



STAINLESS STEEL

HIGH PRESSURE HYDRAULIC CYLINDERS



- Series LSS High Pressure Hydraulic
- 1 $\frac{1}{2}$ " thru 8" Bore
- Rated to 3000 PSI Hydraulic
- For Bore Sizes Not Shown, Consult Factory

LEHIGH[®]

FLUID POWER, INC.

Issue Date - 1998



Lehigh Series LSS® 3000 PSI High Pressure Hydraulic Stainless Steel Cylinders...built to survive where other cylinders fail.

If you can't find anyone with a 3000psi rated stainless steel high pressure hydraulic cylinder in their catalogs... your search is over.

The LSS® Series High Pressure Hydraulic Stainless Steel Cylinders are designed to achieve long life and consistent performance in the worst conditions. Submerged Operation? Chemicals? Clean Room Operation? Food or Beverage Equipment? FDA or USDA Equipment? NO PROBLEM... Lehigh is the answer. That's because we have the answers to your questions...

- My aluminum cylinders fail constantly from corrosion, can you help?
- We want to operate a cylinder on strained creek water, is that OK?
- We want to operate our cylinders on partially treated sewage water.
- Can I run my cylinder on tap water?
- My plated cylinders don't last, why is that?
- My chrome bore steel tubing keeps rusting because I am running on water-glycol fluid, what do you recommend?
- Our cylinders get ruined by constant wash-downs, what are my options?

Tough applications like these are a way of life in some industries and that's why Lehigh's *standard products* like the LSS® Series Cylinders were designed. They provide long-term solutions to many everyday problems and are an excellent platform to build specialty products. The best feature of a Lehigh stainless cylinder is long-term savings in both reduced downtime and maintenance. Let Lehigh's sales and engineering departments help you select the best product for your application.

Call us today and solve your problem...

This information should be used as a guide for your consideration, investigation, and verification. This information does not constitute a warranty or representation and we assume no legal responsibility or obligation with respect thereto, and the use of which such information may be put.

As product improvement is a continuous process, specifications are subject to change without notice.

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1 1/2" TO 8" BORE

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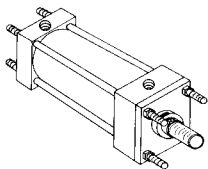
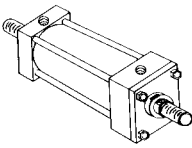
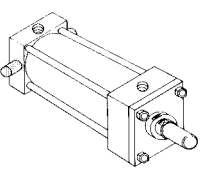
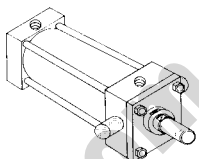
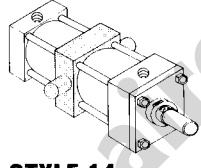
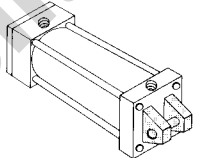
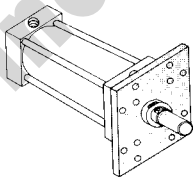
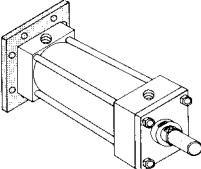
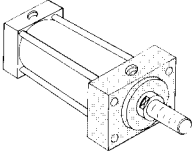
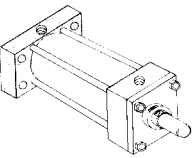
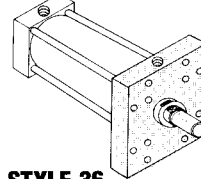
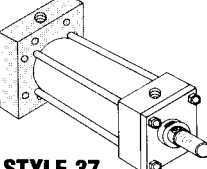
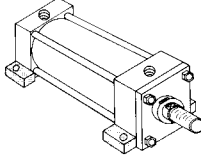
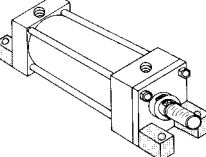
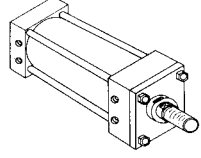

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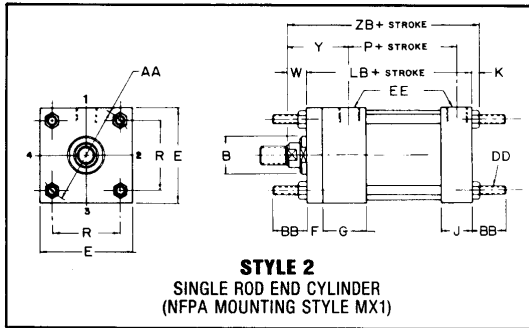
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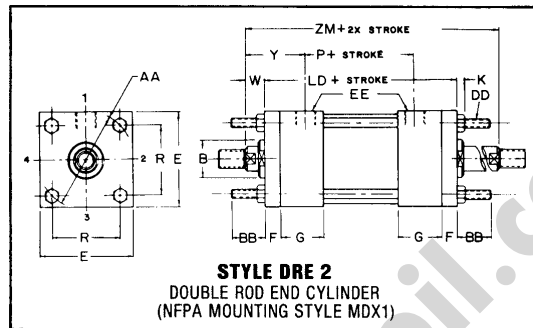
<p>TIE ROD MOUNTS</p>	 <p>STYLES 1, 2, 3, & 4 (MX1) (MX2) (MX3)</p>	 <p>STYLES DRE 1, 2, & 3 (MDX1) (MDX3)</p>
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 <p>STYLE 16 (MF5)</p>	 <p>STYLE 17 (MF6)</p>	 <p>STYLE 26 (ME5)</p>
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	 <p>STYLE 9 (MS4)</p>	 <p>LEHIGH FLUID POWER, INC.</p>



TIE ROD MOUNTED STAINLESS STEEL 1 1/2" TO 8" BORE, 3000 PSI RATED (MAXIMUM) HIGH PRESSURE HDYRAULIC CYLINDERS



*Standard Port location is Position 1.
Standard Cushion location is Position 2.*



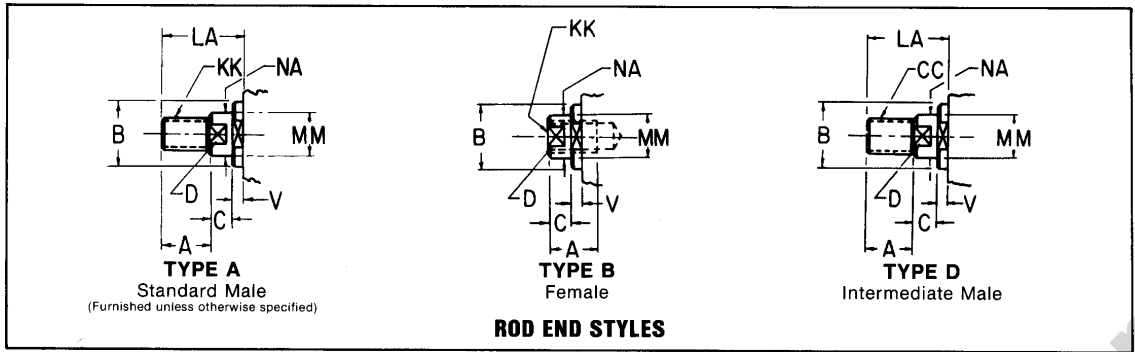
*Standard Port location is Position 1.
Standard Cushion location is Position 2.*

MOUNTING DESCRIPTION

MOUNTING STYLE	NFPA MOUNTING STYLE	DESCRIPTION
1	-	No tie rod extensions
2	MX1	Tie rods extended both ends (above left)
3	MX2	Tie rods extended cap end
4	MX3	Tie rods extended rod end
DRE 1	-	No tie rod extensions
DRE 2	MDX1	Tie rods extended both ends (above right)
DRE 3	MDX3	Tier rods extended one end

ENVELOPE AND MOUNTING DIMENSIONS NOT AFFECTED BY ROD DIAMETER

BORE	AA	BB	DD	E	EE		F	G	J	K	R	LB	LD	P
					NPTF	SAE								
1 1/2	2.3	1 3/8	3/8-24	2 1/2	1/2-14	10	3/8	1 3/4	1 1/2	3/8	1.63	5	5 5/8	2 7/8
2	2.9	1 13/16	1/2-20	3	1/2-14	10	5/8	1 3/4	1 1/2	7/16	2.05	5 1/4	6 1/8	2 7/8
2 1/2	3.6	1 13/16	1/2-20	3 1/2	1/2-14	10	5/8	1 3/4	1 1/2	7/16	2.55	5 3/8	6 1/4	3
3 1/4	4.6	2 5/16	5/8-18	4 1/2	3/4-14	12	3/4	2	1 3/4	9/16	3.25	6 1/4	7 1/4	3 1/2
4	5.4	2 5/16	5/8-18	5	3/4-14	12	7/8	2	1 3/4	9/16	3.82	6 5/8	7 3/4	3 3/4
5	7.0	3 3/16	7/8-14	6 1/2	3/4-14	12	7/8	2	1 3/4	3/4	4.95	7 1/8	8 1/4	4 1/4
6	8.1	3 5/8	1-14	7 1/2	1-11 1/2	16	1	2 1/4	2 1/4	7/8	5.73	8 3/8	9 3/8	4 7/8
7	9.3	4 1/8	1 1/8-12	8 1/2	1 1/4-11 1/2	20	1	2 3/4	2 3/4	1	6.58	9 1/2	10 1/2	5 3/8
8	10.6	4 1/2	1 1/4-12	9 1/2	1 1/2-11 1/2	24	1	3	3	1 1/16	7.50	10 1/2	11 1/2	6 1/8

