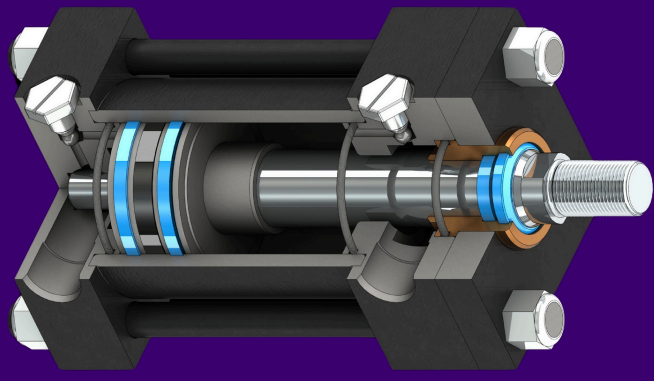




Hydraulic Cylinders

1500
psi rating

Hydraulic NFPA Cylinder Series



Custom Sizes and Features Available. Contact us Sales@RoyalCylinders.com



NFPA STANDARD MOUNTS

All mountings are NFPA compliant and can be interchanged with other cylinders meeting NFPA standards.

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. There is no flaking or lifting as with overlying chrome on a softer material.

Nitrotec® delivers an exceptional surface hardness of up to 71 Rc, improves corrosion resistance and minimizes friction loss for long seal and gland bushing life.

The **Nitrotec®** process also gives an extremely hard dent-resistant finish to materials. Beneath the outer surface is a diffusion zone which gradually reduces in hardness to approximately 40 Rc at 0.015" depth. This diffusion zone acts as a **case-hardening** which is much superior to the relatively soft material underlying chrome plate.

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. If you require a rod size that is not included in this catalog contact the factory for information regarding availability and dimensions.

Nitrotec® Barrel

Nitrotec® treated steel is the standard barrel material. Other barrel materials are available upon request including chromed I.D. steel, Brass and Amalgon.

TEFLON® / HYTHANE® SEALS

The piston seal is a double acting **Teflon®** impregnated compound to reduce friction yet enhance seal life. It has an exceptional temperature range of from -40 to 275°F. The **Hythane®*** rod seal is a high performance, high temperature seal compound having ultra low friction and long seal life. Its 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.

ROTOCAST BRONZE GLAND BUSHING

The gland bushing is manufactured from Rotocast bronze for low friction and long bearing life. Other materials are available upon request. A snap ring retainer allows for easy removal of the bushing for maintenance without dismantling the cylinder. Optional gland bushings with wear rings may be available, contact the factory.

COLD FINISHED HEADS

Heads are precision machined from high quality cold finished steel for perfect alignment of barrel and moving parts. For the 1½" bore and all bores 3¼" and larger, the heads are common for all rod sizes. This allows the end user to lower costs by stocking only one head for all rod sizes. The common head design also enables customers to increase or decrease rod sizes with little effort or expense. Due to space constraints on the 2" bore, the heads are common between the 1" and 13/8" rod sizes only. On the 2½" bore the heads are common only on the 5/8" and 1" rod sizes.

ONE-PIECE DUCTILE IRON PISTON

The piston is a one-piece design, ductile iron construction, incorporating a replaceable wear ring to prevent metal to metal contact and increase the life of the cylinder.

NPTF / SAE PORTS

NPTF ports are standard at position 1 but can be specified in other positions. SAE straight thread O-ring ports are available at no additional cost.

INTERNAL / EXTERNAL PISTON STOP

External and optional internal piston stops are available to reduce stress on the piston rod for all cylinder sizes.

STROKE POSITION SENSORS

Proximity sensors or other switches can be fitted in most models. Contact the factory for details.

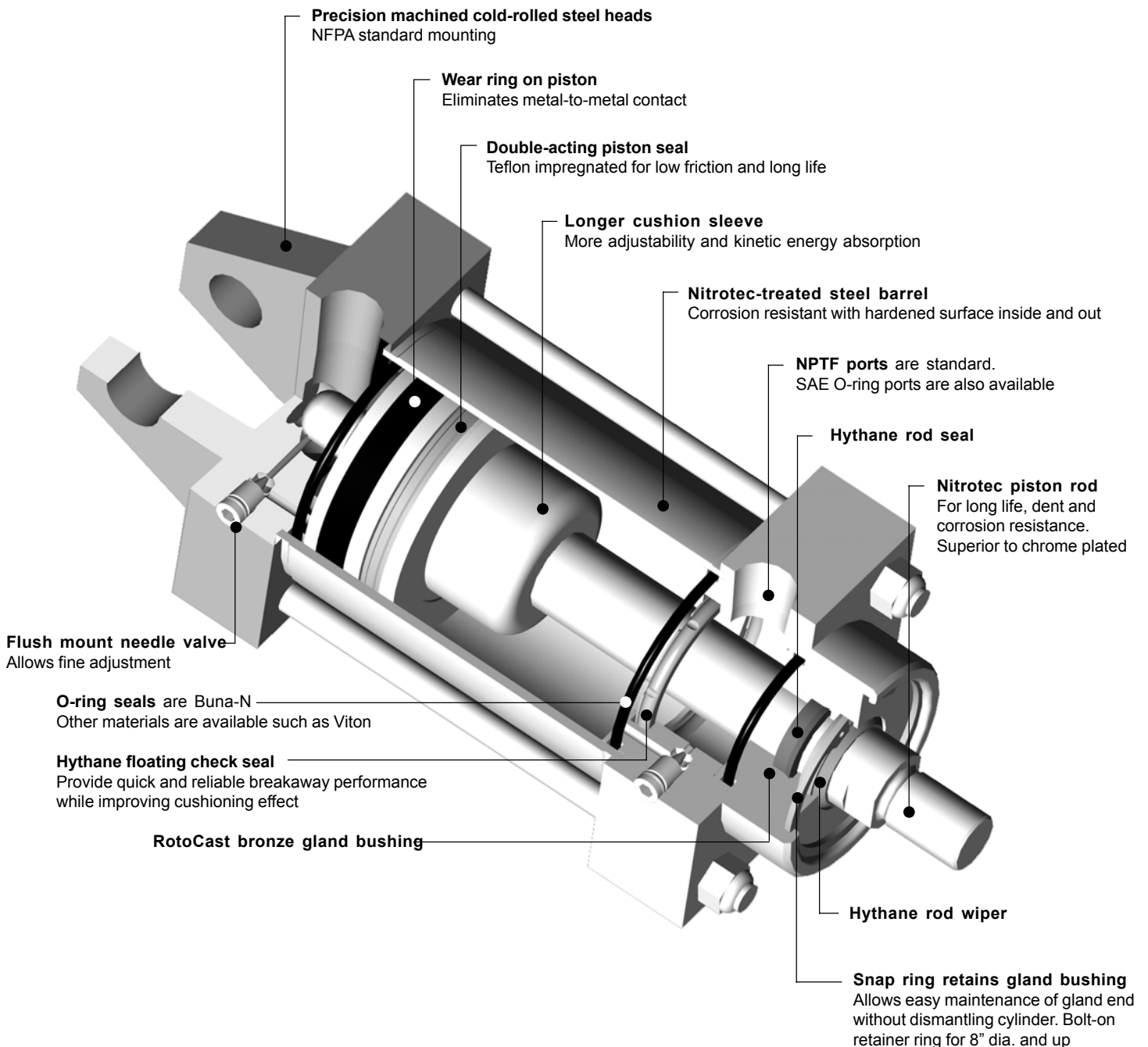
CUSTOM CYLINDERS

If our standard product does not meet your specifications, Westcoast Cylinders will manufacture custom cylinders to meet your requirements. Please contact the factory.

SPARE PARTS

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

* *Hythane*® is a registered trademark of Hallite Seals International Ltd.



Description

Mounting Styles

Features Description

Features Drawing

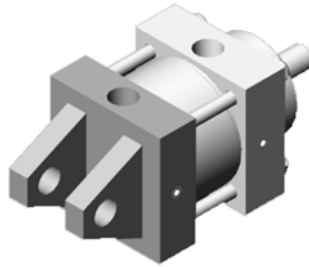
Mounting dimensions

C	Fixed Clevis (MP1)
E	Pivot Eye (MP3)
F	Foot Mount (MS2)
MP	Detachable Blind-end Clevis (MP-2)
W	Self-aligning Eye (MPU3)
NM	No Mount (MX0)
NA	Extended Tie-rods Both Ends (MX1)
NB	Extended Tie-rods Blind End (MX2)
NC	Extended Tie-rods Gland End (MX3)
R	Rod End Rectangular Flange (MF1)
RS	Rod End Square Flange (MF5)
B	Blind End Rectangular Flange (MF2)
BS	Blind End Square Flange (MF6)
TR	Rod End Trunnion (MT1)
TB	Blind End Trunnion (MT2)
D	Double Rod (MD)
T	Mid Trunnion (MT4)
CH	Common Head
CR	Common Rod
CHR	Common Head / Common Rod

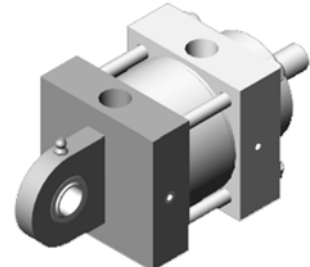
Accessories

Parts List: 1.5 – 6" dia. Parts Drawing

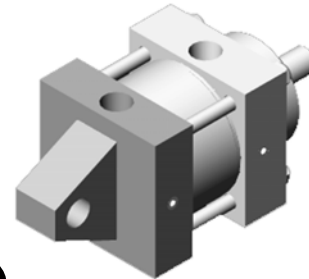
Parts List: 8 – 12" dia. Pressure Rating Table Technical Data

Cylinder Nomenclature

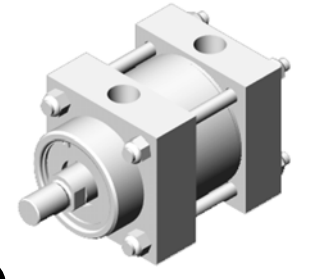
Fixed Clevis



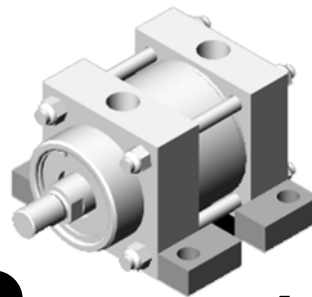
Self-aligning Eye



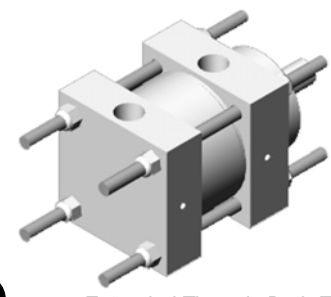
Pivot Eye



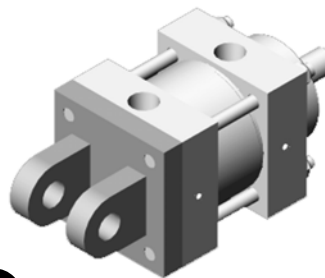
No Mount



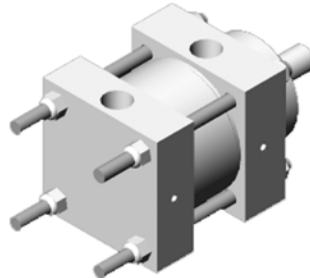
Foot Mount



Extended Tie-rods Both Ends



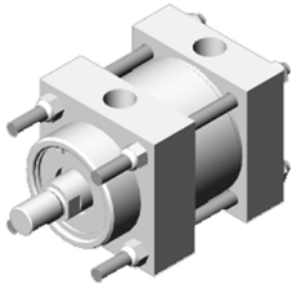
Detachable Blind-end Clevis



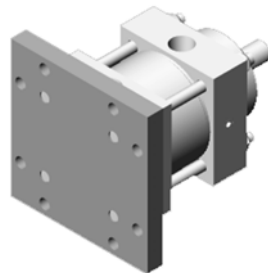
Extended Tie-rods Blind End

**Westcoast Cylinders Inc.**

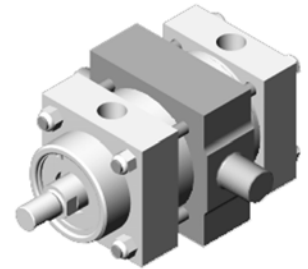
225 Edworthy Way
 New Westminster BC
 Canada V3L 5G4
 Phone Toll Free: 1 877 637 6925
 Email: Sales@royalcylinders.com
 Website: www.RoyalCylinders.com



