











Westcoast Cylinder Inc has been manufacturing high quality, reliable ROYAL cylinders for over 40 Years. Production started with a single cylinder design and expanded to a full range of multi-use, hydraulic, pneumatic cylinders and accessories.

**Quality:**

WCI is a leader in the design and manufacture of custom heavy duty cylinders. The materials, machinery and tools used to produce our products are continuously being updated. Our cylinders are built to the highest standards utilising the latest technology and processes.

**Delivery:**

WCI maintains a large range of stock parts which gives us the flexibility to respond to your needs in emergency situations. Please contact us to expedite your special requirements.

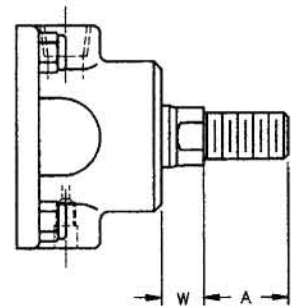
 <b>5</b> Foot Mount	 <b>12</b> Blind End Trunnion	 <b>6</b> Double Rod																																		
 <b>13</b> Blind End Flange	 <b>7</b> Clevis Mount	 <b>14</b> Rod End Flange																																		
 <b>9</b> Mid Trunnion	 <b>10</b> Heavy Duty Trunnion	 <b>11</b> Rod End Trunnion																																		
<table border="0"> <tr> <td><b>PAGE DESCRIPTION</b></td> <td><b>11 TR</b> Rod End Trunnion</td> <td><b>DATA</b></td> </tr> <tr> <td><b>2</b> M-Series Cross-Over Data</td> <td><b>12 TB</b> Blind End Trunnion</td> <td><b>20</b> Cylinder</td> </tr> <tr> <td><b>3</b> Features Description</td> <td><b>13 B</b> Blind End Flange</td> <td><b>21</b> Technical Data</td> </tr> <tr> <td><b>4</b> Features Drawing</td> <td><b>14 R</b> Rod End Flange</td> <td><b>PARTS</b></td> </tr> <tr> <td><b>MOUNTING STYLES</b></td> <td><b>15 CH</b> Common Head</td> <td><b>22</b> Parts Drawing</td> </tr> <tr> <td><b>5 F</b> Foot Mount</td> <td><b>16 CR</b> Common Rod</td> <td><b>23</b> Parts List</td> </tr> <tr> <td><b>6 D</b> Double Rod</td> <td><b>17 CHR</b> Common Head Common Rod</td> <td><b>24</b> Example</td> </tr> <tr> <td><b>7 C</b> Blind End Clevis</td> <td><b>ACCESSORIES</b></td> <td><b>25-29</b> Example Builds</td> </tr> <tr> <td><b>8 HC</b> Heavy Blind Clevis</td> <td><b>18</b> Rod End Accessories</td> <td></td> </tr> <tr> <td><b>9 T</b> Mid Trunnion</td> <td><b>19</b> Blind End Accessories</td> <td></td> </tr> <tr> <td><b>10 HT</b> Heavy Duty Mid Trunnion</td> <td></td> <td></td> </tr> </table>			<b>PAGE DESCRIPTION</b>	<b>11 TR</b> Rod End Trunnion	<b>DATA</b>	<b>2</b> M-Series Cross-Over Data	<b>12 TB</b> Blind End Trunnion	<b>20</b> Cylinder	<b>3</b> Features Description	<b>13 B</b> Blind End Flange	<b>21</b> Technical Data	<b>4</b> Features Drawing	<b>14 R</b> Rod End Flange	<b>PARTS</b>	<b>MOUNTING STYLES</b>	<b>15 CH</b> Common Head	<b>22</b> Parts Drawing	<b>5 F</b> Foot Mount	<b>16 CR</b> Common Rod	<b>23</b> Parts List	<b>6 D</b> Double Rod	<b>17 CHR</b> Common Head Common Rod	<b>24</b> Example	<b>7 C</b> Blind End Clevis	<b>ACCESSORIES</b>	<b>25-29</b> Example Builds	<b>8 HC</b> Heavy Blind Clevis	<b>18</b> Rod End Accessories		<b>9 T</b> Mid Trunnion	<b>19</b> Blind End Accessories		<b>10 HT</b> Heavy Duty Mid Trunnion			 <b>16</b> Common Rod
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## M-SERIES TO R-SERIES CROSS-OVER INFORMATION

All M-series cylinder mounting styles are available in the R-Series with some changes to the cylinder nomenclature (model code) as follows:

1. In the Rod Size field of the Cylinder Nomenclature specify Rod size #2.
2. All R-Series piston rods must have a Rod Extension to match the M-Series rods. To do this, specify "W" in the Options field of the Cylinder Nomenclature. Then specify what the "W" length should be; see conversion table below.  
Note: Not Required for MT Mid Trunnion Style.

Important R-Series Dimensions for M-Series cross-over.



### Conversion to R-Series from M-Series, H1F1 piston rod thread:

#### R-Series H1F1 Conversion Table

BORE	3	4	5	6	8	10	12
W	7/8	7/8	13/16	1 1/16	1 1/16	1 1/8	1 3/8

3. The M-Series offered two different standard rod thread sizes: H1F1 and H2F2.

H1F1: This is equivalent to the standard R-Series thread on the Rod size #2.

H2F2: This is a full thread option with a longer thread length. If your existing cylinder features this thread you must specify the following:

- a. Specify "C" in the Rod Thread field of the Cylinder Nomenclature for full thread.
- b. Specify "A" along with "W" in the Options field of the Cylinder Nomenclature. Then specify what the thread length should be. See the Thread Length Table below for R-Series thread length specifications.

### Conversion to R-Series from M-Series, H2F2 piston rod thread:

#### R-Series H2F2 Conversion Table

BORE	3	4	5	6	8	10	12
A	2 1/8	2 1/2	2 1/2	3 1/2	4	4 1/2	4 1/2
W	7/8	7/8	13/16	1 1/16	1 1/16	1 1/8	1 3/8

#### Example

H2F2 option

R4HC12A2C1A1A AWW=.875 A=2.5

Please contact Mac Valves Pacific if you require assistance.

## NITROTEC TREATED MATERIALS

Nitrotec is a patented furnace treatment process, which converts the steel surface into an extremely hard black iron nitride layer. It is superior to chrome plating in that the nitriding is diffused into the steel surface rendering the surface nonporous. Nitrotec delivers a superior case hardness of up to 71 Rc, improves corrosion resistance and minimises friction loss for long seal and gland bushing life. The Nitrotec process gives an extremely hard dent resistant finish to materials. The hardness varies from maximum at the surface to the material condition at a depth of 0.015", a vast improvement compared with a typical 0.0005" to 0.001" thick chrome plate. There is no flaking or lifting as with overlying chrome on a softer material.

### Nitrotec Piston Rod

The piston rod is Nitrotec treated C1045 carbon steel. Other rod materials are available including chrome plated 316 stainless steel and chrome plated carbon steel. The piston shoulder diameter has been increased to obtain a higher service factor for this area.

### Nitrotec Barrel

Nitrotec treated steel is the standard barrel material. Other materials include Amalgon and Brass.

## IMPROVED CUSHIONS

- Floating Check Seals
- Adjustable Cushions are standard at both ends. The cushions have been redesigned with a new floating check seal that provides quick and reliable breakaway performance while improving cushion effect. Seals are made from long wearing Hythane material.
- Longer Effective Cushion
- Our cushion sleeves have been lengthened with a new profile to provide a more effective cushion. A steel sleeve pushes the seal against the head and traps escaping air between the piston and head. Adjusting the needle valve sets the cushion speed. On the return stroke, the cushion seal is forced away from the head by air pressure, allowing the air to flow back into the cylinder at full pressure for a fast break away.
- Normal position for needle valves are at position number 3 (opposite the port in position number 1) except for Foot Mount which is at position 2.

## PISTON STOPS

Standard external or optional internal piston stops are available to reduce side load stress on the piston rod for all cylinder sizes.

## ONE PIECE ALUMINUM PISTON

Piston is a one piece design, aluminum construction, incorporating a wear ring centered on the piston to avoid metal to metal contact, and increase the life of the cylinder. A piston is also available with a magnet for sensing piston position using a Reed Switch. Proximity switches can also be fitted to the R-Series. Contact Mac Valves Pacific for more information.

## HYTHANE PISTON SEAL

Hythane K-Seals are the standard in the 3" bores and above. This design prevents rolling or extrusion, also providing less friction and longer life. Optional seals are available upon request, including Viton Fluoromite, etc. Contact Mac Valves Pacific for application information.

## ROTO-CAST GLAND BUSHING

Gland bushing is manufactured from Roto-Cast Bronze. The Hythane rod seal is a high performance, high temperature seal compound having ultra low friction and long seal life. It's documented temperature range is from -40° to 230°F. The Hythane rod wiper, with internal ribs for extra stability and prevention of pressure trapping, cleans the rod on the return stroke. The static external seal is Buna-N material. Spiral Snap Ring retainer allows for easy removal of gland bushing for maintenance without dismantling the cylinder. Optional gland bushings are also available with a wear ring, avoiding metal to metal contact and contributing to longer life for both the gland bushing and the piston rod. Vee-packing glands are also available. See Nomenclature for other options.

## CAST DUCTILE IRON HEADS

Heads are cast of ductile iron and are accurately machined for perfect alignment of barrel and moving parts. Heads are now common for the different rod sizes, thus allowing the end user to stock a single head for both rod sizes. The common head design also enables customers to increase or decrease rod sizes with little effort or expense.

## NPTF PORTS

NPTF Ports are standard at position 1. Specify if other port positions are required. SAE ports are available for an additional cost. There may be port restrictions on some models. Contact our factory for details. Note: For faster delivery when specifying a non-standard port, try to choose an alternate port location for the port (port position #2 preferred). Contact Mac Valves for confirmation on bore size constraints.

## REDUCED PRESSURE REQUIREMENTS

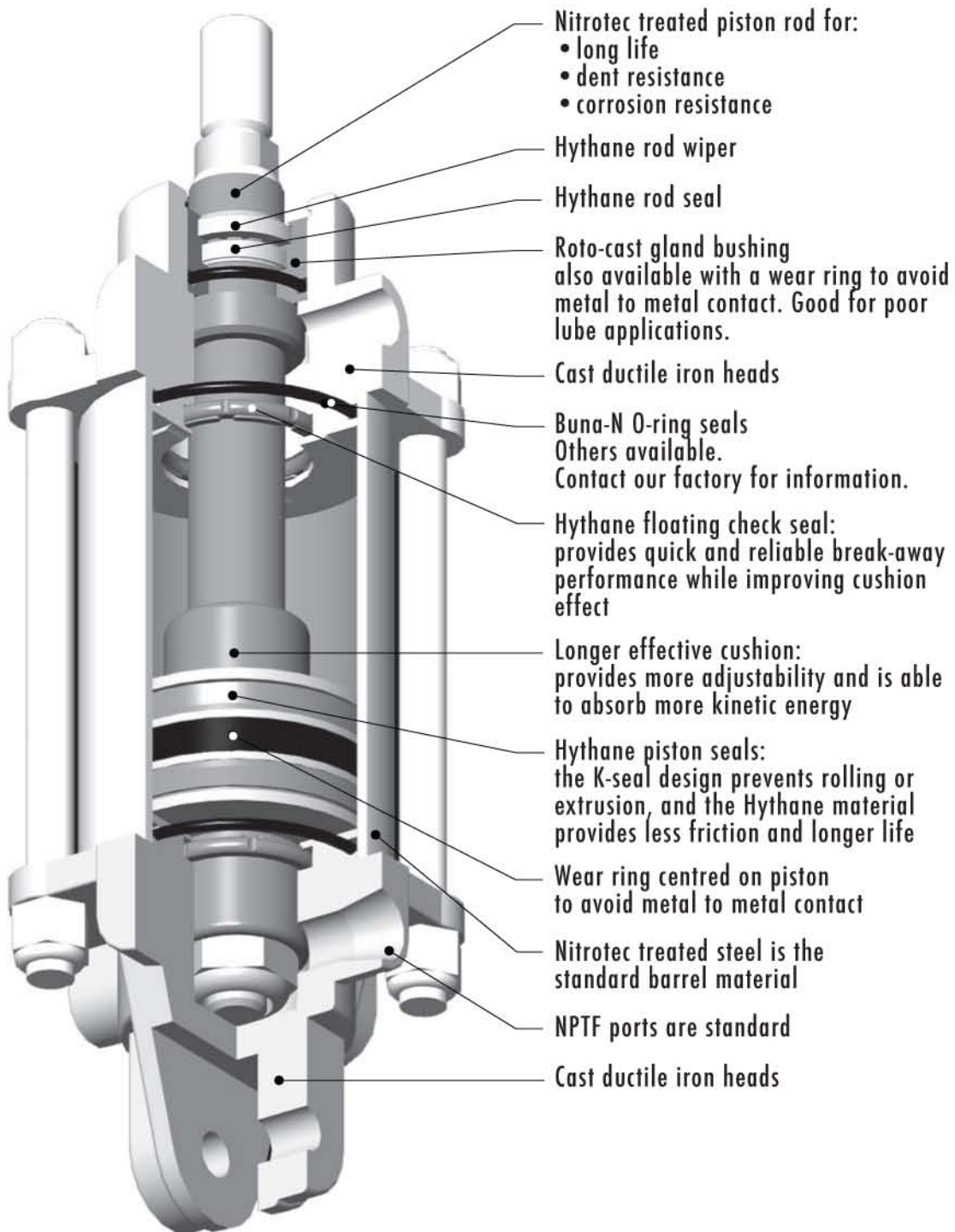
The combination of seals and materials used within Royal air cylinders reduces internal friction and thus has the ability to reduce air pressure requirements. Reducing air pressure reduces consumption costs. Testimonials from customers have reported a reduction in pressure from 10 to 30%.

## CUSTOM CYLINDERS

If our standard product does not meet your requirements, WCI will manufacture custom cylinders to suit your application or design request. Please contact Mac Valves Pacific with your requests.

## SPARE PARTS

Genuine Royal seal kits include all seal components, wear rings and needle valves. Please be sure to specify genuine Royal replacement parts to ensure you will receive all feature benefits.



