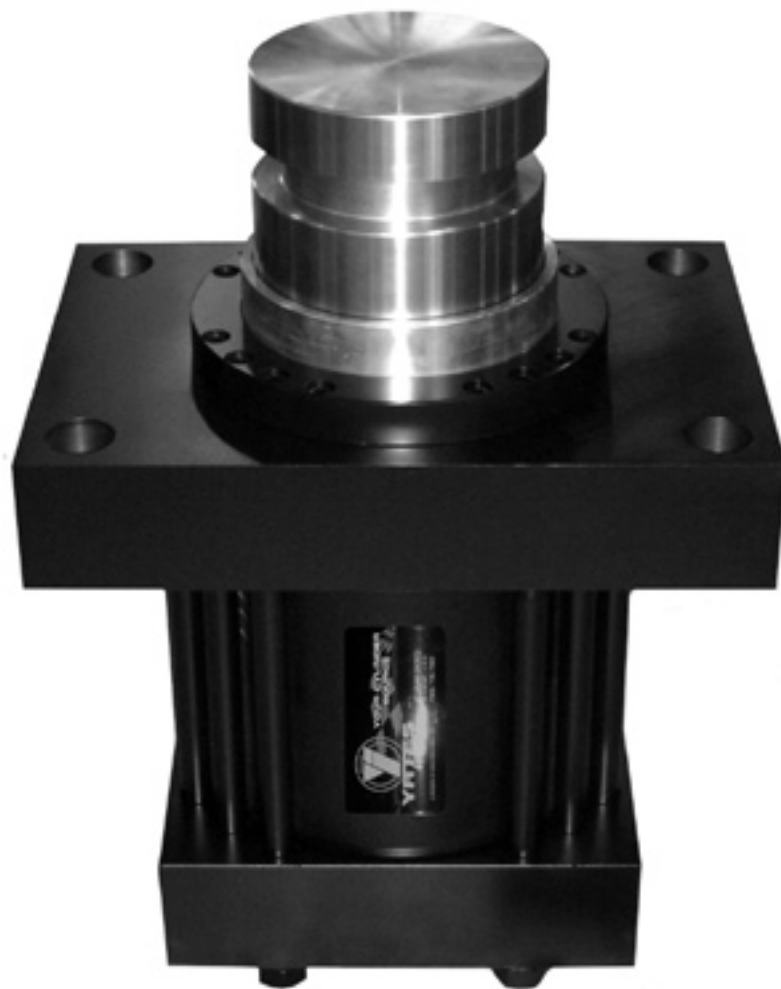


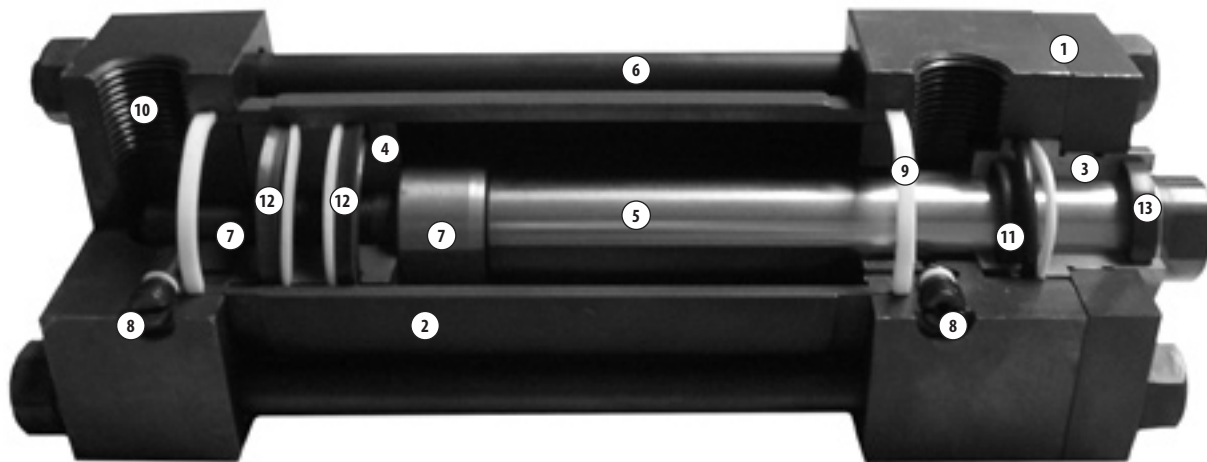
# HEAVY DUTY HYDRAULIC

## Series H6

3000 PSI RATED

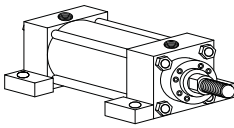
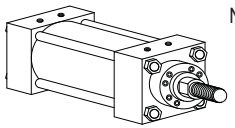
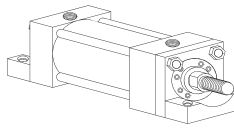
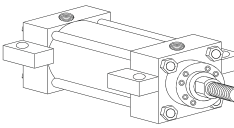


## H6 FEATURES

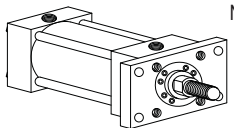
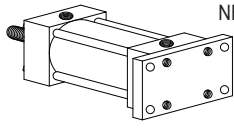
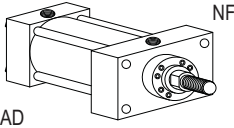
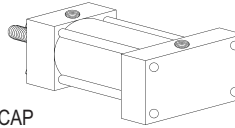
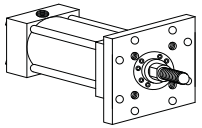
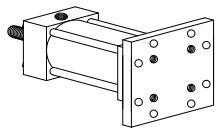
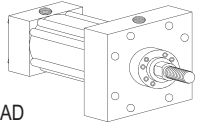
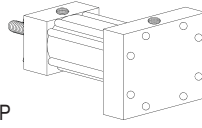
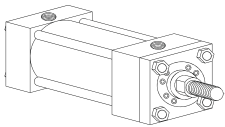
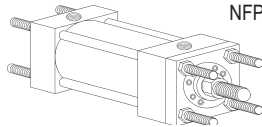
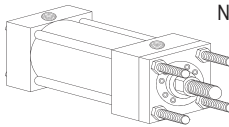
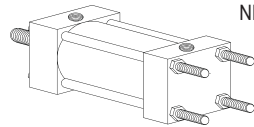


- 1. HEAD/CAP-** Precision machined steel head and cap provide close concentricity and accurate alignment between piston, tube, piston rod and rod bearing.
- 2. CYLINDER BARREL-** Damage resistant, heavy wall steel tubing, honed to an 8 to 16 micro finish for low frictional drag and maximum seal and piston bearing life.
- 3. ROD CARTRIDGE-** Extra long, high strength bronze gland provides maximum bearing support and wear resistance. With certain exceptions, a removable retainer allows for gland removal without cylinder disassembly.
- 4. PISTON-** One piece fine grained cast iron piston provides maximum strength and protection against shock loads. Anaerobic adhesive is used to permanently lock and seal the piston to the rod.
- 5. PISTON ROD-** High strength damage resistant piston rod provides 100,000 PSI minimum yield material in 5/8" through 4 1/2" diameters. Larger diameters vary between 50,000 and 75,000 PSI minimum yield material. All rods are case hardened to 50-55 RC and hard chrome plated to provide maximum wear life. Stainless steel is also available.
- 6. TIE RODS-** 100,000 to 125,000 PSI minimum yield steel, pre-stressed for fatigue resistance, and roll threaded for added strength.
- 7. CUSHIONS-** Head cushion sleeve and rear cushion spear are machined to close tolerances to provide a gradual deceleration and reduced shock at end of stroke.
- 8. CUSHION NEEDLE ADJUSTMENT AND BALL CHECK-** Flush mounted captive cushion adjustment allows for safe cushion adjustment under pressure. Special tip design and fine threads allow for precise adjustment over a broad range of operations. Cushion ball check allows for fast break-away under full power.
- 9. TUBE END SEALS-** Extrusion resistant Teflon<sup>®</sup> material is compatible with virtually all fluids and can operate in temperatures to 500°F.
- 10. PORTS-** NPT ports are standard and can be rotated to any 90 degree position in relation to each other and the mounting. SAE ports are optional at no extra charge.
- 11. ROD SEAL-** Twin lip urethane rod seal is pressure energized and wear compensating for long, leak-free service. Viton<sup>®</sup> seals are optional.
- 12. PISTON SEALS-** Pressure energized nitrile U-cups, with Teflon<sup>®</sup> back-up rings are standard. Step cut cast iron rings and Viton<sup>®</sup> seals are optional.
- 13. ROD WIPER-** Nitrile double lip rod wiper acts as a secondary seal while keeping dirt, dust and other contaminants out. Optional Viton<sup>®</sup> wiper is available for fluid compatibility or temperatures to 400°F. Metallic scrapers and low friction wipers are also available.

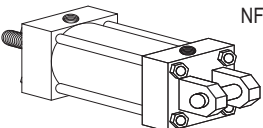
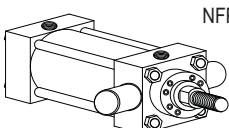
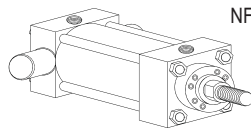
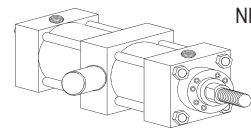
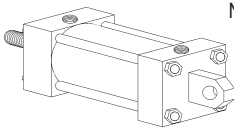
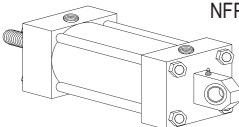
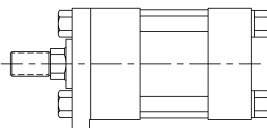
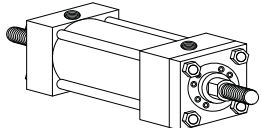
## SIDE MOUNTS

<p><b>STYLE A</b> PAGE <b>10-11</b> NFPA-MS2</p>  <p>SIDE LUGS 1 1/2-8" BORE</p>	<p><b>STYLE B</b> PAGE <b>10-11</b> NFPA-MS4</p>  <p>SIDE TAPPED 1 1/2-8" BORE</p>	<p><b>STYLE E</b> PAGE <b>12-13</b> NFPA-MS7</p>  <p>SIDE END LUGS 1 1/2-8" BORE</p>	<p><b>STYLE H</b> PAGE <b>10-11</b> NFPA-MS3</p>  <p>CENTER-LINE LUGS 1 1/2-8" BORE</p>
---	---	--	--

## END MOUNTS

<p><b>STYLE F</b> PAGE <b>24-25</b> NFPA-MF1</p>  <p>HEAD RECTANGULAR FLANGE 1 1/2-8" BORE</p>	<p><b>STYLE R</b> PAGE <b>24-25</b> NFPA-MF2</p>  <p>CAP RECTANGULAR FLANGE 1 1/2-8" BORE</p>	<p><b>STYLE G</b> PAGE <b>26-27</b> NFPA-ME5</p>  <p>HEAD RECTANGULAR INTEGRAL FLANGE 1 1/2-14" BORE</p>	<p><b>STYLE P</b> PAGE <b>26-27</b> NFPA-ME6</p>  <p>CAP RECTANGULAR INTEGRAL FLANGE 1 1/2-14" BORE</p>
<p><b>STYLE J</b> PAGE <b>24-25</b> NFPA-MF5</p>  <p>HEAD SQUARE FLANGE 1 1/2-8" BORE</p>	<p><b>STYLE S</b> PAGE <b>24-25</b> NFPA-MF6</p>  <p>CAP SQUARE FLANGE 1 1/2-8" BORE</p>	<p><b>STYLE X</b> PAGE <b>28-29</b> NFPA-ME3</p>  <p>HEAD SQUARE INTEGRAL FLANGE 10-20" BORE</p>	<p><b>STYLE Z</b> PAGE <b>28-29</b> NFPA-ME4</p>  <p>CAP SQUARE INTEGRAL FLANGE 10-20" BORE</p>
<p><b>STYLE K</b> PAGE <b>30-31</b></p>  <p>NO TIE RODS EXTENDED 1 1/2-20" BORE</p>	<p><b>STYLE L</b> PAGE <b>30-31</b> NFPA-MX1</p>  <p>BOTH ENDS TIE RODS EXTENDED 1 1/2-8" BORE</p>	<p><b>STYLE M</b> PAGE <b>30-31</b> NFPA-MX3</p>  <p>HEAD TIE RODS EXTENDED 1 1/2-8" BORE</p>	<p><b>STYLE N</b> PAGE <b>30-31</b> NFPA-MX2</p>  <p>CAP TIE RODS EXTENDED 1 1/2-8" BORE</p>

## PIVOT MOUNTS – CLEVIS AND TRUNNION

<p><b>STYLE C</b> PAGE <b>16-19</b> NFPA-MP1</p>  <p>FIXED CLEVIS 1 1/2-20" BORE</p>	<p><b>STYLE U</b> PAGE <b>20-23</b> NFPA-MT1</p>  <p>HEAD TRUNNION 1 1/2-20" BORE</p>	<p><b>STYLE W</b> PAGE <b>20-23</b> NFPA-MT2</p>  <p>CAP TRUNNION 1 1/2-20" BORE</p>	<p><b>STYLE T</b> PAGE <b>20-21</b> NFPA-MT4</p>  <p>INTERMEDIATE FIXED TRUNNION 1 1/2-8" BORE</p>
<p><b>STYLE V</b> PAGE <b>16-19</b> NFPA-MP3</p>  <p>CAP FIXED EYE 1 1/2-14" BORE</p>	<p><b>STYLE Q</b> PAGE <b>14-15</b> NFPA-MPU3</p>  <p>SPHERICAL BEARING 1 1/2-6" BORE</p>	<p><b>EXTENDED KEY PLATE</b> (ADD "S" IN PART # AND STATE EXTENDED KEY PLATE IN DESCRIPTION)</p>  <p>1 1/2-8" BORE PAGE <b>32</b></p>  <p>PAGE <b>32-33</b></p>	

**YATES HEAVY DUTY HYDRAULIC CYLINDERS ARE DESIGNED TO ACCEPT YATES STANDARD MOUNTING ACCESSORIES. SEE PAGES 34-36**



# PRESSURE RATINGS

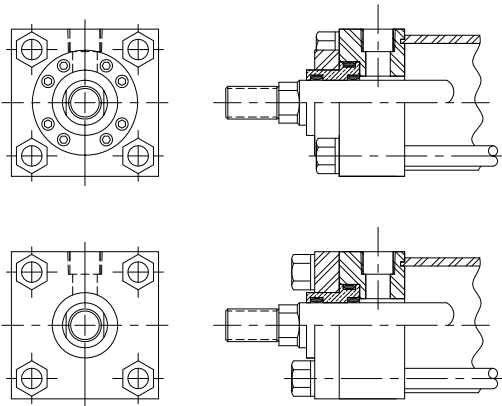
CYLINDER BORE (INCHES)	PISTON ROD DIAMETER (INCHES)			PRESSURE RATINGS (PSI)	
	STANDARD	OVERSIZE	2:1	HEAVY-DUTY SERVICE	4:1 SAFETY FACTOR
1 1/2	5/8		1	3000 *	2000
2	1		1 3/8	3000 *	2000
2 1/2	1	1 3/8	1 3/4	3000 *	1950
3 1/4	1 3/8	1 3/4	2	3000 *	2100
4	1 3/4	2	2 1/2	3000 *	1900
5	2	2 1/2, 3	3 1/2	3000 *	1900
6	2 1/2	3, 3 1/2	4	3000 *	2000
7	3	3 1/2, 4, 4 1/2	5	3000 *	1850
8	3 1/2	4, 4 1/2, 5	5 1/2	3000 *	1900
10	4 1/2	5, 5 1/2	7	3000 *	
12	5 1/2	7	8	3000 *	
14	7	8, 9	10	3000 *	
16	8	9, 10		3000 *	
18	9	10		3000 *	
20	10			3000 *	

\* PRESSURE FOR "F" AND "R" MOUNTS (SEE PAGE 24) AND "Q" MOUNTS (SEE PAGE 14) IS LOWER

Φ 4:1 SAFETY FACTOR BASED ON FAILURE PRESSURES OF WEAKEST COMPONENT AND STANDARD ROD SIZE

**FOR HIGHER PRESSURES CONSULT FACTORY**

## H6 RETAINER INFORMATION



H6 cylinders with the following bore and rod combinations use circular retainers which permit removal of rod cartridge without disassembling cylinder.

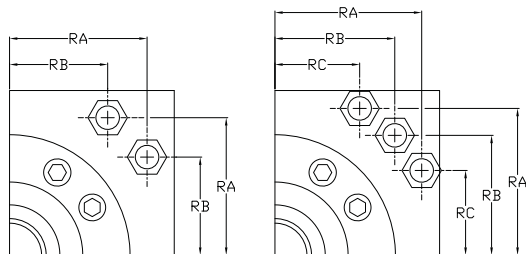
- 2 1/2" bore with 1" rod
- 3 1/4" bore with 1 3/8" rod
- 4" thru 20" bores with all rod diameters

H6 cylinders with the following bore and rod combinations use full plate retainer construction.

- 1 1/2" bore with 5/8" and 1" rods
- 2" bore with 1" and 1 3/8" rods
- 2 1/2" bore with 1 3/8" and 1 3/4" rods
- 3 1/4" bore with 1 3/4" and 2" rods

## LARGE BORE TIE ROD INFORMATION

On large bore cylinders, two or three tie rods are used at each corner of the 10, 12, 14, 16, 18 and 20 inch bore sizes. This reduces flexing of head and cap under pressure.



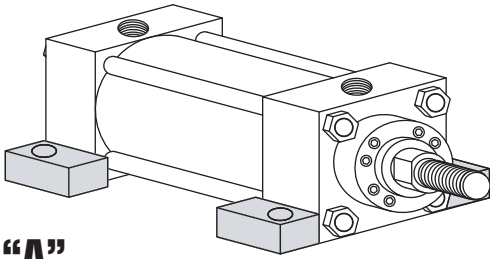
BORE	RA	RB	RC	TIE ROD
10	5.291	3.775	NA	1 1/8-12
12	6.27	4.555	NA	1 1/4-12
14	7.485	6.143	4.409	1 1/4-12
16	8.086	6.093	NA	1 1/2-12
18	9.589	7.91	5.761	1 1/2-12
20	10.437	8.75	6.649	1 1/2-12

# HOW TO ORDER H6 CYLINDERS

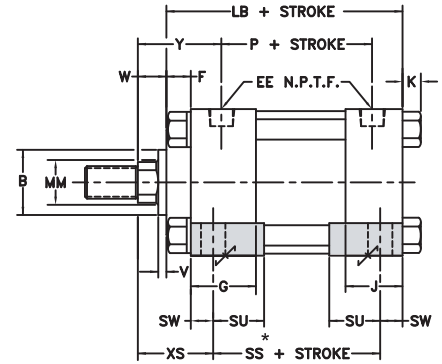
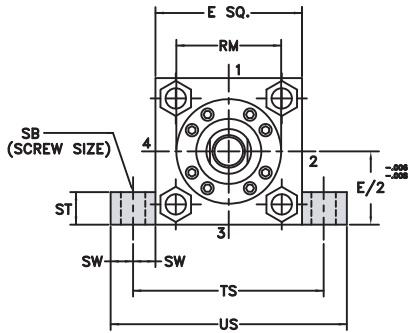
Feature	Description	Page #	Symbol	H	6	A	D	N	3	.	2	N	-	4	8	.	2	5	S	1	.	3	8	T	2	S	1	1			
<b>Series</b>	Heavy Duty Hydraulic	8	H6	←																											
<b>Mounting Style</b>	Side lugs (MS2)	7	A	←																											
	Side tapped (MS4)		B	←																											
	Side end lugs (MS7)		E	←																											
	Center-line lugs (MS3)		H	←																											
	Head rectangular flange (MF1)		F	←																											
	Cap rectangular flange (MF2)		R	←																											
	Head square flange (MF5)		J	←																											
	Cap square flange (MF6)		S	←																											
	Head rectangular integral flange (ME5)		G	←																											
	Cap rectangular integral flange (ME6)		P	←																											
	Head square integral flange (ME3)		X	←																											
	Cap square integral flange (ME4)		Z	←																											
	No tie rods extended (MX0)		K	←																											
	Both ends tie rods extended (MX1)		L	←																											
	Head tie rods extended (MX3)		M	←																											
	Cap tie rods extended (MX2)		N	←																											
	Cap clevis (MP1)		C	←																											
	Cap eye (MP3)		V	←																											
	Spherical bearing (MPU3)		Q	←																											
	Head trunnion (MT1)		U	←																											
Cap trunnion (MT2)	W	←																													
Intermediate fixed trunnion (MT4)	T	←																													
<b>Double Rod</b>	Double rod design if needed	32-33	D	←																											
<b>Cushions</b>	No cushions		N	←																											
	Cushion head end only		R	←																											
	Cushion cap end only		C	←																											
	Cushioned both ends		B	←																											
<b>Bore size</b>	Specify in inches	106-107		←																											
<b>Piston seals</b>	Nitrile U-cups	120	N	←																											
	Cast iron rings		C	←																											
	Poly seals		P	←																											
	Viton® seals		V	←																											
	Fluorocarbon poly seals		F	←																											
Other (Specify)	X	←																													
<b>Stroke</b>	Specify in inches with 2 place decimal	106-107		←																											
<b>Ports</b>	NPTF		N	←																											
	SAE		S	←																											
	Welded coupler		W	←																											
	Other (Specify)		X	←																											
<b>Rod dia.</b>	Specify in inches	106-107		←																											
<b>Rod Seals</b>	Twin lip hydraulic seal (standard)	120	T	←																											
	Poly seals		P	←																											
	Viton® seals		V	←																											
	Fluorocarbon poly seals		F	←																											
	Other (Specify)		X	←																											
<b>Rod End</b>	Standard male	37	2	←																											
	Standard female		4	←																											
	Intermediate male		1	←																											
	Long female		3	←																											
	Extended standard male		5	←																											
	Extended intermediate male		6	←																											
	Plain rod end		7	←																											
	Male full thread		8	←																											
	Male rod coupling		9	←																											
	Special male (specify)		M	←																											
	Special female (specify)		F	←																											
	Special stud (specify)		S	←																											
	Special other (specify)		X	←																											
	<b>Specials Specify</b>		High load piston	120	S	←																									
			Stop tube			←																									
Proximity switches			←																												
Non-standard mount			←																												
Stainless steel rod			←																												
Extra rod extension		←																													
Many more options available		←																													
<b>Head port</b>	specify location 1-4			←																											
<b>Cap port</b>	specify location 1-5			←																											



