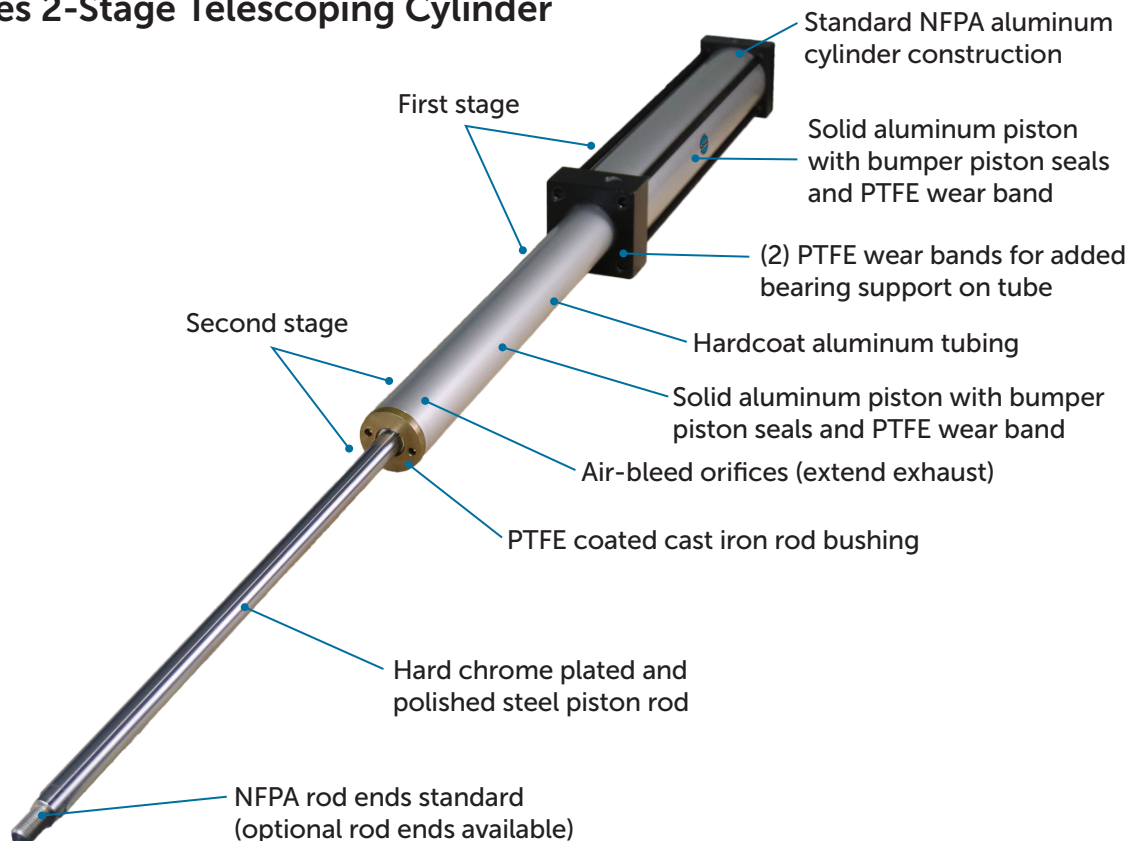


TC Series Cylinders

TC Series 2-Stage Telescoping Cylinder



Benefits

- Three effective bore sizes: 0.75", 1.50" and 2.50"
- Strokes up to 60" (depending on mounting)
- 2-Stage Telescoping
- Space saving design
- 100% double action
- Reliable operation
- Rated for non-lube service
- Standard NFPA mounting
- Internal bumpers at each stage

Space Saving Design Stroke Examples For 1.50" Bore			
Cylinder Stroke	Standard NFPA Cylinder	Telescoping Cylinder	Space Savings
12"	16.625"	10.750"	35.34%
18"	22.625"	13.750"	39.23%
24"	28.625"	16.750"	41.48%
30"	34.625"	19.750"	42.96%
36"	40.625"	22.750"	44.00%
42"	46.625"	25.750"	44.77%
48"	52.625"	28.750"	45.37%
54"	58.625"	31.750"	45.84%
60"	64.625"	34.750"	46.23%

Note: cylinders are made to any stroke.

Design Tips

- Cylinders are designed to support the unit's weight only, and not intended for side-Load applications. All Loads should be guided and supported.
- For proper speed control, use "meter-in" type flow control devices.
- In high cycle speed applications, external shock absorbers should be used at end of strokes.

Operating Specifications

Operating Pressure	Operating Temperature
125 PSI Air	-20°F to 200°F (-29°C to 93°C)

TC - MS4 - 1.5 x 10 - 2s - KK2-SSA

Series
TC 125 PSI Air

Bore
0.75 0.75"
1.5 1.50"
2.5 2.50"

Stroke
0" to 60"
Made-To-Order

Stroke
2S Two Stage

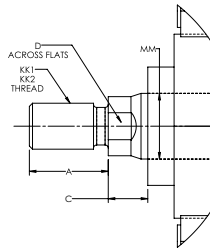
NFPA Mounts

BASEBAR	Side Lug Mount (Non-NFPA)
MF1	Front Flange
MF2	Rear Flange
MP1	Rear Pivot Clevis
MP2	Rear Pivot Clevis
MP4	Rear Pivot Eye
MS1	Front & Rear Angles
MS4	Bottom Tapped Holes (1.50" - 8.00" Bore)
MT2	Rear Trunnion
MX0	No Mount

