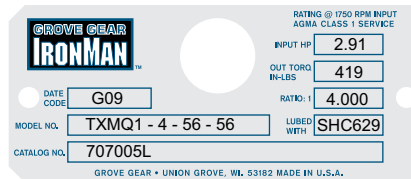


STOCK RATIO MULTIPLIER MODEL NUMBER SYSTEM



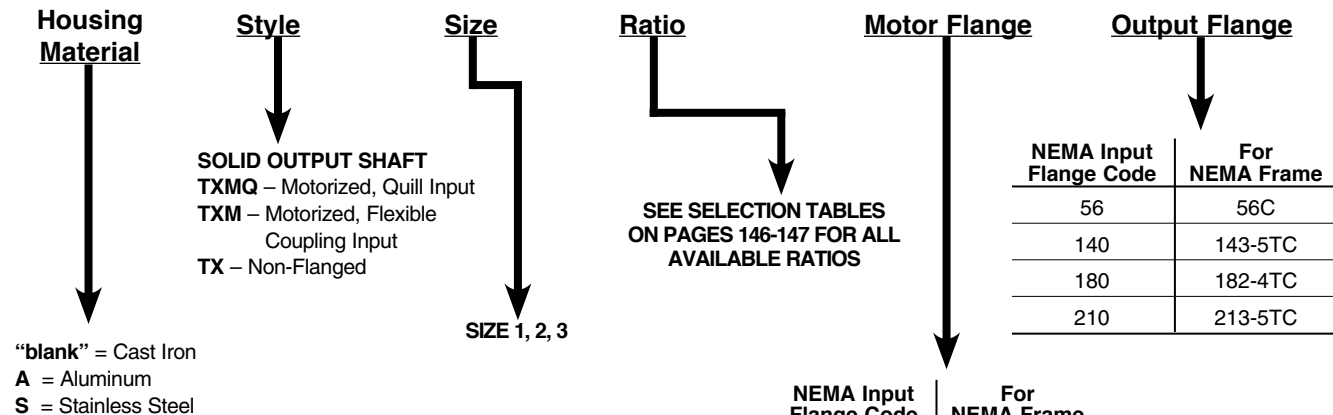
TYPICAL NAMEPLATE (Grove Gear shown)



Grove Gear 800 Series Gear Reducer Model Number Nomenclature

All stock and custom 800 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 ratio multipliers also have a catalog number—for example 707012L. Reducers and renewal parts should be ordered by catalog number. Accessories that are field installed will not be noted on the nameplate.



Sample Model Number

Motorized Quill Input Series 1; 4:1 Ratio, 5/8" Input Bore with NEMA 56C Flange, and 56C output flange.

| | | | | |
|-------------|----------|----------|--------------------|---------------|
| TXMQ | 1 | 4 | 56 | 56 |
| Style | Size | Ratio | Motor Input Flange | Output Flange |

ALL RATINGS SAME FOR CAST IRON, ALUMINUM, and STAINLESS STEEL RATIO MULTIPLIERS

MAXIMUM RATING TABLES Size 1

| Exact Ratio | Input R.P.M. | Output R.P.M. | Input H.P. | Output H.P. | Output TQ. (lb-in.) | Overhung Load (lbs.) |
|-------------|--------------|---------------|------------|-------------|---------------------|----------------------|
| 2.056 | 1750 | 851 | 4.69 | 4.55 | 419 | 222 |
| 2.929 | 1750 | 598 | 3.64 | 3.53 | 428 | 265 |
| 4.000 | 1750 | 438 | 2.91 | 2.82 | 419 | 300 |
| 5.111 | 1750 | 342 | 2.33 | 2.26 | 384 | 300 |
| 7.462 | 1750 | 235 | 1.56 | 1.52 | 347 | 300 |

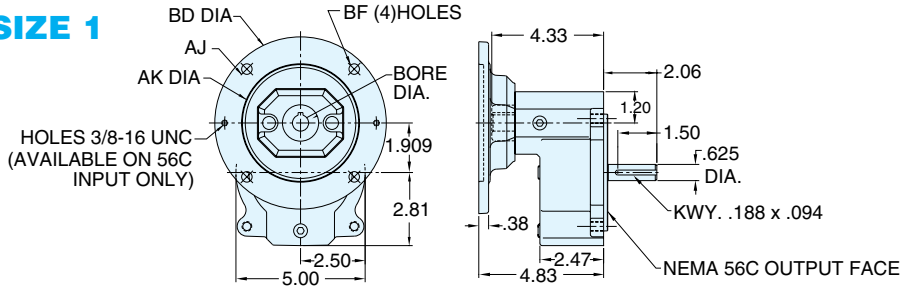
Size 2

| Exact Ratio | Input R.P.M. | Output R.P.M. | Input H.P. | Output H.P. | 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 |

Size 3

| Exact Ratio | Input R.P.M. | Output R.P.M. | Input H.P. | Output H.P. | 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 |

SIZE 1



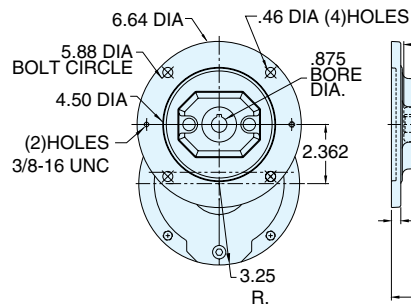
SIZE 1 DIMENSIONS (Inches)

| Style | Frame Combinations (Input - Output) | AJ | AK | BD | BF | Input Bore | Input Keyway* | Weight (lbs.) |
|-------|-------------------------------------|------|------|------|------|------------|---------------|---------------|
| TXMQ | 48CZ - 56C | 3.75 | 3.00 | 4.36 | 0.28 | .500 | 1/8 X 1/16 | 19 |
| | 56C - 56C | 5.88 | 4.50 | 6.64 | 0.41 | .625 | 3/16 X 3/32 | 19 |

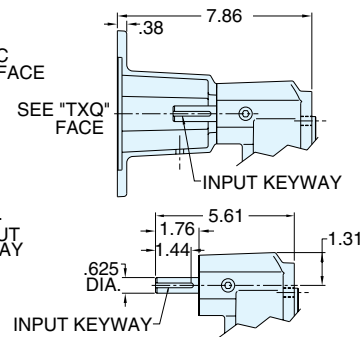
* Keyway width by depth

SIZE 2

Style TXMQ



Style TXM



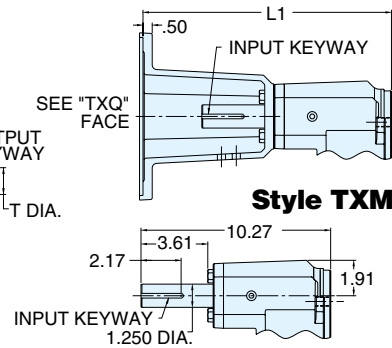
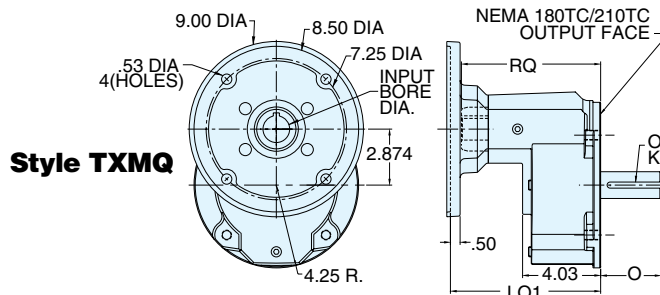
SIZE 2 DIMENSIONS (Inches)

| Style | Frame Combinations (Input - Output) | Input Keyway* | O | T +0.000 -0.0015 | Output Keyway* | Weight (lbs.) |
|---------------|-------------------------------------|---------------|------|------------------------|----------------|---------------|
| TXMQ, TXM, TX | 140TC - 56C | .188 x .094 | 2.06 | 0.625 | .188 x .094 | 22 |
| | 140TC - 140TC | .188 x .094 | 2.13 | 0.875 | .188 x .094 | 22 |

