

Series M3

 **DAVID BROWN**

CAT.M3.08/05.NA

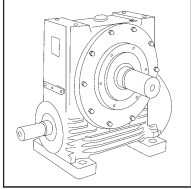


CONEDRIVE

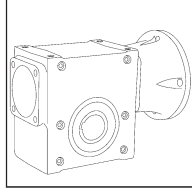
GEARING SOLUTIONS

PRODUCTS IN THE RANGE

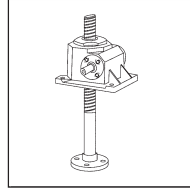
Serving an entire spectrum of mechanical drive applications from food, energy, mining and metal; to automotive, aerospace and marine propulsion, Textron Fluid & Power is here to make a positive difference to the supply of drive solutions.



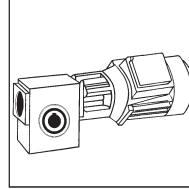
Series A
Worm Gear units and geared motors in single & double reduction types



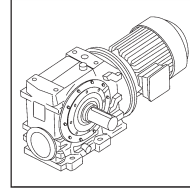
Series B
Conax helicoidal gear geometry right angle gearmotors and reducers



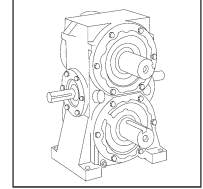
Series BD
Screwjack worm gear unit



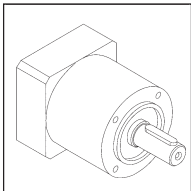
Series BS
Worm gear unit



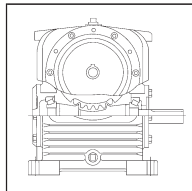
Series C
Right angle drive helical worm geared motors & reducers



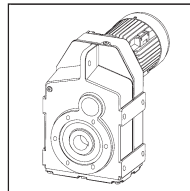
DuoDrive
Dual gears on parallel output shafts



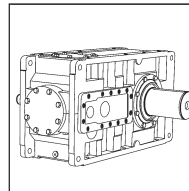
Series E
Economical planetary servo gearboxes



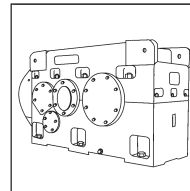
Extruder Drive
Rugged duty reducer takes high screw pressure



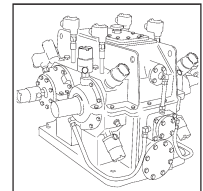
Series F
Parallel angle helical bevel helical geared motors & reducers



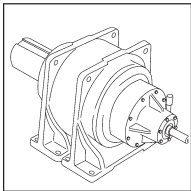
Series G
Helical parallel shaft & bevel helical right angle drive gear units



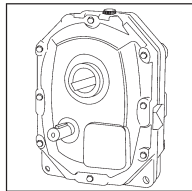
Series H
Large helical parallel shaft & bevel helical right angle drive units



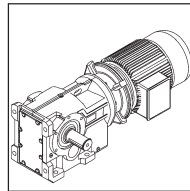
Highspeed
Helical parallel shaft high speed units



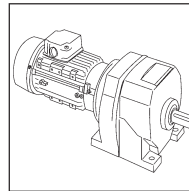
HTP
High torque planetary gear units



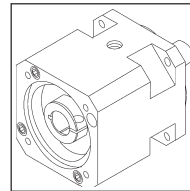
Series J
Shaft mounted helical speed reducers



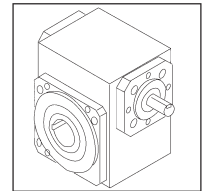
Series K
Right angle helical bevel helical geared motors & reducers



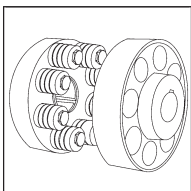
Series M
In-line helical geared motors & reducers



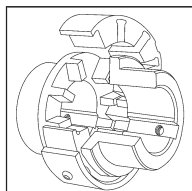
Series P
Precision planetary servo gearboxes



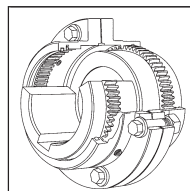
Series W
Precision right angle servo gearboxes



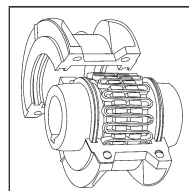
Series X Cone Ring
Pin and bush elastomer coupling



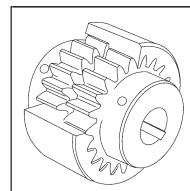
Series X Flexiwrap
Double flexing elastomer coupling



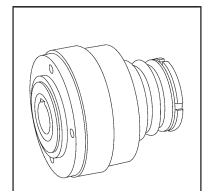
Series X Gear
Torsionally rigid, high torque coupling



Series X Grid
Double flexing steel grid coupling



Series X Nylicon
Gear coupling with nylon sleeve



Series X Torque Limiter
Overload protection device

Textron Fluid & Power can create custom engineered transmission solutions of any size and configuration.

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| | |
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**GENERAL DESCRIPTION
EXAMPLES OF TYPES AND VERSIONS**

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Series M3 inline servo reducers provide a very efficient and compact drive solution to meet most requirements up to 85 HP with maximum output torque capacity of 15,000 lb.in.

Following in a long line of Textron products, the range takes advantage of many years of accumulated design expertise, together with the use of high quality materials and components. The end result is a series of servo reducers that offer high load carrying capacity, high efficiency, quiet running and reliability.

The Range Includes

Eight sizes of unit with a ratio coverage of 1.2/1 to 8/1 in single reduction, 1.4/1 to 70/1 in double reduction and up to 200/1 in triple reduction.

Unit Versions Available

- Base Mounted
- B5 (D) Flange Mounted
- Base and B5 (D) Flange Mounted
- B14 (C) Flange Mounting
- Base Mount and B14 (C) Flange Mounting

Design Features Include

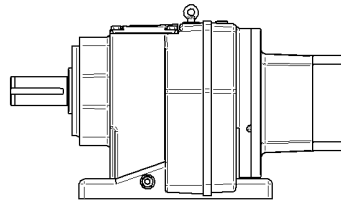
Ability to fit double oil seal input and output as required.

All units are dimensionally interchangeable with other major manufacturers.

Sizes 01, 02, 03, 04, 05, 06 and 07 are all supplied with lubricant.

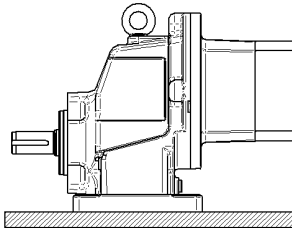
Sizes 08 is supplied without lubricant.

As improvements in design are being made continually this specification is not to be regarded as binding in detail and drawings and capacities are subject to alteration without notice.



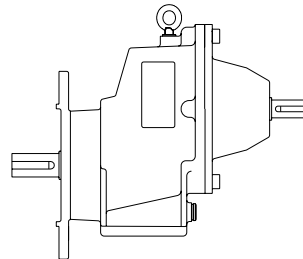
Two stage base mounted servo

* M 0 3 2 2 8 - 0 B 3 N 3 1 - D H M D K -



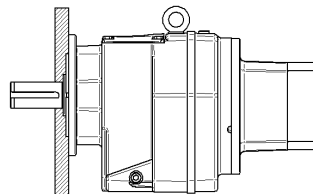
Single stage base mounted servo

* M 0 5 1 2 5 - 0 B 3 C 3 1 - G K P P G -



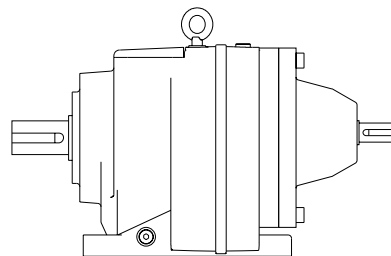
Single stage flange mounted reducer

* M 0 5 1 2 5 - 0 B 3 C - 1 - G L Q E R -



Three stage flange mounted servo

* M 0 6 3 2 5 2 5 B 3 N 3 1 - G J N D K -

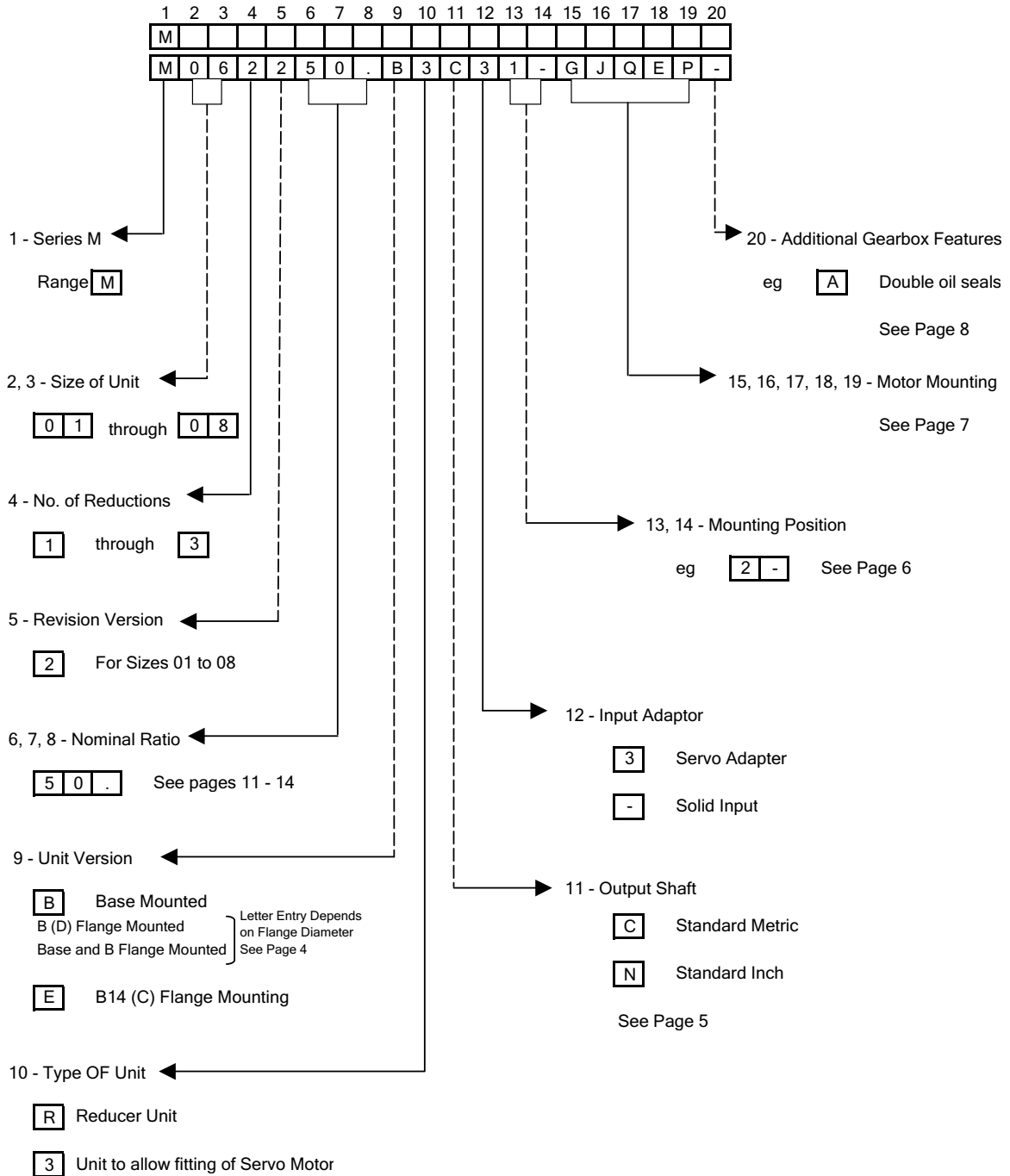


Two stage base mounted reducer

* M 0 7 2 2 7 1 . B 3 N - 1 - K L S F U -

* Typical unit designations

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UNIT VERSIONS.
COLUMN 9 ENTRY

- B - Base Mounted
- E - Flange mount with B14 (C) Flange Mounting

Flange Mounted

Letter Entry Depends on Flange Diameter. See tables below.

| Flange Diameter | Column 9 Entry | Flange Diameter | Column 9 Entry |
|-----------------|---|-----------------|---|
| 4.72 | H | 11.81 | P |
| 5.51 | J | 13.78 | R |
| 6.30 | K | 17.72 | F |
| 7.87 | L | 21.65 | G |
| 9.84 | N | | |

Base and Flange Mounted

Letter Entry Depends on Flange Diameter. See tables below.

| Flange Diameter | Column 9 Entry | Flange Diameter | Column 9 Entry |
|-----------------|---|-----------------|---|
| 4.72 | S | 11.81 | Y |
| 5.51 | T | 13.78 | Z |
| 6.30 | U | | |
| 7.87 | W | | |
| 9.84 | X | | |

| Unit Size | Flange Dia | Column 9 entry |
|---------------|------------|----------------|
| Single | | |
| 0512 | 4.72 | H |
| | 5.51 | J |
| | 6.30 | K |
| | 7.87 | L |
| 0612 | 4.72 | H |
| | 5.51 | J |
| | 6.30 | K |
| | 7.87 | L |

| Unit Size | Flange Dia | Column 9 entry |
|---------------|------------|----------------|
| Single | | |
| 0712 | 5.51 | J |
| | 6.30 | K |
| | 7.87 | L |
| | 9.84 | N |
| | 7.87 | L |
| 0812 | 9.84 | N |
| | 11.81 | P |

| Unit Size | Flange Dia | Column 9 entry |
|---------------|------------|----------------|
| Single | | |
| 0512 | 4.72 | S |
| | 5.51 | T |
| | 6.30 | U |
| | 7.87 | W |
| | 4.72 | S |
| 0612 | 5.51 | T |
| | 6.30 | U |
| | 7.87 | W |

| Unit Size | Flange Dia | Column 9 entry |
|---------------|------------|----------------|
| Single | | |
| 0712 | 5.51 | T |
| | 6.30 | U |
| | 7.87 | W |
| | 9.84 | X |
| 0812 | 7.87 | W |
| | 9.84 | X |
| | 11.81 | Y |

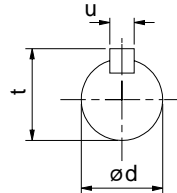
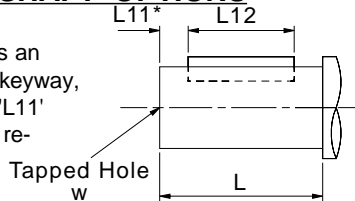
| Unit Size | | Flange Dia | Column 9 entry |
|-----------|--------|------------|----------------|
| Double | Triple | | |
| 0122 | 0132 | 4.72 | H |
| | | 5.51 | J |
| | | 6.30 | K |
| | | 7.87 | L |
| 0222 | 0232 | 4.72 | H |
| | | 5.51 | J |
| | | 6.30 | K |
| | | 7.87 | L |
| 0322 | 0332 | 4.72 | H |
| | | 5.51 | J |
| | | 6.30 | K |
| | | 7.87 | L |
| 0422 | 0432 | 5.51 | J |
| | | 6.30 | K |
| | | 7.87 | L |
| | | 9.84 | N |
| 0522 | 0532 | 5.51 | J |
| | | 6.30 | K |
| | | 7.87 | L |
| | | 9.84 | N |
| 0622 | 0632 | 7.87 | L |
| | | 9.84 | N |
| | | 11.81 | P |
| 0722 | 0732 | 7.87 | L |
| | | 9.84 | N |
| | | 11.81 | P |
| 0822 | 0832 | 11.81 | P |
| | | 13.78 | R |

| Unit Size | | Flange Dia | Column 9 entry |
|-----------|--------|------------|----------------|
| Double | Triple | | |
| 0122 | 0132 | 4.72 | S |
| | | 5.51 | T |
| | | 6.30 | U |
| | | 7.87 | W |
| | | 4.72 | S |
| 0222 | 0232 | 5.51 | T |
| | | 6.30 | U |
| | | 7.87 | W |
| | | 4.72 | S |
| 0322 | 0332 | 5.51 | T |
| | | 6.30 | U |
| | | 7.87 | W |
| | | 4.72 | S |
| 0422 | 0432 | 5.51 | T |
| | | 6.30 | U |
| | | 7.87 | W |
| | | 9.84 | X |
| | | 5.51 | T |
| 0522 | 0532 | 6.30 | U |
| | | 7.87 | W |
| | | 9.84 | X |
| | | 7.87 | W |
| | | 5.51 | T |
| 0622 | 0632 | 7.87 | W |
| | | 9.84 | X |
| | | 11.81 | Y |
| | | 7.87 | W |
| 0722 | 0732 | 7.87 | W |
| | | 9.84 | X |
| | | 11.81 | Y |
| 0822 | 0832 | 11.81 | Y |
| | | 13.78 | Z |

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OUTPUTSHAFT OPTIONS

* Inch shaft has an open ended keyway, therefore no 'L11' dimension is required.