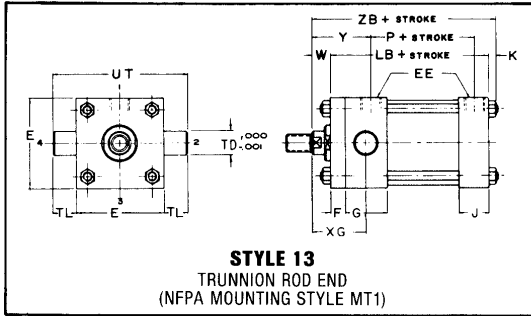


DIMENSIONS AFFECTED BY ROD DIAMETER

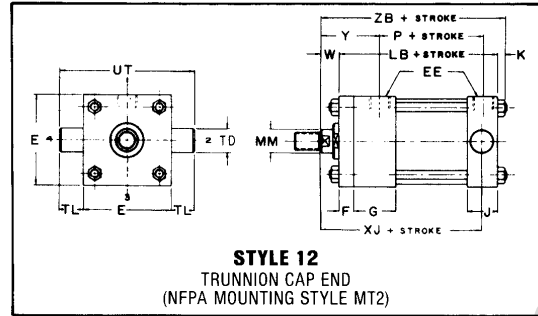
BORE	ROD DIA.	THREAD SIZE		ROD EXTENSIONS & PILOT DIMENSIONS										
	MM	KK STD.	CC	A	B +.000 -.002	C	D	LA	NA	V	W	Y	ZB ADD STROKE	ZM ADD 2X STROKE
1 1/2	5/8	7/16-20	1/2-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8	2	6	6 7/8
	1	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1	2 3/8	6 3/8	7 5/8
2	1	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4	2 3/8	6 7/16	7 5/8
	1 3/8*	1-14	1 1/4-12	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1	2 5/8	6 11/16	8 1/8
2 1/2	1	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4	2 3/8	6 9/16	7 3/4
	1 3/8	1-14	1 1/4-12	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1	2 5/8	6 13/16	8 1/4
	1 3/4	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4	2 7/8	7 1/16	8 3/4
3 1/4	1 3/8	1-14	1 1/4-12	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8	2 3/4	7 11/16	9
	1 3/4	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	3	7 15/16	9 1/2
	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	3 1/8	8 1/16	9 3/4
4	1 3/4	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3	1 11/16	1/4	1	3	8 3/16	9 3/4
	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 3/8	1 15/16	1/4	1 1/8	3 1/8	8 5/16	10
	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 3/8	2 7/16	3/8	1 3/8	3 3/8	8 9/16	10 1/2
5	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 3/8	1 15/16	1/4	1 1/8	3 1/8	9	10 1/2
	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 3/8	2 7/16	3/8	1 3/8	3 3/8	9 1/4	11
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 7/8	2 15/16	3/8	1 3/8	3 3/8	9 1/4	11
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 7/8	3 7/16	3/8	1 3/8	3 3/8	9 1/4	11
6	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 1/4	2 7/16	1/4	1 1/4	3 1/2	10 1/2	11 7/8
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 3/4	2 15/16	1/4	1 1/4	3 1/2	10 1/2	11 7/8
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 7/16	1/4	1 1/4	3 1/2	10 1/2	11 7/8
	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 15/16	1/4	1 1/4	3 1/2	10 1/2	11 7/8
7	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 3/4	2 7/8	1/4	1 1/4	3 13/16	11 3/4	13
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 3/8	1/4	1 1/4	3 13/16	11 3/4	13
	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 7/8	1/4	1 1/4	3 13/16	11 3/4	13
	5	3 1/2-12	4 3/4-12	5	5.749	1	4 1/4	6 1/4	4 7/8	1/4	1 1/4	3 13/16	11 3/4	13
8	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 3/8	1/4	1 1/4	3 15/16	12 13/16	14
	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 7/8	1/4	1 1/4	3 15/16	12 13/16	14
	5	3 1/2-12	4 3/4-12	5	5.749	1	4 1/4	6 1/4	4 7/8	1/4	1 1/4	3 15/16	12 13/16	14
	5 1/2	4-12	5 1/4-12	5 1/2	6.249	1	4 5/8	6 3/4	5 3/8	1/4	1 1/4	3 15/16	12 13/16	14



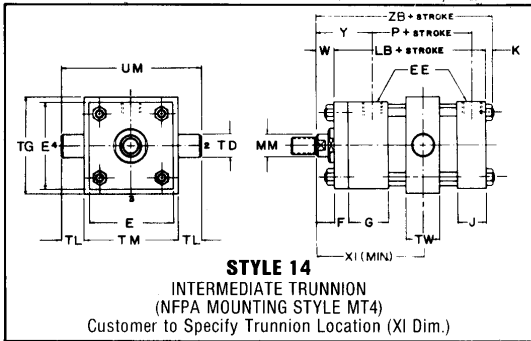
**TRUNNION AND CLEVIS MOUNTED STAINLESS STEEL
1 1/2" TO 8" BORE, 3000 PSI RATED (MAXIMUM)
HIGH PRESSURE HYDRAULIC CYLINDERS**



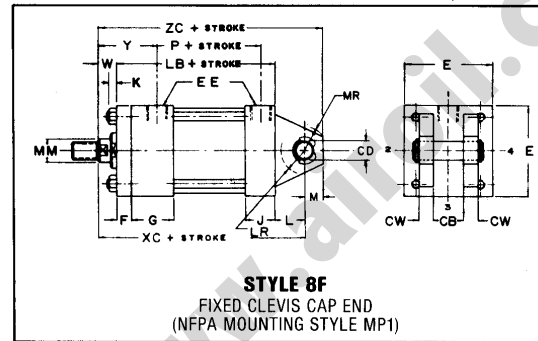
Standard Port location is Position 1.
Standard Cushion location is Position 3 Rod End, and Position 2 Cap End.



Standard Port location is Position 1.
Standard Cushion location is Position 2 Rod End, and Position 3 Cap End.



Standard Port location is Position 1. Standard Cushion location is Position 2.



ENVELOPE AND MOUNTING DIMENSIONS NOT AFFECTED BY ROD DIAMETER

BORE	CB	CD*	CW	E	EE		F	G	J	K	L
					NPTF	SAE					
1 1/2	3/4	.500	1/2	2 1/2	1/2-14	10	3/8	1 3/4	1 1/2	3/8	3/4
2	1 1/4	.750	5/8	3	1/2-14	10	5/8	1 3/4	1 1/2	7/16	1 1/4
2 1/2	1 1/4	.750	5/8	3 1/2	1/2-14	10	5/8	1 3/4	1 1/2	7/16	1 1/4
3 1/4	1 1/2	1.000	3/4	4 1/2	3/4-14	12	3/4	2	1 3/4	9/16	1 1/2
4	2	1.375	1	5	3/4-14	12	7/8	2	1 3/4	9/16	2 1/8
5	2 1/2	1.750	1 1/4	6 1/2	3/4-14	12	7/8	2	1 3/4	3/4	2 1/4
6	2 1/2	2.000	1 1/4	7 1/2	1-11 1/2	16	1	2 1/4	2 1/4	7/8	2 1/2
7	3	2.500	1 1/2	8 1/2	1 1/4-11 1/2	20	1	2 3/4	2 3/4	1	3
8	3	3.000	1 1/2	9 1/2	1 1/2-11 1/2	24	1	3	3	1 1/16	3 1/4

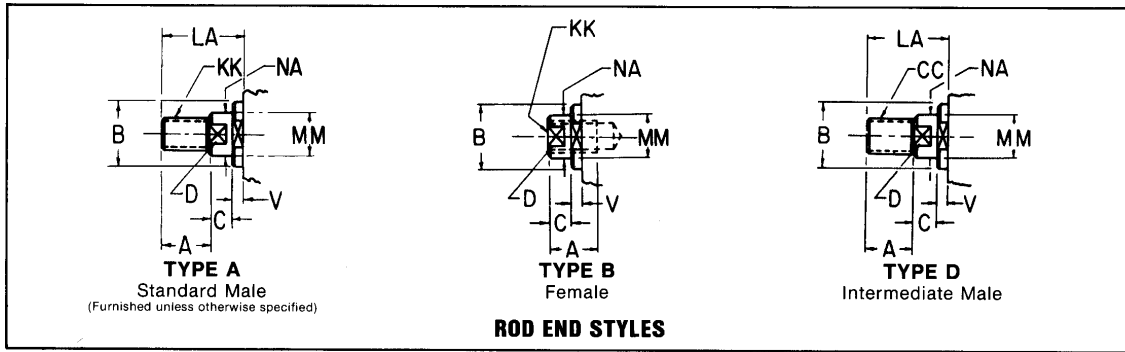
The trunnion pintles are not removable. For information on removable pintles, please consult the engineering department.

The position of the intermediate trunnion mount is not adjustable.

NOTE: Cylinders with #13 mounts in bores 5" thru 8" with piston rods other than standard should not be used for pressures in excess of 1500 psi. Pintles on trunnion mounted cylinders are designed to withstand shear loads, but not high bending loads. Pillow blocks must be rigidly mounted to provide full support with minimum clearances.

BORE	LR	M	MR	TD	TG	TL	TM	TW	UM	UT	LB	P
											ADD STROKE	
1 1/2	5/8	1/2	11/16	1.000	2 3/4	1	3	1 1/4	5	4 1/2	5	2 7/8
2	1	3/4	15/16	1.375	3 1/4	1 3/8	3 1/2	1 1/2	6 1/4	5 3/4	5 1/4	2 7/8
2 1/2	15/16	3/4	15/16	1.375	3 3/4	1 3/8	4	1 1/2	6 3/4	6 1/4	5 3/8	3
3 1/4	1 1/4	1	1 1/4	1.750	4 3/4	1 3/4	5	2	8 1/2	8	6 1/4	3 1/2
4	1 3/4	1 3/8	1 5/8	1.750	5 1/4	1 3/4	5 1/2	2	9	8 1/2	6 5/8	3 3/4
5	2 1/16	1 3/4	2 1/8	1.750	6 3/4	1 3/4	7	2	10 1/2	10	7 1/8	4 1/4
6	2 5/16	2	2 3/8	2.000	7 3/4	2	8 1/2	3	12 1/2	11 1/2	8 3/8	4 7/8
7	2 3/4	2 1/2	2 7/8	2.500	9 1/4	2 1/2	9 3/4	3	14 3/4	13 1/2	9 1/2	5 3/8
8	3 1/4	2 3/4	3 1/8	3.000	10 1/2	3	11	3 1/2	17	15 1/2	10 1/2	6 1/8

*CD is pin diameter.



