

# MaxMotion

## PERFORMANCE DATA SHEET

Meets or exceeds MEPS (Minimum Efficiency Performance Standards), as described by the US Department of Energy in docket 10CFR431 and Natural Resources Canada's Amendment 14

Catalogue #: **MPRP-302CH**

| HP | kW   | Voltage | S.F. @ 60Hz | Efficiency | Power Factor | Frame | Design | L.R. Amps |
|----|------|---------|-------------|------------|--------------|-------|--------|-----------|
| 3  | 2,24 | 575     | 1,15        | 87,6%      | 0,850        | 56HC  | B      | 30        |

| 60 Hz |     |     |     |     |      |     |      |          |
|-------|-----|-----|-----|-----|------|-----|------|----------|
| FLA   |     |     |     |     |      |     | Code | F.L. RPM |
| 208   | 230 | 416 | 460 | 480 | 575  | 600 |      |          |
| /     | /   | /   | /   | /   | 3,05 | /   | L    | 3512     |

| 50 Hz |    |     |     |             |            |              |      |          |
|-------|----|-----|-----|-------------|------------|--------------|------|----------|
| HP    | kW | FLA |     | S.F. @ 50Hz | Efficiency | Power Factor | Code | F.L. RPM |
|       |    | 190 | 380 |             |            |              |      |          |
| /     | -  | /   | /   | /           | /          | /            | /    | /        |

| Wgt. Lbs | PH | Duty  | Insul. Class | Amb. | Elevation       | Temp. Rise° C |
|----------|----|-------|--------------|------|-----------------|---------------|
| 42       | 3  | Cont. | F            | 40°C | 1000M (3300 Ft) | 46            |

| % Efficiency |       | % Power Factor |      | Torque           |     | Winding Resist. Ω | Safe Cold Start (Secs) |
|--------------|-------|----------------|------|------------------|-----|-------------------|------------------------|
| Full Load:   | 87,6% | Full Load:     | 0,85 | Full Load Ft/Lbs | 4,5 |                   |                        |
| 3/4 Load:    | 87,1% | 3/4 Load:      | 0,79 | Locked Rotor %   | 293 |                   |                        |
| 1/2 Load:    | 85,2% | 1/2 Load:      | 0,64 | Break Down %     | 413 |                   |                        |
|              |       |                |      |                  |     | 5,59              | 12                     |

| Rotor Inertia Wk2 Lb-Ft2 | Max Load Inertia Wk2 Lb-Ft2 | Shaft Material | Frame Material | DE Bracket Type | ODE Bracket Type | Enclosure | NEMA Rating | Lead Wire Size |
|--------------------------|-----------------------------|----------------|----------------|-----------------|------------------|-----------|-------------|----------------|
| /                        | /                           | Steel          | Rolled Steel   | Aluminium Alloy |                  | TEFC      | IP55        | 14AWG          |

| Ball Bearings |      | Grease          | Mount Type | Orientation | Paint | Sound Pressure @ 3FT | Sound Power |
|---------------|------|-----------------|------------|-------------|-------|----------------------|-------------|
| DE            | ODE  |                 |            |             |       |                      |             |
| 6205          | 6203 | Sealed Bearings | Rigid      | Horizontal  | Black | 63                   | /           |

| Inverter Duty.<br>Motor meets MG1 parts 31.4.4.2 | Constant Torque Range | Variable Torque Range | Constant HP RPM |
|--------------------------------------------------|-----------------------|-----------------------|-----------------|
|                                                  | 10:1                  | 20:1                  | 5400            |

| WIRING CONNECTION DIAGRAM :                                                                                                                                                                                                                                                                                                                                                                                                       | D |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <p>56C, Single Voltage, DOL, 3 Leads WYE Connection<br/>575 VAC 3 phase</p> <div style="text-align: center;"> <div style="display: inline-block; border: 1px solid black; padding: 2px 5px;">1</div> <div style="display: inline-block; border: 1px solid black; padding: 2px 5px;">2</div> <div style="display: inline-block; border: 1px solid black; padding: 2px 5px;">3</div> </div> <p style="text-align: center;">Line</p> |   |