- Nitrotec treated piston rod for:
  - long life
  - dent resistance
  - corrosion resistance
- Hythane rod wiper
- Hythane rod seal
- Roto-cast gland bushing also available with a wear ring to avoid metal to metal contact. Good for poor lube applications.
- Cast ductile iron heads
- Buna-N O-ring seals  
Others available.  
Contact our factory for information.
- Hythane floating check seal: provides quick and reliable break-away performance while improving cushion effect
- Longer effective cushion: provides more adjustability and is able to absorb more kinetic energy
- Hythane piston seals: the K-seal design prevents rolling or extrusion, and the Hythane material provides less friction and longer life
- Wear ring centred on piston to avoid metal to metal contact
- Nitrotec treated steel is the standard barrel material
- NPTF ports are standard
- Cast ductile iron heads

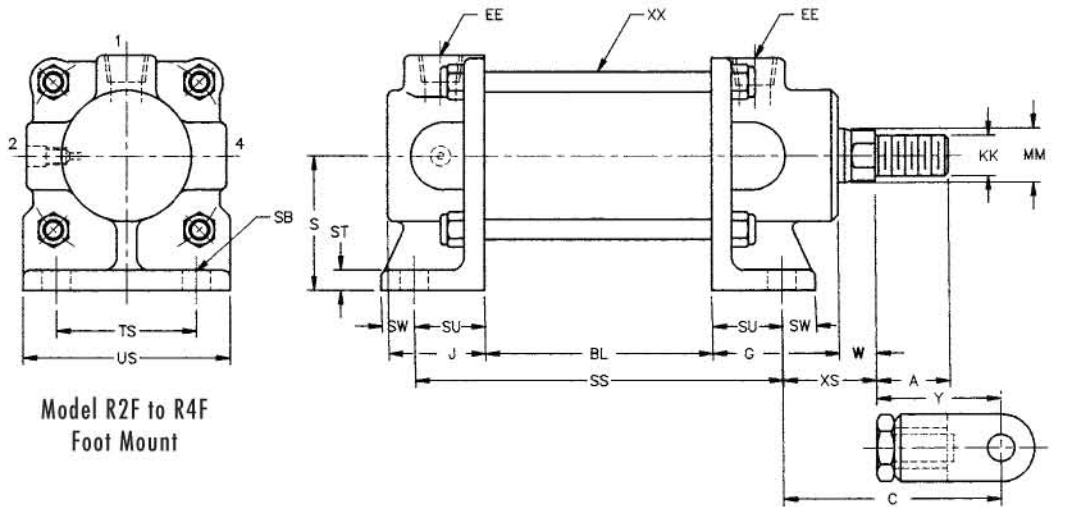
# R Series - Model RF Foot Mount



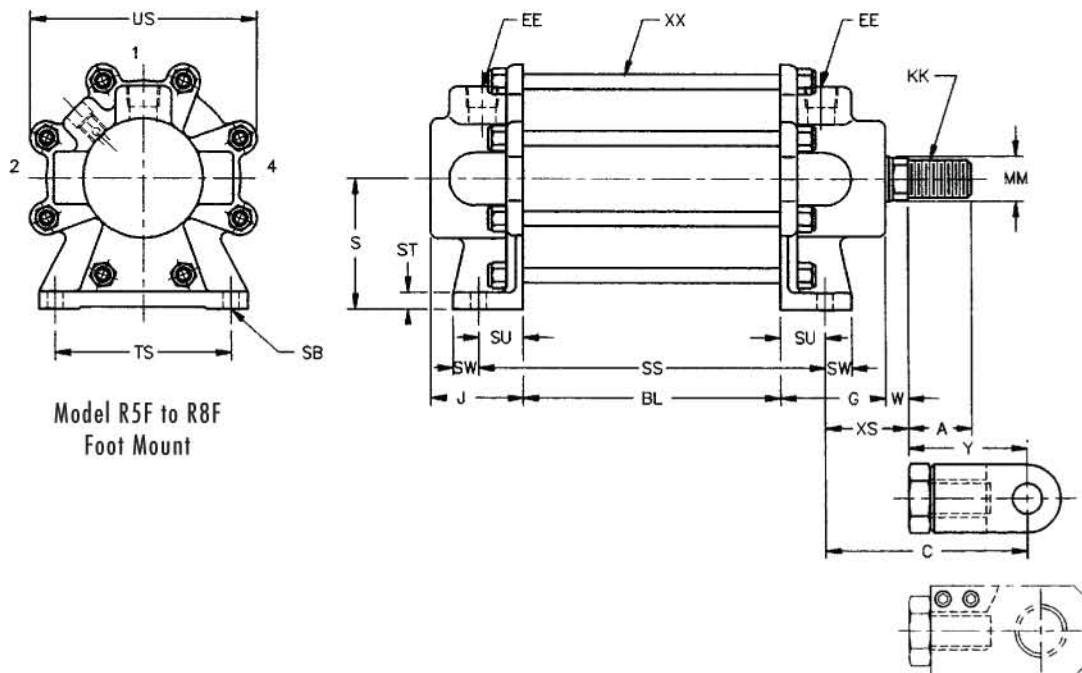
BORE ROD	RODDIA MM	KK	CC	A	C	W	ADD STROKE		S	SB	ST	SU	SW	TS	US	XS	EE	G	J	XX	Y	
							BL	SS														
2	1	3/4	*5/8-18	N/A	*1 1/8	3 1/2	3/8	2	4 3/8	2 1/8	3/8	5/16	1 3/16	1/2	2	2 7/8	1 1/8	3/8	1 15/16	1 3/8	3/8	2 3/8
	2	1	3/4-16	7/8-14	1 3/8	3 11/16	1/2										1 1/4					2 7/16
3	1	1	3/4-16	7/8-14	1 3/8	4	1/2	2 1/4	4 7/8	2 1/2	1/2	3/8	1 5/16	5/8	2 5/8	3 5/8	1 9/16	3/8	2 3/8	1 13/16	3/8	2 7/16
	2	1	1/41-14	N/A	1 3/4	4 11/16	7/16										1 1/2					3 3/16
4	1	1	1/41-14	N/A	1 3/4	4 15/16	7/16	2 3/8	5 3/8	3	1/2	1/2	1 1/2	5/8	3 7/8	4 5/8	1 3/4	1/2	2 13/16	2 1/16	1/2	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	5 9/16	3/8										1 11/16					3 7/8
5	1	1 1/4	1-14	N/A	1 3/4	4 7/8	3/8	2 3/8	5 1/2	3 11/16	1/2	1/2	1 9/16	5/8	4 3/8	6 3/8	1 11/16	1/2	2 7/8	2 5/16	3/8	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	5 1/2	5/16										1 5/8					3 7/8
6	1	1 1/2	1 1/4-12	N/A	2 1/8	6 5/16	7/16	2 5/8	5 5/8	4 3/8	1/2	9/16	1 1/2	7/8	5 7/8	7 3/4	2 7/16	3/4	3 1/2	3 1/8	1/2	3 7/8
	2	2	1 1/2-12	1 3/4-12	2 1/2	7 1/16	1/2										2 1/2					4 9/16
8	1	2	1 1/2-12	1 3/4-12	2 1/2	7 5/32	1/2	2 3/4	7 5/16	5 3/4	5/8	1 1/16	2 9/32	2 7/32	8 1/4	9 3/4	2 19/32	1	4 3/8	3 3/8	1/2	4 9/16
	2	2 1/2	2-12	2 1/4-12	3 1/2	8 21/32	11/16										2 25/32					5 7/8

**Notes:**

1. All dimensions in inches.
  2. EE dimension specifies NPTF port.
  3. See Cylinder Nomenclature for thread options.
  4. For Optional Rod Ends and dimensions see page 18.
- Contact Mac Valves if SAE or Alternate port size is required. \*For Female Thread, KK = 7/16-20, A = 3/4"



Model R2F to R4F  
Foot Mount



Model R5F to R8F  
Foot Mount

# R Series - Model RD Double Rod

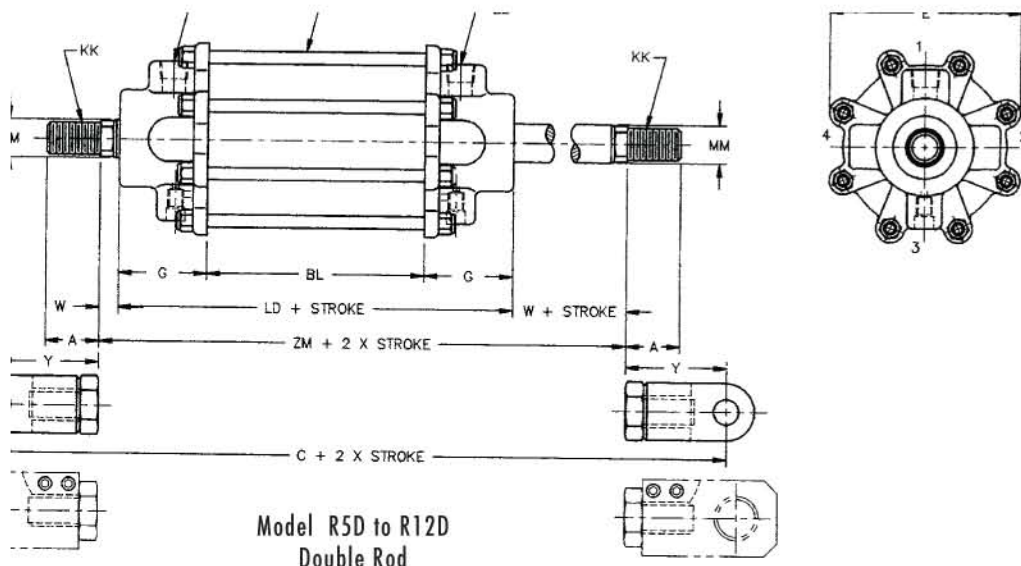
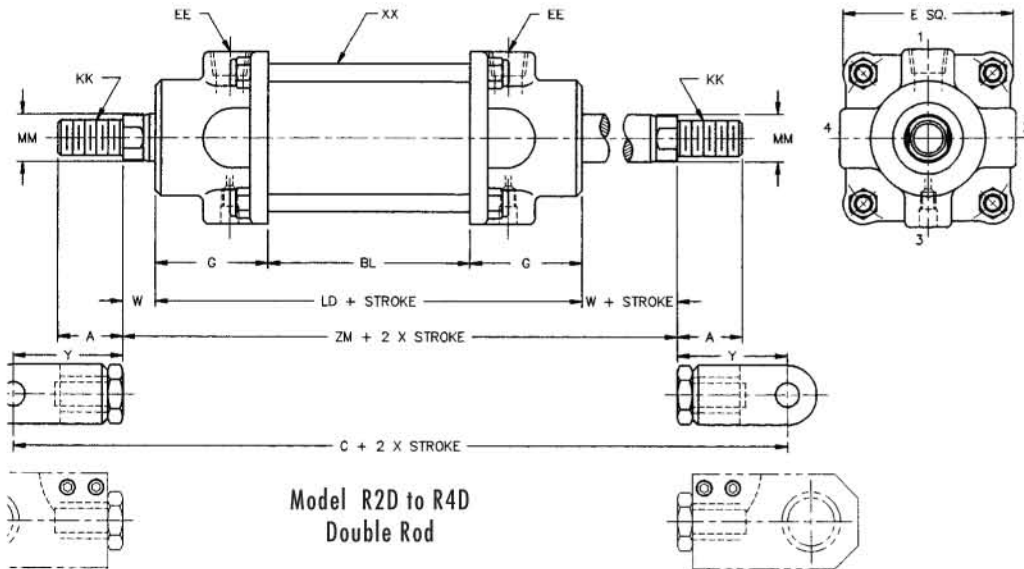


BORE	ROD	ROD DIA MM	KK	CC	A	W	ADD STROKE		STROKE x 2		E	EE	G	XX	Y
							BL	LD	C	ZM					
2	1	3/4	*5/8-18	N/A	*1 1/8	3/8	2	5 7/8	11 3/8	6 5/8	2 7/8	3/8	1 15/16	3/8	2 3/8
	2	1	3/4-16	7/8-14	1 3/8	1/2			11 3/4	6 7/8					2 7/16
3	1	1	3/4-16	7/8-14	1 3/8	1/2	2 1/4	7	12 7/8	8	3 5/8	3/8	2 3/8	3/8	2 7/16
	2	1 1/4	1-14	N/A	1 3/4	7/16			14 1/4	7 7/8					3 3/16
4	1	1 1/4	1-14	N/A	1 3/4	7/16	2 3/8	8	15 1/4	8 7/8	4 5/8	1/2	2 13/16	1/2	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	3/8			16 1/2	8 3/4					3 7/8
5	1	1 1/4	1-14	N/A	1 3/4	3/8	2 3/8	8 1/8	15 1/4	8 7/8	6 3/8	1/2	2 7/8	3/8	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	5/16			16 1/2	8 3/4					3 7/8
6	1	1 1/2	1 1/4-12	N/A	2 1/8	7/16	2 5/8	9 5/8	18 1/4	10 1/2	7 3/4	3/4	3 1/2	1/2	3 7/8
	2	2	1 1/2-12	1 3/4-12	2 1/2	1/2			19 3/4	10 5/8					4 9/16
8	1	2	1 1/2-12	1 3/4-12	2 1/2	1/2	2 3/4	11 1/2	21 5/8	12 1/2	9 3/4	1	4 3/8	1/2	4 9/16
	2	2 1/2	2-12	2 1/4-12	3 1/2	11/16			24 5/8	12 7/8					5 7/8
10	1	2 1/2	2-12	2 1/4-12	3 1/2	3/4	3 1/2	13 3/4	27	15 1/4	11 3/4	1 1/4	5 1/8	5/8	5 7/8
	2	3	2 1/2-12	2 3/4-12	4 1/2	1			30 1/2	15 3/4					7 3/8
12	1	3	2 1/2-12	2 3/4-12	4 1/2	1	4 1/4	17 1/2	34 1/4	19 1/2	14 1/4	1 1/2	6 5/8	3/4	7 3/8
	2	3 1/2	2 1/2-12	3 1/4-12	4 1/2	1			34 1/4	19 1/2					7 3/8

**Notes:**

1. All dimensions in inches.
  2. EE dimension specifies NPTF port.
- Contact Mac Valves Pacific if SAE or Alternate port size is required.

3. See Cylinder Nomenclature for thread options.
  4. For Optional Rod Ends and dimensions see page 18.
- \*For Female Thread, KK = 7/16-20, A = 3/4"



# R Series - Model RC Blind End Clevis

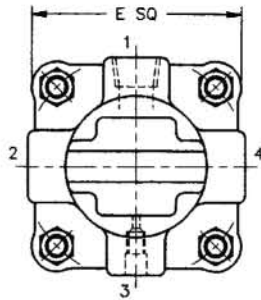


BORE	ROD	ROD DIA MM	KK	CC	A	W	ADD STROKE			CB	CD	CW	E	EE	G	J	L	MR	XX	Y
							BL	C	XC											
2	1	3/4	*5/8-18	N/A	*1 1/8	3/8	2	9	6 5/8	17/32	1/2	1/2	2 7/8	3/8	1 15/16	2 5/16	7/8	5/8	3/8	2 3/8
	2	1	3/4-16	7/8-14	1 3/8	1/2		9 3/16	6 3/4											2 7/16
3	1	1	3/4-16	7/8-14	1 3/8	1/2	2 1/4	10 7/16	8	17/32	1/2	5/8	3 5/8	3/8	2 3/8	2 7/8	1	3/4	3/8	2 7/16
	2	1	1/41-14	N/A	1 3/4	7/16		11 1/8	7 15/16											3 3/16
4	1	1	1/41-14	N/A	1 3/4	7/16	2 3/8	12 3/16	9	25/32	3/4	3/4	4 5/8	1/2	2 13/16	3 3/8	1	3/16	11/23	3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	3/8		12 13/16	8 15/16											3 7/8
5	1	1 1/4	1-14	N/A	1 3/4	3/8	2 3/8	12 5/16	9 1/8	25/32	3/4	7/8	6 3/8	1/2	2 7/8	3 1/2	1 3/16	1	3/8	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	5/16		12 15/16	9 1/16											3 7/8
6	1	1 1/2	1 1/4-12	N/A	2 1/8	7/16	2 5/8	14 13/16	10 15/16	1 1/32	1	15/16	7 3/4	3/4	3 1/2	4 3/8	1 1/4	1 1/4	1/2	3 7/8
	2	2	1 1/2-12	1 3/4-12	2 1/2	1/2		15 9/16	11											4 9/16
8	1	2	1 1/2-12	1 3/4-12	2 1/2	1/2	2 3/4	17 5/16	12 3/4	15/16	1 1/4	1 1/4	9 3/4	1	4 3/8	5 1/8	1 3/4	1 1/2	1/2	4 9/16
	2	2 1/2	2-12	2 1/4-12	3 1/2	11/16		18 13/16	12 15/16											5 7/8
10	1	2 1/2	2-12	2 1/4-12	3 1/2	3/4	3 1/2	21 1/8	15 1/4	19/16	1 1/2	1 7/16	11 3/4	1 1/4	5 1/8	5 7/8	2	1 3/4	5/8	5 7/8
	2	3	2 1/2-12	2 3/4-12	4 1/2	1		22 7/8	15 1/2											7 3/8
12	1	3	2 1/2-12	2 3/4-12	4 1/2	1	4 1/4	26 1/8	18 3/4	2 1/16	1 3/4	1 5/8	14 1/4	1 1/2	6 5/8	6 7/8	2 3/8	2 1/8	3/4	7 3/8
	2	3 1/2	2 1/2-12	3 1/4-12	4 1/2	1		26 1/8	18 3/4											7 3/8

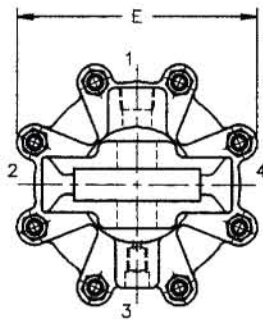
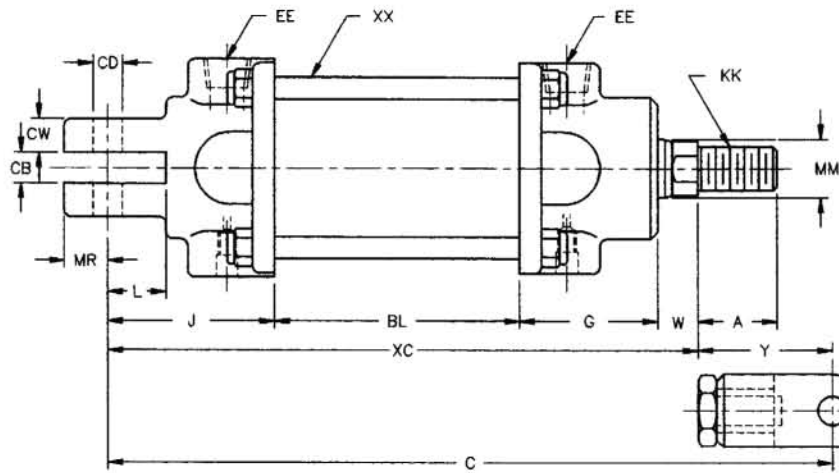
**Notes:**

1. All dimensions in inches.
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- Contact Mac Valves Pacific if SAE or Alternate port size is required.