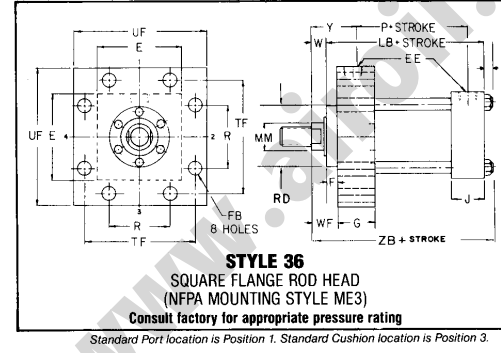
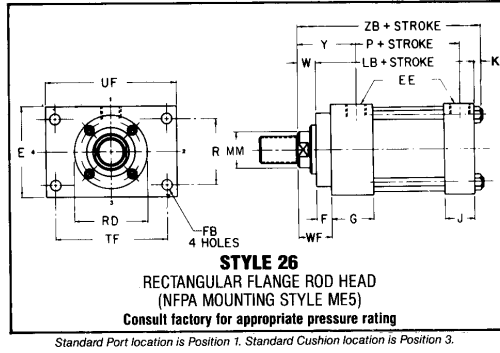
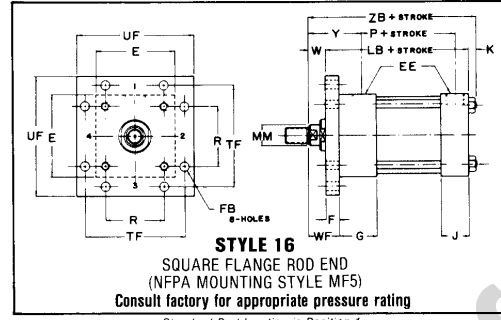
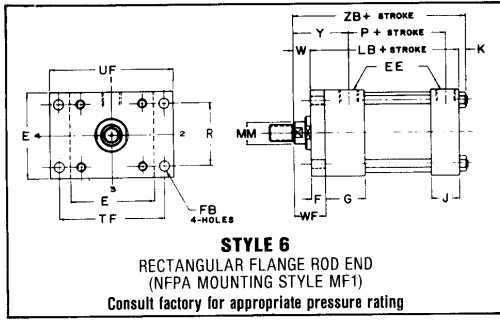
DIMENSIONS AFFECTED BY ROD DIAMETER

BORE	ROD DIA. MM	THREAD SIZE		ROD EXTENSIONS & PILOT DIMENSIONS							ENVELOPE DIMENSIONS							
		KK STD.	CC	A	B +.000/ -.002	C	D	LA	NA	V	W	Y	XG	XI MIN.	XC	XJ	ZB	ZC
ADD STROKE																		
1 1/2	5/8	7/16-20	1/2-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8	2	1 7/8	3 3/8	6 3/8	4 7/8	6	6 7/8
	1*	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1	2 3/8	2 1/4	3 3/4	6 3/4	5 1/4	6 3/8	7 1/4
2	1	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4	2 3/8	2 1/4	3 7/8	7 1/4	5 1/4	6 7/16	8
	1 3/8*	1-14	1 1/4-12	1 5/8	1.499	5/8	1 1/8	2 5/8	1 5/16	3/8	1	2 5/8	2 1/2	4 1/8	7 1/2	5 1/2	6 11/16	8 1/4
2 1/2	1	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4	2 3/8	2 1/4	3 7/8	7 3/8	5 3/8	6 9/16	8 1/8
	1 3/8	1-14	1 1/4-12	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1	2 5/8	2 1/2	4 1/8	7 5/8	5 5/8	6 13/16	8 3/8
	1 3/4*	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4	2 7/8	2 3/4	4 3/8	7 7/8	5 7/8	7 1/16	8 5/8
3 1/4	1 3/8	1-14	1 1/4-12	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8	2 3/4	2 5/8	4 5/8	8 5/8	6 1/4	7 11/16	9 5/8
	1 3/4	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	3	2 7/8	4 7/8	8 7/8	6 1/2	7 15/16	9 7/8
	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	3 1/8	3	5	9	6 5/8	8 1/16	10
4	1 3/4	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3	1 11/16	1/4	1	3	2 7/8	4 7/8	9 3/4	6 3/4	8 3/16	11 1/8
	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 3/8	1 15/16	1/4	1 1/8	3 1/8	3	5	9 7/8	6 7/8	8 5/16	11 1/4
	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 3/8	2 7/16	3/8	1 3/8	3 3/8	3 1/4	5 1/4	10 1/8	7 1/8	8 9/16	11 1/2
5	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 3/8	1 15/16	1/4	1 1/8	3 1/8	3	5	10 1/2	7 3/8	9	12 1/4
	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 3/8	2 7/16	3/8	1 3/8	3 3/8	3 1/4	5 1/4	10 3/4	7 5/8	9 1/4	12 1/2
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 7/8	2 15/16	3/8	1 3/8	3 3/8	3 1/4	5 1/4	10 3/4	7 5/8	9 1/4	12 1/2
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 7/8	3 7/16	3/8	1 3/8	3 3/8	3 1/4	5 1/4	10 3/4	7 5/8	9 1/4	12 1/2
6	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 1/4	2 7/16	1/4	1 1/4	3 1/2	3 3/8	6	12 1/8	8 3/8	10 1/2	14 1/8
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 3/4	2 15/16	1/4	1 1/4	3 1/2	3 3/8	6	12 1/8	8 3/8	10 1/2	14 1/8
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 7/16	1/4	1 1/4	3 1/2	3 3/8	6	12 1/8	8 3/8	10 1/2	14 1/8
7	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 15/16	1/4	1 1/4	3 1/2	3 3/8	6	12 1/8	8 3/8	10 1/2	14 1/8
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 3/4	2 7/8	1/4	1 1/4	3 13/16	3 5/8	6 1/2	13 3/4	9 3/8	11 3/4	16 1/4
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 3/8	1/4	1 1/4	3 13/16	3 5/8	6 1/2	13 3/4	9 3/8	11 3/4	16 1/4
	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 7/8	1/4	1 1/4	3 13/16	3 5/8	6 1/2	13 3/4	9 3/8	11 3/4	16 1/4
8	5	3 1/2-12	4 3/4-12	5	5.749	1	4 1/4	6 1/4	4 7/8	1/4	1 1/4	3 13/16	3 5/8	6 1/2	13 3/4	9 3/8	11 3/4	16 1/4
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 3/8	1/4	1 1/4	3 15/16	3 3/4	7	15	10 1/4	12 13/16	17 3/4
	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 7/8	1/4	1 1/4	3 15/16	3 3/4	7	15	10 1/4	12 13/16	17 3/4
	5 1/2	4-12	5 1/4-12	5 1/2	6.249	1	4 5/8	6 3/4	5 3/8	1/4	1 1/4	3 15/16	3 3/4	7	15	10 1/4	12 13/16	17 3/4

*Rod end cushions available only as non-adjustable type- Consult Lehigh



**ROD END FLANGE MOUNTED STAINLESS STEEL
1 1/2" TO 8" BORE, 3000 PSI RATED (MAXIMUM)
HIGH PRESSURE HYDRAULIC CYLINDERS**

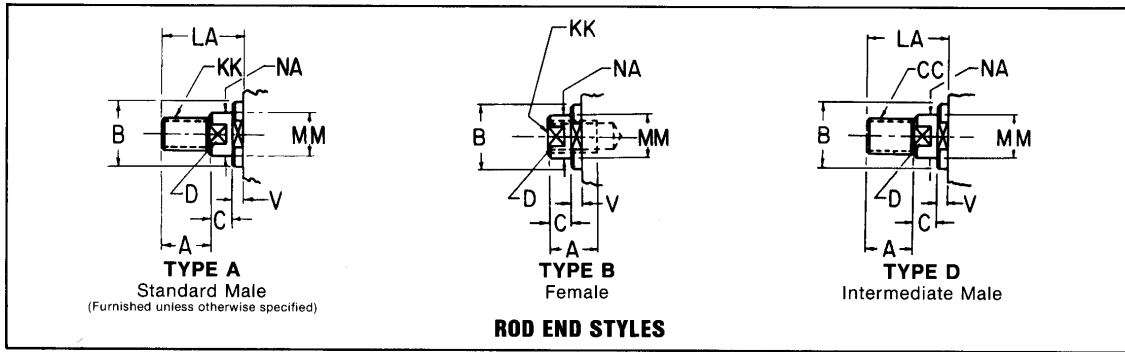


ENVELOPE AND MOUNTING DIMENSIONS NOT AFFECTED BY ROD DIAMETER

BORE	E	EE		F	FB	G	J	K	R	TF	UF	LB	P
		NPTF	SAE										
1 1/2	2 1/2	1/2-14	10	3/8	7/16	1 3/4	1 1/2	3/8	1.63	3 7/16	4 1/4	5	2 7/8
2	3	1/2-14	10	5/8	9/16	1 3/4	1 1/2	7/16	2.05	4 1/8	5 1/8	5 1/4	2 7/8
2 1/2	3 1/2	1/2-14	10	5/8	9/16	1 3/4	1 1/2	7/16	2.55	4 5/8	5 5/8	5 3/8	3
3 1/4	4 1/2	3/4-14	12	3/4	11/16	2	1 3/4	9/16	3.25	5 7/8	7 1/8	6 1/4	3 1/2
4	5	3/4-14	12	7/8	11/16	2	1 3/4	9/16	3.82	6 3/8	7 5/8	6 5/8	3 3/4
5	6 1/2	3/4-14	12	7/8	15/16	2	1 3/4	3/4	4.95	8 3/16	9 3/4	7 1/8	4 1/4
6	7 1/2	1-11 1/2	16	1	1 1/16	2 1/4	2 1/4	7/8	5.73	9 7/16	11 1/4	8 3/8	4 7/8
7	8 1/2	1 1/4-11 1/2	20	1	1 3/16	2 3/4	2 3/4	1	6.58	10 5/8	12 5/8	9 1/2	5 3/8
8	9 1/2	1 1/2-11 1/2	24	1	1 5/16	3	3	1 1/16	7.50	11 13/16	14	10 1/2	6 1/8

Styles 6 and 7 particularly those above the 4" bore size, are not recommended for maximum operating pressures. For operating pressures above 1500 psi on the 5" and 6" bore cylinders, and 1000 psi on the 7" and 8" bore cylinders, we recommend the use of styles 16 and 17. Maximum operating pressure for 16 and 17 style flanges, in bores 5" thru 8", should not exceed 3000 psi. We recommend the use of high tensile mounting bolts on all flange mounted cylinders subjected to maximum pressures and shock loads.