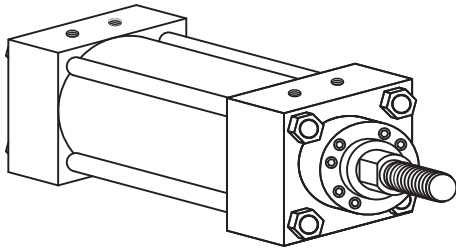
## SIDE LUGS MOUNT



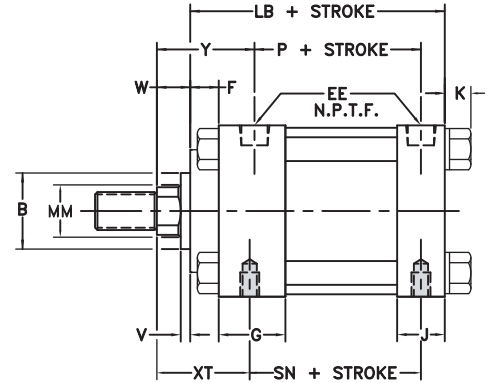
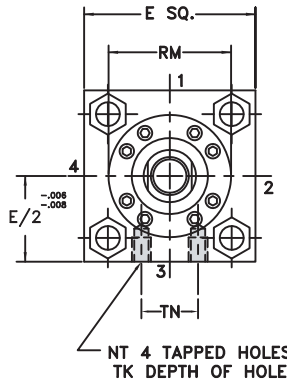
**“A”**  
YATES STYLE A  
NFPA-MS2



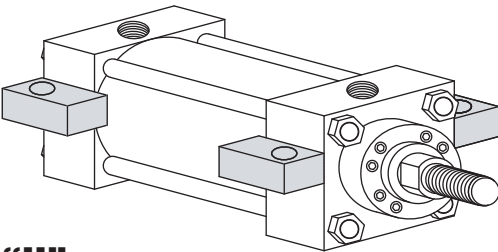
## SIDE TAPPED MOUNT



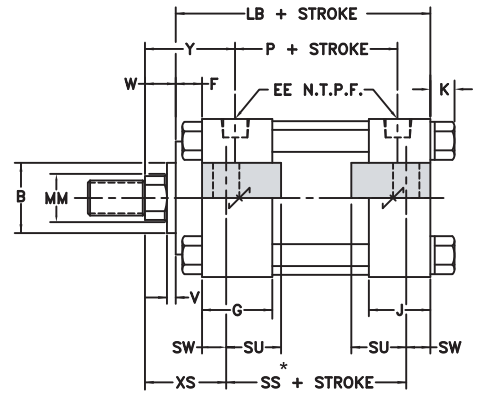
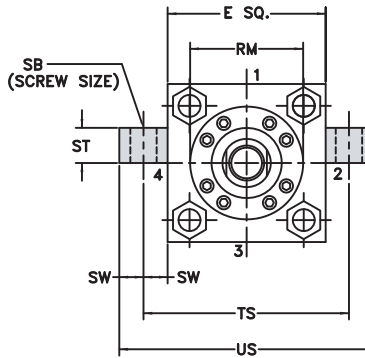
**“B”**  
YATES STYLE B  
NFPA-MS4



## CENTER-LINE LUGS MOUNT



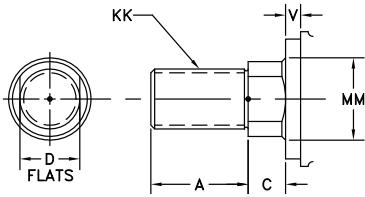
**“H”**  
YATES STYLE H  
NFPA-MS3



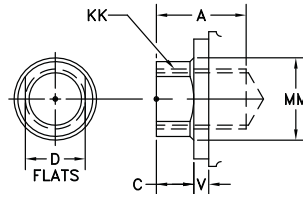
- † HEAD END PORTS SHALLOW TAPPED
- CONSULT FACTORY FOR AVAILABILITY OF SAE PORT OPTION
- Δ (4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER RODS
- § THESE CYLINDERS HAVE FULL PLATE RETAINERS. USE "E" DIMENSION INSTEAD OF "RM" - SEE PAGE 8
- ‡ B DIMENSION TOLERANCE -.001 / -.003
- \* SS DIMENSION CHANGES ON DOUBLE ROD CYLINDERS - SEE PAGE 33 FOR DETAILS
- NOTE:** SUGGESTED THAT THESE MOUNTS BE KEYPED OR PINNED TO PREVENT SHIFTING - SEE PAGE 32
- ⊕ CONSULT FACTORY FOR DIMENSIONS.

# STANDARD ROD ENDS

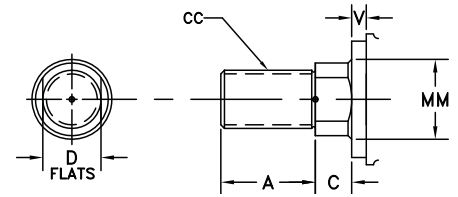
**#2 STD MALE**  
NFPA-SM



**#4 STD FEMALE**  
NFPA-SF



**#1 MALE**  
NFPA-IM

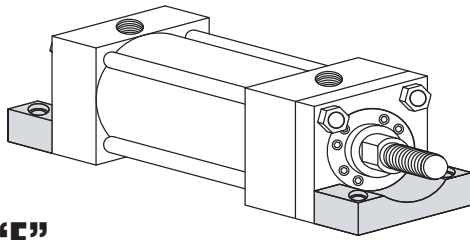


BORE	SAE															ADD STROKE			
	E	EE	OPT.	F	G	J	K	NT	SB	ST	SU	SW	TN	TS	US	LB	P	SN	SS*
1 1/2	2 1/2	1/2	10	3/8	1 3/4	1 1/2	3/8	3/8-16	3/8	1/2	15/16	3/8	3/4	3 1/4	4	5	3	2 7/8	3 7/8
2	3	1/2	10	5/8	1 3/4	1 1/2	7/16	1/2-13	1/2	3/4	1 1/4	1/2	15/16	4	5	5 1/4	3	2 7/8	3 5/8
2 1/2	3 1/2	1/2	10	5/8	1 3/4	1 1/2	7/16	5/8-11	3/4	1	1 9/16	11/16	1 5/16	4 7/8	6 1/4	5 3/8	3 1/8	3	3 3/8
3 1/4	4 1/2	3/4	12	3/4	2	1 3/4	9/16	3/4-10	3/4	1	1 9/16	11/16	1 1/2	5 7/8	7 1/4	6 1/4	3 5/8	3 1/2	4 1/8
4	5	3/4	12	7/8	2	1 3/4	9/16	1-8	1	1 1/4	2	7/8	2 1/16	6 3/4	8 1/2	6 5/8	3 7/8	3 3/4	4
5	6 1/2	3/4	12	7/8	2	1 3/4	3/4	1-8	1	1 1/4	2	7/8	2 15/16	8 1/4	10	7 1/8	4 3/8	4 1/4	4 1/2
6	7 1/2	1	16	1	2 1/4	2 1/4	7/8	1 1/4-7	1 1/4	1 1/2	2 1/2	1 1/8	3 5/16	9 3/4	12	8 3/8	5	5 1/8	5 1/8
7	8 1/2	1 1/4	20	1	2 3/4	2 3/4	1	1 1/2-6	1 1/2	1 3/4	2 7/8	1 3/8	3 3/4	11 1/4	14	9 1/2	5 1/2	5 7/8	5 3/4
8	9 1/2	1 1/2	24	1	3	3	1 1/16	1 1/2-6	1 1/2	1 3/4	2 7/8	1 3/8	4 1/4	12 1/4	15	10 1/2	6 1/4	6 5/8	6 3/4

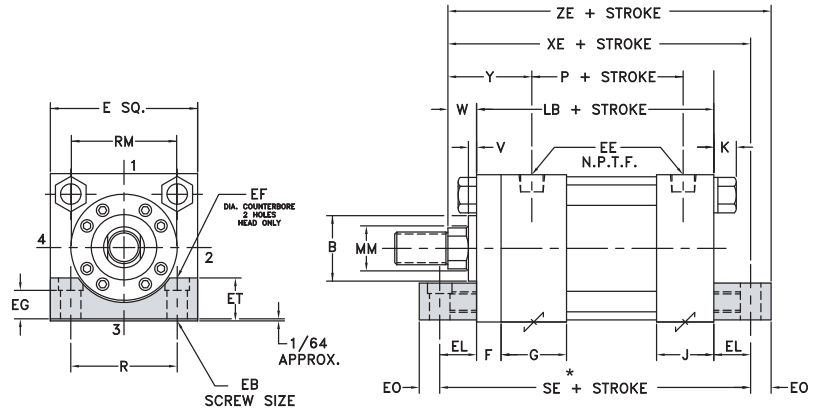
BORE	ROD DIA. MM	THREAD		ROD EXTENSIONS AND PILOT DIMENSIONS									ENVELOPE AND MOUNTING DIMENSIONS		
		KK	CC	A	B ±	C	D	V	W	TK	RM	XS	XT	Y	
1 1/2	5/8	7/16-20	1/2-20	3/4	1 1/8	3/8	1/2	1/4	5/8	9/16	§	1 3/8	2	1 15/16	
	1 †	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/2	1	Φ	§	1 3/4	Φ	2 5/16	
2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	1/2	§	1 7/8	2 3/8	2 5/16	
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	Φ	§	2 1/8	Φ	2 9/16	
2 1/2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	13/16	2 1/2	2 1/16	2 3/8	2 5/16	
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	Φ	§	2 5/16	Φ	2 9/16	
	1 3/4 †	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/2	1 1/4	Φ	§	2 9/16	Φ	2 13/16	
3 1/4	1 3/8	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	1/4	7/8	3/4	3 7/32	2 5/16	2 3/4	2 11/16	
	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	3/8	1 1/8	3/4	§	2 9/16	3	2 15/16	
	2 †	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	3/8	1 1/4	Φ	§	2 11/16	Φ	3 1/16	
4	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/4	1	1	3 7/8	2 3/4	3	2 15/16	
	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	Φ	4	2 7/8	Φ	3 1/16	
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	3/8	1 3/8	Φ	4 7/16	3 1/8	Φ	3 5/16	
5	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	1 1/8	4	2 7/8	3 1/8	3 1/16	
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	3/8	1 3/8	1 1/8	4 7/16	3 1/8	3 3/8	3 5/16	
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	3/8	1 3/8	1 1/8	5 1/4	3 1/8	3 3/8	3 5/16	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	3/8	1 3/8	Φ	5 5/8	3 1/8	Φ	3 5/16	
6	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	1/4	1 1/4	1 5/16	4 7/16	3 3/8	3 1/2	3 7/16	
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	1 5/16	5 1/4	3 3/8	3 1/2	3 7/16	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	1 5/16	5 5/8	3 3/8	3 1/2	3 7/16	
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	Φ	6 7/16	3 3/8	Φ	3 7/16	
	7	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	1 1/8	5 1/4	3 5/8	3 13/16	3 3/4
7	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	1 1/8	5 5/8	3 5/8	3 13/16	3 3/4	
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	1 1/8	6 7/16	3 5/8	3 13/16	3 3/4	
	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	1 1/4	Φ	7 1/8	3 5/8	Φ	3 3/4	
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	1 1/4	Φ	7 5/8	3 5/8	Φ	3 3/4	
	8	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	1 9/16	5 5/8	3 5/8	3 15/16	3 7/8
8	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	1 9/16	6 7/16	3 5/8	3 15/16	3 7/8	
	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	1 1/4	1 9/16	7 1/8	3 5/8	3 15/16	3 7/8	
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	1 1/4	1 9/16	7 5/8	3 5/8	3 15/16	3 7/8	
	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	1/4	1 1/4	Φ	8 3/8	3 5/8	Φ	3 7/8	



# SIDE END LUGS MOUNT



**“E”**  
**YATES STYLE E**  
**NFPA-MS7**

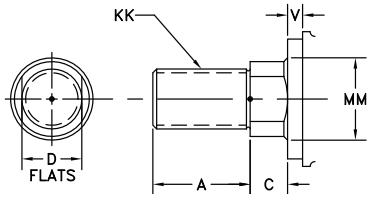


- † HEAD END PORTS SHALLOW TAPPED
- CONSULT FACTORY FOR AVAILABILITY OF SAE PORT OPTION
- Δ (4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER RODS
- ‡ B DIMENSION TOLERANCE -.001/ -.003
- \* SE, XE & ZE DIMENSION CHANGES ON DOUBLE ROD CYLINDERS – SEE PAGE 33 FOR DETAILS.

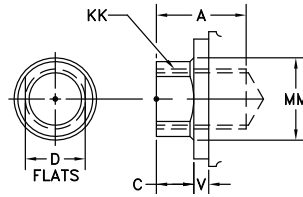
**NOTE:** SUGGESTED THAT THESE MOUNTS BE KEYPED OR PINNED TO PREVENT SHIFTING - SEE PAGE 32  
**NOTE:** BOTTOMS OF HEAD AND CAP ARE MOUNTING SURFACES. LUGS HOLD CYLINDER AGAINST MOUNTING SURFACE.  
**NOTE:** CHECK FOR CLEARANCE BETWEEN FRONT MOUNTING LUG AND ROD END ATTACHMENT. SPECIFY LONGER THAN STANDARD "W" DIMENSION IF NECESSARY.

# STANDARD ROD ENDS

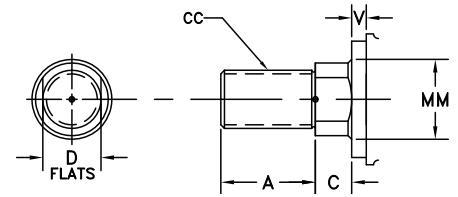
## #2 STD MALE NFPA-SM



## #4 STD FEMALE NFPA-SF



## #1 MALE NFPA-IM

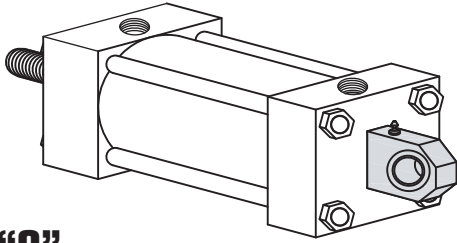


BORE	SAE														ADD STROKE		
	E	EE	OPT.	F	G	J	K	EB	EF	EG	EL	EO	ET	R	LB	P	SE *
1 1/2	2 1/2	1/2	10	3/8	1 3/4	1 1/2	3/8	3/8	5/8	11/16	7/8	3/8	7/8	1.63	5	3	6 3/4
2	3	1/2	10	5/8	1 3/4	1 1/2	7/16	1/2	13/16	3/4	15/16	1/2	15/16	2.05	5 1/4	3	7 1/8
2 1/2	3 1/2	1/2	10	5/8	1 3/4	1 1/2	7/16	1/2	13/16	3/4	15/16	1/2	15/16	2.55	5 3/8	3 1/8	7 1/4
3 1/4	4 1/2	3/4	12	3/4	2	1 3/4	9/16	5/8	1	1 1/16	1 1/8	5/8	1 1/4	3.25	6 1/4	3 5/8	8 1/2
4	5	3/4	12	7/8	2	1 3/4	9/16	5/8	1	15/16	1 1/8	5/8	1 1/4	3.82	6 5/8	3 7/8	8 7/8
5	6 1/2	3/4	12	7/8	2	1 3/4	3/4	7/8	1 3/8	1 1/4	1 1/2	3/4	1 1/2	4.95	7 1/8	4 3/8	10 1/8
6	7 1/2	1	16	1	2 1/4	2 1/4	7/8	1	1 5/8	1 1/2	1 11/16	7/8	1 3/4	5.73	8 3/8	5	11 3/4
7	8 1/2	1 1/4	20	1	2 3/4	2 3/4	1	1 1/8	1 5/8	1 9/16	1 13/16	1	2	6.58	9 1/2	5 1/2	13 1/8
8	9 1/2	1 1/2	24	1	3	3	1 1/16	1 1/4	2 3/32	1 3/4	2	1 1/8	2	7.50	10 1/2	6 1/4	14 1/2

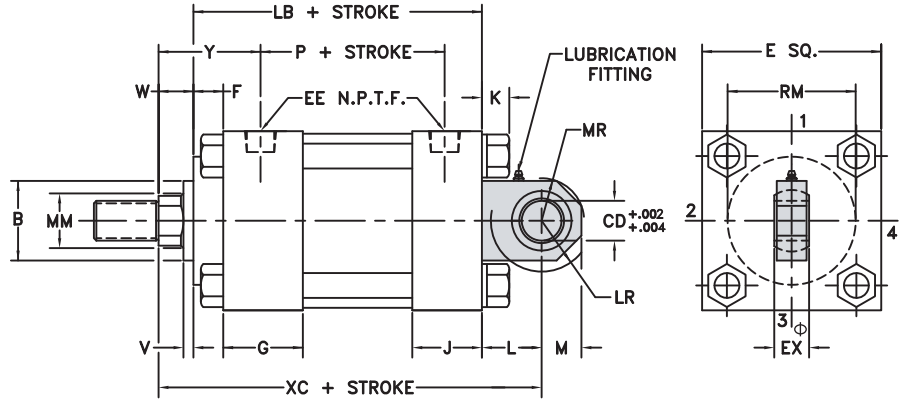
BORE	ROD DIA.	THREAD		ROD EXTENSIONS AND PILOT DIMENSIONS								ADD STROKE	
	MM	KK	CC	A	B†	C	D	V	Y	W	XE*	ZE*	
1 1/2	5/8	7/16-20	1/2-20	3/4	1 1/8	3/8	1/2	1/4	1 15/16	5/8	6 1/2	6 7/8	
	1 †	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/2	2 5/16	1	6 7/8	7 1/4	
2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	2 5/16	3/4	6 15/16	7 7/16	
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	2 9/16	1	7 3/16	7 11/16	
2 1/2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	2 5/16	3/4	7 1/16	7 9/16	
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	2 9/16	1	7 5/16	7 13/16	
3 1/4	1 3/8	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	1/4	2 11/16	7/8	8 1/4	8 7/8	
	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	3/8	2 15/16	1 1/8	8 1/2	9 1/8	
4	2 †	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	3/8	3 1/16	1 1/4	8 5/8	9 1/4	
	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/4	2 15/16	1	8 3/4	9 3/8	
5	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	3/8	3 5/16	1 3/8	9 1/8	9 3/4	
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	3/8	3 5/16	1 3/8	9 3/4	10 1/2	
6	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	3/8	3 5/16	1 3/8	10	10 3/4	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	3/8	3 5/16	1 3/8	10	10 3/4	
7	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	1/4	3 7/16	1 1/4	11 5/16	12 3/16	
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	3 7/16	1 1/4	11 5/16	12 3/16	
8	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	3 7/16	1 1/4	11 5/16	12 3/16	
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	3 7/16	1 1/4	11 5/16	12 3/16	
9	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	3 3/4	1 1/4	12 9/16	13 9/16	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	3 3/4	1 1/4	12 9/16	13 9/16	
10	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	3 3/4	1 1/4	12 9/16	13 9/16	
	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	3 3/4	1 1/4	12 9/16	13 9/16	
11	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	3 3/4	1 1/4	12 9/16	13 9/16	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	3 7/8	1 1/4	13 3/4	14 7/8	
12	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	3 7/8	1 1/4	13 3/4	14 7/8	
	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	3 7/8	1 1/4	13 3/4	14 7/8	
13	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	3 7/8	1 1/4	13 3/4	14 7/8	
	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	1/4	3 7/8	1 1/4	13 3/4	14 7/8	