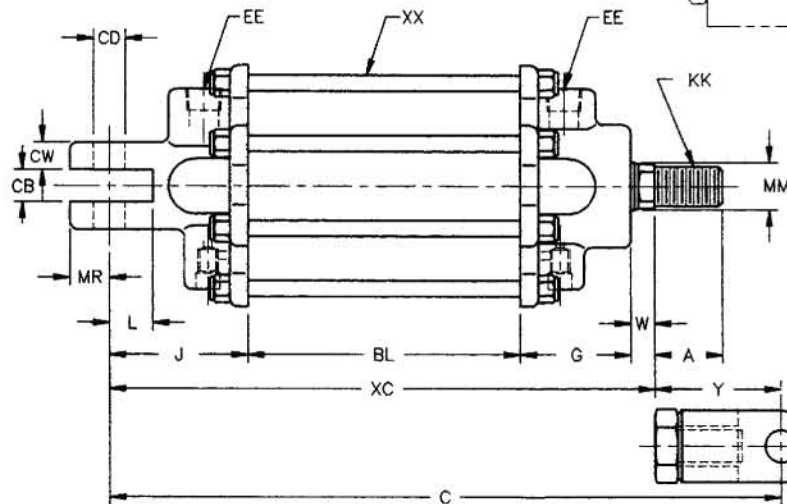
3. See Cylinder Nomenclature for thread options.
4. For Optional Rod Ends and dimensions see page 18.  
\*For Female Thread, KK = 7/16-20, A = 3/4"



Model R2C to R4C  
Blind End Clevis



Model R5C to R12C  
Blind End Clevis



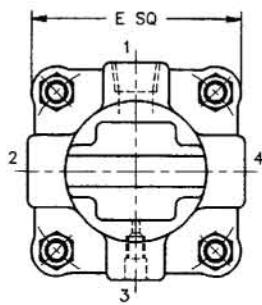
# R Series - Model RHC Heavy Blind Clevis



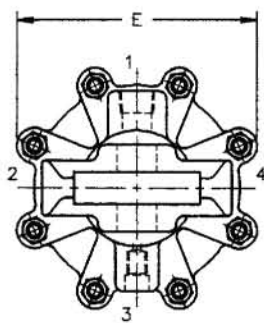
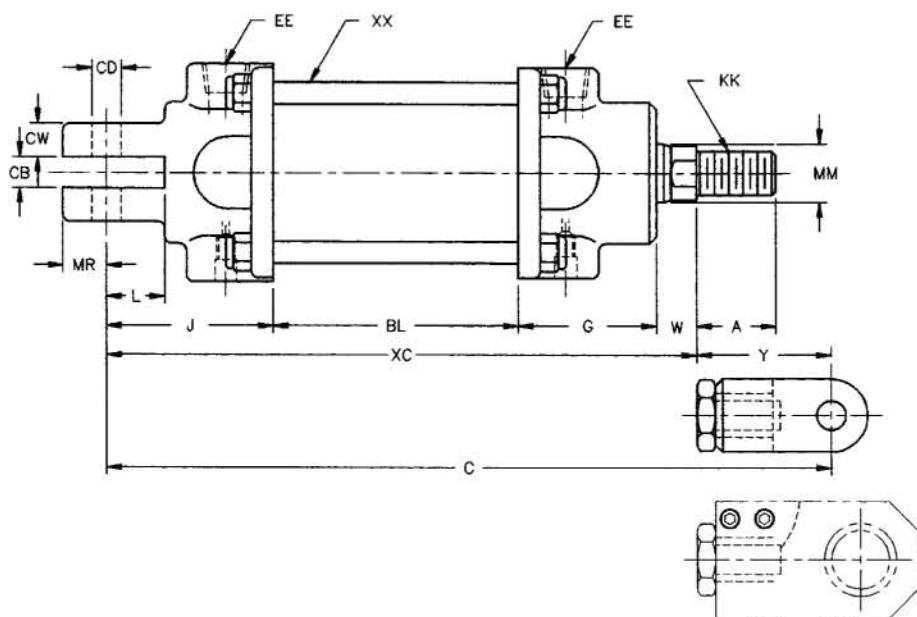
BORE	ROD	ROD DIA MM	KK	CC	A	W	ADD STROKE			CB	CD	CW	E	EE	G	J	L	MR	XX	Y
							BL	C	XC											
3	1	1	3/4-16	7/8-14	1 3/8	1/2	2 1/4	10 11/16	8 1/4	25/32	3/4	13/16	3 5/8	3/8	2 3/8	3 1/8	1 1/4	1	3/8	2 7/16
	2	1 1/4	1-14	N/A	1 3/4	7/16		11 3/8	8 3/16											3 3/16
4	1	1 1/4	1-14	N/A	1 3/4	7/16	2 3/8	12 7/8	11 1/16	1 1/32	1	15/16	4 5/8	1/2	2 13/16	4 1/16	1 7/8	1 1/8	1/23	3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	3/8		13 1/2	9 5/8											3 7/8
5	1	1 1/4	1-14	N/A	1 3/4	3/8	2 3/8	12 7/8	9 11/16	1 1/32	1	15/16	6 3/8	1/2	2 7/8	4 1/16	1 7/8	1 1/8	3/8	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	5/16		13 1/2	9 5/8											3 7/8
6	1	1 1/2	1 1/4-12	N/A	2 1/8	7/16	2 5/8	15 5/16	11 7/16	1 5/16	1 1/4	1 7/32	7 3/4	3/4	3 1/2	4 7/8	3/4	1 1/2	1/2	3 7/8
	2	2	1 1/2-12	1 3/4-12	2 1/2	1/2		16 1/16	11 1/2											4 9/16
8	1	2	1 1/2-12	1 3/4-12	2 1/2	1/2	2 3/4	17 13/16	13 1/4	1 9/16	1 1/2	1 7/16	9 3/4	1	4 3/8	5 5/8	2 1/4	1 7/8	1/2	4 9/16
	2	2 1/2	2-12	2 1/4-12	3 1/2	11/16		19 5/16	13 7/16											5 7/8

**Notes:**

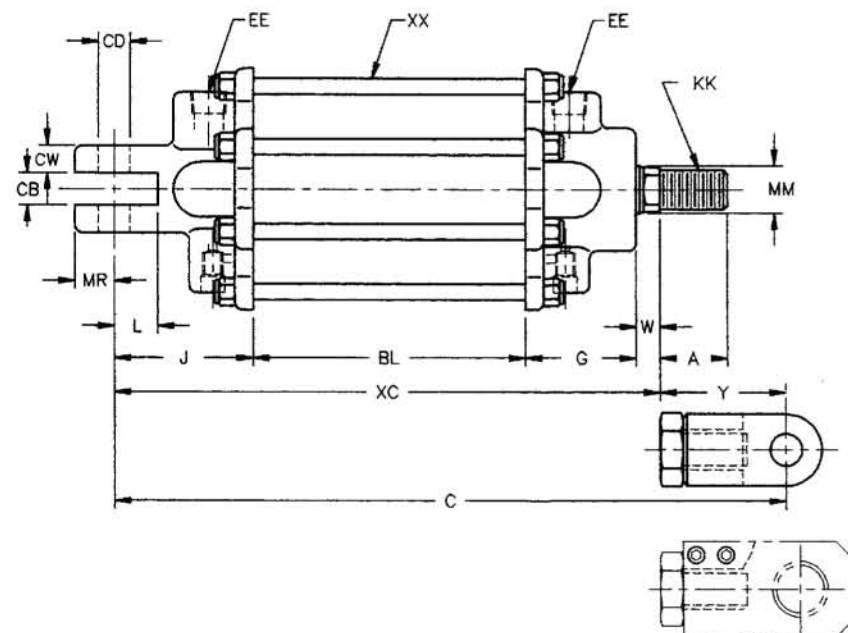
1. All dimensions in inches.
2. EE dimension specifies NPTF port.
3. See Cylinder Nomenclature for thread options.
4. M-Series M2C Equivalent.
5. For Optional Rod Ends and dimensions see page 18.



Model R3HC and R4HC Heavy Blind Clevis



Model R5HC and R8HC Heavy Blind Clevis





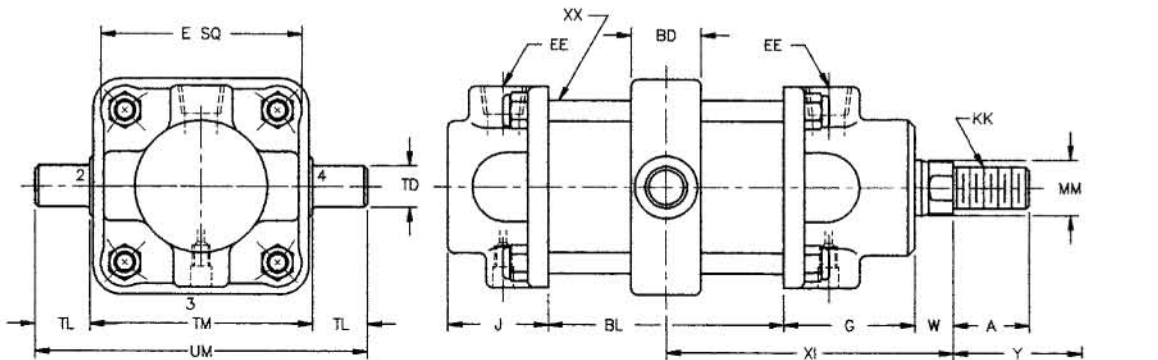
# R Series - Model RT Mid Trunnion



BORE	ROD	ROD DIA MM	KK	CC	A	W	Model T Dimensions										E	EE	G	J	XX	Y
							XI min	XI max	BL	BD	TD	TL	TM	UM								
2	1	3/4	*5/8-18	N/A	*1 1/8	3/8	2 7/8	3 3/4	2	1	3/4	1	3	5	2 7/8	3/8	1 15/16	1 3/8	3/8	2 3/8		
	2	1	3/4-16	7/8-14	1 3/8	1/2	3	3 7/8												2 7/16		
3	1	1	3/4-16	7/8-14	1 3/8	1/2	3 9/16	4 7/16	2 1/4	1 1/4	3/4	1	4	6	3 5/8	3/8	2 3/8	1 13/16	3/8	2 7/16		
	2	1 1/4	1-14	N/A	1 3/4	7/16	3 1/2	4 3/8												3 3/16		
4	1	1 1/4	1-14	N/A	1 3/4	7/16	4 1/16	4 13/16	2 3/8	1 1/2	1	1 1/4	5 1/4	7 3/4	4 5/8	1/2	2 13/16	2 1/16	1/2	3 3/16		
	2	1 1/2	1 1/4-12	N/A	2 1/8	3/8	4	4 3/4												3 7/8		
5	1	1 1/4	1-14	N/A	1 3/4	3/8	4 1/16	4 13/16	2 3/8	1 1/2	1	1 1/4	6 1/2	9	6 3/8	1/2	2 7/8	2 5/16	3/8	3 3/16		
	2	1 1/2	1 1/4-12	N/A	2 1/8	5/16	4	4 3/4												3 7/8		
6	1	1 1/2	1 1/4-12	N/A	2 1/8	7/16	4 7/8	5 5/8	2 5/8	1 3/4	1 1/4	1 1/2	8	11	7 3/4	3/4	3 1/2	3 1/8	1/2	3 7/8		
	2	2	1 1/2-12	1 3/4-12	2 1/2	1/2	4 15/16	5 11/16												4 9/16		
8	1	2	1 1/2-12	1 3/4-12	2 1/2	1/2	6 3/16	6 5/16	2 3/4	2 1/2	1 3/4	2	10	14	9 3/4	1	4 3/8	3 3/8	1/2	4 9/16		
	2	2 1/2	2-12	2 1/4-12	3 1/2	11/16	6 3/8	6 1/2												5 7/8		
10	1	2 1/2	2-12	2 1/4-12	3 1/2	3/4	7 9/16	7 11/16	3 1/2	3 1/4	2	2 3/8	13	17 3/4	11 3/4	1 1/4	5 1/8	3 7/8	5/8	5 7/8		
	2	3	2 1/2-12	2 3/4-12	4 1/2	1	7 13/16	7 15/16												7 3/8		
12	1	3	2 1/2-12	2 3/4-12	4 1/2	1	9 11/16	9 13/16	4 1/4	4	2 1/2	2 3/4	15 1/2	21	14 1/4	1 1/2	6 5/8	4 1/2	3/4	7 3/8		
	2	3 1/2	2 1/2-12	3 1/4-12	4 1/2	1	9 11/16	9 13/16												7 3/8		

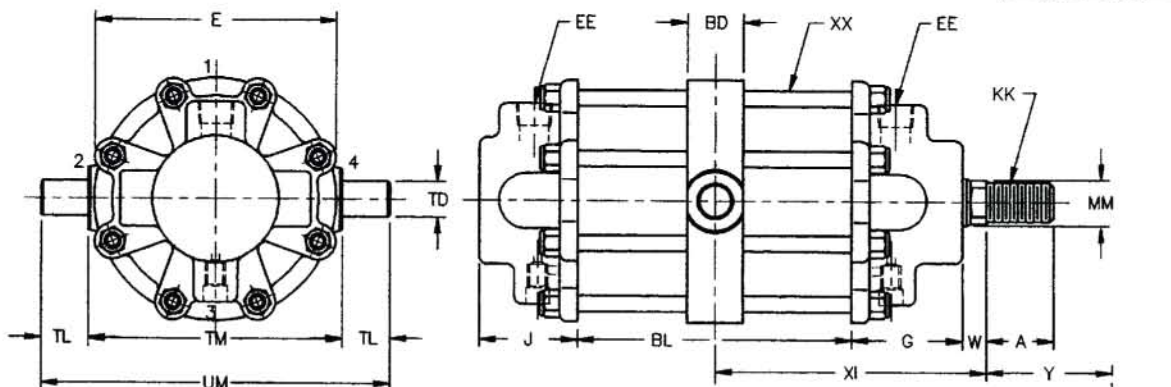
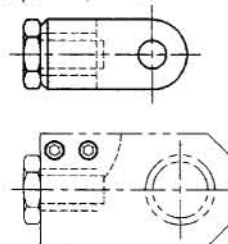
**Notes:**

1. All dimensions in inches.
  2. EE dimension specifies NPTF port.
  3. See Cylinder Nomenclature for thread options.
  4. For Optional Rod Ends and dimensions see page 18.
- \* For Female Thread, KK = 7/16-20, A=3/4"

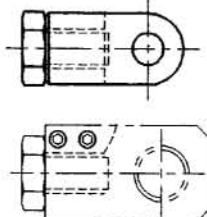


**Model R2T to R4T  
Mid Trunnion**

**Warning:**  
Trunnion Mounted Cylinders swivel in one direction only and are designed to carry shear loads. Pins must be held rigidly and in accurate alignment. Improper mounting may result in premature failure. Note: Specify XI value when ordering Mid Trunnion Mounted Cylinders.