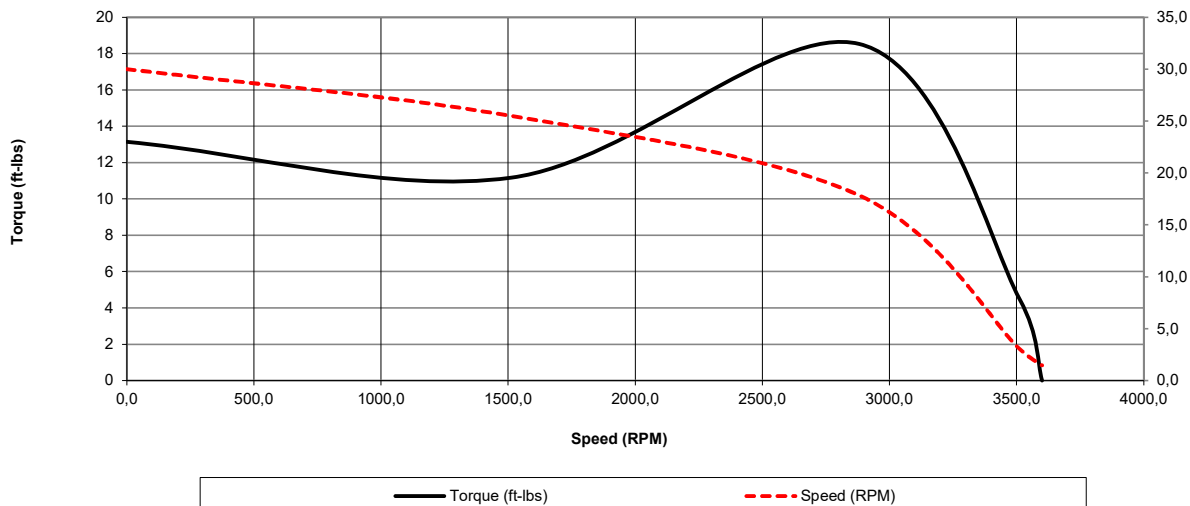
Date: 2024-05-01  
 Customer: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Submittee: J.C. Lavallée