# SPHERICAL BEARING MOUNT



**“Q”**  
**YATES STYLE Q**  
**NFPA-MPU3**



- † HEAD END PORTS SHALLOW TAPPED
- CONSULT FACTORY FOR AVAILABILITY OF SAE PORT OPTION
- Δ (4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER RODS
- § THESE CYLINDERS HAVE FULL PLATE RETAINERS. USE "E" DIMENSIONS INSTEAD OF "RM" – SEE PAGE 8
- ‡ B DIMENSION TOLERANCE  $-.001/-.003$

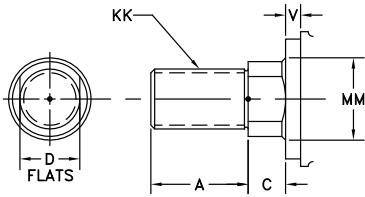
**NOTE:** Q MOUNT MAX OPERATING PSI BASED ON STANDARD COMMERCIAL BEARING RATINGS

Φ EYE DESIGNED TO FIT YATES STD SWIVEL CLEVIS BRACKET - SEE PAGE 36

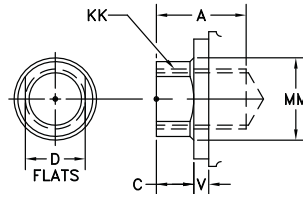
**NOTE:** MPU3 MOUNT DOES NOT INCLUDE PIVOT PIN

# STANDARD ROD ENDS

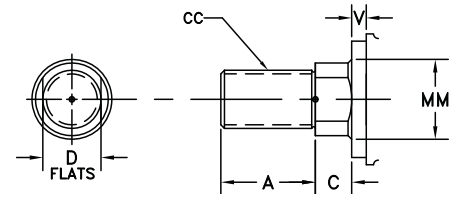
## #2 STD MALE NFPA-SM



## #4 STD FEMALE NFPA-SF



## #1 MALE NFPA-IM

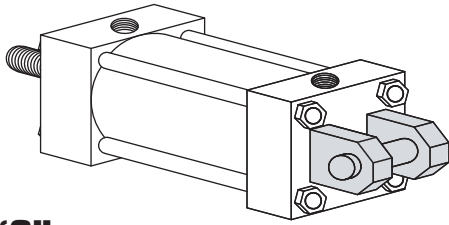


BORE	SAE													ADD STROKE	
	CD	EXΦ	E	EE	OPT.	F	G	J	L	LR	M	MR	K	LB	P
1 1/2	1/2	7/16	2 1/2	1/2	10	3/8	1 3/4	1 1/2	3/4	5/8	3/4	13/16	3/8	5	3
2	3/4	21/32	3	1/2	10	5/8	1 3/4	1 1/2	1 1/4	1	1	1 1/8	7/16	5 1/4	3
2 1/2	3/4	21/32	3 1/2	1/2	10	5/8	1 3/4	1 1/2	1 1/4	1	1	1 1/8	7/16	5 3/8	3 1/8
3 1/4	1	7/8	4 1/2	3/4	12	3/4	2	1 3/4	1 1/2	1 1/4	1 1/4	1 3/8	9/16	6 1/4	3 5/8
4	1 3/8	1 3/16	5	3/4	12	7/8	2	1 3/4	2 1/8	1 5/8	1 7/8	2 1/16	9/16	6 5/8	3 7/8
5	1 3/4	1 17/32	6 1/2	3/4	12	7/8	2	1 3/4	2 1/4	2 1/16	2 1/2	2 3/4	3/4	7 1/8	4 3/8
6	2	1 3/4	7 1/2	1	16	1	2 1/4	2 1/4	2 1/2	2 3/8	2 1/2	2 3/4	7/8	8 3/8	5

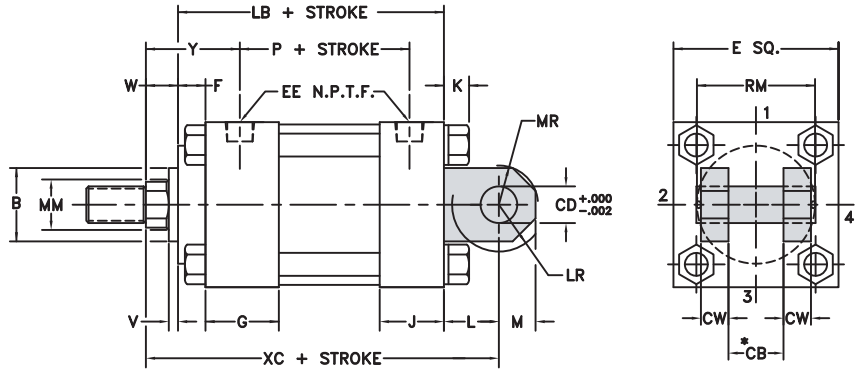
BORE	ROD DIA.	THREAD		ROD EXTENSIONS AND PILOT DIMENSIONS								ADD STROKE	"Q" MOUNT MAX
	MM	KK	CC	A	B ‡	C	D	V	W	Y	RM	XC	OPER. PSI
1 1/2	5/8	7/16-20	1/2-20	3/4	1 1/8	3/8	1/2	1/4	5/8	1 15/16	§	6 3/8	1675
	1 †	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/2	1	2 5/16	§	6 3/4	
2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	2 5/16	§	7 1/4	2185
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	2 9/16	§	7 1/2	
2 1/2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	2 5/16	2 1/2	7 3/8	1410
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	2 9/16	§	7 5/8	
3 1/4	1 3/4 †	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/2	1 1/4	2 13/16	§	7 7/8	1490
	1 3/8	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	1/4	7/8	2 11/16	3 7/32	8 5/8	
4	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	3/8	1 1/8	2 15/16	§	8 7/8	1800
	2 †	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	3/8	1 1/4	3 1/16	§	9	
5	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/4	1	2 15/16	3 7/8	9 3/4	1925
	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	3 1/16	4	9 7/8	
6	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	3/8	1 3/8	3 5/16	4 7/16	10 1/8	1765
	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	3 1/16	4	10 1/2	
6	2 1/2	1 7/8-12	2 1/4-12	2 1/4	2 5/8	7/8	1 3/4	3/8	1 3/8	3 5/16	4 7/16	10 3/4	1765
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	3/8	1 3/8	3 5/16	5 1/4	10 3/4	
6	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	3/8	1 3/8	3 5/16	5 5/8	10 3/4	1765
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	1/4	1 1/4	3 7/16	4 7/16	12 1/8	
6	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	3 7/16	5 1/4	12 1/8	1765
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	3 7/16	5 5/8	12 1/8	
6	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	3 7/16	6 7/16	12 1/8	



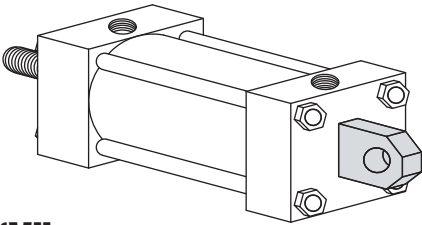
## CAP FIXED CLEVIS MOUNT



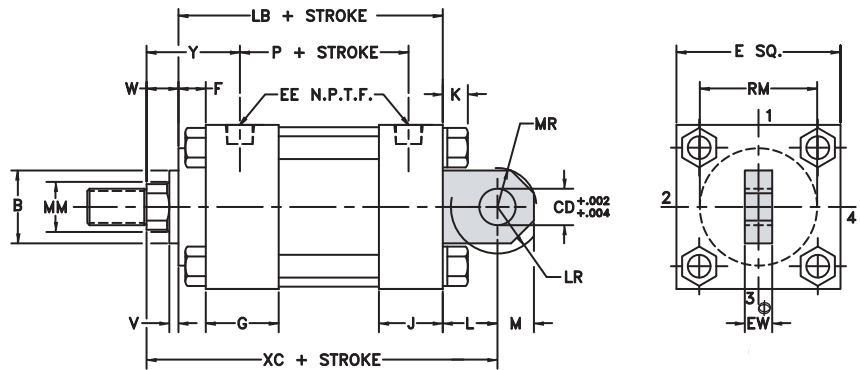
**“C”**  
YATES STYLE C  
NFPA-MP1



## CAP FIXED EYE MOUNT



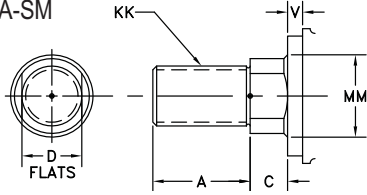
**“V”**  
YATES STYLE V  
NFPA-MP3



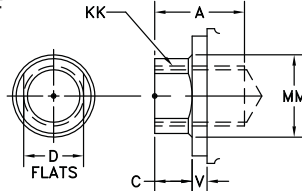
- † HEAD END PORTS SHALLOW TAPPED
  - CONSULT FACTORY FOR AVAILABILITY OF SAE PORT OPTION
  - Δ (4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER RODS
  - § THESE CYLINDERS HAVE FULL PLATE RETAINERS. USE "E" DIMENSION INSTEAD OF "RM" - SEE PAGE 8
  - ‡ B DIMENSION TOLERANCE -.001/-.003
  - \* MAX WIDTH OF MATING PART
  - Φ "EW" DESIGNED TO FIT YATES STD CLEVIS BRACKET - SEE PAGE 34
- NOTE:** MP3 MOUNT DOES NOT INCLUDE PIVOT PIN

# STANDARD ROD ENDS

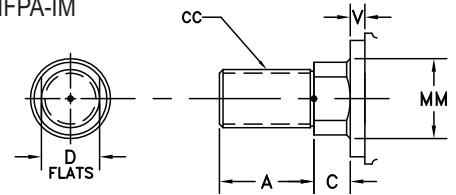
**#2 STD MALE**  
NFPA-SM



**#4 STD FEMALE**  
NFPA-SF



**#1 MALE**  
NFPA-IM

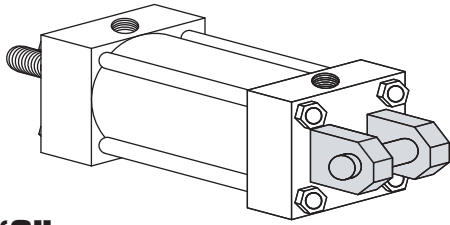


BORE																	ADD STROKE	
	CB*	CD	CW	EW*	E	EE	SAE OPT.	F	G	J	L	LR	M	MR	K	LB	P	
1 1/2	3/4	1/2	1/2	3/4	2 1/2	1/2	10	3/8	1 3/4	1 1/2	3/4	9/16	1/2	9/16	3/8	5	3	
2	1 1/4	3/4	5/8	1 1/4	3	1/2	10	5/8	1 3/4	1 1/2	1 1/4	1 1/16	3/4	7/8	7/16	5 1/4	3	
2 1/2	1 1/4	3/4	5/8	1 1/4	3 1/2	1/2	10	5/8	1 3/4	1 1/2	1 1/4	1 1/16	3/4	7/8	7/16	5 3/8	3 1/8	
3 1/4	1 1/2	1	3/4	1 1/2	4 1/2	3/4	12	3/4	2	1 3/4	1 1/2	1 1/4	1	1 1/8	9/16	6 1/4	3 5/8	
4	2	1 3/8	1	2	5	3/4	12	7/8	2	1 3/4	2 1/8	1 7/8	1 3/8	1 1/2	9/16	6 5/8	3 7/8	
5	2 1/2	1 3/4	1 1/4	2 1/2	6 1/2	3/4	12	7/8	2	1 3/4	2 1/4	1 15/16	1 3/4	1 7/8	3/4	7 1/8	4 3/8	
6	2 1/2	2	1 1/4	2 1/2	7 1/2	1	16	1	2 1/4	2 1/4	2 1/2	2 1/16	2	2 3/16	7/8	8 3/8	5	
7	3	2 1/2	1 1/2	3	8 1/2	1 1/4	20	1	2 3/4	2 3/4	3	2 9/16	2 1/2	2 3/4	1	9 1/2	5 1/2	
8	3	3	1 1/2	3	9 1/2	1 1/2	24	1	3	3	3 1/4	3	2 3/4	3	1 1/16	10 1/2	6 1/4	
10	4	3 1/2	2	4	12 5/8	2	32	7/8	3 11/16	3 11/16	4	3 1/2	3 1/2	3 13/16	1	13	8 1/8	

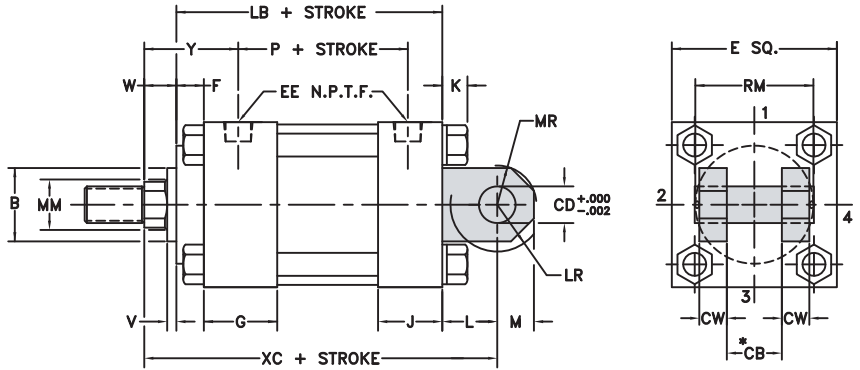
BORE	ROD DIA. MM	THREAD		ROD EXTENSIONS AND PILOT DIMENSIONS								ADD STROKE	
		KK	CC	A	B±	C	D	V	W	Y	RM	XC	
1 1/2	5/8	7/16-20	1/2-20	3/4	1 1/8	3/8	1/2	1/4	5/8	1 15/16	§	6 3/8	
	1†•	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/2	1	2 5/16	§	6 3/4	
2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	2 5/16	§	7 1/4	
	1 3/8†	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	2 9/16	§	7 1/2	
2 1/2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	2 5/16	2 1/2	7 3/8	
	1 3/8†	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	2 9/16	§	7 5/8	
	1 3/4†•	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/2	1 1/4	2 13/16	§	7 7/8	
3 1/4	1 3/8	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	1/4	7/8	2 11/16	3 7/32	8 5/8	
	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	3/8	1 1/8	2 15/16	§	8 7/8	
	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	3/8	1 1/4	3 1/16	§	9	
4	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/4	1	2 15/16	3 7/8	9 3/4	
	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	3 1/16	4	9 7/8	
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	3/8	1 3/8	3 5/16	4 7/16	10 1/8	
	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	3 1/16	4	9 7/8	
5	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	3 1/16	4	10 1/2	
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	3/8	1 3/8	3 5/16	4 7/16	10 3/4	
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	3/8	1 3/8	3 5/16	5 1/4	10 3/4	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	3/8	1 3/8	3 5/16	5 5/8	10 3/4	
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	1/4	1 1/4	3 7/16	4 7/16	12 1/8	
6	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	3 7/16	5 1/4	12 1/8	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	3 7/16	5 5/8	12 1/8	
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	3 7/16	6 7/16	12 1/8	
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	3 7/16	5 1/4	12 1/8	
7	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	3 3/4	5 1/4	13 3/4	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	3 3/4	5 5/8	13 3/4	
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	3 3/4	6 7/16	13 3/4	
	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	1 1/4	3 3/4	7 1/8	13 3/4	
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	1 1/4	3 3/4	7 5/8	13 3/4	
8	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	3 7/8	5 5/8	15	
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	3 7/8	6 7/16	15	
	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	1 1/4	3 7/8	7 1/8	15	
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	1 1/4	3 7/8	7 5/8	15	
	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	1/4	1 1/4	3 7/8	8 3/8	15	
10	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1 1/16	2 1/16	4 15/16	7 1/8	19 1/16	
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1 5/16	2 5/16	5 3/16	7 5/8	19 5/16	
	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	1 5/16	2 5/16	5 3/16	8 3/8	19 5/16	
	7	5-12	6 1/2-12	7	8	1	Δ	1 5/8	2 5/8	5 1/2	10 7/8	19 5/8	



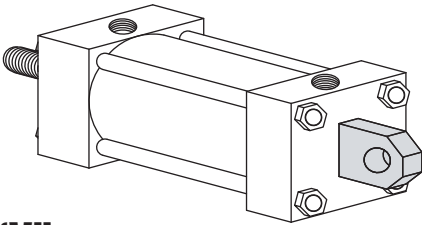
## CAP FIXED CLEVIS MOUNT



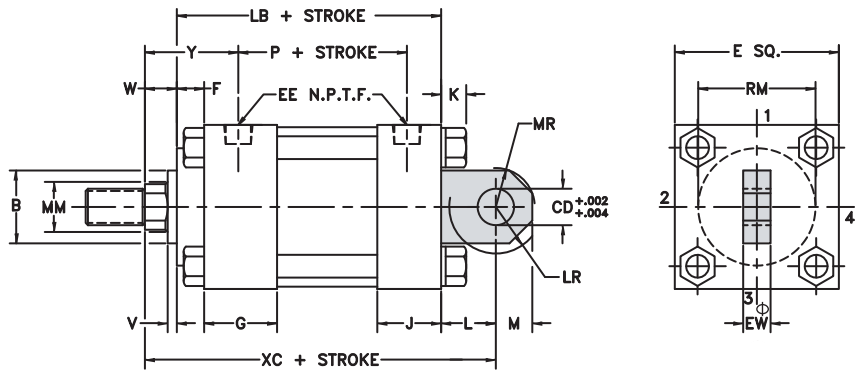
**“C”**  
YATES STYLE C  
NFPA-MP1



## CAP FIXED EYE MOUNT

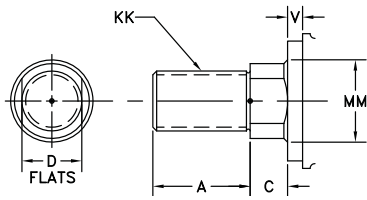


**“V”**  
YATES STYLE V  
NFPA-MP3

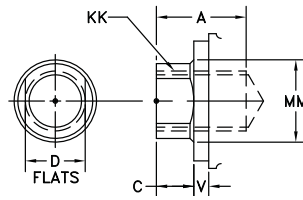


# STANDARD ROD ENDS

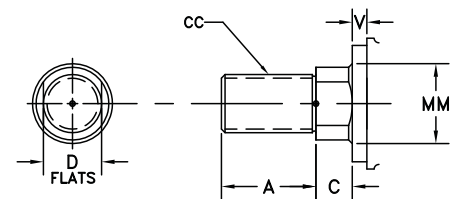
## #2 STD MALE NFPA-SM



## #4 STD FEMALE NFPA-SF



## #1 MALE NFPA-IM



BORE	CB*	CD	CW	EW*Φ	E	EE	SAE OPT.	F	G	J	L	LR	M	MR	K	ADD STROKE	
																LB	P
12	4 1/2	4	2 1/4	4 1/2	14 7/8	2 1/2	32	1 3/8	4 7/16	4 7/16	4 1/2	4	4	4 3/8	1 1/16	15 7/8	9 1/2
14	6	5	3	6	17 1/8	2 1/2	32	1 5/8	4 7/8	4 7/8	5 3/4	5	5	5 7/16	1 1/16	17 1/4	9 7/8
16	7	6	3 1/2	7	19 1/4	3	32	1 7/8	5 7/8	5 7/8	7	6	6	6 1/2	1 9/32	20	11
18	8	6 1/2	4	8	22	3	32	2 3/16	6 7/8	6 7/8	7 5/8	6 1/2	6 1/2	7 1/16	1 9/32	23 5/16	12
20	9	7 1/2	4 1/2	9	23 5/8	3	32	2 11/16	7 7/8	7 7/8	8 3/4	7 1/2	7 1/2	8 1/8	1 9/32	26 5/16	12 1/2

