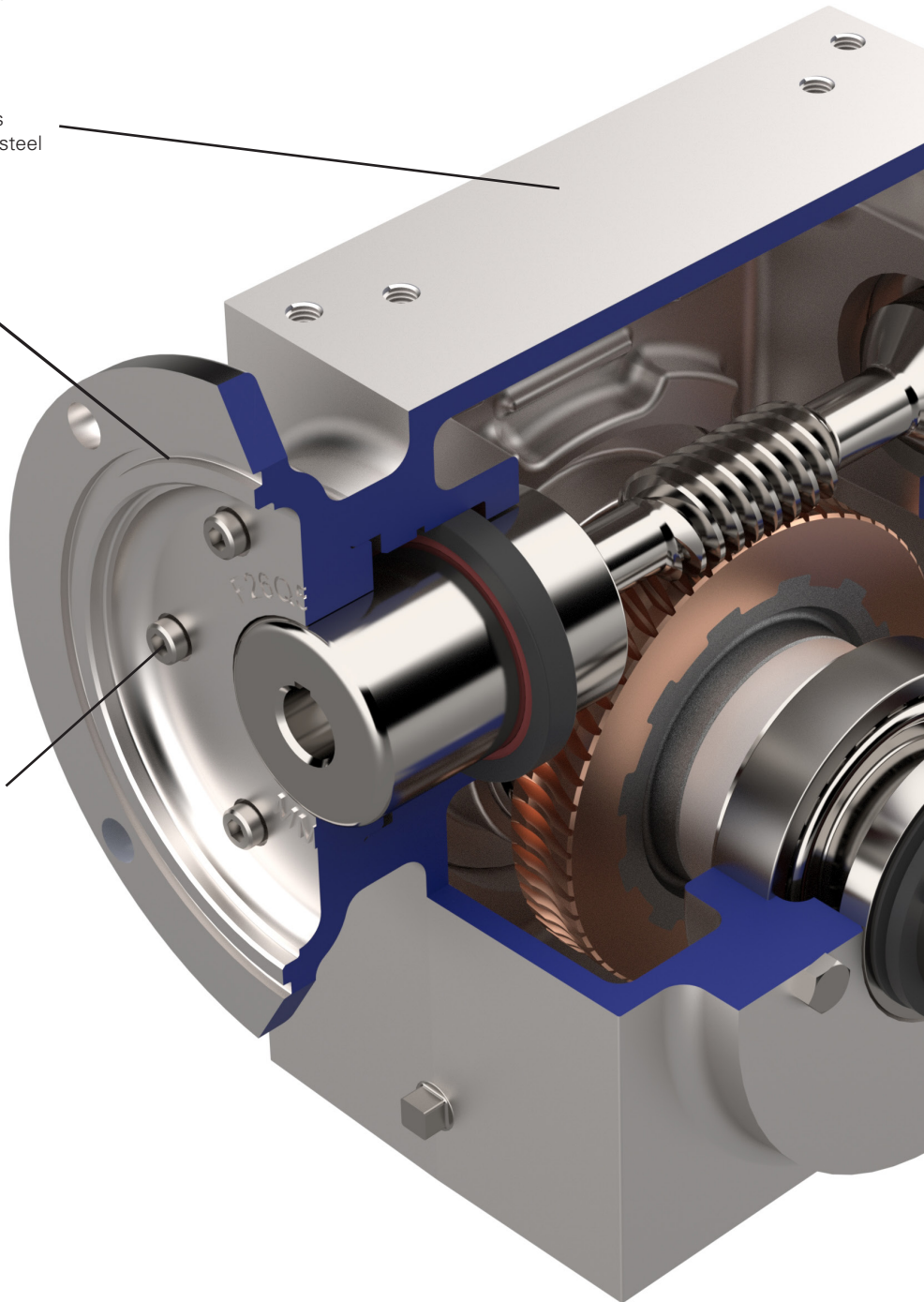
Combine the gear reducer with a LEESON® WASHGUARD epoxy painted or All-Stainless motor for a Gear+Motor™ that boasts an unmatched ability to thrive under conditions that would quickly destroy most other motors and gear reducers.

- WASHGUARD** housing options
- Premium 316 grade stainless steel
 - Polished aluminum
 - Epoxy painted cast iron

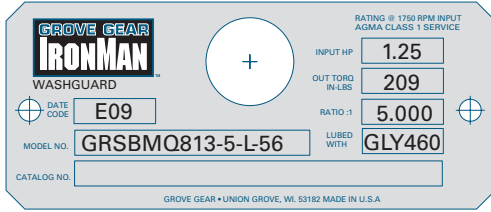
O-ring on input flange provides a positive seal against moisture intrusion.

All features are found on All-Stainless Steel, PLATINUM aluminum and epoxy painted cast iron gear reducers.

Stainless steel assembly hardware resists corrosion from moisture and chemicals.



Stainless steel nameplate, riveted to housing and adhesive backed to eliminate particle entrapment.



(Grove Gear All-Stainless nameplate shown)

Food-Grade Synthetic Oil Mobil Glygoyle PAG 460 meets USDA Class H1 standards while providing superior mechanical/thermal performance and extended life.

O-ring seals on input and output covers eliminate gaskets, sealants and leaks.

Viton® double-lip seals are up to five times more durable than nitrile seals and provide superior resistance to chemical corrosion in severe applications. (Stainless case output seals standard on All-Stainless reducers only.)

303 stainless steel output shaft is corrosion resistant for long life and ease of servicing (stainless steel hollow bores are standard for sizes 813-832 and available as an option for sizes 842-860).

Non-compressible stainless steel shims keep factory bearing settings constant.



WASHGUARD®

Combine WASHGUARD white epoxy gear reducers and WASHGUARD white epoxy motors.

Enhanced performance in wet, humid areas.



PLATINUM WASHGUARD with STAINLESS FRAME MOTOR

Combine PLATINUM polished aluminum reducers and paint-free stainless motors.

Superior, extended life in severe environments.



PREMIUM WASHGUARD ALL-STAINLESS

Combine all-stainless reducers and motors to create a package suitable for nearly any severe duty application.

Maximum service in critically clean or corrosive environments.

Additional WASHGUARD® Products Available

- Ratio Multipliers
- Double reduction worm reducers
- Size 842-8100 worm reducers
- High efficiency products



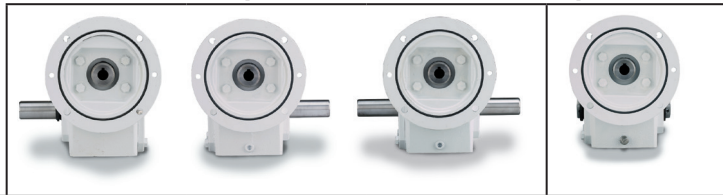
WASHGUARD® MAXIMUM RATING TABLES

SIZE 813 • GR, EL SERIES



Style WBMQ

Style WHMQ



813 SERIES

Ratio	Input RPM	Output RPM ⁺	Input HP	Output HP	Output Torque (lb-in)	NEMA* C Input Frame▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
5	1750	350.0	1.248	1.158	209	56C	__8133001	__8133013	__8133025	__8133501.10
7.5	1750	233.3	1.025	0.933	252	56C	__8133002	__8133014	__8133026	__8133502.10
10	1750	175.0	0.823	0.729	263	56C	__8133003	__8133015	__8133027	__8133503.10
15	1750	116.7	0.642	0.541	292	56C	__8133004	__8133016	__8133028	__8133504.10
20	1750	87.5	0.551	0.445	320	56C	__8133005	__8133017	__8133029	__8133505.10
25	1750	70.0	0.445	0.344	309	56C	__8133006	__8133018	__8133030	__8133506.10
30	1750	58.3	0.395	0.290	314	56C	__8133007	__8133019	__8133031	__8133507.10
40	1750	43.8	0.329	0.223	322	56C	__8133008	__8133020	__8133032	__8133508.10
50	1750	35.0	0.285	0.182	327	56C	__8133009	__8133021	__8133033	__8133509.10
60	1750	29.2	0.246	0.145	313	56C	__8133010	__8133022	__8133034	__8133510.10
80	1750	21.9	0.121	0.064	183	56C	__8133011	__8133023	__8133035	__8133511.10
100	1750	17.5	0.084	0.040	143	56C	__8133012	__8133024	__8133036	__8133512.10

For input/ output shaft overhung load and thrust load ratings, refer to pages L9-L11.

▲ Contact Factory for other motor flanges available.

+ For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages A22-A23.

How To Build a Part Number For Size GR813, NH813, EL813

1. Select partial catalog number from the selection table
2. Replace leading “__” with series code (GR, NH, EL)

Example:

GR Series Style WBMQ, 10:1 Left Hand Output, 56C
GR-WBMQ813-10-L-56
GR8133003

* NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style WBMQ

Style WHMQ



815 SERIES

Ratio	Input RPM	Output RPM+	Input HP	Output HP	Output Torque (lb-in)	NEMA* C Input Frame▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
5	1750	350.0	1.939	1.794	323	56C	<u>8153001</u>	<u>8153013</u>	<u>8153025</u>	<u>8153501.10</u>
						140TC	<u>8153037</u>	<u>8153049</u>	<u>8153061</u>	<u>8153513.10</u>
7.5	1750	233.3	1.522	1.368	370	56C	<u>8153002</u>	<u>8153014</u>	<u>8153026</u>	<u>8153502.10</u>
						140TC	<u>8153038</u>	<u>8153050</u>	<u>8153062</u>	<u>8153514.10</u>
10	1750	175.0	1.279	1.116	402	56C	<u>8153003</u>	<u>8153015</u>	<u>8153027</u>	<u>8153503.10</u>
						140TC	<u>8153039</u>	<u>8153051</u>	<u>8153063</u>	<u>8153515.10</u>
15	1750	116.7	1.003	0.826	446	56C	<u>8153004</u>	<u>8153016</u>	<u>8153028</u>	<u>8153504.10</u>
						140TC	<u>8153040</u>	<u>8153052</u>	<u>8153064</u>	<u>8153516.10</u>
20	1750	87.5	0.919	0.719	518	56C	<u>8153005</u>	<u>8153017</u>	<u>8153029</u>	<u>8153505.10</u>
						140TC	<u>8153041</u>	<u>8153053</u>	<u>8153065</u>	<u>8153517.10</u>
25	1750	70.0	0.752	0.559	503	56C	<u>8153006</u>	<u>8153018</u>	<u>8153030</u>	<u>8153506.10</u>
						140TC	<u>8153007</u>	<u>8153019</u>	<u>8153031</u>	<u>8153507.10</u>
30	1750	58.3	0.630	0.442	478	56C	<u>8153008</u>	<u>8153020</u>	<u>8153032</u>	<u>8153508.10</u>
						140TC	<u>8153009</u>	<u>8153021</u>	<u>8153033</u>	<u>8153509.10</u>
40	1750	43.8	0.560	0.361	520	56C	<u>8153008</u>	<u>8153020</u>	<u>8153032</u>	<u>8153508.10</u>
						140TC	<u>8153009</u>	<u>8153021</u>	<u>8153033</u>	<u>8153509.10</u>
50	1750	35.0	0.464	0.274	494	56C	<u>8153009</u>	<u>8153021</u>	<u>8153033</u>	<u>8153509.10</u>
						140TC	<u>8153010</u>	<u>8153022</u>	<u>8153034</u>	<u>8153510.10</u>
60	1750	29.2	0.391	0.214	462	56C	<u>8153010</u>	<u>8153022</u>	<u>8153034</u>	<u>8153510.10</u>
						140TC	<u>8153011</u>	<u>8153023</u>	<u>8153035</u>	<u>8153511.10</u>
80	1750	21.9	0.204	0.093	269	56C	<u>8153011</u>	<u>8153023</u>	<u>8153035</u>	<u>8153511.10</u>
						140TC	<u>8153012</u>	<u>8153024</u>	<u>8153036</u>	<u>8153512.10</u>
100	1750	17.5	0.145	0.059	213	56C	<u>8153012</u>	<u>8153024</u>	<u>8153036</u>	<u>8153512.10</u>
						140TC				

For input/ output shaft overhung load and thrust load ratings, refer to pages L9-L11.
 ** Size 815 is not available in EL Series.
 ▲ Contact Factory for other motor flanges available.
 † For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages A24-A25.

How To Build a Part Number For Size GR815, EL815

1. Select partial catalog number from the selection table 2. Replace leading “_” with series code (GR)

Example:
 GR Series Style WBMQ, 10:1 Left Hand Output, 56C
 GR-WBMQ813-10-L56
 GR8133003

* NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation.

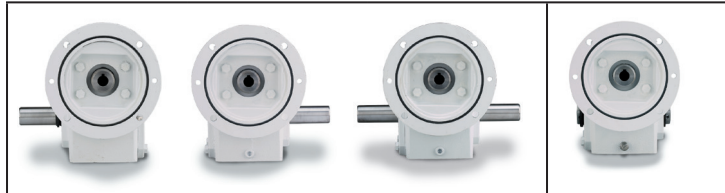
WASHGUARD® MAXIMUM RATING TABLES

SIZE 818 • GR, EL SERIES



Style WBMQ

Style WHMQ



818 SERIES

Ratio	Input RPM	Output RPM†	Input HP	Output HP	Output Torque (lb-in)	NEMA* C Input Frame▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No. ◆
5	1750	350.0	2.600	2.422	436	56C	__8183001	__8183013	__8183025	__8183501.XX
						143-5TC	__8183037	__8183049	__8183061	__8183513.XX
7.5	1750	233.3	1.909	1.745	471	56C	__8183002	__8183014	__8183026	__8183502.XX
						143-5TC	__8183038	__8183050	__8183062	__8183514.XX
10	1750	175.0	1.625	1.466	528	56C	__8183003	__8183015	__8183027	__8183503.XX
						143-5TC	__8183039	__8183051	__8183063	__8183515.XX
15	1750	116.7	1.224	1.058	571	56C	__8183004	__8183016	__8183028	__8183504.XX
						143-5TC	__8183040	__8183052	__8183064	__8183516.XX
20	1750	87.5	1.046	0.875	630	56C	__8183005	__8183017	__8183029	__8183505.XX
						143-5TC	__8183041	__8183053	__8183065	__8183517.XX
25	1750	70.0	0.884	0.715	644	56C	__8183006	__8183018	__8183030	__818506.XX
							__8183007	__8183019	__8183031	__8183507.XX
30	1750	58.3	0.741	0.569	614	56C	__8183007	__8183019	__8183031	__8183507.XX
							__8183008	__8183020	__8183032	__8183508.XX
40	1750	43.8	0.609	0.440	634	56C	__8183008	__8183020	__8183032	__8183508.XX
							__8183009	__8183021	__8183033	__8183509.XX
50	1750	35.0	0.515	0.352	634	56C	__8183009	__8183021	__8183033	__8183509.XX
							__8183010	__8183022	__8183034	__8183510.XX
60	1750	29.2	0.449	0.288	623	56C	__8183010	__8183022	__8183034	__8183510.XX
							__8183011	__8183023	__8183035	__8183511.XX
80	1750	21.9	0.208	0.124	356	56C	__8183011	__8183023	__8183035	__8183511.XX
							__8183012	__8183024	__8183036	__8183512.XX
100	1750	17.5	0.141	0.077	277	56C	__8183012	__8183024	__8183036	__8183512.XX

For input/ output shaft overhung load and thrust load ratings, refer to pages L9-L11.

▲ Contact Factory for other motor flanges available.

† For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages A26-A27.

How To Build a Part Number For Size GR818, EL818

1. Select partial catalog number from the selection table
2. For Hollow output, replace "XX" suffix with bore code.
3. Replace leading "__" with series code (GR, NH, EL)

Example:

GR Series Style WBMQ, 10:1 Left Hand Output, 56C
GR-WBMQ813-10-L-56
GR8133003

AVAILABLE BORE CODES

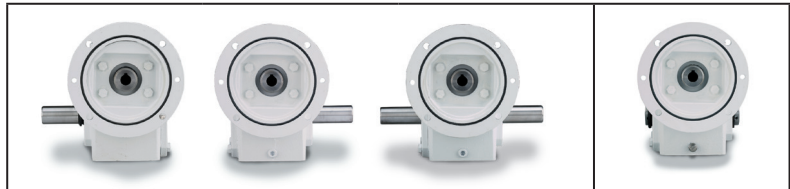
Fraction Size	5/8"	11/16"	3/4"	7/8"	1"
Decimal Size	0.625	0.688	0.750	0.875	1.00
Output Bore Code	10	11	12	14	16

◆ Catalog numbers are for hollow output shaft reducers.
When ordering, substitute the XX suffix with the required output bore code.

* NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation.

Style WBMQ

Style WHMQ



821 SERIES

Ratio	Input RPM	Output RPM†	Input HP	Output HP	Output Torque (lb-in)	NEMA* C Input Frame▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.♦
5	1750	350.0	3.653	3.410	614	56C	<u>8213001</u>	<u>8213013</u>	<u>8213025</u>	<u>8213501.XX</u>
						143-5TC	<u>8213037</u>	<u>8213049</u>	<u>8213061</u>	<u>8213513.XX</u>
7.5	1750	233.3	2.793	2.562	692	56C	<u>8213002</u>	<u>8213014</u>	<u>8213026</u>	<u>8213502.XX</u>
						143-5TC	<u>8213038</u>	<u>8213050</u>	<u>8213062</u>	<u>8213514.XX</u>
10	1750	175.0	2.464	2.235	805	56C	<u>8213003</u>	<u>8213015</u>	<u>8213027</u>	<u>8213503.XX</u>
						143-5TC	<u>8213039</u>	<u>8213051</u>	<u>8213063</u>	<u>8213515.XX</u>
15	1750	116.7	1.887	1.661	897	56C	<u>8213004</u>	<u>8213016</u>	<u>8213028</u>	<u>8213504.XX</u>
						143-5TC	<u>8213040</u>	<u>8213052</u>	<u>8213064</u>	<u>8213516.XX</u>
20	1750	87.5	1.584	1.338	964	56C	<u>8213005</u>	<u>8213017</u>	<u>8213029</u>	<u>8213505.XX</u>
						143-5TC	<u>8213041</u>	<u>8213053</u>	<u>8213065</u>	<u>8213517.XX</u>
25	1750	70.0	1.333	1.094	985	56C	<u>8213006</u>	<u>8213018</u>	<u>8213030</u>	<u>8213506.XX</u>
						143-5TC	<u>8213042</u>	<u>8213054</u>	<u>8213066</u>	<u>8213518.XX</u>
30	1750	58.3	1.129	0.896	968	56C	<u>8213007</u>	<u>8213019</u>	<u>8213031</u>	<u>8213507.XX</u>
						143-5TC	<u>8213043</u>	<u>8213055</u>	<u>8213067</u>	<u>8213519.XX</u>
40	1750	43.8	0.916	0.674	971	56C	<u>8213008</u>	<u>8213020</u>	<u>8213032</u>	<u>8213508.XX</u>
						143-5TC	<u>8213044</u>	<u>8213056</u>	<u>8213068</u>	<u>8213521.XX</u>
50	1750	35.0	0.769	0.539	970	56C	<u>8213009</u>	<u>8213021</u>	<u>8213033</u>	<u>8213509.XX</u>
						143-5TC	<u>8213045</u>	<u>8213057</u>	<u>8213069</u>	<u>8213522.XX</u>
60	1750	29.2	0.674	0.435	940	56C	<u>8213010</u>	<u>8213022</u>	<u>8213034</u>	<u>8213510.XX</u>
						143-5TC	<u>8213046</u>	<u>8213058</u>	<u>8213070</u>	<u>8213523.XX</u>
80	1750	21.9	0.304	0.190	547	56C	<u>8213011</u>	<u>8213023</u>	<u>8213035</u>	<u>8213511.XX</u>
						143-5TC	<u>8213047</u>	<u>8213059</u>	<u>8213071</u>	<u>8213524.XX</u>
100	1750	17.5	0.217	0.122	439	56C	<u>8213012</u>	<u>8213024</u>	<u>8213036</u>	<u>8213512.XX</u>
						143-5TC	<u>8213048</u>	<u>8213060</u>	<u>8213072</u>	<u>8213525.XX</u>

For input/ output shaft overhung load and thrust load ratings, refer to pages L9-L11.
 ▲ Contact Factory for other motor flanges available.
 † For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages A28-A29.

How To Build a Part Number For Size GRG821, GRL821, EL821

- Select partial catalog number from the selection table
- For Hollow output, replace "XX" suffix with bore code
- Replace leading "_" with series code (GRG, GRL, EL)

Example:

GR Series Style WBMQ, 10:1 Left Hand Output, 56C
 GR-WBMQ813-10-L-56
 GR8133003

GRG = GROVE GEAR®

- Direct replacement to Grove Gear Flexaline
- Mounting footprint 3.00" x 4.75"
- See pages 52-73 for dimensions

GRL =



Interchange

- Direct replacement to LEESON IRONMAN & major brands.
- Mounting footprint 2.88" x 5.00"
- See pages 52-73 for dimensions

AVAILABLE BORE CODES

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

♦ Catalog numbers are for hollow output shaft reducers.
 When ordering, substitute the XX suffix with the required output bore code.

* NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation.

WASHGUARD® MAXIMUM RATING TABLES

SIZE 824 • GR, EL SERIES



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style WBMQ

Style WHMQ



824 SERIES

Ratio	Input RPM	Output RPM†	Input HP	Output HP	Output Torque (lb-in)	NEMA* C Input Frame▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.◆
5	1750	350.0	5.323	4.985	898	143-5TC	<u> </u> 8243037	<u> </u> 8243049	<u> </u> 8243061	<u> </u> 8243513.XX
7.5	1750	233.3	3.992	3.685	995	143-5TC	<u> </u> 8243038	<u> </u> 8243050	<u> </u> 8243062	<u> </u> 8243514.XX
10	1750	175.0	3.564	3.253	1172	143-5TC	<u> </u> 8243039	<u> </u> 8243051	<u> </u> 8243063	<u> </u> 8243515.XX
15	1750	116.7	2.765	2.439	1318	56C	<u> </u> 8243004	<u> </u> 8243016	<u> </u> 8243028	<u> </u> 8243504.XX
						143-5TC	<u> </u> 8243040	<u> </u> 8243052	<u> </u> 8243064	<u> </u> 8243516.XX
20	1750	87.5	2.326	1.972	1421	56C	<u> </u> 8243005	<u> </u> 8243017	<u> </u> 8243029	<u> </u> 8243505.XX
						143-5TC	<u> </u> 8243041	<u> </u> 8243053	<u> </u> 8243065	<u> </u> 8243517.XX
25	1750	70.0	1.967	1.615	1454	56C	<u> </u> 8243006	<u> </u> 8243018	<u> </u> 8243030	<u> </u> 8243506.XX
						143-5TC	<u> </u> 8243042	<u> </u> 8243054	<u> </u> 8243066	<u> </u> 8243518.XX
30	1750	58.3	1.653	1.317	1423	56C	<u> </u> 8243007	<u> </u> 8243019	<u> </u> 8243031	<u> </u> 8243507.XX
						143-5TC	<u> </u> 8243043	<u> </u> 8243055	<u> </u> 8243067	<u> </u> 8243519.XX
40	1750	43.8	1.342	0.994	1433	56C	<u> </u> 8243008	<u> </u> 8243020	<u> </u> 8243032	<u> </u> 8243508.XX
						143-5TC	<u> </u> 8243044	<u> </u> 8243056	<u> </u> 8243068	<u> </u> 8243520.XX
50	1750	35.0	1.137	0.795	1432	56C	<u> </u> 8243009	<u> </u> 8243021	<u> </u> 8243033	<u> </u> 8243509.XX
						143-5TC	<u> </u> 8243045	<u> </u> 8243057	<u> </u> 8243069	<u> </u> 8243521.XX
60	1750	29.2	0.967	0.656	1418	56C	<u> </u> 8243010	<u> </u> 8243022	<u> </u> 8243034	<u> </u> 8243510.XX
80	1750	21.9	0.455	0.288	830	56C	<u> </u> 8243011	<u> </u> 8243023	<u> </u> 8243035	<u> </u> 8243511.XX
100	1750	17.5	0.307	0.180	648	56C	<u> </u> 8243012	<u> </u> 8243024	<u> </u> 8243036	<u> </u> 8243512.XX

For input/ output shaft overhung load and thrust load ratings, refer to pages L9-L11.
 ▲ Contact Factory for other motor flanges available.
 † For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages A30-A31.

How To Build a Part Number For Size GR824, EL824

1. Select partial catalog number from the selection table
2. For Hollow output, replace "XX" suffix with bore code
3. Replace leading " _ " with series code (GR, EL)

Example:

GR Series Style WBMQ, 10:1 Left Hand Output, 140C
 GR-WBMQ824-10-L-140 and GR8243039

AVAILABLE BORE CODES

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

◆ Catalog numbers are for hollow output shaft reducers.
 When ordering, substitute the XX suffix with the required output bore code.

* NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation.

Style WBMQ

Style WHMQ



826 SERIES

Ratio	Input RPM	Output RPM†	Input HP	Output HP	Output Torque (lb-in)	NEMA* C Input Frame▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.◆
5 (5.17 actual)	1750	350.0	6.693	6.276	1130	143-5TC	<u>8263037</u>	<u>8263049</u>	<u>8263061</u>	<u>8263513.XX</u>
7.5	1750	233.3	4.956	4.571	1235	143-5TC	<u>8263038</u>	<u>8263050</u>	<u>8263062</u>	<u>8263514.XX</u>
10	1750	175.0	4.492	4.097	1475	143-5TC	<u>8263039</u>	<u>8263051</u>	<u>8263063</u>	<u>8263515.XX</u>
15	1750	116.7	3.614	3.216	1737	143-5TC	<u>8263040</u>	<u>8263052</u>	<u>8263064</u>	<u>8263516.XX</u>
20	1750	87.5	2.965	2.549	1836	56C	<u>8263005</u>	<u>8263017</u>	<u>8263029</u>	<u>8263505.XX</u>
						143-5TC	<u>8263041</u>	<u>8263053</u>	<u>8263065</u>	<u>8263517.XX</u>
25	1750	70.0	2.487	2.076	1869	56C	<u>8263006</u>	<u>8263018</u>	<u>8263030</u>	<u>8263506.XX</u>
						143-5TC	<u>8263042</u>	<u>8263054</u>	<u>8263066</u>	<u>8263518.XX</u>
30	1750	58.3	2.145	1.743	1883	56C	<u>8263007</u>	<u>8263019</u>	<u>8263031</u>	<u>8263507.XX</u>
						143-5TC	<u>8263043</u>	<u>8263055</u>	<u>8263067</u>	<u>8263519.XX</u>
40	1750	43.8	1.695	1.287	1854	56C	<u>8263008</u>	<u>8263020</u>	<u>8263032</u>	<u>8263508.XX</u>
						143-5TC	<u>8263044</u>	<u>8263056</u>	<u>8263068</u>	<u>8263520.XX</u>
50	1750	35.0	1.420	1.023	1843	56C	<u>8263009</u>	<u>8263021</u>	<u>8263033</u>	<u>8263509.XX</u>
						143-5TC	<u>8263045</u>	<u>8263057</u>	<u>8263069</u>	<u>8263521.XX</u>
60	1750	29.2	1.216	0.835	1805	56C	<u>8263010</u>	<u>8263022</u>	<u>8263034</u>	<u>8263510.XX</u>
						143-5TC	<u>8263046</u>	<u>8263058</u>	<u>8263070</u>	<u>8263522.XX</u>
80	1750	21.9	0.577	0.379	1092	56C	<u>8263011</u>	<u>8263023</u>	<u>8263035</u>	<u>8263511.XX</u>
100	1750	17.5	0.386	0.236	851	56C	<u>8263012</u>	<u>8263024</u>	<u>8263036</u>	<u>8263512.XX</u>

For input/ output shaft overhung load and thrust load ratings, refer to pages L9-L11.

▲ Contact Factory for other motor flanges available.

† For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages A32-A33.

How To Build a Part Number For Size GR826, GRG826, GRL826, EL826

1. Select partial catalog number from the selection table
3. For Hollow output, replace "XX" suffix with bore code
3. Replace leading " _ " with series code (GR, GRG, GRL, EL)

Example:

GR Series Style WBMQ, 10:1 Left Hand Output, 140C
GRG-WBMQ826-10-L-140, GRG8263039

GRG = GROVE GEAR®

- Direct replacement to Grove Gear Flexaline
- 1-1/4" solid output shaft diameter
- For hollow bores, specify GRL Interchange
- Solid output shaft only

GRL =



Interchange

- Direct replacement to LEESON IRONMAN & major brands.
- Mounting footprint 2.88" x 5.00"
- See pages 52-73 for dimensions

AVAILABLE BORE CODES

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

◆ Catalog numbers are for hollow output shaft reducers.

When ordering, substitute the XX suffix with the required output bore code.

* NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation.

WASHGUARD® MAXIMUM RATING TABLES

SIZE 830 • GR, EL SERIES



Style WBMQ

Style WHMQ



830 SERIES

Ratio	Input RPM	Output RPM ⁺	Input HP	Output HP	Output Torque (lb-in)	NEMA* C Input Frame▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.◆
5	1750	350.0	9.093	8.573	1544	143-5TC	__8303037	__8303049	__8303061	__8303513.XX
7.5	1750	233.3	6.879	6.421	1734	143-5TC	__8303038	__8303050	__8303062	__8303514.XX
10	1750	175.0	6.151	5.655	2037	143-5TC	__8303039	__8303051	__8303063	__8303515.XX
15	1750	116.7	4.843	4.311	2329	143-5TC	__8303040	__8303052	__8303064	__8303516.XX
20	1750	87.5	3.947	3.407	2454	143-5TC	__8303041	__8303053	__8303065	__8303517.XX
25	1750	70.0	3.355	2.807	2527	143-5TC	__8303042	__8303054	__8303066	__8303518.XX
30	1750	58.3	2.879	2.332	2519	143-5TC	__8303043	__8303055	__8303067	__8303519.XX
40	1750	43.8	2.251	1.720	2477	56C	__8303008	__8303020	__8303032	__8303508.XX
						143-5TC	__8303044	__8303056	__8303068	__8303520.XX
50	1750	35.0	1.915	1.383	2490	56C	__8303009	__8303021	__8303033	__8303509.XX
						143-5TC	__8303045	__8303057	__8303069	__8303521.XX
60	1750	29.2	1.637	1.117	2413	56C	__8303010	__8303022	__8303034	__8303510.XX
						143-5TC	__8303046	__8303058	__8303070	__8303522.XX
80	1750	21.9	0.895	0.585	1684	56C	__8303011	__8303023	__8303035	__8303511.XX
						143-5TC	__8303047	__8303059	__8303071	__8303523.XX
100	1750	17.5	0.603	0.367	1321	56C	__8303012	__8303024	__8303036	__8303512.XX

For input/ output shaft overhung load and thrust load ratings, refer to pages L9-L11.

▲ Contact Factory for other motor flanges available.

+ For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages A34-A35.

How To Build a Part Number For Size GR830, EL830

1. Select partial catalog number from the selection table
2. For Hollow output, replace "XX" suffix with bore code
3. Replace leading "__" with series code

Example:

GR Series Style WBMQ, 10:1 Left Hand Output, 140TC
GR-WBMQ830-10-140-L, GR8303039

AVAILABLE BORE CODES

Fraction Size	1-3/16"	1-1/4"	1-7/16"	1-1/2"	1-5/8"	1-11/16"	1-3/4"	1-7/8"	1-15/16"	2"	2-3/16"
Decimal Size	1.188	1.250	1.438	1.250	1.500	1.625	1.750	1.875	1.938	2.000	2.188
Output Bore Code	19	20	23	24	26	27	28	30	31	32	35

◆ Catalog numbers are for hollow output shaft reducers.

When ordering, substitute the XX suffix with the required output bore code.

* NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

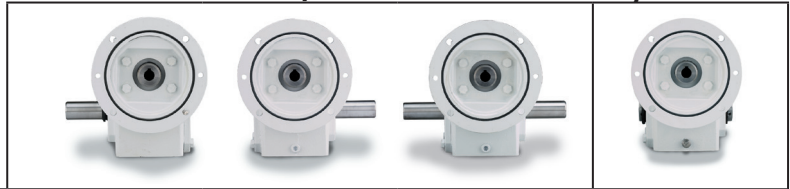
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style WBMQ

Style WHMQ



832 SERIES

Ratio	Input RPM	Output RPM†	Input HP	Output HP	Output Torque (lb-in)	NEMA* C Input Frame▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.♦
5	1750	350.0	11.92	11.29	2033	143-5TC	__8323037	__8323049	__8323061	__8323513.XX
7.5	1750	233.3	8.863	8.264	2232	143-5TC	__8323038	__8323050	__8323062	__8323514.XX
10	1750	175.0	8.092	7.497	2700	143-5TC	__8323039	__8323051	__8323063	__8323515.XX
15	1750	116.7	6.127	5.516	2980	143-5TC	__8323040	__8323052	__8323064	__8323516.XX
20	1750	87.5	5.180	4.536	3267	143-5TC	__8323041	__8323053	__8323065	__8323517.XX
25	1750	70.0	4.373	3.732	3360	143-5TC	__8323042	__8323054	__8323066	__8323518.XX
30	1750	58.3	3.619	2.986	3226	143-5TC	__8323043	__8323055	__8323067	__8323519.XX
40	1750	43.8	2.926	2.293	3303	56C 143-5TC	__8323008 __8323044	__8323020 __8323056	__8323032 __8323068	__8323508.XX __8323520.XX
50	1750	35.0	2.462	1.841	3315	56C 143-5TC	__8323009 __8323045	__8323021 __8323057	__8323033 __8323069	__8323509.XX __8323521.XX
60	1750	29.2	2.114	1.515	3274	56C 143-5TC	__8323010 __8323046	__8323022 __8323058	__8323034 __8323070	__8323510.XX __8323522.XX
80	1750	21.9	1.030	0.695	2000	56C 143-5TC	__8323011 __8323047	__8323023 __8323059	__8323035 __8323071	__8323511.XX __8323523.XX
100	1750	17.5	0.691	0.435	1567	56C	__8323012	__8323024	__8323036	__8323512.XX

For input/ output shaft overhung load and thrust load ratings, refer to pages L9-L11.
 ▲ Contact Factory for other motor flanges available.
 † For gear reducer ratings at other input speeds, refer to basic reducer selection tables on pages A38-A39.

How To Build a Part Number For Size GR832, GRG832, GRL832, EL832

- Select partial catalog number from the selection table
- Replace leading “__” with series code (GR, GRG, GRL, EL)
- For Hollow output, replace “XX” suffix with bore code

Example:

GR Series Style WBMQ, 10:1 Left Hand Output, 140TC
 GRG-WBMQ832-10-L-140, GRG8323039

GRG = GROVE GEAR®

- Direct replacement to Grove Gear Flexaline
- 1-1/4” solid output shaft diameter
- For hollow bores, specify GRL Interchange
- Solid output shaft only

GRL =



Interchange

- Direct replacement to LEESON
- IRONMAN & major brands.
- Hollow shaft option available
- 1-3/8” solid output shaft diameter

AVAILABLE BORE CODES

Fraction Size	1-3/16"	1-1/4"	1-7/16"	1-1/2"	1-5/8"	1-11/16"	1-3/4"	1-7/8"	1-15/16"	2"	2-3/16"
Decimal Size	1.188	1.250	1.438	1.500	1.625	1.688	1.750	1.875	1.938	2.000	2.188
Output Bore Code	19	20	23	24	26	27	28	30	31	32	35

♦ Catalog numbers are for hollow output shaft reducers.
 When ordering, substitute the XX suffix with the required output bore code.

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Stainless Steel MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

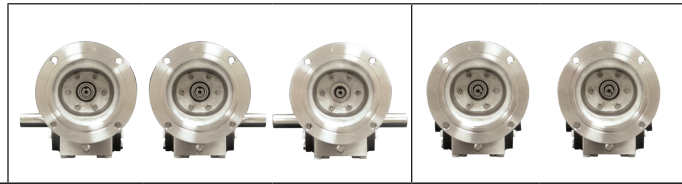
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style SBM

Style SHM



Size S13

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA®* Input Frame	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.	H1 Assembly Catalog No.	H2 Assembly Catalog No.
5	2500	500.0	1.528	1.429	180	56C	S133061300	S133062500	S133063700	S133103310	S133104510
	1750	350.0	1.248	1.158	209						
	1170	234.0	0.952	0.872	235						
	100	20.0	0.140	0.095	298						
7.5	2500	333.3	1.281	1.178	223	56C	S133061400	S133062600	S133063800	S133103410	S133104610
	1750	233.3	1.025	0.933	252						
	1170	156.0	0.770	0.689	278						
	100	13.3	0.118	0.072	339						
10	2500	250.0	1.016	0.912	230	56C	S133061500	S133062700	S133063900	S133103510	S133104710
	1750	175.0	0.823	0.729	263						
	1170	117.0	0.626	0.543	293						
	100	10.0	0.103	0.058	363						
15	2500	166.7	0.790	0.678	257	56C	S133061600	S133062800	S133064000	S133103610	S133104810
	1750	116.7	0.642	0.541	292						
	1170	78.0	0.491	0.402	325						
	100	6.7	0.090	0.042	401						
20	2500	125.0	0.681	0.562	283	56C	S133061700	S133062900	S133064100	S133103710	S133104910
	1750	87.5	0.551	0.445	320						
	1170	58.5	0.422	0.328	354						
	100	5.0	0.084	0.034	431						
25	2500	100.0	0.544	0.431	272	56C	S133061800	S133063000	S133064200	S133103810	S133105010
	1750	70.0	0.445	0.344	309						
	1170	46.8	0.344	0.255	344						
	100	4.0	0.074	0.027	423						
30	2500	83.3	0.481	0.364	276	56C	S133061900	S133063100	S133064300	S133103910	S133105110
	1750	58.3	0.395	0.290	314						
	1170	39.0	0.308	0.215	348						
	100	3.3	0.071	0.023	429						
40	2500	62.5	0.400	0.283	285	56C	S133062000	S133063200	S133064400	S133104010	S133105210
	1750	43.8	0.329	0.223	322						
	1170	29.3	0.258	0.165	355						
	100	2.5	0.066	0.017	432						
50	2500	50.0	0.346	0.232	292	56C	S133062100	S133063300	S133064500	S133104110	S133105310
	1750	35.0	0.285	0.182	327						
	1170	23.4	0.224	0.133	359						
	100	2.0	0.061	0.014	431						
60	2500	41.7	0.297	0.184	279	56C	S133062200	S133063400	S133064600	S133104210	S133105410
	1750	29.2	0.246	0.145	313						
	1170	19.5	0.195	0.107	345						
	100	1.7	0.058	0.011	415						
80	2500	31.3	0.144	0.081	163	56C	S133062300	S133063500	S133064700	S133104310	S133105510
	1750	21.9	0.121	0.064	183						
	1170	14.6	0.096	0.047	201						
	100	1.3	0.014	0.005	237						
100	2500	25.0	0.100	0.051	128	56C	S133062400	S133063600	S133064800	S133104410	S133105610
	1750	17.5	0.084	0.040	143						
	1170	11.7	0.067	0.029	156						
	100	1.0	0.010	0.003	184						

Consult Factory for other available styles and motor flanges.

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Stainless Steel MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

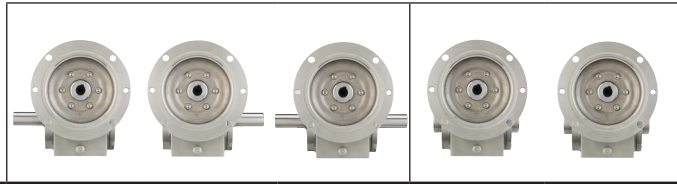
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style SBMQ

Style SHMQ



Size S13

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA** Input Frame	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.	H1 Assembly Catalog No.	H2 Assembly Catalog No.
5	2500	500.0	1.528	1.429	180	56C	S133003700	S133004900	S133006100	S133045710	S133046910
	1750	350.0	1.248	1.158	209						
	1170	234.0	0.952	0.872	235						
	100	20.0	0.140	0.095	298						
7.5	2500	333.3	1.281	1.178	223	56C	S133003800	S133005000	S133006200	S133045810	S133047010
	1750	233.3	1.025	0.933	252						
	1170	156.0	0.770	0.689	278						
	100	13.3	0.118	0.072	339						
10	2500	250.0	1.016	0.912	230	56C	S133003900	S133005100	S133006300	S133045910	S133047110
	1750	175.0	0.823	0.729	263						
	1170	117.0	0.626	0.543	293						
	100	10.0	0.103	0.058	363						
15	2500	166.7	0.790	0.678	257	56C	S133004000	S133005200	S133006400	S133046010	S133047210
	1750	116.7	0.642	0.541	292						
	1170	78.0	0.491	0.402	325						
	100	6.7	0.090	0.042	401						
20	2500	125.0	0.681	0.562	283	56C	S133004100	S133005300	S133006500	S133046110	S133047310
	1750	87.5	0.551	0.445	320						
	1170	58.5	0.422	0.328	354						
	100	5.0	0.084	0.034	431						
25	2500	100.0	0.544	0.431	272	56C	S133004200	S133005400	S133006600	S133046210	S133047410
	1750	70.0	0.445	0.344	309						
	1170	46.8	0.344	0.255	344						
	100	4.0	0.074	0.027	423						
30	2500	83.3	0.481	0.364	276	56C	S133004300	S133005500	S133006700	S133046310	S133047510
	1750	58.3	0.395	0.290	314						
	1170	39.0	0.308	0.215	348						
	100	3.3	0.071	0.023	429						
40	2500	62.5	0.400	0.283	285	56C	S133004400	S133005600	S133006800	S133046410	S133047610
	1750	43.8	0.329	0.223	322						
	1170	29.3	0.258	0.165	355						
	100	2.5	0.066	0.017	432						
50	2500	50.0	0.346	0.232	292	56C	S133004500	S133005700	S133006900	S133046510	S133047710
	1750	35.0	0.285	0.182	327						
	1170	23.4	0.224	0.133	359						
	100	2.0	0.061	0.014	431						
60	2500	41.7	0.297	0.184	279	56C	S133004600	S133005800	S133007000	S133046610	S133047810
	1750	29.2	0.246	0.145	313						
	1170	19.5	0.195	0.107	345						
	100	1.7	0.058	0.011	415						
80	2500	31.3	0.144	0.081	163	56C	S133004700	S133005900	S133007100	S133046710	S133047910
	1750	21.9	0.121	0.064	183						
	1170	14.6	0.096	0.047	201						
	100	1.3	0.014	0.005	237						
100	2500	25.0	0.100	0.051	128	56C	S133004800	S133006000	S133007200	S133046810	S133048010
	1750	17.5	0.084	0.040	143						
	1170	11.7	0.067	0.029	156						
	100	1.0	0.010	0.003	184						

Consult Factory for other available styles and motor flanges.

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Stainless Steel MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

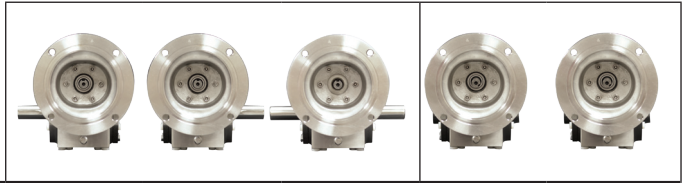
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style SBM

Style SHM



Size S15

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA®* Input Frame	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.	H1 Assembly Catalog No.	H2 Assembly Catalog No.
5	2500	500.0	2.310	2.151	271	56C	S153061300	S153062500	S153063700	S153103310	S153104510
	1750	350.0	1.939	1.794	323						
	1170	234.0	1.537	1.408	379	143-5TC	S153064900	S153066100	S153067300	S153105710	S153106910
	100	20.0	0.235	0.167	526						
7.5	2500	333.3	1.785	1.619	306	56C	S153061400	S153062600	S153063800	S153103410	S153104610
	1750	233.3	1.522	1.368	370						
	1170	156.0	1.205	1.068	431	143-5TC	S153065000	S153066200	S153067400	S153105810	S153107010
	100	13.3	0.196	0.125	591						
10	2500	250.0	1.500	1.324	334	56C	S153061500	S153062700	S153063900	S153103510	S153104710
	1750	175.0	1.279	1.116	402						
	1170	117.0	1.014	0.869	468	143-5TC	S153065100	S153066300	S153067500	S153105910	S153107110
	100	10.0	0.176	0.101	639						
15	2500	166.7	1.174	0.982	371	56C	S153061600	S153062800	S153064000	S153103610	S153104810
	1750	116.7	1.003	0.826	446						
	1170	78.0	0.800	0.643	519	143-5TC	S153065200	S153066400	S153067600	S153106010	S153107210
	100	6.7	0.155	0.075	706						
20	2500	125.0	1.077	0.860	434	56C	S153061700	S153062900	S153064100	S153103710	S153104910
	1750	87.5	0.919	0.719	518						
	1170	58.5	0.734	0.557	600	143-5TC	S153065300	S153066500	S153067700	S153106110	S153107310
	100	5.0	0.155	0.064	807						
25	2500	100.0	0.881	0.670	422	56C	S153061800	S153063000	S153064200	S153103810	S153105010
	1750	70.0	0.752	0.559	503						
	1170	46.8	0.602	0.431	580	143-5TC	S153065400	S153066600	S153067800	S153106210	S153107410
	100	4.0	0.137	0.049	775						
30	2500	83.3	0.729	0.526	398	56C	S153061900	S153063100	S153064300	S153103910	S153105110
	1750	58.3	0.630	0.442	478						
	1170	39.0	0.510	0.344	555	143-5TC	S153065500	S153066700	S153067900	S153106310	S153107510
	100	3.3	0.124	0.040	754						
40	2500	62.5	0.649	0.432	435	56C	S153062000	S153063200	S153064400	S153104010	S153105210
	1750	43.8	0.560	0.361	520						
	1170	29.3	0.456	0.279	601	143-5TC	S153065600	S153066800	S153068000	S153106410	S153107610
	100	2.5	0.122	0.032	808						
50	2500	50.0	0.536	0.329	415	56C	S153062100	S153063300	S153064500	S153104110	S153105310
	1750	35.0	0.464	0.274	494						
	1170	23.4	0.379	0.211	569	143-5TC	S153065700	S153066900	S153068100	S153106510	S153107710
	100	2.0	0.110	0.024	760						
60	2500	41.7	0.451	0.257	389	56C	S153062200	S153063400	S153064600	S153104210	S153105410
	1750	29.2	0.391	0.214	462						
	1170	19.5	0.321	0.165	532	143-5TC	S153065800	S153067000	S153068200	S153106610	S153107810
	100	1.7	0.099	0.019	707						
80	2500	31.3	0.219	0.109	220	56C	S153062300	S153063500	S153064700	S153104310	S153105510
	1750	21.9	0.204	0.093	269						
	1170	14.6	0.176	0.073	314	143-5TC	S153065900	S153067100	S153068300	S153106710	S153107910
	100	1.3	0.032	0.008	418						
100	2500	25.0	0.155	0.069	175	56C	S153062400	S153063600	S153064800	S153104410	S153105610
	1750	17.5	0.145	0.059	213						
	1170	11.7	0.126	0.046	248	143-5TC	S153066000	S153067200	S153068400	S153106810	S153108010
	100	1.0	0.024	0.005	328						

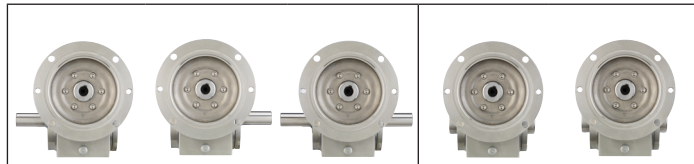
Consult Factory for other available styles and motor flanges.

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Stainless Steel MAXIMUM RATING TABLES

Style SBMQ

Style SHMQ



Size S15

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA®* Input Frame	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.	H1 Assembly Catalog No.	H2 Assembly Catalog No.
5	2500	500.0	2.310	2.151	271	56C	S153003700	S153004900	S153006100	S153045710	S153046910
	1750	350.0	1.939	1.794	323						
	1170	234.0	1.537	1.408	379	143-5TC	S153007300	S153008500	S153009700	S153048110	S153049310
	100	20.0	0.235	0.167	526						
7.5	2500	333.3	1.785	1.619	306	56C	S153003800	S153005000	S153006200	S153045810	S153047010
	1750	233.3	1.522	1.368	370						
	1170	156.0	1.205	1.068	431	143-5TC	S153007400	S153008600	S153009800	S153048210	S153049410
	100	13.3	0.196	0.125	591						
10	2500	250.0	1.500	1.324	334	56C	S153003900	S153005100	S153006300	S153045910	S153047110
	1750	175.0	1.279	1.116	402						
	1170	117.0	1.014	0.869	468	143-5TC	S153007500	S153008700	S153009900	S153048310	S153049510
	100	10.0	0.176	0.101	639						
15	2500	166.7	1.174	0.982	371	56C	S153004000	S153005200	S153006400	S153046010	S153047210
	1750	116.7	1.003	0.826	446						
	1170	78.0	0.800	0.643	519	143-5TC	S153007600	S153008800	S153010000	S153048410	S153049610
	100	6.7	0.155	0.075	706						
20	2500	125.0	1.077	0.860	434	56C	S153004100	S153005300	S153006500	S153046110	S153047310
	1750	87.5	0.919	0.719	518						
	1170	58.5	0.734	0.557	600	143-5TC	S153007700	S153008900	S153010100	S153048510	S153049710
	100	5.0	0.155	0.064	807						
25	2500	100.0	0.881	0.670	422	56C	S153004200	S153005400	S153006600	S153046210	S153047410
	1750	70.0	0.752	0.559	503						
	1170	46.8	0.602	0.431	580	143-5TC	S153007800	S153009000	S153010200	S153048610	S153049810
	100	4.0	0.137	0.049	775						
30	2500	83.3	0.729	0.526	398	56C	S153004300	S153005500	S153006700	S153046310	S153047510
	1750	58.3	0.630	0.442	478						
	1170	39.0	0.510	0.344	555	143-5TC	S153007900	S153009100	S153010300	S153048710	S153049910
	100	3.3	0.124	0.040	754						
40	2500	62.5	0.649	0.432	435	56C	S153004400	S153005600	S153006800	S153046410	S153047610
	1750	43.8	0.560	0.361	520						
	1170	29.3	0.456	0.279	601	143-5TC	S153008000	S153009200	S153010400	S153048810	S153050010
	100	2.5	0.122	0.032	808						
50	2500	50.0	0.536	0.329	415	56C	S153004500	S153005700	S153006900	S153046510	S153047710
	1750	35.0	0.464	0.274	494						
	1170	23.4	0.379	0.211	569	143-5TC	S153008100	S153009300	S153010500	S153048910	S153050110
	100	2.0	0.110	0.024	760						
60	2500	41.7	0.451	0.257	389	56C	S153004600	S153005800	S153007000	S153046610	S153047810
	1750	29.2	0.391	0.214	462						
	1170	19.5	0.321	0.165	532	143-5TC	S153008200	S153009400	S153010600	S153049010	S153050210
	100	1.7	0.099	0.019	707						
80	2500	31.3	0.219	0.109	220	56C	S153004700	S153005900	S153007100	S153046710	S153047910
	1750	21.9	0.204	0.093	269						
	1170	14.6	0.176	0.073	314	143-5TC	S153008300	S153009500	S153010700	S153049110	S153050310
	100	1.3	0.032	0.008	418						
100	2500	25.0	0.155	0.069	175	56C	S153004800	S153006000	S153007200	S153046810	S153048010
	1750	17.5	0.145	0.059	213						
	1170	11.7	0.126	0.046	248	143-5TC	S153008400	S153009600	S153010800	S153049210	S153050410
	100	1.0	0.024	0.005	328						

Consult Factory for other available styles and motor flanges.

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Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Stainless Steel MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

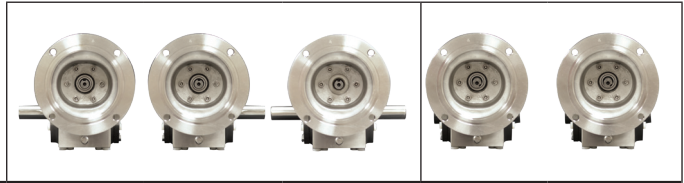
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style SBM

Style SHM



Size S18

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA®* Input Frame	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.	H1 Assembly Catalog No.**	H2 Assembly Catalog No.**
5	2500	500.0	3.095	2.900	366	56C	S183061300	S183062500	S183063700	S1831033XX	S1831045XX
	1750	350.0	2.600	2.422	436						
	1170	234.0	2.066	1.906	513	143-5TC	S183064900	S183066100	S183067300	S1831057XX	S1831069XX
	100	20.0	0.312	0.228	717						
7.5	2500	333.3	2.307	2.127	402	56C	S183061400	S183062600	S183063800	S1831034XX	S1831046XX
	1750	233.3	1.909	1.745	471						
	1170	156.0	1.473	1.328	537	143-5TC	S183065000	S183066200	S183067400	S1831058XX	S1831070XX
	100	13.3	0.227	0.147	697						
10	2500	250.0	1.996	1.820	459	56C	S183061500	S183062700	S183063900	S1831035XX	S1831047XX
	1750	175.0	1.625	1.466	528						
	1170	117.0	1.239	1.099	592	143-5TC	S183065100	S183066300	S183067500	S1831059XX	S1831071XX
	100	10.0	0.196	0.118	744						
15	2500	166.7	1.485	1.301	492	56C	S183061600	S183062800	S183064000	S1831036XX	S1831048XX
	1750	116.7	1.224	1.058	571						
	1170	78.0	0.945	0.799	645	143-5TC	S183065200	S183066400	S183067600	S1831060XX	S1831072XX
	100	6.7	0.165	0.087	823						
20	2500	125.0	1.283	1.093	551	56C	S183061700	S183062900	S183064100	S1831037XX	S1831049XX
	1750	87.5	1.046	0.875	630						
	1170	58.5	0.803	0.652	702	143-5TC	S183065300	S183066500	S183067700	S1831061XX	S1831073XX
	100	5.0	0.150	0.069	872						
25	2500	100.0	1.088	0.900	567	56C	S183061800	S183063000	S183064200	S1831038XX	S1831050XX
	1750	70.0	0.884	0.715	644						
	1170	46.8	0.678	0.530	713	143-5TC	S183065400	S183066600	S183067800	S1831062XX	S1831074XX
	100	4.0	0.135	0.055	874						
30	2500	83.3	0.892	0.702	531	56C	S183061900	S183063100	S183064300	S1831039XX	S183105XX1
	1750	58.3	0.741	0.569	614						
	1170	39.0	0.580	0.428	692	143-5TC	S183065500	S183066700	S183067900	S1831063XX	S1831075XX
	100	3.3	0.126	0.047	880						
40	2500	62.5	0.739	0.551	556	56C	S183062000	S183063200	S183064400	S1831040XX	S1831052XX
	1750	43.8	0.609	0.440	634						
	1170	29.3	0.476	0.328	706	143-5TC	S183065600	S183066800	S183068000	S1831064XX	S1831076XX
	100	2.5	0.113	0.035	874						
50	2500	50.0	0.625	0.444	559	56C	S183062100	S183063300	S183064500	S183104XX1	S1831053XX
	1750	35.0	0.515	0.352	634						
	1170	23.4	0.404	0.260	701	143-5TC	S183065700	S183066900	S183068100	S1831065XX	S1831077XX
	100	2.0	0.103	0.027	857						
60	2500	41.7	0.542	0.363	550	56C	S183062200	S183063400	S183064600	S1831042XX	S1831054XX
	1750	29.2	0.449	0.288	623						
	1170	19.5	0.354	0.213	689	143-5TC	S183065800	S183067000	S183068200	S1831066XX	S1831078XX
	100	1.7	0.097	0.022	842						
80	2500	31.3	0.247	0.156	314	56C	S183062300	S183063500	S183064700	S1831043XX	S1831055XX
	1750	21.9	0.208	0.124	356						
	1170	14.6	0.164	0.091	392	143-5TC	S183065900	S183067100	S183068300	S1831067XX	S1831079XX
	100	1.3	0.023	0.009	470						
100	2500	25.0	0.167	0.097	245	56C	S183062400	S183063600	S183064800	S1831044XX	S1831056XX
	1750	17.5	0.141	0.077	277						
	1170	11.7	0.111	0.057	304	143-5TC	S183066000	S183067200	S183068400	S1831068XX	S1831080XX
	100	1.0	0.016	0.006	362						

Consult Factory for other available styles and motor flanges.

** Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

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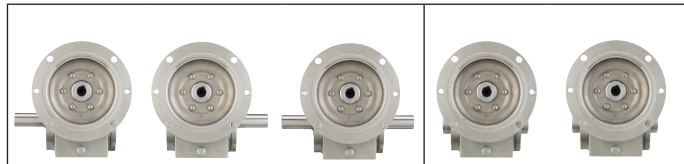
Available Bore Codes

Fraction Size	5/8"	11/16"	3/4"	7/8"	1"
Decimal Size	0.625	0.688	0.750	0.875	1.000
Output Bore Code	10	11	12	14	16

Stainless Steel MAXIMUM RATING TABLES

Style SBMQ

Style SHMQ



Size S18

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA®* Input Frame	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.	H1 Assembly Catalog No.**	H2 Assembly Catalog No.**
5	2500	500.0	3.095	2.900	366	56C	S183003700	S183004900	S183006100	S1830457XX	S1830469XX
	1750	350.0	2.600	2.422	436						
	1170	234.0	2.066	1.906	513	143-5TC	S183007300	S183008500	S183009700	S1830481XX	S1830493XX
7.5	2500	333.3	2.307	2.127	402	56C	S183003800	S183005000	S183006200	S1830458XX	S1830470XX
	1750	233.3	1.909	1.745	471						
	1170	156.0	1.473	1.328	537	143-5TC	S183007400	S183008600	S183009800	S1830482XX	S1830494XX
10	2500	250.0	1.996	1.820	459	56C	S183003900	S183005100	S183006300	S1830459XX	S1830471XX
	1750	175.0	1.625	1.466	528						
	1170	117.0	1.239	1.099	592	143-5TC	S183007500	S183008700	S183009900	S1830483XX	S1830495XX
15	2500	166.7	1.485	1.301	492	56C	S183004000	S183005200	S183006400	S1830460XX	S1830472XX
	1750	116.7	1.224	1.058	571						
	1170	78.0	0.945	0.799	645	143-5TC	S183007600	S183008800	S183010000	S1830484XX	S1830496XX
20	2500	125.0	1.283	1.093	551	56C	S183004100	S183005300	S183006500	S1830461XX	S1830473XX
	1750	87.5	1.046	0.875	630						
	1170	58.5	0.803	0.652	702	143-5TC	S183007700	S183008900	S183010100	S1830485XX	S1830497XX
25	2500	100.0	1.088	0.900	567	56C	S183004200	S183005400	S183006600	S1830462XX	S1830474XX
	1750	70.0	0.884	0.715	644						
	1170	46.8	0.678	0.530	713	143-5TC	S183007800	S183009000	S183010200	S1830486XX	S1830498XX
30	2500	83.3	0.892	0.702	531	56C	S183004300	S183005500	S183006700	S1830463XX	S1830475XX
	1750	58.3	0.741	0.569	614						
	1170	39.0	0.580	0.428	692	143-5TC	S183007900	S183009100	S183010300	S1830487XX	S1830499XX
40	2500	62.5	0.739	0.551	556	56C	S183004400	S183005600	S183006800	S1830464XX	S1830476XX
	1750	43.8	0.609	0.440	634						
	1170	29.3	0.476	0.328	706	143-5TC	S183008000	S183009200	S183010400	S1830488XX	S1830500XX
50	2500	50.0	0.625	0.444	559	56C	S183004500	S183005700	S183006900	S1830465XX	S1830477XX
	1750	35.0	0.515	0.352	634						
	1170	23.4	0.404	0.260	701	143-5TC	S183008100	S183009300	S183010500	S1830489XX	S1830501XX
60	2500	41.7	0.542	0.363	550	56C	S183004600	S183005800	S183007000	S1830466XX	S1830478XX
	1750	29.2	0.449	0.288	623						
	1170	19.5	0.354	0.213	689	143-5TC	S183008200	S183009400	S183010600	S1830490XX	S1830502XX
80	2500	31.3	0.247	0.156	314	56C	S183004700	S183005900	S183007100	S1830467XX	S1830479XX
	1750	21.9	0.208	0.124	356						
	1170	14.6	0.164	0.091	392	143-5TC	S183008300	S183009500	S183010700	S1830491XX	S1830503XX
100	2500	25.0	0.167	0.097	245	56C	S183004800	S183006000	S183007200	S1830468XX	S1830480XX
	1750	17.5	0.141	0.077	277						
	1170	11.7	0.111	0.057	304	143-5TC	S183008400	S183009600	S183010800	S1830492XX	S1830504XX
100	100	1.0	0.016	0.006	362						

Consult Factory for other available styles and motor flanges.

** Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

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Available Bore Codes

Fraction Size	5/8"	11/16"	3/4"	7/8"	1"
Decimal Size	0.625	0.688	0.750	0.875	1.000
Output Bore Code	10	11	12	14	16

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Stainless Steel MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

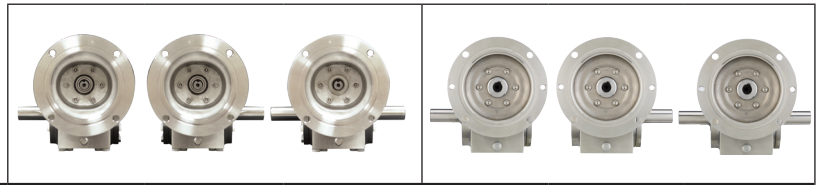
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style SBM

Style SBMQ



Size S21

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA®* Input Frame	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.
5	2500	500.0	4.305	4.043	510	56C	S213061300	S213062500	S213063700	S213003700	S213004900	S213006100
	1750	350.0	3.653	3.410	614							
	1170	234.0	2.873	2.657	716	143-5TC	S213064900	S213066100	S213067300	S213007300	S213008500	S213009700
	100	20.0	0.433	0.310	977							
7.5	2500	333.3	3.300	3.051	577	56C	S213061400	S213062600	S213063800	S213003800	S213005000	S213006200
	1750	233.3	2.793	2.562	692							
	1170	156.0	2.194	1.989	804	143-5TC	S213065000	S213066200	S213067400	S213007400	S213008600	S213009800
	100	13.3	0.341	0.230	1089							
10	2500	250.0	2.973	2.722	686	56C	S213061500	S213062700	S213063900	S213003900	S213005100	S213006300
	1750	175.0	2.464	2.235	805							
	1170	117.0	1.905	1.702	917	143-5TC	S213065100	S213066300	S213067500	S213007500	S213008700	S213009900
	100	10.0	0.300	0.189	1192							
15	2500	166.7	2.284	2.035	769	56C	S213061600	S213062800	S213064000	S213004000	S213005200	S213006400
	1750	116.7	1.887	1.661	897							
	1170	78.0	1.459	1.259	1017	143-5TC	S213065200	S213066400	S213067600	S213007600	S213008800	S213010000
	100	6.7	0.245	0.138	1309							
20	2500	125.0	1.914	1.642	828	56C	S213061700	S213062900	S213064100	S213004100	S213005300	S213006500
	1750	87.5	1.584	1.338	964							
	1170	58.5	1.229	1.012	1090	143-5TC	S213065300	S213066500	S213067700	S213007700	S213008900	S213010100
	100	5.0	0.226	0.111	1397							
25	2500	100.0	1.623	1.359	857	56C	S213061800	S213063000	S213064200	S213004200	S213005400	S213006600
	1750	70.0	1.333	1.094	985							
	1170	46.8	1.030	0.820	1104	143-5TC	S213065400	S213066600	S213067800	S213007800	S213009000	S213010200
	100	4.0	0.200	0.088	1386							
30	2500	83.3	1.359	1.102	833	56C	S213061900	S213063100	S213064300	S213004300	S213005500	S213006700
	1750	58.3	1.129	0.896	968							
	1170	39.0	0.882	0.677	1095	143-5TC	S213065500	S213066700	S213067900	S213007900	S213009100	S213010300
	100	3.3	0.181	0.074	1399							
40	2500	62.5	1.096	0.829	836	56C	S213062000	S213063200	S213064400	S213004400	S213005600	S213006800
	1750	43.8	0.916	0.674	971							
	1170	29.3	0.722	0.509	1097	143-5TC	S213065600	S213066800	S213068000	S213008000	S213009200	S213010400
	100	2.5	0.167	0.056	1401							
50	2500	50.0	0.925	0.670	845	56C	S213062100	S213063300	S213064500	S213004500	S213005700	S213006900
	1750	35.0	0.769	0.539	970							
	1170	23.4	0.606	0.403	1086	143-5TC	S213065700	S213066900	S213068100	S213008100	S213009300	S213010500
	100	2.0	0.149	0.043	1359							
60	2500	41.7	0.799	0.535	809	56C	S213062200	S213063400	S213064600	S213004600	S213005800	S213007000
	1750	29.2	0.674	0.435	940							
	1170	19.5	0.539	0.328	1061	143-5TC	S213065800	S213067000	S213068200	S213008200	S213009400	S213010600
	100	1.7	0.145	0.036	1354							
80	2500	31.3	0.357	0.236	476	56C	S213062300	S213063500	S213064700	S213004700	S213005900	S213007100
	1750	21.9	0.304	0.190	547							
	1170	14.6	0.241	0.141	609	143-5TC	S213065900	S213067100	S213068300	S213008300	S213009500	S213010700
	100	1.3	0.034	0.015	743							
100	2500	25.0	0.251	0.150	379	56C	S213062400	S213063600	S213064800	S213004800	S213006000	S213007200
	1750	17.5	0.217	0.122	439							
	1170	11.7	0.175	0.091	491	143-5TC	S213066000	S213067200	S213068400	S213008400	S213009600	S213010800
	100	1.0	0.026	0.010	605							

Consult Factory for other available styles and motor flanges.

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Available Bore Codes

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

Stainless Steel MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

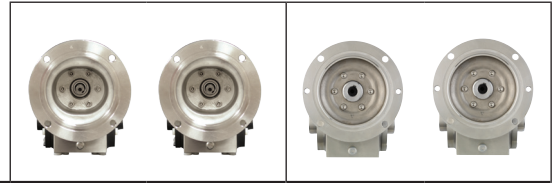
Ratio Multipliers

Accessories
Additional Capabilities

Size S21

Style SHM

Style SHMQ



Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA** Input Frame	H1 Assembly Catalog No.**	H2 Assembly Catalog No.**	H1 Assembly Catalog No.**	H2 Assembly Catalog No.**
5	2500	500.0	4.305	4.043	510	56C	S2131033XX	S2131045XX	S2130457XX	S2130469XX
	1750	350.0	3.653	3.410	614					
	1170	234.0	2.873	2.657	716	143-5TC	S2131057XX	S2131069XX	S2130481XX	S2130493XX
	100	20.0	0.433	0.310	977					
7.5	2500	333.3	3.300	3.051	577	56C	S2131034XX	S2131046XX	S2130458XX	S2130470XX
	1750	233.3	2.793	2.562	692					
	1170	156.0	2.194	1.989	804	143-5TC	S2131058XX	S2131070XX	S2130482XX	S2130494XX
	100	13.3	0.341	0.230	1089					
10	2500	250.0	2.973	2.722	686	56C	S2131035XX	S2131047XX	S2130459XX	S2130471XX
	1750	175.0	2.464	2.235	805					
	1170	117.0	1.905	1.702	917	143-5TC	S2131059XX	S2131071XX	S2130483XX	S2130495XX
	100	10.0	0.300	0.189	1192					
15	2500	166.7	2.284	2.035	769	56C	S2131036XX	S2131048XX	S2130460XX	S2130472XX
	1750	116.7	1.887	1.661	897					
	1170	78.0	1.459	1.259	1017	143-5TC	S2131060XX	S2131072XX	S2130484XX	S2130496XX
	100	6.7	0.245	0.138	1309					
20	2500	125.0	1.914	1.642	828	56C	S2131037XX	S2131049XX	S2130461XX	S2130473XX
	1750	87.5	1.584	1.338	964					
	1170	58.5	1.229	1.012	1090	143-5TC	S2131061XX	S2131073XX	S2130485XX	S2130497XX
	100	5.0	0.226	0.111	1397					
25	2500	100.0	1.623	1.359	857	56C	S2131038XX	S2131050XX	S2130462XX	S2130474XX
	1750	70.0	1.333	1.094	985					
	1170	46.8	1.030	0.820	1104	143-5TC	S2131062XX	S2131074XX	S2130486XX	S2130498XX
	100	4.0	0.200	0.088	1386					
30	2500	83.3	1.359	1.102	833	56C	S2131039XX	S2131051XX	S2130463XX	S2130475XX
	1750	58.3	1.129	0.896	968					
	1170	39.0	0.882	0.677	1095	143-5TC	S2131063XX	S2131075XX	S2130487XX	S2130499XX
	100	3.3	0.181	0.074	1399					
40	2500	62.5	1.096	0.829	836	56C	S2131040XX	S2131052XX	S2130464XX	S2130476XX
	1750	43.8	0.916	0.674	971					
	1170	29.3	0.722	0.509	1097	143-5TC	S2131064XX	S2131076XX	S2130488XX	S2130500XX
	100	2.5	0.167	0.056	1401					
50	2500	50.0	0.925	0.670	845	56C	S2131041XX	S2131053XX	S2130465XX	S2130477XX
	1750	35.0	0.769	0.539	970					
	1170	23.4	0.606	0.403	1086	143-5TC	S2131065XX	S2131077XX	S2130489XX	S2130501XX
	100	2.0	0.149	0.043	1359					
60	2500	41.7	0.799	0.535	809	56C	S2131042XX	S2131054XX	S2130466XX	S2130478XX
	1750	29.2	0.674	0.435	940					
	1170	19.5	0.539	0.328	1061	143-5TC	S2131066XX	S2131078XX	S2130490XX	S2130502XX
	100	1.7	0.145	0.036	1354					
80	2500	31.3	0.357	0.236	476	56C	S2131043XX	S2131055XX	S2130467XX	S2130479XX
	1750	21.9	0.304	0.190	547					
	1170	14.6	0.241	0.141	609	143-5TC	S2131067XX	S2131079XX	S2130491XX	S2130503XX
	100	1.3	0.034	0.015	743					
100	2500	25.0	0.251	0.150	379	56C	S2131044XX	S2131056XX	S2130468XX	S2130480XX
	1750	17.5	0.217	0.122	439					
	1170	11.7	0.175	0.091	491	143-5TC	S2131068XX	S2131080XX	S2130492XX	S2130504XX
	100	1.0	0.026	0.010	605					

Consult Factory for other available styles and motor flanges.

** Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

Available Bore Codes

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

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Stainless Steel MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

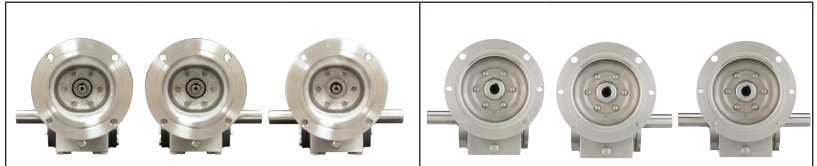
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style SBM

Style SBMQ



Size S24

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA** Input Frame	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.
5	2500	500.0	6.322	5.950	750	143-5TC	S243061300	S243062500	S243063700	S243003700	S243004900	S243006100
	1750	350.0	5.323	4.985	898							
	1170	234.0	4.280	3.976	1071	182-4TC	S243064900	S243066100	S243067300	S243007300	S243008500	S243009700
	100	20.0	0.655	0.489	1540							
7.5	2500	333.3	4.739	4.401	832	143-5TC	S243061400	S243062600	S243063800	S243003800	S243005000	S243006200
	1750	233.3	3.992	3.685	995							
	1170	156.0	3.204	2.929	1183	182-4TC	S243065000	S243066200	S243067400	S243007400	S243008600	S243009800
	100	13.3	0.502	0.357	1689							
10	2500	250.0	4.199	3.862	974	143-5TC	S243061500	S243062700	S243063900	S243003900	S243005100	S243006300
	1750	175.0	3.564	3.253	1172							
	1170	117.0	2.808	2.531	1364	182-4TC	S243065100	S243066300	S243067500	S243007500	S243008700	S243009900
	100	10.0	0.442	0.295	1857							
15	2500	166.7	3.268	2.913	1102	56C	S243058000	S243059200	S243060400	S243000400	S243001600	S243002800
	1750	116.7	2.765	2.439	1318							
	1170	78.0	2.178	1.888	1526	143-5TC	S243061600	S243062800	S243064000	S243004000	S243005200	S243006400
	100	6.7	0.369	0.217	2056							
20	2500	125.0	2.750	2.365	1192	56C	S243058100	S243059300	S243060500	S243000500	S243001700	S243002900
	1750	87.5	2.326	1.972	1421							
	1170	58.5	1.835	1.522	1640	143-5TC	S243061700	S243062900	S243064100	S243004100	S243005300	S243006500
	100	5.0	0.337	0.174	2193							
25	2500	100.0	2.335	1.949	1228	56C	S243058200	S243059400	S243060600	S243000600	S243001800	S243003000
	1750	70.0	1.967	1.615	1454							
	1170	46.8	1.551	1.239	1669	143-5TC	S243061800	S243063000	S243064200	S243004200	S243005400	S243006600
	100	4.0	0.302	0.140	2205							
30	2500	83.3	1.945	1.579	1194	56C	S243058300	S243059500	S243060700	S243000700	S243001900	S243003100
	1750	58.3	1.653	1.317	1423							
	1170	39.0	1.314	1.016	1642	143-5TC	S243061900	S243063100	S243064300	S243004300	S243005500	S243006700
	100	3.3	0.270	0.116	2197							
40	2500	62.5	1.574	1.195	1205	56C	S243058400	S243059600	S243060800	S243000800	S243002000	S243003200
	1750	43.8	1.342	0.994	1433							
	1170	29.3	1.074	0.766	1650	143-5TC	S243062000	S243063200	S243064400	S243004400	S243005600	S243006800
	100	2.5	0.245	0.087	2198							
50	2500	50.0	1.335	0.961	1211	56C	S243058500	S243059700	S243060900	S243000900	S243002100	S243003300
	1750	35.0	1.137	0.795	1432							
	1170	23.4	0.911	0.609	1641	143-5TC	S243062100	S243063300	S243064500	S243004500	S243005700	S243006900
	100	2.0	0.224	0.069	2163							
60	2500	41.7	1.149	0.806	1219	56C	S243058600	S243059800	S243061000	S243001000	S243002200	S243003400
	1750	29.2	0.967	0.656	1418							
	1170	19.5	0.770	0.496	1604	143-5TC	S243062200	S243063400	S243064600	S243004600	S243005800	S243007000
	100	1.7	0.197	0.054	2054							
80	2500	31.3	0.520	0.348	701	56C	S243058700	S243059900	S243061100	S243001100	S243002300	S243003500
	1750	21.9	0.455	0.288	830							
	1170	14.6	0.370	0.219	946	143-5TC	S243062300	S243063500	S243064700	S243004700	S243005900	S243007100
	100	1.3	0.056	0.024	1202							
100	2500	25.0	0.351	0.219	551	56C	S243058800	S243060000	S243061200	S243001200	S243002400	S243003600
	1750	17.5	0.307	0.180	648							
	1170	11.7	0.251	0.136	735	143-5TC	S243062400	S243063600	S243064800	S243004800	S243006000	S243007200
	100	1.0	0.039	0.015	926							

Consult Factory for other available styles and motor flanges.

Available Bore Codes

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

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Stainless Steel MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

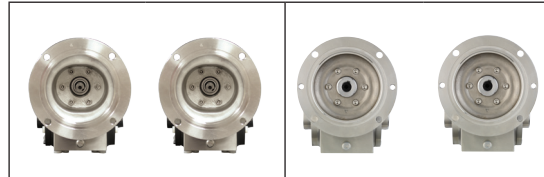
Ratio Multipliers

Accessories
Additional Capabilities

Size S24

Style SHM

Style SHMQ



Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA®* Input Frame	H1 Assembly Catalog No.**	H2 Assembly Catalog No.**	H1 Assembly Catalog No.**	H2 Assembly Catalog No.**
5	2500	500.0	6.322	5.950	750	143-5TC	S2431033XX	S2431045XX	S2430457XX	S2430469XX
	1750	350.0	5.323	4.985	898					
	1170	234.0	4.280	3.976	1071	182-4TC	S2431057XX	S2431069XX	S2430481XX	S2430493XX
	100	20.0	0.655	0.489	1540					
7.5	2500	333.3	4.739	4.401	832	143-5TC	S2431034XX	S2431046XX	S2430458XX	S2430470XX
	1750	233.3	3.992	3.685	995					
	1170	156.0	3.204	2.929	1183	182-4TC	S2431058XX	S2431070XX	S2430482XX	S2430494XX
	100	13.3	0.502	0.357	1689					
10	2500	250.0	4.199	3.862	974	143-5TC	S2431035XX	S2431047XX	S2430459XX	S2430471XX
	1750	175.0	3.564	3.253	1172					
	1170	117.0	2.808	2.531	1364	182-4TC	S2431059XX	S2431071XX	S2430483XX	S2430495XX
	100	10.0	0.442	0.295	1857					
15	2500	166.7	3.268	2.913	1102	56C	S2431012XX	S2431024XX	S2430436XX	S2430448XX
	1750	116.7	2.765	2.439	1318					
	1170	78.0	2.178	1.888	1526	143-5TC	S2431036XX	S2431048XX	S2430460XX	S2430472XX
	100	6.7	0.369	0.217	2056					
20	2500	125.0	2.750	2.365	1192	56C	S2431013XX	S2431025XX	S2430437XX	S2430449XX
	1750	87.5	2.326	1.972	1421					
	1170	58.5	1.835	1.522	1640	143-5TC	S2431037XX	S2431049XX	S2430461XX	S2430473XX
	100	5.0	0.337	0.174	2193					
25	2500	100.0	2.335	1.949	1228	56C	S2431014XX	S2431026XX	S2430438XX	S2430450XX
	1750	70.0	1.967	1.615	1454					
	1170	46.8	1.551	1.239	1669	143-5TC	S2431038XX	S2431050XX	S2430462XX	S2430474XX
	100	4.0	0.302	0.140	2205					
30	2500	83.3	1.945	1.579	1194	56C	S2431015XX	S2431027XX	S2430439XX	S2430451XX
	1750	58.3	1.653	1.317	1423					
	1170	39.0	1.314	1.016	1642	143-5TC	S2431039XX	S243105XX1	S2430463XX	S2430475XX
	100	3.3	0.270	0.116	2197					
40	2500	62.5	1.574	1.195	1205	56C	S2431016XX	S2431028XX	S2430440XX	S2430452XX
	1750	43.8	1.342	0.994	1433					
	1170	29.3	1.074	0.766	1650	143-5TC	S2431040XX	S2431052XX	S2430464XX	S2430476XX
	100	2.5	0.245	0.087	2198					
50	2500	50.0	1.335	0.961	1211	56C	S2431017XX	S2431029XX	S2430441XX	S2430453XX
	1750	35.0	1.137	0.795	1432					
	1170	23.4	0.911	0.609	1641	143-5TC	S2431041XX	S2431053XX	S2430465XX	S2430477XX
	100	2.0	0.224	0.069	2163					
60	2500	41.7	1.149	0.806	1219	56C	S2431018XX	S2431030XX	S2430442XX	S2430454XX
	1750	29.2	0.967	0.656	1418					
	1170	19.5	0.770	0.496	1604	143-5TC	S2431042XX	S2431054XX	S2430466XX	S2430478XX
	100	1.7	0.197	0.054	2054					
80	2500	31.3	0.520	0.348	701					
	1750	21.9	0.455	0.288	830	56C	S2431019XX	S2431031XX	S2430443XX	S2430455XX
	1170	14.6	0.370	0.219	946					
	100	1.3	0.056	0.024	1202					
100	2500	25.0	0.351	0.219	551					
	1750	17.5	0.307	0.180	648	56C	S2431020XX	S2431032XX	S2430444XX	S2430456XX
	1170	11.7	0.251	0.136	735					
	100	1.0	0.039	0.015	926					

Consult Factory for other available styles and motor flanges.

** Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

Available Bore Codes

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

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Stainless Steel MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

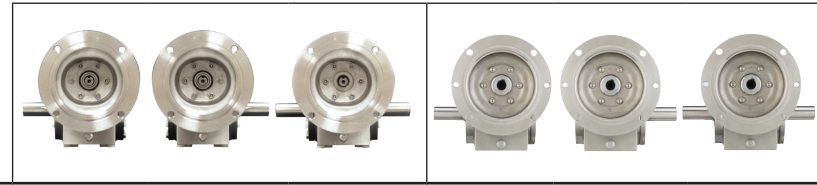
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style SBM

Style SBMQ



Size S26

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA®* Input Frame	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.
5	2500	500.0	7.946	7.486	944	143-5TC	S263061300	S263062500	S263063700	S263003700	S263004900	S263006100
	1750	350.0	6.693	6.276	1130							
	1170	234.0	5.439	5.061	1363	182-4TC	S263064900	S263066100	S263067300	S263007300	S263008500	S263009700
7.5	2500	333.3	5.877	5.453	1031	143-5TC	S263061400	S263062600	S263063800	S263003800	S263005000	S263006200
	1750	233.3	4.956	4.571	1235							
	1170	156.0	4.018	3.671	1483	182-4TC	S263065000	S263066200	S263067400	S263007400	S263008600	S263009800
10	2500	250.0	5.338	4.904	1236	143-5TC	S263061500	S263062700	S263063900	S263003900	S263005100	S263006300
	1750	175.0	4.492	4.097	1475							
	1170	117.0	3.579	3.226	1738	182-4TC	S263065100	S263066300	S263067500	S263007500	S263008700	S263009900
15	2500	166.7	4.316	3.881	1468	143-5TC	S263061600	S263062800	S263064000	S263004000	S263005200	S263006400
	1750	116.7	3.614	3.216	1737							
	1170	78.0	2.821	2.468	1994	182-4TC	S263065200	S263066400	S263067600	S263007600	S263008800	S263010000
20	2500	125.0	3.503	3.050	1538	56C	S263058100	S263059300	S263060500	S263000500	S263001700	S263002900
	1750	87.5	2.965	2.549	1836							
	1170	58.5	2.339	1.970	2123	143-5TC	S263061700	S263062900	S263064100	S263004100	S263005300	S263006500
25	2500	100.0	2.955	2.505	1579	56C	S263058200	S263059400	S263060600	S263000600	S263001800	S263003000
	1750	70.0	2.487	2.076	1869							
	1170	46.8	1.957	1.594	2146	143-5TC	S263061800	S263063000	S263064200	S263004200	S263005400	S263006600
30	2500	83.3	2.556	2.115	1600	56C	S263058300	S263059500	S263060700	S263000700	S263001900	S263003100
	1750	58.3	2.145	1.743	1883							
	1170	39.0	1.687	1.332	2152	143-5TC	S263061900	S263063100	S263064300	S263004300	S263005500	S263006700
40	2500	62.5	1.989	1.545	1558	56C	S263058400	S263059600	S263060800	S263000800	S263002000	S263003200
	1750	43.8	1.695	1.287	1854							
	1170	29.3	1.354	0.993	2139	143-5TC	S263062000	S263063200	S263064400	S263004400	S263005600	S263006800
50	2500	50.0	1.672	1.237	1560	56C	S263058500	S263059700	S263060900	S263000900	S263002100	S263003300
	1750	35.0	1.420	1.023	1843							
	1170	23.4	1.135	0.784	2112	143-5TC	S263062100	S263063300	S263064500	S263004500	S263005700	S263006900
60	2500	41.7	1.433	1.015	1536	56C	S263058600	S263059800	S263061000	S263001000	S263002200	S263003400
	1750	29.2	1.216	0.835	1805							
	1170	19.5	0.973	0.637	2060	143-5TC	S263062200	S263063400	S263064600	S263004600	S263005800	S263007000
80	2500	31.3	0.659	0.456	919	56C	S263058700	S263059900	S263061100	S263001100	S263002300	S263003500
	1750	21.9	0.577	0.379	1092							
	1170	14.6	0.469	0.289	1247	143-5TC	S263062300	S263063500	S263064700	S263004700	S263005900	S263007100
100	2500	25.0	0.441	0.286	721	56C	S263058800	S263060000	S263061200	S263001200	S263002400	S263003600
	1750	17.5	0.386	0.236	851							
	1170	11.7	0.314	0.179	966							
	100	1.0	0.048	0.019	1222							

Consult Factory for other available styles and motor flanges.