BORE	ROD DIA.	MOUNT STYLE	PORT POSITION	MAX. OPER. PRESSURE-PSI
5	3 1/2	26	1 or 3	2500
6	3 1/2	26	1 or 3	2500
	4	26	1 or 3	1500
7	4	26	1 or 3	2500
	5	26	1 or 3	1500
8	5	26	1 or 3	2500
	5 1/2	26	1 or 3	1500



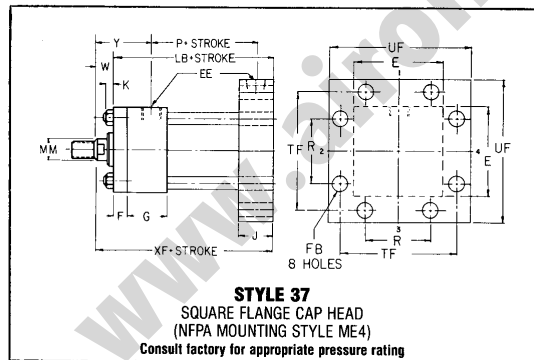
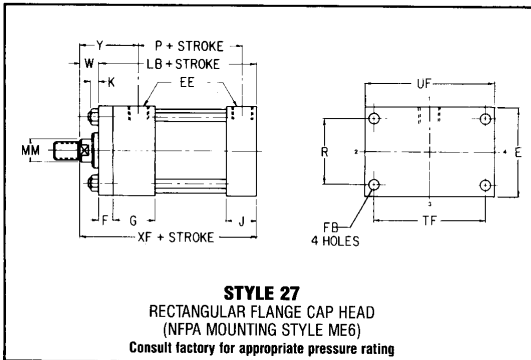
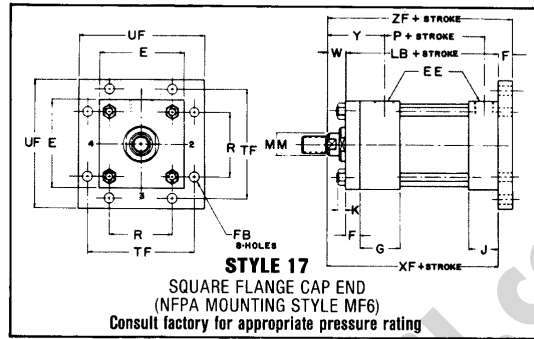
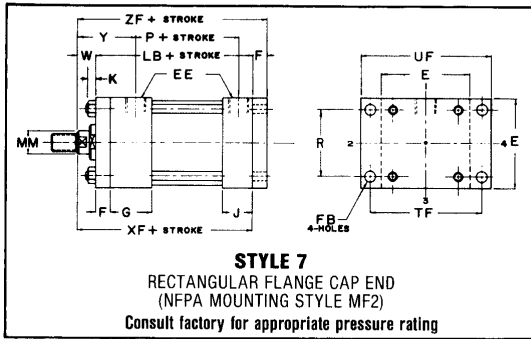
DIMENSIONS AFFECTED BY ROD DIAMETER

BORE	ROD DIA. MM	THREAD SIZE		ROD EXTENSIONS & PILOT DIMENSIONS							ENVELOPE DIMENSIONS				
		KK STD.	CC	A	B +.000/-002	C	D	LA	NA	V	RD	W	WF	Y	ZB ADD STROKE
1 1/2	5/8	7/16-20	1/2-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	2.38	5/8	1	2	6
	1*	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	2.5 SQ	1	1 3/8	2 3/8	6 3/8
2	1	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	2.87	3/4	1 3/8	2 3/8	6 7/16
	1 3/8*	1-14	1 1/4-12	1 5/8	1.499	5/8	1 1/8	2 5/8	1 5/16	3/8	3.0 SQ	1	1 5/8	2 5/8	6 11/16
2 1/2	1	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	2.87	3/4	1 3/8	2 3/8	6 9/16
	1 3/8*	1-14	1 1/4-12	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	3.37	1	1 5/8	2 5/8	6 13/16
3 1/4	1 3/8	1-14	1 1/4-12	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	3.37	7/8	1 5/8	2 3/4	7 11/16
	1 3/4	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	4.00	1 1/8	1 7/8	3	7 15/16
4	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	4.25	1 1/4	2	3 1/8	8 1/16
	1 3/4	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3	1 11/16	1/4	4.00	1	1 7/8	3	8 3/16
5	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 3/8	2 7/16	3/8	4.50	1 3/8	2 1/4	3 3/8	8 9/16
	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 3/8	1 15/16	1/4	4.25	1 1/8	2	3 1/8	9
6	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 3/8	2 7/16	3/8	4.50	1 3/8	2 1/4	3 3/8	9 1/4
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 7/8	2 15/16	3/8	5.50	1 3/8	2 1/4	3 3/8	9 1/4
7	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 7/8	3 7/16	3/8	5.75	1 3/8	2 1/4	3 3/8	9 1/4
	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 1/4	2 7/16	1/4	4.50	1 1/4	2 1/4	3 1/2	10 1/2
8	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 3/4	2 15/16	1/4	5.50	1 1/4	2 1/4	3 1/2	10 1/2
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 7/16	1/4	5.75	1 1/4	2 1/4	3 1/2	10 1/2
9	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 15/16	1/4	6.50	1 1/4	2 1/4	3 1/2	10 1/2
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 3/4	2 7/8	1/4	5.50	1 1/4	2 1/4	3 13/16	11 3/4
10	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 3/8	1/4	5.75	1 1/4	2 1/4	3 13/16	11 3/4
	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 7/8	1/4	6.50	1 1/4	2 1/4	3 13/16	11 3/4
11	5	3 1/2-12	4 3/4-12	5	5.749	1	4 1/4	6 1/4	4 7/8	1/4	7.50	1 1/4	2 1/4	3 13/16	11 3/4
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 3/8	1/4	5.75	1 1/4	2 1/4	3 15/16	12 13/16
12	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 7/8	1/4	6.50	1 1/4	2 1/4	3 15/16	12 13/16
	5	3 1/2-12	4 3/4-12	5	5.749	1	4 1/4	6 1/4	4 7/8	1/4	7.50	1 1/4	2 1/4	3 15/16	12 13/16
13	5 1/2	4-12	5 1/4-12	5 1/2	6.249	1	4 5/8	6 3/4	5 3/8	1/4	8.50	1 1/4	2 1/4	3 15/16	12 13/16

*Rod end cushions available only as non-adjustable type- Consult Lehigh



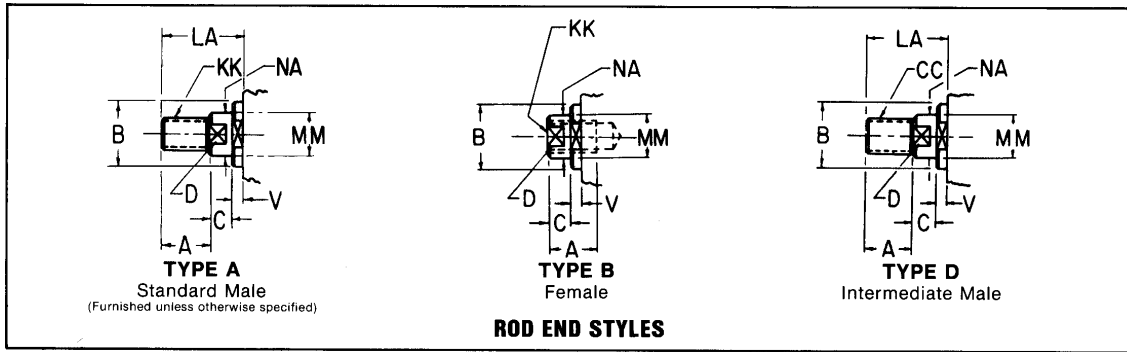
**CAP END FLANGE MOUNTED STAINLESS STEEL
1 1/2" TO 8" BORE, 3000 PSI RATED (MAXIMUM)
HIGH PRESSURE HYDRAULIC CYLINDERS**



Styles 6 and 7 particularly those above the 4" bore size, are not recommended for maximum operating pressures. For operating pressures above 1500 psi on the 5" and 6" bore cylinders, and 1000 psi on the 7" and 8" bore cylinders, we recommend the use of styles 16 and 17. Maximum operating pressure for 16 and 17 style flanges, in bores 5" thru 8", should not exceed 3000 psi. We recommend the use of high tensile mounting bolts on all flange mounted cylinders subjected to maximum pressure and shock loads.

ENVELOPE AND MOUNTING DIMENSIONS NOT AFFECTED BY ROD DIAMETER

BORE	E	EE		F	FB	G	J	K	R	TF	UF	LB	P
		NPTF	SAE									ADD STROKE	
1 1/2	2 1/2	1/2-14	10	3/8	7/16	1 3/4	1 1/2	3/8	1.63	3 7/16	4 1/4	5	2 7/8
2	3	1/2-14	10	5/8	9/16	1 3/4	1 1/2	7/16	2.05	4 1/8	5 1/8	5 1/4	2 7/8
2 1/2	3 1/2	1/2-14	10	5/8	9/16	1 3/4	1 1/2	7/16	2.55	4 5/8	5 5/8	5 3/8	3
3 1/4	4 1/2	3/4-14	12	3/4	11/16	2	1 3/4	9/16	3.25	5 7/8	7 1/8	6 1/4	3 1/2
4	5	3/4-14	12	7/8	11/16	2	1 3/4	9/16	3.82	6 3/8	7 5/8	6 5/8	3 3/4
5	6 1/2	3/4-14	12	7/8	15/16	2	1 3/4	3/4	4.95	8 3/16	9 3/4	7 1/8	4 1/4
6	7 1/2	1-11 1/2	16	1	1 1/16	2 1/4	2 1/4	7/8	5.73	9 7/16	11 1/4	8 3/8	4 7/8
7	8 1/2	1 1/4-11 1/2	20	1	1 3/16	2 3/4	2 3/4	1	6.58	10 5/8	12 5/8	9 1/2	5 3/8
8	9 1/2	1 1/2-11 1/2	24	1	1 5/16	3	3	1 1/16	7.50	11 13/16	14	10 1/2	6 1/8