BORE	ROD DIA.	THREAD		ROD EXTENSIONS AND PILOT DIMENSIONS								ADD STROKE
	MM	KK	CC	A	B‡	C	D	V	W	Y	RM	XC
12	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	13/16	1 13/16	5 11/16	8 3/8	22 3/16
	7	5-12	6 1/2-12	7	8	1	Δ	1 1/8	2 1/8	6	10 13/16	22 1/2
	8	5 3/4-12	7 1/2-12	8	9	1	Δ	1 5/8	2 5/8	6 1/2	12 3/8	23
14	7	5-12	6 1/2-12	7	8	1	Δ	7/8	1 7/8	6 3/8	10 13/16	24 7/8
	8	5 3/4-12	7 1/2-12	8	9	1	Δ	1 3/8	2 3/8	6 7/8	12 3/8	25 3/8
	9	6 1/2-12	8 1/2-12	9	10	1	Δ	1 5/8	2 5/8	7 1/8	13 1/8	25 5/8
16	10	7 1/4-12	9 1/2-12	10	11	1	Δ	1 7/8	2 7/8	7 3/8	14 5/8	25 7/8
	8	5 3/4-12	7 1/2-12	8	9	1	Δ	1 1/8	2 1/8	7 9/16	12 3/8	29 1/8
	9	6 1/2-12	8 1/2-12	9	10	1	Δ	1 3/8	2 3/8	7 13/16	13 1/8	29 3/8
18	10	7 1/4-12	9 1/2-12	10	11	1	Δ	1 5/8	2 5/8	8 1/16	14 5/8	29 5/8
	9	6 1/2-12	8 1/2-12	9	10	1	Δ	1 1/16	2 1/16	8 13/16	13 1/8	33
	10	7 1/4-12	9 1/2-12	10	11	1	Δ	1 5/16	2 5/16	9 1/16	14 5/8	33 1/4
20	10	7 1/4-12	9 1/2-12	10	11	1	Δ	13/16	1 13/16	10 1/16	14 5/8	36 7/8

Δ (4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER RODS

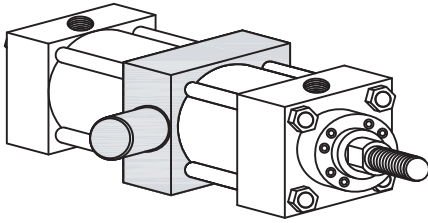
‡ B DIMENSION TOLERANCE -.001/-.003

Φ DESIGNED TO FIT YATES STD CLEVIS BRACKET - SEE PAGE 34

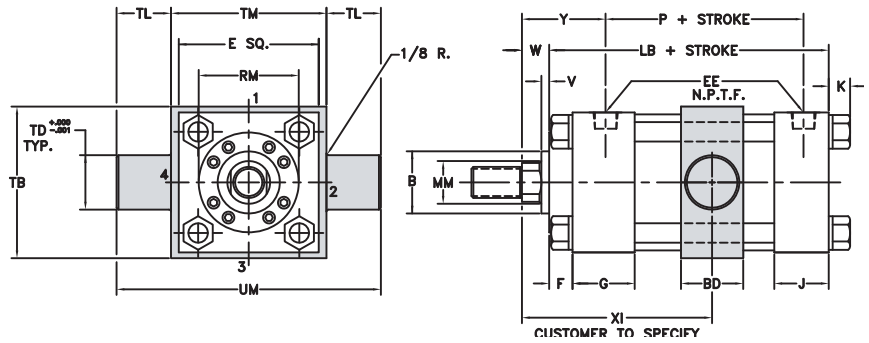
**NOTE:** MP3 MOUNT DOES NOT INCLUDE PIVOT PIN



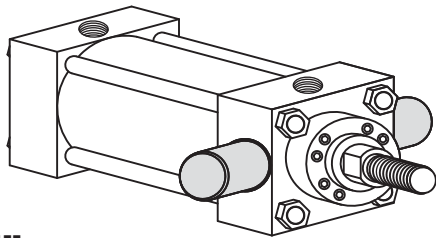
## INTERMEDIATE FIXED TRUNNION MOUNT



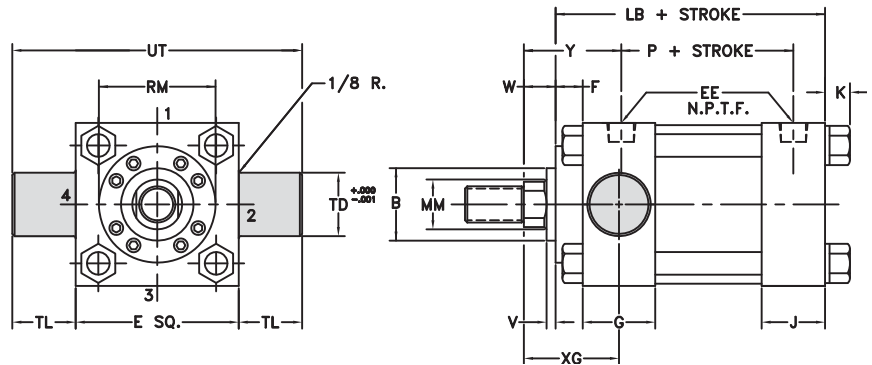
**“T”**  
YATES STYLE **T**  
NFPA-MT4



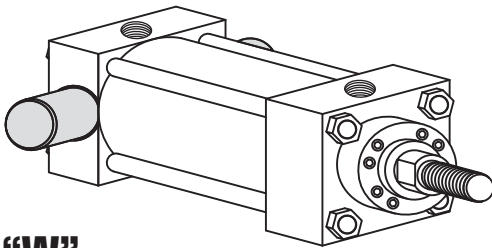
## HEAD TRUNNION MOUNT



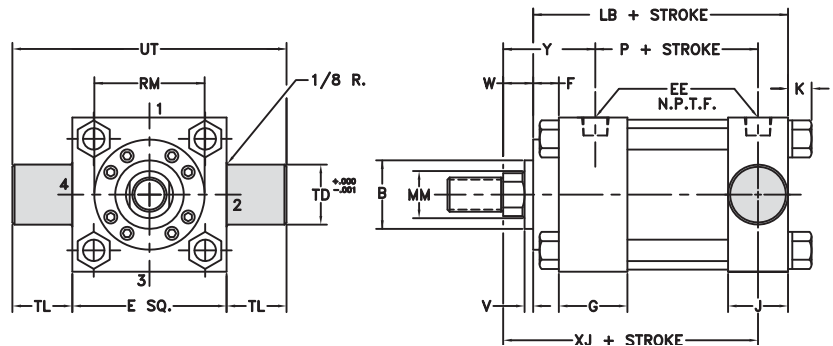
**“U”**  
YATES STYLE **U**  
NFPA-MT1



## CAP TRUNNION MOUNT

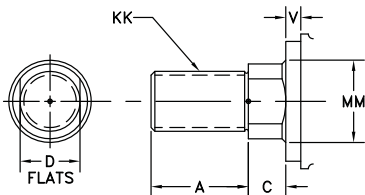


**“W”**  
YATES STYLE **W**  
NFPA-MT2

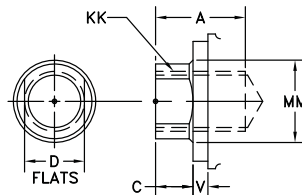


## STANDARD ROD ENDS

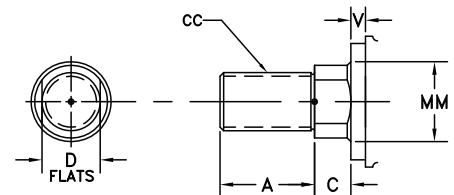
**#2** STD MALE  
NFPA-SM



**#4** STD FEMALE  
NFPA-SF



**#1** MALE  
NFPA-IM



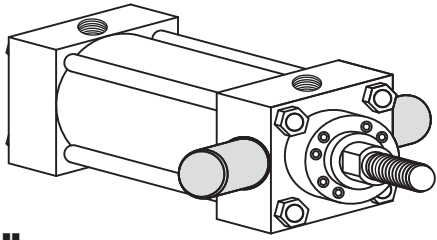
BORE	SAE															ADD STROKE	
	E	EE	OPT.	F	G	J	K	TD	TL	TB	TM	UM	UT	BD	XI	LB	P
1 1/2	2 1/2	1/2	10	3/8	1 3/4	1 1/2	3/8	1	1	2 3/4	3	5	4 1/2	1 1/4	CUSTOMER TO SPECIFY	5	3
2	3	1/2	10	5/8	1 3/4	1 1/2	7/16	1 3/8	1 3/8	3 3/8	3 1/2	6 1/4	5 3/4	1 3/4		5 1/4	3
2 1/2	3 1/2	1/2	10	5/8	1 3/4	1 1/2	7/16	1 3/8	1 3/8	3 7/8	4	6 3/4	6 1/4	2		5 3/8	3 1/8
3 1/4	4 1/2	3/4	12	3/4	2	1 3/4	9/16	1 3/4	1 3/4	4 7/8	5	8 1/2	8	2 1/4		6 1/4	3 5/8
4	5	3/4	12	7/8	2	1 3/4	9/16	1 3/4	1 3/4	5 1/2	5 1/2	9	8 1/2	2 1/4		6 5/8	3 7/8
5	6 1/2	3/4	12	7/8	2	1 3/4	3/4	1 3/4	1 3/4	7 1/4	7	10 1/2	10	3		7 1/8	4 3/8
6	7 1/2	1	16	1	2 1/4	2 1/4	7/8	2	2	8 1/2	8 1/2	12 1/2	11 1/2	3 1/2		8 3/8	5
7	8 1/2	1 1/4	20	1	2 3/4	2 3/4	1	2 1/2	2 1/2	9 3/4	9 3/4	14 3/4	13 1/2	4		9 1/2	5 1/2
8	9 1/2	1 1/2	24	1	3	3	1 1/16	3	3	11	11	17	15 1/2	4 1/4		10 1/2	6 1/4
10	12 5/8	2	32	7/8	3 11/16	3 11/16	1	3 1/2	3 1/2	N/A	N/A	N/A	19 5/8	N/A		N/A	13

BORE	ROD DIA.	THREAD		ROD EXTENSIONS AND PILOT DIMENSIONS										ADD STROKE
		MM	KK	CC	A	B ‡	C	D	V	W	Y	RM	XG	
1 1/2	5/8	7/16-20	1/2-20	3/4	1 1/8	3/8	1/2	1/4	5/8	1 15/16	§	1 7/8	4 7/8	
	1 †	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/2	1	2 5/16	§	2 1/4	5 1/4	
2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	2 5/16	§	2 1/4	5 1/4	
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	2 9/16	§	2 1/2	5 1/2	
2 1/2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	2 5/16	2 1/2	2 1/4	5 3/8	
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	2 9/16	§	2 1/2	5 5/8	
3 1/4	1 3/8	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	1/4	7/8	2 11/16	3 7/32	2 5/8	6 1/4	
	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	3/8	1 1/8	2 15/16	§	2 7/8	6 1/2	
4	2 †	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	3/8	1 1/4	3 1/16	§	3	6 5/8	
	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/4	1	2 15/16	3 7/8	2 7/8	6 3/4	
5	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	3 1/16	4	3	7 3/8	
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	3/8	1 3/8	3 5/16	4 7/16	3 1/4	7 5/8	
6	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	3/8	1 3/8	3 5/16	5 1/4	3 1/4	7 5/8	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	3/8	1 3/8	3 5/16	5 5/8	3 1/4	7 5/8	
7	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	1/4	1 1/4	3 7/16	4 7/16	3 3/8	8 3/8	
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	3 7/16	5 1/4	3 3/8	8 3/8	
8	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	3 7/16	5 5/8	3 3/8	8 3/8	
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	3 7/16	6 7/16	3 3/8	8 3/8	
9	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	3 3/4	5 1/4	3 5/8	9 3/8	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	3 3/4	5 5/8	3 5/8	9 3/8	
10	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	3 3/4	6 7/16	3 5/8	9 3/8	
	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	1 1/4	3 3/4	7 1/8	3 5/8	9 3/8	
11	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	1 1/4	3 3/4	7 5/8	3 5/8	9 3/8	
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	3 7/8	5 5/8	3 3/4	10 1/4	
12	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	3 7/8	6 7/16	3 3/4	10 1/4	
	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	1 1/4	3 7/8	7 1/8	3 3/4	10 1/4	
13	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	1 1/4	3 7/8	7 5/8	3 3/4	10 1/4	
	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	1/4	1 1/4	3 7/8	8 3/8	3 3/4	10 1/4	
14	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1 1/16	2 1/16	4 15/16	7 1/8	4 3/4	13 1/4	
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1 5/16	2 5/16	5 3/16	7 5/8	5	13 1/2	
15	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	1 5/16	2 5/16	5 3/16	8 3/8	5	13 1/2	
	7	5-12	6 1/2-12	7	8	1	Δ	1 5/8	2 5/8	5 1/2	10 7/8	5 5/16	13 13/16	

† HEAD END PORTS SHALLOW TAPPED  
 \* CONSULT FACTORY FOR AVAILABILITY OF SAE PORT OPTION  
 Δ (4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER RODS  
 § THESE CYLINDERS HAVE FULL PLATE RETAINERS. USE "E" DIMENSION INSTEAD OF "RM" - SEE PAGE 8  
 ‡ B DIMENSION TOLERANCE -.001/-.003

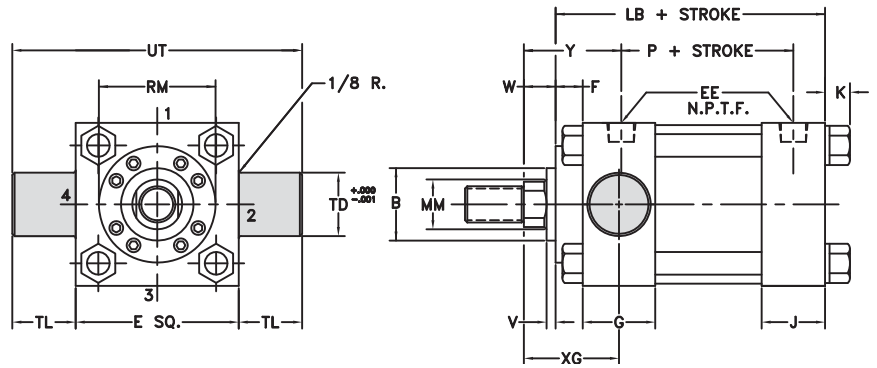


## HEAD TRUNNION MOUNT

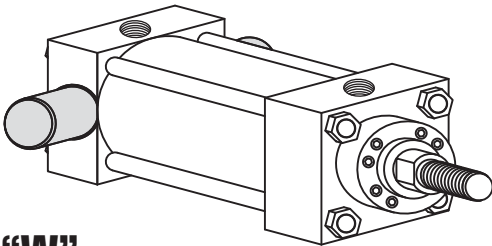


“U”

YATES STYLE U  
NFPA-MT1

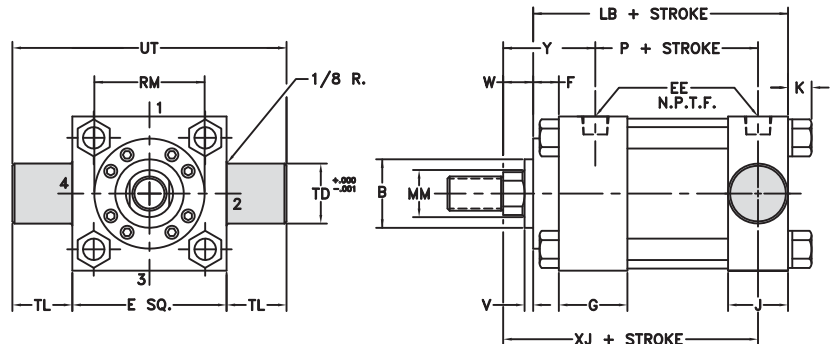


## CAP TRUNNION MOUNT



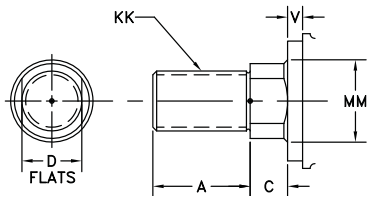
“W”

YATES STYLE W  
NFPA-MT2

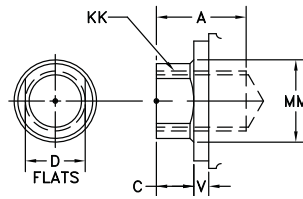


# STANDARD ROD ENDS

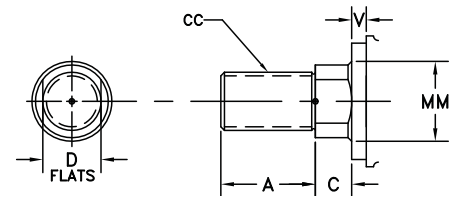
## #2 STD MALE NFPA-SM



## #4 STD FEMALE NFPA-SF



## #1 MALE NFPA-IM



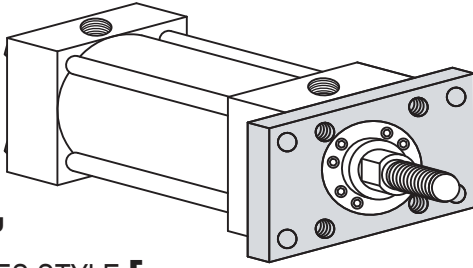
BORE	SAE										ADD STROKE	
	E	EE	OPT.	F	G	J	K	TD	TL	UT	LB	P
12	14 7/8	2 1/2	32	1 3/8	4 7/16	4 7/16	1 1/16	4	4	22 7/8	15 7/8	9 1/2
14	17 1/8	2 1/2	32	1 5/8	4 7/8	4 7/8	1 1/16	4 1/2	4 1/2	26 1/8	17 1/4	9 7/8
16	19 1/4	3	32	1 7/8	5 7/8	5 7/8	1 9/32	5	5	29 1/4	20	11
18	22	3	32	2 3/16	6 7/8	6 7/8	1 9/32	5 3/4	5 3/4	33 1/2	23 5/16	12
20	23 5/8	3	32	2 11/16	7 7/8	7 7/8	1 9/32	6 1/4	6 1/4	36 1/8	26 5/16	12 1/2

BORE	ROD DIA.	THREAD		ROD EXTENSIONS AND PILOT DIMENSIONS									ADD STROKE
	MM	KK	CC	A	B†	C	D	V	W	Y	RM	XG	XJ
12	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	13/16	1 13/16	5 11/16	8 3/8	5 3/8	15 1/2
	7	5-12	6 1/2-12	7	8	1	Δ	1 1/8	2 1/8	6	10 13/16	5 11/16	15 13/16
	8	5 3/4-12	7 1/2-12	8	9	1	Δ	1 5/8	2 5/8	6 1/2	12 3/8	6 3/16	16 5/16
14	7	5-12	6 1/2-12	7	8	1	Δ	7/8	1 7/8	6 3/8	10 13/16	5 15/16	16 11/16
	8	5 3/4-12	7 1/2-12	8	9	1	Δ	1 3/8	2 3/8	6 7/8	12 3/8	6 7/16	17 3/16
	9	6 1/2-12	8 1/2-12	9	10	1	Δ	1 5/8	2 5/8	7 1/8	13 1/8	6 11/16	17 7/16
16	10	7 1/4-12	9 1/2-12	10	11	1	Δ	1 7/8	2 7/8	7 3/8	14 5/8	6 15/16	17 11/16
	8	5 3/4-12	7 1/2-12	8	9	1	Δ	1 1/8	2 1/8	7 9/16	12 3/8	6 15/16	19 3/16
	9	6 1/2-12	8 1/2-12	9	10	1	Δ	1 3/8	2 3/8	7 13/16	13 1/8	7 3/16	19 7/16
18	10	7 1/4-12	9 1/2-12	10	11	1	Δ	1 5/8	2 5/8	8 1/16	14 5/8	7 7/16	19 11/16
	9	6 1/2-12	8 1/2-12	9	10	1	Δ	1 1/16	2 1/16	8 13/16	13 1/8	7 15/16	21 15/16
	10	7 1/4-12	9 1/2-12	10	11	1	Δ	1 5/16	2 5/16	9 1/16	14 5/8	7 11/16	22 3/16
20	10	7 1/4-12	9 1/2-12	10	11	1	Δ	13/16	1 13/16	10 1/16	14 5/8	8 7/16	24 3/16

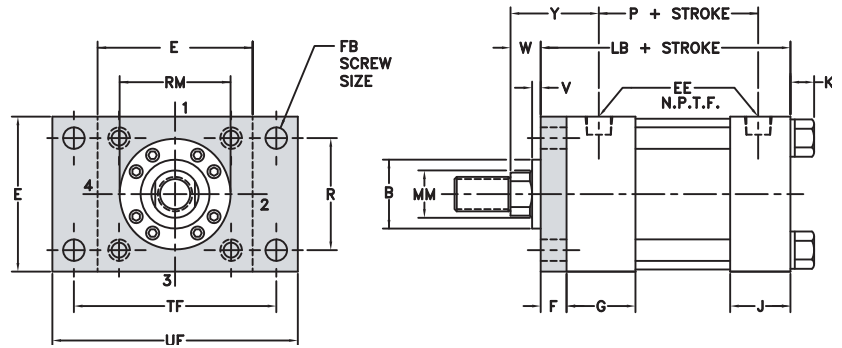
† HEAD END PORTS SHALLOW TAPPED  
 • CONSULT FACTORY FOR AVAILABILITY OF SAE PORT OPTION  
 Δ (4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER RODS  
 § THESE CYLINDERS HAVE FULL PLATE RETAINERS. USE "E" DIMENSION INSTEAD OF "RM" - SEE PAGE 8  
 ‡ B DIMENSION TOLERANCE -.001/-.003