Catalogue #: MPRP-302CH

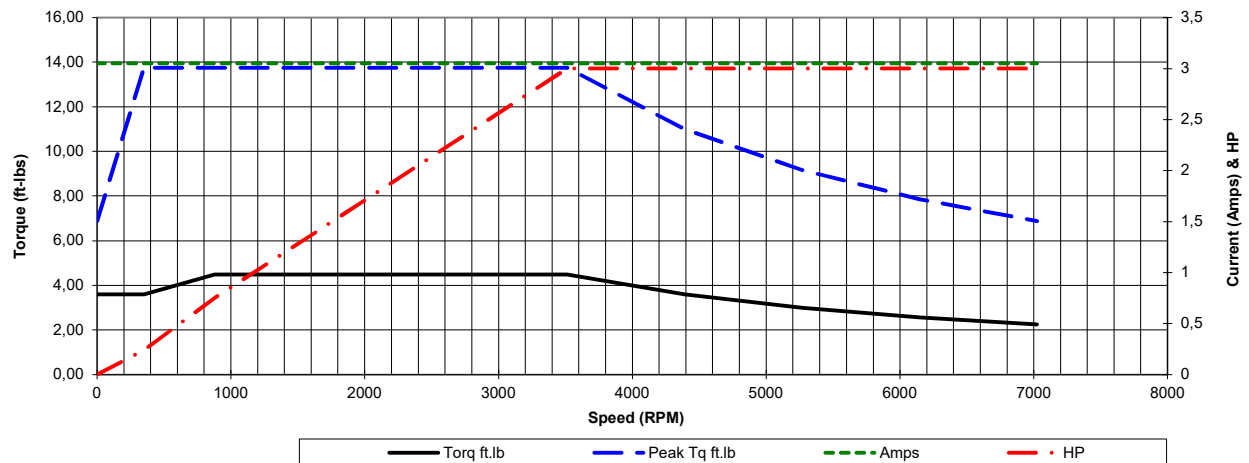
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| HP              | VAC          | RPM     | Enclosure | Frame      | Frequency | Design                               | Poles | LR Code Letter | Insulation Class | Temp. Rise °C |
|-----------------|--------------|---------|-----------|------------|-----------|--------------------------------------|-------|----------------|------------------|---------------|
| 3               | 575          | 3512    | TEFC      | 56HC       | 60        | B                                    | 2     | L              | F                | 46            |
|                 | 0Hz          | 6Hz     | 15Hz      | 30Hz       | 45Hz      | 60Hz                                 | 75Hz  | 90Hz           | 105Hz            | 120Hz         |
| Amps            | 3,05         | 3,05    | 3,05      | 3,05       | 3,05      | 3,05                                 | 3,05  | 3,05           | 3,05             | 3,05          |
| RPM             | 0            | 351,2   | 878       | 1756       | 2634      | 3512                                 | 4390  | 5268           | 6146             | 7024          |
| Torq ft.lb      | 3,59         | 3,59    | 4,49      | 4,49       | 4,49      | 4,49                                 | 3,59  | 2,99           | 2,56             | 2,24          |
| Peak Tq ft.lb   | 6,88         | 13,75   | 13,75     | 13,75      | 13,75     | 13,75                                | 11,00 | 9,17           | 7,86             | 6,88          |
| HP              | 0            | 0,2     | 0,8       | 1,5        | 2,3       | 3,0                                  | 3,0   | 3,0            | 3,0              | 3,0           |
|                 | Locked Rotor | Pull-Up | Breakdown | Rated Load | Idle      | Duty                                 | S. F. | Ambient        | Elevation        | dBA @ 1M      |
| Speed (RPM)     | 0,0          | 1512    | 2880      | 3512       | 3600      | Continuous                           | 1,15  | 40°C           | 3,300 ft         | 63            |
| Current (Amps)  | 30,0         | 25,5    | 17,9      | 3,1        | 1,5       | VFD Rating: Meets MG1 parts 31.4.4.2 |       |                |                  |               |
| Torque (ft-lbs) | 13,1         | 11,2    | 18,5      | 4,5        | 0,0       | C.T.                                 | 10:1  | V.T.           | 20:1             |               |