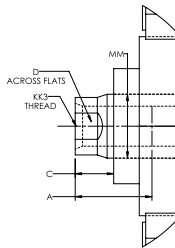
Options

A	Extended Piston Rod Thread (Example: A=2)
C	Extended Piston Rod (Example: C=3)
KK2	Large Male Rod Thread
KK3	Female Rod Thread
KK3S	Studded Piston Rod (KK3 With Stud, Loctite In Place)
KK4	Full Diameter Male Rod Thread
MPR	Magnetic Piston for Reed or Solid State Switches Bimba Models R10, RAC, and MSS. Note: magnet is only on 1st stage and will only detect the position off one stage.
OS	1" Piston Rod (Available on 2.50" Bore only)
OP	Optional Port Location (Example: OP=3,7)
SSA	Stainless Steel Piston Rod, Tie Rods, Nuts & Fasteners
SSF	Stainless Steel Fasteners
SSN	Stainless Steel Sleeve Nuts
SSR	Stainless Steel Piston Rod
SST	Stainless Steel Tie Rods & Sleeve Nuts
XX	Special Variation (Specify XX=)

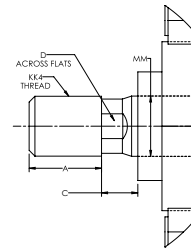
Style 1 & 2
KK1 & KK2



Style 3
KK3



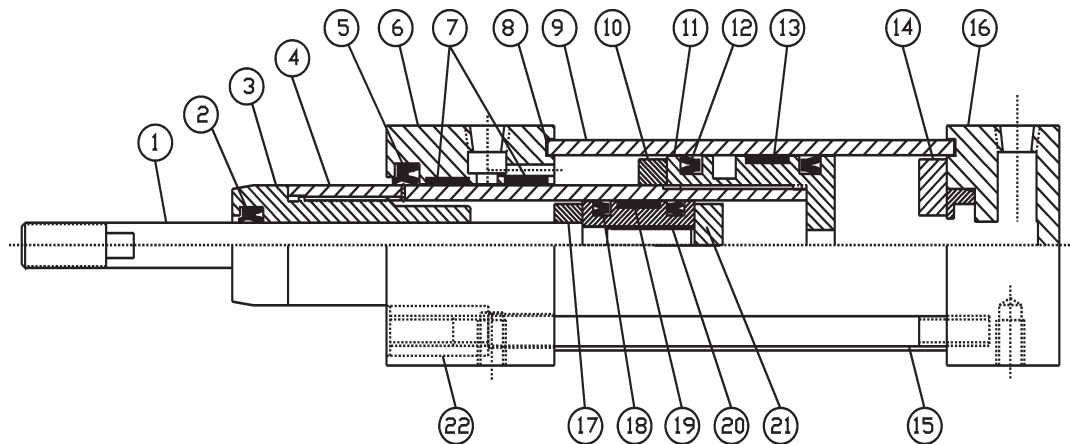
Style 4*
KK4



Bore	Rod Diameter (MM)	Standard		Optional		Style 3 - Female		Style 4 - Male*		C
		Style 1 - Male		Style 2 - Male		KK3	A	KK4	A	
0.75	0.375	—	—	—	—	10-32	0.750	3/8-24	0.750	0.375
1.50 & 2.50	0.625	7/16-20	0.750	1/2-20	0.750	7/16-20	0.750	5/8-18	0.750	0.375

*Style 4 (KK4) is standard thread on 0.75" bore.

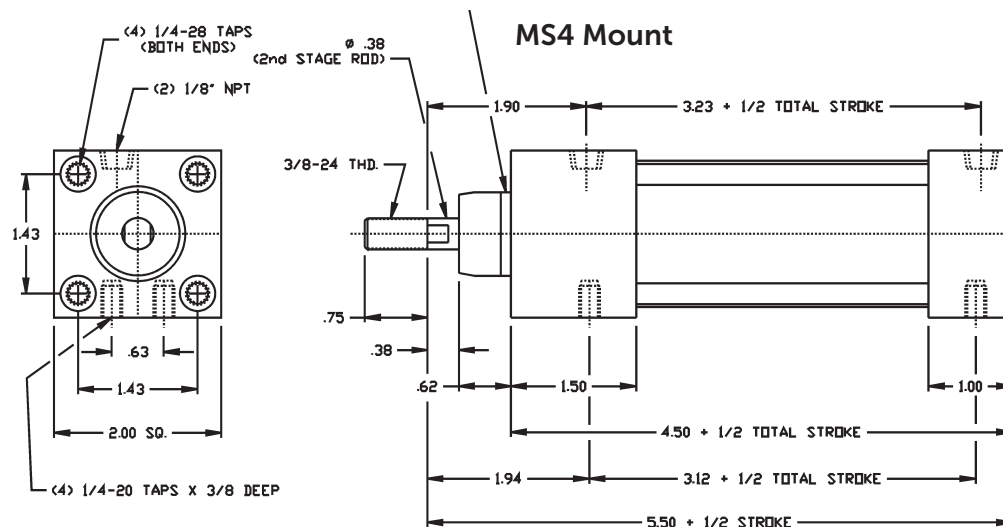
TC Series 0.750" Bore – Construction



- | | | | |
|----------------------|----------------------------|----------------------------|-----------------------|
| 1. 0.375" Rod Piston | 7. PTFE Wear Bands (2) | 13. PTFE Wear Band | 19. PTFE Wear Band |
| 2. Rod Seal | 8. 1.500" Tube Seals (2) | 14. 1.500" Cap Bumper | 20. 0.750" Piston |
| 3. Rod Bushing | 9. 1.500" Tube | 15. Tie Rod (4) | 21. 0.750" Cap Bumper |
| 4. 0.750" ID Tube | 10. 1.500" Head Bumper | 16. Aluminum Cap | 22. Sleeve Nut (4) |
| 5. Rod Seal | 11. 1.500" Piston | 17. 0.750" Head Bumper | |
| 6. Aluminum Head | 12. 1.500" Piston Seal (2) | 18. 0.750" Piston Seal (2) | |