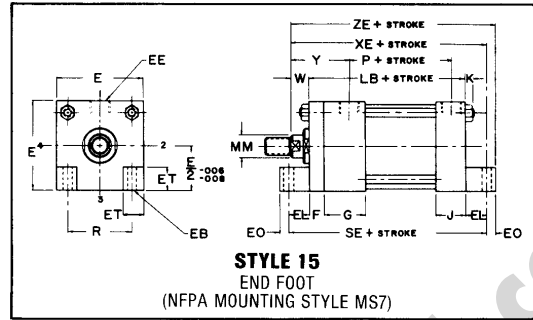
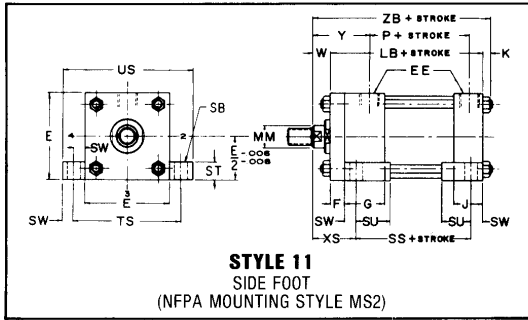
DIMENSIONS AFFECTED BY ROD DIAMETER

BORE	ROD DIA. MM	THREAD SIZE		ROD EXTENSIONS & PILOT DIMENSIONS							ENVELOPE DIMENSIONS				
		KK	CC	A	B	C	D	LA	NA	V	W	Y	XF	ZF	
		STD.			+0.000/-0.002								ADD STROKE		
1 1/2	5/8	7/16-20	1/2-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8	2	5 5/8	6	
	1*	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1	2 3/8	6	6 3/8	
2	1	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4	2 3/8	6	6 5/8	
	1 3/8*	1-14	1 1/4-12	1 5/8	1.499	5/8	1 1/8	2 5/8	1 5/16	3/8	1	2 5/8	6 1/4	6 7/8	
2 1/2	1	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4	2 3/8	6 1/8	6 3/4	
	1 3/8	1-14	1 1/4-12	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1	2 5/8	6 3/8	7	
	1 3/4*	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4	2 7/8	6 5/8	7 1/4	
3 1/4	1 3/8	1-14	1 1/4-12	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8	2 3/4	7 1/8	7 7/8	
	1 3/4	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	3	7 3/8	8 1/8	
	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	3 1/8	7 1/2	8 1/4	
4	1 3/4	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3	1 11/16	1/4	1	3	7 5/8	8 1/2	
	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 3/8	1 15/16	1/4	1 1/8	3 1/8	7 3/4	8 5/8	
	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 3/8	2 7/16	3/8	1 3/8	3 3/8	8	8 7/8	
5	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 3/8	1 15/16	1/4	1 1/8	3 1/8	8 1/4	9 1/8	
	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 3/8	2 7/16	3/8	1 3/8	3 3/8	8 1/2	9 3/8	
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 7/8	2 15/16	3/8	1 3/8	3 3/8	8 1/2	9 3/8	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 7/8	3 7/16	3/8	1 3/8	3 3/8	8 1/2	9 3/8	
6	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 1/4	2 7/16	1/4	1 1/4	3 1/2	9 5/8	10 5/8	
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 3/4	2 15/16	1/4	1 1/4	3 1/2	9 5/8	10 5/8	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 7/16	1/4	1 1/4	3 1/2	9 5/8	10 5/8	
	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 15/16	1/4	1 1/4	3 1/2	9 5/8	10 5/8	
7	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 3/4	2 7/8	1/4	1 1/4	3 13/16	10 3/4	11 3/4	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 3/8	1/4	1 1/4	3 13/16	10 3/4	11 3/4	
	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 7/8	1/4	1 1/4	3 13/16	10 3/4	11 3/4	
	5	3 1/2-12	4 3/4-12	5	5.749	1	4 1/4	6 1/4	4 7/8	1/4	1 1/4	3 13/16	10 3/4	11 3/4	
8	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 3/8	1/4	1 1/4	3 15/16	11 3/4	12 3/4	
	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 7/8	1/4	1 1/4	3 15/16	11 3/4	12 3/4	
	5	3 1/2-12	4 3/4-12	5	5.749	1	4 1/4	6 1/4	4 7/8	1/4	1 1/4	3 15/16	11 3/4	12 3/4	
	5 1/2	4-12	5 1/4-12	5 1/2	6.249	1	4 5/8	6 3/4	5 3/8	1/4	1 1/4	3 15/16	11 3/4	12 3/4	

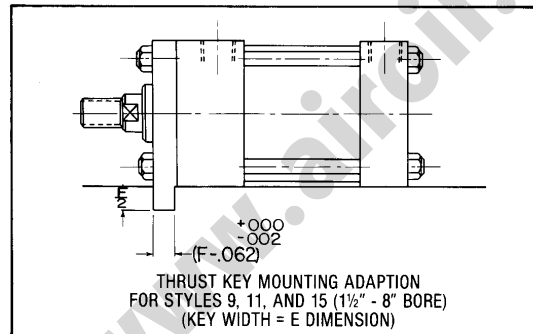
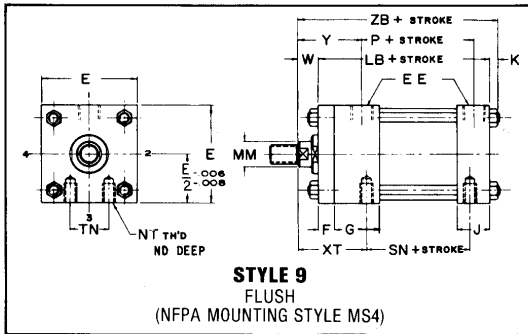
*Rod end cushions available only as non-adjustable type- Consult Lehigh



**FOOT AND FLUSH MOUNTED STAINLESS STEEL
1 1/2" TO 8" BORE, 3000 PSI RATED (MAXIMUM)
HIGH PRESSURE HYDRAULIC CYLINDERS**



Standard Port location is Position 1. Standard Cushion location is Position 2.

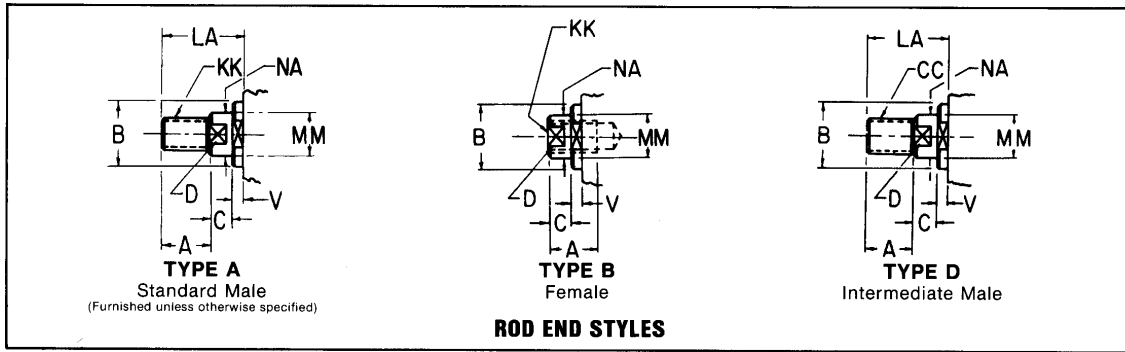


Standard Port location is Position 1.
Standard Cushion location is Position 2.

ENVELOPE AND MOUNTING DIMENSIONS NOT AFFECTED BY ROD DIAMETER

BORE	E	EB	EE		EL	EO	ET	F	G	J	K	NT
			NPTF	SAE								
1 1/2	2 1/2	7/16	1/2-14	10	7/8	3/8	7/8	3/8	1 3/4	1 1/2	3/8	3/8-16
2	3	9/16	1/2-14	10	15/16	1/2	15/16	5/8	1 3/4	1 1/2	7/16	1/2-13
2 1/2	3 1/2	9/16	1/2-14	10	15/16	1/2	15/16	5/8	1 3/4	1 1/2	7/16	5/8-11
3 1/4	4 1/2	11/16	3/4-14	12	1 1/8	5/8	1 1/4	3/4	2	1 3/4	9/16	3/4-10
4	5	11/16	3/4-14	12	1 1/8	5/8	1 3/16	7/8	2	1 3/4	9/16	1-8
5	6 1/2	15/16	3/4-14	12	1 1/2	3/4	1 9/16	7/8	2	1 3/4	3/4	1-8
6	7 1/2	1 1/16	1-11 1/2	16	1 11/16	13/16	1 3/4	1	2 1/4	2 1/4	7/8	1 1/4-7
7	8 1/2	1 3/16	1 1/4-11 1/2	20	1 13/16	1	1 15/16	1	2 3/4	2 3/4	1	1 1/2-6
8	9 1/2	1 5/16	1 1/2-11 1/2	24	2	1 1/8	2	1	3	3	1 1/16	1 1/2-6

BORE	R	SB	ST	SU	SW	TN	TS	US	LB	P	SE	SN	SS
									ADD STROKE				
1 1/2	1.63	7/16	1/2	15/16	3/8	3/4	3 1/4	4	5	2 7/8	6 3/4	2 7/8	3 7/8
2	2.05	9/16	3/4	1 1/4	1/2	15/16	4	5	5 1/4	2 7/8	7 1/8	2 7/8	3 5/8
2 1/2	2.55	13/16	1	1 9/16	11/16	1 5/16	4 7/8	6 1/4	5 3/8	3	7 1/4	3	3 3/8
3 1/4	3.25	13/16	1	1 9/16	11/16	1 1/2	5 7/8	7 1/4	6 1/4	3 1/2	8 1/2	3 1/2	4 1/8
4	3.82	1 1/16	1 1/4	2	7/8	2 1/16	6 3/4	8 1/2	6 5/8	3 3/4	8 7/8	3 3/4	4
5	4.95	1 1/16	1 1/4	2	7/8	2 15/16	8 1/4	10	7 1/8	4 1/4	10 1/8	4 1/4	4 1/2
6	5.73	1 5/16	1 1/2	2 1/2	1 1/8	3 5/16	9 3/4	12	8 3/8	4 7/8	11 3/4	5 1/8	5 1/8
7	6.58	1 9/16	1 3/4	2 7/8	1 3/8	3 3/4	11 1/4	14	9 1/2	5 3/8	13 1/8	5 7/8	5 3/4
8	7.50	1 9/16	1 3/4	2 7/8	1 3/8	4 1/4	12 1/4	15	10 1/2	6 1/8	14 1/2	6 5/8	6 3/4