Motor Speed Data



Motor Torque Capability vs RPM





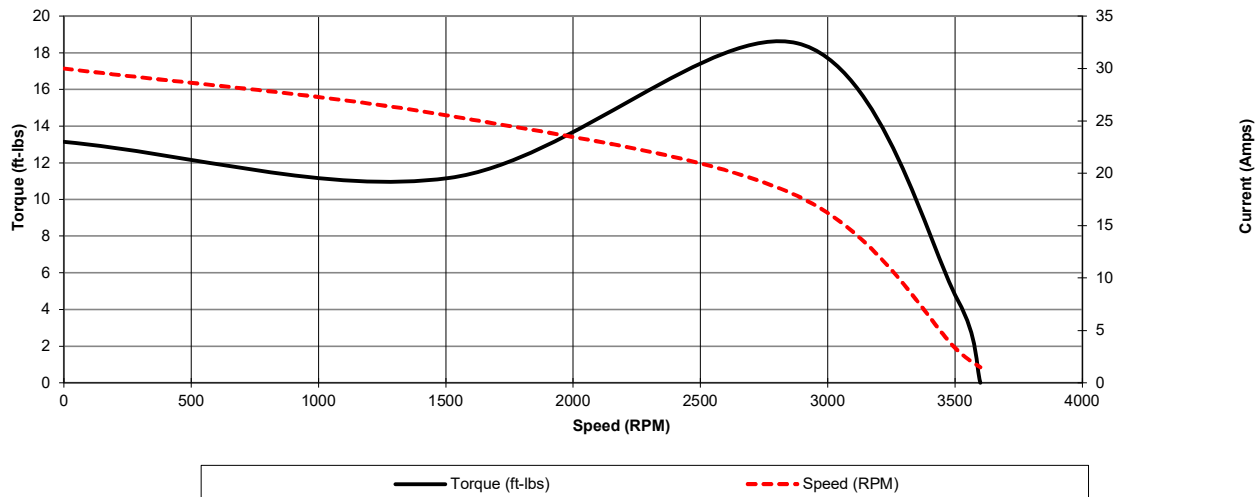
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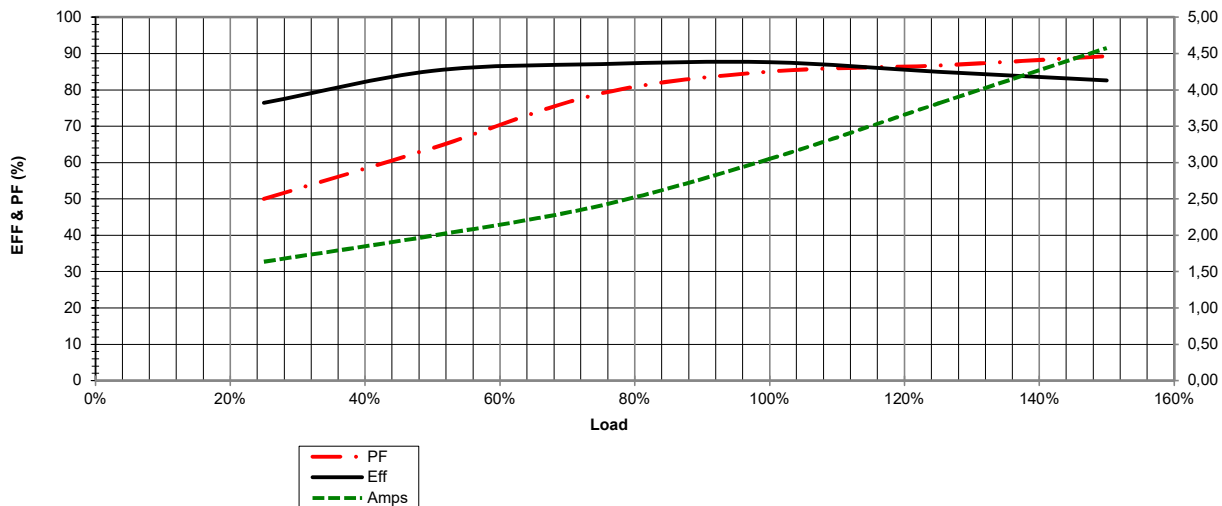
| HP              | VAC     | RPM       | Enclosure  | Frame | Frequency | Design                               | Poles   | LR Code Letter | Insulation Class | Temp. Rise °C |
|-----------------|---------|-----------|------------|-------|-----------|--------------------------------------|---------|----------------|------------------|---------------|
| 3               | 575     | 3512      | TEFC       | 56HC  | 60        | B                                    | 2       | L              | F                | 46            |
| Load %          | 0%      | 25%       | 50%        | 75%   | 100%      | 125%                                 | 150%    |                |                  |               |
| Amps            | 1,48    | 1,64      | 2,00       | 2,41  | 3,05      | 3,81                                 | 4,58    |                |                  |               |
| Torq ft/lbs     | 0       | 1,10      | 2,22       | 3,34  | 4,49      | 5,64                                 | 6,81    |                |                  |               |
| RPM             | 0       | 3578      | 3556       | 3534  | 3512      | 3490                                 | 3468    |                |                  |               |
| Eff             | 0       | 76,40     | 85,20      | 87,10 | 87,60     | 84,98                                | 82,55   |                |                  |               |
| PF              | 0       | 50,0      | 64         | 79    | 85,0      | 86,7                                 | 89,3    |                |                  |               |
| Locked Rotor    | Pull-Up | Breakdown | Rated Load | Idle  | Duty      | S. F.                                | Ambient | Elevation      | dBA @ 1M         |               |
| Speed (RPM)     | 0       | 1512      | 2880       | 3512  | 3600      | Continuous                           | 1,15    | 40°C           | 3,300 ft         | 63            |
| Current (Amps)  | 30      | 25,5      | 17,9       | 3,05  | 1,48      | VFD Rating: Meets MG1 parts 31.4.4.2 |         |                |                  |               |
| Torque (ft-lbs) | 13,14   | 11,17     | 18,53      | 4,49  | 0,0       | C.T.                                 | 10:1    | V.T.           | 20:1             |               |