* Keyway width by depth

Style TX

SIZE 3



SIZE 3 DIMENSIONS (Inches)

Style TX

| 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

RATIO MULTIPLIER

AVAILABLE SELECTIONS



SIZE 1 • CAST IRON

| Exact Ratio | Style | Motor C-Flange | Output C-Flange | Catalog Number |
|-------------|-------|----------------|-----------------|----------------|
| 2.056 | TXMQ | 48CZ | 56C | 707000L |
| | | 56C | 56C | 707001L |
| 2.929 | TXMQ | 48CZ | 56C | 707002L |
| | | 56C | 56C | 707003L |
| 4.000 | TXMQ | 48CZ | 56C | 707004L |
| | | 56C | 56C | 707005L |
| 5.111 | TXMQ | 48CZ | 56C | 707006L |
| | | 56C | 56C | 707007L |
| 7.462 | TXMQ | 48CZ | 56C | 707008L |
| | | 56C | 56C | 707009L |

SIZE 2 • CAST IRON

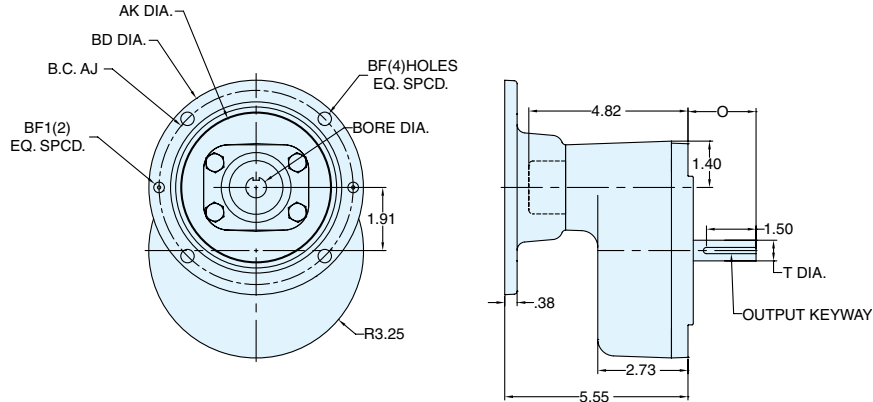
| Exact Ratio | Style | Motor C-Flange | Output C-Flange | Catalog Number |
|-------------|-------|----------------|-----------------|----------------|
| 2.000 | TXMQ | 143-5TC | 56C | 707012L |
| | | 143-5TC | 143-5TC | 707013L |
| | TXM | 143-5TC | 56C | 707032L |
| | | 143-5TC | 143-5TC | 707033L |
| | TX | -- | 56C | 707050L |
| | | -- | 143-5TC | 707051L |
| 2.913 | TXMQ | 143-5TC | 56C | 707016L |
| | | 143-5TC | 143-5TC | 707017L |
| | TXM | 143-5TC | 56C | 707036L |
| | | 143-5TC | 143-5TC | 707037L |
| | TX | -- | 56C | 707052L |
| | | -- | 143-5TC | 707053L |
| 4.000 | TXMQ | 143-5TC | 56C | 707020L |
| | | 143-5TC | 143-5TC | 707021L |
| | TXM | 143-5TC | 56C | 707040L |
| | | 143-5TC | 143-5TC | 707041L |
| | TX | -- | 56C | 707054L |
| | | -- | 143-5TC | 707055L |
| 5.000 | TXMQ | 143-5TC | 56C | 707024L |
| | | 143-5TC | 143-5TC | 707025L |
| | TXM | 143-5TC | 56C | 707044L |
| | | 143-5TC | 143-5TC | 707045L |
| | TX | -- | 56C | 707056L |
| | | -- | 143-5TC | 707057L |
| 7.182 | TXMQ | 143-5TC | 56C | 707028L |
| | | 143-5TC | 143-5TC | 707029L |
| | TXM | 143-5TC | 56C | 707048L |
| | | 143-5TC | 143-5TC | 707049L |
| | TX | -- | 56C | 707058L |
| | | -- | 143-5TC | 707059L |

SIZE 3 • CAST IRON

| Exact Ratio | Style | Motor C-Flange | Output C-Flange | Catalog Number |
|-------------|-------|----------------|-----------------|----------------|
| 2.000 | TXMQ | 213-5TC | 213-5TC | 707064L |
| | | 254-6TC | 213-5TC | 707067L |
| | TXM | 213-5TC | 213-5TC | 707094L |
| | | 254-6TC | 213-5TC | 707097L |
| | TX | -- | 213-5TC | 707121L |
| 2.964 | TXMQ | 182-4TC | 182-4TC | 707069L |
| | | 182-4TC | 213-5TC | 707070L |
| | | 213-5TC | 182-4TC | 707072L |
| | | 213-5TC | 213-5TC | 707073L |
| | TXM | 182-4TC | 182-4TC | 707099L |
| | | 182-4TC | 213-5TC | 707100L |
| | | 213-5TC | 182-4TC | 707102L |
| | | 213-5TC | 213-5TC | 707103L |
| | TX | -- | 182-4TC | 707123L |
| | | -- | 213-5TC | 707124L |
| 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 |
| | | 213-5TC | 213-5TC | 707109L |
| | TX | -- | 182-4TC | 707126L |
| | | -- | 213-5TC | 707127L |
| 5.167 | TXMQ | 182-4TC | 182-4TC | 707081L |
| | | 182-4TC | 213-5TC | 707082L |
| | | 213-5TC | 182-4TC | 707084L |
| | | 213-5TC | 213-5TC | 707085L |
| | TXM | 182-4TC | 182-4TC | 707111L |
| | | 182-4TC | 213-5TC | 707112L |
| | | 213-5TC | 182-4TC | 707114L |
| | | 213-5TC | 213-5TC | 707115L |
| | TX | -- | 182-4TC | 707129L |
| | | -- | 213-5TC | 707130L |
| 7.538 | TXMQ | 182-4TC | 182-4TC | 707087L |
| | TXM | 182-4TC | 182-4TC | 707117L |
| | TX | -- | 182-4TC | 707132L |