DIMENSIONS AFFECTED BY ROD DIAMETER

BORE	ROD DIA. MM	THREAD SIZE		ROD EXTENSIONS & PILOT DIMENSIONS							ENVELOPE DIMENSIONS								
		KK STD.	CC	A	B +.000/ -.002	C	D	LA	NA	V	W	Y	ND	XS	XT	XE	ZB	ZE	
ADD STROKE																			
1 1/2	5/8	7/16-20	1/2-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8	2	9/16	1 3/8	2	6 1/2	6	6 7/8	
	1*	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1	2 3/8	7/16	1 3/4	2 3/8	6 7/8	6 3/8	7 1/4	
2	1	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4	2 3/8	5/8	1 7/8	2 3/8	6 15/16	6 7/16	7 7/16	
	1 3/8*	1-14	1 1/4-12	1 5/8	1.499	5/8	1 1/8	2 5/8	1 5/16	3/8	1	2 5/8	7/16	2 1/8	2 5/8	7 3/16	6 11/16	7 11/16	
2 1/2	1	3/4-16	7/8-14	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4	2 3/8	11/16	2 1/16	2 3/8	7 1/16	6 9/16	7 9/16	
	1 3/8	1-14	1 1/4-12	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1	2 5/8	7/16	2 5/16	2 5/8	7 5/16	6 13/16	7 13/16	
	1 3/4*	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4	2 7/8	7/16	2 9/16	2 7/8	7 9/16	7 1/16	8 1/16	
3 1/4	1 3/8	1-14	1 1/4-12	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8	2 3/4	13/16	2 5/16	2 3/4	8 1/4	7 11/16	8 7/8	
	1 3/4	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	3	13/16	2 9/16	3	8 1/2	7 15/16	9 1/8	
4	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	3 1/8	3/4	2 11/16	3 1/8	8 5/8	8 1/16	9 1/4	
	1 3/4	1 1/4-12	1 1/2-12	2	2.374	3/4	1 1/2	3	1 11/16	1/4	1	3	7/8	2 3/4	3	8 3/4	8 3/16	9 3/8	
	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 3/8	1 15/16	1/4	1 1/8	3 1/8	3/4	2 7/8	3 1/8	8 7/8	8 5/16	9 1/2	
5	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 3/8	2 7/16	3/8	1 3/8	3 3/8	3/4	3 1/8	3 3/8	9 1/8	8 9/16	9 3/4	
	2	1 1/2-12	1 3/4-12	2 1/4	2.624	7/8	1 11/16	3 3/8	1 15/16	1/4	1 1/8	3 1/8	15/16	2 7/8	3 1/8	9 3/4	9	10 1/2	
	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 3/8	2 7/16	3/8	1 3/8	3 3/8	15/16	3 1/8	3 3/8	10	9 1/4	10 3/4	
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 7/8	2 15/16	3/8	1 3/8	3 3/8	13/16	3 1/8	3 3/8	10	9 1/4	10 3/4	
6	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 7/8	3 7/16	3/8	1 3/8	3 3/8	13/16	3 1/8	3 3/8	10	9 1/4	10 3/4	
	2 1/2	1 7/8-12	2 1/4-12	3	3.124	1	2 1/16	4 1/4	2 7/16	1/4	1 1/4	3 1/2	1 3/4	3 3/8	3 1/2	11 5/16	10 1/2	12 3/16	
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 3/4	2 15/16	1/4	1 1/4	3 1/2	1 3/4	3 3/8	3 1/2	11 5/16	10 1/2	12 3/16	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 7/16	1/4	1 1/4	3 1/2	15/16	3 3/8	3 1/2	11 5/16	10 1/2	12 3/16	
7	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 15/16	1/4	1 1/4	3 1/2	15/16	3 3/8	3 1/2	11 5/16	10 1/2	12 3/16	
	3	2 1/4-12	2 3/4-12	3 1/2	3.749	1	2 5/8	4 3/4	2 7/8	1/4	1 1/4	3 13/16	2 1/8	3 5/8	3 13/16	12 9/16	11 3/4	13 9/16	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 3/8	1/4	1 1/4	3 13/16	2 1/8	3 5/8	3 13/16	12 9/16	11 3/4	13 9/16	
	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 7/8	1/4	1 1/4	3 13/16	1 3/4	3 5/8	3 13/16	12 9/16	11 3/4	13 9/16	
	5	3 1/2-12	4 3/4-12	5	5.749	1	4 1/4	6 1/4	4 7/8	1/4	1 1/4	3 13/16	1 1/8	3 5/8	3 13/16	12 9/16	11 3/4	13 9/16	
8	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4.249	1	3	4 3/4	3 3/8	1/4	1 1/4	3 15/16	2 1/4	3 5/8	3 15/16	13 3/4	12 13/16	14 7/8	
	4	3-12	3 3/4-12	4	4.749	1	3 3/8	5 1/4	3 7/8	1/4	1 1/4	3 15/16	2 1/4	3 5/8	3 15/16	13 3/4	12 13/16	14 7/8	
	5	3 1/2-12	4 3/4-12	5	5.749	1	4 1/4	6 1/4	4 7/8	1/4	1 1/4	3 15/16	1 3/4	3 5/8	3 15/16	13 3/4	12 13/16	14 7/8	
	5 1/2	4-12	5 1/4-12	5 1/2	6.249	1	4 5/8	6 3/4	5 3/8	1/4	1 1/4	3 15/16	1 1/2	3 5/8	3 15/16	13 3/4	12 13/16	14 7/8	

*Rod end cushions available only as non-adjustable type- Consult Lehigh



CYLINDER THEORETICAL CAPACITY CHART

1 1/2" TO 8" BORE HIGH PRESSURE HYDRAULIC CYLINDERS

PUSH AND PULL STROKE FORCE AND DISPLACEMENT

CYLINDER BORE DIAMETER	PISTON ROD DIAMETER	PISTON AREA SQ. INCH	HYDRAULIC CYLINDER PRESSURE P.S.I							FLUID REQUIRED PER INCH OF STROKE	
			500	750	1,000	1,500	2,000	2,500	3,000	CUBIC INCH	GALLON
1 1/2	*	1.767	883	1,325	1,767	2,651	3,534	4,417	5,301	1.767	.00765
	5/8	1.460	730	1,095	1,460	2,190	2,920	3,650	4,380	1.460	.00632
	1	.982	491	736	982	1,473	1,964	2,455	2,946	.982	.00425
2	*	3.141	1,571	2,356	3,141	4,711	6,283	7,853	9,423	3.141	.01360
	1	2.356	1,178	1,767	2,356	3,534	4,721	5,894	7,068	2.356	.01020
	1 3/8	1.656	828	1,242	1,656	2,484	3,312	4,140	4,968	1.656	.00717
2 1/2	*	4.909	2,454	3,682	4,909	7,363	9,818	12,272	14,727	4.909	.02125
	1	4.124	2,062	3,093	4,124	6,186	8,248	10,310	12,372	4.124	.01785
	1 3/8	3.424	1,712	2,568	3,424	5,136	6,848	8,560	10,272	3.424	.01482
	1 3/4	2.504	1,252	1,878	2,504	3,756	5,008	6,260	7,512	2.504	.01084
3 1/4	*	8.296	4,148	6,222	8,296	12,444	16,592	20,740	24,888	8.296	.0359
	1 3/8	6.811	3,405	5,108	6,811	10,216	13,622	17,027	20,433	6.811	.0259
	1 3/4	5.891	2,945	4,418	5,891	8,836	11,782	14,727	17,673	5.891	.0225
	2	5.145	2,577	3,865	5,154	7,731	10,308	12,890	15,462	5.154	.0223
4	*	12.57	6,283	9,425	12,566	18,849	25,132	31,415	37,698	12.57	.0544
	1 3/4	10.16	5,080	7,621	10,161	15,241	20,322	25,402	30,483	10.16	.0440
	2	9.424	4,712	7,068	9,424	14,136	18,848	23,560	28,272	9.424	.0408
	2 1/2	7.657	3,828	5,743	7,657	11,485	15,314	19,142	22,971	7.657	.0331
5	*	19.64	9,818	14,726	19,635	29,453	39,270	49,087	58,905	19.64	.0850
	2	16.49	8,246	12,369	16,492	24,738	32,648	41,212	49,476	16.49	.0714
	2 1/2	14.73	7,363	11,044	14,726	22,089	29,542	36,815	44,178	14.73	.0637
	3	12.57	6,283	9,424	12,566	18,849	25,132	31,415	37,698	12.57	.0544
	3 1/2	10.01	5,007	7,510	10,014	15,021	20,028	25,035	30,042	10.01	.0433
6	*	28.27	14,137	21,205	28,274	42,411	56,548	70,685	84,822	28.27	.1224
	2 1/2	23.37	11,682	17,524	23,365	35,047	46,730	58,412	70,095	23.37	.1011
	3	21.21	10,602	15,904	21,205	31,807	42,410	53,012	63,615	21.21	.0918
	3 1/2	18.65	9,326	13,990	18,653	27,979	37,306	46,632	55,959	18.65	.0807
	4	15.71	7,854	11,781	15,708	23,562	31,416	39,270	47,124	15.71	.0680
7	*	38.48	19,242	28,864	38,485	57,728	76,970	96,213	115,445	38.48	.1666
	3	31.42	15,708	23,562	31,416	47,124	62,832	78,540	92,248	31.42	.1360
	3 1/2	28.86	14,432	21,648	28,864	43,296	57,728	72,160	86,592	28.86	.1250
	4	25.92	12,957	19,436	25,916	38,872	51,830	64,787	77,745	25.92	.1122
	5	18.85	9,425	14,137	18,850	28,275	37,700	47,125	56,550	18.85	.0816
8	*	50.26	25,132	37,698	50,265	75,398	100,530	125,663	150,795	50.26	.2176
	3 1/2	40.64	20,322	30,483	40,644	60,966	81,288	101,610	121,932	40.64	.1759
	4	37.70	18,850	28,273	37,699	56,548	75,398	94,247	113,097	37.70	.1632
	5	30.63	15,315	22,973	30,630	45,945	61,260	76,575	91,890	30.62	.1326
	5 1/2	26.51	13,253	19,880	26,507	39,760	53,014	66,267	79,521	26.51	.1147

See page #19 in catalog #3808 for Piston Rod Selection Chart

Description: This chart lists the force and displacement values for the full piston area on the push or extend stroke. Also listed are the force and displacement values for the reduced piston area, depending on rod diameter, for the pull or retraction stroke.