Motor Speed Data

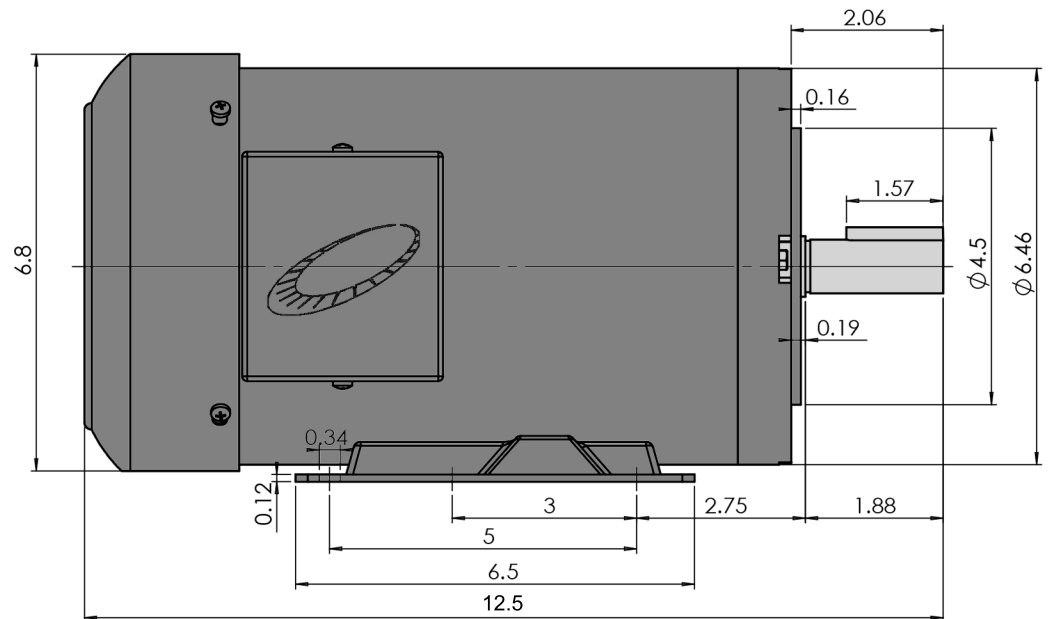
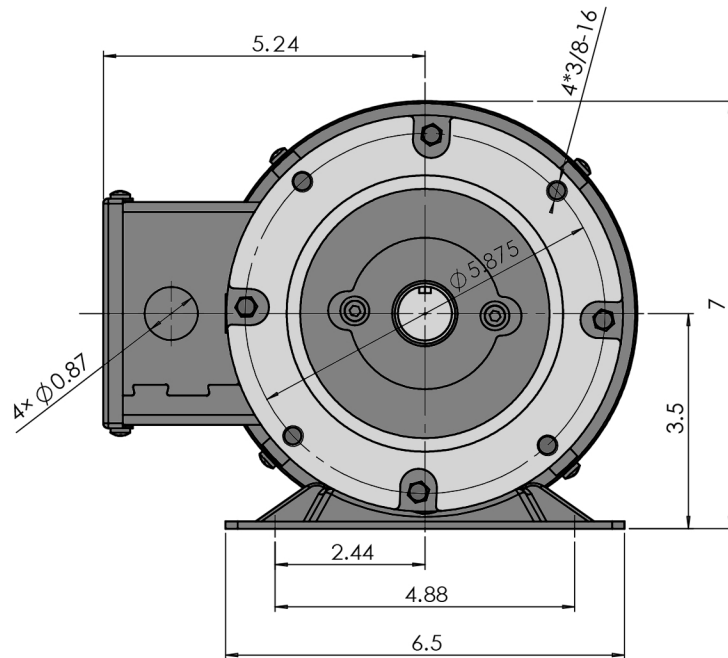
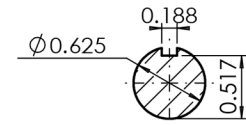


440T, 480T Dual Voltage DOL 31 leads WYE Connection

Motor Load Data



# MaxMotion



## MPRP-302CH

Version:2HUA

Revised: July 2020

HP

RPM

FRAME

ENCLOSURE

Customer is responsible in determining that MaxMotion product will fit/perform suitably in the intended application