Column 11 Entry

- N Standard Inch
- C Standard Metric

OUTPUTSHAFT OPTIONS - single reduction

| SIZE OF UNIT | TYPE OF OUTPUT SHAFT | COLUMN 11 ENTRY | DIMENSIONS IN INCHES (Metric Shaft in mm) | | | | | | |
|--------------|----------------------|-----------------|---|--------|-----|----------------------------------|--------|----------------------------------|--|
| | | | ød | L | L11 | L12 | t | u | w |
| 05 | Inch * | N | 0.7500"/0.7495" | 1.575" | - | 1 ⁹ / ₃₂ " | 0.829" | 3 ³ / ₁₆ " | 1 ¹ / ₄ " UNF x 0.63" deep |
| | Metric | C | 20.015 / 20.002 | 40 | 4 | 32 | 22.5 | 6 | M6 x 1, 16 deep |
| 06 | Inch * | N | 1.0000"/0.9995" | 1.969" | - | 1 ⁹ / ₁₆ " | 1.106" | 1 ¹ / ₄ " | 1 ¹ / ₄ " UNF x 0.71" deep |
| | Metric | C | 25.015 / 25.002 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5, 22deep |
| 07 | Inch * | N | 1.2500"/1.2495" | 2.362" | - | 2" | 1.359" | 1 ¹ / ₄ " | 1 ¹ / ₄ " UNF x 0.71" deep |
| | Metric | C | 30.015 / 30.002 | 60 | 4 | 50 | 33 | 8 | M10 x 1.5, 22 deep |
| 08 | Inch * | N | 1.6250"/1.6240" | 3.150" | - | 2 ³ / ₈ " | 1.784" | 3 ³ / ₈ " | 5 ¹ / ₈ " UNF x 1.25" deep |
| | Metric | C | 40.018 / 40.002 | 80 | 5 | 70 | 43 | 12 | M16 x 2.0, 36 deep |

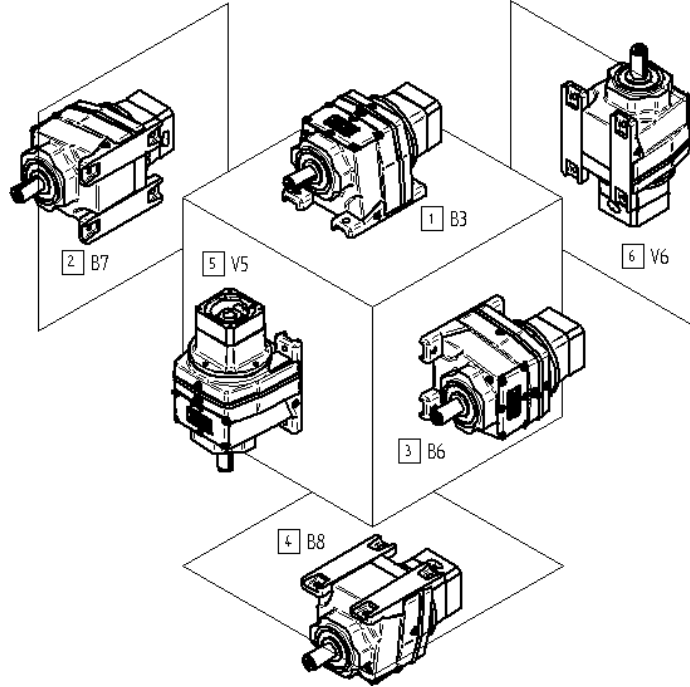
OUTPUTSHAFT OPTIONS - double, triple

| SIZE OF UNIT | TYPE OF OUTPUT SHAFT | COLUMN 11 ENTRY | DIMENSIONS IN INCHES (Metric Shaft in mm) | | | | | | |
|--------------|----------------------|-----------------|---|--------|-----|----------------------------------|--------|----------------------------------|--|
| | | | ød | L | L11 | L12 | t | u | w |
| 01 | Inch * | N | 0.7500"/0.7495" | 1.575" | - | 1 ⁹ / ₃₂ " | 0.829" | 3 ³ / ₁₆ " | 1 ¹ / ₄ " UNF x 0.63" deep |
| | Metric | C | 20.015 / 20.002 | 40 | 4 | 32 | 22.5 | 6 | M6 x 1, 16 deep |
| 02 | Inch * | N | 1.0000"/0.9995" | 1.969" | - | 1 ⁹ / ₁₆ " | 1.106" | 1 ¹ / ₄ " | 1 ¹ / ₄ " UNF x 0.71" deep |
| | Metric | C | 25.015 / 25.002 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5, 22 deep |
| 03 | Inch * | N | 1.0000"/0.9995" | 1.969" | - | 1 ⁹ / ₁₆ " | 1.106" | 1 ¹ / ₄ " | 1 ¹ / ₄ " UNF x 0.71" deep |
| | Metric | C | 25.015 / 25.002 | 50 | 4 | 40 | 28 | 8 | M10 x 1.5, 22 deep |
| 04 | Inch * | N | 1.2500"/1.2495" | 2.362" | - | 2" | 1.359" | 1 ¹ / ₄ " | 3 ³ / ₈ " UNF x 0.86" deep |
| | Metric | C | 30.015 / 30.002 | 60 | 4 | 50 | 33 | 8 | M10 x 1.5, 22 deep |
| 05 | Inch * | N | 1.3750"/1.3745" | 2.756" | - | 2 ³ / ₈ " | 1.507" | 5 ¹ / ₁₆ " | 3 ³ / ₈ " UNF x 0.75" deep |
| | Metric | C | 35.018 / 35.002 | 70 | 7 | 60 | 38 | 10 | M12 x 1.75, 28 deep |
| 06 | Inch * | N | 1.3750"/1.3745" | 2.756" | - | 2 ³ / ₈ " | 1.507" | 5 ¹ / ₁₆ " | 3 ³ / ₈ " UNF x 0.75" deep |
| | Metric | C | 35.018 / 35.002 | 70 | 7 | 60 | 38 | 10 | M12 x 1.75, 28 deep |
| 07 | Inch * | N | 1.6250"/1.6240" | 3.150" | - | 2 ³ / ₈ " | 1.784" | 3 ³ / ₈ " | 5 ¹ / ₈ " UNF x 1.25" deep |
| | Metric | C | 40.018 / 40.002 | 80 | 5 | 70 | 43 | 12 | M16 x 2.0, 36 deep |
| 08 | Inch * | N | 2.1250"/2.1240" | 3.937" | - | 2 ³ / ₄ " | 2.338" | 1 ¹ / ₂ " | 3 ³ / ₄ " UNF x 1.50" deep |
| | Metric | C | 50.018 / 50.002 | 100 | 10 | 80 | 53.5 | 14 | M16 x 2.0, 36 deep |

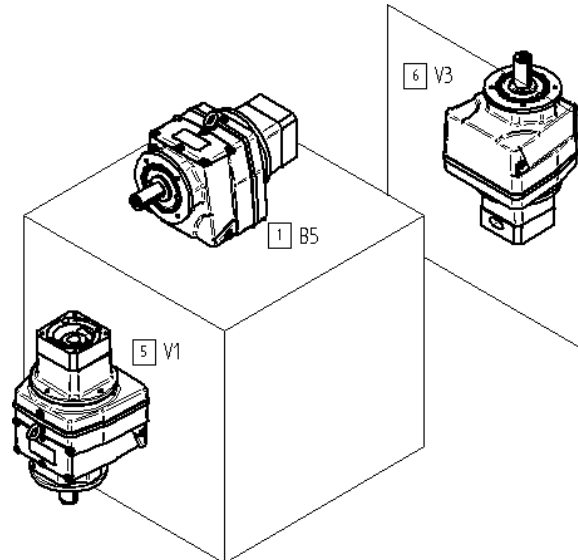
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COLUMN 13 ENTRY

Base Mounted Units



Flange Mounted Units



MOUNTING POSITIONS APPLY TO ALL REDUCER VERSIONS

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SIZE: (M0122 - M0322), (M0132 - M0332)

| | | | | | | | |
|-----------------------|---|----------|-----------|-----------|--------------------|-----|-----|
| Column 15 Entry | FLANGE SQUARE AND MOTOR SHAFT LENGTH | | | | | | |
| | 115 | | | 140 | | | |
| | 20 - 32 | 33 - 63 | 38 - 68 | 69 - 89 | | | |
| | C | D | G | H | | | |
| Column 16 Entry | MOTOR PILOT DIAMETER | | | | | | |
| | 80 | 95 | 110 | 114.3 | 130 | | |
| | G | H | J | K | L | | |
| Column 17 Entry | BOLT CIRCLE DIAMETER | | | | | | |
| | 100 | 115 | 130 | 145 | 149.23 | 165 | 200 |
| | K | L | M | N | P | Q | R |
| Column 18 Entry | MOTOR FLANGE THRU HOLE | | | | TAPPED HOLE | | |
| | 6.4-8.3 | 8.4-10.3 | 10.4-12.4 | 12.5-15.0 | 3/8 - 16 | | |
| | C | D | E | F | P | | |
| Column 19 Entry | MOTOR SHAFT DIAMETER | | | | | | |
| | 14 | 16 | 19 | 22 | 24 | 28 | |
| | G | J | K | M | P | R | |

SINGLE DOUBLE TRIPLE

SIZE: (M0512 - M0612), (M0422 - M0622), (M0432 - M0732)

| | | | | | | | | |
|-----------------------|---|----------|-----------|-----------|--------------------|---------|-----|-----|
| Column 15 Entry | FLANGE SQUARE AND MOTOR SHAFT LENGTH | | | | | | | |
| | 115 | | | 140 | | 190 | | |
| | 20 - 32 | 33 - 63 | 38 - 68 | 69 - 89 | 38 - 68 | 58 - 87 | | |
| | C | D | G | H | K | L | | |
| Column 16 Entry | MOTOR PILOT DIAMETER | | | | | | | |
| | 80 | 95 | 110 | 114.3 | 130 | 180 | | |
| | G | H | J | K | L | M | | |
| Column 17 Entry | BOLT CIRCLE DIAMETER | | | | | | | |
| | 100 | 115 | 130 | 145 | 149.23 | 165 | 200 | 215 |
| | K | L | M | N | P | Q | R | S |
| Column 18 Entry | MOTOR FLANGE THRU HOLE | | | | TAPPED HOLE | | | |
| | 6.4-8.3 | 8.4-10.3 | 10.4-12.4 | 12.5-15.0 | 3/8 - 16 | | | |
| | C | D | E | F | P | | | |
| Column 19 Entry | MOTOR SHAFT DIAMETER | | | | | | | |
| | 14 | 16 | 19 | 22 | 24 | 28 | 32 | 35 |
| | G | J | K | M | P | R | U | W |

SINGLE DOUBLE TRIPLE

SIZE: (M0712 - M0812), (M0722 - M0822), (M0832)

| | | | | | | | | |
|-----------------------|---|----------|-----------|-----------|--------------------|-----|-----|-----|
| Column 15 Entry | FLANGE SQUARE AND MOTOR SHAFT LENGTH | | | | | | | |
| | 140 | | 190 | | | | | |
| | 38 - 68 | 69 - 89 | 38 - 68 | 58 - 87 | | | | |
| | G | H | K | L | | | | |
| Column 16 Entry | MOTOR PILOT DIAMETER | | | | | | | |
| | 80 | 95 | 110 | 114.3 | 130 | 180 | | |
| | G | H | J | K | L | M | | |
| Column 17 Entry | BOLT CIRCLE DIAMETER | | | | | | | |
| | 100 | 115 | 130 | 145 | 149.23 | 165 | 200 | 215 |
| | K | L | M | N | P | Q | R | S |
| Column 18 Entry | MOTOR FLANGE THRU HOLE | | | | TAPPED HOLE | | | |
| | 6.4-8.3 | 8.4-10.3 | 10.4-12.4 | 12.5-15.0 | 3/8 - 16 | | | |
| | C | D | E | F | P | | | |
| Column 19 Entry | MOTOR SHAFT DIAMETER | | | | | | | |
| | 22 | 24 | 28 | 32 | 35 | | | |
| | M | P | R | U | W | | | |

ADDITIONAL GEARBOX FEATURES

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ADDITIONAL GEARBOX FEATURES - COLUMN 20 ENTRY

| Column 20 Entry | Double Oil Seals | Oil Level Glass | Special |
|-----------------|------------------|-----------------|---------|
| - | | | |
| A | ● | | |
| B | | ● | |
| C | ● | ● | |
| L | | | ● |

Please contact our Application Engineers for details of the following additional gearbox features

- Prime paint only
- Wash down
- BISSC compatible
- Special oil (food compatible, bio-degradable, different viscosities etc)

Gear unit selection is made by comparing the actual loads with catalog ratings. Catalog ratings are based on a standard set of loading conditions, whereas actual load conditions vary according to the type of application. Service Factors are therefore used to calculate an equivalent load to compare with catalog ratings.

i.e. Equivalent Torque = Application Torque x Service Factor

Mechanical Service Factor

1. Calculate total external inertia (gearbox inertia + load inertia reflected to the gearbox input).
2. Determine motor inertia from motor catalog.
3. Use the equation below to determine mass acceleration factor.

$$\text{Mass acceleration factor} = \frac{\text{total external inertia}}{\text{motor inertia}}$$

4. Use table 1 below to determine **Factor Fm**.

Table 1 Factor Fm

| Prime Mover | Duration of service - hrs per day | Load Classification-driven machine | | |
|-------------|-----------------------------------|--|---------------------------------------|-------------------------------------|
| | | Uniform mass acceleration factor ≤ 0.2 | Moderate mass acceleration factor ≤ 3 | Heavy mass acceleration factor ≤ 10 |
| Servo | Under 3 | 0.80 | 1.00 | 1.50 |
| | 3 to 10 | 1.00 | 1.25 | 1.75 |
| | Over 10 | 1.25 | 1.50 | 2.00 |

5. Use table 2 below to determine Number of Starts **Factor Fs**.

Table 2 Factor Fs

| Start/Stops (per hour) | Up to 1 | 100 | 200 | 300 | 400 | 500 | 700 | 900 | 1000 | 1200 | 1300 | 1400 | 1500 |
|------------------------|---------|------|------|------|------|------|------|------|------|------|------|------|------|
| Factor (Fs) | 1.00 | 1.15 | 1.20 | 1.22 | 1.23 | 1.24 | 1.25 | 1.26 | 1.27 | 1.28 | 1.28 | 1.29 | 1.30 |

Total Mechanical Service Factor SFm = Fm x Fs.

6. **Equivalent Mechanical Torque = Application Torque x SFm.**

7. **Determine if application is continuous or cyclic:**

A. Will the gearbox operate for more than twenty minutes at one time?

B. During one cycle, is $\frac{\text{shaft turning time}}{\text{dwell at zero speed time}} > 1.5 ?$

C. If the answer to question A or B is **NO**, then the application is cyclic.

D. If the answer to question A or B is **YES**, then the application is continuous and **Thermal Service Factor must be considered (see next page).**

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Table 3 Factor Ft

| Unit Type | Ambient Temperature °F | | | | | | | |
|-------------|------------------------|------------|----------|-----------|-----------|-----------|------------|------------|
| | -4 (-20°C) | 14 (-10°C) | 32 (0°C) | 50 (10°C) | 68 (20°C) | 86 (30°C) | 104 (40°C) | 122 (50°C) |
| Factor (Ft) | 0.64 | 0.70 | 0.78 | 0.88 | 1.00 | 1.16 | 1.41 | 2.00 |

2. Use table 4 below to determine Ambient Air Velocity Correction **Factor Fv**.

Table 4 Factor Fv

| Operating Area | Fv |
|-------------------------|-----------|
| Small confined space | 1.16 |
| Large indoor space | 1.00 |
| Sheltered outdoor space | 0.77 |
| Outdoor space | 0.67 |

3. Determine application motor speed.

4. Use table 5 below to determine Speed Correction **Factor Fsp**.

Table 5 Factor Fsp

| RPM | 1000 | 1500 | 2000 | 2500 | 3000 |
|--------------|------|------|------|------|------|
| Factor (Fsp) | .75 | .88 | 1 | 1.12 | 1.25 |

Total Thermal Service Factor $SF_{th} = F_t \times F_v \times F_{sp}$

5. **Equivalent Thermal Torque** = Application torque x SF_{th} .

6. Compare whichever is largest, **Equivalent Thermal Torque** or **Equivalent Mechanical Torque**, to published mechanical ratings (page 11 - 14). Published mechanical ratings must be greater than or equal to **Equivalent Thermal Torque** or **Equivalent Mechanical Torque**.