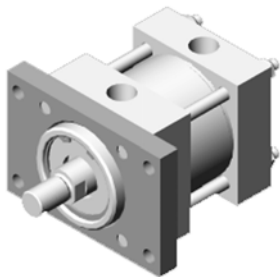
Extended Tie-rods Gland End



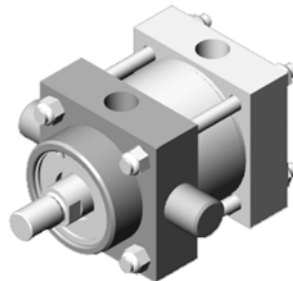
Blind End Square Flange



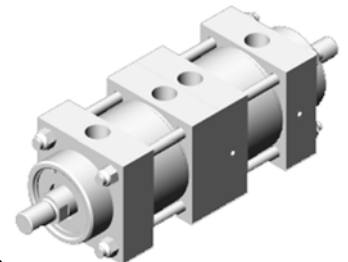
Mid Trunnion



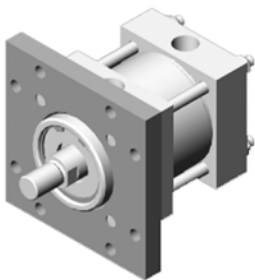
Rod End Rectangular Flange



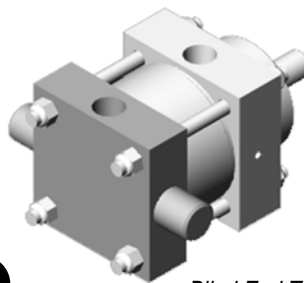
Rod End Trunnion



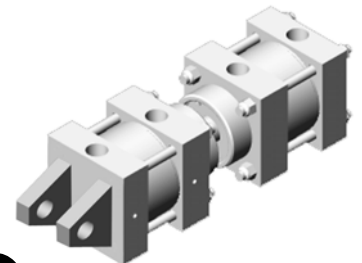
Common Head



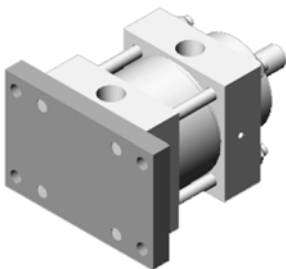
Rod End Square Flange



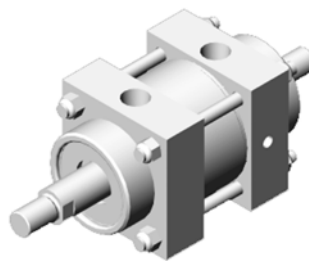
Blind End Trunnion



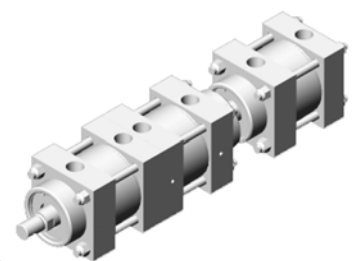
Common Rod



Blind End Rectangular Flange



Double Rod



Common Head/Common Rod

Westcoast Cylinders Inc.:

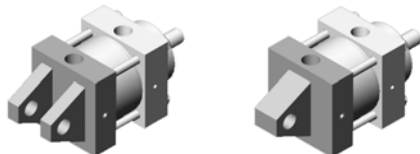
The company has been manufacturing high quality, reliable ROYAL cylinders for over 60 years. Production started with a single cylinder design and expanded to a full range of multi-use, hydraulic, pneumatic cylinders and accessories.

Quality:

ROYAL 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 utilizing the latest technology and processes.

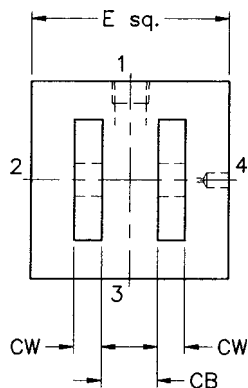
Delivery:

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

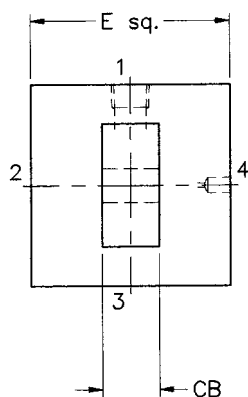
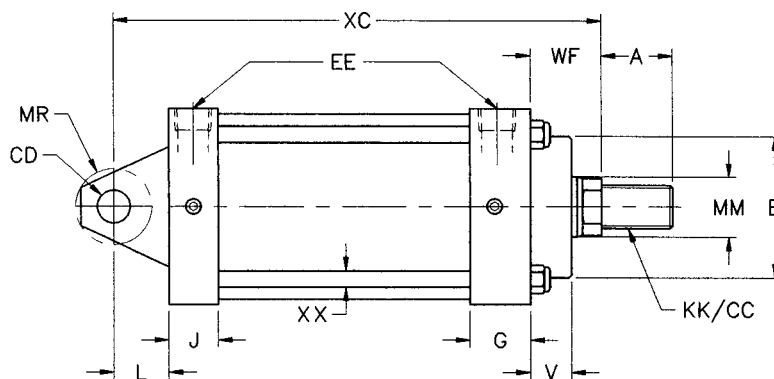


LC, LE Fixed Clevis, Pivot Eye

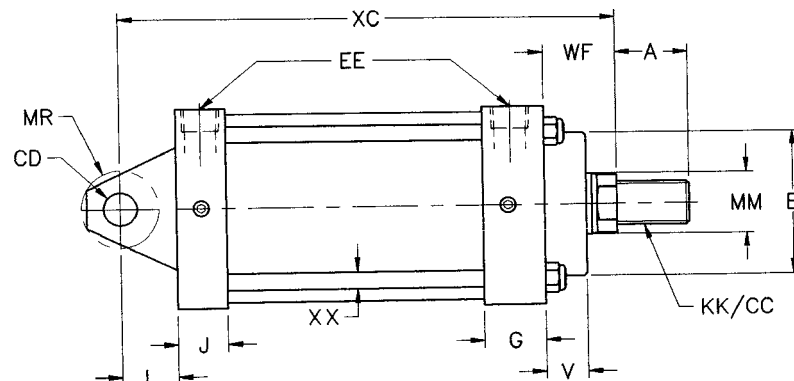
ROD DIA.										+STR					LC		LE		EE							
BORE	ROD	MM	KK	CC	A	WF	V	B		XC	E	G	J	L	CB	CB	CD	CW	NPTF	SAE	MR	XX				
1 1/2	1	5/8	7/16-20	1/2-20	3/4	1	3/4	1	11/16	5 3/8	2	1	3/16	15/16	3/4	25/32	3/4	1/2	1/2	3/8	-6	5/8	1/4			
	2	1	3/4-16	7/8-14	1 1/8	1	3/8			5 3/4																
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	2	1	3/4-16	7/8-14	1 1/8	1	3/8			5 3/4																
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	2	1 3/8	1-14	1 1/4-12	1 5/8	1	5/8			7 1/8																
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	2	1 3/4	1 1/4-12	1 1/2-12	2	1	7/8			8 3/8																
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	2	2 1/2	1 7/8-12	2 1/4-12	3	2	1/4			11 3/8																
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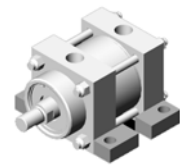


Model LC
NFFPA Style MP1

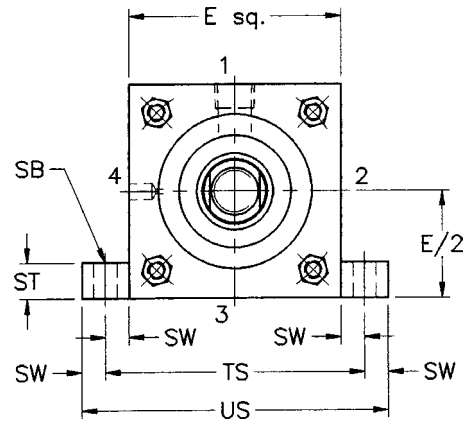
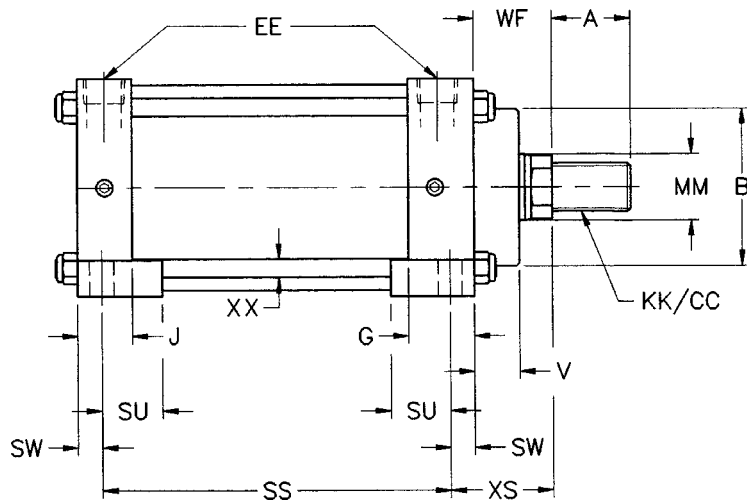


Model LE
NFFPA Style MP3



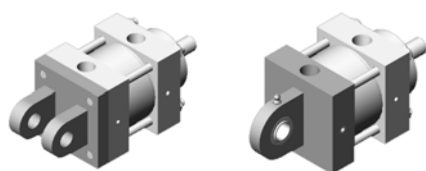


BORE	ROD	ROD DIA.									+ STR				EE		SB	ST	SU	SW	TS	US	XX
		MM	KK	CC	A	WF	B	V	XS	SS	E	G	J	NPTF	SAE								
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	2	1	3/4-16	7/8-14	1 1/8	1 3/8			1 3/4														
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	2	1	3/4-16	7/8-14	1 1/8	1 3/8			1 3/4														
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	2	1	3/4-16	7/8-14	1 1/8	1 3/8			1 3/4														
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	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			2 1/8														
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	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			2 5/16														
6	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	4 1/2	1	2 5/16	3 5/8	6 1/2	1 5/8	1 3/8	3/4	-	13/16	1	1 9/16	11/16	7 7/8	9 1/4	1/2	
	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			2 9/16														
8	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	5 3/4	5/8	2 5/16	3 3/4	8 1/2	1 5/8	1 3/8	3/4	-	13/16	1	1 9/16	11/16	9 7/8	11 1/4	5/8	
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10	1	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	6 3/8	7/8	2 3/4	4 5/8	10 5/8	2	1 3/4	1	-	1 1/16	1 1/4	2	7/8	12 3/8	14 1/8	3/4	
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12	1	2	1 1/2-12	1 3/4-12	2 1/4	2	6 3/4	7/8	2 7/8	5 1/8	12 3/4	2	1 5/8	1	-	1 1/16	1 1/4	2	7/8	14 1/2	16 1/4	3/4	
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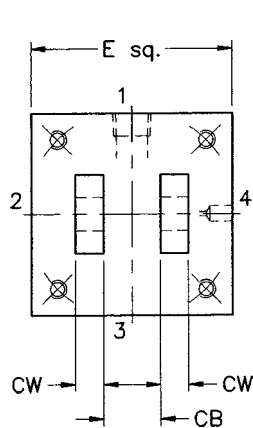
Model LF
NFFA Style MS2

Note:
For 1 1/2" bore cushioned foot mount cylinder - due to the position of the needle valve, installer should pre-adjust before cylinder is mounted.