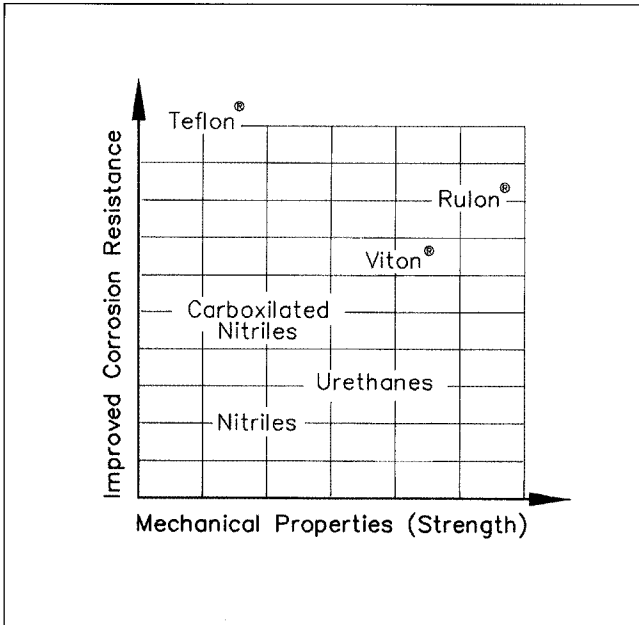
Example: Assume 4" bore cylinder with 2" diameter rod, operating at 1000 psi. Using chart, theoretical values as follows are obtained:
 Push or extend force = 12,566 lbs.
 Pull or retraction force = 9,424 lbs.
 Push or extend volume = 12.57 cubic inch/inch of stroke
 Pull or retraction volume = 9.424 cubic inch/inch of stroke
 Total volume for one complete reciprocation = 12.57 + 9.424 = 21.994 cubic inch/inch of stroke

*Full piston area (see DESCRIPTION paragraph).



APPLICATIONS, SPECIALS, COST REDUCTION

Common Soft Part Materials

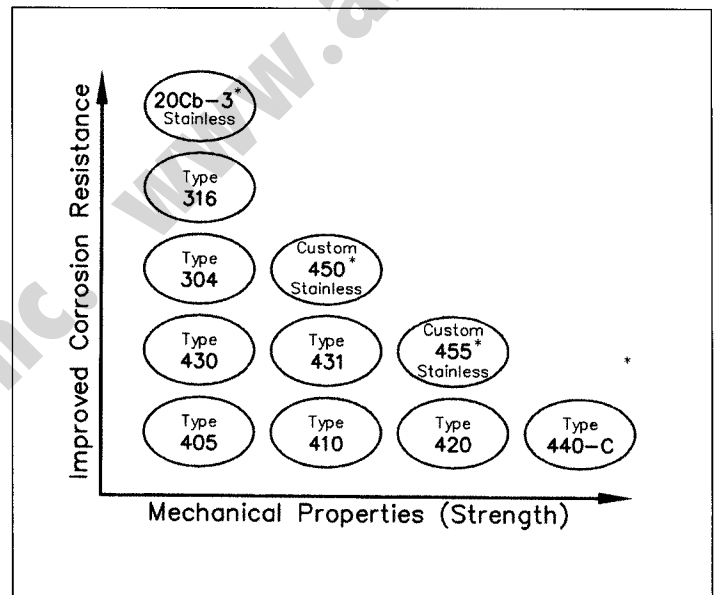


APPLICATIONS...

Lehigh LSS® Series stainless steel cylinders are ideally suited for a variety of industries and applications including:

- Food & beverage • Pharmaceutical • Marine
- Waste disposal • Pulp & Paper • Military
- Chemical Processing • Petrochemical
- Valve actuators • Washdown environments
- Animation and robotics • Car washes
- Water treatment • Printing • Machine tool
- Power generation • Underwater applications

Properties Of Stainless Steel



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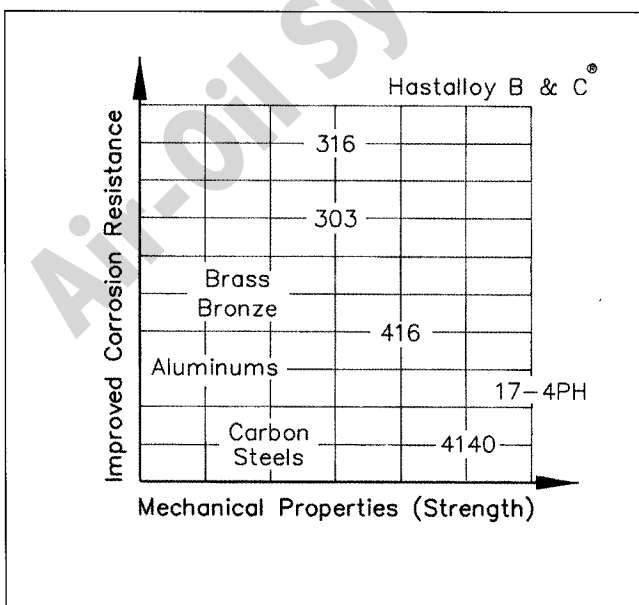
SPECIALS...

Lehigh builds specialty cylinders in most configurations. Typical examples include:

- Lock cylinders, handle operated (pad-lockable) or remote operation models.
- High-load cylinders • High-temperature cylinders (water-cooling is available)
- High speed cylinders • Low-temperature cylinders • All Brass/Bronze cylinders
- Electronic control packages • Duplex cylinders • Tandem force multipliers
- Cylinder grounding devices • Back-to-back cylinders • Non-rotating cylinders
- Customer designs • Full and soft metric designs • Custom telescopic cylinders
- Cylinders with Probes (LVDT, LDT, LRT)

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Common Hard Part Materials



COST REDUCTION

A cost/benefit analysis will reveal the true value of a stainless steel cylinder. In most cases the lifecycle cost of a misapplied standard cylinder far exceeds the initial investment in the stainless steel cylinder. Key "cost reducing" advantages of Lehigh's LSS® Series Cylinders include:

- Reduced downtime due to cylinder leaks and failures.
- Fewer failures translate into reduced labor costs.
- Corrosion is eliminated and product contamination risks are minimized.
- There is no need to modify your machine to fit our standard NFPA tie rod cylinders. Lehigh builds cylinders to directly interchange with hard to find, obsolete and metric designs.
- Long cylinder life begins with proper application engineering. Lehigh works with distributors and customers to select the correct materials for their application.

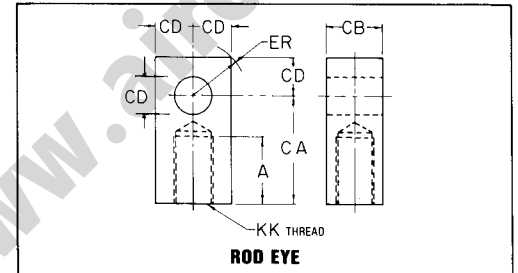
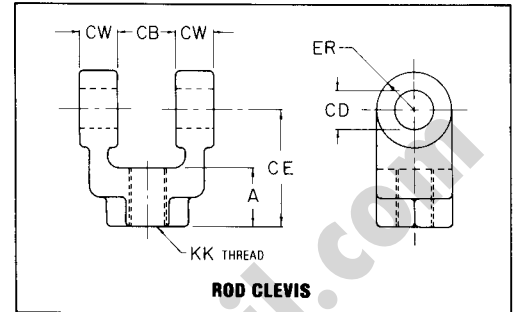
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CYLINDER CAP AND ROD END STAINLESS STEEL MOUNTING ACCESSORIES 1 1/2" TO 8" BORE SERIES LSS® HIGH PRESSURE HYDRAULIC CYLINDERS

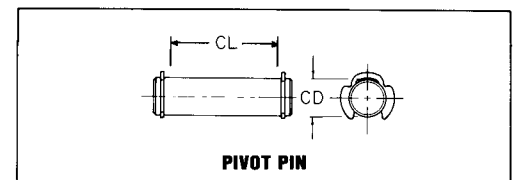
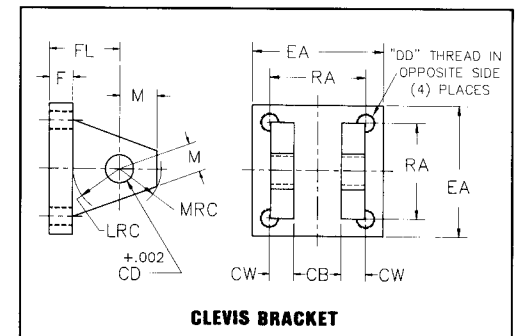
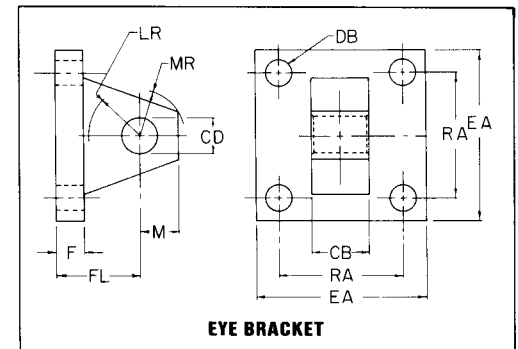
STAINLESS STEEL ROD END ACCESSORIES

ROD THREAD SIZE (KK)	ROD CLEVIS	ROD EYE	EYE BRACKET	PIVOT PIN	CLEVIS BRACKET
7/16"—20	MACCL01S	MACRE01S	MACEB01S	MACPN01S	MACCB01S
3/4"—16	MACCL02S	MACRE02S	MACEB02S	MACPN02S	MACCB02S
1"—14	MACCL03S	MACRE03S	MACEB03S	MACPN03S	MACCB03S
1 1/4"—12	MACCL04S	MACRE04S	MACEB04S	MACPN04S	MACCB04S
1 1/2"—12	MACCL05S	MACRE05S	MACEB05S	MACPN05S	MACCB05S
1 7/8"—12	MACCL06S	MACRE06S	MACEB06S	MACPN06S	MACCB06S
2 1/4"—12	MACCL07S	MACRE07S	MACEB07S	MACPN07S	MACCB07S
2 1/2"—12	MACCL08S	MACRE08S	MACEB08S	MACPN08S	MACCB08S
3 1/4"—12	MACCL09S	MACRE09S	MACEB09S	MACPN09S	MACCB09S
4"—12	MACCL010S	MACRE010S	MACEB010S	MACPN010S	MACCB010S