Ratio Multipliers

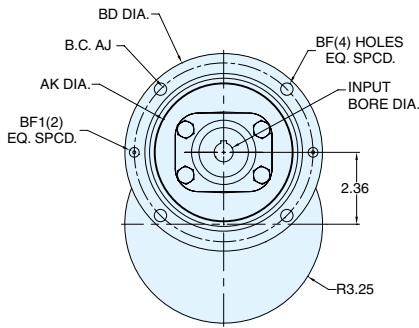
ALUMINUM SIZE 1



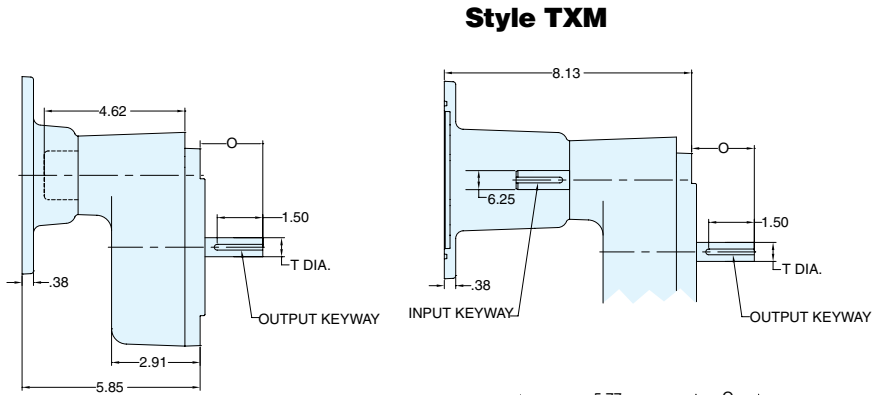
ALUMINUM SIZE 1 DIMENSIONS (Inches)

| Style | Frame Combinations (Input - Output) | AJ | AK | BD | BF | BF1 | O | T +0.000 -0.0015 | Input Bore | Input Keyway | Output Keyway | Weight (lbs.) |
|-------|-------------------------------------|------|------|------|------|------------|------|------------------------|------------|--------------|---------------|---------------|
| TXMQ | 48CZ - 56C | 3.75 | 3.00 | 4.36 | 0.28 | 1/4-20 UNC | 2.06 | 0.625 | 0.50 | 1/8 X 1/16 | 3/16 x 3/32 | 9.5 |
| | 56C - 56C | 5.88 | 4.50 | 6.64 | 0.41 | 3/8-16 UNC | 2.06 | 0.625 | 0.63 | 3/16 X 3/32 | 3/16 x 3/32 | 9.5 |

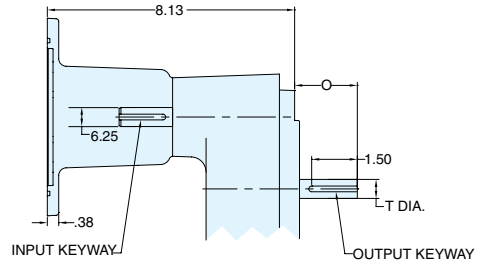
ALUMINUM SIZE 2



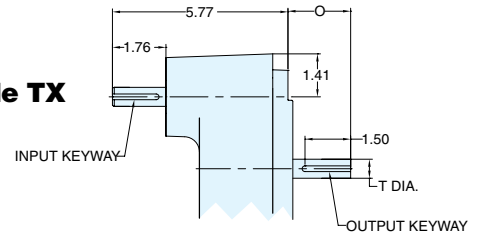
Style TXMQ



Style TXM



Style TX



ALUMINUM SIZE 2 DIMENSIONS (Inches)

| Style | Frame Combinations (Input - Output) | AJ | AK | BD | BF | BF1 | O | T +0.000 -0.0015 | Input Bore | Input Keyway | Output Keyway | Weight (lbs.) |
|-----------------|-------------------------------------|------|------|------|------|------------|-------|------------------------|------------|--------------|---------------|---------------|
| TXMQ, TXM TX | 140TC-56C | 5.88 | 4.50 | 6.64 | 0.41 | 3/8-16 UNC | 2.06 | 0.625 | 0.63 | 3/16 X 3/32 | 3/16 x 3/32 | 11.5 |
| | 140TC-140TC | 5.88 | 4.50 | 6.64 | 0.41 | 3/8-16 UNC | 2.125 | 0.625 | 0.88 | 3/16 X 3/32 | 3/16 x 3/32 | 11.5 |

Ratio Multipliers

RATIO MULTIPLIER

AVAILABLE SELECTIONS



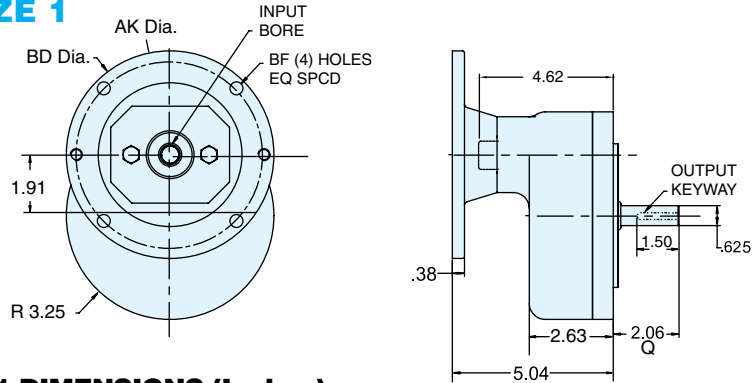
SIZE 1 • ALUMINUM

| Exact Ratio | Style | Motor C-Flange | Output C-Flange | Catalog Number |
|-------------|-------|----------------|-----------------|----------------|
| 2.056 | TXMQ | 56C | 56C | EL707001 |
| 2.929 | TXMQ | 56C | 56C | EL707003 |
| 4.000 | TXMQ | 56C | 56C | EL707005 |
| 5.111 | TXMQ | 56C | 56C | EL707007 |
| 7.462 | TXMQ | 56C | 56C | EL707009 |

SIZE 2 • ALUMINUM

| Exact Ratio | Style | Motor C-Flange | Output C-Flange | Catalog Number |
|-------------|-------|----------------|-----------------|----------------|
| 2.000 | TXMQ | 56C | 56C | EL707010 |
| | | 56C | 140TC | EL707011 |
| | | 140TC | 56C | EL707012 |
| | | 140TC | 140TC | EL707013 |
| | TXM | 56C | 56C | EL707030 |
| | | 56C | 140TC | EL707031 |
| | | 140TC | 56C | EL707032 |
| | | 140TC | 140TC | EL707033 |
| | TX | -- | 56C | EL707050 |
| | | -- | 140TC | EL707051 |
| 2.913 | TXMQ | 56C | 56C | EL707014 |
| | | 56C | 140TC | EL707015 |
| | | 140TC | 56C | EL707016 |
| | | 140TC | 140TC | EL707017 |
| | TXM | 56C | 56C | EL707034 |
| | | 56C | 140TC | EL707035 |
| | | 140TC | 56C | EL707036 |
| | | 140TC | 140TC | EL707037 |
| | TX | -- | 56C | EL707052 |
| | | -- | 140TC | EL707053 |
| 4.000 | TXMQ | 56C | 56C | EL707018 |
| | | 56C | 140TC | EL707019 |
| | | 140TC | 56C | EL707020 |
| | | 140TC | 140TC | EL707021 |
| | TXM | 56C | 140TC | EL707038 |
| | | 140TC | 56C | EL707040 |
| | | 140TC | 140TC | EL707041 |
| | TX | -- | 56C | EL707054 |
| | | -- | 140TC | EL707055 |
| | 5.000 | TXMQ | 56C | 56C |
| 56C | | | 140TC | EL707023 |
| 140TC | | | 56C | EL707024 |
| 140TC | | | 140TC | EL707025 |
| TXM | | 56C | 56C | EL707042 |
| | | 56C | 140TC | EL707043 |
| | | 140TC | 56C | EL707044 |
| | | 140TC | 140TC | EL707045 |
| TX | | -- | 56C | EL707056 |
| | | -- | 140TC | EL707057 |
| 7.182 | TXMQ | 56C | 56C | EL707026 |
| | | 56C | 140TC | EL707027 |
| | | 140TC | 56C | EL707028 |
| | | 140TC | 140TC | EL707029 |
| | TXM | 56C | 56C | EL707046 |
| | | 56C | 140TC | EL707047 |
| | | 140TC | 56C | EL707048 |
| | | 140TC | 140TC | EL707049 |
| | TX | -- | 56C | EL707058 |
| | | -- | 140TC | EL707059 |