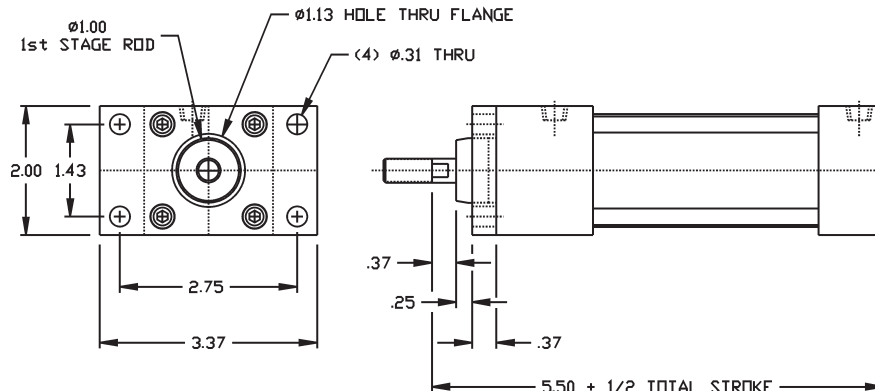
Cylinder Force Comparison Chart (At 100 PSI)

Type	Stroke	1st Stage	2nd Stage
2-Stage Telescoping	Push	176 lbs	44 lbs
	Pull	98 lbs	33 lbs
Standard 0.75" Bore	Push	44 lbs	N/A
	Pull	33 lbs	N/A

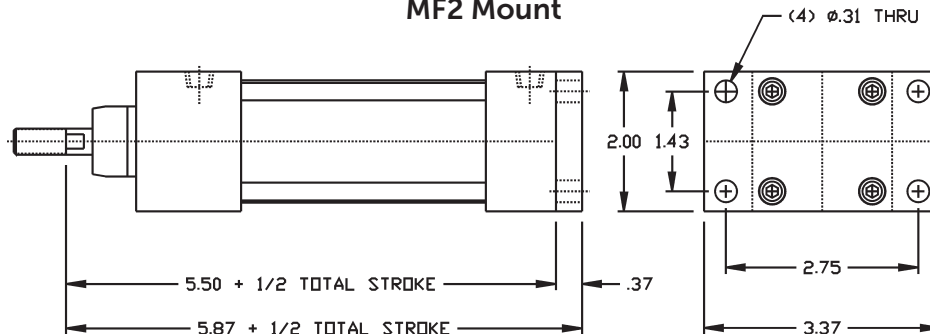


TC Series Dimensions – Base Mounts (Strokes 0" to 36")