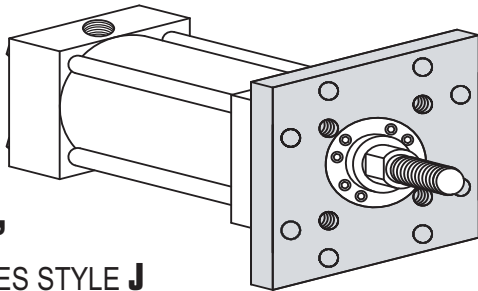
## HEAD RECTANGULAR FLANGE MOUNT



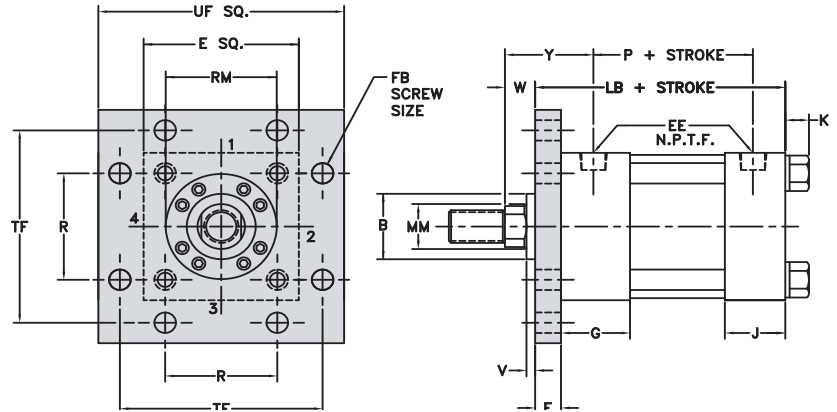
**“F”**  
YATES STYLE F  
NFPA-MF1



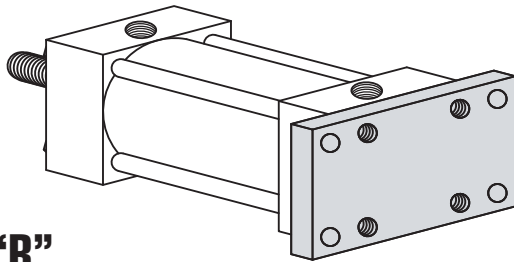
## HEAD SQUARE FLANGE MOUNT



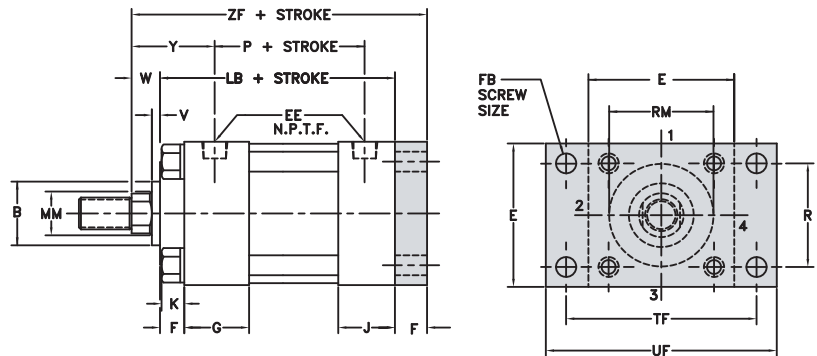
**“J”**  
YATES STYLE J  
NFPA-MF5



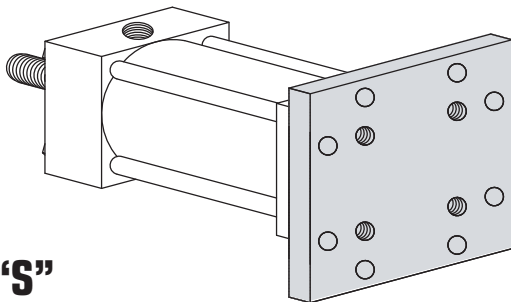
## CAP RECTANGULAR FLANGE MOUNT



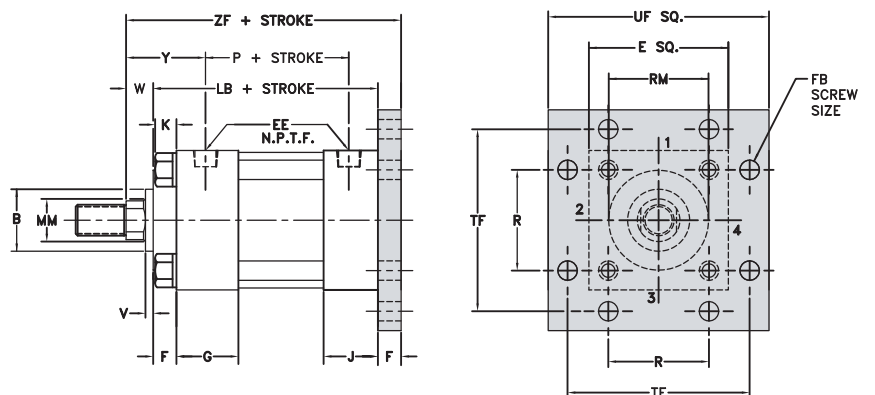
**“R”**  
YATES STYLE R  
NFPA-MF2



## CAP SQUARE FLANGE MOUNT

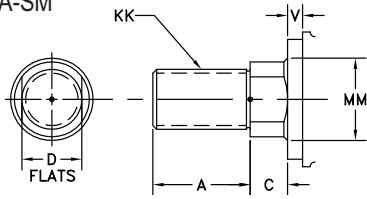


**“S”**  
YATES STYLE S  
NFPA-MF6

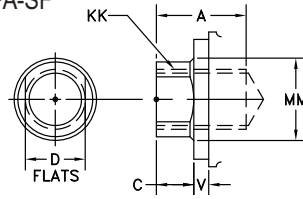


# STANDARD ROD ENDS

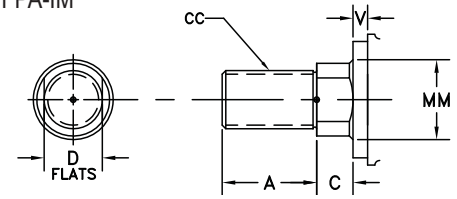
## #2 STD MALE NFPA-SM



## #4 STD FEMALE NFPA-SF



## #1 MALE NFPA-IM



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

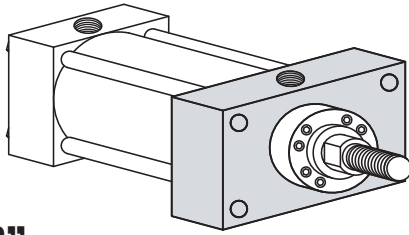
BORE	ROD DIA. MM	THREAD		ROD EXTENSIONS AND PILOT DIMENSIONS								ADD STROKE	"F" MOUNT MAX PSI PUSH	"R" MOUNT MAX PSI PULL
		KK	CC	A	B	C	D	V	W	RM	Y	ZF		
1 1/2	5/8	7/16-20	1/2-20	3/4	1 1/8	3/8	1/2	1/4	5/8	§	1 15/16	6	2500	3000
	1 †	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/2	1	§	2 5/16	6 3/8	1500	3000
2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	§	2 5/16	6 5/8	2500	3000
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	§	2 9/16	6 7/8	1500	3000
2 1/2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	2 1/2	2 5/16	6 3/4	2500	3000
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	§	2 9/16	7	1900	3000
	1 3/4 †	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/2	1 1/4	§	2 13/16	7 1/4	1500	3000
3 1/4	1 3/8	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	1/4	7/8	3 7/32	2 11/16	7 7/8	2500	3000
	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	3/8	1 1/8	§	2 15/16	8 1/8	2100	3000
	2 †	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	3/8	1 1/4	§	3 1/16	8 1/4	1500	3000
4	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/4	1	3 7/8	2 15/16	8 1/2	2500	3000
	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	4	3 1/16	8 5/8	1800	3000
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	3/8	1 3/8	4 7/16	3 5/16	8 7/8	1500	3000
5	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	4	3 1/16	9 1/8	2200	2000
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	3/8	1 3/8	4 7/16	3 5/16	9 3/8	1650	2500
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	3/8	1 3/8	5 1/4	3 5/16	9 3/8	1200	2800
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	3/8	1 3/8	5 5/8	3 5/16	9 3/8	750	3000
6	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	1/4	1 1/4	4 7/16	3 7/16	10 5/8	1800	2000
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	5 1/4	3 7/16	10 5/8	1450	2500
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	5 5/8	3 7/16	10 5/8	1100	2800
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	6 7/16	3 7/16	10 5/8	750	3000
7	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	5 1/4	3 3/4	11 3/4	740	1500
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	5 5/8	3 3/4	11 3/4	650	1700
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	6 7/16	3 3/4	11 3/4	450	1800
	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	1 1/4	7 1/8	3 3/4	11 3/4	360	1900
8	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	1 1/4	7 5/8	3 3/4	11 3/4	270	2000
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	5 5/8	3 7/8	12 3/4	620	1500
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	6 7/16	3 7/8	12 3/4	470	1700
	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	1 1/4	7 1/8	3 7/8	12 3/4	410	1800
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	1 1/4	7 5/8	3 7/8	12 3/4	340	1900
	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	1/4	1 1/4	8 3/8	3 7/8	12 3/4	280	2000

† HEAD END PORTS SHALLOW TAPPED  
 • CONSULT FACTORY FOR AVAILABILITY OF SAE PORT OPTION  
 Δ (4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER RODS

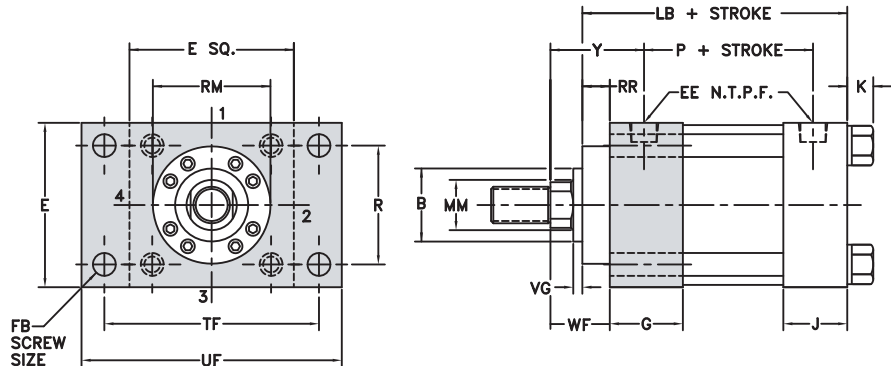
§ THESE CYLINDERS HAVE FULL PLATE RETAINERS. USE "E" DIMENSION INSTEAD OF "RM" - SEE PAGE 8  
 ‡ B DIMENSION TOLERANCE -.001/-.003  
**NOTE:** "F" AND "R" MOUNTS HAVE DERATED PRESSURE RATINGS, FOR HIGHER PRESSURE USE "G" AND "P" MOUNTS



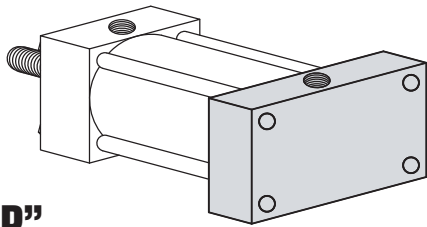
## HEAD RECTANGULAR INTEGRAL FLANGE MOUNT



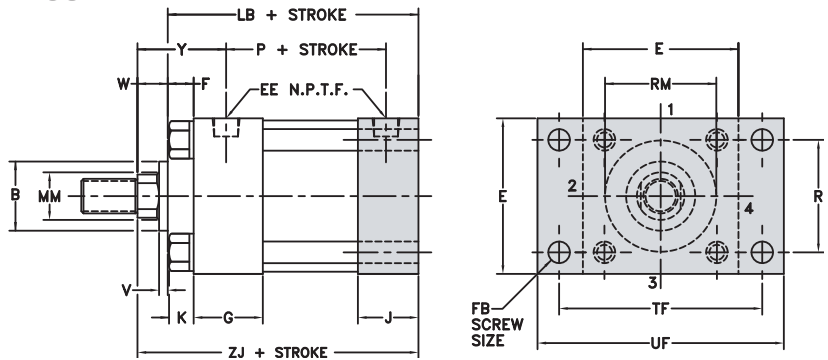
**"G"**  
YATES STYLE **G**  
NFPA-ME5



## CAP RECTANGULAR INTEGRAL FLANGE MOUNT

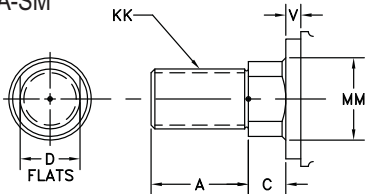


**"P"**  
YATES STYLE **P**  
NFPA-ME6

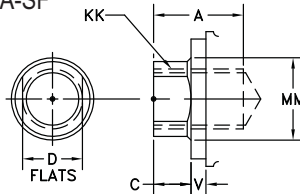


## STANDARD ROD ENDS

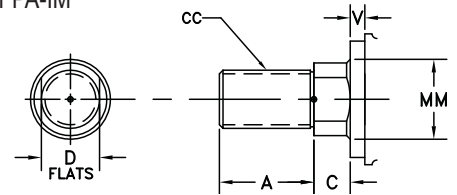
**#2** STD MALE  
NFPA-SM



**#4** STD FEMALE  
NFPA-SF



**#1** MALE  
NFPA-IM



- † HEAD END PORTS SHALLOW TAPPED
- CONSULT FACTORY FOR AVAILABILITY OF SAE PORT OPTION
- △ (4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER RODS
- § P-MOUNT CYLINDERS HAVE FULL PLATE RETAINERS. USE "E" DIMENSION INSTEAD OF "RM" - SEE PAGE 8
- ‡ B DIMENSION TOLERANCE -.001/-.003

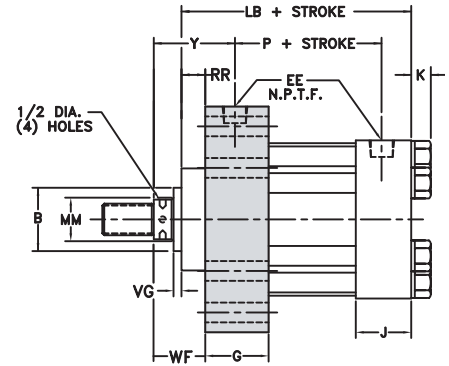
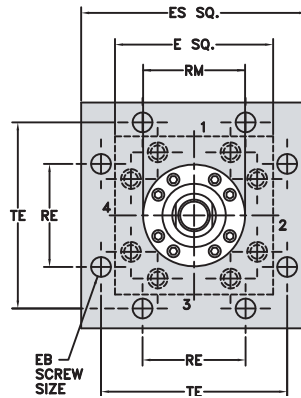
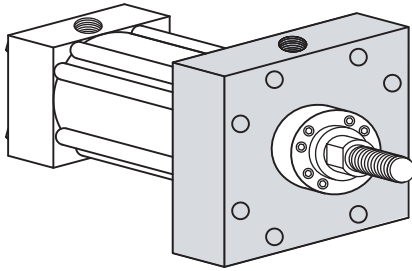
BORE	SAE											ADD STROKE	
	E	EE	OPT	F	FB	G	J	K	R	TF	UF	LB	P
1 1/2	2 1/2	1/2	10	3/8	3/8	1 3/4	1 1/2	3/8	1.63	3 7/16	4 1/4	5	3
2	3	1/2	10	5/8	1/2	1 3/4	1 1/2	7/16	2.05	4 1/8	5 1/8	5 1/4	3
2 1/2	3 1/2	1/2	10	5/8	1/2	1 3/4	1 1/2	7/16	2.55	4 5/8	5 5/8	5 3/8	3 1/8
3 1/4	4 1/2	3/4	12	3/4	5/8	2	1 3/4	9/16	3.25	5 7/8	7 1/8	6 1/4	3 5/8
4	5	3/4	12	7/8	5/8	2	1 3/4	9/16	3.82	6 3/8	7 5/8	6 5/8	3 7/8
5	6 1/2	3/4	12	7/8	7/8	2	1 3/4	3/4	4.95	8 3/16	9 3/4	7 1/8	4 3/8
6	7 1/2	1	16	1	1	2 1/4	2 1/4	7/8	5.73	9 7/16	11 1/4	8 3/8	5
7	8 1/2	1 1/4	20	1	1 1/8	2 3/4	2 3/4	1	6.58	10 5/8	12 5/8	9 1/2	5 1/2
8	9 1/2	1 1/2	24	1	1 1/4	3	3	1 1/16	7.50	11 13/16	14	10 1/2	6 1/4
10	12 5/8	2	32	7/8	1 3/4	3 11/16	3 11/16	1	9.62	15 7/8	19	13	8 1/8
12	14 7/8	2 1/2	32	1 3/8	2	4 7/16	4 7/16	1 1/8	11.45	18 1/2	22	15 7/8	9 1/2
14	17 1/8	2 1/2	32	1 5/8	2 1/4	4 7/8	4 7/8	1 1/8	13.26	21	25	17 1/4	9 7/8

BORE	ROD DIA.	THREAD		ROD EXTENSIONS AND PILOT DIMENSIONS											ADD STROKE
	MM	KK	CC	A	B ‡	C	D	RR	V	VG	W	WF	RM	Y	ZJ
1 1/2	5/8	7/16-20	1/2-20	3/4	1 1/8	3/8	1/2	3/8	1/4	1/4	5/8	1	2 3/8 §	1 15/16	5 5/8
	1 †	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	5/8	1/4	1/4	1	1 3/8	2 1/2 §	2 5/16	6
2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	5/8	1/4	1/4	3/4	1 3/8	2 1/2 §	2 5/16	6
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	5/8	3/8	3/8	1	1 5/8	3 7/32 §	2 9/16	6 1/4
2 1/2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	5/8	1/4	1/4	3/4	1 3/8	2 1/2	2 5/16	6 1/8
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	5/8	3/8	3/8	1	1 5/8	3 7/32 §	2 9/16	6 3/8
3 1/4	1 3/4 †	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	5/8	1/2	1/2	1 1/4	1 7/8	3 7/8 §	2 13/16	6 5/8
	1 3/8	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	5/8	1/4	3/8	7/8	1 5/8	3 7/32	2 11/16	7 1/8
4	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	5/8	3/8	1/2	1 1/8	1 7/8	3 7/8 §	2 15/16	7 3/8
	2 †	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	5/8	3/8	1/2	1 1/4	2	4 §	3 1/16	7 1/2
5	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	5/8	1/4	1/2	1 1/8	2	4	3 1/16	7 5/8
	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	5/8	1/4	1/2	1 1/8	2	4	3 1/16	7 3/4
6	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	5/8	3/8	5/8	1 3/8	2 1/4	4 7/16	3 5/16	8
	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	5/8	1/4	1/2	1 1/8	2	4	3 1/16	8 1/4
7	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	5/8	3/8	5/8	1 3/8	2 1/4	4 7/16	3 5/16	8 1/2
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	3/4	3/8	1/2	1 3/8	2 1/4	5 1/4	3 5/16	8 1/2
8	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	3/4	1/2	1/2	1 1/2	2 1/4	5 5/8	3 5/16	8 1/2
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	5/8	1/4	5/8	1 1/4	2 1/4	4 7/16	3 7/16	9 5/8
9	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	3/4	1/4	1/2	1 1/4	2 1/4	5 1/4	3 7/16	9 5/8
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	3/4	1/4	1/2	1 1/4	2 1/4	5 5/8	3 7/16	9 5/8
10	4	3-12	3 3/4-12	4	4 3/4	1	Δ	7/8	1/4	3/8	1 1/4	2 1/4	6 7/16	3 7/16	9 5/8
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	3/4	1/4	1/2	1 1/4	2 1/4	5 1/4	3 3/4	10 3/4
11	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	3/4	1/4	1/2	1 1/4	2 1/4	5 5/8	3 3/4	10 3/4
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	7/8	1/4	3/8	1 1/4	2 1/4	6 7/16	3 3/4	10 3/4
12	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	7/8	1/4	3/8	1 1/4	2 1/4	7 1/8	3 3/4	10 3/4
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	7/8	1/4	3/8	1 1/4	2 1/4	7 5/8	3 3/4	10 3/4
13	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	3/4	1/4	1/2	1 1/4	2 1/4	5 5/8	3 7/8	11 3/4
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	7/8	1/4	3/8	1 1/4	2 1/4	6 7/16	3 7/8	11 3/4
14	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	7/8	1/4	3/8	1 1/4	2 1/4	7 1/8	3 7/8	11 3/4
	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	7/8	1/4	3/8	1 1/4	2 1/4	8 3/8	3 7/8	11 3/4
15	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	7/8	1 1/16	1 1/16	2 1/16	2 15/16	7 1/8	4 15/16	15 1/16
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	7/8	1 5/16	1 5/16	2 5/16	3 3/16	7 5/8	5 3/16	15 5/16
16	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	7/8	1 5/16	1 5/16	2 5/16	3 3/16	8 3/8	5 3/16	15 5/16
	7	5-12	6 1/2-12	7	8	1	Δ	7/8	1 5/8	1 5/8	2 5/8	3 1/2	10 13/16	5 1/2	15 5/8
17	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	1 3/8	13/16	13/16	1 13/16	3 3/16	8 3/8	5 11/16	17 11/16
	7	5-12	6 1/2-12	7	8	1	Δ	1 3/8	1 1/8	1 1/8	2 1/8	3 1/2	10 13/16	6	18
18	8	5 3/4-12	7 1/2-12	8	9	1	Δ	1 3/8	1 5/8	1 5/8	2 5/8	4	12 3/8	6 1/2	18 1/2
	7	5-12	6 1/2-12	7	8	1	Δ	1 5/8	7/8	7/8	1 7/8	3 1/2	10 13/16	6 3/8	19 1/8
19	8	5 3/4-12	7 1/2-12	8	9	1	Δ	1 5/8	1 3/8	1 3/8	2 3/8	4	12 3/8	6 7/8	19 5/8
	9	6 1/2-12	8 1/2-12	9	10	1	Δ	1 5/8	1 5/8	1 5/8	2 5/8	4 1/4	13 1/8	7 1/8	19 7/8
20	10	7 1/4-12	9 1/2-12	10	11	1	Δ	1 5/8	1 7/8	1 7/8	2 7/8	4 1/2	14 5/8	7 3/8	20 1/8