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Mechanical output torque ratings @ 2000 rpm input

| Nominal Ratio | M0512 | | | | M0612 | | | | M0712 | | | | M0812 | | | |
|---------------|-------------|------------------------------|---------------|----|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|--------|
| | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | |
| | | | lb.in. | Nm | | | lb.in. | Nm | | | lb.in. | Nm | | | lb.in. | Nm |
| 1.2:1 | 1.243 | 0.0119 | 457 | 52 | 1.255 | 0.0138 | 583 | 66 | 1.261 | 0.0190 | 1060 | 120 | 1.255 | 0.0352 | 1200 | 136 |
| 1.4:1 | 1.412 | 0.0118 | 457 | 52 | 1.409 | 0.0134 | 616 | 70 | 1.386 | 0.0186 | 1160 | 131 | 1.396 | 0.0328 | 1270 | 144 |
| 1.8:1 | 1.793 | 0.0116 | 457 | 52 | 1.789 | 0.0128 | 682 | 77 | 1.811 | 0.0169 | 1340 | 151 | 1.805 | 0.0278 | 1420 | 160 |
| 2.0:1 | 2.037 | 0.0116 | 457 | 52 | 2.029 | 0.0126 | 716 | 81 | 2.059 | 0.0164 | 1410 | 159 | 2.026 | 0.0260 | 1480 | 167 |
| 2.5:1 | 2.5 | 0.0115 | 457 | 52 | 2.419 | 0.0123 | 761 | 86 | 2.5 | 0.0157 | 1540 | 174 | 2.485 | 0.0232 | 1600 | 181 |
| 2.8:1 | 2.773 | 0.0115 | 457 | 52 | 2.786 | 0.0121 | 795 | 90 | 2.75 | 0.0153 | 1590 | 180 | 2.800 | 0.0215 | 1640 | 185 |
| 3.2:1 | 3.15 | 0.0114 | 457 | 52 | 3.24 | 0.0120 | 829 | 94 | 3.16 | 0.0148 | 1630 | 184 | 3.259 | 0.0202 | 1730 | 195 |
| 3.6:1 | 3.579 | 0.0114 | 434 | 49 | 3.625 | 0.0120 | 860 | 97 | 3.583 | 0.0148 | 1720 | 194 | 3.615 | 0.0205 | 1950 | 220 |
| 4.0:1 | 3.941 | 0.0114 | 433 | 49 | 3.864 | 0.0118 | 875 | 99 | 3.952 | 0.0142 | 1730 | 195 | 3.957 | 0.0184 | 1950 | 220 |
| 4.5:1 | 4.533 | 0.0114 | 454 | 51 | 4.579 | 0.0117 | 897 | 101 | 4.526 | 0.0140 | 1790 | 202 | 4.476 | 0.0177 | 2030 | 229.38 |
| 5.0:1 | 4.929 | 0.0113 | 429 | 48 | 4.889 | 0.0117 | 909 | 103 | 5.118 | 0.0137 | 1820 | 206 | 5.053 | 0.0169 | 2080 | 235.03 |
| 6.0:1 | 5.917 | 0.0113 | 453 | 51 | 6.067 | 0.0115 | 942 | 106 | 5.933 | 0.0135 | 1860 | 210 | 6.125 | 0.0157 | 2130 | 240.68 |
| 7.1:1 | 7.1 | 0.0113 | 457 | 52 | 7.154 | 0.0115 | 965 | 109 | 7.077 | 0.0134 | 1930 | 218 | 7.143 | 0.0151 | 2180 | 246.33 |
| 8.0:1 | 8.0 | 0.0113 | 457 | 52 | 7.833 | 0.0114 | 976 | 110 | 7.75 | 0.0133 | 1940 | 219 | 7.846 | 0.0148 | 2230 | 251.98 |

Mechanical output torque ratings @ 2000 rpm input

| Nominal Ratio | M0122 | | | | M0222 | | | | M0322 | | | | M0422 | | | |
|---------------|-------------|------------------------------|---------------|----|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|-----|
| | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | |
| | | | lb.in. | Nm | | | lb.in. | Nm | | | lb.in. | Nm | | | lb.in. | Nm |
| 3.6:1 | 3.750 | 0.0118 | 472 | 53 | 3.589 | 0.0131 | 797 | 90 | 3.589 | 0.0132 | 797 | 90 | 3.585 | 0.0171 | 1610 | 182 |
| 5.0:1 | 5.066 | 0.0115 | 537 | 61 | 5.034 | 0.0123 | 921 | 104 | 5.034 | 0.0123 | 921 | 104 | 5.040 | 0.0148 | 1890 | 214 |
| 5.6:1 | 5.762 | 0.0115 | 568 | 64 | 5.547 | 0.0121 | 958 | 108 | 5.547 | 0.0122 | 958 | 108 | 5.649 | 0.0142 | 1980 | 224 |
| 6.3:1 | 6.528 | 0.0114 | 596 | 67 | 6.299 | 0.0119 | 1010 | 114 | 6.299 | 0.0120 | 1010 | 114 | 6.341 | 0.0138 | 2080 | 235 |
| 8.0:1 | 8.348 | 0.0113 | 657 | 74 | 8.000 | 0.0117 | 1110 | 125 | 8.000 | 0.0117 | 1110 | 125 | 8.053 | 0.0130 | 2300 | 260 |
| 9.0:1 | 8.997 | 0.0113 | 676 | 76 | 9.088 | 0.0116 | 1160 | 131 | 9.088 | 0.0116 | 1160 | 131 | 9.129 | 0.0127 | 2410 | 272 |
| 11:1 | 11.36 | 0.0113 | 710 | 80 | 11.15 | 0.0115 | 1220 | 138 | 11.15 | 0.0115 | 1220 | 138 | 10.89 | 0.0124 | 2580 | 292 |
| 12:1 | 12.88 | 0.0112 | 727 | 82 | 13.37 | 0.0114 | 1250 | 141 | 13.37 | 0.0114 | 1250 | 141 | 12.54 | 0.0121 | 2690 | 304 |
| 14:1 | 14.71 | 0.0112 | 745 | 84 | 14.05 | 0.0114 | 1280 | 145 | 14.05 | 0.0114 | 1280 | 145 | 14.58 | 0.0120 | 2770 | 313 |
| 16:1 | 16.37 | 0.0112 | 761 | 86 | 15.97 | 0.0114 | 1320 | 149 | 15.97 | 0.0114 | 1320 | 149 | 16.31 | 0.0119 | 2870 | 324 |
| 18:1 | 18.05 | 0.0112 | 780 | 88 | 17.58 | 0.0113 | 1330 | 150 | 17.58 | 0.0113 | 1330 | 150 | 17.39 | 0.0118 | 2860 | 323 |
| 20:1 | 19.86 | 0.0112 | 794 | 90 | 20.23 | 0.0113 | 1380 | 156 | 20.23 | 0.0113 | 1380 | 156 | 20.61 | 0.0116 | 2960 | 334 |
| 22:1 | 23.27 | 0.0112 | 794 | 90 | 21.99 | 0.0113 | 1400 | 158 | 21.99 | 0.0113 | 1400 | 158 | 22.00 | 0.0116 | 2990 | 338 |
| 28:1 | 27.92 | 0.0112 | 794 | 90 | 26.40 | 0.0112 | 1410 | 159 | 26.40 | 0.0112 | 1410 | 159 | 27.30 | 0.0115 | 2990 | 338 |
| 32:1 | 32.54 | 0.0112 | 794 | 90 | 31.68 | 0.0112 | 1410 | 159 | 31.68 | 0.0112 | 1410 | 159 | 32.19 | 0.0114 | 2990 | 338 |
| 36:1 | 36.16 | 0.0112 | 794 | 90 | 35.69 | 0.0112 | 1410 | 159 | 35.69 | 0.0112 | 1410 | 159 | 35.25 | 0.0114 | 2990 | 338 |
| 45:1 | 43.54 | 0.0112 | 741 | 84 | 41.49 | 0.0112 | 1410 | 159 | 41.49 | 0.0112 | 1410 | 159 | 43.20 | 0.0113 | 2990 | 338 |
| 50:1 | 49.91 | 0.0112 | 636 | 72 | 47.09 | 0.0112 | 1410 | 159 | 47.09 | 0.0112 | 1410 | 159 | 48.15 | 0.0113 | 2990 | 338 |
| 56:1 | 56.72 | 0.0112 | 625 | 71 | 53.54 | 0.0112 | 1410 | 159 | 53.54 | 0.0112 | 1410 | 159 | 54.00 | 0.0113 | 2390 | 270 |

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Mechanical output torque ratings @ 2000 rpm input

| Nominal Ratio | M0522 | | | | M0622 | | | | M0722 | | | | M0822 | | | |
|---------------|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|--------|
| | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | |
| | | | lb.in. | Nm | | | lb.in. | Nm | | | lb.in. | Nm | | | lb.in. | Nm |
| 3.6:1 | 3.585 | 0.0172 | 2130 | 241 | | | | | 3.678 | 0.0268 | 3010 | 340 | 3.678 | 0.0629 | 4150 | 469 |
| 5.0:1 | 5.040 | 0.0148 | 2580 | 292 | 4.438 | 0.0182 | 2640 | 298 | 5.094 | 0.0216 | 4180 | 472 | 5.214 | 0.0444 | 5700 | 644 |
| 5.6:1 | 5.649 | 0.0142 | 2740 | 310 | 6.240 | 0.0153 | 3200 | 362 | 5.722 | 0.0204 | 4480 | 506 | 5.792 | 0.0405 | 6020 | 680 |
| 6.3:1 | 6.341 | 0.0138 | 2890 | 327 | 6.994 | 0.0147 | 3390 | 383 | 6.292 | 0.0197 | 4650 | 525 | 6.442 | 0.0370 | 6340 | 716 |
| 8.0:1 | 8.053 | 0.0130 | 3210 | 363 | 7.851 | 0.0141 | 3580 | 405 | 8.218 | 0.0176 | 5200 | 588 | 8.330 | 0.0303 | 7100 | 802 |
| 9.0:1 | 9.129 | 0.0127 | 3370 | 381 | 9.970 | 0.0132 | 3970 | 449 | 9.344 | 0.0169 | 5480 | 619 | 9.352 | 0.0280 | 7420 | 838 |
| 11:1 | 10.89 | 0.0124 | 3580 | 405 | 11.30 | 0.0129 | 4170 | 471 | 11.35 | 0.0160 | 5900 | 667 | 11.47 | 0.0245 | 7980 | 902 |
| 12:1 | 12.54 | 0.0122 | 3740 | 423 | 13.48 | 0.0125 | 4430 | 501 | 12.48 | 0.0156 | 6120 | 692 | 12.92 | 0.0225 | 8190 | 925 |
| 14:1 | 14.58 | 0.0120 | 3900 | 441 | 15.52 | 0.0122 | 4630 | 523 | 14.34 | 0.0150 | 6410 | 724 | 15.04 | 0.0210 | 8650 | 977 |
| 16:1 | 16.31 | 0.0119 | 3980 | 450 | 18.05 | 0.0120 | 4830 | 546 | 16.26 | 0.0150 | 6650 | 751 | 16.69 | 0.0211 | 9740 | 1100.6 |
| 18:1 | 17.39 | 0.0118 | 3980 | 450 | 20.20 | 0.0120 | 5020 | 567 | 17.94 | 0.0144 | 6690 | 756 | 18.26 | 0.0190 | 9770 | 1104 |
| 20:1 | 20.61 | 0.0116 | 3980 | 450 | 21.53 | 0.0118 | 5100 | 576 | 20.54 | 0.0141 | 6850 | 774 | 20.66 | 0.0181 | 10100 | 1141.2 |
| 22:1 | 22.00 | 0.0116 | 3980 | 450 | 25.51 | 0.0117 | 5240 | 592 | 23.23 | 0.0138 | 6980 | 789 | 23.32 | 0.0172 | 10400 | 1175.1 |
| 28:1 | 27.30 | 0.0115 | 3980 | 450 | 27.24 | 0.0116 | 5300 | 599 | 26.93 | 0.0136 | 7080 | 800 | 28.27 | 0.0159 | 10600 | 1197.7 |
| 32:1 | 32.19 | 0.0114 | 3980 | 450 | 33.80 | 0.0115 | 5500 | 621 | 32.12 | 0.0134 | 7200 | 814 | 32.97 | 0.0152 | 10900 | 1231.6 |
| 36:1 | 35.25 | 0.0114 | 3980 | 450 | 39.86 | 0.0114 | 5540 | 626 | 35.17 | 0.0133 | 7260 | 820 | 36.21 | 0.0149 | 11100 | 1254.2 |
| 45:1 | 43.20 | 0.0113 | 3660 | 414 | 43.64 | 0.0114 | 5540 | 626 | 42.21 | 0.0131 | 7400 | 836 | 44.38 | 0.0143 | 11400 | 1288.1 |
| 50:1 | 48.15 | 0.0113 | 3360 | 380 | 53.49 | 0.0113 | 4540 | 513 | 48.56 | 0.0131 | 6200 | 701 | 48.46 | 0.0141 | 11500 | 1299.4 |
| 56:1 | 54.00 | 0.0113 | 2390 | 270 | 59.61 | 0.0113 | 4160 | 470 | 53.96 | 0.0130 | 5270 | 595 | 55.80 | 0.0139 | 11600 | 1310.7 |
| 63:1 | | | | | 66.86 | 0.0113 | 2960 | 334 | | | | | | | | |

Mechanical output torque ratings @ 2000 rpm input

| Nominal Ratio | M0132 | | | | M0232 | | | | M0332 | | | | M0432 | | | |
|---------------|-------------|------------------------------|---------------|----|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|-----|
| | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | |
| | | | lb.in. | Nm | | | lb.in. | Nm | | | lb.in. | Nm | | | lb.in. | Nm |
| 56:1 | 58.46 | 0.0113 | 794 | 90 | 57.03 | 0.0113 | 1410 | 159 | 57.03 | 0.0113 | 1850 | 209 | 58.38 | 0.0115 | 2750 | 311 |
| 63:1 | 64.45 | 0.0113 | 794 | 90 | 62.87 | 0.0113 | 1410 | 159 | 62.87 | 0.0113 | 1850 | 209 | 64.29 | 0.0114 | 2830 | 320 |
| 71:1 | 70.93 | 0.0113 | 795 | 90 | 69.19 | 0.0113 | 1410 | 159 | 69.19 | 0.0113 | 1850 | 209 | 73.95 | 0.0114 | 2970 | 336 |
| 80:1 | 83.1 | 0.0113 | 795 | 90 | 81.07 | 0.0113 | 1410 | 159 | 81.07 | 0.0113 | 1850 | 209 | 80.4 | 0.0114 | 2990 | 338 |
| 100:1 | 99.7 | 0.0113 | 795 | 90 | 97.26 | 0.0113 | 1410 | 159 | 97.26 | 0.0113 | 1850 | 209 | 96.52 | 0.0113 | 2990 | 338 |
| 112:1 | 116.2 | 0.0113 | 795 | 90 | 113.4 | 0.0113 | 1410 | 159 | 113.4 | 0.0113 | 1850 | 209 | 115.8 | 0.0113 | 2990 | 338 |
| 125:1 | 129.1 | 0.0113 | 795 | 90 | 126 | 0.0113 | 1410 | 159 | 126 | 0.0113 | 1850 | 209 | 130.5 | 0.0113 | 2990 | 338 |
| 160:1 | 155.5 | 0.0113 | 795 | 90 | 151.7 | 0.0113 | 1410 | 159 | 151.7 | 0.0113 | 1850 | 209 | 151.7 | 0.0113 | 2990 | 338 |
| 180:1 | 178.2 | 0.0113 | 795 | 90 | 173.9 | 0.0113 | 1410 | 159 | 173.9 | 0.0113 | 1850 | 209 | 172.2 | 0.0113 | 2990 | 338 |
| 200:1 | 202.6 | 0.0113 | 795 | 90 | 197.6 | 0.0113 | 1410 | 159 | 197.6 | 0.0113 | 1850 | 209 | 195.8 | 0.0113 | 2990 | 338 |

| Nominal Ratio | M0532 | | | | M0632 | | | | M0732 | | | | M0832 | | | |
|---------------|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|-----|-------------|------------------------------|---------------|------|
| | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | | Exact Ratio | Inertia lb.in.s ² | Output Torque | |
| | | | lb.in. | Nm | | | lb.in. | Nm | | | lb.in. | Nm | | | lb.in. | Nm |
| 56:1 | 58.38 | 0.0115 | 3980 | 450 | | | | | 58.95 | 0.0121 | 6130 | 693 | 60.33 | 0.0210 | 12900 | 1458 |
| 63:1 | 64.29 | 0.0114 | 3980 | 450 | 72.28 | 0.0116 | 5200 | 588 | 62.83 | 0.0120 | 6210 | 702 | 66.02 | 0.0188 | 13200 | 1492 |
| 71:1 | 73.95 | 0.0114 | 3980 | 450 | 79.6 | 0.0115 | 5100 | 576 | 74.47 | 0.0118 | 6480 | 732 | 74.69 | 0.0180 | 13700 | 1548 |
| 80:1 | 80.40 | 0.0114 | 3980 | 450 | 91.56 | 0.0115 | 5290 | 598 | 79.51 | 0.0117 | 6620 | 748 | 84.31 | 0.0171 | 14200 | 1605 |
| 100:1 | 96.52 | 0.0113 | 3980 | 450 | 99.54 | 0.0114 | 5410 | 611 | 98.66 | 0.0116 | 7120 | 805 | 102.2 | 0.0159 | 15000 | 1695 |
| 112:1 | 115.80 | 0.0113 | 3980 | 450 | 119.5 | 0.0114 | 5540 | 626 | 116.3 | 0.0115 | 7520 | 850 | 119.2 | 0.0152 | 15000 | 1695 |
| 125:1 | 130.50 | 0.0113 | 3980 | 450 | 143.4 | 0.0113 | 5540 | 626 | 127.4 | 0.0115 | 7680 | 868 | 130.9 | 0.0149 | 15000 | 1695 |
| 160:1 | 151.70 | 0.0113 | 3980 | 450 | 161.6 | 0.0113 | 5540 | 626 | 156.1 | 0.0114 | 7680 | 868 | 160.4 | 0.0143 | 15000 | 1695 |
| 180:1 | 172.20 | 0.0113 | 3980 | 450 | 187.8 | 0.0113 | 5540 | 626 | 174 | 0.0114 | 7680 | 868 | 175.2 | 0.0140 | 15000 | 1695 |
| 200:1 | 195.80 | 0.0113 | 3980 | 450 | 213.2 | 0.0113 | 5540 | 626 | 195 | 0.0114 | 7680 | 868 | 201.8 | 0.0139 | 15000 | 1695 |
| 225:1 | | | | | 242.4 | 0.0113 | 5540 | 626 | | | | | | | | |

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Maximum permissible overhung loads

When a sprocket, gear etc. is mounted on the shaft, the calculation below must be made to determine the overhung load on the shaft, and the results compared to the maximum permissible overhung loads tabulated. Overhung loads can be reduced by increasing the diameter of the sprocket, gear, etc. If the maximum permissible overhung load is exceeded, the sprocket, gear, etc. should be mounted on a separate shaft, flexibly coupled and supported in its own bearings, or the gear unit shaft should be extended to run in an outboard bearing. Alternatively, a larger gear is often a less expensive solution.