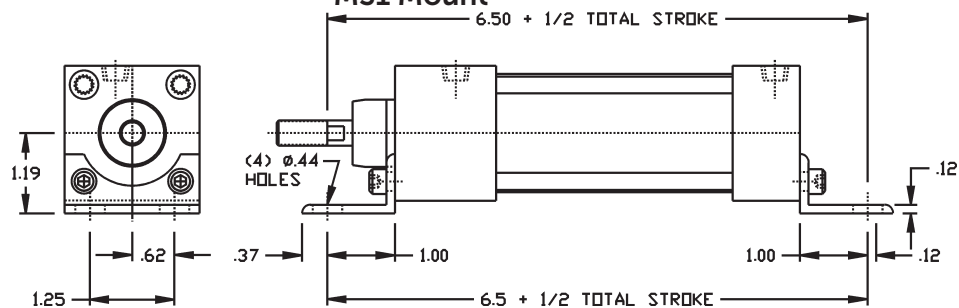
MF1 Mount



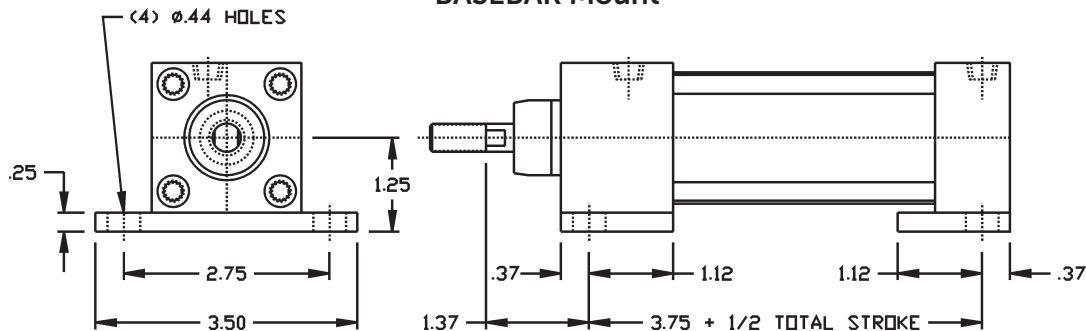
MF2 Mount



MS1 Mount

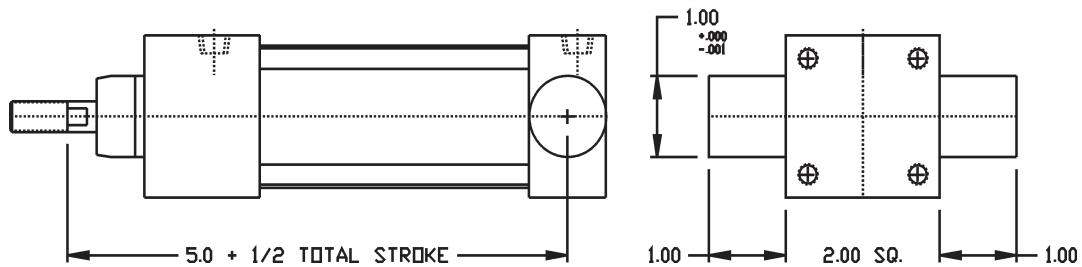


BASEBAR Mount

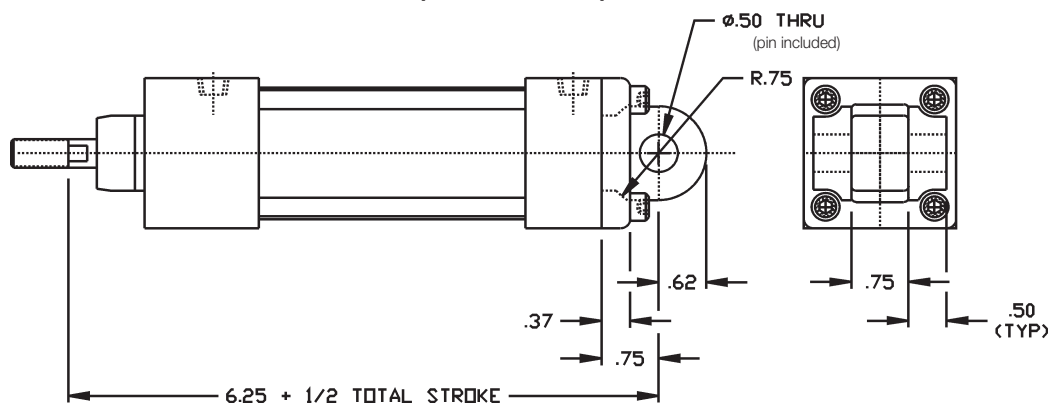


TC Series Dimensions: Pivot Mounts (Strokes 0" to 24")

