# Maximum Rating Tables

## Size 824 • GR, NH, EL Series

CAST IRON GR SERIES | CAST IRON NH SERIES | ALUMINUM EL SERIES

### Size 824

| Ratio | Input RPM | Output RPM | Input HP | Output HP | Output Torque (lb-in) | Style B Left Hand Catalog No. | Style B Right Hand Catalog No. | Style B Double Extension Catalog No. | Style H Hollow Output Catalog No.* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | |  |  |  |  |
| 5 | 2500 | 500.0 | 6.322 | 5.950 | 750 | __8240001 | __8240013 | __8240025 | __8240501.XX |
| | 1750 | 350.0 | 5.323 | 4.985 | 898 | | | | |
| | 1170 | 234.0 | 4.280 | 3.976 | 1071 | | | | |
| | 100 | 20.0 | 0.655 | 0.489 | 1540 | | | | |
| 7.5 | 2500 | 333.3 | 4.739 | 4.401 | 832 | __8240002 | __8240014 | __8240026 | __8240502.XX |
| | 1750 | 233.3 | 3.992 | 3.685 | 995 | | | | |
| | 1170 | 156.0 | 3.204 | 2.929 | 1183 | | | | |
| | 100 | 13.3 | 0.502 | 0.357 | 1689 | | | | |
| 10 | 2500 | 250.0 | 4.199 | 3.862 | 974 | __8240003 | __8240015 | __8240027 | __8240503.XX |
| | 1750 | 175.0 | 3.564 | 3.253 | 1172 | | | | |
| | 1170 | 117.0 | 2.808 | 2.531 | 1364 | | | | |
| | 100 | 10.0 | 0.442 | 0.295 | 1857 | | | | |
| 15 | 2500 | 166.7 | 3.268 | 2.913 | 1102 | __8240004 | __8240016 | __8240028 | __8240504.XX |
| | 1750 | 116.7 | 2.765 | 2.439 | 1318 | | | | |
| | 1170 | 78.0 | 2.178 | 1.888 | 1526 | | | | |
| | 100 | 6.7 | 0.369 | 0.217 | 2056 | | | | |
| 20 | 2500 | 125.0 | 2.750 | 2.365 | 1192 | __8240005 | __8240017 | __8240029 | __8240505.XX |
| | 1750 | 87.5 | 2.326 | 1.972 | 1421 | | | | |
| | 1170 | 58.5 | 1.835 | 1.522 | 1640 | | | | |
| | 100 | 5.0 | 0.337 | 0.174 | 2193 | | | | |
| 25 | 2500 | 100.0 | 2.335 | 1.949 | 1228 | __8240006 | __8240018 | __8240030 | __8240506.XX |
| | 1750 | 70.0 | 1.967 | 1.615 | 1454 | | | | |
| | 1170 | 46.8 | 1.551 | 1.239 | 1669 | | | | |
| | 100 | 4.0 | 0.302 | 0.140 | 2205 | | | | |
| 30 | 2500 | 83.3 | 1.945 | 1.579 | 1194 | __8240007 | __8240019 | __8240031 | __8240507.XX |
| | 1750 | 58.3 | 1.653 | 1.317 | 1423 | | | | |
| | 1170 | 39.0 | 1.314 | 1.016 | 1642 | | | | |
| | 100 | 3.3 | 0.270 | 0.116 | 2197 | | | | |
| 40 | 2500 | 62.5 | 1.574 | 1.195 | 1205 | __8240008 | __8240020 | __8240032 | __8240508.XX |
| | 1750 | 43.8 | 1.342 | 0.994 | 1433 | | | | |
| | 1170 | 29.3 | 1.074 | 0.766 | 1650 | | | | |
| | 100 | 2.5 | 0.245 | 0.087 | 2198 | | | | |
| 50 | 2500 | 50.0 | 1.335 | 0.961 | 1211 | __8240009 | __8240021 | __8240033 | __8240509.XX |
| | 1750 | 35.0 | 1.137 | 0.795 | 1432 | | | | |
| | 1170 | 23.4 | 0.911 | 0.609 | 1641 | | | | |
| | 100 | 2.0 | 0.224 | 0.069 | 2163 | | | | |
| 60 | 2500 | 41.7 | 1.149 | 0.806 | 1219 | __8240010 | __8240022 | __8240034 | __8240510.XX |
| | 1750 | 29.2 | 0.967 | 0.656 | 1418 | | | | |
| | 1170 | 19.5 | 0.770 | 0.496 | 1604 | | | | |
| | 100 | 1.7 | 0.197 | 0.054 | 2054 | | | | |
| 80 | 2500 | 31.3 | 0.520 | 0.348 | 701 | __8240011 | __8240023 | __8240035 | __8240511.XX |
| | 1750 | 21.9 | 0.455 | 0.288 | 830 | | | | |
| | 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 | __8240012 | __8240024 | __8240036 | __8240512.XX |
| | 1750 | 17.5 | 0.307 | 0.180 | 648 | | | | |
| | 1170 | 11.7 | 0.251 | 0.136 | 735 | | | | |
| | 100 | 1.0 | 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