STAINLESS STEEL SIZE 1



STAINLESS STEEL SIZE 1 DIMENSIONS (Inches)

| Style | Frame Combinations (Input - Output) | AJ | AK | BD | OD | BE | BE1 | BF | Input Bore | Input Keyway** |
|-------|-------------------------------------|------|------|------|------|------|-----|------|------------|----------------|
| TXMQ | 56C | 5.88 | 4.50 | 5.88 | 6.64 | 0.38 | N/A | 0.41 | 0.625 | 3/16 x 3/32 |
| | 140TC | 5.88 | 4.50 | 5.88 | 6.64 | 0.38 | N/A | 0.41 | 0.875 | 3/16 x 3/32 |

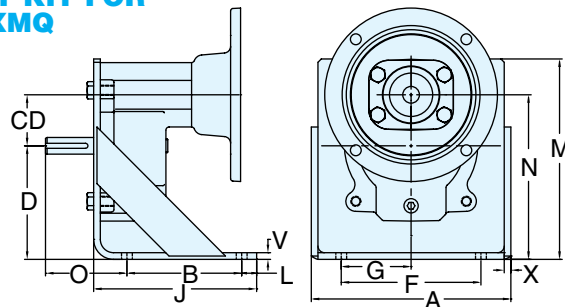
**keyway width by depth

SIZE 1 • STAINLESS STEEL

| Exact Ratio | Style | Motor C-Flange | Output C-Flange | Catalog Number |
|-------------|-------|----------------|-----------------|----------------|
| 2.929 | TXMQ | 56C | 56C | 707702 |
| | | 56C | 56C | 707707 |
| 4.000 | TXMQ | 56C | 56C | 707703 |
| | | 56C | 56C | 707708 |
| | | 56C | 56C | 707713 |
| | | 56C | 56C | 707718 |
| 5.111 | TXMQ | 56C | 56C | 707704 |
| | | 56C | 56C | 707709 |
| | | 56C | 56C | 707709 |
| | | 56C | 56C | 707714 |
| | | 56C | 56C | 707719 |
| 7.461 | TXMQ | 56C | 56C | 707705 |
| | | 56C | 56C | 707710 |
| | | 56C | 56C | 707715 |
| | | 56C | 56C | 707720 |

Ratio Multipliers

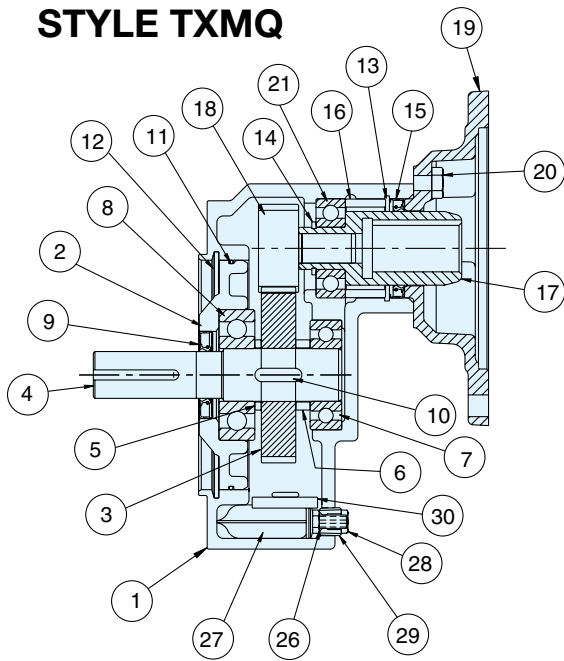
RATIO MULTIPLIER FOOT KIT FOR STYLES TBX, TBXM, TBXMQ



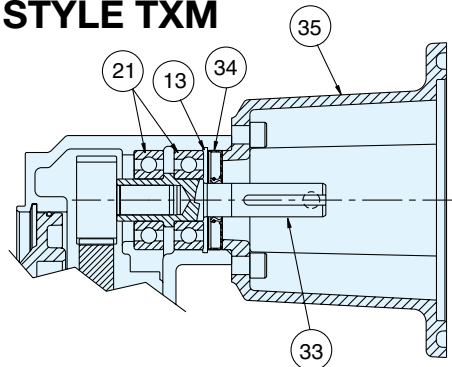
| | Output | A | B | CD | D | F | G | H | J | X | L | M | N | O | V | X | Catalog Number |
|--------|--------|------|------|-------|-------|------|------|-----|------|-----|-----|------|------|------|-----|-----|----------------|
| Size 1 | 56C | 7.50 | 6.13 | 1.909 | 4.250 | 5.25 | 2.63 | .41 | 4.31 | .25 | .56 | 7.50 | 6.16 | 3.06 | .25 | .25 | |
| Size 2 | 56C | 7.50 | 6.13 | 2.362 | 4.250 | 5.25 | 2.63 | .41 | 4.31 | .25 | .56 | 7.50 | 6.16 | 3.06 | .25 | .25 | |
| | 140TC | 7.50 | 6.13 | 2.362 | 4.250 | 5.25 | 2.63 | .41 | 4.31 | .25 | .56 | 7.50 | 6.16 | 3.12 | .25 | .25 | |
| Size 3 | 180TC | 9.50 | 7.38 | 2.874 | 5.000 | 7.00 | 3.50 | .53 | 5.25 | .25 | .63 | 9.44 | 7.88 | 3.88 | .25 | .25 | |
| | 210TC | 9.50 | 7.38 | 2.874 | 5.000 | 7.00 | 3.50 | .53 | 5.25 | .25 | .63 | 9.44 | 7.88 | 4.38 | .25 | .25 | |
| | 250TC | 9.50 | 7.38 | 2.874 | 5.000 | 7.00 | 3.50 | .53 | 5.25 | .25 | .63 | 9.44 | 7.88 | 5.00 | .25 | .25 | |

NOTE: Foot kit is painted steel construction.

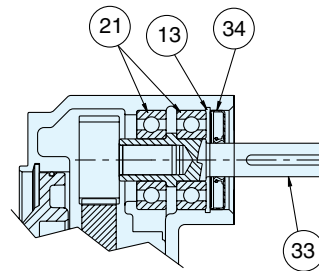
STYLE TXMQ



STYLE TXM



STYLE TX



STYLE TXQ
SIZE 1, 2 & 3 PARTS LIST;

| ITEM # | DESCRIPTION |
|--------|-------------------|
| 1 | HOUSING |
| 2 | COVER, OUTPUT |
| 3 | GEAR, OUTPUT |
| 4 | OUTPUT SHAFT |
| 5 | SPACER, OUTPUT |
| 6 | SPACER, OUTPUT |
| 7 | BEARING, OUTPUT |
| 8 | BEARING, OUTPUT |
| 9 | SEAL, OUTPUT |
| 10 | KEY, OUTPUT |
| 11 | "O" RING, OUTPUT |
| 12 | SNAP RING, OUTPUT |
| 13 | SNAP RING, INPUT |
| 14 | SNAP RING, INPUT |
| 15 | SEAL, INPUT |
| 16 | SPACER, INPUT |
| 17 | QUILL, COUPLING |
| 18 | PINION, INPUT |

| ITEM # | DESCRIPTION |
|--------|-----------------------|
| 19 | FLANGE, QUILL INPUT |
| 20 | BOLT, INPUT |
| 21 | BEARING, INPUT |
| 26 | "O" RING, ENVIROSEAL |
| 27 | ENVIROSEAL |
| 28 | NUT, INT. PRES. COMP. |
| 29 | PLUG, STEM |
| 30 | SPLASH GUARD |