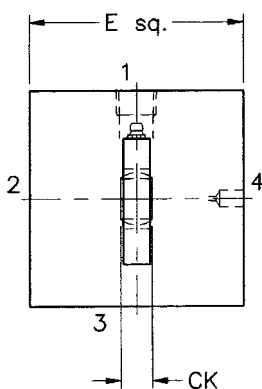
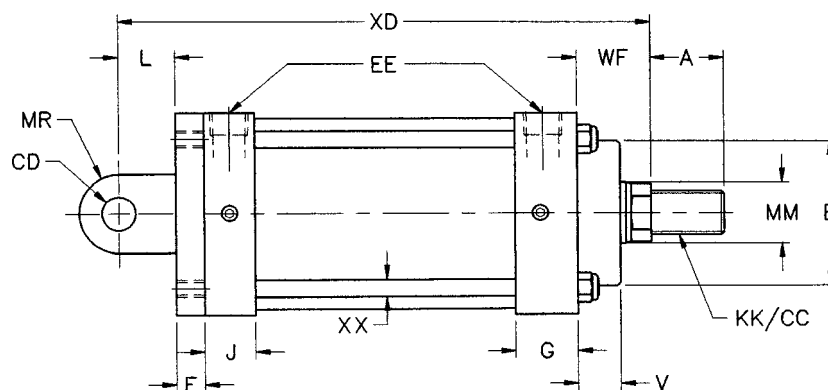


LMP, LW Detachable Blind-end Clevis, Self-aligning Eye

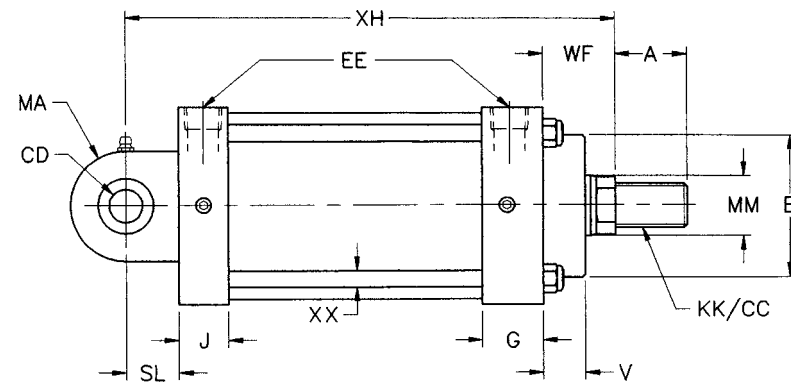
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	MM	KK	CC	A	B	XD	XH	E	F	G	J	L	CB	CK	CD	CW	NPTF	SAE	MA	MR	SL	V	WF	X	
1 1/2	5/8	7/16-20	1/2-20	3/4	1 11/16	5 3/4	5 7/16	2	3/8	1 3/16	15/16	3/4	25/32	7/16	1/2	1/2	3/8	-	3/4	5/8	13/16	3/4	1	1/4	
	1	3/4-16	7/8-14	1 1/8	1 11/16	6 1/8	5 13/16	2	3/8	1 3/16	15/16	3/4	25/32	7/16	1/2	1/2	3/8	-	3/4	5/8	13/16	3/4	1 3/8	1/4	
2	5/8	7/16-20	1/2-20	3/4	2 7/32	5 3/4	5 7/16	2 1/2	3/8	1 3/16	15/16	3/4	25/32	7/16	1/2	1/2	3/8	-	3/4	5/8	13/16	3/4	1	5/16	
	1	3/4-16	7/8-14	1 1/8	2 7/32	6 1/8	5 13/16	2 1/2	3/8	1 3/16	15/16	3/4	25/32	7/16	1/2	1/2	3/8	-	3/4	5/8	13/16	3/4	1 3/8	5/16	
2 1/2	5/8	7/16-20	1/2-20	3/4	2 5/16	5 7/8	5 9/16	3	3/8	1 1/4	1	3/4	25/32	7/16	1/2	1/2	3/8	-	3/4	5/8	13/16	13/16	1	5/16	
	1	3/4-16	7/8-14	1 1/8	2 5/16	6 1/4	5 15/16	3	3/8	1 1/4	1	3/4	25/32	7/16	1/2	1/2	3/8	-	3/4	5/8	13/16	13/16	1 3/8	5/16	
3 1/4	1	3/4-16	7/8-14	1 1/8	2 7/8	7 1/2	6 13/16	3 3/4	5/8	1 11/32	1 7/32	1 1/4	1 9/32	21/32	3/4	5/8	1/2	-	1 1/4	7/8	1 3/16	15/16	1 3/8	3/8	
	1 3/8	1-14	1 1/4-12	1 5/8	2 7/8	7 3/4	7 1/16	3 3/4	5/8	1 11/32	1 7/32	1 1/4	1 9/32	21/32	3/4	5/8	1/2	-	1 1/4	7/8	1 3/16	15/16	1 5/8	3/8	
4	1 3/4	1 1/4-12	1 1/2-12	2	2 7/8	8	7 5/16	3 3/4	5/8	1 11/32	1 7/32	1 1/4	1 9/32	21/32	3/4	5/8	1/2	-	1 1/4	7/8	1 3/16	15/16	1 7/8	3/8	
	1	3/4-16	7/8-14	1 1/8	3 1/4	7 1/2	6 13/16	4 1/2	5/8	1 3/8	1 1/8	1 1/4	1 9/32	21/32	3/4	5/8	1/2	-	1 1/4	7/8	1 3/16	15/16	1 3/8	3/8	
5	1 3/8	1-14	1 1/4-12	1 5/8	3 3/4	7 3/4	7 1/16	4 1/2	5/8	1 3/8	1 1/8	1 1/4	1 9/32	21/32	3/4	5/8	1/2	-	1 1/4	7/8	1 3/16	15/16	1 5/8	3/8	
	1 3/4	1 1/4-12	1 1/2-12	2	3 3/4	8	7 5/16	5 1/2	5/8	1 3/8	1 1/4	1 1/4	1 9/32	21/32	3/4	5/8	1/2	-	1 1/4	7/8	1 3/16	15/16	1 5/8	1/2	
6	1 3/8	1-14	1 1/4-12	1 5/8	4 1/2	8 7/8	8 3/16	6 1/2	3/4	1 5/8	1 3/8	1 1/2	1 9/16	7/8	1	3/4	3/4	-	1 1/2	1 3/16	1 9/16	1	1 5/8	1/2	
	1 3/4	1 1/4-12	1 1/2-12	2	4 1/2	9 1/8	8 7/16	6 1/2	3/4	1 5/8	1 3/8	1 1/2	1 9/16	7/8	1	3/4	3/4	-	1 1/2	1 3/16	1 9/16	1	1 7/8	1/2	
8	1 3/8	1-14	1 1/4-12	1 5/8	5 3/4	-	8 5/16	8 1/2	-	1 5/8	1 3/8	-	-	7/8	1	-	3/4	-	1 1/2	-	1 9/16	5/8	1 5/8	5/8	
	1 3/4	1 1/4-12	1 1/2-12	2	-	-	8 9/16	-	-	-	-	-	-	-	-	-	-	-	-	-	1 9/16	1 7/8	-	-	
10	1 3/4	1 1/4-12	1 1/2-12	2	6 3/8	-	10 3/8	10 5/8	-	2	1 3/4	-	-	1 3/16	1 3/8	-	1	-	2	-	2 1/8	7/8	1 7/8	3/4	
	2	1 1/4-12	1 3/4-12	2 1/4	-	-	10 1/2	-	-	-	-	-	-	-	-	-	-	-	-	-	2 1/8	-	2	-	
12	2 1/2	1 1/2-12	1 3/4-12	2 1/4	3	-	10 3/4	-	-	-	-	-	-	-	-	-	-	-	-	-	2 1/8	-	2 1/4	-	
	3	2 1/4-12	2 3/4-12	3 1/2	-	-	11 3/8	12 3/4	-	2	1 5/8	-	-	1 17/32	1 3/4	-	1	-	2 3/4	-	2 1/4	7/8	2	3/4	



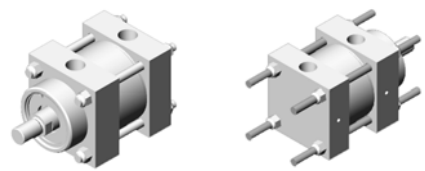
Model LMP
NFA Style MP-2



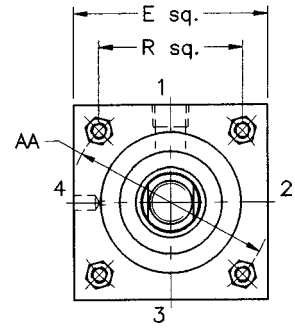
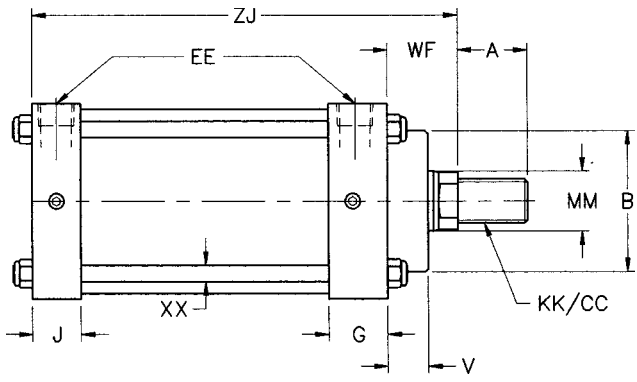
Model LW
NFA Style MPU3



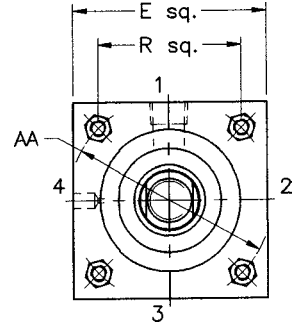
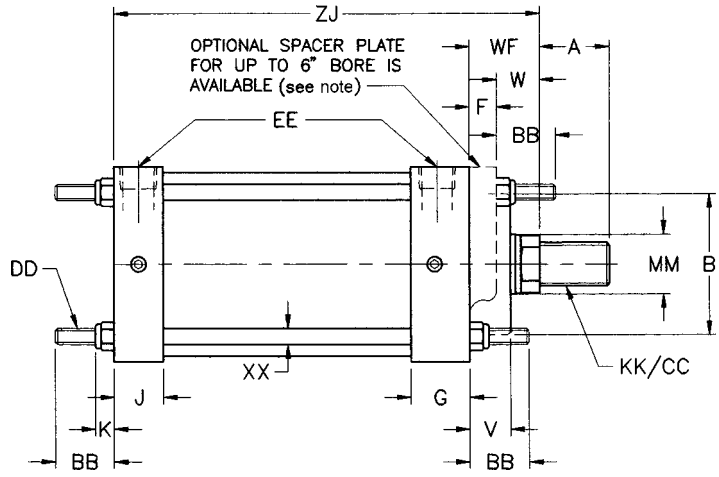
LNM, LNA No Mount, Extended Tie-rods Both Ends