| | 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<br>182-4TC | __8240073<br>__8240109 | __8240085<br>__8240121 | __8240097<br>__8240133 | __8240525.XX<br>__8240537.XX | __8240181<br>__8240217 | __8240193<br>__8240229 | __8240205<br>__8240241 | __8240561.XX<br>__8240573.XX | 5 |
| 143-5TC<br>182-4TC | __8240074<br>__8240110 | __8240086<br>__8240122 | __8240098<br>__8240134 | __8240526.XX<br>__8240538.XX | __8240182<br>__8240218 | __8240194<br>__8240230 | __8240206<br>__8240242 | __8240562.XX<br>__8240574.XX | 7.5 |
| 143-5TC<br>182-4TC | __8240075<br>__8240111 | __8240087<br>__8240123 | __8240099<br>__8240135 | __8240527.XX<br>__8240539.XX | __8240183<br>__8240219 | __8240195<br>__8240231 | __8240207<br>__8240243 | __8240563.XX<br>__8240575.XX | 10 |
| 56C<br>143-5TC | __8240040<br>__8240076 | __8240052<br>__8240088 | __8240064<br>__8240100 | __8240516.XX<br>__8240528.XX | __8240148<br>__8240184 | __8240160<br>__8240196 | __8240172<br>__8240208 | __8240552.XX<br>__8240564.XX | 15 |
| 56C<br>143-5TC | __8240041<br>__8240077 | __8240053<br>__8240089 | __8240065<br>__8240101 | __8240517.XX<br>__8240529.XX | __8240149<br>__8240185 | __8240161<br>__8240197 | __8240173<br>__8240209 | __8240553.XX<br>__8240565.XX | 20 |
| 56C<br>143-5TC | __8240042<br>__8240078 | __8240054<br>__8240090 | __8240066<br>__8240102 | __8240518.XX<br>__8240530.XX | __8240150<br>__8240186 | __8240162<br>__8240198 | __8240174<br>__8240210 | __8240554.XX<br>__8240566.XX | 25 |
| 56C<br>143-5TC | __8240043<br>__8240079 | __8240055<br>__8240091 | __8240067<br>__8240103 | __8240519.XX<br>__8240531.XX | __8240151<br>__8240187 | __8240163<br>__8240199 | __8240175<br>__8240211 | __8240555.XX<br>__8240567.XX | 30 |
| 56C<br>143-5TC | __8240044<br>__8240080 | __8240056<br>__8240092 | __8240068<br>__8240104 | __8240520.XX<br>__8240532.XX | __8240152<br>__8240188 | __8240164<br>__8240200 | __8240176<br>__8240212 | __8240556.XX<br>__8240568.XX | 40 |
| 56C<br>143-5TC | __8240045<br>__8240081 | __8240057<br>__8240093 | __8240069<br>__8240105 | __8240521.XX<br>__8240533.XX | __8240153<br>__8240189 | __8240165<br>__8240201 | __8240177<br>__8240213 | __8240557.XX<br>__8240569.XX | 50 |
| 56C<br>143-5TC | __8240046<br>__8240082 | __8240058<br>__8240094 | __8240070<br>__8240106 | __8240522.XX<br>__8240534.XX | __8240154<br>__8240190 | __8240166<br>__8240202 | __8240178<br>__8240214 | __8240558.XX<br>__8240570.XX | 60 |
| 56C | __8240047 | __8240059 | __8240071 | __8240523.XX | __8240155 | __8240167 | __8240179 | __8240559.XX | 80 |
| 56C | __8240048 | __8240060 | __8240072 | __8240524.XX | __8240156 | __8240168 | __8240180 | __8240560.XX | 100 |

For input/ output shaft overhung load and thrust load ratings, refer to pages 419-422.

