

# RAPTOR Coupling

BALDOR • DODGE®



**RAPTOR**  
**ESW**

**MADE IN THE U.S.A.**



# A Better Choice Has Arrived

Coupling maintenance and reliability should not monopolize your maintenance team. The Baldor-Dodge Raptor Coupling eliminates these concerns.

The Raptor's easy to assemble, patented split natural rubber element significantly decreases total costs of ownership and extends driven equipment life. Built for drop-in interchangeability, the Raptor features an innovative design offering easier installation, reduced maintenance, and improved reliability in a wide range of new and existing applications.

The Baldor-Dodge Raptor: A better choice has finally arrived.



# Elastomeric Coupling Innovation

**LONGER DRIVEN  
EQUIPMENT LIFE**

**FLEXIBLE  
MOUNTING OPTIONS**

**PATENTED WINGLOCK  
ELEMENT DESIGN**



**DROP-IN  
INTERCHANGEABILITY**

**EASIER  
INSTALLATION**

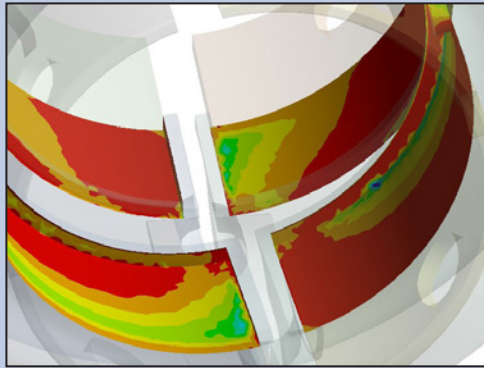
# Designed and Developed at Baldor•Dodge

## Patented WingLock™ Element Design

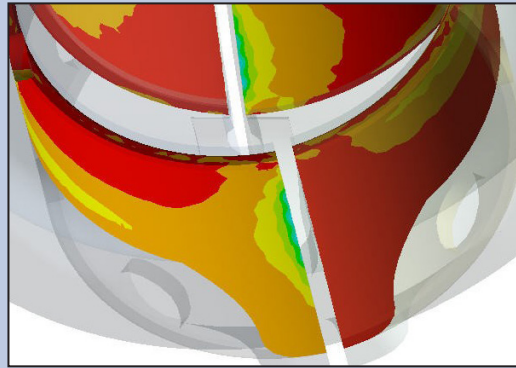
The Baldor•Dodge Raptor utilizes a patented finite-element optimized winged elastomeric element design. This WingLock technology increases surface area in the most critical regions of the element, resulting in higher bond strength, improved fatigue resistance, and longer life versus competitive designs.



Dodge Raptor Patented Winglock Technology

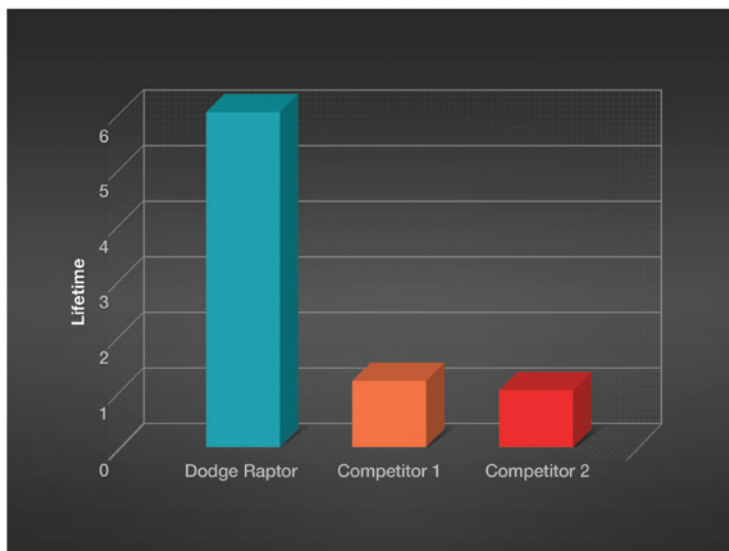


Pressure at bond without Winglock Technology



Pressure at bond with Winglock Technology

## Documented Performance



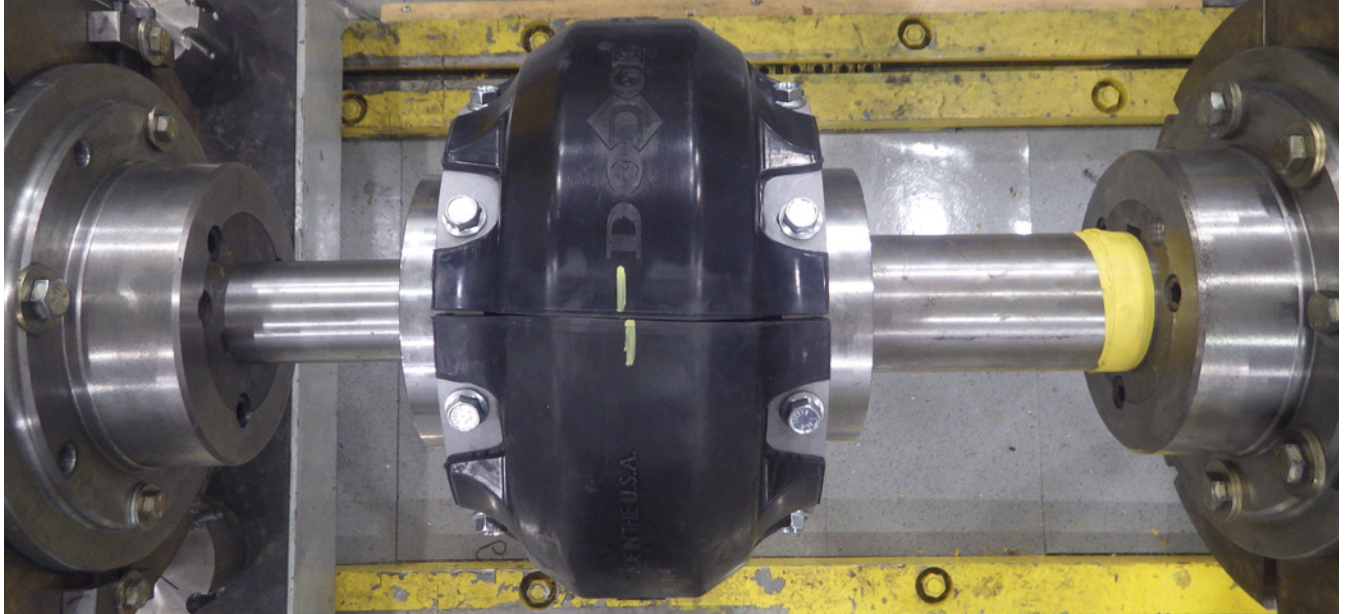
Average life, Baldor-Dodge Raptor versus competitors.

Comparative benchmark testing confirms the performance improvements associated with Raptor's WingLock element design. Even under worst-case misalignment and torque conditions, testing results show that the Raptor lasts six times longer than the closest competitor.

Results based on accelerated life testing at 1.5x catalog torque, while subject to 4° angular misalignment and 3/16" parallel misalignment.

## Tested Tough

Engineers from Baldor’s Advanced Development Laboratory designed and tested the Raptor to perform under the most extreme conditions. This includes successfully passing the rigorous DIN 740 (reverse cyclic loading) coupling test standard – not once, not twice, but ten times for a single coupling.



## Immediately Increase Life in Existing Applications

Designed to be a drop-in interchange, the Raptor meets or exceeds torque, bore, and speed ratings for these styles of commonly used couplings. All Raptor components can be used in existing applications without any modifications. This allows current users of these styles to immediately realize the benefit of longer driven equipment life and improved reliability by switching to the Raptor.

**Coupling Size**

|                     |     |     |     |     |      |      |      |      |      |      |      |      |
|---------------------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| Baldor•Dodge Raptor | E2  | E3  | E4  | E5  | E10  | E20  | E30  | E40  | E50  | E60  | E70  | E80  |
| Rexnord Omega       | E2  | E3  | E4  | E5  | E10  | E20  | E30  | E40  | E50  | E60  | E70  | E80  |
| TB Wood’s Dura-Flex | WE2 | WE3 | WE4 | WE5 | WE10 | WE20 | WE30 | WE40 | WE50 | WE60 | WE70 | WE80 |

## Industry Leading 5-Year Warranty

With over 100 years of coupling manufacturing experience, Dodge has a history of providing reliable coupling solutions in a wide range of industries and applications. Raptor couplings carry an industry leading 5-year Limited Warranty, even when used with competitors’ components.



# Longer Driven Equipment Life and Improved Reliability

## Superior Natural Rubber Element

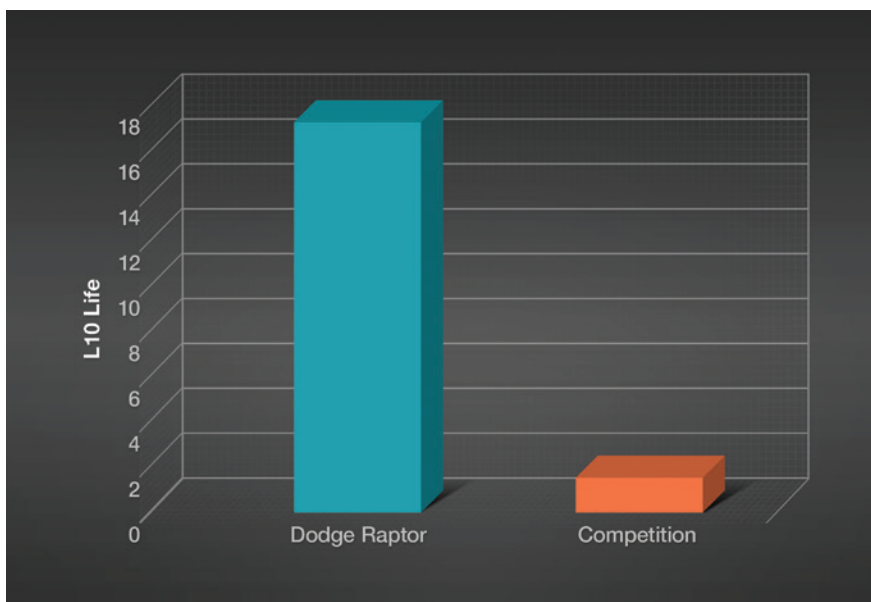
Leveraging over 50 years of Dodge’s natural rubber expertise, the Raptor features a natural rubber flexible element that offers a number of performance benefits when compared to competitive urethane designs.



- Static conductive for grounding redundancy, allowing current to safely pass through the natural rubber element, preventing the possibility of arcing during operation
- Exceptional resistance to hydrolysis, for improved performance in humid environments
- Superior thermal conductivity and ability to dissipate heat and hysteresis build up

## Lower Stiffness, Longer Driven Equipment Life

Because the Raptor element uses a natural rubber compound, it is significantly more flexible than urethane designs. Natural rubber yields an element with approximately 50% lower torsional and bending stiffness, resulting in longer life for all types of connected driven equipment – including motors, pumps, compressors and gearboxes.



Connected equipment L10 life, Baldor-Dodge Raptor versus competition

- Reduced bearing loads yield up to a 16.7 times increase in L10 bearing life in connected equipment
- Less vibration transmission to connected equipment
- Better shock damping capabilities

Results based on tested bending stiffness values applied to a motor and centrifugal pump arrangement with 4° angular misalignment.

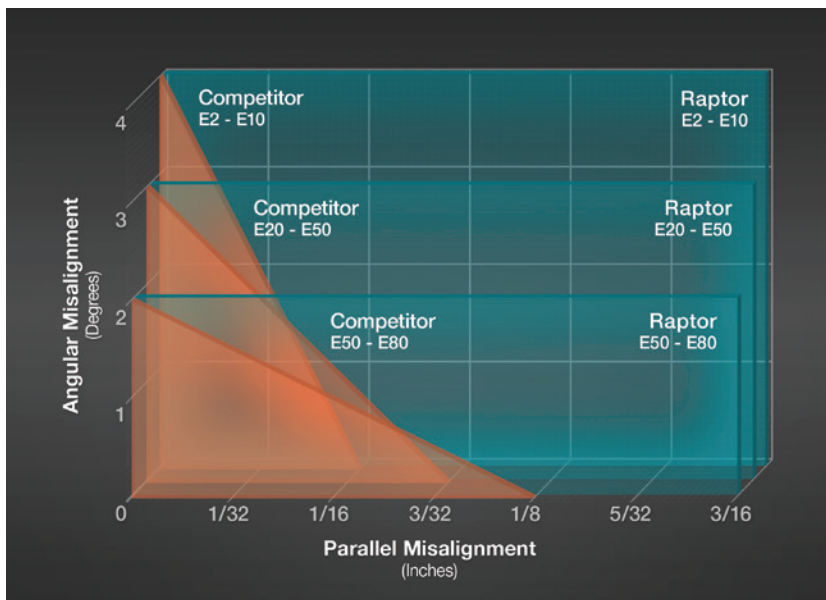


## Industry Leading Misalignment Capabilities

Over time foundations settle, vibration occurs, and some level of misalignment may occur. While competitive urethane couplings can handle pure angular or parallel misalignment, their capabilities are greatly diminished in applications with combined angular and parallel misalignment. Unfortunately for the competition, combined misalignment is reality.

When an elastomeric coupling is misaligned during operation, cyclic stresses are created, generating heat in a phenomenon known as hysteresis. The Raptor's natural rubber element has superior heat dissipating capabilities versus competitive urethane elements. Additionally, the Raptor has a lower angular stiffness, allowing it to be more forgiving in misaligned conditions. These two features combined allow the Baldor•Dodge Raptor to offer industry leading misalignment capabilities.

The Raptor provides accommodation of shaft misalignment during installation, operation, and replacement better than competitive urethane elements.



## Attention to Every Detail

Baldor highly engineered every aspect of the Raptor for performance, including specification of high-strength Grade 8 flanged head cap screws. This robust hardware gives a 40% increase in proof strength versus competitor's standard head Grade 5 fasteners. Serrations under the flanged head help to resist loosening and minimize the potential for stripping. This attention to detail provides a more reliable connection between elastomeric element and shaft hubs.



# Easier Installation and Reduced Maintenance

## Improved Features, Easier Installation

The Dodge Raptor has everything needed for easier installations and reduced maintenance costs.

- Split element for easy replacement without moving and re-aligning connected equipment
- Slotted clamp ring holes offer 187% extra mounting hardware clearance versus competitor's circular through holes.
- Approximately 50% lower torsional stiffness makes the element significantly easier to manipulate by hand during installation
- Maintenance free non-lubricated natural rubber element for trouble-free operation

Raptor's slotted clamp rings offer more clearance at the bolt holes, for an easier installation than competitive designs.



## Easy as 1-2-3

Installation for Dodge Raptor couplings are quick and easy. The Raptor's horizontally split element doesn't require locking shafts during installation, meaning a faster installation, requiring fewer tools and eliminating shaft damage. Simply fasten the shaft hubs, install the element, and tighten the hardware.



**Step 1**  
Install Hubs



**Step 2**  
Set Spacing



**Step 3**  
Install Element

# Suited For Any Application

## A Practical Solution to Spacer Couplings

The innovation behind the Raptor coupling also extends to applications requiring additional space between shaft ends.

- One spacer element fits all standard ANSI and ISO spacer lengths
- Spacer elements can be replaced with standard close-coupled elements, resulting in lower replacement costs and reduced inventory
- Eliminates the need for high-speed rings, resulting in easier installation, while also reducing purchase costs and inventory requirements



## Armored Elements for Extra Protection from Harsh Environments



Raptor elements are available with an optional Armored Element. This allows users to benefit from the increased performance and longer driven equipment life of standard Raptor elements, while providing an added layer of protection from ozone, petroleum oils, and some chemical environments. Raptor Armored Elements exceed ASTM 1149-07 rubber deterioration standards, as determined through third-party testing.



## Third-Party ATEX Certified

When it comes to applications in hazardous environments, there's no reason for customers to assume any risk by using a product which is self-certified. That's why all Raptor couplings are third-party ATEX certified for worry-free use in hazardous environments. All required product markings and documentation are included with each coupling at no additional charge. When it comes to hazardous environments, you can trust Baldor•Dodge.