**Model R5T to R12T  
Mid Trunnion**



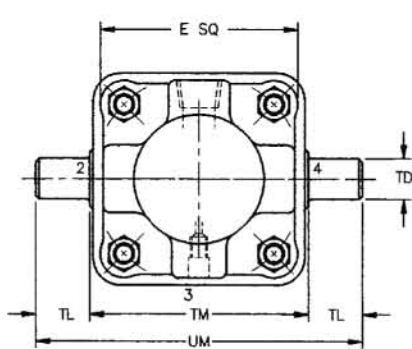
# R Series - Model RHT Heavy Duty Mid Trunnion



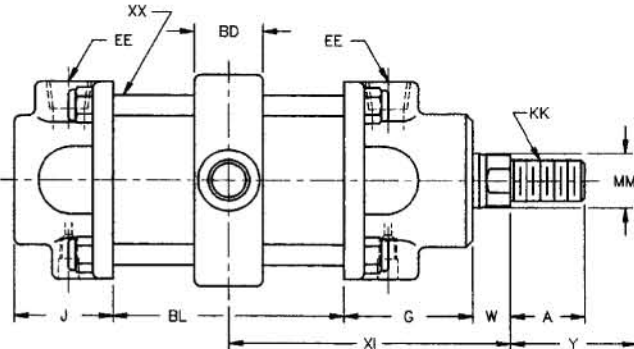
BORE	ROD	ROD DIA MM	KK	CC	A	W	Model HT Dimensions										E	EE	G	J	XX	Y
							XI min	XI max	BL	BD	TD	TL	TM	UM								
3	1	1	3/4-16	7/8-14	1 3/8	1/2	3 9/16	4 7/16	2 1/4	1 1/4	1	1	4	6	3 5/8	3/8	2 3/8	1 13/16	3/8	2 7/16		
	2	1 1/4	1-14	N/A	1 3/4	7/16	3 1/2	4 3/8												3 3/16		
4	1	1 1/4	1-14	N/A	1 3/4	7/16	4 1/16	4 13/16	2 3/8	1 1/2	1 1/4	1 1/4	5 1/4	7 3/4	4 5/8	1/2	2 13/16	2 1/16	1/2	3 3/8		
	2	1 1/2	1 1/4-12	N/A	2 1/8	3/8	4	4 3/4												3 7/8		
5	1	1 1/4	1-14	N/A	1 3/4	3/8	4 1/16	4 13/16	2 3/8	1 1/2	1 3/8	1 3/8	6 1/2	9 1/4	6 3/8	1/2	2 7/8	2 5/16	3/8	3 3/16		
	2	1 1/2	1 1/4-12	N/A	2 1/8	5/16	4	4 3/4												3 7/8		
6	1	1 1/2	1 1/4-12	N/A	2 1/8	7/16	4 7/8	5 5/8	2 5/8	1 3/4	1 1/2	1 1/2	8	11	7 3/4	3/4	3 1/2	3 1/8	1/2	3 7/8		
	2	2	1 1/2-12	1 3/4-12	2 1/2	1/2	4 15/16	5 11/16												4 9/16		
8	1	2	1 1/2-12	1 3/4-12	2 1/2	1/2	6 3/16	6 5/16	2 3/4	2 1/2	2	2	10	14	9 3/4	1	4 3/8	3 3/8	1/2	4 9/16		
	2	2	1/22-12	2 1/4-12	3 1/2	11/16	6 3/8	6 1/2												5 7/8		
10	1	2	1/22-12	2 1/4-12	3 1/2	3/4	7 9/16	7 11/16	3 1/2	3 1/4	2 1/2	2 1/2	13	18	11 3/4	1 1/4	5 1/8	3 7/8	5/8	5 7/8		
	2	3	2 1/2-12	2 3/4-12	4 1/2	1	7 13/16	7 15/16												7 3/8		
12	1	3	2 1/2-12	2 3/4-12	4 1/2	1	9 11/16	9 13/16	4 1/4	4	3 1/4	3 1/4	15 1/2	22	14 1/4	1 1/2	6 5/8	4 1/2	3/4	7 3/8		
	2	3 1/2	2 1/2-12	3 1/4-12	4 1/2	1	9 11/16	9 13/16												7 3/8		

**Notes:**

1. All dimensions in inches.
2. EE dimension specifies NPTF port.
3. See Cylinder Nomenclature for thread options.
4. M-Series MT Equivalent.
5. For Optional Rod Ends and dimensions see page 18.

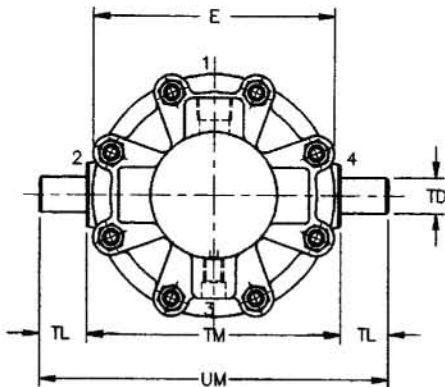
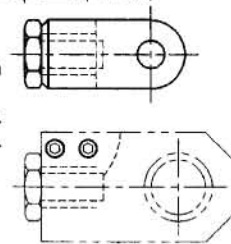


**Model R3HT and R4HT  
Heavy Duty Mid Trunnion**

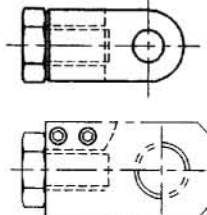
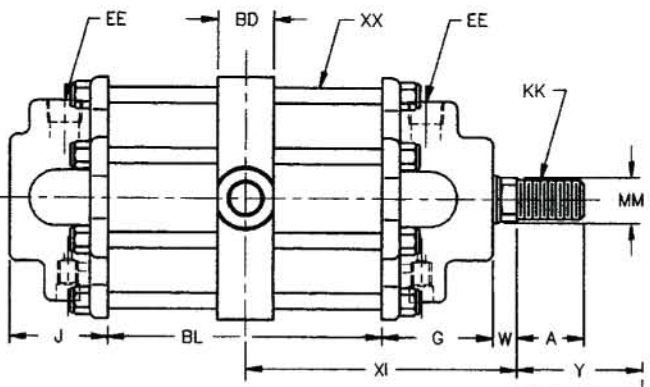


**Warning:**

Trunnion Mounted Cylinders swivel in one direction only and are designed to carry shear loads. Pins must be held rigidly and in accurate alignment. Improper mounting may result in premature failure. Note: Specify XI value when ordering Mid Trunnion Mounted Cylinders.



**Model R5HT to R12HT  
Heavy Duty Mid Trunnion**



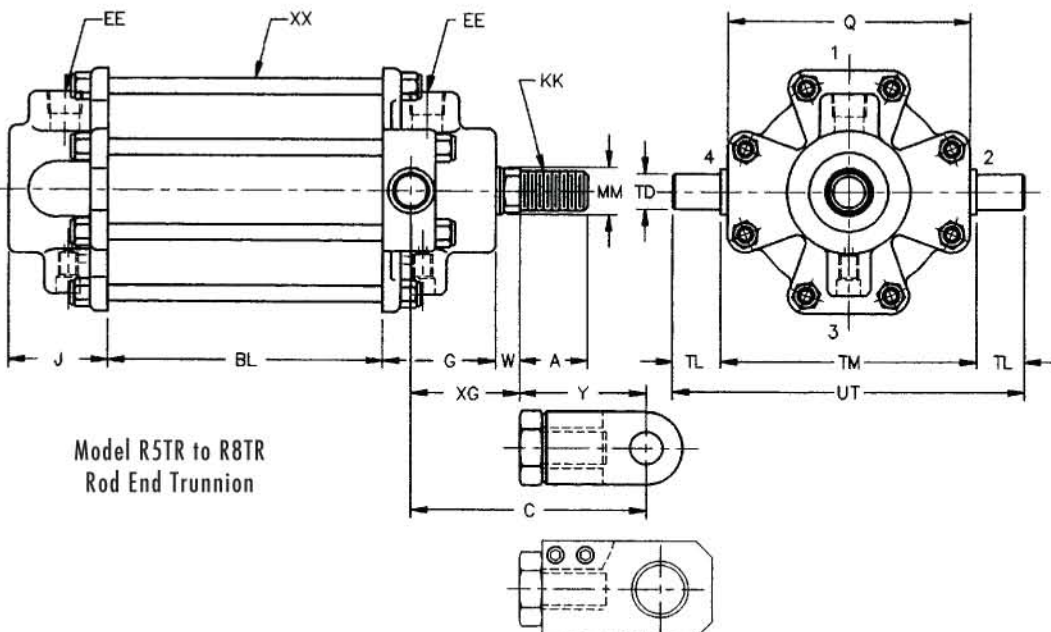
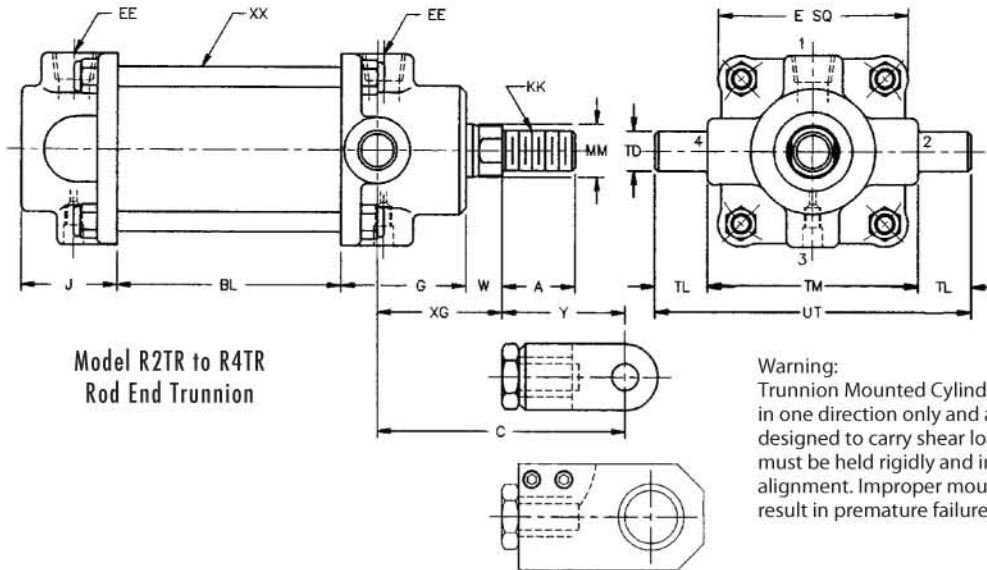
# R Series - Model RTR Rod End Trunnion



BORE	ROD	ROD DIA MM	KK	CC	A	C	W	XG	Model TR Dimensions										
									ADD STROKE BL	TD	TL	TM	UT	E	EE	G	J	XX	Y
2	1	3/4	*5/8-18	N/A	*1 1/8	43/16	3/8	113/16	2	3/4	1	3	5	27/8	3/8	115/16	13/8	3/8	23/8
	2	1	3/4-16	7/8-14	13/8	43/8	1/2	115/16											27/16
3	1	1	3/4-16	7/8-14	13/8	45/8	1/2	23/16	2 1/4	3/4	1	4	6	35/8	3/8	23/8	1 13/16	3/8	27/16
	2	1 1/4	1-14	N/A	13/4	55/16	7/16	21/8											33/16
4	1	1 1/4	1-14	N/A	13/4	5 11/16	7/16	21/2	23/8	1	1 1/4	5 1/4	7 3/4	45/8	1/2	213/16	2 1/16	1/2	33/16
	2	1 1/2	1 1/4-12	N/A	21/8	65/16	3/8	27/16											37/8
5	1	1 1/4	1-14	N/A	13/4	53/4	3/8	29/16	23/8	1	1 1/4	6 1/2	9	63/8	1/2	27/8	25/16	3/8	33/16
	2	1 1/2	1 1/4-12	N/A	21/8	63/8	5/16	21/2											37/8
6	1	1 1/2	1 1/4-12	N/A	21/8	615/16	7/16	31/16	25/8	1 1/8	1 1/2	8	11	73/4	3/4	31/2	31/8	1/2	37/8
	2	2	1 1/2-12	13/4-12	21/2	711/16	1/2	31/8											49/16
8	1	2	1 1/2-12	13/4-12	21/2	87/16	1/2	37/8	23/4	13/4	2	10	14	93/4	1	43/8	33/8	1/2	49/16
	2	2 1/2	2-12	2 1/4-12	3 1/2	915/16	11/16	41/16											57/8

**Notes:**

1. All dimensions in inches.
  2. EE dimension specifies NPTF port.
  3. See Cylinder Nomenclature for thread options.
  4. For Optional Rod Ends and dimensions see page 18.
- Contact Mac Valves Pacific if SAE or Alternate port size is required. \*For Female Thread, KK = 7/16-20, A=3/4"



# R Series - Model RTB Blind End Trunnion



BORE	ROD DIA		Model TB Dimensions																		
	ROD	MM	KK	CC	A	W	ADD STROKE				TD	TL	TM	UT	E	EE	G	J	XX	Y	
2	1	3/4	*5/8-18	N/A	*1 1/8	3/8	4 13/16	2	7 3/16	3/4	1	3	5	2 7/8	3/8	1 15/16	1 3/8	3/8	2 3/8	27/16	
	2	1	3/4-16	7/8-14	1 3/8	1/2	4 15/16		7 3/8												27/16
3	1	1	3/4-16	7/8-14	1 3/8	1/2	5 3/4	2 1/4	8 3/16	3/4	1	4	6	3 5/8	3/8	2 3/8	1 13/16	3/8	2 7/16	33/16	33/16
	2	1	1/41-14	N/A	1 3/4	7/16	5 11/16		8 7/8												33/16
4	1	1	1/41-14	N/A	1 3/4	7/16	6 3/8	2 3/8	9 9/16	1	1 1/45	1/4	7 3/4	4 5/8	1/2	2 13/16	2 1/16	1/2	3 3/16	37/8	37/8
	2	1 1/2	1 1/4-12	N/A	2 1/8	3/8	6 5/16		10 3/16												37/8
5	1	1 1/4	1-14	N/A	1 3/4	3/8	6 7/16	2 3/8	9 5/8	1	1 1/4	6 1/2	9	6 3/8	1/2	2 7/8	2 5/16	3/8	3 3/16	37/8	37/8
	2	1 1/2	1 1/4-12	N/A	2 1/8	5/16	6 3/8		10 1/4												37/8
6	1	1 1/2	1 1/4-12	N/A	2 1/8	7/16	7 3/8	2 5/8	11 1/4	1 1/8	1 1/2	8	11	7 3/4	3/4	3 1/2	3 1/8	1/2	3 7/8	49/16	49/16
	2	2	1 1/2-12	1 3/4-12	2 1/2	1/2	7 1/2		12 1/16												49/16
8	1	2	1 1/2-12	1 3/4-12	2 1/2	1/2	8 3/4	2 3/4	13 5/16	1 3/4	2	10	14	9 3/4	1	4 3/8	3 3/8	1/2	4 9/16	57/8	57/8
	2	2 1/2	2-12	2 1/4-12	3 1/2	11/16	9		14 7/8												57/8

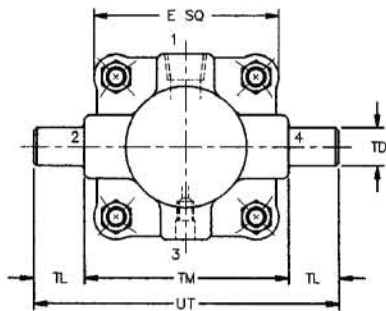
**Notes:**

- All dimensions in inches.
- EE dimension specifies NPTF port.
- Contact Mac Valves Pacific if SAE or Alternate port size is required.

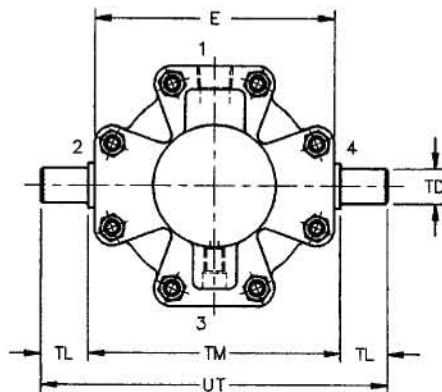
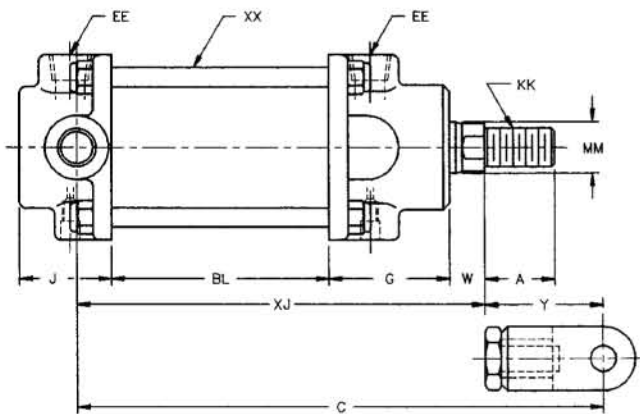
- See Cylinder Nomenclature for thread options.
  - For Optional Rod Ends and dimensions see page 18.
- \*For Female Thread, KK = 7/16-20, A = 3/4"

**Warning:**

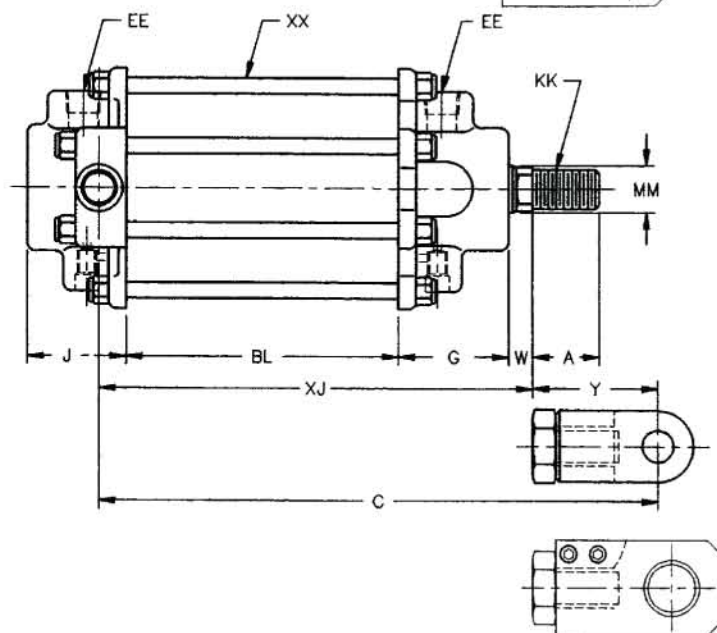
Trunnion Mounted Cylinders swivel in one direction only and are designed to carry shear loads. Pins must be held rigidly and in accurate alignment. Improper mounting may result in premature failure.