Available Bore Codes

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

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Stainless Steel MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

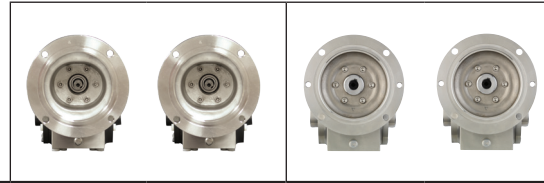
Ratio Multipliers

Accessories
Additional Capabilities

Size S26

Style SHM

Style SHMQ



Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA®* Input Frame	H1 Assembly Catalog No.**	H2 Assembly Catalog No.**	H1 Assembly Catalog No.**	H2 Assembly Catalog No.**
5	2500	500.0	7.946	7.486	944	143-5TC	S2631033XX	S2631045XX	S2630457XX	S2630469XX
	1750	350.0	6.693	6.276	1130					
	1170	234.0	5.439	5.061	1363	182-4TC	S2631057XX	S2631069XX	S2630481XX	S2630493XX
	100	20.0	0.844	0.638	2010					
7.5	2500	333.3	5.877	5.453	1031	143-5TC	S2631034XX	S2631046XX	S2630458XX	S2630470XX
	1750	233.3	4.956	4.571	1235					
	1170	156.0	4.018	3.671	1483	182-4TC	S2631058XX	S2631070XX	S2630482XX	S2630494XX
	100	13.3	0.640	0.458	2166					
10	2500	250.0	5.338	4.904	1236	143-5TC	S2631035XX	S2631047XX	S2630459XX	S2630471XX
	1750	175.0	4.492	4.097	1475					
	1170	117.0	3.579	3.226	1738	182-4TC	S2631059XX	S2631071XX	S2630483XX	S2630495XX
	100	10.0	0.572	0.386	2431					
15	2500	166.7	4.316	3.881	1468	143-5TC	S2631036XX	S2631048XX	S2630460XX	S2630472XX
	1750	116.7	3.614	3.216	1737					
	1170	78.0	2.821	2.468	1994	182-4TC	S2631060XX	S2631072XX	S2630484XX	S2630496XX
	100	6.7	0.467	0.279	2637					
20	2500	125.0	3.503	3.050	1538	56C	S2631013XX	S2631025XX	S2630437XX	S2630449XX
	1750	87.5	2.965	2.549	1836					
	1170	58.5	2.339	1.970	2123	143-5TC	S2631037XX	S2631049XX	S2630461XX	S2630473XX
	100	5.0	0.419	0.226	2849					
25	2500	100.0	2.955	2.505	1579	56C	S2631014XX	S2631026XX	S2630438XX	S2630450XX
	1750	70.0	2.487	2.076	1869					
	1170	46.8	1.957	1.594	2146	143-5TC	S2631038XX	S2631050XX	S2630462XX	S2630474XX
	100	4.0	0.370	0.180	2837					
30	2500	83.3	2.556	2.115	1600	56C	S2631015XX	S2631027XX	S2630439XX	S2630451XX
	1750	58.3	2.145	1.743	1883					
	1170	39.0	1.687	1.332	2152	143-5TC	S2631039XX	S263105XX1	S2630463XX	S2630475XX
	100	3.3	0.335	0.149	2816					
40	2500	62.5	1.989	1.545	1558	56C	S2631016XX	S2631028XX	S2630440XX	S2630452XX
	1750	43.8	1.695	1.287	1854					
	1170	29.3	1.354	0.993	2139	143-5TC	S2631040XX	S2631052XX	S2630464XX	S2630476XX
	100	2.5	0.299	0.113	2857					
50	2500	50.0	1.672	1.237	1560	56C	S2631017XX	S2631029XX	S2630441XX	S2630453XX
	1750	35.0	1.420	1.023	1843					
	1170	23.4	1.135	0.784	2112	143-5TC	S263104XX1	S2631053XX	S2630465XX	S2630477XX
	100	2.0	0.269	0.088	2783					
60	2500	41.7	1.433	1.015	1536	56C	S2631018XX	S2631030XX	S2630442XX	S2630454XX
	1750	29.2	1.216	0.835	1805					
	1170	19.5	0.973	0.637	2060	143-5TC	S2631042XX	S2631054XX	S2630466XX	S2630478XX
	100	1.7	0.245	0.071	2689					
80	2500	31.3	0.659	0.456	919	56C	S2631019XX	S2631031XX	S2630443XX	S2630455XX
	1750	21.9	0.577	0.379	1092					
	1170	14.6	0.469	0.289	1247	143-5TC	S2631043XX	S2631055XX	S2630467XX	S2630479XX
	100	1.3	0.070	0.032	1593					
100	2500	25.0	0.441	0.286	721	56C	S2631020XX	S2631032XX	S2630444XX	S2630456XX
	1750	17.5	0.386	0.236	851					
	1170	11.7	0.314	0.179	966	143-5TC	S2631043XX	S2631055XX	S2630467XX	S2630479XX
	100	1.0	0.048	0.019	1222					

Consult Factory for other available styles and motor flanges.

Available Bore Codes

** Catalog numbers are for hollow output shaft reducers. When ordering, substitute the XX suffix with the required output bore code.

Fraction Size	1"	1-1/8"	1-3/16"	1-1/4"	1-7/16"	1-1/2"
Decimal Size	1.000	1.125	1.188	1.250	1.438	1.500
Output Bore Code	16	18	19	20	23	24

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Stainless Steel MAXIMUM RATING TABLES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

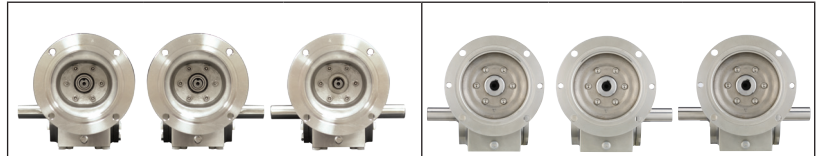
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Style SBM

Style SBMQ



Size S32

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA®** Input Frame	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.	L Assembly Catalog No.	R Assembly Catalog No.	D Assembly Catalog No.
5	2500	500.0	10.56	10.03	1306	182-4TC	S323084100	S323085300	S323086500	S323007300	S323008500	S323009700
	1750	350.0	9.135	8.611	1602							
	1170	234.0	7.694	7.172	1995	213-5TC	S323087700	S323088900	S323090100	S323010900	S323012100	S323013300
100	20.0	1.289	1.097	3571								
7.5	2500	333.3	9.053	8.527	1612	182-4TC	S323084200	S323085400	S323086600	S323007400	S323008600	S323009800
	1750	233.3	7.844	7.317	1976							
	1170	156.0	6.642	6.114	2469	213-5TC	S323087800	S323089000	S323090200	S323011000	S323012200	S323013400
100	13.3	1.136	0.949	4075								
10	2500	250.0	8.232	7.701	1941	143-5TC	S323080700	S323081900	S323083100	S323003900	S323005100	S323006300
	1750	175.0	7.034	6.507	2343							
	1170	117.0	5.974	5.446	2932	182-4TC	S323084300	S323085500	S323086700	S323007500	S323008700	S323009900
100	10.0	0.857	0.704	4437	213-5TC							
15	2500	166.7	6.161	5.603		2118	143-5TC	S323080800	S323082000	S323083200	S323004000	S323005200
	1750	116.7	5.277	4.724	2551							
	1170	78.0	4.531	3.971	3207	182-4TC	S323084400	S323085600	S323086800	S323007600	S323008800	S323010000
100	6.7	0.682	0.518	4895								
20	2500	125.0	4.836	4.306	2170	143-5TC	S323080900	S323082100	S323083300	S323004100	S323005300	S323006500
	1750	87.5	4.188	3.658	2633							
	1170	58.5	3.547	3.020	3253	182-4TC	S323084500	S323085700	S323086900	S323007700	S323008900	S323010100
100	5.0	0.528	0.381	4802								
25	2500	100.0	3.977	3.468	2185	143-5TC	S323081000	S323082200	S323083400	S323004200	S323005400	S323006600
	1750	70.0	3.465	2.953	2658							
	1170	46.8	2.914	2.413	3248	182-4TC	S323084600	S323085800	S323087000	S323007800	S323009000	S323010200
100	4.0	0.434	0.298	4701								
30	2500	83.3	3.452	2.903	2195	143-5TC	S323081100	S323082300	S323083500	S323004300	S323005500	S323006700
	1750	58.3	3.003	2.454	2651							
	1170	39.0	2.604	2.052	3315	182-4TC	S323084700	S323085900	S323087100	S323007900	S323009100	S323010300
100	3.3	0.425	0.265	5007								
40	2500	62.5	2.669	2.157	2174	56C	S323077600	S323078800	S323080000	S323000800	S323002000	S323003200
	1750	43.8	2.348	1.834	2641							
	1170	29.3	2.019	1.509	3251	143-5TC	S323081200	S323082400	S323083600	S323004400	S323005600	S323006800
100	2.5	0.330	0.189	4769	182-4TC							
50	2500	50.0	2.152	1.674		2110	56C	S323077700	S323078900	S323080100	S323000900	S323002100
	1750	35.0	1.907	1.426	2568							
	1170	23.4	1.634	1.163	3130	143-5TC	S323081300	S323082500	S323083700	S323004500	S323005700	S323006900
100	2.0	0.270	0.143	4510	182-4TC							
60	2500	41.7	1.764	1.323		2001	56C	S323077800	S323079000	S323080200	S323001000	S323002200
	1750	29.2	1.573	1.128	2437							
	1170	19.5	1.346	0.913	2951	143-5TC	S323081400	S323082600	S323083800	S323004600	S323005800	S323007000
100	1.7	0.225	0.111	4201	182-4TC							
80	2500	31.3	1.122	0.796		1605	56C	S323077900	S323079100	S323080300	S323001100	S323002300
	1750	21.9	1.030	0.695	2000							
	1170	14.6	0.869	0.551	2371	143-5TC	S323081500	S323082700	S323083900	S323004700	S323005900	S323007100
100	1.3	0.143	0.064	3246								
100	2500	25.0	0.754	0.503	1268	56C	S323078000	S323079200	S323080400	S323001200	S323002400	S323003600
	1750	17.5	0.691	0.435	1567							
	1170	11.7	0.584	0.343	1846							
100	1.0	0.097	0.040	2496								

Consult Factory for other available styles and motor flanges.

Available Bore Codes

Fraction Size	1-3/16"	1-1/4"	1-7/16"	1-1/2"	1-5/8"	1-11/16"	1-3/4"	1-15/16"	2"	2-3/16"
Decimal Size	1.188	1.250	1.438	1.500	1.625	1.688	1.75	1.938	2.000	2.188
Output Bore Code	19	20	23	24	26	27	28	31	32	35

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Stainless Steel MAXIMUM RATING TABLES

Size S32

Style SHM

Style SHMQ



Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb.-in.)	NEMA** Input Frame	H1 Assembly Catalog No.**	H2 Assembly Catalog No.**	H1 Assembly Catalog No.**	H2 Assembly Catalog No.**
5	2500	500.0	10.56	10.03	1306	182-4TC	S3231248XX	S3231260XX	S3230625XX	S3230637XX
	1750	350.0	9.135	8.611	1602					
	1170	234.0	7.694	7.172	1995	213-5TC	S3231272XX	S3231284XX	S3230649XX	S3230661XX
7.5	100	20.0	1.289	1.097	3571	182-4TC	S3231249XX	S3231261XX	S3230626XX	S3230638XX
	2500	333.3	9.053	8.527	1612					
	1750	233.3	7.844	7.317	1976	213-5TC	S3231273XX	S3231285XX	S3230650XX	S3230662XX
10	100	13.3	1.136	0.949	4075	143-5TC	S3231226XX	S3231238XX	S3230603XX	S3230615XX
	2500	250.0	8.232	7.701	1941					
	1750	175.0	7.034	6.507	2343	182-4TC	S3231250XX	S3231262XX	S3230627XX	S3230639XX
15	100	10.0	0.857	0.704	4437	143-5TC	S3231227XX	S3231239XX	S3230604XX	S3230616XX
	2500	166.7	6.161	5.603	2118					
	1750	116.7	5.277	4.724	2551	182-4TC	S3231251XX	S3231263XX	S3230628XX	S3230640XX
20	100	6.7	0.682	0.518	4895	143-5TC	S3231228XX	S3231240XX	S3230605XX	S3230617XX
	2500	125.0	4.836	4.306	2170					
	1750	87.5	4.188	3.658	2633	182-4TC	S3231252XX	S3231264XX	S3230629XX	S3230641XX
25	100	5.0	0.528	0.381	4802	143-5TC	S3231229XX	S3231241XX	S3230606XX	S3230618XX
	2500	100.0	3.977	3.468	2185					
	1750	70.0	3.465	2.953	2658	182-4TC	S3231253XX	S3231265XX	S3230630XX	S3230642XX
30	100	4.0	0.434	0.298	4701	143-5TC	S3231230XX	S3231242XX	S3230607XX	S3230619XX
	2500	83.3	3.452	2.903	2195					
	1750	58.3	3.003	2.454	2651	182-4TC	S3231254XX	S3231266XX	S3230631XX	S3230643XX
40	100	3.3	0.425	0.265	5007	56C	S3231208XX	S3231220XX	S3230584XX	S3230596XX
	2500	62.5	2.669	2.157	2174					
	1750	43.8	2.348	1.834	2641	143-5TC	S3231231XX	S3231243XX	S3230608XX	S3230620XX
50	100	2.5	0.330	0.189	4769	56C	S3231255XX	S3231267XX	S3230632XX	S3230644XX
	2500	50.0	2.152	1.674	2110					
	1750	35.0	1.907	1.426	2568	143-5TC	S3231209XX	S3231221XX	S3230585XX	S3230597XX
60	100	2.0	0.270	0.143	4510	56C	S3231232XX	S3231244XX	S3230609XX	S3230621XX
	2500	41.7	1.764	1.323	2001					
	1750	29.2	1.573	1.128	2437	143-5TC	S3231210XX	S3231222XX	S3230586XX	S3230598XX
80	100	1.7	0.225	0.111	4201	56C	S3231233XX	S3231245XX	S3230610XX	S3230622XX
	2500	31.3	1.122	0.796	1605					
	1750	21.9	1.030	0.695	2000	182-4TC	S3231257XX	S3231269XX	S3230634XX	S3230646XX
100	100	1.3	0.143	0.064	3246	56C	S3231211XX	S3231223XX	S3230587XX	S3230599XX
	2500	14.6	0.869	0.551	2371					
	1750	11.7	0.584	0.343	1846	143-5TC	S3231234XX	S3231246XX	S3230611XX	S3230623XX
100	100	1.0	0.097	0.040	2496	56C	S3231212XX	S3231224XX	S3230588XX	S3230600XX
	2500	25.0	0.754	0.503	1268					
	1750	17.5	0.691	0.435	1567					

Consult Factory for other available styles and motor flanges.

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Available Bore Codes

Fraction Size	1-3/16"	1-1/4"	1-7/16"	1-1/2"	1-5/8"	1-11/16"	1-3/4"	1-15/16"	2"	2-3/16"
Decimal Size	1.188	1.250	1.438	1.500	1.625	1.688	1.75	1.938	2.000	2.188
Output Bore Code	19	20	23	24	26	27	28	31	32	35

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

DIMENSIONS

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

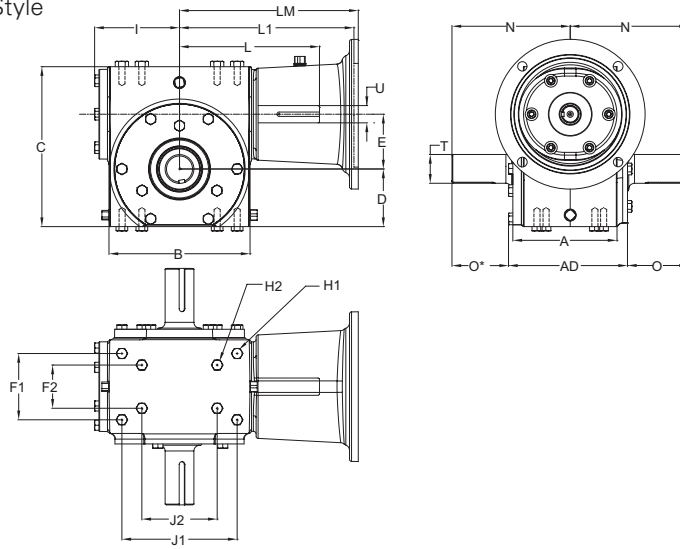
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

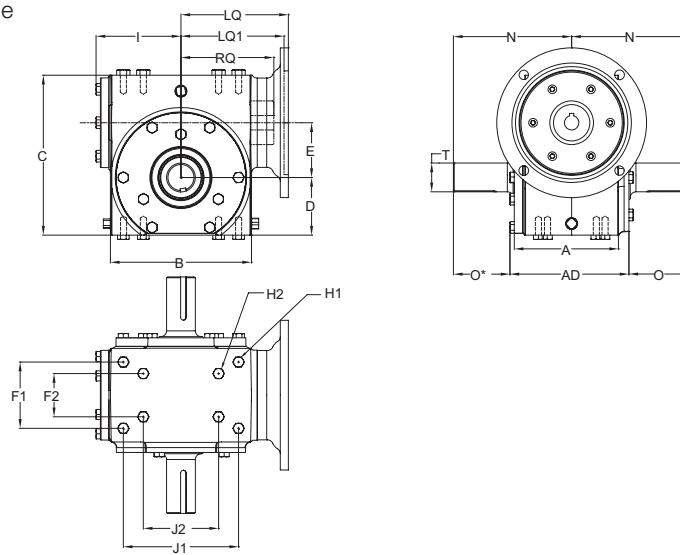
BM Style



BM Style (Inches)

	A	AD	B	C	D	E	F1s	F2	H1s	H2	I	J1s	J2	L	LM (56/140)	L1 (180)	N	O	OH	O/P Keyu	TH	U
S13	2.82	3.89	3.80	4.66	1.72	1.333	2.00	N/A	5/16-18	N/A	2.58	3.25	N/A	4.14	6.39	N/A	4.00	2.16	1.96	3/16 x 1.75	0.625	0.500
S15	3.44	4.60	4.88	5.38	1.91	1.540	2.75	N/A	5/16-18	N/A	3.11	4.19	N/A	4.67	6.92	N/A	4.31	2.11	1.91	3/16 x 1.75	0.750	0.625
S18	3.32	4.60	5.06	5.75	2.06	1.750	2.75	1.63	5/16-18	1/4-20	3.21	4.19	3.13	4.77	7.02	N/A	4.31	2.11	1.91	3/16 x 1.38	0.875	0.625
S21	3.60	4.98	5.80	6.38	2.28	2.063	3.00	2.00	5/16-18	5/16-18	3.58	4.75	4.00	5.14	7.39	N/A	4.68	2.29	2.09	1/4 x 1.45	1.000	0.625
S24	4.06	5.17	6.12	6.94	2.50	2.375	2.88	N/A	3/8-16	N/A	3.89	5.00	N/A	6.07	8.32	9.32	5.14	2.66	2.46	1/4 x 1.75	1.125	0.750
S26	4.54	6.00	7.25	8.00	2.94	2.625	3.38	2.69	3/8-16	3/8-16	4.45	6.38	4.88	6.63	8.88	9.88	5.63	2.73	2.53	1/4 x 2.00	1.250	0.750
S32	5.45	7.00	8.50	9.38	3.50	3.250	4.00	2.75	7/16-14	1/2-13	5.14	7.50	6.25	7.32	9.57	10.57	7.06	3.66	3.46	3/8 x 2.63	1.500	0.875

BMQ Style

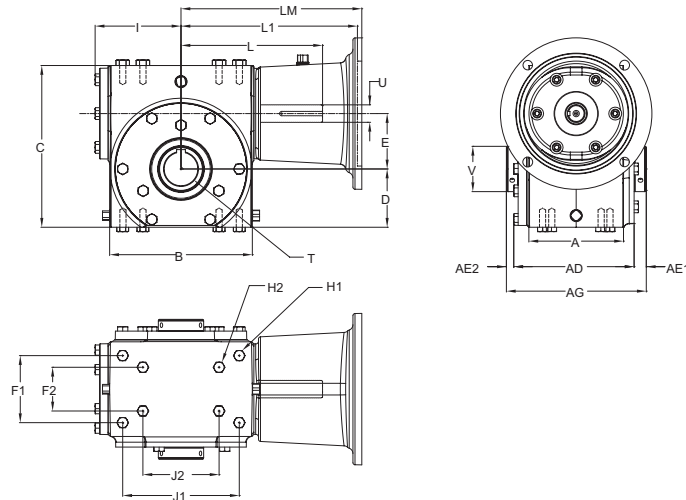


BMQ Style (Inches)

	A	AD	B	C	D	E	F1s	F2	H1s	H2	I	J1s	J2	LQ (56/140)	LQ1 (180)	LQ1 (210)	N	O	OH	O/P Keyu	RQ (56/140)	RQ (180)	RQ (210)	TH
S13	2.82	3.69	3.80	4.66	1.72	1.333	2.00	N/A	5/16-18	N/A	2.58	3.25	N/A	3.48	N/A	N/A	4.00	2.16	1.96	3/16 x 1.75	3.09	N/A	N/A	0.625
S15	3.44	4.40	4.88	5.38	1.91	1.540	2.75	N/A	5/16-18	N/A	3.11	4.19	N/A	4.01	N/A	N/A	4.31	2.11	1.91	3/16 x 1.75	3.62	N/A	N/A	0.750
S18	3.32	4.40	5.06	5.75	2.06	1.750	2.75	1.63	5/16-18	1/4-20	3.21	4.19	3.13	4.11	N/A	N/A	4.31	2.11	1.91	3/16 x 1.38	3.59	N/A	N/A	0.875
S21	3.60	4.78	5.80	6.38	2.28	2.063	3.00	2.00	5/16-18	5/16-8	3.58	4.75	4.00	4.48	N/A	N/A	4.68	2.29	2.09	1/4 x 1.45	4.06	N/A	N/A	1.000
S24	4.06	4.97	6.12	6.94	2.50	2.375	2.88	N/A	3/8-16	N/A	3.89	5.00	N/A	4.63	5.06	N/A	5.14	2.66	2.46	1/4 x 1.75	4.09	4.56	N/A	1.125
S26	4.54	5.80	7.25	8.00	2.94	2.625	3.38	2.69	3/8-16	3/8-16	4.45	6.38	4.88	5.19	5.62	N/A	5.63	2.73	2.53	1/4 x 2.00	4.82	5.13	N/A	1.250
S32	5.45	6.80	8.50	9.38	3.50	3.250	4.00	2.75	7/16-14	1/2-13	5.14	7.50	6.25	5.88	6.31	6.72	7.06	3.66	3.46	3/8 x 2.63	5.51	5.81	6.25	1.500

H Contact factory for additional output shaft diameters on sizes S26 and S32
 u Contact factory for additional output key for size S26
 s Contact factory for additional mounting footprint dimensions on size S21

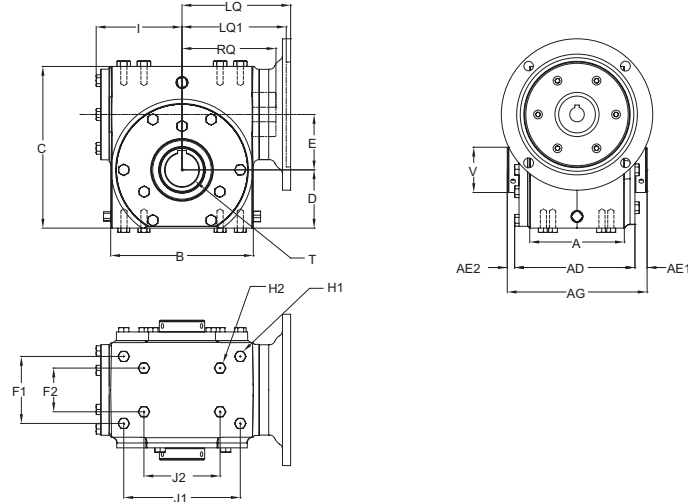
HM Style



HM Style (Inches)

	A	AD	AE1	AE2	AG	B	C	D	E	F1s	F2	H1s	H2	I	J1s	J2	L	LM (56/140)	L1 (180)	T MAX	T KWY	U	V
S13	2.82	3.89	0.53	0.33	4.75	3.80	4.66	1.72	1.333	2.00	N/A	5/16-18	N/A	2.58	3.25	N/A	4.14	6.39	N/A	0.625	3/16 x 3/32	0.500	1.00
S15	3.44	4.60	0.51	0.31	5.42	4.88	5.38	1.91	1.540	2.75	N/A	5/16-18	N/A	3.11	4.19	N/A	4.67	6.92	N/A	0.625	3/16 x 3/32	0.625	1.00
S18	3.32	4.60	0.55	0.35	5.50	5.06	5.75	2.06	1.750	2.75	1.63	5/16-18	1/4-20	3.21	4.19	3.13	4.77	7.02	N/A	1.000	1/4 x 1/8	0.625	1.44
S21	3.60	4.98	0.61	0.41	6.00	5.80	6.38	2.28	2.063	3.00	2.00	5/16-18	5/16-18	3.58	4.75	4.00	5.14	7.39	N/A	1.500	3/8 x 3/16	0.625	1.94
S24	4.06	5.17	0.52	0.32	6.00	6.12	6.94	2.50	2.375	2.88	N/A	3/8-16	N/A	3.89	5.00	N/A	6.07	8.32	9.32	1.500	3/8 x 3/16	0.750	1.94
S26	4.54	6.00	0.60	0.40	7.00	7.25	8.00	2.94	2.625	3.38	2.69	3/8-16	3/8-16	4.45	6.38	4.88	6.63	8.88	9.88	1.500	3/8 x 3/16	0.750	1.94
S32	5.45	7.00	0.54	0.34	7.88	8.50	9.38	3.50	3.250	4.00	2.75	7/16-14	1/2-13	5.14	7.50	6.25	7.32	9.57	10.57	2.188	1/2 x 1/4	0.875	2.75

HMQ Style



HMQ Style (Inches)

	A	AD	AE1	AE2	AG	B	C	D	E	F1s	F2	H1s	H2	I	J1s	J2	LQ	LQ1 (180)	LQ1 (210)	RQ (56/140)	RQ (180)	RQ (210)	T MAX	T KWY	V
S13	2.82	3.69	0.53	0.33	4.75	3.80	4.66	1.72	1.333	2.00	N/A	5/16-18	N/A	2.38	3.25	N/A	3.48	N/A	N/A	3.09	N/A	N/A	0.625	3/16 x 3/32	1.00
S15	3.44	4.40	0.51	0.31	5.42	4.88	5.38	1.91	1.540	2.75	N/A	5/16-18	N/A	2.91	4.19	N/A	4.01	N/A	N/A	3.62	N/A	N/A	0.625	3/16 x 3/32	1.00
S18	3.32	4.40	0.55	0.35	5.50	5.06	5.75	2.06	1.750	2.75	1.63	5/16-18	1/4-20	3.01	4.19	3.13	4.11	N/A	N/A	3.59	N/A	N/A	1.000	1/4 x 1/8	1.44
S21	3.60	4.78	0.61	0.41	6.00	5.80	6.38	2.28	2.063	3.00	2.00	5/16-18	5/16-18	3.38	4.75	4.00	4.48	N/A	N/A	4.06	N/A	N/A	1.500	3/8 x 3/16	1.94
S24	4.06	4.97	0.52	0.32	6.00	6.12	6.94	2.50	2.375	2.88	N/A	3/8-16	N/A	3.69	5.00	N/A	4.63	5.06	N/A	4.09	4.56	N/A	1.500	3/8 x 3/16	1.94
S26	4.54	5.80	0.60	0.40	7.00	7.25	8.00	2.94	2.625	3.38	2.69	3/8-16	3/8-16	4.25	6.38	4.88	5.19	5.62	N/A	4.82	5.13	N/A	1.500	3/8 x 3/16	1.94
S32	5.45	6.80	0.54	0.34	7.88	8.50	9.38	3.50	3.250	4.00	2.75	7/16-14	1/2-13	4.94	7.50	6.25	5.88	6.31	6.72	5.51	5.81	6.25	2.188	1/2 x 1/4	2.75

s Contact factory for additional mounting footprint dimensions on size S21

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Ratio Multipliers

Dual purpose design can be used as a stand alone single reduction inline reducer or as a bolt-on to the input of any C-Faced gear reducer to multiply overall reduction ratio.

Stainless Steel Ratio Multipliers

Stainless steel ratio multipliers provide superior resistance to corrosion in critical and harsh environments.

Specifications

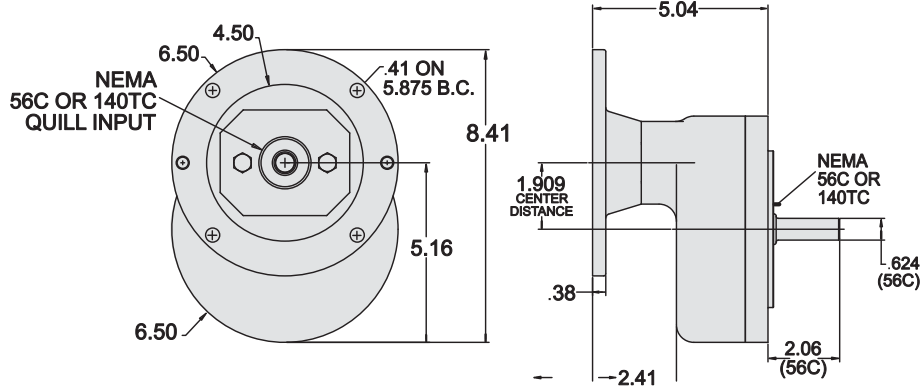
- Available with ratings to 4.7 HP
- Ratios from 2:1 to 7.5:1

Standard Features

- 316 stainless steel housing
- Factory-filled with premium Mobil Glygoyle** 460 polyalkalene glycol lubricant – USDA Class H1 approved
- Viton®* double lip seals provide extended life through increased resistance to high temperature, abrasion and chemicals
- C Flange or solid input styles available
- 56C - 140TC input/output
- Helical gearing to optimize system efficiency



* Viton is believed to be the trademark and/or trade name of the Chemours Company and are owned or controlled by Regal Rexnord Corporation.
** The following trade names, trademarks and/or registered trademarks are not owned by Regal Rexnord Corporation and are believed to be owned by the following party: Mobil and Glygoyle are believed to be the trademarks and/or trade names of Exxon Mobil Corporation and are not owned or controlled by Regal Rexnord Corporation



DIMENSIONS (INCHES)

Style	Frame Combinations (Input - Output)	AJ	AK	BD	OD	BE	BE1	BF	Input Bore	Input Keyway**	Weight (lbs)
TXMQ	56C	5.88	4.50	5.88	6.64	0.38	N/A	0.41	0.625	3/16 x 3/32	22
	140TC	5.88	4.50	5.88	6.64	0.38	N/A	0.41	0.875	3/16 x 3/32	22

**keyway width by depth

AVAILABLE SELECTIONS

Exact Ratio	Motor C-Flange	Output C-Flange	Catalog Number
2.929	56C	56C	707702
	56C	140TC	707707
4.000	56C	56C	707703
	56C	140TC	707708
	140TC	56C	707713
5.111	140TC	140TC	707718
	56C	56C	707704
	56C	140TC	707709
7.461	140TC	56C	707714
	140TC	140TC	707719
	56C	56C	707705
7.461	56C	140TC	707710
	140TC	56C	707715
	140TC	140TC	707720

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Cast Iron Ratio Multipliers

TX3

Standard Features

- Cast iron housing
- Factory-filled with premium Mobil Glygoyle** 460 polyalkalene glycol lubricant – USDA Class H1 approved
- Viton®* double lip seals provide extended life through increased resistance to high temperature, abrasion and chemicals
- C-Flange or solid input styles available
- 180TC to 210TC input/output
- Helical gearing to optimize system efficiency

Aluminum Ratio Multipliers

Aluminum ratio multipliers are lightweight and a paint-free alternative to cast iron options.

TX

Standard Features

- Aluminum housing
- Factory-filled with premium Mobil Glygoyle 460 polyalkalene glycol lubricant – USDA Class H1 approved
- Viton® double lip seals provide extended life through increased resistance to high temperature, abrasion and chemicals
- C-Flange or solid input styles available
- 48C, 56C, 140TC input and 56C/140TC output
- Helical gearing to optimize system efficiency
- EL and GR painted style available

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Specifications

- Available with ratings to 20 HP
- Ratios from 2:1 to 7.5:1

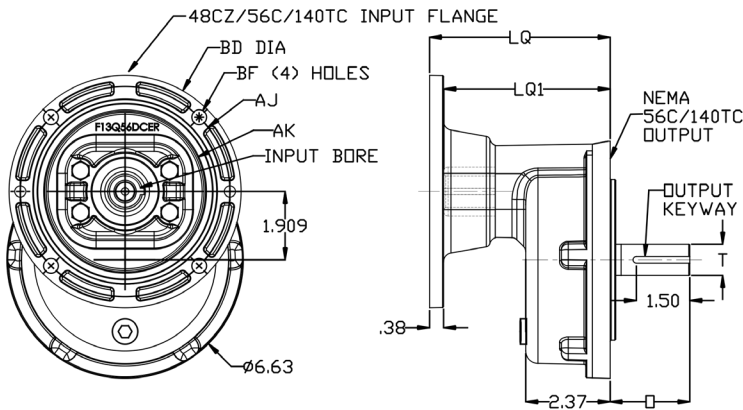


Specifications

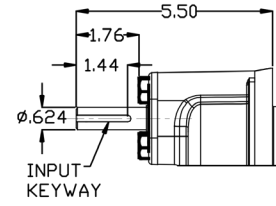
- Available with ratings to 6 HP
- Ratios from 2:1 to 7.2:1.

Dimensions

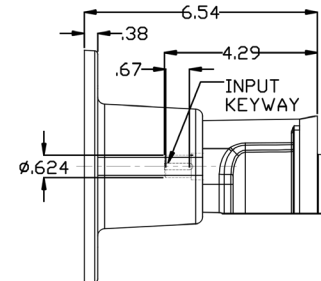
Style TXMQ



Style TX



Style TXM



DIMENSIONS (INCHES)

Style	Frame Combinations (Input - Output)	AJ	AK	BD	BF	LQ	LQ1	Input Bore Dia.	O	T	Input Keyway	Output Keyway	Weight lbs.
TXMQ, TXM, TX	48CZ-56C	3.75	3.00	4.21	0.28	4.80	4.41	0.500	2.06	0.625	1/8 x 1/16	3/16 x 3/32	12
	56C-56C	5.88	4.50	6.64	0.41	5.06	4.67	0.625	2.06	0.625	3/16 x 3/32	3/16 x 3/32	12
	56C-140TC	5.88	4.50	6.64	0.41	5.06	4.67	0.625	2.13	0.875	3/16 x 3/32	3/16 x 3/32	12
	140TC-56C	5.88	4.50	6.64	0.41	5.06	4.67	0.875	2.06	0.625	3/16 x 3/32	3/16 x 3/32	12
	140TC-140TC	5.88	4.50	6.64	0.41	5.06	4.67	0.875	2.13	0.875	3/16 x 3/32	3/16 x 3/32	12

AVAILABLE SELECTIONS

Exact Ratio	Style	Motor C-Flange	Output C-Flange	Painted* Catalog No.	Unpainted Catalog No.
2.000	TXMQ	48CZ	56C	708200L	EL708200
		56C	56C	708201L	EL708201
		56C	143-5TC	708202L	EL708202
		143-5TC	56C	708203L	EL708203
		143-5TC	143-5TC	708204L	EL708204
	TXM	56C	56C	708205L	EL708205
		56C	143-5TC	708206L	EL708206
		143-5TC	56C	708207L	EL708207
		143-5TC	143-5TC	708208L	EL708208
	TX	-	56C	708209L	EL708209
-		140TC	708210L	EL708210	
2.913	TXMQ	48CZ	56C	708211L	EL708211
		56C	56C	708212L	EL708212
		56C	143-5TC	708213L	EL708213
		143-5TC	56C	708214L	EL708214
		143-5TC	143-5TC	708215L	EL708215
	TXM	56C	56C	708216L	EL708216
		56C	143-5TC	708217L	EL708217
		143-5TC	56C	708218L	EL708218
		143-5TC	143-5TC	708219L	EL708219
	TX	-	56C	708220L	EL708220
-		140TC	708221L	EL708221	
4.000	TXMQ	48CZ	56C	708222L	EL708222
		56C	56C	708223L	EL708223
		56C	143-5TC	708224L	EL708224
		143-5TC	56C	708225L	EL708225
		143-5TC	143-5TC	708226L	EL708226
	TXM	56C	56C	708227L	EL708227
		56C	143-5TC	708228L	EL708228
		143-5TC	56C	708229L	EL708229
		143-5TC	143-5TC	708230L	EL708230
	TX	-	56C	708231L	EL708231
-		140TC	708232L	EL708232	

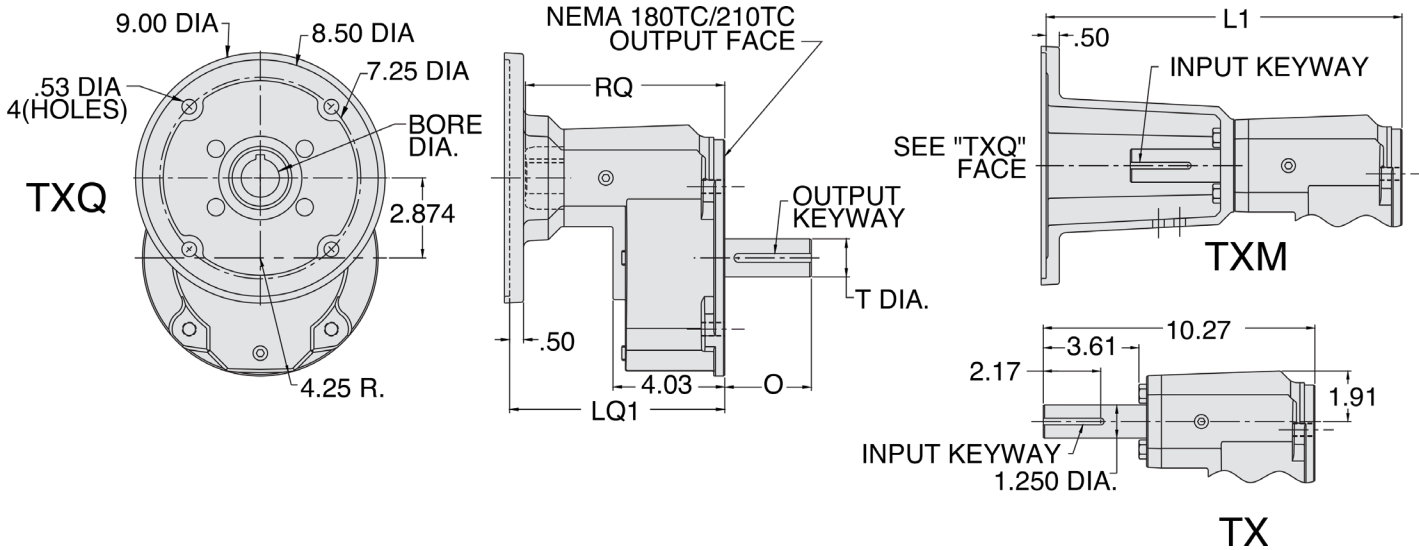
Exact Ratio	Style	Motor C-Flange	Output C-Flange	Painted* Catalog No.	Unpainted Catalog No.
5.000	TXMQ	48CZ	56C	708233L	EL708233
		56C	56C	708234L	EL708234
		56C	143-5TC	708235L	EL708235
		143-5TC	56C	708236L	EL708236
		143-5TC	143-5TC	708237L	EL708237
	TXM	56C	56C	708238L	EL708238
		56C	143-5TC	708239L	EL708239
		143-5TC	56C	708240L	EL708240
		143-5TC	143-5TC	708241L	EL708241
	TX	-	56C	708242L	EL708242
-		140TC	708243L	EL708243	
7.182	TXMQ	48CZ	56C	708244L	EL708244
		56C	56C	708245L	EL708245
		56C	143-5TC	708246L	EL708246
		143-5TC	56C	708247L	EL708247
		143-5TC	143-5TC	708248L	EL708248
	TXM	56C	56C	708249L	EL708249
		56C	143-5TC	708250L	EL708250
		143-5TC	56C	708251L	EL708251
		143-5TC	143-5TC	708252L	EL708252
	TX	-	56C	708253L	EL708253
-		140TC	708254L	EL708254	

* Standard Grove Gear blue paint

Dimensions



Cast Iron Size 3 – Style TX3



DIMENSIONS (INCHES)

Style	Frame Combinations (Input - Output)	Input Bore	L1	LQ1	O	RQ	T +0.000 -0.0015	Input Keyway*	Output Keyway*	Weight (lbs.)
TXMQ, TXM, TX	180TC - 180TC	1.125	13.45	7.76	2.62	7.25	1.125	.250 x .125	.250 x .125 x 1.80	45
	210TC - 180TC	1.375	13.45	7.76	2.62	7.25	1.125	.312 x .156**	.250 x .125 x 1.80	45
	250TC - 180TC	1.625	14.01	8.32	2.62	7.65	1.125	.375 x .188**	.250 x .125 x 1.80	45
	180TC - 210TC	1.125	13.45	7.76	3.12	7.25	1.375	.250 x .125	.312 x .156 x 2.63	45
	210TC - 210TC	1.375	13.45	7.76	3.12	7.25	1.375	.312 x .156**	.312 x .156 x 2.63	45
	250TC - 210TC	1.625	14.01	8.32	3.12	7.65	1.375	.375 x .188**	.312 x .156 x 2.63	45

* Keyway width by depth

** Input keyway for styles TXM & TX is .250 x .125

AVAILABLE SELECTIONS

Exact Ratio	Style	Motor C-Flange	Output C-Flange	Catalog Number
2.000	TXMQ	182-4TC	182-4TC	707060L
		182-4TC	213-5TC	707061L
		213-5TC	213-5TC	707064L
		254-6TC	213-5TC	707067L
	TXM	182-4TC	182-4TC	707090L
		213-5TC	213-5TC	707094L
		254-6TC	213-5TC	707097L
	TX	--	213-5TC	707121L
	2.964	TXMQ	182-4TC	182-4TC
182-4TC			213-5TC	707070L
213-5TC			182-4TC	707072L
TXM		213-5TC	213-5TC	707073L
		182-4TC	182-4TC	707099L
		182-4TC	213-5TC	707100L
		213-5TC	182-4TC	707102L
TX		213-5TC	213-5TC	707103L
		--	182-4TC	707123L
		--	213-5TC	707124L

Exact Ratio	Style	Motor C-Flange	Output C-Flange	Catalog Number
4.045	TXMQ	182-4TC	182-4TC	707075L
		182-4TC	213-5TC	707076L
		213-5TC	182-4TC	707078L
		213-5TC	213-5TC	707079L
	TXM	182-4TC	182-4TC	707105L
		182-4TC	213-5TC	707106L
		213-5TC	182-4TC	707108L
	TX	213-5TC	213-5TC	707109L
		--	182-4TC	707126L
	5.167	TXMQ	--	213-5TC
182-4TC			182-4TC	707081L
182-4TC			213-5TC	707082L
213-5TC			182-4TC	707084L
TXM		213-5TC	213-5TC	707085L
		182-4TC	182-4TC	707111L
		182-4TC	213-5TC	707112L
TX		213-5TC	182-4TC	707114L
		213-5TC	213-5TC	707115L
		--	182-4TC	707129L
7.538	TXMQ	--	213-5TC	707130L
	TXMQ	182-4TC	182-4TC	707087L
	TXM	182-4TC	182-4TC	707117L
	TX	--	182-4TC	707132L

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

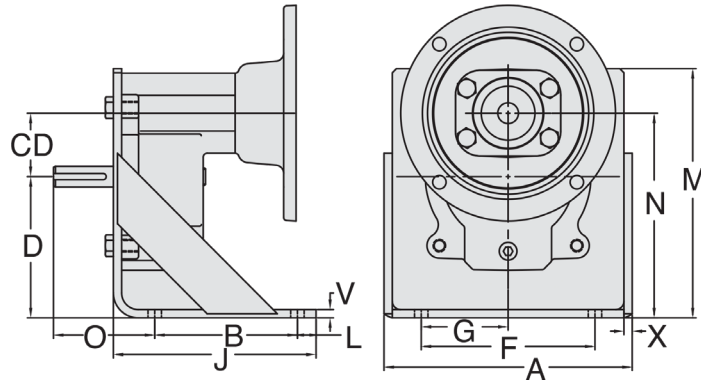
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities

Ratio Multiplier Foot Kit for Styles TBX, TBXM, TBXMQ



DIMENSIONS (INCHES)

Size	Output	A	B	CD	D	F	G	H	J	X	L	M	N	O	V	X	Catalog Number	Weight (lbs)
TX	56C	7.50	4.31	1.909	4.250	5.25	2.63	0.41	6.13	0.25	0.56	7.50	6.16	3.06	.25	.25	G185655	2.0
	140TC	7.50	4.31	1.909	4.250	5.25	2.63	0.41	6.13	0.25	0.56	7.50	6.16	3.12	.25	.25		
TX3	180TC	9.50	5.25	2.874	5.000	7.00	3.50	0.53	7.38	0.25	0.63	9.44	7.88	3.88	.25	.25	G185657	3.0
	210TC	9.50	5.25	2.874	5.000	7.00	3.50	0.53	7.38	0.25	0.63	9.44	7.88	4.38	.25	.25		
	250TC	9.50	5.25	2.874	5.000	7.00	3.50	0.53	7.38	0.25	0.63	9.44	7.88	5.00	.25	.25		

NOTE: Foot kit is painted steel construction.

Maximum Rating Tables

STAINLESS TX

Exact Ratio	Input RPM	Output RPM	Input HP	Output HP	Output TQ. (lb-in.)	Overhung Load (lbs.)
2.056	1750	851	4.69	4.55	347	222
2.929	1750	598	3.64	3.53	384	265
4.000	1750	438	2.91	2.82	419	300
5.111	1750	342	2.33	2.26	428	300
7.462	1750	235	1.56	1.52	419	300

TX

Exact Ratio	Input RPM	Output RPM	Input HP	Output HP	Output TQ. (lb-in.)	Overhung Load 56C Output (lbs.)	Overhung Load 140TC Output (lbs.)
2.000	1750	875	6.00	5.88	424	358	358
2.913	1750	601	4.21	4.13	433	375	434
4.000	1750	438	3.63	3.55	511	375	455
5.000	1750	350	3.00	2.94	529	375	455
7.182	1750	244	2.62	2.57	664	375	455

TX3

Exact Ratio	Input RPM	Output RPM	Input HP	Output HP	Output TQ. (lb-in.)	Overhung Load (lbs.)
2.000	1750	875	20.00	19.6	1412	900
2.964	1750	590	12.98	12.72	1357	900
4.045	1750	433	11.35	11.13	1621	900
5.167	1750	339	10.07	9.87	1836	900
7.538	1750	232	5.80	5.69	1544	900

Product Support is Just a Click Away

Single Reduction
Worm Gear Reducers

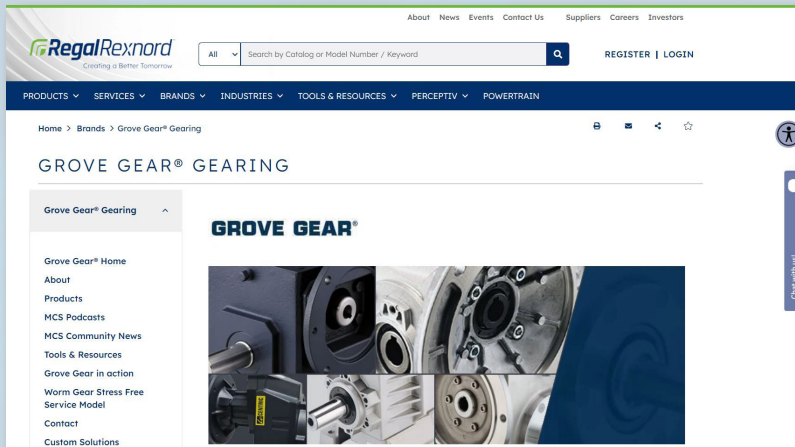
Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories
Additional Capabilities



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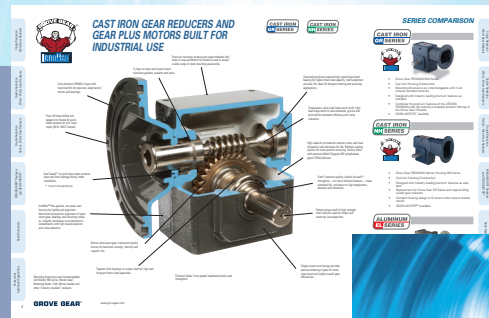
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State-of-the-Art Technical Expertise, Equipment & Support

From value designs to elaborate transmissions, miniature gearmotors to gearboxes rated for hundreds of horsepower, Grove Gear® can solve the toughest transmission needs. Design, manufacturing, testing, documentation and quality are assured at Grove Gear.

DESIGN & ENGINEERING SUPPORT

- Full support of engineering team
- The latest in CAD Systems
- Current software helps engineers identify customer solutions

MANUFACTURING

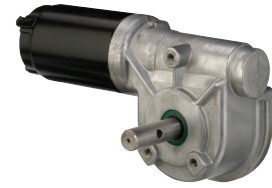
- The latest machine technology
- Lean manufacturing and six sigma focus
- Turning
- Gear Cutting
- Grinding
- Milling

QUALITY & TESTING

- SPC Processes
- ISO Certified
- Sophisticated test laboratories insure each gear meets high quality standards
- Dedicated gear checking equipment
- Measuring instruments are regularly checked against calibrated and certified masters to maintain accuracy and reliability

AVAILABLE OPTIONS:

- Special Paint
- Custom Mounting Brackets/Bases
- Longer/Shorter Shaft Extensions
- Special Shaft Extension Diameters
- Cross-drilled Holes on Shafts
- Custom Ratios
- Stainless-Steel Hollow Output Shafts
- Reduced Backlash Designs



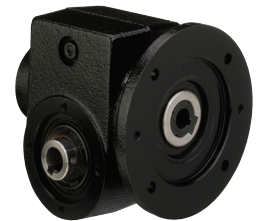
Single Reduction
Worm Gear Reducers



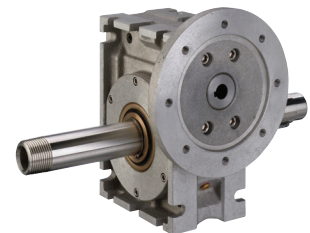
Double Reduction
Worm - Worm Gear Reducers



Double Reduction
Helical - Worm Gear Reducers



WASHGUARD® Reducers
and GEAR+MOTOR™



Ratio Multipliers



Accessories and
Additional Capabilities



Modified Stock Gear Reducers



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

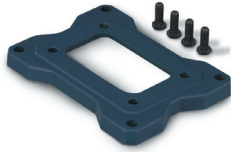
Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories and
Additional Capabilities

STYLE T OR U HORIZONTAL BASE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR813	G185000	2
GR815	G185120	3
GR818	G185005	3
GR821	G185010	4
GR824	G185015	4
GR826	G185020	6
GR830	G185121	6
GR832	G185025	9
GR842	G185030	14
GR852	G185035	20
GR860	G185040	31
GR870	G185189	41
GR880	G185190	48
GR8100	G185192	76

STYLE VL & VH VERTICAL OUTPUT BASE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR813	G185002	2
GR815	G185127	3
GR818	G185007	3
GR821	G185012	7
GR824	G185017	7
GR826	G185022	9
GR830	G185128	10
GR832	G185027	13
GR842	■	20
GR852	■	25
GR860	■	36
GR870	■	71
GR880	■	78
GR8100	■	156

■ VL & VH bases for sizes 842-8100 require grease retainer and zerk fittings in output covers and must be installed at Factory. Contact Factory for field replacement kits.

STYLE J VERTICAL INPUT BASE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR813	G185001	1
GR815	G185122	1
GR818	G185006	2
GR821	G185011	3
GR824	G185016	3
GR826	G185021	5
GR830	G185123	6
GR832	G185124	6
GR842	◆	10
GR852	◆	15

◆ J Brackets for sizes 842-852 require grease fittings in input covers and must be installed at Factory. Contact Factory for field replacement kits.

HOLLOW SHAFT TIE ROD KIT



(GR SERIES SHOWN)

Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR813 - 842	G185152	5
GR852 - 860	G185153	5

NOTE: Kit does not include Torque Arm Bracket that mounts to reducer. See "TORQUE ARM BRACKET" table.

TORQUE ARM BRACKET



Reducer Size	Accessory Kit Only Catalog No.
GR813	G185450
GR815	G185451
GR818	G185451
GR821	G185452
GR824	G185452
GR826	G185453
GR824	G185454
GR826	G185455
GR830	G185456
GR832	G185457
GR842	G185458
GR852	G185459
GR860	G185460
GR870	--
GR880	--
GR8100	--

▲ Torque arm bracket mounts to hollow shaft reducer.

STYLE F OUTPUT FLANGE CAST IRON

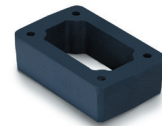


Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR813	G185130**	1
GR815	G185131**	1
GR818	G185132**	2
GR821	G185133**	3
GR824	G185134**	3
GR826	G185135**	4
GR830	G185136**	10
GR832	G185137**	10
GR842	G185138**	15
GR852	G185139**	30
GR860	G185140**	38
GR870	**	**
GR880	**	**
GR8100	**	**

** Output flange must be installed at Factory for all solid output shaft reducers (sizes 813-8100). Specify Mod-Squad Service Number for flange when ordering these reducers.

▼ Flange can only mount to "bolted cover side" of hollow reducer on sizes 813- 852. Please specify correct mounting assembly with order. Refer to pages A64-A65, for assembly positions. Must designate L (left) or R (right).

STYLE R RISER BLOCK



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR815	G185141	7
GR818	G185142	7
GR821	G185143	9
GR824	G185144	9
GR826	G185145	12
GR830	G185146	15
GR832	G185147	31
GR842	G185148	24
GR852	G185149	15

NOTE: Mounting bolts are not included.

BM STYLE INPUT FLANGE KITS**



Reducer Size	NEMA Input Frame Size					
	48CZ	56C	143-5TC	182-4TC	213-5TC	254-6TC
GR813	G185161	G185090	--	--	--	--
GR815	G185162	G185163	G185164	--	--	--
GR818	G185165	G185091	G185092	--	--	--
GR821	G185166	G185093	G185094	--	--	--
GR824	--	G185095	G185096	G185097	--	--
GR826	--	G185098	G185099	G185100	--	--
GR830	--	G185167	G185168	G185169	--	--
GR832	--	G185101	G185102	G185103	G185170	--
GR842	--	G185171	G185104	G185105	G185106	G185172
GR852	--	--	G185173	G185107	G185108	G185109
GR860	--	--	--	G185174	G185110	G185111

** All kits include flexible coupling.

DOUBLE REDUCTION ADAPTOR KITS



Reducer Size	Accessory Kit Only Catalog No.	Primary Unit Size	Secondary Unit Quill Size	Weight (lbs.)
GR813 - GR821	G185150	813	56C	3

Note: Sizes 824-8100 must be assembled at Factory.

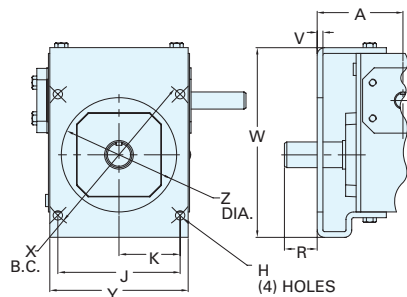
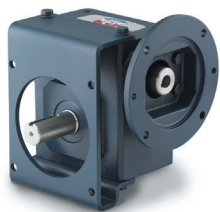
HOLLOW OUTPUT SHAFT PROTECTIVE COVERS

Series	Accessory Kit Only Catalog No.
GR818	G185154.00
GR821-GR826	G185155.00
GR830-GR832	G185156.00



This protective cap mounts to integral output cover side of reducer and covers the unused output bore for single extension or hollow output shaft assemblies. Cover will not mount to bolted cover side of reducer. Check OSHA requirements and review installation manual to assure all safety requirements of gear reducer installation are met.

DOUBLE REDUCTION ADAPTOR KITS



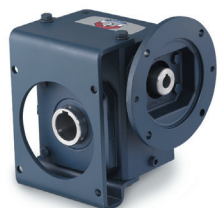
Style BF Output Flange - Steel

Series	Accessory Kit Only Catalog No.	Mod-Squad-Service Number Style BF	Weight (lbs)
GR813	G185004	BF813GR	6
GR818	G185009	BF818GR	6
GRL821	G185014	BF821GR	10
GR824	G185019	BF824GR	10
GR826	G185024	BF826GR	13

Must designate L (left) or R (right).

Style BF Output Flange Kits

Series	A	H	J	K	R	V	W	X	Y	Z
813	3.00	0.34	3.54	1.77	1.00	0.19	5.55	5.00	4.25	3.62
818	3.50	0.34	4.16	2.08	0.81	0.19	6.66	5.88	4.81	4.06
821	3.75	0.41	4.60	2.30	0.93	0.19	7.47	6.50	5.75	4.50
824	3.72	0.41	5.30	2.65	1.37	0.25	8.30	7.50	6.00	5.00
826	4.06	0.41	5.66	2.83	1.57	0.25	9.25	8.00	7.18	6.00



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories and
Additional Capabilities



Modified Stock Gear Reducers



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories and
Additional Capabilities

STYLE T OR U HORIZONTAL BASE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
NH813	G185200	2
NH815	G185201	3
NH818	G185202	3
NH821	G185203	4
NH824	G185204	4
NH826	G185205	6
NH830	G185206	6
NH832	G185207	9
NH842	G185208	14
NH852	G185209	20

STYLE J VERTICAL INPUT BASE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
NH813	G185210	1
NH815	G185211	1
NH818	G185212	2
NH821	G185213	3
NH824	G185214	3
NH826	G185215	5
NH830	G185216	6
NH832	G185217	6
NH842	◆	10
NH852	◆	15

◆ J Brackets for sizes 842-852 require NH grease fittings in input covers and must be installed at Factory. Contact Factory for field replacement kits.

STYLE F OUTPUT FLANGE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
NH813	G185228	1
NH815	G185229**	1
NH818	G185230**	2
NH821	G185231**	3
NH824	G185232**	3
NH826	G185233**	4
NH830	G185234**	10
NH832	G185235**	10
NH842	G185236**	15
NH852	G185237**	30

** Output flange must be installed at Factory for all solid output shaft reducers (sizes 813-852). Specify Mod-Squad Service Number for flange when ordering these reducers.

STYLE VL & VH VERTICAL OUTPUT BASE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
NH813	G185220	2
NH815	G185221	3
NH818	G185222	3
NH821	G185223	7
NH824	G185224	7
NH826	G185225	9
NH830	G185226	10
NH832	G185227	13
NH842	■	20
NH852	■	25

■ VL & VH bases for sizes 842-852 require grease retainer and zerk fittings in output covers and must be installed at Factory. Contact Factory for field replacement kits.

** Must designate D or U.



BM STYLE INPUT FLANGE KITS**



Reducer Size	NEMA Input Frame Size					
	48CZ	56C	143-5TC	182-4TC	213-5TC	254-6TC
NH813	G185161	G185090	--	--	--	--
NH815	G185162	G185163	G185164	--	--	--
NH818	G185165	G185091	G185092	--	--	--
NH821	G185166	G185093	G185094	--	--	--
NH824	--	G185095	G185096	G185097	--	--
NH826	--	G185098	G185099	G185100	--	--
NH830	--	G185112	G185113	G185114	G185115	--
NH832	--	G185112	G185113	G185114	G185115	--
NH842	--	G185171	G185104	G185105	G185106	G185172
NH852	--	--	G185173	G185107	G185108	G185109

** All kits include flexible coupling.

DOUBLE REDUCTION ADAPTOR KITS



Reducer Size	Accessory Kit Only Catalog No.	Primary Unit Size	Secondary Unit Quill Size	Weight (lbs.)
NH813 - NH821	G185238	813	56C	3

Note: Sizes 824-8100 must be assembled at Factory.

**HOLLOW
SHAFT
TIE ROD KIT**



(GR SERIES SHOWN)

Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
NH813-842	G185152	5
NH852	G185153	5

NOTE: Kit does not include Torque Arm Bracket that mounts to reducer. See "TORQUE ARM BRACKET" table.

HOLLOW OUTPUT SHAFT PROTECTIVE COVERS

Series	Accessory Kit Only Catalog No.
NH818	G185154.00
NH821-NH826	G185155.00
NH830-NH832	G185156.00



This protective cap mounts to integral output cover side of reducer and covers the unused output bore for single extension or hollow output shaft assemblies. Cover will not mount to bolted cover side of reducer. Check OSHA requirements and review installation manual to assure all safety requirements of gear reducer installation are met.

TORQUE ARM BRACKET



Reducer Size	Accessory Kit Only Catalog No.
NH813	G185450
NH815	G185464
NH818	G185463
NH821	G185465
NH824	G185466
NH826	G185467
NH830	G185468
NH832	G185469
NH842	G185470
NH852	G185471

▲ Torque arm bracket mounts to hollow shaft reducer.

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

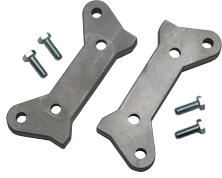
WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories and
Additional Capabilities

Modified Stock Gear Reducers

STYLE T OR U HORIZONTAL BASE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
EL813	G185260	1
EL818	G185261	2
EL821	G185262	3
EL824	G185263	3
EL826	G185264	4
EL830	G185265	6
EL832	G185266	8
EL842	G185267	7
EL852	G185268	8
EL860	G185269	10

STYLE J VERTICAL INPUT BASE



(WHITE EPOXY)

Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
EL813	G185270	1
EL818	G185271	2
EL821	G185272	3
EL824	G185273	3
EL826	G185274	4
EL830	G185275	5
EL832	G185276	5
EL842	◆	6
EL852	◆	8
EL860	◆	10

◆ J Brackets for sizes 842-852 require grease fittings in input covers and must be installed at Factory. Contact Factory for field replacement kits.

STYLE VL VERTICAL OUTPUT BASE

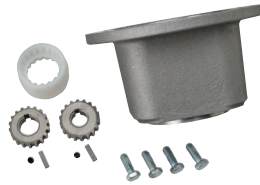


(WHITE EPOXY)

Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
EL813	G185278	2
EL818	G185279	3
EL821	G185280	3
EL824	G185281	3
EL826	G185282	4
EL830	G185283	5
EL832	G185284	5
EL842	■	6
EL852	■	8
EL860	■	10

■ VL & VH bases for sizes 842-852 require grease retainer and zerk fittings in output covers and must be installed at Factory. Contact Factory for field replacement kits.

BM STYLE INPUT FLANGE KITS**



Reducer Size	NEMA Input Frame Size				
	56C	140TC	180TC	210TC	250TC
EL813	G185501	G185511	--	--	--
EL818	G185502	G185512	--	--	--
EL821	G185502	G185512	--	--	--
EL842	G185503	G185513	G185523	G185573	G185583
EL852	G185503	G185513	G185523	G185573	G185583

** All kits include flexible coupling.

DOUBLE REDUCTION ADAPTOR KITS



Reducer Size	Accessory Kit Only Catalog No.	Primary Unit Size	Secondary Unit Quill Size	Weight (lbs.)
EL813 - EL821	G185296	813	56C	2

Note: Sizes 824-8100 must be assembled at Factory.

HOLLOW SHAFT TIE ROD KIT



(GR SERIES SHOWN)

Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
EL813-842	G185152	5
EL852-860	G185153	5

NOTE: Kit does not include Torque Arm Bracket that mounts to reducer. See "TORQUE ARM BRACKET" table.

TORQUE ARM BRACKET

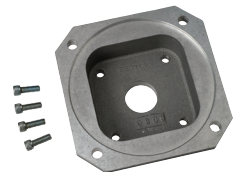


Reducer Size	Accessory Kit Only Catalog No.▲
EL813	--
EL818	G185480
EL821	G185481
EL824	G185472
EL826	G185473
EL830	G185474
EL832	G185475
EL842	G185476
EL852	G185477
EL860	G185478

▲ Torque arm bracket mounts to hollow shaft reducer.

STYLE F & FR OUTPUT FLANGE KITS

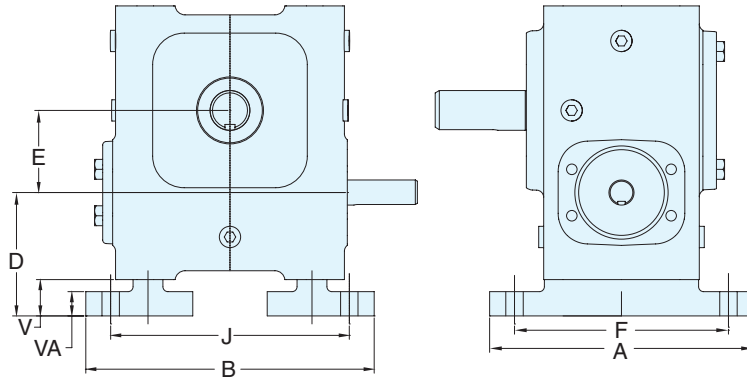
Reducer Size	Accessory Kit Only Catalog No.	Accessory Kit Only Catalog No.	Weight (lbs)
	Style F Hollow Output Flange	Style FR Solid Output Flange	
EL818	G185287	G185298	2
EL821	G185288	G185299	3
EL824	G185289	G185300	3
EL826	G185289	G185300	3
EL830	G185291	G185302	6
EL832	G185292	G185292	7
EL842	G185293	G185304	8
EL852	G185294	G185295	8
EL860	◆	◆	21



◆ - Output flange must be installed at Factory.

"ABC" Base Kit

"ABC" base can be mounted on top or bottom of reducer. Please specify mounting position with order.



ABC BASE DIMENSIONS - Inches

Size	A	B	CD	D	F	J	V	VA	Accessory Kit Only Catalog No.	Weight (lbs)
818	5.19	4.50	1.75	3.67	4.38	3.69	1.36	0.55	G185620	2
821	6.63	7.25	2.06	3.24	5.38	6.00	0.92	0.61	G185621	3
826	6.63	8.12	2.63	3.93	5.38	6.87	1.06	0.68	G185622	4
830	9.00	9.87	3.00	4.24	7.50	8.37	1.31	0.74	G185623	6
832	9.13	10.88	3.25	4.74	7.63	9.38	0.74	0.74	G185624	8
842	10.00	10.50	4.25	5.73	8.00	8.50	1.23	1.23	G185625	7
852	10.75	12.12	5.25	5.73	8.75	9.74	1.48	1.48	G185626	8
860	11.75	13.50	6.00	6.73	9.50	11.50	1.73	1.73	G185627	10

Foot kit can be mounted on top or bottom of reducer

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories and
Additional Capabilities

Modified Stock Gear Reducer Accessories



Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories and
Additional Capabilities

BLUE TOUCH-UP PAINT

Container Size	Catalog No.
16 oz can	G185404



WORM GEAR OIL

Container Size	Catalog No.
Quart	G185405



This oil is standard in all Grove Gear®; (GR and NH Series) and Electra Gear® (EL Series) worm reducers. It is a synthetic Polyglycol (PAG) blend, only intended for use in worm gear reducers and cannot be mixed with any other oil type.

NEMA C-FACE QUILL INPUT BUSHINGS



Frame Conversion	Input Quill Bore Size (inch)	Accessory Kit Only Catalog No.
180TC to 140TC	1-1/8 to 7/8	G175230
180TC to 56C	1-1/8 to 5/8	G175229
140TC to 56C	7/8 to 5/8	G175228

Note: Bushing allows multiple NEMA®* frame motors to mount to a single gearbox by reducing the input quill shaft diameter as noted. Application may also require a different input flange size. Bushings are not intended for use in output bores.

ONE-WAY POPPET VENT



Reducer Size	Accessory Kit Only Catalog No.
813	G185407
815	
818	
821	
824	
826	
830	
832	
842	
852	G185408
860	
870	G185409
880	
8100	G185410

Note: Standard vent is two-way design. Poppet vent is a one-way design, reducing chance of oil vapors escaping into environment. For ultimate protection, refer to the Enviroseal design.

OIL LEVEL SIGHT GLASS PLUG



Reducer Size	Accessory Kit Only Catalog No.
813	G185411
815	
818	
821	
824	
826	
830	
832	
842	
852	G185412
860	
870	G185413
880	
8100	G185414

Note: Sight Gage is used to visually check if oil level of gearbox is above or below proper level.

* NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation.



Modified Stock Gear Reducers



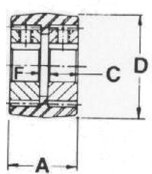
INPUT COUPLING KITS* • SERIES GR • NH • EL

Reducer Size	NEMA Input Frame Size											
	48CZ		56C		140TC		180TC		210TC		250TC	
	Part Number	Style	Part Number	Style	Part Number	Style	Part Number	Style	Part Number	Style	Part Number	Style
813	041239	S88	040929	S88	040931	S88	--	--	--	--	--	--
815 - 821	040929	S88	040932	S88	040934	S88	--	--	--	--	--	--
824 - 826	--	--	040933	S88	040935	S88	040937	S138	--	--	--	--
830 - 832	--	--	040934	S88	040936	S88	040938	S138	040939	S138	--	--
842 - 852	--	--	012230	S138	012231	S138	041067	S138	040941	S138	012410	M300
860	--	--	--	--	--	--	013205	L110	013206	L110	013207	L150
870	--	--	--	--	--	--	014468	L110	014469	L110	014470	M300
880	--	--	--	--	--	--	--	--	014471	L150	014472	M400

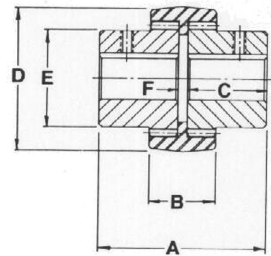
* Coupling kits include 2 coupling halves, flexible sleeve/element and retaining hardware. All couplings are keyed, not splined.

COUPLING DIMENSIONS - INCHES

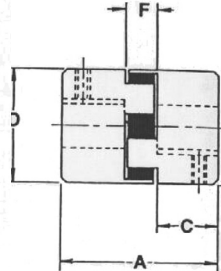
STYLE "S 88"



STYLE "S 138"



STYLE "L"



DIMENSIONS

Model	A	B	C	D	E	F	Available
							Sizes - Inches
S88	1.25	--	.56	1.88	--	.12	1/2, 5/8, 3/4, 7/8
S138	3.36	1.25	1.62	2.88	2.00	.12	5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4 1-3/8, 1-5/8, 1-7/8
L-070	2.00	--	.75	1.36	--	.50	1/2, 5/8
L-150	4.50	--	1.75	3.75	--	1.00	1-1/4, 1-3/8, 1-5/8, 1-7/8

RATINGS - HP

Model	RPM					
	100	600	900	1200	1800	3600
S88	.20	1.2	1.8	2.4	3.6	7.2
S138	.60	3.6	5.4	7.2	10.8	21.6
L-070	--	--	--	.72	1.08	2.16
L-150	--	--	--	20.4	30.6	61.2

INPUT COUPLING SLEEVES** • SERIES GR • NH • EL

Reducer Size	NEMA Input Frame Size					
	48CZ	56C	143-5TC	182-4TC	213-5TC	254-6TC
813	040699	040699	040699	--	--	--
815 - 821	040699	040699	040699	--	--	--
824 - 826	--	040699	040699	040792	--	--
830 - 832	--	040699	040699	040792	040792	--
842 - 852	--	040792	040792	040792	040792	095555B
860	--	--	--	013205	013205	095521
870	--	--	--	013205	013205	095555B
880	--	--	--	--	095521	095561B

** Includes coupling sleeve only. For complete 3-piece coupling kit, refer to Input Coupling Kits.

Single Reduction
Worm Gear Reducers

Worm - Double Reduction
Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

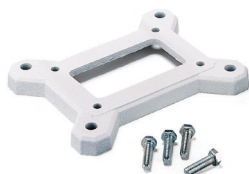
Accessories and
Additional Capabilities



Modified Stock Gear Reducers



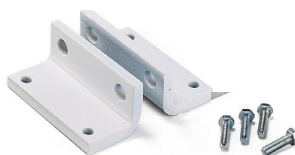
WASHGUARD® STYLE T OR U HORIZONTAL BASE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR813	G185045	2
GR815	G185180	3
GR818	G185046	3
GR821	G185047	4
GR824	G185048	4
GR826	G185049	6
GR830	G185181	6
GR832	G185182	9

Contact Factory for larger sizes

WASHGUARD® STYLE J VERTICAL INPUT BASE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR813	G185054	1
GR815	G185183	1
GR818	G185055	2
GR821	G185056	3
GR824	G185057	3
GR826	G185058	5
GR830	G185184	6
GR832	G185185	6

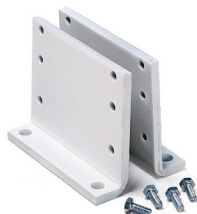
WASHGUARD® HOLLOW SHAFT TIE ROD KIT



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR813-842	G185088	5
GR852-860	G185089	5

NOTE: Kit does not include Torque Arm Bracket that mounts to reducer. See "TORQUE ARM BRACKET" table.

WASHGUARD® STYLE VL & VH VERTICAL OUTPUT BASE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR813	G185063	2
GR815	G185186	3
GR818	G185064	3
GR821	G185065	7
GR824	G185066	7
GR826	G185067	9
GR830	G185187	10
GR832	G185188	13

WASHGUARD® STYLE F OUTPUT FLANGE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR813	G185307	1
GR815	G185308	1
GR818	G185309	2
GR821	G185310	3
GR824	G185311	3
GR826	G185312	4
GR830	G185313	10
GR832	G185314	10

Contact Factory for larger sizes

WASHGUARD® TORQUE ARM BRACKET



Reducer Size	Accessory Kit Only Catalog No.▲
GR813	G185630
GR815	G185632
GR818	G185632
GR821	G185633
GR824	G185634
GR826	G185635
GR830	G185636
GR832	G185637

▲ Torque arm bracket mounts to hollow shaft reducer.

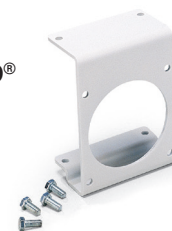
WASHGUARD® HOLLOW OUTPUT SHAFT PROTECTIVE COVERS

Reducer Size	Accessory Kit Only Catalog No.
GR818	Contact Factory
GR821	
GR824	
GR826	



This protective cap mounts to integral output cover side of reducer and covers the unused output bore for single extension or hollow output shaft assemblies. Cover will not mount to bolted cover side of reducer. Check OSHA requirements and review installation manual to assure all safety requirements of gear reducer installation are met.

WASHGUARD® STYLE BF OUTPUT FLANGE



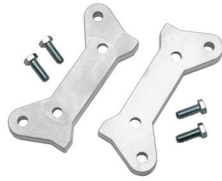
Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
GR813	G185081	2
GR818	G185082	2
GR821	G185083	3
GR824	G185084	4
GR826	G185085	6



All PLATINUM bases and flanges are polished aluminum

ELECTRA-GEAR® STOCK PLATINUM GEAR REDUCER ACCESSORIES

PLATINUM SERIES STYLE T OR U HORIZONTAL BASE



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
EL813	G185260P	1
EL818	G185261P	2
EL821	G185262P	3
EL824	G185263P	3
EL826	G185264P	4
EL830	G185265P	6
EL832	G185266P	8

PLATINUM SERIES STYLE J VERTICAL INPUT BASE*



Reducer Size	Accessory* Kit Only Catalog No.	Weight (lbs)
EL813	G185270	1
EL818	G185271	2
EL821	G185272	3
EL824	G185273	3
EL826	G185274	4
EL830	G185275	5
EL832	G185276	5

* Painted white epoxy.

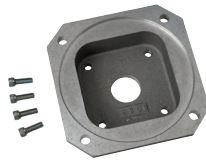
PLATINUM SERIES STYLE VL VERTICAL OUTPUT BASE*



Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
EL813	G185278	2
EL818	G185279	3
EL821	G185280	3
EL824	G185281	3
EL826	G185282	4
EL830	G185283	6
EL832	G185284	7

* Painted white epoxy.

STYLE F & FR OUTPUT FLANGE KITS



Reducer Size	Accessory Kit Only Catalog No.	Accessory Kit Only Catalog No.	Weight (lbs)
	Style F Hollow Output Flange	Style FR Solid Output Flange	
EL813	—	—	—
EL818	G185287P	G185298P	2
EL821	G185288P	G185299P	3
EL824	G185289P	G185300P	3
EL826	G185289P	G185300P	3
EL830	G185291P	G185302P	6
EL832	G185291P	G185303P	7

HOLLOW SHAFT TIE ROD KIT



(GR SERIES SHOWN)

Reducer Size	Accessory Kit Only Catalog No.	Weight (lbs)
EL813-842	G185088	5
EL852-860	G185089	5

NOTE: Kit does not include Torque Arm Bracket that mounts to reducer. See "TORQUE ARM BRACKET" table.

TORQUE ARM BRACKET



Reducer Size	Accessory Kit Only Catalog No.
EL813	G185479
EL818	G185480
EL821	G185481
EL824	G185472
EL826	G185473
EL830	G185474
EL832	G185475

▲ Torque arm bracket mounts to hollow shaft reducer.



STAINLESS STEEL ONE-WAY POPPET VENT

Reducer Size	Accessory Kit Only Catalog No.
SS813	G183407
SS815	
SS818	
SS821	
SS824	
SS826	
SS832	

Note: Standard vent is two-way design. Poppet vent is a one-way design, reducing chance of oil vapors escaping into environment. For ultimate protection, refer to the Enviroseal design.

STAINLESS STEEL STYLE T OR U HORIZONTAL BASE



Stainless Steel Style T or U Horizontal Base • GR Series

Reducer Size	Accessory Kit Catalog No.
S13	G185350.00
S15	G185351.00
S18	G185352.00
S21	G185353.00
S24	G185354.00
S26	G185355.00
S32	G185356.00

STAINLESS STEEL STYLE F OUTPUT FLANGE

Stainless Steel Style F Output Flange • GR Series



Series	Accessory Kit Only Catalog No.
S13	G185667.00
S15	G185667.00
S18	G185668.00
S21	G185669.00
S24	G185670.00
S26	G185671.00
S32	G185672.00

Note: Flange can only mount to "bolted cover side".

STOCK STAINLESS STEEL GEAR REDUCERS ACCESSORIES

Single Reduction
Worm Gear Reducers

Double Reduction
Worm - Worm Gear Reducers

Double Reduction
Helical - Worm Gear Reducers

WASHGUARD® Reducers
and GEAR+MOTOR™

Ratio Multipliers

Accessories and
Additional Capabilities

Bravo! An Alternative For Machine

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

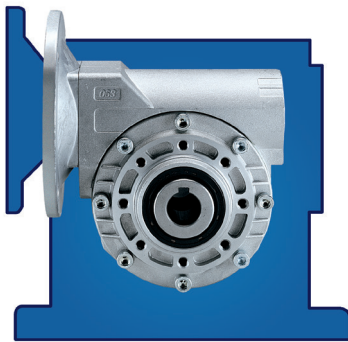
Quadro - Single Reduction

High Efficiency Helical - Inline

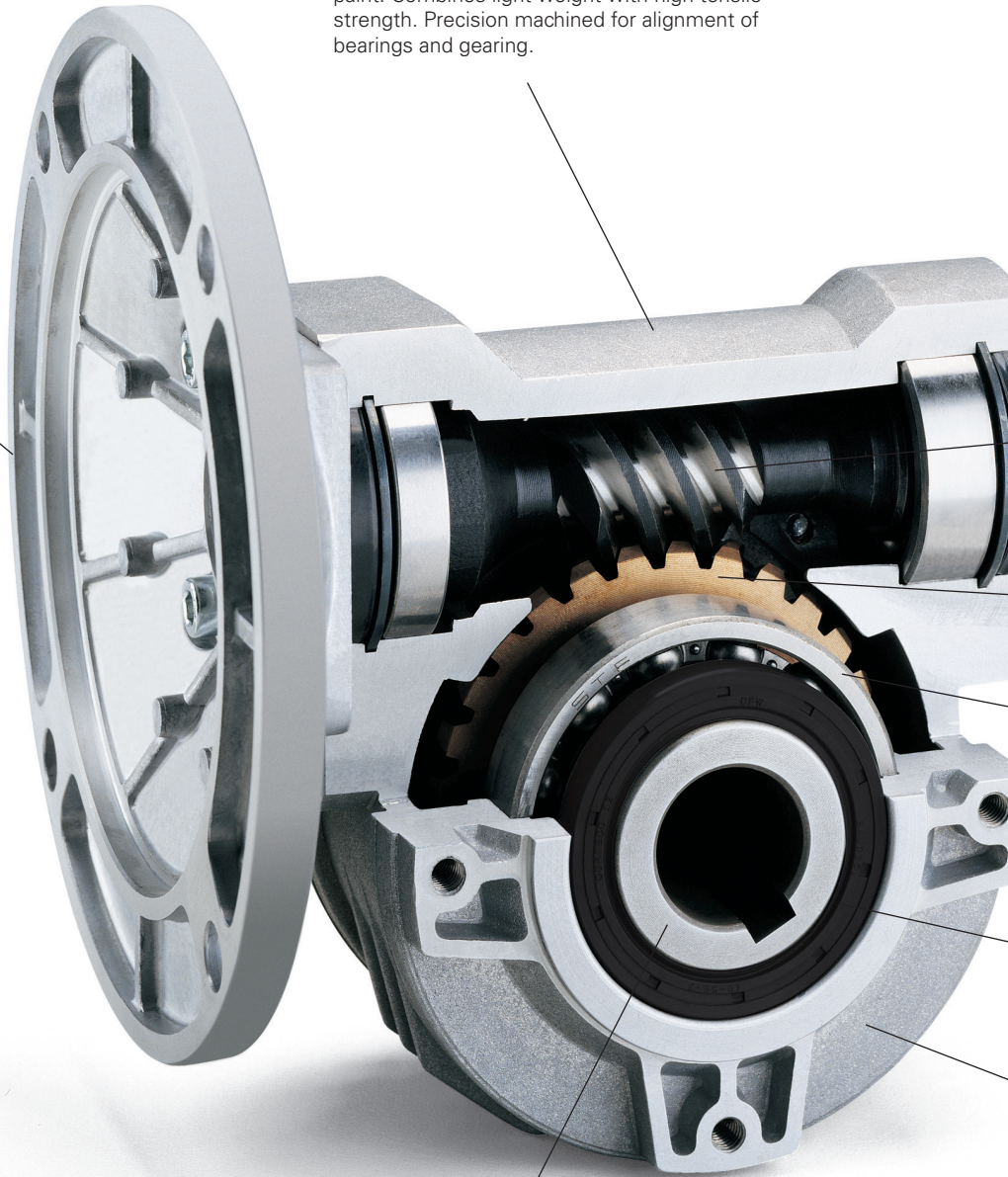
Vent Free Design** No breather or vents to leak!
Factory lubricated for life with premium synthetic Mobil Glygoyle* 460 (PAG) lubricant with an operation range of -25°F to +220°F (-32°C to +104°C).

Single-piece aluminum alloy housing is vacuum impregnated with Resinol* RT (MIL-STD 276) for protection and sealing. No secondary finish required but readily accepts paint. Combines light weight with high tensile strength. Precision machined for alignment of bearings and gearing.

NEMA C flange with quill input accepts 56C, 143-5TC and 182-4TC motor frames.
or
B5 & B14 IEC metric flange options with quill input accepts D56, D63, D71, D80, D90, D100 and D112 motor frames.



Bravo® worm speed reducers are up to two-thirds lighter and one-third smaller than cast iron reducer of similar center distance!



Hollow output shaft mounting is standard at no extra cost. Reduces total drive envelope size, weight and cost. Solid shaft single and double output is available.

*Resinol is believed to be the trademark or trade name of Henkel Corporation and is not controlled by Regal Rexnord Corporation

**Mobil and Glygoyle are believed to be the trademarks and/pr trade names of Exxon Mobil Corporation and are not owned or controlled by Regal Rexnord Corporation

Designers



Oversized bearings support positively-retained, high speed shaft for higher shock load capacity — ideal for frequent starting and reversing applications. Premium, Nitrile high temperature seals each end.

Single-piece alloy steel input shaft and worm shaft. High helix angle worm is case-hardened (Rc 58-60), ground, teeth are profiled and radiused, for noise reduction and enhanced efficiency.

Bronze alloy worm gear is centrifugally cast onto an iron hub for maximum strength, lubricity and superior life.

Oversized bearings for radial load capability and maximum hollow output shaft diameters.

Premium, high-temperature Nitrile® output seals.

Impregnated and machined bearing caps with exterior machined surfaces mate to a variety of mounting accessories. Extra-deep thread engagement provided for greater support strength. Zinc plated hardware. No need to remove bearing covers to mount/change accessory kits.

** 512 Series is filled with synthetic oil or equivalent. Operating temperature range of 512 Series is +5°F to +220°F (-15°C to +104°C)

Start with one of four basic units...

Motorized HMQ



Motorized BMQ



Non-Motorized H

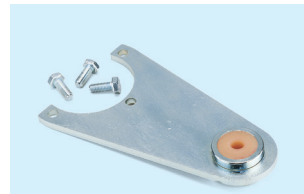


Non-Motorized B

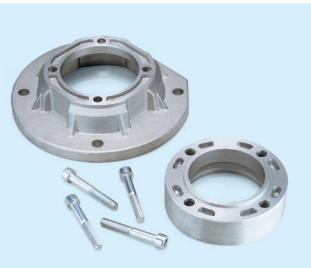


and add mounting accessories...