II 2 GD c T5 I M2 c

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**DODGE RAPTOR COUPLINGS**  
MFG by Baldor Electric Company .  
GREENVILLE, SC / FT. SMITH, AR USA

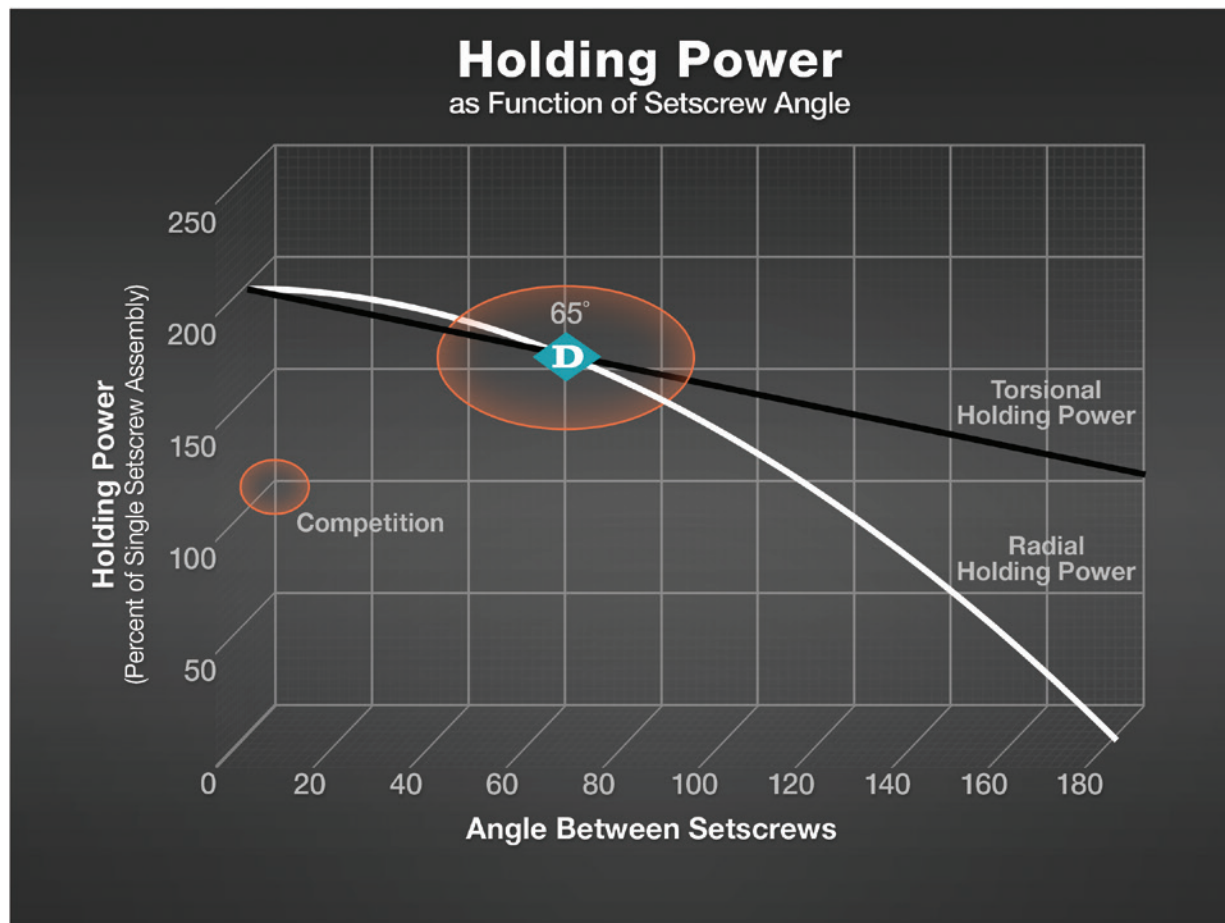
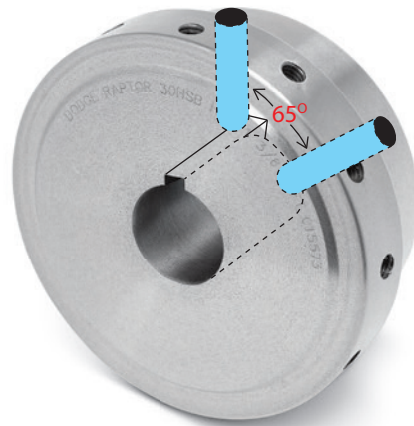
# Shaft Hubs

## Flexible Mounting Options for Any Application

- Available in a wide range of shaft attachment methods, including finished bore, Taper-Lock and QD bushed options.
- Suited for any application, hubs are reversible to accommodate a wide range of shaft gaps
- Interchangeable hubs are used for both close-coupled and spacer designs for reduced inventory

## Finished Bore

- Setscrew locking mechanism ensures a quick, easy installation
- Two setscrews at a 65° angle optimizes radial and torsional holding power, resulting in a 75% holding power increase versus competitive designs using one setscrew



## Taper-Lock Bushed



- Reduced maintenance time and costs
- Easy installation and removal
- Minimal shaft damage
- Clean, compact design
- Dodge original design, an industry standard for over 50 years
- Conforms with MPTA-B9i-2013 Taper-Lock bushing standard
- Combine with Diamond Dodge <D> Integral Key bushings for added value and convenience

## QD Bushed



- “Quick Detachable” QD bushings for easy installation and removal
- Reduced maintenance time and costs
- Minimal shaft damage
- Increased bore capacities
- Robust flanged design featuring capscrew hardware
- Conforms with MPTA-B6i-2010 QD bushing standard



## Selection Methods:

### TORQUE METHOD:

**Step 1:** Obtain required service factor from Service Factor Tables on pages 14 and 15

**Step 2:** Determine torque required for application.

$$\text{Torque (In - lbs)} = \frac{63025 \times \text{HP} \times \text{SF}}{\text{Coupling RPM}}$$

**Step 3:** From Rating Tables, find a rating equal to or greater than the torque. Note coupling size from left hand column.

**Step 4:** Check maximum RPM capability

**Step 5:** Check maximum bore capacity. If maximum bore is exceeded, move to larger size with adequate bore. Be sure maximum RPM of coupling is not exceeded

#### Notes:

1. If system peak torque is known and is non-reversing, start at Step 3. If system peak torque is known and reversing, multiply by 2.0 and start at Step 3.
2. If ambient temperature of the application is above 180°, a high temperature adjustment must be made to the system service factor. See page 29 (or 28, if the current page 28 is removed) for high temperature adjustment factors.
3. If spring set motor brake is used, and brake HP is greater than prime mover, use brake HP in place of motor HP.

### HP/100 METHOD:

**Step 1:** Obtain required service factor from Service Factor Tables on pages 14 and 15

**Step 2:** Determine the application HP per 100 RPM:

$$\text{HP} / 100 \text{ RPM} = \frac{\text{Motor HP} \times 100 \times \text{Service Factor}}{\text{Coupling RPM}}$$

**Step 3:** From Rating Tables, find a rating equal to or greater than HP design. Note to or greater than the HP/100 RPM. Note coupling size from left hand column.

**Step 4:** Check maximum RPM capability.

**Step 5:** Check maximum bore capacity. If maximum bore is exceeded, move to larger size with adequate bore. Be sure maximum RPM of coupling is not exceeded.

# Baldor•Dodge Raptor Coupling Engineering

## Service Factor Table 1

| Factor Δ                                                   |        |
|------------------------------------------------------------|--------|
| Application<br>(Read Footnotes)                            | Raptor |
| <b>AGITATORS</b>                                           |        |
| Paddle or Propeller (Vert. or Horiz.)                      | 1.00   |
| Screw                                                      | 1.00   |
| <b>BLOWERS</b>                                             |        |
| Centrifugal                                                | 1.00   |
| Lobe                                                       | 1.50   |
| Vane                                                       | 1.00   |
| <b>BREWING &amp; DISTILLING</b>                            |        |
| Bottling Machinery, Brew Kettle                            | 1.00   |
| Cooker (Continuous Duty)                                   | 1.00   |
| Mash Tub                                                   | 1.00   |
| Scale Hopper-Frequent Starting Peaks                       | 1.50   |
| <b>CAN FILLING MACHINE</b>                                 | 1.00   |
| <b>CAR DUMPER</b>                                          | 1.50   |
| <b>CAR PULLER</b>                                          | 1.50   |
| <b>CLARIFIER</b>                                           | 1.00   |
| <b>CLASSIFIER</b>                                          | 1.00   |
| <b>CLAY-WORKING MACHINES</b>                               |        |
| Brick Press, Briquette Mach., Clay Working Mach., Pug Mill | 1.50   |
| <b>COMPRESSORS</b>                                         |        |
| Centrifugal. Lobe, Screw                                   | 1.00   |
| Lobe, Rotary**                                             | 2.00   |
| Reciprocating**                                            |        |
| 1 cylinder - single acting                                 | 3.50   |
| 1 cylinder - double acting                                 | 3.00   |
| 2 cylinder- single acting                                  | 3.00   |
| 2 cylinder - double acting                                 | 2.50   |
| 3 cl. or more - single acting                              | 2.50   |
| 3 cl. or more - double acting                              | 2.00   |
| <b>CONVEYORS</b>                                           |        |
| Apron, Assembly, Belt, Chain, Flight, Oven                 | 1.00   |
| Reciprocating                                              | 2.50   |
| Screw                                                      | 1.00   |
| <b>CRANES AND HOISTS</b>                                   |        |
| Main Hoist-Medium Duty                                     | 1.50   |
| Main Hoist-Heavy Duty                                      | 2.00   |
| Skip Hoist, Travel Motion, Trolley                         | 1.50   |
| Motion, Slope                                              | 1.50   |
| <b>CRUSHERS</b>                                            |        |
| Cane                                                       | 2.00   |
| Gyratory                                                   | 2.50   |

| Factor Δ                          |        |
|-----------------------------------|--------|
| Application<br>(Read Footnotes)   | Raptor |
| <b>DREDGES</b>                    |        |
| Cable Reel, Screen Drive, Stacker | 1.50   |
| Conveyor                          | 1.50   |
| Cutter Head Drive, Jig Drive      | 2.50   |
| Pump, Utility Winch               | 1.50   |
| <b>DYNAMOMETER</b>                | 1.00   |
| <b>ELEVATORS</b>                  |        |
| Bucket, Freight                   | 2.00   |
| <b>EXCITER</b>                    | 1.00   |
| <b>FANS</b>                       |        |
| Centrifugal                       | 1.00   |
| Cooling Tower                     | 2.00   |
| Heavy Duty (Forced Draft)         | 1.50   |
| Induced Draft                     | 1.50   |
| Light                             | 1.00   |
| Propeller Indoor                  | 1.50   |
| <b>FOOD INDUSTRY</b>              |        |
| Beet Slicer                       | 1.50   |
| Cereal Cooker                     | 1.00   |
| Dough Mixer, Meat Grinder         | 1.50   |
| <b>GENERATORS</b>                 |        |
| Even Load                         | 1.00   |
| Hoist or Railway Service          | 1.50   |
| Welder Load                       | 2.00   |
| <b>GRIZZLY</b>                    | 2.00   |
| <b>KILN</b>                       | 2.00   |
| <b>LAUNDRY MACHINES</b>           |        |
| Tumbler Washer                    | 2.00   |
| <b>LINE SHAFTS</b>                |        |
| Driving Processing Machinery      | 1.00   |
| Light                             | 1.00   |
| <b>LUMBER INDUSTRY</b>            |        |
| Band Resaw                        | 1.50   |
| Circular Resaw                    | 1.50   |
| Edger Head Rig, Hog, Log Haul     | 2.00   |
| Planer                            | 1.50   |
| Rolls Non-Reversing               | 1.50   |
| Rolls Reversing                   | 2.00   |
| Sawdust Conveyor                  | 1.00   |
| Slab Conveyor                     | 1.50   |
| Sorting Table                     | 1.50   |
| <b>MACHINE TOOLS</b>              |        |
| Auxiliary                         | 1.00   |

| Factor Δ                                                      |        |
|---------------------------------------------------------------|--------|
| Application<br>(Read Footnotes)                               | Raptor |
| <b>MACHINE TOOLS (continued)</b>                              |        |
| Main Drive                                                    | 1.50   |
| Notching Press, Planer (Reversing), Plate Planer, Punch Press | 1.50   |
| Traverse                                                      | 1.00   |
| <b>METAL FORMING MACHINES</b>                                 |        |
| Draw Bench, Carriage, Main Drive, Extruder,                   | 2.00   |
| Wire Drawing, Flattening Machine                              | 2.00   |
| <b>MILLS Rotary Type</b>                                      |        |
| Ball or Pebble direct or                                      | 2.50   |
| on LS Shaft Gear Reducer                                      | 2.50   |
| on HS Shaft Gear Reducer                                      | 2.00   |
| Dryer and Cooler                                              | 1.50   |
| Rod or Tube direct or                                         | 2.50   |
| on LS Shaft Gear Reducer                                      | 2.50   |
| on HS Shaft Gear Reducer                                      | 2.00   |
| Tumbling Barrel                                               | 1.50   |
| <b>MIXERS</b>                                                 |        |
| Concrete (Continuous or intermittent)                         | 1.50   |
| Muller-Simpson type                                           | 1.50   |
| <b>OIL INDUSTRY</b>                                           |        |
| Chiller                                                       | 1.00   |
| Oil Well Pumping (Not over 150% peak torque)                  | 2.00   |
| Paraffin Filter Press                                         | 1.50   |
| <b>PAPER MILLS</b>                                            |        |
| Agitator                                                      | 1.00   |
| Barking Drum                                                  | 2.50   |
| Beater and Pulper                                             | 1.50   |
| Bleacher                                                      | 1.00   |
| Calender                                                      | 2.00   |
| Chipper                                                       | 3.00   |
| Couch Cylinder Dryer                                          | 1.50   |
| Felt Stretcher                                                | 1.00   |
| Fourdrinier                                                   | 1.50   |
| Jordan                                                        | 2.00   |
| Press                                                         | 2.00   |
| Pulp Grinder                                                  | 2.00   |
| Stock Chest                                                   | 1.50   |
| Stock Pump                                                    |        |
| Reciprocating                                                 | 2.00   |



## Service Factor Table 1 (continued)

| Factor Δ                                     |        |
|----------------------------------------------|--------|
| Application<br>(Read Footnotes)              | Raptor |
| <b>PAPER MILLS (continued)</b>               |        |
| Suction Roll                                 | 2.00   |
| Winder                                       | 1.50   |
| <b>PARAFFIN FILTER PRESS</b>                 | 1.50   |
| <b>PRINTING PRESS</b>                        | 1.50   |
| <b>PROPELLER Marine</b>                      | 1.50   |
| <b>PULLERS</b>                               |        |
| Barge Hall                                   | 2.50   |
| <b>PULVERIZERS</b>                           |        |
| Hammermill-Light Duty                        | 1.50   |
| Hammermill-Heavy Duty                        | 2.00   |
| Hog                                          | 2.00   |
| Roller                                       | 1.50   |
| <b>PUMPS</b>                                 |        |
| For Stock Pumps See Paper Mills              |        |
| Centrifugal                                  | 1.00   |
| Descaling Gear Type                          | 1.50   |
| Oil Well Pumping (Not over 150% peak torque) | 2.00   |
| Rotary -other than gear                      | 1.50   |
| Reciprocating                                |        |
| 1 cylinder-single acting                     | 2.50   |
| 1 cylinder-double acting                     | 2.00   |

| Factor Δ                                        |        |
|-------------------------------------------------|--------|
| Application<br>(Read Footnotes)                 | Raptor |
| 2 cylinder-single acting                        | 2.00   |
| 2 cylinder-double acting                        | 1.50   |
| 3 cylinder or more                              | 1.50   |
| <b>RUBBER INDUSTRY</b>                          |        |
| Banbury Mixer                                   | 2.50   |
| Calender                                        | 2.00   |
| Cracker Mixing Mill Plasticator                 | 2.50   |
| Refiner, Sheeter                                | 2.00   |
| Tire-Building Machine                           | 2.00   |
| Tire and Tube Press Opener Based on Peak Torque | 1.00   |
| Tuber and Strainer                              | 1.50   |
| Warming Mill                                    | 2.00   |
| Washer                                          | 2.50   |
| <b>SCREENS</b>                                  |        |
| Air Washing                                     | 1.00   |
| Coal and Sand Rotary                            | 1.50   |
| Vibrating                                       | 2.50   |
| Water                                           | 1.00   |
| <b>SEWAGE DISPOSAL EQUIPMENT</b>                |        |
|                                                 | 1.00   |
| <b>SHOVEL</b>                                   |        |
|                                                 | 2.00   |
| <b>SHREDDER</b>                                 |        |
|                                                 | 1.50   |

| Factor Δ                        |        |
|---------------------------------|--------|
| Application<br>(Read Footnotes) | Raptor |
| <b>STEEL INDUSTRY</b>           |        |
| Cold Mills                      |        |
| Coiler up or down               | 1.50   |
| Strip, Temper                   | 2.00   |
| Hot Mills                       |        |
| Coiler up or down               | 1.50   |
| Edger Drive                     | 1.50   |
| Feed Roll Blooming              | 3.00   |
| Roughing Mill Delivery          | 3.00   |
| Non-reversing, Sheet Strip      | 3.00   |
| Rod Mill                        | 2.50   |
| Soaking Pit Cover Drive Lift    | 3.00   |
| Soaking Pit Cover Drive Travel  | 3.00   |
| Rollout Table (non-reversing)   | 2.0    |
| Rollout Table (reversing)       | 3.5    |
| <b>STEERING GEAR</b>            |        |
|                                 | 1.00   |
| <b>STOKER</b>                   |        |
| <b>TEXTILE MILLS</b>            |        |
| Batcher                         | 1.00   |
| "Calender, Card Machine, D Can" | 1.50   |
| Dyeing Machine                  | 1.00   |
| Loom                            | 1.50   |
| Mangel, Napper, Soaper          | 1.00   |
| Spinner, Tenter Frame           | 1.50   |
| <b>WINDLASS</b>                 |        |
|                                 | 1.50   |
| <b>WOODWORKING MACHINES</b>     |        |
|                                 | 1.00   |

### SYSTEM SERVICE FACTOR CALCULATION

To determine the system service factor, the driver service factor adder (Table 1A) must be added to the driven service factor. (Table 1) Example: Determine the system service factor for a Raptor coupling used to couple a barking drum and a six-cylinder diesel engine.

$$\begin{aligned} \text{Driven S.F.} + \text{Driver S.F. Adder} &= \text{System S.F.} \\ 2.5 + .5 &= 3.0 \end{aligned}$$

- Δ The service factors listed are intended only as a general guide. Where substantial shock occurs or starting and stopping is frequent as on some "inching" drives and on some reversing drives or where the power source is an internal combustion engine with less

than four cylinders—Consult Dodge. Where torsional vibrations occur as in, for example, internal combustion engine or reciprocating compressor or pump applications, check the coupling stiffness for the possible development of damaging large-amplitude vibrations. A complete system torsional analysis may be necessary.

