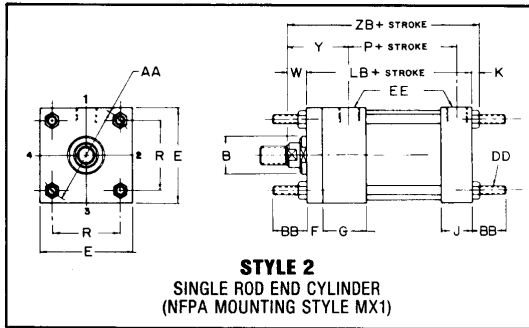
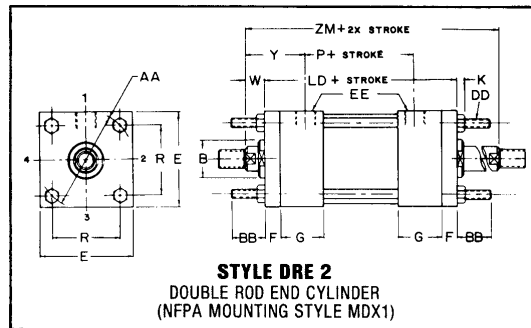




TIE ROD MOUNTED STAINLESS STEEL 1 1/2" TO 8" BORE, 3000 PSI RATED (MAXIMUM) HIGH PRESSURE HDYRAULIC CYLINDERS



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



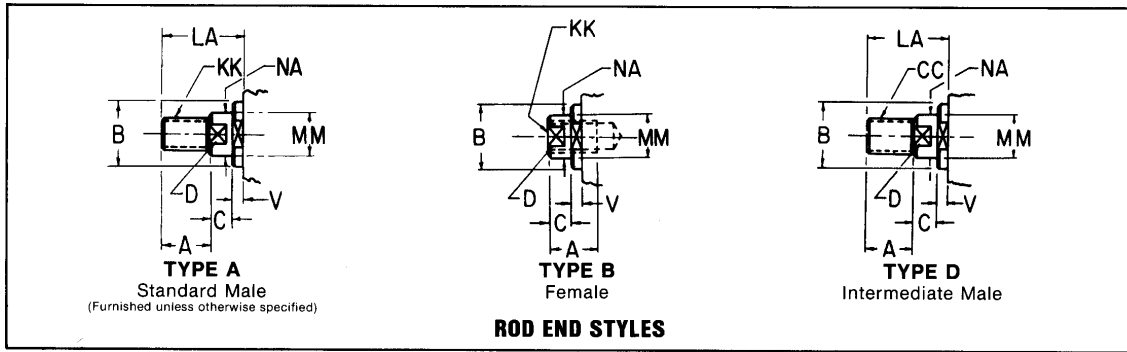
*Standard Port location is Position 1.
Standard Cushion location is Position 2.*

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	15/16	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	15/16	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	15/16	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