3

3600

56HC

TEFC

## THREE PHASE 56HC AC MOTORS

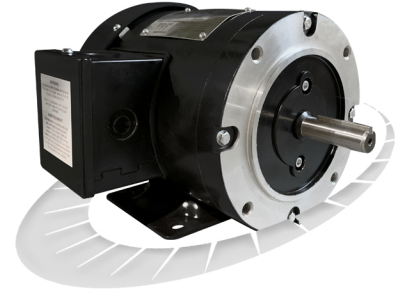
HEAVY GAUGE ROLLED STEEL CONSTRUCTION

TEFC TOTALLY ENCLOSED FAN COOLED

MaxMotion

### Applications:

A versatile design allowing replacement of C-Face or rigid base TEFC motors, for use on gear reducers, pumps, fans, blowers, conveyors, and all agricultural equipment requiring a motor to meet demanding high starting torque applications in severe environmental conditions.



### Features:

**Design** - NEMA Standard MG-1, design B, ambient temperature of 40°C, altitude 1000M, temperature rise B.

**Agency Listings and Standard** - NEMA MG1, IEEE, IEC, DOE registered, NRCAN, CSAUS and CSA Certified, CE and RoHS Compliant

**Service Factor** - 1.15

**Electrical Supply** - 3 phase, 230/460VAC, 575VAC @ 60 hz, 3 phase 190/380VAC @ 50 Hz rated to the next lower HP. (± 10% Voltage tolerance)

**Windings** - Highest quality Corona resistant, Inverter duty copper wire. VPI impregnated with additional dip and bake.

**Efficiency** - Integral HP models meet or exceed NEMA Premium efficiency levels.

**Insulation** - Class F insulation, with non-hydroscopic motor leads.

**Bearings** - Permanently Lubricated High quality Double Shielded Ball Bearings with oversized DE bearings. Lithium based grease operating temperature range – 25° through 175°C.

**Enclosure Protection** - Totally Enclosed Fan Cooled meeting IEC standard IP55. Factory Certified Division 2 Class I Groups A, B, C, D Class 11 Groups F, G. Meets Temp Code T2B.

**Frame Construction** - Rolled Steel with cast aluminum end shields.

**Conduit Box** - With ½ NPT knockouts positioned for wiring access every 90° with rubber gasket between box and motor frame.