Model R2TB to R4TB  
Blind End Trunnion



Model R5TB to R8TB  
Blind End Trunnion



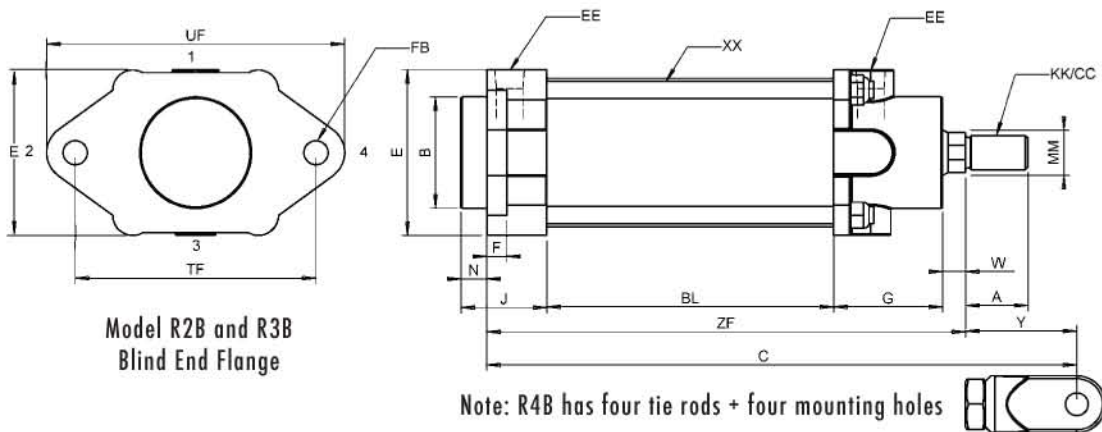
# R Series - Model RB Blind End Flange



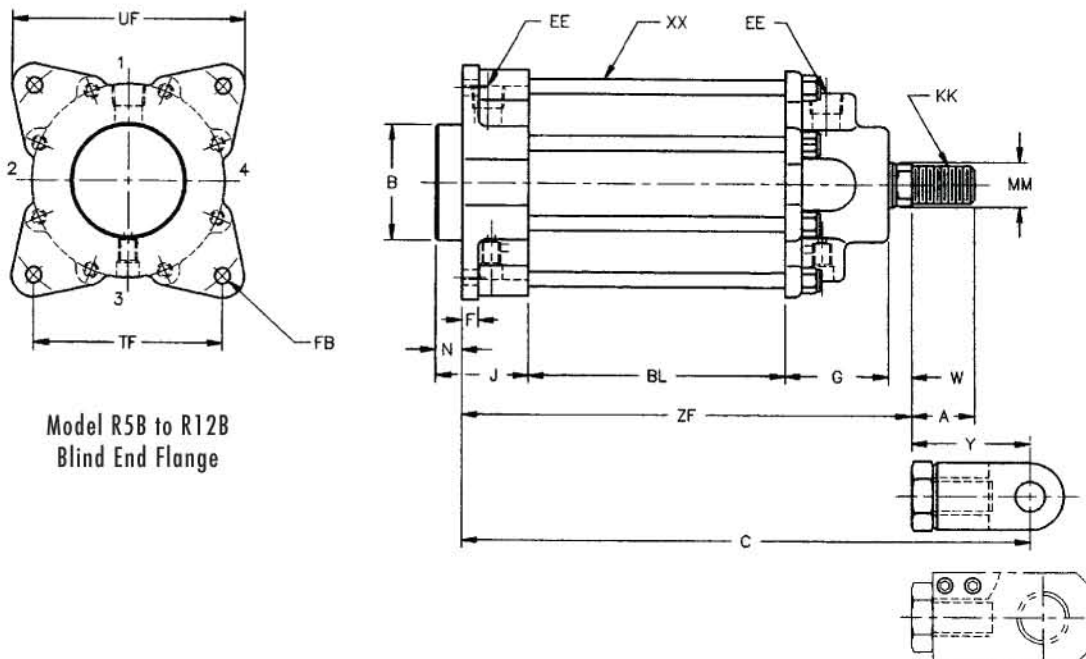
BORE	ROD	ROD DIA MM	KK	CC	A	W	N	ADD STROKE			UF	TF	FB	F	E	EE	G	J	B	XX	Y
								BL	C	ZF											
2	1	3/4	*5/8-18	N/A	*1 1/8	3/8	1/4	2	7 13/16	5 7/16	4 3/4	3 3/4	1/2	3/8	2 7/8	3/8	1 15/16	1 3/8	2	3/8	2 3/8
	2	1	3/4-16	7/8-14	1 3/8	1/2	1/2	8	5 9/16												
3	1	1	3/4-16	7/8-14	1 3/8	1/2	1/2	2 1/4	8 7/8	6 7/16	6 1/2	5 1/4	1/2	1/2	3 5/8	3/8	2 3/8	1 13/16	2 1/4	3/8	2 7/16
	2	1 1/4	1-14	N/A	1 3/4	7/16	9/16	23/8	9 9/16	6 3/8	6 5/8	5 5/16	1/2	9/16	4 5/8	1/2	2 13/16	2 1/16	2 3/4	1/2	3 3/16
4	1	1 1/4	1-14	N/A	1 3/4	3/8	3/4	2 3/8	10 5/16	7 1/8	6 3/4	5 3/4	1/2	9/16	6 3/8	1/2	2 7/8	2 5/16	3	3/8	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	5/16	7/8	25/8	11 7/8	8 13/16	7 13/16	6 3/8	1/2	5/8	7 3/4	3/4	3 1/2	3 1/8	3 7/8	1/2	3 7/8
5	1	1 1/4	1-14	N/A	1 3/4	3/8	3/4	2 3/8	10 3/8	7 3/16	6 3/4	5 3/4	1/2	9/16	6 3/8	1/2	2 7/8	2 5/16	3	3/8	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	5/16	7/8	25/8	12 11/16	8 13/16	7 13/16	6 3/8	1/2	5/8	7 3/4	3/4	3 1/2	3 1/8	3 7/8	1/2	3 7/8
6	1	1 1/2	1 1/4-12	N/A	2 1/8	7/16	7/8	2 5/8	12 11/16	8 13/16	7 13/16	6 3/8	1/2	5/8	7 3/4	3/4	3 1/2	3 1/8	3 7/8	1/2	4 9/16
	2	2	1 1/2-12	1 3/4-12	2 1/2	1/2	1/2	23/4	13 7/16	8 7/8	9 7/16	7 19/32	3/4	11/16	9 3/4	1	4 3/8	3 3/8	4 1/2	1/2	4 9/16
8	1	2	1 1/2-12	1 3/4-12	2 1/2	1/2	1/2	23/4	15 1/16	10 1/2	9 7/16	7 19/32	3/4	11/16	9 3/4	1	4 3/8	3 3/8	4 1/2	1/2	4 9/16
	2	2 1/2	2-12	2 1/4-12	3 1/2	11/16	1	16 9/16	10 11/16												5 7/8
10	1	2 1/2	2-12	2 1/4-12	3 1/2	3/4	1	3 1/2	18 1/8	12 1/4	11 3/4	9 1/4	7/8	1	11 3/4	1 1/4	5 1/8	3 7/8	5	5/8	5 7/8
	2	3	2 1/2-12	2 3/4-12	4 1/2	1	1	19 7/8	12 1/2												7 3/8
12	1	3	2 1/2-12	2 3/4-12	4 1/2	1	3/4	4 1/4	23	15 5/8	14 1/4	11 1/4	1	1 1/4	14 1/4	1 1/2	6 5/8	4 1/2	6	3/4	7 3/8
	2	3 1/2	2 1/2-12	3 1/4-12	4 1/2	1	1	23	15 5/8												7 3/8

**Notes:**

1. All dimensions in inches.
  2. EE dimension specifies NPTF port. Contact MVP if SAE or Alternate port size is required.
  3. See Cylinder Nomenclature for thread options.
  4. For Optional Rod Ends and dimensions see page 18.
- \*For Female Thread, KK = 7/16-20, A = 3/4"



**Model R2B and R3B  
Blind End Flange**



**Model R5B to R12B  
Blind End Flange**

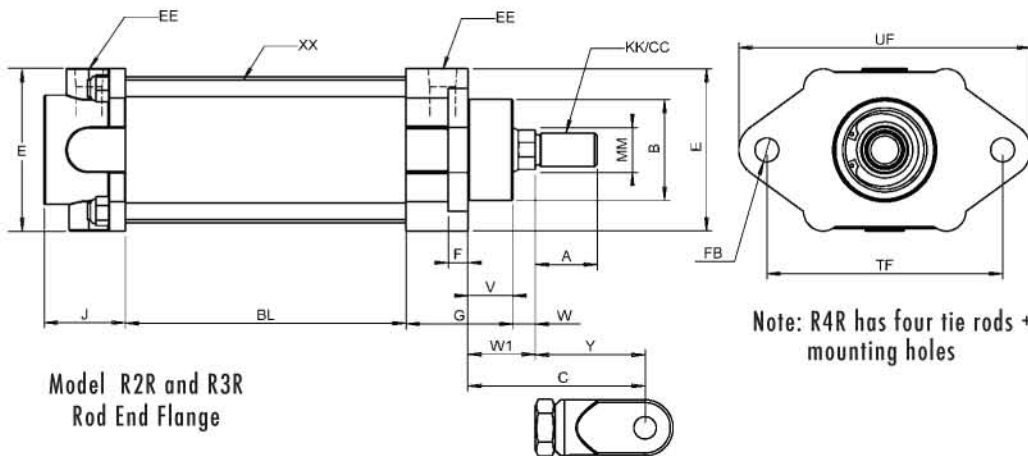
# R Series - Model RR Rod End Flange



BORE	ROD	ROD DIA MM	KK	CC	A	C	W	W1	V	ADD STROKE	UF	TF	FB	F	E	EE	G	J	B	XX	Y
										BL											
2	1	3/4	*5/8-18	N/A	*1 1/8	3 1/4	3/8	7/8	1/2	2	4 3/4	3 3/4	1/2	3/8	2 7/8	3/8	1 15/16	1 3/8	2	3/8	2 3/8
	2	1	3/4-16	7/8-14	1 3/8	3 7/16	1/2	1													2 7/16
3	1	1	3/4-16	7/8-14	1 3/8	3 15/16	1/2	1 1/2	1	2 1/4	6 1/2	5 1/4	1/2	1/2	3 5/8	3/8	2 3/8	1 13/16	2 1/4	3/8	2 7/16
	2	1 1/4	1-14	N/A	1 3/4	4 5/8	7/16	1 7/16													3 3/16
4	1	1 1/4	1-14	N/A	1 3/4	4 11/16	7/16	1 1/2	1 1/16	2 3/8	6 5/8	5 5/16	1/2	9/16	4 5/8	1/2	2 13/16	2 1/16	2 3/4	1/2	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	5 5/16	3/8	1 7/16													3 7/8
5	1	1 1/4	1-14	N/A	1 3/4	4 5/8	3/8	1 7/16	1 1/16	2 3/8	6 3/4	5 3/4	1/2	11/16	6 3/8	1/2	2 7/8	2 5/16	3	3/8	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	5 1/4	5/16	1 3/8													3 7/8
6	1	1 1/2	1 1/4-12	N/A	2 1/8	5 9/16	7/16	1 11/16	1 1/4	2 5/8	7 13/16	6 3/8	1/2	5/8	7 3/4	3/4	3 1/2	3 1/8	3 7/8	1/2	3 7/8
	2	2	1 1/2-12	1 3/4-12	2 1/2	6 5/16	1/2	1 3/4													4 9/16
8	1	2	1 1/2-12	1 3/4-12	2 1/2	6 9/16	1/2	2	1 1/2	2 3/4	9 7/16	7 19/32	3/4	11/16	9 3/4	1	4 3/8	3 3/8	4 1/2	1/2	4 9/16
	2	2 1/2	2-12	2 1/4-12	3 1/2	8 1/16	11/16	2 3/16													5 7/8
10	1	2 1/2	2-12	2 1/4-12	3 1/2	8 7/8	3/4	3	2 1/4	3 1/2	11 3/4	9 1/4	7/8	1	11 3/4	1 1/4	5 1/8	3 7/8	5	5/8	5 7/8
	2	3	2 1/2-12	2 3/4-12	4 1/2	10 5/8	1	3 1/4													7 3/8
12	1	3	2 1/2-12	2 3/4-12	4 1/2	11	1	3 5/8	2 5/8	4 1/4	14 1/4	11 1/4	1	1 1/4	14 1/4	1 1/2	6 5/8	4 1/2	6	3/4	7 3/8
	2	3 1/2	2 1/2-12	3 1/4-12	4 1/2	11	1	3 5/8													7 3/8

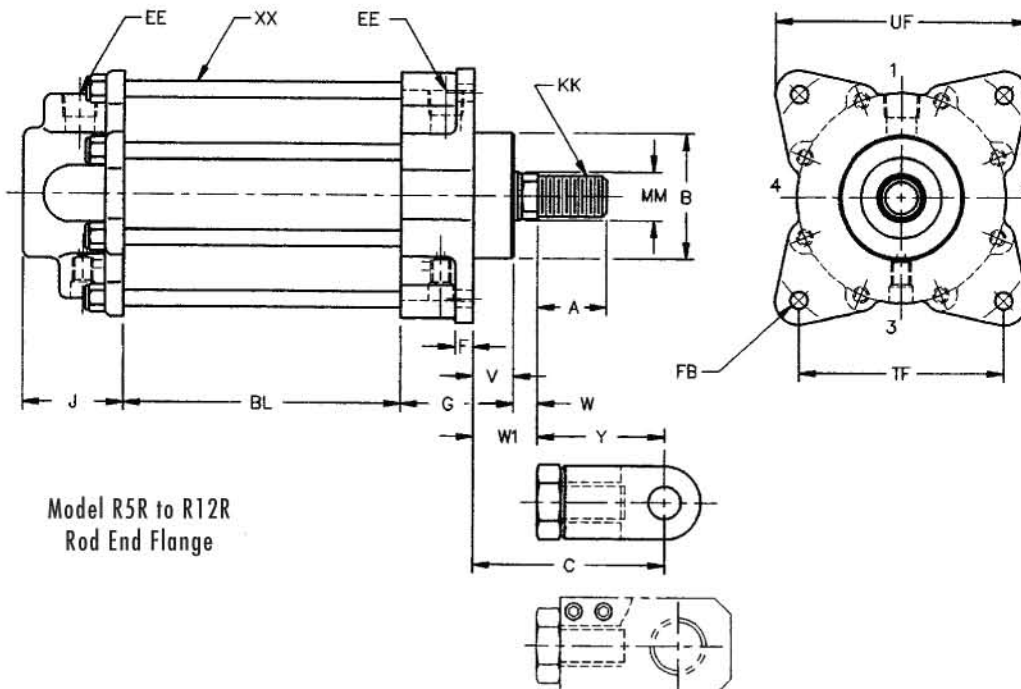
**Notes:**

1. All dimensions in inches.
  2. EE dimension specifies NPTF port.
  3. See Cylinder Nomenclature for thread options.
  4. For Optional Rod Ends and dimensions see page 18.
- \*For Female Thread, KK = 7/16-20, A = 3/4"