ROD DIA.													+STR		EE							
BORE	ROD	MM	KK	CC	A	WF	W	V	B	AA	BB	DD	ZJ	E	F	G	J	K	R	NPTF	SAE	XX
1 1/2	1	5/8	7/16-20	1/2-20	3/4	1	5/8	3/4	1 11/16	2.02	1	1/4-28	4 5/8	2	3/8	1 3/16	15/16	5/16	1.43	3/8	-	1/4
	2	1	3/4-16	7/8-14	1 1/8	1 3/8	1						5									
2	1	5/8	7/16-20	1/2-20	3/4	1	5/8	3/4	2 7/32	2.60	1 1/8	5/16-24	4 5/8	2 1/2	3/8	1 3/16	15/16	3/8	1.84	3/8	-	5/16
	2	1	3/4-16	7/8-14	1 1/8	1 3/8	1						5									
2 1/2	1	5/8	7/16-20	1/2-20	3/4	1	5/8	13/16	2 5/16	3.10	1 1/8	5/16-24	4 3/4	3	3/8	1 1/4	1	3/8	2.19	3/8	-	5/16
	2	1	3/4-16	7/8-14	1 1/8	1 3/8	1						5 1/8									
3 1/4	1	1	3/4-16	7/8-14	1 1/8	1 3/8	3/4	15/16	2 7/8	3.90	1 3/8	3/8-24	5 3/8	3 3/4	5/8	1 11/32	1 7/32	7/16	2.76	1/2	-	3/8
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1						5 7/8									
4	1	1	3/4-16	7/8-14	1 1/8	1 3/8	3/4	15/16	3 1/4	4.70	1 3/8	3/8-24	5 5/8	4 1/2	5/8	1 3/8	1 1/8	7/16	3.32	1/2	-	3/8
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1						5 7/8									
5	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	7/8	1	4 1/2	6.90	1 13/16	1/2-20	6 5/8	5 1/2	5/8	1 3/8	1 1/4	5/8	4.10	1/2	-	1/2
	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	1 1/4						6 1/8									
6	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	7/8	1	4 1/2	6.90	1 13/16	1/2-20	6 5/8	6 1/2	3/4	1 5/8	1 3/8	5/8	4.88	3/4	-	1/2
	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	1 1/8						6 7/8									
8	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	-	5/8	5 3/4	9.10	2 5/16	5/8-18	6 3/4	8 1/2	-	1 5/8	1 3/8	3/4	6.44	3/4	-	5/8
	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	-						7									
10	1	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	-	7/8	6 3/8	11.20	2 11/16	3/4-16	8 1/4	10 5/8	-	2	1 3/4	7/8	7.92	1	-	3/4
	2	2	1 1/2-12	1 3/4-12	2 1/4	2	-						8 3/8									
12	1	2	1 1/2-12	1 3/4-12	2 1/4	2	-	7/8	6 3/4	13.30	2 11/16	3/4-16	8 7/8	12 3/4	-	2	1 5/8	7/8	9.40	1	-	3/4
	2	2 1/2	1 7/8-12	2 1/4-12	3	2 1/4	-						9 1/8									
	3	3	2 1/4-12	2 3/4-12	3 1/2	2 1/4	-						9 1/8									

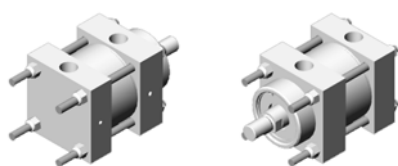


Model LNM
NFFA Style MX0



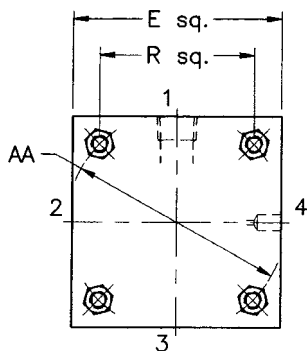
Model LNA
NFFA Style MX1

For models LNA and LNC up to 6" bore:
If the cylinder will be mounted directly onto the rod-end face and the standard NFFA "W" dimension is required, an optional spacer plate is available. For this option, choose letter "F" in the options section of the nomenclature page when creating the cylinder model number.

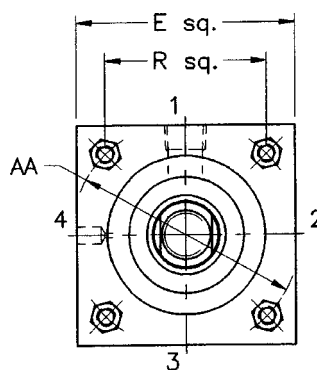
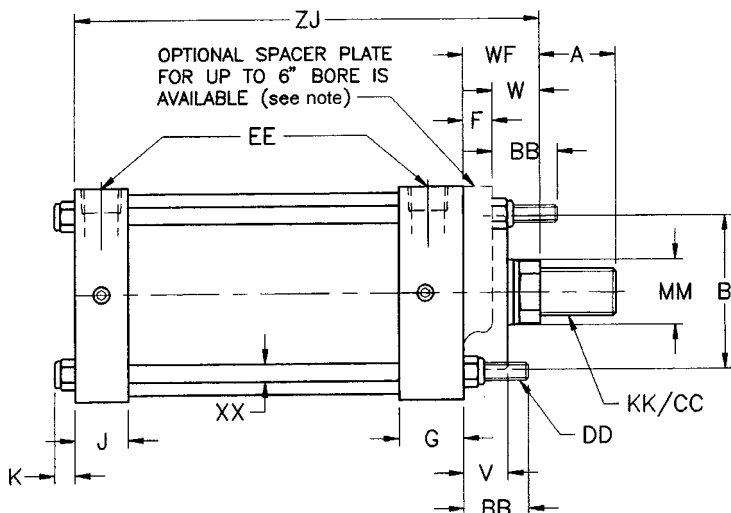
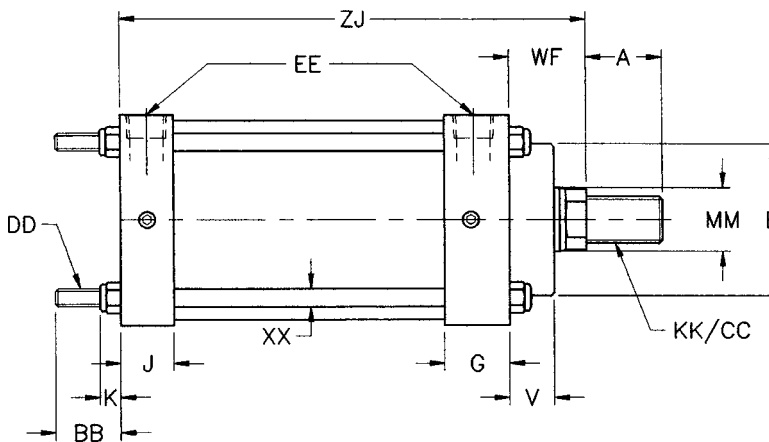


LNB, LNC Extended Tie-rods Blind End, Gland End

ROD DIA.													+STR	EE								
BORE	ROD	MM	KK	CC	A	WF	W	V	B	AA	BB	DD	ZJ	E	F	G	J	K	R	NPTF	SAE	XX
1 1/2	1	5/8	7/16-20	1/2-20	3/4	1	5/8	3/4	1 11/16	2.02	1	1/4-28	4 5/8	2	3/8	1 3/16	15/16	5/16	1.43	3/8	-	1/4
	2	1	3/4-16	7/8-14	1 1/8	1 3/8	1						5									
2	1	5/8	7/16-20	1/2-20	3/4	1	5/8	3/4	2 7/32	2.60	1 1/8	5/16-24	4 5/8	2 1/2	3/8	1 3/16	15/16	3/8	1.84	3/8	-	5/16
	2	1	3/4-16	7/8-14	1 1/4	1 3/8	1						5									
	3	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1 1/4						5 1/4									
2 1/2	1	5/8	7/16-20	1/2-20	3/4	1	5/8	13/16	2 5/16	3.10	1 1/8	5/16-24	4 3/4	3	3/8	1 1/4	1	3/8	2.19	3/8	-	5/16
	2	1	3/4-16	7/8-14	1 1/8	1 3/8	1						5 1/8									
	3	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1 1/4						5 3/8									
3 1/4	1	1	3/4-16	7/8-14	1 1/8	1 3/8	3/4	15/16	2 7/8	3.90	1 3/8	3/8-24	5 5/8	3 3/4	5/8	1 11/32	1 7/32	7/16	2.76	1/2	-	3/8
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1						5 7/8									
	3	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	1 1/4						6 1/8									
4	1	1	3/4-16	7/8-14	1 1/8	1 3/8	3/4	15/16	3 1/4	4.70	1 3/8	3/8-24	5 5/8	4 1/2	5/8	1 3/8	1 1/8	7/16	3.32	1/2	-	3/8
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1						5 7/8									
	3	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	1 1/4						6 1/8									
5	1	1	3/4-16	7/8-14	1 1/8	1 3/8	3/4	15/16	3 3/4	5.80	1 13/16	1/2-20	5 7/8	5 1/2	5/8	1 3/8	1 1/4	5/8	4.10	1/2	-	1/2
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1						6 1/8									
	3	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	1 1/4						6 3/8									
6	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	7/8	1	4 1/2	6.90	1 13/16	1/2-20	6 5/8	6 1/2	3/4	1 5/8	1 3/8	5/8	4.88	3/4	-	1/2
	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	1 1/8						6 7/8									
	3	2	1 1/2-12	1 3/4-12	2 1/4	2	1 1/4						7									
8	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	-	5/8	5 3/4	9.10	2 5/16	5/8-18	6 3/4	8 1/2	-	1 5/8	1 3/8	3/4	6.44	3/4	-	5/8
	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	-						7									
	3	2	1 1/2-12	1 3/4-12	2 1/4	2	-						7 1/8									
10	1	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	-	7/8	6 3/8	11.20	2 11/16	3/4-16	8 1/4	10 5/8	-	2	1 3/4	7/8	7.92	1	-	3/4
	2	2	1 1/2-12	1 3/4-12	2 1/4	2	-						8 3/8									
	3	2 1/2	1 7/8-12	2 1/4-12	3	2 1/4	-						8 5/8									
12	1	2	1 1/2-12	1 3/4-12	2 1/4	2	-	7/8	6 3/4	13.30	2 11/16	3/4-16	8 7/8	12 3/4	-	2	1 5/8	7/8	9.40	1	-	3/4
	2	2 1/2	1 7/8-12	2 1/4-12	3	2 1/4	-						9 1/8									
	3	3	2 1/4-12	2 3/4-12	3 1/2	2 1/4	-						9 1/8									

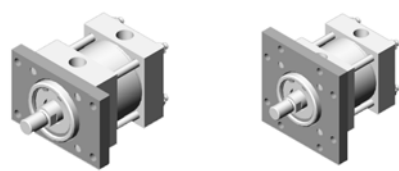


Model LNB
NFPA Style MX2

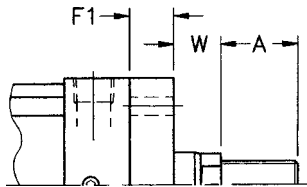


Model LNC
NFPA Style MX3

For models LNA and LNC up to 6" bore:
If the cylinder will be mounted directly onto the rod-end face and the standard NFPA "W" dimension is required, an optional spacer plate is available. For this option, choose letter "F" in the options section of the nomenclature page when creating the cylinder model number.