Grove Gear
WASHGUARD®
Style Only

STYLE TX & TXM
SIZE 2 & 3 PARTS LIST
(SOLID INPUT)

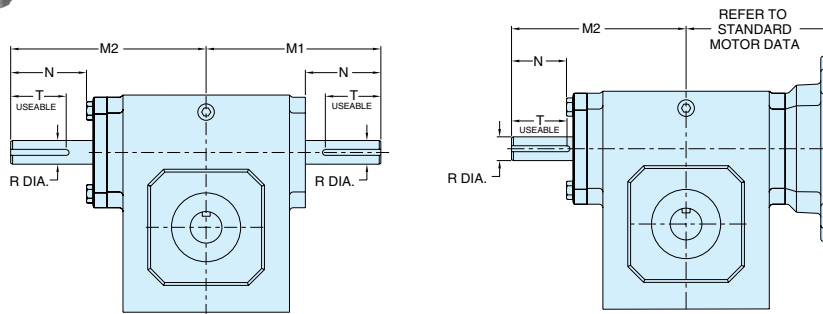
| ITEM # | DESCRIPTION |
|--------|--------------------------|
| 33 | SHAFT, INPUT |
| 34 | SEAL, INPUT |
| 35 | FLANGE, MOTOR (TXM ONLY) |

In addition to the thousands of stock/standard Grove Gear Ironman products available from Grove Gear, there are also many special reducer configurations possible. Some of the special features available are listed below.

- 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
- Dual Input Shaft Extensions (Detailed Below)



Contact Factory with engineering requirements.



TYPICAL DUAL INPUT EXTENSION DIMENSIONS AVAILABLE FROM FACTORY

| 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 |

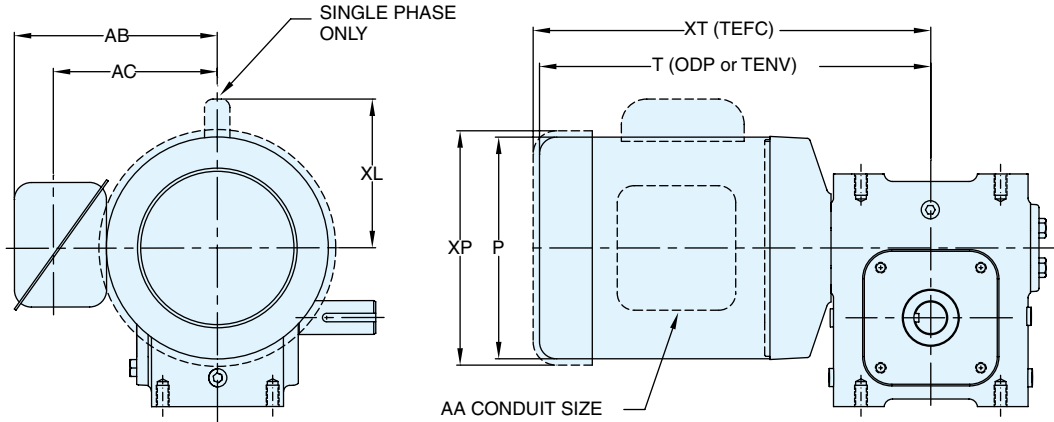
**Keyway width by length

Ratio Multipliers

ELECTRA-GEAR

EL SERIES

INTEGRAL GEARMOTOR



MOTOR DIMENSIONS

| Motor Frame | P | AA | AB | AC | XL | XP |
|-------------|-------|------|------|------|------|-------|
| 143-145TC | 6.56 | .75 | 6.12 | 4.60 | 5.19 | 7.26 |
| 183-184TC | 8.25 | .75 | 6.93 | 5.42 | 6.31 | 8.88 |
| 213-215TC | 10.38 | 1.00 | 8.11 | 6.60 | - | 10.38 |

SINGLE REDUCTION DIMENSIONS (Inches)

| Size | K143T | | P143/5T | | T143/5T | | K182T | | M182/4T | | P182/4T | | R182/4T | | K213T | | M215T | |
|------|-------|-------|---------|-------|---------|-------|-------|-------|---------|-------|---------|-------|---------|-------|-------|-------|-------|-------|
| | T | XT | T | XT | T | XT | T | XT | T | XT | T | XT | T | XT | T | XT | T | XT |
| 818 | 11.19 | 12.41 | 12.68 | 13.91 | 14.18 | 15.41 | - | - | - | - | - | - | - | - | - | - | - | - |
| 821 | 11.68 | 12.91 | 13.18 | 14.41 | 14.68 | 15.91 | 13.15 | 14.80 | 14.15 | 15.80 | 15.21 | 16.87 | 16.44 | 18.12 | - | - | - | - |
| 826 | 12.24 | 13.47 | 13.74 | 14.97 | 15.24 | 16.47 | 13.71 | 15.36 | 14.71 | 16.36 | 15.77 | 17.43 | 17.02 | 18.68 | - | - | - | - |
| 830 | 12.81 | 14.03 | 14.31 | 15.53 | 15.81 | 17.03 | 14.27 | 15.93 | 15.27 | 16.93 | 16.33 | 17.99 | 17.21 | 18.87 | 15.99 | 17.78 | 17.49 | 19.28 |
| 832 | 13.24 | 14.47 | 14.74 | 15.97 | 16.24 | 17.47 | 14.71 | 16.36 | 15.71 | 17.36 | 16.77 | 18.43 | 17.65 | 19.30 | 16.43 | 18.21 | 17.93 | 19.71 |
| 842 | 14.16 | 15.38 | 15.66 | 16.88 | 17.16 | 18.37 | 15.37 | 17.03 | 16.37 | 18.03 | 17.44 | 19.09 | 18.67 | 20.34 | 17.03 | 18.82 | 18.53 | 20.32 |
| 852 | - | - | - | - | - | - | 16.94 | 18.59 | 17.94 | 19.59 | 19.00 | 20.66 | 20.25 | 21.91 | 19.03 | 20.82 | 20.53 | 22.32 |
| 860 | - | - | - | - | - | - | 17.56 | 19.22 | 18.56 | 20.22 | 19.63 | 21.28 | 20.88 | 22.53 | 19.66 | 21.44 | 21.16 | 22.94 |

Accessories

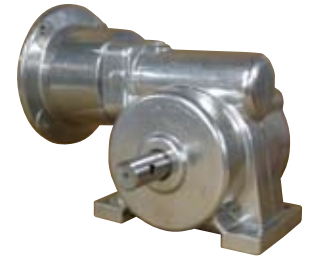
Contact Factory for availability.
Dimensions shown are for reference only.
Contact Factory for certified dimensions.