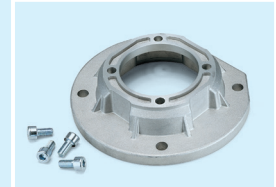
Reaction Arm R



Horizontal T Base



FL Flange (Long)



F Flange (Short)

To create thousands of gear and GEAR+MOTOR™ combinations



BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

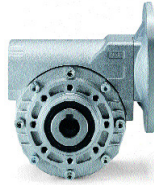
Quadro - Single Reduction

High Efficiency Helical - In-line

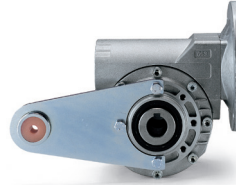
HOLLOW OUTPUT SHAFT MOUNTED

**MOTORIZED
QUILL INPUT**

HMQ



RHMQ



FHMQ



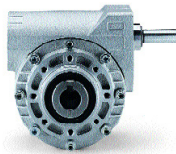
Ratings: Pages G7-G11
Dimensions: Page G13

Ratings: Pages G7-G11
Dimensions: Page G15

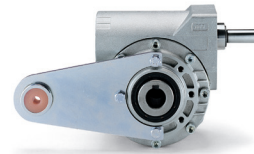
Ratings: Pages G7-G11
Dimensions: Page G17

**NON-
MOTORIZED
SOLID INPUT
SHAFT**

H



RH



FH



Ratings: Pages G7-G11
Dimensions: Page G13

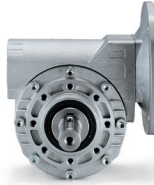
Ratings: Pages G7-G11
Dimensions: Page G15

Ratings: Pages G7-G11
Dimensions: Page G17

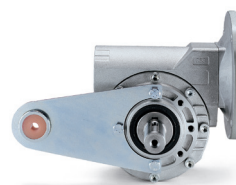
SOLID OUTPUT SHAFT

**MOTORIZED
QUILL INPUT**

BMQ



RMQ



FMQ



Ratings: Pages G7-G11
Dimensions: Page G14

Ratings: Pages G7-G11
Dimensions: Page G16

Ratings: Pages G7-G11
Dimensions: Page G18

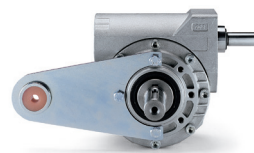
(Non-Standard Option)

**NON-
MOTORIZED
SOLID INPUT
SHAFT**

B



R



F



Ratings: Pages G7-G11
Dimensions: Page G14

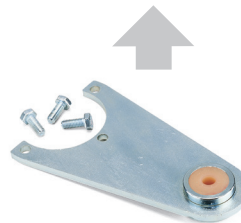
Ratings: Pages G7-G11
Dimensions: Page G16

Ratings: Pages G7-G11
Dimensions: Page G18

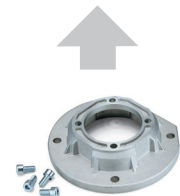
(Non-Standard Option)

MOUNTING ACCESSORIES

Select the appropriate mounting accessories from this wide variety of options.



**REACTION
ARM R**



**F FLANGE
(SHORT
FLANGE)**

◆ Non-Standard Option assemblies may be useful in certain applications. Please contact Factory with application details.

BRAVO® Single Reduction Reducers
BRAVO® Worm - Worm Double Reduction
BRAVO® Helical - Worm Double Reduction
BRAVO® Accessory Kits
Quadro - Single Reduction
High Efficiency Helical - Inline

MOUNTING STYLE GUIDE



BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

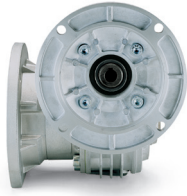
BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

High Efficiency Helical - Inline

FLHMQ



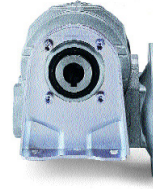
Ratings: Pages G7-G11
Dimensions: Page G19

THMQ



(vNon-Standard Option)
Ratings: Pages G7-G11
Dimensions: Page G21

UHQ



(vNon-Standard Option)
Ratings: Pages G7-G11
Dimensions: Page G23

JHQ



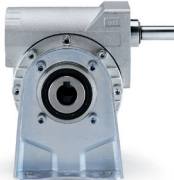
(vNon-Standard Option)
Ratings: Pages G7-G11
Dimensions: Page G25

FLH



Ratings: Pages G7-G11
Dimensions: Page G19

TH



(vNon-Standard Option)
Ratings: Pages G7-G11
Dimensions: Page G21

UH



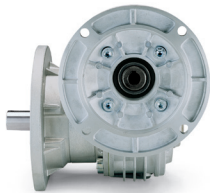
(vNon-Standard Option)
Ratings: Pages G7-G11
Dimensions: Page G23

JH



(vNon-Standard Option)
Ratings: Pages G7-G11
Dimensions: Page G25

FLMQ



Ratings: Pages G7-G11
Dimensions: Page G20

TMQ



Ratings: Pages G7-G11
Dimensions: Page G22

UMQ



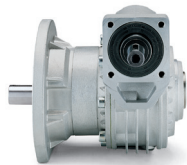
(vNon-Standard Option)
Ratings: Pages G7-G11
Dimensions: Page G24

JMQ



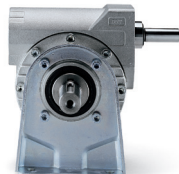
Ratings: Pages G7-G11
Dimensions: Page G26

FL



Ratings: Pages G7-G11
Dimensions: Page G20

T



Ratings: Pages G7-G11
Dimensions: Page G22

U

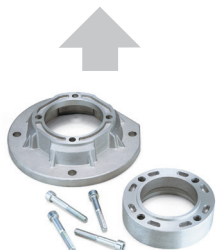


(vNon-Standard Option)
Ratings: Pages G7-G11
Dimensions: Page G24

J



Ratings: Pages G7-G11
Dimensions: Page G26



FL FLANGE
(LONG FLANGE)



HORIZONTAL BASE
(WORM OVER ASSEMBLY)



HORIZONTAL BASE
(WORM UNDER ASSEMBLY)



HORIZONTAL BASE
(VERTICAL INPUT SHAFT)

Grove Gear® 500 Series Gear Reducer Model Number Nomenclature

All stock and custom 500 series reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example W5180001. Reducers and renewal parts should be ordered by catalog number. If a stock reducer has been factory modified by the addition of an optional base for example, the modification number T518, for example, is stamped in the blank column of the nameplate. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 5000 (for example, W5185000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered from Grove Gear by catalog number.

TYPICAL NAMEPLATE

GROVE GEAR™				
MAX INPUT HP @ 1750 RPM	1.49	OUTPUT TORQUE (IN-LBS)	595	
DESC.	HMQ52014H5616		RATIO	14:1
CATALOG NO.			DATE CODE	A04
GROVE GEAR UNION GROVE, WI 53182			MOD	

Style

SOLID OUTPUT SHAFT
BMQ – Motorized, Quill Input
B – Non-Flanged

HOLLOW OUTPUT SHAFT
HMQ – Motorized, Quill Input
H – Non-Flanged

Series

See Selection Tables on pages G7-G11 for all available ratios

Ratio

Output Shaft Orientation

L – Left-hand Output Shaft*
R – Right-hand Output Shaft*
D – Double Output Shaft
H – Hollow Output Shaft
* Viewed from drive end of reducer.

Motor Flange

Shaft Dimension Code

ALUMINUM 500 SERIES CENTER DISTANCES

Series	Center Distance	
	(Inches)	(mm)
512	1.18	30
518	1.77	45
520	1.97	50
525	2.48	63
534	3.35	85

NEMA Input Flange Code	For NEMA Frame
56	56C
140	143-5TC
180	182-4TC

IEC Input Flange Code	For IEC Frame
56B14	56B14
56B5	56B5
63B14	63B14
63B5	63B5
71B14	71B14
71B5	71B5
80B14	80B14
80B5	80B5
90B14	90B14
90B5	90B5
100B14	100B14/112B14
100B5	100B5/112B5

OUTPUT SHAFT DIMENSION CODE

Series	NEMA/Inch Options		IEC/Metric Options	
	Shaft Dia.	Shaft* Code	Shaft Dia.	Shaft Code
512	N/A	N/A	14mm	14
518	3/4"	12	18mm	18
520	1"	16	25mm	25
525	1-1/8"	18	25mm	25
534	1-1/2"	24	35mm	35

*Shaft Diameter in 1/16ths of an inch. Diameters and shaft codes of hollow bore styles are identical to those of solid shaft styles. Reducers with NEMA inputs will have inch-dimensioned output shafts and reducers with IEC inputs will have metric dimensioned output shafts as standard.

SAMPLE MODEL NUMBER

Solid Shaft

Motorized Quill Input, Single Reduction Reducer, 1.77" Center Distance, 14:1 Ratio, Left Hand Output Shaft, and 5/8" Input Bore with NEMA 56C Flange.

BMQ	518	14	L	56	12
Style	Series	Ratio	Mounting Assembly	Motor Input Flange	Shaft Code

Hollow Shaft

Motorized Quill Input, Single Reduction Reducer, 1.77" Center Distance, 14:1 Ratio, 3/4" Hollow Output Shaft, and 5/8" Input Bore with NEMA 56C Flange.

HMQ	518	14	H	56	12
Style	Series	Ratio	Mounting Assembly	Motor Input Flange	Shaft Code

BRVAO® Single Reduction Reducers
BRVAO® Worm - Worm Double Reduction
BRVAO® Helical - Worm Double Reduction
BRVAO® Accessory Kits
Quadro - Single Reduction
High Efficiency Helical - Inline

"HOW TO USE" MAXIMUM RATING TABLES



HOW TO USE MAXIMUM RATING TABLES

Maximum Rating Tables for Single Reduction Gear Reducers are shown on pages G7-G11.

BEFORE YOU START:

Identify the Service Factor of the application (see page L7).

Determine the actual input horsepower of the motor by multiplying the motor's nameplate horsepower by the Service Factor.

Determine the output speed (RPM) required at output shaft of reducer.

Identify the mounting style required by your application from the style charts shown on pages G13-G14. Note the basic mounting style (BMQ, HMQ, etc.).

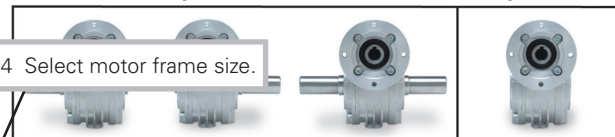
To select the proper gear reducer size, use the Maximum Rating Tables as shown:

1 Find the appropriate Maximum Rating Tables pages for your basic mounting style. The tables begin on page G7.

MAXIMUM RATING TABLES **Bravo**[®] 518 SERIES • ALL STYLES ALUMINUM GEAR REDUCERS

Style BMQ

Style HMQ



4 Select motor frame size.

2 Locate the Input RPM and Output RPM columns on the left side of the table. Scroll down the Input RPM column to locate a listing where the desired input speed corresponds to the output speed required in your application. (Input RPM listings are rounded to the nearest hundred. Your actual input speed of 1750 can be correlated to 1800 with no material change in performance.)

NEMA C Input Flange*	Input RPM		Output RPM		Service Factor	Output Catalog No.			
	1750	1150	1750	1150		Left Hand	Right Hand	Double Extension	Hollow Output
7	250	164	1.378	1.103	278	W5180031	W5180041	W5180051	W5180071
	1150	115	0.950	0.760	292				
10	175	115	0.981	0.775	279	W5180032	W5180042	W5180052	W5180072
	1150	82	0.679	0.536	294				
14	125	82	0.871	0.670	338	W5180033	W5180043	W5180053	W5180073
	1150	55	0.602	0.463	356				
21	83	55	0.796	0.533	405	W5180034	W5180044	W5180054	W5180074
	1150	47	0.555	0.372	426				
28	63	47	0.631	0.410	410	W5180035	W5180045	W5180055	W5180075
	1150	31	0.494	0.321	431				
37	47	31	0.490	0.309	414	W5180036	W5180046	W5180056	W5180076
	1150	25	0.340	0.214	436				
46	38	25	0.397	0.234	388	W5180037	W5180047	W5180057	W5180077
	1150	19.2	0.274	0.162	408				
60	29	19.2	0.363	0.203	442	W5180038	W5180048	W5180058	W5180078
	1150	16.4	0.250	0.140	465				
70	25.0	16.4	0.204	0.110	278	W5180039	W5180049	W5180059	W5180079
	1150	17.2	0.137	0.074	292				
102	17.2	11.3	0.144	0.070	261	W5180040	W5180050	W5180060	W5180080
	1150	11.3	0.098	0.048	275				

* Contact Factory for metric IEC input flange options available.

5 Identify catalog number of the basic reducer by continuing to the right. See page G5 for detailed information on building an exact model number.

6 Verify physical dimensions using the dimensional drawings shown on pages G12-G26.

Style H

3 Move across the table to the Input HP column until you find a rating that is equal to or greater than the actual input horsepower required. Once located, check the top of the table to identify the correct gear reducer size (512, 518, 520, etc.).

Single Reduction Reducers

Worm - Worm Double Reduction

Helical - Worm Double Reduction

Accessory Kits

Single Reduction

High Efficiency Helical - Inline

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

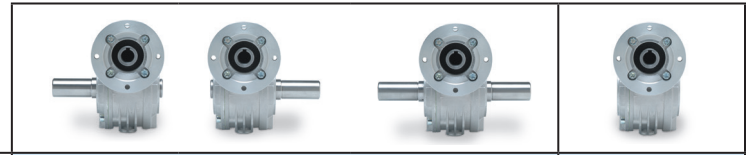
BRAVO® Accessory Kits

Quadro - Single Reduction

High Efficiency Helical - Inline

Style BMQ

Style HMQ



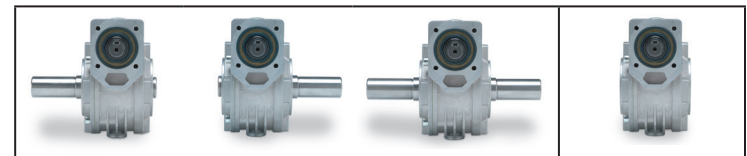
512 SERIES • STYLE BMQ & HMQ • 1.0 S.F.

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	IEC Metric Input Flange*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	0.764	0.611	154	56B14	W5120025	W5120033	W5120041	W5120081
	1150	164	0.528	0.422	162	63B14	W5120049	W5120057	W5120065	W5120089
10	1750	165	0.510	0.398	152	56B14	W5120026	W5120034	W5120042	W5120082
	1150	108	0.353	0.275	160	63B14	W5120050	W5120058	W5120066	W5120090
15	1750	117	0.441	0.322	174	56B14	W5120027	W5120035	W5120043	W5120083
	1150	77	0.305	0.223	183	63B14	W5120051	W5120059	W5120067	W5120091
20	1750	92	0.386	0.270	185	56B14	W5120028	W5120036	W5120044	W5120084
	1150	61	0.268	0.187	195	63B14	W5120052	W5120060	W5120068	W5120092
30	1750	58	0.299	0.185	200	56B14	W5120029	W5120037	W5120045	W5120085
	1150	38	0.206	0.128	210	63B14	W5120053	W5120061	W5120069	W5120093
40	1750	45	0.246	0.140	197	56B14	W5120030	W5120038	W5120046	W5120086
	1150	29	0.170	0.097	207	63B14	W5120054	W5120062	W5120070	W5120094
61	1750	29	0.168	0.084	184	56B14	W5120031	W5120039	W5120047	W5120087
	1150	18.9	0.116	0.058	194	63B14	W5120055	W5120063	W5120071	W5120095
80	1750	21.9	0.106	0.051	146	56B14	W5120032	W5120040	W5120048	W5120088
	1150	14.4	0.073	0.035	154	63B14	W5120056	W5120064	W5120072	W5120096

* Contact Factory for other metric IEC input flange options available.

Style B

Style H



512 SERIES • STYLE B & H • 1.0 S.F.

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	0.764	0.611	154		Contact Factory		Contact Factory
	1150	164	0.528	0.422	162		Contact Factory		Contact Factory
10	1750	165	0.510	0.398	152		Contact Factory		Contact Factory
	1150	108	0.353	0.275	160		Contact Factory		Contact Factory
15	1750	117	0.441	0.322	174		Contact Factory		Contact Factory
	1150	77	0.305	0.223	183		Contact Factory		Contact Factory
20	1750	92	0.386	0.270	185		Contact Factory		Contact Factory
	1150	61	0.268	0.187	195		Contact Factory		Contact Factory
30	1750	58	0.299	0.185	200		Contact Factory		Contact Factory
	1150	38	0.206	0.128	210		Contact Factory		Contact Factory
40	1750	44	0.246	0.140	197		Contact Factory		Contact Factory
	1150	29	0.170	0.097	207		Contact Factory		Contact Factory
61	1750	29	0.168	0.084	184		Contact Factory		Contact Factory
	1150	18.9	0.116	0.058	194		Contact Factory		Contact Factory
80	1750	21.9	0.106	0.051	146		Contact Factory		Contact Factory
	1150	14.4	0.073	0.035	154		Contact Factory		Contact Factory

MAXIMUM RATING TABLES

518 SERIES • ALL STYLES



Single Reduction Reducers

Worm - Worm Double Reduction

Helical - Worm Double Reduction

Accessory Kits

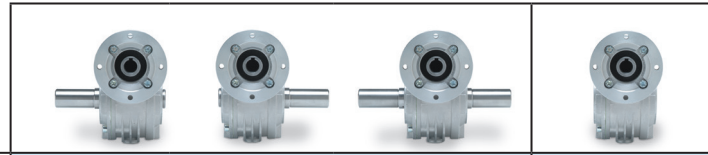
Single Reduction

High Efficiency Helical - Inline

518 SERIES • STYLE BMQ & HMQ • 1.0 S.F.

Style BMQ

Style HMQ



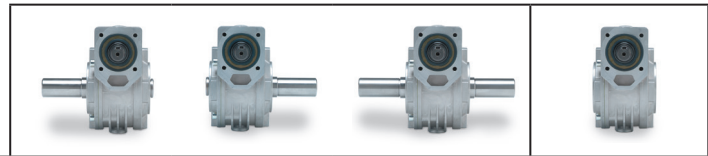
Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	1.378	1.103	278	56C	W5180031	W5180041	W5180051	W5180051
	1150	164	0.950	0.760	292					
10	1750	175	0.981	0.775	279	56C	W5180051	W5180042	W5180052	W5180072
	1150	115	0.679	0.536	294					
14	1750	125	0.871	0.670	338	56C	W5180033	W5180043	W5180053	W5180073
	1150	82	0.602	0.463	356					
21	1750	83	0.796	0.533	405	56C	W5180034	W5180044	W5180054	W5180074
	1150	55	0.555	0.372	426					
28	1750	63	0.631	0.410	410	56C	W5180035	W5180045	W5180055	W5180075
	1150	47	0.494	0.321	431					
37	1750	47	0.490	0.309	414	56C	W5180036	W5180046	W5180056	W5180076
	1150	31	0.340	0.214	436					
46	1750	38	0.397	0.234	388	56C	W5180037	W5180047	W5180057	W5180077
	1150	25	0.274	0.162	408					
60	1750	29	0.363	0.203	442	56C	W5180038	W5180048	W5180058	W5180078
	1150	19.2	0.250	0.140	465					
70	1750	25.0	0.204	0.110	278	56C	W5180039	W5180049	W5180059	W5180079
	1150	16.4	0.137	0.074	292					
102	1750	17.2	0.144	0.070	261	56C	W5180040	W5180050	W5180060	W5180080
	1150	11.3	0.098	0.048	275					

* Contact Factory for other metric IEC input flange options available.

518 SERIES • STYLE B & H • 1.0 S.F.

Style B

Style H



Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	1.378	1.103	278	W5180001	W5180011	W5180021	W5180061
	1150	164	0.950	0.760	292				
10	1750	175	0.981	0.775	279	W5180002	W5180012	W5180022	W5180062
	1150	115	0.679	0.536	294				
14	1750	125	0.871	0.670	338	W5180003	W5180013	W5180023	W5180063
	1150	82	0.602	0.463	356				
21	1750	83	0.796	0.533	405	W5180004	W5180014	W5180024	W5180064
	1150	55	0.555	0.372	426				
28	1750	63	0.631	0.410	410	W5180005	W5180015	W5180025	W5180065
	1150	47	0.494	0.321	431				
37	1750	47	0.490	0.309	414	W5180006	W5180016	W5180026	W5180066
	1150	31	0.340	0.214	436				
46	1750	38	0.397	0.234	388	W5180007	W5180017	W5180027	W5180067
	1150	25	0.274	0.162	408				
60	1750	29	0.363	0.203	442	W5180008	W5180018	W5180028	W5180068
	150	19.2	0.250	0.140	465				
70	1750	25.0	0.204	0.110	278	W5180009	W5180019	W5180029	W5180069
	1150	16.4	0.137	0.074	292				
102	1750	17.2	0.144	0.070	261	W5180010	W5180020	W5180030	W5180070
	1150	11.3	0.098	0.048	275				

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

High Efficiency Helical - Inline

Style BMQ

Style HMQ



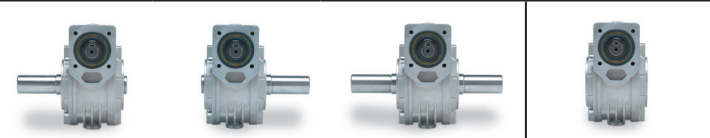
520 SERIES • STYLE BMQ & HMQ • 1.0 S.F.

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	2.472	2.027	511	56C	W5200034	W5200045	W5200056	W5200078
	1150	164	1.707	1.400	538					
10	1750	175	1.961	1.569	565	56C	W5200035	W5200046	W5200057	W5200079
	1150	115	1.355	1.084	594					
14	1750	125	1.494	1.180	595	56C	W5200036	W5200047	W5200058	W5200080
	1150	82	1.031	0.814	626					
18	1750	97	1.196	0.897	583	56C	W5200037	W5200048	W5200059	W5200081
	1150	64	0.830	0.622	613					
26	1750	67	0.889	0.613	577	56C	W5200038	W5200049	W5200060	W5200082
	1150	44	0.614	0.424	607					
36	1750	49	0.684	0.472	607	56C	W5200039	W5200050	W5200061	W5200083
	1150	32	0.470	0.324	639					
43	1750	41	0.604	0.399	613	56C	W5200040	W5200051	W5200062	W5200084
	1150	27	0.419	0.276	645					
60	1750	29	0.486	0.282	613	56C	W5200041	W5200052	W5200063	W5200085
	1150	19.2	0.335	0.194	645					
68	1750	25.7	0.420	0.239	580	56C	W5200042	W5200053	W5200064	W5200086
	1150	16.9	0.289	0.165	610					
80	1750	21.9	0.368	0.199	569	56C	W5200043	W5200054	W5200065	W5200087
	1150	14.4	0.246	0.133	599					
100	1750	17.5	0.295	0.147	516	56C	W5200044	W5200055	W5200066	W5200088
	1150	11.5	0.207	0.103	543					

* Contact Factory for other metric IEC input flange options available.

Style B

Style H



520 SERIES • STYLE B & H • 1.0 S.F.

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	2.472	2.027	511	W5200001	W5200012	W5200023	W5200067
	1150	164	1.707	1.400	538				
10	1750	175	1.961	1.569	565	W5200002	W5200013	W5200024	W5200068
	1150	115	1.355	1.084	594				
14	1750	125	1.494	1.180	595	W5200003	W5200014	W5200025	W5200069
	1150	82	1.031	0.814	626				
18	1750	97	1.196	0.897	583	W5200004	W5200015	W5200026	W5200070
	1150	64	0.830	0.622	613				
26	1750	67	0.889	0.613	577	W5200005	W5200016	W5200027	W5200071
	1150	44	0.614	0.424	607				
36	1750	49	0.684	0.472	607	W5200006	W5200017	W5200028	W5200072
	1150	32	0.470	0.324	639				
43	1750	41	0.604	0.399	613	W5200007	W5200018	W5200029	W5200073
	1150	27	0.419	0.276	645				
60	1750	29	0.486	0.282	613	W5200008	W5200019	W5200030	W5200074
	1150	19.2	0.335	0.194	645				
68	1750	25.7	0.420	0.239	580	W5200009	W5200020	W5200031	W5200075
	1150	16.9	0.289	0.165	610				
80	1750	21.9	0.368	0.199	569	W5200010	W5200021	W5200032	W5200076
	1150	14.4	0.246	0.133	599				
100	1750	17.5	0.295	0.147	516	W5200011	W5200022	W5200033	W5200077
	1150	11.5	0.207	0.103	543				

MAXIMUM RATING TABLES

525 SERIES • ALL STYLES



Single Reduction Reducers

Double Reduction

Helical - Worm

Accessory Kits

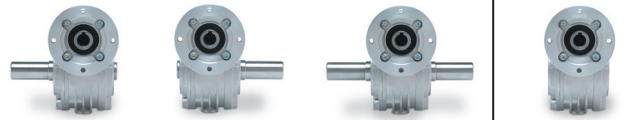
Single Reduction

High Efficiency Helical - Inline

525 SERIES • STYLE BMQ & HMQ • 1.0 S.F.

Style BMQ

Style HMQ



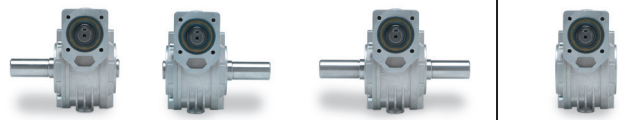
Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	5.24	4.35	1097	56C	W5250034	W5250045	W5250056	W5250111
	1150	164	3.62	3.01	1155	140TC	W5250067	W5250078	W5250089	W5250122
10	1750	175	4.19	3.39	1222	56C	W5250035	W5250046	W5250057	W5250112
	1150	115	2.90	2.35	1287	140TC	W5250068	W5250079	W5250090	W5250123
15	1750	117	2.85	2.25	1214	56C	W5250036	W5250047	W5250058	W5250113
	1150	77	1.98	1.56	1278	140TC	W5250069	W5250080	W5250091	W5250124
19	1750	92	2.24	1.75	1197	56C	W5250037	W5250048	W5250059	W5250114
	1150	61	1.56	1.22	1260	140TC	W5250070	W5250081	W5250092	W5250125
24	1750	73	1.92	1.44	1246	56C	W5250038	W5250049	W5250060	W5250115
	1150	48	1.33	1.00	1312	140TC	W5250071	W5250082	W5250093	W5250126
30	1750	58	1.58	1.17	1274	56C	W5250039	W5250050	W5250061	W5250116
	1150	38	1.09	0.81	1341	140TC	W5250072	W5250083	W5250094	W5250127
36	1750	49	1.46	1.00	1281	56C	W5250040	W5250051	W5250062	W5250117
	1150	32	1.01	0.68	1349	140TC	W5250073	W5250084	W5250095	W5250128
45	1750	39	1.11	0.73	1182	56C	W5250041	W5250052	W5250063	W5250118
	1150	25.6	0.78	0.51	1244	140TC	W5250074	W5250085	W5250096	W5250129
67	1750	26.1	0.73	0.44	1069	56C	W5250042	W5250053	W5250064	W5250119
	1150	17.2	0.51	0.30	1125	140TC	W5250075	W5250086	W5250097	W5250130
80	1750	21.9	0.63	0.36	1034	56C	W5250043	W5250054	W5250065	W5250120
	1150	14.4	0.42	0.24	1089	140TC	W5250076	W5250087	W5250098	W5250131
94	1750	18.6	0.51	0.26	878	56C	W5250044	W5250055	W5250066	W5250121
	1150	12.2	0.34	0.18	924	140TC	W5250077	W5250088	W5250099	W5250132

* Contact Factory for other metric IEC input flange options available.

525 SERIES • STYLE B & H • 1.0 S.F.

Style B

Style H



Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	5.24	4.35	1097	W5250001	W5250012	W5250023	W5250100
	1150	164	3.62	3.01	1155				
10	1750	175	4.19	3.39	1222	W5250002	W5250013	W5250024	W5250101
	1150	115	2.90	2.35	1287				
15	1750	117	2.85	2.25	1214	W5250003	W5250014	W5250025	W5250102
	1150	77	1.98	1.56	1278				
19	1750	92	2.24	1.75	1197	W5250004	W5250015	W5250026	W5250103
	1150	61	1.56	1.22	1260				
24	1750	73	1.92	1.44	1246	W5250005	W5250016	W5250027	W5250104
	1150	48	1.33	1.00	1312				
30	1750	58	1.58	1.17	1274	W5250006	W5250017	W5250028	W5250105
	1150	38	1.09	0.81	1341				
36	1750	49	1.46	1.00	1281	W5250007	W5250018	W5250029	W5250106
	1150	32	1.01	0.68	1349				
45	1750	39	1.11	0.73	1182	W5250008	W5250019	W5250030	W5250107
	1150	25.6	0.78	0.51	1244				
67	1750	26.1	0.73	0.44	1069	W5250009	W5250020	W5250031	W5250108
	1150	17.2	0.51	0.30	1125				
80	1750	21.9	0.63	0.36	1034	W5250010	W5250021	W5250032	W5250109
	1150	14.4	0.42	0.24	1089				
94	1750	18.6	0.51	0.26	878	W5250011	W5250022	W5250033	W5250110
	1150	12.2	0.34	0.18	924				

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

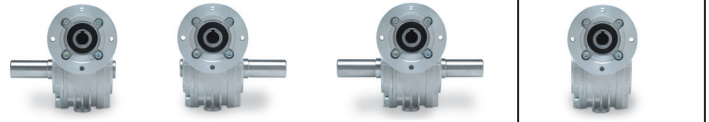
BRAVO® Accessory Kits

Quadro - Single Reduction

High Efficiency Helical - Inline

Style BMQ

Style HMQ



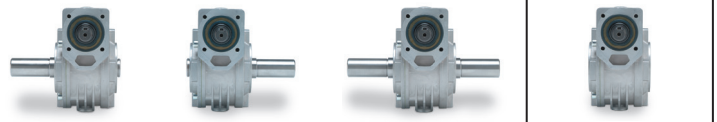
534 SERIES • BMQ & HMQ • 1.0 S.F.

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange*	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	8.26	7.27	1832	180TC	W5340109	W5340121	W5340133	W5340181
	1150	164	5.70	5.02	1929					
10	1750	175	7.62	6.10	2196	140TC	W5340074	W5340086	W5340098	W5340170
	1150	115	5.27	4.22	2312					
14	1750	125	5.91	4.61	2323	140TC	W5340075	W5340087	W5340099	W5340171
	1150	82	4.08	3.18	2446					
20	1750	88	3.91	3.09	2212	140TC	W5340076	W5340088	W5340100	W5340172
	1150	58	2.71	2.14	2329					
28	1750	63	3.37	2.53	2528	140TC	W5340078	W5340090	W5340102	W5340174
	1150	41	2.31	1.73	2661					
38	1750	46	2.34	1.66	2279	56C	W5340043	W5340055	W5340067	W5340163
	1150	30	1.61	1.14	2399					
52	1750	34	1.82	1.20	2229	56C	W5340045	W5340057	W5340069	W5340165
	1150	22.1	1.24	0.82	2347					
67	1750	26.1	1.56	1.01	2458	56C	W5340046	W5340058	W5340070	W5340166
	1150	17.2	1.07	0.70	2588					
96	1750	18.2	0.99	0.52	1735	56C	W5340048	W5340060	W5340072	W5340168
	1150	12.0	0.66	0.35	1827					

* Contact Factory for other metric IEC input flange options available.

Style B

Style H



534 SERIES • STYLES B & H • 1.0 S.F.

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	8.26	7.27	1832	W5340001	W5340013	W5340025	W5340145
	1150	164	5.70	5.02	1929				
10	1750	175	7.62	6.10	2196	W5340002	W5340014	W5340026	W5340146
	1150	115	5.27	4.22	2312				
14	1750	125	5.91	4.61	2323	W5340003	W5340015	W5340027	W5340147
	1150	82	4.08	3.18	2446				
20	1750	88	3.91	3.09	2212	W5340004	W5340016	W5340028	W5340148
	1150	58	2.71	2.14	2329				
28	1750	63	3.37	2.53	2528	W5340006	W5340018	W5340030	W5340150
	1150	41	2.31	1.73	2661				
38	1750	46	2.34	1.66	2279	W5340007	W5340019	W5340031	W5340151
	1150	30	1.61	1.14	2399				
52	1750	34	1.82	1.20	2229	W5340009	W5340021	W5340033	W5340153
	1150	22.1	1.24	0.82	2347				
67	1750	26.1	1.56	1.01	2458	W5340010	W5340022	W5340034	W5340154
	1150	17.2	1.07	0.70	2588				
96	1750	18.2	0.99	0.52	1735	W5340012	W5340024	W5340036	W5340156
	1150	12.0	0.66	0.35	1827				

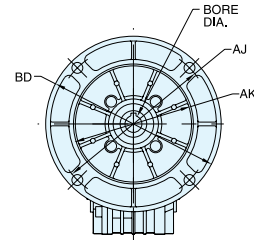
SINGLE REDUCTION • APPROXIMATE WEIGHTS Δ (LBS.)

ReducerStyle	Reducer Size					ReducerStyle	Reducer Size				
	512	518	520	525	534		512	518	520	525	534
Solid Output Shaft Models						Hollow Output Shaft Models					
BMQ	3	7	9	14	29	HMQ	3	6	7	12	24
B	3	6	9	14	27	H	3	5	7	12	22
TMQ, UMQ, JMQ	5	9	11	17	34	THMQ, UHMQ	5	8	9	15	29
T, U, J	5	8	11	17	32	JHMQ	5	7	9	15	27
FMQ, RMQ	4	8	10	16	32	FHMQ, RHMQ	4	7	8	14	27
F, R	4	7	10	16	30	FH, RH	4	6	8	14	25
FLMQ	4	9	11	17	34	FLHMQ	4	8	9	15	29
FL	4	8	11	17	32	FLH	4	7	9	15	27

Δ Weights include grease and oil.

REDUCER ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

Accessory	Reducer Size				
	512	518	520	525	534
T/U - Base	2	2	2	3	5
J - Base	2	2	2	3	5
F - Flange	1	1	1	2	3
FL - Flange	1	2	2	3	5
R - Reaction Arm	1	1	1	2	3

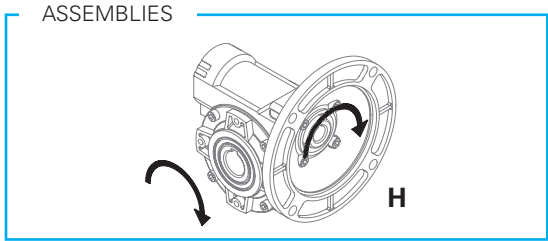
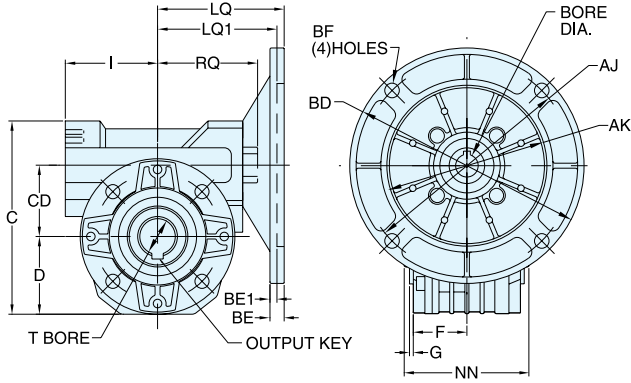


SINGLE REDUCTION • MOTOR FRAME COMBINATIONS

Reducer Size	NEMA or IEC Frame Size	Dimensions - Inches (MM)				Available Ratios													
		AK	AJ	BD	Bore Dia.	10	15	20	30	40	61	80							
512	IEC 56B5	3.15 (80)	3.94 (100)	4.72 (120)	(9)	■	■	■	■	■	■	■							
	IEC 56B14	1.97 (50)	2.56 (65)	3.15 (80)	(9)	■	■	■	■	■	■	■							
	IEC 63B5	3.74 (95)	4.53 (115)	5.51 (140)	(11)	•	•	•	•	•	•	•							
	IEC 63B14	2.36 (60)	2.95 (75)	3.54 (90)	(11)	•	•	•	•	•	•	•							
518	NEMA 56C	4.50	5.88	6.50	0.625	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	IEC 56B14	1.97 (50)	2.56 (65)	3.15 (80)	(9)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 63B5	3.74 (95)	4.53 (115)	5.51 (140)	(11)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 63B14	2.36 (60)	2.95 (75)	3.54 (90)	(11)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 71B5	4.33 (110)	5.12 (130)	6.30 (160)	(14)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	IEC 71B14	2.76 (70)	3.35 (85)	4.13 (105)	(14)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
520	NEMA 56C	4.50	5.88	6.50	0.625	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	IEC 56B14	1.97 (50)	2.56 (65)	3.15 (80)	(9)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 63B5	3.74 (95)	4.53 (115)	5.51 (140)	(11)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 63B14	2.36 (60)	2.95 (75)	3.54 (90)	(11)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 71B5	4.33 (110)	5.12 (130)	6.30 (160)	(14)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 71B14	2.76 (70)	3.35 (85)	4.13 (105)	(14)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 80B5	5.12 (130)	6.50 (165)	7.87 (200)	(19)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	IEC 80B14	3.15 (80)	3.94 (100)	4.72 (120)	(19)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
525	NEMA 56C	4.50	5.88	6.50	0.625	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	NEMA 140TC	4.50	5.88	6.50	0.875	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	IEC 63B5	3.74 (95)	4.53 (115)	5.51 (140)	(11)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 71B5	4.33 (110)	5.12 (130)	6.30 (160)	(14)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 71B14	2.76 (70)	3.35 (85)	4.13 (105)	(14)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 80B5	5.12 (130)	6.50 (165)	7.87 (200)	(19)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 80B14	3.15 (80)	3.94 (100)	4.72 (120)	(19)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 90B5	5.12 (130)	6.50 (165)	7.87 (200)	(24)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
IEC 90B14	3.74 (95)	4.53 (115)	5.51 (140)	(24)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
534	NEMA 56C	4.50	5.88	6.50	0.625	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	NEMA 140TC	4.50	5.88	6.50	0.875	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	NEMA 180TC	8.50	7.25	9.00	1.125	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	IEC 71B5	4.33 (110)	5.12 (130)	6.30 (160)	(14)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 80B5	5.12 (130)	6.50 (165)	7.87 (200)	(19)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 80B14	3.15 (80)	3.94 (100)	4.72 (120)	(19)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 90B5	5.12 (130)	6.50 (165)	7.87 (200)	(24)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 90B14	3.74 (95)	4.53 (115)	5.51 (140)	(24)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEC 100/112 B5	7.09 (180)	8.46 (215)	9.84 (250)	(28)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	IEC 100/112 B14	4.33 (110)	5.12 (130)	6.30 (160)	(28)	•	•	•	•	•	•	•	•	•	•	•	•	•	•

● Reducer selections are available. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.
 ■ Reducer selections are available. A bushing will be provided with reducer to achieve input bore diameter shown. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.

STYLE HMQ



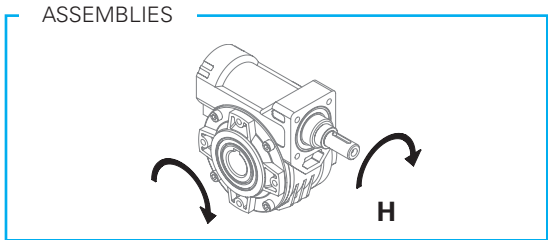
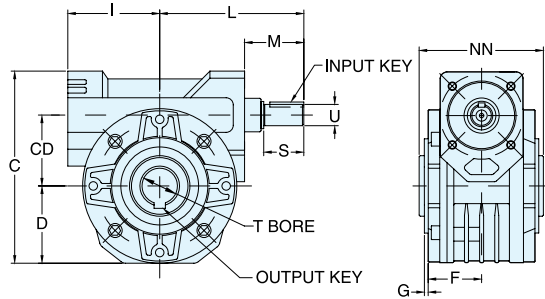
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE HMQ DIMENSIONS - Inches

Series	C	CD	D	F	G	I	LQ* 56/140	LQ1* 180	NN	RQ	T* +0.0015 -0.0000	OUTPUT KEY*
512	3.54	1.18	1.54	1.18	0.08	1.81	*	N/A	2.16	2.21	(14) ●	(5) ●
518	4.76	1.77	1.93	1.38	0.08	2.16	3.33	N/A	2.56	2.60	0.750	3/16 X 1.00
520	5.33	1.97	2.15	1.50	0.12	2.56	3.51	N/A	3.19	2.83	1.000	1/4 X 1.62
525	6.69	2.48	2.76	1.77	0.19	3.11	4.08	N/A	4.72	3.58	1.125	1/4 X 2.00
534	9.15	3.35	3.72	2.52	0.14	3.86	4.83	5.35	5.31	4.33	1.500	3/8 X 2.00

● Dimension is in MM. Key is not provided with metric reducer options as standard.
Metric bore tolerance is H7.
* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

STYLE H



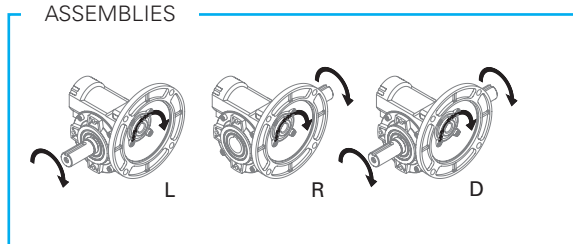
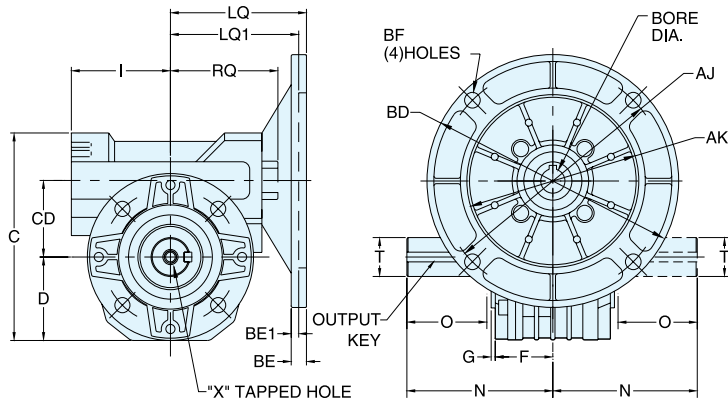
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE H DIMENSIONS - Inches**

Series	C	CD	D	F	G	I	L	M	NN	S	T +0.0015 -0.0000	U +0.000 -0.001	INPUT KEY	OUTPUT KEY
518	4.76	1.77	1.93	1.38	0.08	2.16	3.86	1.67	2.56	1.18	0.750	0.625	3/16 X 1.00	3/16 X 1.00
520	5.33	1.97	2.15	1.50	0.12	2.56	4.11	1.74	3.19	1.18	1.000	0.625	3/16 X 1.00	1/4 X 1.62
525	6.69	2.48	2.76	1.77	0.19	3.11	5.43	2.24	4.72	1.75	1.125	0.750	3/16 x 1.50	1/4 X 2.00
534	9.15	3.35	3.72	2.52	0.14	3.86	6.38	2.52	5.31	1.75	1.500	0.875	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details

STYLE BMQ



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

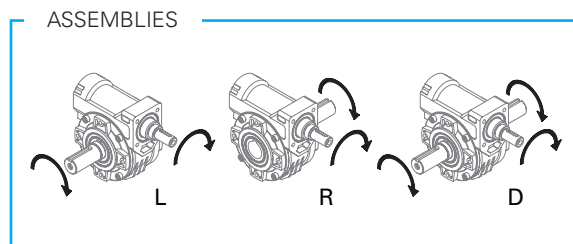
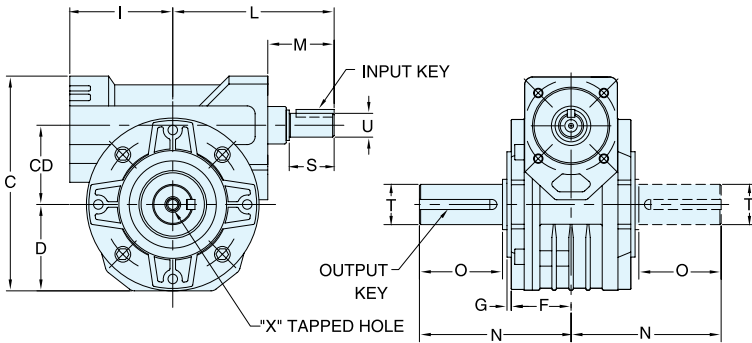
STYLE BMQ DIMENSIONS - Inches (MM)

Series	C	CD	D	F	G	I	LQ*	LQ1*	N	O*	RQ	T*	X		OUTPUT KEY*	
													Tap Size	Depth		
512	3.54	1.18	1.54	1.18	0.08	1.81	*	N/A	2.48	1.01	2.21	0.750	(14)★	N/A	N/A	(5)★
518	4.76	1.77	1.93	1.38	0.08	2.16	3.33	N/A	2.97	1.26	2.60	0.750	1/4-20 UNC	0.62	3/16 x 1.00	
520	5.33	1.97	2.15	1.50	0.12	2.56	3.51	N/A	3.94	2.05	2.83	1.000	5/16-18 UNC	0.75	1/4 X 1.62	
525	6.69	2.48	2.76	1.77	0.19	3.11	4.08	N/A	4.85	2.36	3.58	1.125	5/16-18 UNC	0.75	1/4 X 2.00	
534	9.15	3.35	3.72	2.52	0.14	3.86	4.83	5.35	5.55	2.36	4.33	1.500	5/16-18 UNC	0.75	3/8 X 2.00	

★ Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE B



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE B DIMENSIONS - Inches**

Series	C	CD	D	F	G	I	L	M	N	O	S	T	U	X		INPUT KEY	OUTPUT KEY
														Tap Size	Depth		
518	4.76	1.77	1.93	1.38	0.08	2.16	3.86	1.67	2.97	1.26	1.18	0.750	0.625	1/4-20 UNC	0.62	3/16 X 1.00	3/16 X 1.00
520	5.33	1.97	2.15	1.50	0.12	2.56	4.11	1.74	3.94	2.05	1.18	1.000	0.625	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 1.62
525	6.69	2.48	2.76	1.77	0.19	3.11	5.43	2.24	4.85	2.36	1.75	1.125	0.750	5/16-18 UNC	0.75	3/16 x 1.50	1/4 X 2.00
534	9.15	3.35	3.72	2.52	0.14	3.86	6.38	2.52	5.55	2.36	1.75	1.500	0.875	5/16-18 UNC	0.75	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BE1	BF	Input Bore Dia	Input Keyway▲
56C	5.88	4.50	6.50	0.38	N/A	0.41	0.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	N/A	0.41	0.875	3/16 x 3/32
180TC	7.25	8.50	9.00	N/A	0.50	0.53	1.125	1/4 x 1/8

OPTIONAL METRIC DIMENSIONS[⊖] - MM

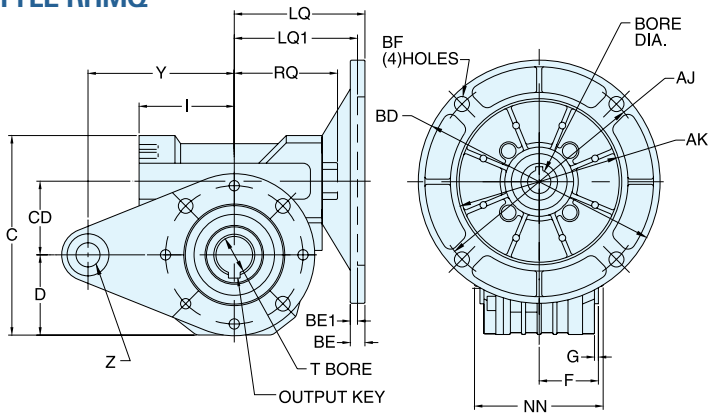
Series	LQ1◆						T	O	N	Output Keyway
	IEC B5 & B14 Options									
	D56D	D63D	D71D	D80D	D90D	D100LD■	(standard for metric units)			
512	62.5*	62.5	N/A	N/A	N/A	N/A	14	25	63	5
518	74*□	74*	74	N/A	N/A	N/A	18	32	75	6
520	81.5*□	81.5*	81.5	81.5	N/A	N/A	25	52	100	8
525	N/A	99.5◇	99.5*	99.5*	99.5	N/A	25	60	123	8
534	N/A	N/A	124◇	124	124	124	35	60	141	10

OPTIONAL METRIC DIMENSIONS[⊖] - MM

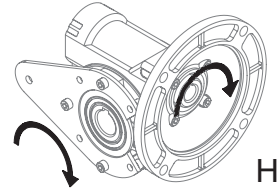
IEC Frame	B5					B14*					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	Bfv		
D56D	100	80	120	10	7	65*	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75*	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85*	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100*	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5
D100LD■	215	180	250	13	14	130	110	160	10	9	28	8 x 3.5

- ⊖ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ◇ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
- ◆ Dimensions are maximum (B5 and B14 options)
- ◇ B14 option not available
- B5 Option not available
- Also applies to frame size D112MD
- ✔ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

STYLE RHMQ



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

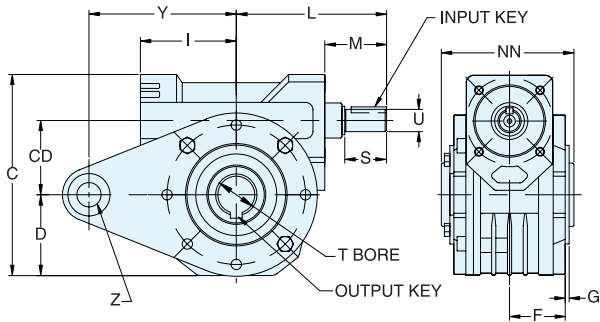
STYLE RHMQ DIMENSIONS - Inches (MM)

Series	C	CD	D	F	G	I	LQ* 56/140	LQ1* 180	NN	RQ	T* +0.0015 -0.0000	Y	Z	OUTPUT KEY*
512	3.54	1.18	1.54	1.18	0.08	1.81	*	N/A	2.16	2.21	(14)●	3.94	0.315	(5)●
518	4.76	1.77	1.93	1.38	0.08	2.16	3.33	N/A	2.56	2.60	0.750	3.94	0.315	3/16 X 1.00
520	5.33	1.97	2.15	1.50	0.12	2.56	3.51	N/A	3.19	2.83	1.000	3.94	0.315	1/4 X 1.62
525	6.69	2.48	2.76	1.77	0.19	3.11	4.08	N/A	4.72	3.58	1.125	5.91	0.394	1/4 X 2.00
534	9.15	3.35	3.72	2.52	0.14	3.86	4.83	5.35	5.31	4.33	1.500	7.87	0.787	3/8 X 2.00

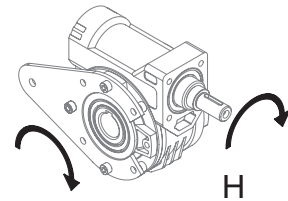
● Dimension is in MM. Key is not provided with metric reducer options as standard. Metric bore tolerance is H7.

* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE RH



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

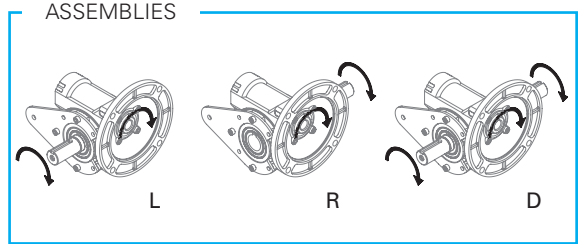
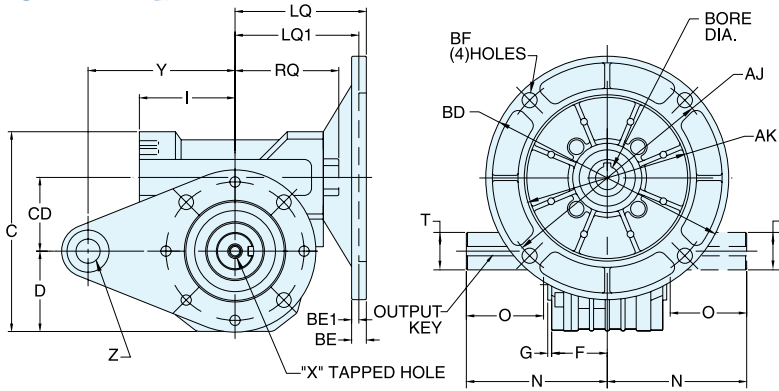
STYLE RH DIMENSIONS - Inches**

Series	C	CD	D	F	G	I	L	M	NN	S	T +0.0015 -0.0000	U +0.000 -0.001	Y	Z	INPUT KEY	OUTPUT KEY
518	4.76	1.77	1.93	1.38	0.08	2.16	3.86	1.67	2.56	1.18	0.750	0.625	3.94	0.315	3/16 X 1.00	3/16 X 1.00
520	5.33	1.97	2.15	1.50	0.12	2.56	4.11	1.74	3.19	1.18	1.000	0.625	3.94	0.315	3/16 X 1.00	1/4 X 1.62
525	6.69	2.48	2.76	1.77	0.19	3.11	5.43	2.24	4.72	1.75	1.125	0.750	5.91	0.394	3/16 x 1.50	1/4 X 2.00
534	9.15	3.35	3.72	2.52	0.14	3.86	6.38	2.52	5.31	1.75	1.500	0.875	7.87	0.787	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details

REFER TO PAGE J3 FOR DETAILED DIMENSIONS OF REACTION ARM.

STYLE RMQ



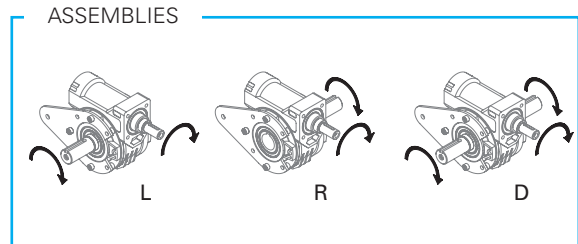
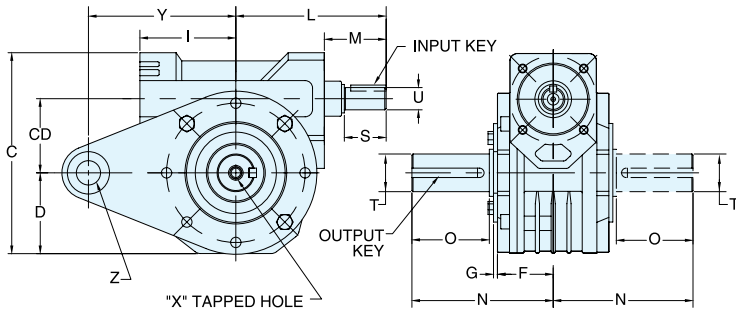
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE RMQ DIMENSIONS - Inches (MM)

Series	C	CD	D	F	G	I	LQ* 56/140	LQ1* 180	N	O*	RQ	T* +0.000 -0.001	X		Y	Z	OUTPUT KEY*
													Tap Size	Depth			
512	3.54	1.18	1.54	1.18	0.08	1.81	*	N/A	2.48	1.01	2.21	(14)⚙	N/A	N/A	3.94	0.315	(5)⚙
518	4.76	1.77	1.93	1.38	0.08	2.16	3.33	N/A	2.97	1.26	2.60	0.750	1/4-20 UNC	0.62	3.94	0.315	3/16 x 1.00
520	5.33	1.97	2.15	1.50	0.12	2.56	3.51	N/A	3.94	2.05	2.83	1.000	5/16-18 UNC	0.75	3.94	0.315	1/4 X 1.62
525	6.69	2.48	2.76	1.77	0.19	3.11	4.08	N/A	4.85	2.36	3.58	1.125	5/16-18 UNC	0.75	5.91	0.394	1/4 X 2.00
534	9.15	3.35	3.72	2.52	0.14	3.86	4.83	5.35	5.55	2.36	4.33	1.500	5/16-18 UNC	0.75	7.87	0.787	3/8 X 2.00

* Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.
 * Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE R



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE R DIMENSIONS** - Inches

Series	C	CD	D	F	G	I	L	M	N	O	S	T +0.000 -0.001	U +0.000 -0.001	X		Y	Z	INPUT KEY	OUTPUT KEY
														Tap Size	Depth				
518	4.76	1.77	1.93	1.38	0.08	2.16	3.86	1.67	2.97	1.26	1.18	0.750	0.625	1/4-20 UNC	0.62	3.94	0.315	3/16 X 1.00	3/16 X 1.00
520	5.33	1.97	2.15	1.50	0.12	2.56	4.11	1.74	3.94	2.05	1.18	1.000	0.625	5/16-18 UNC	0.75	3.94	0.315	3/16 X 1.00	1/4 X 1.62
525	6.69	2.48	2.76	1.77	0.19	3.11	5.43	2.24	4.85	2.36	1.75	1.125	0.750	5/16-18 UNC	0.75	5.91	0.394	3/16 x 1.50	1/4 X 2.00
534	9.15	3.35	3.72	2.52	0.14	3.86	6.38	2.52	5.55	2.36	1.75	1.500	0.875	5/16-18 UNC	0.75	7.87	0.787	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

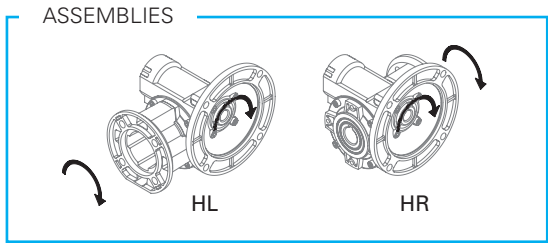
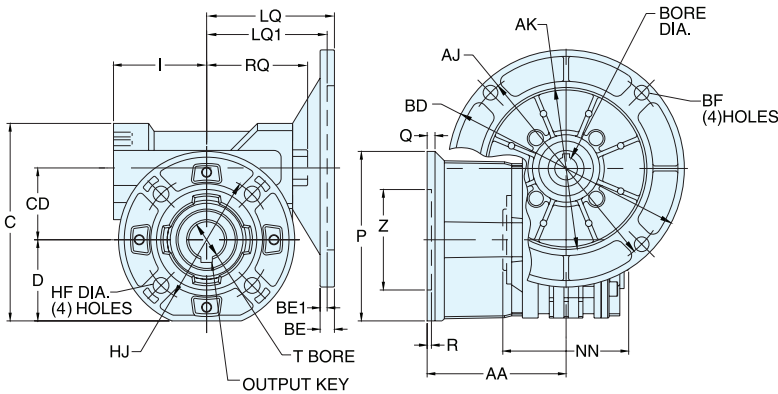
Frame	AJ	AK	BD	BE	BE1	BF	Input Bore Dia	Input Keyway▲
56C	5.88	4.50	6.50	0.38	N/A	0.41	0.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	N/A	0.41	0.875	3/16 x 3/32
180TC	7.25	8.50	9.00	N/A	0.50	0.53	1.125	1/4 x 1/8

OPTIONAL METRIC DIMENSIONS⊖ - MM

IEC Frame	B5					B14⊖					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF⊖		
D56D	100	80	120	10	7	65⊖	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75⊖	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85⊖	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100⊖	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5
D100LD■	215	180	250	13	14	130	110	160	10	9	28	8 x 3.5

⊖ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
 ▲ Keyway width by depth
 ⊖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
 ◆ Dimensions are maximum (B5 and B14 options)
 ⊖ B14 option not available
 □ B5 Option not available
 ■ Also applies to frame size D112MD
 ✓ Solid metric output shaft diameter tolerance is -0.005/-0.020.
 Hollow bore tolerance is H7.

STYLE FHMQ



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

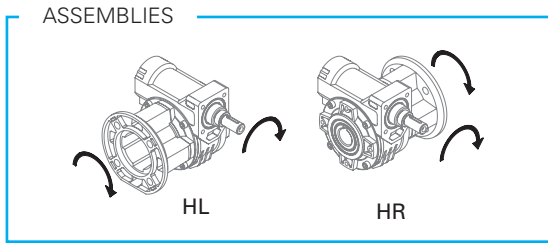
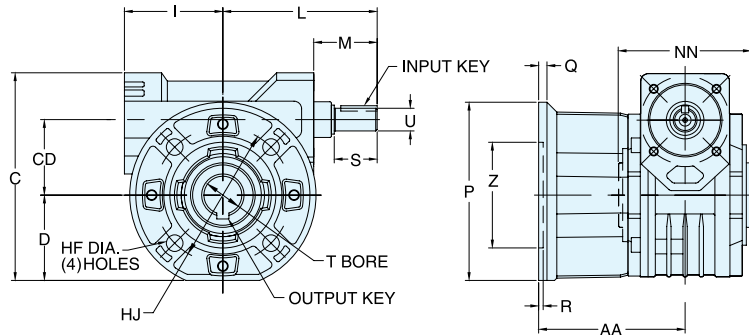
STYLE FHMQ DIMENSIONS - Inches (MM)

Series	AA	C	CD	D	HF	HJ	I	LQ* 56/140	LQ1* 180	NN	P	Q	R	RQ +0.0015 -0.0000	T*	Z	OUTPUT KEY*
512	1.99	3.54	1.18	1.54	0.276	2.68	1.81	*	N/A	2.16	3.15	0.24	0.236	2.21	(14)●	1.968	(5)●
518	2.38	4.76	1.77	1.93	0.335	3.43	2.16	3.33	N/A	2.56	4.33	0.35	0.354	2.60	0.750	2.362	3/16 X 1.00
520	3.35	5.33	1.97	2.15	0.413	3.54	2.56	3.51	N/A	3.19	4.84	0.47	0.354	2.83	1.000	2.756	1/4 X 1.62
525	3.39	6.69	2.48	2.76	0.413	5.91	3.11	4.08	N/A	4.72	6.89	0.51	0.276	3.58	1.125	4.528	1/4 X 2.00
534	4.25	9.15	3.35	3.72	0.512	6.93	3.86	4.83	5.35	5.31	8.07	0.63	0.197	4.33	1.500	5.984	3/8 X 2.00

● Dimension is in MM. Key is not provided with metric reducer options as standard.
Metric bore tolerance is H7.

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

STYLE FH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

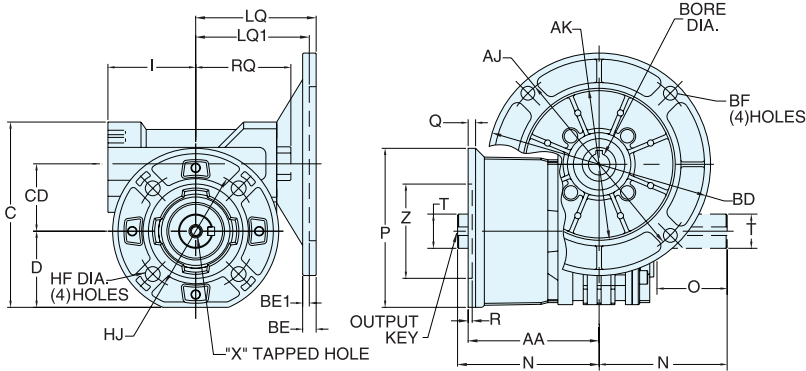
STYLE FH DIMENSIONS - Inches**

Series	AA	C	CD	D	HF	HJ	I	L	M	NN	P	Q	R	S +0.0015 -0.0000	T +0.000 -0.001	U	Z	INPUT KEY	OUTPUT KEY
518	2.38	4.76	1.77	1.93	0.335	3.43	2.16	3.86	1.67	2.56	4.33	0.35	0.354	1.18	0.750	0.625	2.362	3/16 X 1.00	3/16 X 1.00
520	3.35	5.33	1.97	2.15	0.413	3.54	2.56	4.11	1.74	3.19	4.84	0.47	0.354	1.18	1.000	0.625	2.756	3/16 X 1.00	1/4 X 1.62
525	3.39	6.69	2.48	2.76	0.413	5.91	3.11	5.43	2.24	4.72	6.89	0.51	0.276	1.75	1.125	0.750	4.528	3/16 x 1.50	1/4 X 2.00
534	4.25	9.15	3.35	3.72	0.512	6.93	3.86	6.38	2.52	5.31	8.07	0.63	0.197	1.75	1.500	0.875	5.984	3/16 X 1.50	3/8 X 2.00

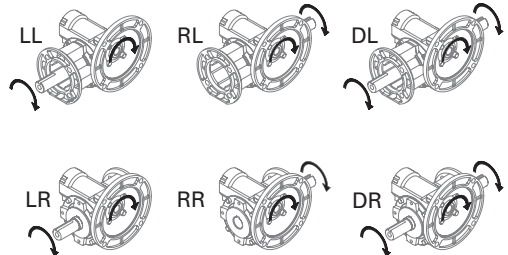
** Series 512 is available in this style. Contact Factory for details.

BRAVO® Single Reduction Reducers
BRAVO® Worm - Worm Double Reduction
BRAVO® Helical - Worm Double Reduction
BRAVO® Accessory Kits
Quadro - Single Reduction
High Efficiency Helical - Inline

STYLE FMQ



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

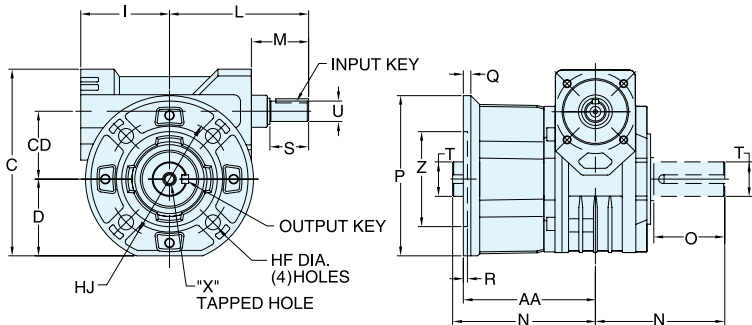
STYLE FMQ DIMENSIONS - Inches (MM)

Series	AA	C	CD	D	I	HF	HJ	LQ1* 56/140	LQ* 180	N	O*	P	Q	R	RQ	T* +0.000 -0.001	X		Z	OUTPUT KEY*
																	Tap Size	Depth		
512	1.99	3.54	1.18	1.54	1.81	0.276	2.68	*	N/A	2.48	1.01	3.15	0.24	0.236	2.21	(14)⚡	N/A	N/A	1.968	(5)⚡
518	2.38	4.76	1.77	1.93	2.16	0.335	3.43	3.33	N/A	2.97	1.26	4.33	0.35	0.354	2.60	0.750	1/4-20 UNC	0.62	2.362	3/16 X 1.00
520	3.35	5.33	1.97	2.15	2.56	0.413	3.54	3.51	N/A	3.94	2.05	4.84	0.47	0.354	2.83	1.000	5/16-18 UNC	0.75	2.756	1/4 X 1.62
525	3.39	6.69	2.48	2.76	3.11	0.413	5.91	4.08	N/A	4.85	2.36	6.89	0.51	0.276	3.58	1.125	5/16-18 UNC	0.75	4.528	1/4 X 2.00
534	4.25	9.15	3.35	3.72	3.86	0.512	6.93	4.83	5.35	5.55	2.36	8.07	0.63	0.197	4.33	1.500	5/16-18 UNC	0.75	5.984	3/8 X 2.00

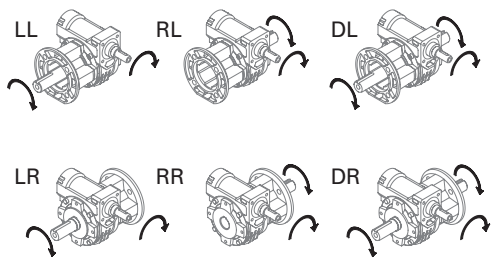
⚡ Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE F



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE F DIMENSIONS - Inches**

Series	AA	C	CD	D	HF	HJ	I	L	M	N	O	P	Q	R	S +0.000 -0.001	T +0.000 -0.001	U	X		Z	INPUT KEY	OUTPUT KEY
																		Tap Size	Depth			
518	2.38	4.76	1.77	1.93	0.335	3.43	2.16	3.86	1.67	2.97	1.26	4.33	0.35	0.354	1.18	0.750	0.625	1/4-20 UNC	0.62	2.362	3/16 X 1.00	3/16 X 1.00
520	3.35	5.33	1.97	2.15	0.413	3.54	2.56	4.11	1.74	3.94	2.05	4.84	0.47	0.354	1.18	1.000	0.625	5/16-18 UNC	0.75	2.756	3/16 X 1.00	1/4 X 1.62
525	3.39	6.69	2.48	2.76	0.413	5.91	3.11	5.43	2.24	4.85	2.36	6.89	0.51	0.276	1.75	1.125	0.750	5/16-18 UNC	0.75	4.528	3/16 x 1.50	1/4 X 2.00
534	4.25	9.15	3.35	3.72	0.512	6.93	3.86	6.38	2.52	5.55	2.36	8.07	0.63	0.197	1.75	1.500	0.875	5/16-18 UNC	0.75	5.984	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details.

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BE1	BF	Input Bore Dia	Input Keyway▲
56C	5.88	4.50	6.50	0.38	N/A	0.41	0.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	N/A	0.41	0.875	3/16 x 3/32
180TC	7.25	8.50	9.00	N/A	0.50	0.53	1.125	1/4 x 1/8

OPTIONAL METRIC DIMENSIONS◊ - MM

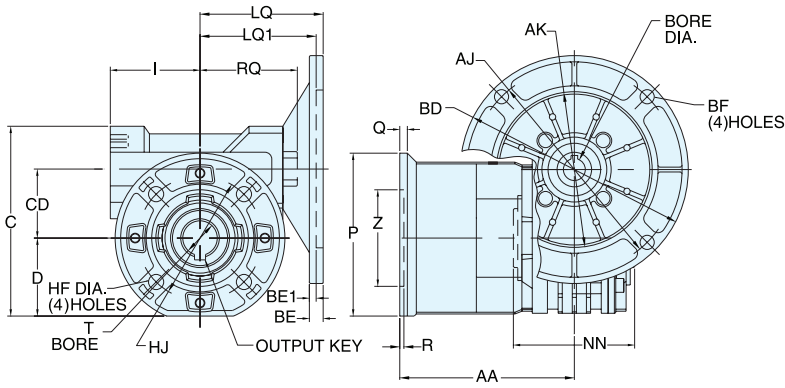
IEC Frame	B5					B14◊					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF◊		
D56D	100	80	120	10	7	65◊	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75◊	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85◊	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100◊	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5
D100LD■	215	180	250	13	14	130	110	160	10	9	28	8 x 3.5

OPTIONAL METRIC DIMENSIONS◊ - MM

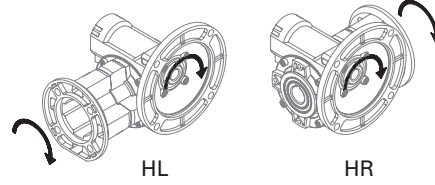
Series	LQ1◊ IEC B5 & B14 Options						T ✓	O	N	Output Keyway
	D56D	D63D	D71D	D80D	D90D	D100LD■				
512	62.5◊	62.5	N/A	N/A	N/A	N/A	14	25	63	5
518	74◊	74◊	74	N/A	N/A	N/A	18	32	75	6
520	81.5◊	81.5◊	81.5	81.5	N/A	N/A	25	52	100	8
525	N/A	99.5◊	99.5◊	99.5◊	99.5	N/A	25	60	123	8
534	N/A	N/A	124◊	124	124	124	35	60	141	10

- ◊ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
- ◆ Dimensions are maximum (B5 and B14 options)
- ◇ B14 option not available
- B5 Option not available
- Also applies to frame size D112MD
- ✓ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

STYLE FLHMQ



ASSEMBLIES



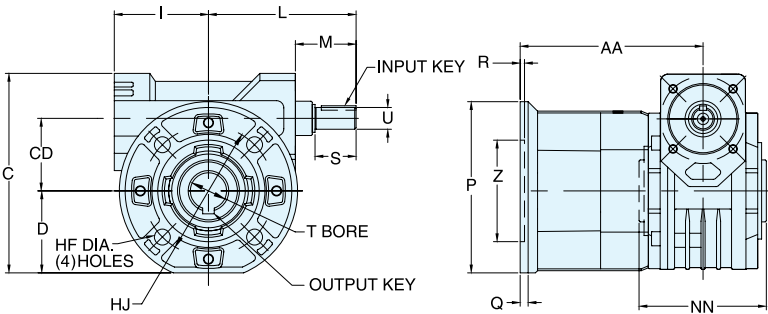
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE FLHMQ DIMENSIONS - Inches (MM)

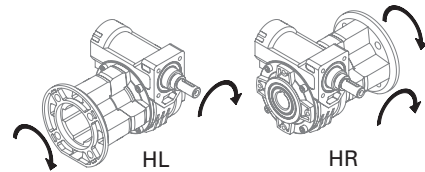
Series	AA	C	CD	D	HF	HJ	I	LQ* 56/140	LQ1* 180	NN	P	Q	R	RQ	T* +0.0015 -0.0000	Z	OUTPUT KEY*
512	2.19	3.54	1.18	1.54	0.335	3.43	1.81	*	N/A	2.16	4.33	0.24	0.236	2.21	(14)●	2.362	(5)●
518	3.56	4.76	1.77	1.93	0.335	3.43	2.16	3.33	N/A	2.56	4.33	0.35	0.354	2.60	0.750	2.362	3/16 X 1.00
520	4.51	5.33	1.97	2.15	0.413	3.54	2.56	3.51	N/A	3.19	4.84	0.47	0.354	2.83	1.000	2.756	1/4 X 1.62
525	4.57	6.69	2.48	2.76	0.413	5.91	3.11	4.08	N/A	4.72	6.89	0.51	0.276	3.58	1.125	4.528	1/4 X 2.00
534	5.85	9.15	3.35	3.72	0.512	6.93	3.86	4.83	5.35	5.31	8.07	0.63	0.197	4.33	1.500	5.984	3/8 X 2.00

● Dimension is in MM. Key is not provided with metric reducer options as standard.
Metric bore tolerance is H7.
* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

STYLE FLH



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

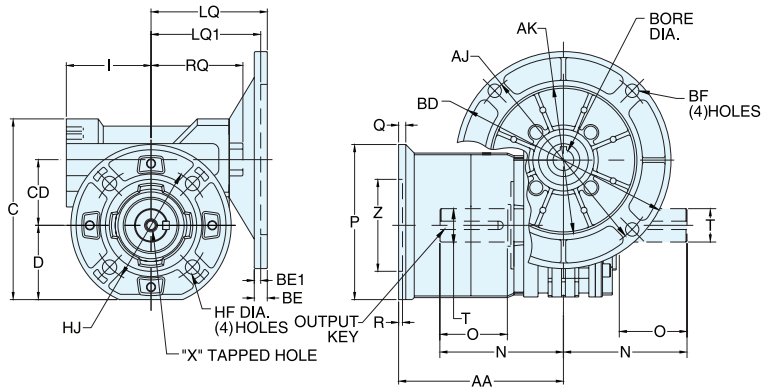
STYLE FLH DIMENSIONS - Inches**

Series	AA	C	CD	D	HF	HJ	I	L	M	NN	P	Q	R	S +0.0015 -0.0000	T +0.000 -0.001	U	Z	INPUT KEY	OUTPUT KEY
518	3.56	4.76	1.77	1.93	0.335	3.43	2.16	3.86	1.67	2.56	4.33	0.35	0.354	1.18	0.750	0.625	2.362	3/16 X 1.00	3/16 X 1.00
520	4.51	5.33	1.97	2.15	0.413	3.54	2.56	4.11	1.74	3.19	4.84	0.47	0.354	1.18	1.000	0.625	2.756	3/16 X 1.00	1/4 X 1.62
525	4.57	6.69	2.48	2.76	0.413	5.91	3.11	5.43	2.24	4.72	6.89	0.51	0.276	1.75	1.125	0.750	4.528	3/16 X 1.50	1/4 X 2.00
534	5.85	9.15	3.35	3.72	0.512	6.93	3.86	6.38	2.52	5.31	8.07	0.63	0.197	1.75	1.500	0.875	5.984	3/16 X 1.50	3/8 X 2.00

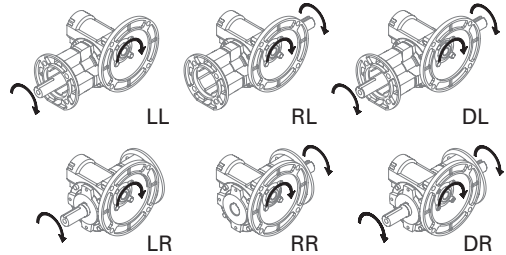
** Series 512 is available in this style. Contact Factory for details.

Bravo® Single Reduction Reducers
Bravo® Worm - Worm Double Reduction
Bravo® Helical - Worm Double Reduction
Bravo® Accessory Kits
Quadro - Single Reduction
High Efficiency Helical - Inline

STYLE FLMQ



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

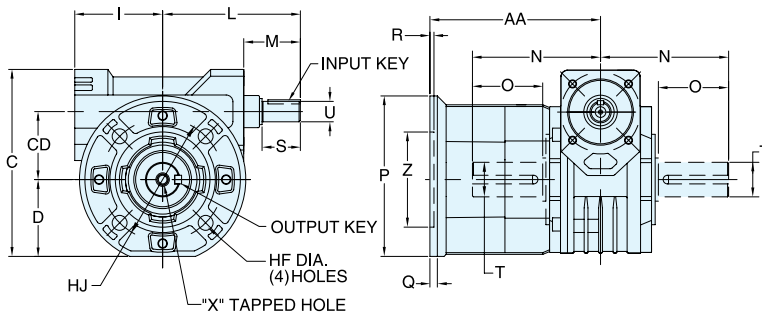
STYLE FLMQ DIMENSIONS - Inches (MM)

Series	AA	C	CD	D	I	HF	HJ	LQ* 56/140	LQ1* 180	N	O*	P	Q	R	RQ	T* +0.000 -0.001	X		Z	OUTPUT KEY*
																	Tap Size	Depth		
512	2.19	3.54	1.18	1.54	1.81	0.335	3.43	*	N/A	2.48	1.01	4.33	0.24	0.236	2.21	(14)*	N/A	N/A	2.362	(5)*
518	3.56	4.76	1.77	1.93	2.16	0.335	3.43	3.33	N/A	2.97	1.26	4.33	0.35	0.354	2.60	0.750	1/4-20 UNC	0.62	2.362	3/16 x 1.00
520	4.51	5.33	1.97	2.15	2.56	0.413	3.54	3.51	N/A	3.94	2.05	4.84	0.47	0.354	2.83	1.000	5/16-18 UNC	0.75	2.756	1/4 X 1.62
525	4.57	6.69	2.48	2.76	3.11	0.413	5.91	4.08	N/A	4.85	2.36	6.89	0.51	0.276	3.58	1.125	5/16-18 UNC	0.75	4.528	1/4 X 2.00
534	5.85	9.15	3.35	3.72	3.86	0.512	6.93	4.83	5.35	5.55	2.36	8.07	0.63	0.197	4.33	1.500	5/16-18 UNC	0.75	5.984	3/8 X 2.00

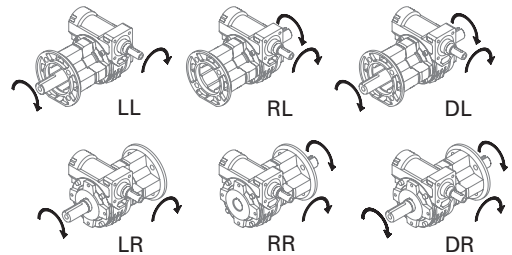
* Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE FL



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE FL DIMENSIONS - Inches**

Series	AA	C	CD	D	HF	HJ	I	L	M	N	O	P	Q	R	S	T +0.000 -0.001	U +0.000 -0.001	X		Z	INPUT KEY	OUTPUT KEY
																		Tap Size	Depth			
518	3.56	4.76	1.77	1.93	0.335	3.43	2.16	3.86	1.67	2.97	1.26	4.33	0.35	0.354	1.18	0.750	0.625	1/4-20 UNC	0.62	2.362	3/16 X 1.00	3/16 X 1.00
520	4.51	5.33	1.97	2.15	0.413	3.54	2.56	4.11	1.74	3.94	2.05	4.84	0.47	0.354	1.18	1.000	0.625	5/16-18 UNC	0.75	2.756	3/16 X 1.00	1/4 X 1.62
525	4.57	6.69	2.48	2.76	0.413	5.91	3.11	5.43	2.24	4.85	2.36	6.89	0.51	0.276	1.75	1.125	0.750	5/16-18 UNC	0.75	4.528	3/16 X 1.50	1/4 X 2.00
534	5.85	9.15	3.35	3.72	0.512	6.93	3.86	6.38	2.52	5.55	2.36	8.07	0.63	0.197	1.75	1.500	0.875	5/16-18 UNC	0.75	5.984	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details.

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BE1	BF	Input Bore Dia.	Input Keyway▲
56C	5.88	4.50	6.50	0.38	N/A	0.41	0.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	N/A	0.41	0.875	3/16 x 3/32
180TC	7.25	8.50	9.00	N/A	0.50	0.53	1.125	1/4 x 1/8

OPTIONAL METRIC DIMENSIONS◊ - MM

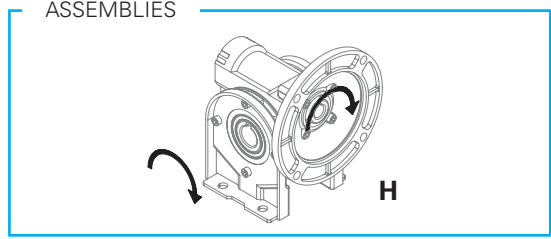
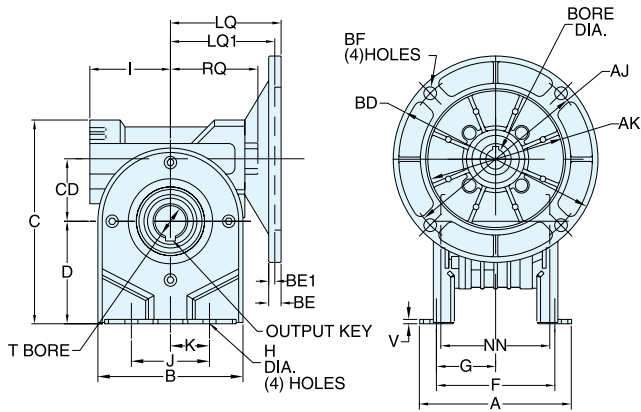
Series	LQ1◊						T ✓	O	N	Output Keyway
	IEC B5 & B14 Options									
	D56D	D63D	D71D	D80D	D90D	D100LD■	(standard for metric units)			
512	62.5◊	62.5	N/A	N/A	N/A	N/A	14	25	63	5
518	74◊□	74◊	74	N/A	N/A	N/A	18	32	75	6
520	81.5◊□	81.5◊	81.5	81.5	N/A	N/A	25	52	100	8
525	N/A	99.5◊	99.5◊	99.5◊	99.5	N/A	25	60	123	8
534	N/A	N/A	124◊	124	124	124	35	60	141	10

OPTIONAL METRIC DIMENSIONS◊ - MM

IEC Frame	B5					B14◊					Input Bore Dia.	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF◊		
D56D	100	80	120	10	7	65◊	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75◊	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85◊	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100◊	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5
D100LD■	215	180	250	13	14	130	110	160	10	9	28	8 x 3.5

- ◊ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ◊ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
- ◊ Dimensions are maximum (B5 and B14 options)
- ◊ B14 option not available
- B5 Option not available
- Also applies to frame size D112MD
- ✓ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

STYLE THMQ



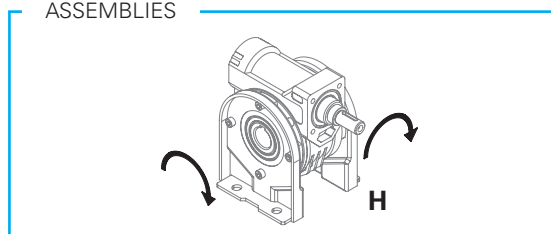
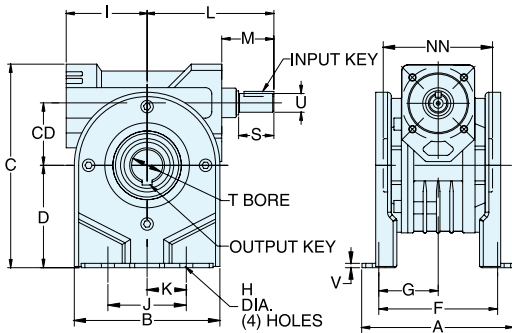
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE THMQ DIMENSIONS - Inches (MM)

Series	A	B	C	CD	D	F	G	H	I	J	K	LQ* 56/140	LQ1* 180	NN	RQ	T* +0.0015 -0.0000	V	OUTPUT KEY*
512	3.43	3.07	4.17	1.18	2.17	2.60	1.30	0.256	1.81	1.97	0.99	*	N/A	2.16	2.21	(14)●	0.12	(5)●
518	3.94	3.86	5.67	1.77	2.83	3.17	1.59	0.413	2.16	1.97	0.99	3.33	N/A	2.56	2.60	0.750	0.12	3/16 X 1.00
520	4.84	4.45	6.42	1.97	3.23	3.94	1.97	0.413	2.56	2.48	1.24	3.51	N/A	3.19	2.83	1.000	0.14	1/4 X 1.62
525	5.67	5.24	7.87	2.48	3.94	4.35	2.18	0.413	3.11	3.74	1.87	4.08	N/A	4.72	3.58	1.125	0.16	1/4 X 2.00
534	7.17	7.09	11.02	3.35	5.59	5.71	2.86	0.413	3.86	5.51	2.76	4.83	5.35	5.31	4.33	1.500	0.20	3/8 X 2.00

● Dimension is in MM. Key is not provided with metric reducer options as standard.
Metric bore tolerance is H7.
* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

STYLE TH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

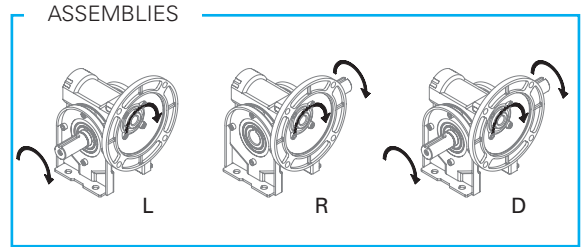
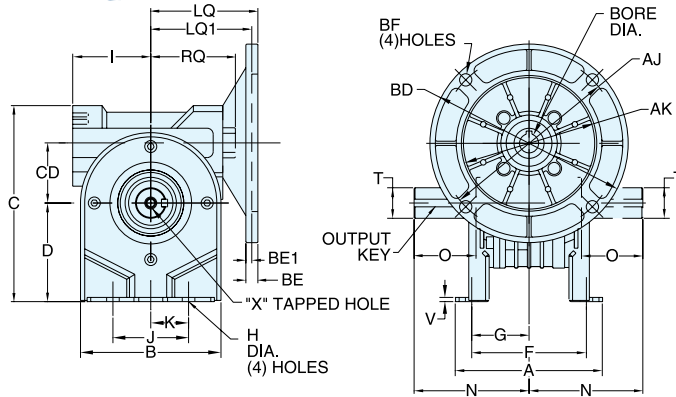
STYLE TH DIMENSIONS - Inches**

Series	A	B	C	CD	D	F	G	H	I	J	K	L	M	NN	S	T +0.0015 -0.0000	U +0.000 -0.001	V	INPUT KEY	OUTPUT KEY
518	3.94	3.86	5.67	1.77	2.83	3.17	1.59	0.413	2.16	1.97	0.99	3.86	1.67	2.56	1.18	0.750	0.625	0.12	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	6.42	1.97	3.23	3.94	1.97	0.413	2.56	2.48	1.24	4.11	1.74	3.19	1.18	1.000	0.625	0.14	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	7.87	2.48	3.94	4.35	2.18	0.413	3.11	3.74	1.87	5.43	2.24	4.72	1.75	1.125	0.750	0.16	3/16 X 1.50	1/4 X 2.00
534	7.17	7.09	11.02	3.35	5.59	5.71	2.86	0.413	3.86	5.51	2.76	6.38	2.52	5.31	1.75	1.500	0.875	0.20	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details.