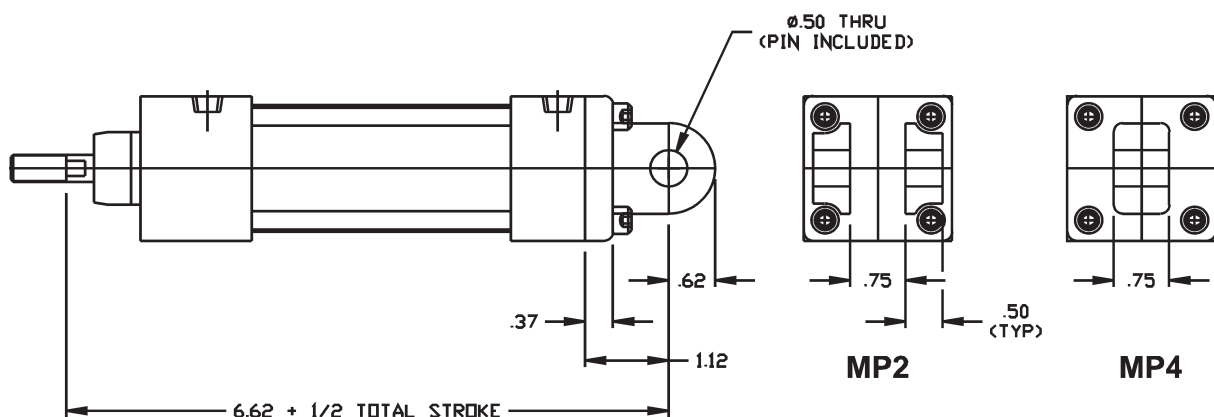
MT2 Mount



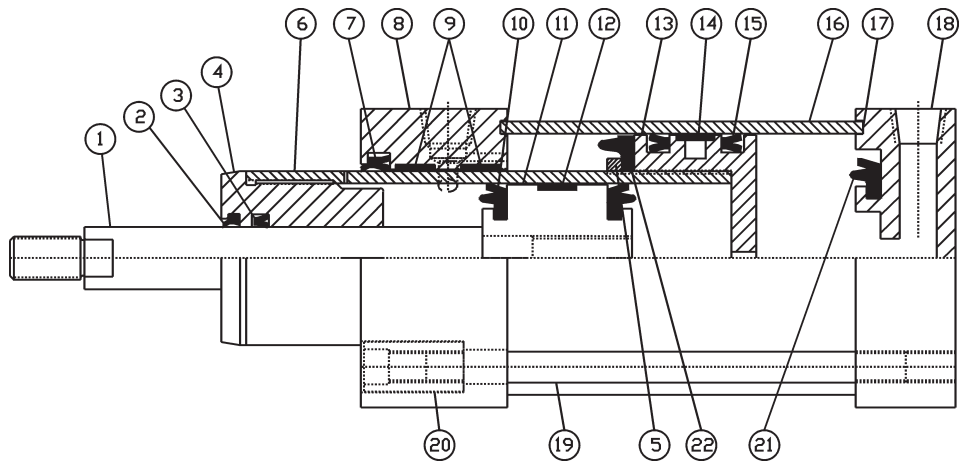
MP1 (Cast Bolt On) Mount



MP2 & MP4 (Cast Bolt On) Mount



TC Series 1.500' Bore – Construction

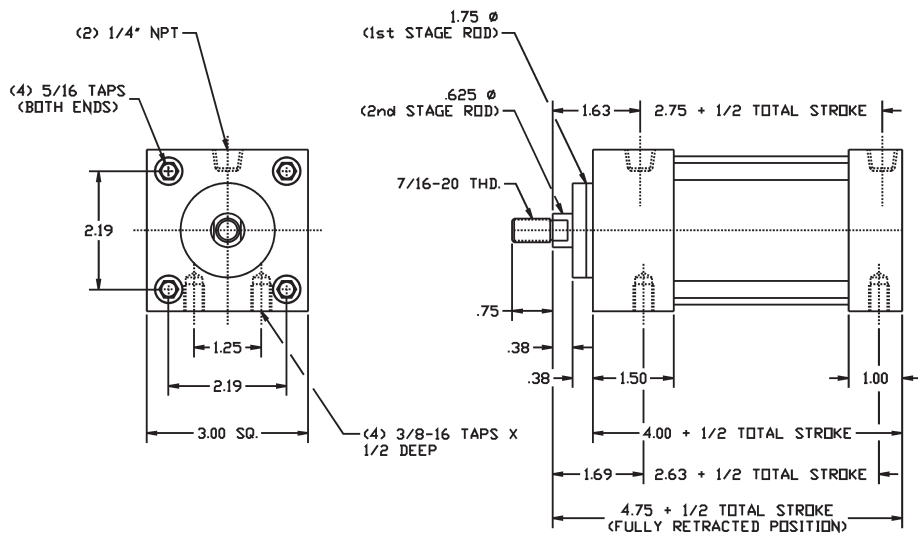


- | | | | |
|----------------------|-----------------------|----------------------------|------------------------|
| 1. 0.625" Piston Rod | 7. Rod Wiper/Seal | 12. PTFE Wear Band | 18. Aluminum Cap |
| 2. Rod Wiper | 8. Aluminum Head | 13. 2.500" OD Piston | 19. Tie Rods (4) |
| 3. Rod Seal | 9. PTFE Wear Band (2) | 14. PTFE Wear Band | 20. Sleeve Nut (4) |
| 4. Rod Bushing | 10. 1.500" Bumper | 15. 2.500" Piston Seal (2) | 21. 2.500" Cap Bumper |
| 5. Bumper Retainer | 11. 1.500" OD Piston | 16. 2.500" Tube | 22. 2.500" Head Bumper |
| 6. 1.750" OD Tube | | 17. Tube Seals (2) | |

Cylinder Force Comparison Chart (At 100 PSI)

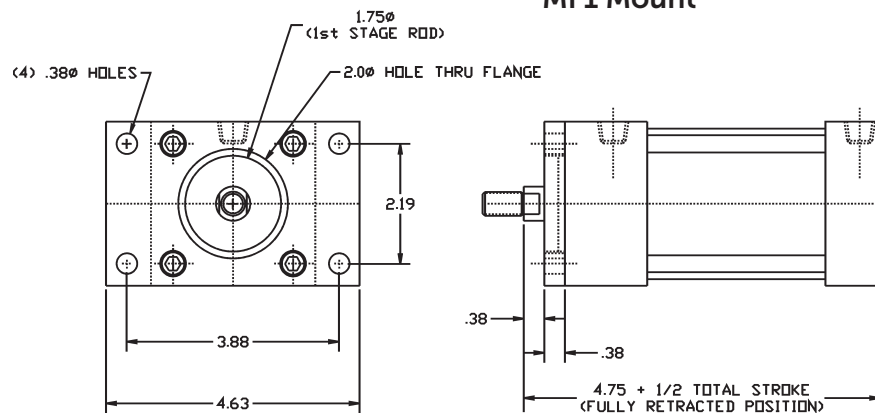
Type	Stroke	1st Stage	2nd Stage
2-Stage Telescoping	Push	490 lbs	176 lbs
	Pull	250 lbs	146 lbs
Standard 1.50" Bore	Push	176 lbs	N/A
	Pull	146 lbs	N/A

MS4 Mount

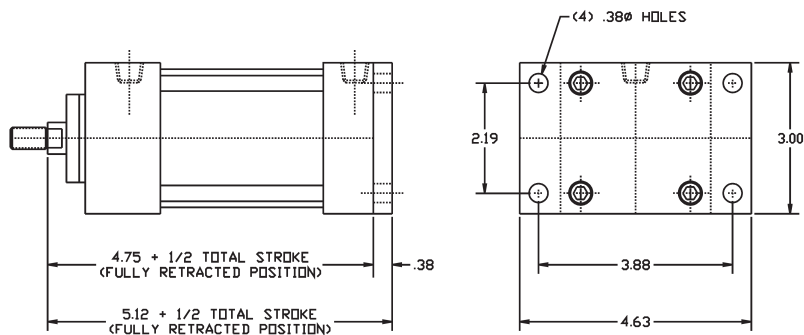


TC Series Dimensions: Base Mounts (Strokes 0" to 60")