▲ 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**

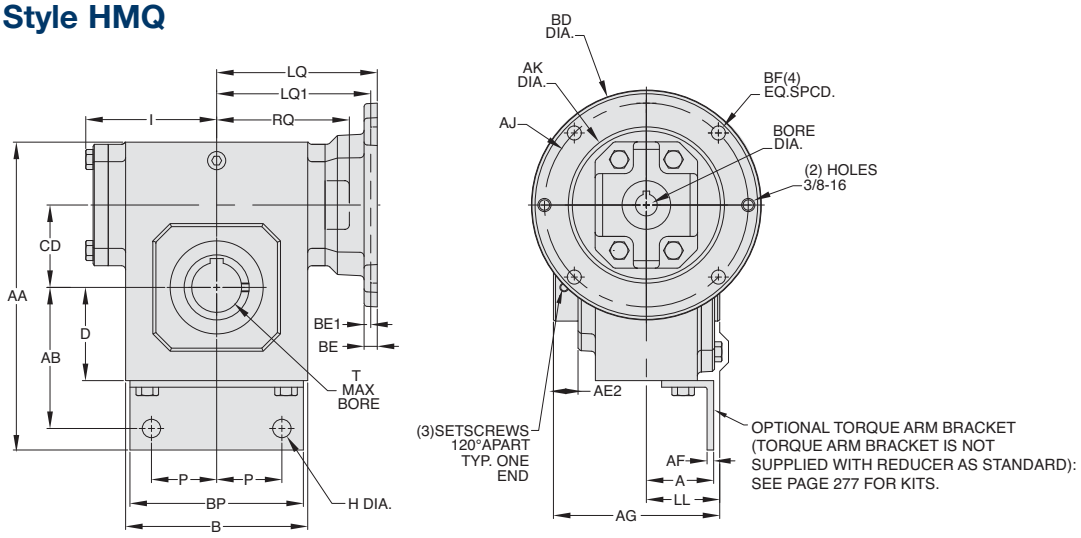
| Fraction Size | 1" | 1-1/8" | 1-3/16" | 1-1/4" | 1-7/16" | 1-1/2" |
|---|---|---|---|---|---|---|
| Decimal Size | 1.000 | 1.125 | 1.188 | 1.250 | 1.438 | 1.500 |
| Output Bore Code | 16 | 18 | 19 | 20 | 23 | 24 |