BRVAO® Single Reduction Reducers
BRVAO® Worm - Worm Double Reduction
BRVAO® Helical - Worm Double Reduction
BRVAO® Accessory Kits
Quadro - Single Reduction
High Efficiency Helical - Inline

STYLE TMQ

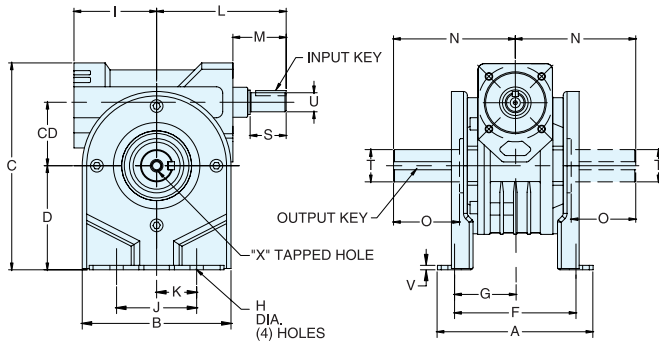


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

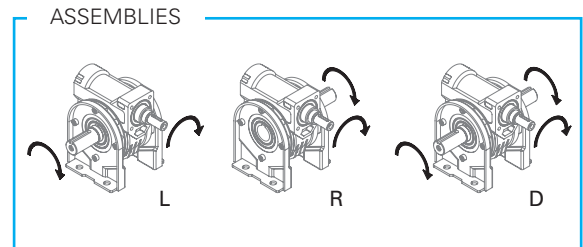
STYLE TMQ DIMENSIONS - Inches (MM)

Series	A	B	C	CD	D	F	G	H	I	J	K	LQ* 56/140	LQ1* 180	N	O	RQ	T* +0.000 -0.001	V	X		OUTPUT KEY
																			Tap Size	Depth	
512	3.43	3.07	4.17	1.18	2.17	2.60	1.30	0.256	1.81	1.97	0.99	*	N/A	2.48	1.01	2.21	(14)*	0.12	N/A	N/A	(5)*
518	3.94	3.86	5.67	1.77	2.83	3.17	1.59	0.413	2.16	1.97	0.99	3.33	N/A	2.97	1.26	2.60	0.750	0.12	1/4-20 UNC	0.62	3/16 X 1.00
520	4.84	4.45	6.42	1.97	3.23	3.94	1.97	0.413	2.56	2.48	1.24	3.51	N/A	3.94	2.05	2.83	1.000	0.14	5/16-18 UNC	0.75	1/4 X 1.62
525	5.67	5.24	7.87	2.48	3.94	4.35	2.18	0.413	3.11	3.74	1.87	4.08	N/A	4.85	2.36	3.58	1.125	0.16	5/16-18 UNC	0.75	1/4 X 2.00
534	7.17	7.09	11.02	3.35	5.59	5.71	2.86	0.413	3.86	5.51	2.76	4.83	5.35	5.55	2.36	4.33	1.500	0.20	5/16-18 UNC	0.75	3/8 X 2.00

STYLE T



* Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.
* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.



STYLE T DIMENSIONS** - Inches

Series	A	B	C	CD	D	F	G	H	I	J	K	L	M	N	O	S +0.000 -0.001	T +0.000 -0.001	U	V	X		INPUT KEY	OUTPUT KEY
																				Tap Size	Depth		
518	3.94	3.86	5.67	1.77	2.83	3.17	1.59	0.413	2.16	1.97	0.99	3.86	1.67	2.97	1.26	1.18	0.750	0.625	0.12	1/4-20UNC	0.62	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	6.42	1.97	3.23	3.94	1.97	0.413	2.56	2.48	1.24	4.11	1.74	3.94	2.05	1.18	1.000	0.625	0.14	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	7.87	2.48	3.94	4.35	2.18	0.413	3.11	3.74	1.87	5.43	2.24	4.85	2.36	1.75	1.125	0.750	0.16	5/16-18 UNC	0.75	3/16 X 1.50	1/4 X 2.00
534	7.17	7.09	11.02	3.35	5.59	5.71	2.86	0.413	3.86	5.51	2.76	6.38	2.52	5.55	2.36	1.75	1.500	0.875	0.20	5/16-18 UNC	0.75	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BE1	BF	Input Bore Dia.	Input Keyway▲
56C	5.88	4.50	6.50	0.38	N/A	0.41	0.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	N/A	0.41	0.875	3/16 x 3/32
180TC	7.25	8.50	9.00	N/A	0.50	0.53	1.125	1/4 x 1/8

OPTIONAL METRIC DIMENSIONS - MM

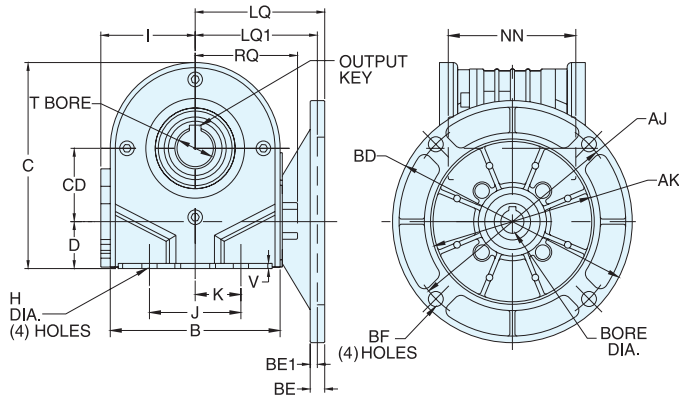
Series	LQ1*						T ✓	O	N	Output Keyway
	IEC B5 & B14 Options									
	D56D	D63D	D71D	D80D	D90D	D100LD				
512	62.5*	62.5	N/A	N/A	N/A	N/A	14	25	63	5
518	74*□	74*	74	N/A	N/A	N/A	18	32	75	6
520	81.5*□	81.5*	81.5	81.5	N/A	N/A	25	52	100	8
525	N/A	99.5◇	99.5*	99.5*	99.5	N/A	25	60	123	8
534	N/A	N/A	124◇	124	124	124	35	60	141	10

OPTIONAL METRIC DIMENSIONS - MM

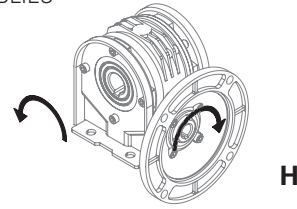
IEC Frame	B5					B14*					Input Bore Dia.	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BFv		
D56D	100	80	120	10	7	65*	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75*	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85*	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100*	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5
D100LD	215	180	250	13	14	130	110	160	10	9	28	8 x 3.5

◇ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
* AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
◇ Dimensions are maximum (B5 and B14 options)
◇ B14 option not available
□ B5 Option not available
* Also applies to frame size D112MD
✓ Solid metric output shaft diameter tolerance is -0.005/-0.020.
Hollow bore tolerance is H7.

STYLE UHMQ



ASSEMBLIES



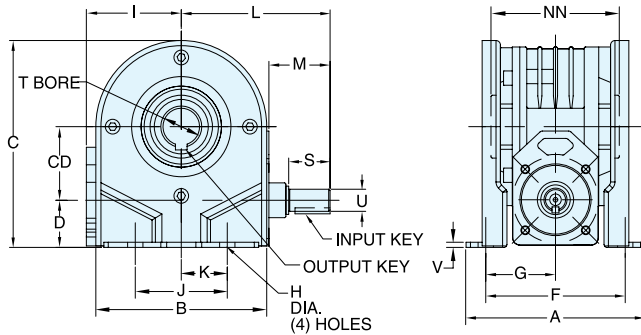
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE UHMQ DIMENSIONS - Inches (MM)

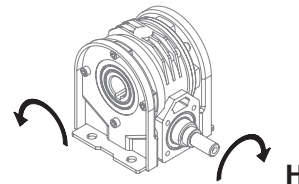
Series	A [^]	B	C	CD	D	F [^]	G [^]	H	I	J	K	LQ* 56/140	LQ1* 180	NN	RQ	T* +0.0015 -0.0000	V	OUTPUT KEY*
512	3.43	3.07	3.70	1.18	0.98	2.60	1.30	0.256	1.81	1.97	0.99	*	N/A	2.16	2.21	(14) [●]	0.12	(5) [●]
518	3.94	3.86	4.76	1.77	1.06	3.17	1.59	0.413	2.16	1.97	0.99	3.33	N/A	2.56	2.60	0.750	0.12	3/16 X 1.00
520	4.84	4.45	5.45	1.97	1.26	3.94	1.97	0.413	2.56	2.48	1.24	3.51	N/A	3.19	2.83	1.000	0.14	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.45	4.35	2.18	0.413	3.11	3.74	1.87	4.08	N/A	4.72	3.58	1.125	0.16	1/4 X 2.00
534	7.17	7.09	9.31	3.35	2.24	5.71	2.86	0.413	3.86	5.51	2.76	4.83	5.35	5.31	4.33	1.500	0.20	3/8 X 2.00

● Dimension is in MM. Key is not provided with metric reducer options as standard. Metric bore tolerance is H7.
^{*} Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.
[^] Refer to style UH for reference to this dimension.

STYLE UH



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

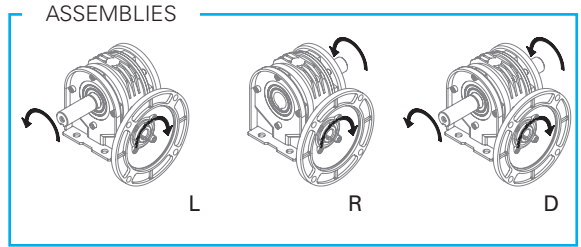
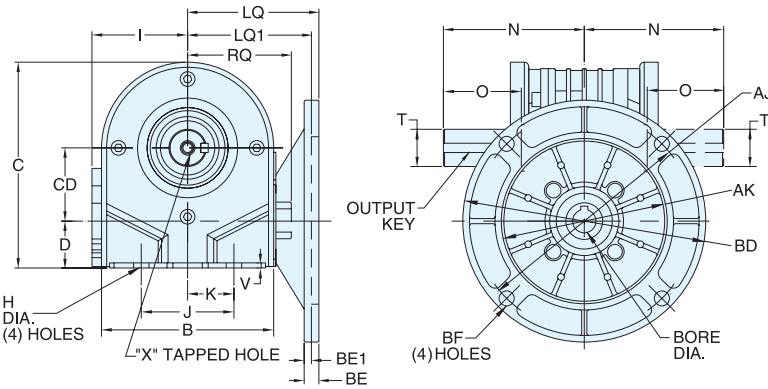
STYLE UH DIMENSIONS - Inches**

Series	A	B	C	CD	D	F	G	H	I	J	K	L	M	NN	S	T +0.0015 -0.0000	U +0.000 -0.001	V	INPUT KEY	OUTPUT KEY
518	3.94	3.86	4.76	1.77	1.06	3.17	1.59	0.413	2.16	1.97	0.99	3.86	1.67	2.56	1.18	0.750	0.625	0.12	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	5.45	1.97	1.26	3.94	1.97	0.413	2.56	2.48	1.24	4.11	1.74	3.19	1.18	1.000	0.625	0.14	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.45	4.35	2.18	0.413	3.11	3.74	1.87	5.43	2.24	4.72	1.75	1.125	0.750	0.16	3/16 x 1.50	1/4 X 2.00
534	7.17	7.09	9.31	3.35	2.24	5.71	2.86	0.413	3.86	5.51	2.76	6.38	2.52	5.31	1.75	1.500	0.875	0.20	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details

Bravo® Aluminum Gear Reducers
 Single Reduction Reducers
 Worm - Worm Double Reduction
 Helical - Worm Double Reduction
 Accessory Kits
 Single Reduction
 High Efficiency Helical - Inline

STYLE UMQ



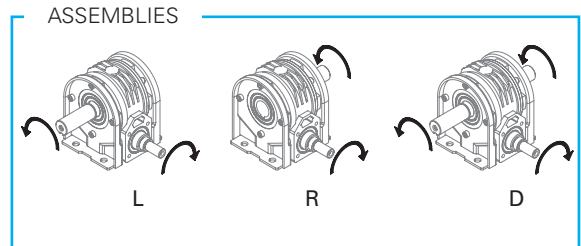
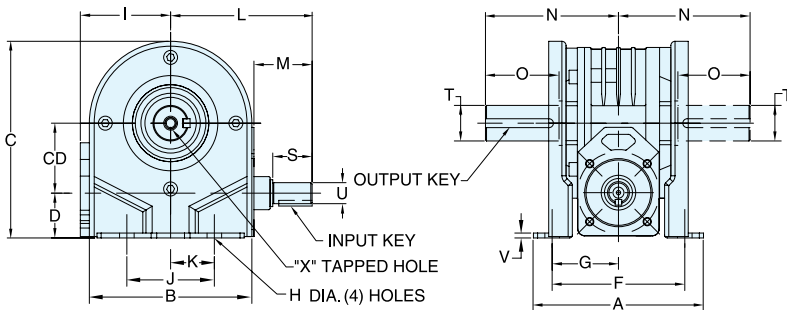
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE UMQ DIMENSIONS - Inches (MM)

Series	A [^]	B	C	CD	D	F [^]	G [^]	H	I	J	K	LQ* 56/140	LQ1* 180	N	O	RQ	T* +0.000 -0.001	V	X Tap Size	Depth	OUTPUT KEY*
512	3.43	3.07	3.70	1.18	0.98	2.60	1.30	0.256	1.81	1.97	0.99	*	N/A	2.48	1.01	2.21	(14)★	0.12	N/A	N/A	(5)★
518	3.94	3.86	4.76	1.77	1.06	3.17	1.59	0.413	2.16	1.97	0.99	3.33	N/A	2.97	1.26	2.60	0.750	0.12	1/4-20 UNC	0.62	3/16 X 1.00
520	4.84	4.45	5.45	1.97	1.26	3.94	1.97	0.413	2.56	2.48	1.24	3.51	N/A	3.94	2.05	2.83	1.000	0.14	5/16-18 UNC	0.75	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.45	4.35	2.18	0.413	3.11	3.74	1.87	4.08	N/A	4.85	2.36	3.58	1.125	0.16	5/16-18 UNC	0.75	1/4 X 2.00
534	7.17	7.09	9.31	3.35	2.24	5.71	2.86	0.413	3.86	5.51	2.76	4.83	5.35	5.55	2.36	4.33	1.500	0.20	5/16-18 UNC	0.75	3/8 X 2.00

★ Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.
 * Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.
 ^ Refer to style U for reference to this dimension.

STYLE U



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE U DIMENSIONS - Inches**

Series	A	B	C	CD	D	F	G	H	I	J	K	L	M	N	O	S	T +0.000 -0.001	U +0.000 -0.001	V	X Tap Size	Depth	INPUT KEY	OUTPUT KEY
518	3.94	3.86	4.76	1.77	1.06	3.17	1.59	0.413	2.16	1.97	0.99	3.86	1.67	2.97	1.26	1.18	0.750	0.625	0.12	1/4-20 UNC	0.62	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	5.45	1.97	1.26	3.94	1.97	0.413	2.56	2.48	1.24	4.11	1.74	3.94	2.05	1.18	1.000	0.625	0.14	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.45	4.35	2.18	0.413	3.11	3.74	1.87	5.43	2.24	4.85	2.36	1.75	1.125	0.750	0.16	5/16-18 UNC	0.75	3/16 x 1.50	1/4 X 2.00
534	7.17	7.09	9.31	3.35	2.24	5.71	2.86	0.413	3.86	5.51	2.76	6.38	2.52	5.55	2.36	1.75	1.500	0.875	0.20	5/16-18 UNC	0.75	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details.

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BE1	BF	Input Bore Dia	Input Keyway▲
56C	5.88	4.50	6.50	0.38	N/A	0.41	0.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	N/A	0.41	0.875	3/16 x 3/32
180TC	7.25	8.50	9.00	N/A	0.50	0.53	1.125	1/4 x 1/8

OPTIONAL METRIC DIMENSIONS - MM

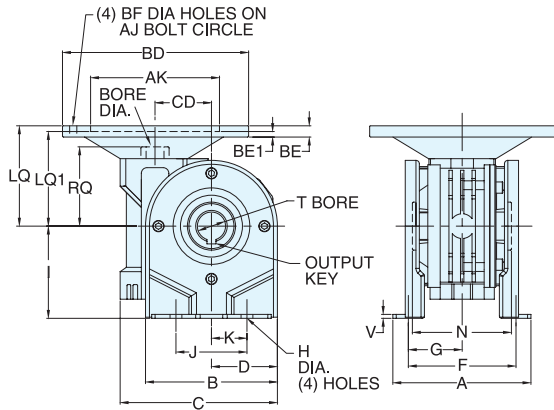
IEC Frame	B5					B14★					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF★		
D56D	100	80	120	10	7	65★	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75★	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85★	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100★	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5
D100LD■	215	180	250	13	14	130	110	160	10	9	28	8 x 3.5

OPTIONAL METRIC DIMENSIONS - MM

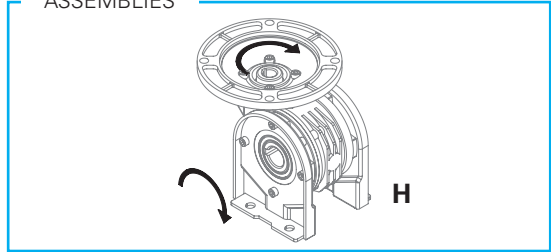
Series	LQ1♦						T ✓	O	N	Output Keyway
	IEC B5 & B14 Options									
	D56D	D63D	D71D	D80D	D90D	D100LD■	(standard for metric units)			
512	62.5♦	62.5	N/A	N/A	N/A	N/A	14	25	63	5
518	74♦	74♦	74	N/A	N/A	N/A	18	32	75	6
520	81.5♦	81.5♦	81.5	81.5	N/A	N/A	25	52	100	8
525	N/A	99.5♦	99.5♦	99.5♦	99.5	N/A	25	60	123	8
534	N/A	N/A	124♦	124	124	124	35	60	141	10

♦ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
 ▲ Keyway width by depth
 ♦ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
 ♦ Dimensions are maximum (B5 and B14 options)
 ♦ B14 option not available
 □ B5 Option not available
 ■ Also applies to frame size D112MD
 ✓ Solid metric output shaft diameter tolerance is -0.005/-0.020.
 Hollow bore tolerance is H7.

STYLE JHMQ



ASSEMBLIES



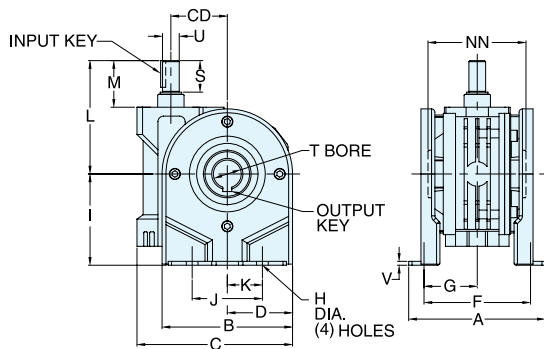
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE JHMQ DIMENSIONS - Inches (MM)

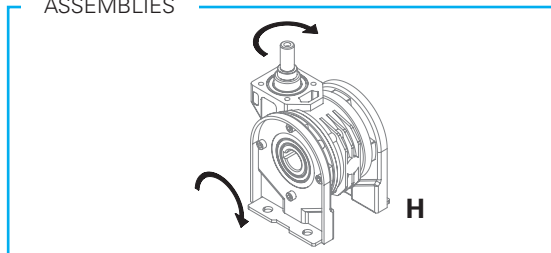
Series	A	B	C	CD	D	F	G	H	I	J	K	LQ*	LQ1*	NN	RQ	T*	V	OUTPUT KEY*
512	3.43	3.07	3.54	1.18	1.54	2.60	1.30	0.256	2.16	1.97	0.99	*	N/A	2.16	2.21	(14)●	0.12	(5)●
518	3.94	3.86	4.76	1.77	1.93	3.17	1.59	0.413	2.83	1.97	0.99	3.33	N/A	2.56	2.60	0.750	0.12	3/16 X 1.00
520	4.84	4.45	5.45	1.97	2.23	3.94	1.97	0.413	3.22	2.48	1.24	3.51	N/A	3.19	2.83	1.000	0.14	1/4 X 1.62
525	5.67	5.24	6.69	2.48	2.76	4.35	2.18	0.413	3.94	3.74	1.87	4.08	N/A	4.72	3.58	1.125	0.16	1/4 X 2.00
534	7.17	7.09	9.15	3.35	3.72	5.71	2.86	0.413	5.59	5.51	2.76	4.83	5.35	5.31	4.33	1.500	0.20	3/8 X 2.00

● Dimension is in MM. Key is not provided with metric reducer options as standard. Metric bore tolerance is H7.
* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE JH



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

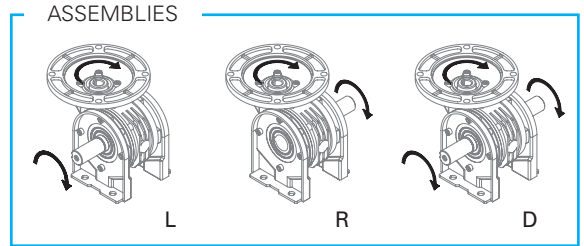
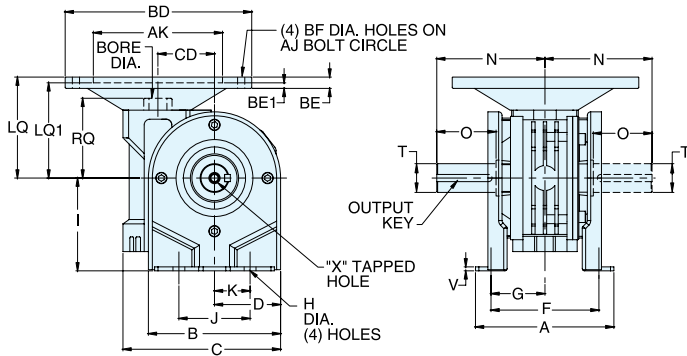
STYLE JH DIMENSIONS - Inches**

Series	A	B	C	CD	D	F	G	H	I	J	K	L	M	NN	S	T	U	V	INPUT KEY	OUTPUT KEY
518	3.94	3.86	4.76	1.77	1.93	3.17	1.59	0.413	2.83	1.97	0.99	3.86	1.67	2.56	1.18	0.750	0.625	0.12	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	5.45	1.97	2.23	3.94	1.97	0.413	3.22	2.48	1.24	4.11	1.74	3.19	1.18	1.000	0.625	0.14	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	6.69	2.48	2.76	4.35	2.18	0.413	3.94	3.74	1.87	5.43	2.24	4.72	1.75	1.125	0.750	0.16	3/16 x 1.50	1/4 X 2.00
534	7.17	7.09	9.15	3.35	3.72	5.71	2.86	0.413	5.59	5.51	2.76	6.38	2.52	5.31	1.75	1.500	0.875	0.20	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details.

BRAVO® Single Reduction Reducers
BRAVO® Worm - Worm Double Reduction
BRAVO® Helical - Worm Double Reduction
BRAVO® Accessory Kits
Quadro - Single Reduction
High Efficiency Helical - Inline

STYLE JMQ



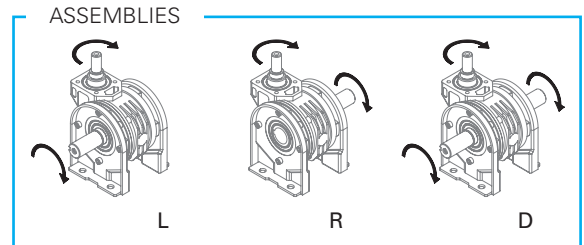
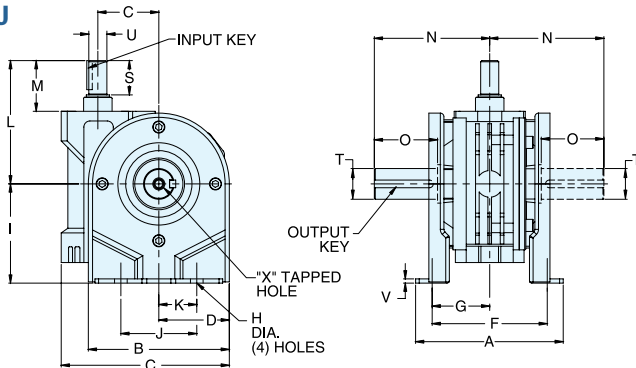
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE JMQ DIMENSIONS - Inches (MM)

Series	A	B	C	CD	D	F	G	H	I	J	K	LQ*	LQ1*	N	O	RQ	T*	V	X		OUTPUT KEY
																			Tap Size	Depth	
512	3.43	3.07	3.54	1.18	1.54	2.60	1.30	0.256	2.16	1.97	0.99	*	N/A	2.48	1.01	2.21	(14)*	0.12	N/A	N/A	(5)*
518	3.94	3.86	4.76	1.77	1.93	3.17	1.59	0.413	2.83	1.97	0.99	3.33	N/A	2.97	1.26	2.60	0.750	0.12	1/4-20 UNC	0.62	3/16 X 1.00
520	4.84	4.45	5.45	1.97	2.23	3.94	1.97	0.413	3.22	2.48	1.24	3.51	N/A	3.94	2.05	2.83	1.000	0.14	5/16-18 UNC	0.75	1/4 X 1.62
525	5.67	5.24	6.69	2.48	2.76	4.35	2.18	0.413	3.94	3.74	1.87	4.08	N/A	4.85	2.36	3.58	1.125	0.16	5/16-18 UNC	0.75	1/4 X 2.00
534	7.17	7.09	9.15	3.35	3.72	5.71	2.86	0.413	5.59	5.51	2.76	4.83	5.35	5.55	2.36	4.33	1.500	0.20	5/16-18 UNC	0.75	3/8 X 2.00

* Dimension is in MM. Key is not provided with metric reducer options as standard. Metric shaft diameter tolerance is -0.005/-0.020. Series 512 is available with an inch dimensioned output shaft. Contact Factory for details.
 * Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE J



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE J DIMENSIONS** - Inches

Series	A	B	C	CD	D	F	G	H	I	J	K	L	M	N	O	S	T	U	V	X		INPUT KEY	OUTPUT KEY
																				Tap Size	Depth		
518	3.94	3.86	4.76	1.77	1.93	3.17	1.59	0.413	2.83	1.97	0.99	3.86	1.67	2.97	1.26	1.18	0.750	0.625	0.12	1/4-20 UNC	0.62	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	5.45	1.97	2.23	3.94	1.97	0.413	3.22	2.48	1.24	4.11	1.74	3.94	2.05	1.18	1.000	0.625	0.14	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	6.69	2.48	2.76	4.35	2.18	0.413	3.94	3.74	1.87	5.43	2.24	4.85	2.36	1.75	1.125	0.750	0.16	5/16-18 UNC	0.75	3/16 X 1.50	1/4 X 2.00
534	7.17	7.09	9.15	3.35	3.72	5.71	2.86	0.413	5.59	5.51	2.76	6.38	2.52	5.55	2.36	1.75	1.500	0.875	0.20	5/16-18 UNC	0.75	3/16 X 1.50	3/8 X 2.00

** Series 512 is available in this style. Contact Factory for details

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BE1	BF	Input Bore Dia	Input Keyway▲
	56C	5.88	4.50	6.50	0.38	N/A	0.41	0.625
140TC	5.88	4.50	6.50	0.38	N/A	0.41	0.875	3/16 x 3/32
180TC	7.25	8.50	9.00	N/A	0.50	0.53	1.125	1/4 x 1/8

OPTIONAL METRIC DIMENSIONS° - MM

Series	LQ1♦						T	O	N	Output Keyway
	IEC B5 & B14 Options									
	D56D	D63D	D71D	D80D	D90D	D100LD■				
512	62.5♦	62.5	N/A	N/A	N/A	N/A	14	25	63	5
518	74♦□	74*	74	N/A	N/A	N/A	18	32	75	6
520	81.5♦□	81.5*	81.5	81.5	N/A	N/A	25	52	100	8
525	N/A	99.5♦	99.5*	99.5*	99.5	N/A	25	60	123	8
534	N/A	N/A	124♦	124	124	124	35	60	141	10

- ♦ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(All), D63D(Series 518 & 520), D71D & D80D(Series 525)
- ◆ Dimensions are maximum (B5 and B14 options)
- ◇ B14 option not available
- B5 Option not available
- Also applies to frame size D112MD
- ✔ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7.

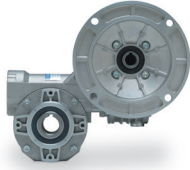
OPTIONAL METRIC DIMENSIONS° - MM

IEC Frame	B5					B14♦					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF*		
D56D	100	80	120	10	7	65*	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75*	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85*	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100*	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5
D100LD■	215	180	250	13	14	130	110	160	10	9	28	8 x 3.5

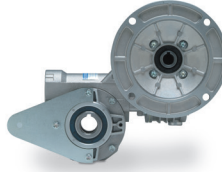
HOLLOW OUTPUT SHAFT MOUNTED

**MOTORIZED
QUILL INPUT**

DHMQ



DRHMQ



DFHMQ



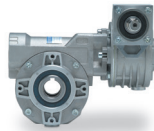
Ratings: Pages H4-H5
Dimensions: Page H7

Ratings: Pages H4-H5
Dimensions: Page J3

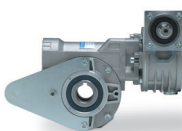
Ratings: Pages H4-H5
Dimensions: Page H9

**NON-
MOTORIZED
SOLID INPUT
SHAFT**

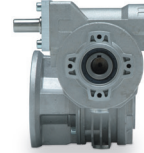
DH



DRH



DFH



Ratings: Pages H4-H5
Dimensions: Page H7

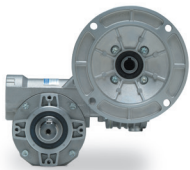
Ratings: Pages H4-H5
Dimensions: Page J3

Ratings: Pages H4-H5
Dimensions: Page H9

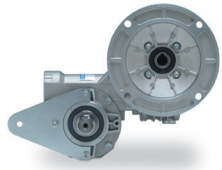
SOLID OUTPUT SHAFT

**MOTORIZED
QUILL INPUT**

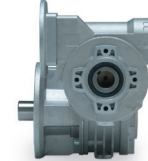
DMQ



DRMQ



DFMQ



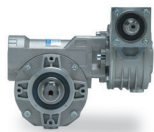
Ratings: Pages H4-H5
Dimensions: Page H8

(Non-Standard Option)
Ratings: Pages H4-H5
Dimensions: Page J3

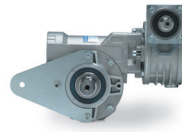
Ratings: Pages H4-H5
Dimensions: Page H10

**NON-
MOTORIZED
SOLID INPUT
SHAFT**

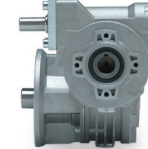
D



DR



DF



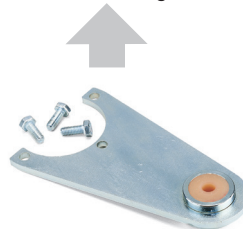
Ratings: Pages H4-H5
Dimensions: Page H8

(Non-Standard Option)
Ratings: Pages H4-H5
Dimensions: Page J3

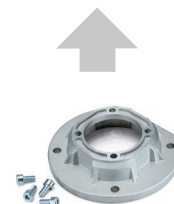
Ratings: Pages H4-H5
Dimensions: Page H10

MOUNTING ACCESSORIES

Select the appropriate mounting accessories from this wide variety of options.



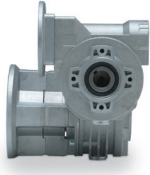
**REACTION
ARM R**



**F FLANGE
(SHORT FLANGE)**

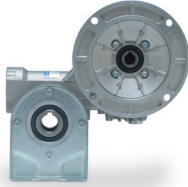
♦ Non-Standard Option assemblies may be useful in certain applications. Please contact Factory with application details.

DFLHMQ



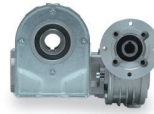
Ratings: Pages H4-H5
Dimensions: Page H11

DTHMQ



(⚡Non-Standard Option)
Ratings: Pages H4-H5
Dimensions: Page H13

DUHMQ



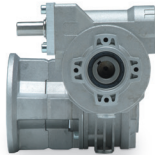
(⚡Non-Standard Option)
Ratings: Pages H4-H5
Dimensions: Page H15

DJHMQ



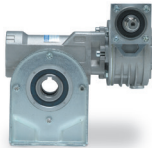
(⚡Non-Standard Option)
Ratings: Pages H4-H5
Dimensions: Page H17

DFLH



Ratings: Pages H4-H5
Dimensions: Page H11

DTH



(⚡Non-Standard Option)
Ratings: Pages H4-H5
Dimensions: Page H13

DUH



(⚡Non-Standard Option)
Ratings: Pages H4-H5
Dimensions: Page H15

DJH



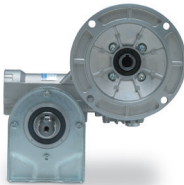
(⚡Non-Standard Option)
Ratings: Pages H4-H5
Dimensions: Page H17

DFLMQ



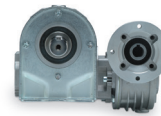
Ratings: Pages H4-H5
Dimensions: Page H12

DTMQ



Ratings: Pages H4-H5
Dimensions: Page H14

DUMQ



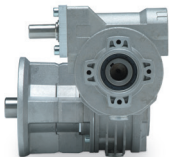
Ratings: Pages H4-H5
Dimensions: Page H16

DJMQ



Ratings: Pages H4-H5
Dimensions: Page H18

DFL



Ratings: Pages H4-H5
Dimensions: Page H12

DT



Ratings: Pages H4-H5
Dimensions: Page H14

DU



Ratings: Pages H4-H5
Dimensions: Page H16

DJ



Ratings: Pages H4-H5
Dimensions: Page H18



FL FLANGE
(LONG FLANGE)



HORIZONTAL BASE
(WORM OVER ASSEMBLY)



HORIZONTAL BASE
(WORM UNDER ASSEMBLY)



HORIZONTAL BASE
(VERTICAL INPUT SHAFT)

Grove Gear® 500 Series Gear Reducer Model Number Nomenclature

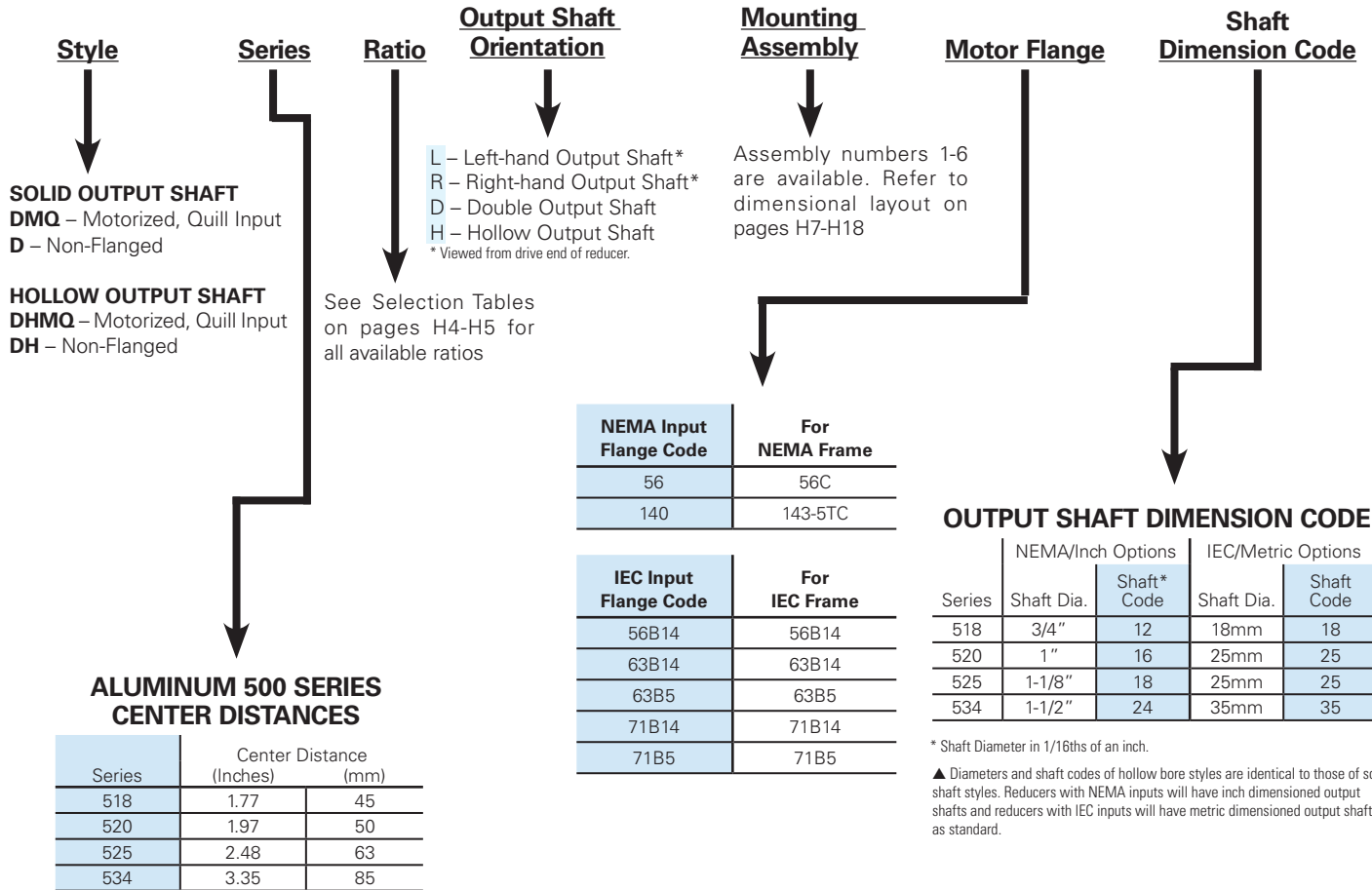
All stock and custom 500 series reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example W5180001. Reducers and renewal parts should be ordered by catalog number. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 5000 (for example, W5185000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered from Grove Gear by catalog number.

TYPICAL NAMEPLATE

GROVE GEAR™			
MAX INPUT HP @ 1750 RPM	.246	OUTPUT TORQUE (IN-LBS)	460
DESC.	DMQ51898L5612		RATIO 98:1
CATALOG NO.			DATE CODE A04
GROVE GEAR UNION GROVE, WI 53182			MOD



SAMPLE MODEL NUMBER

Solid Shaft

Motorized Quill Input, Double Reduction Reducer, 1.77" Center Distance, 3600:1 Ratio, Left Hand Output Shaft, Parallel Input & Output Shafts and 5/8" Input Bore with NEMA 56C Flange.

DMQ	518	3600	L	1	56	12
Style	Series	Ratio	Output Shaft	Mounting Assembly	Motor Input	Shaft Code

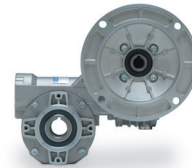
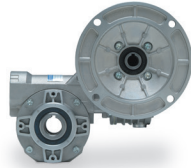
Hollow Shaft

Motorized Quill Input, Double Reduction Reducer, 1.77" Center Distance, 3600:1 Ratio, 3/4" Hollow Output Shaft, Parallel Input & Output Shafts and 5/8" Input Bore with NEMA 56C Flange.

DHMQ	518	3600	H	1	56	12
Style	Series	Ratio	Output Shaft	Mounting Assembly	Motor Input	Shaft Code

MAXIMUM RATING TABLES

518 & 520 SERIES • ALL STOCK STYLES



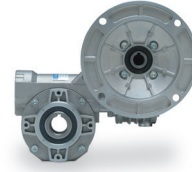
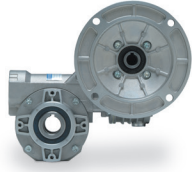
518 SERIES • 1.0 S.F.

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)
70	1750	25.00	0.332	0.182	460
	1150	16.43	0.230	0.126	485
98	1750	17.86	0.246	0.130	460
	1150	11.73	0.170	0.090	485
147	1750	11.90	0.190	0.095	504
	1150	7.82	0.132	0.066	531
210	1750	8.33	0.139	0.067	504
	1150	5.48	0.096	0.046	531
294	1750	5.95	0.106	0.048	504
	1150	3.91	0.073	0.033	531
441	1750	3.97	0.088	0.032	504
	1150	2.61	0.061	0.022	531
588	1750	2.98	0.072	0.024	504
	1150	1.96	0.050	0.017	531
777	1750	2.25	0.060	0.018	504
	1150	1.48	0.042	0.012	531
966	1750	1.81	0.054	0.014	504
	1150	1.19	0.037	0.010	531
1288	1750	1.36	0.045	0.011	504
	1150	0.893	0.031	0.008	531
1702	1750	1.03	0.037	0.008	504
	1150	0.676	0.026	0.006	531
2220	1750	0.788	0.030	0.006	504
	1150	0.518	0.021	0.004	531
3600	1750	0.486	0.018	0.004	460
	1150	0.319	0.012	0.002	485

520 SERIES • 1.0 S.F.

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)
70	1750	25.00	0.573	0.309	780
	1150	16.43	0.396	0.214	821
98	1750	17.86	0.425	0.221	780
	1150	11.73	0.294	0.153	821
140	1750	12.50	0.305	0.158	799
	1150	8.21	0.211	0.110	841
182	1750	9.62	0.259	0.122	799
	1150	6.32	0.179	0.084	841
260	1750	6.73	0.198	0.085	799
	1150	4.42	0.137	0.059	841
364	1750	4.81	0.145	0.061	799
	1150	3.16	0.100	0.042	841
546	1750	3.21	0.107	0.041	799
	1150	2.11	0.074	0.028	841
676	1750	2.59	0.091	0.033	799
	1150	1.70	0.063	0.023	841
962	1750	1.82	0.072	0.023	799
	1150	1.20	0.050	0.016	841
1260	1750	1.39	0.065	0.018	799
	1150	0.913	0.045	0.012	841
1591	1750	1.10	0.056	0.014	799
	1150	0.723	0.039	0.010	841
2220	1750	0.788	0.045	0.009	757
	1150	0.518	0.031	0.007	797
3600	1750	0.486	0.028	0.006	757
	1150	0.319	0.019	0.004	797

WHEN ORDERING DOUBLE REDUCTION REDUCERS, SPECIFY COMPLETE MODEL NUMBER AS SHOWN ON PAGE H3.

**525 SERIES • 1.0 S.F.**

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)
70	1750	25.00	1.396	0.768	1935
	1150	16.43	0.966	0.531	2037
105	1750	16.67	0.948	0.512	1935
	1150	10.95	0.655	0.354	2037
150	1750	11.67	0.689	0.358	1935
	1150	7.67	0.477	0.248	2037
210	1750	8.33	0.556	0.256	1935
	1150	5.48	0.385	0.177	2037
300	1750	5.83	0.426	0.179	1935
	1150	3.83	0.295	0.124	2037
420	1750	4.17	0.328	0.128	1935
	1150	2.74	0.227	0.089	2037
630	1750	2.78	0.259	0.085	1935
	1150	1.83	0.179	0.059	2037
840	1750	2.08	0.206	0.064	1935
	1150	1.37	0.143	0.044	2037
1110	1750	1.58	0.162	0.049	1935
	1150	1.04	0.112	0.034	2037
1380	1750	1.27	0.139	0.039	1935
	1150	0.833	0.096	0.027	2037
1800	1750	0.972	0.115	0.030	1935
	1150	0.639	0.079	0.021	2037
2160	1750	0.810	0.096	0.025	1935
	1150	0.532	0.066	0.017	2037
4020	1750	0.435	0.064	0.013	1935
	1150	0.286	0.044	0.009	2037

534 SERIES • 1.0 S.F.

Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)
70	1750	25.00	1.577	0.899	2266
	1150	16.43	1.091	0.622	2386
98	1750	17.86	1.127	0.642	2266
	1150	11.73	0.779	0.444	2386
140	1750	12.50	0.920	0.534	2690
	1150	8.21	0.636	0.369	2832
196	1750	8.93	0.733	0.381	2690
	1150	5.87	0.507	0.264	2832
280	1750	6.25	0.798	0.375	3784
	1150	4.11	0.553	0.260	3983
392	1750	4.46	0.609	0.268	3784
	1150	2.93	0.421	0.185	3983
588	1750	2.98	0.484	0.179	3784
	1150	1.96	0.335	0.124	3983
784	1750	2.23	0.394	0.134	3784
	1150	1.47	0.273	0.093	3983
1036	1750	1.69	0.307	0.101	3784
	1150	1.11	0.213	0.070	3983
1288	1750	1.36	0.272	0.082	3784
	1150	0.893	0.188	0.056	3983
1680	1750	1.04	0.181	0.053	3186
	1150	0.685	0.126	0.036	3354
2280	1750	0.768	0.144	0.039	3186
	1150	0.504	0.099	0.027	3354
3120	1750	0.561	0.113	0.028	3186
	1150	0.369	0.079	0.020	3354

WHEN ORDERING DOUBLE REDUCTION REDUCERS, SPECIFY COMPLETE MODEL NUMBER AS SHOWN ON PAGE H3.

DOUBLE REDUCTION • APPROXIMATE WEIGHTSΔ (LBS.)

ReducerStyle	Reducer Size				ReducerStyle	Reducer Size			
	518	520	525	534		518	520	525	534
Solid Output Shaft Models					Hollow Output Shaft Models				
DMQ	13	15	20	35	DHMQ	12	13	18	30
D	12	15	20	33	DH	11	13	18	28
DTMQ, DUMQ	15	17	23	40	DTHMQ, DUHMQ	14	15	21	35
DT, DU	14	17	23	38	DTH, DUH	13	15	21	33
DJMQ	15	17	23	40	DJHMQ	14	15	21	35
DJ	14	17	23	38	DJH	13	15	21	33
DFMQ	14	16	22	38	DFHMQ	13	14	20	33
DF	13	16	22	36	DFH	12	14	20	31
DFLMQ	15	17	23	40	DFLHMQ	14	15	21	35
DFL	14	17	23	38	DFLH	13	15	21	33
DRMQ	14	16	22	38	DRHMQ	13	14	20	33
DR	13	16	22	36	DRH	12	14	20	31

Weights include grease and oil.

DOUBLE REDUCTION • MOTOR FRAME COMBINATIONS

NEMA or IEC Frame Size	Dimensions - Inches (MM)				Available Ratios			
	AK	AJ	BD	Bore Dia.	518	520	525	534
NEMA 56C	4.50	5.88	6.50	0.625	●	●	●	●
IEC 56B14	1.97 (50)	2.56 (65)	3.15 (80)	(9)	■	■	■	■
IEC 63B5	3.74 (95)	4.53 (115)	5.51 (140)	(11)	■	■	■	■
IEC 63B14	2.36 (60)	2.95 (75)	3.54 (90)	(11)	■	■	■	■
IEC 71B5	4.33 (110)	5.12 (130)	6.30 (160)	(14)	●	●	●	●
IEC 71B14	2.76 (70)	3.35 (85)	4.13 (105)	(14)	●	●	●	●

- Reducer selections are available. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.
- Reducer selections are available. A bushing will be provided with reducer to achieve input bore diameter shown. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.

DOUBLE REDUCTION • WORM-WORM • EXACT RATIO COMBINATIONS

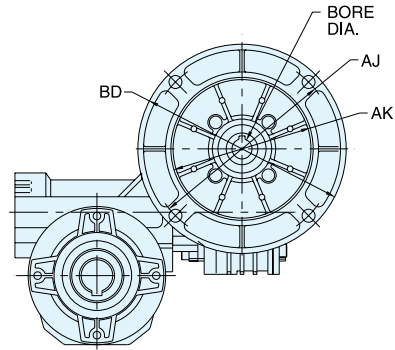
518			520		
TOAL RATIO	P 518	S 518	TOAL RATIO	P 518	S 520
70	7	10	70	7	10
98	7	14	98	7	14
147	21	7	140	10	14
210	21	10	182	7	26
294	21	14	260	10	26
441	21	21	364	14	26
588	21	28	546	21	26
777	21	37	676	26	26
966	46	21	962	37	26
1288	46	28	1260	21	60
1702	46	37	1591	37	43
2220	60	37	2220	37	60
3600	60	60	3600	60	60

525			534		
TOAL RATIO	P 518	S 525	TOAL RATIO	P 518	S 534
70	7	10	70	7	10
105	7	15	98	7	14
150	10	15	140	7	20
210	7	30	196	7	28
300	10	30	280	10	28
420	14	30	392	14	28
630	21	30	588	21	28
840	28	30	784	28	28
1110	37	30	1036	37	28
1380	46	30	1288	46	28
1800	60	30	1680	60	28
2160	60	36	2280	60	38
4020	67	60	3120	60	52

P = Primary stage reducer ratio
S = Secondary stage reducer ratio

REDUCER ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

Accessory	Reducer Size			
	518	520	525	534
T/U - Base	2	2	3	5
J - Base	2	2	3	5
F - Flange	1	1	2	3
FL - Flange	2	2	3	5
R - Reaction Arm	1	1	2	3



Bravo®
Single Reduction Reducers

Bravo® Worm - Worm
Double Reduction

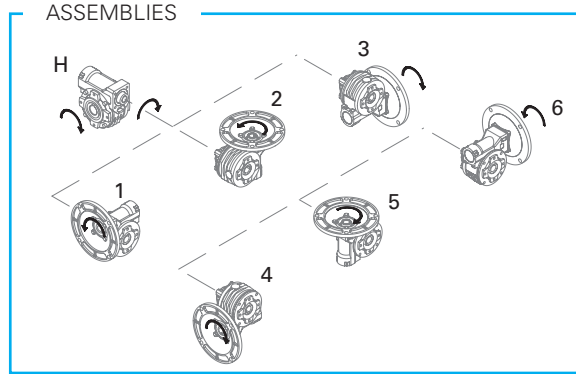
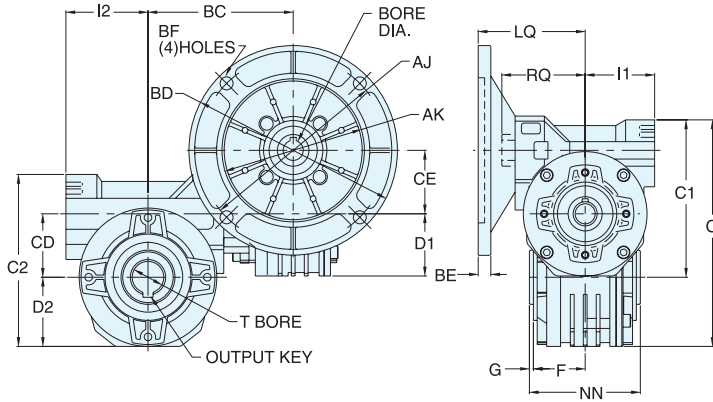
Bravo® Helical - Worm
Double Reduction

Bravo® Accessory Kits

Quadro - Single Reduction

High Efficiency Helical - In-line

STYLE DHMQ



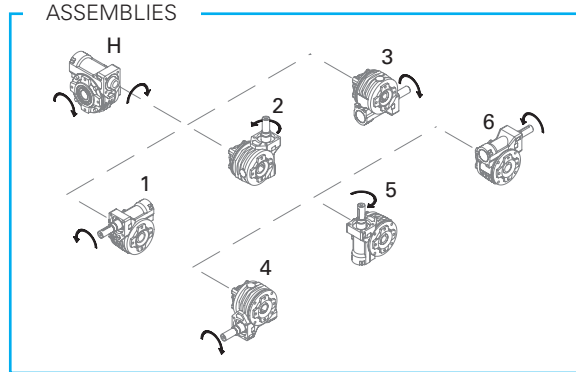
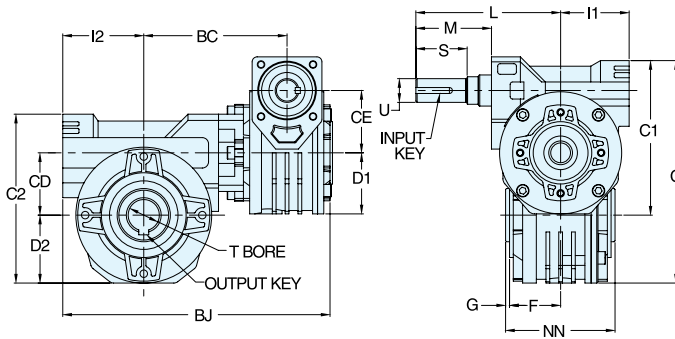
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DHMQ DIMENSIONS - Inches

Series	BC	C	C1	C2	CD	CE	D1	D2	F	G	I1	I2	LQ* 56C	NN	RQ	T* +0.0015 -0.0000	OUTPUT KEY*
518	4.35	6.42	4.76	4.76	1.77	1.77	1.93	1.93	1.38	0.08	2.16	2.16	3.33	2.56	2.60	0.750	3/16 X 1.00
520	4.53	7.30	4.76	5.33	1.97	1.77	1.93	2.15	1.50	0.12	2.16	2.56	3.33	3.19	2.60	1.000	1/4 X 1.62
525	5.75	9.17	4.76	6.69	2.48	1.77	1.93	2.76	1.77	0.19	2.16	3.11	3.33	4.72	2.60	1.125	1/4 X 2.00
534	6.76	12.00	4.76	9.15	3.35	1.77	1.93	3.72	2.52	0.14	2.16	3.86	3.33	5.31	2.60	1.500	3/8 X 2.00

* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE DH

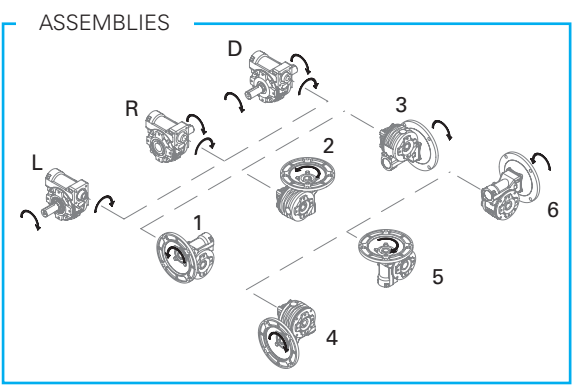
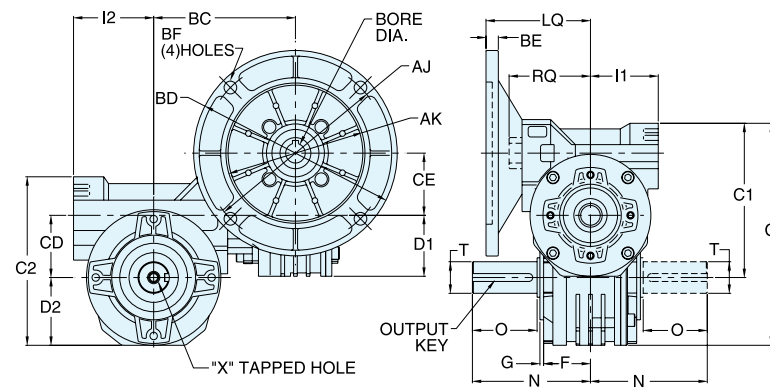


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DH DIMENSIONS - Inches

Series	BC	BJ	C	C1	C2	CD	CE	D1	D2	F	G	I1	I2	L	M	NN	S	T +0.0015 -0.0000	U +0.000 -0.001	INPUT KEY	OUTPUT KEY
518	4.35	7.90	6.42	4.76	4.76	1.77	1.77	1.93	1.93	1.38	0.08	2.16	2.16	3.86	1.67	2.56	1.18	0.750	0.625	3/16 X 1.00	3/16 X 1.00
520	4.53	8.47	7.30	4.76	5.33	1.97	1.77	1.93	2.15	1.50	0.12	2.16	2.56	3.86	1.67	3.19	1.18	1.000	0.625	3/16 X 1.00	1/4 X 1.62
525	5.75	10.24	9.17	4.76	6.69	2.48	1.77	1.93	2.76	1.77	0.19	2.16	3.11	3.86	1.67	4.72	1.18	1.125	0.625	3/16 X 1.00	1/4 X 2.00
534	6.76	12.01	12.00	4.76	9.15	3.35	1.77	1.93	3.72	2.52	0.14	2.16	3.86	3.86	1.67	5.31	1.18	1.500	0.625	3/16 X 1.00	3/8 X 2.00

STYLE DMQ



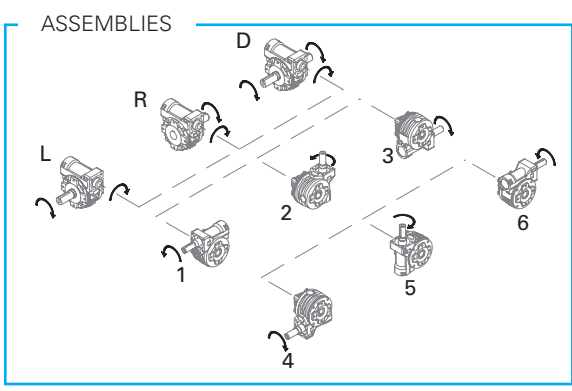
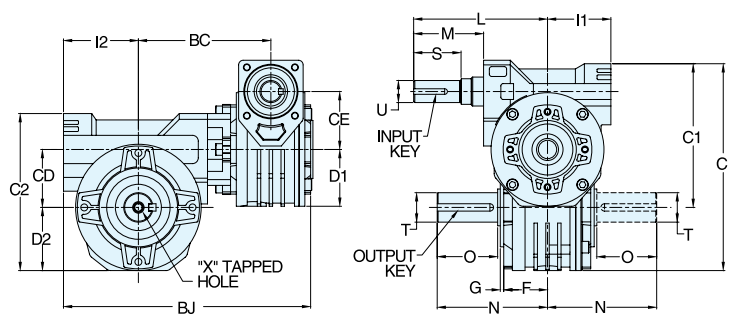
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DMQ DIMENSIONS - Inches

Series	BC	C	C1	C2	CD	CE	D1	D2	F	G	I1	I2	LQ* 56C	N	O*	RQ	T* +0.000 -0.001	X Tap Size	Depth	OUTPUT KEY*
518	4.35	6.42	4.76	4.76	1.77	1.77	1.93	1.93	1.38	0.08	2.16	2.16	3.33	2.97	1.26	2.60	0.750	1/4-20 UNC	0.62	3/16 X 1.00
520	4.53	7.30	4.76	5.33	1.97	1.77	1.93	2.15	1.50	0.12	2.16	2.56	3.33	3.94	2.05	2.60	1.000	5/16-18 UNC	0.75	1/4 X 1.62
525	5.75	9.17	4.76	6.69	2.48	1.77	1.93	2.76	1.77	0.19	2.16	3.11	3.33	4.85	2.36	2.60	1.125	5/16-18 UNC	0.75	1/4 X 2.00
534	6.76	12.00	4.76	9.15	3.35	1.77	1.93	3.72	2.52	0.14	2.16	3.86	3.33	5.55	2.36	2.60	1.500	5/16-18 UNC	0.75	3/8 X 2.00

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE D



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE D DIMENSIONS - Inches

Series	BC	BJ	C	C1	C2	CD	CE	D1	D2	F	G	I1	I2	L	M	N	O	S	T +0.000 -0.001	U +0.000 -0.001	X Tap Size	Depth	INPUT KEY	OUTPUT KEY
518	4.35	7.90	6.42	4.76	4.76	1.77	1.77	1.93	1.93	1.38	0.08	2.16	2.16	3.86	1.67	2.97	1.26	1.18	0.750	0.625	1/4-20 UNC	0.62	3/16 X 1.00	3/16 X 1.00
520	4.53	8.47	7.30	4.76	5.33	1.97	1.77	1.93	2.15	1.50	0.12	2.16	2.56	3.86	1.67	3.94	2.05	1.18	1.000	0.625	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 1.62
525	5.75	10.24	9.17	4.76	6.69	2.48	1.77	1.93	2.76	1.77	0.19	2.16	3.11	3.86	1.67	4.85	2.36	1.18	1.125	0.625	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 2.00
534	6.76	12.01	12.00	4.76	9.15	3.35	1.77	1.93	3.72	2.52	0.14	2.16	3.86	1.67	5.55	2.36	1.18	1.500	0.625	5/16-18 UNC	0.75	3/16 X 1.00	3/8 X 2.00	

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia.	Input Keyway▲
56C	5.88	4.50	6.50	0.38	0.41	0.625	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS* - MM

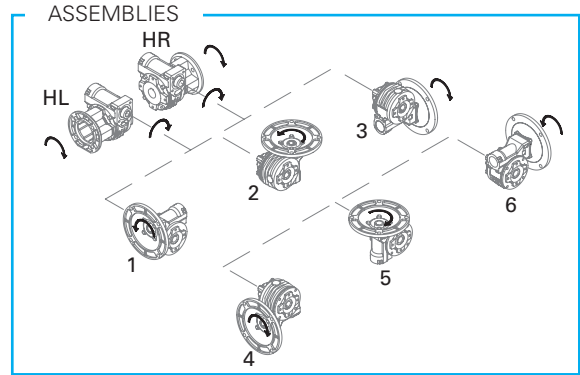
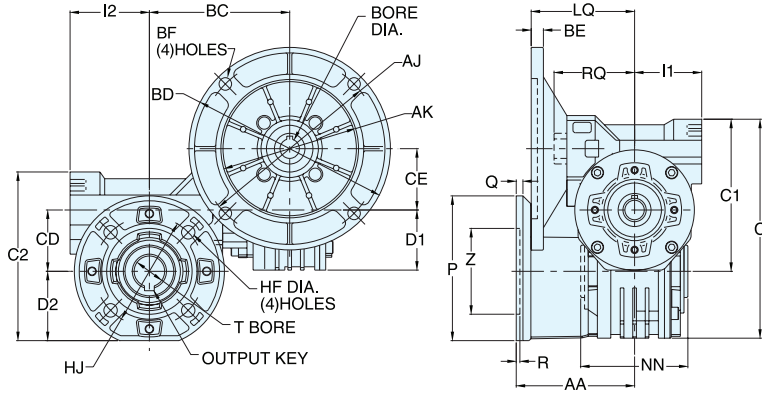
Series	LQ1♦			T H7	O	N	Output Keyway
	IEC B5 & B14 Options						
	D56D■	D63D	D71D				
518	74♦	74♦	74	18	32	75	6
520	74♦	74♦	74	25	52	100	8
525	74♦	74♦	74	25	60	123	8
534	74♦	74♦	74	35	60	141	10

OPTIONAL METRIC DIMENSIONS* - MM

IEC Frame	B5					B14♦					Input Bore Dia.	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF♦		
D56D	N/A	N/A	N/A	N/A	N/A	65♦	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75♦	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85♦	70	105	8	6.5	14	5 x 2.5

♦ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
▲ Keyway width by depth
♦ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(A11), D63D(Series 518 & 520), D71D & D80D(Series 525)
♦ Dimensions are maximum (B5 and B14 options)
■ B5 Option not available

STYLE DFHMQ



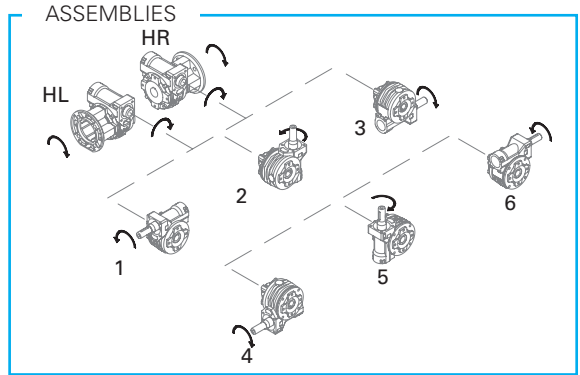
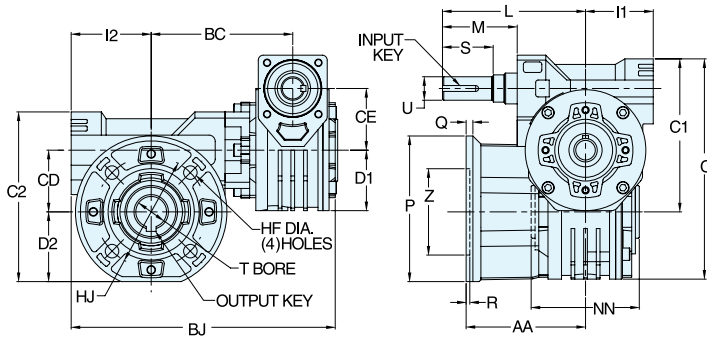
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DFHMQ DIMENSIONS - Inches

Series	AA	BC	C	C1	C2	CD	CE	D1	D2	HF	HJ	I1	I2	LQ* 56C	NN	P	Q	R	RQ	T* +0.0015 -0.0000	Z	OUTPUT KEY*
518	2.38	4.35	6.42	4.76	4.76	1.77	1.77	1.93	1.93	0.335	3.43	2.16	2.16	3.33	2.56	4.33	0.35	0.354	2.60	0.750	2.362	3/16 X 1.00
520	3.35	4.53	7.30	4.76	5.33	1.97	1.77	1.93	2.15	0.413	3.54	2.16	2.56	3.33	3.19	4.84	0.47	0.354	2.60	1.000	2.756	1/4 X 1.62
525	3.39	5.75	9.17	4.76	6.69	2.48	1.77	1.93	2.76	0.413	5.91	2.16	3.11	3.33	4.72	6.89	0.51	0.276	2.60	1.125	4.528	1/4 X 2.00
534	4.25	6.76	12.00	4.76	9.15	3.35	1.77	1.93	3.72	0.512	6.93	2.16	3.86	3.33	5.31	8.07	0.63	0.197	2.60	1.500	5.984	3/8 X 2.00

* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE DFH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DFH DIMENSIONS - Inches

Series	AA	BC	BJ	C	C1	C2	CD	CE	D1	D2	HF	HJ	I1	I2	L	M	NN	P	Q	R	S	T +0.0015 -0.0000	U +0.000 -0.001	Z	INPUT KEY	OUTPUT KEY
518	2.38	4.35	7.90	6.42	4.76	4.76	1.77	1.77	1.93	1.93	0.335	3.43	2.16	2.16	3.86	1.67	2.56	4.33	0.35	0.354	1.18	0.750	0.625	2.362	3/16 X 1.00	3/16 X 1.00
520	3.35	4.53	8.47	7.30	4.76	5.33	1.97	1.77	1.93	2.15	0.413	3.54	2.16	2.56	3.86	1.67	3.19	4.84	0.47	0.354	1.18	1.000	0.625	2.756	3/16 X 1.00	1/4 X 1.62
525	3.39	5.75	10.24	9.17	4.76	6.69	2.48	1.77	1.93	2.76	0.413	5.91	2.16	3.11	3.86	1.67	4.72	6.89	0.51	0.276	1.18	1.125	0.625	4.528	3/16 X 1.00	1/4 X 2.00
534	4.25	6.76	12.01	12.00	4.76	9.15	3.35	1.77	1.93	3.72	0.512	6.93	2.16	3.86	3.86	1.67	5.31	8.07	0.63	0.197	1.18	1.500	0.625	5.984	3/16 X 1.00	3/8 X 2.00

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

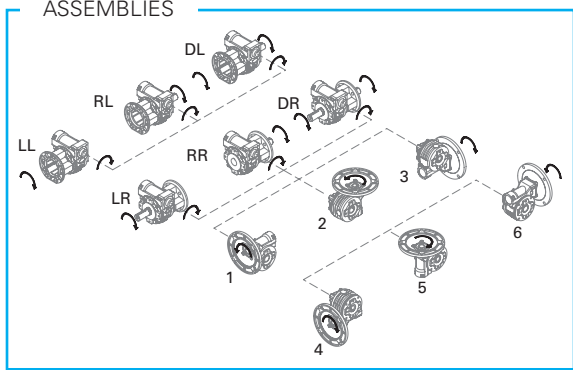
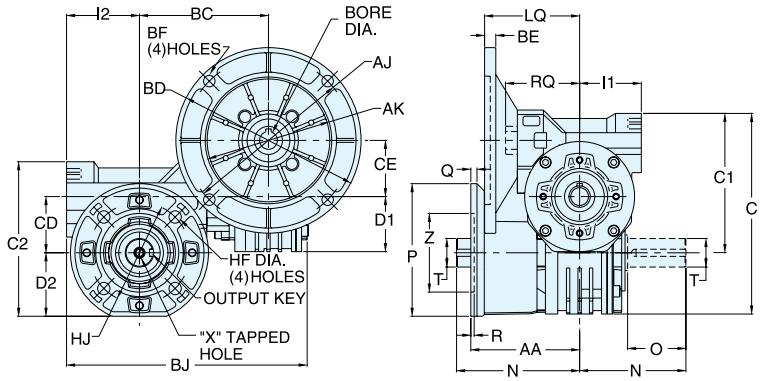
BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

High Efficiency Helical - Inline

STYLE DFMQ



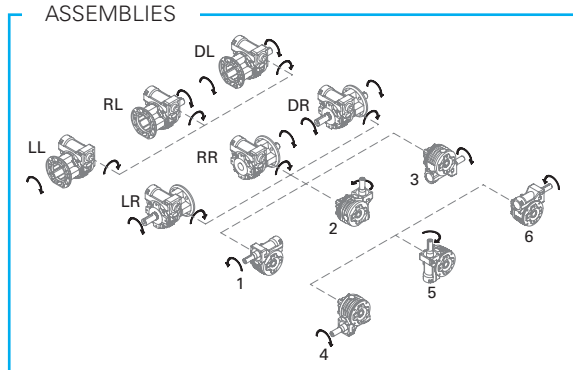
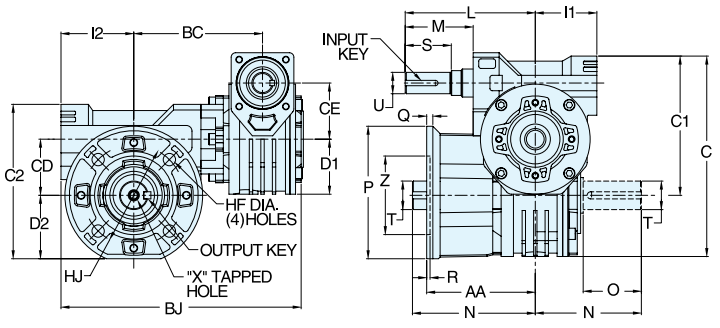
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DFMQ DIMENSIONS - Inches

Series	AA	BC	C	C1	C2	CD	CE	D1	D2	HF	HJ	I1	I2	LQ* 56C	N	O*	P	Q	R	RQ	T* +0.000 -0.001	X Tap Size	Depth	Z	OUTPUT KEY*
518	2.38	4.35	6.42	4.76	4.76	1.77	1.77	1.93	1.93	0.335	3.43	2.16	2.16	3.33	2.97	1.26	4.33	0.35	0.354	2.60	0.750	1/4-20 UNC	0.62	2.362	3/16 X 1.00
520	3.35	4.53	7.30	4.76	5.33	1.97	1.77	1.93	2.15	0.413	3.54	2.16	2.56	3.33	3.94	2.05	4.84	0.47	0.354	2.60	1.000	5/16-18 UNC	0.75	2.756	1/4 X 1.62
525	3.39	5.75	9.17	4.76	6.69	2.48	1.77	1.93	2.76	0.413	5.91	2.16	3.11	3.33	4.85	2.36	6.89	0.51	0.276	2.60	1.125	5/16-18 UNC	0.75	4.528	1/4 X 2.00
534	4.25	6.76	12.00	4.76	9.15	3.35	1.77	1.93	3.72	0.512	6.93	2.16	3.86	3.33	5.55	2.36	8.07	0.63	0.197	2.60	1.500	5/16-18 UNC	0.75	5.984	3/8 X 2.00

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE DF



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DF DIMENSIONS - Inches

Series	AA	BC	BJ	C	C1	C2	CD	CE	D1	D2	HF	HJ	I1	I2	L	M	N	O	P	Q	R	S	T +0.000 -0.001	U +0.000 -0.001	X Tap Size	Depth	Z	INPUT KEY	OUTPUT KEY
518	2.38	4.35	7.90	6.42	4.76	4.76	1.77	1.77	1.93	1.93	0.335	3.43	2.16	2.16	3.86	1.67	2.97	1.26	4.33	0.35	0.354	1.18	0.750	0.625	1/4-20 UNC	0.62	2.362	3/16 X 1.00	3/16 X 1.00
520	3.35	4.53	8.47	7.30	4.76	5.33	1.97	1.77	1.93	2.15	0.413	3.54	2.16	2.56	3.86	1.67	3.94	2.05	4.84	0.47	0.354	1.18	1.000	0.625	5/16-18 UNC	0.75	2.756	3/16 X 1.00	1/4 X 1.62
525	3.39	5.75	10.24	9.17	4.76	6.69	2.48	1.77	1.93	2.76	0.413	5.91	2.16	3.11	3.86	1.67	4.85	2.36	6.89	0.51	0.276	1.18	1.125	0.625	5/16-18 UNC	0.75	4.528	3/16 X 1.00	1/4 X 2.00
534	4.25	6.76	12.01	12.00	4.76	9.15	3.35	1.77	1.93	3.72	0.512	6.93	2.16	3.86	3.86	1.67	5.55	2.36	8.07	0.63	0.197	1.18	1.500	0.625	5/16-18 UNC	0.75	5.984	3/16 X 1.00	3/8 X 2.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia	Input Keyway▲
56C	5.88	4.50	6.50	0.38	0.41	0.625	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS - MM

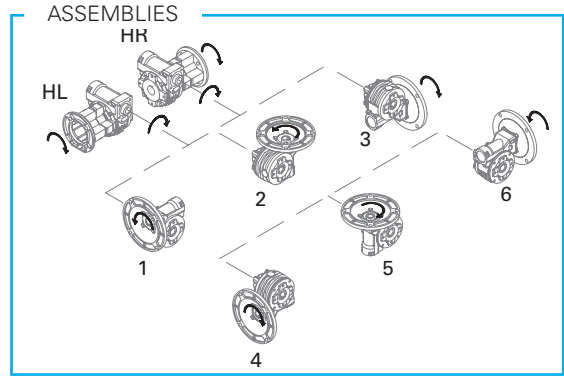
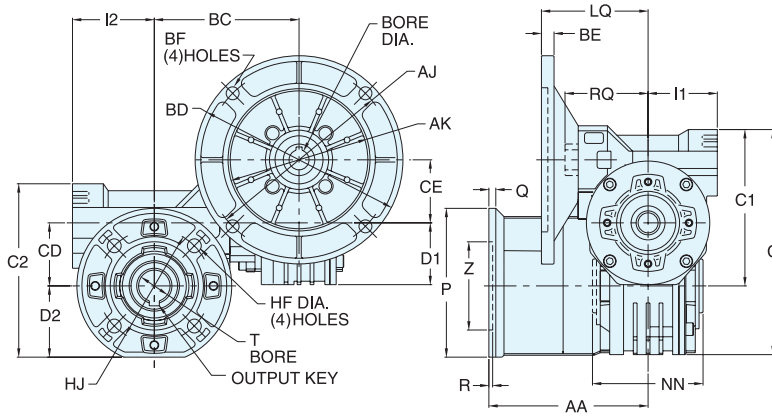
Series	LQ1♦			T H7	O	N	Output Keyway
	IEC B5 & B14 Options						
	D56D■	D63D	D71D				
518	74♦	74♦	74	18	32	75	6
520	74♦	74♦	74	25	52	100	8
525	74♦	74♦	74	25	60	123	8
534	74♦	74♦	74	35	60	141	10

OPTIONAL METRIC DIMENSIONS - MM

IEC Frame	B5					B14♦					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF♦		
D56D	N/A	N/A	N/A	N/A	N/A	65♦	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75♦	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85♦	70	105	8	6.5	14	5 x 2.5

- ♦ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ♦ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(A11), D63D(Series 518 & 520), D71D & D80D(Series 525)
- ♦ Dimensions are maximum (B5 and B14 options)
- B5 Option not available

STYLE DFLHMQ



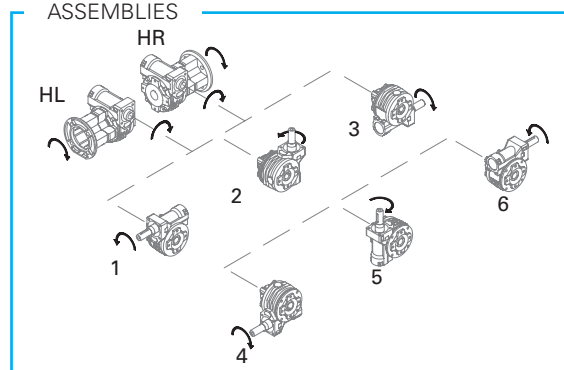
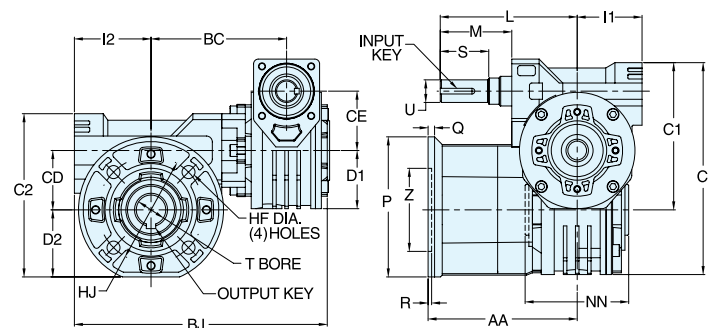
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DFLHMQ DIMENSIONS - Inches

Series	AA	BC	C	C1	C2	CD	CE	D1	D2	HF	HJ	I1	I2	LQ* 56C	NN	P	Q	R	RQ	T* +0.0015 -0.0000	Z	OUTPUT KEY*
518	3.56	4.35	6.42	4.76	4.76	1.77	1.77	1.93	1.93	0.335	3.43	2.16	2.16	3.33	2.56	4.33	0.35	0.354	2.60	0.750	2.362	3/16 X 1.00
520	4.51	4.53	7.30	4.76	5.33	1.97	1.77	1.93	2.15	0.413	3.54	2.16	2.56	3.33	3.19	4.84	0.47	0.354	2.60	1.000	2.756	1/4 X 1.62
525	4.57	5.75	9.17	4.76	6.69	2.48	1.77	1.93	2.76	0.413	5.91	2.16	3.11	3.33	4.72	6.89	0.51	0.276	2.60	1.125	4.528	1/4 X 2.00
534	5.85	6.76	12.00	4.76	9.15	3.35	1.77	1.93	3.72	0.512	6.93	2.16	3.86	3.33	5.31	8.07	0.63	0.197	2.60	1.500	5.984	3/8 X 2.00

* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE DFLH

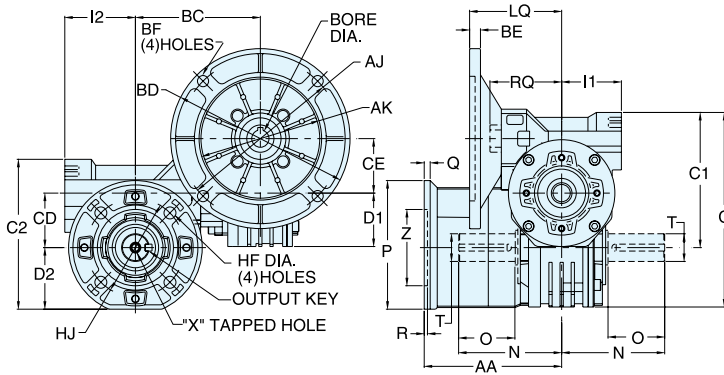


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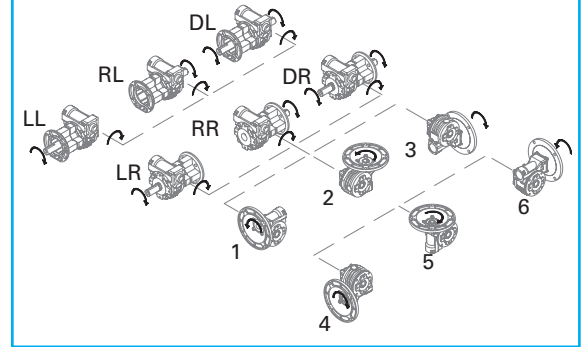
STYLE DFLH DIMENSIONS - Inches

Series	AA	BC	BJ	C	C1	C2	CD	CE	D1	D2	HF	HJ	I1	I2	L	M	NN	P	Q	R	S	T +0.0015 -0.0000	U +0.000 -0.001	Z	INPUT KEY	OUTPUT KEY
518	3.56	4.35	7.90	6.42	4.76	4.76	1.77	1.77	1.93	1.93	0.335	3.43	2.16	2.16	3.86	1.67	2.56	4.33	0.35	0.354	1.18	0.750	0.625	2.362	3/16 X 1.00	3/16 X 1.00
520	4.51	4.53	8.47	7.30	4.76	5.33	1.97	1.77	1.93	2.15	0.413	3.54	2.16	2.56	3.86	1.67	3.19	4.84	0.47	0.354	1.18	1.000	0.625	2.756	3/16 X 1.00	1/4 X 1.62
525	4.57	5.75	10.24	9.17	4.76	6.69	2.48	1.77	1.93	2.76	0.413	5.91	2.16	3.11	3.86	1.67	4.72	6.89	0.51	0.276	1.18	1.125	0.625	4.528	3/16 X 1.00	1/4 X 2.00
534	5.85	6.76	12.01	12.00	4.76	9.15	3.35	1.77	1.93	3.72	0.512	6.93	2.16	3.86	3.86	1.67	5.31	8.07	0.63	0.197	1.18	1.500	0.625	5.984	3/16 X 1.00	3/8 X 2.00

STYLE DFLMQ



ASSEMBLIES



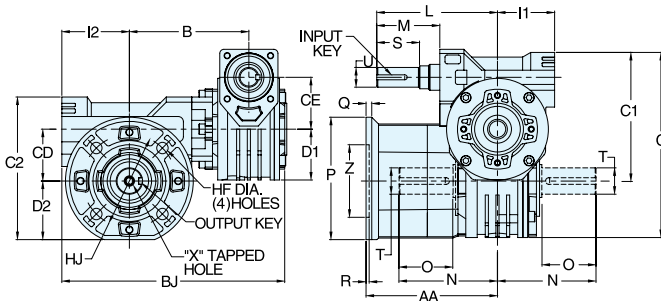
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DFLMQ DIMENSIONS - Inches