STAINLESS STEEL CAP END ACCESSORIES

CYLINDER BORE	EYE BRACKET	PIVOT PIN	CLEVIS BRACKET
1 1/2"	MACEB01S	MACPN01S	MACCB01S
2" & 2 1/2"	MACEB02S	MACPN02S	MACCB02S
3 1/4"	MACEB03S	MACPN03S	MACCB03S
4"	MACEB04S	MACPN04S	MACCB04S
5"	MACEB05S	MACPN05S	MACCB05S
6"	MACEB06S	MACPN06S	MACCB06S
7"	MACEB07S	MACPN07S	MACCB07S
8"	MACEB08S	MACPN08S	MACCB08S





**CYLINDER CAP AND ROD END STAINLESS STEEL MOUNTING ACCESSORIES
1 1/2" TO 8" BORE SERIES LSS® HIGH PRESSURE HYDRAULIC CYLINDERS**

STAINLESS STEEL ROD CLEVIS PART NUMBER

	MACCL01S	MACCL02S	MACCL03S	MACCL04S	MACCL05S	MACCL06S	MACCL07S	MACCL08S	MACCL09S	MACCL10S
A	3/4	1 1/8	1 5/8	2	2 1/4	3	3 1/2	3 1/2	4 1/2	5 1/2
CB	3/4	1 1/4	1 1/2	2	2 1/2	2 1/2	3	3	4	4 1/2
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
CE	1 1/2	2 3/8	3 1/8	4 1/8	4 1/2	5 1/2	6 1/2	6 3/4	8 1/2	10
CW	1/2	5/8	3/4	1	1 1/4	1 1/4	1 1/2	1 1/2	2	2 1/4
ER	1/2	3/4	1	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	3 1/4—12	4—12

STAINLESS STEEL ROD EYE PART NUMBER

	MACRE01S	MACRE02S	MACRE03S	MACRE04S	MACRE05S	MACRE06S	MACRE07S	MACRE08S	MACRE09S	MACRE010S
A	3/4	1 1/8	1 5/8	2	2 1/4	3	3 1/2	3 1/2	4 1/2	5 1/2
CA	1 1/2	2 1/16	2 13/16	3 7/16	4	5	5 13/16	6 1/8	7 5/8	9 1/8
CB	3/4	1 1/4	1 1/2	2	2 1/2	2 1/2	3	3	4	4 1/2
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
ER	9/16	27/32	1 1/8	1 1/2	1 15/16	2 3/16	2 11/16	3 1/4	3 3/4	4 1/4
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	3 1/4—12	4—12

STAINLESS STEEL EYE BRACKET PART NUMBER (MACEB) OR CLEVIS BRACKET PART NUMBER (MACCB)

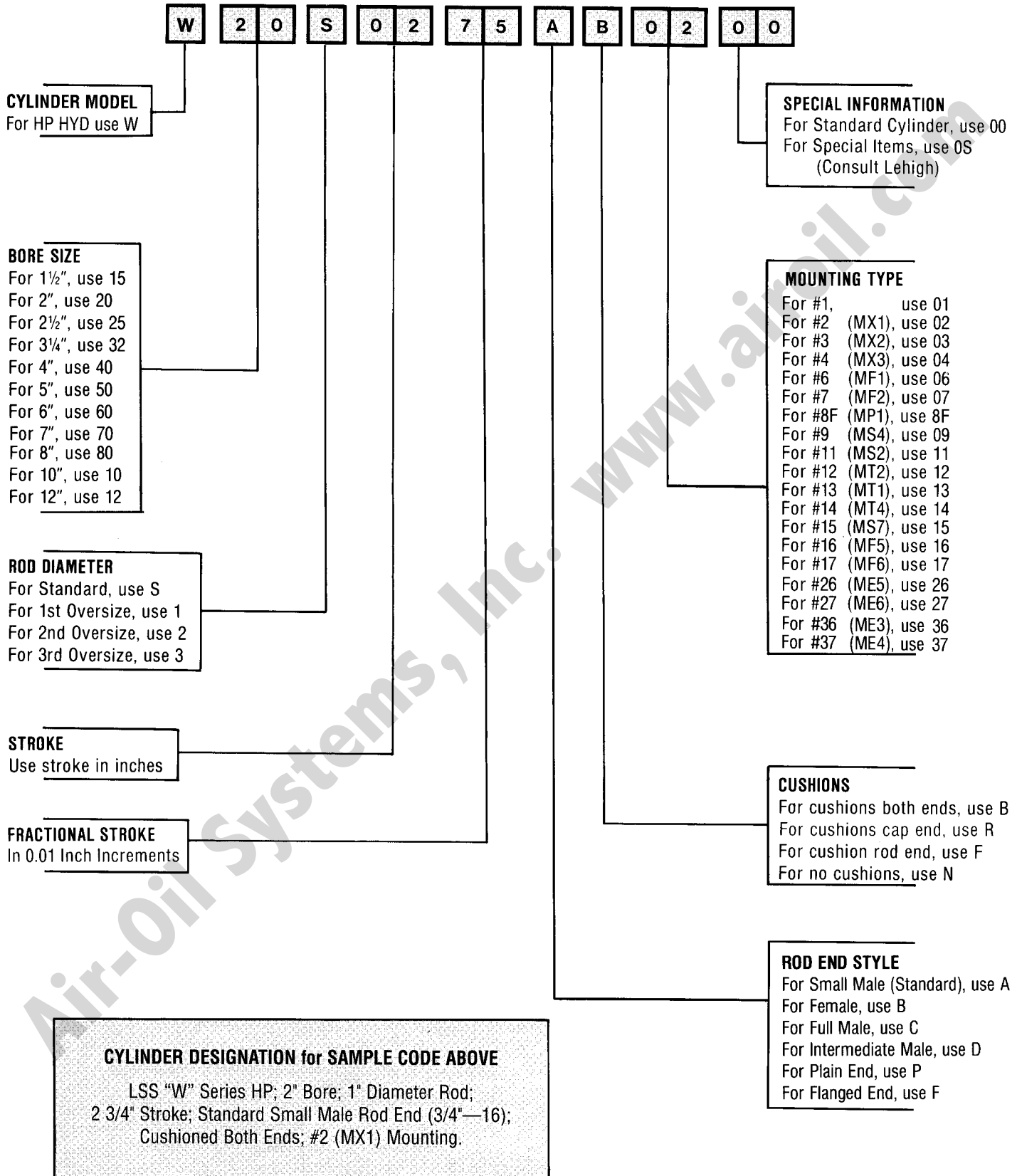
	MACCB01S	MACCB02S	MACCB03S	MACCB04S	MACCB05S	MACCB06S	MACCB07S	MACCB08S	MACCB09S	MACCB010S
	MACEB01S	MACEB02S	MACEB03S	MACEB04S	MACEB05S	MACEB06S	MACEB07S	MACEB08S	MACEB09S	MACEB010S
CB	3/4	1 1/4	1 1/2	2	2 1/2	2 1/2	3	3	4	4 1/2
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
CW	1/2	5/8	3/4	1	1 1/4	1 1/4	1 1/2	1 1/2	2	2 1/4
DB	13/32	17/32	21/32	21/32	29/32	1 1/16	1 3/16	1 5/16	1 13/16	2 1/16
DD	3/8—24	1/2—20	5/8—18	5/8—18	7/8—14	1—14	1 1/8—12	1 1/4—12	1 3/4—12	2—12
EA	2 1/2	3 1/2	4 1/2	5	6 1/2	7 1/2	8 1/2	9 1/2	12 5/8	14 7/8
F	3/8	5/8	3/4	7/8	7/8	1	1	1	1 11/16	1 15/16
FL	1 1/8	1 7/8	2 1/4	3	3 1/8	3 1/2	4	4 1/4	5 11/16	6 7/16
LR	3/4	1 1/4	1 1/2	2 1/8	2 1/4	2 1/2	3	3 1/4	4	4 1/2
LRC	1/2	1 1/16	1 1/4	1 7/8	2	2 1/8	2 5/8	2 7/8	3 5/8	4
M	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
MR	9/16	7/8	1 1/4	1 5/8	2 1/8	2 7/16	3	3 1/4	3 7/8	5 1/4
MRC	9/16	1 1/16	1 1/8	1 3/4	1 7/8	2 1/8	2 1/2	2 3/4	3 1/2	4
RA	1.63	2.55	3.25	3.82	4.95	5.73	6.58	7.50	9.62	11.45

STAINLESS STEEL PIVOT PIN PART NUMBER

	MACPN01S	MACPN02S	MACPN03S	MACPN04S	MACPN05S	MACPN06S	MACPN07S	MACPN08S	MACPN09S	MACPN010S
CD	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
CL	1 3/4	2 1/2	3	4	5	5	6	6	8	9



PART NUMBER CODE FOR CYLINDER ORDERS



Lehigh Fluid Power, Inc.

Warranty

Seller warrants its products free from defects in material and workmanship for a period of one year from date of shipment. This warranty excludes normal wear attributable to the particular application in which the product is used.

Further, this warranty is limited exclusively to the replacement or repair of defective products, which, in the opinion of Lehigh Fluid Power, Inc., have not been modified, misused, misapplied, repaired, or altered by the user.

Lehigh Fluid Power, Inc. accepts no responsibility or liability for damages to the purchaser arising out of a delay or failure of delivery or resulting from any breach of any other term or obligation of Lehigh under this contract.

In order to make a claim, buyer must notify Lehigh within the warranty period. Promptly after receiving such notification, Lehigh will either examine the product at the user's site or issue shipping instructions for return to it, transportation costs prepaid by buyer. All items returned must be accompanied by a copy of this acknowledgement.

The above warranty comprises Lehigh's sole and entire obligation and liability to buyer and all those claiming under buyer as to the products sold hereunder. All other warranties, express or implied, including but not limited to, warranties or merchantability and fitness, are expressly excluded.

These terms and conditions of sale constitute the complete and exclusive statement of agreement superseding all oral or written communications and any prior agreements between the parties relating to its subject matter.

THE COMPANY'S ACCEPTANCE OF THIS ORDER IS MADE EXPRESSLY
CONDITIONAL UPON THE FOREGOING TERMS AND CONDITIONS.