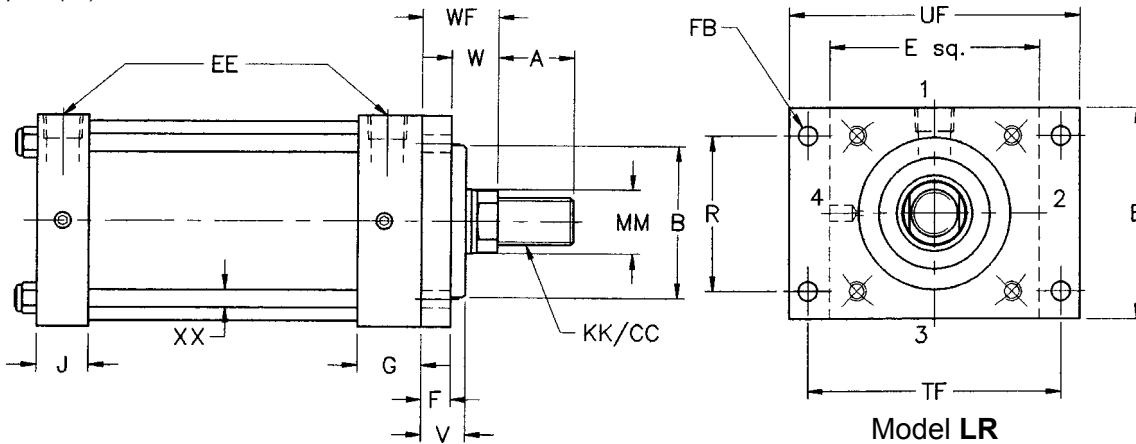
ROD DIA.														EE										
BORE	ROD	MM	KK	CC	A	WF	W	V	B	E	F	F1	G	J	NPTF	SAE	FB	R	TF	UF	XX			
1 1/2	1	5/8	7/16-20	1/2-20	3/4	1	5/8	3/4	1 11/16	2	3/8	13/16	1	3/16	15/16	3/8	-	9/32	1.43	2	3/4	3	3/8	1/4
	2	1	3/4-16	7/8-14	1 1/8	1	3/8	1																
2	1	5/8	7/16-20	1/2-20	3/4	1	5/8	3/4	2 7/32	2 1/2	3/8	13/16	1	3/16	15/16	3/8	-	11/32	1.84	3	3/8	4	1/8	5/16
	2	1	3/4-16	7/8-14	1 1/8	1	3/8	1																
2 1/2	1	5/8	7/16-20	1/2-20	3/4	1	5/8	13/16	2 5/16	3	3/8	7/8	1	1/4	1	3/8	-	11/32	2.19	3	7/8	4	5/8	5/16
	2	1	3/4-16	7/8-14	1 1/8	1	3/8	1																
3 1/4	1	5/8	7/16-20	1/2-20	3/4	1	5/8	13/16	2 5/16	3	3/8	7/8	1	1/4	1	3/8	-	11/32	2.19	3	7/8	4	5/8	5/16
	2	1	3/4-16	7/8-14	1 1/8	1	3/8	1																
4	1	5/8	7/16-20	1/2-20	3/4	1	5/8	13/16	2 5/16	3	3/8	7/8	1	1/4	1	3/8	-	11/32	2.19	3	7/8	4	5/8	5/16
	2	1	3/4-16	7/8-14	1 1/8	1	3/8	1																
5	1	5/8	7/16-20	1/2-20	3/4	1	5/8	13/16	2 5/16	3	3/8	7/8	1	1/4	1	3/8	-	11/32	2.19	3	7/8	4	5/8	5/16
	2	1	3/4-16	7/8-14	1 1/8	1	3/8	1																
6	1	5/8	7/16-20	1/2-20	3/4	1	5/8	13/16	2 5/16	3	3/8	7/8	1	1/4	1	3/8	-	11/32	2.19	3	7/8	4	5/8	5/16
	2	1	3/4-16	7/8-14	1 1/8	1	3/8	1																



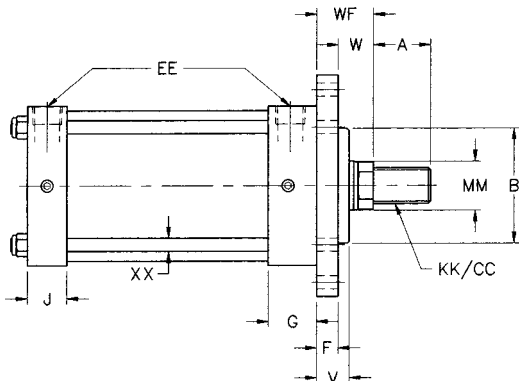
Detail of optional thicker mounting plate (F1).

Models LR and LRS with optional thicker mounting flange plate

Note: For the LR and LRS models – if the protruding hub is to be used as a mounting spigot, use the table values for B and V to ensure proper fit. If B dia. is too large and existing equipment cannot be modified, a thicker mounting flange plate (F1) is available that will recess the hub. An equivalent rod extension will accompany the increase in plate thickness. For this option, choose letter “U” in the options section of the nomenclature page when creating the cylinder model number.

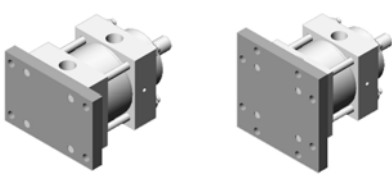


Model LR
NFFPA Style MF1



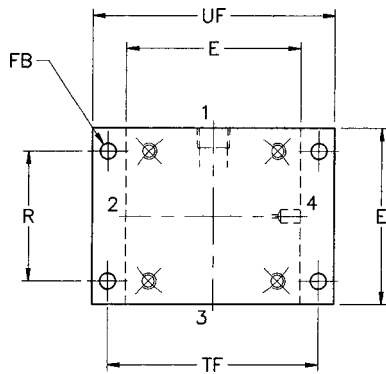
Model LRS
NFFPA Style MF5

LH HYDRAULICS	
model LR ONLY	
PUSH MODE	
BORE	PSI (max)
1 1/2	750
2	500
2 1/2	300
3 1/4	400
4	350
5	350
6	250

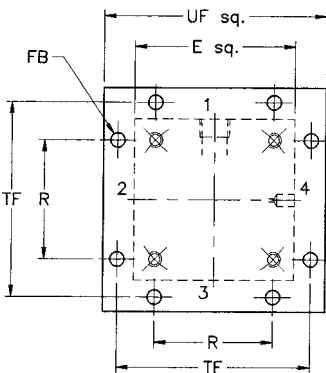
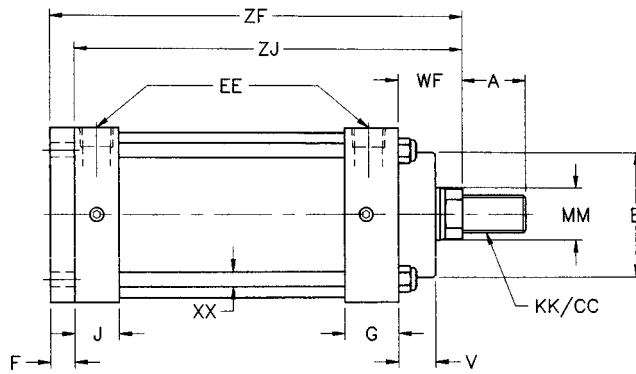


LB, LBS Blind End Rectangular Flange, Square Flange

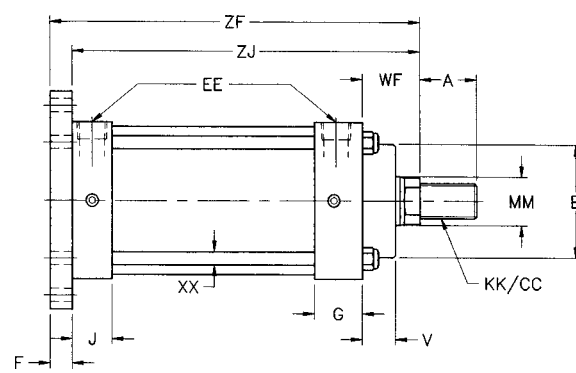
ROD DIA.										ADD STROKE				EE							
BORE	ROD	MM	KK	CC	A	WF	V	B	ZF	ZJ	E	F	G	J	NPTF	SAE	FB	R	TF	UF	XX
1 1/2	1	5/8	7/16-20	1/2-20	3/4	1	3/4	1 11/16	5	4 5/8	2	3/8	1 3/16	15/16	3/8	-	9/32	1.43	2 3/4	3 3/8	1/4
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			5 3/8	5											
2	1	5/8	7/16-20	1/2-20	3/4	1	3/4	2 7/32	5	4 5/8	2 1/2	3/8	1 3/16	15/16	3/8	-	11/32	1.84	3 3/8	4 1/8	5/16
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			5 3/8	5											
2 1/2	1	5/8	7/16-20	1/2-20	3/4	1	13/16	2 5/16	5 1/8	4 3/4	3	3/8	1 1/4	1	3/8	-	11/32	2.19	3 7/8	4 5/8	5/16
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			5 1/2	5 1/8											
3 1/4	1	5/8	7/16-20	1/2-20	3/4	1	15/16	2 7/8	5 3/4	5 3/8	3 3/4	5/8	1 11/32	1 7/32	1/2	-	13/32	2.76	4 11/16	5 1/2	3/8
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			6 1/4	5 5/8											
4	1	3/8	1-14	1 1/4-12	1 5/8	1 5/8	15/16	3 1/4	6 1/2	5 7/8	4 1/2	5/8	1 3/8	1 1/8	1/2	-	13/32	3.32	5 7/16	6 1/4	3/8
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			6 1/2	5 7/8											
5	1	3/8	1-14	1 1/4-12	1 5/8	1 5/8	15/16	3 3/4	6 3/4	6 1/8	5 1/2	5/8	1 3/8	1 1/4	1/2	-	17/32	4.10	6 5/8	7 5/8	1/2
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			6 3/4	6 1/8											
6	1	3/8	1-14	1 1/4-12	1 5/8	1 5/8	1	4 1/2	7 3/8	6 5/8	6 1/2	3/4	1 5/8	1 3/8	3/4	-	17/32	4.88	7 5/8	8 5/8	1/2
	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			7 5/8	6 7/8											
	3	2	1 1/2-12	1 3/4-12	2 1/4	2			7 3/4	7											



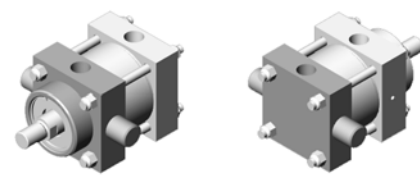
Model LB
NFPA Style MF2



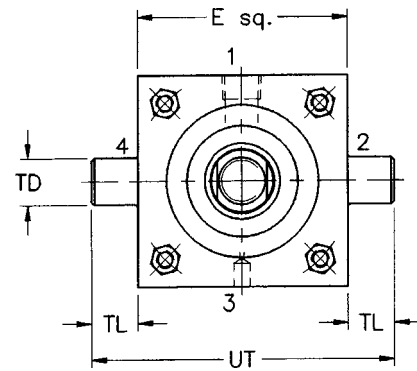
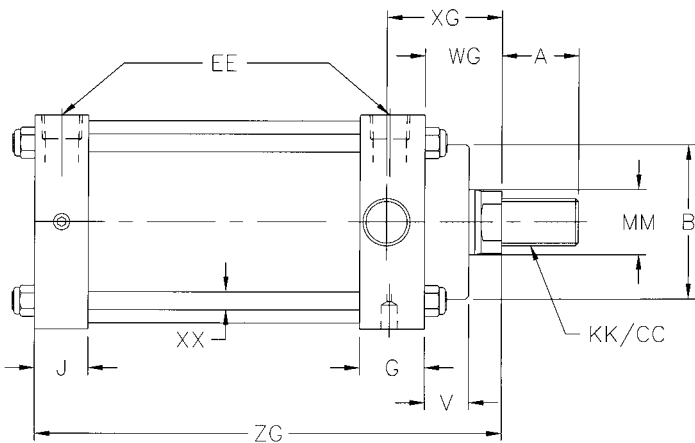
Model LBS
NFPA Style MF6