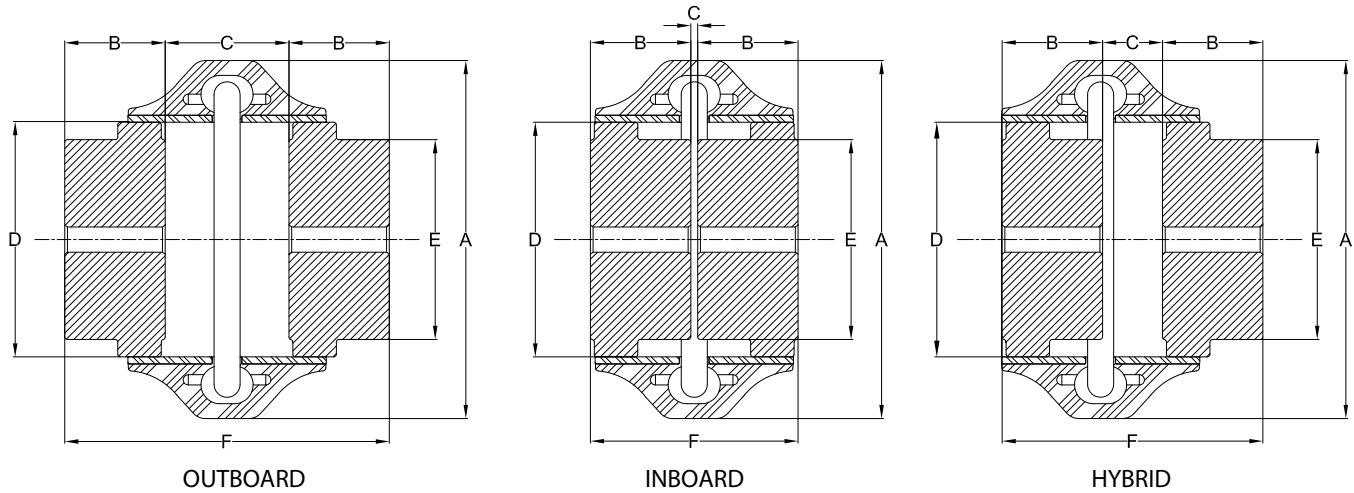
\*\* Add 0.5 to factor if without flywheel

◆ CONSULT DODGE FOR SELECTION ASSISTANCE

Table 1A-Driver Service Factor Adders

| Type of Coupling | Electric Motor Std. Torque | High Torque Motors | Turbines | Reciprocating Engine Number of Cylinders |         |        |        |             |
|------------------|----------------------------|--------------------|----------|------------------------------------------|---------|--------|--------|-------------|
|                  |                            |                    |          | 12 or More                               | 8 to 11 | 6 to 7 | 4 to 5 | Less than 4 |
| Raptor           | 0.00                       | 0.00               | 0.00     | 0.00                                     | 0.50    | 0.50   | 0.50   | ◆           |

# Ratings & Dimensions Close-Coupled - Finished Bore



| Coupling Size | Min. Bore | Max. Bore <sup>1</sup> | HP/100 | Max Torque (In-Lbs) | Max. RPM | A     | B    | C        |         |        | D     | E    | F        |         |        | Weight <sup>(2)</sup> (Lbs.) |
|---------------|-----------|------------------------|--------|---------------------|----------|-------|------|----------|---------|--------|-------|------|----------|---------|--------|------------------------------|
|               |           |                        |        |                     |          |       |      | OUTBOARD | INBOARD | HYBRID |       |      | OUTBOARD | INBOARD | HYBRID |                              |
| E2            | —         | 1.13                   | 0.31   | 194                 | 7,500    | 3.50  | 0.94 | 1.90     | 1.34    | 1.62   | 1.85  | 1.65 | 3.78     | 3.22    | 3.50   | 1.2                          |
| E3            | —         | 1.38                   | 0.59   | 371                 | 7,500    | 4.00  | 1.50 | 1.31     | 0.81    | 1.06   | 2.32  | 2.00 | 4.31     | 3.81    | 4.06   | 2.3                          |
| E4            | —         | 1.63                   | 0.89   | 558                 | 7,500    | 4.56  | 1.69 | 1.31     | 0.44    | 0.88   | 2.60  | 2.36 | 4.69     | 3.81    | 4.25   | 3.3                          |
| E5            | —         | 1.88                   | 1.47   | 926                 | 7,500    | 5.38  | 1.75 | 1.81     | 0.81    | 1.31   | 3.13  | 2.80 | 5.31     | 4.31    | 4.81   | 5.4                          |
| E10           | —         | 2.13                   | 2.31   | 1,456               | 7,500    | 6.38  | 1.88 | 1.81     | 0.56    | 1.19   | 3.65  | 3.30 | 5.56     | 4.31    | 4.94   | 7.6                          |
| E20           | 0.75      | 2.38                   | 3.66   | 2,308               | 6,600    | 7.25  | 2.06 | 2.38     | 0.50    | 1.44   | 4.48  | 4.00 | 6.50     | 4.62    | 5.56   | 12.7                         |
| E30           | 0.75      | 2.88                   | 5.79   | 3,651               | 5,800    | 8.25  | 2.31 | 2.44     | 0.56    | 1.50   | 5.42  | 4.62 | 7.06     | 5.19    | 6.13   | 19.7                         |
| E40           | 0.75      | 3.38                   | 8.73   | 5,504               | 5,000    | 9.50  | 2.50 | 2.68     | 0.56    | 1.62   | 6.63  | 5.75 | 7.68     | 5.56    | 6.62   | 33.5                         |
| E50           | 1.13      | 3.63                   | 12.1   | 7,656               | 4,200    | 11.00 | 2.75 | 3.38     | 0.63    | 2.01   | 8.13  | 6.13 | 8.88     | 6.13    | 7.51   | 50.9                         |
| E60           | 1.13      | 4.00                   | 19.8   | 12,505              | 3,800    | 12.50 | 3.25 | 3.44     | 0.69    | 2.07   | 8.75  | 6.50 | 9.94     | 7.19    | 8.57   | 71.3                         |
| E70           | 1.38      | 4.50                   | 35.1   | 22,132              | 3,600    | 14.00 | 3.62 | 3.75     | 0.75    | 2.25   | 9.25  | 6.99 | 11.00    | 8.00    | 9.50   | 82.0                         |
| E80           | 1.63      | 6.00                   | 62.7   | 39,503              | 2,000    | 16.00 | 4.87 | 5.00     | 0.75    | 2.88   | 11.25 | 9.49 | 14.75    | 10.50   | 12.63  | 169.4                        |

(1) Consult page 29 for larger bore capacities with shallow keys

(2) Weight of complete coupling in pounds

(3) All dimensions in inches

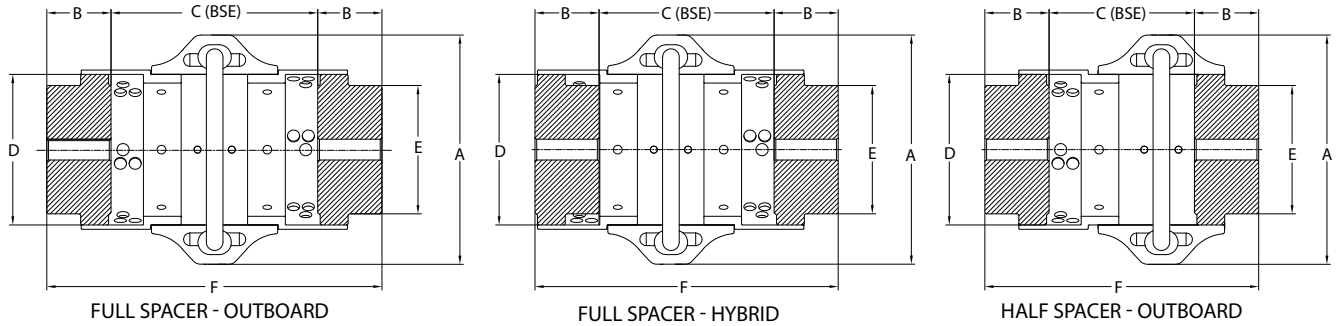
## Close-Coupled Inch Element Assemblies

| Size | Standard (Natural Rubber) | Armored Elements | Replacement Hardware |
|------|---------------------------|------------------|----------------------|
| E2   | 015843                    | 017126           | 017000               |
| E3   | 015844                    | 017127           | 017001               |
| E4   | 015845                    | 017128           |                      |
| E5   | 015846                    | 017129           |                      |
| E10  | 015847                    | 017130           | 017180               |
| E20  | 015848                    | 017131           | 017002               |
| E30  | 015849                    | 017132           |                      |
| E40  | 015850                    | 017133           | 017003               |
| E50  | 015851                    | 017134           |                      |
| E60  | 015852                    | 017135           |                      |
| E70  | 015853                    | 017136           | 017004               |
| E80  | 015854                    | 017137           |                      |

(1) Element assemblies include hardware.

(2) Raptor elements are also available with metric hardware. This requires use of shaft hubs tapped for metric hardware. Reference International Couplings Catalog (ICA4004) or contact Baldor for more information.

# Ratings & Dimensions Spacer - Finished Bore



| Coupling Size | Min. Bore | Max. Bore <sup>(1)</sup> | HP/100 | Max Rated Torque (In-Lbs.) | Max. RPM | A     | B    | C    |       | D     | E    | F     |       | Weight <sup>(2)</sup> (Lbs.) |
|---------------|-----------|--------------------------|--------|----------------------------|----------|-------|------|------|-------|-------|------|-------|-------|------------------------------|
|               |           |                          |        |                            |          |       |      | Min. | Max.  |       |      | Min.  | Max.  |                              |
| ES2           | –         | 1.13                     | 0.31   | 194                        | 7,500    | 3.50  | 0.94 | 3.50 | 3.94  | 1.85  | 1.65 | 5.38  | 5.82  | 1.86                         |
| ES3           | –         | 1.38                     | 0.59   | 371                        | 7,500    | 4.00  | 1.50 | 3.50 | 5.51  | 2.32  | 2.00 | 6.50  | 8.51  | 3.73                         |
| ES4           | –         | 1.63                     | 0.89   | 558                        | 7,500    | 4.56  | 1.69 | 3.50 | 5.51  | 2.60  | 2.36 | 6.88  | 8.89  | 5.12                         |
| ES5           | –         | 1.88                     | 1.47   | 926                        | 7,500    | 5.38  | 1.75 | 3.50 | 5.51  | 3.13  | 2.80 | 7.00  | 9.01  | 7.78                         |
| ES10          | –         | 2.13                     | 2.31   | 1,456                      | 7,500    | 6.38  | 1.88 | 3.50 | 5.51  | 3.65  | 3.30 | 7.26  | 9.27  | 10.35                        |
| ES20          | 0.75      | 2.38                     | 3.66   | 2,308                      | 6,600    | 7.25  | 2.06 | 3.50 | 7.09  | 4.48  | 4.00 | 7.62  | 11.21 | 17.31                        |
| ES30          | 0.75      | 2.88                     | 5.79   | 3,651                      | 5,800    | 8.25  | 2.31 | 3.50 | 7.09  | 5.42  | 4.62 | 8.12  | 11.71 | 26.81                        |
| ES40          | 0.75      | 3.38                     | 8.73   | 5,504                      | 5,000    | 9.50  | 2.50 | 3.94 | 7.09  | 6.63  | 5.75 | 8.94  | 12.09 | 43.57                        |
| ES50          | 1.13      | 3.63                     | 12.1   | 7,656                      | 4,200    | 11.00 | 2.75 | 3.94 | 7.09  | 8.13  | 6.13 | 9.44  | 12.59 | 63.98                        |
| ES60          | 1.13      | 4.00                     | 19.8   | 12,505                     | 3,800    | 12.50 | 3.25 | 5.00 | 10.00 | 8.75  | 6.50 | 11.50 | 16.50 | 94.85                        |
| ES70          | 1.38      | 4.50                     | 35.1   | 22,132                     | 3,600    | 14.00 | 3.62 | 7.00 | 10.00 | 9.25  | 6.99 | 14.24 | 17.24 | 106.34                       |
| ES80          | 1.63      | 6.00                     | 62.7   | 39,503                     | 2,000    | 16.00 | 4.87 | 7.00 | 10.00 | 11.25 | 9.49 | 16.74 | 19.74 | 207.47                       |

- (1) Consult page 29 for larger bore capacities with shallow keys
- (2) Weight of complete coupling at maximum bore with four spacer extensions
- (3) All dimensions in inches

## Finished Bore Spacer Lengths

| Size | Standard (Natural Rubber)<br>Element Part Numbers |             | ANSI (in.) |   |   |    | ISO & DIN (mm) |     |     |     |
|------|---------------------------------------------------|-------------|------------|---|---|----|----------------|-----|-----|-----|
|      | Full Spacer                                       | Half Spacer | 3.5        | 5 | 7 | 10 | 100            | 140 | 180 | 250 |
|      |                                                   |             |            |   |   |    |                |     |     |     |
| ES2  | 017064                                            | 017182      | ■          |   |   |    | ■              |     |     |     |
| ES3  | 017065                                            | 017183      | ■          | ■ |   |    | ■              | ■   |     |     |
| ES4  | 017066                                            | 017184      | ■          | ■ |   |    | ■              | ■   |     |     |
| ES5  | 017067                                            | 017185      | ■          | ■ |   |    | ■              | ■   |     |     |
| ES10 | 017068                                            | 017186      | ■          | ■ |   |    | ■              | ■   |     |     |
| ES20 | 017069                                            | 017187      | ■          | ■ | ■ |    | ■              | ■   | ■   |     |
| ES30 | 017070                                            | 017188      | ■          | ■ | ■ |    | ■              | ■   | ■   |     |
| ES40 | 017071                                            | 017189      |            | ■ | ■ |    | ■              | ■   | ■   |     |
| ES50 | 017072                                            | 017190      |            | ■ | ■ |    | ■              | ■   | ■   |     |
| ES60 | 017073                                            | 017191      |            | ■ | ■ | ■  |                | ■   | ■   | ■   |
| ES70 | 017074                                            | 017192      |            |   | ■ | ■  |                |     | ■   | ■   |
| ES80 | 017075                                            | 017193      |            |   | ■ | ■  |                |     | ■   | ■   |

- (1) Element assemblies include hardware.
- (2) Table shows actual spacer lengths relative to standard ANSI and ISO spacer lengths
- (3) All calculations based off of outboard hubs.

