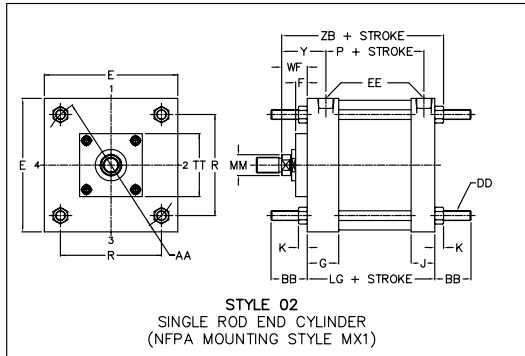




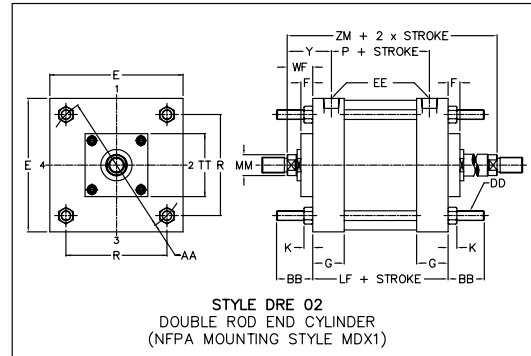
# TIE ROD MOUNTED CYLINDERS

## 14" TO 20" BORE SERIES JHD AND LSSL AIR CYLINDERS

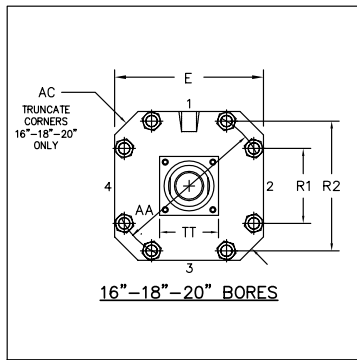
**AVAILABLE IN STANDARD CONSTRUCTION AND ALL STAINLESS STEEL DESIGN!**



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



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



### MOUNTING DESCRIPTION

MOUNTING STYLE	NFPA MOUNTING STYLE	DESCRIPTION
01	MX0	NO TIE ROD EXTENSIONS
02	MX1	TIE RODS EXTENDED BOTH ENDS
03	MX2	TIE RODS EXTENDED CAP END
04	MX3	TIE RODS EXTENDED ROD END
DRE 01	MDX0	NO TIE ROD EXTENSIONS
DRE 02	MDX1	TIE RODS EXTENDED BOTH ENDS
DRE 03	MDX3	TIE RODS EXTENDED ONE END