LTR, LTB Rod End Trunnion, Blind End Trunnion

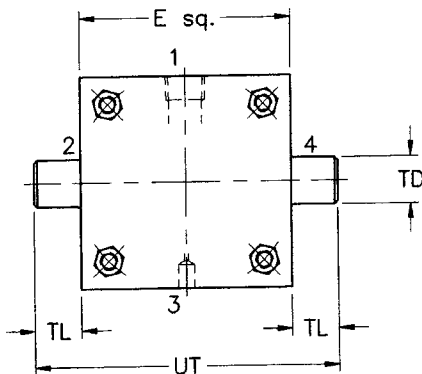


ROD DIA.										+ STROKE		EE										
BORE ROD	MM	KK	CC	A	WJ	WG	B	V	XG	XJ	ZG	E	G	J	TD	TL	UT	NPTF	SAE	XX		
1 1/2	1	5/8	7/16-20	1/2-20	3/4	1	1 1/8	1 11/16	3/4	1 3/4	4 1/8	4 3/4	2	1	3/16	15/16	1	1	4	3/8	-	1/4
	2	1	3/4-16	7/8-14	1 1/8	1 3/8	1 1/2			2 1/8	4 1/2	5 1/8										
2	1	5/8	7/16-20	1/2-20	3/4	1	1 1/8	2 7/32	3/4	1 3/4	4 1/8	4 3/4	2 1/2	1	3/16	15/16	1	1	4 1/2	3/8	-	5/16
	3	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1 3/4			2 3/8	4 3/4	5 3/8										
2 1/2	1	5/8	7/16-20	1/2-20	3/4	1	1 1/8	2 5/16	13/16	1 3/4	4 1/4	4 7/8	3	1	1/4	1	1	5	3/8	-	5/16	
	2	1	3/4-16	7/8-14	1 1/8	1 3/8	1 1/2			2 1/8	4 5/8	5 1/4										
3 1/4	1	3/8	1-14	1 1/4-12	1 5/8	1 5/8	1 3/4			2 3/8	4 7/8	5 1/2										
	1	1	3/4-16	7/8-14	1 1/8	1 3/8	1 1/2	2 7/8	15/16	2 1/4	5	5 3/4	3 3/4	1 11/32	1 7/32	1	1	5 3/4	1/2	-	3/8	
4	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1 3/4			2 1/2	5 1/4	6										
	1	1	3/4-16	7/8-14	1 1/8	1 3/8	1 7/16	3 1/4	15/16	2 1/4	5	5 11/16	4 1/2	1 3/8	1 1/8	1	1	6 1/2	1/2	-	3/8	
5	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1 11/16			2 1/2	5 1/4	5 15/16										
	1	1	3/4-16	7/8-14	1 1/8	1 3/8	1 7/16	3 3/4	15/16	2 1/4	5 1/4	5 15/16	5 1/2	1 3/8	1 1/4	1	1	7 1/2	1/2	-	1/2	
6	2	1 3/8	1-14	1 1/4-12	1 5/8	1 9/16	1 3/4	4 1/2	1	2 5/8	5 7/8	6 3/4	6 1/2	1 5/8	1 3/8	1 3/8	1 3/8	9 1/4	3/4	-	1/2	
	1	1	3/4-16	7/8-14	1 1/8	1 3/8	1 7/16	3 3/4	15/16	2 1/4	5 1/4	5 15/16	5 1/2	1 3/8	1 1/4	1	1	7 1/2	1/2	-	1/2	
8	2	1 3/4	1-14	1 1/4-12	2	1 13/16	2			2 7/8	6 1/8	7										
	1	1	3/4-16	7/8-14	1 1/8	1 3/8	1 7/16	3 3/4	15/16	2 1/4	5 1/4	5 15/16	8 1/2	1 5/8	1 9/16	1 3/8	1 3/8	11 1/4	3/4	-	5/8	
10	2	1 3/4	1-14	1 1/4-12	2 1/4	1 11/16	2			3	6 1/4	7 1/8										
	1	1	3/4-16	7/8-14	1 1/8	1 3/8	1 7/16	3 3/4	15/16	2 1/4	5 1/4	5 15/16	10 5/8	2	1 15/16	1 3/4	1 3/4	14 1/8	1	-	3/4	
12	2	2	1 1/2-12	1 3/4-12	2 1/4	1 13/16	2 1/8			3 1/8	7 3/8	8 1/2										
	1	1	3/4-16	7/8-14	1 1/8	1 3/8	1 7/16	3 3/4	15/16	2 1/4	5 1/4	5 15/16	12 3/4	2	1 15/16	1 3/4	1 3/4	16 1/4	1	-	3/4	

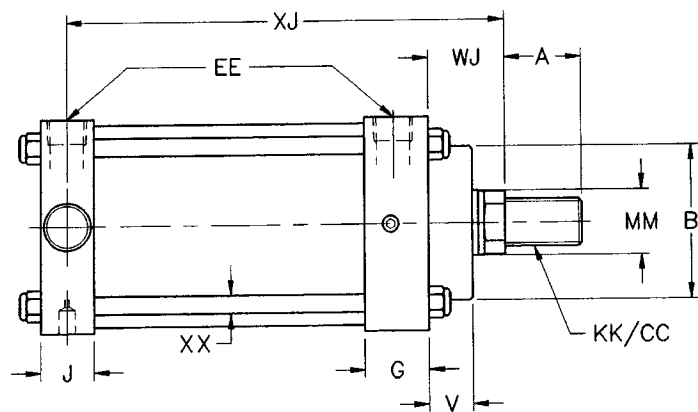


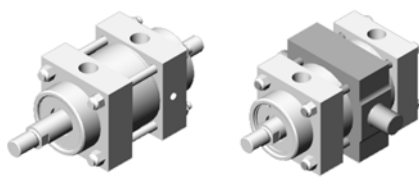
Model LTR
NFFPA Style MT1

Warning: Trunnion mounted cylinders swivel in one direction and are designed to carry shear loads only. Pins must be held rigidly and in accurate alignment. Improper mounting may result in failure of mount.



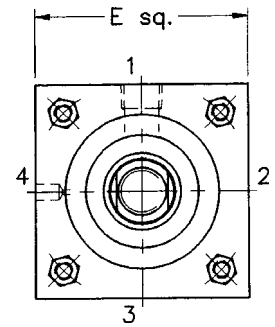
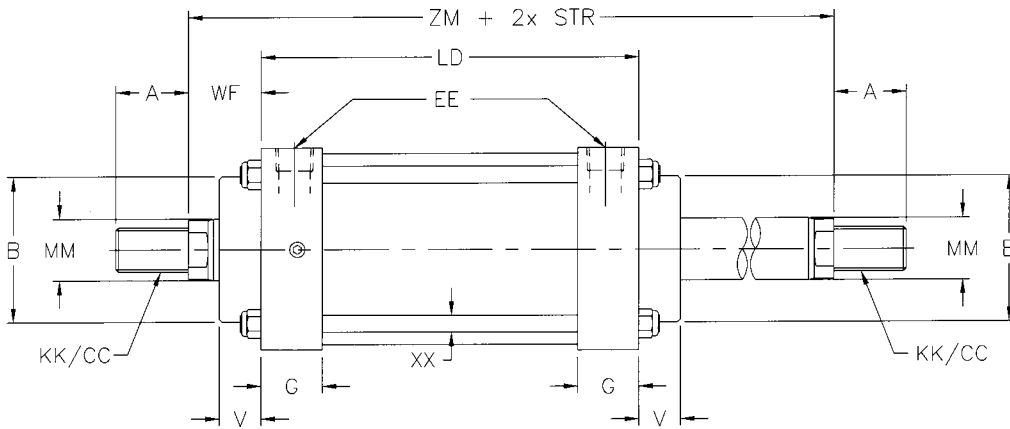
Model LTB
NFFPA Style MT2



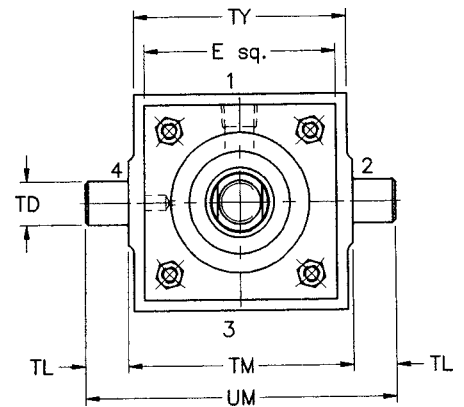
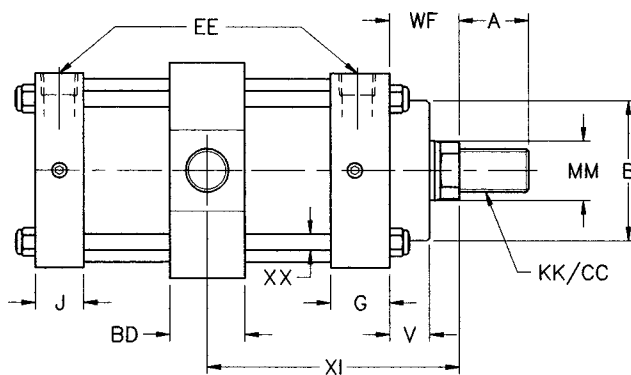


LD, LT Double Rod, Mid Trunnion

ROD DIA.											+ STR		+2xSTR		EE								
BORE	ROD	MM	KK	CC	A	WF	B	V	XI (min)	BD	LD	ZM	E	G	J	NPTF	SAE	TD	TL	TM	TY	UM	XX
1 1/2	1	5/8	7/16-20	1/2-20	3/4	1	1 11/16	3/4	2 7/8	1 1/4	3 7/8	6 1/8	2	1 3/16	15/16	3/8	-	1	1	2 1/2	2 1/4	4 1/2	1/4
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			3 1/4			6 7/8											
2	1	5/8	7/16-20	1/2-20	3/4	1	2 7/32	3/4	3	1 1/2	3 7/8	6 1/8	2 1/2	1 3/16	15/16	3/8	-	1	1	3	2 3/4	5	5/16
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			3 3/8			6 7/8											
	3	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			3 5/8			7 3/8											
2 1/2	1	5/8	7/16-20	1/2-20	3/4	1	2 5/16	13/16	3 1/16	1 1/2	4	6 1/4	3	1 1/4	1	3/8	-	1	1	3 1/2	3 1/4	5 1/2	5/16
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			3 7/16			7											
	3	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			3 11/16			7 1/2											
3 1/4	1	1	3/4-16	7/8-14	1 1/8	1 3/8	2 7/8	15/16	3 21/32	1 3/4	4 3/8	7 1/2	3 3/4	1 11/32	1 7/32	1/2	-	1	1	4 1/2	4 1/4	6 1/2	3/8
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			3 29/32			8											
	3	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			4 5/32			8 1/2											
4	1	1	3/4-16	7/8-14	1 1/8	1 3/8	3 1/4	15/16	3 11/16	1 3/4	4 1/2	7 1/2	4 1/2	1 3/8	1 1/8	1/2	-	1	1	5 1/4	5	7 1/4	3/8
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			3 15/16			8											
	3	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			4 3/16			8 1/2											
5	1	1	3/4-16	7/8-14	1 1/8	1 3/8	3 3/4	15/16	3 13/16	2	4 5/8	7 3/4	5 1/2	1 3/8	1 1/4	1/2	-	1	1	6 1/4	6	8 1/4	1/2
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			4 1/16			8 1/4											
	3	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			4 5/16			8 3/4											
6	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	4 1/2	1	4 7/16	2 1/4	5 1/4	8 3/4	6 1/2	1 5/8	1 3/8	3/4	-	1 3/8	1 3/8	7 5/8	7 3/8	10 3/8	1/2
	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			4 11/16			9 1/4											
	3	2	1 1/2-12	1 3/4-12	2 1/4	2			4 13/16			9 1/2											
8	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	5 3/4	5/8	4 9/16	2 1/2	5 3/8	8 7/8	8 1/2	1 5/8	1 3/8	3/4	-	1 3/8	1 3/8	9 3/4	9 1/2	12 1/2	5/8
	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			4 13/16			9 3/8											
	3	2	1 1/2-12	1 3/4-12	2 1/4	2			4 15/16			9 5/8											
10	1	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	6 3/8	7/8	5 7/16	3	6 5/8	10 3/8	10 5/8	2	1 3/4	1	-	1 3/4	1 3/4	12	11 3/4	15 1/2	3/4
	2	2	1 1/2-12	1 3/4-12	2 1/4	2			5 9/16			10 5/8											
	3	2 1/2	1 7/8-12	2 1/4-12	3	2 1/4			5 13/16			11 1/8											
12	1	2	1 1/2-12	1 3/4-12	2 1/4	2	6 3/4	7/8	5 9/16	3	7 1/4	11 1/8	12 3/4	2	1 5/8	1	-	1 3/4	1 3/4	14	13 3/4	17 1/2	3/4
	2	2 1/2	1 7/8-12	2 1/4-12	3	2 1/4			5 13/16			11 5/8											
	3	3	2 1/4-12	2 3/4-12	3 1/2	2 1/4			5 13/16			11 5/8											



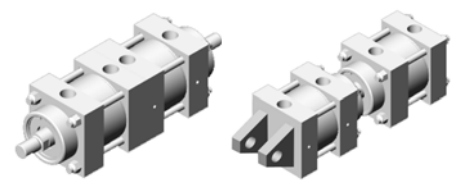
Model LD



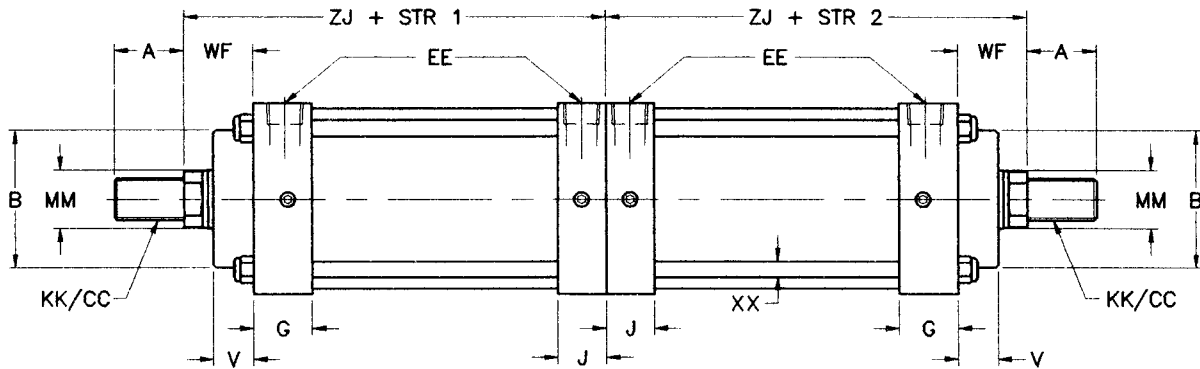
Model LT

Warning: Trunnion mounted cylinders swivel in one direction and are designed to carry shear loads only. Pins must be held rigidly and in accurate alignment. Improper mounting may result in failure of mount.