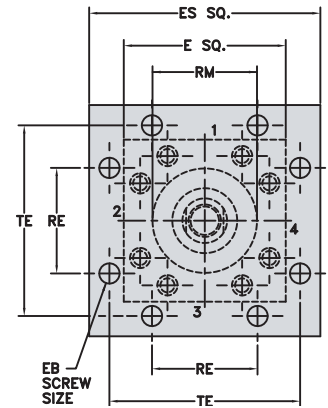
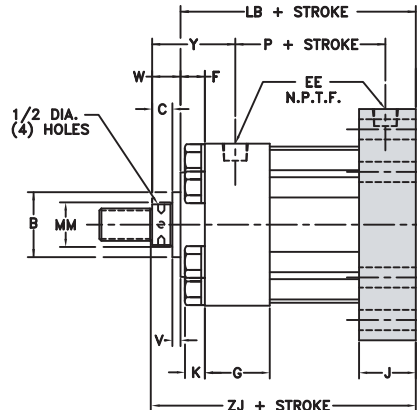
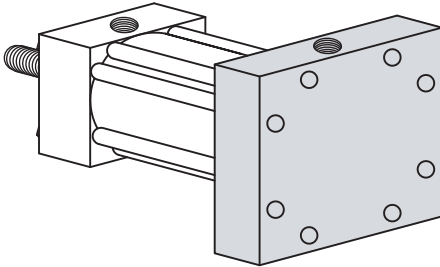
# 1 1/2 THRU 14 BORE • SERIES H6

## HEAD SQUARE INTEGRAL FLANGE MOUNT



**“X”**  
YATES STYLE X  
NFPA-ME3

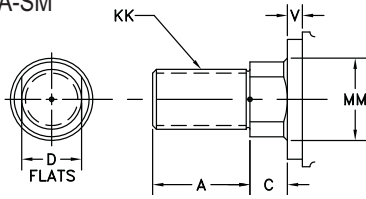
## CAP SQUARE INTEGRAL FLANGE MOUNT



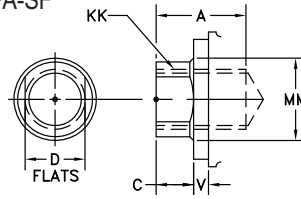
**“Z”**  
YATES STYLE Z  
NFPA-ME4

# STANDARD ROD ENDS

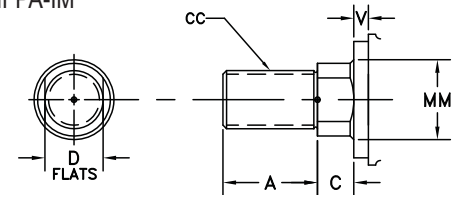
## #2 STD MALE NFPA-SM



## #4 STD FEMALE NFPA-SF



## #1 MALE NFPA-IM



BORE	SAE											ADD STROKE	
	E	EB	EE	OPT	F	ES	G	J	K	RE	TE	LB	P
10	12 5/8	1 1/4	2	32	7/8	16 5/8	3 11/16	3 11/16	1	9 7/8	14 1/8	13	8 1/8
12	14 7/8	1 1/2	2 1/2	32	1 3/8	19 3/4	4 7/16	4 7/16	1 1/16	11 3/4	16 3/4	15 7/8	9 1/2
14	17 1/8	1 3/4	2 1/2	32	1 5/8	21 3/4	4 7/8	4 7/8	1 1/16	12 15/16	18 7/16	17 1/4	9 7/8
16	19 1/4	1 3/4	3	32	1 7/8	24 1/2	5 7/8	5 7/8	1 9/32	15 1/4	21 1/16	20	11
18	22	2	3	32	2 3/16	26 1/2	6 7/8	6 7/8	1 9/32	16 7/16	22 5/8	23 5/16	12
20	23 5/8	2	3	32	2 11/16	29	7 7/8	7 7/8	1 9/32	18 1/16	24 7/8	26 5/16	12 1/2

BORE	ROD DIA.	THREAD		ROD EXTENSIONS AND PILOT DIMENSIONS											ADD STROKE
	MM	KK	CC	A	B ‡	C	D	V	VG	W	WF	RM	RR	Y	ZJ
10	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1 1/16	1 1/16	2 1/16	2 15/16	7 1/8	7/8	4 15/16	15 1/16
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1 5/16	1 5/16	2 5/16	3 3/16	7 5/8	7/8	5 3/16	15 5/16
	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	1 5/16	1 5/16	2 5/16	3 3/16	8 3/8	7/8	5 3/16	15 5/16
	7	5-12	6 1/2-12	7	8	1	Δ	1 5/8	1 5/8	2 5/8	3 1/2	10 13/16	7/8	5 1/2	15 5/8
12	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	13/16	13/16	1 13/16	3 3/16	8 3/8	1 3/8	5 11/16	17 11/16
	7	5-12	6 1/2-12	7	8	1	Δ	1 1/8	1 1/8	2 1/8	3 1/2	10 13/16	1 3/8	6	18
	8	5 3/4-12	7 1/2-12	8	9	1	Δ	1 5/8	1 5/8	2 5/8	4	12 3/8	1 3/8	6 1/2	18 1/2
14	7	5-12	6 1/2-12	7	8	1	Δ	7/8	7/8	1 7/8	3 1/2	10 13/16	1 5/8	6 3/8	19 1/8
	8	5 3/4-12	7 1/2-12	8	9	1	Δ	1 3/8	1 3/8	2 3/8	4	12 3/8	1 5/8	6 7/8	19 5/8
	9	6 1/2-12	8 1/2-12	9	10	1	Δ	1 5/8	1 5/8	2 5/8	4 1/4	13 1/8	1 5/8	7 1/8	19 7/8
	10	7 1/4-12	9 1/2-12	10	11	1	Δ	1 7/8	1 7/8	2 7/8	4 1/2	14 5/8	1 5/8	7 3/8	20 1/8
16	8	5 3/4-12	7 1/2-12	8	9	1	Δ	1 1/8	1 1/8	2 1/8	4	12 3/8	1 7/8	7 9/16	22 1/8
	9	6 1/2-12	8 1/2-12	9	10	1	Δ	1 3/8	1 3/8	2 3/8	4 1/4	13 1/8	1 7/8	7 13/16	22 3/8
	10	7 1/4-12	9 1/2-12	10	11	1	Δ	1 5/8	1 5/8	2 5/8	4 1/2	14 5/8	1 7/8	8 1/16	22 5/8
18	9	6 1/2-12	8 1/2-12	9	10	1	Δ	1 1/16	1 1/16	2 1/16	4 1/4	13 1/8	2 3/16	8 13/16	25 3/8
	10	7 1/4-12	9 1/2-12	10	11	1	Δ	1 5/16	1 5/16	2 5/16	4 1/2	14 5/8	2 3/16	9 1/16	25 5/8
20	10	7 1/4-12	9 1/2-12	10	11	1	Δ	13/16	13/16	1 13/16	4 1/2	14 5/8	2 11/16	10 1/16	28 1/8

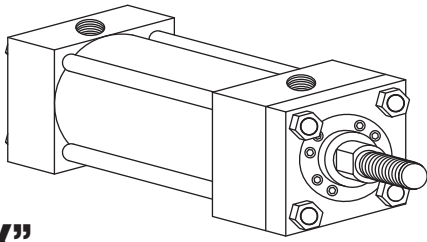
Δ (4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER RODS

‡ B DIMENSION TOLERANCE -.001/-.003

NOTE: SEE PAGE 8 FOR TIE ROD INFORMATION ON 10" THRU 20" BORES

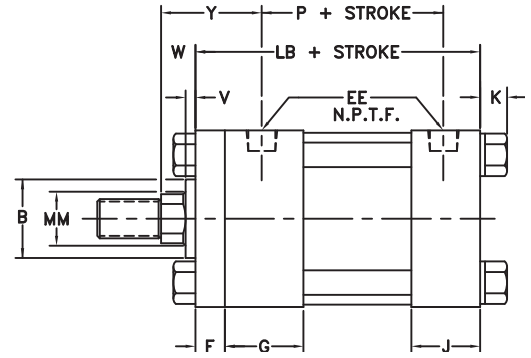
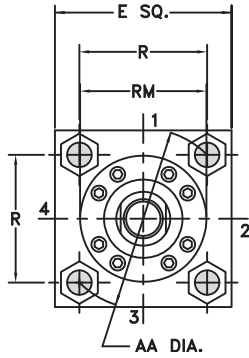


## NO TIE RODS EXTENDED MOUNT

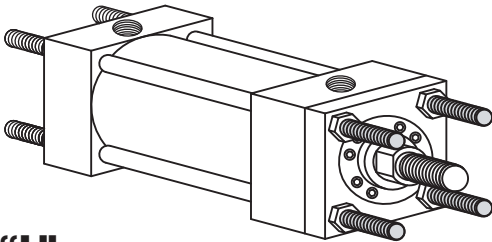


**“K”**

YATES STYLE **K**  
NFPA-MX0

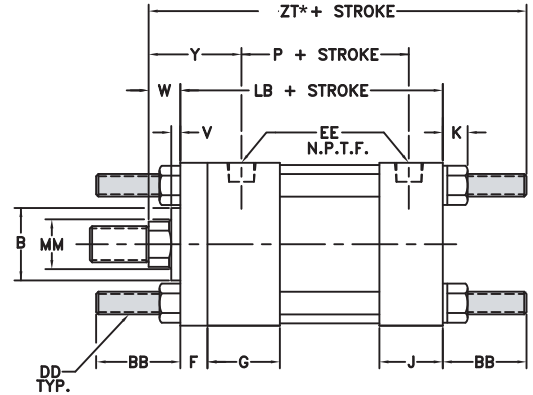
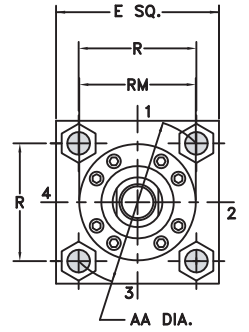


## BOTH ENDS TIE RODS EXTENDED MOUNT

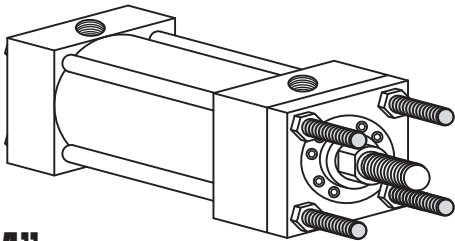


**“L”**

YATES STYLE **L**  
NFPA-MX1

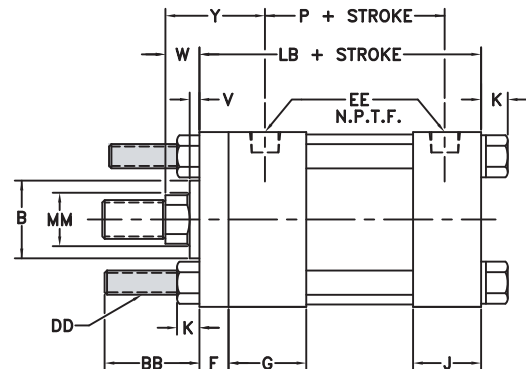
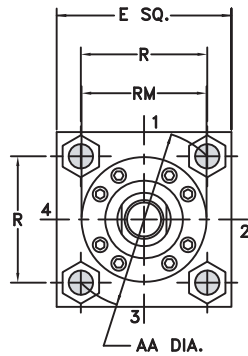


## HEAD TIE RODS EXTENDED MOUNT

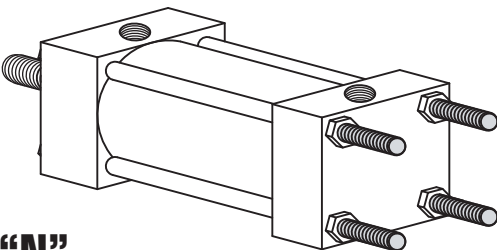


**“M”**

YATES STYLE **M**  
NFPA-MX3

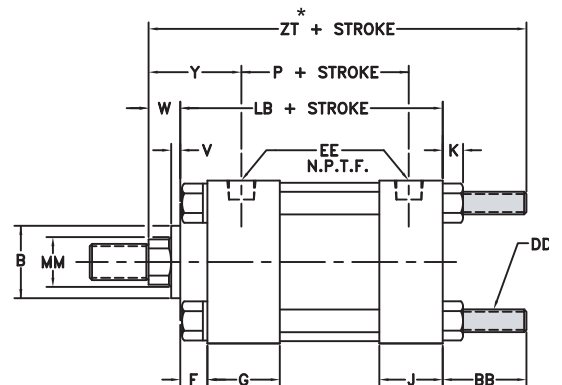
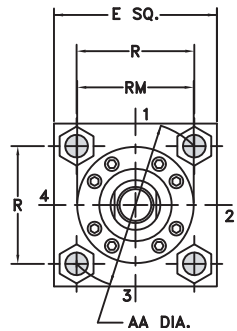


## CAP TIE RODS EXTENDED MOUNT



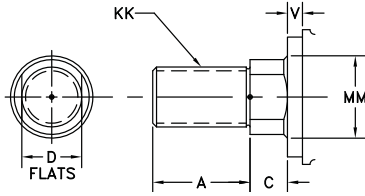
**“N”**

YATES STYLE **N**  
NFPA-MX2

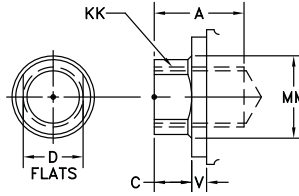


# STANDARD ROD ENDS

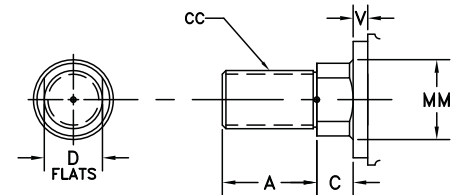
## #2 STD MALE NFPA-SM



## #4 STD FEMALE NFPA-SF



## #1 MALE NFPA-IM



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

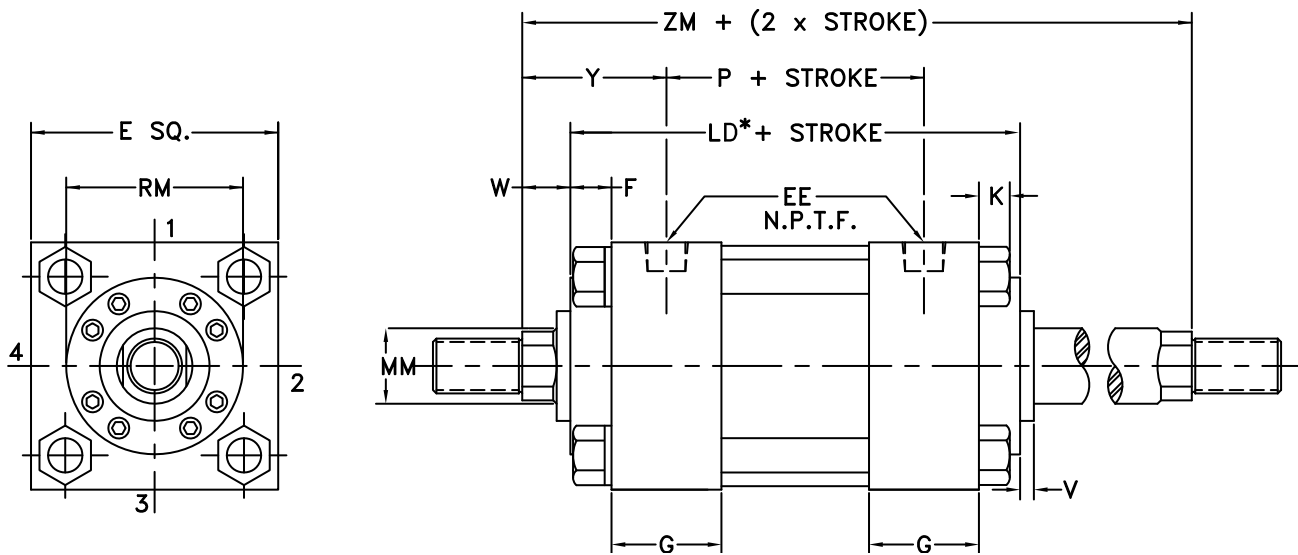
BORE	ROD DIA.	THREAD		ROD EXTENSIONS AND PILOT DIMENSION								ADD STROKE
	MM	KK	CC	A	B	C	D	V	W	RM	Y	ZT*
1 1/2	5/8	7/16-20	1/2-20	3/4	1 1/8	3/8	1/2	1/4	5/8	§	1 15/16	7
	1 †	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/2	1	§	2 5/16	7 3/8
2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	§	2 5/16	7 13/16
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	§	2 9/16	8 1/16
2 1/2	1	3/4-16	7/8-14	1 1/8	1 1/2	1/2	7/8	1/4	3/4	2 1/2	2 5/16	7 15/16
	1 3/8 †	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	3/8	1	§	2 9/16	8 3/16
3 1/4	1 3/8 †	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/2	1 1/4	§	2 13/16	8 7/16
	1 3/4	1-14	1 1/4-12	1 5/8	2	5/8	1 1/8	1/4	7/8	3 7/32	2 11/16	9 7/16
4	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	3/8	1 1/8	§	2 15/16	9 11/16
	2 †	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	3/8	1 1/4	§	3 1/16	9 13/16
5	1 3/4	1 1/4-12	1 1/2-12	2	2 3/8	3/4	1 1/2	1/4	1	3 7/8	2 15/16	9 15/16
	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	4	3 1/16	10 1/16
6	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	3/8	1 3/8	4 7/16	3 5/16	10 5/16
	2	1 1/2-12	1 3/4-12	2 1/4	2 5/8	7/8	1 3/4	1/4	1 1/8	4	3 1/16	11 7/16
7	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	3/8	1 3/8	4 7/16	3 5/16	11 11/16
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	3/8	1 3/8	5 1/4	3 5/16	11 11/16
8	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	3/8	1 3/8	5 5/8	3 5/16	11 11/16
	2 1/2	1 7/8-12	2 1/4-12	3	3 1/8	1	2 1/8	1/4	1 1/4	4 7/16	3 7/16	13 1/4
9	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	5 1/4	3 7/16	13 1/4
	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	5 5/8	3 7/16	13 1/4
10	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	6 7/16	3 7/16	13 1/4
	3	2 1/4-12	2 3/4-12	3 1/2	3 3/4	1	2 5/8	1/4	1 1/4	5 1/4	3 3/4	14 7/8
11	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	5 5/8	3 3/4	14 7/8
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	6 7/16	3 3/4	14 7/8
12	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	1 1/4	7 1/8	3 3/4	14 7/8
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	1 1/4	7 5/8	3 3/4	14 7/8
13	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	5 5/8	3 7/8	16 1/4
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	6 7/16	3 7/8	16 1/4
14	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	1 1/4	7 1/8	3 7/8	16 1/4
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	1 1/4	7 5/8	3 7/8	16 1/4
15	3 1/2	2 1/2-12	3 1/4-12	3 1/2	4 1/4	1	3	1/4	1 1/4	5 5/8	3 7/8	16 1/4
	4	3-12	3 3/4-12	4	4 3/4	1	Δ	1/4	1 1/4	6 7/16	3 7/8	16 1/4
16	4 1/2	3 1/4-12	4 1/4-12	4 1/2	5 1/4	1	Δ	1/4	1 1/4	7 1/8	3 7/8	16 1/4
	5	3 1/2-12	4 3/4-12	5	5 3/4	1	Δ	1/4	1 1/4	7 5/8	3 7/8	16 1/4
17	5 1/2	4-12	5 1/4-12	5 1/2	6 1/4	1	Δ	1/4	1 1/4	8 3/8	3 7/8	16 1/4

† HEAD END PORTS SHALLOW TAPPED  
 • CONSULT FACTORY FOR AVAILABILITY OF SAE PORT OPTION  
 Δ (4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER RODS  
 ‡ B DIMENSION TOLERANCE -.001/- .003  
 § THESE CYLINDERS HAVE FULL PLATE RETAINERS. USE "E" DIMENSION INSTEAD OF "RM" - SEE PAGE 8  
 \* ZT DIMENSION CHANGES ON DOUBLE ROD CYLINDERS - SEE PAGE 33 FOR DETAILS  
**NOTE:** 1 1/2" AND 2" BORE CYLINDERS ON K AND N MOUNTS AND 1 1/2" THRU 8" BORE CYLINDERS ON L AND M MOUNTS HAVE FULL PLATE RETAINERS. USE "E" SQ. DIMENSION INSTEAD OF RM



# 1 1/2 THRU 8 BORE • SERIES H6

# DOUBLE ROD CYLINDERS



AVAILABLE IN MOUNTING STYLES A, B, E, F, G, H, J, K, L, M, T, U, AND X

FOR ORDERING DOUBLE ROD END CYLINDERS ADD "D" AFTER STYLE

Example: Style "A" side lug mount with double rod end is style "H6AD"

Where the two rod ends will be different, state which rod end is to go at which end of cylinder.