- Full Spacer Outboard Method
- Full Spacer Hybrid Method
- Half Spacer Outboard Method
- Half Spacer Hybrid Method

# Hub Part Numbers

## Finished Bore - Inch Bores

| Bore (in.) | Coupling Size |        |        |        |        |        |        |        |        |        |        |        |
|------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|            | 2             | 3      | 4      | 5      | 10     | 20     | 30     | 40     | 50     | 60     | 70     | 80     |
| Reborable  | 015234        | 015235 | 015236 | 015237 | 015238 | 015239 | 015240 | 015241 | 015242 | 015243 | 015244 | 015245 |
| 1/2"       | 015425        | 015436 | 015451 | 015474 | 015501 |        |        |        |        |        |        |        |
| 9/16"      | 015426        | 015437 | 015452 | 015475 | 015502 |        |        |        |        |        |        |        |
| 5/8"       | 015427        | 015438 | 015453 | 015476 | 015503 |        |        |        |        |        |        |        |
| 11/16"     | 015428        | 015439 | 015454 | 015477 | 015504 |        |        |        |        |        |        |        |
| 3/4"       | 015429        | 015440 | 015455 | 015478 | 015505 | 015532 | 015563 | 015602 |        |        |        |        |
| 13/16"     | 015430        | 015441 | 015456 | 015479 | 015506 | 015533 | 015564 | 015603 |        |        |        |        |
| 7/8"       | 015431        | 015442 | 015457 | 015480 | 015507 | 015534 | 015565 | 015604 |        |        |        |        |
| 15/16"     | 015432        | 015443 | 015458 | 015481 | 015508 | 015535 | 015566 | 015605 |        |        |        |        |
| 1"         | 015433        | 015444 | 015459 | 015482 | 015509 | 015536 | 015567 | 015606 |        |        |        |        |
| 1-1/16"    | 015434        | 015445 | 015460 | 015483 | 015510 | 015537 | 015568 | 015607 |        |        |        |        |
| 1-1/8"     | 015435        | 015446 | 015461 | 015484 | 015511 | 015538 | 015569 | 015608 | 015649 | 015694 |        |        |
| 1-3/16"    |               | 015447 | 015462 | 015485 | 015512 | 015539 | 015570 | 015609 | 015650 | 015695 |        |        |
| 1-1/4"     |               | 015448 | 015463 | 015486 | 015513 | 015540 | 015571 | 015610 | 015651 | 015696 |        |        |
| 1-5/16"    |               | 015449 | 015464 | 015487 | 015514 | 015541 | 015572 | 015611 | 015652 | 015697 |        |        |
| 1-3/8"     |               | 015450 | 015465 | 015488 | 015515 | 015542 | 015573 | 015612 | 015653 | 015698 | 015749 |        |
| 1-7/16"    |               |        | 015466 | 015489 | 015516 | 015543 | 015574 | 015613 | 015654 | 015699 | 015750 |        |
| 1-1/2"     |               |        | 015467 | 015490 | 015517 | 015544 | 015575 | 015614 | 015655 | 015700 | 015751 |        |
| 1-9/16"    |               |        | 015468 | 015491 | 015518 | 015545 | 015576 | 015615 | 015656 | 015701 | 015752 |        |
| 1-5/8"     |               |        | 015469 | 015492 | 015519 | 015546 | 015577 | 015616 | 015657 | 015702 | 015753 | 015867 |
| 1-11/16"   |               |        |        | 015493 | 015520 | 015547 | 015578 | 015617 | 015658 | 015703 | 015754 | 015868 |
| 1-3/4"     |               |        |        | 015494 | 015521 | 015548 | 015579 | 015618 | 015659 | 015704 | 015755 | 015869 |
| 1-13/16"   |               |        |        | 015495 | 015522 | 015549 | 015580 | 015619 | 015660 | 015705 | 015756 | 015870 |
| 1-7/8"     |               |        |        | 015496 | 015523 | 015550 | 015581 | 015620 | 015661 | 015706 | 015757 | 015871 |
| 1-15/16"   |               |        |        |        | 015524 | 015551 | 015582 | 015621 | 015662 | 015707 | 015758 | 015872 |
| 2"         |               |        |        |        | 015525 | 015552 | 015583 | 015622 | 015663 | 015708 | 015759 | 015873 |
| 2-1/16"    |               |        |        |        | 015526 | 015553 | 015584 | 015623 | 015664 | 015709 | 015760 | 015874 |
| 2-1/8"     |               |        |        |        | 015527 | 015554 | 015585 | 015624 | 015665 | 015710 | 015761 | 015875 |
| 2-3/16"    |               |        |        |        |        | 015555 | 015586 | 015625 | 015666 | 015711 | 015762 | 015876 |
| 2-1/4"     |               |        |        |        |        | 015556 | 015587 | 015626 | 015667 | 015712 | 015763 | 015877 |
| 2-5/16"    |               |        |        |        |        | 015557 | 015588 | 015627 | 015668 | 015713 | 015764 | 015878 |
| 2-3/8"     |               |        |        |        |        | 015558 | 015589 | 015628 | 015669 | 015714 | 015765 | 015879 |
| 2-7/16"    |               |        |        |        |        |        | 015590 | 015629 | 015670 | 015715 | 015766 | 015880 |
| 2-1/2"     |               |        |        |        |        |        | 015591 | 015630 | 015671 | 015716 | 015767 | 015881 |
| 2-9/16"    |               |        |        |        |        |        | 015592 | 015631 | 015672 | 015717 | 015768 | 015882 |
| 2-5/8"     |               |        |        |        |        |        | 015593 | 015632 | 015673 | 015718 | 015769 | 015883 |
| 2-11/16"   |               |        |        |        |        |        | 015594 | 015633 | 015674 | 015719 | 015770 | 015884 |
| 2-3/4"     |               |        |        |        |        |        | 015595 | 015634 | 015675 | 015720 | 015771 | 015885 |

Stock bores

- Listed shaft hubs are tapped for imperial hardware, and intended for use with Imperial element assemblies. Shaft hubs and element assemblies are also available for use with metric hardware. Reference International Catalog (ICA4004) or contact Baldor-Dodge for more information.
- Unless otherwise specified, finished bores for sizes E2-E60 are Class 1 clearance fit and sizes E70-E80 are interference fit per AGMA 9002. See page 26 for additional details.

## Finished Bore - Inch Bores (Cont.)

| Bore (in.) | Coupling Size |   |   |   |    |    |        |        |        |        |        |        |
|------------|---------------|---|---|---|----|----|--------|--------|--------|--------|--------|--------|
|            | 2             | 3 | 4 | 5 | 10 | 20 | 30     | 40     | 50     | 60     | 70     | 80     |
| 2-13/16"   |               |   |   |   |    |    | 015596 | 015635 | 015676 | 015721 | 015772 | 015886 |
| 2-7/8"     |               |   |   |   |    |    | 015597 | 015636 | 015677 | 015722 | 015773 | 015887 |
| 2-15/16"   |               |   |   |   |    |    |        | 015637 | 015678 | 015723 | 015774 | 015888 |
| 3"         |               |   |   |   |    |    |        | 015638 | 015679 | 015724 | 015775 | 015889 |
| 3-1/16"    |               |   |   |   |    |    |        | 015639 | 015680 | 015725 | 015776 | 015890 |
| 3-1/8"     |               |   |   |   |    |    |        | 015640 | 015681 | 015726 | 015777 | 015891 |
| 3-3/16"    |               |   |   |   |    |    |        | 015641 | 015682 | 015727 | 015778 | 015892 |
| 3-1/4"     |               |   |   |   |    |    |        | 015642 | 015683 | 015728 | 015779 | 015893 |
| 3-5/16"    |               |   |   |   |    |    |        | 015643 | 015684 | 015729 | 015780 | 015894 |
| 3-3/8"     |               |   |   |   |    |    |        | 015644 | 015685 | 015730 | 015781 | 015895 |
| 3-7/16"    |               |   |   |   |    |    |        |        | 015686 | 015731 | 015782 | 015896 |
| 3-1/2"     |               |   |   |   |    |    |        |        | 015687 | 015732 | 015783 | 015897 |
| 3-9/16"    |               |   |   |   |    |    |        |        | 015688 | 015733 | 015784 | 015898 |
| 3-5/8"     |               |   |   |   |    |    |        |        | 015689 | 015734 | 015785 | 015899 |
| 3-11/16"   |               |   |   |   |    |    |        |        |        | 015735 | 015786 | 015900 |
| 3-3/4"     |               |   |   |   |    |    |        |        |        | 015736 | 015787 | 015901 |
| 3-13/16"   |               |   |   |   |    |    |        |        |        | 015737 | 015788 | 015902 |
| 3-7/8"     |               |   |   |   |    |    |        |        |        | 015738 | 015789 | 015903 |
| 3-15/16"   |               |   |   |   |    |    |        |        |        | 015739 | 015790 | 015904 |
| 4"         |               |   |   |   |    |    |        |        |        | 015740 | 015791 | 015905 |
| 4-3/16"    |               |   |   |   |    |    |        |        |        |        | 015792 | 015906 |
| 4-1/4"     |               |   |   |   |    |    |        |        |        |        | 015793 | 015907 |
| 4-3/8"     |               |   |   |   |    |    |        |        |        |        | 015794 | 015908 |
| 4-7/16"    |               |   |   |   |    |    |        |        |        |        | 015795 | 015909 |
| 4-1/2"     |               |   |   |   |    |    |        |        |        |        | 015796 | 015910 |
| 4-11/16"   |               |   |   |   |    |    |        |        |        |        |        | 015911 |
| 4-3/4"     |               |   |   |   |    |    |        |        |        |        |        | 015912 |
| 4-7/8"     |               |   |   |   |    |    |        |        |        |        |        | 015913 |
| 4-15/16"   |               |   |   |   |    |    |        |        |        |        |        | 015914 |
| 5"         |               |   |   |   |    |    |        |        |        |        |        | 015915 |
| 5-3/16"    |               |   |   |   |    |    |        |        |        |        |        | 015916 |
| 5-1/4"     |               |   |   |   |    |    |        |        |        |        |        | 015917 |
| 5-7/16"    |               |   |   |   |    |    |        |        |        |        |        | 015918 |
| 5-1/2"     |               |   |   |   |    |    |        |        |        |        |        | 015919 |
| 5-11/16"   |               |   |   |   |    |    |        |        |        |        |        | 015920 |
| 5-3/4"     |               |   |   |   |    |    |        |        |        |        |        | 015921 |
| 5-15/16"   |               |   |   |   |    |    |        |        |        |        |        | 015922 |
| 6"         |               |   |   |   |    |    |        |        |        |        |        | 015923 |

 Stock bores

- Listed shaft hubs are tapped for imperial hardware, and intended for use with Imperial element assemblies. Shaft hubs and element assemblies are also available for use with metric hardware. Reference International Catalog (ICA4004) or contact Baldor-Dodge for more information.
- Unless otherwise specified, finished bores for sizes E2-E60 are Class 1 clearance fit and sizes E70-E80 are interference fit per AGMA 9002. See pages 26 and 27 for additional details.

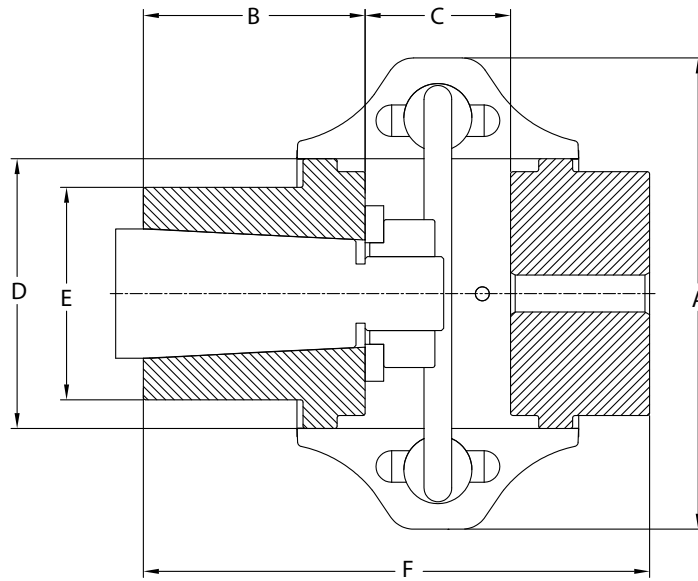
# Hub Part Numbers

## Finished Bore - Metric Bores

| Bore (in.) | Coupling Size |        |        |        |        |        |        |        |        |        |        |        |
|------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|            | 2             | 3      | 4      | 5      | 10     | 20     | 30     | 40     | 50     | 60     | 70     | 80     |
| Reborable  | 015234        | 015235 | 015236 | 015237 | 015238 | 015239 | 015240 | 015241 | 015242 | 015243 | 015244 | 015245 |
| 11         | 016225        | 016236 | 016250 | 016267 | 016286 |        |        |        |        |        |        |        |
| 12         | 016226        | 016237 | 016251 | 016268 | 016287 |        |        |        |        |        |        |        |
| 14         | 016227        | 016238 | 016252 | 016269 | 016288 |        |        |        |        |        |        |        |
| 16         | 016228        | 016239 | 016253 | 016270 | 016289 |        |        |        |        |        |        |        |
| 17         | 016229        | 016240 | 016254 | 016271 | 016290 |        |        |        |        |        |        |        |
| 18         | 016230        | 016241 | 016255 | 016272 | 016291 |        |        |        |        |        |        |        |
| 19         | 016231        | 016242 | 016256 | 016273 | 016292 | 016307 | 016325 | 016347 |        |        |        |        |
| 20         | 016232        | 016243 | 016257 | 016274 | 016293 | 016308 | 016326 | 016348 |        |        |        |        |
| 22         | 016233        | 016244 | 016258 | 016275 | 016294 | 016309 | 016327 | 016349 |        |        |        |        |
| 24         | 016234        | 016245 | 016259 | 016276 | 016295 | 016310 | 016328 | 016350 |        |        |        |        |
| 25         | 016235        | 016246 | 016260 | 016277 | 016296 | 016311 | 016329 | 016351 |        |        |        |        |
| 28         |               | 016247 | 016261 | 016278 | 016297 | 016312 | 016330 | 016352 | 016372 | 016393 |        |        |
| 30         |               | 016248 | 016262 | 016279 | 016298 | 016313 | 016331 | 016353 | 016373 | 016394 |        |        |
| 32         |               | 016249 | 016263 | 016280 | 016299 | 016314 | 016332 | 016354 | 016374 | 016395 |        |        |
| 35         |               |        | 016264 | 016281 | 016300 | 016315 | 016333 | 016355 | 016375 | 016396 | 016416 |        |
| 38         |               |        | 016265 | 016282 | 016301 | 016316 | 016334 | 016356 | 016376 | 016397 | 016417 |        |
| 40         |               |        | 016266 | 016283 | 016302 | 016317 | 016335 | 016357 | 016377 | 016398 | 016418 | 016438 |
| 42         |               |        |        | 016284 | 016303 | 016318 | 016336 | 016358 | 016378 | 016399 | 016419 | 016439 |
| 45         |               |        |        | 016285 | 016304 | 016319 | 016337 | 016359 | 016379 | 016400 | 016420 | 016440 |
| 48         |               |        |        |        | 016305 | 016320 | 016338 | 016360 | 016380 | 016401 | 016421 | 016441 |
| 50         |               |        |        |        | 016306 | 016321 | 016339 | 016361 | 016381 | 016402 | 016422 | 016442 |
| 55         |               |        |        |        |        | 016322 | 016340 | 016362 | 016382 | 016403 | 016423 | 016443 |
| 56         |               |        |        |        |        | 016323 | 016341 | 016363 | 016383 | 016404 | 016424 | 016444 |
| 60         |               |        |        |        |        | 016324 | 016342 | 016364 | 016384 | 016405 | 016425 | 016445 |
| 63         |               |        |        |        |        |        | 016343 | 016365 | 016385 | 016406 | 016426 | 016446 |
| 65         |               |        |        |        |        |        | 016344 | 016366 | 016386 | 016407 | 016427 | 016447 |
| 70         |               |        |        |        |        |        | 016345 | 016367 | 016387 | 016408 | 016428 | 016448 |
| 71         |               |        |        |        |        |        | 016346 | 016368 | 016388 | 016409 | 016429 | 016449 |
| 75         |               |        |        |        |        |        |        | 016369 | 016389 | 016410 | 016430 | 016450 |
| 80         |               |        |        |        |        |        |        | 016370 | 016390 | 016411 | 016431 | 016451 |
| 85         |               |        |        |        |        |        |        | 016371 | 016391 | 016412 | 016432 | 016452 |
| 90         |               |        |        |        |        |        |        |        | 016392 | 016413 | 016433 | 016453 |
| 95         |               |        |        |        |        |        |        |        |        | 016414 | 016434 | 016454 |
| 100        |               |        |        |        |        |        |        |        |        | 016415 | 016435 | 016455 |
| 105        |               |        |        |        |        |        |        |        |        |        | 016436 | 016456 |
| 110        |               |        |        |        |        |        |        |        |        |        | 016437 | 016457 |
| 120        |               |        |        |        |        |        |        |        |        |        |        | 016458 |
| 125        |               |        |        |        |        |        |        |        |        |        |        | 016459 |
| 130        |               |        |        |        |        |        |        |        |        |        |        | 016460 |
| 140        |               |        |        |        |        |        |        |        |        |        |        | 016461 |
| 150        |               |        |        |        |        |        |        |        |        |        |        | 016462 |

• Listed shaft hubs are tapped for imperial hardware, and intended for use with Imperial element assemblies. Shaft hubs and element assemblies are also available for use with metric hardware. Reference International Catalog (ICA4004) or contact Baldor-Dodge for more information.  
 • Unless otherwise specified, finished bores for E2-E60 are transitional fit and sizes E70-E80 are interference fit per ISO R775. See page 28 for details.