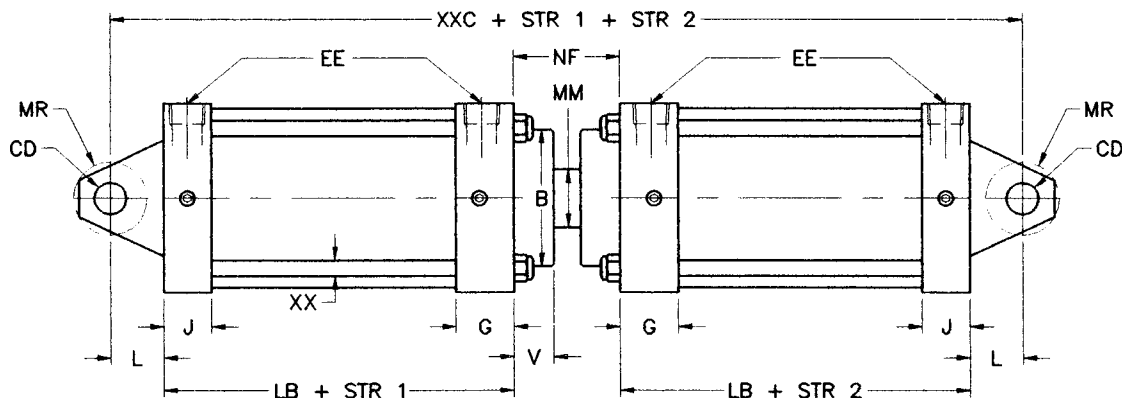
LCH, LCR Common Head, Common Rod



BORE	ROD	ROD DIA.								ADD STROKE		ADD STR 1&2					EE		MR	NF	XX
		MM	KK	CC	A	WF	V	B	ZJ	LB	XXC	CD	G	J	L	NPTF	SAE				
1 1/2	1	5/8	7/16-20	1/2-20	3/4	1	3/4	1 11/16	4	5/8	3 5/8	10 3/8	1/2	1 3/16	15/16	3/4	3/8	-	1/2	1 5/8	1/4
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			5												
2	1	5/8	7/16-20	1/2-20	3/4	1	3/4	2 7/32	4	5/8	3 5/8	10 1/2	1/2	1 3/16	15/16	3/4	3/8	-	1/2	1 3/4	5/16
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			5												
2 1/2	1	5/8	7/16-20	1/2-20	3/4	1	13/16	2 5/16	4	3/4	3 3/4	10 3/4	1/2	1 1/4	1	3/4	3/8	-	1/2	1 3/4	5/16
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			5	1/8											
3 1/4	1	5/8	7/16-20	1/2-20	3/4	1	15/16	2 7/8	5	5/8	4 1/4	13 1/2	3/4	1 11/32	1 7/32	1 1/4	1/2	-	3/4	2 1/2	3/8
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			5	7/8											
4	1	1	3/4-16	7/8-14	1 1/8	1 3/8	15/16	3 1/4	5	5/8	4 1/4	13 1/2	3/4	1 3/8	1 1/8	1 1/4	1/2	-	3/4	2 1/2	3/8
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			5	7/8											
5	1	1	3/4-16	7/8-14	1 1/8	1 3/8	15/16	3 3/4	5	7/8	4 1/2	14 1/4	3/4	1 3/8	1 1/4	1 1/4	1/2	-	3/4	2 3/4	1/2
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			6	1/8											
6	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1	4 1/2	6	5/8	5	16	1	1 5/8	1 3/8	1 1/2	3/4	-	1	3	1/2
	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			6	7/8											
8	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	5/8	5 3/4	6	3/4	5 1/8	16 15/16	1	1 5/8	1 3/8	1 1/2	3/4	-	1	3 11/16	5/8
	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			7												
10	1	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8	7/8	6 3/8	8	1/4	6 3/8	20 11/16	1 3/8	2	1 3/4	2 1/8	1	-	1 3/8	3 11/16	3/4
	2	2	1 1/2-12	1 3/4-12	2 1/4	2			8	3/8											
12	1	2	1 1/2-12	1 3/4-12	2 1/4	2	7/8	6 3/4	8	7/8	6 7/8	21 15/16	1 3/4	2	1 5/8	2 1/4	1	-	1 3/4	3 11/16	3/4
	2	2 1/2	1 7/8-12	2 1/4-12	3	2 1/4			9	1/8											

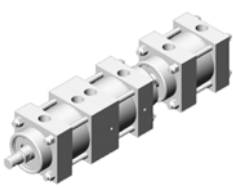


Model LCH



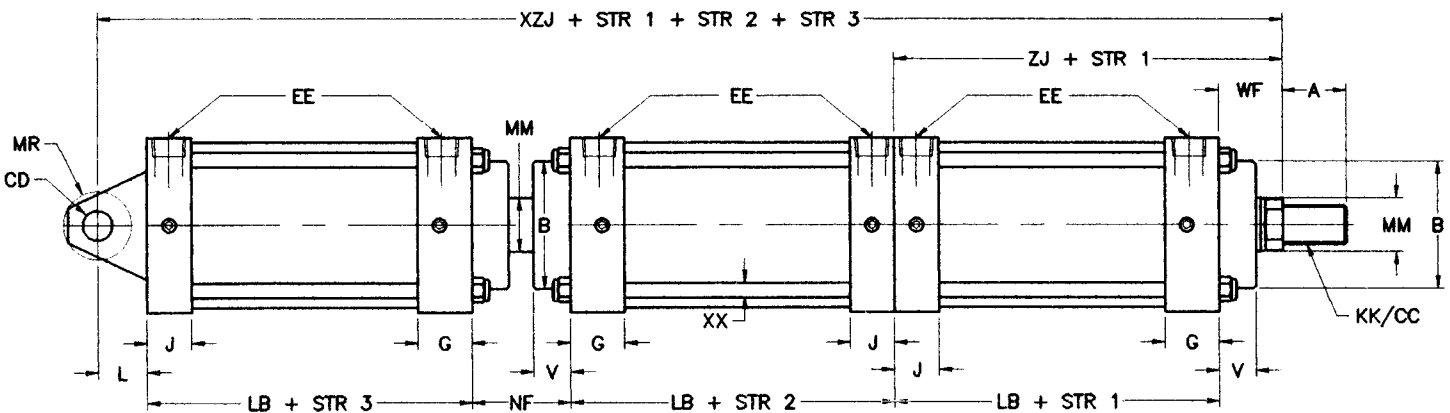
Model LCR

*If ports are required at P2 or P4 and must be all on the same side, or if cushioning adjustments must be on the same side, please indicate at the time of ordering.