If only one end of double rod cylinder is to be cushioned, specify clearly which end.

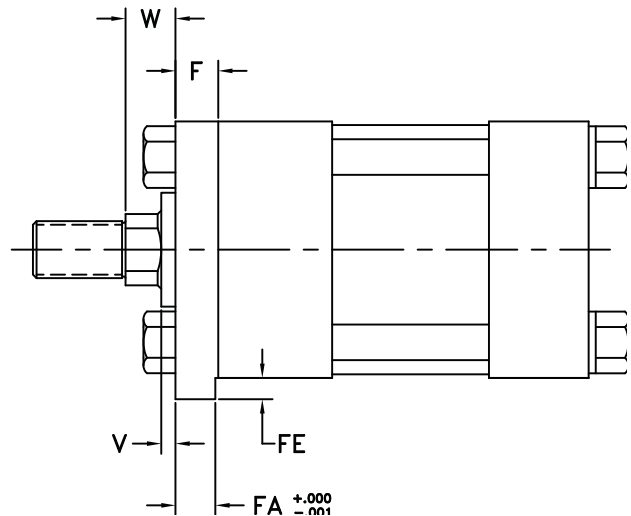
\*LD = Replaces "LB" Dimension on all styles with double rod ends

## EXTENDED KEY PLATE MOUNTINGS

BORE	FA	FE
1 1/2	.362	3/16
2	.612	5/16
2 1/2	.612	5/16
3 1/4	.737	3/8
4	.862	7/16
5	.862	7/16
6	.987	1/2
7	.987	1/2
8	.987	1/2

FOR ORDERING EXTENDED KEY PLATE add "S" in part # & state extended key plate in description.

AVAILABLE IN MOUNTING STYLES "A", "B", AND "E"

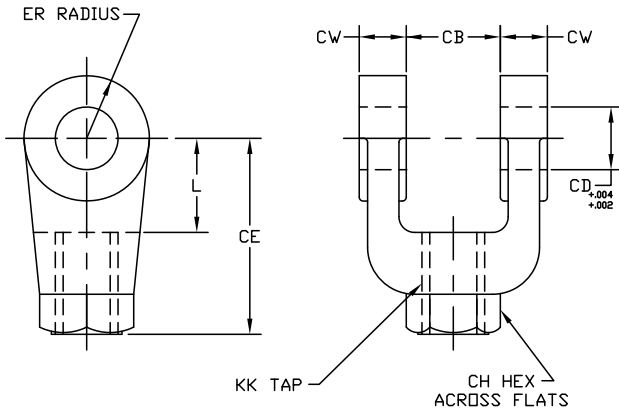


# DOUBLE ROD CYLINDERS

BORE	ROD DIA.	ADD STROKE						ADD 2X STROKE
	MM	LD*	SE	SS	XE	ZE	ZT	ZM
1 1/2	5/8	5 5/8	7 3/8	4 1/8	7 1/8	7 1/2	7 5/8	6 7/8
	1	5 5/8	7 3/8	4 1/8	7 1/2	7 7/8	8	7 5/8
2	1	6 1/8	8	3 7/8	7 13/16	8 5/16	8 11/16	7 5/8
	1 3/8	6 1/8	8	3 7/8	8 1/16	8 9/16	8 15/16	8 1/8
2 1/2	1	6 1/4	8 1/8	3 5/8	8 15/16	8 7/16	8 13/16	7 3/4
	1 3/8	6 1/4	8 1/8	3 5/8	8 3/16	8 11/16	9 1/16	8 1/4
	1 3/4	6 1/4	8 1/8	3 5/8	8 7/16	8 15/16	9 5/16	8 3/4
3 1/4	1 3/8	7 1/4	9 1/2	4 3/8	9 1/4	9 7/8	10 7/16	9
	1 3/4	7 1/4	9 1/2	4 3/8	9 1/2	10 1/8	10 11/16	9 1/2
	2 †	7 1/4	9 1/2	4 3/8	9 5/8	10 1/4	10 13/16	9 3/4
4	1 3/4	7 3/4	10	4 1/4	9 7/8	10 1/2	11 1/16	9 3/4
	2	7 3/4	10	4 1/4	10	10 5/8	11 3/16	10
	2 1/2	7 3/4	10	4 1/4	10 1/4	10 7/8	11 7/16	10 1/2
	2	8 1/4	11 1/4	4 3/4	10 7/8	11 5/16	12 9/16	10 1/2
5	2 1/2	8 1/4	11 1/4	4 3/4	11 1/8	11 7/8	12 13/16	11
	3	8 1/4	11 1/4	4 3/4	11 1/8	11 7/8	12 13/16	11
	3 1/2	8 1/4	11 1/4	4 3/4	11 1/8	11 7/8	12 13/16	11
	2 1/2	9 3/8	12 3/4	5 1/8	12 5/16	13 3/16	14 1/4	11 7/8
6	3	9 3/8	12 3/4	5 1/8	12 5/16	13 3/16	14 1/4	11 7/8
	3 1/2	9 3/8	12 3/4	5 1/8	12 5/16	13 3/16	14 1/4	11 7/8
	4	9 3/8	12 3/4	5 1/8	12 5/16	13 3/16	14 1/4	11 7/8
	3	10 1/2	14 1/8	5 3/4	13 9/16	14 9/16	15 7/8	13
7	3 1/2	10 1/2	14 1/8	5 3/4	13 9/16	14 9/16	15 7/8	13
	4	10 1/2	14 1/8	5 3/4	13 9/16	14 9/16	15 7/8	13
	4 1/2	10 1/2	14 1/8	5 3/4	13 9/16	14 9/16	15 7/8	13
	5	10 1/2	14 1/8	5 3/4	13 9/16	14 9/16	15 7/8	13
	3 1/2	11 1/2	15 1/2	6 3/4	14 3/4	15 7/8	17 1/4	14
8	4	11 1/2	15 1/2	6 3/4	14 3/4	15 7/8	17 1/4	14
	4 1/2	11 1/2	15 1/2	6 3/4	14 3/4	15 3/8	17 1/4	14
	5	11 1/2	15 1/2	6 3/4	14 3/4	15 7/8	17 1/4	14
	5 1/2	11 1/2	15 1/2	6 3/4	14 3/4	15 7/8	17 1/4	14
	4 1/5	14	NA	NA	NA	NA	NA	15 15/16
10	5	14	NA	NA	NA	NA	NA	16 7/16
	5 1/2	14	NA	NA	NA	NA	NA	16 7/16
	7	14	NA	NA	NA	NA	NA	17 1/16
	5 1/2	17 1/4	NA	NA	NA	NA	NA	19 1/16
12	7	17 1/4	NA	NA	NA	NA	NA	19 11/16
	8	17 1/4	NA	NA	NA	NA	NA	20 11/16
	7	18 7/8	NA	NA	NA	NA	NA	20 3/4
14	8	18 7/8	NA	NA	NA	NA	NA	21 3/4
	9	18 7/8	NA	NA	NA	NA	NA	22 1/4
	10	18 7/8	NA	NA	NA	NA	NA	22 3/4
	8	21 7/8	NA	NA	NA	NA	NA	24
16	9	21 7/8	NA	NA	NA	NA	NA	24 1/4
	10	21 7/8	NA	NA	NA	NA	NA	25
	9	25 1/2	NA	NA	NA	NA	NA	27 9/16
18	10	25 1/2	NA	NA	NA	NA	NA	28 1/16
	10	29	NA	NA	NA	NA	NA	30 13/16

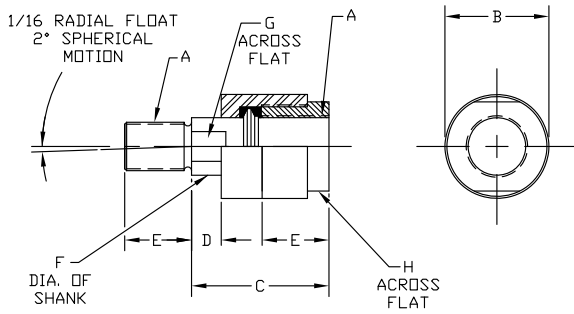


# FEMALE CLEVIS



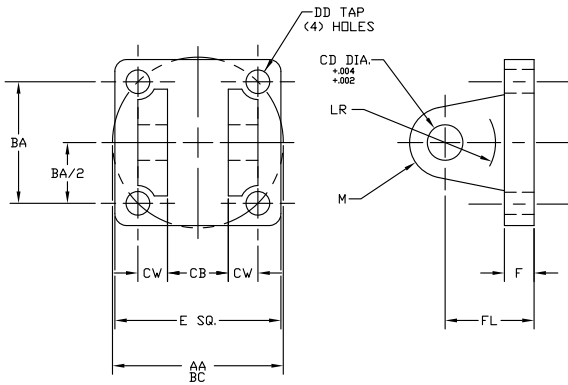
PART NO.	CB	CD	CE	CH	CW	ER	KK	L
10-YFC-134-05-A	3/4	1/2	1 1/2	1	1/2	1/2	7/16-20	3/4
10-YFC-134-08-A	1 1/4	3/4	2 3/8	1 1/4	5/8	3/4	3/4-16	1 1/4
10-YFC-134-08-M	1 1/4	3/4	2 1/8	1 3/8	5/8	3/4	3/4-16	1
10-YFC-134-11-A	1 1/2	1	3 1/8	1 1/2	3/4	1	1-14	1 1/2
10-YFC-134-11-M	1 1/2	1	2 15/16	1 1/2	3/4	1	1-14	1 5/16
10-YFC-134-14-A	2	1 3/8	4 1/8	2	1	1 3/8	1 1/4-12	2 1/8
10-YFC-134-14-M	2	1 3/8	3 3/4	2	1	1 3/8	1 1/4-12	1 3/4
10-YFC-134-16-A	2 1/2	1 3/4	4 1/2	2 3/8	1 1/4	1 3/4	1 1/2-12	2 1/4
10-YFC-134-20-A	2 1/2	2	5 1/2	2 15/16	1 1/4	2	1 7/8-12	2 1/2
10-YFC-134-24-A	3	2 1/2	6 1/2	3 1/2	1 1/2	2 1/2	2 1/4-12	3
10-YFC-134-28-A	3	3	6 3/4	3 7/8	1 1/2	2 3/4	2 1/2-12	3 1/4
10-YFC-134-28-M	3	3	6 3/4	3 7/8	1 1/2	3	2 1/2-12	3 1/4
10-YFC-134-36-A	4	3 1/2	8 1/2	5	2	3 1/2	3 1/4-12	4
10-YFC-134-36-M	4	3 1/2	7 3/4	5	2	3 1/2	3 1/4-12	4 1/4
10-YFC-134-44-A	4 1/2	4	10	6 1/8	2 1/4	4	4-12	4 1/2

# ROD COUPLERS



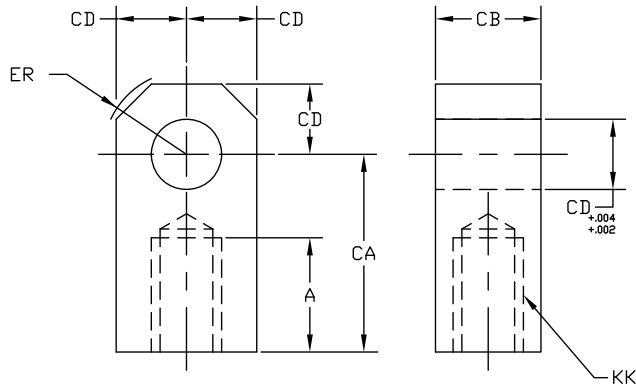
PART NUMBER	ROD DIA.	A	B	C	D	E	F	G	H	MAX PULL
11-YAC-2-05	5/8	7/16-20	1 1/4	2	1/2	3/4	5/8	1/2	1	10,000
11-YAC-2-06	5/8	1/2-20	1 1/4	2	1/2	3/4	5/8	1/2	1	14,000
11-YAC-2-07	5/8	5/8-18	1 1/4	2	1/2	3/4	5/8	1/2	1	19,000
11-YAC-2-08	1	3/4-16	1 3/4	2 5/16	1/2	1 1/8	31/32	13/16	1 1/2	34,000
11-YAC-2-09	1	7/8-14	1 3/4	2 5/16	1/2	1 1/8	31/32	13/16	1 1/2	39,000
11-YAC-2-11	1 3/8	1-14	2 1/2	2 15/16	1/2	1 5/8	1 3/8	1 5/32	2 1/4	64,000
11-YAC-2-14	1 3/8	1 1/4-12	2 1/2	2 15/16	1/2	1 5/8	1 3/8	1 5/32	2 1/4	78,000
11-YAC-2-15	1 3/8	1 3/8-12	2 1/2	2 15/16	1/2	1 5/8	1 3/8	1 5/32	2 1/4	78,000
11-YAC-2-16	2	1 1/2-12	3 1/4	4 3/8	13/16	2 1/4	1 3/4	1 1/2	3	134,000
11-YAC-2-17	2	1 3/4-12	3 1/4	4 3/8	13/16	2 1/4	1 3/4	1 1/2	3	134,000
11-YAC-2-20	2 1/2	1 7/8-12	3 3/4	5 7/16	7/8	3	2	1 7/8	3 1/2	240,000
11-YAC-2-21	2 1/2	2-12	3 3/4	5 7/16	7/8	3	2	1 7/8	3 1/2	240,000
11-YAC-2-24	3	2 1/4-12	6 3/4	6 3/8	1	3 1/2	2 3/4	2 3/8	4 1/2	397,000
11-YAC-2-28	3 1/2	2 1/2-12	7	6 1/2	1	3 1/2	3 1/4	2 7/8	3 3/8	495,000
11-YAC-2-29	3 1/2	2 3/4-12	7	6 1/2	1	3 1/2	3 1/4	2 7/8	3 3/8	603,000
11-YAC-2-36	4 1/2	3 1/4-12	9 1/4	8 1/2	1	4 1/2	4	3 3/8	4 1/2	853,800
11-YAC-2-37	4 1/2	4 1/4-12	12 7/8	11 1/4	1	4 1/2	5 1/2	4 7/8	7	1,483,400

# CLEVIS BRACKET



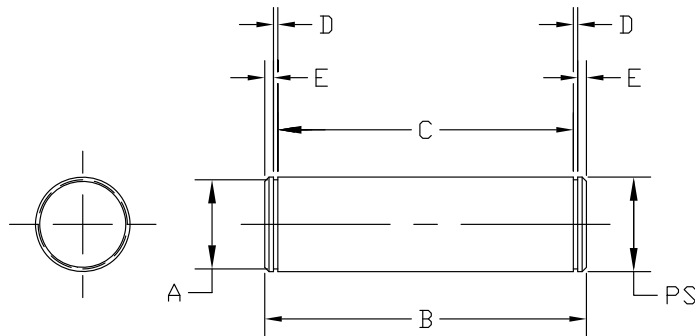
PART NUMBER	AA	BA	CB	CD	CW	DD	E	F	FL	LR	M
14-YCB-133-03	2.3	1 5/8	25/32	1/2	1/2	5/8-24	2 1/2	3/8	1 1/8	1/2	1/2
14-YCB-133-04	2.9	2 1/16	1 9/32	3/4	5/8	1/2-20	3	5/8	1 7/8	1	3/4
14-YCB-133-05	3.6	2 9/16	1 9/32	3/4	5/8	1/2-20	3 1/2	5/8	1 7/8	1 1/16	3/4
14-YCB-133-06	4.6	3 1/4	1 17/32	1	3/4	5/8-18	4 1/2	3/4	2 1/4	1 1/4	1
14-YCB-133-08	5.4	3 13/16	2 1/32	1 3/8	1	5/8-18	5	7/8	3	1 7/8	1 3/8
14-YCB-133-10	7.0	4 15/16	2 17/32	1 3/4	1 1/4	7/8-14	6 1/2	7/8	3 1/8	2	1 3/4
14-YCB-133-12	8.1	5 3/4	2 17/32	2	1 1/4	1-14	7 1/2	1	3 1/2	2 1/8	2
14-YCB-133-14	9.3	6 19/32	3 1/32	2 1/2	1 1/2	1 1/8-12	8 1/2	1	4	2 5/8	2 1/2
14-YCB-133-16	10.6	7 1/2	3 1/32	3	1 1/2	1 1/4-12	9 1/2	1	4 1/4	2 7/8	2 3/4
14-YCB-133-20	13.6	9 5/8	4 1/16	3 1/2	2	1 3/4-12	12 5/8	1 11/16	5 11/16	3 5/8	3 1/2
14-YCB-133-24	16.2	11 1/2	4 9/16	4	2 1/4	2-12	14 7/8	1 15/16	6 7/16	4	4

# FEMALE EYE



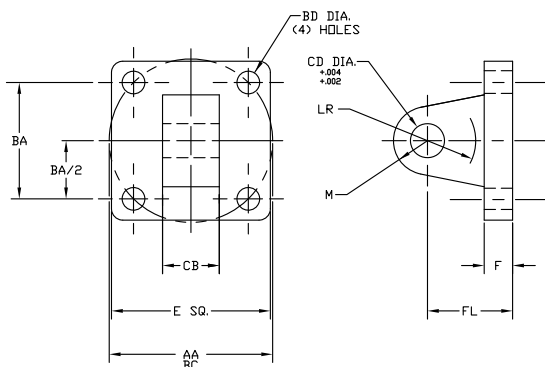
PART NUMBER	A	CA	CB	CD	ER	KK
13-YE-9303	3/4	1 1/2	3/4	1/2	5/8	7/16-20
13-YE-9304	1 1/8	2 1/16	1 1/4	3/4	7/8	3/4-16
13-YE-9306	1 5/8	2 13/16	1 1/2	1	1 3/16	1-14
13-YE-9306-M	1 1/8	2 3/8	1 1/2	1	1 7/16	7/8-14
13-YE-9308	2	3 7/16	2	1 3/8	1 9/16	1 1/4-12
13-YE-9310	2 1/4	4	2 1/2	1 3/4	2	1 1/2-12
13-YE-9312	3	5	2 1/2	2	2 1/2	1 7/8-12
13-YE-9312-M	2 1/4	4 3/8	2 1/2	2	2 7/8	1 3/4-12
13-YE-9314	3 1/2	5 13/16	3	2 1/2	2 13/16	2 1/4-12
13-YE-9316	3 1/2	6 1/8	3	3	3 1/4	2 1/2-12
13-YE9316-M	3 5/8	6 1/2	3 1/2	3	3 1/4	2 3/4-12
13-YE-9320	4 1/2	7 5/8	4	3 1/2	3 7/8	3 1/4-12
13-YE-9320-M	5	7 5/8	4	3 1/2	3 7/8	3 1/2-12
13-YE-9324	5 1/2	9 1/8	4 1/2	4	4 7/16	4-12
13-YE-9324-M	5 3/4	9 1/8	5	4	4 7/16	4 1/2-12