**NOTE: THE 14" BORE USES FOUR (4) TIE RODS.**  
**BORE SIZES 16"-18"-20" USE EIGHT (8) TIE RODS.**

For ROD END Styles and dimensional drawings, see p.30

### ENVELOPE AND MOUNTING DIMENSIONS NOT AFFECTED BY ROD DIAMETER

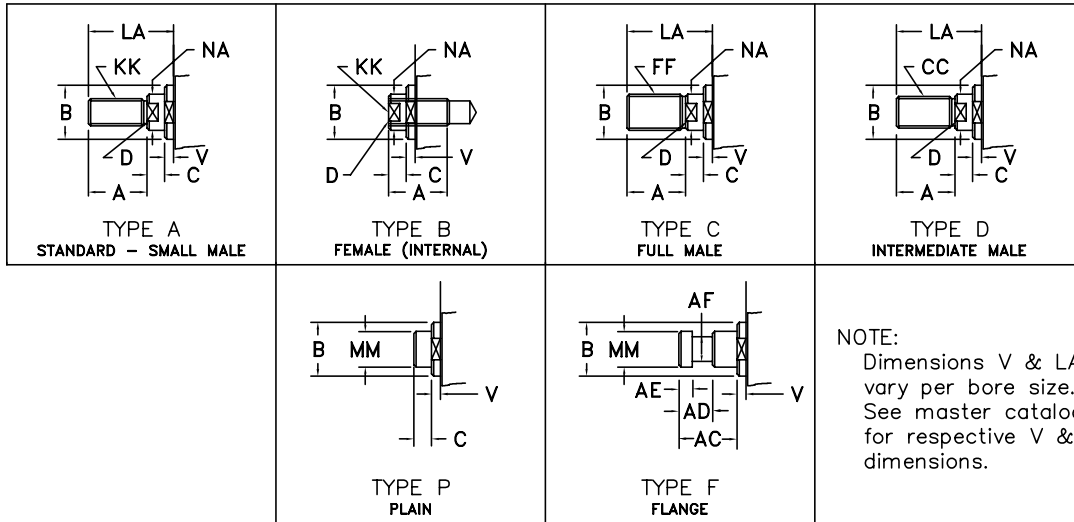
BORE	NUM. TIE RODS	AA	AC	BB	DD	E	EE (NPTF)	G	J	K	R	R1	R2	ADD STROKE		
														LF	LG	P
14	4	15.40	-	3 3/16	7/8-14	14 3/4	1 1/4	2 3/4	2 1/4	3/4	10.90	-	-	8 5/8	8 1/8	5 1/2
16	8	18.19	20 1/2	3 5/8	1-14	17 1/2	1 1/4	2 3/4	2 3/4	7/8	-	10.25	15.02	8 7/8	8 7/8	5 3/4
18	8	20.19	22 1/2	4 1/16	1-14	19 1/2	1 1/2	3 1/4	3 1/4	7/8	-	11.50	16.59	9 7/8	9 7/8	6 3/8
20	8	22.31	25	4 3/8	1 1/8-12	21 1/2	2	3 3/4	3 3/4	1	-	12.62	18.40	11 3/8	11 3/8	7 3/8

### DIMENSIONS AFFECTED BY ROD DIAMETER

BORE	ROD DIA. MM	THREAD SIZE			ROD AND PILOT DIMENSIONS								ENVELOPE DIMENSIONS				
		KK STD	CC	FF	A	B +.000 - .002	C	D	F	LA	NA	V	TT	WF	Y	ZB ADD STROKE	ZM ADD 2X STROKE
14	2 1/2	1 7/8-12	2 1/4-12	2 1/2-12	3	3.124	1	2 1/16	3/4	4 1/2	2 3/8	1/2	4	2 1/4	3 13/16	11 1/8	13 1/8
	3	2 1/4-12	2 3/4-12	3-12	3 1/2	3.749	1	2 5/8	3/4	5	2 7/8	1/2	5 1/2	2 1/4	3 13/16	11 1/8	13 1/8
	3 1/2	2 1/2-12	3 1/4-12	3 1/2-12	3 1/2	4.249	1	3	3/4	5	3 3/8	1/2	5 1/2	2 1/4	3 13/16	11 1/8	13 1/8
	4	3-12	3 3/4-12	4-12	4	4.749	1	3 3/8	1	5 1/4	3 7/8	1/4	7 1/2	2 1/4	3 13/16	11 1/8	13 1/8
16	3	2 1/4-12	2 3/4-12	3-12	3 1/2	3.749	1	2 5/8	3/4	5	2 7/8	1/2	5 1/2	2 1/4	3 13/16	12	13 3/8
	3 1/2	2 1/2-12	3 1/4-12	3 1/2-12	3 1/2	4.249	1	3	3/4	5	3 3/8	1/2	5 1/2	2 1/4	3 13/16	12	13 3/8
	4	3-12	3 3/4-12	4-12	4	4.749	1	3 3/8	1	5 1/4	3 7/8	1/4	7 1/2	2 1/4	3 13/16	12	13 3/8
	5	3 1/2-12	4 3/4-12	5-12	5	5.749	1	4 1/4	1	6 1/4	4 7/8	1/4	8 1/2	2 1/4	3 13/16	12	13 3/8
18	3 1/2	2 1/2-12	3 1/4-12	3 1/2-12	3 1/2	4.249	1	3	3/4	5	3 3/8	1/2	5 1/2	2 1/4	4	13	14 3/8
	4	3-12	3 3/4-12	4-12	4	4.749	1	3 3/8	1	5 1/4	3 7/8	1/4	7 1/2	2 1/4	4	13	14 3/8
	5	3 1/2-12	4 3/4-12	5-12	5	5.749	1	4 1/4	1	6 1/4	4 7/8	1/4	8 1/2	2 1/4	4	13	14 3/8
	5 1/2	4-12	5 1/4-12	5 1/2-12	5 1/2	6.249	1	4 5/8	1	6 3/4	5 3/8	1/4	9 1/2	2 1/4	4	13	14 3/8
20	3 1/2	2 1/2-12	3 1/4-12	3 1/2-12	3 1/2	4.249	1	3	3/4	5	3 3/8	1/2	5 1/2	2 1/4	4 1/4	14 5/8	15 7/8
	4	3-12	3 3/4-12	4-12	4	4.749	1	3 3/8	1	5 1/4	3 7/8	1/4	7 1/2	2 1/4	4 1/4	14 5/8	15 7/8
	5	3 1/2-12	4 3/4-12	5-12	5	5.749	1	4 1/4	1	6 1/4	4 7/8	1/4	8 1/2	2 1/4	4 1/4	14 5/8	15 7/8
	5 1/2	4-12	5 1/4-12	5 1/2-12	5 1/2	6.249	1	4 5/8	1	6 3/4	5 3/8	1/4	9 1/2	2 1/4	4 1/4	14 5/8	15 7/8