# Ratings & Dimensions, Mill Motor

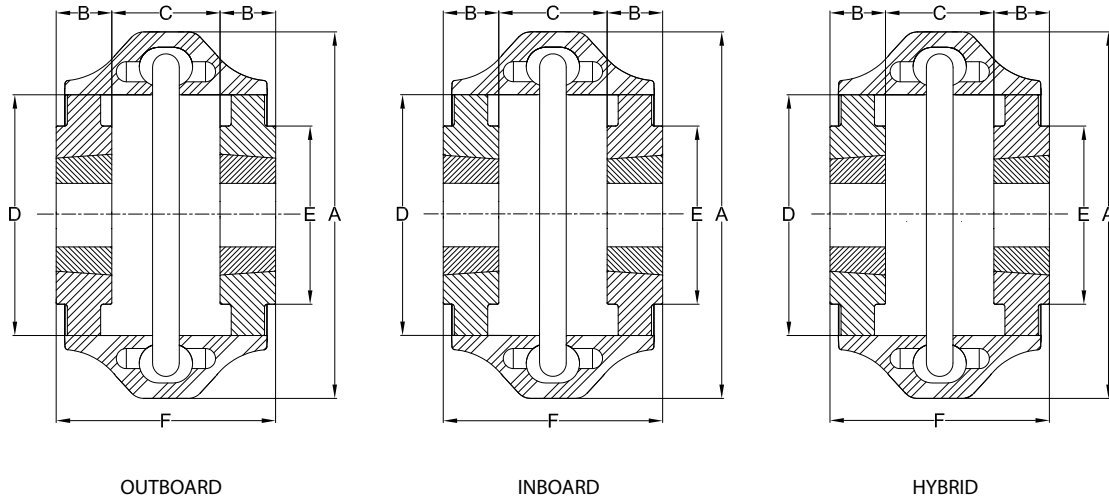


**Mill Motor Hubs - HCBMM**

| Size | Mill Motor Size  | HP/100 | Max Rated Torque (In-Lbs.) | Max. RPM | A     | B     | C    | D     | E    | F     | Weight (Lbs.) |
|------|------------------|--------|----------------------------|----------|-------|-------|------|-------|------|-------|---------------|
| E10  | 602/802          | 2.31   | 1,456                      | 7,500    | 6.38  | 3.00  | 1.81 | 3.65  | 2.88 | 6.68  | 5.8           |
| E20  | 802B/802C        | 3.66   | 2,308                      | 6,600    | 7.25  | 3.00  | 2.38 | 4.48  | 3.00 | 7.44  | 9.8           |
|      | 603              |        |                            |          |       | 3.50  |      |       |      | 7.94  | 9.1           |
| E30  | 603/803, 604/804 | 5.79   | 3,651                      | 5,800    | 8.25  | 3.50  | 2.44 | 5.42  | 3.50 | 8.25  | 15.8          |
| E40  | 604/804          | 8.73   | 5,504                      | 5,000    | 9.50  | 3.50  | 2.68 | 6.63  | 3.50 | 8.68  | 26.0          |
| E50  | 406/606/806      | 12.15  | 7,656                      | 4,200    | 11.00 | 4.00  | 3.38 | 8.13  | 4.00 | 10.13 | 39.8          |
|      | 408/608/808      |        |                            |          |       |       |      |       |      | 10.63 | 36.0          |
| E60  | 406/606/806      | 19.84  | 12,505                     | 3,800    | 12.50 | 4.00  | 3.44 | 8.75  | 4.50 | 10.69 | 58.2          |
|      | 408/608/808      |        |                            |          |       |       |      |       |      | 11.19 | 54.8          |
| E70  | 408/608/808      | 35.12  | 22,132                     | 3,600    | 14.00 | 4.50  | 3.75 | 9.25  | 4.75 | 11.88 | 61.0          |
|      | 410/610/810      |        |                            |          |       |       |      |       |      | 12.38 | 58.4          |
|      | 412/612/812      |        |                            |          |       |       |      |       |      | 14.38 | 54.4          |
| E80  | 410/610/810      | 62.68  | 39,503                     | 2,000    | 16.00 | 4.50  | 5    | 11.25 | 6.00 | 14.38 | 118.0         |
|      | 412/612/812      |        |                            |          |       | 5.00  |      |       |      | 14.88 | 115.3         |
|      | 614              |        |                            |          |       | 106.1 |      |       |      |       |               |

| Size | Mill Motor Size  | Description               | Part Number |
|------|------------------|---------------------------|-------------|
| E10  | 602/802          | 10HMMCB - 602/802         | 017088      |
| E20  | 802B/802C        | 20HMMCB - 802             | 017089      |
|      | 603              | 20HMMCB - 603             | 017090      |
| E30  | 603/803, 604/804 | 30HMMCB - 603/803 604/804 | 017091      |
| E40  | 604/804          | 40HMMCB - 604/804         | 017092      |
| E50  | 406/606/806      | 50HMMCB - 406/606/806     | 017093      |
|      | 408/608/808      | 50HMMCB - 408/608/808     | 017094      |
| E60  | 406/606/806      | 60HMMCB - 406/606/806     | 017095      |
|      | 408/608/808      | 60HMMCB - 408/608/808     | 017096      |
| E70  | 408/608/808      | 70HMMCB - 408/608/808     | 017097      |
|      | 410/610/810      | 70HMMCB - 410/610/810     | 017098      |
|      | 412/612/812      | 70HMMCB - 412/612/812     | 017099      |
| E80  | 410/610/810      | 80HMMCB - 410/610/810     | 017100      |
|      | 412/612/812      | 80HMMCB - 412/612/812     | 017101      |
|      | 614              | 80HMMCB - 614             | 017102      |

# Ratings & Dimensions Close-Coupled - Taper-Lock Bushed



| Coupling Size | Bushing Size | Max. Bore <sup>(1)</sup> | HP/100 | Max Torque (In-Lbs.) | Max. RPM | A     | B    | C    | D     | E    | F     | G <sup>(2)</sup> | H <sup>(3)</sup> | Weight <sup>(4)</sup> (Lbs.) |
|---------------|--------------|--------------------------|--------|----------------------|----------|-------|------|------|-------|------|-------|------------------|------------------|------------------------------|
| E3            | 1008         | 1.00                     | 0.59   | 371                  | 7,500    | 4.00  | 0.88 | 1.68 | 2.32  | 2.00 | 3.44  | 0.63             | 0.75             | 2.2                          |
| E4            | 1008         | 1.00                     | 0.89   | 558                  | 7,500    | 4.56  | 0.88 | 1.68 | 2.60  | 2.25 | 3.44  | 0.63             | 0.75             | 2.9                          |
| E5            | 1108         | 1.13                     | 1.47   | 926                  | 7,500    | 5.38  | 0.88 | 2.19 | 3.13  | 2.80 | 3.95  | 0.63             | 0.75             | 4.8                          |
| E10           | 1310         | 1.44                     | 2.31   | 1,456                | 7,500    | 6.38  | 1.00 | 2.06 | 3.65  | 3.30 | 4.06  | 0.81             | 1.06             | 6.4                          |
| E20           | 1610         | 1.69                     | 3.66   | 2,308                | 6,600    | 7.25  | 1.00 | 2.50 | 4.48  | 3.50 | 4.50  | 0.81             | 1.06             | 9.2                          |
| E30           | 2012         | 2.13                     | 5.79   | 3,651                | 5,800    | 8.25  | 1.25 | 2.56 | 5.42  | 4.01 | 5.06  | 0.94             | 1.38             | 14.8                         |
| E40           | 2517         | 2.69                     | 8.73   | 5,504                | 5,000    | 9.50  | 1.75 | 2.38 | 6.63  | 4.63 | 5.88  | 1.00             | 1.63             | 23.8                         |
| E50           | 2517         | 2.69                     | 12.1   | 7,656                | 4,200    | 11.00 | 1.75 | 3.00 | 8.13  | 4.93 | 6.50  | 1.00             | 1.63             | 35.2                         |
| E60           | 3020         | 3.25                     | 19.8   | 12,505               | 3,800    | 12.50 | 2.00 | 3.31 | 8.75  | 5.75 | 7.31  | 1.19             | 2.06             | 53.6                         |
| E70           | 3535         | 3.94                     | 35.1   | 22,132               | 3,600    | 14.00 | 3.50 | 2.38 | 9.25  | 6.50 | 9.38  | 1.31             | 2.69             | 77.7                         |
| E80           | 4040         | 4.44                     | 62.7   | 39,503               | 2,000    | 16.00 | 4.00 | 3.75 | 11.25 | 7.75 | 11.75 | 1.63             | 3.38             | 129.0                        |

(1) Maximum bores may require use of shallow key and/or steel bushings. Consult the Baldor•Dodge PTC Engineering catalog for bushing requirements.

(2) Space required to tighten bushing with shortened hex key

(3) Space required to loosen bushing with shortened hex key

(4) Weight of complete coupling including the bushing at maximum bore

(5) All dimensions in inches

## Taper-Lock Bushed Part Numbers

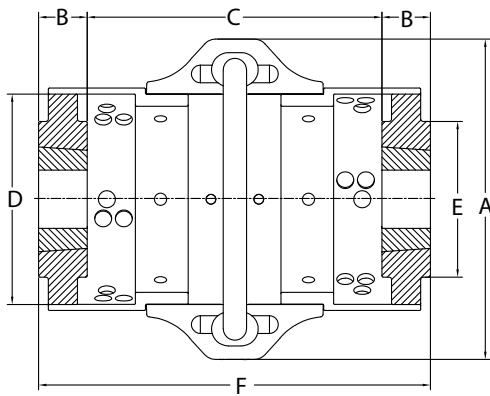
| Coupling Size | TL Hub | Bushing Size | Standard (Natural Rubber) Element | Armored Elements | Replacement Hardware |
|---------------|--------|--------------|-----------------------------------|------------------|----------------------|
| 3HTL          | 015801 | 1008         | 015844                            | 017127           | 017001               |
| 4HTL          | 015802 | 1008         | 015845                            | 017128           |                      |
| 5HTL          | 015803 | 1108         | 015846                            | 017129           |                      |
| 10HTL         | 015804 | 1310         | 015847                            | 017130           | 017180               |
| 20HTL         | 015805 | 1610         | 015848                            | 017131           | 017002               |
| 30HTL         | 015806 | 2012         | 015849                            | 017132           |                      |
| 40HTL         | 015807 | 2517         | 015850                            | 017133           |                      |
| 50HTL         | 015808 | 2517         | 015851                            | 017134           | 017003               |
| 60HTL         | 015809 | 3020         | 015852                            | 017135           |                      |
| 70HTL         | 015810 | 3535         | 015853                            | 017136           | 017004               |
| 80HTL         | 015865 | 4040         | 015854                            | 017137           |                      |

(1) Element assemblies include hardware.

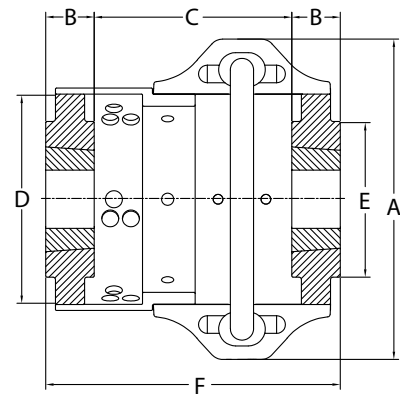
(2) Raptor elements are also available with metric hardware. This requires use of shaft hubs tapped for metric hardware. Reference International Couplings Catalog (ICA4004) or contact Baldor for more information.



# Ratings & Dimensions Spacer - Taper-Lock Bushed



FULL SPACER



HALF SPACER

| Coupling Size | Bushing Size | Max. Bore <sup>(1)</sup> | HP/100 | Max Torque (In-Lbs.) | Max. RPM | A     | B    | C    |       | D     | E    | F     |       | Weight <sup>(2)</sup> (Lbs.) |
|---------------|--------------|--------------------------|--------|----------------------|----------|-------|------|------|-------|-------|------|-------|-------|------------------------------|
|               |              |                          |        |                      |          |       |      | Min. | Max   |       |      | Min.  | Max.  |                              |
| ES3           | 1008         | 1.00                     | 0.59   | 371                  | 7,500    | 4.00  | 0.88 | 3.31 | 5.32  | 2.32  | 2.00 | 5.07  | 8.32  | 3.6                          |
| ES4           | 1008         | 1.00                     | 0.89   | 558                  | 7,500    | 4.56  | 0.88 | 3.31 | 5.32  | 2.60  | 2.36 | 5.07  | 8.70  | 4.7                          |
| ES5           | 1108         | 1.13                     | 1.47   | 926                  | 7,500    | 5.38  | 0.88 | 3.31 | 5.32  | 3.13  | 2.80 | 5.07  | 8.82  | 7.2                          |
| ES10          | 1310         | 1.44                     | 2.31   | 1,456                | 7,500    | 6.38  | 1.00 | 3.37 | 5.38  | 3.65  | 3.30 | 5.37  | 9.14  | 9.2                          |
| ES20          | 1610         | 1.69                     | 3.66   | 2,308                | 6,600    | 7.25  | 1.00 | 3.54 | 7.13  | 4.48  | 4.00 | 5.54  | 11.25 | 13.8                         |
| ES30          | 2012         | 2.13                     | 5.79   | 3,651                | 5,800    | 8.25  | 1.25 | 3.66 | 7.25  | 5.42  | 4.62 | 6.16  | 11.87 | 21.9                         |
| ES40          | 2517         | 2.69                     | 8.73   | 5,504                | 5,000    | 9.50  | 1.75 | 4.00 | 7.59  | 6.63  | 5.75 | 7.50  | 12.59 | 33.9                         |
| ES50          | 2517         | 2.69                     | 12.1   | 7,656                | 4,200    | 11.00 | 1.75 | 4.00 | 7.59  | 8.13  | 6.13 | 7.50  | 13.09 | 48.3                         |
| ES60          | 3020         | 3.25                     | 19.8   | 12,505               | 3,800    | 12.50 | 2.00 | 4.00 | 10.34 | 8.75  | 6.50 | 8.00  | 16.84 | 77.1                         |
| ES70          | 3535         | 3.94                     | 35.1   | 22,132               | 3,600    | 14.00 | 3.50 | 4.55 | 10.89 | 9.25  | 6.99 | 11.55 | 18.13 | 102.0                        |
| ES80          | 4040         | 4.44                     | 62.7   | 39,503               | 2,000    | 16.00 | 4.00 | 5.00 | 11.34 | 11.25 | 9.49 | 13.00 | 21.08 | 166.8                        |

- (1) Maximum bores may require use of shallow key and/or steel bushings. Consult the Baldor-Dodge PTC Engineering catalog for bushing requirements.
- (2) Weight of complete coupling at maximum bore with four spacer extensions and bushings at maximum bore
- (3) All dimensions in inches

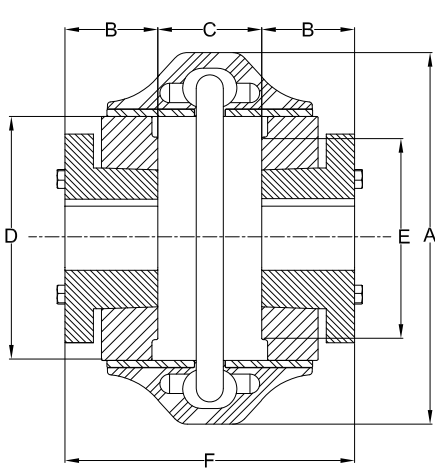
## Taper-Lock Bushed Spacer Length Options

| Size | Standard (Natural Rubber) |             | ANSI (in.) |     |     |      | ISO & DIN (mm) |     |     |     |     |
|------|---------------------------|-------------|------------|-----|-----|------|----------------|-----|-----|-----|-----|
|      | Element Part Number       |             | 3.5        | 5   | 7   | 10   | 100            | 140 | 180 | 250 |     |
|      | Full Spacer               | Half Spacer |            |     |     |      |                |     |     |     |     |
| ES3  | 017065                    | 017183      | 3.3        | 4.8 |     |      | 96             | 136 |     |     |     |
| ES4  | 017066                    | 017184      | 3.3        | 4.8 |     |      | 96             | 136 |     |     |     |
| ES5  | 017067                    | 017185      | 3.3        | 4.8 |     |      | 96             | 136 |     |     |     |
| ES10 | 017068                    | 017186      | 3.3        | 4.8 |     |      | 96             | 136 |     |     |     |
| ES20 | 017069                    | 017187      | 3.5        | 5.0 | 7.0 |      | 99             | 139 | 179 |     |     |
| ES30 | 017070                    | 017188      | 3.5        | 5.0 | 7.0 |      | 100            | 140 | 180 |     |     |
| ES40 | 017071                    | 017189      |            | 5.2 | 7.2 |      | 106            | 146 | 186 |     |     |
| ES50 | 017072                    | 017190      |            | 5.2 | 7.2 |      | 106            | 146 | 186 |     |     |
| ES60 | 017073                    | 017191      |            | 5.2 | 7.2 | 10.2 |                | 144 | 184 | 254 |     |
| ES70 | 017074                    | 017192      |            |     | 7.8 | 10.8 |                |     |     | 201 | 271 |
| ES80 | 017075                    | 017193      |            |     | 8.1 | 11.1 |                |     |     | 207 | 277 |

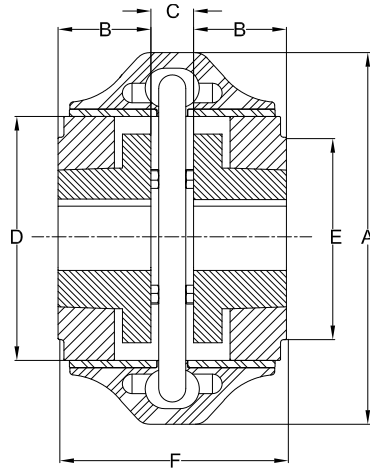
- (1) Element assemblies include hardware.
- (2) Table shows actual spacer lengths relative to standard ANSI and ISO spacer lengths