Permissible overhung loads vary according to the direction of rotation. The values tabulated are for the most unfavorable direction with the unit transmitting full rated power and the load P applied midway along the shaft extension. Hence they can sometimes be increased for a more favorable direction of rotation, or if the power transmitted is less than the rated capacity of the gear unit, or if the load is applied nearer to the gear unit case. Refer to Textron Fluid & Power for further details. In any event, the sprocket, gear etc. should be positioned as close as possible to the gear unit case in order to reduce bearing loads and shaft stresses, and to prolong life.

All units will accept 100% momentary overload on stated capacities.

Overhung load (lbf)

$$P = \frac{HP \times 126,000 \times K}{N \times D}$$

where

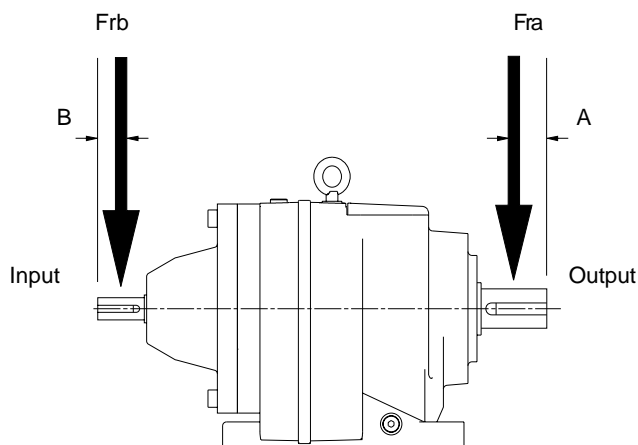
- P = equivalent overhung load (lbf)
- HP = power transmitted by the shaft (HP)
- N = speed of shaft (rpm)
- D = pitch diameter of sprocket, etc. (in)
- K = factor

Overhung member K (factor)

| | |
|------------------------|------|
| Chain sprocket* | 1.00 |
| Spur or helical pinion | 1.25 |
| Vee belt sheave | 1.50 |
| Flat belt pulley | 2.00 |

* If multistrand chain drives are equally loaded and the outer strand is further than dimension Fra output or Frb input, refer to Textron Fluid & Power.

Note: 1 lbf = 4.4484 Newtons.



Distance midway along the shaft extension

| Size of unit | No. of Reductions | Dimension A (mm) | Dimension B (mm) |
|--------------|-------------------|------------------|------------------|
| M01 | 2 - 3 | 0.7875 | 0.785 |
| M02 | 2 - 3 | 0.9845 | 0.785 |
| M03 | 2 - 3 | 0.9845 | 0.785 |
| M04 | 2 - 3 | 1.181 | 0.785 |
| M05 | 1 | 0.7875 | 0.785 |
| | 2 - 3 | 1.378 | 0.785 |
| M06 | 1 | 0.9845 | 0.785 |
| | 2 - 3 | 1.378 | 0.785 |
| M07 | 1 | 1.181 | 0.985 |
| | 2 | 1.575 | 0.985 |
| | 3 | 1.575 | 0.785 |
| M08 | 1 | 1.575 | 1.18 |
| | 2 | 1.9685 | 1.18 |
| | 3 | 1.9685 | 0.985 |

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Inputshaft Overhung Loads, Frb (lbf) 2000 rpm

Single Stage Units

| Ratios | M05 | M06 | M07 | M08 |
|------------|-----|-----|-----|-----|
| 1.25 - 2.5 | 92 | 131 | 184 | 276 |
| 2.8 - 8.0 | 158 | 184 | 276 | 333 |

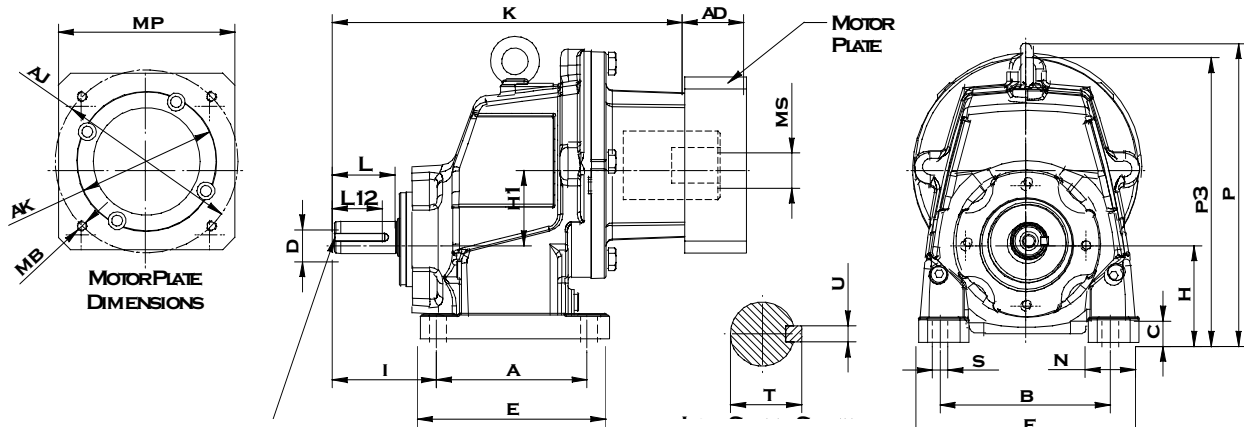
Double and Triple Stage Units

| | M01 | M02 | M03 | M04 | M05 | M06 |
|---------|-----|-----|-----|-----|-----|-----|
| 2 Stage | 276 | 302 | 284 | 219 | 201 | 166 |
| 3 Stage | 302 | 319 | 319 | 276 | 276 | 276 |

Axial Thrust Capacities (lbs)

No check or calculation is required for axial loads (F_a) towards or away from the unit up to 50% of the permissible overhung load. If the axial thrust considerably exceeds these values or if there is a combination of axial thrust loads and overhung loads please contact Textron Fluid & Power.

0503

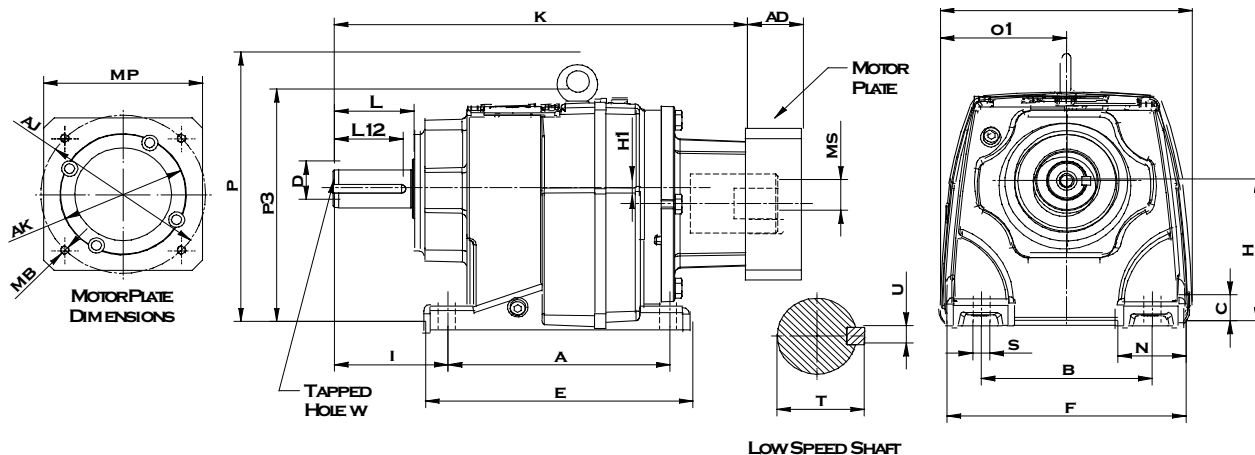


DIMENSION IN INCHES

| SIZE | a | b | c | e | f | h | h1 | i | n | p | p3 | s |
|-------|------|------|------|------|-------|------|------|------|------|-------|-------|------|
| M0512 | 4.33 | 4.92 | 0.67 | 5.39 | 5.98 | 2.48 | 1.85 | 2.20 | 1.06 | 8.58 | 7.09 | 0.43 |
| M0612 | 4.72 | 5.31 | 0.79 | 5.91 | 6.69 | 3.15 | 2.36 | 2.95 | 1.38 | 10.16 | 9.06 | 0.55 |
| M0712 | 5.91 | 6.69 | 0.98 | 7.48 | 8.35 | 3.54 | 2.91 | 3.35 | 1.65 | 12.05 | 10.63 | 0.69 |
| M0812 | 6.30 | 8.46 | 1.18 | 8.11 | 10.43 | 3.94 | 3.82 | 4.33 | 2.36 | 13.86 | 12.68 | 0.69 |

| SIZE | Low Speed Shaft | | | | | | k | ad Max | ak | aj | mp | mb | ms |
|-------|-----------------|-------|--------|-------|------|---------------------|-------|--------|---|----|----|----|----|
| | d | L | L12 | t | u | w | | | | | | | |
| M0512 | 0.75 | 1.575 | 1 9/32 | 0.829 | 3/16 | 1/4 UNF x 0.63 deep | 9.23 | 2.72 | Motor Plate & Coupling Dimensions are made to fit your servo motor. Refer to page 9 for available dimensions. | | | | |
| M0612 | 1.0 | 1.969 | 1 9/16 | 1.106 | 1/4 | 1/4 UNF x 0.71 deep | 11.00 | 2.72 | | | | | |
| M0712 | 1.25 | 2.362 | 2 | 1.359 | 1/4 | 1/4 UNF x 0.71 deep | 12.96 | 2.72 | | | | | |
| M0812 | 1.625 | 3.15 | 2 3/8 | 1.784 | 3/8 | 5/8 UNF x 1.25 deep | 14.24 | 2.72 | | | | | |

0503

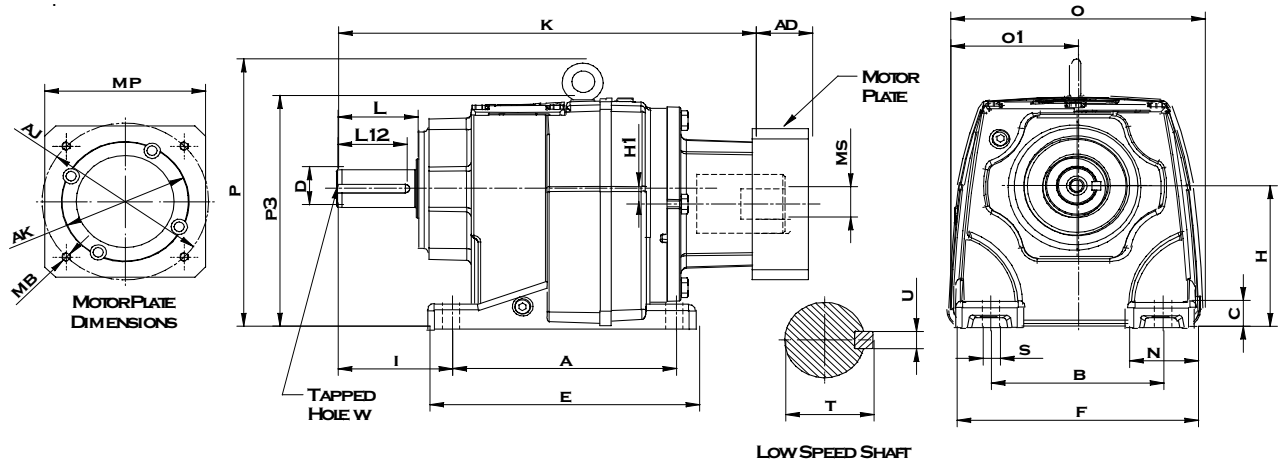


DIMENSION IN INCHES

| SIZE | a | b | c | e | f | h | h1 | i | n | o | o1 | p | p3 | s |
|-------|-------|------|------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| M0122 | 4.33 | 4.33 | 0.47 | 5.16 | 5.31 | 2.95 | - | 2.28 | 0.98 | 5.98 | 2.99 | - | 5.87 | 0.39 |
| M0222 | 5.12 | 4.33 | 0.63 | 5.98 | 5.71 | 3.54 | - | 2.95 | 1.38 | 6.69 | 3.31 | - | 7.09 | 0.39 |
| M0322 | 5.12 | 4.33 | 0.63 | 5.98 | 5.71 | 3.54 | - | 2.95 | 1.38 | 6.69 | 3.31 | - | 7.09 | 0.39 |
| M0422 | 6.50 | 5.31 | 0.79 | 7.87 | 7.48 | 4.53 | - | 3.54 | 2.17 | 8.03 | 3.82 | - | 8.19 | 0.59 |
| M0522 | 6.50 | 5.31 | 0.79 | 7.87 | 7.48 | 4.53 | - | 3.94 | 2.17 | 8.03 | 3.82 | - | 8.19 | 0.59 |
| M0622 | 7.68 | 5.91 | 0.94 | 9.25 | 8.27 | 5.12 | 0.57 | 3.94 | 2.36 | 8.66 | 4.33 | 9.69 | 8.43 | 0.59 |
| M0722 | 8.07 | 6.69 | 0.98 | 9.65 | 9.06 | 5.51 | - | 4.53 | 2.36 | 9.92 | 4.69 | 11.61 | 9.84 | 0.75 |
| M0822 | 10.24 | 8.46 | 1.38 | 12.20 | 11.42 | 7.09 | - | 5.51 | 2.95 | 12.60 | 6.57 | 14.17 | 12.20 | 0.75 |

| SIZE | Low Speed Shaft | | | | | | k | ad Max | ak | aj | mp | mb | ms |
|-------|-----------------|-------|--------|-------|------|---------------------|-------|--------|---|----|----|----|----|
| | d | L | L12 | t | u | w | | | | | | | |
| M0122 | 0.75 | 1.575 | 1 9/32 | 0.829 | 3/16 | 1/4 UNF x 0.63 deep | 10.35 | 2.72 | Motor Plate & Coupling Dimensions are made to fit your servo motor. Refer to page 9 for available dimensions. | | | | |
| M0222 | 1.0 | 1.969 | 1 9/16 | 1.106 | 1/4 | 1/4 UNF x 0.71 deep | 11.57 | 2.72 | | | | | |
| M0322 | 1.0 | 1.969 | 1 9/16 | 1.106 | 1/4 | 1/4 UNF x 0.71 deep | 11.57 | 2.72 | | | | | |
| M0422 | 1.25 | 2.362 | 2 | 1.359 | 1/4 | 3/8 UNF x 0.86 deep | 13.09 | 2.72 | | | | | |
| M0522 | 1.375 | 2.756 | 2 3/8 | 1.507 | 5/16 | 3/8 UNF x 0.75 deep | 13.48 | 2.72 | | | | | |
| M0622 | 1.375 | 2.756 | 2 3/8 | 1.507 | 5/16 | 3/8 UNF x 0.75 deep | 14.31 | 2.72 | | | | | |
| M0722 | 1.625 | 3.15 | 2 3/8 | 1.784 | 3/8 | 5/8 UNF x 1.25 deep | 16.03 | 2.72 | | | | | |
| M0822 | 2.125 | 3.937 | 2 3/4 | 2.338 | 1/2 | 3/4 UNF x 1.50 deep | 18.39 | 2.72 | | | | | |