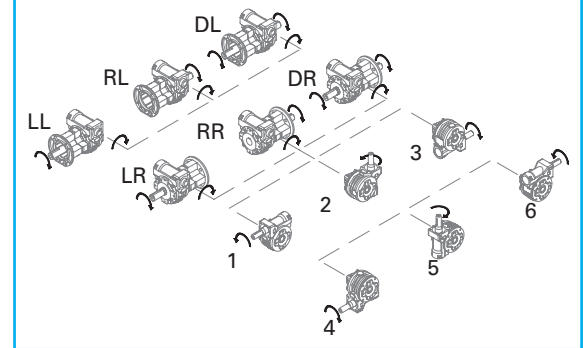
Series	AA	BC	C	C1	C2	CD	CE	D1	D2	HF	HJ	I1	I2	LQ* 56C	N	O*	P	Q	R	RQ	T* +0.000 -0.001	X Tap Size Depth	Z	OUTPUT KEY*	
518	3.56	4.35	6.42	4.76	4.76	1.77	1.77	1.93	1.93	0.335	3.43	2.16	2.16	3.33	2.97	1.26	4.33	0.35	0.354	2.60	0.750	1/4-20 UNC	0.62	2.362	3/16 X 1.00
520	4.51	4.53	7.30	4.76	5.33	1.97	1.77	1.93	2.15	0.413	3.54	2.16	2.56	3.33	3.94	2.05	4.84	0.47	0.354	2.60	1.000	5/16-18 UNC	0.75	2.756	1/4 X 1.62
525	4.57	5.75	9.17	4.76	6.69	2.48	1.77	1.93	2.76	0.413	5.91	2.16	3.11	3.33	4.85	2.36	6.89	0.51	0.276	2.60	1.125	5/16-18 UNC	0.75	4.528	1/4 X 2.00
534	5.85	6.76	12.00	4.76	9.15	3.35	1.77	1.93	3.72	0.512	6.93	2.16	3.86	3.33	5.55	2.36	8.07	0.63	0.197	2.60	1.500	5/16-18 UNC	0.75	5.984	3/8 X 2.00

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE DFL



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DFL DIMENSIONS - Inches

Series	AA	BC	BJ	C	C1	C2	CD	CE	D1	D2	HF	HJ	I1	I2	L	M	N	O	P	Q	R	S	T +0.000 -0.001	U +0.000 -0.001	X Tap Size Depth	Z	INPUT KEY	OUTPUT KEY	
518	3.56	4.35	7.90	6.42	4.76	4.76	1.77	1.77	1.93	1.93	0.335	3.43	2.16	2.16	3.86	1.67	2.97	1.26	4.33	0.35	0.354	1.18	0.750	0.625	1/4-20 UNC	0.62	2.362	3/16 X 1.00	3/16 X 1.00
520	4.51	4.53	8.47	7.30	4.76	5.33	1.97	1.77	1.93	2.15	0.413	3.54	2.16	2.56	3.86	1.67	3.94	2.05	4.84	0.47	0.354	1.18	1.000	0.625	5/16-18 UNC	0.75	2.756	3/16 X 1.00	1/4 X 1.62
525	4.57	5.75	10.24	9.17	4.76	6.69	2.48	1.77	1.93	2.76	0.413	5.91	2.16	3.11	3.86	1.67	4.85	2.36	6.89	0.51	0.276	1.18	1.125	0.625	5/16-18 UNC	0.75	4.528	3/16 X 1.00	1/4 X 2.00
534	5.85	6.76	12.01	12.00	4.76	9.15	3.35	1.77	1.93	3.72	0.512	6.93	2.16	3.86	3.86	1.67	5.55	2.36	8.07	0.63	0.197	1.18	1.500	0.625	5/16-18 UNC	0.75	5.984	3/16 X 1.00	3/8 X 2.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia	Input Keyway▲
56C	5.88	4.50	6.50	0.38	0.41	0.625	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS - MM

Series	LQ1♦			T H7	O	N	Output Keyway
	IEC B5 & B14 Options						
	D56D■	D63D	D71D				
518	74♦	74♦	74	18	32	75	6
520	74♦	74♦	74	25	52	100	8
525	74♦	74♦	74	25	60	123	8
534	74♦	74♦	74	35	60	141	10

OPTIONAL METRIC DIMENSIONS - MM

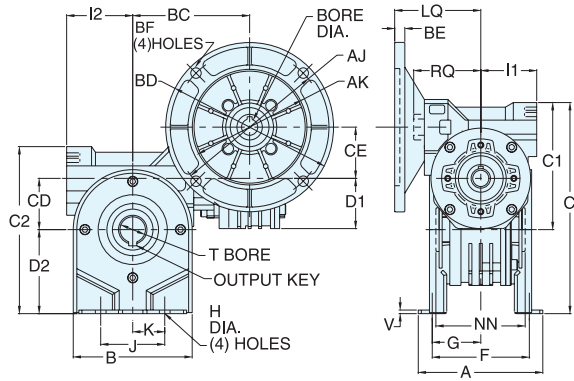
IEC Frame	B5					B14♦					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF♦		
D56D	N/A	N/A	N/A	N/A	N/A	65♦	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75♦	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85♦	70	105	8	6.5	14	5 x 2.5

- ♦ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ♦ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(A11), D63D(Series 518 & 520), D71D & D80D(Series 525)
- ♦ Dimensions are maximum (B5 and B14 options)
- B5 Option not available

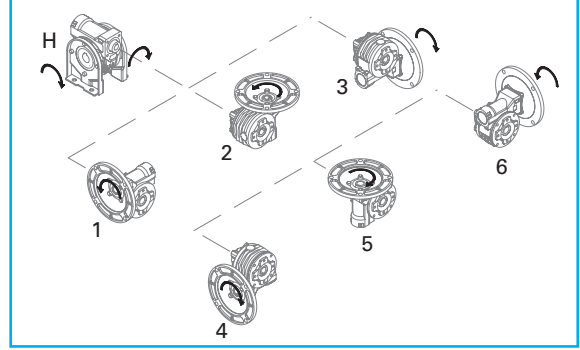
Bravo® DIMENSIONS

ALUMINUM GEAR REDUCERS

STYLE DTHMQ



ASSEMBLIES



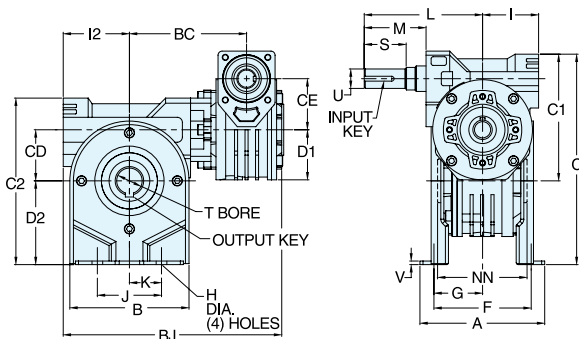
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DTHMQ DIMENSIONS - Inches

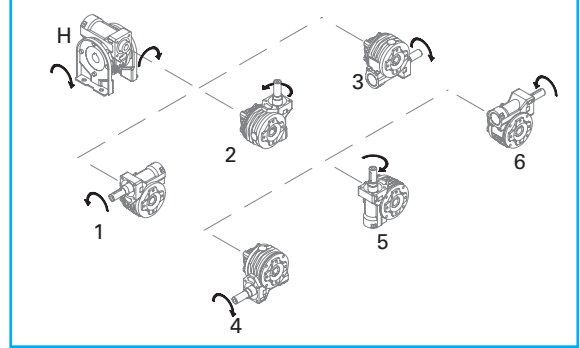
Series	A	B	BC	C	C1	C2	CD	CE	D1	D2	F	G	H	I1	I2	J	K	LQ* 56C	NN	RQ	T* +0.0015 -0.0000	V	OUTPUT KEY*
518	3.94	3.86	4.35	7.32	4.76	5.67	1.77	1.77	1.93	2.83	3.17	1.59	0.413	2.16	2.16	1.97	0.99	3.33	2.56	2.60	0.750	0.12	3/16 X 1.00
520	4.84	4.45	4.53	8.38	4.76	6.42	1.97	1.77	1.93	3.23	3.94	1.97	0.413	2.16	2.56	2.48	1.24	3.33	3.19	2.60	1.000	0.14	1/4 X 1.62
525	5.67	5.24	5.75	10.35	4.76	7.87	2.48	1.77	1.93	3.94	4.35	2.18	0.413	2.16	3.11	3.74	1.87	3.33	4.72	2.60	1.125	0.16	1/4 X 2.00
534	7.17	7.09	6.76	13.86	4.76	11.02	3.35	1.77	1.93	5.59	5.71	2.86	0.413	2.16	3.86	5.51	2.76	3.33	5.31	2.60	1.500	0.20	3/8 X 2.00

* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE DTH



ASSEMBLIES

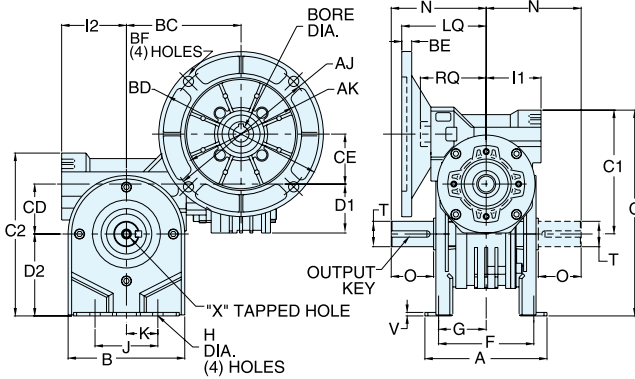


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

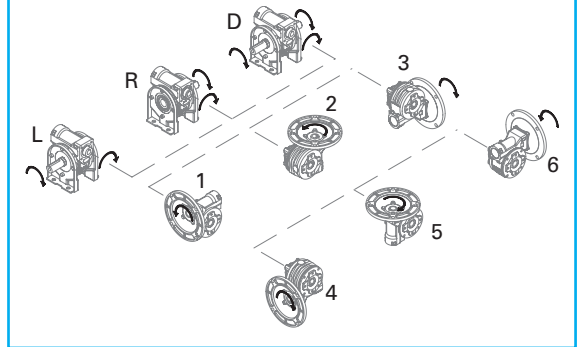
STYLE DTH DIMENSIONS - Inches

Series	A	B	BC	BJ	C	C1	C2	CD	CE	D1	D2	F	G	H	I1	I2	J	K	L	M	NN	S	T +0.0015 -0.0000	U +0.000 -0.001	V	INPUT KEY	OUTPUT KEY
518	3.94	3.86	4.35	7.90	7.32	4.76	5.67	1.77	1.77	1.93	2.83	3.17	1.59	0.413	2.16	2.16	1.97	0.99	3.86	1.67	2.56	1.18	0.750	0.625	0.12	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	4.53	8.47	8.38	4.76	6.42	1.97	1.77	1.93	3.23	3.94	1.97	0.413	2.16	2.56	2.48	1.24	3.86	1.67	3.19	1.18	1.000	0.625	0.14	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	5.75	10.24	10.35	4.76	7.87	2.48	1.77	1.93	3.94	4.35	2.18	0.413	2.16	3.11	3.74	1.87	3.86	1.67	4.72	1.18	1.125	0.625	0.16	3/16 X 1.00	1/4 X 2.00
534	7.17	7.09	6.76	12.01	13.86	4.76	11.02	3.35	1.77	1.93	5.59	5.71	2.86	0.413	2.16	3.86	5.51	2.76	3.86	1.67	5.31	1.18	1.500	0.625	0.20	3/16 X 1.00	3/8 X 2.00

STYLE DTMQ



ASSEMBLIES



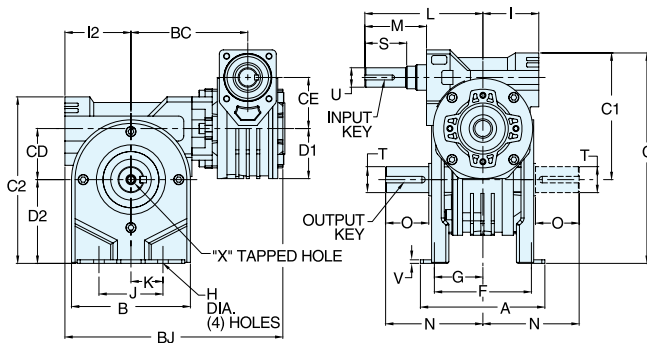
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DTMQ DIMENSIONS - Inches

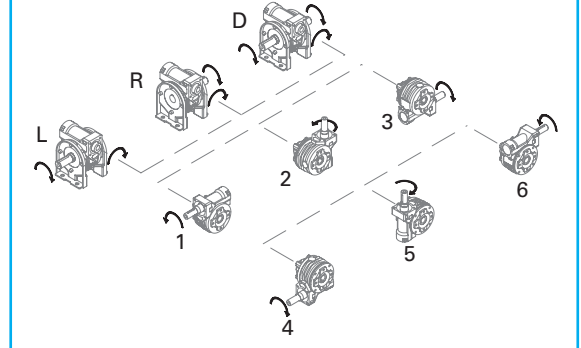
Series	A	B	BC	C	C1	C2	CD	CE	D1	D2	F	G	H	I1	I2	J	K	LQ* 56C	N	O*	RO	T* +0.000 -0.001	v	X Tap Size	X Depth	OUTPUT KEY*
518	3.94	3.86	4.35	7.32	4.76	5.67	1.77	1.77	1.93	2.83	3.17	1.59	0.413	2.16	2.16	1.97	0.99	3.33	2.97	1.26	2.60	0.750	0.12	1/4-20 UNC	0.62	3/16 X 1.00
520	4.84	4.45	4.53	8.38	4.76	6.42	1.97	1.77	1.93	3.23	3.94	1.97	0.413	2.16	2.56	2.48	1.24	3.33	3.94	2.05	2.60	1.000	0.14	5/16-18 UNC	0.75	1/4 X 1.62
525	5.67	5.24	5.75	10.35	4.76	7.87	2.48	1.77	1.93	3.94	4.35	2.18	0.413	2.16	3.11	3.74	1.87	3.33	4.85	2.36	2.60	1.125	0.16	5/16-18 UNC	0.75	1/4 X 2.00
534	7.17	7.09	6.76	13.86	4.76	11.02	3.35	1.77	1.93	5.59	5.71	2.86	0.413	2.16	3.86	5.51	2.76	3.33	5.55	2.36	2.60	1.500	0.20	5/16-18 UNC	0.75	3/8 X 2.00

* Metric options are available. Refer to dimensions below.
Contact Factory for availability of metric options.

STYLE DT



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DT DIMENSIONS - Inches

Series	A	B	BC	BJ	C	C1	C2	CD	CE	D1	D2	F	G	H	I1	I2	J	K	L	M	N	O	S	T +0.000 -0.001	U +0.000 -0.001	v	X Tap Size	X Depth	INPUT KEY	OUTPUT KEY
518	3.94	3.86	4.35	7.90	7.32	4.76	5.67	1.77	1.77	1.93	2.83	3.17	1.59	0.413	2.16	2.16	1.97	0.99	3.86	1.67	2.97	1.26	1.18	0.750	0.625	0.12	1/4-20 UNC	0.62	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	4.53	8.47	8.38	4.76	6.42	1.97	1.77	1.93	3.23	3.94	1.97	0.413	2.16	2.56	2.48	1.24	3.86	1.67	3.94	2.05	1.18	1.000	0.625	0.14	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	5.75	10.24	10.35	4.76	7.87	2.48	1.77	1.93	3.94	4.35	2.18	0.413	2.16	3.11	3.74	1.87	3.86	1.67	4.85	2.36	1.18	1.125	0.625	0.16	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 2.00
534	7.17	7.09	6.76	12.01	13.86	4.76	11.02	3.35	1.77	1.93	5.59	5.71	2.86	0.413	2.16	3.86	5.51	2.76	3.86	1.67	5.55	2.36	1.18	1.500	0.625	0.20	5/16-18 UNC	0.75	3/16 X 1.00	3/8 X 2.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia	Input Keyway▲
56C	5.88	4.50	6.50	0.38	0.41	0.625	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS° - MM

Series	LQ1♦			T H7	O	N	Output Keyway
	IEC B5 & B14 Options						
	D56D■	D63D	D71D				
518	74*	74*	74	18	32	75	6
520	74*	74*	74	25	52	100	8
525	74*	74*	74	25	60	123	8
534	74*	74*	74	35	60	141	10

OPTIONAL METRIC DIMENSIONS° - MM

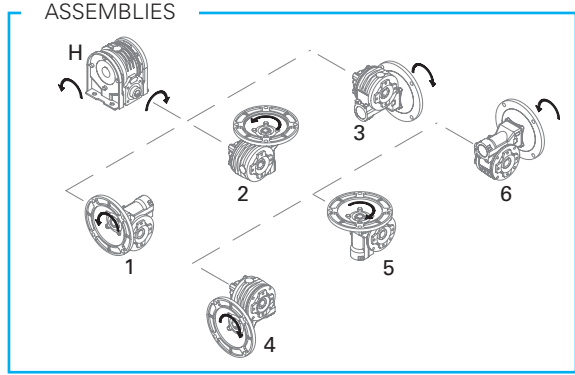
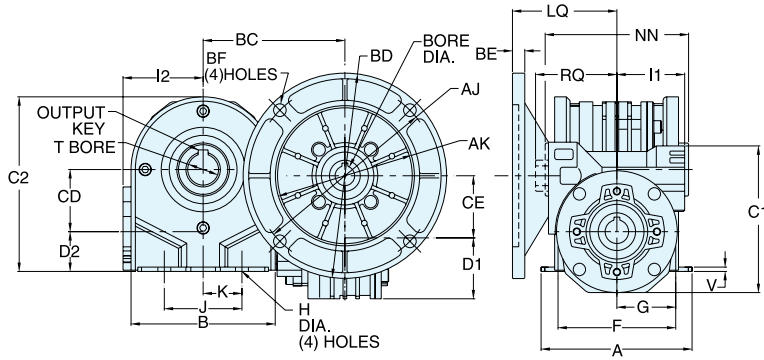
IEC Frame	B5					B14*					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF♦		
D56D	N/A	N/A	N/A	N/A	N/A	65*	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75*	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85*	70	105	8	6.5	14	5 x 2.5

- ♦ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ♦ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(A11), D63D(Series 518 & 520), D71D & D80D(Series 525)
- ♦ Dimensions are maximum (B5 and B14 options)
- B5 Option not available



DIMENSIONS

STYLE DUHMQ



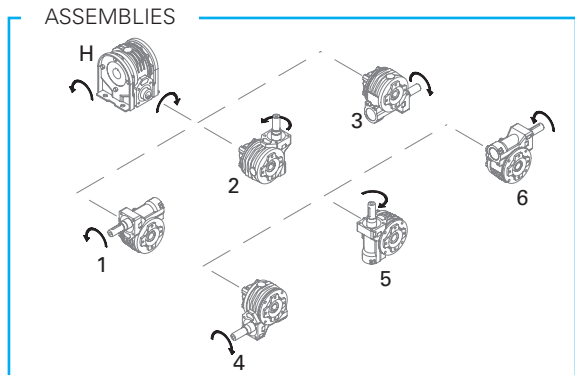
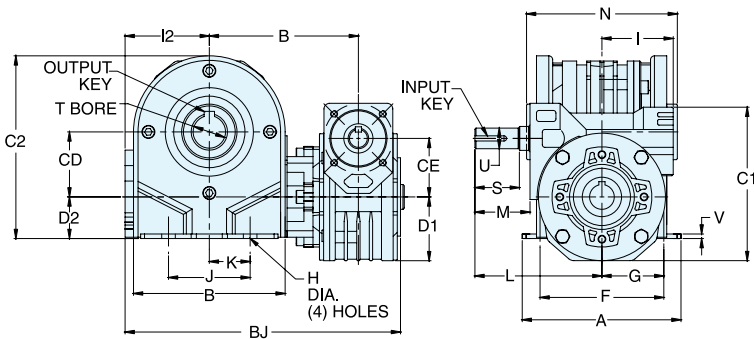
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DUHMQ DIMENSIONS - Inches

Series	A	B	BC	C1	C2	CD	CE	D1	D2	F	G	H	I1	I2	J	K	LQ* 56C	NN	RQ	T* +0.0015 -0.0000	V	OUTPUT KEY*
518	3.94	3.86	4.35	4.76	4.76	1.77	1.77	1.93	1.06	3.17	1.59	0.413	2.16	2.16	1.97	0.99	3.33	2.56	2.60	0.750	0.12	3/16 X 1.00
520	4.84	4.45	4.53	4.76	5.45	1.97	1.77	1.93	1.26	3.94	1.97	0.413	2.16	2.56	2.48	1.24	3.33	3.19	2.60	1.000	0.14	1/4 X 1.62
525	5.67	5.24	5.75	4.76	6.69	2.48	1.77	1.93	1.45	4.35	2.18	0.413	2.16	3.11	3.74	1.87	3.33	4.72	2.60	1.125	0.16	1/4 X 2.00
534	7.17	7.09	6.76	4.76	9.31	3.35	1.77	1.93	2.24	5.71	2.86	0.413	2.16	3.86	5.51	2.76	3.33	5.31	2.60	1.500	0.20	3/8 X 2.00

* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE DUH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DUH DIMENSIONS - Inches

Series	A	B	BC	BJ	C1	C2	CD	CE	D1	D2	F	G	H	I1	I2	J	K	L	M	NN	S	T +0.0015 -0.0000	U +0.000 -0.001	V	INPUT KEY	OUTPUT KEY
518	3.94	3.86	4.35	7.90	4.76	4.76	1.77	1.77	1.93	1.06	3.17	1.59	0.413	2.16	2.16	1.97	0.99	3.86	1.67	2.56	1.18	0.750	0.625	0.12	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	4.53	8.47	4.76	5.45	1.97	1.77	1.93	1.26	3.94	1.97	0.413	2.16	2.56	2.48	1.24	3.86	1.67	3.19	1.18	1.000	0.625	0.14	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	5.75	10.24	4.76	6.69	2.48	1.77	1.93	1.45	4.35	2.18	0.413	2.16	3.11	3.74	1.87	3.86	1.67	4.72	1.18	1.125	0.625	0.16	3/16 X 1.00	1/4 X 2.00
534	7.17	7.09	6.76	12.01	4.76	9.31	3.35	1.77	1.93	2.24	5.71	2.86	0.413	2.16	3.86	5.51	2.76	3.86	1.67	5.31	1.18	1.500	0.625	0.20	3/16 X 1.00	3/8 X 2.00

DIMENSIONS



BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

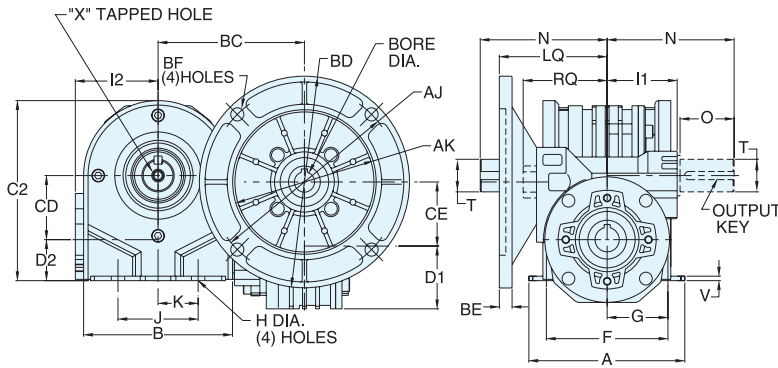
BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

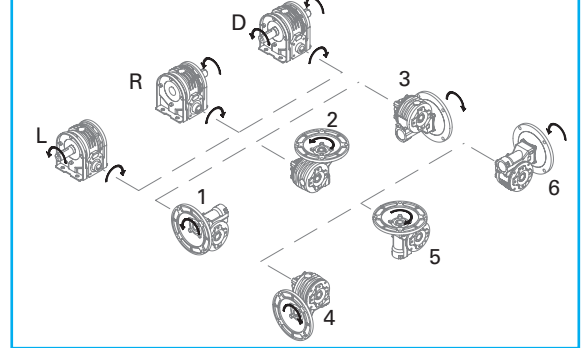
Quadro - Single Reduction

High Efficiency Helical - Inline

STYLE DUMQ



ASSEMBLIES



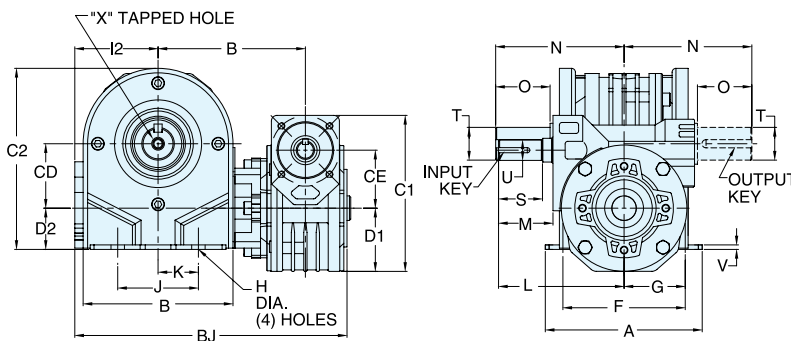
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DUMQ DIMENSIONS - Inches

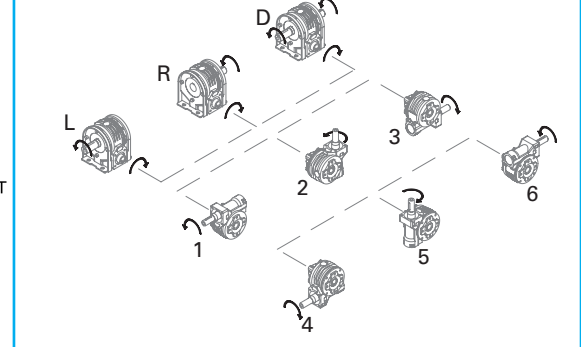
Series	A	B	BC	C2	CD	CE	D1	D2	F	G	H	I1	I2	J	K	LQ* 56C	N	O*	RO	T* +0.000 -0.001	v	X Tap Size	Depth	OUTPUT KEY*
518	3.94	3.86	4.35	4.76	1.77	1.77	1.93	1.06	3.17	1.59	0.413	2.16	2.16	1.97	0.99	3.33	2.97	1.26	2.60	0.750	0.12	1/4-20 UNC	0.62	3/16 X 1.00
520	4.84	4.45	4.53	5.45	1.97	1.77	1.93	1.26	3.94	1.97	0.413	2.16	2.56	2.48	1.24	3.33	3.94	2.05	2.60	1.000	0.14	5/16-18 UNC	0.75	1/4 X 1.62
525	5.67	5.24	5.75	6.69	2.48	1.77	1.93	1.45	4.35	2.18	0.413	2.16	3.11	3.74	1.87	3.33	4.85	2.36	2.60	1.125	0.16	5/16-18 UNC	0.75	1/4 X 2.00
534	7.17	7.09	6.76	9.31	3.35	1.77	1.93	2.24	5.71	2.86	0.413	2.16	3.86	5.51	2.76	3.33	5.55	2.36	2.60	1.500	0.20	5/16-18 UNC	0.75	3/8 X 2.00

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE DU



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DU DIMENSIONS - Inches

Series	A	B	BC	BJ	C1	C2	CD	CE	D1	D2	F	G	H	I2	J	K	L	M	N	O	S	T +0.000 -0.001	U +0.000 -0.001	v	X Tap Size	Depth	INPUT KEY	OUTPUT KEY
518	3.94	3.86	4.35	7.90	4.76	4.76	1.77	1.77	1.93	1.06	3.17	1.59	0.413	2.16	1.97	0.99	3.86	1.67	2.97	1.26	1.18	0.750	0.625	0.12	1/4-20 UNC	0.62	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	4.53	8.47	4.76	5.45	1.97	1.77	1.93	1.26	3.94	1.97	0.413	2.56	2.48	1.24	3.86	1.67	3.94	2.05	1.18	1.000	0.625	0.14	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	5.75	10.24	4.76	6.69	2.48	1.77	1.93	1.45	4.35	2.18	0.413	3.11	3.74	1.87	3.86	1.67	4.85	2.36	1.18	1.125	0.625	0.16	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 2.00
534	7.17	7.09	6.76	12.01	4.76	9.31	3.35	1.77	1.93	2.24	5.71	2.86	0.413	3.86	5.51	2.76	3.86	1.67	5.55	2.36	1.18	1.500	0.625	0.20	5/16-18 UNC	0.75	3/16 X 1.00	3/8 X 2.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia	Input Keyway▲
56C	5.88	4.50	6.50	0.38	0.41	0.625	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS - MM

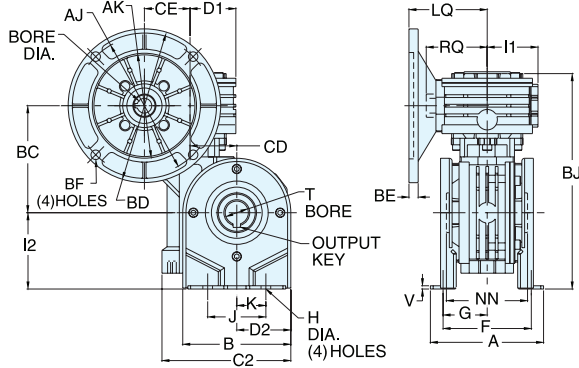
Series	LQ1♦			T H7	O	N	Output Keyway
	IEC B5 & B14 Options						
	D56D■	D63D	D71D				
518	74♦	74♦	74	18	32	75	6
520	74♦	74♦	74	25	52	100	8
525	74♦	74♦	74	25	60	123	8
534	74♦	74♦	74	35	60	141	10

OPTIONAL METRIC DIMENSIONS - MM

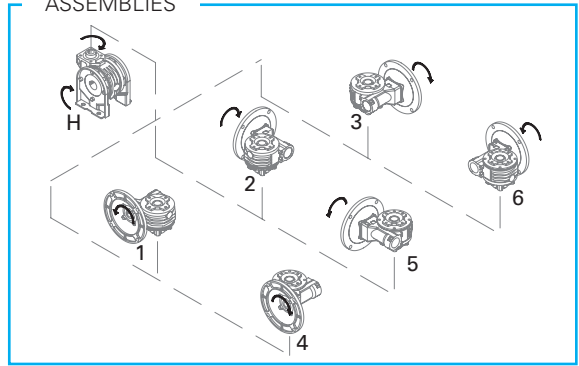
IEC Frame	B5					B14♦					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF♦		
D56D	N/A	N/A	N/A	N/A	N/A	65♦	50	80	7	6.5	9	3x1.5
D63D	115	95	140	11	9	75♦	60	90	5.5	5.5	11	4x2
D71D	130	110	160	10	9	85♦	70	105	8	6.5	14	5x2.5

- ♦ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ♦ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(A11), D63D(Series 518 & 520), D71D & D80D(Series 525)
- ♦ Dimensions are maximum (B5 and B14 options)
- B5 Option not available

STYLE DJHMQ



ASSEMBLIES



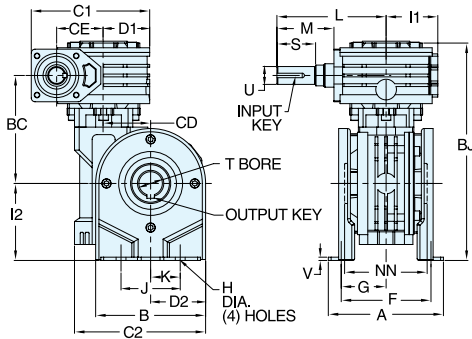
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DJHMQ DIMENSIONS - Inches

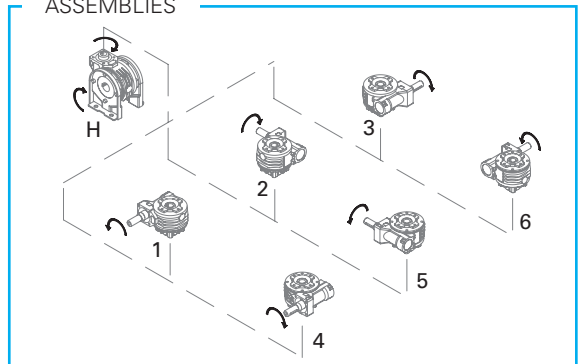
Series	A	B	BC	BJ	C2	CD	CE	D1	D2	F	G	H	I1	I2	J	K	LQ* 56C	NN	RQ	T* +0.0015 -0.0000	V	OUTPUT KEY*
518	3.94	3.86	4.35	8.57	4.76	1.77	1.77	1.93	1.93	3.17	1.59	0.413	2.16	2.83	1.97	0.99	3.33	2.56	2.60	0.750	0.12	3/16 X 1.00
520	4.84	4.45	4.53	9.13	5.33	1.97	1.77	1.93	2.15	3.94	1.97	0.413	2.16	3.22	2.48	1.24	3.33	3.19	2.60	1.000	0.14	1/4 X 1.62
525	5.67	5.24	5.75	11.07	6.69	2.48	1.77	1.93	2.76	4.35	2.18	0.413	2.16	3.94	3.74	1.87	3.33	4.72	2.60	1.125	0.16	1/4 X 2.00
534	7.17	7.09	6.76	13.74	9.15	3.35	1.77	1.93	3.72	5.71	2.86	0.413	2.16	5.59	5.51	2.76	3.33	5.31	2.60	1.500	0.20	3/8 X 2.00

* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE DJH



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DJH DIMENSIONS - Inches

Series	A	B	BC	BJ	C1	C2	CD	CE	D1	D2	F	G	H	I1	I2	J	K	L	M	NN	S	T +0.0015 -0.0000	U +0.000 -0.001	V	INPUT KEY	OUTPUT KEY
518	3.94	3.86	4.35	8.57	4.76	4.76	1.77	1.77	1.93	1.93	3.17	1.59	0.413	2.16	2.16	1.97	0.99	3.86	1.67	2.56	1.18	0.750	0.625	0.12	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	4.53	9.13	4.76	5.33	1.97	1.77	1.93	2.15	3.94	1.97	0.413	2.16	2.56	2.48	1.24	3.86	1.67	3.19	1.18	1.000	0.625	0.14	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	5.75	11.07	4.76	6.69	2.48	1.77	1.93	2.76	4.35	2.18	0.413	2.16	3.11	3.74	1.87	3.86	1.67	4.72	1.18	1.125	0.625	0.16	3/16 X 1.00	1/4 X 2.00
534	7.17	7.09	6.76	13.74	4.76	9.15	3.35	1.77	1.93	3.72	5.71	2.86	0.413	2.16	3.86	5.51	2.76	3.86	1.67	5.31	1.18	1.500	0.625	0.20	3/16 X 1.00	3/8 X 2.00

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

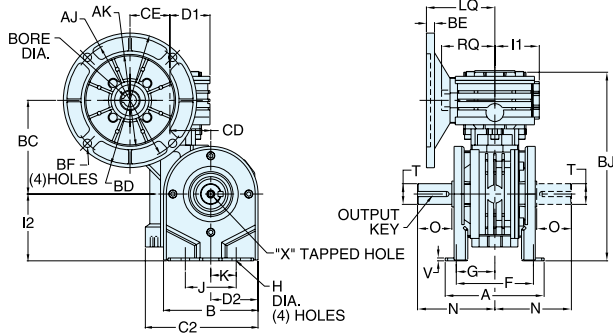
BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

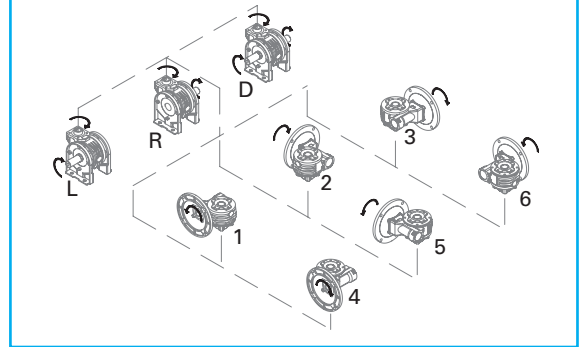
Quadro - Single Reduction

High Efficiency Helical - Inline

STYLE DJMQ



ASSEMBLIES



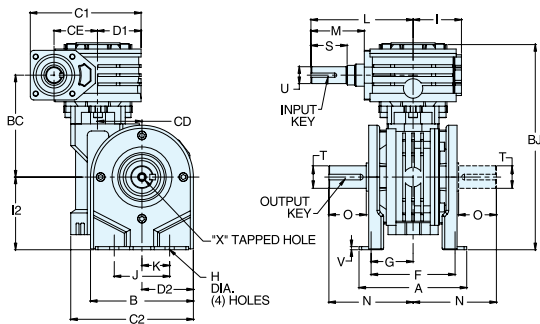
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DJMQ DIMENSIONS - Inches

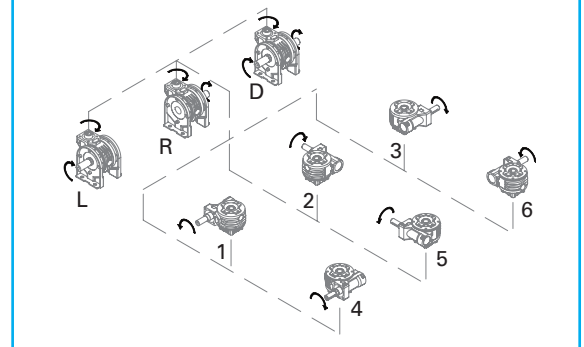
Series	A	B	BC	BJ	C2	CD	CE	D1	D2	F	G	H	I1	I2	J	K	LQ* 56C	N	O*	RQ	T* +0.000 -0.001	v	X Tap Size	Depth	OUTPUT KEY*
518	3.94	3.86	4.35	8.57	4.76	1.77	1.77	1.93	1.93	3.17	1.59	0.413	2.16	2.83	1.97	0.99	3.33	2.97	1.26	2.60	0.750	0.12	1/4-20 UNC	0.62	3/16 X 1.00
520	4.84	4.45	4.53	9.13	5.33	1.97	1.77	1.93	2.15	3.94	1.97	0.413	2.16	3.22	2.48	1.24	3.33	3.94	2.05	2.60	1.000	0.14	5/16-18 UNC	0.75	1/4 X 1.62
525	5.67	5.24	5.75	11.07	6.69	2.48	1.77	1.93	2.76	4.35	2.18	0.413	2.16	3.94	3.74	1.87	3.33	4.85	2.36	2.60	1.125	0.16	5/16-18 UNC	0.75	1/4 X 2.00
534	7.17	7.09	6.76	13.74	9.15	3.35	1.77	1.93	3.72	5.71	2.86	0.413	2.16	5.59	5.51	2.76	3.33	5.55	2.36	2.60	1.500	0.20	5/16-18 UNC	0.75	3/8 X 2.00

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE DJ



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DJ DIMENSIONS - Inches

Series	A	B	BC	BJ	C1	C2	CD	CE	D1	D2	F	G	H	I1	I2	J	K	L	M	N	O	S	T +0.000 -0.001	U +0.000 -0.001	v	X Tap Size	Depth	INPUT KEY	OUTPUT KEY
518	3.94	3.86	4.35	8.57	4.76	4.76	1.77	1.77	1.93	1.93	3.17	1.59	0.413	2.16	2.83	1.97	0.99	3.86	1.67	2.97	1.26	1.18	0.750	0.625	0.12	1/4-20 UNC	0.62	3/16 X 1.00	3/16 X 1.00
520	4.84	4.45	4.53	9.13	4.76	5.33	1.97	1.77	1.93	2.15	3.94	1.97	0.413	2.16	3.22	2.48	1.24	3.86	1.67	3.94	2.05	1.18	1.000	0.625	0.14	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 1.62
525	5.67	5.24	5.75	11.07	4.76	6.69	2.48	1.77	1.93	2.76	4.35	2.18	0.413	2.16	3.94	3.74	1.87	3.86	1.67	4.85	2.36	1.18	1.125	0.625	0.16	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 2.00
534	7.17	7.09	6.76	13.74	4.76	9.15	3.35	1.77	1.93	3.72	5.71	2.86	0.413	2.16	5.59	5.51	2.76	3.86	1.67	5.55	2.36	1.18	1.500	0.625	0.20	5/16-18 UNC	0.75	3/16 X 1.00	3/8 X 2.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia	Input Keyway▲
56C	5.88	4.50	6.50	0.38	0.41	0.625	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS - MM

Series	LQ1♦			T H7	O	N	Output Keyway
	IEC B5 & B14 Options						
	D56D■	D63D	D71D				
518	74*	74*	74	18	32	75	6
520	74*	74*	74	25	52	100	8
525	74*	74*	74	25	60	123	8
534	74*	74*	74	35	60	141	10

OPTIONAL METRIC DIMENSIONS - MM

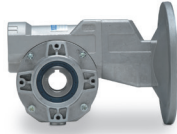
IEC Frame	B5					B14♦					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF♦		
D56D	N/A	N/A	N/A	N/A	N/A	65*	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75*	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85*	70	105	8	6.5	14	5 x 2.5

- ♦ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D56D(A11), D63D(Series 518 & 520), D71D & D80D(Series 525)
- ♦ Dimensions are maximum (B5 and B14 options)
- B5 Option not available

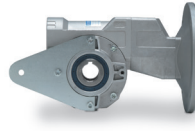
HOLLOW OUTPUT SHAFT MOUNTED

**MOTORIZED
QUILL INPUT**

DXHMQ



DXRHMQ



DXFHMQ



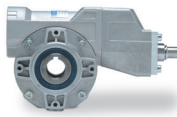
Ratings: Pages I4-I5
Dimensions: Pages I7

Ratings: Pages I4-I5
Dimensions: Pages J3

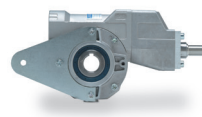
Ratings: Pages I4-I5
Dimensions: Pages I9

**NON-
MOTORIZED
MOTORIZED
SOLID INPUT
SHAFT**

DXH



DXRH



DXFH



Ratings: Pages I4-I5
Dimensions: Pages I7

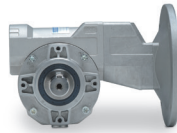
Ratings: Pages I4-I5
Dimensions: Pages J3

Ratings: Pages I4-I5
Dimensions: Pages I9

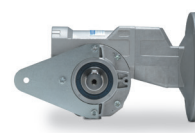
SOLID OUTPUT SHAFT

**MOTORIZED
QUILL INPUT**

DXMQ



DXRMQ



(Non-Standard Option)

DXFMQ



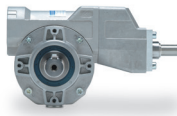
Ratings: Pages I4-I5
Dimensions: Pages I8

Ratings: Pages I4-I5
Dimensions: Pages J3

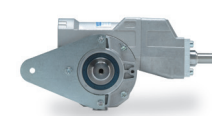
Ratings: Pages I4-I5
Dimensions: Pages I10

**NON-
MOTORIZED
MOTORIZED
SOLID INPUT
SHAFT**

DX



DXR



(Non-Standard Option)

DXF



Ratings: Pages I4-I5
Dimensions: Pages I8

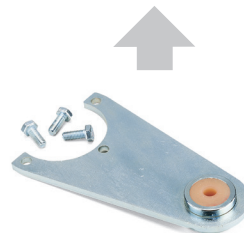
Ratings: Pages I4-I5
Dimensions: Pages J3

Ratings: Pages I4-I5
Dimensions: Pages I10

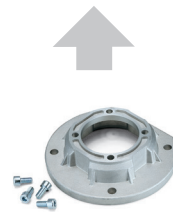
MOUNTING ACCESSORIES

Select the appropriate mounting accessories from this wide variety of options.

♦ Non-Standard Option assemblies may be useful in certain applications. Please contact Factory with application details.

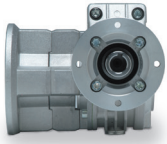


**REACTION
ARM R**



**F FLANGE
(SHORT FLANGE)**

DXFLHMQ



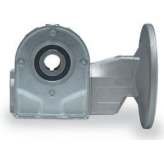
Ratings: Pages I4-I5
Dimensions: Pages I11

DXTHMQ



(⚡Non-Standard Option)
Ratings: Pages I4-I5
Dimensions: Pages I13

DXUHQ



(⚡Non-Standard Option)
Ratings: Pages I4-I5
Dimensions: Pages I15

DXJHQ



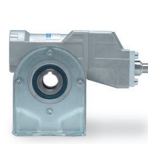
(⚡Non-Standard Option)
Ratings: Pages I4-I5
Dimensions: Pages I17

DXFLH



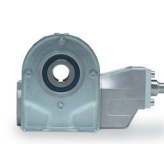
Ratings: Pages I4-I5
Dimensions: Pages I11

DXTH



(⚡Non-Standard Option)
Ratings: Pages I4-I5
Dimensions: Pages I13

DXUH



(⚡Non-Standard Option)
Ratings: Pages I4-I5
Dimensions: Pages I15

DXJH



(⚡Non-Standard Option)
Ratings: Pages I4-I5
Dimensions: Pages I17

DXFLMQ



Ratings: Pages I4-I5
Dimensions: Pages I12

DXTMQ



Ratings: Pages I4-I5
Dimensions: Pages I14

DXUMQ



Ratings: Pages I4-I5
Dimensions: Pages I16

DXJMQ



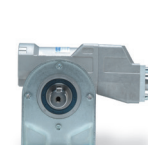
Ratings: Pages I4-I5
Dimensions: Pages I18

DXFL



Ratings: Pages I4-I5
Dimensions: Pages I12

DXT



Ratings: Pages I4-I5
Dimensions: Pages I14

DXU

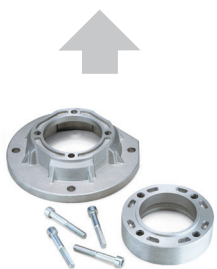


Ratings: Pages I4-I5
Dimensions: Pages I16

DXJ



Ratings: Pages I4-I5
Dimensions: Pages I18



**FL FLANGE
(LONG FLANGE)**



**HORIZONTAL BASE
(WORM OVER ASSEMBLY)**



**HORIZONTAL BASE
(WORM UNDER ASSEMBLY)**



**HORIZONTAL BASE
(VERTICAL INPUT SHAFT)**

Grove Gear® 500 Series Gear Reducer Model Number Nomenclature

All stock and custom 500 series reducers are identified by a model number. The model number appears on the nameplate and describes pertinent features of the reducer. An example follows, along with a listing of the various letters and positions used.

NOTE: All reducers also have a catalog number—for example W5180001. Reducers and renewal parts should be ordered by catalog number. Accessories that are field installed will not be noted on the nameplate.

Catalog numbers 5000 (for example, W5185000) and higher are custom reducers manufactured for a specific application. The machinery or equipment manufacturer should be contacted for replacement reducers. Renewal parts can be ordered from Grove Gear by catalog number.

TYPICAL NAMEPLATE

GROVE GEAR™			
MAX INPUT HP @ 1750 RPM	0.100	OUTPUT TORQUE (IN-LBS)	420
DESC.	DXMQ518258L5612		RATIO 258
CATALOG NO.			DATE CODE A04
GROVE GEAR UNION GROVE, WI 53182			MOD

Style

SOLID OUTPUT SHAFT
DXMQ – Motorized, Quill Input
DX – Non-Flanged

HOLLOW OUTPUT SHAFT
DXHMQ – Motorized, Quill Input
DXH – Non-Flanged

Series

See Selection Tables on pages 14-15 for all available ratios

Ratio

Output Shaft Orientation

- L – Left-hand Output Shaft*
 - R – Right-hand Output Shaft*
 - D – Double Output Shaft
 - H – Hollow Output Shaft
- * Viewed from drive end of reducer.

Motor Flange

Shaft Dimension Code

OUTPUT SHAFT DIMENSION CODE ▲

Series	NEMA/Inch Options		IEC/Metric Options	
	Shaft Dia.	Shaft* Code	Shaft Dia.	Shaft Code
518	3/4"	12	18mm	18
520	1"	16	25mm	25
525	1-1/8"	18	25mm	25
534	1-1/2"	24	35mm	35

* Shaft Diameter in 1/16ths of an inch.

▲ Diameters and shaft codes of hollow bore styles are identical to those of solid shaft styles. Reducers with NEMA inputs will have inch dimensioned output shafts and reducers with IEC inputs will have metric dimensioned output shafts as standard.

ALUMINUM 500 SERIES CENTER DISTANCES

Series	Center Distance	
	(Inches)	(mm)
518	1.77	45
520	1.97	50
525	2.48	63
534	3.35	85

NEMA Input Flange Code	For NEMA Frame
56	56C
140	143-5TC

IEC Input Flange Code	For IEC Frame
63B14	63B14
63B5	63B5
71B14	71B14
71B5	71B5
80B14	80B14
80B5	80B5
90B14	90B14
90B5	90B5

SAMPLE MODEL NUMBER

Solid Shaft

Motorized Quill Input, Double Reduction Reducer, 1.77" Center Distance, 258:1 Ratio, Left Hand Output Shaft, and 5/8" Input Bore with NEMA 56C Flange.

DXMQ	518	258	L	56	12
Style	Series	Ratio	Output Shaft	Motor Input	Shaft Code

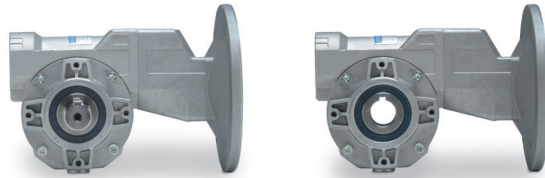
Hollow Shaft

Motorized Quill Input, Double Reduction Reducer, 1.77" Center Distance, 258:1 Ratio, 3/4" Hollow Output Shaft, and 5/8" Input Bore with NEMA 56C Flange.

DXHMQ	518	3600	H	56	12
Style	Series	Ratio	Output Shaft	Motor Input Flange	Shaft Code

MAXIMUM RATING TABLES

518 & 520 SERIES • ALL STOCK STYLES



518 SERIES • 1.0 S.F.

Exact Ratio*	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)
30.1	1750	58.1	0.523	0.387	420
	1150	38.2	0.363	0.269	443
43	1750	40.7	0.377	0.271	420
	1150	26.7	0.261	0.188	443
60.2	1750	29.07	0.323	0.194	420
	1150	19.10	0.224	0.134	443
90.3	1750	19.38	0.227	0.129	420
	1150	12.74	0.157	0.090	443
120.4	1750	14.53	0.183	0.097	420
	1150	9.55	0.127	0.067	443
159.1	1750	11.00	0.150	0.073	420
	1150	7.23	0.104	0.051	443
197.8	1750	8.85	0.125	0.059	420
	1150	5.81	0.087	0.041	443
258	1750	6.78	0.100	0.045	420
	1150	4.46	0.070	0.031	443
301	1750	5.81	0.068	0.027	294
	1150	3.82	0.047	0.019	310
438.6	1750	3.99	0.052	0.019	294
	1150	2.62	0.036	0.013	310

* Contact Factory for additional ratio options available.

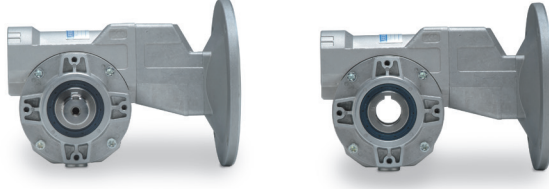
520 SERIES • 1.0 S.F.

Exact Ratio*	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)
30.1	1750	58.1	0.714	0.543	589
	1150	38.2	0.494	0.376	620
43	1750	40.7	0.507	0.380	589
	1150	26.7	0.350	0.263	620
60.2	1750	29.1	0.394	0.272	589
	1150	19.1	0.272	0.188	620
77.4	1750	22.61	0.396	0.241	673
	1150	14.86	0.274	0.167	708
111.8	1750	15.65	0.274	0.167	673
	1150	10.29	0.189	0.116	708
154.8	1750	11.30	0.215	0.121	673
	1150	7.43	0.149	0.083	708
184.9	1750	9.46	0.180	0.088	589
	1150	6.22	0.125	0.061	620
258	1750	6.78	0.135	0.063	589
	1150	4.46	0.093	0.044	620
292.4	1750	5.98	0.109	0.048	504
	1150	3.93	0.075	0.033	531
344	1750	5.09	0.068	0.027	336
	1150	3.34	0.047	0.019	354
430	1750	4.07	0.060	0.022	336
	1150	2.67	0.042	0.015	354

* Contact Factory for additional ratio options available.

WHEN ORDERING DOUBLE REDUCTION REDUCERS, SPECIFY COMPLETE MODEL NUMBER AS SHOWN ON PAGE I3.

BRAVO® Single Reduction Reducers
 BRAVO® Worm - Worm Double Reduction
 BRAVO® Helical - Worm Double Reduction
 BRAVO® Accessory Kits
 Quadro - Single Reduction
 High Efficiency Helical - In-line

**525 SERIES • 1.0 S.F.**

Exact Ratio*	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)
29.5	1750	59.4	1.767	1.307	1387
	1150	39.0	1.221	0.903	1460
37.2	1750	47.0	1.417	1.034	1387
	1150	30.9	0.981	0.716	1460
46.5	1750	37.6	1.340	0.938	1572
	1150	24.7	0.927	0.649	1655
55.8	1750	31.4	1.224	0.783	1572
	1150	20.6	0.845	0.541	1655
69.8	1750	25.09	1.026	0.626	1572
	1150	16.49	0.710	0.433	1655
87.8	1750	19.94	0.731	0.526	1664
	1150	13.10	0.506	0.364	1752
110.9	1750	15.78	0.595	0.417	1664
	1150	10.37	0.412	0.288	1752
138.6	1750	12.63	0.505	0.333	1664
	1150	8.30	0.350	0.231	1752
166.3	1750	10.52	0.463	0.278	1664
	1150	6.91	0.320	0.192	1752
207.9	1750	8.42	0.359	0.198	1480
	1150	5.53	0.249	0.137	1558
309.5	1750	5.65	0.260	0.133	1480
	1150	3.72	0.180	0.092	1558
369.6	1750	4.73	0.236	0.111	1480
	1150	3.11	0.164	0.077	1558
434.3	1750	4.03	0.166	0.070	1093
	1150	2.65	0.115	0.048	1151

* Contact Factory for additional ratio options available.

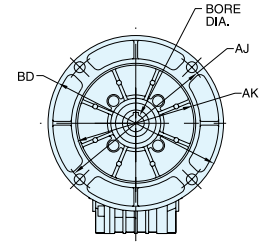
534 SERIES • 1.0 S.F.

Exact Ratio*	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)
32.3	1750	54.1	3.207	2.309	2690
	1150	35.6	2.221	1.599	2831
46.2	1750	37.9	2.311	1.618	2690
	1150	24.9	1.598	1.118	2831
58.9	1750	29.7	2.247	1.506	3195
	1150	19.5	1.553	1.041	3363
80.6	1750	21.71	1.804	1.101	3195
	1150	14.27	1.248	0.761	3363
103.9	1750	16.85	1.311	0.787	2943
	1150	11.07	0.907	0.544	3098
129.4	1750	13.53	1.053	0.632	2943
	1150	8.89	0.728	0.437	3098
175.6	1750	9.97	0.844	0.532	3363
	1150	6.55	0.584	0.368	3540
240.2	1750	7.28	0.696	0.369	3195
	1150	4.79	0.482	0.256	3363
309.5	1750	5.65	0.551	0.286	3195
	1150	3.72	0.382	0.198	3363
422.1	1750	4.15	0.373	0.194	2943
	1150	2.72	0.257	0.134	3098
443.5	1750	3.95	0.351	0.158	2522
	1150	2.59	0.242	0.109	2653
604.8	1750	2.89	0.289	0.116	2522
	1150	1.90	0.200	0.080	2653

* Contact Factory for additional ratio options available.

WHEN ORDERING DOUBLE REDUCTION REDUCERS, SPECIFY COMPLETE MODEL NUMBER AS SHOWN ON PAGE I3.

MOTOR FRAME COMBINATIONS



DOUBLE REDUCTION • HELICAL/WORM • MOTOR FRAME COMBINATIONS

Reducer Size	NEMA or IEC Frame Size	Dimensions - Inches (MM)				Available Ratios									
		AK	AJ	BD	Bore Dia.	30.1	43	60.2	90.3	120.4	159.1	197.8	258	301	438.6
518	NEMA 56C	4.50	5.88	6.50	0.625	•	•	•	•	•	•	•	•	•	•
	IEC 63B5	3.74 (95)	4.53 (115)	5.51 (140)	(11)	■	■	■	■	■	■	■	■	■	■
	IEC 63B14	2.36 (60)	2.95 (75)	3.54 (90)	(11)	■	■	■	■	■	■	■	■	■	■
	IEC 71B5	4.33 (110)	5.12 (130)	6.30 (160)	(14)	•	•	•	•	•	•	•	•	•	•
	IEC 71B14	2.76 (70)	3.35 (85)	4.13 (105)	(14)	•	•	•	•	•	•	•	•	•	•
520	NEMA 56C	4.50	5.88	6.50	0.625	•	•	•	•	•	•	•	•	•	•
	IEC 63B5	3.74 (95)	4.53 (115)	5.51 (140)	(11)	■	■	■	■	■	■	■	■	■	■
	IEC 63B14	2.36 (60)	2.95 (75)	3.54 (90)	(11)	■	■	■	■	■	■	■	■	■	■
	IEC 71B5	4.33 (110)	5.12 (130)	6.30 (160)	(14)	•	•	•	•	•	•	•	•	•	•
	IEC 71B14	2.76 (70)	3.35 (85)	4.13 (105)	(14)	•	•	•	•	•	•	•	•	•	•
525	NEMA 56C	4.50	5.88	6.50	0.625	■	■	■	■	■	■	■	■	■	■
	NEMA 140TC	4.50	5.88	6.50	0.875	•	•	•	•	•	•	•	•	•	•
	IEC 63B5	3.74 (95)	4.53 (115)	5.51 (140)	(11)	■	■	■	■	■	■	■	■	■	■
	IEC 63B14	2.36 (60)	2.95 (75)	3.54 (90)	(11)	■	■	■	■	■	■	■	■	■	■
	IEC 71B5	4.33 (110)	5.12 (130)	6.30 (160)	(14)	■	■	■	■	■	■	■	■	■	■
	IEC 71B14	2.76 (70)	3.35 (85)	4.13 (105)	(14)	■	■	■	■	■	■	■	■	■	■
	IEC 80B5	5.12 (130)	6.50 (165)	7.87 (200)	(19)	■	■	■	■	■	•	•	•	•	•
	IEC 80B14	3.15 (80)	3.94 (100)	4.72 (120)	(19)	■	■	■	■	■	•	•	•	•	•
	IEC 90B5	5.12 (130)	6.50 (165)	7.87 (200)	(24)	•	•	•	•	•	•	•	•	•	•
	IEC 90B14	3.74 (95)	4.53 (115)	5.51 (140)	(24)	•	•	•	•	•	•	•	•	•	•
534	NEMA 56C	4.50	5.88	6.50	0.625	■	■	■	■	■	■	■	■	■	■
	NEMA 140TC	4.50	5.88	6.50	0.875	•	•	•	•	•	•	•	•	•	•
	IEC 63B5	3.74 (95)	4.53 (115)	5.51 (140)	(11)	■	■	■	■	■	■	■	■	■	■
	IEC 71B5	4.33 (110)	5.12 (130)	6.30 (160)	(14)	■	■	■	■	■	■	■	■	■	■
	IEC 71B14	2.76 (70)	3.35 (85)	4.13 (105)	(14)	■	■	■	■	■	■	■	■	■	■
	IEC 80B5	5.12 (130)	6.50 (165)	7.87 (200)	(19)	■	■	■	■	■	•	•	•	•	•
	IEC 80B14	3.15 (80)	3.94 (100)	4.72 (120)	(19)	■	■	■	■	■	•	•	•	•	•
	IEC 90B5	5.12 (130)	6.50 (165)	7.87 (200)	(24)	•	•	•	•	•	•	•	•	•	•
	IEC 90B14	3.74 (95)	4.53 (115)	5.51 (140)	(24)	•	•	•	•	•	•	•	•	•	•

• Reducer selections are available. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.
 ■ Reducer selections are available. A bushing will be provided with reducer to achieve input bore diameter shown. Refer to dimensional pages for additional dimensions and special conditions for flange mounting hole alignment.

DOUBLE REDUCTION • HELICAL/WORM • EXACT RATIO COMBINATIONS

518			520			525			534		
TOTAL RATIO	P HELICAL	S 518	TOTAL RATIO	P HELICAL	S 520	TOTAL RATIO	P HELICAL	S 525	TOTAL RATIO	P HELICAL	S 534
30.1	4.3	7	30.1	4.3	7	29.5	1.55	19	32.3	4.62	7
43	4.3	10	43	4.3	10	37.2	1.55	24	46.2	4.62	10
60.2	4.3	14	60.2	4.3	14	46.5	1.55	30	58.9	1.55	38
90.3	4.3	21	77.4	4.3	18	55.8	1.55	36	80.6	1.55	52
120.4	4.3	28	111.8	4.3	26	69.8	1.55	45	103.9	1.55	67
159.1	4.3	37	154.8	4.3	36	87.8	4.62	19	129.4	4.62	28
197.8	4.3	46	184.9	4.3	43	110.9	4.62	24	175.6	4.62	38
258	4.3	60	258	4.3	60	138.6	4.62	30	240.2	4.62	52
301	4.3	70	292.4	4.3	68	166.3	4.62	36	309.5	4.62	67
438.6	4.3	102	344	4.3	80	207.9	4.62	45	422.1	6.3	67
			430	4.3	100	309.5	4.62	67	443.5	4.62	96
						369.6	4.62	80	604.8	6.3	96
						434.3	4.62	94			

Bravo®
Single Reduction Reducers

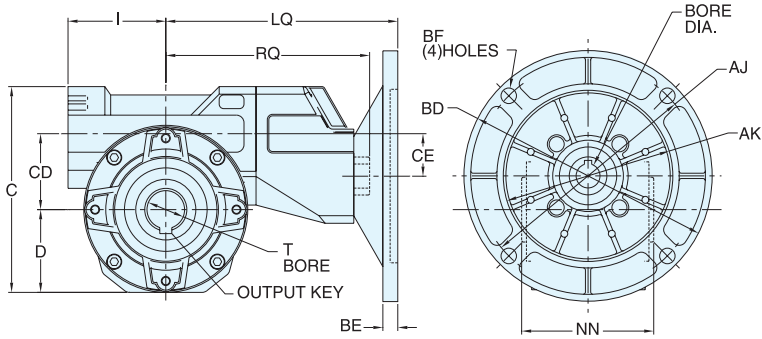
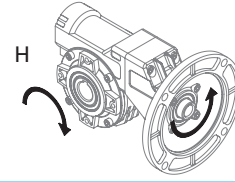
Bravo® Worm - Worm
Double Reduction

Bravo® Helical - Worm
Double Reduction

Bravo® Accessory Kits

Quadro - Single Reduction

High Efficiency Helical - In-line

STYLE DXHMQ**ASSEMBLIES**

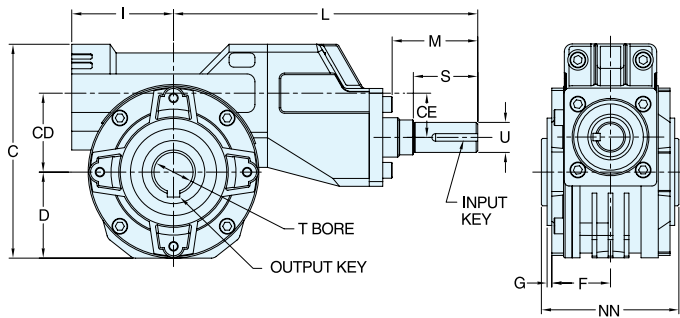
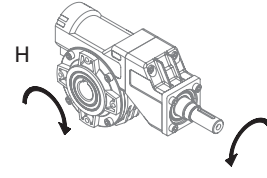
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXHMQ DIMENSIONS - Inches

Series	C	CD	CE	D	F ^A	G ^A	I	LQ* 56/140	NN	RQ	T* +0.0015 -0.0000	OUTPUT KEY*
518	4.76	1.77	1.10	1.93	1.38	0.08	2.16	6.23	2.56	5.59	0.750	3/16 X 1.00
520	5.33	1.97	1.10	2.15	1.50	0.12	2.56	6.41	3.19	5.77	1.000	1/4 X 1.62
525	6.69	2.48	1.50	2.76	1.77	0.19	3.11	7.17	4.72	6.49	1.125	1/4 X 2.00
534	9.15	3.35	1.50	3.72	2.52	0.14	3.86	7.84	5.31	7.42	1.500	3/8 X 2.00

* Metric options are available. Refer to dimensions on opposite page.
Contact Factory for availability of metric options.

^A Refer to Style DXH for reference to this dimension.

STYLE DXH**ASSEMBLIES**

REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

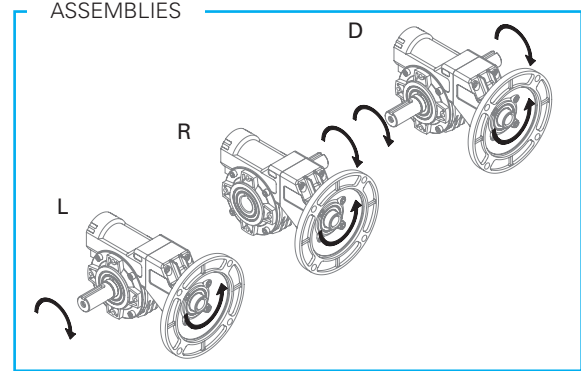
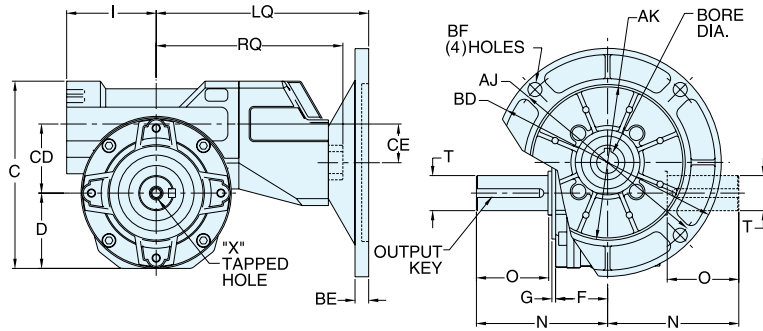
STYLE DXH DIMENSIONS - Inches

Series	C	CD	CE	D	F	G	I	L	M	NN	S	T +0.0015 -0.0000	U +0.000 -0.001	INPUT KEY	OUTPUT KEY
518	4.76	1.77	1.10	1.93	1.38	0.08	2.16	6.65	1.65	2.56	1.42	0.750	0.625	3/16 X 1.12	3/16 X 1.00
520	5.33	1.97	1.10	2.15	1.50	0.12	2.56	6.83	1.83	3.19	1.42	1.000	0.625	3/16 X 1.12	1/4 X 1.62
525	6.69	2.48	1.50	2.76	1.77	0.19	3.11	8.54	2.00	4.72	1.65	1.125	0.750	3/16 X 1.50	1/4 X 2.00
534	9.15	3.35	1.50	3.72	2.52	0.14	3.86	9.21	2.65	5.31	1.65	1.500	0.750	3/16 X 1.50	3/8 X 2.00

DIMENSIONS



STYLE DXMQ



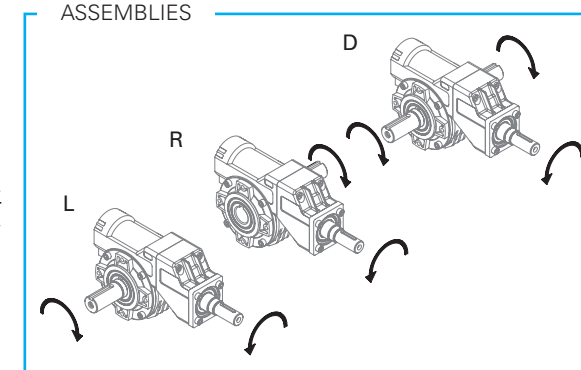
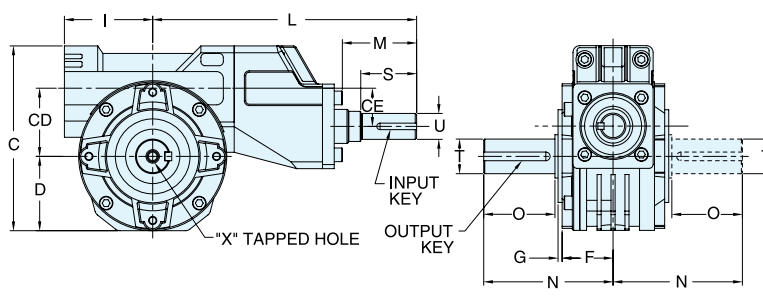
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXMQ DIMENSIONS - Inches

Series	C	CD	CE	D	F	G	I	LQ* 56/140	N	O*	RQ	T* +0.000 -0.001	X Tap Size	Depth	OUTPUT KEY*
518	4.76	1.77	1.10	1.93	1.38	0.08	2.16	6.23	2.97	1.26	5.59	0.750	1/4-20 UNC	0.62	3/16 x 1.00
520	5.33	1.97	1.10	2.15	1.50	0.12	2.56	6.41	3.94	2.05	5.77	1.000	5/16-18 UNC	0.75	1/4 x 1.62
525	6.69	2.48	1.50	2.76	1.77	0.19	3.11	7.17	4.85	2.36	6.49	1.125	5/16-18 UNC	0.75	1/4 x 2.00
534	9.15	3.35	1.50	3.72	2.52	0.14	3.86	7.84	5.55	2.36	7.42	1.500	5/16-18 UNC	0.75	3/8 x 2.00

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE DX



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DX DIMENSIONS - Inches

Series	C	CD	CE	D	F	G	I	L	M	N	O	S	T +0.000 -0.001	U +0.000 -0.001	X Tap Size	Depth	INPUT KEY	OUTPUT KEY
518	4.76	1.77	1.10	1.93	1.38	0.08	2.16	6.65	1.65	2.97	1.26	1.42	0.750	0.625	1/4-20 UNC	0.62	3/16 X 1.12	3/16 X 1.00
520	5.33	1.97	1.10	2.15	1.50	0.12	2.56	6.83	1.83	3.94	2.05	1.42	1.000	0.625	5/16-18 UNC	0.75	3/16 X 1.12	1/4 X 1.62
525	6.69	2.48	1.50	2.76	1.77	0.19	3.11	8.54	2.00	4.85	2.36	1.65	1.125	0.750	5/16-18 UNC	0.75	3/16 X 1.50	1/4 X 2.00
534	9.15	3.35	1.50	3.72	2.52	0.14	3.86	9.21	2.65	5.55	2.36	1.65	1.500	0.750	5/16-18 UNC	0.75	3/16 X 1.50	3/8 X 2.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia	Input Keyways▲
56C	5.88	4.50	6.50	0.38	0.41	.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	0.41	.875	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS - MM

Series	LQ♦				T H7	O	N	Output Keyway
	IEC B5 & B14 Options							
	D63D	D71D	D80D	D90D	(standard for metric units)			
518	136♦	136	N/A	N/A	18	32	75	6
520	141♦	141	N/A	N/A	25	52	100	8
525	179♦	179♦	179♦	179	25	60	123	8
534	197■	197♦	197♦	197	35	60	141	10

OPTIONAL METRIC DIMENSIONS - MM

IEC Frame	B5					B14♦					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF♦		
D63D	115	95	140	11	9	75♦	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85♦	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100♦	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5

- ♦ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ♦ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D63D(A11), D71D & D80D(Series 525 & 534)
- ◆ Dimensions are maximum (B5 and B14 options)
- B5 Option not available

Bravo® Single Reduction Reducers

Bravo® Worm - Worm Double Reduction

Bravo® Helical - Worm Double Reduction

Bravo® Accessory Kits

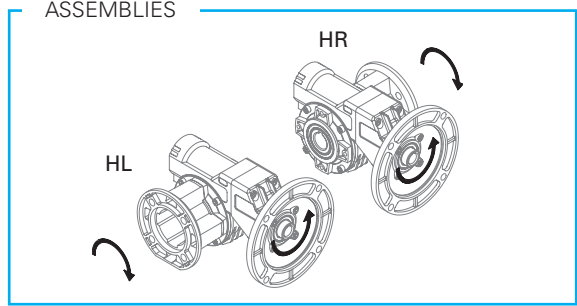
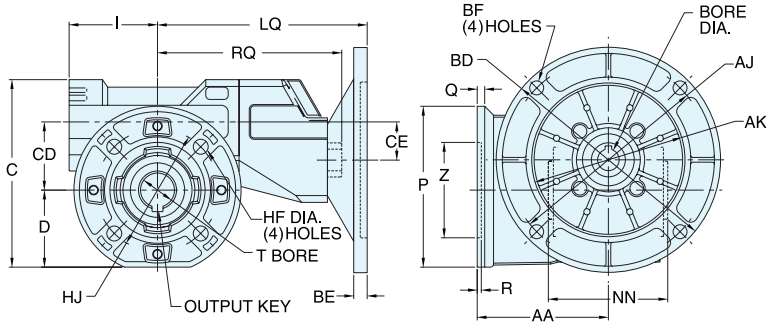
Quadro - Single Reduction

High Efficiency Helical - In-line



DIMENSIONS

STYLE DXFHMQ



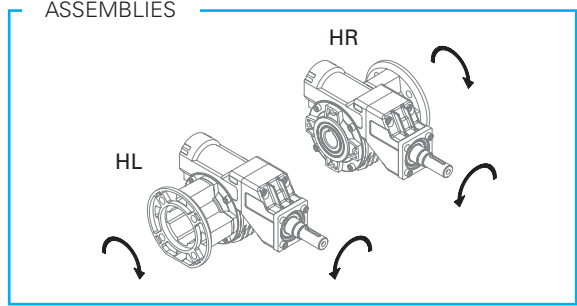
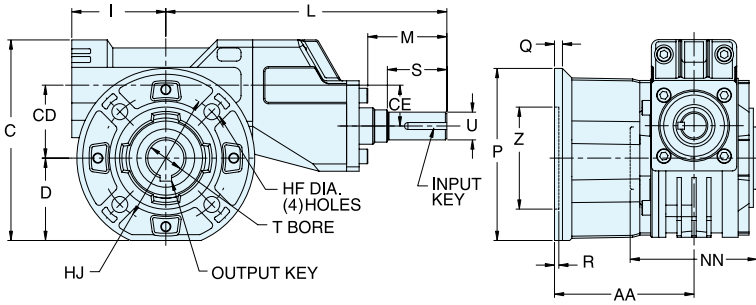
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXFHMQ DIMENSIONS - Inches

Series	AA	C	CD	CE	D	HF	HJ	I	LQ* 56/140	NN	P	Q	R	RQ	T* +0.0015 -0.0000	Z	OUTPUT KEY*
518	2.38	4.76	1.77	1.10	1.93	0.335	3.43	2.16	6.23	2.56	4.33	0.35	0.354	5.59	0.750	2.362	3/16 X 1.00
520	3.35	5.33	1.97	1.10	2.15	0.413	3.54	2.56	6.41	3.19	4.84	0.47	0.354	5.77	1.000	2.756	1/4 X 1.62
525	3.39	6.69	2.48	1.50	2.76	0.413	5.91	3.11	7.17	4.72	6.89	0.51	0.276	6.49	1.125	4.528	1/4 X 2.00
534	4.25	9.15	3.35	1.50	3.72	0.512	6.93	3.86	7.84	5.31	8.07	0.63	0.197	7.42	1.500	5.984	3/8 X 2.00

* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE DXFH

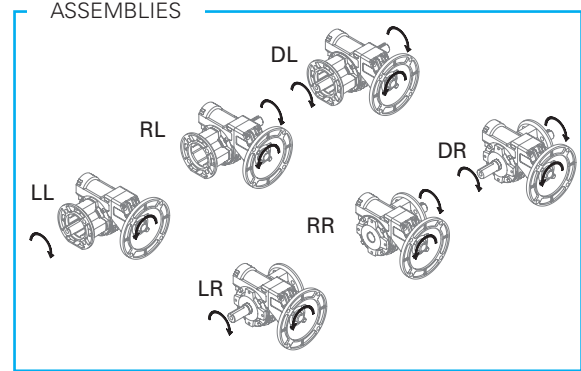
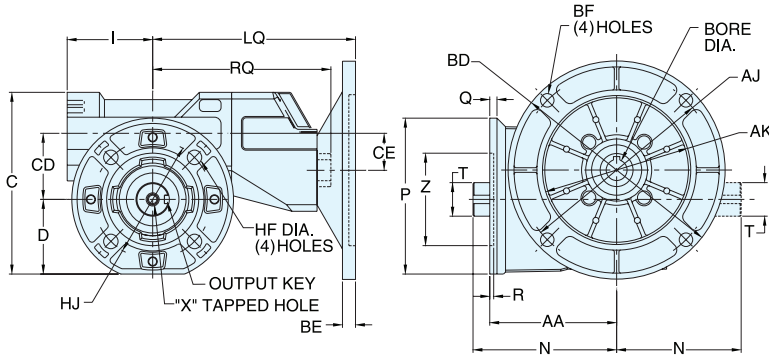


REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXFH DIMENSIONS - Inches

Series	AA	C	CD	CE	D	HF	HJ	I	L	M	NN	P	Q	R	S	T +0.0015 -0.0000	U +0.000 -0.001	Z	INPUT KEY	OUTPUT KEY
518	2.38	4.76	1.77	1.10	1.93	0.335	3.43	2.16	6.65	1.65	2.56	4.33	0.35	0.354	1.42	0.750	0.625	2.362	3/16 X 1.12	3/16 X 1.00
520	3.35	5.33	1.97	1.10	2.15	0.413	3.54	2.56	6.83	1.83	3.19	4.84	0.47	0.354	1.42	1.000	0.625	2.756	3/16 X 1.12	1/4 X 1.62
525	3.39	6.69	2.48	1.50	2.76	0.413	5.91	3.11	8.54	2.00	4.72	6.89	0.51	0.276	1.65	1.125	0.750	4.528	3/16 X 1.50	1/4 X 2.00
534	4.25	9.15	3.35	1.50	3.72	0.512	6.93	3.86	9.21	2.65	5.31	8.07	0.63	0.197	1.65	1.500	0.750	5.984	3/16 X 1.50	3/8 X 2.00

STYLE DXFMQ



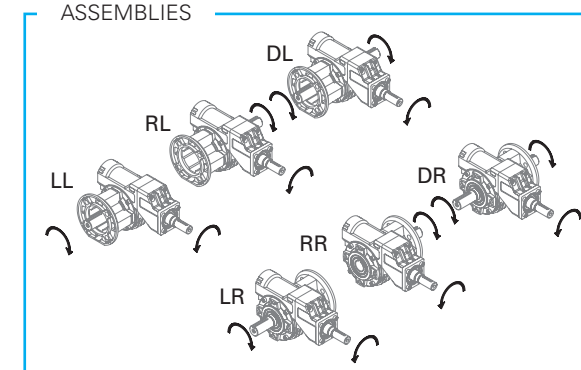
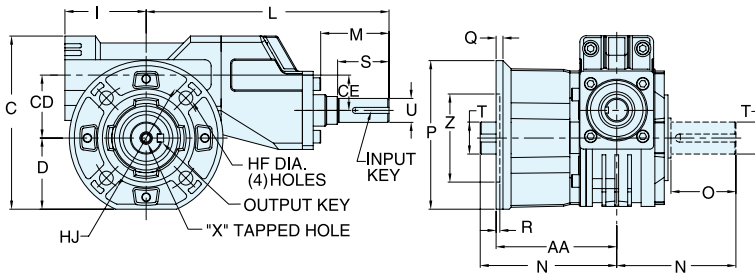
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXFMQ DIMENSIONS - Inches

Series	AA	C	CD	CE	D	HF	HJ	I	LQ* 56/140	N	O*	P	Q	R	RQ	T* +0.000 -0.001	X		Z	OUTPUT KEY*
																	Tap Size	Depth		
518	2.38	4.76	1.77	1.10	1.93	0.335	3.43	2.16	6.23	2.97	1.26	4.33	0.35	0.354	5.59	0.750	1/4-20 UNC	0.62	2.362	3/16 X 1.00
520	3.35	5.33	1.97	1.10	2.15	0.413	3.54	2.56	6.41	3.94	2.05	4.84	0.47	0.354	5.77	1.000	5/16-18 UNC	0.75	2.756	1/4 X 1.62
525	3.39	6.69	2.48	1.50	2.76	0.413	5.91	3.11	7.17	4.85	2.36	6.89	0.51	0.276	6.49	1.125	5/16-18 UNC	0.75	4.528	1/4 X 2.00
534	4.25	9.15	3.35	1.50	3.72	0.512	6.93	3.86	7.84	5.55	2.36	8.07	0.63	0.197	7.42	1.500	5/16-18 UNC	0.75	5.984	3/8 X 2.00

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE DXF



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXF DIMENSIONS - Inches

Series	AA	C	CD	CE	D	HF	HJ	I	L	M	N	O	P	Q	R	S	T +0.000 -0.001	U +0.000 -0.001	X		Z	INPUT KEY	OUTPUT KEY
																			Tap Size	Depth			
518	2.38	4.76	1.77	1.10	1.93	0.335	3.43	2.16	6.65	1.65	2.97	1.26	4.33	0.35	0.354	1.42	0.750	0.625	1/4-20 UNC	0.62	2.362	3/16 X 1.12	3/16 X 1.00
520	3.35	5.33	1.97	1.10	2.15	0.413	3.54	2.56	6.83	1.83	3.94	2.05	4.84	0.47	0.354	1.42	1.000	0.625	5/16-18 UNC	0.75	2.756	3/16 X 1.12	1/4 X 1.62
525	3.39	6.69	2.48	1.50	2.76	0.413	5.91	3.11	8.54	2.00	4.85	2.36	6.89	0.51	0.276	1.65	1.125	0.750	5/16-18 UNC	0.75	4.528	3/16 X 1.50	1/4 X 2.00
534	4.25	9.15	3.35	1.50	3.72	0.512	6.93	3.86	9.21	2.65	5.55	2.36	8.07	0.63	0.197	1.65	1.500	0.750	5/16-18 UNC	0.75	5.984	3/16 X 1.50	3/8 X 2.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia	Input Keyways▲
56C	5.88	4.50	6.50	0.38	0.41	.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	0.41	.875	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS[⊕] - MM

Series	LQ [⊕]				T H7	O	N	Output Keyway
	IEC B5 & B14 Options							
	D63D	D71D	D80D	D90D				
518	136 [⊕]	136	N/A	N/A	18	32	75	6
520	141 [⊕]	141	N/A	N/A	25	52	100	8
525	179 [⊕]	179 [⊕]	179 [⊕]	179	25	60	123	8
534	197 [■]	197 [⊕]	197 [⊕]	197	35	60	141	10

OPTIONAL METRIC DIMENSIONS[⊕] - MM

IEC Frame	B5					B14 [⊕]					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF [⊕]		
D63D	115	95	140	11	9	75 [⊕]	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85 [⊕]	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100 [⊕]	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5

- ⊕ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ⊖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D63D(AII), D71D & D80D(Series 525 & 534)
- ◆ Dimensions are maximum (B5 and B14 options)
- B5 Option not available

Bravo[®] Single Reduction Reducers

Bravo[®] Worm - Worm Double Reduction

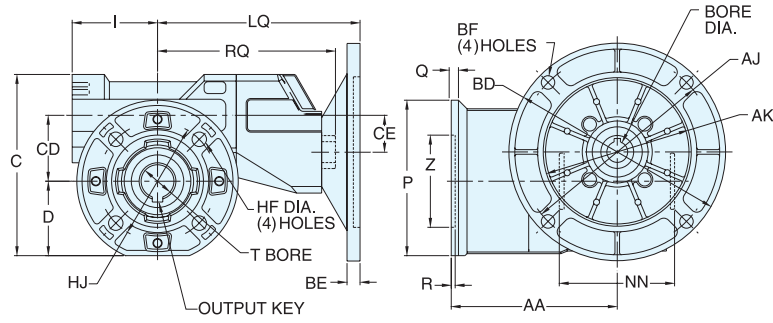
Bravo[®] Helical - Worm Double Reduction

Bravo[®] Accessory Kits

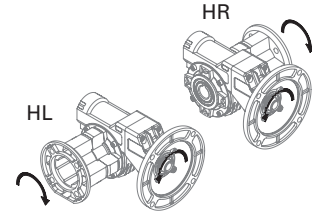
Quadro - Single Reduction

High Efficiency Helical - Inline

STYLE DXFLHMQ



ASSEMBLIES



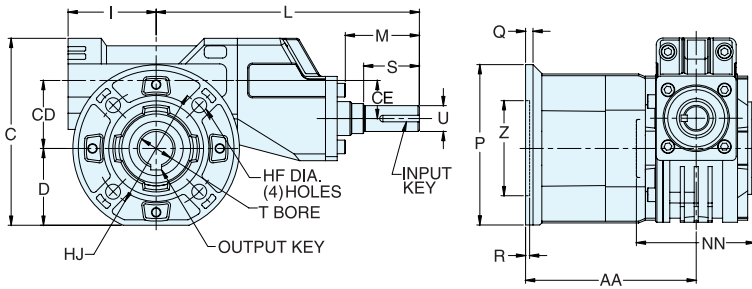
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXFLHMQ DIMENSIONS - Inches