# PIVOT PIN



PART NUMBER	PIN SIZE	A	B	C	D	E
12-YP-9003-3-G-A	.500	.470	2.109	1.875	.039	.078
12-YP-9004-3-G-A	.750	.707	2.901	2.625	.046	.092
12-YP-9006-3-G-A	1.000	.943	3.401	3.125	.046	.092
12-YP-9008-3-G-A	1.375	1.295	4.461	4.125	.056	.122
12-YP-9010-3-G-A	1.750	1.655	5.545	5.125	.070	.140
12-YP-9012-3-G-A	2.000	1.891	5.545	5.125	.070	.140
12-YP-9014-3-G-A	2.500	2.366	6.625	6.190	.103	.172
12-YP-9016-3-G-A	3.000	2.844	6.780	6.250	.103	.206
12-YP-9020-3-G-A	3.500	3.322	8.845	8.250	.120	.240
12-YP-9024-3-G-A	4.000	3.782	9.845	9.125	.120	.240

# EYE BRACKET



PART NUMBER	AA	BA	BD	CB	CD	E	F	FL	LR	M
15-YEB-8903	2.3	1 5/8	13/32	3/4	1/2	2 1/2	3/8	1 1/8	1/2	1/2
15-YEB-8904	3.6	2 9/16	17/32	1 1/4	3/4	3 1/2	5/8	1 7/8	1	3/4
15-YEB-8906	4.6	3 1/4	21/32	1 1/2	1	4 1/2	3/4	2 1/4	1	1
15-YEB-8908	5.4	3 13/16	21/32	2	1 3/8	5	7/8	3	1 1/8	1 3/8
15-YEB-8910	7.0	4 15/16	29/32	2 1/2	1 3/4	6 1/2	7/8	3 1/8	1 3/4	1 3/4
15-YEB-8910H	7.0	4 15/16	29/32	2 1/2	1 3/4	6 1/2	1 1/8	3 3/8	1 3/4	1 3/4
15-YEB-8912	8.1	5 3/4	1 1/32	2 1/2	2	7 1/2	1	3 1/2	2	2
15-YEB-8912H	8.1	5 3/4	1 1/32	2 1/2	2	7 1/2	1 1/2	4	2	2
15-YEB-8914	9.3	6 19/32	1 5/32	3	2 1/2	8 1/2	1	4	2 1/2	2 1/2
15-YEB-8914H	9.3	6 19/32	1 5/32	3	2 1/2	8 1/2	1 3/4	4 3/4	2 1/2	2 1/2
15-YEB-8916	10.6	7 1/2	1 9/32	3	3	9 1/2	1	4 1/4	2 3/4	2 3/4
15-YEB-8916H	10.6	7 1/2	1 9/32	3	3	9 1/2	2	5 1/4	2 3/4	2 3/4
15-YEB-8920	13.6	9 5/8	1 25/32	4	3 1/2	12 5/8	1 11/16	5 11/16	3 1/2	3 1/2
15-YEB-8924	16.2	11 1/2	2 1/32	4 1/2	4	14 7/8	1 15/16	6 7/16	3 7/8	4

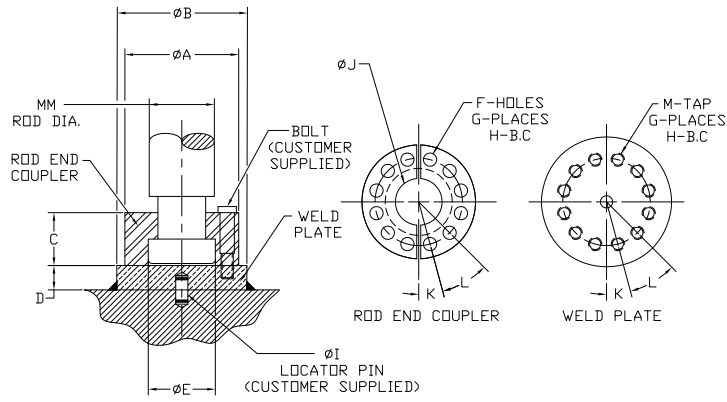
# SWIVEL EYE BRACKET

PART NUMBER	AA	BA	BD	CB	CD	E	F	FL	LR	M	DYNAMIC	STATIC
15-YSB-219-3-1	2.3	1 5/8	13/32	3/4	1/2	2 1/2	3/8	1 1/8	1/2	11/16	3,150	9,338
15-YSB-219-3-2	3.6	2 9/16	17/32	1 1/4	3/4	3 1/2	5/8	1 7/8	1	1 3/16	7,088	20,925
15-YSB-219-3-3	4.6	3 1/4	21/32	1 1/2	1	4 1/2	3/4	2 1/4	1	1 3/8	12,600	37,350
15-YSB-219-3-4	5.4	3 13/16	21/32	2	1 3/8	5	7/8	3	1 1/8	2	23,400	69,750
15-YSB-219-3-5	7.0	4 15/16	29/32	2 1/2	1 3/4	6 1/2	7/8	3 1/8	1 3/4	2 1/8	38,250	114,750
15-YSB-219-3-6	8.1	5 3/4	1 1/32	2 1/2	2	7 1/2	1	3 1/2	2	2 3/8	50,400	150,750

(Includes spacers to allow swivel action up to 7° and to make dimensions interchangeable with standard eye bracket.)  
**NOTE:** To assure precision fit-up, pivot pins, machined to special tolerances are furnished with all swivel eye brackets, unless otherwise specified.

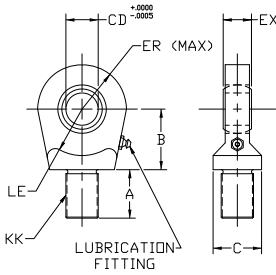


# ROD END COUPLER AND WELD PLATE



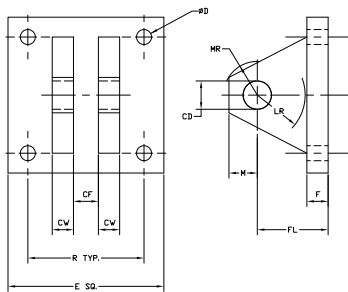
ROD END COUPLER PART#	WELD PLATE PART#	WELD PLATE MATERIAL	MM	A	B	C	D	E	F	G	H	I	J	K	L	M
18-FEC-062	18-FEC-062-WP	CD 1018	5/8	1.500	2.000	.562	.500	.656	.218	4	1.125	.250	.406	45°	90°	10-24
18-FEC-100	18-FEC-100-WP	CD 1018	1	2.000	2.500	.875	.500	1.063	.281	6	1.500	.250	.750	30°	60°	1/4-20
18-FEC-137	18-FEC-137-WP	CD 1018	1 3/8	2.500	3.000	1.000	.625	1.438	.343	6	2.000	.250	.938	30°	60°	5/16-18
18-FEC-175	18-FEC-175-WP	CD 1018	1 3/4	3.000	4.000	1.250	.625	1.813	.343	8	2.375	.250	1.187	22.5°	45°	5/16-18
18-FEC-200	18-FEC-200-WP	CD 1018	2	3.500	4.000	1.625	.750	2.063	.406	12	2.688	.375	1.438	15°	30°	3/8-16
18-FEC-250	18-FEC-250-WP	CD 1018	2 1/2	4.000	4.500	1.875	.750	2.625	.406	12	3.188	.375	1.875	15°	30°	3/8-16
18-FEC-300	18-FEC-300-WP	CD 1018	3	5.000	5.500	2.375	1.000	3.125	.531	12	4.000	.375	2.375	15°	30°	1/2-13
18-FEC-350	18-FEC-350-WP	A 36 HRS	3 1/2	5.875	7.000	2.625	1.000	3.625	.656	12	4.688	.375	2.625	15°	30°	5/8-11
18-FEC-400	18-FEC-400-WP	A 36 HRS	4	6.375	7.000	2.625	1.000	4.125	.656	12	5.188	.375	3.125	15°	30°	5/8-11
18-FEC-450	18-FEC-450-WP	A 36 HRS	4 1/2	6.875	8.000	3.125	1.000	4.625	.656	12	5.688	.375	4.625	15°	30°	5/8-11
18-FEC-500	18-FEC-500-WP	A 36 HRS	5	7.375	8.000	3.125	1.000	5.125	.656	12	6.188	.375	4.000	15°	30°	5/8-11
18-FEC-550	18-FEC-550-WP	A 36 HRS	5 1/2	8.250	9.000	3.875	1.250	5.625	.781	12	6.875	.375	4.500	15°	30°	3/4-10
18-FEC-700	18-FEC-700-WP	A 36 HRS	7	10.375	11.000	4.000	1.750	7.125	1.031	12	8.750	.375	5.938	15°	30°	1"-8

## MALE SPHERICAL ROD EYE



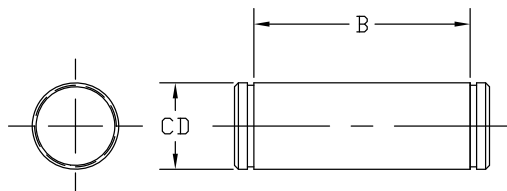
PART NUMBER	CD	KK	A	B	C	ER	EX	LE	MAX LOAD
13-MSRE-0500	.5000	7/16-20	11/16	7/8	7/8	7/8	7/16	3/4	2,600
13-MSRE-0750	.7500	3/4-16	1	1 1/4	1 5/16	1 1/4	21/32	1 1/16	7,080
13-MSRE-1000	1.000	1-14	1 1/2	1 7/8	1 1/2	1 3/8	7/8	1 7/16	12,590
13-MSRE-1375	1.3750	1 1/4-12	2	2 1/8	2	1 13/16	1 3/16	1 7/8	22,930
13-MSRE-1750	1.7500	1 1/2-12	2 1/8	2 1/2	2 1/4	2 3/16	1 17/32	2 1/8	38,220
13-MSRE-2000	2.000	1 7/8-12	2 7/8	2 3/4	2 5/8	2 5/8	1 3/4	2 1/2	50,360

## SPHERICAL CLEVIS BRACKET



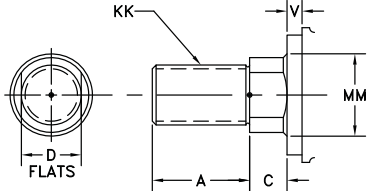
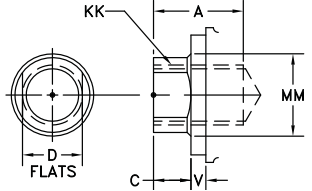
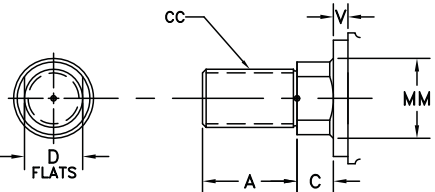
PART NUMBER	CD	CF	CW	D	E	F	FL	M	MR	LR	R
14-YCB-133-03-CBS	.500	.44	.50	.41	.300	.50	.150	.50	.62	.94	.205
14-YCB-133-05-CBS	.750	.66	.62	.53	.375	.62	.200	.88	1.00	1.38	.276
14-YCB-133-06-CBS	1.000	.88	.75	.53	.550	.75	.250	1.00	1.19	1.69	.410
14-YCB-133-08-CBS	1.375	1.19	1.00	.66	.650	.88	.350	1.38	1.62	2.44	.495
14-YCB-133-10-CBS	1.750	1.53	1.25	.91	.850	1.25	.450	1.75	2.06	2.88	.658
14-YCB-133-12-CBS	2.000	1.75	1.50	.91	1.062	1.50	.500	2.00	2.38	3.31	.792

## SPHERICAL PINS

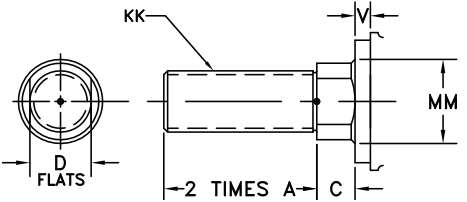
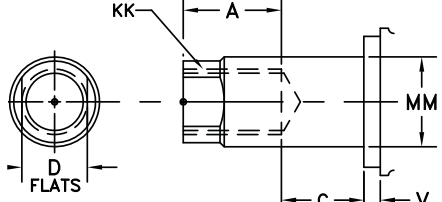
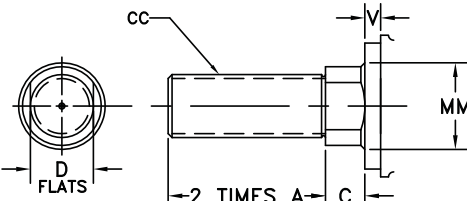
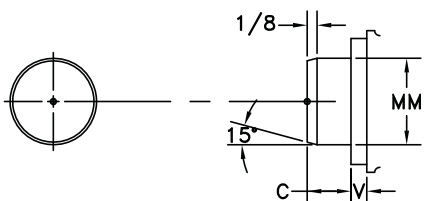
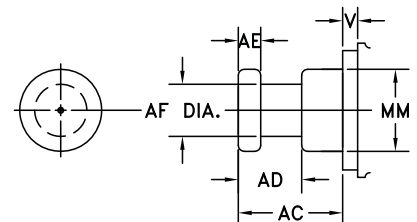
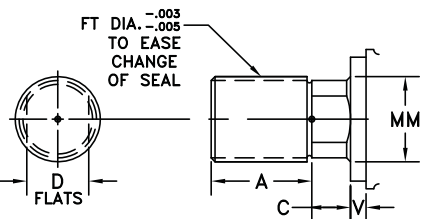


PART NUMBER	CD		B
12-YP-9003-3-G-CBS	.4997	+0.000 -0.004	1 9/16
12-YP-9004-3-G-CBS	.7497	+0.000 -0.005	2 1/32
12-YP-9006-3-G-CBS	.9997	+0.000 -0.005	2 1/2
12-YP-9008-3-G-CBS	1.3746	+0.000 -0.006	3 5/16
12-YP-9010-3-G-CBS	1.7496	+0.000 -0.006	4 7/32
12-YP-9012-3-G-CBS	1.9996	+0.000 -0.007	4 15/16

# STANDARD ROD END STYLES

ROD END STYLE #	DIMENSIONS	ROD END STYLE #	DIMENSIONS																																																																																																																	
<b>#2**</b> STANDARD MALE (NFPA-SM)		<b>#4</b> STANDARD FEMALE (NFPA-SF)																																																																																																																		
<b>#1</b> STANDARD MALE (NFPA-IM)		<table border="1"> <thead> <tr> <th colspan="6">ADDITIONAL DIMENSIONS</th> </tr> <tr> <th rowspan="2">ROD MM</th> <th colspan="4">STYLE 9</th> <th>STYLE 8</th> </tr> <tr> <th>AC +/- .030</th> <th>AD +/- .010</th> <th>AE +/- .000/- .010</th> <th>AF +/- .010</th> <th>FT</th> </tr> </thead> <tbody> <tr><td>5/8</td><td>1 1/8</td><td>5/8</td><td>1/4</td><td>3/8</td><td>5/8-18</td></tr> <tr><td>1</td><td>1 1/2</td><td>15/16</td><td>3/8</td><td>11/16</td><td>1-14</td></tr> <tr><td>1 3/8</td><td>1 3/4</td><td>1 1/16</td><td>3/8</td><td>7/8</td><td>1 3/8-12</td></tr> <tr><td>1 3/4</td><td>2</td><td>1 5/16</td><td>1/2</td><td>1 1/8</td><td>1 3/4-12</td></tr> <tr><td>2</td><td>2 5/8</td><td>1 11/16</td><td>5/8</td><td>1 3/8</td><td>2-12</td></tr> <tr><td>2 1/2</td><td>3 1/4</td><td>1 15/16</td><td>3/4</td><td>1 3/4</td><td>2 1/2-12</td></tr> <tr><td>3</td><td>3 5/8</td><td>2 7/16</td><td>7/8</td><td>2 1/4</td><td>3-12</td></tr> <tr><td>3 1/2</td><td>4 3/8</td><td>2 11/16</td><td>1</td><td>2 1/2</td><td>3 1/2-12</td></tr> <tr><td>4</td><td>4 1/2</td><td>2 11/16</td><td>1</td><td>3</td><td>4-12</td></tr> <tr><td>4 1/2</td><td>5 1/4</td><td>3 3/16</td><td>1 1/2</td><td>3 1/2</td><td>4 1/2-12</td></tr> <tr><td>5</td><td>5 3/8</td><td>3 3/16</td><td>1 1/2</td><td>3 7/8</td><td>5-12</td></tr> <tr><td>5 1/2</td><td>6 1/4</td><td>3 15/16</td><td>1 7/8</td><td>4 3/8</td><td>5 1/2-12</td></tr> <tr><td>7</td><td>6 1/2</td><td>4 1/16</td><td>2</td><td>5 3/4</td><td>7-12</td></tr> <tr><td>8</td><td>6 1/2</td><td>4 1/16</td><td>2</td><td>6 1/2</td><td>8-12</td></tr> <tr><td>9</td><td>6 3/4</td><td>4 1/8</td><td>2 3/8</td><td>7 1/4</td><td>9-12</td></tr> <tr><td>10</td><td>7 1/4</td><td>4 5/8</td><td>2 3/8</td><td>8</td><td>10-12</td></tr> </tbody> </table>		ADDITIONAL DIMENSIONS						ROD MM	STYLE 9				STYLE 8	AC +/- .030	AD +/- .010	AE +/- .000/- .010	AF +/- .010	FT	5/8	1 1/8	5/8	1/4	3/8	5/8-18	1	1 1/2	15/16	3/8	11/16	1-14	1 3/8	1 3/4	1 1/16	3/8	7/8	1 3/8-12	1 3/4	2	1 5/16	1/2	1 1/8	1 3/4-12	2	2 5/8	1 11/16	5/8	1 3/8	2-12	2 1/2	3 1/4	1 15/16	3/4	1 3/4	2 1/2-12	3	3 5/8	2 7/16	7/8	2 1/4	3-12	3 1/2	4 3/8	2 11/16	1	2 1/2	3 1/2-12	4	4 1/2	2 11/16	1	3	4-12	4 1/2	5 1/4	3 3/16	1 1/2	3 1/2	4 1/2-12	5	5 3/8	3 3/16	1 1/2	3 7/8	5-12	5 1/2	6 1/4	3 15/16	1 7/8	4 3/8	5 1/2-12	7	6 1/2	4 1/16	2	5 3/4	7-12	8	6 1/2	4 1/16	2	6 1/2	8-12	9	6 3/4	4 1/8	2 3/8	7 1/4	9-12	10	7 1/4	4 5/8	2 3/8	8	10-12
ADDITIONAL DIMENSIONS																																																																																																																				
ROD MM	STYLE 9				STYLE 8																																																																																																															
	AC +/- .030	AD +/- .010	AE +/- .000/- .010	AF +/- .010	FT																																																																																																															
5/8	1 1/8	5/8	1/4	3/8	5/8-18																																																																																																															
1	1 1/2	15/16	3/8	11/16	1-14																																																																																																															
1 3/8	1 3/4	1 1/16	3/8	7/8	1 3/8-12																																																																																																															
1 3/4	2	1 5/16	1/2	1 1/8	1 3/4-12																																																																																																															
2	2 5/8	1 11/16	5/8	1 3/8	2-12																																																																																																															
2 1/2	3 1/4	1 15/16	3/4	1 3/4	2 1/2-12																																																																																																															
3	3 5/8	2 7/16	7/8	2 1/4	3-12																																																																																																															
3 1/2	4 3/8	2 11/16	1	2 1/2	3 1/2-12																																																																																																															
4	4 1/2	2 11/16	1	3	4-12																																																																																																															
4 1/2	5 1/4	3 3/16	1 1/2	3 1/2	4 1/2-12																																																																																																															
5	5 3/8	3 3/16	1 1/2	3 7/8	5-12																																																																																																															
5 1/2	6 1/4	3 15/16	1 7/8	4 3/8	5 1/2-12																																																																																																															
7	6 1/2	4 1/16	2	5 3/4	7-12																																																																																																															
8	6 1/2	4 1/16	2	6 1/2	8-12																																																																																																															
9	6 3/4	4 1/8	2 3/8	7 1/4	9-12																																																																																																															
10	7 1/4	4 5/8	2 3/8	8	10-12																																																																																																															

# OPTIONAL ROD END STYLES

ROD END STYLE #	DIMENSIONS	ROD END STYLE #	DIMENSIONS
<b>#5</b>		<b>#3</b> (NFPA-LF)	
<b>#6</b>		<b>#7</b> (NFPA-PL)	
<b>#9</b>		<b>#8</b> (NFPA-FM)	

**\*\* MALE ROD END STYLE #2 WILL BE FURNISHED UNLESS OTHERWISE SPECIFIED**

(4) SPANNER HOLES USED INSTEAD OF FLATS ON 4" DIA. AND LARGER.

**NOTE:** CONSULT FACTORY FOR ROD END CONFIGURATIONS OTHER THAN THOSE SHOWN.

**NOTE:** ALL YATES MOUNTING ACCESSORIES ARE DESIGNED TO FIT #2 ROD END STYLES