**Model R2R and R3R  
Rod End Flange**

Note: R4R has four tie rods + four mounting holes



**Model R5R to R12R  
Rod End Flange**

# R Series - Model RCH Common Head



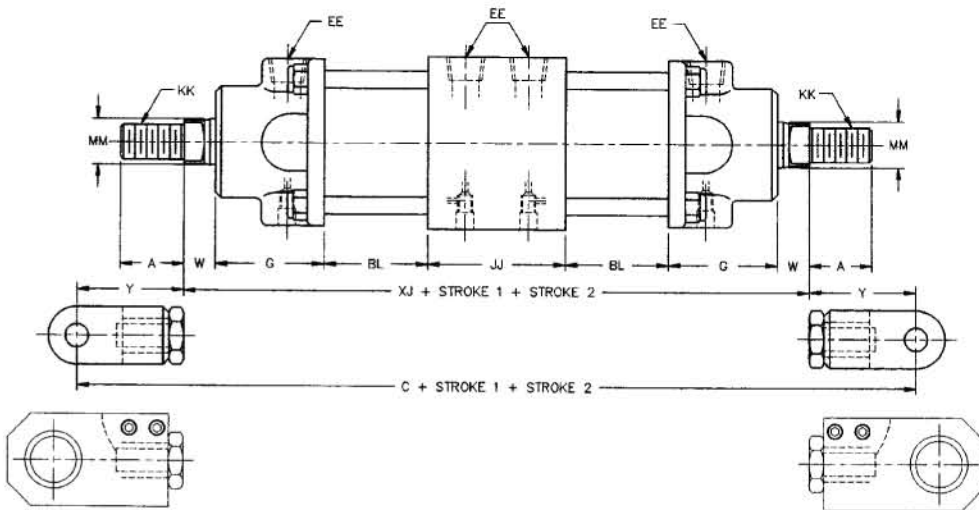
BORE	ROD	ROD DIA		CC	A	W	ADD STROKES			E	EE	G	JJ	XX	Y
		MM	KK				C	XJ	BL						
2	1	3/4	*5/8-18	N/A	*1 1/8	3/8	15 7/8	11 1/8	2	2 7/8	3/8	1 15/16	2 1/2	3/8	2 3/8
	2	1	3/4-16	7/8-14	1 3/8	1/2	16 1/4	11 3/8							2 7/16
3	1	1	3/4-16	7/8-14	1 3/8	1/2	18 1/8	13 1/4	2 1/4	3 5/8	3/8	2 3/8	3	3/8	2 7/16
	2	1 1/4	1-14	N/A	1 3/4	7/16	19 1/2	13 1/8							3 3/16
4	1	1 1/4	1-14	N/A	1 3/4	7/16	21 3/8	15	2 3/8	4 5/8	1/2	2 13/16	3 3/4	1/2	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	3/8	22 5/8	14 7/8							3 7/8
5	1	1 1/4	1-14	N/A	1 3/4	3/8	21 3/8	15	2 3/8	6 3/8	1/2	2 7/8	3 3/4	3/8	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	5/16	22 5/8	14 7/8							3 7/8
6	1	1 1/2	1 1/4-12	N/A	2 1/8	7/16	26 1/8	18 3/8	2 5/8	7 3/4	3/4	3 1/2	5 1/4	1/2	3 7/8
	2	2	1 1/2-12	1 3/4-12	2 1/2	1/2	27 5/8	18 1/2							4 9/16
8	1	2	1 1/2-12	1 3/4-12	2 1/2	1/2	30 5/8	21 1/2	2 3/4	9 3/4	1	4 3/8	6 1/4	1/2	4 9/16
	2	2 1/2	2-12	2 1/4-12	3 1/2	11/16	33 5/8	21 7/8							5 7/8
10	1	2 1/2	2-12	2 1/4-12	3 1/2	3/4	38 1/4	26 1/2	3 1/2	11 3/4	1 1/4	5 1/8	7 3/4	5/8	5 7/8
	2	3	2 1/2-12	2 3/4-12	4 1/2	1	41 3/4	27							7 3/8
12	1	3	2 1/2-12	2 3/4-12	4 1/2	1	47 1/2	32 3/4	4 1/4	14 1/4	1 1/2	6 5/8	9	3/4	7 3/8
	2	3 1/2	2 1/2-12	3 1/4-12	4 1/2	1	47 1/2	32 3/4							7 3/8

**Note:**

- For common head cylinders with mounting styles other than No Mount add the mount style letter after the last "H" in the model code.

example: Foot Mount "RCHF"

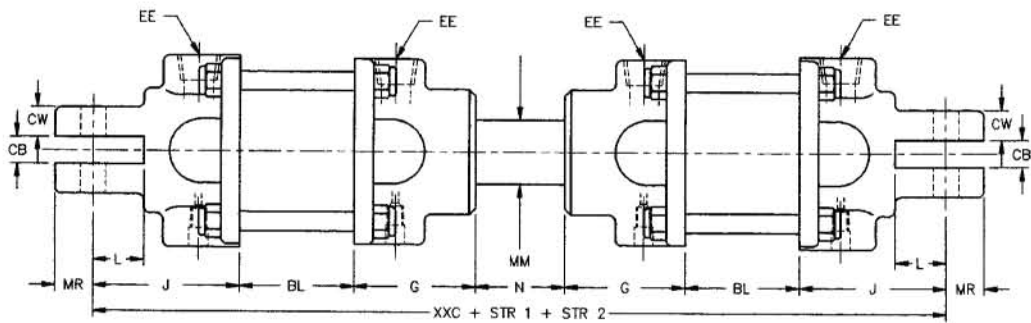
\*For Female Thread, KK = 7/16-20, A = 3/4"



# R Series - Model RCR Common Rod



BORE	ROD	ROD DIA MM	N	ADD STROKE		CB	CD	CW	E	EE	G	J	L	MR	XX
				BL	XXC										
2	1	3/4	1	2	13 1/2	17/32	1/2	1/2	2 7/8	3/8	1 15/16	2 5/16	7/8	5/8	3/8
	2	1													
3	1	1	1	2 1/4	16	17/32	1/2	5/8	3 5/8	3/8	2 3/8	2 7/8	1	3/4	3/8
	2	1 1/4													
4	1	1 1/4	1	2 3/8	18 1/8	25/32	3/4	3/4	4 5/8	1/2	2 13/16	3 3/8	1 3/16	1	1/2
	2	1 1/2													
5	1	1 1/4	7/8	2 3/8	18 3/8	25/32	3/4	7/8	6 3/8	1/2	2 7/8	3 1/2	1 3/16	1	3/8
	2	1 1/2													
6	1	1 1/2	1 1/8	2 5/8	22 1/8	1 1/32	1	15/16	7 3/4	3/4	3 1/2	4 3/8	1 1/4	1 1/4	1/2
	2	2													
8	1	2	1 1/4	2 3/4	25 3/4	1 5/16	1 1/4	1 1/4	9 3/4	1	4 3/8	5 1/8	1 3/4	1 1/2	1/2
	2	2 1/2													
10	1	2 1/2	1 1/2	3 1/2	30 1/2	1 9/16	1 1/2	1 7/16	11 3/4	1 1/4	5 1/8	5 7/8	2	1 3/4	5/8
	2	3													
12	1	3	2	4 1/4	37 1/2	2 1/16	1 3/4	1 5/8	14 1/4	1 1/2	6 5/8	6 7/8	2 3/8	2 1/8	3/4
	2	3 1/2													





# R Series - Model RCCHR Common Head w/ Common Rod



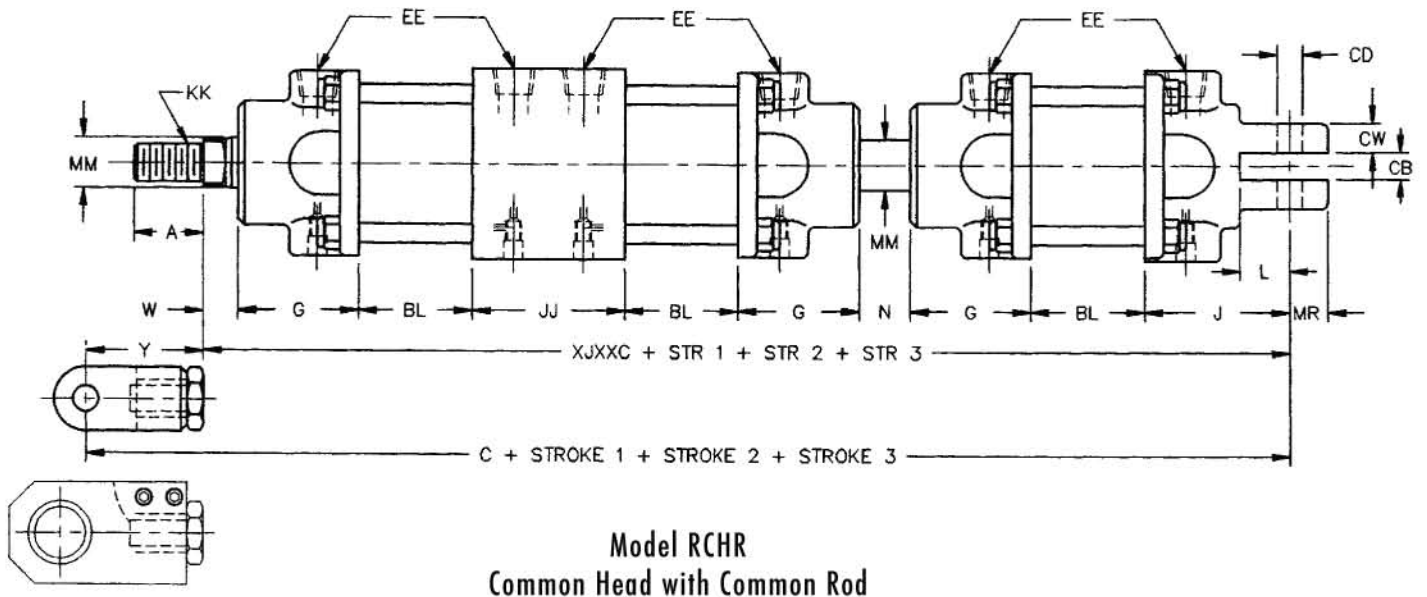
BORE	ROD	ROD DIA MM	KK	CC	A	W	N	ADD STROKE			CB	CD	CW	E	EE	G	J	L	MR	JJ	XX	Y
								BL	C	XJXXC												
2	1	3/4	*5/8-18	N/A	*1 1/8	3/8	1	2	20 3/8	18	17/32	1/2	1/2	2 7/8	3/8	1 15/16	2 5/16	7/8	5/8	2 1/2	3/8	2 3/8
	2	1	3/4-16	7/8-14	1 3/8	1/2			20 9/16	18 1/8												2 7/16
3	1	1	3/4-16	7/8-14	1 3/8	1/2	1	2 1/4	23 11/16	21 1/4	17/32	1/2	5/8	3 5/8	3/8	2 3/8	2 7/8	1	3/4	3	3/8	2 7/16
	2	1 1/4	1-14	N/A	1 3/4	7/16			24 3/8	21 3/16												3 3/16
4	1	1 1/4	1-14	N/A	1 3/4	7/16	1	2 3/8	27 5/16	24 1/8	25/32	3/4	3/4	4 5/8	1/2	2 13/16	3 3/8	1 3/16	1	3 3/4	1/2	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	3/8			27 15/16	24 1/16												3 7/8
5	1	1 1/4	1-14	N/A	1 3/4	3/8	7/8	2 3/8	27 7/16	24 1/4	25/32	3/4	7/8	6 3/8	1/2	2 7/8	3 1/2	1 3/16	1	3 3/4	3/8	3 3/16
	2	1 1/2	1 1/4-12	N/A	2 1/8	5/16			28 1/16	24 3/16												3 7/8
6	1	1 1/2	1 1/4-12	N/A	2 1/8	7/16	1 1/8	2 5/8	33 7/16	29 9/16	1 1/32	1	15/16	7 3/4	3/4	3 1/2	4 3/8	1 1/4	1 1/4	5 1/4	1/2	3 7/8
	2	2	1 1/2-12	1 3/4-12	2 1/2	1/2			34 3/16	29 5/8												4 9/16
8	1	2	1 1/2-12	1 3/4-12	2 1/2	1/2	1 1/4	2 3/4	39 1/16	34 1/2	15/16	1 1/4	1 1/4	9 3/4	1	4 3/8	5 1/8	1 3/4	1 1/2	6 1/4	1/2	4 9/16
	2	2 1/2	2-12	2 1/4-12	3 1/2	11/16			40 9/16	34 11/16												5 7/8
10	1	2 1/2	2-12	2 1/4-12	3 1/2	3/4	1 1/2	3 1/2	47 5/8	41 3/4	19/16	1 1/2	1 7/16	11 3/4	1 1/4	5 1/8	5 7/8	2	1 3/4	7 3/4	5/8	5 7/8
	2	3	2 1/2-12	2 3/4-12	4 1/2	1			49 3/8	42												7 3/8
12	1	3	2 1/2-12	2 3/4-12	4 1/2	1	2	4 1/4	58 7/8	51 1/2	2 1/16	1 3/4	1 5/8	14 1/4	1 1/2	6 5/8	6 7/8	2 3/8	2 1/8	9	3/4	7 3/8
	2	3 1/2	2 1/2-12	3 1/4-12	4 1/2	1			58 7/8	51 1/2												7 3/8

**Notes:**

\*For Female Thread, KK = 7/16-20, A = 3/4"

1. EE dimension specifies NPTF port. Contact Mac Valves Pacific if SAE or Alternate port size is required.
2. See Cylinder Nomenclature for thread options.
3. For Optional Rod Ends and dimensions see page 18.
4. For Common Head Cylinders with Common Rod, in mounting styles other than Blind End Clevis add the mounting style after the last "R" in the the model code.

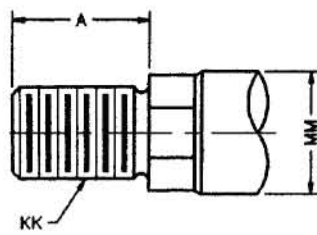
Examples: Mid Trunnion "RCHRT" Rod End Flange "RCHRR" Blind End Flange "RCHRB"



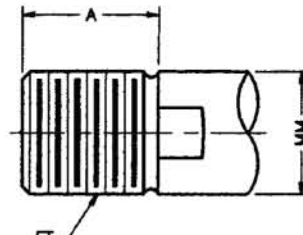
# R Series - Rod End Accessories

## AVAILABLE ROD END STYLES

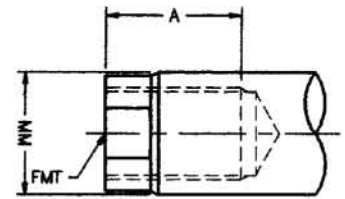
See Model Dimension Tables for Dimensions



KK Rod End Style "A"



Full Thread Style "C"

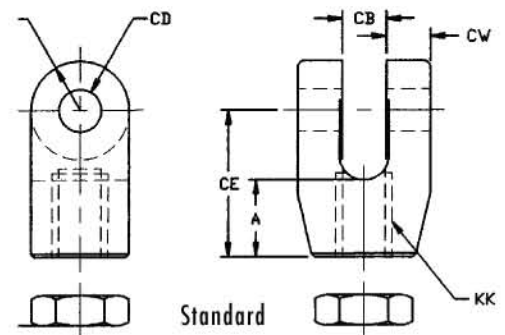


Female Thread Style "D"

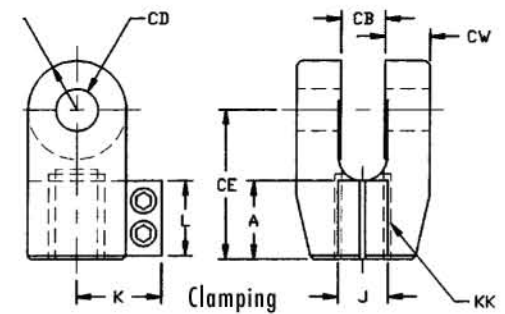
## Mill Duty Clevis

Note - "C" denotes Clamping Style

PART	C2	C3	C4	C6	C8	C10	C12	C8-C	C10-C	C12-C
A	1	1	1 3/8	1 3/4	2	2 1/2	3	2	2 1/2	3
CB	1/2	1/2	3/4	1	1 1/4	1 1/2	2	1 1/4	1 1/2	2
CD	1/2	1/2	3/4	1	1 1/4	1 1/2	1 3/4	1 1/4	1 1/2	1 3/4
CE	2	2	2 5/8	3 1/4	3 3/4	4 3/4	5 7/8	3 3/4	4 3/4	5 7/8
CW	9/16	9/16	13/16	15/16	1 1/4	1 7/16	1 5/8	1 1/4	1 7/16	1 5/8
J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1 1/4	1 1/2	1 3/4
K	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2 3/8	2 3/4	3 3/16
KK	5/8-18	3/4-16	1-14	1 1/4-12	1 1/2-12	2-12	2 1/2-12	1 1/2-12	2-12	2 1/2-12
L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	2 1/2	3
MR	5/8	5/8	7/8	1 1/8	1 3/8	1 3/4	2	1 3/8	1 3/4	2
Y	2 3/8	2 7/16	3 3/16	3 7/8	4 9/16	5 7/8	7 3/8	4 9/16	5 7/8	7 3/8



Standard



Clamping

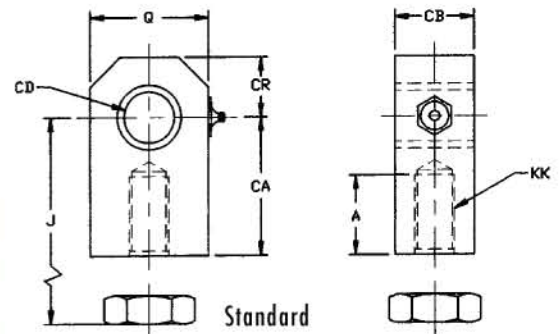
## Clamping Style Accessories:

If using a clamping Style Rod Eye or Clamping Style Clevis, a jam nut is not required. In this case it is recommended to order a piston rod thread length that matches that of the accessory.