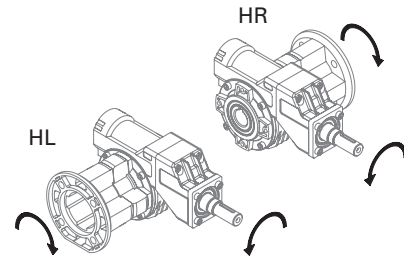
Series	AA	C	CD	CE	D	HF	HJ	I	LQ*	NN	P	Q	R	RQ	T*	Z	OUTPUT KEY*
518	3.56	4.76	1.77	1.10	1.93	0.335	3.43	2.16	6.23	2.56	4.33	0.35	0.354	5.59	+0.0015 -0.0000	2.362	3/16 X 1.00
520	4.51	5.33	1.97	1.10	2.15	0.413	3.54	2.56	6.41	3.19	4.84	0.47	0.354	5.77	1.000	2.756	1/4 X 1.62
525	4.57	6.69	2.48	1.50	2.76	0.413	5.91	3.11	7.17	4.72	6.89	0.51	0.276	6.49	1.125	4.528	1/4 X 2.00
534	5.85	9.15	3.35	1.50	3.72	0.512	6.93	3.86	7.84	5.31	8.07	0.63	0.197	7.42	1.500	5.984	3/8 X 2.00

* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE DXFLH



ASSEMBLIES



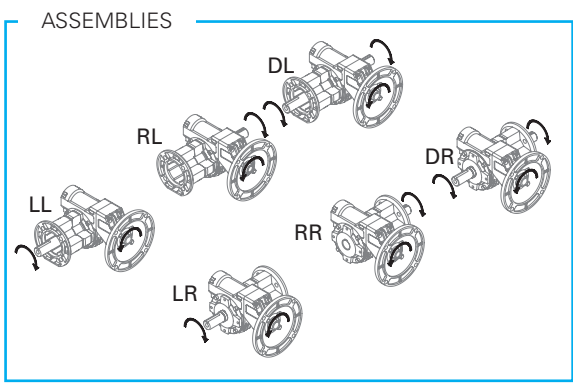
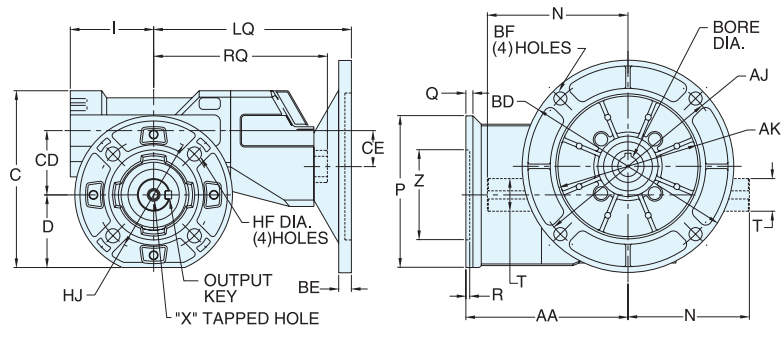
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXFLH DIMENSIONS - Inches

Series	AA	C	CD	CE	D	HF	HJ	I	L	M	NN	P	Q	R	S	T	U	Z	INPUT KEY	OUTPUT KEY
518	3.56	4.76	1.77	1.10	1.93	0.335	3.43	2.16	6.65	1.65	2.56	4.33	0.35	0.354	1.42	+0.0015 -0.0000	+0.000 -0.001	2.362	3/16 X 1.12	3/16 X 1.00
520	4.51	5.33	1.97	1.10	2.15	0.413	3.54	2.56	6.83	1.83	3.19	4.84	0.47	0.354	1.42	1.000	0.625	2.756	3/16 X 1.12	1/4 X 1.62
525	4.57	6.69	2.48	1.50	2.76	0.413	5.91	3.11	8.54	2.00	4.72	6.89	0.51	0.276	1.65	1.125	0.750	4.528	3/16 X 1.50	1/4 X 2.00
534	5.85	9.15	3.35	1.50	3.72	0.512	6.93	3.86	9.21	2.65	5.31	8.07	0.63	0.197	1.65	1.500	0.750	5.984	3/16 X 1.50	3/8 X 2.00

Single Reduction Reducers
 BRAVO® Worm - Worm
 Double Reduction
 BRAVO® Helical - Worm
 Double Reduction
 BRAVO® Accessory Kits
 Quadro - Single Reduction
 High Efficiency Helical - In-line

STYLE DXFLMQ



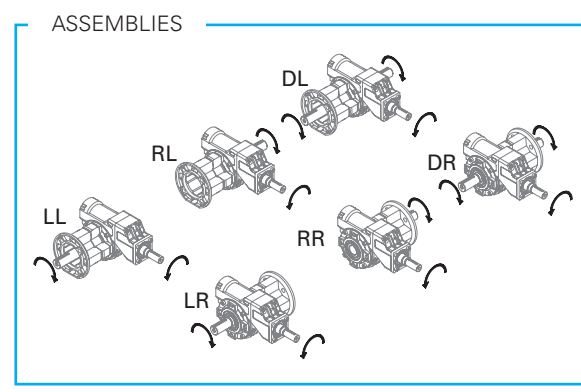
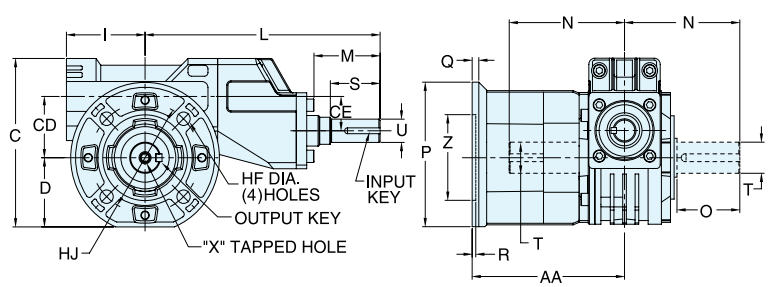
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXFLMQ DIMENSIONS - Inches

Series	AA	C	CD	CE	D	HF	HJ	I	LQ* 56/140	N	O*	P	Q	R	RQ	T*	X Tap Size	Depth	Z	OUTPUT KEY*	
518	3.56	4.76	1.77	1.10	1.93	0.335	3.43	2.16	6.23	2.97	1.26	4.33	0.35	0.354	5.59	+0.000 -0.001	0.750	1/4-20 UNC	0.62	2.362	3/16 X 1.00
520	4.51	5.33	1.97	1.10	2.15	0.413	3.54	2.56	6.41	3.94	2.05	4.84	0.47	0.354	5.77	1.000	5/16-18 UNC	0.75	2.756	1/4 X 1.62	
525	4.57	6.69	2.48	1.50	2.76	0.413	5.91	3.11	7.17	4.85	2.36	6.89	0.51	0.276	6.49	1.125	5/16-18 UNC	0.75	4.528	1/4 X 2.00	
534	5.85	9.15	3.35	1.50	3.72	0.512	6.93	3.86	7.84	5.55	2.36	8.07	0.63	0.197	7.42	1.500	5/16-18 UNC	0.75	5.984	3/8 X 2.00	

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE DXFL



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXFL DIMENSIONS - Inches

Series	AA	C	CD	CE	D	HF	HJ	I	L	M	N	O	P	Q	R	S	T	U	X Tap Size	Depth	Z	INPUT KEY	OUTPUT KEY
518	3.56	4.76	1.77	1.10	1.93	0.335	3.43	2.16	6.65	1.65	2.97	1.26	4.33	0.35	0.354	1.42	0.750	0.625	1/4-20 UNC	0.62	2.362	3/16 X 1.12	3/16 X 1.00
520	4.51	5.33	1.97	1.10	2.15	0.413	3.54	2.56	6.83	1.83	3.94	2.05	4.84	0.47	0.354	1.42	1.000	0.625	5/16-18 UNC	0.75	2.756	3/16 X 1.12	1/4 X 1.62
525	4.57	6.69	2.48	1.50	2.76	0.413	5.91	3.11	8.54	2.00	4.85	2.36	6.89	0.51	0.276	1.65	1.125	0.750	5/16-18 UNC	0.75	4.528	3/16 X 1.50	1/4 X 2.00
534	5.85	9.15	3.35	1.50	3.72	0.512	6.93	3.86	9.21	2.65	5.55	2.36	8.07	0.63	0.197	1.65	1.500	0.750	5/16-18 UNC	0.75	5.984	3/16 X 1.50	3/8 X 2.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia.	Input Keyways▲
56C	5.88	4.50	6.50	0.38	0.41	.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	0.41	.875	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS[⊕] - MM

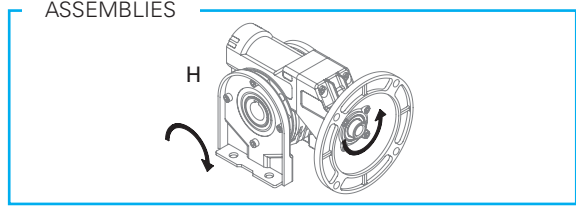
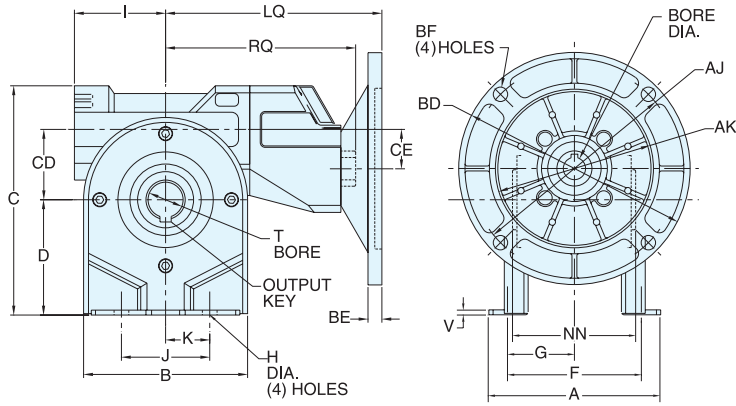
Series	LO [⊕]				T H7	O	N	Output Keyway
	IEC B5 & B14 Options							
	D63D	D71D	D80D	D90D				
	(standard for metric units)							
518	136 [⊕]	136	N/A	N/A	18	32	75	6
520	141 [⊕]	141	N/A	N/A	25	52	100	8
525	179 [⊕]	179 [⊕]	179 [⊕]	179	25	60	123	8
534	197 [■]	197 [⊕]	197 [⊕]	197	35	60	141	10

OPTIONAL METRIC DIMENSIONS[⊕] - MM

IEC Frame	B5					B14 [⊕]					Input Bore Dia.	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF [⊕]		
D63D	115	95	140	11	9	75 [⊕]	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85 [⊕]	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100 [⊕]	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5

⊕ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
 ▲ Keyway width by depth
 ⊕ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D63D(A11), D71D & D80D(Series 525 & 534)
 ◆ Dimensions are maximum (B5 and B14 options)
 ■ B5 Option not available

STYLE DXTHMQ



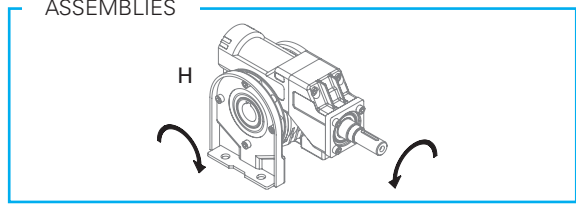
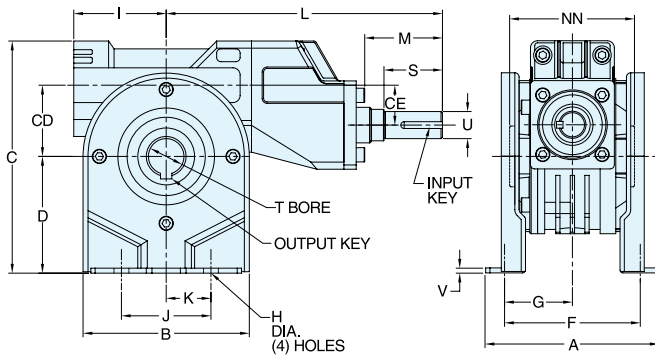
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXTHMQ DIMENSIONS - Inches

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	LQ* 56/140	NN	RQ	T* +0.0015 -0.0000	V	OUTPUT KEY*
518	3.94	3.86	5.67	1.77	1.10	2.83	3.17	1.59	0.413	2.16	1.97	0.99	6.23	2.56	5.59	0.750	0.12	3/16 X 1.00
520	4.84	4.45	6.42	1.97	1.10	3.23	3.94	1.97	0.413	2.56	2.48	1.24	6.41	3.19	5.77	1.000	0.14	1/4 X 1.62
525	5.67	5.24	7.87	2.48	1.50	3.94	4.35	2.18	0.413	3.11	3.74	1.87	7.17	4.72	6.49	1.125	0.16	1/4 X 2.00
534	7.17	7.09	11.02	3.35	1.50	5.59	5.71	2.86	0.413	3.86	5.51	2.76	7.84	5.31	7.42	1.500	0.20	3/8 X 2.00

* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE DXTH



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

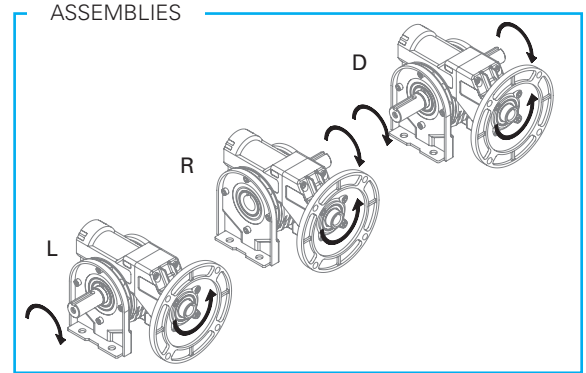
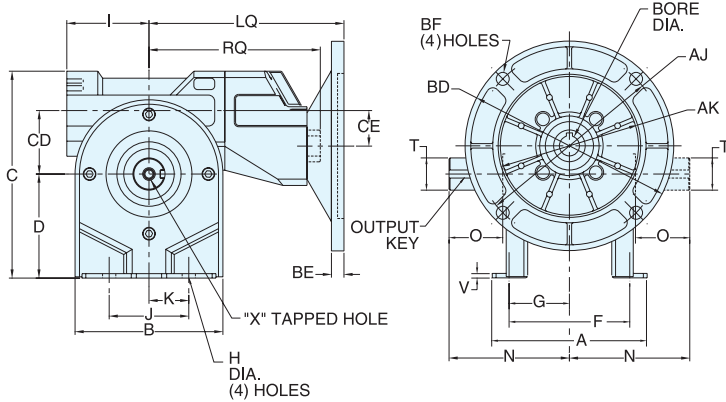
STYLE DXTH DIMENSIONS - Inches

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	L	M	NN	S	T +0.0015 -0.0000	U +0.000 -0.001	V	INPUT KEY	OUTPUT KEY
518	3.94	3.86	5.67	1.77	1.10	2.83	3.17	1.59	0.413	2.16	1.97	0.99	6.65	1.65	2.56	1.42	0.750	0.625	0.12	3/16 X 1.12	3/16 X 1.00
520	4.84	4.45	6.42	1.97	1.10	3.23	3.94	1.97	0.413	2.56	2.48	1.24	6.83	1.83	3.19	1.42	1.000	0.625	0.14	3/16 X 1.12	1/4 X 1.62
525	5.67	5.24	7.87	2.48	1.50	3.94	4.35	2.18	0.413	3.11	3.74	1.87	8.54	2.00	4.72	1.65	1.125	0.750	0.16	3/16 X 1.50	1/4 X 2.00
534	7.17	7.09	11.02	3.35	1.50	5.59	5.71	2.86	0.413	3.86	5.51	2.76	9.21	2.65	5.31	1.65	1.500	0.750	0.20	3/16 X 1.50	3/8 X 2.00

DIMENSIONS



STYLE DXTMQ



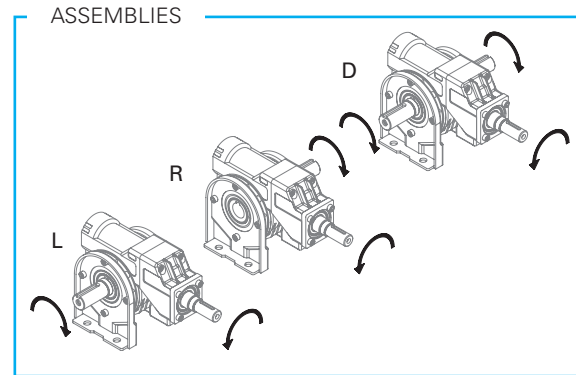
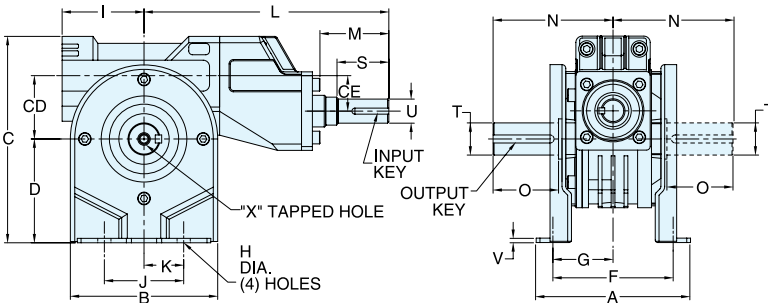
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXTMQ DIMENSIONS - Inches

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	LQ* 56/140	N	O*	RQ	T* +0.000 -0.001	V	X Tap Size	Depth	OUTPUT KEY*
518	3.94	3.86	5.67	1.77	1.10	2.83	3.17	1.59	0.413	2.16	1.97	0.99	6.23	2.97	1.26	5.59	0.750	0.12	1/4-20 UNC	0.62	3/16 X 1.00
520	4.84	4.45	6.42	1.97	1.10	3.23	3.94	1.97	0.413	2.56	2.48	1.24	6.41	3.94	2.05	5.77	1.000	0.14	5/16-18 UNC	0.75	1/4 X 1.62
525	5.67	5.24	7.87	2.48	1.50	3.94	4.35	2.18	0.413	3.11	3.74	1.87	7.17	4.85	2.36	6.49	1.125	0.16	5/16-18 UNC	0.75	1/4 X 2.00
534	7.17	7.09	11.02	3.35	1.50	5.59	5.71	2.86	0.413	3.86	5.51	2.76	7.84	5.55	2.36	7.42	1.500	0.20	5/16-18 UNC	0.75	3/8 X 2.00

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE DXT



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXT DIMENSIONS - Inches

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	L	M	N	O	S	T +0.000 -0.001*	U +0.000 -0.001*	V	X Tap Size	Depth	INPUT KEY	OUTPUT KEY
518	3.94	3.86	5.67	1.77	1.10	2.83	3.17	1.59	0.413	2.16	1.97	0.99	6.65	1.65	2.97	1.26	1.42	0.750	0.625	0.12	1/4-20 UNC	0.62	3/16 X 1.12	3/16 X 1.00
520	4.84	4.45	6.42	1.97	1.10	3.23	3.94	1.97	0.413	2.56	2.48	1.24	6.83	1.83	3.94	2.05	1.42	1.000	0.625	0.14	5/16-18 UNC	0.75	3/16 X 1.12	1/4 X 1.62
525	5.67	5.24	7.87	2.48	1.50	3.94	4.35	2.18	0.413	3.11	3.74	1.87	8.54	2.00	4.85	2.36	1.65	1.125	0.750	0.16	5/16-18 UNC	0.75	3/16 X 1.50	1/4 X 2.00
534	7.17	7.09	11.02	3.35	1.50	5.59	5.71	2.86	0.413	3.86	5.51	2.76	9.21	2.65	5.55	2.36	1.65	1.500	0.750	0.20	5/16-18 UNC	0.75	3/16 X 1.50	3/8 X 2.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia	Input Keyways▲
56C	5.88	4.50	6.50	0.38	0.41	.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	0.41	.875	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS◊ - MM

Series	LQ◊				T H7	O	N	Output Keyway
	IEC B5 & B14 Options							
	D63D	D71D	D80D	D90D	(standard for metric units)			
518	136*	136	N/A	N/A	18	32	75	6
520	141*	141	N/A	N/A	25	52	100	8
525	179*	179*	179*	179	25	60	123	8
534	197*	197*	197*	197	35	60	141	10

OPTIONAL METRIC DIMENSIONS◊ - MM

IEC Frame	B5					B14*					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF◊		
D63D	115	95	140	11	9	75*	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85*	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100*	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5

- ◊ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ❖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D63D(A11), D71D & D80D(Series 525 & 534)
- ◆ Dimensions are maximum (B5 and B14 options)
- B5 Option not available

Bravo® Single Reduction Reducers

Bravo® Worm - Worm Double Reduction

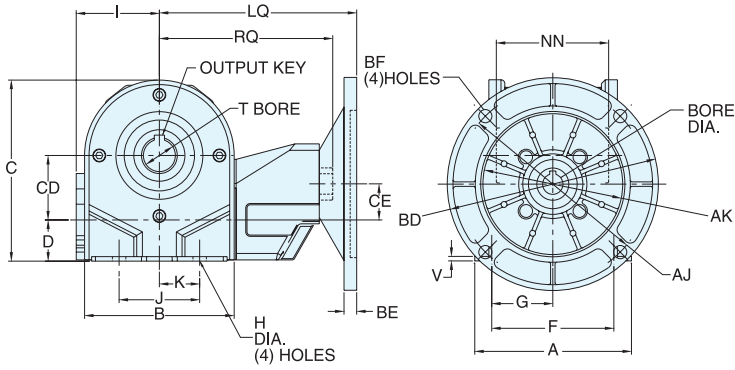
Bravo® Helical - Worm Double Reduction

Bravo® Accessory Kits

Quadro - Single Reduction

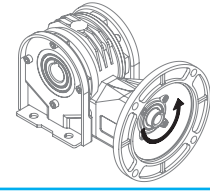
High Efficiency Helical - Inline

STYLE DXUHQ



ASSEMBLIES

H



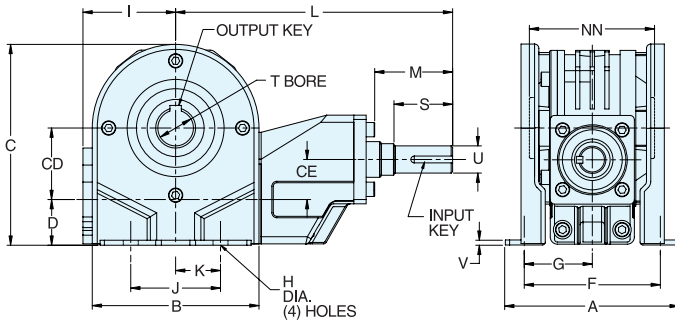
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXUHQ DIMENSIONS - Inches

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	LQ*	NN	RQ	T*	V	OUTPUT KEY*
518	3.94	3.86	4.76	1.77	1.10	1.06	3.17	1.59	0.413	2.16	1.97	0.99	6.23	2.56	5.59	0.750	0.12	3/16 X 1.00
520	4.84	4.45	5.45	1.97	1.10	1.26	3.94	1.97	0.413	2.56	2.48	1.24	6.41	3.19	5.77	1.000	0.14	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.50	1.45	4.35	2.18	0.413	3.11	3.74	1.87	7.17	4.72	6.49	1.125	0.16	1/4 X 2.00
534	7.17	7.09	9.31	3.35	1.50	2.24	5.71	2.86	0.413	3.86	5.51	2.76	7.84	5.31	7.42	1.500	0.20	3/8 X 2.00

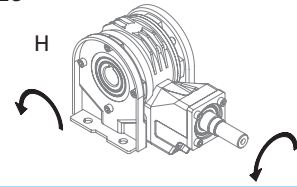
* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE DXUH



ASSEMBLIES

H



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXUH DIMENSIONS - Inches

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	L	M	NN	S	T	U	V	INPUT KEY	OUTPUT KEY
518	3.94	3.86	4.76	1.77	1.10	1.06	3.17	1.59	0.413	2.16	1.97	0.99	6.65	1.65	2.56	1.42	0.750	0.625	0.12	3/16 X 1.12	3/16 X 1.00
520	4.84	4.45	5.45	1.97	1.10	1.26	3.94	1.97	0.413	2.56	2.48	1.24	6.83	1.83	3.19	1.42	1.000	0.625	0.14	3/16 X 1.12	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.50	1.45	4.35	2.18	0.413	3.11	3.74	1.87	8.54	2.00	4.72	1.65	1.125	0.750	0.16	3/16 X 1.50	1/4 X 2.00
534	7.17	7.09	9.31	3.35	1.50	2.24	5.71	2.86	0.413	3.86	5.51	2.76	9.21	2.65	5.31	1.65	1.500	0.750	0.20	3/16 X 1.50	3/8 X 2.00

BRAVO® Single Reduction Reducers

BRAVO® Worm - Worm Double Reduction

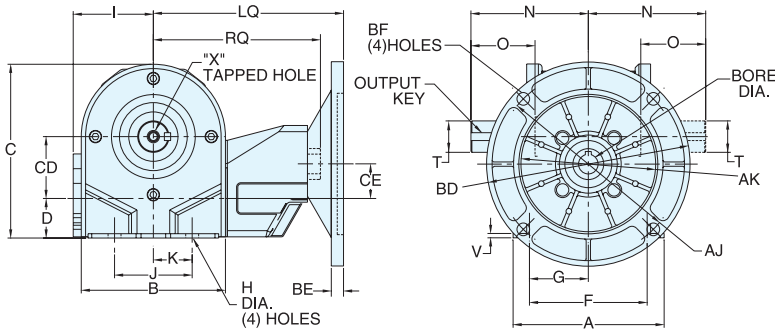
BRAVO® Helical - Worm Double Reduction

BRAVO® Accessory Kits

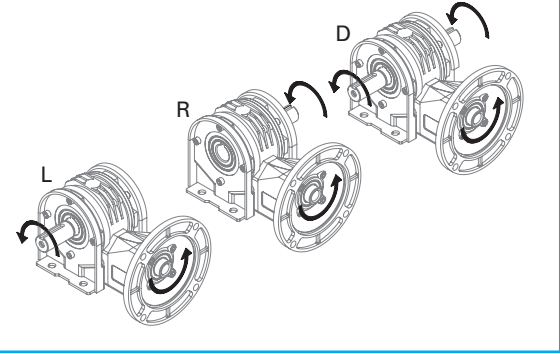
Quadro - Single Reduction

High Efficiency Helical - Inline

STYLE DXUMQ



ASSEMBLIES



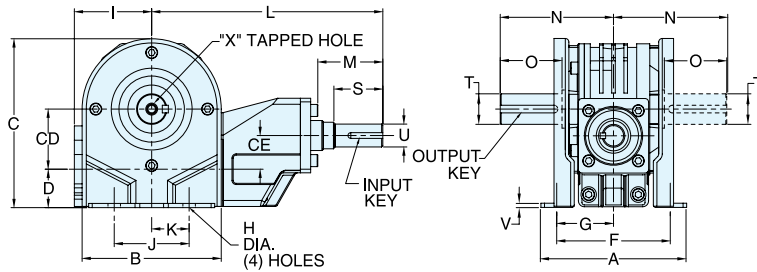
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXUMQ DIMENSIONS - Inches

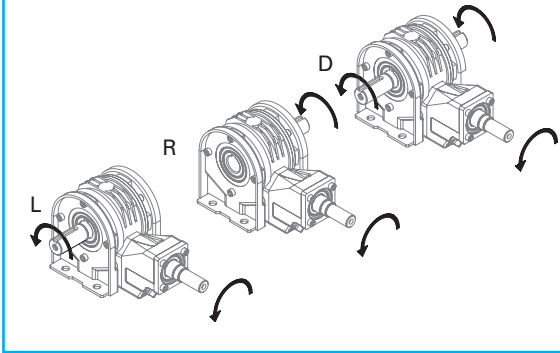
Series	A	B	C	CD	CE	D	F	G	H	I	J	K	LQ* 56/140	N	O*	RQ	T* +0.000 -0.001	V	X		OUTPUT KEY*
																			Tap Size	Depth	
518	3.94	3.86	4.76	1.77	1.10	1.06	3.17	1.59	0.413	2.16	1.97	0.99	6.23	2.97	1.26	5.59	0.750	0.12	1/4-20 UNC	0.62	3/16 X 1.00
520	4.84	4.45	5.45	1.97	1.10	1.26	3.94	1.97	0.413	2.56	2.48	1.24	6.41	3.94	2.05	5.77	1.000	0.14	5/16-18 UNC	0.75	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.50	1.45	4.35	2.18	0.413	3.11	3.74	1.87	7.17	4.85	2.36	6.49	1.125	0.16	5/16-18 UNC	0.75	1/4 X 2.00
534	7.17	7.09	9.31	3.35	1.50	2.24	5.71	2.86	0.413	3.86	5.51	2.76	7.84	5.55	2.36	7.42	1.500	0.20	5/16-18 UNC	0.75	3/8 X 2.00

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE DXU



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXU DIMENSIONS - Inches

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	L	M	N	O	S	T +0.000 -0.001	U +0.000 -0.001	V	X		INPUT KEY	OUTPUT KEY
																					Tap Size	Depth		
518	3.94	3.86	4.76	1.77	1.10	1.06	3.17	1.59	0.413	2.16	1.97	0.99	6.65	1.65	2.97	1.26	1.42	0.750	0.625	0.12	1/4-20 UNC	0.62	3/16 X 1.12	3/16 X 1.00
520	4.84	4.45	5.45	1.97	1.10	1.26	3.94	1.97	0.413	2.56	2.48	1.24	6.83	1.83	3.94	2.05	1.42	1.000	0.625	0.14	5/16-18 UNC	0.75	3/16 X 1.12	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.50	1.45	4.35	2.18	0.413	3.11	3.74	1.87	8.54	2.00	4.85	2.36	1.65	1.125	0.750	0.16	5/16-18 UNC	0.75	3/16 X 1.50	1/4 X 2.00
534	7.17	7.09	9.31	3.35	1.50	2.24	5.71	2.86	0.413	3.86	5.51	2.76	9.21	2.65	5.55	2.36	1.65	1.500	0.750	0.20	5/16-18 UNC	0.75	3/16 X 1.50	3/8 X 2.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia	Input Keyways▲
56C	5.88	4.50	6.50	0.38	0.41	.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	0.41	.875	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS[⊕] - MM

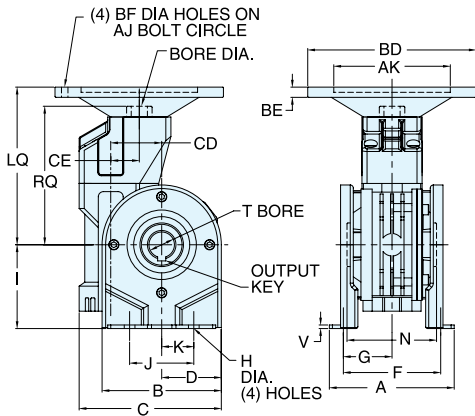
Series	LQ [⊕]				T H7	O	N	Output Keyway
	IEC B5 & B14 Options							
	D63D	D71D	D80D	D90D				
518	136 [⊕]	136	N/A	N/A	18	32	75	6
520	141 [⊕]	141	N/A	N/A	25	52	100	8
525	179 [⊕]	179 [⊕]	179 [⊕]	179	25	60	123	8
534	197 [■]	197 [⊕]	197 [⊕]	197	35	60	141	10

OPTIONAL METRIC DIMENSIONS[⊕] - MM

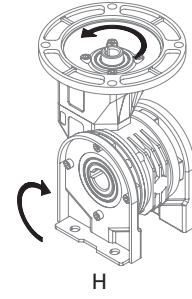
IEC Frame	B5					B14 [⊕]					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF [⊕]		
D63D	115	95	140	11	9	75 [⊕]	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85 [⊕]	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100 [⊕]	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5

- ⊕ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ⊖ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D63D(A1), D71D & D80D(Series 525 & 534)
- ◆ Dimensions are maximum (B5 and B14 options)
- B5 Option not available

STYLE DXJHMQ



ASSEMBLIES



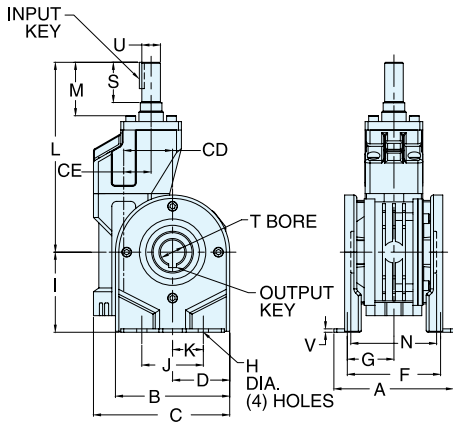
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXJHMQ DIMENSIONS - Inches

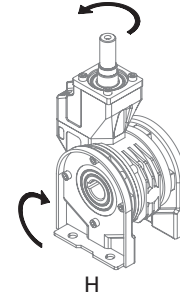
Series	A	B	C	CD	CE	D	F	G	H	I	J	K	LQ* 56/140	NN	RQ	T* +0.0015 -0.0000	V	OUTPUT KEY*
518	3.94	3.86	4.76	1.77	1.10	1.93	3.17	1.59	0.413	2.83	1.97	0.99	6.23	2.56	5.59	0.750	0.12	3/16 X 1.00
520	4.84	4.45	5.45	1.97	1.10	2.23	3.94	1.97	0.413	3.22	2.48	1.24	6.41	3.19	5.77	1.000	0.14	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.50	2.76	4.35	2.18	0.413	3.94	3.74	1.87	7.17	4.72	6.49	1.125	0.16	1/4 X 2.00
534	7.17	7.09	9.15	3.35	1.50	3.72	5.71	2.86	0.413	5.59	5.51	2.76	7.84	5.31	7.42	1.500	0.20	3/8 X 2.00

* Metric options are available. Refer to dimensions on opposite page. Contact Factory for availability of metric options.

STYLE DXJH



ASSEMBLIES



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXJH DIMENSIONS - Inches

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	L	M	NN	S	T +0.0015 -0.0000	U +0.000 -0.001	V	INPUT KEY	OUTPUT KEY
518	3.94	3.86	4.76	1.77	1.10	1.93	3.17	1.59	0.413	2.83	1.97	0.99	6.65	1.65	2.56	1.42	0.750	0.625	0.12	3/16 X 1.12	3/16 X 1.00
520	4.84	4.45	5.45	1.97	1.10	2.23	3.94	1.97	0.413	3.22	2.48	1.24	6.83	1.83	3.19	1.42	1.000	0.625	0.14	3/16 X 1.12	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.50	2.76	4.35	2.18	0.413	3.94	3.74	1.87	8.54	2.00	4.72	1.65	1.125	0.750	0.16	3/16 X 1.50	1/4 X 2.00
534	7.17	7.09	9.15	3.35	1.50	3.72	5.71	2.86	0.413	5.59	5.51	2.76	9.21	2.65	5.31	1.65	1.500	0.750	0.20	3/16 X 1.50	3/8 X 2.00

DIMENSIONS



Bravo®
Single Reduction Reducers

Bravo® Worm - Worm
Double Reduction

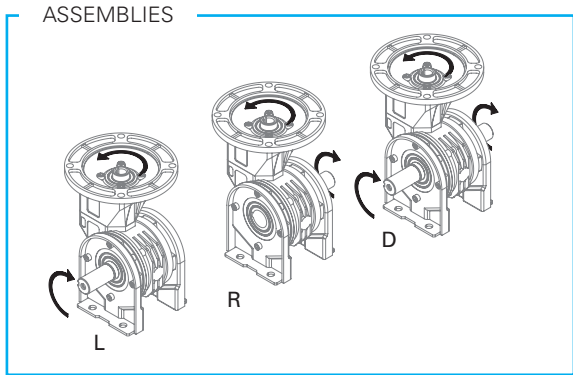
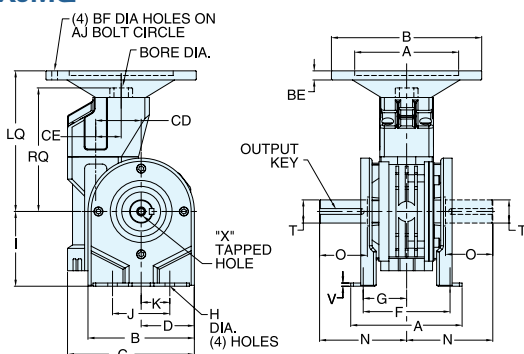
Bravo® Helical - Worm
Double Reduction

Bravo® Accessory Kits

Quadro - Single Reduction

High Efficiency Helical - Inline

STYLE DXJMQ



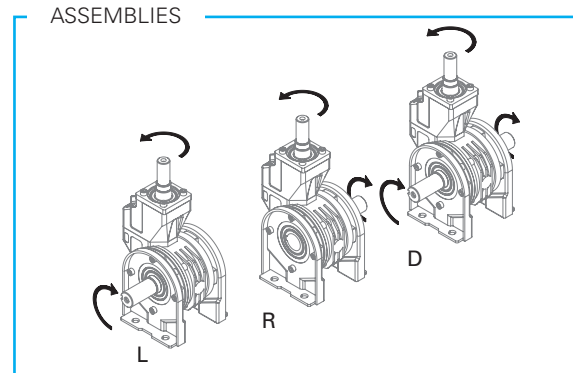
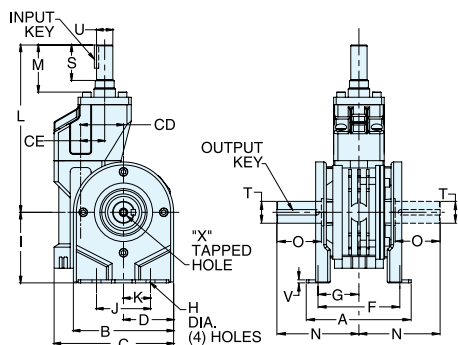
REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXJMQ DIMENSIONS - Inches

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	LQ* 56/140	N	O*	RQ	T* +0.000 -0.001	V	X		OUTPUT KEY*
																			Tap Size	Depth	
518	3.94	3.86	4.76	1.77	1.10	1.93	3.17	1.59	0.413	2.83	1.97	0.99	6.23	2.97	1.26	5.59	0.750	0.12	1/4-20 UNC	0.62	3/16 x 1.00
520	4.84	4.45	5.45	1.97	1.10	2.23	3.94	1.97	0.413	3.22	2.48	1.24	6.41	3.94	2.05	5.77	1.000	0.14	5/16-18 UNC	0.75	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.50	2.76	4.35	2.18	0.413	3.94	3.74	1.87	7.17	4.85	2.36	6.49	1.125	0.16	5/16-18 UNC	0.75	1/4 X 2.00
534	7.17	7.09	9.15	3.35	1.50	3.72	5.71	2.86	0.413	5.59	5.51	2.76	7.84	5.55	2.36	7.42	1.500	0.20	5/16-18 UNC	0.75	3/8 X 2.00

* Metric options are available. Refer to dimensions below. Contact Factory for availability of metric options.

STYLE DXJ



REVERSE ALL ARROWS FOR OPPOSITE INPUT SHAFT ROTATION. CONTACT FACTORY FOR OTHER MOUNTINGS OR ASSEMBLY POSITIONS.

STYLE DXJ DIMENSIONS - Inches

Series	A	B	C	CD	CE	D	F	G	H	I	J	K	L	M	N	O	S	T +0.000 -0.001	U +0.000 -0.001	V	X		INPUT KEY	OUTPUT KEY
																					Tap Size	Depth		
518	3.94	3.86	4.76	1.77	1.10	1.93	3.17	1.59	0.413	2.83	1.97	0.99	6.65	1.65	2.97	1.26	1.42	0.750	0.625	0.12	1/4-20 UNC	0.62	3/16 X 1.12	3/16 X 1.00
520	4.84	4.45	5.45	1.97	1.10	2.23	3.94	1.97	0.413	3.22	2.48	1.24	6.83	1.83	3.94	2.05	1.42	1.000	0.625	0.14	5/16-18 UNC	0.75	3/16 X 1.12	1/4 X 1.62
525	5.67	5.24	6.69	2.48	1.50	2.76	4.35	2.18	0.413	3.94	3.74	1.87	8.54	2.00	4.85	2.36	1.65	1.125	0.750	0.16	5/16-18 UNC	0.75	3/16 X 1.50	1/4 X 2.00
534	7.17	7.09	9.15	3.35	1.50	3.72	5.71	2.86	0.413	5.59	5.51	2.76	9.21	2.65	5.55	2.36	1.65	1.500	0.750	0.20	5/16-18 UNC	0.75	3/16 X 1.50	3/8 X 2.00

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BF	Input Bore Dia	Input Keyways▲
56C	5.88	4.50	6.50	0.38	0.41	.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	0.41	.875	3/16 x 3/32

OPTIONAL METRIC DIMENSIONS* - MM

Series	LQ*				T H7	O	N	Output Keyway
	IEC B5 & B14 Options							
	D63D	D71D	D80D	D90D				
518	136*	136	N/A	N/A	18	32	75	6
520	141*	141	N/A	N/A	25	52	100	8
525	179*	179*	179*	179	25	60	123	8
534	197*	197*	197*	197	35	60	141	10

OPTIONAL METRIC DIMENSIONS* - MM

IEC Frame	B5					B14*					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF*		
D63D	115	95	140	11	9	75*	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85*	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100*	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5

- * Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ◆ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D63D(A11), D71D & D80D(Series 525 & 534)
- ◆ Dimensions are maximum (B5 and B14 options)
- B5 Option not available



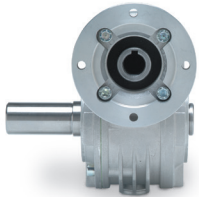
MODIFIED STOCK GEAR REDUCERS

Quick shipment is standard on all Grove Gear® BRAVO® stock and modified stock gear reducers. A wide range of mounting styles are offered and are listed on the accompanying chart. Start with one of the stock reducer styles shown—add an accessory—and create a new mounting style.

STYLE T, U OR J HORIZONTAL BASE

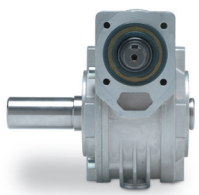


MOTORIZED C FLANGE QUILL INPUT



(Style BMQ Shown)

NON-FLANGED



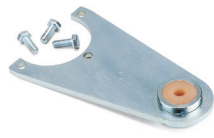
(Style B Shown)

Type	Stock Reducer Style	T Base Worm Over	U Base Worm Under	J Base Vertical Input
Single Reduction Solid Shaft	BMQ	TMQ	UMQ*	JMQ
Single Reduction Hollow Shaft	HMQ	THMQ	UHM*	JHM*
Double Reduction Worm-Worm Solid Shaft	DMQ	DTMQ	DUM*	DJM*
Double Reduction Worm-Worm Hollow Shaft	DHM*	DTHM*	DUHM*	DJHM*
Double Reduction Helical-Worm Solid Shaft	DXMQ	DXTMQ	DXUM*	DXJM*
Double Reduction Helical-Worm Hollow Shaft	DXHM*	DXTHM*	DXUHM*	DXJHM*
Single Reduction Solid Shaft	B	T	U*	J
Single Reduction Hollow Shaft	H	TH	UH*	JH
Double Reduction Worm-Worm Solid Shaft	D	DT	DU*	DJ
Double Reduction Worm-Worm Hollow Shaft	DH	DTH	DUH*	DJH
Double Reduction Helical-Worm Solid Shaft	DX	DXT	DXU*	DXJ
Double Reduction Helical-Worm Hollow Shaft	DXH	DXTH	DXUH*	DXJH

* Not a recommended mounting style. Consult Factory for selection assistance.

**STYLE F
OUTPUT
FLANGE**

**STYLE FL
OUTPUT
FLANGE**

**STYLE R
REACTION
ARM**


More Grove Gear BRAVO® accessories, options and assembly services are available. See page J3.

Ordering Information

Style T, U or J - Horizontal Base

Series	Accessory Kit Only Catalog No.	Weight (lbs)
512	G175231	2
518	G175205	2
520	G175206	2
525	G175207	3
534	G175208	5

Style F - Short Output Flange

Series	Accessory Kit Only Catalog No.	Weight (lbs)
512	G175232	1
518	G175209	1
520	G175210	1
525	G175211	2
534	G175212	3

Style FL - Long Output Flange

Series	Accessory Kit Only Catalog No.	Weight (lbs)
512	G175233	1
518	G175213	2
520	G175214	2
525	G175215	3
534	G175216	5

Style R - Reaction Arm

Series	Accessory Kit Only Catalog No.	Weight (lbs)
512	G175234	1
518	G175201	1
520	G175202	1
525	G175203	2
534	G175204	3

Refer to page 376 for reaction arm dimensions.

F Short Output Flange	FL Long Output Flange	R Reaction Arm Shaft
FMQ	FLMQ	RMQ
FHMQ	FLHMQ	RHMQ
DFMQ	DFLMQ	DRMQ
DFHMQ	DFLHMQ	DRHMQ
DXFMQ	DXFLMQ	DXRMQ
DXFHMQ	DXFLHMQ	DXRHMQ
F	FL	R
FH	FLH	RH
DF	DFL	DR
DFH	DFLH	DRH
DXF	DXFL	DXR
DXFH	DXFLH	DXRH

SOLID OUTPUT SHAFT ACCESSORY KITS



SINGLE EXTENSION INCH DIMENSIONS*

Series	Accessory Kit Only Catalog No.	Weight (lbs)
512	CONTACT Factory	
518	G175236	2
520	G175237	3
525	G175521	3
534	G175238	6

SINGLE EXTENSION METRIC DIMENSIONS†

Series	Accessory Kit Only Catalog No.	Weight (lbs)
512	G175240	2
518	G175241	2
520	G175242	3
525	G175243	3
534	G175244	6

DOUBLE EXTENSION INCH DIMENSIONS*

Series	Accessory Kit Only Catalog No.	Weight (lbs)
512	CONTACT Factory	
518	G175221	3
520	G175222	4
525	G175223	4
534	G175224	7

DOUBLE EXTENSION METRIC DIMENSIONS†

Series	Accessory Kit Only Catalog No.	Weight (lbs)
512	G175245	3
518	G175246	3
520	G175247	4
525	G175248	4
534	G175249	7

* Shaft dimensions are in inches. These shafts will only fit into reducers with inch dimensioned output bores.

† Shaft dimensions are in millimeters. These shafts will only fit into reducers with metric dimensioned output bores.

* Shaft dimensions are in inches. These shafts will only fit into reducers with inch dimensioned output bores.

† Shaft dimensions are in millimeters. These shafts will only fit into reducers with metric dimensioned output bores.

Motorized C-Face Quill Input Bushing Kits

NEMA Bushing Kits ◊ - Inches

Frame Conversion	Input Quill Bore Size (Inch)	Accessory Kit Only Catalog No.	Weight (lbs)
180TC to 140TC	1-1/8 to 7/8	G175230	0.5
180TC to 56C	1-1/8 to 5/8	G175229	0.4
140TC to 56C	7/8 to 5/8	G175228	0.4

◊ Bushing reduces the bore size of input quill to accommodate a smaller motor shaft diameter. The application may also require a different input flange size. Bushings are not intended to be used in output bores.

IEC Bushing Kits ◊ - MM

Frame Conversion	Input Quill Bore Size (Inch)	Accessory Kit Only Catalog No.	Weight (lbs)
D63 to D56	11 to 9	G175259	0.4
D71 to D63	14 to 11	G175251	0.4
D71 to D56	14 to 9	G175252	0.4
D80 to D71	19 to 14	G175253	0.4
D80 to D63	19 to 11	G175254	0.4
D90 to D80	24 to 19	G175255	0.4
D90 to D71	24 to 14	G175256	0.4
DF100/112 to D90	28 to 24	G175257	0.5
DF100/112 to D80	28 to 19	G175258	0.5

◊ Bushing reduces the bore size of input quill to accommodate a smaller motor shaft diameter. The application may also require a different input flange size. Bushings are not intended to be used in output bores.

Double Reduction Adapter Kits

Series	Accessory Kit Only Catalog No.	Primary Unit Size	Secondary Unit Size	Weight (lbs)
518	G175225	518	0.625	1
520	G175225	518	0.625	1
525	G175226	518	0.875	1
534	G175227	518	1.125	1.5

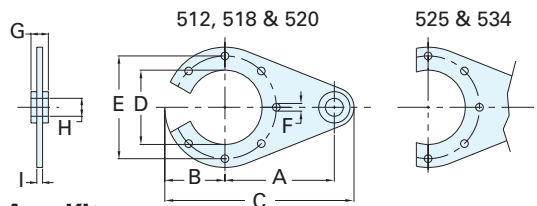
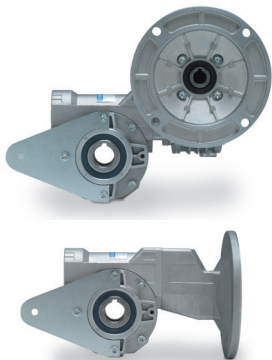
PROTECTION CAP ACCESSORY KITS Ω

Series	Accessory Kit Only Catalog No.	Weight (lbs)
512	G175250	0.3
518	G175217	0.3
520	G175218	0.3
525	G175219	0.4
534	G175220	0.6



Ω This protective cap covers the unused output bore for single extension assemblies. Check OSHA requirements and review installation manual to assure all safety requirements of gear reducer installation are met.

STYLE R REACTION ARM DIMENSIONS



Style R - Reaction Arm Kits

Series	A	B	C	D	E	F	G	H	I
512	3.94	1.57	6.22	1.97	2.56	0.28	0.16	0.31	0.16
518	3.94	1.77	6.22	1.97	2.56	0.28	0.16	0.31	0.16
520	3.94	2.17	6.81	2.68	3.70	0.28	0.16	0.31	0.16
525	5.91	2.17	9.25	2.95	3.54	0.35	0.79	0.39	0.24
534	7.87	3.15	12.60	4.33	5.12	0.43	0.98	0.79	0.24

Refer to page J2 for accessory kits available.

HELICAL/WORM REDUCTION • APPROXIMATE WEIGHTS^Δ (LBS.)

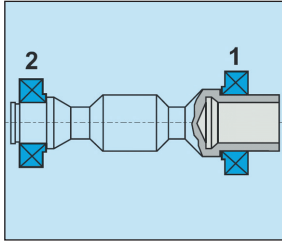
REDUCER STYLE	REDUCER SIZE			
	518	520	525	534
SOLID OUTPUT SHAFT				
DXMQ	9	11	19	47
DX	8	11	19	47
DXTMQ, DXUMQ	11	13	22	52
DXT, DXU	10	13	22	52
DXJMQ	11	13	22	52
DXJ	10	13	22	52
DXFMQ	10	12	21	50
DXF	9	12	21	50
DXFLMQ	11	13	22	52
DXFL	10	13	22	52
DRMQ	10	12	21	50
DXR	9	12	21	50
HOLLOW OUTPUT SHAFT				
DXHMQ	8	9	17	42
DXH	7	9	17	42
DXTHMQ, DXUHQ	10	11	20	47
DXTH, DXUH	9	11	20	47
DXJHMQ	10	11	20	47
DXJH	9	11	20	47
DXFHMQ	9	10	19	45
DXFH	8	10	19	45
DXFLHMQ	10	11	20	47
DXFLH	9	11	20	47
DXRHMQ	9	10	19	45
DXRH	8	10	19	45

^Δ Weight includes grease/ oil.

REDUCER ACCESSORIES • APPROXIMATE WEIGHTS (LBS.)

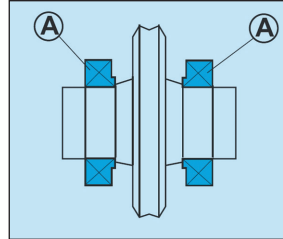
ACCESSORY	REDUCER SIZE			
	518	520	525	534
T/U - BASE	2	2	3	5
J - BASE	2	2	3	5
F - FLANGE	1	1	2	3
FL - FLANGE	2	2	3	5
R - REACTION ARM	1	1	2	3

Grove Gear® Bravo® reducers are available with many special options on request. Select from the common options below or contact Factory with specific application requests. Contact Factory for availability of reducers with special features.



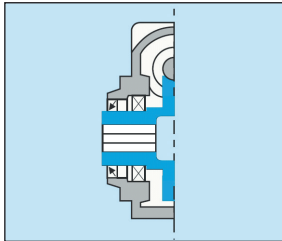
Tapered roller bearings on input worm shaft

REDUCER SIZE	1	2
512	---	--
518	--	--
520	32005X	30204
525	32007X	30205
534	32009X	30206



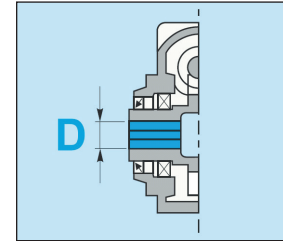
Tapered roller bearings on output shaft

REDUCER SIZE	A
512	--
518	--
520	32008X
525	32009X
534	32011X



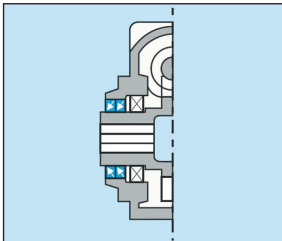
Stainless steel (AISI 303) or bronze output bore

REDUCER SIZE	MAX DIAMETER INCHES (MM)
512	0.550 (14)
518	0.875 (22.2)
520	1.1875 (30.16)
525	1.3125 (33.33)
534	1.625 (41.27)



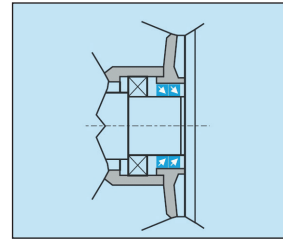
Non-standard output bore

REDUCER SIZE	MAX DIAMETER INCHES (MM)
512	0.550 (14)
518	0.875 (22.2)
520	1.1875 (30.16)
525	1.3125 (33.33)
534	1.625 (41.27)



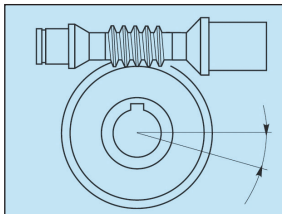
Double output seals

REDUCER SIZE	SEAL SIZE (MM)
512	--
518	--
520	--
525	45/62/7
534	55/80/8



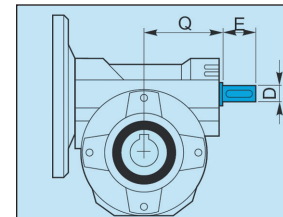
Double input seals

REDUCER SIZE	SEAL SIZE (MM)
512	20/30/7
518	25/40/7
520	25/40/7 or 30/40/7
525	35/47/7
534	45/62/7



Minimum backlash gearing

ALL SIZES AVAILABLE. CONTACT FACTORY WITH REQUIREMENTS.



Double input worm shaft extension

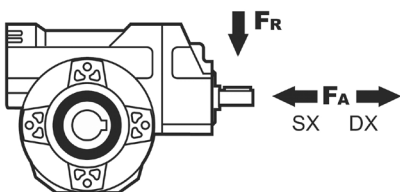
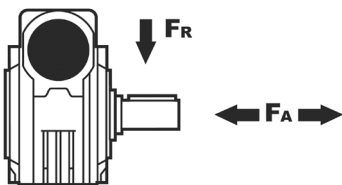
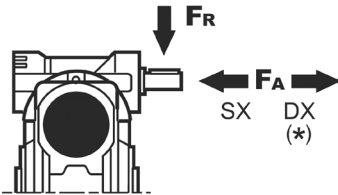
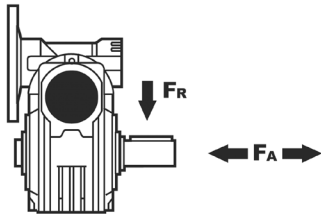
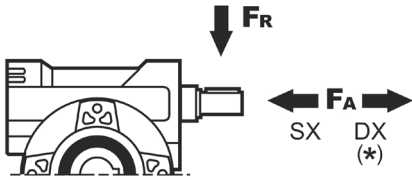
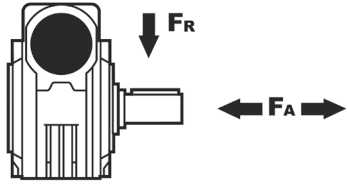
ALL SIZES AVAILABLE. CONTACT FACTORY WITH REQUIREMENTS.

SPECIAL OPTIONS NOT PICTURED INCLUDE:

- Epoxy paint
- Custom mounting accessories
- Custom ratios
- NEMA* input flange/ metric dimensioned output shaft combinations
- IEC input flange/ inch dimensioned output shaft combinations
- Special solid output shaft extensions

*NEMA is believed to be the trademark and/or trade name of National Electrical Manufacturers Association and is not owned or controlled by Regal Rexnord Corporation

MAXIMUM OVERHUNG LOAD‡ AND THRUST LOAD RATINGS (LBS.)



Single Reduction Output Shaft Ratings‡

Output RPM	Series									
	512		518		520		525		534	
	F _A	F _R	F _A	F _R	F _A	F _R	F _A	F _R	F _A	F _R
200	27	135	40	200	54	270	81	405	112	562
150	31	157	45	225	63	315	90	450	130	652
100	36	180	50	248	68	338	104	518	135	675
75	40	202	54	270	76	382	112	562	157	787
50	45	225	58	315	86	428	135	675	180	900
25	56	281	68	405	108	562	158	855	225	1125
15	63	315	90	450	126	629	180	899	261	1304

Single Reduction Input Shaft Ratings‡

Input RPM	Series									
	512		518		520		525		534	
	F _A	F _R	F _A	F _R	F _A	F _R	F _A	F _R	F _A	F _R
1750	4	21	9	43	16	79	19	93	33	167

Double Reduction Worm-Worm Output Shaft Ratings‡

Output RPM	Series							
	518		520		525		534	
	F _A	F _R	F _A	F _R	F _A	F _R	F _A	F _R
25	68	405	108	562	158	855	225	1125
15	90	450	126	629	180	899	261	1304

Double Reduction Worm-Worm Input Shaft Ratings‡

Input RPM	Series							
	518		520		525		534	
	F _A	F _R	F _A	F _R	F _A	F _R	F _A	F _R
1750	9	43	9	43	9	43	9	43

Double Reduction Helical/Worm Output Shaft Ratings‡

Output RPM	Series							
	518		520		525		534	
	F _A	F _R	F _A	F _R	F _A	F _R	F _A	F _R
75	54	270	76	382	112	562	157	787
50	58	315	86	428	135	675	180	900
25	68	405	108	562	158	855	225	1125
15	90	450	126	629	180	899	261	1304

Double Reduction Helical/Worm Input Shaft Ratings‡

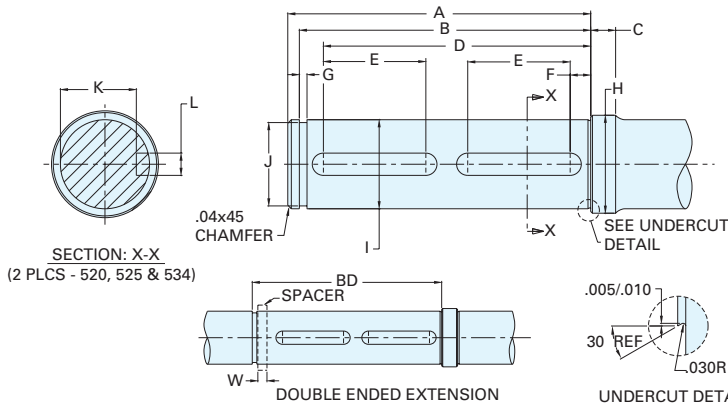
Input RPM	Series							
	518		520		525		534	
	F _A	F _R	F _A	F _R	F _A	F _R	F _A	F _R
1750	9	46	9	46	13	63	22	112

F_R = Radial load rating = overhung load (lbs)

F_A = Axial load rating = thrust rating (lbs)

* Axial loads in the DX direction should be avoided.

‡ Overhung load is located at centerline of shaft extension for solid input/ output shaft style



There are several possible methods to retain a drive shaft into the hollow bore of a gear reducer. A few common options are listed below:

- Retain drive shaft with a retaining ring (illustrated on the left)
- Retain drive shaft with a locknut
- Retain drive shaft with a thrust plate and fastener
- Retain drive shaft with a collar and setscrew
- Retain drive shaft with a recessed plate and fastener

DRIVEN SHAFT RECOMMENDATIONS ● HOLLOW BORE IN INCHES
Dimensions - Inches

Series	A	B +/- 0.0025	C	D	F	Retaining Ring		Mfg. No. (Waltes Truarc)	H	I +/- 0.0005	Keyway			Double Extension Details	
						G +0.005/- 0.000	J +/- 0.002				E	K +/- 0.0025	L +/- 0.001	BD +/- 0.0025	W* +/- 0.001
518	2.80	2.6445	0.43	N/A	0.18	0.086	0.703	5160-75	0.88	0.749	1.15	0.6365	0.1875	3.0755	0.430
520	3.50	3.2725	0.30	3.00	0.23	0.086	0.937	5160-98	1.12	0.999	1.15	0.8565	0.250	3.5735	0.300
525	5.00	4.8225	0.13	4.25	0.22	0.103	1.058	5160-112	1.25	1.124	1.53	0.9785	0.250	4.9535	0.130
534	5.65	5.4315	0.53	5.00	0.28	0.120	1.405	5160-150	1.75	1.499	1.65	1.2815	0.375	5.9625	0.530

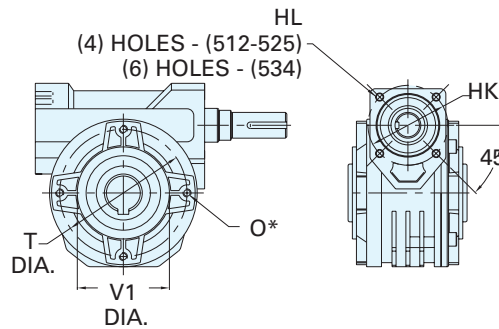
* Dimension "W" refers to the width of spacer used.

DRIVEN SHAFT RECOMMENDATIONS ● HOLLOW BORE IN MILLIMETERS
Dimensions - MM

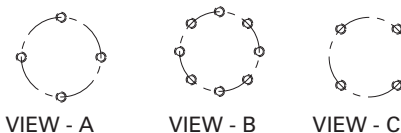
Series	A	B +/- 0.064	C	D	F	Retaining Ring		Mfg. No. (Waltes Truarc)	H	I - 0.005/ - 0.020	Keyway			Double Extension Details	
						G +0.12/- 0.00	J +/- 0.05				E	K +/- 0.05	L + 0.015/ - 0.000	BD +/- 0.064	W* +/- 0.02
512	60.5	56.223	10	N/A	5	1.1	13	5100-55	19.1	14	20.2	10.8	5	66.383	10.16
518	71.1	67.170	11	N/A	5	1.4	16	5160-66	22.4	18	30.2	14.5	6	78.118	10.92
520	88.9	83.120	8	76.2	5	2.3	23.5	5160-98	28.4	25	30.2	21.0	8	90.767	7.62
525	127.0	122.492	3	108.0	8	2.6	26	5160-106	31.8	28	40.2	24.0	8	125.819	3.30
534	143.5	137.960	14	127.0	9	2.6	32.8	5160-137	44.5	35	50.2	30.0	10	151.448	13.46

* Dimension "W" refers to the width of spacer used.

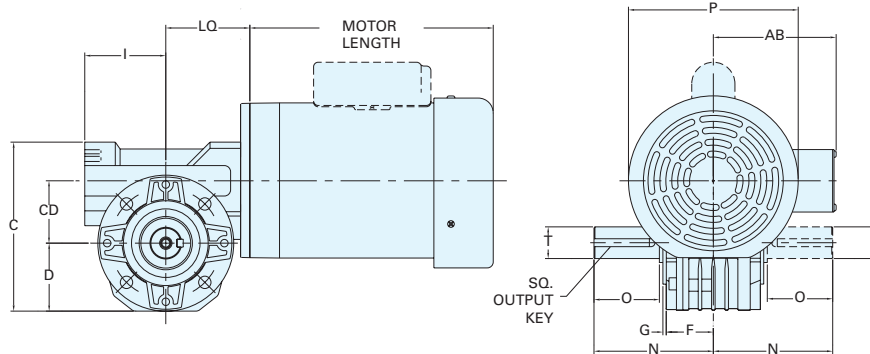
BOLT CIRCLE DIMENSIONS - mm



	O*	T DIA.	V1 DIA. (h8)	HL	HK DIA.
512	4 - M6 x 9	VIEW - A	65	50	M5 x 11
518	4 - M6 x 14	VIEW - A	65	50	M6 x 15
520	4 - M6 x 9	VIEW - A	94	68	M6 x 16
525	8 - M8 x 17	VIEW - B	90	75	M8 x 17
534	4 - M10 x 8	VIEW - C	130	110	M6 x 16



GEAR+MOTOR™ DIMENSIONS



BMQ STYLE DIMENSIONS - Inches (MM)

Series	C	CD	D	F	G	I	N	O	T* +0.000 -0.001	OUTPUT KEY
512	3.54(89.9)	1.18(30)	1.54(39)	1.18(30)	0.08(2)	1.81(46)	2.48(63.0)	1.01(25.7)	(14)*	(5)
518	4.76(121)	1.77(45)	1.93(49)	1.38(35)	0.08(2)	2.16(55)	2.97(75.4)	1.26(32.0)	0.750	3/16x1.00
520	5.33(135)	1.97(50)	2.15(54.5)	1.50(38)	0.12(3)	2.56(65)	3.94(100.1)	2.05(52.1)	1.000	1/4x1.62
525	6.69(170)	2.48(63)	2.76(70)	1.77(45)	0.19(5)	3.11(79)	4.85(123.2)	2.36(59.9)	1.125	1/4x2.00
534	9.15(232)	3.35(85)	3.72(94.5)	2.52(64)	0.14(3.5)	3.86(98)	5.55(141.0)	2.36(59.9)	1.500	3/8x2.00

* Tolerance is -0.005/ -0.0020.

NEMA MOTOR MOUNTING DIMENSIONS - Inches

Series	AB		LQ		P	
	56C/140TC	180TC	56C/140TC	180TC	56C/140TC	180TC
518	5.31	N/A	3.33	N/A	7.16	9.22
520	5.31	N/A	3.51	N/A	7.16	9.22
525	5.31	N/A	4.08	N/A	7.16	9.22
534	5.31	6.44	4.83	5.35	7.16	9.22

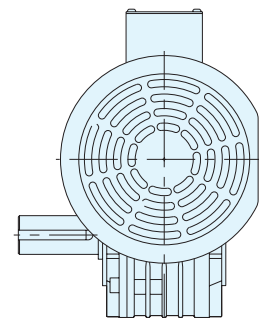
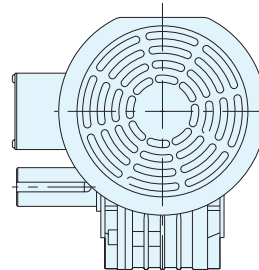
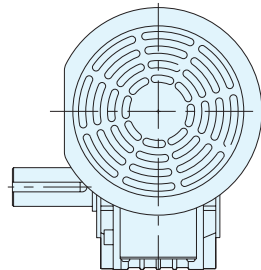
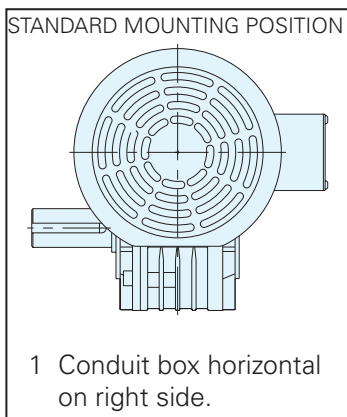
Refer to page L4 for NEMA motor length dimensions.

IEC MOTOR MOUNTING DIMENSIONS -Inches

Contact Factory for outline drawings of specific IEC BRAVO® Gear+Motor™ combinations.

MOTOR MOUNTING POSITIONS

Conduit box position viewed from input side of reducer.



Safety

⚠ DANGER indicates a hazard which, if not avoided, will result in serious injury or death.

⚠ WARNING indicates a hazard which, if not avoided, could result in serious injury or death.

⚠ CAUTION indicates a hazard which, if not avoided, could result in minor or moderate personal injury.

General Operation

1. Run the motor which drives the reducer and check the direction of reducer output rotation. Consult motor nameplate for instructions to reverse the direction of rotation.
2. Attaching the load: On direct coupled installations, check shaft and coupling alignment between speed reducer and loading mechanism. On chain/sprocket and belt/pulley installation, locate the sprocket or pulley as close to the oil seal as possible to minimize overhung load. Check to verify that the overhung load does not exceed specifications published in the catalog.
3. High momentum loads: If coasting to a stop is undesirable, a braking mechanism should be provided to the speed reducer output or the driven mechanism.

CAUTION! The system of connected rotating parts must be free from critical speed, torsional or other type vibration, no matter how induced. The responsibility for this system analysis lies with the purchaser of the speed reducer.

Installation Instructions

CAUTION! DO NOT CHANGE MOUNTING POSITIONS WITHOUT CONTACTING FACTORY. Altering the mounting position may require special lubrication provisions which must be factory installed.

CAUTION! Do not operate the reducer without making sure it contains the correct amount of oil. Confirm that mounting position on nameplate matches application requirement per Figure 1. Do not overfill or underfill with oil, or injury to personnel, reducer or other equipment may result.

CAUTION! A unit cannot be used as an integral part of a machine superstructure which would impose additional loads on the unit other than those imposed by the torque being transmitted either through a shaft-mounted arrangement, and any shaft mounted power transmitting device. (e.g. sprockets, pulleys, couplings)

CAUTION! For safe operation, when changing a factory installed fastener for any reason it becomes the responsibility of the person making the change to properly account for fastener grade, thread engagement, load, tightening torque and the means of torque retention. The following instructions apply to standard Grove Gear Bravo® type reducers with base or flange mounting in motorized and non-motorized single and double reduction options.

1. Mount the unit to a rigid flat surface using grade 5 or higher fasteners. The mounting fasteners should be the largest standard size that will fit in the base mounting hole. Shim as required under flange or base feet which do not lie flat against the mounting surface.

Installation Instructions (continued)

2. Carefully follow lubrication instructions and installation manual furnished with the gear reducer. All standard Bravo® reducers are properly filled at Factory with sufficient lubricant quantity for nearly any mounting position.

BRAVO aluminum gear reducers: Series 512-525 utilize a vent-free design and are Factory filled with synthetic oil formulated for lifetime lubrication & wide operating temperature range (+5F to +220F). It is not necessary to change the lubricant unless the reducer is used in a severe environment. If these reducers will be used in severe environment or if lubricant must be replaced, contact Factory.

3. Connect motor to speed reducer.

Lubrication

Carefully follow lubrication instructions and installation manual furnished with the gear reducer. All standard Bravo® reducers are properly filled at Factory with sufficient lubricant quantity for any mounting position.

Change oil only when performing maintenance that requires gearbox disassembly or if the reducer is operated in a severe environment. If oil must be replaced, use only Mobil PAG 460.

Mobil PAG 460 is H1 Food Grade approved lube.

CAUTION! Lubricant should be changed more often if gear reducer is used in a severe environment. (ie: humid, wet, caustic, etc). Failure to lubricate as directed could result in minor or moderate injury and product failure.

CAUTION! Do not mix different lubricants in the reducer. Failure to lubricate as directed could result in minor or moderate injury and product failure.

SPECIAL LUBRICATION REQUIREMENTS – Sizes 518-534

- Reducer is mounted with input worm shaft vertical
- Input speed is sustained less than 900 RPM

NOTE: The reducer may require modifications to assure proper lubrication in these applications. Contact Factory for more detail.

For lubrication requirements of helical reducers (primaries of helical worm reducers and ratio multipliers), contact Factory.

Lubrication type	Series				
	512	518	520	525	534
Oil (ounces)	2.2	3.0	5.2	13	41

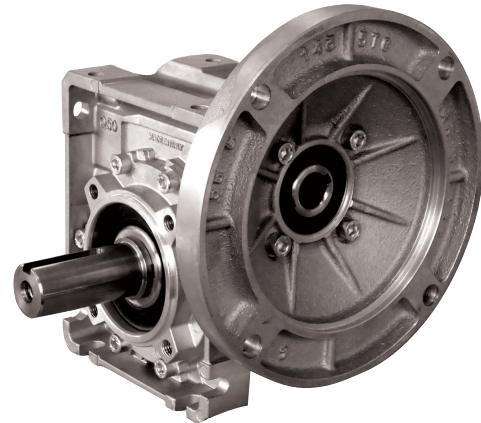
16 oz. = 1 pint	1 quart = .9463 liter
2 pints = 1 quart	1 gallon = 3.785 liter
4 quarts = 1 gallon	1 lb = .4535 kg.
1 gallon = 128 oz.	

Driven to be the Best

Quadro® Aluminum Worm Gear Reducers

Advantages

- Compact and lightweight aluminum alloy housing is up to one third smaller than alternatives
- Ideal for difficult installations
- Four sizes available with ratings to 8 HP
- Available in single and double reduction with ratios from 7:1 to 4020:1.
- Unique square design eliminates the need for mounting feet
- Available in both Nema* and IEC inputs and outputs
- Factory-filled with premium Mobil Glygoyle* 460 polyalkalene glycol lubricant
- Vent free design to eliminate leaks
- Available pre-assembled with LEESON® motors for the perfect GEAR+MOTOR™ package
- Mounting dimensions are interchangeable with many major brands



A Multitude of Washdown Applications



Food Processing



Meat & Poultry Processing



Dairy



Chemical Processing



Washdown

*The following are believed to be the trademarks and/or trade names of their respective owners and are not owned or controlled by Regal Rexnord Corporation. Glygoyle and Mobil: Exxon Mobil Corporation; NEMA: National Electrical Manufacturers Association; Resinol: Henkel IP & Holding GmbH

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

Additional Capabilities

BRAVO®
Single Reduction Reducers

NEMA®* C flange with quill input accepts 56C, 143-5TC and 182-4TC motor frames.

or

B5 & B14 IEC metric flange options with quill input accepts D56, D63, D71, D80, D90, D100 and D112 motor frames.

Vent Free Design. No breather or vents to leak! Factory lubricated for life with premium synthetic Mobil®* Glygoyle®* 460 (PAG) lubricant or equivalent suitable for continuous operation within a -10°F to 120°F ambient temperature range.

Single-piece aluminum alloy housing is vacuum impregnated with Resinol®* RT (MIL-STD 276) for protection and sealing. No secondary finish required but readily accepts paint. Combines light weight with high tensile strength. Precision machined for alignment of bearings and gearing.

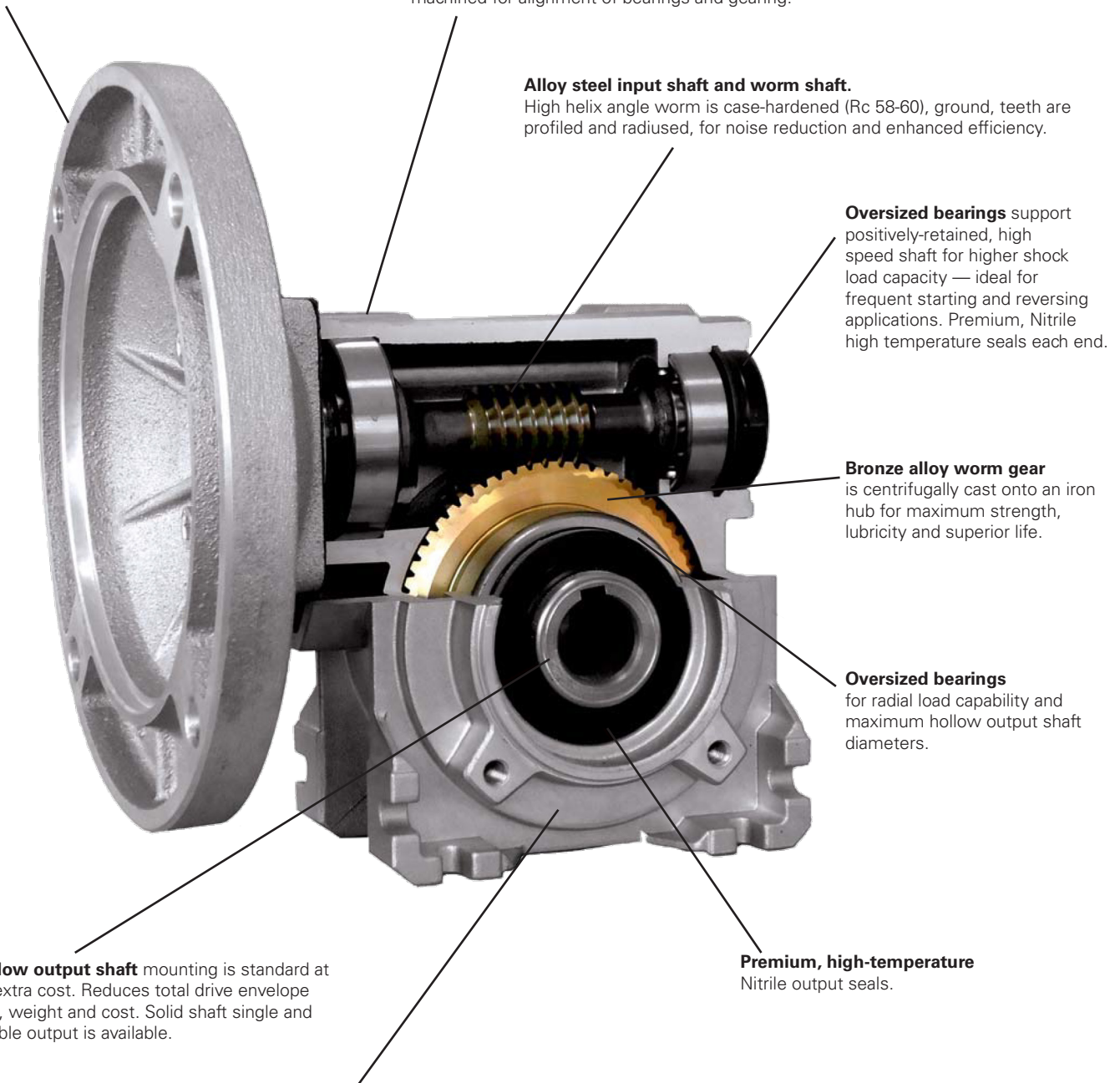
BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information



Alloy steel input shaft and worm shaft.

High helix angle worm is case-hardened (Rc 58-60), ground, teeth are profiled and radiused, for noise reduction and enhanced efficiency.

Oversized bearings support positively-retained, high speed shaft for higher shock load capacity — ideal for frequent starting and reversing applications. Premium, Nitrile high temperature seals each end.

Bronze alloy worm gear is centrifugally cast onto an iron hub for maximum strength, lubricity and superior life.

Oversized bearings for radial load capability and maximum hollow output shaft diameters.

Premium, high-temperature Nitrile output seals.

Hollow output shaft mounting is standard at no extra cost. Reduces total drive envelope size, weight and cost. Solid shaft single and double output is available.

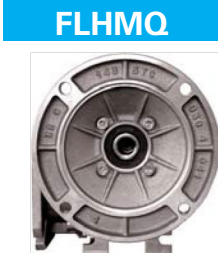
Impregnated and machined bearing caps with exterior machined surfaces mate to a variety of mounting accessories. Extra-deep thread engagement provided for greater support strength. Zinc plated hardware. No need to remove bearing covers to mount/change accessory kits.

*The following are believed to be the trademarks and/or trade names of their respective owners and are not owned or controlled by Regal Rexnord Corporation. Glygoyle and Mobil: Exxon Mobil Corporation; NEMA: National Electrical Manufacturers Association; Resinol: Henkel IP & Holding GmbH

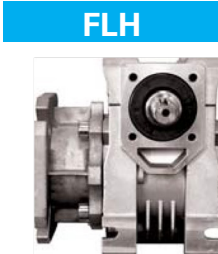
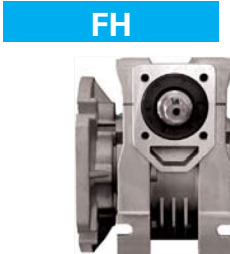
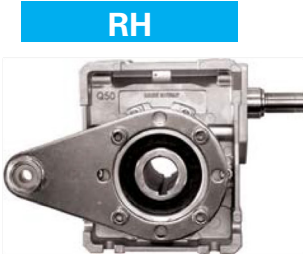
MOUNTING STYLE GUIDE

HOLLOW OUTPUT SHAFT MOUNTED

MOTORIZED
QUILL INPUT



NON-MOTORIZED
SOLID INPUT
SHAFT

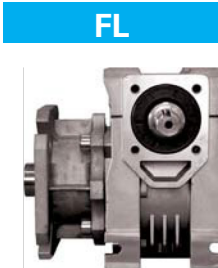
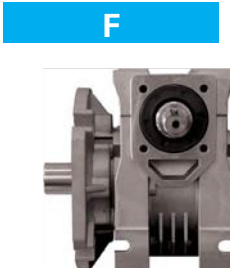
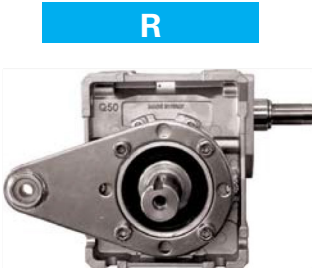
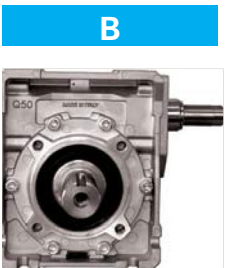


SOLID OUTPUT SHAFT

MOTORIZED
QUILL INPUT



NON-MOTORIZED
SOLID INPUT
SHAFT



BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

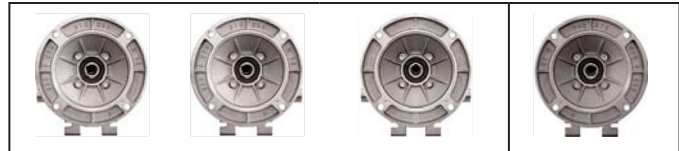
Quadro - Single Reduction

Technical Information

Quadro® Aluminum Worm Gear Reducers Maximum Rating Tables

Style BMQ

Style HMQ



518 SERIES • 1.0 S.F.

Exact Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	1.378	1.103	278	56C	Q518003112	Q518004112	Q518005112	Q518007112
	1150	164	0.950	0.760	292					
10	1750	175	0.981	0.775	279	56C	Q518003212	Q518004212	Q518005212	Q518007212
	1150	115	0.679	0.536	294					
14	1750	125	0.871	0.670	338	56C	Q518003312	Q518004312	Q518005312	Q518007312
	1150	82	0.602	0.463	356					
21	1750	83	0.796	0.533	405	56C	Q518003412	Q518004412	Q518005412	Q518007412
	1150	55	0.555	0.372	426					
28	1750	63	0.631	0.410	410	56C	Q518003512	Q518004512	Q518005512	Q518007512
	1150	47	0.494	0.321	431					
37	1750	47	0.490	0.309	414	56C	Q518003612	Q518004612	Q518005612	Q518007612
	1150	31	0.340	0.214	436					
46	1750	38	0.397	0.234	388	56C	Q518003712	Q518004712	Q518005712	Q518007712
	1150	25	0.274	0.162	408					
60	1750	29	0.363	0.203	442	56C	Q518003812	Q518004812	Q518005812	Q518007812
	1150	19.2	0.250	0.140	465					
70	1750	25.0	0.204	0.110	278	56C	Q518003912	Q518004912	Q518005912	Q518007912
	1150	16.4	0.137	0.074	292					
102	1750	17.2	0.144	0.070	261	56C	Q518004012	Q518005012	Q518006012	Q518008012
	1150	11.3	0.098	0.048	275					

▲ Contact Factory for other motor flanges available.