0503



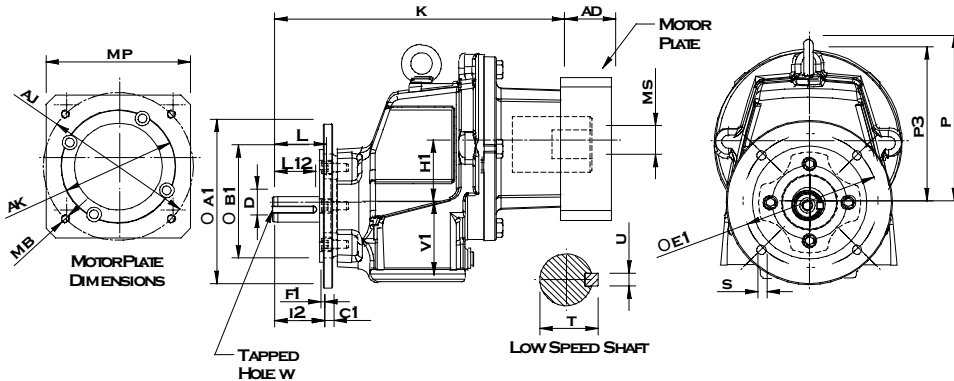
DIMENSION IN INCHES

| SIZE | a | b | c | e | f | h | h1 | i | n | o | o1 | p | p3 | s |
|-------|-------|------|------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| M0132 | 4.33 | 4.33 | 0.47 | 5.16 | 5.31 | 2.95 | - | 2.28 | 0.98 | 5.98 | 2.99 | - | 5.87 | 0.39 |
| M0232 | 5.12 | 4.33 | 0.63 | 5.98 | 5.71 | 3.54 | - | 2.95 | 1.38 | 6.69 | 3.31 | - | 7.09 | 0.39 |
| M0332 | 5.12 | 4.33 | 0.63 | 5.98 | 5.71 | 3.54 | - | 2.95 | 1.38 | 6.69 | 3.31 | - | 7.09 | 0.39 |
| M0432 | 6.50 | 5.31 | 0.79 | 7.87 | 7.48 | 4.53 | - | 3.54 | 2.17 | 8.03 | 3.82 | - | 8.19 | 0.59 |
| M0532 | 6.50 | 5.31 | 0.79 | 7.87 | 7.48 | 4.53 | - | 3.94 | 2.17 | 8.03 | 3.82 | - | 8.19 | 0.59 |
| M0632 | 7.68 | 5.91 | 0.94 | 9.25 | 8.27 | 5.12 | 0.57 | 3.94 | 2.36 | 8.66 | 4.33 | 9.69 | 8.43 | 0.59 |
| M0732 | 8.07 | 6.69 | 0.98 | 9.65 | 9.06 | 5.51 | - | 4.53 | 2.36 | 9.92 | 4.69 | 11.61 | 9.84 | 0.75 |
| M0832 | 10.24 | 8.46 | 1.38 | 12.20 | 11.42 | 7.09 | - | 5.51 | 2.95 | 12.60 | 6.57 | 14.17 | 12.20 | 0.75 |

| SIZE | Low Speed Shaft | | | | | | k | ad Max | ak | aj | mp | mb | ms |
|-------|-----------------|-------|--------|-------|------|---------------------|-------|--------|---|----|----|----|----|
| | d | L | L12 | t | u | w | | | | | | | |
| M0132 | 0.75 | 1.575 | 1 9/32 | 0.829 | 3/16 | 1/4 UNF x 0.63 deep | 10.94 | 2.72 | Motor Plate & Coupling Dimensions are made to fit your servo motor. Refer to page 9 for available dimensions. | | | | |
| M0232 | 1.0 | 1.969 | 1 9/16 | 1.106 | 1/4 | 1/4 UNF x 0.71 deep | 12.08 | 2.72 | | | | | |
| M0332 | 1.0 | 1.969 | 1 9/16 | 1.106 | 1/4 | 1/4 UNF x 0.71 deep | 12.08 | 2.72 | | | | | |
| M0432 | 1.25 | 2.362 | 2 | 1.359 | 1/4 | 3/8 UNF x 0.86 deep | 14.00 | 2.72 | | | | | |
| M0532 | 1.375 | 2.756 | 2 3/8 | 1.507 | 5/16 | 3/8 UNF x 0.75 deep | 14.38 | 2.72 | | | | | |
| M0632 | 1.375 | 2.756 | 2 3/8 | 1.507 | 5/16 | 3/8 UNF x 0.75 deep | 15.22 | 2.72 | | | | | |
| M0732 | 1.625 | 3.15 | 2 3/8 | 1.784 | 3/8 | 5/8 UNF x 1.25 deep | 16.62 | 2.72 | | | | | |
| M0832 | 2.125 | 3.937 | 2 3/4 | 2.338 | 1/2 | 3/4 UNF x 1.50 deep | 19.18 | 2.72 | | | | | |

**SINGLE REDUCTION DIMENSION
FLANGE MOUNT SIZES M01 - M08**

0503



Note: Units are also available as C-Flange (B14) Mounting or Base and C-Flange (B14) Mounting. Please see page 31 for details.

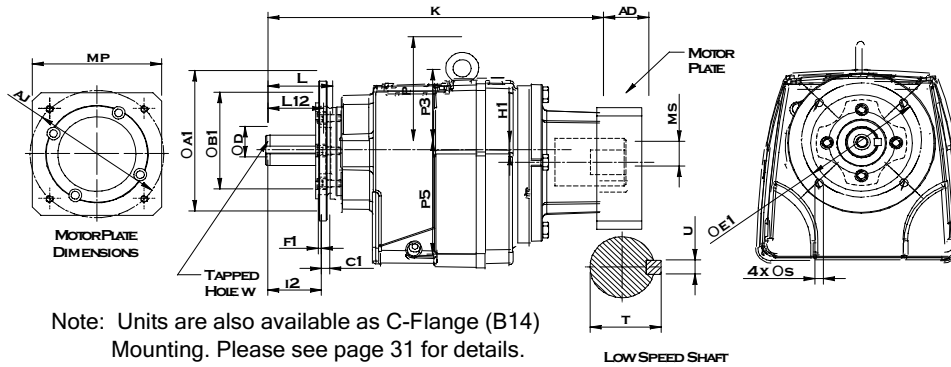
DIMENSION IN INCHES

| SIZE | Ø a1 | Ø b1 | c1 | Ø e1 | f1 | h1 | i2 | K | p | p3 | p5 | s |
|-------|-------|------|------|-------|------|------|------|-------|------|------|------|------|
| M0512 | 5.51 | 3.74 | 0.43 | 4.53 | 0.12 | - | 2.76 | 13.48 | | 3.66 | 4.53 | 0.35 |
| | 6.30 | 4.33 | 0.43 | 5.12 | 0.14 | | 2.76 | | | | | 0.35 |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | | 2.76 | | | | | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | 2.76 | | | | | 0.53 |
| M0612 | 7.78 | 5.12 | 0.43 | 6.50 | 0.16 | 0.57 | 2.76 | 14.31 | 4.57 | 3.31 | 5.12 | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | 2.76 | | | | | 0.53 |
| | 11.81 | 9.06 | 0.43 | 10.43 | 0.16 | | 2.76 | | | | | 0.53 |
| M0712 | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | - | 3.15 | 16.03 | 6.10 | 4.33 | 5.51 | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | 3.15 | | | | | 0.53 |
| | 11.81 | 9.06 | 0.43 | 10.43 | 0.16 | | 3.15 | | | | | 0.53 |
| M0812 | 11.81 | 9.06 | 0.67 | 10.43 | 0.16 | - | 3.94 | 18.39 | 7.09 | 5.12 | 7.17 | 0.53 |
| | 13.78 | 9.84 | 0.67 | 11.81 | 0.20 | | 3.94 | | | | | 0.69 |

| SIZE | Low Speed Shaft | | | | | | k | ad Max | ak | aj | mp | mb | ms |
|-------|-----------------|-------|-------|-------|------|---------------------|-------|--------|---|----|----|----|----|
| | d | L | L12 | t | u | w | | | | | | | |
| M0512 | 1.375 | 2.756 | 2 3/8 | 1.507 | 5/16 | 3/8 UNF x 0.75 deep | 9.23 | 2.72 | Motor Plate & Coupling Dimensions are made to fit your servo motor. Refer to page 9 for available dimensions. | | | | |
| M0612 | 1.375 | 2.756 | 2 3/8 | 1.507 | 5/16 | 3/8 UNF x 0.75 deep | 11.00 | 2.72 | | | | | |
| M0712 | 1.625 | 3.15 | 2 3/8 | 1.784 | 3/8 | 5/8 UNF x 1.25 deep | 12.96 | 2.72 | | | | | |
| M0812 | 2.125 | 3.937 | 2 3/4 | 2.338 | 1/2 | 3/4 UNF x 1.50 deep | 14.24 | 2.72 | | | | | |

DOUBLE REDUCTION DIMENSION
FLANGE MOUNT SIZES M01 - M08

0503



Note: Units are also available as C-Flange (B14) Mounting. Please see page 31 for details.

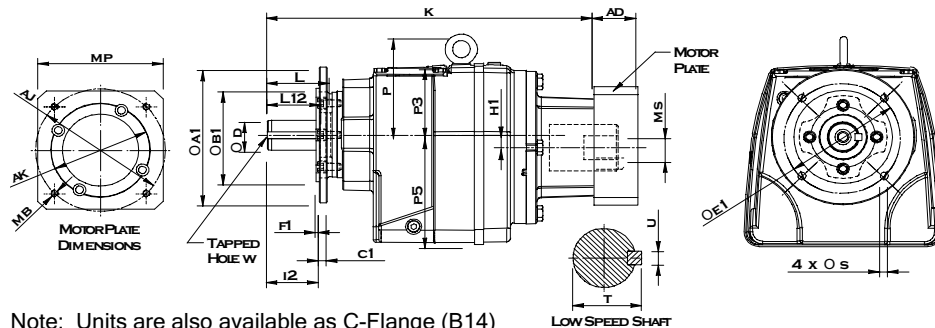
DIMENSION IN INCHES

| SIZE | Ø a1 | Ø b1 | c1 | Ø e1 | f1 | h1 | i2 | K | p | p3 | p5 | s |
|-------|-------|------|------|-------|------|------|------|-------|------|------|------|------|
| M0122 | 4.72 | 3.15 | 0.35 | 3.94 | 0.12 | - | 1.57 | 10.35 | | 2.91 | 2.99 | 0.35 |
| | 5.51 | 3.74 | 0.35 | 4.53 | 0.12 | | | | | | | 0.35 |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | | | | | 0.35 |
| | 7.78 | 5.12 | 0.39 | 6.50 | 0.14 | | | | | | | 0.43 |
| M0222 | 4.72 | 3.15 | 0.39 | 3.94 | 0.12 | - | 1.97 | 11.57 | | 3.54 | 3.58 | 0.26 |
| | 5.51 | 3.74 | 0.39 | 4.53 | 0.12 | | | | | | | 0.35 |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | | | | | 0.35 |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | | | | | | | 0.43 |
| M0322 | 4.72 | 3.15 | 0.39 | 3.94 | 0.12 | - | 1.97 | 11.57 | | 3.54 | 3.58 | 0.26 |
| | 5.51 | 3.74 | 0.39 | 4.53 | 0.12 | | | | | | | 0.35 |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | | | | | 0.35 |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | | | | | | | 0.43 |
| M0422 | 5.51 | 3.74 | 0.43 | 4.53 | 0.12 | - | 2.36 | 13.09 | | | | 0.35 |
| | 6.30 | 4.33 | 0.43 | 5.12 | 0.14 | | | | | | | 0.35 |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | | | | | | | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | | | | | 0.53 |
| M0522 | 5.51 | 3.74 | 0.43 | 4.53 | 0.12 | - | 2.76 | 13.48 | | 3.66 | 4.53 | 0.35 |
| | 6.30 | 4.33 | 0.43 | 5.12 | 0.14 | | | | | | | 0.35 |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | | | | | | | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | | | | | 0.53 |
| M0622 | 7.78 | 5.12 | 0.43 | 6.50 | 0.16 | 0.57 | 2.76 | 14.31 | 4.57 | 3.31 | 5.12 | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | | | | | 0.53 |
| | 11.81 | 9.06 | 0.43 | 10.43 | 0.16 | | | | | | | 0.53 |
| M0722 | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | - | 3.15 | 16.03 | 6.10 | 4.33 | 5.51 | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | | | | | 0.53 |
| | 11.81 | 9.06 | 0.43 | 10.43 | 0.16 | | | | | | | 0.53 |
| M0822 | 11.81 | 9.06 | 0.67 | 10.43 | 0.16 | - | 3.94 | 18.39 | 7.09 | 5.12 | 7.17 | 0.53 |
| | 13.78 | 9.84 | 0.67 | 11.81 | 0.20 | | | | | | | 0.69 |

| SIZE | Low Speed Shaft | | | | | | k | ad Max | ak | aj | mp | mb | ms |
|-------|-----------------|-------|--------|-------|------|---------------------|-------|--------|---|----|----|----|----|
| | d | L | L12 | t | u | w | | | | | | | |
| M0122 | 0.75 | 1.575 | 1 9/32 | 0.829 | 3/16 | 1/4 UNF x 0.63 deep | 10.35 | 2.72 | Motor Plate & Coupling Dimensions are made to fit your servo motor. Refer to page 9 for available dimensions. | | | | |
| M0222 | 1.0 | 1.969 | 1 9/16 | 1.106 | 1/4 | 1/4 UNF x 0.71 deep | 11.57 | 2.72 | | | | | |
| M0322 | 1.0 | 1.969 | 1 9/16 | 1.106 | 1/4 | 1/4 UNF x 0.71 deep | 11.57 | 2.72 | | | | | |
| M0422 | 1.25 | 2.362 | 2 | 1.359 | 1/4 | 3/8 UNF x 0.86 deep | 13.09 | 2.72 | | | | | |
| M0522 | 1.375 | 2.756 | 2 3/8 | 1.507 | 5/16 | 3/8 UNF x 0.75 deep | 13.48 | 2.72 | | | | | |
| M0622 | 1.375 | 2.756 | 2 3/8 | 1.507 | 5/16 | 3/8 UNF x 0.75 deep | 14.31 | 2.72 | | | | | |
| M0722 | 1.625 | 3.15 | 2 3/8 | 1.784 | 3/8 | 5/8 UNF x 1.25 deep | 16.03 | 2.72 | | | | | |
| M0822 | 2.125 | 3.937 | 2 3/4 | 2.338 | 1/2 | 3/4 UNF x 1.50 deep | 18.39 | 2.72 | | | | | |

**TRIPLE REDUCTION DIMENSION
FLANGE MOUNT SIZES M01 - M08**

0503



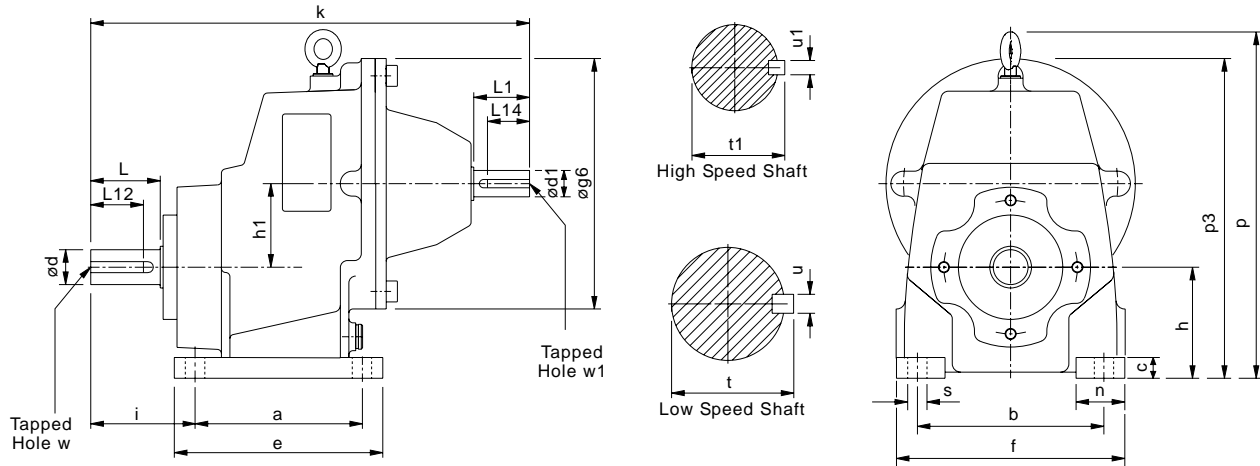
Note: Units are also available as C-Flange (B14) Mounting. Please see page 31 for details.

DIMENSION IN INCHES

| SIZE | Ø a1 | Ø b1 | c1 | Ø e1 | f1 | h1 | i2 | K | p | p3 | p5 | s |
|-------|-------|------|------|-------|------|------|------|-------|------|------|------|------|
| M0132 | 4.72 | 3.15 | 0.35 | 3.94 | 0.12 | - | 1.57 | 10.35 | | 2.91 | 2.99 | 0.35 |
| | 5.51 | 3.74 | 0.35 | 4.53 | 0.12 | 1.57 | 0.35 | | | | | |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | 1.57 | 0.35 | | | | | |
| | 7.78 | 5.12 | 0.39 | 6.50 | 0.14 | 1.57 | 0.43 | | | | | |
| M0232 | 4.72 | 3.15 | 0.39 | 3.94 | 0.12 | - | 1.97 | 11.57 | | 3.54 | 3.58 | 0.26 |
| | 5.51 | 3.74 | 0.39 | 4.53 | 0.12 | 1.97 | 0.35 | | | | | |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | 1.97 | 0.35 | | | | | |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | 1.97 | 0.43 | | | | | |
| M0332 | 4.72 | 3.15 | 0.39 | 3.94 | 0.12 | - | 1.97 | 11.57 | | 3.54 | 3.58 | 0.26 |
| | 5.51 | 3.74 | 0.39 | 4.53 | 0.12 | 1.97 | 0.35 | | | | | |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | 1.97 | 0.35 | | | | | |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | 1.97 | 0.43 | | | | | |
| M0432 | 5.51 | 3.74 | 0.43 | 4.53 | 0.12 | - | 2.36 | 13.09 | | 3.66 | 4.53 | 0.35 |
| | 6.30 | 4.33 | 0.43 | 5.12 | 0.14 | 2.36 | 0.35 | | | | | |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | 2.36 | 0.43 | | | | | |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | 2.36 | 0.53 | | | | | |
| M0532 | 5.51 | 3.74 | 0.43 | 4.53 | 0.12 | - | 2.76 | 13.48 | | 3.66 | 4.53 | 0.35 |
| | 6.30 | 4.33 | 0.43 | 5.12 | 0.14 | 2.76 | 0.35 | | | | | |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | 2.76 | 0.43 | | | | | |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | 2.76 | 0.53 | | | | | |
| M0632 | 7.78 | 5.12 | 0.43 | 6.50 | 0.16 | 0.57 | 2.76 | 14.31 | 4.57 | 3.31 | 5.12 | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | 2.76 | 0.53 | | | | | |
| | 11.81 | 9.06 | 0.43 | 10.43 | 0.16 | 2.76 | 0.53 | | | | | |
| M0732 | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | - | 3.15 | 16.03 | 6.10 | 4.33 | 5.51 | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | 3.15 | 0.53 | | | | | |
| | 11.81 | 9.06 | 0.43 | 10.43 | 0.16 | 3.15 | 0.53 | | | | | |
| M0832 | 11.81 | 9.06 | 0.67 | 10.43 | 0.16 | - | 3.94 | 18.39 | 7.09 | 5.12 | 7.17 | 0.53 |
| | 13.78 | 9.84 | 0.67 | 11.81 | 0.20 | 3.94 | 0.69 | | | | | |

| SIZE | Low Speed Shaft | | | | | | k | ad Max | ak | aj | mp | mb | ms |
|-------|-----------------|-------|--------|-------|------|---------------------|-------|--------|---|----|----|----|----|
| | d | L | L12 | t | u | w | | | | | | | |
| M0132 | 0.75 | 1.575 | 1 9/32 | 0.829 | 3/16 | 1/4 UNF x 0.63 deep | 10.94 | 2.72 | Motor Plate & Coupling Dimensions are made to fit your servo motor. Refer to page 9 for available dimensions. | | | | |
| M0232 | 1.0 | 1.969 | 1 9/16 | 1.106 | 1/4 | 1/4 UNF x 0.71 deep | 12.08 | 2.72 | | | | | |
| M0332 | 1.0 | 1.969 | 1 9/16 | 1.106 | 1/4 | 1/4 UNF x 0.71 deep | 12.08 | 2.72 | | | | | |
| M0432 | 1.25 | 2.362 | 2 | 1.359 | 1/4 | 3/8 UNF x 0.86 deep | 14.00 | 2.72 | | | | | |
| M0532 | 1.375 | 2.756 | 2 3/8 | 1.507 | 5/16 | 3/8 UNF x 0.75 deep | 14.38 | 2.72 | | | | | |
| M0632 | 1.375 | 2.756 | 2 3/8 | 1.507 | 5/16 | 3/8 UNF x 0.75 deep | 15.22 | 2.72 | | | | | |
| M0732 | 1.625 | 3.15 | 2 3/8 | 1.784 | 3/8 | 5/8 UNF x 1.25 deep | 16.62 | 2.72 | | | | | |
| M0832 | 2.125 | 3.937 | 2 3/4 | 2.338 | 1/2 | 3/4 UNF x 1.50 deep | 19.18 | 2.72 | | | | | |