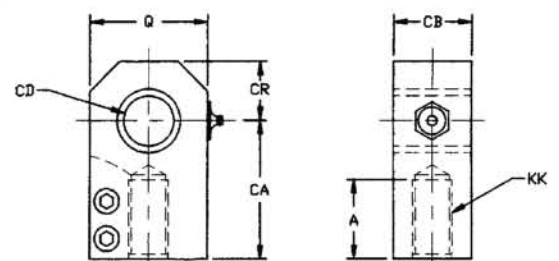
## Urethane-bushed Mill Duty Rod Eye

Note - "C" denotes Clamping Style

PART	RE3	E3	RE4-C	E4	RE6-C	E6	RE8-C	E8	E10-C	E12-C	E14-C
A1	1/2	1 3/4	1 1/2	2	2	2 3/8	2 1/4	2 3/4	3	3	3
CA	2 1/2	3 1/8	2 7/8	3 1/2	3 11/16	4	4 1/4	5	5 1/4	5 1/4	5 3/4
CB	1 3/4	2	1 3/4	2	2	2 1/4	2 1/4	3 1/2	3 1/2	3 1/2	4
CD	1	1	1 1/4	1 1/4	1 1/2	1 1/2	2	2	2	2 1/2	2 1/2
CR	1	1 3/8	1 1/8	1 1/2	1 5/8	1 3/4	1 3/4	2 1/4	2 1/4	2 3/4	2 3/4
J	2 15/16	3 9/16		4 1/16		4 5/8		5 13/16			
KK	3/4-16	3/4-16	1-14	1-14	1 1/4-12	1 1/4-12	1 1/2-12	1 1/2-12	2-12	2 1/2-12	3-12
Q	2	2 3/4	2 1/4	3	3	3 1/2	3 1/2	4 1/2	4 1/2	5 1/2	5 1/2



Standard



Clamping

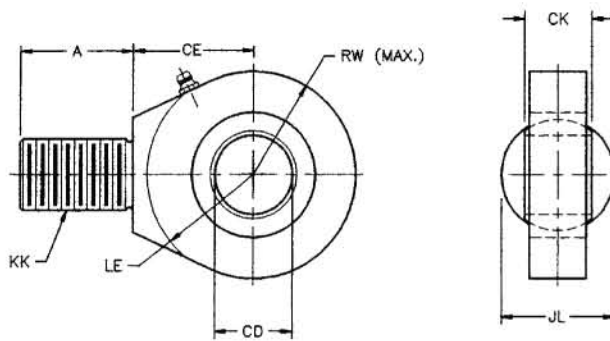
# R Series - Blind End Accessories



## Self-Aligning Rod Eye - Male

Adapts to female thread on piston rod

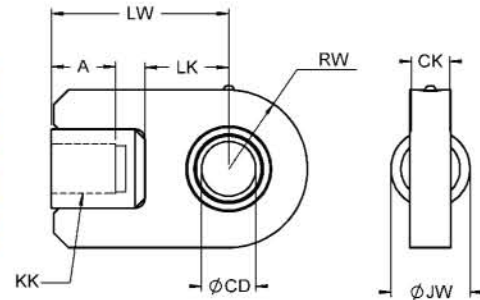
PART	HRES-1	HRES-2	HRES-3	HRES-4	HRES-5	HRES-6
A	11/16	1	1 1/2	2	2 1/8	2 7/8
CD	1/2	3/4	1	1 3/8	1 3/4	2
CE	7/8	1 1/4	7/8	2 1/8	2 1/2	2 3/4
CK	7/16	21/32	7/8	1 3/16	1 17/32	1 3/4
JL	7/8	1 5/16	1 1/2	2	2 1/4	2 3/4
KK	7/16-20	3/4-16	1-14	1 1/4-12	1 1/2-12	1 7/8-12
LE	3/4	1 1/16	1 7/16	1 7/8	2 1/8	2 1/2
RW	7/8	1 1/4	1 3/8	1 13/16	2 3/16	2 5/8



## Self-Aligning Rod Eye - Female

Adapts to male thread on piston rod

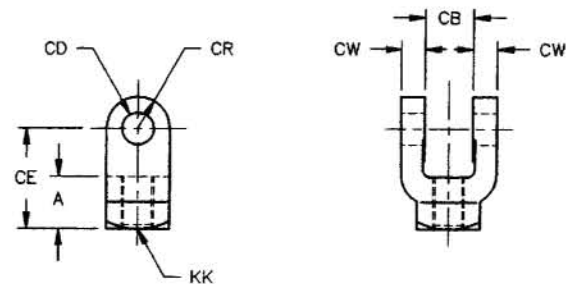
PART	HWE15	HWE2	HWE32	HWE4	HWE5	HWE6	HWE7	HWE8
A	3/4	1 1/8	1 5/8	2	2 1/4	3	3 1/2	3 1/2
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3
CK	7/16	21/32	7/8	1 3/16	1 17/32	1 3/4	2 3/16	2 5/8
JW	3/4	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
KK	7/16-20	3/4-16	1-14	1 1/4-12	1 1/2-12	1 7/8-12	2 1/4-12	2 1/2-12
LW	1 3/4	2 3/4	3 5/8	4 1/2	5 5/8	6 3/4	7	7 1/8
RW	7/8	1 1/4	1 1/2	2	2 3/4	3	3 1/8	4
LK	5/8	1 1/4	1 5/8	2 1/8	2 5/8	3 1/2	3 1/8	3 1/4



## Rod Clevis

Adapts to male thread on piston rod

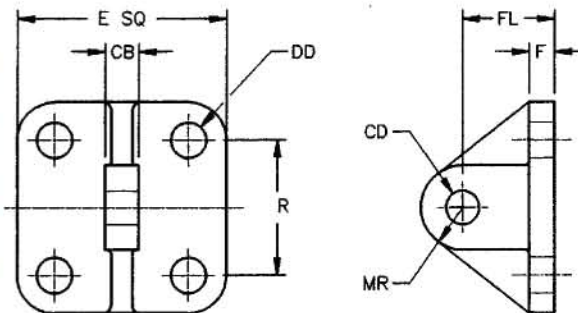
PART	HC15	HC15C	HC2	HC2C	HC32	HC4	HC5	HC5C
A	3/4	3/4	1 1/8	1 5/8	1 5/8	2	2 1/4	3
CB	0.765	0.765	1.265	1.515	1.515	2.032	2.531	2.531
CD	1/2	1/2	3/4	1	1	1 3/8	1 3/4	2
CE	1 1/2	1 1/2	2 3/8	3 1/8	3 1/8	4 1/8	4 1/2	5 1/2
CW	1/2	1/2	5/8	3/4	3/4	1	1 1/4	1 1/4
CR	1/2	1/2	3/4	1	1	1 3/8	1 3/4	2
KK	7/16-20	1/2-20	3/4-16	7/8-14	1-14	1 1/4-12	1 1/2-12	1 3/4-12



## Eye Type Mounting Bracket

Adapts to clevis mount cylinder or Rod clevis

PART	M15	M3	M4	M6	M8	M10	M12
CB	3/8	1/2	3/4	1	1 1/4	1 1/2	2
CD	3/8	1/2	3/4	1	1 1/4	1 1/2	1 3/4
DD	5/16	1/2	1/2	5/8	5/8	7/8	1
E2	3/4	3 1/8	4 3/8	5 1/2	6 1/2	7 3/4	9
F	3/8	7/16	9/16	5/8	3/4	1 1/4	1 3/8
FL	1 1/8	1 3/8	1 3/4	2	2 1/2	3 1/4	3 3/4
MR	1/2	5/8	7/8	1 1/16	1 1/4	1 5/8	2 1/8
R	1 3/4	2	3 1/4	4 1/4	5	6	6 3/4

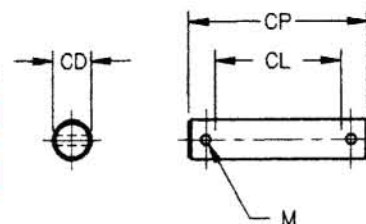


## Pivot Pin

Comes complete with cotter pins

Adapts to clevis mount cylinder or Rod clevis

PART	P3	P4	P6	P8	P10	P12	P14	HP4	HP6	HP7
CD	1/2	3/4	1	1 1/4	1 1/2	1 3/4	1 3/4	1 3/8	2	2 1/2
CL	1 3/4	2 1/2	3	4	4 5/8	5 3/8	6 1/4	4	5 1/8	6 1/4
CP	2 5/16	3 1/8	3 3/4	4 7/8	5 1/2	6 1/8	7	4 13/16	6	7 1/8



## Published Design Data

Westcoast Cylinders Inc reserves the right to change specifications and other information included in this catalogue without notice. All information, data and dimension tables in this catalogue have been carefully compiled and thoroughly checked. However, no responsibility for possible errors or omissions can be assumed. Mac Valves Pacific Inc. warrants the material and workmanship of our cylinders for one full year when used under normal conditions, subject to factory inspection.

MVP will repair or replace, at no cost for defective parts or cylinders. MVP will not incur expenses incurred in the field, pertaining to such repairs or replacements except upon written authority. For a complete statement of terms and warranty contact Mac Valves Pacific Inc.

## Warning

These products are intended for industrial use only. Do not use these products in applications where the pressure and temperature exceeds the values listed below. Through misuse, age or malfunction, components used in fluid power systems can fail. A designer utilizing these products must consider all modes of failure when designing machines and provide safeguards or warn the end user of possible modes of failure.

## Cylinder Pressure and Temperature Ratings

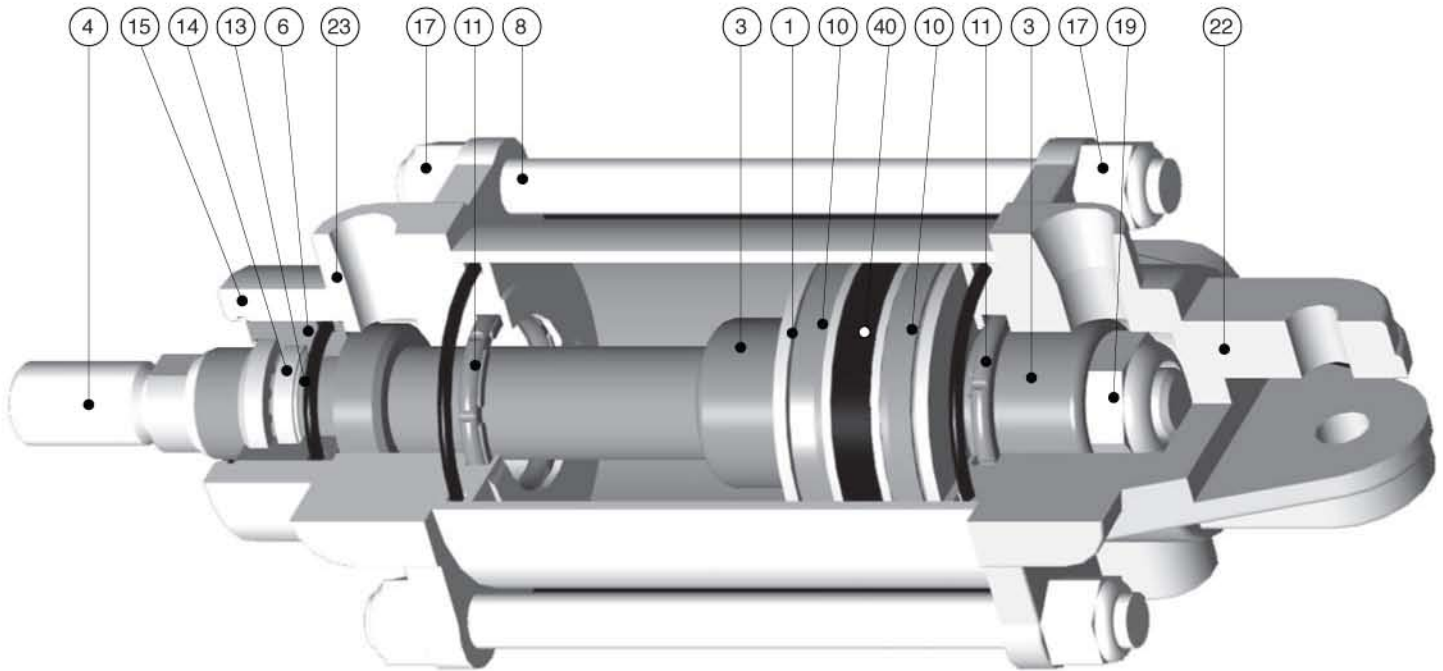
R-Series cylinders are rated to 250 psig pneumatic pressure.

Temperature ratings for cylinders are limited to the maximum published temperature range of the least resistant seal component. In most cases that would be the standard Buna-N O-ring seals.

For higher temperatures specify a "V" in the Options box of the Cylinder Nomenclature. Buna-N temperature ratings: -34°C to 93°C (-30°F to 200°F).