Quadro® Aluminum Worm Gear Reducers Maximum Rating Tables

Style B

Style H



518 SERIES • 1.0 S.F.

Exact Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	1.378	1.103	278	Q518000112	Q518001112	Q518002112	Q518006112
	1150	164	0.950	0.760	292				
10	1750	175	0.981	0.775	279	Q518000212	Q518001212	Q518002212	Q518006212
	1150	115	0.679	0.536	294				
14	1750	125	0.871	0.670	338	Q518000312	Q518001312	Q518002312	Q518006312
	1150	82	0.602	0.463	356				
21	1750	83	0.796	0.533	405	Q518000412	Q518001412	Q518002412	Q518006412
	1150	55	0.555	0.372	426				
28	1750	63	0.631	0.410	410	Q518000512	Q518001512	Q518002512	Q518006512
	1150	47	0.494	0.321	431				
37	1750	47	0.490	0.309	414	Q518000612	Q518001612	Q518002612	Q518006612
	1150	31	0.340	0.214	436				
46	1750	38	0.397	0.234	388	Q518000712	Q518001712	Q518002712	Q518006712
	1150	25	0.274	0.162	408				
60	1750	29	0.363	0.203	442	Q518000812	Q518001812	Q518002812	Q518006812
	1150	19.2	0.250	0.140	465				
70	1750	25.0	0.204	0.110	278	Q518000912	Q518001912	Q518002912	Q518006912
	1150	16.4	0.137	0.074	292				
102	1750	17.2	0.144	0.070	261	Q518001012	Q518002012	Q518003012	Q518007012
	1150	11.3	0.098	0.048	275				

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

Quadro® Aluminum Worm Gear Reducers Maximum Rating Tables

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

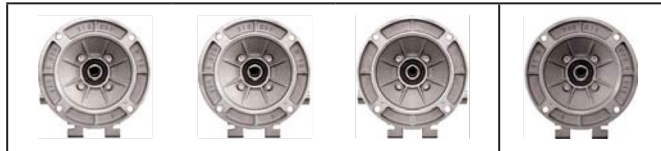
BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

Style BMQ

Style HMQ



520 SERIES • 1.0 S.F.

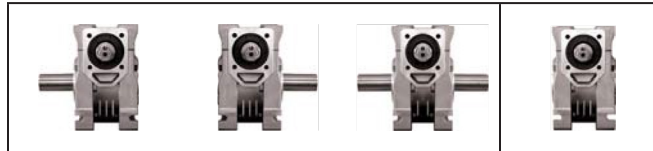
Exact Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	2.472	2.027	511	56C	Q520003416	Q520004516	Q520005616	Q520007816
	1150	164	1.707	1.400	538					
10	1750	175	1.961	1.569	565	56C	Q520003516	Q520004616	Q520005716	Q520007916
	1150	115	1.355	1.084	594					
14	1750	125	1.494	1.180	595	56C	Q520003616	Q520004716	Q520005816	Q520008016
	1150	82	1.031	0.814	626					
18	1750	97	1.196	0.897	583	56C	Q520003716	Q520004816	Q520005916	Q520008116
	1150	64	0.830	0.622	613					
26	1750	67	0.889	0.613	577	56C	Q520003816	Q520004916	Q520006016	Q520008216
	1150	44	0.614	0.424	607					
36	1750	49	0.684	0.472	607	56C	Q520003916	Q520005016	Q520006116	Q520008316
	1150	32	0.470	0.324	639					
43	1750	41	0.604	0.399	613	56C	Q520004016	Q520005116	Q520006216	Q520008416
	1150	27	0.419	0.276	645					
60	1750	29	0.486	0.282	613	56C	Q520004116	Q520005216	Q520006316	Q520008516
	1150	19.2	0.335	0.194	645					
68	1750	25.7	0.420	0.239	580	56C	Q520004216	Q520005316	Q520006416	Q520008616
	1150	16.9	0.289	0.165	610					
80	1750	21.9	0.368	0.199	569	56C	Q520004316	Q520005416	Q520006516	Q520008716
	1150	14.4	0.246	0.133	599					
100	1750	17.5	0.295	0.147	516	56C	Q520004416	Q520005516	Q520006616	Q520008816
	1150	11.5	0.207	0.103	543					

▲ Contact Factory for other motor flanges available.

Quadro® Aluminum Worm Gear Reducers Maximum Rating Tables

Style B

Style H



520 SERIES • 1.0 S.F.

Exact Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	2.472	2.027	511	Q520000116	Q520001216	Q520002316	Q520006716
	1150	164	1.707	1.400	538				
10	1750	175	1.961	1.569	565	Q520000216	Q520001316	Q520002416	Q520006816
	1150	115	1.355	1.084	594				
14	1750	125	1.494	1.180	595	Q520000316	Q520001416	Q520002516	Q520006916
	1150	82	1.031	0.814	626				
18	1750	97	1.196	0.897	583	Q520000416	Q520001516	Q520002616	Q520007016
	1150	64	0.830	0.622	613				
26	1750	67	0.889	0.613	577	Q520000516	Q520001616	Q520002716	Q520007116
	1150	44	0.614	0.424	607				
36	1750	49	0.684	0.472	607	Q520000616	Q520001716	Q520002816	Q520007216
	1150	32	0.470	0.324	639				
43	1750	41	0.604	0.399	613	Q520000716	Q520001816	Q520002916	Q520007316
	1150	27	0.419	0.276	645				
60	1750	29	0.486	0.282	613	Q520000816	Q520001916	Q520003016	Q520007416
	1150	19.2	0.335	0.194	645				
68	1750	25.7	0.420	0.239	580	Q520000916	Q520002016	Q520003116	Q520007516
	1150	16.9	0.289	0.165	610				
80	1750	21.9	0.368	0.199	569	Q520001016	Q520002116	Q520003216	Q520007616
	1150	14.4	0.246	0.133	599				
100	1750	17.5	0.295	0.147	516	Q520001116	Q520002216	Q520003316	Q520007716
	1150	11.5	0.207	0.103	543				

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

Quadro® Aluminum Worm Gear Reducers Maximum Rating Tables

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

Style BMQ

Style HMQ



525 SERIES • 1.0 S.F.

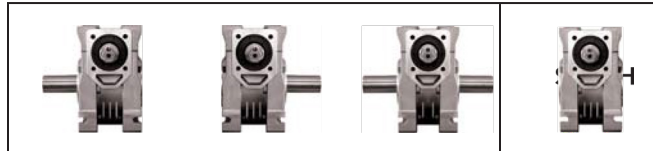
Exact Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	5.24	4.35	1097	56C	Q525003418	Q525004518	Q525005618	Q525007818
	1150	164	3.62	3.01	1155	140TC	Q525056218	Q525057318	Q525058418	Q525060618
10	1750	175	4.19	3.39	1222	56C	Q525003518	Q525004618	Q525005718	Q525007918
	1150	115	2.90	2.35	1287	140TC	Q525056318	Q525057418	Q525058518	Q525060718
15	1750	117	2.85	2.25	1214	56C	Q525003618	Q525004718	Q525005818	Q525008018
	1150	77	1.98	1.56	1278	140TC	Q525056418	Q525057518	Q525058618	Q525060818
19	1750	92	2.24	1.75	1197	56C	Q525003718	Q525004818	Q525005918	Q525008118
	1150	61	1.56	1.22	1260	140TC	Q525056518	Q525057618	Q525058718	Q525060918
24	1750	73	1.92	1.44	1246	56C	Q525003818	Q525004918	Q525006018	Q525008218
	1150	48	1.33	1.00	1312	140TC	Q525056618	Q525057718	Q525058818	Q525061018
30	1750	58	1.58	1.17	1274	56C	Q525003918	Q525005018	Q525006118	Q525008318
	1150	38	1.09	0.81	1341	140TC	Q525056718	Q525057818	Q525058918	Q525061118
36	1750	49	1.46	1.00	1281	56C	Q525004018	Q525005118	Q525006218	Q525008418
	1150	32	1.01	0.68	1349	140TC	Q525056818	Q525057918	Q525059018	Q525061218
45	1750	39	1.11	0.73	1182	56C	Q525004118	Q525005218	Q525006318	Q525008518
	1150	25.6	0.78	0.51	1244	140TC	Q525056918	Q525058018	Q525059118	Q525061318
67	1750	26.1	0.73	0.44	1069	56C	Q525004218	Q525005318	Q525006418	Q525008618
	1150	17.2	0.51	0.30	1125	140TC	Q525057018	Q525058118	Q525059218	Q525061418
80	1750	21.9	0.63	0.36	1034	56C	Q525004318	Q525005418	Q525006518	Q525008718
	1150	14.4	0.42	0.24	1089	140TC	Q525057118	Q525058218	Q525059318	Q525061518
94	1750	18.6	0.51	0.26	878	56C	Q525004418	Q525005518	Q525006618	Q525008818
	1150	12.2	0.34	0.18	924	140TC	Q525057218	Q525058318	Q525059418	Q525061618

▲ Contact Factory for other motor flanges available.

Quadro® Aluminum Worm Gear Reducers Maximum Rating Tables

Style B

Style H



525 SERIES • 1.0 S.F.

Exact Ratio	Input RPM		Output HP		Output Torque (lb-in)	Style B			Style H
	1750	1150	1750	1150		Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	5.24	4.35	1097	Q525000118	Q525001218	Q525002318	Q525006718
	1150	164	3.62	3.01	1155				
10	1750	175	4.19	3.39	1222	Q525000218	Q525001318	Q525002418	Q525006818
	1150	115	2.90	2.35	1287				
15	1750	117	2.85	2.25	1214	Q525000318	Q525001418	Q525002518	Q525006918
	1150	77	1.98	1.56	1278				
19	1750	92	2.24	1.75	1197	Q525000418	Q525001518	Q525002618	Q525007018
	1150	61	1.56	1.22	1260				
24	1750	73	1.92	1.44	1246	Q525000518	Q525001618	Q525002718	Q525007118
	1150	48	1.33	1.00	1312				
30	1750	58	1.58	1.17	1274	Q525000618	Q525001718	Q525002818	Q525007218
	1150	38	1.09	0.81	1341				
36	1750	49	1.46	1.00	1281	Q525000718	Q525001818	Q525002918	Q525007318
	1150	32	1.01	0.68	1349				
45	1750	39	1.11	0.73	1182	Q525000818	Q525001918	Q525003018	Q525007418
	1150	25.6	0.78	0.51	1244				
67	1750	26.1	0.73	0.44	1069	Q525000918	Q525002018	Q525003118	Q525007518
	1150	17.2	0.51	0.30	1125				
80	1750	21.9	0.63	0.36	1034	Q525001018	Q525002118	Q525003218	Q525007618
	1150	14.4	0.42	0.24	1089				
94	1750	18.6	0.51	0.26	878	Q525001118	Q525002218	Q525003318	Q525007718
	1150	12.2	0.34	0.18	924				

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

Quadro® Aluminum Worm Gear Reducers Maximum Rating Tables

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

Style BMQ

Style HMQ

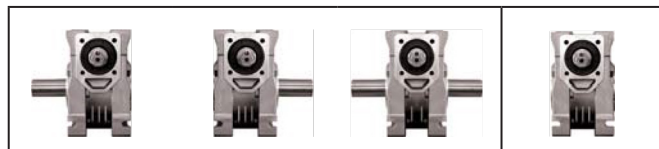


534 SERIES • 1.0 S.F.

Exact Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	NEMA C Input Flange▲	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	8.26	7.27	1832	180TC	Q534089224	Q534090124	Q534091024	Q534092824
	1150	164	5.70	5.02	1929					
10	1750	175	7.62	6.10	2196	140TC	Q534046124	Q534047024	Q534047924	Q534049724
	1150	115	5.27	4.22	2312					
14	1750	125	5.91	4.61	2323	140TC	Q534046224	Q534047124	Q534048024	Q534049824
	1150	82	4.08	3.18	2446					
20	1750	88	3.91	3.09	2212	140TC	Q534046324	Q534047224	Q534048124	Q534049924
	1150	58	2.71	2.14	2329					
28	1750	63	3.37	2.53	2528	140TC	Q534046424	Q534047324	Q534048224	Q534050024
	1150	41	2.31	1.73	2661					
38	1750	46	2.34	1.66	2279	56C	Q534003324	Q534004224	Q534005124	Q534006924
	1150	30	1.61	1.14	2399					
52	1750	34	1.82	1.20	2229	56C	Q534003424	Q534004324	Q534005224	Q534007024
	1150	22.1	1.24	0.82	2347					
67	1750	26.1	1.56	1.01	2458	56C	Q534003524	Q534004424	Q534005324	Q534007124
	1150	17.2	1.07	0.70	2588					
96	1750	18.2	0.99	0.52	1735	56C	Q534003624	Q534004524	Q534005424	Q534007224
	1150	12.0	0.66	0.35	1827					

▲ Contact Factory for other motor flanges available.

Style B Style H



534 SERIES • 1.0 S.F.

Exact Ratio	Input RPM	Output RPM	Input HP	Output HP	Output Torque (lb-in)	Left Hand Catalog No.	Right Hand Catalog No.	Double Extension Catalog No.	Hollow Output Catalog No.
7	1750	250	8.26	7.27	1832	Q534000124	Q534001024	Q534001924	Q534005524
	1150	164	5.70	5.02	1929				
10	1750	175	7.62	6.10	2196	Q534000224	Q534001124	Q534002024	Q534005624
	1150	115	5.27	4.22	2312				
14	1750	125	5.91	4.61	2323	Q534000324	Q534001224	Q534002124	Q534005724
	1150	82	4.08	3.18	2446				
20	1750	88	3.91	3.09	2212	Q534000424	Q534001324	Q534002224	Q534005824
	1150	58	2.71	2.14	2329				
28	1750	63	3.37	2.53	2528	Q534000524	Q534001424	Q534002324	Q534005924
	1150	41	2.31	1.73	2661				
38	1750	46	2.34	1.66	2279	Q534000624	Q534001524	Q534002424	Q534006024
	1150	30	1.61	1.14	2399				
52	1750	34	1.82	1.20	2229	Q534000724	Q534001624	Q534002524	Q534006124
	1150	22.1	1.24	0.82	2347				
67	1750	26.1	1.56	1.01	2458	Q534000824	Q534001724	Q534002624	Q534006224
	1150	17.2	1.07	0.70	2588				
96	1750	18.2	0.99	0.52	1735	Q534000924	Q534001824	Q534002724	Q534006324
	1150	12.0	0.66	0.35	1827				

MOTOR MOUNTING DIMENSIONS

NEMA DIMENSIONS - Inches

Frame	AJ	AK	BD	BE	BE1	BF	Input Bore Dia	Input Keyways▲
56C	5.88	4.50	6.50	0.38	N/A	0.41	0.625	3/16 x 3/32
140TC	5.88	4.50	6.50	0.38	N/A	0.41	0.875	3/16 x 3/32
180TC	7.25	8.50	9.00	N/A	0.50	0.53	1.125	1/4 x 1/8

OPTIONAL METRIC DIMENSIONS◊ - MM

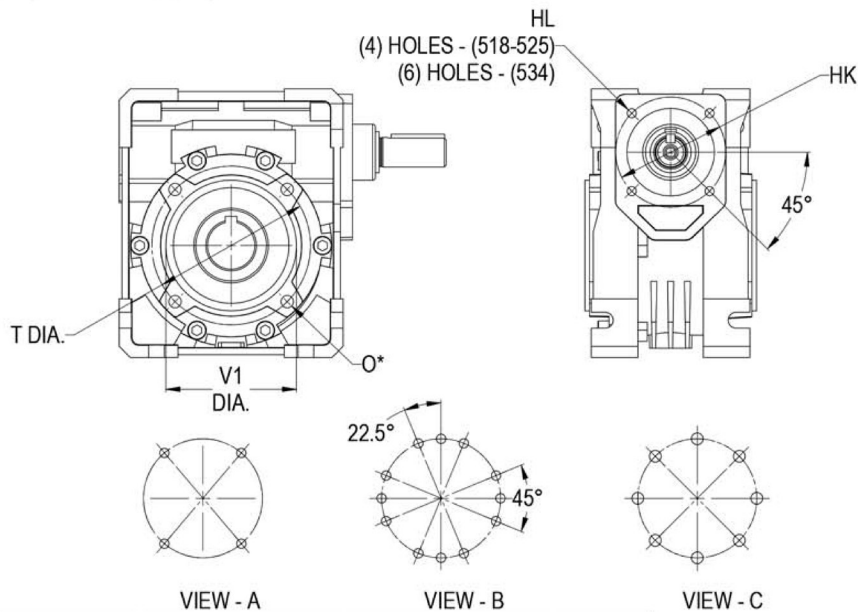
IEC Frame	B5					B14◊					Input Bore Dia	Input Keyway▲
	AJ	AK	BD	BE	BF	AJ	AK	BD	BE	BF◊		
D56D	100	80	120	10	7	65◊	50	80	7	6.5	9	3 x 1.5
D63D	115	95	140	11	9	75◊	60	90	5.5	5.5	11	4 x 2
D71D	130	110	160	10	9	85◊	70	105	8	6.5	14	5 x 2.5
D80D	165	130	200	12	11	100◊	80	120	10	7	19	6 x 3
D90D	165	130	200	12	11	115	95	140	11	9	24	8 x 3.5
D100LD■	215	180	250	13	14	130	110	160	10	9	28	8 x 3.5

- ◊ Contact Factory for availability of metric input options. The output bore and/or solid output shaft extension will be metric as standard with metric input options.
- ▲ Keyway width by depth
- ◆ AJ Mounting holes are rotated 45° from positions shown on B14 input options as follows: D63D(AI), D71D & D80D(Series 525 & 534)
- ◆ Dimensions are maximum (B5 and B14 options)
- ◊ B14 Option not available
- ◊ B5 Option not available
- Also applies to frame size D112MD
- ✓ Solid metric output shaft diameter tolerance is -0.005/-0.020. Hollow bore tolerance is H7

OPTIONAL METRIC DIMENSIONS◊ - MM

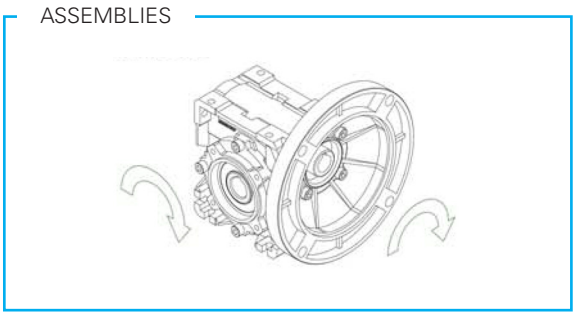
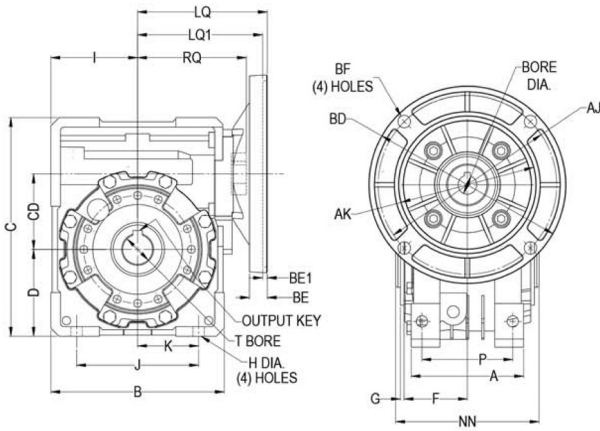
Series	LQ◊						T ✓	O	N	Output Keyway
	IEC B5 & B14 Options									
	D56D	D63D	D71D	D80D	D90D	D100LD■				
	(standard for metric units)									
512	62.5◊	62.5	N/A	N/A	N/A	N/A	14	25	63	5
518	74◊□	74◊	74	N/A	N/A	N/A	18	32	75	6
520	81.5◊□	81.5◊	81.5	81.5	N/A	N/A	25	52	100	8
525	N/A	99.5◊	99.5◊	99.5◊	99.5	N/A	25	60	123	8
534	N/A	N/A	124◊	124	124	124	35	60	141	10

BOLT CIRCLE DIMENSIONS - MM



Series	O*		T DIA.	V1 DIA. (h8)	HL	HK DIA.
518	4 - M6 X 12	VIEW - A	75	60	M6 X 15	59
520	4 - M8 X 11	VIEW - A	85	70	M6 X 16	59
525	12 - M8 X 14	VIEW - B	90	75	M8 X 17	80
534	8 - M10 X 17	VIEW - C	130	110	M6 X 16	90

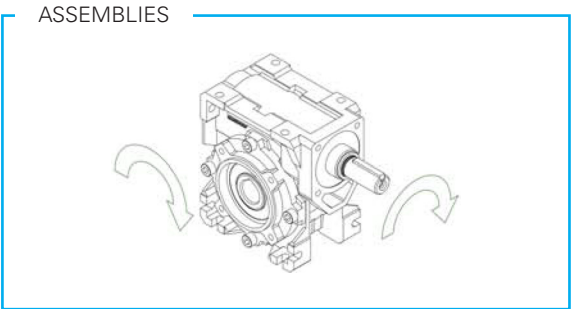
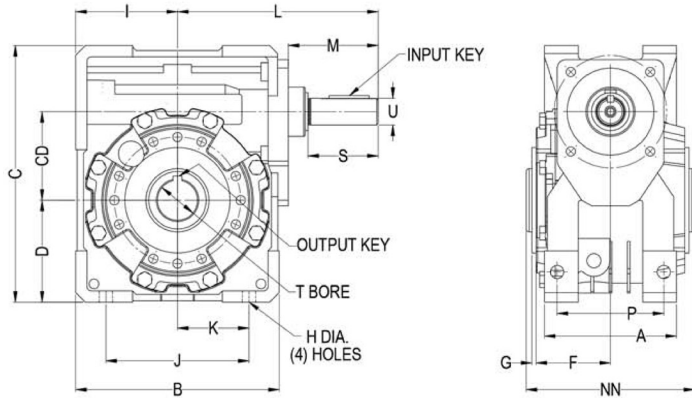
Dimensions



HMQ Style - Inches

Series	A	B	C	CD	D	F	G	H	I	J	K	LQ*	LQ1*	NN	P	RQ	T*	OUTPUT KEY*
518	2.80	3.94	4.78	1.77	1.97	1.44	0.10	0.26	1.97	2.76	1.38	3.54	N/A	2.56	2.36	2.60	0.750	3/16 X 1.00
520	3.35	4.72	5.67	1.97	2.36	1.71	0.10	0.33	2.36	3.15	1.58	3.74	N/A	3.19	2.76	2.83	1.000	1/4 X 1.62
525	3.70	5.71	7.19	2.48	2.85	2.09	0.12	0.37	2.85	4.02	2.01	4.08	N/A	4.72	2.99	3.58	1.125	1/4 X 2.00
534	4.92	7.87	9.67	3.35	3.94	2.52	0.14	0.43	3.94	5.67	2.83	4.83	5.35	5.32	3.98	4.33	1.500	3/8 X 2.00

* Metric options are available. Refer to dimensions on page K11. Contact Factory for availability of metric options.



H Style - Inches

Series	A	B	C	CD	D	F	G	H	I	J	K	L	M	NN	P	S	T	U	INPUT KEY	OUTPUT KEY
518	2.80	3.94	4.78	1.77	1.97	1.44	0.10	0.26	1.97	2.76	1.38	4.11	1.69	2.56	2.36	1.18	0.750	0.625	3/16 X 1.00	3/16 X 1.00
520	3.35	4.72	5.67	1.97	2.36	1.71	0.10	0.33	2.36	3.15	1.58	4.32	1.76	3.19	2.76	1.18	1.000	0.625	3/16 X 1.00	1/4 X 1.62
525	3.70	5.71	7.19	2.48	2.85	2.09	0.12	0.37	2.85	4.02	2.01	5.45	2.34	4.72	2.99	1.77	1.125	0.750	3/16 X 1.50	1/4 X 2.00
534	4.92	7.87	9.67	3.35	3.94	2.52	0.14	0.43	3.94	5.67	2.83	6.40	2.54	5.32	3.98	1.75	1.500	0.875	3/16 X 1.50	3/8 X 2.00

BRAVO® Single Reduction Reducers

BRAVO® Worm - Worm Double Reduction

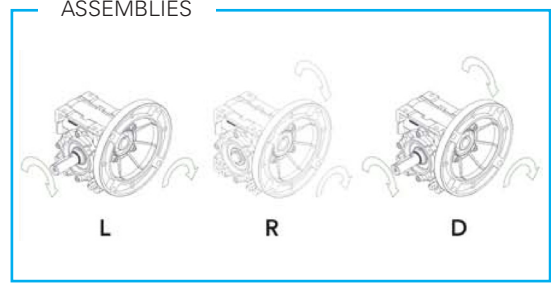
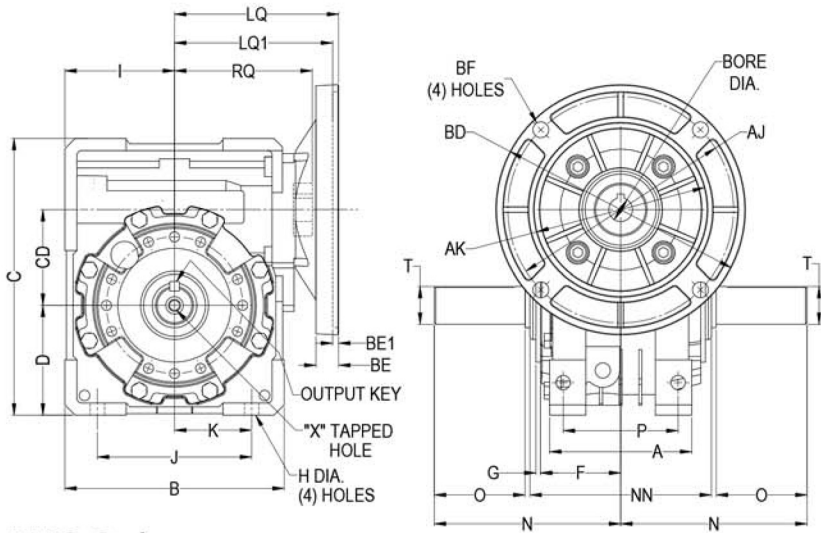
BRAVO® Helical - Worm Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

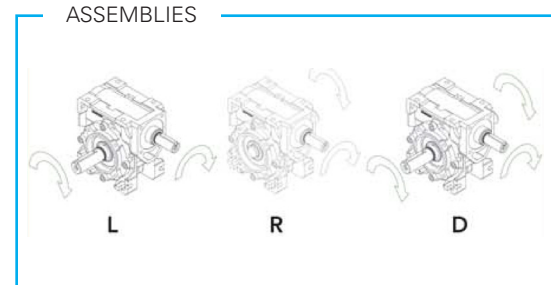
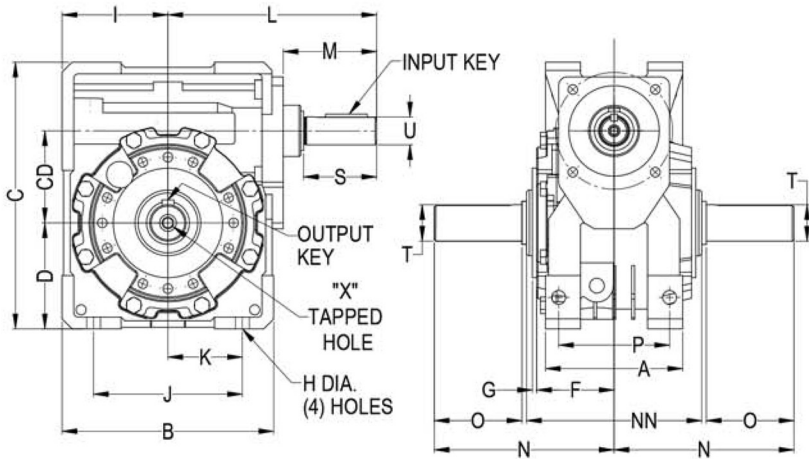
Dimensions



BMQ Style - Inches

Series	A	B	C	CD	D	F	G	H	I	J	K	LQ* 56/140	LQ1* 180	N	NN	O*	P	RQ	T* +0.000 -0.001	X		OUTPUT KEY*
																				Tap Size	Depth	
518	2.80	3.94	4.78	1.77	1.97	1.44	0.10	0.26	1.97	2.76	1.38	3.54	N/A	2.97	2.56	1.26	2.36	2.60	0.750	1/4-20 UNC	0.62	3/16 X 1.00
520	3.35	4.72	5.67	1.97	2.36	1.71	0.10	0.33	2.36	3.15	1.58	3.74	N/A	3.95	3.19	2.05	2.76	2.83	1.000	5/16-18 UNC	0.75	1/4 X 1.62
525	3.70	5.71	7.19	2.48	2.85	2.09	0.12	0.37	2.85	4.02	2.01	4.08	N/A	4.85	4.72	2.36	2.99	3.59	1.125	5/16-18 UNC	0.75	1/4 X 2.00
534	4.92	7.87	9.67	3.35	3.94	2.52	0.14	0.43	3.94	5.67	2.83	4.83	5.35	5.55	5.32	2.36	3.98	4.33	1.500	3/8-16 UNC	0.88	3/8 X 2.00

* Metric options are available. Refer to dimensions on page K11.
Contact Factory for availability of metric options.



B Style - Inches

Series	A	B	C	CD	D	F	G	H	I	J	K	L	M	N	NN	O	P	S	T +0.000 -0.001	U +0.000 -0.001	X		INPUT KEY	OUTPUT KEY*
																					Tap Size	Depth		
518	2.80	3.94	4.78	1.77	1.97	1.44	0.10	0.26	1.97	2.76	1.38	4.11	1.69	2.97	2.56	1.26	2.36	1.18	0.750	0.625	1/4-20 UNC	0.62	3/16 X 1.00	3/16 X 1.00
520	3.35	4.72	5.67	1.97	2.36	1.71	0.10	0.33	2.36	3.15	1.58	4.32	1.76	3.95	3.19	2.05	2.76	1.18	1.000	0.625	5/16-UNC	0.75	3/16 X 1.00	1/4 X 1.62
525	3.70	5.71	7.19	2.48	2.85	2.09	0.12	0.37	2.85	4.02	2.01	5.45	2.34	4.85	4.72	2.36	2.99	1.77	1.125	0.750	5/16-UNC	0.75	3/16 X 1.50	1/4 X 2.00
534	4.92	7.87	9.67	3.35	3.94	2.52	0.14	0.43	3.94	5.67	2.83	6.40	2.54	5.55	5.32	2.36	3.98	1.75	1.500	0.875	3/8-16 UNC	0.88	3/16 X 1.50	3/8 X 2.00

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

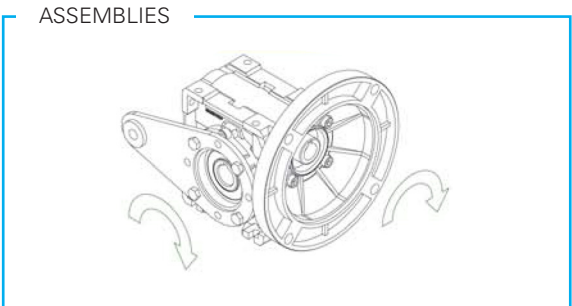
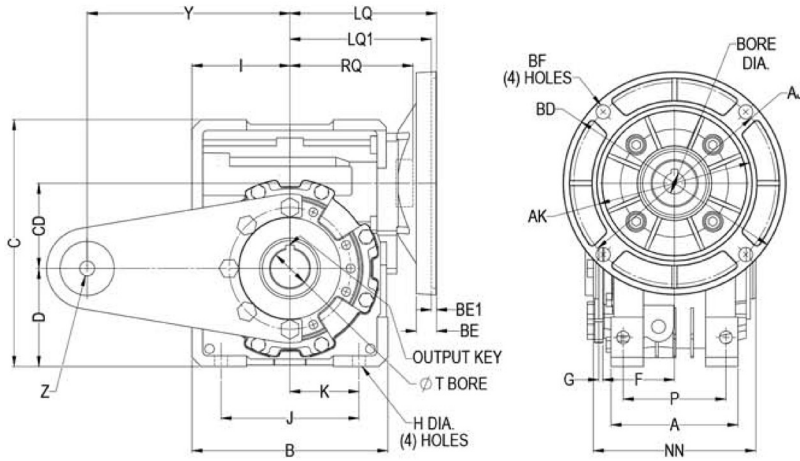
Quadro - Single Reduction

Technical Information

Dimensions

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction



BRAVO® Helical - Worm
Double Reduction

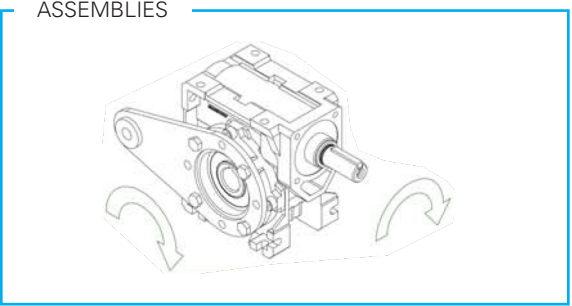
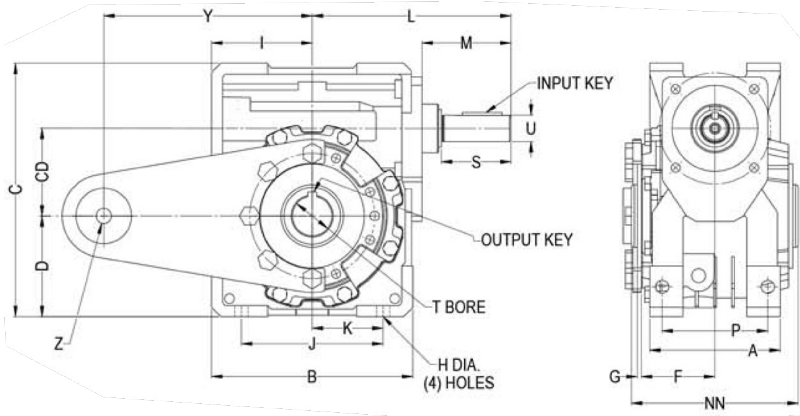
RHMQ Style - Inches

Series	A	B	C	CD	D	F	G	H	I	J	K	LQ* 56/140	LQ1* 180	NN	P	RQ	T* +0.0015 -0.0000	Y	Z	OUTPUT KEY*
518	2.80	3.94	4.78	1.77	1.97	1.44	0.10	0.26	1.97	2.76	1.38	3.54	N/A	2.56	2.36	2.60	0.750	3.94	0.394	3/16 X 1.00
520	3.35	4.72	5.67	1.97	2.36	1.71	0.10	0.33	2.36	3.15	1.58	3.74	N/A	3.19	2.76	2.83	1.000	3.94	0.394	1/4 X 1.62
525	3.70	5.71	7.19	2.48	2.85	2.09	0.12	0.37	2.85	4.02	2.01	4.08	N/A	4.72	2.99	3.58	1.125	5.91	0.433	1/4 X 2.00
534	4.92	7.87	9.67	3.35	3.94	2.52	0.14	0.43	3.94	5.67	2.83	4.83	5.35	5.32	3.98	4.33	1.500	7.87	0.787	3/8 X 2.00

* Metric options are available. Refer to dimensions on page K11.
Contact Factory for availability of metric options.

BRAVO® Accessory Kits

Quadro - Single Reduction

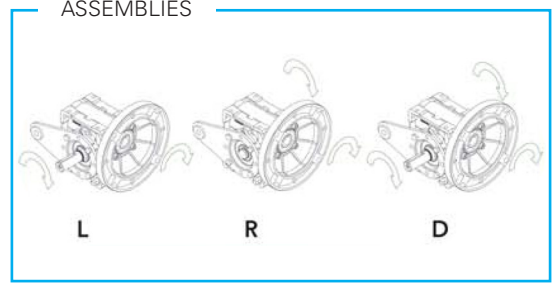
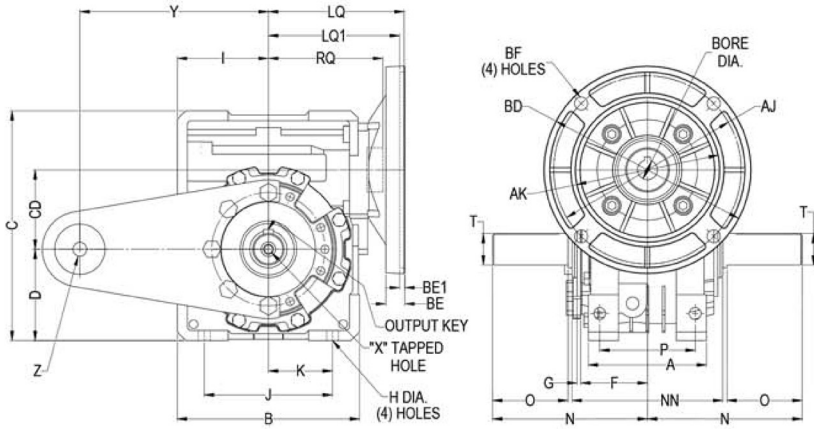


RH Style - Inches

Series	A	B	C	CD	D	F	G	H	I	J	K	L	M	NN	P	S	T +0.0015 -0.0000	U +0.000 -0.001	Y	Z	INPUT KEY	OUTPUT KEY
518	2.80	3.94	4.78	1.77	1.97	1.44	0.10	0.26	1.97	2.76	1.38	4.11	1.69	2.56	2.36	1.18	0.750	0.625	3.94	0.394	3/16 X 1.00	3/16 X 1.00
520	3.35	4.72	5.67	1.97	2.36	1.71	0.10	0.33	2.36	3.15	1.58	4.32	1.76	3.19	2.76	1.18	1.000	0.625	3.94	0.394	3/16 X 1.00	1/4 X 1.62
525	3.70	5.71	7.19	2.48	2.85	2.09	0.12	0.37	2.85	4.02	2.01	5.45	2.34	4.72	2.99	1.77	1.125	0.750	5.91	0.433	3/16 X 1.50	1/4 X 2.00
534	4.92	7.87	9.67	3.35	3.94	2.52	0.14	0.43	3.94	5.67	2.83	6.40	2.54	5.32	3.98	1.75	1.500	0.875	7.87	0.787	3/16 X 1.50	3/8 X 2.00

Technical Information

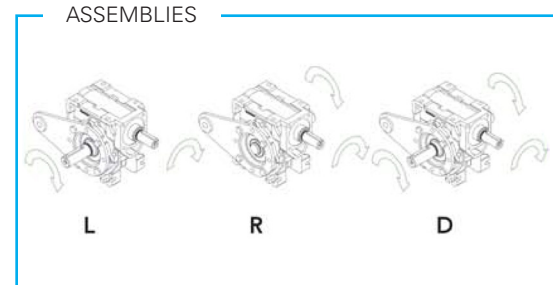
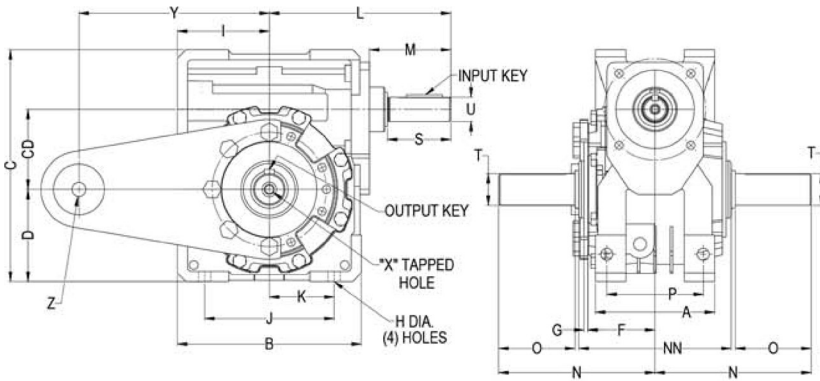
Dimensions



RMQ Style - Inches

Series	A	B	C	CD	D	F	G	H	I	J	K	LQ* 56/140	LQ1* 180	N	NN	O*	P	RQ	T* +0.000 -0.001	X		Y	Z	OUTPUT KEY*
																				Tap Size	Depth			
518	2.80	3.94	4.78	1.77	1.97	1.44	0.10	0.26	1.97	2.76	1.38	3.54	N/A	2.97	2.56	1.26	2.36	1.18	0.750	1/4-20 UNC	0.62	3.94	0.394	3/16 X 1.00
520	3.35	4.72	5.67	1.97	2.36	1.71	0.10	0.33	2.36	3.15	1.58	3.74	N/A	3.95	3.19	2.05	2.76	1.18	1.000	5/16-18 UNC	0.75	3.94	0.394	1/4 X 1.62
525	3.70	5.71	7.19	2.48	2.85	2.09	0.12	0.37	2.85	4.02	2.01	4.08	N/A	4.85	4.72	2.36	2.99	1.77	1.125	5/16-18 UNC	0.75	5.91	0.433	1/4 X 2.00
534	4.92	7.87	9.67	3.35	3.94	2.52	0.14	0.43	3.94	5.67	2.83	4.83	5.35	5.55	5.32	2.36	3.98	1.75	1.500	3/8-16 UNC	0.88	7.87	0.787	3/8 X 2.00

* Metric options are available. Refer to dimensions on page K11.
Contact Factory for availability of metric options.



R Style - Inches

Series	A	B	C	CD	D	F	G	H	I	J	K	L	M	N	NN	O	P	S	T +0.000 -0.001	U +0.000 -0.001	X		Y	Z	INPUT KEY	OUTPUT KEY
																					Tap Size	Depth				
518	2.80	3.94	4.78	1.77	1.97	1.44	0.10	0.26	1.97	2.76	1.38	4.11	1.69	2.97	2.56	1.26	2.36	1.18	0.750	0.625	1/4-20 UNC	0.62	3.94	0.394	3/16 X 1.00	3/16 X 1.00
520	3.35	4.72	5.67	1.97	2.36	1.71	0.10	0.33	2.36	3.15	1.58	4.32	1.76	3.95	3.19	2.05	2.76	1.18	1.000	0.625	5/16-UNC	0.75	3.94	0.394	3/16 X 1.00	1/4 X 1.62
525	3.70	5.71	7.19	2.48	2.85	2.09	0.12	0.37	2.85	4.02	2.01	5.45	2.34	4.85	4.72	2.36	2.99	1.77	1.125	0.750	5/16-UNC	0.75	5.91	0.433	3/16 X 1.50	1/4 X 2.00
534	4.92	7.87	9.67	3.35	3.94	2.52	0.14	0.43	3.94	5.67	2.83	6.40	2.54	5.55	5.32	2.36	3.98	1.75	1.500	0.875	3/8-16 UNC	0.88	7.87	0.787	3/16 X 1.50	3/8 X 2.00

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

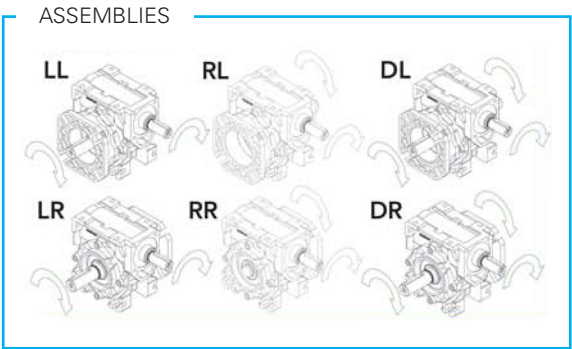
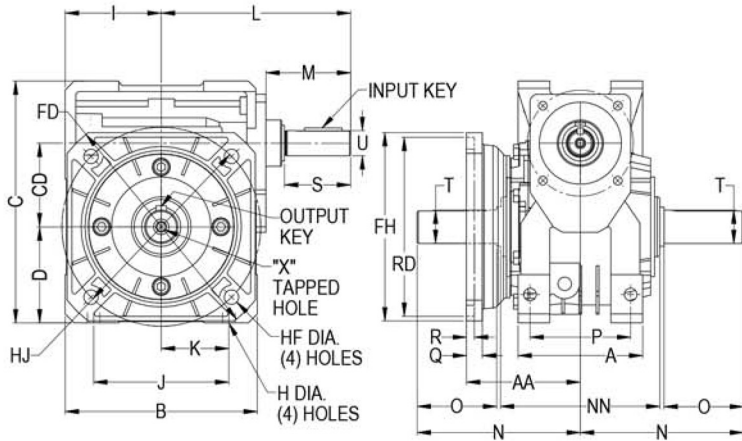
BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

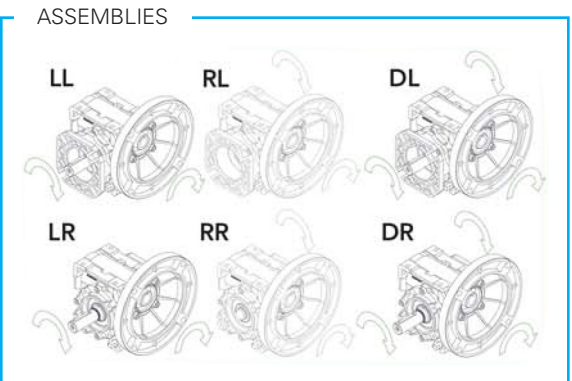
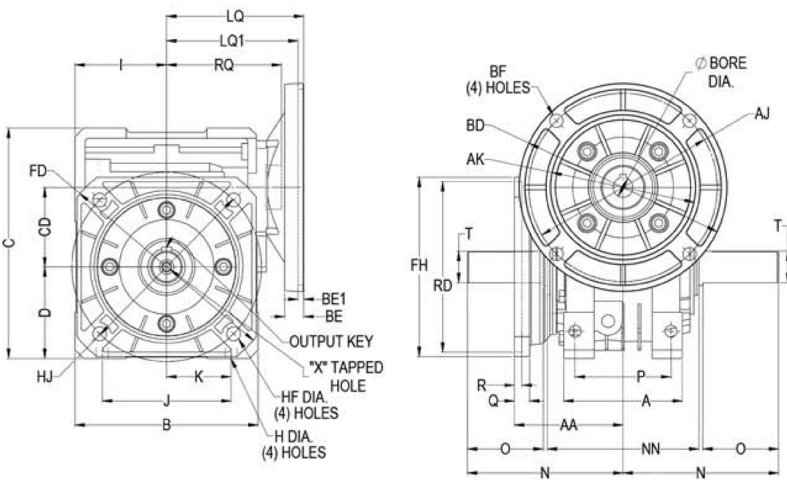
Dimensions



F Style - Inches

Series	A	AA	B	C	CD	D	FD	FH	H	HF	HJ	I	J	K	L	M	N	NN	O	P	Q	R	RD	S
518	2.80	2.64	3.94	4.78	1.77	1.97	4.33	3.74	0.26	0.35	2.95	1.97	2.76	1.38	4.11	1.69	2.97	2.56	1.26	2.36	0.28	0.16	2.3640/2.3622	1.18
520	3.35	3.54	4.72	5.67	1.97	2.36	4.92	4.33	0.33	0.43	3.35	2.36	3.15	1.58	4.32	1.76	3.95	3.19	2.05	2.76	0.35	0.20	2.7577/2.7559	1.18
525	3.70	3.39	5.71	7.19	2.48	2.85	7.09	5.59	0.37	0.43	5.91	2.85	4.02	2.01	5.45	2.34	4.85	4.72	2.36	2.99	0.47	0.24	4.5354/4.5335	1.77
534	4.92	4.25	7.87	9.67	3.35	3.94	-	Ø8.071	0.43	0.51	6.93	3.94	5.67	2.83	6.40	2.54	5.55	5.32	2.36	3.98	0.63	0.20	5.9867/5.9843	1.75

Series	T	U	X		INPUT KEY	OUTPUT KEY
			Tap Size	Depth		
518	0.750 +0.000 -0.001	0.625 +0.000 -0.001	1/4-20 UNC	0.62	3/16 X 1.00	3/16 X 1.00
520	1.000	0.625	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 1.62
525	1.125	0.750	5/16-18 UNC	0.75	3/16 X 1.50	1/4 X 2.00
534	1.500	0.875	3/8-16 UNC	0.88	3/16 X 1.50	3/8 X 2.00

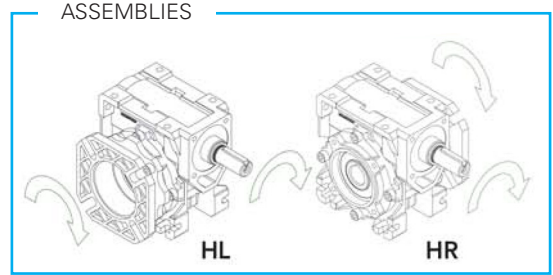
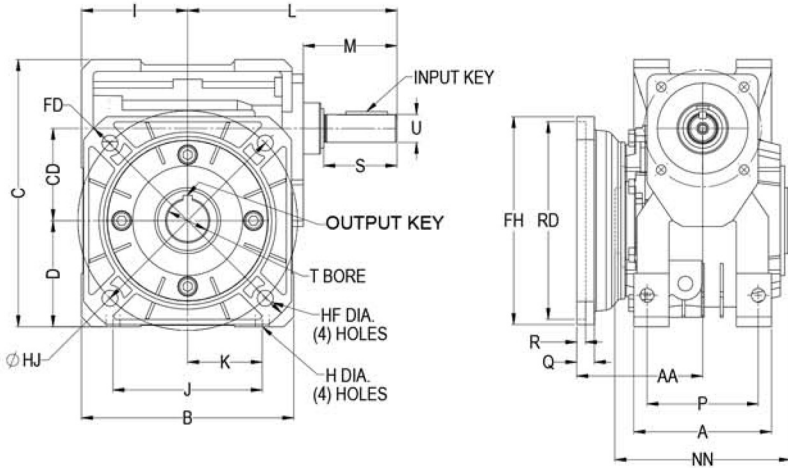


FMQ Style - Inches

Series	A	AA	B	C	CD	D	FD	FH	H	HF	HJ	I	J	K	LQ*	LQ1*	N	NN	O*	P	Q	R	RD	RQ	T*	X		OUTPUT KEY*
																										Tap Size	Depth	
518	2.80	2.64	3.94	4.78	1.77	1.97	4.33	3.74	0.26	0.35	2.95	1.97	2.76	1.38	3.54	N/A	2.97	2.56	1.26	2.36	0.28	0.16	2.3640/2.3622	2.60	0.750	1/4-20 UNC	0.62	3/16 X 1.00
520	3.35	3.54	4.72	5.67	1.97	2.36	4.92	4.33	0.33	0.43	3.35	2.36	3.15	1.58	3.74	N/A	3.95	3.19	2.05	2.76	0.35	0.20	2.7577/2.7559	2.83	1.000	5/16-18 UNC	0.75	1/4 X 1.62
525	3.70	3.39	5.71	7.19	2.48	2.85	7.09	5.59	0.37	0.43	5.91	2.85	4.02	2.01	4.08	N/A	4.85	4.72	2.36	2.99	0.47	0.24	4.5354/4.5335	3.58	1.125	5/16-18 UNC	0.75	1/4 X 2.00
534	4.92	4.25	7.87	9.67	3.35	3.94	-	Ø8.071	0.43	0.51	6.93	3.94	5.67	2.83	4.83	5.35	5.55	5.32	2.36	3.98	0.63	0.20	5.9867/5.9843	4.33	1.500	3/8-16 UNC	0.88	3/8 X 2.00

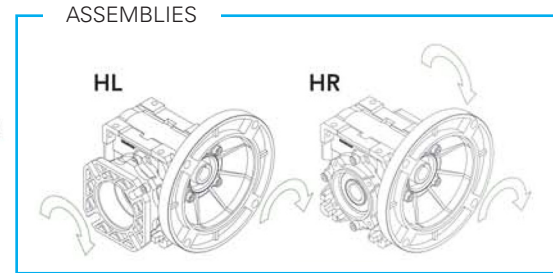
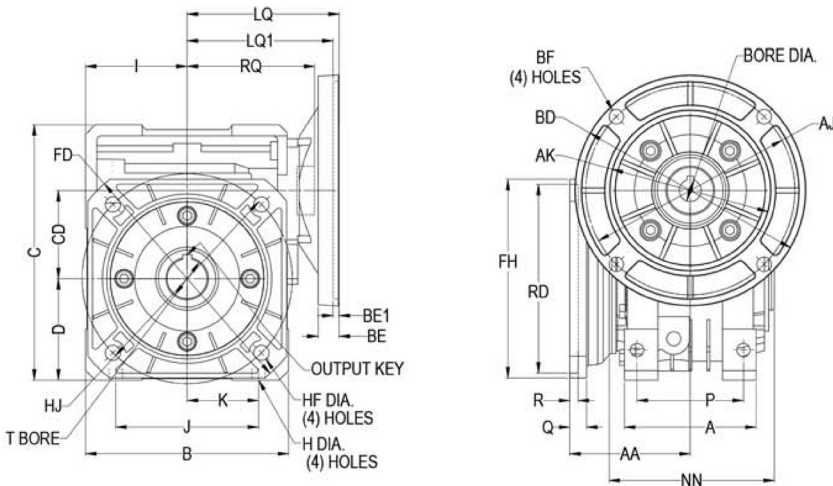
* Metric options are available. Refer to dimensions on page K11. Contact Factory for availability of metric options.

Dimensions



FH Style - Inches

Series	A	AA	B	C	CD	D	FD	FH	H	HF	HJ	I	J	K	L	M	NN	P	Q	R	RD	S	T +0.0015 -0.0000	U +0.000 -0.001	INPUT KEY	OUTPUT KEY
518	2.80	2.64	3.94	4.78	1.77	1.97	4.33	3.74	0.26	0.35	2.95	1.97	2.76	1.38	4.11	1.69	2.56	2.36	0.28	0.16	2.3640/2.3622	1.18	0.750	0.625	3/16 X 1.00	3/16 X 1.00
520	3.35	3.54	4.72	5.67	1.97	2.36	4.92	4.33	0.33	0.43	3.35	2.36	3.15	1.58	4.32	1.76	3.19	2.76	0.35	0.20	2.7577/2.7559	1.18	1.000	0.625	3/16 X 1.00	1/4 X 1.62
525	3.70	3.39	5.71	7.19	2.48	2.85	7.09	5.59	0.37	0.43	5.91	2.85	4.02	2.01	5.45	2.34	4.72	2.99	0.47	0.24	4.5354/4.5335	1.77	1.125	0.750	3/16 X 1.50	1/4 X 2.00
534	4.92	4.25	7.87	9.67	3.35	3.94	-	Ø8.071	0.43	0.51	6.93	3.94	5.67	2.83	6.40	2.54	5.32	3.98	0.63	0.20	5.9867/5.9843	1.75	1.500	0.875	3/16 X 1.5	3/8 X 2.00



FHMQ Style - Inches

Series	A	AA	B	C	CD	D	FD	FH	H	HF	HJ	I	J	K	LQ*	LQ1* 56/140	NN	P	Q	R	RD	RQ	T* +0.0015 -0.0000	OUTPUT KEY*
518	2.80	2.64	3.94	4.78	1.77	1.97	4.33	3.74	0.26	0.35	2.95	1.97	2.76	1.38	3.54	N/A	2.56	2.36	0.28	0.16	2.3640/2.3622	2.60	0.750	3/16 X 1.00
520	3.35	3.54	4.72	5.67	1.97	2.36	4.92	4.33	0.33	0.43	3.35	2.36	3.15	1.58	3.74	N/A	3.19	2.76	0.35	0.20	2.7577/2.7559	2.83	1.000	1/4 X 1.62
525	3.70	3.39	5.71	7.19	2.48	2.85	7.09	5.59	0.37	0.43	5.91	2.85	4.02	2.01	4.08	N/A	4.72	2.99	0.47	0.24	4.5354/4.5335	3.58	1.125	1/4 X 2.00
534	4.92	4.25	7.87	9.67	3.35	3.94	-	Ø8.071	0.43	0.51	6.93	3.94	5.67	2.83	4.83	5.35	5.32	3.98	0.63	0.20	5.9867/5.9843	4.33	1.500	3/8 X 2.00

* Metric options are available. Refer to dimensions on page K11.
Contact Factory for availability of metric options.

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

Dimensions

BRAVO®
Single Reduction Reducers

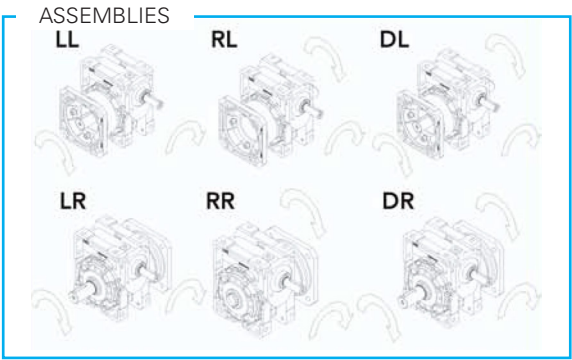
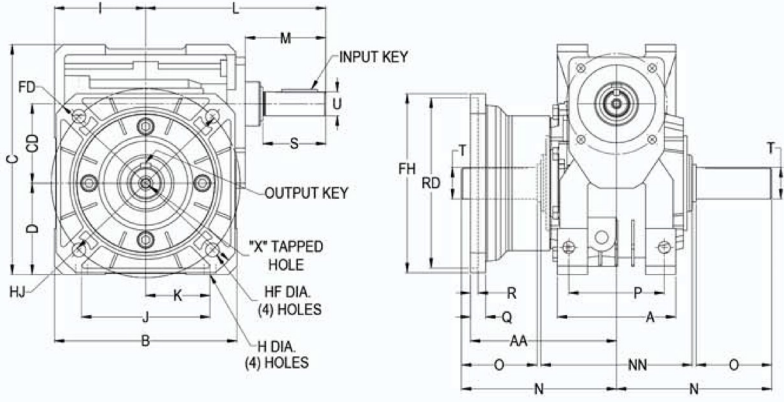
BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

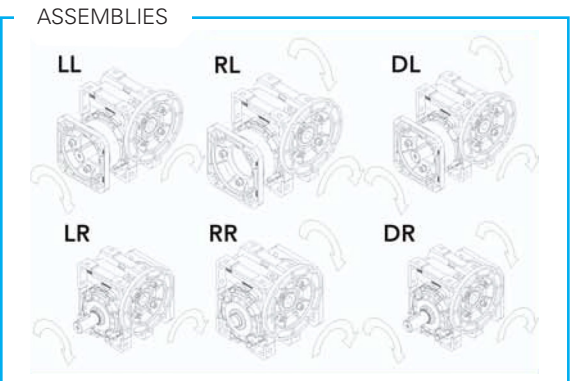
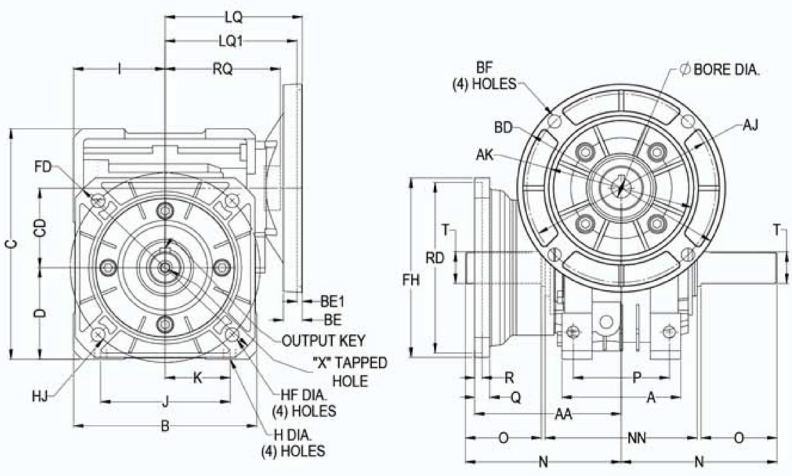
Technical Information



FL Style - Inches

Series	A	AA	B	C	CD	D	FD	FH	H	HF	HJ	I	J	K	L	M	N	NN	O	P	Q	R	RD	S
518	2.80	3.82	3.94	4.78	1.77	1.97	4.33	3.74	0.26	0.35	2.95	1.97	2.76	1.38	4.11	1.69	2.97	2.56	1.26	2.36	0.28	0.16	2.3640/2.3622	1.18
520	3.35	4.72	4.72	5.67	1.97	2.36	4.92	4.33	0.33	0.43	3.35	2.36	3.15	1.58	4.32	1.76	3.95	3.19	2.05	2.76	0.35	0.20	2.7577/2.7559	1.18
525	3.70	4.57	5.71	7.19	2.48	2.85	7.09	5.59	0.37	0.43	5.91	2.85	4.02	2.01	5.45	2.34	4.85	4.72	2.36	2.99	0.47	0.24	4.5354/4.5335	1.77
534	4.92	5.85	7.87	9.67	3.35	3.94	-	Ø8.071	0.43	0.51	6.93	3.94	5.67	2.83	6.40	2.54	5.55	5.32	2.36	3.98	0.63	0.20	5.9867/5.9843	1.75

Series	T	U	X		INPUT KEY	OUTPUT KEY
	+0.000 -0.001	+0.000 -0.001	Tap Size	Depth		
518	0.750	0.625	1/4-20 UNC	0.62	3/16 X 1.00	3/16 X 1.00
520	1.000	0.625	5/16-18 UNC	0.75	3/16 X 1.00	1/4 X 1.62
525	1.125	0.750	5/16-18 UNC	0.75	3/16 X 1.50	1/4 X 2.00
534	1.500	0.875	3/8-16 UNC	0.88	3/16 X 1.50	3/8 X 2.00



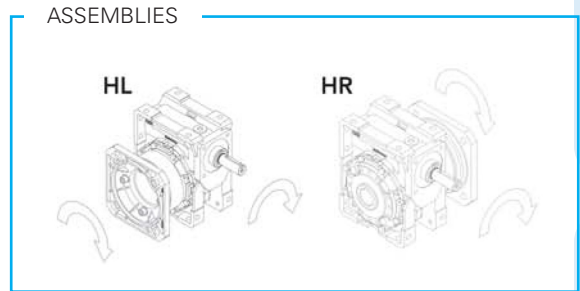
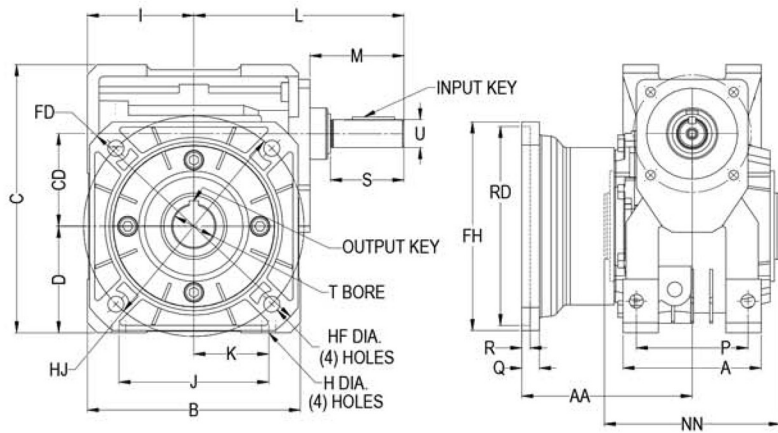
FLMQ Style - Inches

Series	A	AA	B	C	CD	D	FD	FH	H	HF	HJ	I	J	K	LQ*	LQ1*	N	NN	O*	P	Q	R
518	2.80	3.82	3.94	4.78	1.77	1.97	4.33	3.74	0.26	0.35	2.95	1.97	2.76	1.38	3.54	N/A	2.97	2.56	1.26	2.36	0.28	0.16
520	3.35	4.72	4.72	5.67	1.97	2.36	4.92	4.33	0.33	0.43	3.35	2.36	3.15	1.58	3.74	N/A	3.95	3.19	2.05	2.76	0.35	0.20
525	3.70	4.57	5.71	7.19	2.48	2.85	7.09	5.59	0.37	0.43	5.91	2.85	4.02	2.01	4.08	N/A	4.85	4.72	2.36	2.99	0.47	0.24
534	4.92	5.85	7.87	9.67	3.35	3.94	-	Ø8.071	0.43	0.51	6.93	3.94	5.67	2.83	4.83	5.35	5.55	5.32	2.36	3.98	0.63	0.20

Series	RD	RQ	T*	X		OUTPUT KEY*
			+0.000 -0.001	Tap Size	Depth	
518	2.3640/2.3622	2.60	0.750	1/4-20 UNC	0.62	3/16 X 1.00
520	2.7577/2.7559	2.83	1.000	5/16-18 UNC	0.75	1/4 X 1.62
525	4.5354/4.5335	3.58	1.125	5/16-18 UNC	0.75	1/4 X 2.00
534	5.9867/5.9843	4.33	1.500	3/8-16 UNC	0.88	3/8 X 2.00

* Metric options are available. Refer to dimensions on page K11. Contact Factory for availability of metric options.

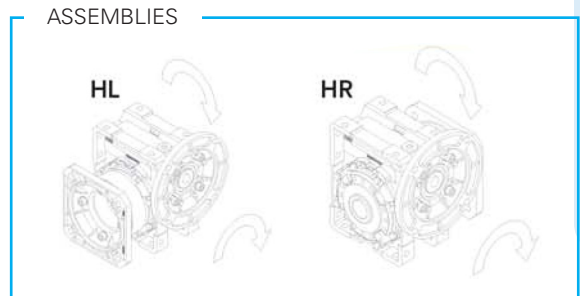
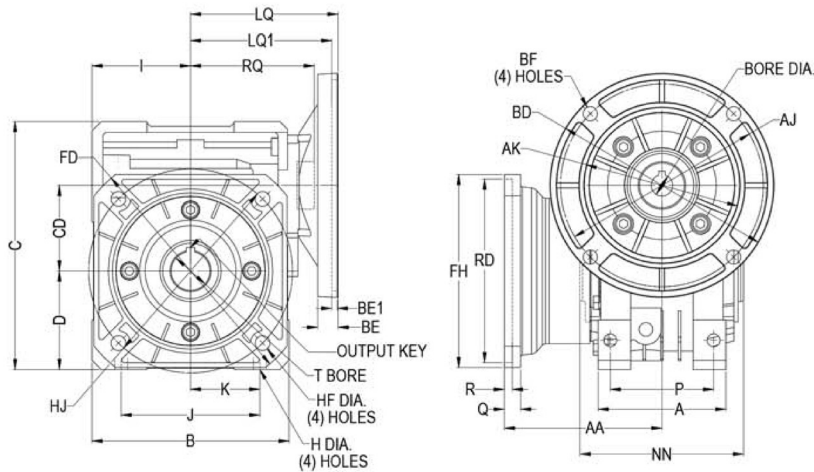
Dimensions



FLH Style - Inches

Series	A	AA	B	C	CD	D	FD	FH	H	HF	HJ	I	J	K	L	M	NN	P	Q	R
518	2.80	3.82	3.94	4.78	1.77	1.97	4.33	3.74	0.26	0.35	2.95	1.97	2.76	1.38	4.11	1.69	2.56	2.36	0.28	0.16
520	3.35	4.72	4.72	5.67	1.97	2.36	4.92	4.33	0.33	0.43	3.35	2.36	3.15	1.58	4.32	1.76	3.19	2.76	0.35	0.20
525	3.70	4.57	5.71	7.19	2.48	2.85	7.09	5.59	0.37	0.43	5.91	2.85	4.02	2.01	5.45	2.34	4.72	2.99	0.47	0.24
534	4.92	5.85	7.87	9.67	3.35	3.94	-	Ø0.071	0.43	0.51	6.93	3.94	5.67	2.83	6.40	2.54	5.32	3.98	0.63	0.20

Series	RD	S	T +0.0015 -0.0000	U +0.000 -0.001	INPUT KEY	OUTPUT KEY
518	2.3640/2.3622	1.18	0.750	0.625	3/16 X 1.00	3/16 X 1.00
520	2.7577/2.7559	1.18	1.000	0.625	3/16 X 1.00	1/4 X 1.62
525	4.5354/4.5335	1.77	1.125	0.750	3/16 X 1.50	1/4 X 2.00
534	5.9867/5.9843	1.75	1.500	0.875	3/16 X 1.50	3/8 X 2.00



FLHMQ Style - Inches

Series	A	AA	B	C	CD	D	FD	FH	H	HF	HJ	I	J	K	LQ* 56/140	LQ1* 180	NN	P	Q	R	RD	RQ	T* +0.0015 -0.0000	OUTPUT KEY*
518	2.80	3.82	3.94	4.78	1.77	1.97	4.33	3.74	0.26	0.35	2.95	1.97	2.76	1.38	3.54	N/A	2.56	2.36	0.28	0.16	2.3640/2.3622	2.60	0.750	3/16 X 1.00
520	3.35	4.72	4.72	5.67	1.97	2.36	4.92	4.33	0.33	0.43	3.35	2.36	3.15	1.58	3.74	N/A	3.19	2.76	0.35	0.20	2.7577/2.7559	2.83	1.000	1/4 X 1.62
525	3.70	4.57	5.71	7.19	2.48	2.85	7.09	5.59	0.37	0.43	5.91	2.85	4.02	2.01	4.08	N/A	4.72	2.99	0.47	0.24	4.5354/4.5335	3.58	1.125	1/4 X 2.00
534	4.92	5.85	7.87	9.67	3.35	3.94	-	Ø0.071	0.43	0.51	6.93	3.94	5.67	2.83	4.83	5.35	5.32	3.98	0.63	0.20	5.9867/5.9843	4.33	1.500	3/8 X 2.00

* Metric options are available. Refer to dimensions on page K11. Contact Factory for availability of metric options.

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

Quadro® Aluminum Worm Gear Reducer Accessories

BRAVO® Single Reduction Reducers

BRAVO® Worm - Worm Double Reduction

BRAVO® Helical - Worm Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

Style F Short Output Flange

Series	Accessory Kit Catalog No.
518	Q175209
520	Q175210
525	Q175211
534	Q175212



(534 Flanges are shown in photo)

Style FL Long Output Flange

Series	Accessory Kit Catalog No.
*518	Q175213
*520	Q175214
**525	Q175215
**534	Q175216

* Single piece machined flange
 ** FL Flange is two pieces as shown for 525 & 534

Solid Output Shaft to Single Extension Inch Dimensions

Series	Accessory Kit Catalog No.
518	Q175236
520	Q175237
525	Q17521
534	Q175238



NOTE: Shaft dimensions are in inches. These shafts will only fit into reducers with inch dimensioned output bores.

Solid Output Shaft to Single Extension Metric Dimensions

Series	Accessory Kit Catalog No.
518	Q175241
520	Q175242
525	Q175243
534	Q175244

NOTE: Shaft dimensions are in millimeters. These shafts will only fit into reducers with metric dimensioned output bores.

Protection Cap Accessory Kit♦



Series	Accessory Kit Catalog No.
518	Q175217
520	Q175218
525	Q175219
534	Q175220

♦ This protective cap covers the unused output bore for single extension assemblies. Check OSHA requirements and review installation manual to assure all safety requirements of gear reducer installation are met.

Double Output Shaft to Single Extension Inch Dimensions

Series	Accessory Kit Catalog No.
518	Q175221
520	Q175222
525	Q175223
534	Q175224

NOTE: Shaft dimensions are in inches. These shafts will only fit into reducers with inch dimensioned output bores.

Quadro® Aluminum Worm Gear Reducer Accessories

Double Reduction Adapter Kits*

Series	Accessory Kit Catalog No.	Primary Unit Size	Secondary Unit Quill Size
518	Q175225	518	0.625
520	Q175225	518	0.625
525	Q175226	518	0.875
534	Q175227	518	1.125

* Kits are for reducer styles with NEMA input and inch shaft dimensions.

Motorized C-Face Quill Input Bushing Kit(inches)

Frame Conversion	Input Quill Bore Size (inch)	Accessory Kit Catalog No.
180TC to 140TC	1-1/8 to 7/8	Q175230
180TC to 56C	1-1/8 to 5/8	Q175231
140TC to 56C	7/8 to 5/8	Q175232

NOTE: Bushing reduces the bore size of input quill to accommodate a smaller motor shaft diameter. The application may also require a different input flange size. Bushings are not intended to be used in output bores.

Motorized C-Face Quill Input Bushing Kit(metric)

Frame Conversion	Input Quill Bore Size (mm)	Accessory Kit Catalog No.
D63 to D56	11 to 9	Q175259
D71 to D63	14 to 11	Q175251
D71 to D56	14 to 9	Q175252
D80 to D71	19 to 14	Q175253
D80 to D63	19 to 11	Q175254
D90 to D80	24 to 19	Q175255
D90 to D71	24 to 14	Q175256
DF100/112 to D90	28 to 24	Q175257
DF100/112 to D80	28 to 19	Q175258

NOTE: Bushing reduces the bore size of input quill to accommodate a smaller motor shaft diameter. The application may also require a different input flange size. Bushings are not intended to be used in output bores.

Double Output Shaft to Single Extension Metric Dimensions

Series	Accessory Kit Catalog No.
518	Q175246
520	Q175247
525	Q175248
534	Q175249

NOTE: Shaft dimensions are in millimeters. These shafts will only fit into reducers with metric dimensioned output bores.

Style R – Reaction Arm



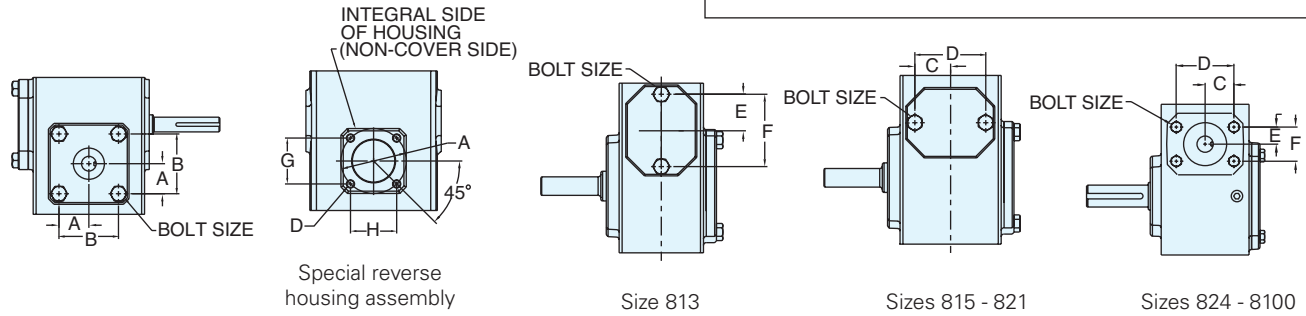
Series	Accessory Kit Catalog No.
518	Q175201
520	Q175202
525	Q175203
534	Q175204

TECHNICAL INFORMATION



BOLT CIRCLE DIMENSIONS

Series GR & NH reducers do not have tapped holes on "integral cover side" of reducer. Integral side of reducer can be machined with tapped holes. See reverse housing assembly below for dimensions.



Special reverse housing assembly - Contact Factory for availability.

GR & NH SERIES OUTPUT COVER DIMENSIONS (IN)

UNIT	A	B	G	H	BOLT SIZE
813	1.016	2.033	1.768	1.768	.312-18
815	1.016	2.033	1.768	1.768	.312-18
818	1.480	2.961	2.051	2.051	.312-18
821	1.480	2.961	2.652	2.652	.312-18
824	1.856	3.712	2.652	2.652	.312-18
826	1.856	3.712	2.652	2.652	.312-18
830	2.298	4.596	3.536	3.536	.375-16
832	2.298	4.596	3.536	3.536	.375-16
842	2.939	5.877	3.712	3.712	.438-14
852	3.359	6.717	5.303	5.303	.438-14
860	Consult Factory				.500-13
870	Consult Factory				.500-13
880	Consult Factory				.500-13
8100	Consult Factory				.500-13

GR SERIES INPUT COVER DIMENSIONS (IN)

UNIT	C	D	E	F	BOLT SIZE
813	1.219	2.438	N/A	N/A	.312-18
815	1.219	2.438	N/A	N/A	.312-18
818	1.219	2.438	N/A	N/A	.312-18
821	1.219	2.438	N/A	N/A	.312-18
824	1.313	2.625	0.781	1.562	.312-18
826	1.313	2.625	0.781	1.562	.312-18
830	1.600	3.200	1.050	2.100	.438-14
832	1.600	3.200	1.050	2.100	.438-14
842	1.600	3.200	1.050	2.100	.438-14
852	1.600	3.200	1.050	2.100	.438-14
860	1.370	2.740	1.370	2.740	.438-14
870	2.033	4.066	2.033	4.066	.438-14
880	2.121	4.242	2.121	4.242	.500-13
8100	Consult Factory				.625-11

GR & NH SERIES INTEGRAL SIDE OF HOUSING (IN)

UNIT	A	G	H	BOLT SIZE
813	2.500	1.768	1.768	.312-18
815	2.500	1.768	1.768	.312-18
818	2.900	2.051	2.051	.312-18
821	3.750	2.652	2.652	.312-18
824	3.750	2.652	2.652	.312-18
826	3.750	2.652	2.652	.312-18
830	5.000	3.536	3.536	.375-16
832	5.000	3.536	3.536	.375-16
842	5.250	3.712	3.712	.438-14
852	7.500	5.303	5.303	.438-14

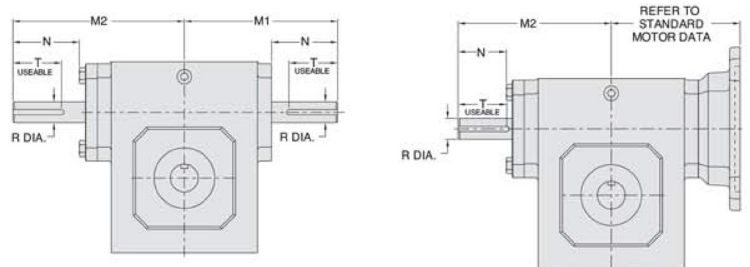
NH SERIES INPUT COVER DIMENSIONS (IN)

UNIT	C	D	E	F	BOLT SIZE
813	1.219	2.438	N/A	N/A	.312-18
815	1.219	2.438	N/A	N/A	.312-18
818	1.219	2.438	N/A	N/A	.312-18
821	1.219	2.438	N/A	N/A	.312-18
824	1.313	2.625	0.781	1.562	.312-18
826	1.313	2.625	0.781	1.562	.312-18
830	1.313	2.625	0.781	1.562	.312-18
832	1.313	2.625	0.781	1.562	.312-18
842	1.600	3.200	1.050	2.100	.438-14
852	1.600	3.200	1.050	2.100	.438-14

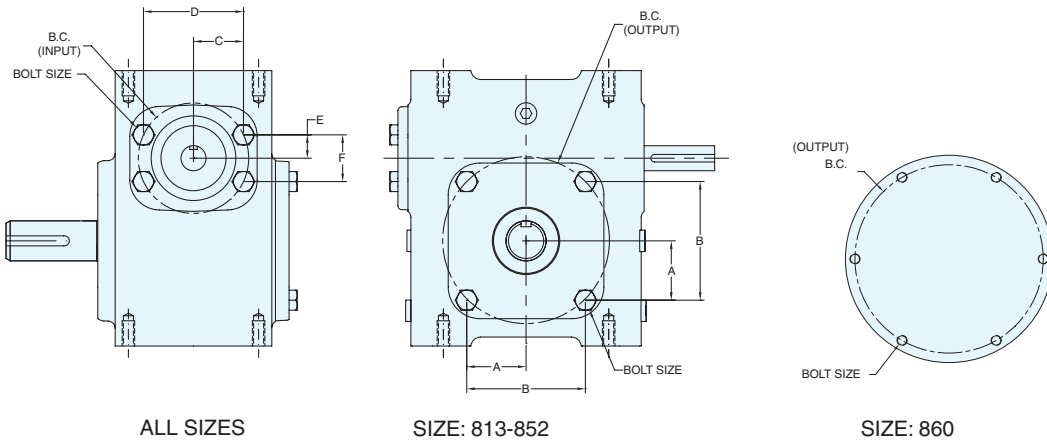
DUAL INPUT SHAFT EXTENSION DIMENSIONS

UNIT	M1	M2	N	R	T**
813	3.82	4.37	1.76	.500	1/8 X 1.44
815	4.35	4.90	1.76	.625	3/16 X 1.50
818	4.45	5.00	1.76	.625	3/16 X 1.50
821	4.82	5.37	1.76	.625	3/16 X 1.50
824	5.51	6.15	2.38	.750	3/16 X 1.50
826	6.07	6.72	2.38	.750	3/16 X 1.50
830	6.57	7.22	2.38	.875	3/16 X 1.50
832	6.76	7.40	2.38	.875	3/16 X 1.50
842	9.57	9.57	3.47	1.250	1/4 X 2.88
852	10.88	10.88	3.38	1.250	1/4 X 3.00
860	11.78	14.55	3.41	1.500	3/8 X 3.00

** Keyway width by length



Specify complete model number when ordering reducer with dual input shaft. Catalog number assigned upon receipt of order.



ALL SIZES

SIZE: 813-852

SIZE: 860

EL SERIES INPUT COVER DIMENSIONS (IN)

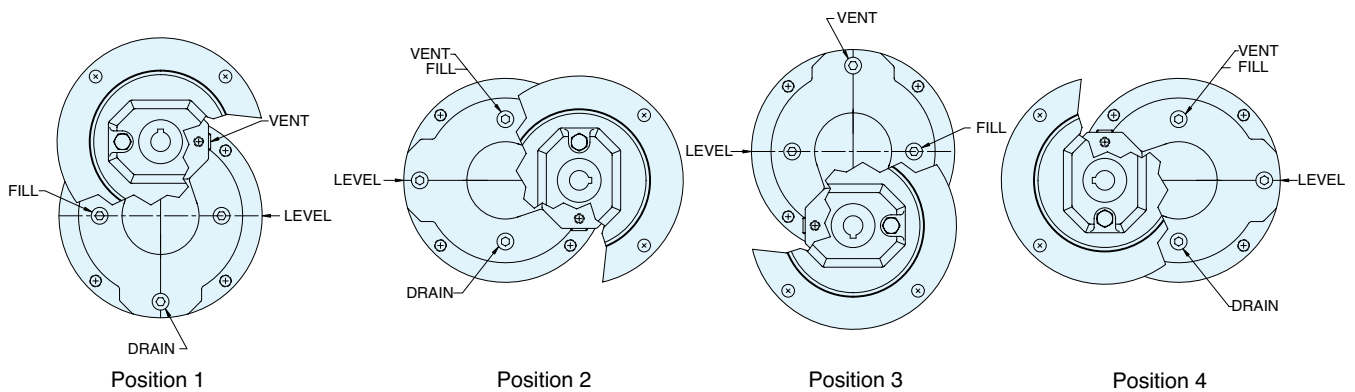
UNIT	C	D	E	F	Input B.C.	BOLT SIZE
813	0.583	1.166	1.248	2.496	N/A	5/16-18
818	1.248	2.496	0.583	1.166	N/A	5/16-18
821	1.248	2.496	0.583	1.166	N/A	5/16-18
824	1.010	2.020	1.510	3.020	N/A	5/16-18
826	1.010	2.020	1.510	3.020	N/A	5/16-18
830	1.010	2.020	1.510	3.020	N/A	5/16-18
832	1.010	2.020	1.510	3.020	N/A	5/16-18
842	1.600	3.200	1.050	2.100	N/A	7/16-14
852	1.600	3.200	1.050	2.100	N/A	7/16-14
860	1.724	3.447	1.724	3.447	4.875	1/2-13

EL SERIES OUTPUT COVER DIMENSIONS (IN)

UNIT	A*	B*	Output B.C.*	BOLT SIZE
813	1.016	2.033	2.875	5/16-18
818	1.480	2.961	4.188	5/16-18
821	1.480	2.961	4.188	5/16-18
824	1.856	3.712	5.250	5/16-18
826	1.856	3.712	5.250	5/16-18
830	2.298	4.596	6.500	3/8-16
832	2.298	4.596	6.500	3/8-16
842	2.939	5.877	8.312	7/16-14
852	3.359	6.717	9.500	1/2-13
860	N/A	N/A	11.750	1/2-13

* Housing has exactly the same tapped holes on both sides of reducer as standard for mounting EL Series accessories in field.

Ratio Multiplier Vent Plug Location



- Units are factory filled for Position 1 (input over mounting position). Verify proper oil level for other mountings.
- The "Input Under" mounting position is not recommended due to the increased probability of leakage from the high speed shaft seals.
- Special provisions are required for vertical shaft mountings. Consult factory for details.

TECHNICAL INFORMATION



The precision-made gears and bearings in GroveGear/Electra-Gear Speed Reducers require high-grade lubricants of the proper viscosity to maintain trouble-free performance. Synthetic lubricants provide the potential for numerous benefits including wider operating temperature range and increased interval between changes. For normal ambient temperatures (-10°F to 105°F)▲ we recommend the use of ISO viscosity grade Mobile Glycoyle 460 polyalkalene glycol (PAG) lubricant which is the standard oil shipped in our product and is compatible with the Viton® seal material used through size 852. For other temperatures, contact Factory for a recommendation. For synthetic lubrication to be used in helical reducers (primaries of helical-worm reducers and ratio multipliers), contact Factory.

▲Temperature range for continuous duty. For intermittent duty, contact Factory.

Oil Capacities (ounces) - Standard Units

Mounting Position	UNIT SIZE													
	813	815	818	821	824	826	830	832	842	852	860	870*	880*	8100*
Worm Over	4	12	12	20	24	40	56	72	112	188	312	560	768	1152
Worm Under	8	16	20	28	40	60	84	108	152	304	328	524	820	1280
Vertical Output	4	16	16	28	32	48	68	88	128	248	320	332	460	640
Vertical Input	4	16	16	24	32	48	72	92	128	248	325	584	800	1200
Extended Bearing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	128	192	272	432	640	1008	1632
Worm Over on Secondary Unit of Double Reduction	N/A	N/A	N/A	N/A	N/A	N/A	N/A	192	308	320	485	805	1144	1716
Stainless Steel and Washguard - All Mounting Positions	7	15	15	19	28	44	78	76	N/A	N/A	N/A	N/A	N/A	N/A

* Shipped Dry (without oil)

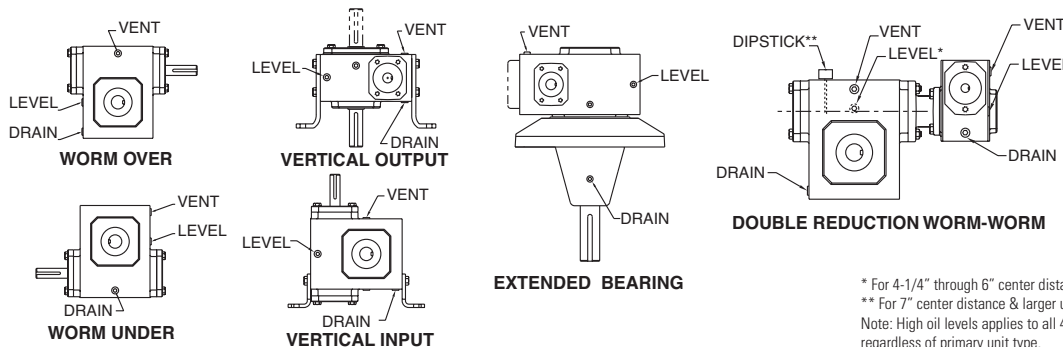
NOTICE

Always check for proper oil level after filling. Capacities vary somewhat with model and mounting position. Oil should rise to bottom edge of level hole. Do not overfill.