Full Spacers  
Half Spacers

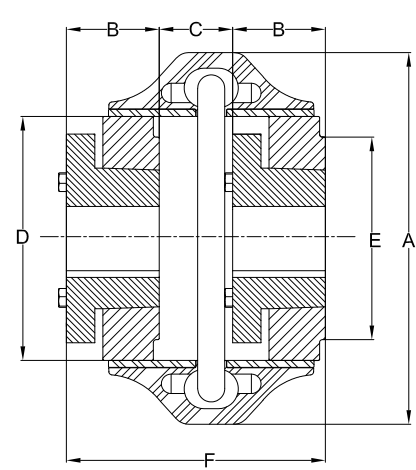
# Ratings & Dimensions Close-Coupled - QD Bushed



OUTBOARD



INBOARD



HYBRID

| Coupling Size | Bushing Size | Max. Bore <sup>(1)</sup> | HP/100 | Max Torque (In-Lbs.) | Max. RPM | A     | B    | C         |          |        | D     | E    | F         |          |        | G <sup>(2)</sup> |          | H <sup>(3)</sup> |      | Weight <sup>(4)</sup> (Lbs.) |
|---------------|--------------|--------------------------|--------|----------------------|----------|-------|------|-----------|----------|--------|-------|------|-----------|----------|--------|------------------|----------|------------------|------|------------------------------|
|               |              |                          |        |                      |          |       |      | Out-board | In-board | Hybrid |       |      | Out-board | In-board | Hybrid | Out-board        | In-board |                  |      |                              |
| E4            | JA           | 1.19                     | 0.89   | 558                  | 7,500    | 4.56  | 1.00 | 1.88      | 1.22     | 1.55   | 2.60  | 2.25 | 3.88      | 3.22     | 3.55   | 1.13             | 0.41     | 1.56             | 1.13 | 2.9                          |
| E5            | SH           | 1.63                     | 1.47   | 926                  | 7,500    | 5.38  | 1.25 | 1.88      | 1.75     | 1.82   | 3.13  | 2.80 | 4.38      | 4.25     | 4.32   | 1.51             | 0.54     | 2.08             | 1.51 | 4.9                          |
| E10           | SDS          | 1.94                     | 2.31   | 1,456                | 7,500    | 6.38  | 1.31 | 2.31      | 1.19     | 1.75   | 3.65  | 3.30 | 4.93      | 3.81     | 4.37   | 1.56             | 0.59     | 2.13             | 1.56 | 6.3                          |
| E20           | SK           | 2.50                     | 3.66   | 2,308                | 6,600    | 7.25  | 1.88 | 2.62      | 0.62     | 1.62   | 4.48  | 3.81 | 6.38      | 4.38     | 5.38   | 2.25             | 0.72     | 2.32             | 2.19 | 11.1                         |
| E30           | SF           | 2.94                     | 5.79   | 3,651                | 5,800    | 8.25  | 2.00 | 2.19      | 1.44     | 1.82   | 5.42  | 4.50 | 6.19      | 5.44     | 5.82   | 2.30             | 0.78     | 3.19             | 2.25 | 17.6                         |
| E40           | E            | 3.50                     | 8.73   | 5,504                | 5,000    | 9.50  | 2.63 | 1.75      | 1.25     | 1.50   | 6.63  | 5.75 | 7.01      | 6.51     | 6.76   | 3.05             | 1.12     | 4.30             | 3.00 | 33.1                         |
| E50           | E            | 3.50                     | 12.1   | 7,656                | 4,200    | 11.00 | 2.63 | 2.88      | 1.37     | 2.13   | 8.13  | 5.75 | 8.14      | 6.63     | 7.39   | 3.05             | 1.12     | 4.30             | 3.00 | 44.9                         |
| E60           | F            | 3.94                     | 19.8   | 12,505               | 3,800    | 12.50 | 3.63 | 1.89      | 1.50     | 1.70   | 8.75  | 6.50 | 9.15      | 8.76     | 8.96   | 3.99             | 1.09     | 5.31             | 3.94 | 68.4                         |
| E70           | J            | 4.50                     | 35.1   | 22,132               | 3,600    | 14.00 | 4.50 | 1.43      | 1.31     | 1.37   | 9.25  | 7.25 | 10.43     | 10.31    | 10.37  | 3.80             | 1.28     | 5.37             | 4.81 | 90.7                         |
| E80           | M            | 5.50                     | 62.7   | 39,503               | 2,000    | 16.00 | 6.75 | 1.25      | 0.75     | 1.00   | 11.25 | 9.49 | 14.75     | 14.25    | 14.50  | -                | 2.16     | -                | 7.69 | 203.0                        |

(1) Maximum bores may require use of shallow key. Consult the Baldor•Dodge PTC Engineering catalog for bushing requirements.

(2) Space required to tighten bushing with open end wrench

(3) Space required to loosen bushing with open end wrench

(4) Weight of complete coupling including the bushing at maximum bore

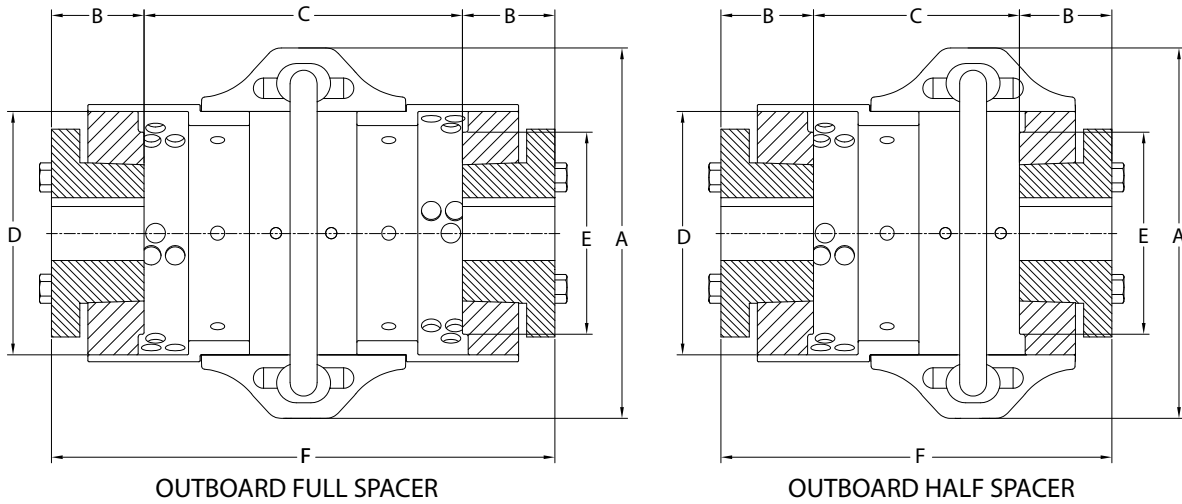
(5) All dimensions in inches

## QD Bushed Part Numbers

| Coupling Size | QD Hub | Bushing Size | Standard (Natural Rubber) Elements | Armored Elements | Replacement Hardware |
|---------------|--------|--------------|------------------------------------|------------------|----------------------|
| 4HQD          | 015811 | JA           | 015845                             | 017128           | 017001               |
| 5HQD          | 015812 | SH           | 015846                             | 017129           |                      |
| 10HQD         | 015813 | SDS          | 015847                             | 017130           | 017180               |
| 20HQD         | 015814 | SK           | 015848                             | 017131           |                      |
| 30HQD         | 015815 | SF           | 015849                             | 017132           | 017002               |
| 40HQD         | 015816 | E            | 015850                             | 017133           |                      |
| 50HQD         | 015817 | E            | 015851                             | 017134           | 017003               |
| 60HQD         | 015818 | F            | 015852                             | 017135           |                      |
| 70HQD         | 015819 | J            | 015853                             | 017136           | 017004               |
| 80HQD         | 015866 | M            | 015854                             | 017137           |                      |

Element assemblies include hardware.

# Ratings & Dimensions Spacer - QD Bushed



| Coupling Size | Bushing Size | Max. Bore <sup>(1)</sup> | HP/100 | Max Rated Torque (In-Lbs.) | Max. RPM | A     | B    | C    |       | D     | E    | F     |       | Weight <sup>(2)</sup> (Lbs.) |
|---------------|--------------|--------------------------|--------|----------------------------|----------|-------|------|------|-------|-------|------|-------|-------|------------------------------|
|               |              |                          |        |                            |          |       |      | Min. | Max   |       |      | Min.  | Max.  |                              |
| ES4           | JA           | 1.19                     | 0.89   | 558                        | 7,500    | 4.56  | 1.00 | 3.22 | 5.23  | 2.60  | 2.36 | 5.22  | 7.23  | 4.7                          |
| ES5           | SH           | 1.63                     | 1.47   | 926                        | 7,500    | 5.38  | 1.25 | 3.47 | 5.48  | 3.13  | 2.80 | 5.97  | 7.98  | 7.2                          |
| ES10          | SDS          | 1.94                     | 2.31   | 1,456                      | 7,500    | 6.38  | 1.31 | 3.27 | 5.28  | 3.65  | 3.30 | 5.89  | 7.90  | 9.0                          |
| ES20          | SK           | 2.50                     | 3.66   | 2,308                      | 6,600    | 7.25  | 1.88 | 3.41 | 7.00  | 4.48  | 4.00 | 7.17  | 10.76 | 15.7                         |
| ES30          | SF           | 2.94                     | 5.79   | 3,651                      | 5,800    | 8.25  | 2.00 | 3.54 | 7.13  | 5.42  | 4.62 | 7.54  | 11.13 | 24.8                         |
| ES40          | E            | 3.50                     | 8.73   | 5,504                      | 5,000    | 9.50  | 2.63 | 4.00 | 7.59  | 6.63  | 5.75 | 9.26  | 12.85 | 43.1                         |
| ES50          | E            | 3.50                     | 12.1   | 7,656                      | 4,200    | 11.00 | 2.63 | 3.83 | 7.42  | 8.13  | 6.13 | 9.09  | 12.68 | 58.0                         |
| ES60          | F            | 3.94                     | 19.8   | 12,505                     | 3,800    | 12.50 | 3.63 | 4.60 | 10.94 | 8.75  | 6.50 | 11.86 | 18.20 | 91.9                         |
| ES70          | J            | 4.50                     | 35.1   | 22,132                     | 3,600    | 14.00 | 4.50 | 4.89 | 11.23 | 9.25  | 6.99 | 13.89 | 20.23 | 115.0                        |
| ES80          | M            | 5.50                     | 62.7   | 39,503                     | 2,000    | 16.00 | 6.75 | 5.88 | 12.22 | 11.25 | 9.49 | 19.38 | 25.72 | 240.9                        |

(1) Maximum bores may require use of shallow key. Consult the Baldor-Dodge PTC Engineering catalog for bushing requirements.

(2) Weight of complete coupling at maximum bore with four spacer extensions

(3) All dimensions in inches

## QD Bushed Spacer Length Options

| Size | Standard (Natural Rubber) |             | ANSI (in.) |     |     |      | ISO & DIN (mm) |     |     |     |     |
|------|---------------------------|-------------|------------|-----|-----|------|----------------|-----|-----|-----|-----|
|      | Element Part Number       |             | 3.5        | 5   | 7   | 10   | 100            | 140 | 180 | 250 |     |
|      | Full Spacer               | Half Spacer |            |     |     |      |                |     |     |     |     |
| ES4  | 017066                    | 017184      | 3.2        | 4.7 |     |      | 93             | 133 |     |     |     |
| ES5  | 017067                    | 017185      | 3.5        | 5.0 |     |      | 99             | 139 |     |     |     |
| ES10 | 017068                    | 017186      | 3.3        | 4.8 |     |      | 94             | 134 |     |     |     |
| ES20 | 017069                    | 017187      | 3.4        | 4.9 | 6.9 |      | 98             | 138 | 178 |     |     |
| ES30 | 017070                    | 017188      | 3.6        | 5.1 | 7.1 |      | 102            | 142 | 182 |     |     |
| ES40 | 017071                    | 017189      |            | 5.4 | 7.4 |      | 111            | 151 | 191 |     |     |
| ES50 | 017072                    | 017190      |            | 5.2 | 7.2 |      | 104            | 144 | 184 |     |     |
| ES60 | 017073                    | 017191      |            | 5.8 | 7.8 | 10.8 |                | 159 | 199 | 269 |     |
| ES70 | 017074                    | 017192      |            |     | 8.2 | 11.2 |                |     |     | 209 | 279 |
| ES80 | 017075                    | 017193      |            |     | 9.2 | 12.2 |                |     |     | 236 | 306 |

(1) Element assemblies include hardware.

(2) Table shows actual spacer lengths relative to standard ANSI and ISO spacer lengths

(3) All calculations based off of outboard hubs.