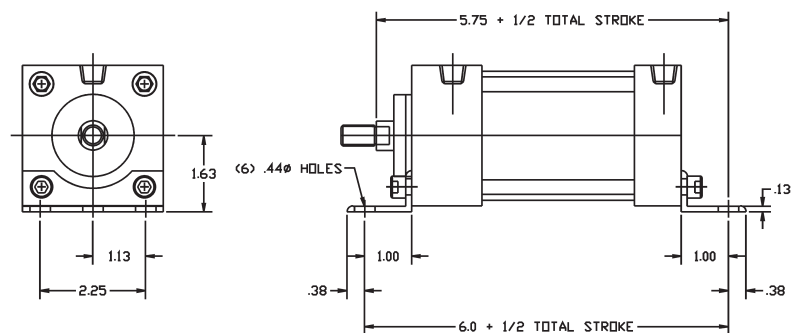
MF1 Mount



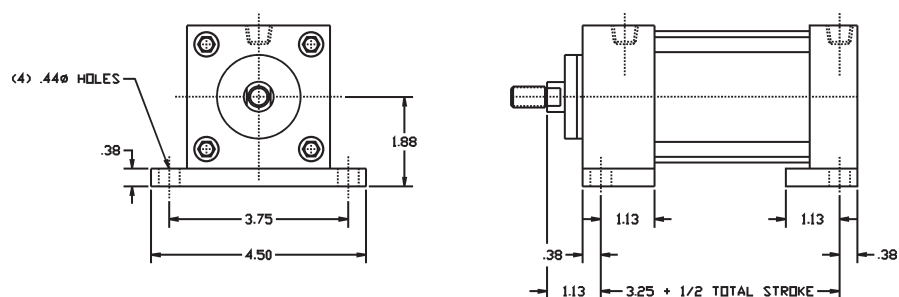
MF2 Mount



MS1 Mount

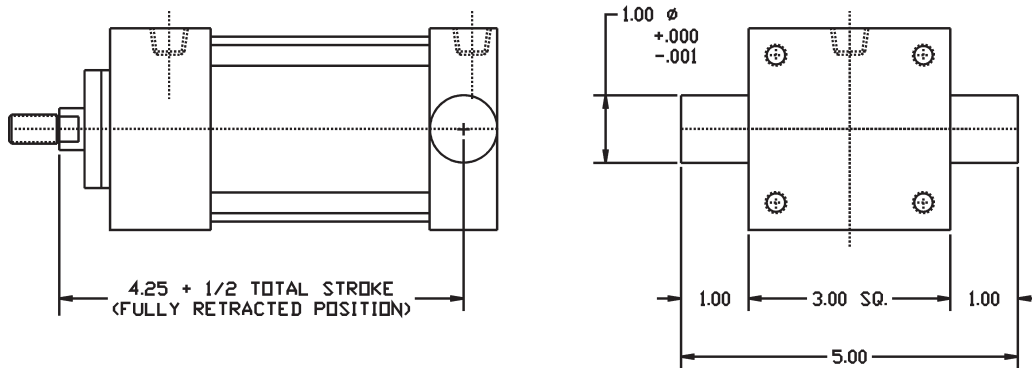


BASEBAR Mount

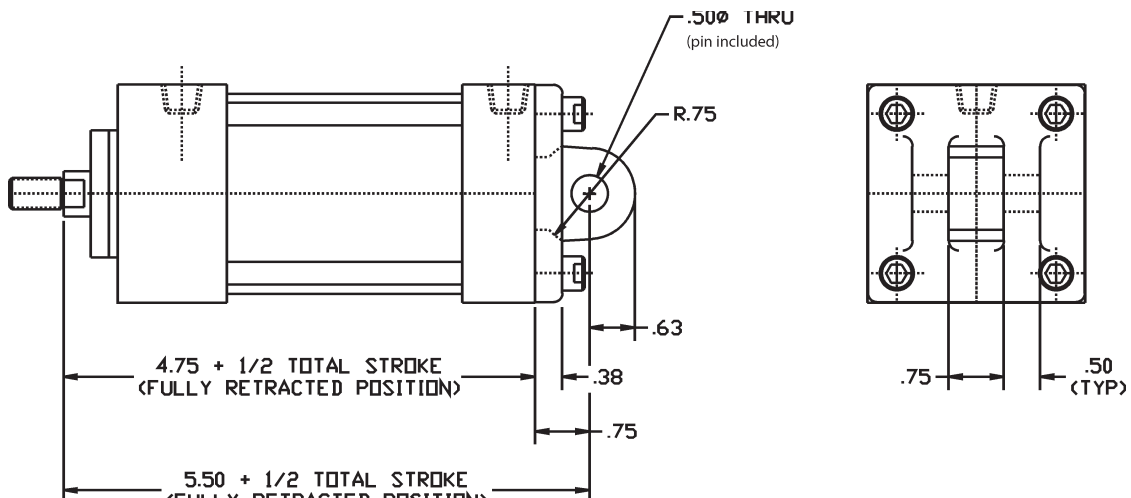


TC Series Dimensions: Pivot Mounts (Strokes 0" to 36")