SIZES 1600

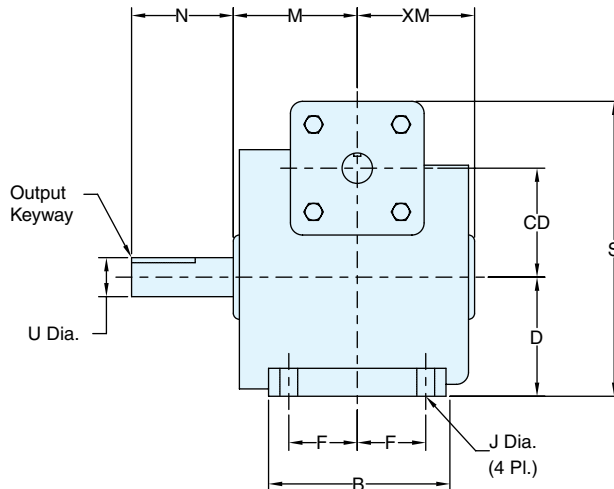
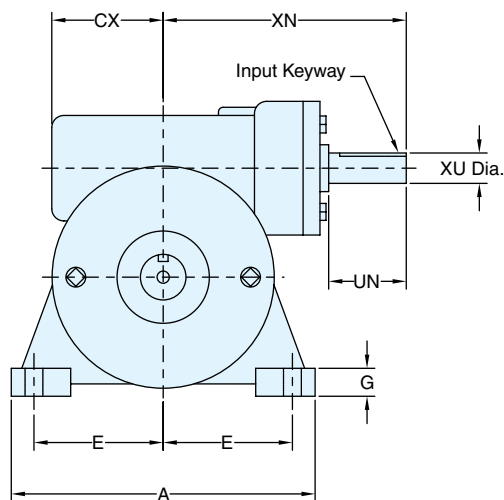
| Nominal Ratio | Input RPM | Output RPM | Input HP | Output TQ (lb-in) | Output OHL (lbs) |
|---------------|-----------|------------|----------|-------------------|------------------|
| 5.0 | 1750 | 350 | 1.25 | 193 | 518 |
| | 1170 | 234 | 1.03 | 236 | 579 |
| | 870 | 174 | 0.87 | 263 | 633 |
| | 580 | 116 | 0.65 | 290 | 647 |
| | 300 | 60 | 0.38 | 319 | 647 |
| | 100 | 20 | 0.14 | 340 | 647 |
| 6.8 | 1750 | 259 | 1.10 | 229 | 564 |
| | 1170 | 173 | 0.87 | 267 | 635 |
| | 870 | 129 | 0.71 | 288 | 647 |
| | 580 | 85.9 | 0.52 | 310 | 647 |
| | 300 | 44.4 | 0.29 | 332 | 647 |
| | 100 | 14.8 | 0.11 | 348 | 647 |
| 9.0 | 1750 | 194 | 1.00 | 263 | 624 |
| | 1170 | 130 | 0.79 | 304 | 647 |
| | 870 | 96.7 | 0.64 | 327 | 647 |
| | 580 | 64.4 | 0.47 | 351 | 647 |
| | 300 | 33.3 | 0.26 | 374 | 647 |
| | 100 | 11.1 | 0.10 | 391 | 647 |
| 13.5 | 1750 | 130 | 0.75 | 280 | 647 |
| | 1170 | 86.7 | 0.59 | 324 | 647 |
| | 870 | 64.4 | 0.48 | 347 | 647 |
| | 580 | 43 | 0.35 | 372 | 647 |
| | 300 | 22.2 | 0.20 | 395 | 647 |
| | 100 | 7.4 | 0.07 | 413 | 647 |
| 18.0 | 1750 | 97.2 | 0.60 | 280 | 647 |
| | 1170 | 65 | 0.50 | 322 | 647 |
| | 870 | 48.3 | 0.39 | 345 | 647 |
| | 580 | 32.2 | 0.28 | 369 | 647 |
| | 300 | 16.7 | 0.16 | 392 | 647 |
| | 100 | 5.56 | 0.06 | 409 | 647 |
| 22.5 | 1750 | 77.8 | 0.52 | 282 | 647 |
| | 1170 | 52 | 0.41 | 325 | 647 |
| | 870 | 38.7 | 0.34 | 347 | 647 |
| | 580 | 25.8 | 0.25 | 371 | 647 |
| | 300 | 13.3 | 0.14 | 396 | 647 |
| | 100 | 4.44 | 0.05 | 412 | 647 |
| 27.0 | 1750 | 64.8 | 0.46 | 277 | 647 |
| | 1170 | 43.3 | 0.37 | 319 | 647 |
| | 870 | 32.2 | 0.30 | 342 | 647 |
| | 580 | 21.5 | 0.22 | 365 | 647 |
| | 300 | 11.1 | 0.13 | 390 | 647 |
| | 100 | 3.70 | 0.05 | 405 | 647 |
| 36.0 | 1750 | 48.6 | 0.37 | 273 | 647 |
| | 1170 | 32.5 | 0.30 | 315 | 647 |
| | 870 | 24.2 | 0.25 | 337 | 647 |
| | 580 | 16.1 | 0.18 | 361 | 647 |
| | 300 | 8.33 | 0.11 | 382 | 647 |
| | 100 | 2.78 | 0.04 | 399 | 647 |
| 45.0 | 1750 | 38.9 | 0.33 | 277 | 647 |
| | 1170 | 26 | 0.27 | 317 | 647 |
| | 870 | 19.3 | 0.22 | 341 | 647 |
| | 580 | 12.9 | 0.17 | 363 | 647 |
| | 300 | 6.67 | 0.10 | 386 | 647 |
| | 100 | 2.22 | 0.04 | 403 | 647 |
| 54.0 | 1750 | 32.4 | 0.28 | 253 | 647 |
| | 1170 | 21.7 | 0.25 | 290 | 647 |
| | 870 | 16.1 | 0.19 | 311 | 647 |
| | 580 | 10.7 | 0.14 | 333 | 647 |
| | 300 | 5.56 | 0.08 | 353 | 647 |
| | 100 | 1.85 | 0.03 | 369 | 647 |