Full Spacers  
Half Spacers

**AMGA 9002 Inch Bore and Keyway Fits**

| Nominal Shaft Diameter | Shaft Diameter |         | Clearance Fit |         |         |         |          |         | Interference Fit |         |         |        | Standard Keyway (Square Key) |        |          |        | Shallow Keyway (Rectangular Keys) |        |               |        |        |        |
|------------------------|----------------|---------|---------------|---------|---------|---------|----------|---------|------------------|---------|---------|--------|------------------------------|--------|----------|--------|-----------------------------------|--------|---------------|--------|--------|--------|
|                        |                |         | Hub Bore      |         | Fit     |         | Hub Bore |         | Fit              |         | Nominal |        | Width                        |        | Nominal  |        | Width                             |        | Scribe Height |        |        |        |
|                        |                |         | Min           | Max     | Min     | Max     | Min      | Max     | Min              | Max     | Min     | Max    | Min                          | Max    | Min      | Max    | Min                               | Max    | Min           | Max    |        |        |
| 1/2 - 1 1/2 (incl.)    | -0.0005        | +0.0000 | +0.0000       | +0.0010 | -0.0000 | +0.0015 | -0.0010  | -0.0005 | -0.0000          | -0.0010 |         |        |                              |        |          |        |                                   |        |               |        |        |        |
| 1/2                    | 0.4995         | 0.5000  | 0.5000        | 0.5010  | -0.0000 | +0.0015 | 0.4990   | 0.4995  | -0.0000          | -0.0010 | 0.1250  | 0.1250 | 0.1250                       | 0.1270 | 0.5546   | 0.5646 | 0.1250                            | 0.0937 | 0.1250        | 0.1270 | 0.5389 | 0.5489 |
| 5/8                    | 0.6245         | 0.6250  | 0.6250        | 0.6260  | -0.0000 | +0.0015 | 0.6240   | 0.6245  | -0.0000          | -0.0010 | 0.1250  | 0.1250 | 0.1250                       | 0.1270 | 0.6812   | 0.6912 | 0.1250                            | 0.0937 | 0.1250        | 0.1270 | 0.6655 | 0.6755 |
| 3/4                    | 0.7495         | 0.7500  | 0.7500        | 0.7510  | -0.0000 | +0.0015 | 0.7490   | 0.7495  | -0.0000          | -0.0010 | 0.1875  | 0.1875 | 0.1875                       | 0.1895 | 0.8318   | 0.8418 | 0.1875                            | 0.1250 | 0.1875        | 0.1895 | 0.8006 | 0.8106 |
| 7/8                    | 0.8745         | 0.8750  | 0.8750        | 0.8760  | -0.0000 | +0.0015 | 0.8740   | 0.8745  | -0.0000          | -0.0010 | 0.1875  | 0.1875 | 0.1875                       | 0.1895 | 0.9586   | 0.9686 | 0.1875                            | 0.1250 | 0.1875        | 0.1895 | 0.9273 | 0.9373 |
| 15/16                  | 0.9370         | 0.9375  | 0.9375        | 0.9385  | -0.0000 | +0.0015 | 0.9365   | 0.9370  | -0.0000          | -0.0010 | 0.2500  | 0.2500 | 0.2500                       | 0.2520 | 1.0455   | 1.0555 | 0.2500                            | 0.1875 | 0.2500        | 0.2520 | 1.0143 | 1.0243 |
| 1                      | 0.9995         | 1.0000  | 1.0000        | 1.0010  | -0.0000 | +0.0015 | 0.9990   | 0.9995  | -0.0000          | -0.0010 | 0.2500  | 0.2500 | 0.2500                       | 0.2520 | 1.1091   | 1.1191 | 0.2500                            | 0.1875 | 0.2500        | 0.2520 | 1.0779 | 1.0879 |
| 1 1/16                 | 1.0620         | 1.0625  | 1.0625        | 1.0635  | -0.0000 | +0.0015 | 1.0615   | 1.0620  | -0.0000          | -0.0010 | 0.2500  | 0.2500 | 0.2500                       | 0.2520 | 1.1726   | 1.1826 | 0.2500                            | 0.1875 | 0.2500        | 0.2520 | 1.1413 | 1.1513 |
| 1 1/8                  | 1.1245         | 1.1250  | 1.1250        | 1.1260  | -0.0000 | +0.0015 | 1.1240   | 1.1245  | -0.0000          | -0.0010 | 0.2500  | 0.2500 | 0.2500                       | 0.2520 | 1.2359   | 1.2459 | 0.2500                            | 0.1875 | 0.2500        | 0.2520 | 1.2047 | 1.2147 |
| 1 3/16                 | 1.1870         | 1.1875  | 1.1875        | 1.1885  | -0.0000 | +0.0015 | 1.1865   | 1.1870  | -0.0000          | -0.0010 | 0.2500  | 0.2500 | 0.2500                       | 0.2520 | 1.2992   | 1.3092 | 0.2500                            | 0.1875 | 0.2500        | 0.2520 | 1.2679 | 1.2779 |
| 1 1/4                  | 1.2495         | 1.2500  | 1.2500        | 1.2510  | -0.0000 | +0.0015 | 1.2490   | 1.2495  | -0.0000          | -0.0010 | 0.2500  | 0.2500 | 0.2500                       | 0.2520 | 1.3624   | 1.3724 | 0.2500                            | 0.1875 | 0.2500        | 0.2520 | 1.3311 | 1.3411 |
| 1 5/16                 | 1.3120         | 1.3125  | 1.3125        | 1.3135  | -0.0000 | +0.0015 | 1.3115   | 1.3120  | -0.0000          | -0.0010 | 0.3125  | 0.3125 | 0.3125                       | 0.3145 | 1.4499   | 1.4599 | 0.3125                            | 0.2500 | 0.3125        | 0.3145 | 1.4186 | 1.4286 |
| 1 3/8                  | 1.3745         | 1.3750  | 1.3750        | 1.3760  | -0.0000 | +0.0015 | 1.3740   | 1.3745  | -0.0000          | -0.0010 | 0.3125  | 0.3125 | 0.3125                       | 0.3145 | 1.5133   | 1.5233 | 0.3125                            | 0.2500 | 0.3125        | 0.3145 | 1.4820 | 1.4920 |
| 1 7/16                 | 1.4370         | 1.4375  | 1.4375        | 1.4385  | -0.0000 | +0.0015 | 1.4365   | 1.4370  | -0.0000          | -0.0010 | 0.3750  | 0.3750 | 0.3750                       | 0.3775 | 1.6001   | 1.6101 | 0.3750                            | 0.2500 | 0.3750        | 0.3775 | 1.5376 | 1.5476 |
| 1 1/2                  | 1.4995         | 1.5000  | 1.5000        | 1.5010  | -0.0000 | +0.0015 | 1.4990   | 1.4995  | -0.0000          | -0.0010 | 0.3750  | 0.3750 | 0.3750                       | 0.3775 | 1.6637   | 1.6737 | 0.3750                            | 0.2500 | 0.3750        | 0.3775 | 1.6012 | 1.6112 |
| 1 1/2 - 3 (incl.)      | -0.0010        | +0.0000 | +0.0000       | +0.0010 | -0.0000 | +0.0020 | -0.0020  | -0.0010 | -0.0000          | -0.0020 | 0.3750  | 0.3750 | 0.3750                       | 0.3775 |          |        | 0.3750                            | 0.2500 | 0.3750        | 0.3775 |        |        |
| 1 9/16                 | 1.5615         | 1.5625  | 1.5625        | 1.5635  | -0.0000 | +0.0020 | 1.5605   | 1.5615  | -0.0000          | -0.0020 | 0.3750  | 0.3750 | 0.3750                       | 0.3775 | 1.7272   | 1.7372 | 0.3750                            | 0.2500 | 0.3750        | 0.3775 | 1.6647 | 1.6747 |
| 1 5/8                  | 1.6240         | 1.6250  | 1.6250        | 1.6260  | -0.0000 | +0.0020 | 1.6230   | 1.6240  | -0.0000          | -0.0020 | 0.3750  | 0.3750 | 0.3750                       | 0.3775 | 1.7906   | 1.8006 | 0.3750                            | 0.2500 | 0.3750        | 0.3775 | 1.7281 | 1.7381 |
| 1 11/16                | 1.6865         | 1.6875  | 1.6875        | 1.6885  | -0.0000 | +0.0020 | 1.6855   | 1.6865  | -0.0000          | -0.0020 | 0.3750  | 0.3750 | 0.3750                       | 0.3775 | 1.8539   | 1.8639 | 0.3750                            | 0.2500 | 0.3750        | 0.3775 | 1.7914 | 1.8014 |
| 1 3/4                  | 1.7490         | 1.7500  | 1.7500        | 1.7510  | -0.0000 | +0.0020 | 1.7480   | 1.7490  | -0.0000          | -0.0020 | 0.3750  | 0.3750 | 0.3750                       | 0.3775 | 1.9172   | 1.9272 | 0.3750                            | 0.2500 | 0.3750        | 0.3775 | 1.8547 | 1.8647 |
| 1 13/16                | 1.8115         | 1.8125  | 1.8125        | 1.8135  | -0.0000 | +0.0020 | 1.8105   | 1.8115  | -0.0000          | -0.0020 | 0.5000  | 0.5000 | 0.5000                       | 0.5025 | 2.0273   | 2.0373 | 0.5000                            | 0.3750 | 0.5000        | 0.5025 | 1.9648 | 1.9748 |
| 1 7/8                  | 1.8740         | 1.8750  | 1.8750        | 1.8760  | -0.0000 | +0.0020 | 1.8730   | 1.8740  | -0.0000          | -0.0020 | 0.5000  | 0.5000 | 0.5000                       | 0.5025 | 2.0911   | 2.1011 | 0.5000                            | 0.3750 | 0.5000        | 0.5025 | 2.0286 | 2.0386 |
| 1 15/16                | 1.9365         | 1.9375  | 1.9375        | 1.9385  | -0.0000 | +0.0020 | 1.9355   | 1.9365  | -0.0000          | -0.0020 | 0.5000  | 0.5000 | 0.5000                       | 0.5025 | 2.1547   | 2.1647 | 0.5000                            | 0.3750 | 0.5000        | 0.5025 | 2.0922 | 2.1022 |
| 2                      | 1.9990         | 2.0000  | 2.0000        | 2.0010  | -0.0000 | +0.0020 | 1.9980   | 1.9990  | -0.0000          | -0.0020 | 0.5000  | 0.5000 | 0.5000                       | 0.5025 | 2.2182   | 2.2282 | 0.5000                            | 0.3750 | 0.5000        | 0.5025 | 2.1557 | 2.1657 |
| 2 1/16                 | 2.0615         | 2.0625  | +0.0000       | +0.0015 | -0.0000 | +0.0025 | 2.0605   | 2.0615  | -0.0000          | -0.0020 | 0.5000  | 0.5000 | 0.5000                       | 0.5025 | 2.2817   | 2.2917 | 0.5000                            | 0.3750 | 0.5000        | 0.5025 | 2.2192 | 2.2292 |
| 2 1/8                  | 2.1240         | 2.1250  | 2.1250        | 2.1265  | -0.0000 | +0.0025 | 2.1230   | 2.1240  | -0.0000          | -0.0020 | 0.5000  | 0.5000 | 0.5000                       | 0.5025 | 2.3452   | 2.3552 | 0.5000                            | 0.3750 | 0.5000        | 0.5025 | 2.2827 | 2.2927 |
| 2 3/16                 | 2.1865         | 2.1875  | 2.1875        | 2.1890  | -0.0000 | +0.0025 | 2.1855   | 2.1865  | -0.0000          | -0.0020 | 0.5000  | 0.5000 | 0.5000                       | 0.5025 | 2.4085   | 2.4185 | 0.5000                            | 0.3750 | 0.5000        | 0.5025 | 2.3460 | 2.3560 |
| 2 1/4                  | 2.2490         | 2.2500  | 2.2500        | 2.2515  | -0.0000 | +0.0025 | 2.2480   | 2.2490  | -0.0000          | -0.0020 | 0.5000  | 0.5000 | 0.5000                       | 0.5025 | 2.4719   | 2.4819 | 0.5000                            | 0.3750 | 0.5000        | 0.5025 | 2.4094 | 2.4194 |
| 2 5/16                 | 2.3115         | 2.3125  | 2.3125        | 2.3140  | -0.0000 | +0.0025 | 2.3105   | 2.3115  | -0.0000          | -0.0020 | 0.6250  | 0.6250 | 0.6250                       | 0.6280 | 2.5820   | 2.5920 | 0.6250                            | 0.4375 | 0.6250        | 0.6280 | 2.4882 | 2.4982 |
| 2 3/8                  | 2.3740         | 2.3750  | 2.3750        | 2.3765  | -0.0000 | +0.0025 | 2.3730   | 2.3740  | -0.0000          | -0.0020 | 0.6250  | 0.6250 | 0.6250                       | 0.6280 | 2.6456   | 2.6556 | 0.6250                            | 0.4375 | 0.6250        | 0.6280 | 2.5519 | 2.5619 |
| 2 7/16                 | 2.4365         | 2.4375  | 2.4375        | 2.4390  | -0.0000 | +0.0025 | 2.4355   | 2.4365  | -0.0000          | -0.0020 | 0.6250  | 0.6250 | 0.6250                       | 0.6280 | 2.7093   | 2.7193 | 0.6250                            | 0.4375 | 0.6250        | 0.6280 | 2.6155 | 2.6255 |
| 2 1/2                  | 2.4990         | 2.5000  | 2.5000        | 2.5015  | -0.0000 | +0.0025 | 2.4980   | 2.4990  | -0.0000          | -0.0020 | 0.6250  | 0.6250 | 0.6250                       | 0.6280 | 2.7728   | 2.7828 | 0.6250                            | 0.4375 | 0.6250        | 0.6280 | 2.6791 | 2.6891 |
| 2 9/16                 | 2.5615         | 2.5625  | 2.5625        | 2.5640  | -0.0000 | +0.0025 | 2.5605   | 2.5615  | -0.0000          | -0.0020 | 0.6250  | 0.6250 | 0.6250                       | 0.6280 | 2.8363   | 2.8463 | 0.6250                            | 0.4375 | 0.6250        | 0.6280 | 2.7426 | 2.7526 |
| 2 5/8                  | 2.6240         | 2.6250  | 2.6250        | 2.6265  | -0.0000 | +0.0025 | 2.6230   | 2.6240  | -0.0000          | -0.0020 | 0.6250  | 0.6250 | 0.6250                       | 0.6280 | 2.8998   | 2.9098 | 0.6250                            | 0.4375 | 0.6250        | 0.6280 | 2.8060 | 2.8160 |
| 2 11/16                | 2.6865         | 2.6875  | 2.6875        | 2.6890  | -0.0000 | +0.0025 | 2.6855   | 2.6865  | -0.0000          | -0.0020 | 0.6250  | 0.6250 | 0.6250                       | 0.6280 | 2.9632   | 2.9732 | 0.6250                            | 0.4375 | 0.6250        | 0.6280 | 2.8694 | 2.8794 |
| 2 3/4                  | 2.7490         | 2.7500  | 2.7500        | 2.7515  | -0.0000 | +0.0025 | 2.7480   | 2.7490  | -0.0000          | -0.0020 | 0.6250  | 0.6250 | 0.6250                       | 0.6280 | 3.0265   | 3.0365 | 0.6250                            | 0.4375 | 0.6250        | 0.6280 | 2.9328 | 2.9428 |
| 2 13/16                | 2.8115         | 2.8125  | 2.8125        | 2.8140  | -0.0000 | +0.0025 | 2.8105   | 2.8115  | -0.0000          | -0.0020 | 0.7500  | 0.7500 | 0.7500                       | 0.7530 | 3.1366   | 3.1466 | 0.7500                            | 0.5000 | 0.7500        | 0.7530 | 3.0116 | 3.0216 |
| 2 7/8                  | 2.8740         | 2.8750  | 2.8750        | 2.8765  | -0.0000 | +0.0025 | 2.8730   | 2.8740  | -0.0000          | -0.0020 | 0.7500  | 0.7500 | 0.7500                       | 0.7530 | 3.2002   | 3.2102 | 0.7500                            | 0.5000 | 0.7500        | 0.7530 | 3.0752 | 3.0852 |
| 2 15/16                | 2.9365         | 2.9375  | 2.9375        | 2.9390  | -0.0000 | +0.0025 | 2.9355   | 2.9365  | -0.0000          | -0.0020 | 0.7500  | 0.7500 | 0.7500                       | 0.7530 | 3.2638   | 3.2738 | 0.7500                            | 0.5000 | 0.7500        | 0.7530 | 3.1388 | 3.1488 |
| 3                      | 2.9990         | 3.0000  | 3.0000        | 3.0015  | -0.0000 | +0.0025 | 2.9980   | 2.9990  | -0.0000          | -0.0020 | 0.7500  | 0.7500 | 0.7500                       | 0.7530 | 3.3274   | 3.3374 | 0.7500                            | 0.5000 | 0.7500        | 0.7530 | 3.2024 | 3.2124 |
| 3 - 4 (incl.)          | -0.0010        | +0.0000 | 3 - 4 (incl.) |         | -0.0000 | +0.0025 | -0.0030  | -0.0015 | -0.0005          | -0.0030 | 0.7500  | 0.7500 | 0.7500                       | 0.7530 |          |        | 0.7500                            | 0.5000 | 0.7500        | 0.7530 |        |        |
| 3 1/16                 | 3.0615         | 3.0625  | 3.0625        | 3.0640  | -0.0000 | +0.0025 | 3.0595   | 3.0610  | -0.0005          | -0.0030 | 0.7500  | 0.7500 | 0.7500                       | 0.7530 | 3.3909   | 3.4009 | 0.7500                            | 0.5000 | 0.7500        | 0.7530 | 3.2659 | 3.2759 |
| 3 1/8                  | 3.1240         | 3.1250  | 3.1250        | 3.1265  | -0.0000 | +0.0025 | 3.1220   | 3.1235  | -0.0005          | -0.0030 | 0.7500  | 0.7500 | 0.7500                       | 0.7530 | 3.4543</ |        |                                   |        |               |        |        |        |