0503

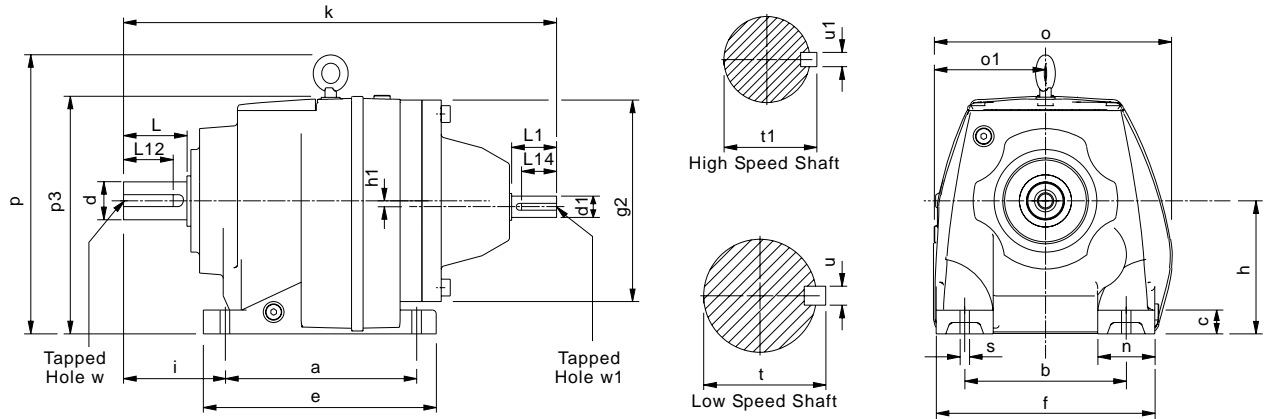


| SIZE | a | b | c | e | f | g6 | h | h1 | i | k | n | p | p3 | s |
|--------------|------|------|------|------|-------|------|------|------|------|-------|------|-------|-------|------|
| M0512 | 4.33 | 4.92 | 0.67 | 5.39 | 5.98 | 5.51 | 2.48 | 1.85 | 2.20 | 10.67 | 1.06 | 8.58 | 7.09 | 0.43 |
| M0612 | 4.72 | 5.31 | 0.79 | 5.91 | 6.69 | 7.09 | 3.15 | 2.36 | 2.95 | 12.44 | 1.38 | 10.16 | 9.06 | 0.55 |
| M0712 | 5.91 | 6.69 | 0.98 | 7.48 | 8.35 | 8.35 | 3.54 | 2.91 | 3.35 | 14.25 | 1.65 | 12.05 | 10.63 | 0.69 |
| M0812 | 6.30 | 8.46 | 1.18 | 8.11 | 10.43 | 9.84 | 3.94 | 3.82 | 4.33 | 17.68 | 2.36 | 13.86 | 12.68 | 0.69 |

| SIZE | High Speed Shaft | | | | | | Low Speed Shaft | | | | | |
|--------------|------------------|------|--------------------------------|------|--------------------------------|------------------------|------------------|-------|--------------------------------|-------|--------------------------------|------------------------|
| | d1 | L1 | L14 | t1 | u1 | w1 | d | L | L12 | t | u | w |
| M0512 | 0.6250 0.6245 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 0.7500 0.7495 | 1.575 | 1 ⁹ / ₃₂ | 0.829 | 3 ³ / ₁₆ | 1/4 UNF x 0.63 deep |
| M0612 | 0.7500 0.7495 | 1.57 | 1 ⁹ / ₃₂ | 0.83 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.0000 0.9995 | 1.969 | 1 ⁹ / ₁₆ | 1.106 | 1/4 | 1/4 UNF x 0.71 deep |
| M0712 | 0.8750 0.8745 | 1.97 | 1 ⁹ / ₃₂ | 0.96 | 3 ³ / ₁₆ | 5/16 UNF x .63 deep | 1.2500 1.2495 | 2.362 | 2 | 1.359 | 1/4 | 1/4 UNF x 0.71 deep |
| M0812 | 1.1250 1.1245 | 2.36 | 2 | 1.23 | 1/4 | 3/8 UNF x .87 deep | 1.6250 1.6240 | 3.15 | 2 ³ / ₈ | 1.784 | 3/8 | 5/8 UNF x 1.25 deep |

**DIMENSIONS - DOUBLE REDUCTION
BASE MOUNT**

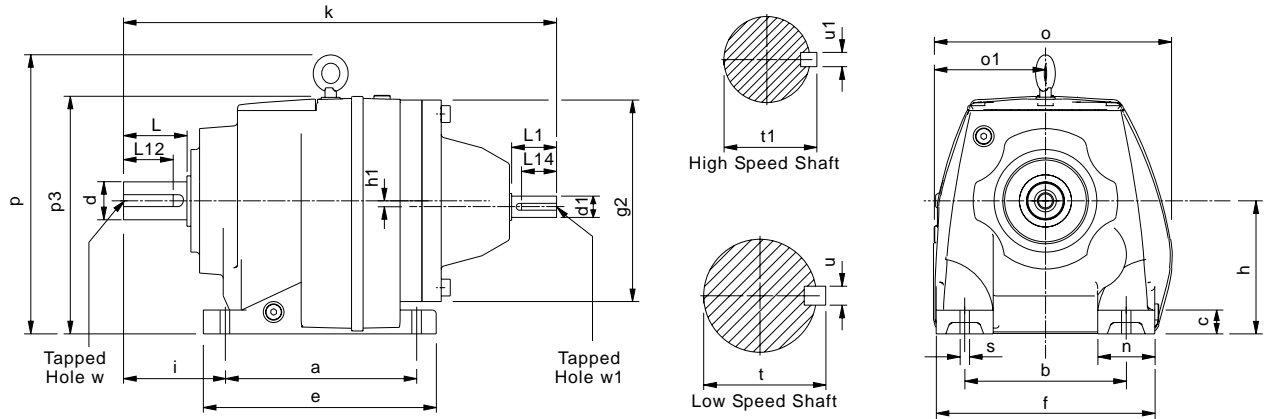
0503



| SIZE | a | b | c | e | f | g2 | h | h1 | i | k | n | o | o1 | p | p3 | s |
|--------------|-------|------|------|-------|-------|------|------|------|------|-------|------|-------|------|-------|-------|------|
| M0122 | 4.33 | 4.33 | 0.47 | 5.16 | 5.31 | 5.51 | 2.95 | - | 2.28 | 11.26 | 0.98 | 5.98 | 2.99 | - | 5.87 | 0.39 |
| M0222 | 5.12 | 4.33 | 0.63 | 5.98 | 5.71 | 5.51 | 3.54 | - | 2.95 | 12.48 | 1.38 | 6.69 | 3.31 | - | 7.09 | 0.39 |
| M0322 | 5.12 | 4.33 | 0.63 | 5.98 | 5.71 | 5.51 | 3.54 | - | 2.95 | 12.48 | 1.38 | 6.69 | 3.31 | - | 7.09 | 0.39 |
| M0422 | 6.50 | 5.31 | 0.79 | 7.87 | 7.48 | 7.09 | 4.53 | - | 3.54 | 14.53 | 2.17 | 8.03 | 3.82 | - | 8.19 | 0.59 |
| M0522 | 6.50 | 5.31 | 0.79 | 7.87 | 7.48 | 7.09 | 4.53 | - | 3.94 | 14.92 | 2.17 | 8.03 | 3.82 | - | 8.19 | 0.59 |
| M0622 | 7.68 | 5.91 | 0.94 | 9.25 | 8.27 | 7.09 | 5.12 | 0.57 | 3.94 | 15.75 | 2.36 | 8.66 | 4.33 | 9.69 | 8.43 | 0.59 |
| M0722 | 8.07 | 6.69 | 0.98 | 9.65 | 9.06 | 8.35 | 5.51 | - | 4.53 | 17.32 | 2.36 | 9.92 | 4.69 | 11.61 | 9.84 | 0.75 |
| M0822 | 10.24 | 8.46 | 1.38 | 12.20 | 11.42 | 9.84 | 7.09 | - | 5.51 | 21.85 | 2.95 | 12.60 | 6.57 | 14.17 | 12.20 | 0.75 |

| SIZE | High Speed Shaft | | | | | | Low Speed Shaft | | | | | |
|--------------|------------------|------|--------------------------------|------|--------------------------------|--|------------------|-------|--------------------------------|-------|--------------------------------|--|
| | d1 | L1 | L14 | t1 | u1 | w1 | d | L | L12 | t | u | w |
| M0122 | 0.6250 0.6245 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 0.7500 0.7495 | 1.575 | 1 ⁹ / ₃₂ | 0.829 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x 0.63 deep |
| M0222 | 0.6250 0.6245 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.0000 0.9995 | 1.969 | 1 ⁹ / ₁₆ | 1.106 | 1 ¹ / ₄ | 1 ¹ / ₄ UNF x 0.71 deep |
| M0322 | 0.6250 0.6245 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.0000 0.9995 | 1.969 | 1 ⁹ / ₁₆ | 1.106 | 1 ¹ / ₄ | 1 ¹ / ₄ UNF x 0.71 deep |
| M0422 | 0.7500 0.7495 | 1.57 | 1 ⁹ / ₃₂ | 0.83 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.2500 1.2495 | 2.362 | 2 | 1.359 | 1 ¹ / ₄ | 3 ³ / ₈ UNF x 0.86 deep |
| M0522 | 0.7500 0.7495 | 1.57 | 1 ⁹ / ₃₂ | 0.83 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.3750 1.3745 | 2.756 | 2 ³ / ₈ | 1.507 | 5 ¹ / ₁₆ | 3 ³ / ₈ UNF x 0.75 deep |
| M0622 | 0.7500 0.7495 | 1.57 | 1 ⁹ / ₃₂ | 0.83 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.3750 1.3745 | 2.756 | 2 ³ / ₈ | 1.507 | 5 ¹ / ₁₆ | 3 ³ / ₈ UNF x 0.75 deep |
| M0722 | 0.8750 0.8745 | 1.97 | 1 ⁹ / ₃₂ | 0.96 | 3 ³ / ₁₆ | 5 ¹ / ₁₆ UNF x .63 deep | 1.6250 1.6240 | 3.15 | 2 ³ / ₈ | 1.784 | 3 ³ / ₈ | 5 ¹ / ₈ UNF x 1.25 deep |
| M0822 | 1.1250 1.1245 | 2.36 | 2 | 1.23 | 1 ¹ / ₄ | 3 ³ / ₈ UNF x .87 deep | 2.1250 2.1240 | 3.937 | 2 ³ / ₄ | 2.338 | 1 ¹ / ₂ | 3 ³ / ₄ UNF x 1.50 deep |

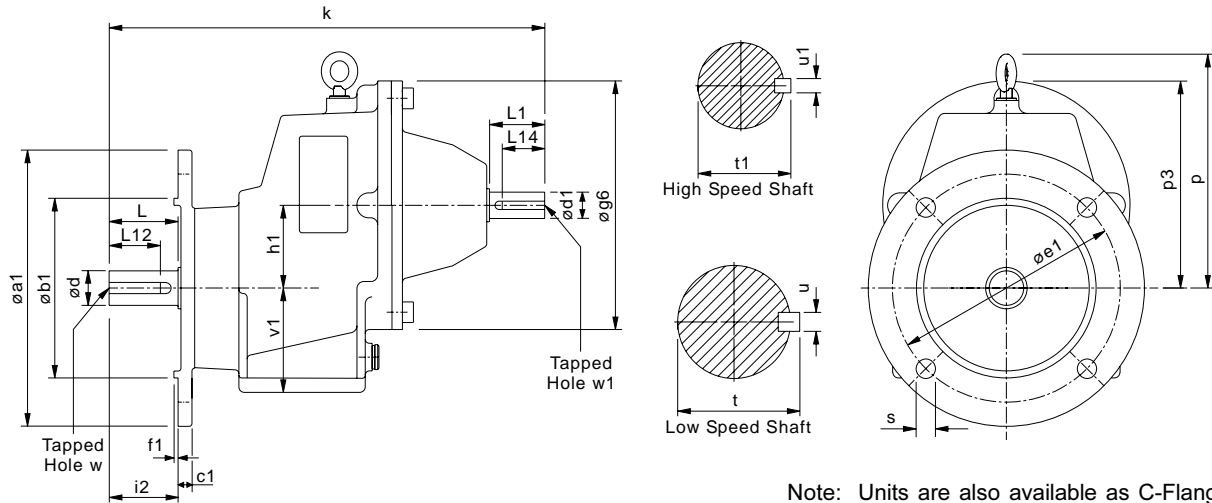
0503



| SIZE | a | b | c | e | f | g2 | h | h1 | i | k | n | o | o1 | p | p3 | s |
|--------------|-------|------|------|-------|-------|------|------|------|------|-------|------|-------|------|-------|-------|------|
| M0132 | 4.33 | 4.33 | 0.47 | 5.16 | 5.31 | 5.51 | 2.95 | - | 2.28 | 11.26 | 0.98 | 5.98 | 2.99 | - | 5.87 | 0.39 |
| M0232 | 5.12 | 4.33 | 0.63 | 5.98 | 5.71 | 5.51 | 3.54 | - | 2.95 | 12.48 | 1.38 | 6.69 | 3.31 | - | 7.09 | 0.39 |
| M0332 | 5.12 | 4.33 | 0.63 | 5.98 | 5.71 | 5.51 | 3.54 | - | 2.95 | 12.48 | 1.38 | 6.69 | 3.31 | - | 7.09 | 0.39 |
| M0432 | 6.50 | 5.31 | 0.79 | 7.87 | 7.48 | 7.09 | 4.53 | - | 3.54 | 14.53 | 2.17 | 8.03 | 3.82 | - | 8.19 | 0.59 |
| M0532 | 6.50 | 5.31 | 0.79 | 7.87 | 7.48 | 7.09 | 4.53 | - | 3.94 | 14.92 | 2.17 | 8.03 | 3.82 | - | 8.19 | 0.59 |
| M0632 | 7.68 | 5.91 | 0.94 | 9.25 | 8.27 | 7.09 | 5.12 | 0.57 | 3.94 | 15.75 | 2.36 | 8.66 | 4.33 | 9.69 | 8.43 | 0.59 |
| M0732 | 8.07 | 6.69 | 0.98 | 9.65 | 9.06 | 8.35 | 5.51 | - | 4.53 | 17.32 | 2.36 | 9.92 | 4.69 | 11.61 | 9.84 | 0.75 |
| M0832 | 10.24 | 8.46 | 1.38 | 12.20 | 11.42 | 9.84 | 7.09 | - | 5.51 | 21.85 | 2.95 | 12.60 | 6.57 | 14.17 | 12.20 | 0.75 |

| SIZE | High Speed Shaft | | | | | | Low Speed Shaft | | | | | |
|--------------|------------------|------|--------------------------------|------|--------------------------------|--|------------------|-------|--------------------------------|-------|--------------------------------|--|
| | d1 | L1 | L14 | t1 | u1 | w1 | d | L | L12 | t | u | w |
| M0132 | 0.6250 0.6245 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 0.7500 0.7495 | 1.575 | 1 ⁹ / ₃₂ | 0.829 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x 0.63 deep |
| M0232 | 0.6250 0.6245 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.0000 0.9995 | 1.969 | 1 ⁹ / ₁₆ | 1.106 | 1 ¹ / ₄ | 1 ¹ / ₄ UNF x 0.71 deep |
| M0332 | 0.6250 0.6245 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.0000 0.9995 | 1.969 | 1 ⁹ / ₁₆ | 1.106 | 1 ¹ / ₄ | 1 ¹ / ₄ UNF x 0.71 deep |
| M0432 | 0.6250 0.6245 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.2500 1.2495 | 2.362 | 2 | 1.359 | 1 ¹ / ₄ | 3 ³ / ₈ UNF x 0.86 deep |
| M0532 | 0.6250 0.6245 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.3750 1.3745 | 2.756 | 2 ³ / ₈ | 1.507 | 5 ⁵ / ₁₆ | 3 ³ / ₈ UNF x 0.75 deep |
| M0632 | 0.6250 0.6245 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.3750 1.3745 | 2.756 | 2 ³ / ₈ | 1.507 | 5 ⁵ / ₁₆ | 3 ³ / ₈ UNF x 0.75 deep |
| M0732 | 0.7500 0.7495 | 1.57 | 1 ⁹ / ₃₂ | 0.83 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.6250 1.6240 | 3.15 | 2 ³ / ₈ | 1.784 | 3 ³ / ₈ | 5 ⁵ / ₈ UNF x 1.25 deep |
| M0832 | 0.8750 0.8745 | 1.97 | 1 ⁹ / ₃₂ | 0.96 | 3 ³ / ₁₆ | 5 ⁵ / ₁₆ UNF x .63 deep | 2.1250 2.1240 | 3.937 | 2 ³ / ₄ | 2.338 | 1 ¹ / ₂ | 3 ³ / ₄ UNF x 1.50 deep |