NPT PORTS FURNISHED UNLESS OTHERWISE SPECIFIED  
FIRST ROD SIZE SHOWN FOR EACH BORE SIZE IS STANDARD ROD

## ROD END STYLES



NOTE:  
 Dimensions V & LA  
 vary per bore size.  
 See master catalogs  
 for respective V & LA  
 dimensions.

TYPE F FLANGED ROD END DIMENSIONS

ROD DIA. MM	A	AC	AD	AE <small>+000 -003</small>	AF	B <small>+000 -002</small>	C	D	NA	CC	FF	KK
.62	.75	1.12	.82	.250	.38	1.124	.38	.500	.562	.50-20	.625-18	.437-20
1.00	1.13	1.62	.94	.375	.69	1.499	.50	.875	9.37	.875-14	1.00-14	.75-16
1.38	1.63	1.75	1.06	.375	.88	1.999	.62	1.125	1.312	1.25-12	1.375-12	1.00-14
1.75	2.00	2.00	1.31	.500	1.12	2.374	.75	1.500	1.687	1.50-12	1.75-12	1.25-12
2.00	2.25	2.62	1.69	.625	1.38	2.624	.88	1.687	1.937	1.75-12	2.00-12	1.50-12
2.50	3.00	3.25	1.94	.750	1.75	3.124	1.0	2.062	2.375	2.25-12	2.50-12	1.875-12
3.00	3.50	3.62	2.44	.875	2.25	3.749	1.0	2.625	2.875	2.75-12	3.00-12	2.25-12
3.50	3.50	4.38	2.69	1.000	2.50	4.249	1.0	3.000	3.375	3.25-12	3.50-12	2.50-12
4.00	4.00	4.50	2.69	1.000	3.00	4.749	1.0	3.375	3.875	3.75-12	4.00-12	3.00-12
4.50	4.50	5.25	3.19	1.500	3.50	5.249	1.0	3.875	4.375	4.25-12	4.50-12	3.25-12
5.00	5.00	5.38	3.19	1.500	3.88	5.749	1.0	4.250	4.875	4.75-12	5.00-12	3.50-12
5.50	5.50	6.25	3.94	1.875	4.38	6.249	1.0	4.625	5.375	5.25-12	5.50-12	4.00-12
7.00	7.00	6.50	4.06	2.000	5.75	7.999	1.0	N/A	6.875	6.75-12	7.00-12	5.00-12
8.00	8.00	6.50	4.06	2.000	6.50	8.999	1.0	N/A	7.875	7.50-12	8.00-12	5.75-12
8.50	8.50	6.50	4.06	2.000	6.50	9.499	1.0	N/A	8.375	8.25-12	8.50-12	6.00-12
10.00	10.00	7.25	4.62	2.375	8.00	10.999	1.0	N/A	9.875	9.75-12	10.00-12	7.00-12

N/A = NOT APPLICABLE TO THIS SIZE

Additional Rod End Styles are available. Please forward your requirements.

# ROD END STYLES