# AMGA 9002 Inch Bore and Keyway Fits

| Nominal Shaft Diameter | Shaft Diameter |         | Clearance Fit     |        |         |         |         |         | Interference Fit |         |         |        |        |        | Standard Keyway (Square Key) |        |        |        |        |        | Shallow Keyway (Rectangular Keys) |        |         |        |       |     |               |
|------------------------|----------------|---------|-------------------|--------|---------|---------|---------|---------|------------------|---------|---------|--------|--------|--------|------------------------------|--------|--------|--------|--------|--------|-----------------------------------|--------|---------|--------|-------|-----|---------------|
|                        |                |         | Hub Bore          |        |         | Fit     |         |         | Hub Bore         |         |         | Fit    |        |        | Nominal                      |        | Width  |        | Min    |        | Max                               |        | Nominal |        | Width |     | Scribe Height |
|                        | Min            | Max     | Min               | Max    | Min     | Max     | Min     | Max     | Min              | Max     | Min     | Max    | Width  | Height | Min                          | Max    | Min    | Max    | Width  | Height | Min                               | Max    | Width   | Height | Min   | Max |               |
| 4 7/8                  | 4.8740         | 4.8750  | 4.8750            | 4.8765 | -0.0000 | +0.0025 | 4.8715  | 4.8730  | -0.0010          | -0.0035 | 1.2500  | 1.2500 | 1.2500 | 1.2535 | 5.4185                       | 5.4285 | 1.2500 | 0.8750 | 1.2500 | 1.2535 | 5.2310                            | 5.2410 |         |        |       |     |               |
| 4 15/16                | 4.9365         | 4.9375  | 4.9375            | 4.9390 | -0.0000 | +0.0025 | 4.9340  | 4.9355  | -0.0010          | -0.0035 | 1.2500  | 1.2500 | 1.2500 | 1.2535 | 5.4821                       | 5.4921 | 1.2500 | 0.8750 | 1.2500 | 1.2535 | 5.2946                            | 5.3046 |         |        |       |     |               |
| 5                      | 4.9990         | 5.0005  | 5.0000            | 5.0015 | -0.0000 | +0.0025 | 4.9965  | 4.9980  | -0.0010          | -0.0035 | 1.2500  | 1.2500 | 1.2500 | 1.2535 | 5.5456                       | 5.5556 | 1.2500 | 0.8750 | 1.2500 | 1.2535 | 5.3581                            | 5.3681 |         |        |       |     |               |
| 5 - 6 1/2 (incl.)      | -0.0010        | +0.0000 | 5 - 6 1/2 (incl.) |        | -0.0000 | +0.0025 |         |         | -0.0040          | -0.0015 | -0.0040 | 1.2500 | 1.2500 | 1.2500 | 1.2535                       |        |        | 1.2500 | 0.8750 | 1.2500 | 1.2535                            |        |         |        |       |     |               |
| 5 1/16                 | 5.0615         | 5.0625  | 5.0625            | 5.0640 | -0.0000 | +0.0025 | 5.0585  | 5.0600  | -0.0015          | -0.0040 | 1.2500  | 1.2500 | 1.2500 | 1.2535 | 5.6091                       | 5.6191 | 1.2500 | 0.8750 | 1.2500 | 1.2535 | 5.4216                            | 5.4316 |         |        |       |     |               |
| 5 1/8                  | 5.1240         | 5.1250  | 5.1250            | 5.1265 | -0.0000 | +0.0025 | 5.1210  | 5.1225  | -0.0015          | -0.0040 | 1.2500  | 1.2500 | 1.2500 | 1.2535 | 5.6726                       | 5.6826 | 1.2500 | 0.8750 | 1.2500 | 1.2535 | 5.4851                            | 5.4951 |         |        |       |     |               |
| 5 3/16                 | 5.1865         | 5.1875  | 5.1875            | 5.1890 | -0.0000 | +0.0025 | 5.1835  | 5.1850  | -0.0015          | -0.0040 | 1.2500  | 1.2500 | 1.2500 | 1.2535 | 5.7361                       | 5.7461 | 1.2500 | 0.8750 | 1.2500 | 1.2535 | 5.5486                            | 5.5586 |         |        |       |     |               |
| 5 1/4                  | 5.2490         | 5.2500  | 5.2500            | 5.2515 | -0.0000 | +0.0025 | 5.2460  | 5.2475  | -0.0015          | -0.0040 | 1.2500  | 1.2500 | 1.2500 | 1.2535 | 5.7995                       | 5.8095 | 1.2500 | 0.8750 | 1.2500 | 1.2535 | 5.6120                            | 5.6220 |         |        |       |     |               |
| 5 5/16                 | 5.3115         | 5.3125  | 5.3125            | 5.3140 | -0.0000 | +0.0025 | 5.3085  | 5.3100  | -0.0015          | -0.0040 | 1.2500  | 1.2500 | 1.2500 | 1.2535 | 5.8629                       | 5.8729 | 1.2500 | 0.8750 | 1.2500 | 1.2535 | 5.6754                            | 5.6854 |         |        |       |     |               |
| 5 3/8                  | 5.3740         | 5.3750  | 5.3750            | 5.3765 | -0.0000 | +0.0025 | 5.3710  | 5.3725  | -0.0015          | -0.0040 | 1.2500  | 1.2500 | 1.2500 | 1.2535 | 5.9263                       | 5.9363 | 1.2500 | 0.8750 | 1.2500 | 1.2535 | 5.7388                            | 5.7488 |         |        |       |     |               |
| 5 7/16                 | 5.4365         | 5.4375  | 5.4375            | 5.4390 | -0.0000 | +0.0025 | 5.4335  | 5.4350  | -0.0015          | -0.0040 | 1.2500  | 1.2500 | 1.2500 | 1.2535 | 5.9897                       | 5.9997 | 1.2500 | 0.8750 | 1.2500 | 1.2535 | 5.8022                            | 5.8122 |         |        |       |     |               |
| 5 1/2                  | 5.4990         | 5.5000  | 5.5000            | 5.5015 | -0.0000 | +0.0025 | 5.4960  | 5.4975  | -0.0015          | -0.0040 | 1.2500  | 1.2500 | 1.2500 | 1.2535 | 6.0530                       | 6.0630 | 1.2500 | 0.8750 | 1.2500 | 1.2535 | 5.8655                            | 5.8755 |         |        |       |     |               |
| 5 5/8                  | 5.5615         | 5.5625  | 5.5625            | 5.5640 | -0.0000 | +0.0025 | 5.5585  | 5.5600  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.2095                       | 6.2195 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 5.9595                            | 5.9695 |         |        |       |     |               |
| 5 5/8                  | 5.6240         | 5.6250  | 5.6250            | 5.6265 | -0.0000 | +0.0025 | 5.6210  | 5.6225  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.2732                       | 6.2832 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.0232                            | 6.0332 |         |        |       |     |               |
| 5 11/16                | 5.6865         | 5.6875  | 5.6875            | 5.6890 | -0.0000 | +0.0025 | 5.6835  | 5.6850  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.3368                       | 6.3468 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.0868                            | 6.0968 |         |        |       |     |               |
| 5 3/4                  | 5.7490         | 5.7500  | 5.7500            | 5.7515 | -0.0000 | +0.0025 | 5.7460  | 5.7475  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.4005                       | 6.4105 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.1505                            | 6.1605 |         |        |       |     |               |
| 5 13/16                | 5.8115         | 5.8125  | 5.8125            | 5.8140 | -0.0000 | +0.0025 | 5.8085  | 5.8100  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.4641                       | 6.4741 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.2141                            | 6.2241 |         |        |       |     |               |
| 5 7/8                  | 5.8740         | 5.8750  | 5.8750            | 5.8765 | -0.0000 | +0.0025 | 5.8710  | 5.8725  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.5276                       | 6.5376 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.2776                            | 6.2876 |         |        |       |     |               |
| 5 15/16                | 5.9365         | 5.9375  | 5.9375            | 5.9390 | -0.0000 | +0.0025 | 5.9335  | 5.9350  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.5912                       | 6.6012 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.3412                            | 6.3512 |         |        |       |     |               |
| 6                      | 5.9990         | 6.0000  | 6.0000            | 6.0015 | -0.0000 | +0.0025 | 5.9960  | 5.9975  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.6547                       | 6.6647 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.4047                            | 6.4147 |         |        |       |     |               |
| 6 1/16                 | 6.0615         | 6.0625  | 6.0625            | 6.0640 | -0.0000 | +0.0025 | 6.0585  | 6.0600  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.7183                       | 6.7283 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.4683                            | 6.4783 |         |        |       |     |               |
| 6 1/8                  | 6.1240         | 6.1250  | 6.1250            | 6.1265 | -0.0000 | +0.0025 | 6.1210  | 6.1225  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.7817                       | 6.7917 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.5317                            | 6.5417 |         |        |       |     |               |
| 6 3/16                 | 6.1865         | 6.1875  | 6.1875            | 6.1890 | -0.0000 | +0.0025 | 6.1835  | 6.1850  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.8452                       | 6.8552 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.5952                            | 6.6052 |         |        |       |     |               |
| 6 1/4                  | 6.2490         | 6.2500  | 6.2500            | 6.2515 | -0.0000 | +0.0025 | 6.2460  | 6.2475  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.9087                       | 6.9187 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.6587                            | 6.6687 |         |        |       |     |               |
| 6 5/16                 | 6.3115         | 6.3125  | 6.3125            | 6.3140 | -0.0000 | +0.0025 | 6.3085  | 6.3100  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 6.9721                       | 6.9821 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.7221                            | 6.7321 |         |        |       |     |               |
| 6 3/8                  | 6.3740         | 6.3750  | 6.3750            | 6.3765 | -0.0000 | +0.0025 | 6.3710  | 6.3725  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 7.0355                       | 7.0455 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.7855                            | 6.7955 |         |        |       |     |               |
| 6 7/16                 | 6.4365         | 6.4375  |                   |        |         |         | 6.4335  | 6.4350  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 7.0989                       | 7.1089 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.8489                            | 6.8589 |         |        |       |     |               |
| 6 1/2                  | 6.4990         | 6.5000  |                   |        |         |         | 6.4960  | 6.4975  | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 | 7.1623                       | 7.1723 | 1.5000 | 1.0000 | 1.5000 | 1.5035 | 6.9123                            | 6.9223 |         |        |       |     |               |
| 6 1/2 - 7 (incl.)      | -0.0010        | +0.0000 |                   |        |         |         | -0.0040 | -0.0025 | -0.0015          | -0.0040 | 1.5000  | 1.5000 | 1.5000 | 1.5035 |                              |        | 1.5000 | 1.0000 | 1.5000 | 1.5035 |                                   |        |         |        |       |     |               |
| 6 9/16                 | 6.5615         | 6.5625  |                   |        |         |         | 6.5585  | 6.5600  | -0.0015          | -0.0040 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 7.3187                       | 7.3287 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.1937                            | 7.2037 |         |        |       |     |               |
| 6 5/8                  | 6.6240         | 6.6250  |                   |        |         |         | 6.6210  | 6.6225  | -0.0015          | -0.0040 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 7.3823                       | 7.3923 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.2573                            | 7.2673 |         |        |       |     |               |
| 6 11/16                | 6.6865         | 6.6875  |                   |        |         |         | 6.6835  | 6.6850  | -0.0015          | -0.0040 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 7.4460                       | 7.4560 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.3210                            | 7.3310 |         |        |       |     |               |
| 6 3/4                  | 6.7490         | 6.7500  |                   |        |         |         | 6.7460  | 6.7475  | -0.0015          | -0.0040 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 7.5096                       | 7.5196 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.3846                            | 7.3946 |         |        |       |     |               |
| 6 13/16                | 6.8115         | 6.8125  |                   |        |         |         | 6.8085  | 6.8100  | -0.0015          | -0.0040 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 7.5732                       | 7.5832 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.4482                            | 7.4582 |         |        |       |     |               |
| 6 7/8                  | 6.8740         | 6.8750  |                   |        |         |         | 6.8710  | 6.8725  | -0.0015          | -0.0040 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 7.6368                       | 7.6468 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.5118                            | 7.5218 |         |        |       |     |               |
| 6 15/16                | 6.9365         | 6.9375  |                   |        |         |         | 6.9335  | 6.9350  | -0.0015          | -0.0040 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 7.7003                       | 7.7103 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.5753                            | 7.5853 |         |        |       |     |               |
| 7                      | 6.9990         | 7.0000  |                   |        |         |         | 6.9960  | 6.9975  | -0.0015          | -0.0040 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 7.7639                       | 7.7739 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.6389                            | 7.6489 |         |        |       |     |               |
| 7 - 8 (incl.)          | -0.0010        | +0.0000 |                   |        |         |         | -0.0050 | -0.0030 | -0.0020          | -0.0050 | 1.7500  | 1.7500 | 1.7500 | 1.7540 |                              |        | 1.7500 | 1.5000 | 1.7500 | 1.7540 |                                   |        |         |        |       |     |               |
| 7 1/16                 | 7.0615         | 7.0625  |                   |        |         |         | 7.0585  | 7.0600  | -0.0020          | -0.0050 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 7.8274                       | 7.8374 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.7024                            | 7.7124 |         |        |       |     |               |
| 7 1/8                  | 7.1240         | 7.1250  |                   |        |         |         | 7.1210  | 7.1225  | -0.0020          | -0.0050 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 7.8909                       | 7.9009 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.7659                            | 7.7759 |         |        |       |     |               |
| 7 3/16                 | 7.1865         | 7.1875  |                   |        |         |         | 7.1835  | 7.1850  | -0.0020          | -0.0050 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 7.9544                       | 7.9644 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.8294                            | 7.8394 |         |        |       |     |               |
| 7 1/4                  | 7.2490         | 7.2500  |                   |        |         |         | 7.2460  | 7.2475  | -0.0020          | -0.0050 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 8.0178                       | 8.0278 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.8928                            | 7.9028 |         |        |       |     |               |
| 7 5/16                 | 7.3115         | 7.3125  |                   |        |         |         | 7.3085  | 7.3100  | -0.0020          | -0.0050 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 8.0813                       | 8.0913 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 7.9563                            | 7.9663 |         |        |       |     |               |
| 7 3/8                  | 7.3740         | 7.3750  |                   |        |         |         | 7.3710  | 7.3725  | -0.0020          | -0.0050 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 8.1447                       | 8.1547 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 8.0197                            | 8.0297 |         |        |       |     |               |
| 7 7/16                 | 7.4365         | 7.4375  |                   |        |         |         | 7.4335  | 7.4350  | -0.0020          | -0.0050 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 8.2081                       | 8.2181 | 1.7500 | 1.5000 | 1.7500 | 1.7540 | 8.0831                            | 8.0931 |         |        |       |     |               |
| 7 1/2                  | 7.4990         | 7.5000  |                   |        |         |         | 7.4960  | 7.4975  | -0.0020          | -0.0050 | 1.7500  | 1.7500 | 1.7500 | 1.7540 | 8.2715                       | 8.2815 | 1.7500 | 1.5000 | 1      |        |                                   |        |         |        |       |     |               |



## Temperature Ratings

| ELEMENT TYPE     | MINIMUM | MAXIMUM <sup>(1)</sup> |
|------------------|---------|------------------------|
| Standard Element | -45°F   | 220°F                  |
| Armored Element  | -45°F   | 220°F                  |

(1) Reference high temperature adjustment factors for applications in excess of 180°F

## High Temperature Adjustment Factors

| TEMPERATURE RANGE | ADJUSTMENT |
|-------------------|------------|
| 180°F - 200°F     | + 0.75     |
| 201°F - 220°F     | + 1.0      |

NOTE: High temperature adjustment factors are only to be added to the standard system service factors as needed. High temperature service factors are not included in the standard application service factor in order to prevent oversizing coupling selections.

## Bore Ranges

| Coupling Size | Finished Bore |                          | Taper-Lock   |              |                          | OD           |              |                          |
|---------------|---------------|--------------------------|--------------|--------------|--------------------------|--------------|--------------|--------------------------|
|               | Minimum Bore  | Max. Bore <sup>(1)</sup> | Bushing Size | Minimum Bore | Max. Bore <sup>(2)</sup> | Bushing Size | Minimum Bore | Max. Bore <sup>(2)</sup> |
| 2             | -             | 1.188                    | -            | -            | -                        | -            | -            | -                        |
| 3             | -             | 1.375                    | 1008         | 0.500        | 1.000                    | -            | -            | -                        |
| 4             | -             | 1.750                    | 1008         | 0.500        | 1.000                    | JA           | 0.500        | 1.188                    |
| 5             | -             | 1.938                    | 1108         | 0.500        | 1.125                    | SH           | 0.500        | 1.625                    |
| 10            | -             | 2.250                    | 1310         | 0.500        | 1.438                    | SDS          | 0.500        | 1.938                    |
| 20            | 0.750         | 2.750                    | 1610         | 0.500        | 1.688                    | SK           | 0.500        | 2.500                    |
| 30            | 0.750         | 3.250                    | 2012         | 0.500        | 2.125                    | SF           | 0.500        | 2.938                    |
| 40            | 0.750         | 3.750                    | 2517         | 0.500        | 2.688                    | E            | 0.875        | 3.500                    |
| 50            | 1.125         | 4.000                    | 2517         | 0.500        | 2.688                    | E            | 0.875        | 3.500                    |
| 60            | 1.125         | 4.500                    | 3020         | 0.875        | 3.250                    | F            | 1.000        | 3.938                    |
| 70            | 1.375         | 4.875                    | 3535         | 1.188        | 3.938                    | J            | 1.500        | 4.500                    |
| 80            | 1.875         | 6.750                    | 4040         | 1.438        | 4.438                    | M            | 2.000        | 5.500                    |

(1) Larger bore capacities available. Contact DODGE Engineering for additional details

(2) With steel Dodge bushings and/or shallow keyway

## Torsional Stiffness

| Size | Static Torsional Stiffness (in-lbs/degree) |
|------|--------------------------------------------|
| E2   | 23                                         |
| E3   | 32                                         |
| E4   | 46                                         |
| E5   | 97                                         |
| E10  | 114                                        |
| E20  | 120                                        |
| E30  | 275                                        |
| E40  | 440                                        |
| E50  | 783                                        |
| E60  | 1,379                                      |
| E70  | 1,856                                      |
| E80  | 2,800                                      |

Values are shown for an ambient temperature of 70° F

Values are nominal and may vary by +/- 20%

Torsional stiffness values are for both the standard Natural Rubber and Armored Element

## Elastomer Chemical Comptability

| Substance            | Natural Rubber | Armored Element | Substance              | Natural Rubber | Armored Element |
|----------------------|----------------|-----------------|------------------------|----------------|-----------------|
| Acetic Acids         | 2              | 3               | Hydrobromic Acid (40%) | 1              | 2               |
| Acetic Anhydride     | 2              | 3               | Kerosene               | 3              | 2               |
| Alcohols, Monohydric | 2              | nd              | Lacquers               | 3              | 3               |
| Ammonia Anhydrous    | 3              | 2               | Lead Sufamate          | 2              | nd              |
| ASTM A Oils          | 3              | 1               | Mineral Oil            | 3              | 1               |
| Animal Fast          | 3              | 2               | Naphtha                | 3              | 2               |
| Benzene              | 3              | 3               | Nickel Chloride        | 1              | 3               |
| Carbonic Acid        | 3              | 3               | Nitric Acid (10%)      | 1              | 3               |
| Calcium Bisulfite    | 2              | nd              | Ozone                  | 3              | 1               |
| Chloracetone         | 2              | 3               | Petroleum (<250°F)     | 3              | 2               |
| Chloroacetic Acid    | 2              | 3               | Potassium Dichromate   | 2              | 1               |
| Copper Sulphate      | 2              | 1               | Salt Water             | 1              | 2               |
| Corn Oil             | 2              | 1               | Silicone Oils          | 1              | 1               |
| Diesel Oil           | 3              | 2               | Sulfuric Acid (Con.)   | 3              | 3               |
| Fuel Oil             | 3              | 2               | Vinegar                | 2              | 3               |
| Gasoline             | 2              | 2               | Zinc Sulfate           | 2              | 2               |

Ratings:

1 - Minor Effect    2 - Moderate Effect    3 - Severe Effect    nd - No Data



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