**Inverter Duty** - Constant torque: 10/1 ratio, variable torque: 20/1 ratio

**Nameplate** - Stainless steel with etched details.

**Drain Hole** - Positioned in the stator frame at the lowest point, when motors are horizontally mounted.

**Fan cover** - Plastic fan & heavy duty plastic fan guard

**Warranty** - 1 year

100% CANADIAN OWNED



# THREE PHASE 56HC AC MOTORS

HEAVY GAUGE ROLLED STEEL CONSTRUCTION

TEFC TOTALLY ENCLOSED FAN COOLED



| HP   | FL RPM | VOLTS       | FRAME | CAT NO.    | CONSTRUCTION | NOM EFF. | F.L. AMPS      | CODE | WT (Lbs) | DE BRG | ODE BRG | "C" Dimension (Inch) |
|------|--------|-------------|-------|------------|--------------|----------|----------------|------|----------|--------|---------|----------------------|
| 0.33 | 3481   | 208-230/460 | 56C   | MQR-132CH  | Rolled Steel | 67.6     | 1.28-1.31/0.66 | L    | 21       | 6205   | 6203    | 10.7                 |
|      | 3470   | 575         | 56C   | MPR-132CH  | Rolled Steel | 62.8     | 0.57           | L    | 21       | 6205   | 6203    | 10.7                 |
|      | 1744   | 208-230/460 | 56C   | MQR-134CH  | Rolled Steel | 66.1     | 1.53-1.63/0.82 | L    | 22       | 6205   | 6203    | 10.7                 |
|      | 1750   | 575         | 56C   | MPR-134CH  | Rolled Steel | 69.2     | 0.58           | L    | 22       | 6205   | 6203    | 10.7                 |
| 0.50 | 3466   | 208-230/460 | 56C   | MQR-122CH  | Rolled Steel | 71.6     | 1.74-1.67/0.84 | L    | 21       | 6205   | 6203    | 10.7                 |
|      | 3471   | 575         | 56C   | MPR-122CH  | Rolled Steel | 69.3     | 0.672          | L    | 21       | 6205   | 6203    | 10.7                 |
|      | 1741   | 208-230/460 | 56C   | MQR-124CH  | Rolled Steel | 74.1     | 1.9-1.95/0.98  | L    | 24       | 6205   | 6203    | 10.7                 |
|      | 1753   | 575         | 56C   | MPR-124CH  | Rolled Steel | 77.1     | 0.71           | L    | 24       | 6203   | 6203    | 10.7                 |
| 0.75 | 3469   | 208-230/460 | 56C   | MQR-342CH  | Rolled Steel | 80.3     | 2.24-2.08/1.04 | L    | 22.5     | 6205   | 6203    | 10.7                 |
|      | 3474   | 575         | 56C   | MPR-342CH  | Rolled Steel | 76.2     | 0.86           | L    | 22.5     | 6205   | 6203    | 10.7                 |
|      | 1738   | 208-230/460 | 56C   | MQR-344CH  | Rolled Steel | 80.7     | 2.43-2.34/1.18 | L    | 25.3     | 6205   | 6203    | 10.7                 |
|      | 1744   | 575         | 56C   | MPR-344CH  | Rolled Steel | 80.5     | 0.91           | L    | 25.3     | 6205   | 6203    | 10.7                 |
| 1    | 3506   | 208-230/460 | 56C   | MQRP-102CH | Rolled Steel | 82.7     | 2.92-2.75/1.38 | L    | 25       | 6205   | 6203    | 10.7                 |
|      | 3510   | 575         | 56C   | MPRP-102CH | Rolled Steel | 80.7     | 1.14           | L    | 25       | 6205   | 6203    | 10.7                 |
|      | 1752   | 208-230/460 | 56C   | MQRP-104CH | Rolled Steel | 86.5     | 3.01-2.82/1.41 | L    | 27       | 6205   | 6203    | 10.7                 |
|      | 1756   | 575         | 56C   | MPRP-104CH | Rolled Steel | 85.6     | 1.14           | L    | 27       | 6205   | 6203    | 10.7                 |
| 1.5  | 3492   | 208-230/460 | 56C   | MQRP-152CH | Rolled Steel | 86.6     | 4.03-3.81/1.9  | L    | 28       | 6205   | 6203    | 10.7                 |
|      | 3478   | 575         | 56C   | MPRP-152CH | Rolled Steel | 85.1     | 1.61           | L    | 28       | 6205   | 6203    | 10.7                 |
|      | 1752   | 208-230/460 | 56C   | MQRP-154CH | Rolled Steel | 86.6     | 4.59-4.41/2.21 | L    | 31       | 6205   | 6203    | 11.5                 |
|      | 1745   | 575         | 56C   | MPRP-154CH | Rolled Steel | 86.7     | 1.65           | L    | 31       | 6205   | 6203    | 11.5                 |
| 2    | 3500   | 208-230/460 | 56C   | MQRP-202CH | Rolled Steel | 85.5     | 5.39-5.05/2.53 | L    | 32       | 6205   | 6203    | 11.5                 |
|      | 3502   | 575         | 56C   | MPRP-202CH | Rolled Steel | 86       | 2.03           | L    | 32       | 6205   | 6203    | 11.5                 |
|      | 1741   | 208-230/460 | 56HC  | MQRP-204CH | Rolled Steel | 87.1     | 6.0-5.43/2.74  | L    | 37       | 6205   | 6203    | 12.5                 |
|      | 1752   | 575         | 56HC  | MPRP-204CH | Rolled Steel | 87.6     | 2.15           | L    | 37       | 6205   | 6203    | 12.5                 |
| 3    | 3513   | 208-230/460 | 56HC  | MQRP-302CH | Rolled Steel | 87.6     | 7.81-7.18/3.54 | L    | 42       | 6205   | 6203    | 12.5                 |
|      | 3512   | 575         | 56HC  | MPRP-302CH | Rolled Steel | 87.6     | 3.05           | L    | 42       | 6205   | 6203    | 12.5                 |