LCHR Common Head/Common Rod

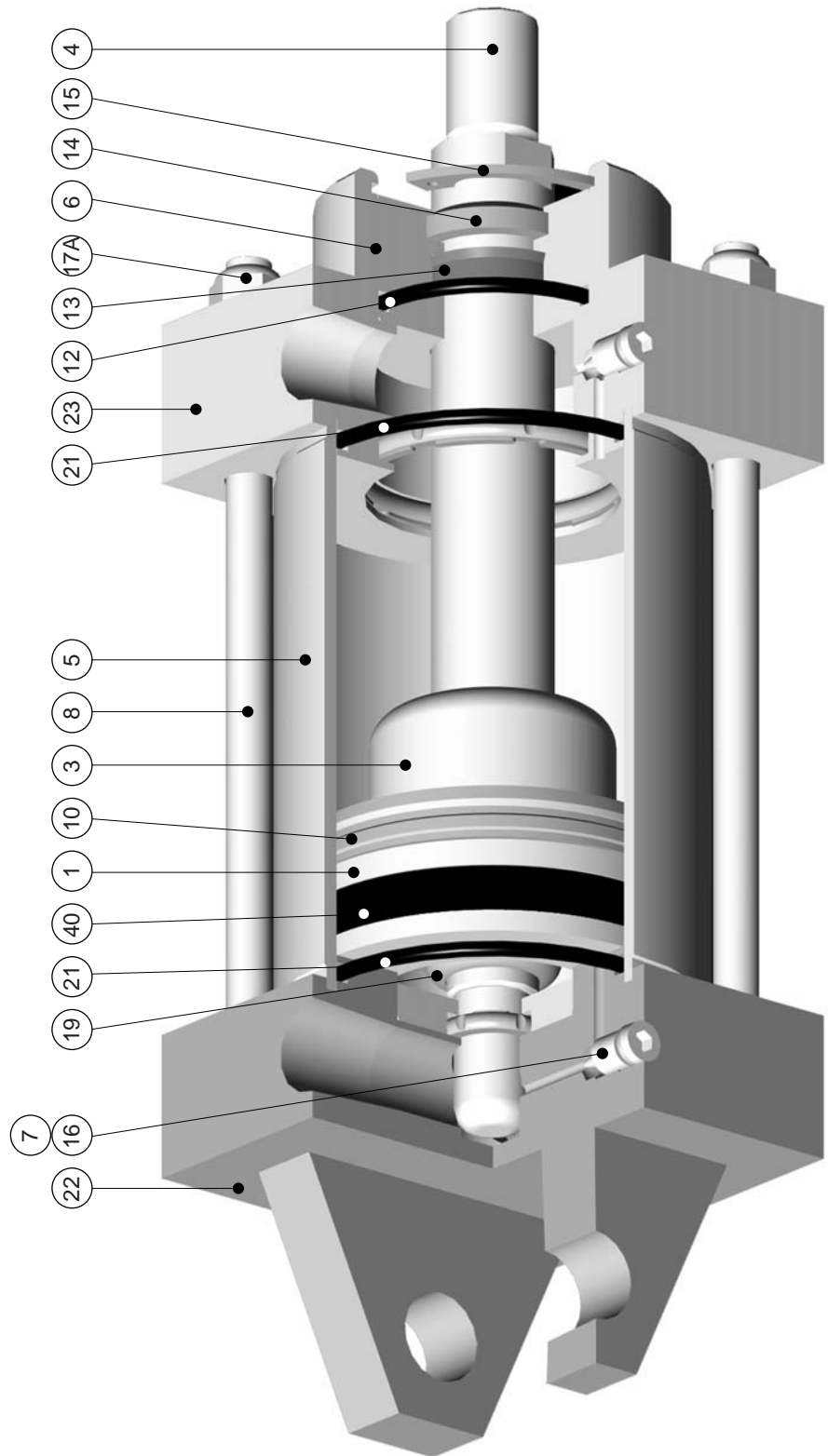
ROD DIA.									ADD STROKE		ADD STR 1,2&3				EE					
BORE	ROD	MM	KK	CC	A	WF	V	B	ZJ	LB	XZJ	CD	G	J	L	NPTF	SAE	MR	NF	XX
1 1/2	1	5/8	7/16-20	1/2-20	3/4	1	3/4	1 11/16	4 5/8	3 5/8	14 1/4	1/2	1 3/16	15/16	3/4	3/8	-	1/2	1 5/8	1/4
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			5		14 5/8									
2	1	5/8	7/16-20	1/2-20	3/4	1	3/4	2 7/32	4 5/8	3 5/8	14 3/8	1/2	1 3/16	15/16	3/4	3/8	-	1/2	1 3/4	5/16
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			5		14 3/4									
	3	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			5 1/4		15									
2 1/2	1	5/8	7/16-20	1/2-20	3/4	1	13/16	2 5/16	4 3/4	3 3/4	14 3/4	1/2	1 1/4	1	3/4	3/8	-	1/2	1 3/4	5/16
	2	1	3/4-16	7/8-14	1 1/8	1 3/8			5 1/8		15 1/8									
3 1/4	1	3/8	1-14	1 1/4-12	1 5/8	1 5/8	15/16	2 7/8	5 3/8		15 3/8									
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			5 5/8	4 1/4	17 7/8	3/4	1 11/32	1 7/32	1 1/4	1/2	-	3/4	2 1/2	3/8
	3	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			5 7/8		18 1/8									
4	1	1	3/4-16	7/8-14	1 1/8	1 3/8	15/16	3 1/4	5 5/8	4 1/4	17 7/8	3/4	1 3/8	1 1/8	1 1/4	1/2	-	3/4	2 1/2	3/8
	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			5 7/8		18 1/8									
	3	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			6 1/8		18 3/8									
	1	1	3/4-16	7/8-14	1 1/8	1 3/8	15/16	3 3/4	5 7/8	4 1/2	18 7/8	3/4	1 3/8	1 1/4	1 1/4	1/2	-	3/4	2 3/4	1/2
5	2	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8			6 1/8		19 1/8									
	3	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			6 3/8		19 3/8									
	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	1	4 1/2	6 5/8	5	21 1/8	1	1 5/8	1 3/8	1 1/2	3/4	-	1	3	1/2
6	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			6 7/8		21 3/8									
	3	2	1 1/2-12	1 3/4-12	2 1/4	2			7		21 1/2									
	1	1 3/8	1-14	1 1/4-12	1 5/8	1 5/8	5/8	5 3/4	6 3/4	5 1/8	22 3/16	1	1 5/8	1 3/8	1 1/2	3/4	-	1	3 11/16	5/8
8	2	1 3/4	1 1/4-12	1 1/2-12	2	1 7/8			7		22 7/16									
	3	2	1 1/2-12	1 3/4-12	2 1/4	2			7 1/8		22 9/16									
	1	1 3/4	1 1/4-12	1 1/2-12	2 1/4	1 7/8	7/8	6 3/8	8 1/4	6 3/8	26 13/16	1 3/8	2	1 3/4	2 1/8	1	-	1 3/8	3 11/16	3/4
10	2	2	1 1/2-12	1 3/4-12	2 1/4	2			8 3/8		26 15/16									
	3	2 1/2	1 7/8-12	2 1/4-12	3	2 1/4			8 5/8		27 3/16									
	1	2	1 1/2-12	1 3/4-12	2 1/4	2	7/8	6 3/4	8 7/8	6 7/8	28 9/16	1 3/4	2	1 5/8	2 1/4	1	-	1 3/4	3 11/16	3/4
12	2	2 1/2	1 7/8-12	2 1/4-12	3	2 1/4			9 1/8		28 13/16									
	3	3	2 1/4-12	2 3/4-12	3 1/2	2 1/4			9 1/8		28 13/16									



Model LCHR

*If ports are required at P2 or P4 and must be all on the same side, or if cushioning adjustments must be on the same side, please indicate at the time of ordering.

LH-Series Parts Drawing



Cylinder Developed Force

		DEVELOPED FORCE (lbs)											
		@ DIFFERENTIAL PRESSURE (psi)											
BORE	ROD DIA.	60		80		100		150		200		250	
		PUSH	PULL	PUSH	PULL	PUSH	PULL	PUSH	PULL	PUSH	PULL	PUSH	PULL
1 ½	5/8	106	88	141	117	177	146	265	219	353	292	442	365
	1	106	59	141	79	177	98	265	147	353	196	442	245
	5/8	188	170	251	227	314	283	471	425	628	567	785	709
2	1	188	141	251	188	314	236	471	353	628	471	785	589
	1 3/8	188	99	251	133	314	166	471	249	628	331	785	414
	5/8	295	276	393	368	491	460	736	690	982	920	1227	1150
2 ½	1	295	247	393	330	491	412	736	619	982	825	1227	1031
	1 3/8	295	205	393	274	491	342	736	514	982	685	1227	856
	1	498	479	664	639	830	799	1244	1198	1659	1598	2074	1997
3 ¼	1 3/8	498	451	664	601	830	751	1244	1127	1659	1502	2074	1878
	1 3/4	498	409	664	545	830	681	1244	1022	1659	1362	2074	1703
	1	754	707	1005	942	1257	1178	1885	1767	2513	2356	3142	2945
4	1 3/8	754	665	1005	887	1257	1108	1885	1662	2513	2216	3142	2770
	1 3/4	754	610	1005	813	1257	1016	1885	1524	2513	2032	3142	2540
	1	1178	1131	1571	1508	1963	1885	2945	2827	3927	3770	4909	4712
5	1 3/8	1178	1089	1571	1452	1963	1815	2945	2723	3927	3630	4909	4538
	1 3/4	1178	1034	1571	1378	1963	1723	2945	2584	3927	3446	4909	4307
	1 3/8	1696	1607	2262	2143	2827	2679	4241	4018	5655	5358	7069	6697
6	1 3/4	1696	1552	2262	2070	2827	2587	4241	3880	5655	5174	7069	6467
	2	1696	1508	2262	2011	2827	2513	4241	3770	5655	5027	7069	6283
	1 3/8	3016	2927	4021	3902	5027	4878	7540	7317	10053	9756	12566	12195
8	1 3/4	3016	2872	4021	3829	5027	4786	7540	7179	10053	9572	12566	11965
	2	3016	2827	4021	3770	5027	4712	7540	7069	10053	9425	12566	11781
	1 3/4	4712	4568	6283	6091	7854	7613	11781	11420	15708	15227	19635	19034
10	2	4712	4524	6283	6032	7854	7540	11781	11310	15708	15080	19635	18850
	2 1/2	4712	4418	6283	5890	7854	7363	11781	11045	15708	14726	19635	18408
	2	6786	6597	9048	8796	11310	10996	16965	16493	22619	21991	28274	27489
12	2 1/2	6786	6491	9048	8655	11310	10819	16965	16228	22619	21638	28274	27047
	3	6786	6362	9048	8482	11310	10603	16965	15904	22619	21206	28274	26507

Cylinder Pressure and Temperature Ratings

LH-Series cylinders are rated to 1500 psi 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 high temperature seal such as Viton. Buna-N temperature ratings: -30°F to 200°F (-34°C to 93°C).

Bearing Load

Side loads on piston rods should be kept to a minimum to obtain maximum life from the cylinder gland bushing. To accomplish this, cylinders should not be used as an equipment support when mounted horizontally.



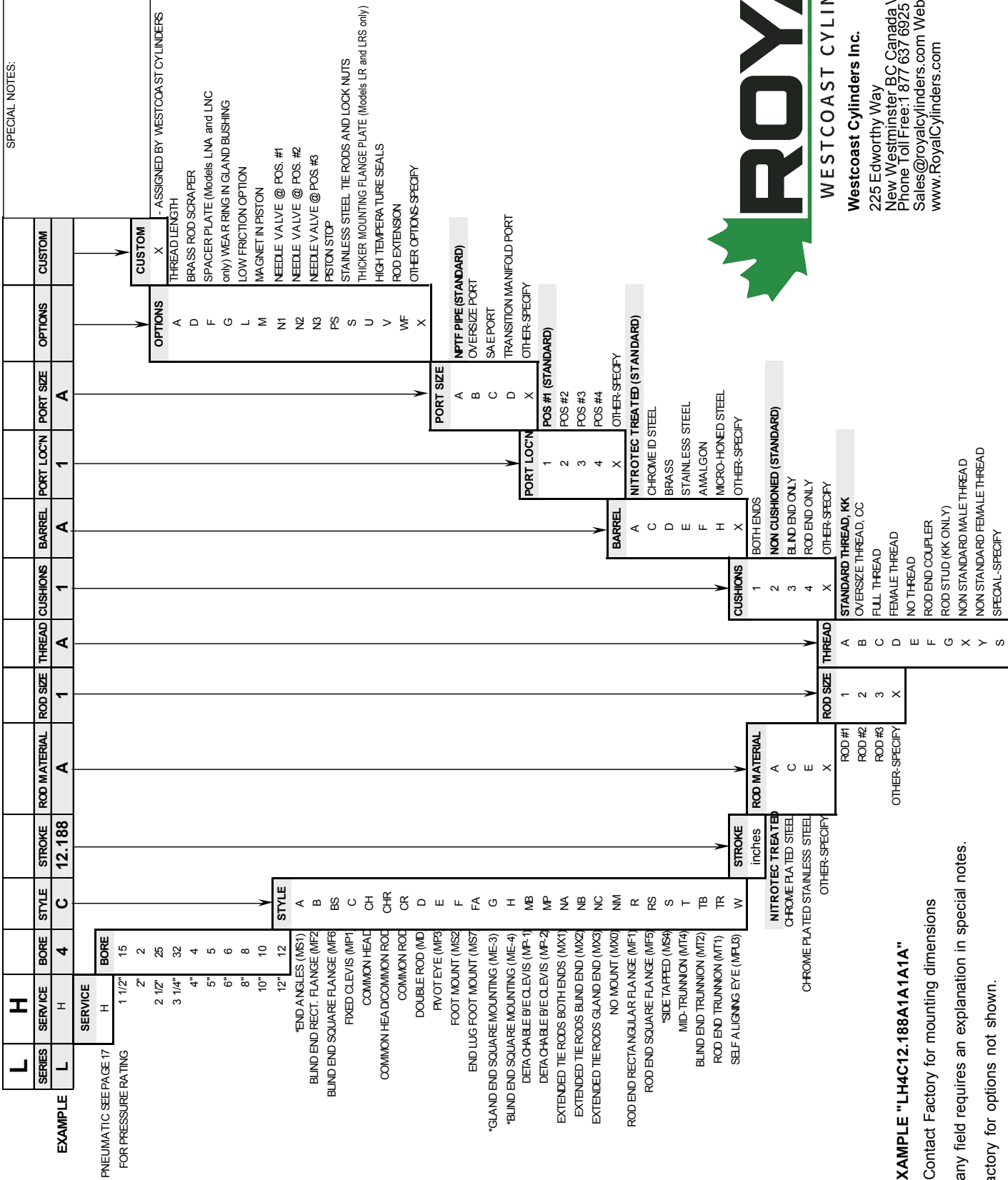
Warning These products are intended for industrial use only. Do not use these products in applications where the pressure and temperature exceeds the values listed in the features description section.

Through misuse, age or malfunction, components used in fluid power systems can fail. A designer signer 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.

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.

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



WESTCOAST CYLINDERS INC.

Westcoast Cylinders Inc.
 225 Edworthy Way
 New Westminster BC Canada V3L 5G4
 Phone Toll Free: 1 877 637 6925 Email:
 Sales@royalcylinders.com Website:
 www.RoyalCylinders.com

EXAMPLE "LH4C12.188A1A1A1A"

*Contact Factory for mounting dimensions
 *Contact factory for an explanation in special notes.
 *Contact factory for options not shown.