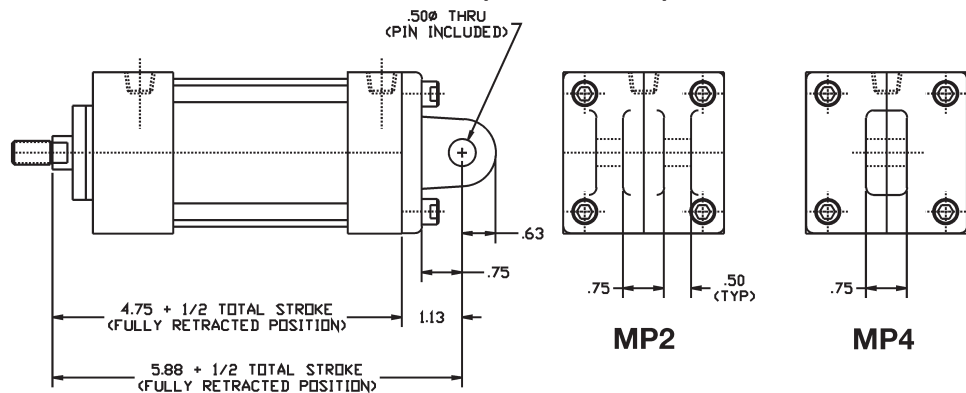
MT2 Mount



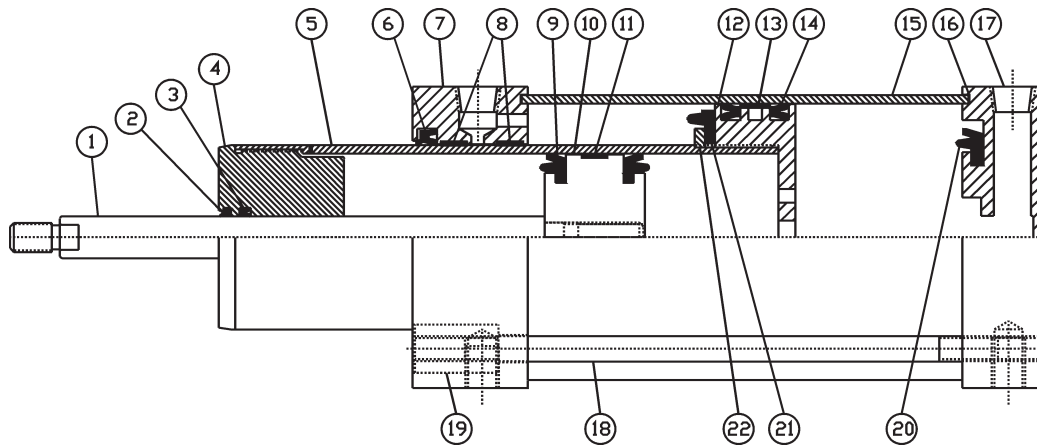
MP1 (Cast Bolt On) Mount



MP2 & MP4 (Cast Bolt On) Mount



TC Series 2.500" Bore – Construction

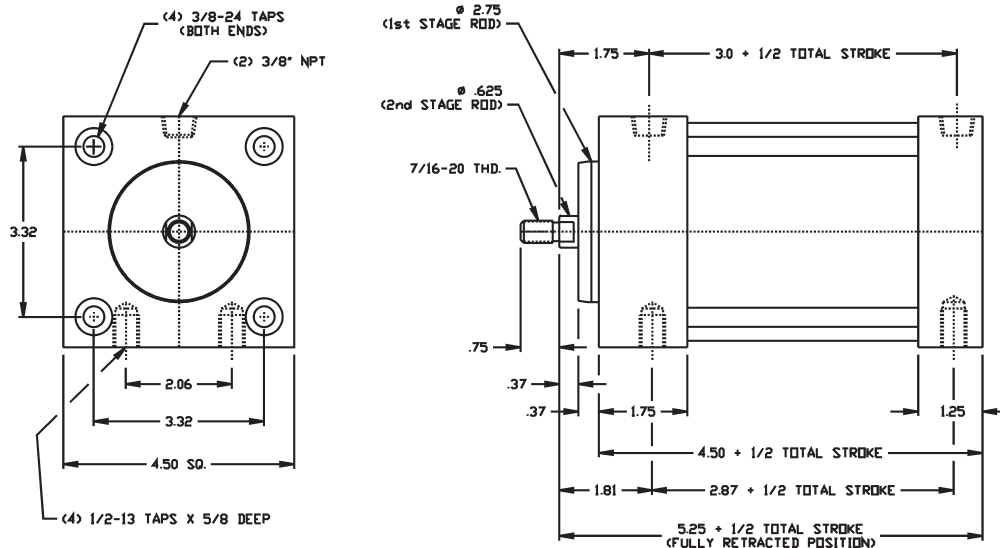


- | | | | |
|----------------------|-----------------------|---------------------------|------------------------|
| 1. 0.625" Piston Rod | 7. Aluminum Head | 12. 4.00" Piston | 18. Tie Rods (4) |
| 2. Rod Wiper | 8. PTFE Wear Band (2) | 13. PTFE Wear Band | 19. Sleeve Nut (4) |
| 3. Rod Seal | 9. 2.500" Bumper | 14. 4.00" Piston Seal (2) | 20. Bumper Piston Seal |
| 4. Rod Bushing | 10. 2.500" Piston | 15. 4.00" OD Tube | 21. Bumper Piston Seal |
| 5. 2.500" OD Tube | 11. PTFE Wear Band | 16. 4.00" Tube Seals (2) | 22. Bumper Retainer |
| 6. Rod Wiper/Seal | | 17. Aluminum Cap | |

Cylinder Force Comparison Chart (At 100 PSI)

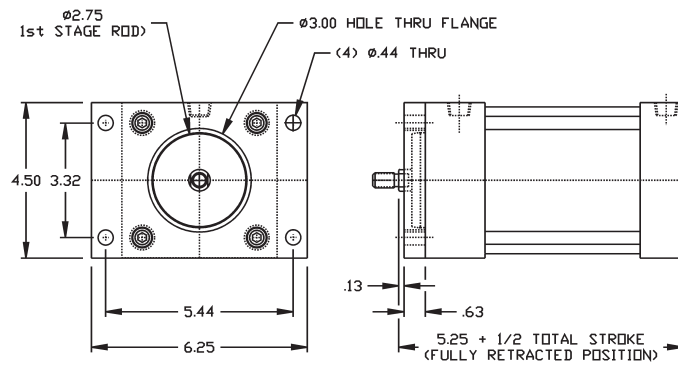
Type	Stroke	1st Stage	2nd Stage
2-Stage Telescoping	Push	1256 lbs	490 lbs
	Pull (0.625" Rod)	662 lbs	460 lbs
	Pull (1.000" Rod)	662 lbs	412 lbs
Standard 2.50" Bore	Push	490 lbs	N/A
	Pull	460 lbs	N/A