# NH Series Dimensions

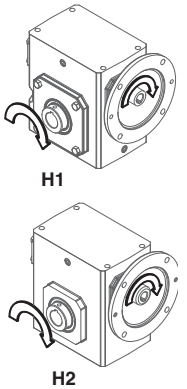
### Styles: HMQ, HM, H

CAST IRON NH SERIES

## Style HMQ

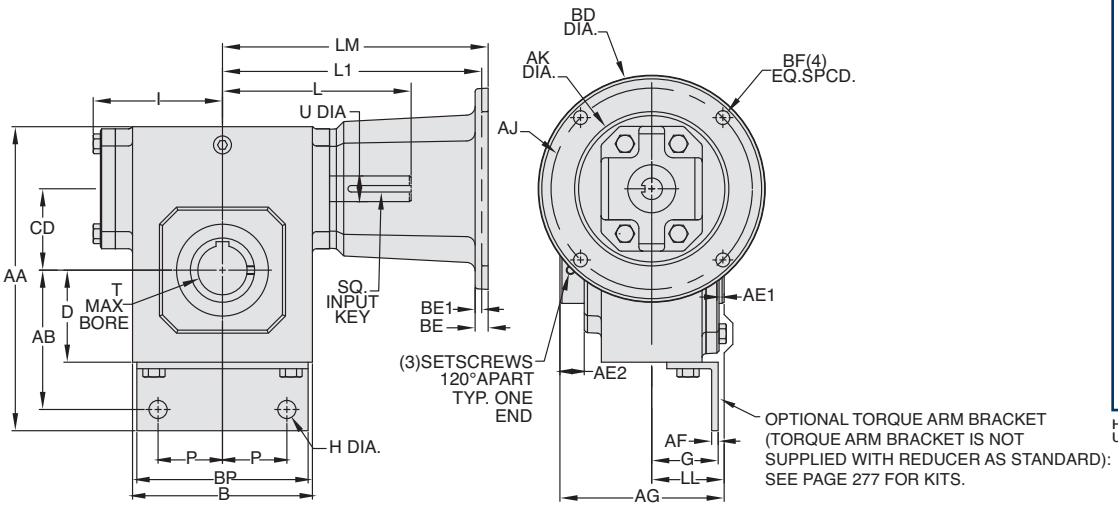



**ASSEMBLIES**

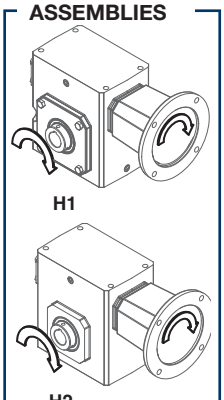



H1 SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## Style HM

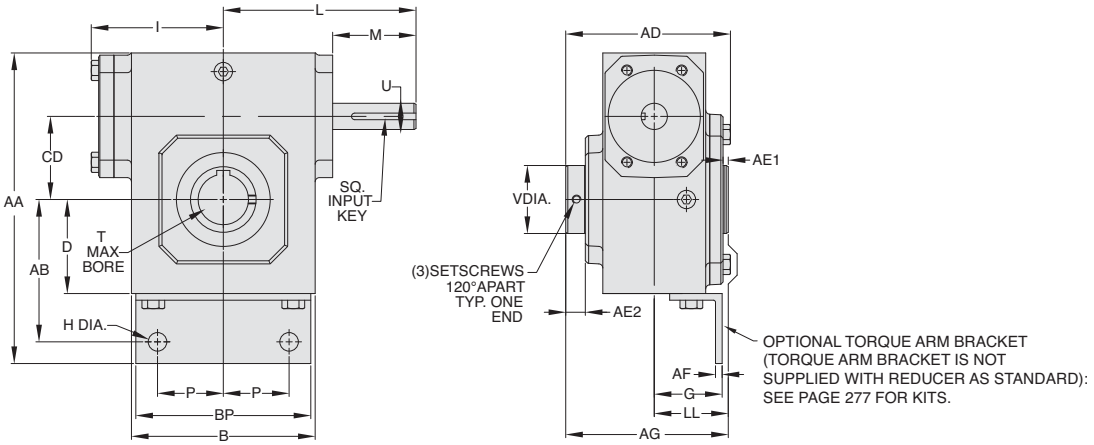



**ASSEMBLIES**

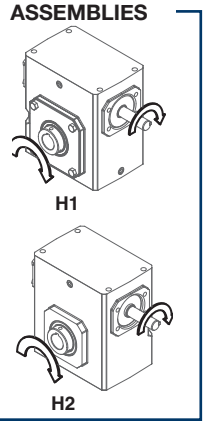



H1 SUPPLIED AS STANDARD UNLESS OTHERWISE SPECIFIED.

## 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.

## 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 x3.00 | 7/8 x3.44 |

# Motor Mounting Dimensions

## NEMA DIMENSIONS (Inches)

| Size | LM | | L1 | | LQ | LQ1 | | | RQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 48CZ | 56C/ 140TC | 180TC/ 210TC | 250TC | 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 | N/A | 3.46 | 3.71 | 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 |

- Max bore dimensions shown. For additional bores available, refer to page 20.

◆ 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 277 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.

## GROVE GEAR OE SERIES INTERCHANGE GUIDE

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

Refer to page 8 for complete interchange guide for original Grove Gear OE Series products.