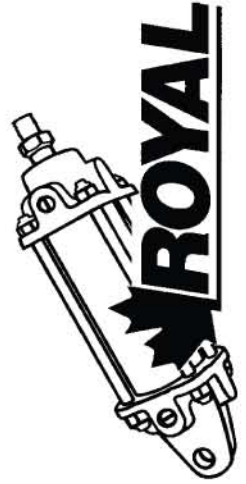
**TieRod Part Numbers:**

**Note:** For models not listed use Model "C"

Bore/ Style	C	ROD #1 T	ROD #2 T	ROD #1 HT
2	8AC206-Stroke	8ATA206-Stroke-XI=___	8ATB206-Stroke-XI=___	8ATA206-Stroke-XI=___
3	8AC306-Stroke	8ATA306-Stroke-XI=___	8ATB306-Stroke-XI=___	8ATA306-Stroke-XI=___
4	8AC408-Stroke	8ATA408-Stroke-XI=___	8ATB408-Stroke-XI=___	8ATA408-Stroke-XI=___
5	8AC506-Stroke	8ATA506-Stroke-XI=___	8ATB506-Stroke-XI=___	8ATA506-Stroke-XI=___
6	8AC608-Stroke	8ATA608-Stroke-XI=___	8ATB608-Stroke-XI=___	8ATA608-Stroke-XI=___
8	8AC808-Stroke	8ATA808-Stroke-XI=___	8ATB808-Stroke-XI=___	8ATA808-Stroke-XI=___
10	8AC1010-Stroke	8ATA1010-Stroke-XI=___	8ATB1010-Stroke-XI=___	8ATA1010-Stroke-XI=___
12	8AC1212-Stroke	8ATA1212-Stroke-XI=___	8ATB1212-Stroke-XI=___	8ATA1212-Stroke-XI=___

Bore/ Style	ROD #2 HT	B	R	CH
2	8ATB206-Stroke-XI=___	8AR206-Stroke	8AR206-Stroke	8ACH206-Stroke1+Stroke2
3	8ATB306-Stroke-XI=___	8AR306-Stroke	8AR306-Stroke	8ACH306-Stroke1+Stroke2
4	8ATB408-Stroke-XI=___	8AR408-Stroke	8AR408-Stroke	8ACH408-Stroke1+Stroke2
5	8ATB506-Stroke-XI=___	8AR506-Stroke	8AR506-Stroke	8ACH506-Stroke1+Stroke2
6	8ATB608-Stroke-XI=___	8AR608-Stroke	8AR608-Stroke	8ACH608-Stroke1+Stroke2
8	8ATB808-Stroke-XI=___	8AR808-Stroke	8AR808-Stroke	8ACH808-Stroke1+Stroke2
10	8ATB1010-Stroke-XI=___	8AR1010-Stroke	8AR1010-Stroke	8ACH1010-Stroke1+Stroke2
12	8ATB1212-Stroke-XI=___	8AR1212-Stroke	8AR1212-Stroke	8ACH1212-Stroke1+Stroke2

# R Series - Parts List



		R-Series Generic Parts List																		
		Bore		2		3		4		5		6		8		10		12		
		3/4	1	1 1/4	1 1/4	1 1/4	1 1/2	1 1/4	1 1/2	1 1/4	1 1/2	1 1/2	2	2 1/2	2 1/2	3	3	3 1/2	3 1/2	
		QTY																		
	Description																			
1	Piston		1R202	1M203W	1M204W	1M205W	1A206W	1A208W	1A2010W	1A2012W	1A2015W	1A2018W	1A2020W	1A2025W	1A2030W	1A2035W	1A2040W	1A2045W	1A2050W	1A2055W
3	Cushion Sleeve		3R620	3R630	3R640	3R650	3R660	3R670	3R680	3R690	3R700	3R710	3R720	3R730	3R740	3R750	3R760	3R770	3R780	3R790
4	Piston Rod - Male		4R2007-	4R3012-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-	4R4015-
	Piston Rod - Female		26R2007-	26R3012-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-	26R4015-
	Piston Rod - Common		44R2007-	44R3012-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-	44R4015-
5	Barrel (Steel Nitro-Tech)		5SB020-	5SB030-	5SB040-	5SB050-	5SB060-	5SB070-	5SB080-	5SB090-	5SB100-	5SB110-	5SB120-	5SB130-	5SB140-	5SB150-	5SB160-	5SB170-	5SB180-	5SB190-
	Barrel (Brass)		5A020-	5A030-	5A040-	5A050-	5A060-	5A070-	5A080-	5A090-	5A100-	5A110-	5A120-	5A130-	5A140-	5A150-	5A160-	5A170-	5A180-	5A190-
6	Gland Bushing		6R207	6A210H-2	6R412	6A415H-2	6R615	6A620H-2	6R820	6A825H-2	6R1025	6A1030H-2	6R1230	6A1235H-2	6R1435	6A1440H-2	6R1640	6A1645H-2	6R1845	6A1850H-2
	Gland Bushing Wearstrip		6R207W	6A210HW	6R412W	6A415HW	6R615W	6A620HW	6R820W	6A825HW	6R1025W	6A1030HW	6R1230W	6A1235HW	6R1435W	6A1440HW	6R1640W	6A1645HW	6R1845W	6A1850HW
7	Needle Valve		7A907	7A907	7A907	7A912	7A912	7A912	7A912	7A912	7A912	7A912	7A912	7A912	7A912	7A912	7A912	7A912	7A912	7A912
8	Tie Rods (EA) (See Note 1)		8A206-	8A306-	8A408-	8A506-	8A608-	8A710-	8A812-	8A914-	8A1016-	8A1118-	8A1220-	8A1322-	8A1424-	8A1526-	8A1628-	8A1730-	8A1832-	8A1934-
9	Piston Seal (Internal)		9A112	9A115	9A212	9A212	9A212	9A212	9A212	9A212	9A212	9A212	9A212	9A212	9A212	9A212	9A212	9A212	9A212	9A212
10	Piston Cup (See Note 2)		10A755-2	10A930H	10A940H	10A950H	10A960H	10A970H	10A980H	10A990H	10A1000H	10A1010H	10A1020H	10A1030H	10A1040H	10A1050H	10A1060H	10A1070H	10A1080H	10A1090H
11	Cushion Seal		11J128	11J138	11J150	11J150	11J160	11J170	11J180	11J190	11J200	11J210	11J220	11J230	11J240	11J250	11J260	11J270	11J280	11J290
12	Gland Bushing Seal		9A216	9A222	9A225	9A230	9A236	9A240	9A244	9A248	9A252	9A256	9A260	9A264	9A268	9A272	9A276	9A280	9A284	9A288
13	Rod Seal		13A07H	13A10H	13A12H	13A15H	13A15H	13A15H	13A15H	13A15H	13A15H	13A15H	13A15H	13A15H	13A15H	13A15H	13A15H	13A15H	13A15H	13A15H
	Rod Seal (Vee Packing)		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	Rod Wiper		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15	Gland Retainer		15A137	15A175	15A212	15A212	15A212	15A212	15A212	15A212	15A212	15A212	15A212	15A212	15A212	15A212	15A212	15A212	15A212	15A212
16	Needle Valve Seal		9A011	9A011	9A011	9A011	9A011	9A011	9A011	9A011	9A011	9A011	9A011	9A011	9A011	9A011	9A011	9A011	9A011	9A011
17	Lock Nut Tie-Rod		19A006	19A006	19A008	19A008	19A008	19A008	19A008	19A008	19A008	19A008	19A008	19A008	19A008	19A008	19A008	19A008	19A008	19A008
19	Lock Nut Piston		19A007	19A010	19A014	19A014	19A014	19A014	19A014	19A014	19A014	19A014	19A014	19A014	19A014	19A014	19A014	19A014	19A014	19A014
20	Jam Nut (STD Thread)		20R010	20R012	20R016	20R016	20R016	20R016	20R016	20R016	20R016	20R016	20R016	20R016	20R016	20R016	20R016	20R016	20R016	20R016
21	Barrel Seal		9A033	9A232	9A240	9A248	9A256	9A264	9A272	9A280	9A288	9A296	9A304	9A312	9A320	9A328	9A336	9A344	9A352	9A360
22	Head Blind End (See Note 3)		R_2B	R_3B	R_4B	R_5B	R_6B	R_7B	R_8B	R_9B	R_10B	R_11B	R_12B	R_13B	R_14B	R_15B	R_16B	R_17B	R_18B	R_19B
23	Head Gland End (See Note 3)		R_2G	R_3G	R_4G	R_5G	R_6G	R_7G	R_8G	R_9G	R_10G	R_11G	R_12G	R_13G	R_14G	R_15G	R_16G	R_17G	R_18G	R_19G
24	Head Common		RCC2	RCC3	RCC4	RCC5	RCC6	RCC7	RCC8	RCC9	RCC10	RCC11	RCC12	RCC13	RCC14	RCC15	RCC16	RCC17	RCC18	RCC19
25	Trunnion		T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18	T19
32	Piston Stop		32R20	32R30	32R40	32R50	32R60	32R70	32R80	32R90	32R100	32R110	32R120	32R130	32R140	32R150	32R160	32R170	32R180	32R190
40	Piston Wear Strip (See Note 2)		40H2025	40H3037	40H4037	40H5037	40H6037	40H7037	40H8037	40H9037	40H10037	40H11037	40H12037	40H13037	40H14037	40H15037	40H16037	40H17037	40H18037	40H19037
41	Seal Kit		KR2007	KR2010	KR3012	KR3012	KR4015	KR4015	KR5015	KR5015	KR6015	KR6015	KR7015	KR8015	KR9015	KR10015	KR11015	KR12015	KR13015	KR14015
42	Universal Seal Kit R-A SERIES		KR2007U	KR2010U	KR3012U	KR3012U	KR4015U	KR4015U	KR5015U	KR5015U	KR6015U	KR6015U	KR7015U	KR8015U	KR9015U	KR10015U	KR11015U	KR12015U	KR13015U	KR14015U
43	Universal Seal Kit M-R-A SERIES		KR2007MU	KR2010MU	KR3012MU	KR3012MU	KR4015MU	KR4015MU	KR5015MU	KR5015MU	KR6015MU	KR6015MU	KR7015MU	KR8015MU	KR9015MU	KR10015MU	KR11015MU	KR12015MU	KR13015MU	KR14015MU

Table 1

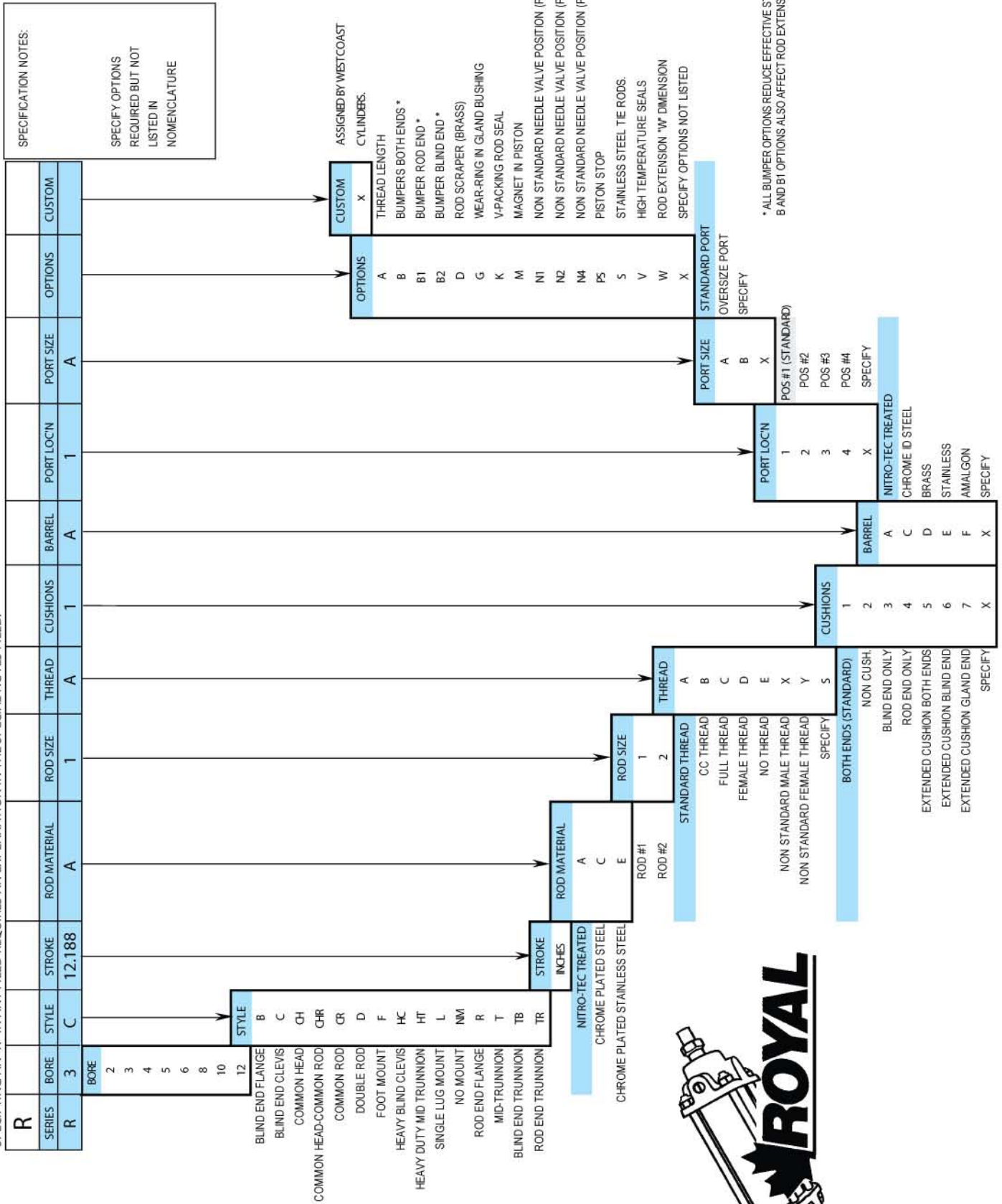
Cyl. Model Letter	Gland Head	Blind Head
F	F	F
C	C	C
D	C	-
R	R	R
B	C	B
TB	C	T
TR	T	R
T	C	R

### Parts List Notes:

- Note 1  
 Head codes are constructed using:  
 1) The series letter "R"  
 2) The appropriate model letter from Table 1  
 3) The cylinder bore 3" bore = "3"  
 4) The head location:  
 "B" = Blind end head,  
 "G" = Gland End  
 Example  
 3" bore, Blind end head, clevis mount = RC3B
- Note 2  
 Universal seal kit contains seals for A-Series and R-Series cylinders (part 42) and A-Series, R-Series and M-Series cylinders (part 43).
- Note 3  
 2" bore cylinders use (1) Double Acting Seal and (2) Wearstrips.  
 Quantities stated are for all bores except 2".

# R Series - Example

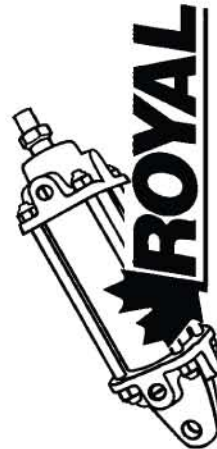
SPECIFYING AN "X" IN ANY FIELD REQUIRES AN EXPLANATION IN THE SPECIAL NOTES FIELD.



SPECIFICATION NOTES:

SPECIFY OPTIONS REQUIRED BUT NOT LISTED IN NOMENCLATURE

\* ALL BUMPER OPTIONS REDUCE EFFECTIVE STROKE. B AND B1 OPTIONS ALSO AFFECT ROD EXTENSION.





## R2



## R2F

2" Foot Mount "Knock-off" Cylinder.  
High speed veneer stacker.  
Internal bumpers, long boaring, long life cycle design/components.

## R3



## R3C

3" Rear Clevis.  
Board-stops, binsorter diverters, hook-stops.



## R3C

3" Rear Clevis, c/w Bumpers.  
Lug loaders, board turners, high speed, high load, long life cycle design/components.



## R3CH

3" Common head, sweepbox cylinder.  
Carriages, pullbacks.



## R3CH

3" Common head.  
Carriage pull-backs.



## R3F

3" Foot mount.  
Veneer stacker, even ending cylinder.

## R3NM



3" Extended Tie Rod, frame mounted.  
Lineal positioning.



**R3T**  
3" Mid Trunnion.  
Press rolls, side hobs.

## R4



**R4C**  
4" Rear Clevis.  
Moveable fence, linebar, waste pickups.



**R4HC**  
4" Heavy Clevis.  
Carriage dogs, Board sweeps.



**R4HCCR**  
4" Heavy Clevis, Common Rod.  
Flying log, turners, carriage pull-backs,  
sweep-boxes.



**R4HT**  
4" Heavy Mid Trunnion Mount.  
Sawbox press rolls, infeed/outfeed rolls.



**R4NM**  
4" Extended Tie Rods w/ "Martonair" style  
Rear Mount.  
"Drop-in" rod placement for 4" 900 series.



**R4TR**  
4" Gland End Head Trunnion.  
Overhead pressroll for sawboxes (gangsaws, edgers etc).



**R4TR**  
4" G.E. Head Trunnion, nickel plated Gland Head.  
Side hobs, over-head press rolls.



**RM4T**  
4" Heavy Mid Trunnion.  
Direct "Atlas MM" series change out cylinder.

## R5



**R5C**  
5" Rear Clevis.  
Waste gate/diverter cylinder. Also ideal for board sweeps.

## R6



**R6C**  
6" Rear Clevis, c/w "ISO" Clevis.  
Interface with European/Japanese equipment.



**R6HC**  
6" Heavy Rear Clevis.  
Load arm cylinder, unloaders.



**R6HC**  
6" Heavy Clevis w/ full threaded "KK" = 2" 12UNF.  
Log unloader.



**R6HC**  
6" Heavy Clevis w/ #1 (Ø1 1/2" P-rod).  
Clamshell doors, chip bins, sawdust bins.



**R6HC**  
6" Heavy Clevis.  
Cam unloader.



**R6HC**  
6" Heavy Clevis.  
Crowd cylinder.



**R6HC**  
6" Heavy Clevis, extended P-rod.  
Load arm, unloaders, cam loaders.



**R6HC**  
6" Heavy Clevis, c/w Female Rod End.  
Crowd cylinder, cart flippers,  
pinstops(common shaft).



**R6HT**  
6" Heavy Mid Trunnion, c/w Female Rod Ends.  
Log infeeds, press-wheels.

## R8



## R8C

8" Rear Clevis.  
Log turner, load arms.



## R8HC

8" Heavy Rear Clevis.  
Log turner/ lumber jack cylinder.



## R8HC + M10

8" Heavy Clevis w/ M10 Rear Mount, also fitted  
w/ male Rod-Eye.  
Lumber jack "crowd" cylinder. Also ideal for waste gates,  
lift skids.