MS4 Mount

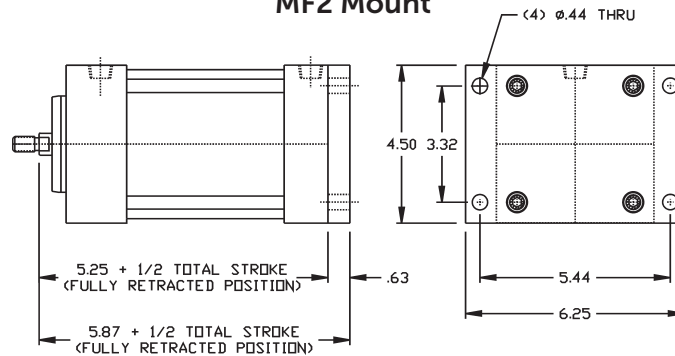


TC Series Dimensions: Base Mounts (Strokes 0" to 60")

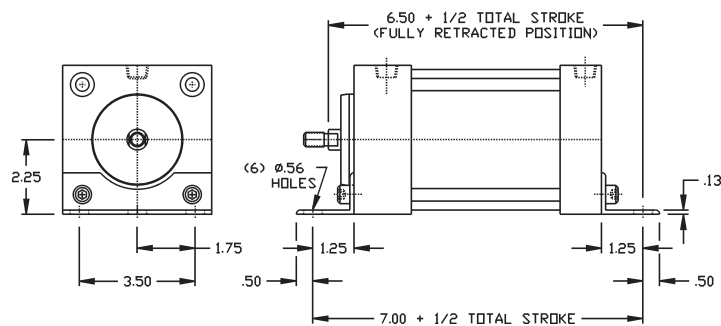
MF1 Mount



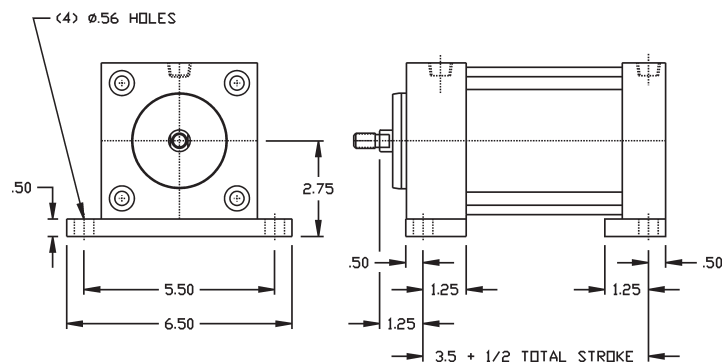
MF2 Mount



MS1 Mount

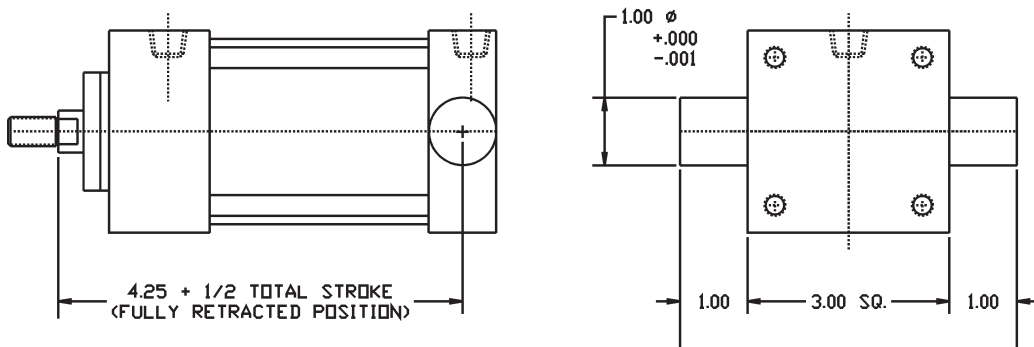


BASEBAR Mount

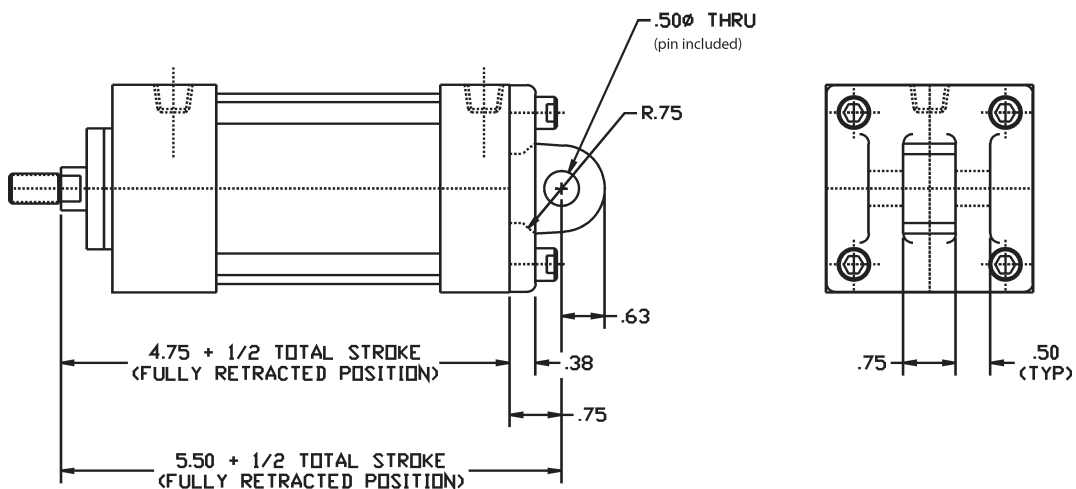


TC Series Dimensions: Pivot Mounts (Strokes 0" to 36")

MT2 Mount



MP1 (Cast Bolt On) Mount



MP2 & MP4 (Cast Bolt On) Mount