SIZES 2400

| Nominal Ratio | Input RPM | Output RPM | Input HP | Output TQ (lb-in) | Output OHL (lbs) |
|---------------|-----------|------------|----------|-------------------|------------------|
| 7.5 | 1750 | 233 | 2.79 | 650 | 715 |
| | 1170 | 156 | 2.40 | 815 | 795 |
| | 870 | 116 | 2.10 | 935 | 860 |
| | 580 | 77 | 1.62 | 1055 | 975 |
| | 300 | 40 | 0.98 | 1190 | 1125 |
| | 100 | 13 | 0.38 | 1290 | 1125 |
| 10.0 | 1750 | 175 | 2.54 | 760 | 780 |
| | 1170 | 117 | 2.22 | 955 | 865 |
| | 870 | 87 | 1.92 | 1085 | 945 |
| | 580 | 58 | 1.47 | 1225 | 1070 |
| | 300 | 30 | 0.90 | 1380 | 1125 |
| | 100 | 10 | 0.33 | 1490 | 1125 |
| 12.5 | 1750 | 140 | 2.25 | 790 | 850 |
| | 1170 | 94 | 1.82 | 960 | 950 |
| | 870 | 70 | 1.56 | 1070 | 1035 |
| | 580 | 46 | 1.78 | 1190 | 1125 |
| | 300 | 24 | 0.71 | 1320 | 1125 |
| | 100 | 8 | 0.27 | 1410 | 1125 |
| 15.0 | 1750 | 117 | 1.92 | 810 | 905 |
| | 1170 | 78 | 1.66 | 1015 | 1010 |
| | 870 | 58 | 1.45 | 1145 | 1105 |
| | 580 | 38 | 1.11 | 1290 | 1125 |
| | 300 | 20 | 0.69 | 1450 | 1125 |
| | 100 | 6.7 | 0.26 | 1560 | 1125 |
| 20.0 | 1750 | 88 | 1.59 | 845 | 1005 |
| | 1170 | 59 | 1.37 | 1050 | 1125 |
| | 870 | 44 | 1.18 | 1180 | 1125 |
| | 580 | 29 | 0.91 | 1320 | 1125 |
| | 300 | 15 | 0.56 | 1490 | 1125 |
| | 100 | 5 | 0.24 | 1600 | 1125 |
| 25.0 | 1750 | 70 | 1.37 | 860 | 1090 |
| | 1170 | 47 | 1.20 | 1055 | 1125 |
| | 870 | 35 | 1.01 | 1185 | 1125 |
| | 580 | 23 | 0.76 | 1308 | 1125 |
| | 300 | 12 | 0.46 | 1452 | 1125 |
| | 100 | 4 | 0.19 | 1545 | 1125 |
| 30.0 | 1750 | 58 | 1.23 | 876 | 1125 |
| | 1170 | 39 | 1.05 | 1066 | 1125 |
| | 870 | 29 | 0.89 | 1180 | 1125 |
| | 580 | 19 | 0.66 | 1289 | 1125 |
| | 300 | 10 | 0.42 | 1458 | 1125 |
| | 100 | 3.3 | 0.17 | 1556 | 1125 |
| 40.0 | 1750 | 44 | 1.03 | 892 | 1125 |
| | 1170 | 29 | 0.88 | 1102 | 1125 |
| | 870 | 22 | 0.76 | 1235 | 1125 |
| | 580 | 14.5 | 0.60 | 1385 | 1125 |
| | 300 | 7.5 | 0.38 | 1562 | 1125 |
| | 100 | 2.5 | 0.16 | 1673 | 1125 |
| 50.0 | 1750 | 35 | 0.91 | 900 | 1125 |
| | 1170 | 23 | 0.80 | 1100 | 1125 |
| | 870 | 17.4 | 0.69 | 1226 | 1125 |
| | 580 | 11.6 | 0.53 | 1364 | 1125 |
| | 300 | 6 | 0.33 | 1501 | 1125 |
| | 100 | 2 | 0.13 | 1605 | 1125 |
| 60.0 | 1750 | 29 | 0.85 | 900 | 1125 |
| | 1170 | 19.5 | 0.72 | 1094 | 1125 |
| | 870 | 14.5 | 0.64 | 1215 | 1125 |
| | 580 | 9.7 | 0.49 | 1341 | 1125 |
| | 300 | 5 | 0.30 | 1497 | 1125 |
| | 100 | 1.7 | 0.13 | 1570 | 1125 |



Accessories

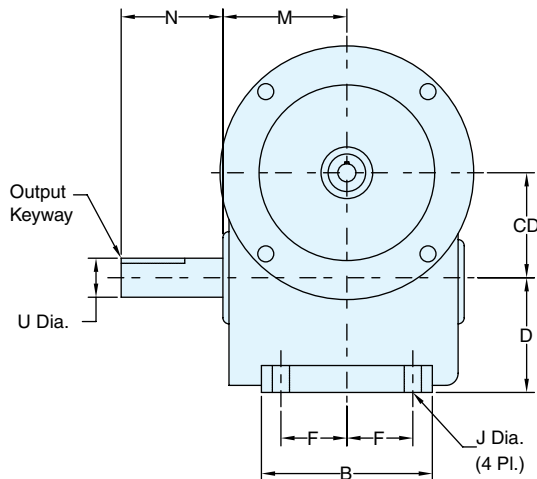
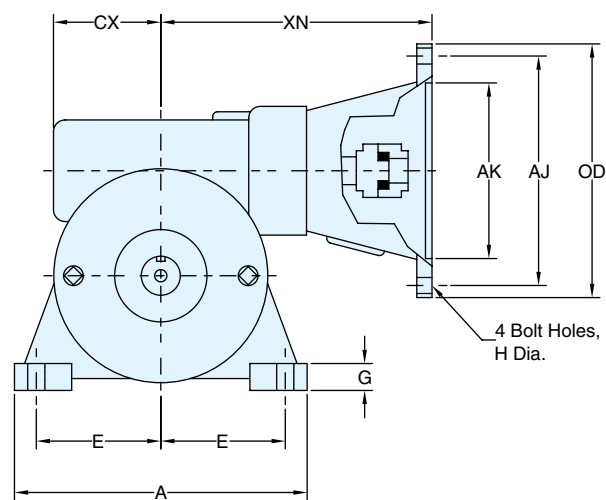


REDUCER SIZE A DIMENSIONS

| Model | A | B | CD | D | E | F | G | J | M | N | S | U | Output Keyway | XU | Input XU Keyway | CX | UN | XM | XN |
|-------|------|------|------|------|------|------|------|-------|------|------|------|-------|------------------|-------|------------------|------|------|------|------|
| 1600A | 4.88 | 2.75 | 1.60 | 1.88 | 1.81 | 1.00 | 0.44 | 0.38* | 1.81 | 1.43 | 4.73 | 0.750 | .19 x .09 x 1.16 | 0.625 | .19 x .09 x 1.28 | 1.74 | 1.63 | 1.81 | 4.24 |
| 2400A | 7.50 | 4.38 | 2.69 | 2.94 | 3.19 | 1.69 | 0.69 | 0.44 | 2.91 | 1.97 | 7.28 | 1.000 | .25 x .13 x 1.63 | 0.750 | .19 x .09 x 1.81 | 2.75 | 2.13 | 2.94 | 6.00 |

* .38 Wid x .75 long slot.

□ Tolerances: 'U' & 'XU' = +.0000, -.0005



REDUCER SIZE AC DIMENSIONS

| Model | A | B | CD | D | E | F | G | J | M | N | U | Output Keyway | CX |
|--------|------|------|------|------|------|------|------|-------|------|------|-------|------------------|------|
| 1600AC | 4.89 | 2.75 | 1.60 | 1.88 | 1.81 | 1.00 | 0.44 | 0.38* | 1.81 | 1.43 | 0.750 | .19 x .09 x 1.16 | 1.74 |
| 2400AC | 7.50 | 4.38 | 2.69 | 2.94 | 3.19 | 1.69 | 0.69 | 0.44 | 2.91 | 1.97 | 1.000 | .25 x .13 x 1.63 | 2.75 |

* .38 Wide x .75 long slot.

□ Tolerances: 'U' & 'XU' = +.0000, -.0005

NEMA MOTOR MOUNTING DIMENSIONS

| Motor Frame | H Dia. | AK | AJ | OD | XN / 1600 | XN / 2400 |
|-------------|--------|------|------|------|-----------|-----------|
| 42C/48C | 0.28 | 3.00 | 3.75 | 5.63 | 5.29 | - |
| 56C/140TC | 0.41 | 4.50 | 5.88 | 6.50 | 5.75 | 6.95 |

** Bore and keyway to suit motor.

Dimensions are for reference only. For construction purposes, certified prints are available.