0503



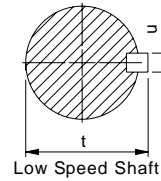
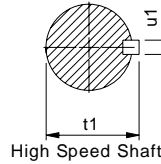
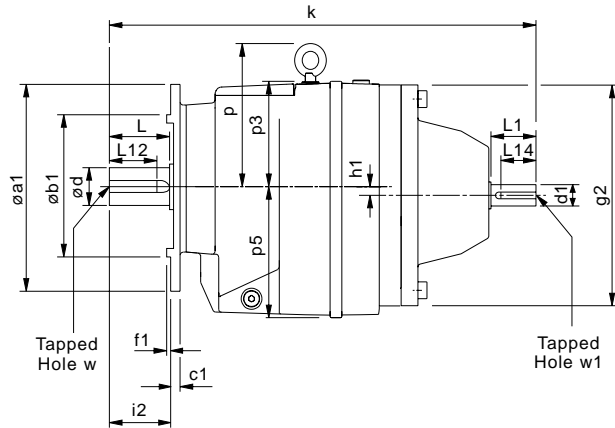
Note: Units are also available as C-Flange (B14) Mounting or Base and C-Flange (B14) Mounting. Please see page 31 for details.

| SIZE | øa1 | øb1 | c1 | øe1 | f1 | øg6 | h1 | i2 | k | p | p3 | s | v1 |
|--------------|-------|------|------|-------|------|------|------|------|-------|------|------|------|------|
| M0512 | 4.72 | 3.15 | 0.35 | 3.94 | 0.12 | 5.51 | 1.85 | 1.57 | 10.67 | 6.10 | 4.61 | 0.28 | 2.20 |
| | 5.51 | 3.74 | 0.35 | 4.53 | 0.12 | | | 1.57 | | | | 0.35 | |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | 1.57 | | | | 0.35 | |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | | | 1.57 | | | | 0.47 | |
| M0612 | 4.72 | 3.15 | 0.39 | 3.94 | 0.12 | 7.09 | 2.36 | 1.97 | 12.44 | 7.01 | 5.91 | 0.26 | 2.83 |
| | 5.51 | 3.74 | 0.39 | 4.53 | 0.12 | | | 1.97 | | | | 0.35 | |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | 1.97 | | | | 0.35 | |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | | | 1.97 | | | | 0.43 | |
| M0712 | 5.51 | 3.74 | 0.39 | 4.53 | 0.12 | 8.35 | 2.91 | 2.36 | 14.25 | 8.50 | 7.09 | 0.35 | 3.27 |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | 2.36 | | | | 0.35 | |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.16 | | | 2.36 | | | | 0.43 | |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | 2.36 | | | | 0.53 | |
| M0812 | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | 9.84 | 3.82 | 3.15 | 17.68 | 9.92 | 8.66 | 0.43 | 3.82 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | 3.15 | | | | 0.53 | |
| | 11.81 | 9.06 | 0.43 | 10.43 | 0.16 | | | 3.15 | | | | 0.53 | |

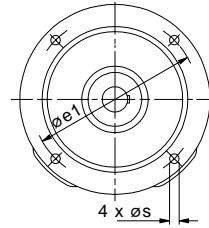
| SIZE | High Speed Shaft | | | | | | Low Speed Shaft | | | | | |
|--------------|------------------|------|--------------------------------|------|--------------------------------|--|-----------------|-------|--------------------------------|-------|--------------------------------|--|
| | d1 | L1 | L14 | t1 | u1 | w1 | d | L | L12 | t | u | w |
| M0512 | 0.6250 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 0.7500 | 1.575 | 1 ⁹ / ₃₂ | 0.829 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x 0.63 deep |
| | 0.6245 | | | | | | 0.7495 | | | | | |
| M0612 | 0.7500 | 1.57 | 1 ⁹ / ₃₂ | 0.83 | 3 ³ / ₁₆ | 1 ¹ / ₄ UNF x .63 deep | 1.0000 | 1.969 | 1 ⁹ / ₁₆ | 1.106 | 1 ¹ / ₄ | 1 ¹ / ₄ UNF x 0.71 deep |
| | 0.7495 | | | | | | 0.9995 | | | | | |
| M0712 | 0.8750 | 1.97 | 1 ⁹ / ₃₂ | 0.96 | 3 ³ / ₁₆ | 5 ⁷ / ₁₆ UNF x .63 deep | 1.2500 | 2.362 | 2 | 1.359 | 1 ¹ / ₄ | 1 ¹ / ₄ UNF x 0.71 deep |
| | 0.8745 | | | | | | 1.2495 | | | | | |
| M0812 | 1.1250 | 2.36 | 2 | 1.23 | 1 ¹ / ₄ | 3 ³ / ₈ UNF x .87 deep | 1.6250 | 3.15 | 2 ³ / ₈ | 1.784 | 3 ³ / ₈ | 5 ⁷ / ₈ UNF x 1.25 deep |
| | 1.1245 | | | | | | 1.6240 | | | | | |

**DIMENSIONS - DOUBLE REDUCTION
FLANGE MOUNT**

0503



Sizes
1, 2, 3, 4, 5, 6, 7 and 8

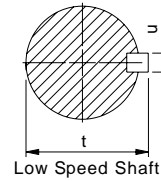
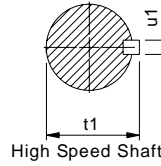
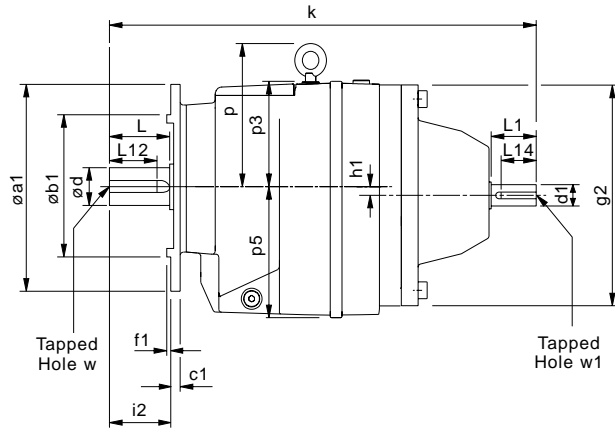


Note: Sizes 01 to 08 are also available as C-Flange (B14) Mounting. Please see page 31 for details.

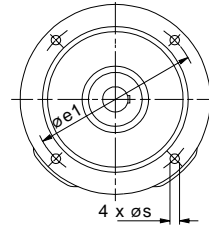
| SIZE | øa1 | øb1 | c1 | øe1 | f1 | øg2 | h1 | i2 | k | p | p3 | p5 | s |
|-------|-------|------|------|-------|------|------|------|------|-------|------|------|------|------|
| M0122 | 4.72 | 3.15 | 0.35 | 3.94 | 0.12 | 5.51 | - | 1.57 | 11.26 | - | 2.91 | 2.99 | 0.28 |
| | 5.51 | 3.74 | 0.35 | 4.53 | 0.12 | | | 1.57 | | | | | 0.35 |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | 1.57 | | | | | 0.35 |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | | | 1.57 | | | | | 0.43 |
| M0222 | 4.72 | 3.15 | 0.39 | 3.94 | 0.12 | 5.51 | - | 1.97 | 12.48 | - | 3.54 | 3.58 | 0.26 |
| | 5.51 | 3.74 | 0.39 | 4.53 | 0.12 | | | 1.97 | | | | | 0.35 |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | 1.97 | | | | | 0.35 |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | | | 1.97 | | | | | 0.43 |
| M0322 | 4.72 | 3.15 | 0.39 | 3.94 | 0.12 | 5.51 | - | 1.97 | 12.48 | - | 3.54 | 3.58 | 0.26 |
| | 5.51 | 3.74 | 0.39 | 4.53 | 0.12 | | | 1.97 | | | | | 0.35 |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | 1.97 | | | | | 0.35 |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | | | 1.97 | | | | | 0.43 |
| M0422 | 5.51 | 3.74 | 0.43 | 4.53 | 0.12 | 7.09 | - | 2.36 | 14.53 | - | 3.66 | 4.53 | 0.35 |
| | 6.30 | 4.33 | 0.43 | 5.12 | 0.14 | | | 2.36 | | | | | 0.35 |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | | | 2.36 | | | | | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | 2.36 | | | | | 0.53 |
| M0522 | 5.51 | 3.74 | 0.43 | 4.53 | 0.12 | 7.09 | - | 2.76 | 14.92 | - | 3.66 | 4.53 | 0.35 |
| | 6.30 | 4.33 | 0.43 | 5.12 | 0.14 | | | 2.76 | | | | | 0.35 |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | | | 2.76 | | | | | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | 2.76 | | | | | 0.53 |
| M0622 | 7.87 | 5.12 | 0.43 | 6.50 | 0.16 | 7.09 | 0.57 | 2.76 | 15.75 | 4.57 | 3.31 | 5.12 | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | 2.76 | | | | | 0.53 |
| | 11.81 | 9.06 | 0.43 | 10.43 | 0.16 | | | 2.76 | | | | | 0.53 |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | | | 3.15 | | | | | 0.43 |
| M0722 | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | 8.35 | - | 3.15 | 17.32 | 6.10 | 4.33 | 5.51 | 0.53 |
| | 11.81 | 9.06 | 0.43 | 10.43 | 0.16 | | | 3.15 | | | | | 0.53 |
| | 11.81 | 9.06 | 0.67 | 10.43 | 0.16 | | | 3.94 | | | | | 0.53 |
| M0822 | 11.81 | 9.06 | 0.67 | 10.43 | 0.16 | 9.84 | - | 3.94 | 21.85 | 7.09 | 5.12 | 7.17 | 0.53 |
| | 13.78 | 9.84 | 0.67 | 11.81 | 0.20 | | | 3.94 | | | | | 0.69 |

| SIZE | High Speed Shaft | | | | | | Low Speed Shaft | | | | | |
|-------|------------------|------|--------------------------------|------|--------------------------------|------------------------|-----------------|-------|--------------------------------|-------|--------------------------------|------------------------|
| | d1 | L1 | L14 | t1 | u1 | w1 | d | L | L12 | t | u | w |
| M0122 | 0.6250 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 0.7500 | 1.575 | 1 ⁹ / ₃₂ | 0.829 | 3 ³ / ₁₆ | 1/4 UNF x 0.63 deep |
| | 0.6245 | | | | | | 0.7495 | | | | | |
| M0222 | 0.6250 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.0000 | 1.969 | 1 ⁹ / ₁₆ | 1.106 | 1/4 | 1/4 UNF x 0.71 deep |
| | 0.6245 | | | | | | 0.9995 | | | | | |
| M0322 | 0.6250 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.0000 | 1.969 | 1 ⁹ / ₁₆ | 1.106 | 1/4 | 1/4 UNF x 0.71 deep |
| | 0.6245 | | | | | | 0.9995 | | | | | |
| M0422 | 0.7500 | 1.57 | 1 ⁹ / ₃₂ | 0.83 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.2500 | 2.362 | 2 | 1.359 | 1/4 | 3/8 UNF x 0.86 deep |
| | 0.7495 | | | | | | 1.2495 | | | | | |
| M0522 | 0.7500 | 1.57 | 1 ⁹ / ₃₂ | 0.83 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.3750 | 2.756 | 2 ³ / ₈ | 1.507 | 5/16 | 3/8 UNF x 0.75 deep |
| | 0.7495 | | | | | | 1.3745 | | | | | |
| M0622 | 0.7500 | 1.57 | 1 ⁹ / ₃₂ | 0.83 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.3750 | 2.756 | 2 ³ / ₈ | 1.507 | 5/16 | 3/8 UNF x 0.75 deep |
| | 0.7495 | | | | | | 1.3745 | | | | | |
| M0722 | 0.8750 | 1.97 | 1 ⁹ / ₃₂ | 0.96 | 3 ³ / ₁₆ | 5/16 UNF x .63 deep | 1.6250 | 3.15 | 2 ³ / ₈ | 1.784 | 3/8 | 5/8 UNF x 1.25 deep |
| | 0.8745 | | | | | | 1.6240 | | | | | |
| M0822 | 1.1250 | 2.36 | 2 | 1.23 | 1/4 | 3/8 UNF x .87 deep | 2.1250 | 3.937 | 2 ³ / ₄ | 2.338 | 1/2 | 3/4 UNF x 1.50 deep |
| | 1.1245 | | | | | | 2.1240 | | | | | |

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Sizes
1, 2, 3, 4, 5, 6, 7 and 8



Note: Sizes 01 to 08 are also available as C-Flange (B14) Mounting. Please see page 31 for details.

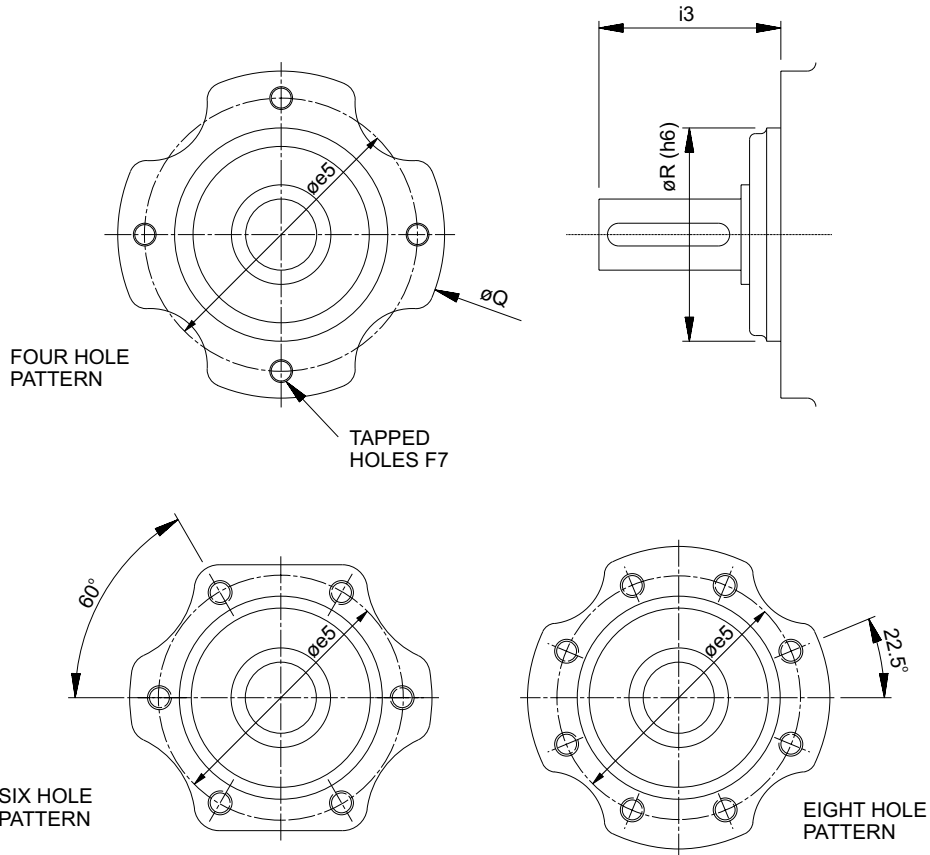
| SIZE | øa1 | øb1 | c1 | øe1 | f1 | øg2 | h1 | i2 | k | p | p3 | p5 | s |
|-------|-------|------|------|-------|------|------|------|------|-------|------|------|------|------|
| M0132 | 4.72 | 3.15 | 0.35 | 3.94 | 0.12 | 5.51 | - | 1.57 | 11.26 | - | 2.91 | 2.99 | 0.28 |
| | 5.51 | 3.74 | 0.35 | 4.53 | 0.12 | | | 1.57 | | | | | 0.35 |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | 1.57 | | | | | 0.35 |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | | | 1.57 | | | | | 0.43 |
| M0232 | 4.72 | 3.15 | 0.39 | 3.94 | 0.12 | 5.51 | - | 1.97 | 12.48 | - | 3.54 | 3.58 | 0.26 |
| | 5.51 | 3.74 | 0.39 | 4.53 | 0.12 | | | 1.97 | | | | | 0.35 |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | 1.97 | | | | | 0.35 |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | | | 1.97 | | | | | 0.43 |
| M0332 | 4.72 | 3.15 | 0.39 | 3.94 | 0.12 | 5.51 | - | 1.97 | 12.48 | - | 3.54 | 3.58 | 0.26 |
| | 5.51 | 3.74 | 0.39 | 4.53 | 0.12 | | | 1.97 | | | | | 0.35 |
| | 6.30 | 4.33 | 0.39 | 5.12 | 0.14 | | | 1.97 | | | | | 0.35 |
| | 7.87 | 5.12 | 0.39 | 6.50 | 0.14 | | | 1.97 | | | | | 0.43 |
| M0432 | 5.51 | 3.74 | 0.43 | 4.53 | 0.12 | 7.09 | - | 2.36 | 14.53 | - | 3.66 | 4.53 | 0.35 |
| | 6.30 | 4.33 | 0.43 | 5.12 | 0.14 | | | 2.36 | | | | | 0.35 |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | | | 2.36 | | | | | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | 2.36 | | | | | 0.53 |
| M0532 | 5.51 | 3.74 | 0.43 | 4.53 | 0.12 | 7.09 | - | 2.76 | 14.92 | - | 3.66 | 4.53 | 0.35 |
| | 6.30 | 4.33 | 0.43 | 5.12 | 0.14 | | | 2.76 | | | | | 0.35 |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | | | 2.76 | | | | | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | 2.76 | | | | | 0.53 |
| M0632 | 7.87 | 5.12 | 0.43 | 6.50 | 0.16 | 7.09 | 0.57 | 2.76 | 15.75 | 4.57 | 3.31 | 5.12 | 0.43 |
| | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | | | 2.76 | | | | | 0.53 |
| | 11.81 | 9.06 | 0.43 | 10.43 | 0.16 | | | 2.76 | | | | | 0.53 |
| | 7.87 | 5.12 | 0.43 | 6.50 | 0.14 | | | 3.15 | | | | | 0.43 |
| M0732 | 9.84 | 7.09 | 0.43 | 8.46 | 0.16 | 8.35 | - | 3.15 | 17.32 | 6.10 | 4.33 | 5.51 | 0.53 |
| | 11.81 | 9.06 | 0.43 | 10.43 | 0.16 | | | 3.15 | | | | | 0.53 |
| | 11.81 | 9.06 | 0.67 | 10.43 | 0.16 | | | 3.94 | | | | | 0.53 |
| M0832 | 11.81 | 9.06 | 0.67 | 10.43 | 0.16 | 9.84 | - | 3.94 | 21.85 | 7.09 | 5.12 | 7.17 | 0.53 |
| | 13.78 | 9.84 | 0.67 | 11.81 | 0.20 | | | 3.94 | | | | | 0.69 |