NOTICE

Do not operate the reducer without making sure it contains the correct amount of oil. Do not overfill or underfill with oil, or injury to personnel, reducer or other equipment may result.

Standard Gear Reducer Mounting Positions & Vent Plug, Level and Drain Locations ▲



16 OZ. = 1 PINT
2 PINTS = 1 QUART
4 QUARTS = 1 GALLON
1 GALLON = 128 OZ. = 231 CU. IN.

* For 4-1/4" through 6" center distance units (far side plug).

** For 7" center distance & larger units.

Note: High oil levels applies to all 4-1/4" center distance & larger secondary & tertiary units regardless of primary unit type.

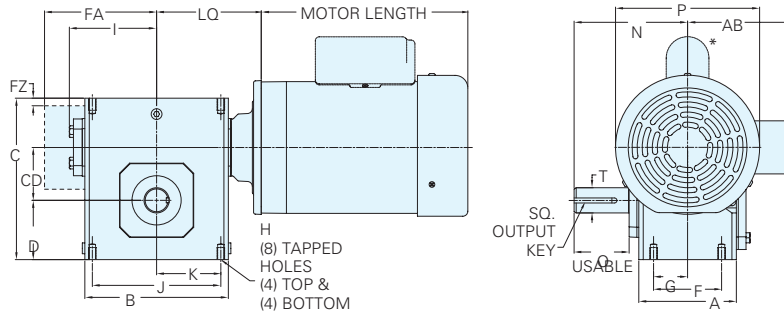
▲Does not apply to Stainless Steel, WASHGUARD or units with Enviroseal option.

Lubrication

Units shipped from Factory are assembled to properly lubricate all internal components based on a specific assumed mounting orientation. Factory assumed mounting orientations are given below. If a size 818 or larger unit will be mounted in a different orientation than listed below, or run with sustained input speeds less than 1200 RPM, it should be specified with the order. The unit can then be modified to assure proper lubrication.

Factory Assumed Mounting Orientation	Applicable Unit Styles*	
Worm Over	B, T, F, H, FH, C, D, DT, DF, DH, DFH, DX, DXT, DXH, DXFH, TT	Single Reduction Double Reduction Worm-Worm Double Reduction Helical-Worm Triple Reduction Worm-Worm-Worm
Worm Under	U, DU	Single Reduction Double Reduction Worm-Worm
Vertical Output	VL/VH, FE, DVL/DVH, DFE, DXVL/DXVH, DXFE	Single Reduction Double Reduction Worm-Worm Double Reduction Helical-Worm
Vertical Input	J, DJ, DXJ	Single Reduction Double Reduction Worm-Worm Double Reduction Helical-Worm

GEAR+MOTOR™ DIMENSIONS



STYLE BMQ & BM GEARMOTOR DIMENSIONS (Inches)

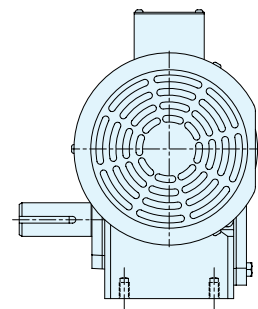
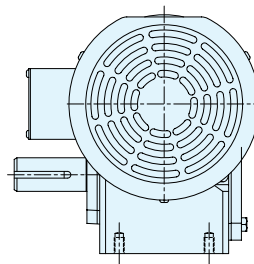
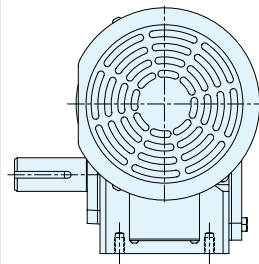
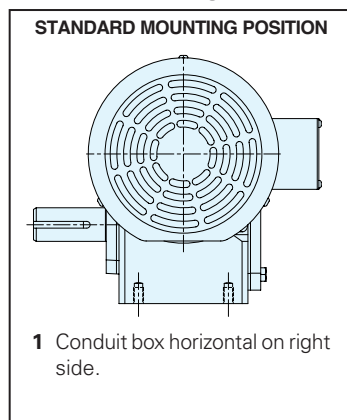
Series	A	B	C	D	CD	F	FA	FZ	G	H		I	J	K	N	O	T	Output Key
										Tap	Depth							
GR813	2.82	3.80	4.66	1.72	1.33	2.00	N/A	N/A	1.00	5/16-18	0.50	2.61	3.25	1.63	4.00	2.16	0.625	3/16 X 1.50
GR815	3.44	4.88	5.38	1.91	1.54	2.75	N/A	N/A	1.38	5/16-18	0.63	3.14	4.19	2.09	4.31	2.11	0.750	3/16 X 1.50
GR818	3.56	5.06	5.75	2.06	1.75	2.75	N/A	N/A	1.38	5/16-18	0.63	3.24	4.19	2.09	4.31	2.05	0.875	3/16 X 1.38
GR821	3.81	5.80	6.38	2.28	2.06	2.88	N/A	N/A	1.44	3/8-16	0.60	3.61	5.00	2.50	4.68	2.29	1.000	1/4 X 1.44
GR824	4.06	6.12	6.94	2.50	2.38	2.88	N/A	N/A	1.44	3/8-16	0.69	3.77	5.00	2.50	5.14	2.66	1.125	1/4 X 1.75
GR826	4.84	7.12	8.00	2.94	2.63	3.38	N/A	N/A	1.69	3/8-16	0.69	4.34	6.38	3.19	5.63	2.73	1.125	1/4 X 1.75
GR830	5.25	8.12	8.88	3.25	3.00	4.00	N/A	N/A	2.00	7/16-14	0.88	4.84	7.00	3.50	6.75	3.60	1.250	1/4 X 2.25
GR832	5.75	8.50	9.38	3.50	3.25	4.00	N/A	N/A	2.00	7/16-14	0.88	5.02	7.50	3.75	7.06	3.66	1.375	5/16 X 2.50
GR842	6.13	10.25	11.38	4.44	4.25	5.00	N/A	N/A	2.50	5/8-11	1.00	6.10	8.50	4.25	8.12	4.50	1.875	1/2 X 3.06
GR852	7.19	13.00	14.00	5.12	5.25	5.81	N/A	N/A	2.91	5/8-11	1.25	7.50	11.00	5.50	9.06	4.78	2.000	1/2 X 3.50
GR860	8.13	14.25	16.50	6.50	6.00	6.38	11.13	0.33	3.19	5/8-11	1.00	N/A	12.75	6.38	10.00	4.65	2.500	5/8 X 4.00

* Capacitor housing, single phase only, 2-1/4" high

MOTOR MOUNTING DIMENSIONS

Series	LQ								P				AB			
	BMQ				BM				48CZ	56C/140TC	180TC	210TC	48CZ	56C/140TC	180TC	210TC
	48CZ	56C/140TC	180TC	210TC	48CZ	56C/140TC	180TC	210TC	48CZ	56C/140TC	180TC	210TC	48CZ	56C/140TC	180TC	210TC
GR813	3.46	3.46	N/A	N/A	5.63	6.07	N/A	N/A	5.88	7.16	N/A	N/A	4.88	5.31	N/A	N/A
GR815	3.99	3.99	N/A	N/A	6.16	6.60	N/A	N/A	5.88	7.16	N/A	N/A	4.88	5.31	N/A	N/A
GR818	4.09	4.09	N/A	N/A	6.26	6.70	N/A	N/A	5.88	7.16	N/A	N/A	4.88	5.31	N/A	N/A
GR821	4.46	4.46	N/A	N/A	6.63	7.07	N/A	N/A	5.88	7.16	N/A	N/A	4.88	5.31	N/A	N/A
GR824	N/A	4.63	5.06	N/A	N/A	7.76	8.76	8.76	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
GR826	N/A	5.19	5.62	N/A	N/A	8.32	9.32	9.32	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
GR830	N/A	5.69	6.12	6.56	N/A	8.82	9.82	9.82	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
GR832	N/A	5.88	6.31	6.75	N/A	9.01	10.01	10.01	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
GR842	N/A	6.45	7.21	7.21	N/A	11.81	12.90	12.90	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
GR852	N/A	7.85	8.61	8.61	N/A	13.21	14.30	14.30	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59
GR860	N/A	10.45	9.33	9.33	N/A	N/A	15.88	15.88	N/A	7.16	9.22	10.81	N/A	5.31	6.44	7.59

Motor Mounting Postions - All Products



TECHNICAL INFORMATION

SPEED REDUCER NOMENCLATURE & DEFINITIONS

BACKLASH – Rotational movement of the output shaft when holding the input shaft stationary and rotating the output alternately clockwise and counter clockwise. Backlash is defined as the clearance between adjacent tooth flanks in a pair of mounted gears. In any gearset, some amount of backlash (clearance) is necessary to prevent damage brought about by gear tooth interference. Lack of backlash may cause noise, overloading, overheating of gears and bearings and even seizing and failure.

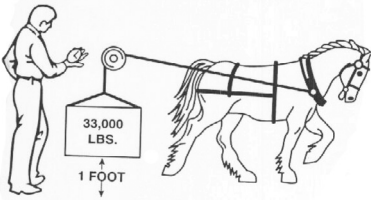
CENTER DISTANCE – On a single reduction reducer, this is the distance between the center lines of the input and output shafts. Shaft center lines may be parallel or at right angles to one another. The center distance of multiple stage reducers usually refers to the lowest speed stage (last reduction).

THRUST LOAD – Forces imposed on a shaft parallel to the shaft axis. It is often encountered on shafts driving mixers, fans, blowers and similar machines. When thrust load acts on a speed reducer, you must be sure that the thrust load rating of the reducer is high enough that its shafts and bearings can absorb the load.

MECHANICAL RATING – The maximum power or torque that a speed reducer can transmit, based on the strength and durability of its components, is its mechanical rating. Obviously, the reducer may be rated no higher than the strength or durability of its weakest component. Reducers typically have a safety margin of two to three on their mechanical ratings. Thus, a reducer can withstand momentary overloads of 200-300% of its mechanical rating during a start up or other brief overload situations.

MOUNTING POSITION – The relationship of the input and output shafts relative to the floor line.

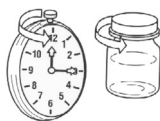
HORSEPOWER – A measure of the rate of doing work and equals the power required to lift 33,000 pounds one foot in one minute.



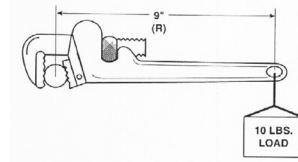
INPUT HORSEPOWER – The amount of power applied to the input shaft of a reducer by the prime mover is its input horsepower. It is often used as a selection basis for power transmission components, and it appears in the rating table of drive manufacturer's published data. Remember that input horsepower ratings represent the maximum amount of power that the reducer can safely handle.

OUTPUT HORSEPOWER – The amount of power available at the output shaft of a reducer is its output horsepower. Due to losses caused by inefficiency, output horsepower is always less than input horsepower.

TORQUE – A twisting effort tending to cause rotation. Because most power transmission is associated with rotating elements, torque becomes important as a measurement of the effort required to produce work in the rotational mode. Torque is expressed as a force multiplied by a lever arm. It is stated in several units – pound feet, pound inches, ounce inches, ounce feet, etc. However, the most commonly used is pound inches.

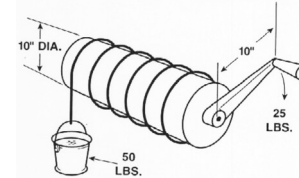


In the case of speed reducers and gears, force or load is usually expressed in pounds and distance in inches. For example, if a load of 10 pounds is applied to a shaft by means of a wrench 9 inches long, we then have a torque of 10 pounds x 9 inches or 90 lb. in.



It is important to note that torque measurement is not dependent on time. The same amount of torque may be required to run a shaft slowly or rapidly, but the introduction of a time element causes work to be performed, and work is measured in terms of horsepower. Consider the application of drawing water from a well via winch and bucket.

In raising a 50-pound pail of water with a 10-inch diameter (5-inch radius) drum and a 10-inch crank arm, 25 pounds (neglecting friction) must be



applied to the 10-inch crank arm to overcome the torque created by the weight of the pail of water acting on the 5-inch drum radius. If no motion is involved, the system is in balance, and although torque is being exerted, no work is being done. If the crank is turned at the rate of 10 RPM, the resulting work done is:

$$HP = \frac{T \times RPM}{63,000} = \frac{250 \times 10}{63,000} = \text{approx } .04 \text{ HP}$$

If the crank is turned twice as fast, the horsepower expended becomes:

$$\frac{250 \times 20}{63,000} = \text{approx } .08 \text{ HP}$$

Therefore, exerting the same torque at twice the speed requires twice the horsepower.

RATIO – is defined as the driving speed divided by the driven speed. If a 1750 RPM electric motor is used to drive a 350 RPM conveyor, the ratio would be a $q750/350 = 5:1$. Ratio is useful for calculating speed reduction and torque multiplication from driver to driven member. For example, a 5:1 ratio Uniline speed reducer directly connected to an electric motor would reduce the motor speed to 1/5 of its original value while multiplying the motor torque to 5 times the original value (neglecting friction losses).

SPEED REDUCER SELECTION – Before a reducer can be selected for any given application, the equivalent horsepower is computed by multiplying the specified or actual horsepower by the service factor for the particular load classification for which the unit is to be used. It is necessary that the unit selected have a capacity equal to or in excess of this equivalent horsepower. The recommended service factors for various load classifications and duration of service are shown for several types of prime movers on page L6.

Load classifications for various applications are given on page L7. They are classified into three commonly recognized load classifications: Uniform, Moderate Shock, and Heavy Shock.

Service factors represent the normal relationship between gear design power rating and the continuous power requirements. Applications involving unusual or severe loading or requiring a high degree of dependability should be carefully reviewed with the manufacturer before a service factor is applied.

Applications with high-torque motors and motors for intermittent operations, applications where extreme repetitive shock occurs, or where high-energy loads must be absorbed, as when stalling, require special consideration and are not covered by the service factors given on page L7.

When drives are equipped with brakes on the input, and the torque rating of the brake exceeds the rating of the motor, the rating of the brake dictates the selection of the gear unit.

The maximum momentary or starting load must not exceed 300 percent of rated load (200 percent overload). Rated load is defined as the unit rating with a service factor of 1.0.

CAUTION! It is the responsibility of the original equipment manufacturer or user to install and/or operate Grove Gear Products in conformance with applicable local and national safety codes, suitable guards for rotating shafts and couplings should be used at all times. Good safety procedures should always be observed whenever working with or around any transmission equipment. Fitness for use is the customer's decision and responsibility.

SERVICE FACTORS– Numbers which modify the loads which must be considered in selecting a speed reducer are called service factors. They vary with the type of service in which the reducer is to be used, the kind of prime mover involved and the duty cycle.

WORM GEAR REDUCER SERVICE FACTORS

Proper determination of an application's service factor characteristics is critical for maximum reducer life and trouble free service. See the definition of service factor in the glossary.

All Grove Gear reducers and Gear+Motors™ are sized for applications having an AGMA defined service of 1.0, unless otherwise stated. (Alternately, 1.0 service factor is sometimes expressed as "Class I Service.") Reducers in such applications operate on a continuous duty basis, for 10 hours per day or less, and are free of recurrent shock loads. When operating characteristics are different than noted, the input horsepower and torque ratings listed must be divided by the service factor selected from the table below. This table applies to reducers with an electric or hydraulic motor input.

SPECIAL APPLICATION CONSIDERATIONS

CAUTION! Please contact Regal Rexnord for assistance in applications not listed or for applications with unusual characteristics. Including the following:

- Input speeds not listed in catalog
- Frequent starting or repetitive shock applications
- Selection of reducers for man lifts or people moving equipment
- High energy loads, including stalling WORM REDUCERS:
- Starting or momentary overloads exceeding 200% of gear reducer mechanical capacity (100% overload)

SERVICE FACTOR TABLE

Duration of Service (Hours per day)	Uniform Load	Moderate Shock	Heavy Shock	Extreme Shock
Occasional 1/2 Hour	—*	—*	1.00	1.25
Less than 3 Hours	1.00	1.00	1.25	1.50
3 - 10 Hours	1.00	1.25	1.50	1.75
Over 10 Hours	1.25	1.50	1.75	2.00

* Unspecified service factors should be 1.00 or as agreed upon by the user and manufacturer.

When a single or multi-cylinder engine is the input power, the service factor selected from the table above should be increased by multiplying the value by the factor selected from the table below.

Service Factor Conversion Table for Engine Driven Applications.

Hydraulic or Electric Motor	Single Cylinder Engines	Multi-Cylinder Engines
1.00	1.50	1.25
1.25	1.75	1.50
1.50	2.00	1.75
1.75	2.25	2.00
2.00	2.50	2.25

On page 418, AGMA standardized service factor data is listed for a wide variety of applications operating 3 to 10 hours per day and for 10 hours or more per day.

BACK-DRIVING– This is the converse of self-locking. Depending upon ratio and many variables, it is difficult to predict the back-driving capability of a reducer. Worm gear reducers are not intended to be used as speed increasers. Consult factory for back-driving applications.

PEOPLE CONVEYING EQUIPMENT – Selection of gear drives for applications whose primary purpose is the transportation of people is not approved. This includes such applications as freight or passenger elevators, escalators, man lift platforms, and ski tows and ski lifts.

If the primary purpose of the application is material conveyance and occasionally people are transported, the warranty may remain in effect provided the design and load conditions are not exceeded and certification to the appropriate safety codes and load conditions has been obtained by the system designer or end user from the appropriate enforcement authorities.

STORED & INACTIVE GEAR DRIVE – Each drive is protected with rust preventive that will protect parts against rust for a period of 6 months in an indoor dry shelter.

If a drive is to be stored, or is inactive after installation beyond the above periods, drain oil from housing and spray all internal parts with a rust preventive oil that is soluble in lubricating oil and rotate the shafts several times by hand. Before operating, drives which have been stored or inactive must be filled to the proper level.

Periodically inspect stored or inactive gear drives and spray or add rust inhibitor every six months, or more often if necessary. Indoor dry storage is recommended.

EXCESSIVE OVERLOADS – The maximum momentary or starting load must not exceed 300% of rated load (200% overload). Rated load is defined as gear drive rating with a service factor of 1.0. If the maximum starting or momentary load exceeds the above conditions, compute a second equivalent power rating by dividing the peak load by two. The gear drive selected must have capacity equal to, or in excess of, the larger equivalent power rating.

REVERSING SERVICE – Applications involving either more than 20 reversals per ten hour period, or less than 20 reversals per ten hour period with peak torques greater than 200% of normal load must be referred to Factory.

BRAKE EQUIPPED APPLICATIONS – When a gear drive is equipped with a "working" brake that is used to decelerate the motion of the system and the brake is located between the prime mover and the gear drive, select the drive based on the brake rating or highest equivalent power rating, whichever is greater. If the brake is used for holding only and is applied after the motion of the system has come to rest, the brake rating must be less than 200% of the catalog rating, refer the application to Factory. Also refer to Factory all applications in which the brake is located on the output shaft of the gear drive.

OVERSIZED PRIME MOVER– Published service factors do not cover applications that require oversize prime movers for high energy or peak loads. Refer such applications to Factory for selection of suitable drives.

MAXIMUM INPUT SPEEDS FOR WORM GEAR REDUCERS

(GR, NH, EL SERIES)

Size 813 through 852 2500 RPM

Size 860 through 8100 1750 RPM

NOTE: Horsepower ratings for 1750 RPM should not be exceeded when operating at higher input speeds. For higher input speeds, contact Factory.

APPLICATION CONSIDERATIONS:

Belt Conveyors – To determine the torque, establish the belt pull. In calculating this, the effects of sliding friction and angle or inclination must be considered. The table below shows application factors which may be used in determining belt pull based upon common combinations of materials and various angles.

Material Combinations	Angle from the Horizontal									
	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°
Pivoting Bucket Conveyor	0.025	0.19	0.36	0.52	0.66	0.78	0.88	0.95	0.99	1.00
Belt on Rollers	0.025	0.19	0.36	0.52	0.66	0.78	0.88	0.95	0.99	1.00
Metal on Metal (Finished)	0.20	0.37	0.53	0.67	0.80	0.89	0.97	1.01	1.02	1.00
Fabric on Steel	0.27	0.44	0.60	0.74	0.85	0.94	1.00	1.03	1.03	1.00
Fabric on Wood	0.32	0.49	0.63	0.77	0.88	0.97	1.02	1.04	1.04	1.00
Leather on Wood	0.35	0.52	0.67	0.80	0.91	0.99	1.04	1.06	1.05	1.00
Wood on Wood	0.35	0.52	0.67	0.80	0.91	0.99	1.04	1.06	1.05	1.00
Plastic on Steel	0.35	0.52	0.67	0.80	0.91	0.99	1.04	1.06	1.05	1.00
Metal on Wood	0.40	0.57	0.72	0.85	0.95	1.02	1.07	1.08	1.05	1.00
Rubber on Wood	0.45	0.62	0.76	0.89	0.99	1.05	1.09	1.09	1.06	1.00
Rubber on Steel	0.50	0.67	0.81	0.93	1.03	1.09	1.12	1.11	1.07	1.00
Leather on Metal	0.56	0.72	0.87	0.98	1.06	1.12	1.14	1.13	1.08	1.00

The procedure involves selection of the proper application factor for the calculations:

Belt Pull = (Total Weight on Conveyor) x (Application Factor)

Torque = (Belt Pull) x (Radius of Head Pulley)

Example: An inclined belt conveyor is to move boxes of steel parts. The belt is fabric on rollers. Five boxes will be on the conveyor at a time, and each weighs 50 pounds. The conveyor is inclined at 10° to the horizontal, and the head pulley diameter is 7". How much torque is required at the head pulley?

Select .44 as the application factor.

Determine weight: 5 x 50 = 250 Lbs.

Determine belt pull: 250 x .44 = 110 Lbs.

Determine torque: 110 x 3.5 = 385 Lb. Ins.

HOISTS– A worm gear is generally said to be self-locking or irreversible when the gear cannot drive the worm. This static condition can be upset by vibrations from nearby machinery or other sources. Many worm gear reducers are not self-locking, and even a particular size and ratio, which may appear to be, cannot be depended upon for this purpose. Also, a reducer which holds the load when upward movement is stopped may not when the load inertia is moving downward and the motor is stopped. For complete locking assurance, it is recommended that a fail-safe brake be used for such an application.

TECHNICAL INFORMATION

AGMA SERVICE FACTORS

Application	Service Factor	
	3-10 Hours	Over 10 Hours
AGITATORS		
Pure Liquids	1.00	1.25
Liquids & Solids	1.25	1.50
Liquids-Variable Density	1.25	1.50
APRON CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
APRON FEEDERS	1.25	1.50
ASSEMBLY CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
BARGE HAUL PULLERS	1.50	1.75
BARKING		
Drums (Coupling Connected)		1.75
Mechanical		1.75
BAR SCREENS (Sewage)	1.00	1.25
BELT CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
BELT FEEDERS	1.25	1.50
BLOWERS		
Centrifugal	1.00	1.25
Lobe	1.25	1.50
Vane	1.00	1.25
BOLTING MACHINERY	1.00	1.25
BREWING & DISTILLING		
Bottling Machinery	1.00	1.25
Brew Kettles, Cont. Duty	1.00	1.25
Can Filling Machines	1.00	1.25
Cookers-Cont. Duty	1.00	1.25
Mash Tubs-Cont. Duty	1.00	1.25
Scale Hoppers-Frequent Starts	1.25	1.50
BUCKET		
Conveyors Uniform	1.00	1.25
Conveyors Heavy Duty	1.25	1.50
Elevators Cont.	1.00	1.25
Elevators Uniform	1.00	1.25
Elevators Heavy Duty	1.25	1.50
CALENDARS		
Rubber		1.50
Textile	1.25	1.50
CANE KNIVES	1.50	1.75
CAN FILLING MACHINES	1.00	1.25
CAR DUMPERS	1.50	1.75
CAR PULLERS	1.25	1.50
CENTRIFUGAL		
Blowers, Compressors, Discharge Elevator, Fans or Pumps	1.00	1.25
CHAIN CONVEYORS		
Uniformly Loaded or Fed	1.00	1.25
Heavy Duty	1.25	1.50
CLARIFIERS	1.00	1.25
CLASSIFIERS	1.25	1.50
CLAY WORKING INDUSTRY		
Brick Press	1.75	2.00
Briquette Machines	1.75	2.00
Clay Working Machinery	1.25	1.50
Plug Mills	1.25	1.50
COMPRESSORS		
Centrifugal	1.00	1.25
Lobe	1.25	1.50
Reciprocating:		
Multi-Cylinder	1.25	1.50
Single Cylinder	1.50	1.75
CONCRETE MIXERS		
Continuous	1.25	1.50
Intermittent	1.25	1.50
CONVEYORS-Uniformly Loaded or Fed		
Apron, Assembly, Belt, Bucket, Chain, Flight, Oven, Screw	1.00	1.25
CONVEYORS-Severe Duty		
Live Roll		Contact Factory
Reciprocating, Shaker	1.50	1.75
COOLING TOWER FANS		Contact Factory
CRANES		
Dry Dock Cranes		Contact Factory
Main Hoist	1.00	1.25
Bridge and Trolley Travel		Contact Factory
CRUSHERS		
Ore or Stone	1.50	1.75
Sugar		1.50
DISC FEEDERS	1.00	1.25

DOUBLE ACTING PUMPS		
2 or more Cylinders	1.25	1.50
Single Cylinder		Contact Factory
DRAW BENCH (Metal Mills)		
Carriage & Main Drive	1.25	1.50
DREDGES		
Cable Reels, Conveyors	1.25	1.50
Cutter Head & Jig Drives	1.75	2.00
Maneuvering Winches, Pumps	1.25	1.50
Screen Drives	1.50	1.75
Stackers, Utility Winches	1.25	1.50
ELEVATORS		
Bucket-Uniform Load	1.00	1.25
Bucket-Heavy Duty	1.25	1.50
Bucket-Continuous	1.00	1.25
Centrifugal Discharge	1.00	1.25
Escalators		Not Approved
Freight		Not Approved
Gravity Discharge	1.00	1.25
Man Lifts, Passenger		Not Approved
EXTRUDERS (Plastic)		
Film Sheet, Coating, Rods, Pipe Tubing	1.25	1.25
Blow Molders, Pre-plasticizers		1.50
FANS		
Centrifugal	1.00	1.25
COOLING TOWERS		Contact Factory
Forced Draft		1.25
Induced Draft	1.25	1.50
Large (Mine, etc.)	1.25	1.50
Large Industrial	1.25	1.50
Light (Small Diameter)	1.00	1.25
FEEDERS		
Apron, Belt	1.25	1.50
Disc	1.00	1.25
Reciprocating	1.75	2.00
Screw	1.25	1.50
FLIGHT		
Conveyors, Uniform	1.00	1.25
Conveyors, Heavy	1.25	1.50
FOOD INDUSTRY		
Beet Slicers	1.25	1.50
Bottling, Can Filling Mach.	1.00	1.25
Cereal Cookers	1.00	1.25
Dough Mixers, Meat Grinders	1.25	1.50
HAMMER MILLS	1.50	1.75
HOISTS		
Heavy Duty	1.75	2.00
Medium Duty	1.25	1.50
Skip Hoist	1.25	1.50
INDUCED DRAFT FANS	1.25	1.50
LAUNDRY WASHERS AND TUMBLERS	1.25	1.50
LINE SHAFTS		
Driving Processing Equipment	1.25	1.50
Other Line Shafts, Light	1.00	1.25
LUMBER INDUSTRY		
Barkers-Spindle Feed	1.25	1.50
Barkers-Main Drive	1.75	1.75
Carriage Drive		Contact Factory
CONVEYORS		
Burner	1.25	1.50
Main or Heavy Duty	1.50	1.50
Main Log	1.75	2.00
Re-saw Merry-Go-Round	1.25	1.50
Slab	1.75	2.00
Transfer	1.25	1.50
Chains-Floor	1.50	1.50
Chains-Green	1.50	1.75
Cut-Off Saws-Chain & Drag	1.50	1.75
Debarking Drums	1.75	2.00
Feeds-Edger	1.25	1.50
Feeds-Gang	1.50	1.50
Feeds-Trimmer	1.25	1.50
Log Deck	1.50	1.50
Log Hauls-Incline Well Type	1.50	1.50
Log Turning Devices	1.50	1.50
Planer Feed	1.25	1.50
Planer Tilting Hoist	1.50	1.50
Rolls-Live-Off Bearing-Roll Cases	1.50	1.50
Sorting Table, Tipple Hoist	1.25	1.50
Transfers-Chain & Craneway	1.50	1.75
Tray Drives	1.25	1.50
Veneer Lathe Drives		Contact Factory
MACHINE TOOLS		
Auxiliary Drives	1.00	1.25
Bending Rolls	1.25	1.50
Main Drives	1.25	1.50
Notching Press (Belted)		Contact Factory
Plate Planers	1.50	1.75
Punch Press (Geared)	1.50	1.75
Tapping Machines	1.50	1.75

METAL MILLS		
Draw Bench Carriages & Main Drives	1.25	1.50
Pinch, Dryer and Scrubber		
Rolls Reversing		Contact Factory
Slitters	1.25	1.50
Table Conveyors Non-Reversing		
Group Drives	1.25	1.50
Individual Drives	1.50	1.75
Reversing Wire Drawing & Flattening Machines	1.25	1.50
Wire Winding Machines	1.25	1.50
MILLS, ROTARY		
Ball and Rod Mills with Spur Ring Gear		1.75
with Helical Ring Gear		1.50
Direct Connect		1.50
Cement Kilns, Dryers, Coolers, Pebble, Plain & Wedge Bar Mills		1.50
Tumbling Barrels	1.50	1.75
MIXERS (Also see Agitators)		
Concrete, Cont. & Int.	1.25	1.50
Constant Density	1.00	1.25
Variable Density	1.25	1.50
OIL INDUSTRY		
Chillers	1.25	1.50
Oil Well Pumping		Contact Factory
Paraffin Filter Press	1.25	1.50
Rotary Kilns	1.25	1.50
PAPER MILLS		Contact Factory
PASSENGER ELEVATORS		Contact Factory
PLATE PLANERS	1.50	1.75
PRINTING PRESSES		Contact Factory
PUMPS		
Centrifugal	1.00	1.25
Proportioning	1.25	1.50
Reciprocating		
Single Act, 3 or more Cyl.	1.25	1.50
Double Act, 2 or more Cyl.	1.25	1.50
Single Act, 1 or 2 Cyl.		Contact Factory
Double Act, 1 Cyl.		Contact Factory
Rotary: Gear, Lobe, Vane	1.00	1.25
PUNCH PRESSES (Gear Driven)	1.50	1.75
RUBBER & PLASTIC INDUSTRIES		
Calendars		1.50
Crackers		1.75
Laboratory Equipment	1.25	1.50
Mills (2 on line)	1.50	1.50
Mills (3 on line)	1.25	1.50
Mixing Mills	1.50	1.50
Refiners		1.50
Sheeters		1.50
Tire Building & Machines		Contact Factory
Tire & Tube Press Openers		Contact Factory
Tubers & Strainers		1.50
Warming Mills		1.50
SCREENS		
Air Washing	1.00	1.25
Rotary-Sand or Gravel	1.25	1.50
Traveling Water Intake	1.00	1.25
SEWAGE DISPOSAL		
Bar Screens	1.00	1.25
Chemical Feeders	1.00	1.25
Collectors	1.00	1.25
Dewatering Screens	1.25	1.50
Scum Breakers	1.25	1.50
Slow or Rapid Mixers	1.25	1.50
Thickeners	1.25	1.50
Vacuum Filters	1.25	1.50
SKI TOWS & LIFTS		Not Approved
STOKERS	1.00	1.25
STONE CRUSHERS	1.50	1.75
SUGAR INDUSTRY		
Cane Knives, Crushers, Mills		1.50
TABLE CONVEYORS (Non-Reversing)		
Group Drives	1.25	1.50
Individual Drives	1.50	1.75
Reversing		Contact Factory
TEXTILE INDUSTRY		
Batchers, Calendars	1.25	1.50
Card Machines	1.25	1.50
Dry Cans, Dryers	1.25	1.50
Dyeing Machinery	1.25	1.50
Knitting Machinery		Contact Factory
Looms, Mangles, Nappers, Pads	1.25	1.50
Range Drives		Contact Factory
Slashers, Soapers, Spinners	1.25	1.50
Tenter Frames, Washers, Winders	1.25	1.50
TUMBLING BARRELS	1.50	1.75
VANE BLOWERS	1.00	1.25
WINDLASS		Contact Factory
WIRE		
Drawing Machines	1.25	1.50
Winding Machines	1.25	1.50

$$\frac{TQ(\text{In-Lb}) = (\text{HP} \times 63025)}{\text{RPM}}$$

$$\frac{HP(\text{Rotational}) = TQ(\text{In-Lb}) \times \text{RPM}}{63025}$$

$$\frac{TQ(\text{ft-Lb}) = (\text{HP} \times 5252)}{\text{RPM}}$$

$$\frac{HP(\text{Rotational}) = TQ(\text{ft-Lb}) \times \text{RPM}}{5252}$$

$$TQ(\text{In-Lb}) = W \times R$$

$$\frac{HP(\text{Linear}) = W \times V}{33000}$$

TORQUE AND HORSEPOWER

Torque as it is related to gear reducers is defined as a twisting motion resulting in rotational movement. Horsepower is a measure of the rate of doing work, and depends on speed of rotation and the radius of rotation.

$$HP = \frac{TQ \times \text{Speed (RPM)}}{63025} \quad TQ = \frac{HP \times 63025}{\text{RPM}}$$

EFFICIENCY

The efficiency of a Worm Gear Speed Reducer is dependent on input speed, lead angle of the worm, type of lubricant, ambient temperature and many other variables. The efficiency for speed reducer can be easily calculated as follows.

$$\text{Efficiency} = \frac{\text{Output HP}}{\text{Input HP}}$$

$$\text{Efficiency(Total)} = \text{Eff}_1 + \text{Eff}_2 + \text{Eff}_3$$

OVERHUNG LOAD & THRUST LOADS

An overhung load exists when a force is applied at right angles to a shaft beyond the shaft's outermost bearing. Pulleys, sheaves and sprockets will cause an overhung load when used as a power take-off. The amount of overhung load will vary, depending on the type of power take-off used and its mounting location on the shaft. The catalog Overhung Load ratings listed below are calculated at the centerline of the shaft.

Overhung load ratings are listed for each reducer size and should not be exceeded. If the basic reducer is selected using a service factor, that factor must also be used in the equations below.

$$\text{Output Shaft OHL} = \frac{126000 \times \text{Motor HP} \times \text{OL}}{\text{Pitch Diameter (of sprocket, pulley or sheave)} \times \text{Output RPM}}$$

$$\text{Input Shaft OHL} = \frac{126000 \times \text{Motor HP} \times \text{OL}}{\text{Pitch Diameter (of sprocket, pulley or sheave)} \times \text{Input RPM}}$$

OVERHUNG LOAD FACTORS (OL)

Sprocket	1.00
Gear Pinion	1.25
V-Belt Sheave or Pulley	1.50
Flat Belt	2.50

LOAD LOCATION FACTORS - LF:

Distance	813	815	818	820	824	826	830	832	842	852	860-8100
1 X T	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	Contact Factory
2 X T	0.46	0.61	0.49	0.58	0.57	0.48	0.57	0.56	0.56		
3 X T	0.30	0.44	0.32	0.41	0.41	0.40	0.32	0.40	0.39		
4 X T	0.22	0.34	0.24	0.31	0.31	0.24	0.31	0.30	0.30		
5 X T	0.18	0.28	0.19	0.26	0.26	0.25	0.19	0.25	0.24		

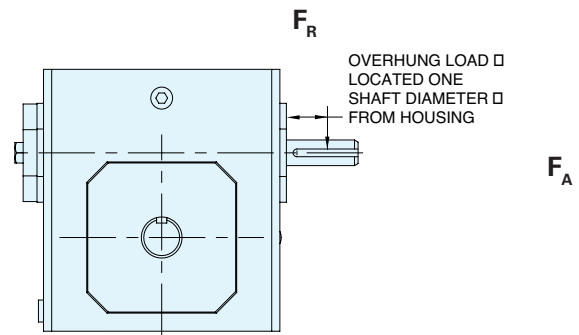
Distance = distance of load from side of housing in terms of shaft diameter 'T'

T = Shaft diameter

Overhung Load – Overhung load is imposed upon a shaft when a pinion or sprocket is used as a power take-off. The magnitude of the load varies with the type of PTO and its location to the shaft bearing. Calculate the load (including minimum required service factor) and check the result against the tabulated overhung load rating. The overhung load formula below considers the transmitted horsepower with service factor. This is appropriate for applications where starting loads, momentary overloads and brake capacities do not exceed 200% of gear reducer rating (100% overload). For other conditions, calculate the actual application load by multiplying the transmitted power by the appropriate service factor.

Lf = load location factor (the input shaft OHL is assumed to be applied at one shaft diameter from the seal cage, (Lf = 1.0) if the load is applied at a distance greater than one shaft diameter from the seal cage, refer the application to the Factory). The calculated overhung load must be less than or equal to the capacity shown on pages L9-L11.

Load Location Factor (Lf) – the output shaft load location factors are shown below.



MAXIMUM OVERHUNG LOAD \diamond AND THRUST LOAD RATINGS (LBS.)

GR SERIES • SINGLE REDUCTION • OUTPUT SHAFT OVERHUNG LOAD F_R

Ratio	Gear Reducer Size												GR870	GR880	GR8100
	GR813	GR815	GR818	GR821	GR824	GR826	GR830	GR832	GR842	GR852	GR860				
5	700	860	1200	1000	1770	1625	2170	2275	2800	3100	3538	6209	7761	11028	
7.5	700	860	1200	1035	1770	1625	2170	2275	2930	3245	3723				
10	700	860	1200	1065	1770	1625	2170	2275	3010	3370	3723				
15	700	860	1200	1125	1770	1625	2170	2275	3190	3560	3723				
20	700	860	1200	1175	1770	1625	2170	2275	3320	3560	3723				
25	700	860	1200	1210	1770	1625	2170	2275	3445	3560	3723				
30	700	860	1200	1255	1770	1625	2170	2275	3550	3560	3723				
40	700	860	1200	1315	1770	1625	2170	2275	3715	3560	3723				
50	700	860	1200	1385	1770	1625	2170	2275	3730	3560	3723				
60	700	860	1200	1415	1770	1625	2170	2275	3730	3570	3723				
70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
80	700	860	1200	1495	1770	1625	2170	2275	3740	3590	3723	N/A	N/A	N/A	
100	700	860	1200	1580	1770	1625	2170	2275	3750	3600	3723	N/A	N/A	N/A	

GR SERIES • SINGLE REDUCTION • OUTPUT SHAFT THRUST LOAD F_A

Ratio	Gear Reducer Size											GR870	GR880	GR8100
	GR813	GR815	GR818	GR821	GR824	GR826	GR830	GR832	GR842	GR852	GR860			
5	827	794	793	735	1451	1420	1729	1605	1445	1675	3633	4009	4777	6808
7.5	948	946	868	811	1659	1609	1944	1869	1640	2021	3990			
10	1070	1056	976	898	1820	1762	2147	2026	1788	2449	3990			
15	1144	1144	1144	1099	2091	2069	2549	2490	2319	3033	3990			
All other single reduction ratios	1144	1144	1144	1144	2091	2091	2574	2574	2533	3412	3990			

GR SERIES • SINGLE REDUCTION EXTENDED BEARING DESIGN • OUTPUT SHAFT OVERHUNG LOAD F_R

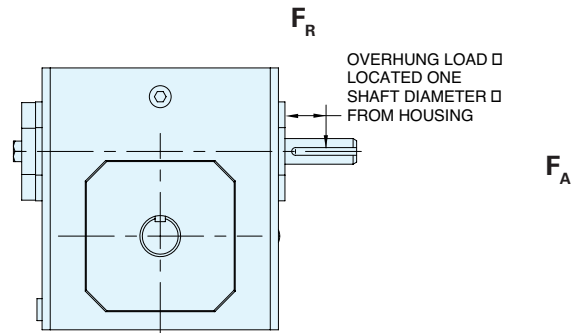
Ratio	Gear Reducer Size							
	GR830	GR832	GR842	GR852	GR860	GR870	GR880	GR8100
All Ratios	605	1605	1445	1675	3633	4009	4777	6808

GR SERIES • SINGLE REDUCTION • INPUT SHAFT OVERHUNG LOAD F_R

Ratio	Gear Reducer Size													
	GR813	GR815	GR818	GR821	GR824	GR826	GR830	GR832	GR842	GR852	GR860	GR870	GR880	GR8100
All Ratios	75	75	75	75	125	125	150	150	175	300	450	450	450	500

\diamond Output shaft overhung load rating (lbs) is based on load applied one shaft diameter from face of reducer housing.

F_R = Radial load rating = overhung load (lbs)
 F_A = Axial load rating = thrust rating (lbs)



BRAVO® Single Reduction Reducers
 BRAVO® Worm - Worm Double Reduction
 BRAVO® Helical - Worm Double Reduction
 BRAVO® Accessory Kits
 Quadro - Single Reduction
 Technical Information

MAXIMUM OVERHUNG LOAD \diamond AND THRUST LOAD RATINGS (LBS.)

NH SERIES • SINGLE REDUCTION • OUTPUT SHAFT OVERHUNG LOAD F_R

Ratio	Gear Reducer Size									
	NH813	NH815	NH818	NH821	NH824	NH826	NH830	NH832	NH842	NH852
5	860	860	1250	775	1300	1750	1950	2250	2800	3100
7.5	860	860	1250	775	1300	1750	1950	2250	2930	3245
10	860	860	1250	775	1300	1750	1950	2250	3010	3370
15	860	860	1250	775	1300	1750	1950	2250	3190	3560
20	860	860	1250	775	1300	1750	1950	2250	3320	3560
25	860	860	1250	775	1300	1750	1950	2250	3445	3560
30	860	860	1250	775	1300	1750	1950	2250	3550	3560
40	860	860	1250	775	1300	1750	1950	2250	3715	3560
50	860	860	1250	775	1300	1750	1950	2250	3730	3560
60	860	860	1250	775	1300	1750	1950	2250	3730	3570
80	860	860	1250	775	1300	1750	1950	2250	3740	3590
100	860	860	1250	775	1300	1750	1950	2250	3750	3600

NH SERIES • SINGLE REDUCTION • OUTPUT SHAFT THRUST LOAD F_A

Ratio	Gear Reducer Size									
	NH813	NH815	NH818	NH821	NH824	NH826	NH830	NH832	NH842	NH852
5	827	794	793	735	1451	1420	1729	1605	1445	1675
7.5	948	946	868	811	1659	1609	1944	1869	1640	2021
10	1070	1056	976	898	1820	1762	2147	2026	1788	2449
15	1144	1144	1144	1099	2091	2069	2549	2490	2319	3033
All other single reduction ratios	1144	1144	1144	1144	2091	2091	2574	2574	2533	3412

NH SERIES • SINGLE REDUCTION EXTENDED BEARING DESIGN • OUTPUT SHAFT OVERHUNG LOAD F_R

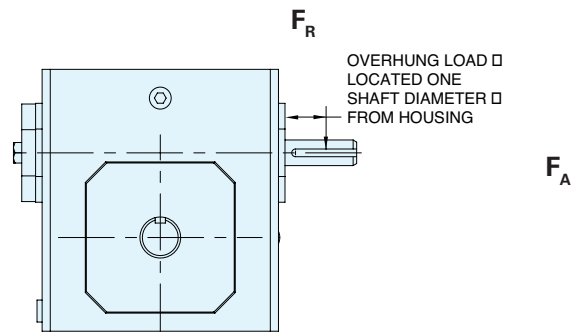
Ratio	Gear Reducer Size			
	NH830	NH832	NH842	NH852
All Ratios	605	959	1200	2524

NH SERIES • SINGLE REDUCTION • INPUT SHAFT OVERHUNG LOAD F_R

Ratio	Gear Reducer Size									
	NH813	NH815	NH818	NH821	NH824	NH826	NH830	NH832	NH842	NH852
All Ratios	75	75	75	75	125	125	150	150	175	300

\diamond Output shaft overhung load rating (lbs) is based on load applied one shaft diameter from face of reducer housing.

F_R = Radial load rating = overhung load (lbs)
 F_A = Axial load rating = thrust rating (lbs)



TECHNICAL INFORMATION

MAXIMUM OVERHUNG LOAD \diamond AND THRUST LOAD RATINGS (LBS.)

EL SERIES • SINGLE REDUCTION • OUTPUT SHAFT OVERHUNG LOAD F_R

Ratio	Gear Reducer Size									
	EL813	EL818	EL821	EL824	EL826	EL830	EL832	EL842	EL852	EL860
5	700	920	1000	1770	1625	2170	2170	2800	3100	3538
7.5	700	920	1035	1770	1625	2170	2170	2930	3245	3723
10	700	920	1065	1770	1625	2170	2170	3010	3370	3723
15	700	920	1125	1770	1625	2170	2170	3190	3560	3723
20	700	920	1175	1770	1625	2170	2170	3320	3560	3723
25	700	920	1210	1770	1625	2170	2170	3445	3560	3723
30	700	920	1255	1770	1625	2170	2170	3550	3560	3723
40	700	920	1315	1770	1625	2170	2170	3715	3560	3723
50	700	920	1385	1770	1625	2170	2170	3730	3560	3723
60	700	920	1415	1770	1625	2170	2170	3730	3570	3723
80	700	920	1495	1770	1625	2170	2170	3740	3590	3723
100	700	920	1580	1770	1625	2170	2170	3750	3600	3723

EL SERIES • SINGLE REDUCTION • OUTPUT SHAFT THRUST LOAD F_A

Ratio	Gear Reducer Size									
	EL813	EL818	EL821	EL824	EL826	EL830	EL832	EL842	EL852	EL860
5	827	793	735	1451	1420	1729	1605	1445	1675	3633
7.5	948	868	811	1659	1609	1944	1869	1640	2021	3990
10	1070	976	898	1820	1762	2147	2026	1788	2449	3990
15	1144	1144	1099	2091	2069	2549	2490	2319	3033	3990
All other single reduction ratios	1144	1144	1144	2091	2091	2574	2574	2533	3412	3990

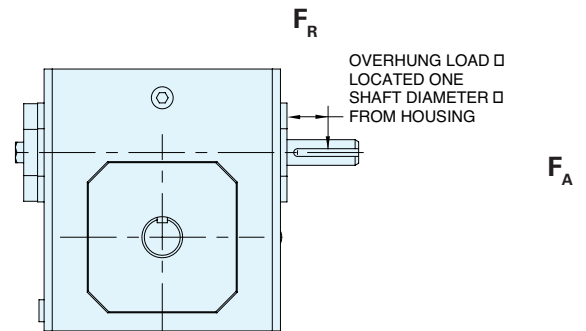
EL SERIES • SINGLE REDUCTION • INPUT SHAFT OVERHUNG LOAD F_R

Ratio	Gear Reducer Size									
	EL813	EL818	EL821	EL824	EL826	EL830	EL832	EL842	EL852	EL860
All Ratios	75	75	75	125	125	150	150	175	300	450

\diamond Output shaft overhung load rating (lbs) is based on load applied one shaft diameter from face of reducer housing.

F_R = Radial load rating = overhung load (lbs)

F_A = Axial load rating = thrust rating (lbs)



ADDITIONAL ENGINEERING EQUATIONS AND CONVERSION FACTORS

Velocity(FPM) = $V = .2618 \times D \times \text{RPM}$

Rotational Speed = $\text{RPM} = \frac{V}{(.2618 \times D)}$

Ratio = $\frac{\text{Input RPM}}{\text{Output RPM}} = \frac{\text{No. Teeth in Driver}}{\text{No. Teeth in Driven}} = \frac{\text{Diameter of Driver}}{\text{Diameter of Driven}}$

Ratio(Total) = $\text{Ratio}_1 + \text{Ratio}_2 + \text{Ratio}_3$

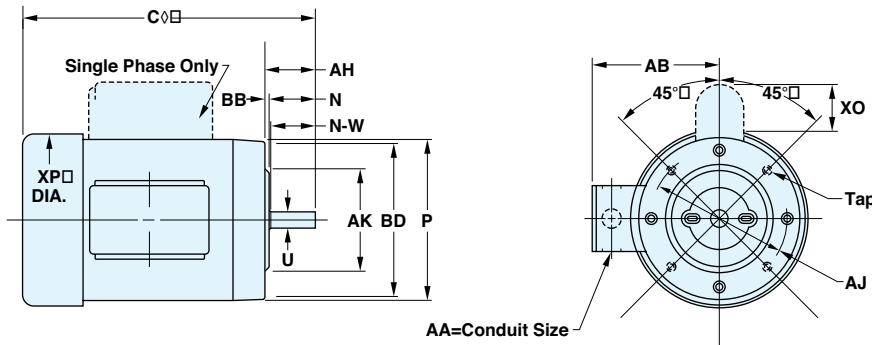
- 1 inch = 25.4 MM
- 1 lb = 4.448 N
- 1 in-lb = .11298 Nm
- 1HP = 746 Watts = .746 kW
- 1kW = 1.34 HP
- °F = 9/5 x °C + 32
- °C = 5/9 x (°F - 32)

Where:

- D = Diameter (inches)
- HP = Horsepower
- R= Radius (inches)
- RPM - Rotational Speed
- TQ = Torque
- V = linear velocity (FPM)
- W = force or tension (lbs)

MOTOR DIMENSIONS AC & DC MOTORS • NEMA C FACE

CRITICAL MOUNTING DIMENSIONS



The condensed dimensions shown on these pages are for general reference only and are not for construction.

NEMA SHAFT AND KEYWAY DIMENSIONS ■ (Inches)

NEMA SHAFT (U)	KEYWAY DIMENSIONS		NEMA SHAFT (U)	KEYWAY DIMENSIONS	
	(R)	(S)		(R)	(S)
5/8	33/64	3/16	2-3/8	2-1/64	5/8
7/8	49/64	3/16	2-1/2	2-3/16	5/8
1-1/8	63/64	1/4	2-7/8	2-29/64	3/4
1-3/8	1-13/64	5/16	3-3/8	2-7/8	7/8
1-5/8	1-13/32	3/8	3-7/8	3-5/16	1

■ S is keyway width.
U minus R is keyway depth.

NEMA DIMENSIONS (Inches)

Frame Size ▲	N	P	U	N-W	AA	AB	AH	AJ	AK	BB	BD	XO	XP	TAP	KEY
S56 56	1 ¹⁵ / ₁₆	^{5¹⁹} / ₃₂ ^{6¹⁹} / ₃₂	⁵ / ₈	1 ¹ / ₈	¹ / ₂	^{4⁷} / ₈ ^{5¹} / ₁₆	2 ¹ / ₁₆	5 ⁵ / ₈	4 ¹ / ₂	¹ / ₈	6 ¹ / ₂	2 ¹ / ₄	^{5⁵} / ₃₂ ^{7⁵} / ₃₂	³ / ₈ -16	³ / ₁₆
143T 145T	2 ³ / ₈	6 ¹⁹ / ₃₂	⁷ / ₈	2 ¹ / ₄	³ / ₄	5 ¹⁵ / ₁₆	2 ¹ / ₈	5 ⁵ / ₈	4 ¹ / ₂	¹ / ₈	6 ¹ / ₂	2 ¹ / ₄	7 ⁵ / ₃₂	³ / ₈ -16	³ / ₁₆
182T 184T	2 ⁷ / ₈	8 ¹⁵ / ₃₂	1 ¹ / ₈	2 ³ / ₄	³ / ₄	6 ³ / ₈	2 ⁵ / ₈	7 ¹ / ₄	8 ¹ / ₂	¹ / ₄	8 ³ / ₈	2 ¹ / ₄	9 ⁹ / ₃₂	¹ / ₂ -13	¹ / ₄
S213T 213T 215T	3 ¹ / ₂	8 ¹⁹ / ₃₂ 10 ¹³ / ₁₆	1 ³ / ₈	3 ³ / ₈	³ / ₄ 1	6 ³ / ₈ 8 ⁵ / ₁₆	3 ³ / ₈	7 ¹ / ₄	8 ¹ / ₂	¹ / ₄	8 ³ / ₈ 9	2 ¹ / ₄	9 ⁹ / ₃₂ 11 ¹³ / ₃₂	¹ / ₂ -13	⁵ / ₁₆
254TC 256TC	-	13 ¹ / ₄	⁵ / ₈	4	1 ¹ / ₄	11 ⁵ / ₈	3 ³ / ₄	7 ¹ / ₄	8 ¹ / ₂	¹ / ₄	9 ³ / ₈	-	12 ¹ / ₈	¹ / ₂ -13	³ / ₈

▲ Blue shading denotes dimensions established by NEMA standard MG1, others are unique to LEESON, and will vary with each manufacturer.

BRAVO®
Single Reduction Reducers

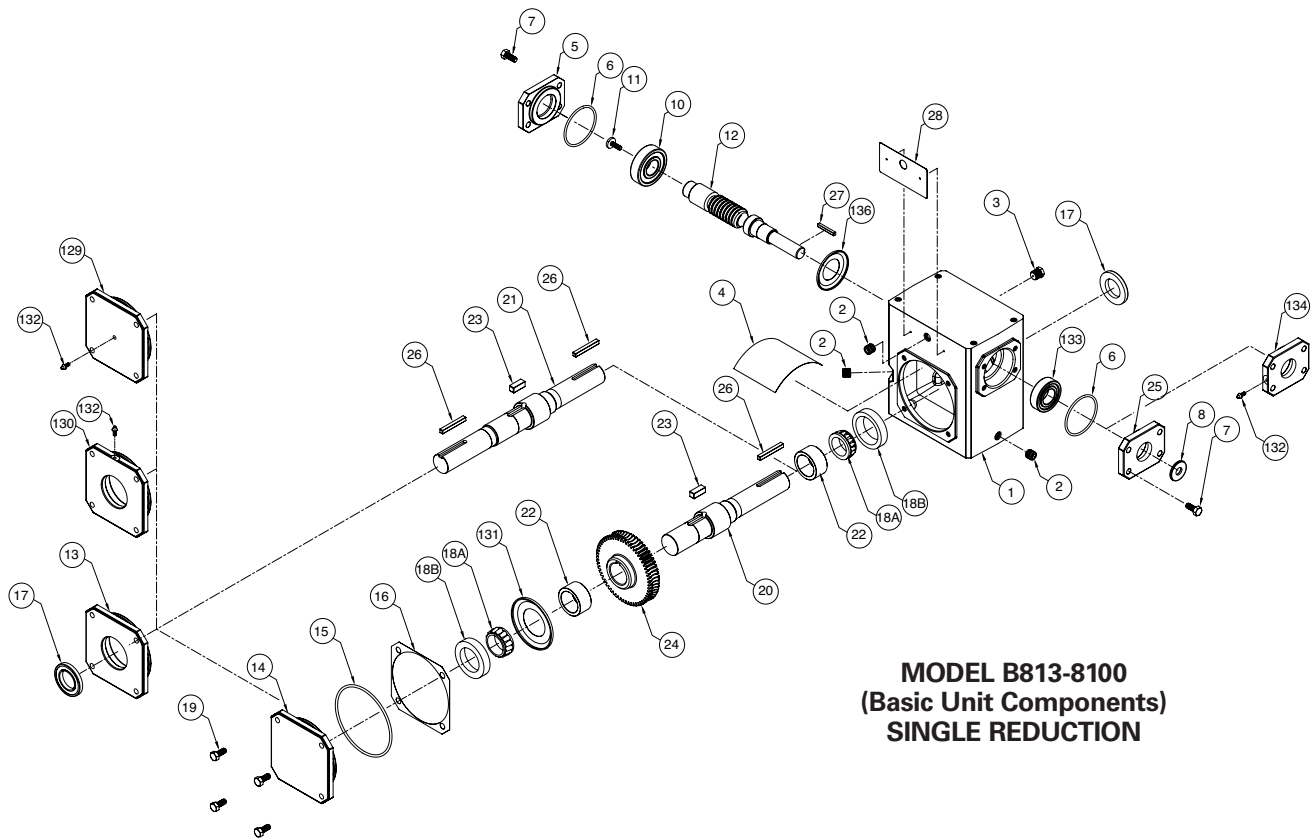
BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information



MODEL B813-8100
(Basic Unit Components)
SINGLE REDUCTION

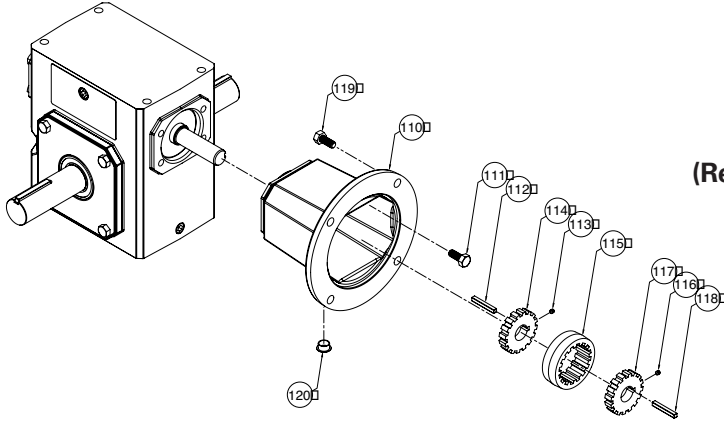
BASIC SINGLE REDUCTION UNIT (B-STYLE)		QUILL MOTOR FLANGE UNIT (BMQ-STYLE)		VERTICAL SHAFT REQUIRED PARTS (supplied only when mounting position involves a vertical shaft)	
ITEM #	DESCRIPTION	ITEM #	DESCRIPTION	ITEM #	DESCRIPTION
1	HOUSING	40	QUILL MOTOR FLANGE	118	COUPLING KEY - MOTOR SHAFT
2	PIPE PLUG	41	INPUT OIL SEAL	119	HEX HEAD CAP SCREW (motor to flange)
3	VENT PLUG	42	HEX HEAD CAP SCREW (flange to housing)	120	PLASTIC PLUG
4	SPLASH GUARD	43	RETAINING RING - SHAFT	VERTICAL SHAFT REQUIRED PARTS (supplied only when mounting position involves a vertical shaft)	
5	INPUT CAP	*44	RETAINING RING - HOUSING	*129	OUTPUT COVER - CLOSED
6	O-RING	45	QUILL INPUT SHAFT	*130	OUTPUT COVER - OPEN
7	HEX HEAD CAP SCREW	46	KEY - INPUT	*131	OUTPUT BEARING GREASE RETAINER
8	INPUT OIL SEAL	47	HEX HEAD CAP SCREW (motor to flange)	132	GREASE FITTING
9	INPUT BEARING (cup and cone for 842 and larger units)	HOLLOW OUTPUT SHAFT UNIT (H-STYLE)		133	SEALED BALL BEARING (only used on size 818 thru 826 units)
10	INPUT BEARING (cup and cone for 842 and larger units)	51	OUTPUT COVER	◆134	INPUT COVER
*11	RETAINING SCREW	52	OUTPUT OIL SEAL	◆136	INPUT BEARING GREASE RETAINER
12	INPUT WORM SHAFT	53	OUTPUT BEARING (53A. CONE, 53B. CUP)	* ONLY USED ON SIZE 842 AND LARGER UNITS	
13	OUTPUT COVER - OPEN	54	GEAR SPACER	◆ ONLY USED ON SIZE 830 AND LARGER UNITS	
14	OUTPUT COVER - CLOSED	◆55	OUTPUT SHAFT	♣ SUPPLIED ONLY AS OUTPUT ASSEMBLY ON 813 THROUGH 824 UNITS	
15	O-RING	56	SETScrew		
16	OUTPUT COVER SHIM (as required)	57	GEAR KEY (only used on size 826 and larger units)		
17	OUTPUT OIL SEAL	◆58	OUTPUT GEAR		
18	OUTPUT BEARING (18A. CONE, 18B. CUP)	59	OUTPUT KEY		
19	HEX HEAD CAP SCREW	LONG MOTOR FLANGE AND COUPLING KIT (BM-STYLE)			
◆20	OUTPUT SHAFT - SINGLE	110	"C" FACE MOTOR FLANGE		
◆21	OUTPUT SHAFT - DOUBLE	111	HEX HEAD CAP SCREW (flange to housing)		
22	GEAR SPACER	112	COUPLING KEY - REDUCER SHAFT		
23	GEAR KEY (only used on size 826 and larger units)	113	SETScrew - REDUCER SHAFT		
◆24	OUTPUT GEAR	114	COUPLING GEAR - REDUCER SHAFT		
*25	INPUT COVER	115	COUPLING SLEEVE		
26	KEY - OUTPUT EXTENSION	116	SETScrew - MOTOR SHAFT		
27	KEY - INPUT EXTENSION	117	COUPLING GEAR - MOTOR SHAFT		
28	NAMEPLATE				

CAST IRON
GR SERIES

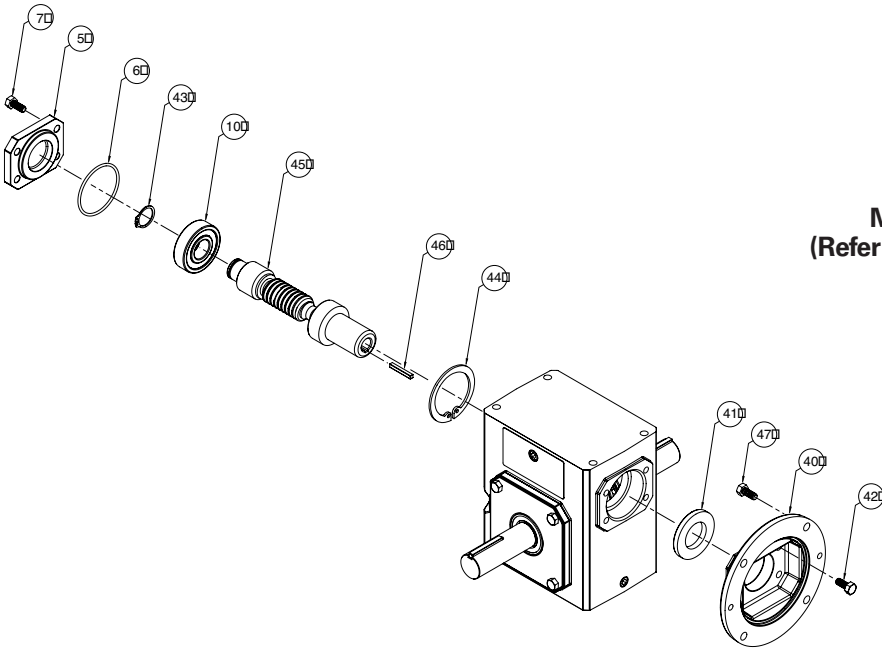
CAST IRON
NH SERIES

ALUMINUM
EL SERIES

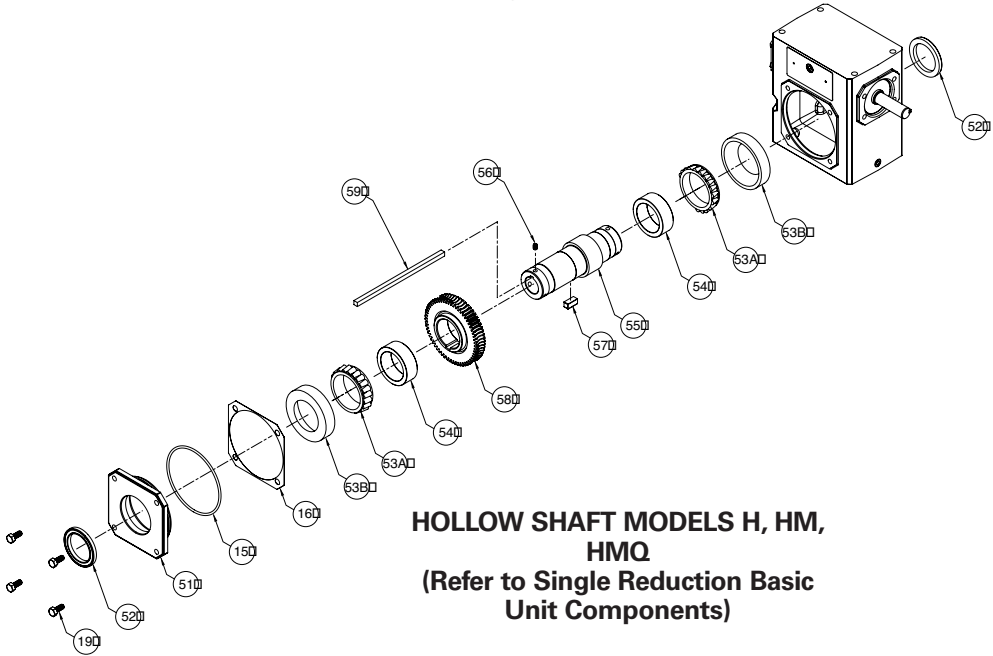
TECHNICAL INFORMATION



MODEL BM813-8100
(Refer to Single Reduction Basic Unit Components)



MODEL BMQ813-8100
(Refer to Single Reduction Basic Unit Components)



HOLLOW SHAFT MODELS H, HM, HMQ
(Refer to Single Reduction Basic Unit Components)

BRAVO®
Single Reduction Reducers

BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

CAST IRON
GR SERIES

CAST IRON
NH SERIES

ALUMINUM
EL SERIES

TECHNICAL INFORMATION

BRAVO®
Single Reduction Reducers

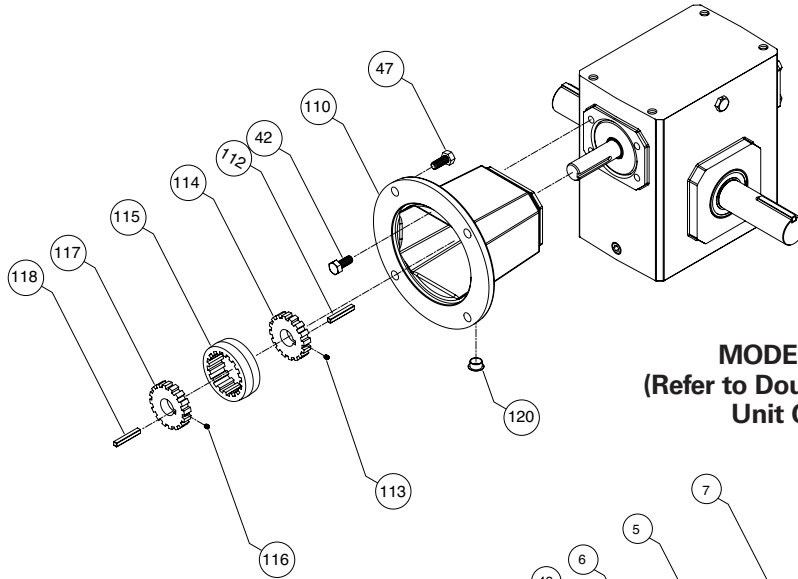
BRAVO® Worm - Worm
Double Reduction

BRAVO® Helical - Worm
Double Reduction

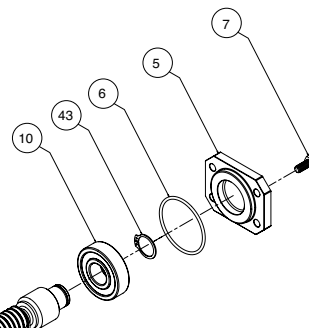
BRAVO® Accessory Kits

Quadro - Single Reduction

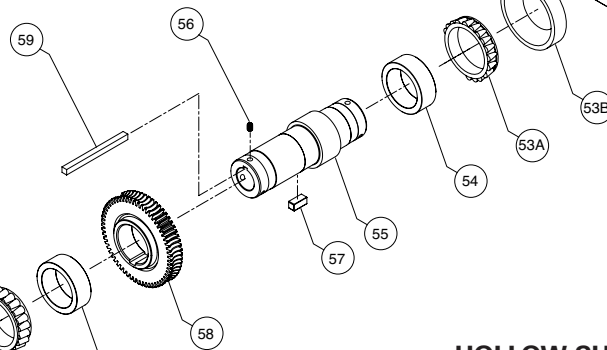
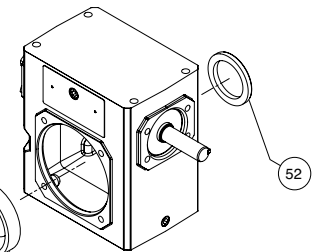
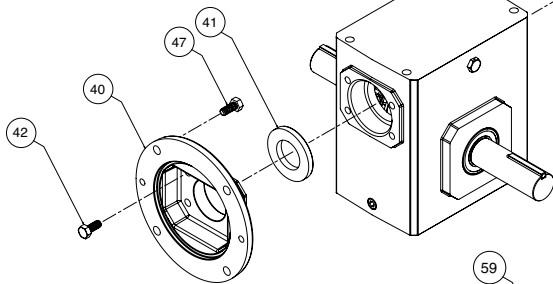
Technical Information



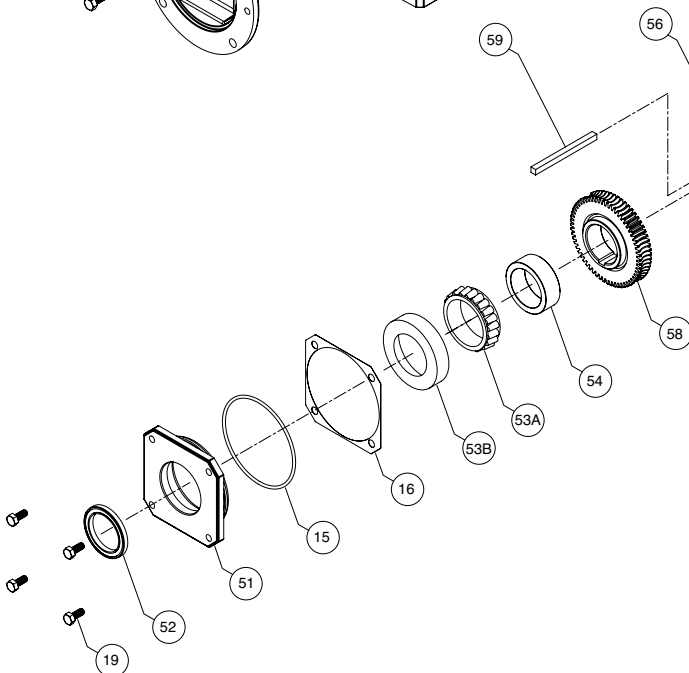
MODEL DM813-8100
(Refer to Double Reduction Basic Unit Components)



MODEL DMQ813-8100
(Refer to Double Reduction Basic Unit Components)



HOLLOW SHAFT MODELS DH, DHM, DHMQ
(Refer to Double Reduction Basic Unit Components)



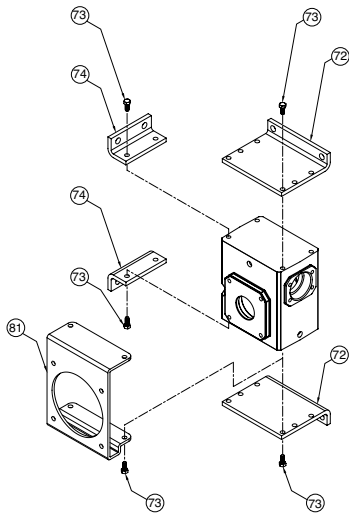
TECHNICAL INFORMATION

CAST IRON
GR SERIES

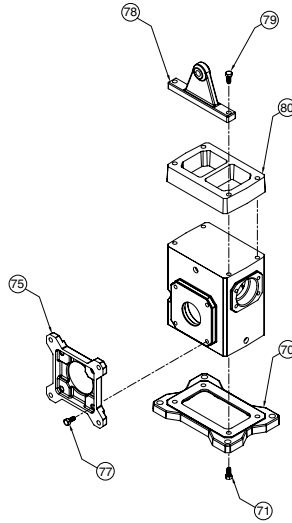
CAST IRON
NH SERIES

ALUMINUM
EL SERIES

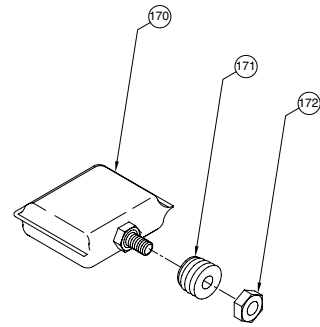
STEEL MOUNTING ACCESSORIES



CAST MOUNTING ACCESSORIES



ENVIROSEAL



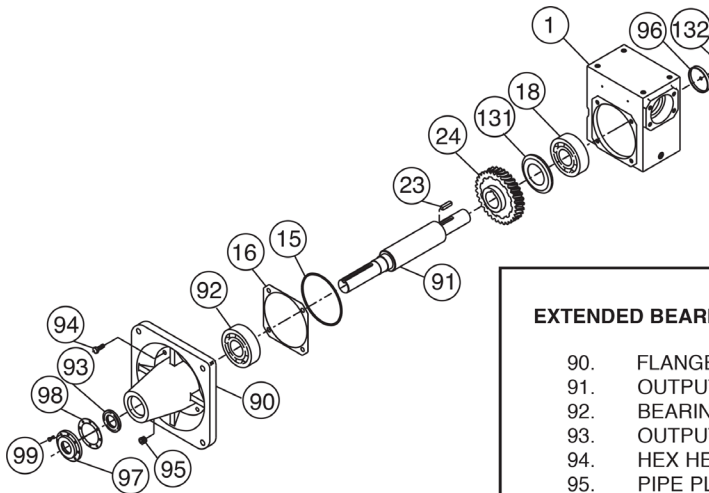
INTERNAL PRESSURE COMPENSATION CHAMBER ASSEMBLY

- 170 INTERNAL PRESSURE COMPENSATION CHAMBER
- 171 INTERNAL PRESSURE COMPENSATION CHAMBER STEM PLUG
- 172 INTERNAL PRESSURE COMPENSATION CHAMBER STEM NUT

MOUNTING BRACKET OPTIONS

- | | |
|-----------------------------|--|
| 70 HORIZONTAL MOUNTING BASE | 79 HEX HEAD CAP SCREW |
| 71 CAP SCREW | 80 RISER BLOCK |
| 72 HIGH AND LOW V-BRACKETS | 81 "FB" OUTPUT FLANGE (bent steel - only available thru size 826, excluding 815 units) |
| 73 HEX HEAD CAP SCREW | |
| 74 "J" MOUNT BRACKET | |
| 75 "F" OUTPUT FLANGE (CAST) | |
| 77 HEX HEAD CAP SCREW | |
| 78 TORQUE BRACKET | |

EXTENDED BEARING UNIT



EXTENDED BEARING UNIT

- 90. FLANGE
- 91. OUTPUT SHAFT
- 92. BEARING
- 93. OUTPUT OIL SEAL
- 94. HEX HEAD CAP SCREW
- 95. PIPE PLUG
- 96. EXPANSION PLUG
- *97. FLANGE COVER
- *98. GASKET
- *99. HEX HEAD CAP SCREW

*ONLY USED ON SIZE 5-1/4" CENTER DISTANCE AND LARGER UNITS

BRAVO® Single Reduction Reducers

BRAVO® Worm - Worm Double Reduction

BRAVO® Helical - Worm Double Reduction

BRAVO® Accessory Kits

Quadro - Single Reduction

Technical Information

U.L., CSA, ISO AND OTHER STANDARDS & APPROVALS – MOTORS

UNDERWRITERS LABORATORIES INC.

- All motor models listed with prefix “C” have U.L. component recognition (without thermal overload). File Number E57948, Guide Number PRGY2.
- All units have U.L. recognized Class B, F or H insulation systems unless otherwise noted. File Number E55555, Guide Number OBJY2.
- Single phase motors with a model number prefix of “A” or “M” (automatic or manual protectors) have U.L. recognized protector winding combinations and component recognition. File Number E57955, Guide Number XEWR2.
- Three phase motors with a model number prefix of “A” or “M” (automatic or manual protectors) have U.L. recognized protector winding combinations plus have capability of providing U.L. recognized primary single phasing which is included in our U.L. file E57955, Guide Number XEWR2.
- Explosion-Proof, single and three phase for 56, 143T and 145T frames:
File Number E75276, Guide Number PTDR.
- Explosion-Proof motors 182T and larger: File Number E12044, Guide Number PTDR.
- Explosion-Proof motors DC motors 48 frame: File Number E75276, Guide Number PTDR..
- Permanent Magnet DC motors except PZ and P300 gearmotors are recognized components under File Number E57948, Guide Number PRGY2.
- PZ and P300 Permanent Magnet DC gearmotors: File number E49849 or E49747, Guide Number PRGY2.
- Speedmaster SCR Drives, Component Recognition, File E132235, Guide Number NMMS2, except catalog numbers 174902 and 174903.
- Speedmaster SCR Drives, catalog numbers 174902 and 174903. File Number E154901, Guide Number NMFT2.
- Speedmaster AC Adjustable Speed Drives, File Number E161242. Canadian UL covered by File Number E161242 also, Guide Number NMMS.

CANADIAN STANDARDS ASSOCIATION

- Motor construction for all single and three phase NEMA 42 through S254T frame, IEC/metric 63 through 90L frame, and all sub-fractional horsepower motors: Report Number L33543, Guide Number 260-0-0.
- Motor construction for all steel or cast iron three phase NEMA 182T through 447T frame and IEC/metric 100L through 250M frame motors: Report Number LR62104.
- Thermally protected single phase motors through 71/2 HP, Report Number LR33543.
- All Farm Duty motors 1/3 HP through 71/2 HP, Report Number LR33543
- Explosion proof single and three phase for 56, 143T and 145T frames:
File Number LR47667.
- Explosion-Proof motors 182T and larger: File Number LR21839 and LR47504.
- Explosion-Proof DC motors 48 frame: File Number LR701080.
- Permanent Magnet DC motors are listed under File Number LR33543.
- Multi-Speed Motors, steel or cast iron, 182T through 447T frames are listed under file number LR33543.
- Speedmaster SCR Drives, catalog numbers 174902 and 174903. File Number LR75790.

MOTOR EFFICIENCY VERIFICATION

Energy Efficiency Verification - Full load efficiency ratings of three phase, single speed, NEMA/EEMAC Design A or B squirrel cage induction motors, 1 through 200 HP, 230, 460 or 575 volts, 60 Hz, in totally enclosed and open, drip-proof enclosures for non-hazardous applications, CSA Report Number EEV 78720-1. Tested to CSA 390 (IEEE 112B) Standards. The Grafton testing facility is qualified for CSA energy efficiency performance testing of polyphase induction motors. The Grafton Testing Facility is NVLAB recognized for energy efficiency testing of electric motors to EPACT requirements of the Department of Energy.

ISO QUALITY CERTIFICATION

Grafton and Saukville, Wisconsin administrative, design and manufacturing facility, ISO 9001, Certificate Number RvC #93-102. EN29001, BS5750:

Part 1 and ANSI/ASQC Q91-19.

Black River Falls, Wisconsin manufacturing facility, ISO 9002, Certificate Number RvC #93-090.

Mississauga (Toronto), Ontario, administrative, distribution facility, ISO 9002, Certificate Number QMI #003027.

Hanover, Ontario, manufacturing facility, ISO 9002, Certificate Number QMI #003028.

BAKING INDUSTRY SANITATION STANDARDS COMMITTEE

WASHGUARD® II, stainless steel washdown duty motors, NEMA frames 56, 143T, 145T, 182T and 184T are certified to Standard No. 29 for Electric Motors and Accessory Equipment, authorization number 769. The WBMQ Series of gear reducers are BISSC certified to Standard No. 29 for Electric Motors and Accessory Equipment, authorization number 941.

SAUDI ARABIAN STANDARDS ORGANIZATION

SCCP Ref. No.: R-100157

The CE Mark

CE is an acronym for the French phrase “Conformite Europeene” and is similar to the UL or CSA marks of North America. However, unlike UL or CSA which require independent laboratory testing, the CE mark can be applied by the motor manufacturer through “self certifying” that its products are designed to the appropriate standards. The European Union has issued 24 directives related to the CE mark. Three Directives apply to electric motors.

Low Voltage Directive (73/23/EEC) This directive applies to electrical equipment operating in the voltage range of 50-1000 volts AC or 75-1500 volts DC. Virtually all LEESON motors (except low voltage DC) are included in this directive.

Based on our testing to the applicable electrical and mechanical standards EN60034 and IEC 34, LEESON certifies conformity to this directive. All three phase 50 Hz stock motors comply with the nameplate designations, lead markings and connection diagrams required. A “Declaration of Conformity” accompanies these motors and a CE label is applied.

Machinery Directive (89/392/EEC) This directive applies to machinery that may contain certain motors. This is an issue with equipment manufacturers and requires the use of a motor meeting the Low Voltage Directive and requires a “Declaration of Incorporation” document which means that only the motor complies with the requirements of the Low Voltage Directive. A CE label is applied to the motor but it remains the responsibility of the equipment manufacturer to obtain certification for the finished product.

Electromagnetic Compatibility (EMC) Directive (89/336/EEC) This directive addresses the final product and is again a concern for the equipment manufacturer. Since this Directive addresses electromagnetic interference (EMI) concerns, it does not affect three phase AC motors because they do not produce EMI. DC motors, however, do produce EMI. How much of the “noise” is emitted outside the machine depends on a host of factors. LEESON’s Engineering Department can assist OEM’s in applying DC motors in machinery destined for Europe and requiring certification to the EMC Directive.



Conformite Europeene

ELECTRICAL WARNINGS AND CAUTIONS

IMPORTANT INFORMATION PLEASE READ CAREFULLY

⚠ DANGER Indicates a hazard which, if not avoided, will result in serious injury or death.

⚠ CAUTION Indicates a hazard which, if not avoided, could result in minor or moderate personal injury.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

NOTICE Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

- ⚠ WARNING**
- Written authorization from GROVE GEAR is required to operate or use reducers in man lift or people moving devices.
 - Check to make certain application does not exceed the allowable load capacities published in the current catalog.
 - Buyer shall be solely responsible for determining the adequacy of the product for any and all uses to which Buyer shall apply the product. The application by Buyer shall not be subject to any implied warranty of fitness for a particular purpose.
 - For safety, Buyer or User should provide protective guards over all shaft extensions and any moving apparatus mounted thereon. The User is responsible for checking all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.
 - Hot oil and reducers can cause severe burns. Use extreme care when removing lubrication plugs and vents.
 - Make certain that the power supply is disconnected before attempting to service or remove any components. Lock out the power supply and tag it to prevent unexpected application of power.
 - Reducers are not to be considered fail safe or self-locking devices. If these features are required, a properly sized, independent holding device should be utilized. Reducers should not be used as a brake.
 - Any brakes that are used in conjunction with a reducer must be sized or positioned in such a way so as to not subject the reducer to loads beyond the catalog rating.
 - Lifting supports including eyebolts are to be used for vertically lifting the gearbox only and no other associated attachments or motors.
 - Use of an oil with an EP additive on units with backstops may prevent proper operation of the backstop. Injury to personnel, damage to the reducer or other equipment may result.
 - Overhung loads subject shaft bearings and shafts to stress which may cause premature bearing failure and/or shaft breakage from bending fatigue, if not sized properly.
 - Test run unit to verify operation. If the unit tested is a prototype, that unit must be of current production.
- ⚠ CAUTION**
- If the speed reducer cannot be located in a clear and dry area with access to adequate cooling air supply, then precautions must be taken to avoid the ingestion of contaminants such as water and the reduction in cooling ability due to exterior contaminants.
 - Mounting bolts should be routinely checked to ensure that the unit is firmly anchored for proper operation.

In the event of the resale of any of the goods, in whatever form, Resellers/Buyers will include the following language in a conspicuous place and in a conspicuous manner in a written agreement covering such sale:

The manufacturer makes no warranty or representations, express or implied, by operation of law or otherwise, as to the merchantability or fitness for a particular purpose of the goods sold hereunder. Buyer acknowledges that it alone has determined that the goods purchased hereunder will suitably meet the requirements of their intended use. In no event will the manufacturer be liable for consequential, incidental or other damages. Even if the repair or replacement remedy shall be deemed to have failed of its essential purpose under Section 2-719 of the Uniform Commercial Code, the manufacturer shall have no liability to Buyer for consequential damages.

Resellers/Buyers agree to also include this entire document including the warnings and cautions above in a conspicuous place and in a conspicuous manner in writing to instruct users on the safe usage of the product.

This information should be read together with all other printed information supplied by Grove Gear / Electra-Gear.

For more information contact: GROVE GEAR, 1524 15th Avenue, Union Grove, WI 53182
Phone: 262-878-1221 or Fax: 262-878-1968

Motion Control Solutions Regal Rexnord

Contact us: [regalrexnord.com/contact](https://www.regalrexnord.com/contact)

[regalrexnord.com](https://www.regalrexnord.com)

The proper selection and application of products and components, including assuring that the product is safe for its intended use, are the responsibility of the customer. To view our Application Considerations, please visit <https://www.regalrexnord.com/Application-Considerations>.

To view our Standard Terms and Conditions of Sale, please visit <https://www.regalrexnord.com/Terms-and-Conditions-of-Sale> (which may redirect to other website locations based on product family).

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