SERIES 12 SUB-FHP

Electrical Specifications:

Both SCR (90 volt) and Low Voltage (12 volt) right angle gearmotors. The 90 volt motors are performance matched for continuous service over a 60:1 speed range. All have constant torque throughout the speed range when powered by a full-wave, unfiltered SCR-type 115 volt input adjustable speed control having a typical form factor of 1.3 to 1.4. The low voltage motors are also performance matched for continuous duty. Motors are designed for battery power or can be used with a low voltage controller with form factor up to 1.05.

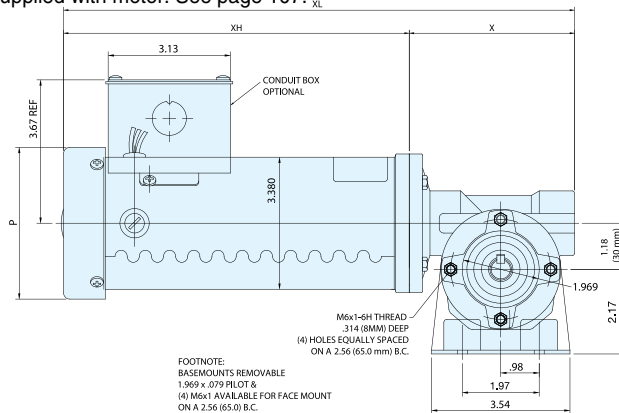


Mechanical Specifications:

This worm-type right-angle gearing features hardened, steel worm with bronze worm wheel for long life and quiet operation. Single-piece die cast aluminum alloy housing is vacuum impregnated with Resinol RT for protection and sealing. This gearbox combines light weight with high tensile strength along with being precision machined for alignment of bearings and gearing. For optimum seal life, we use high-temperature Nitrile seals. Gearbox provided with solid output shaft, but can be converted to a hollow output shaft mounting by using snap-ring pliers and remove the snap ring and solid output shaft. Also the T-base feet are bolted to the gearbox, but can easily be removed and converted to face mounting.



Conduit box not supplied with motor. See page 107. XL



FOOTNOTE:
 BASEMOUNTS REMOVABLE
 1.969 x 0.79 PILOT &
 (1) M6x1 AVAILABLE FOR FACE MOUNT
 ON A 2.56 (65.0) B.C.

SCR 90 VOLT RATED DIMENSIONS (INCHES)

| P | X | XL | XH | PB |
|------|------|-------|------|------|
| 3.38 | 4.32 | 11.07 | 6.75 | 4.00 |
| 3.38 | 4.32 | 11.07 | 6.75 | 4.00 |
| 3.88 | 4.32 | 13.16 | 8.84 | 3.76 |
| 3.88 | 4.32 | 13.16 | 8.84 | 3.76 |
| 3.88 | 4.32 | 13.16 | 8.84 | 3.76 |
| 3.88 | 4.32 | 13.16 | 8.84 | 3.76 |
| 3.88 | 4.32 | 13.16 | 8.84 | 3.76 |
| 3.88 | 4.32 | 13.16 | 8.84 | 3.76 |

LOW VOLTAGE (12V) DIMENSIONS (INCHES)

| P | X | XL | XH | PB |
|------|------|-------|------|------|
| 3.38 | 4.32 | 10.57 | 6.25 | 4.21 |
| 3.38 | 4.32 | 10.57 | 6.25 | 4.21 |
| 3.38 | 4.32 | 11.82 | 7.5 | 4.21 |
| 3.38 | 4.32 | 11.82 | 7.5 | 4.21 |
| 3.38 | 4.32 | 11.82 | 7.5 | 4.21 |
| 3.38 | 4.32 | 11.82 | 7.5 | 4.21 |
| 3.38 | 4.32 | 11.82 | 7.5 | 4.21 |
| 3.38 | 4.32 | 11.82 | 7.5 | 4.21 |

RIGHT-ANGLE DC • SCR 90 VOLT RATED TEFC • 1.0 SERVICE FACTOR

| Input HP | F.L. Torque (In.-Lbs.) | Output RPM | Catalog Number | List Price▲ | Enclosure | Gearmotor Type & Frame | Ratio to 1 | Full Arm Volts DC | Load Amps. DC |
|----------|------------------------|------------|----------------|-------------|-----------|------------------------|------------|-------------------|---------------|
| 1/8* | 125 | 28 | M1135292 | \$533 | TENV | 12B60-34D | 61 | 90 | 1.6 |
| 1/8* | 87 | 45 | M1135291 | 533 | TENV | 12B39-34D | 39 | 90 | 1.6 |
| 1/4 | 158 | 58 | M1135290 | 563 | TEFC | 12B30-34G | 30 | 90 | 2.8 |
| 1/4 | 100 | 90 | M1135289 | 563 | TEFC | 12B19-34G | 19 | 90 | 2.6 |
| 1/4 | 85 | 115 | M1135288 | 563 | TEFC | 12B15-34G | 15 | 90 | 2.6 |
| 1/4 | 61 | 167 | M1135287 | 563 | TEFC | 12B11-34G | 10.6 | 90 | 2.6 |
| 1/4 | 46 | 250 | M1135286 | 563 | TEFC | 12B7-34G | 7 | 90 | 2.6 |

* Supplied with TENV motor enclosure
 ▲ Use "S" discount symbol.

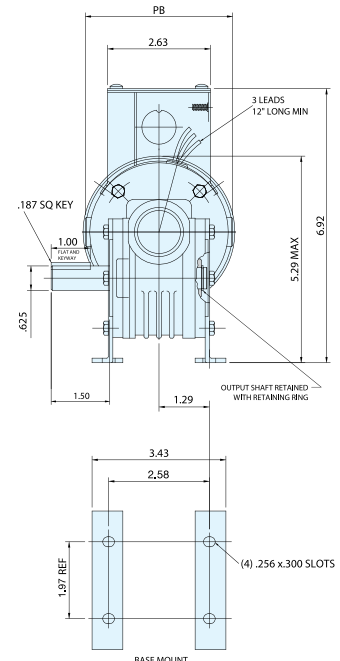
RIGHT-ANGLE DC • LOW VOLTAGE (12V) TENV • 1.0 SERVICE FACTOR

| Input HP | F.L. Torque (In.-Lbs.) | Output RPM | Catalog Number | List Price▲ | Enclosure | Gearmotor Type & Frame | Ratio to 1 | Arm Volts DC | Full Load Amps. DC |
|----------|------------------------|------------|----------------|-------------|-----------|------------------------|------------|--------------|--------------------|
| 1/8 | 134 | 27 | M1135285 | \$555 | TENV | 12B60-34C | 61 | 12 | 14 |
| 1/8 | 94 | 45 | M1135284 | 555 | TENV | 12B39-34C | 39 | 12 | 15 |
| 1/4 | 158 | 58 | M1135297 | 580 | TENV | 12B30-34F | 30 | 12 | 24 |
| 1/4 | 100 | 90 | M1135296 | 580 | TENV | 12B19-34F | 19 | 12 | 24 |
| 1/4 | 85 | 115 | M1135295 | 580 | TENV | 12B15-34F | 15 | 12 | 23 |
| 1/4 | 61 | 167 | M1135294 | 580 | TENV | 12B11-34F | 10.6 | 12 | 21 |
| 1/4 | 46 | 250 | M1135293 | 580 | TENV | 12B7-34F | 7 | 12 | 23 |

▲ Use "S" discount symbol.

NOTES:

1. Conduit box not supplied with the gearmotor. Mounting provisions are provided and can use conduit box kit catalog number M1760007 found on page 107.
2. For solid double output shaft, consult factory.



Accessories