| SIZE | High Speed Shaft | | | | | | Low Speed Shaft | | | | | |
|-------|------------------|------|--------------------------------|------|--------------------------------|---------------------|-----------------|-------|--------------------------------|-------|--------------------------------|---------------------|
| | d1 | L1 | L14 | t1 | u1 | w1 | d | L | L12 | t | u | w |
| M0132 | 0.6250 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 0.7500 | 1.575 | 1 ⁹ / ₃₂ | 0.829 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep |
| | 0.6245 | | | | | | 0.7495 | | | | | |
| M0232 | 0.6250 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.0000 | 1.969 | 1 ⁹ / ₁₆ | 1.106 | 1/4 | 1/4 UNF x .71 deep |
| | 0.6245 | | | | | | 0.9995 | | | | | |
| M0332 | 0.6250 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.0000 | 1.969 | 1 ⁹ / ₁₆ | 1.106 | 1/4 | 1/4 UNF x .71 deep |
| | 0.6245 | | | | | | 0.9995 | | | | | |
| M0432 | 0.6250 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.2500 | 2.362 | 2 | 1.359 | 1/4 | 3/8 UNF x .86 deep |
| | 0.6245 | | | | | | 1.2495 | | | | | |
| M0532 | 0.6250 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.3750 | 2.756 | 2 ³ / ₈ | 1.507 | 5/16 | 3/8 UNF x .75 deep |
| | 0.6245 | | | | | | 1.3745 | | | | | |
| M0632 | 0.6250 | 1.57 | 1 ⁹ / ₃₂ | 0.70 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.3750 | 2.756 | 2 ³ / ₈ | 1.507 | 5/16 | 3/8 UNF x .75 deep |
| | 0.6245 | | | | | | 1.3745 | | | | | |
| M0732 | 0.7500 | 1.57 | 1 ⁹ / ₃₂ | 0.83 | 3 ³ / ₁₆ | 1/4 UNF x .63 deep | 1.6250 | 3.15 | 2 ³ / ₈ | 1.784 | 3/8 | 5/8 UNF x 1.25 deep |
| | 0.7495 | | | | | | 1.6240 | | | | | |
| M0832 | 0.8750 | 1.97 | 1 ⁹ / ₃₂ | 0.96 | 3 ³ / ₁₆ | 5/16 UNF x .63 deep | 2.1250 | 3.937 | 2 ³ / ₄ | 2.338 | 1/2 | 3/4 UNF x 1.50 deep |
| | 0.8745 | | | | | | 2.1240 | | | | | |

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Column 9 Entry

E C-Flange (B14) Mounting



Single Stage Units

| SIZE | $\phi e5$ | F7 | i3 | ϕQ | ϕR |
|--------------|-----------|-------------------------------|------|----------|----------|
| M0512 | 2.95 | 4 Holes M8 x 1.25 12 Deep | 2.13 | 3.86 | 2.05 |
| M0612 | 3.78 | 4 Holes M8 x 1.25 15 Deep | 2.44 | 4.53 | 2.95 |
| M0712 | 4.13 | 4 Holes M12 x 1.75 21 Deep | 2.91 | 5.12 | 3.35 |
| M0812 | 4.88 | 6 Holes M12 x 1.75 21 Deep | 3.70 | 5.98 | 4.02 |

Double & Triple Stage Units

| SIZE | $\phi e5$ | F7 | i3 | ϕQ | ϕR |
|------------------|-----------|-------------------------------|-------------|----------|----------|
| M01 | 2.95 | 4 Holes M8 x 1.25 12 Deep | 2.13 | 3.86 | 2.05 |
| M02 / M03 | 3.78 | 4 Holes M8 x 1.25 15 Deep | 2.44 | 4.53 | 2.95 |
| M04 / M05 | 4.13 | 4 Holes M12 x 1.75 21 Deep | 2.91 / 3.31 | 5.12 | 3.35 |
| M06 / M07 | 4.88 | 6 Holes M12 x 1.75 21 Deep | 3.31 / 3.70 | 5.98 | 4.02 |
| M08 | 6.69 | 8 Holes M12 x 1.75 21 Deep | 4.72 | 7.68 | 5.71 |

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| | | M01 | M02 | M03 | M04 | M05 | M06 | M07 | M08 |
|--------------------------------|--------------|-------------------------------|------|------|------|------|------|------|------|
| Emergency stop | | 2 times nominal torque rating | | | | | | | |
| Maximum radial load | | | | | | | | | |
| single reduction | lb. | | | | | 696 | 899 | 1438 | 1798 |
| | N | | | | | 3096 | 3999 | 6397 | 7998 |
| double reduction | lb. | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 |
| | N | 445 | 890 | 1335 | 1779 | 2224 | 2669 | 3114 | 3559 |
| triple reduction | lb. | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 |
| | N | 445 | 890 | 1335 | 1779 | 2224 | 2669 | 3114 | 3559 |
| Maximum axial load | | | | | | | | | |
| single reduction | lb. | | | | | 696 | 899 | 1438 | 1798 |
| | N | | | | | 3096 | 3999 | 6397 | 7998 |
| double reduction | lb. | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 |
| | N | 445 | 890 | 1335 | 1779 | 2224 | 2669 | 3114 | 3559 |
| triple reduction | lb. | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 |
| | N | 445 | 890 | 1335 | 1779 | 2224 | 2669 | 3114 | 3559 |
| Operating temperature | °F | -15 to 212 °F | | | | | | | |
| | °C | -25 to 100 °C | | | | | | | |
| Degree of protection | | IP65 | | | | IP55 | | | |
| Lubrication | | EP 320 gear oil | | | | | | | |
| Torsional stiffness | | | | | | | | | |
| single reduction | lb.in/arcmin | | | | | 10 | 10 | 10 | 10 |
| | N/arcmin | | | | | 44 | 44 | 44 | 44 |
| double reduction | lb.in/arcmin | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | N/arcmin | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 |
| triple reduction | lb.in/arcmin | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | N/arcmin | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 |
| Maximum input speed | rpm | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Maximum continuous input speed | rpm | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 |
| Unit weight (Base Mount) | | | | | | | | | |
| single reduction | lb. | | | | | 16 | 29 | 53 | 77 |
| | Kg | | | | | 7.3 | 13.2 | 24.1 | 35.0 |
| double reduction | lb. | 18 | 26 | 26 | 49 | 49 | 60 | 84 | 148 |
| | Kg | 8.2 | 11.8 | 11.8 | 22.3 | 22.3 | 27.3 | 38.2 | 67.3 |
| triple reduction | lb. | 19 | 29 | 29 | 49 | 49 | 60 | 86 | 163 |
| | Kg | 8.6 | 13.2 | 13.2 | 22.3 | 22.3 | 27.3 | 39.1 | 74.1 |
| Unit weight (Flange Mount) | | | | | | | | | |
| single reduction | lb. | | | | | 16 | 29 | 53 | 77 |
| | Kg | | | | | 7.3 | 13.2 | 24.1 | 35.0 |
| double reduction | lb. | 18 | 26 | 26 | 49 | 49 | 60 | 84 | 148 |
| | Kg | 8.2 | 11.8 | 11.8 | 22.3 | 22.3 | 27.3 | 38.2 | 67.3 |
| triple reduction | lb. | 19 | 29 | 29 | 49 | 49 | 60 | 86 | 163 |
| | Kg | 8.6 | 13.2 | 13.2 | 22.3 | 22.3 | 27.3 | 39.1 | 74.1 |

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IMPORTANT

Product Safety Information

General - The following information is important in ensuring safety. It **must** be brought to the attention of personnel involved in the selection of Textron Fluid & Power equipment, those responsible for the design of the machinery in which it is to be incorporated and those involved in its installation, use and maintenance.

Textron Fluid & Power equipment will operate safely provided it is selected, installed, used and maintained properly. As with any Fluid & Power equipment **proper precautions must** be taken as indicated in the following paragraphs, to ensure safety.

Potential Hazards - these are **not** necessarily listed in any order of severity as the degree of danger varies in individual circumstances. It is important therefore that the list is studied in its entirety:-

- 1) Fire/Explosion
 - (a) Oil mists and vapour are generated within gear units. It is therefore dangerous to use naked lights in the proximity of gearbox openings, due to the risk of fire or explosion.
 - (b) In the event of fire or serious overheating (over 570 °F (300 °C)), certain materials (rubber, plastics, etc.) may decompose and produce fumes. Care should be taken to avoid exposure to the fumes, and the remains of burned or overheated plastic/rubber materials should be handled with rubber gloves.
- 2) Guards - Rotating shafts and couplings must be guarded to eliminate the possibility of physical contact or entanglement of clothing. It should be of rigid construction and firmly secured.
- 3) Noise - High speed gearboxes and gearbox driven machinery may produce noise levels which are damaging to the hearing with prolonged exposure. Ear defenders should be provided for personnel in these circumstances. Reference should be made to the Department of Employment Code of Practice for reducing exposure of employed persons to noise.
- 4) Lifting - Where provided (on larger units) only the lifting points or eyebolts must be used for lifting operations (see maintenance manual or general arrangement drawing for lifting point positions). Failure to use the lifting points provided may result in personal injury and/or damage to the product or surrounding equipment. Keep clear of raised equipment.
- 5) Lubricants and Lubrication
 - (a) Prolonged contact with lubricants can be detrimental to the skin. The manufacturer's instruction must be followed when handling lubricants.
 - (b) The lubrication status of the equipment must be checked before commissioning. Read and carry out all instructions on the lubricant plate and in the installation and maintenance literature. Heed all warning tags. Failure to do so could result in mechanical damage and in extreme cases risk of injury to personnel.
- 6) Electrical Equipment - Observe hazard warnings on electrical equipment and isolate power before working on the gearbox or associated equipment, in order to prevent the machinery being started.
- 7) Installation, Maintenance and Storage
 - (a) In the event that equipment is to be held in storage, for a period exceeding 6 months, prior to installation or commissioning, Textron Fluid & Power must be consulted regarding special preservation requirements. Unless otherwise agreed, equipment must be stored in a building protected from extremes of temperature and humidity to prevent deterioration.
The rotating components (gears and shafts) must be turned a few revolutions once a month (to prevent bearings brinelling).
 - (b) External gearbox components may be supplied with preservative materials applied, in the form of a "waxed" tape overwrap or wax film preservative. Gloves should be worn when removing these materials. The former can be removed manually, the latter using white spirit as a solvent.
Preservatives applied to the internal parts of the gear units do not require removal prior to operation.
 - (c) Installation must be performed in accordance with the manufacturer's instructions and be undertaken by suitably qualified personnel.
 - (d) Before working on a gearbox or associated equipment, ensure that the load has been removed from the system to eliminate the possibility of any movement of the machinery and isolate power supply. Where necessary, provide mechanical means to ensure the machinery cannot move or rotate. Ensure removal of such devices after work is complete.
 - (e) Ensure the proper maintenance of gearboxes in operation. Use only the correct tools and Textron Fluid & Power approved spare parts for repair and maintenance. Consult the Maintenance Manual before dismantling or performing maintenance work.
- 8) Hot Surfaces and Lubricants
 - (a) During operation, gear units may become sufficiently hot to cause skin burns. Care must be taken to avoid accidental contact.
 - (b) After extended running the lubricant in gear units and lubrication systems may reach temperatures sufficient to cause burns. Allow equipment to cool before servicing or performing adjustments.
- 9) Selection and Design
 - (a) Where gear units provide a backstop facility, ensure that back-up systems are provided if failure of the backstop device would endanger personnel or result in damage.
 - (b) The driving and driven equipment must be correctly selected to ensure that the complete machinery installation will perform satisfactorily, avoiding system critical speeds, system torsional vibration, etc.
 - (c) The equipment must not be operated in an environment or at speeds, powers, torques or with external loads beyond those for which it was designed.
 - (d) As improvements in design are being made continually the contents of this catalogue are not to be regarded as binding in detail, and drawings and capacities are subject to alterations without notice.

The above guidance is based on the current state of knowledge and our best assessment of the potential hazards in the operation of the gear units.

Any further information or clarification required may be obtained by contacting Textron Fluid & Power.

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AGRICULTURE

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MARINE

TEXTILES

CONSTRUCTION

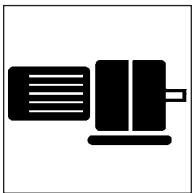
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TRANSPORTATION

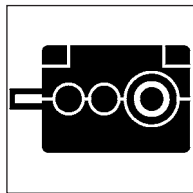
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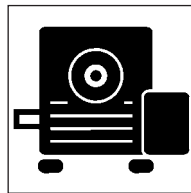
WATER



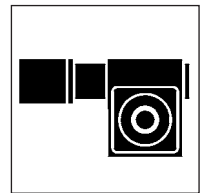
Geared motors



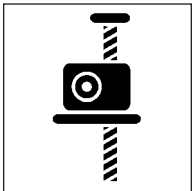
Industrial reducers



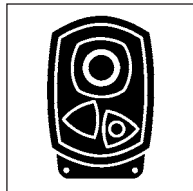
Worm



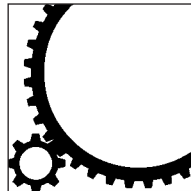
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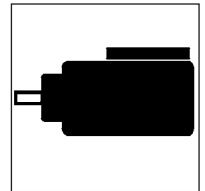
Screwjacks



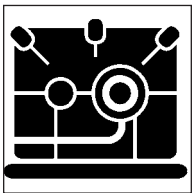
Shaftmount



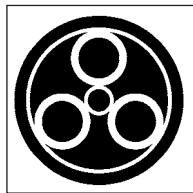
Horizontal mill drives



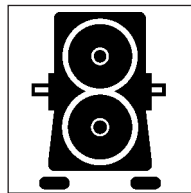
Vertical mill drives



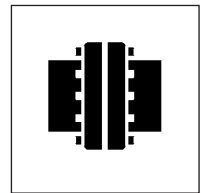
High speed



Planetary units



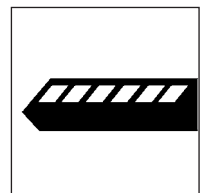
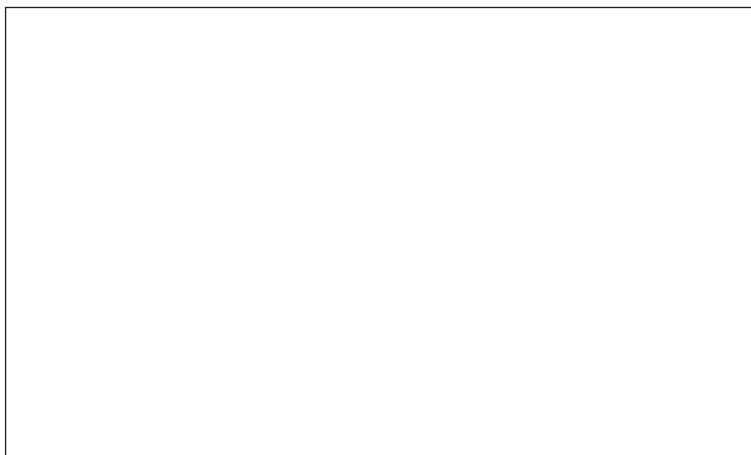
Specialist drives



Couplings



Defence Systems



Rail