Industrial Cylinder Products

Hydraulic and Pneumatic Cylinders

Catalog 0106-7
(01/11)

Pneumatic Cylinders Index…

A

For Cylinder Division Plant Locations – See Page II.

Parker Cylinder

Parker Series 2A Air Cylinder

When the job calls for reliable, heavy-duty performance, specify Series 2A. A 100,000 psi yield strength chrome-plated, case-hardened piston rod. A 125,000 psi yield strength rod-end stud with rolled threads. 100,000 psi yield strength tie rods. With construction like this, the Parker Series 2A is rated for air service to 250 psi. This is one heavy-duty air cylinder that's really heavy duty.

They're truly premium quality cylinders, factory prelubricated for millions of maintenance-free cycles. And to make sure every cylinder is premium quality, we subject each and every one – not just batch samples – to tough inspection and performance tests. See pages 18 and 19 for the inside story on all the features that make Series 2A the high performance, long lasting choice for all your heavy-duty air applications.

For additional information – call your local Parker Cylinder Distributor.

Standard Specifications

- Heavy Duty Service – ANSI/(NFPA) T3.6.7R2-1996 Specifications and Mounting Dimension Standards
- Standard Construction – Square Head – Tie Rod Design
- Nominal Pressure – Up to 250 PSI Air Service
- Standard Fluid – Filtered Air
- Standard Temperature – -10°F. to +165°F.
- Bore Sizes – 1" through 14" (Larger sizes available)

In line with our policy of continuing product improvement, specifications in this catalog are subject to change.

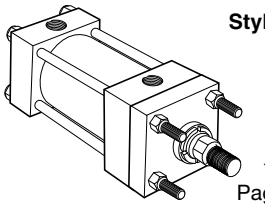
- Piston Rod Diameter – 1/2" through 5 1/2"
- Mounting Styles – 17 standard styles at various application ratings
- Strokes – Available in any practical stroke length
- Cushions – Optional at either end or both ends of stroke. "Float Check" at cap end.
- Rod Ends – Three Standard Choices – Specials to Order

*See section C, "Operating Fluids and Temperature Range" for higher temperature service.

Note: Series 2A Air Cylinders fully meet ANSI/(NFPA) T3.6.7R2-1996 Specifications and Mounting Dimension Standards for Square Head Industrial Fluid Power Cylinders.
Parker Style TB, JB, HB, C, DB, and BB are available in 7" bore size, see page 32.

A

Available Mounting Styles

Tie Rods Extended Head End
Style TB

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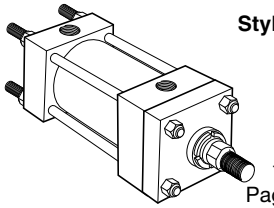
Tie Rods Extended Cap End
Style TC

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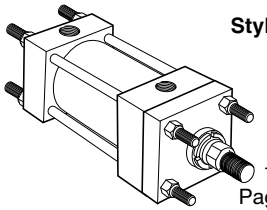
Tie Rods Extended Both Ends
Style TD

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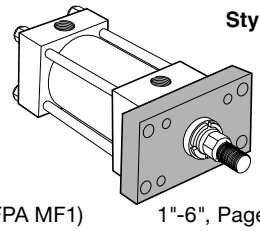
Head Rectangular Flange
Style J

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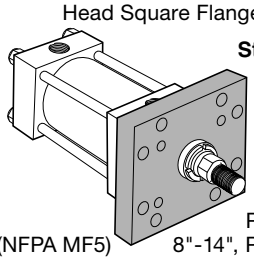
Head Square Flange
Style JB

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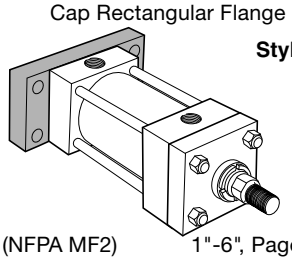
Cap Rectangular Flange
Style H

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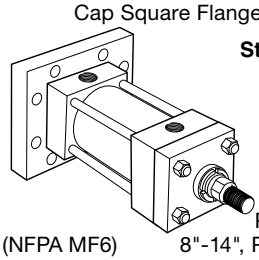
Cap Square Flange
Style HB

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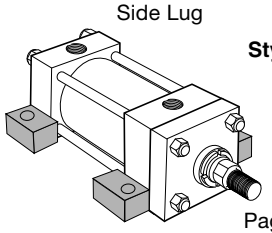
Side Lug
Style C

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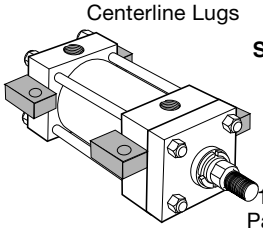
Centerline Lugs
Style E

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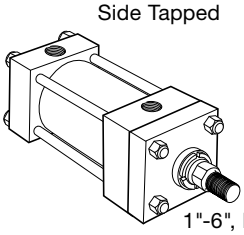
Side Tapped
Style F

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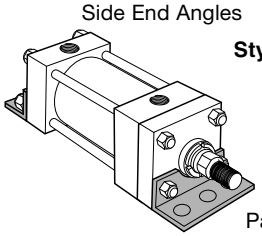
Side End Angles
Style CB

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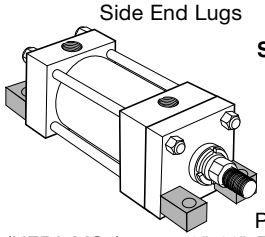
Side End Lugs
Style G

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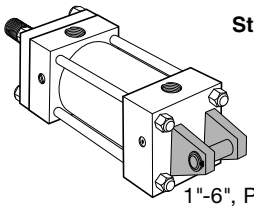
Cap Fixed Clevis
Style BB

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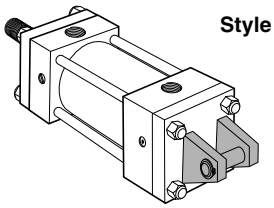
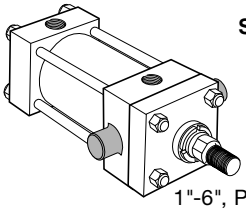
Cap Detachable Clevis
Style BC

(NFPA MP2) 1"-6", Page 30

Head Trunnion
Style D

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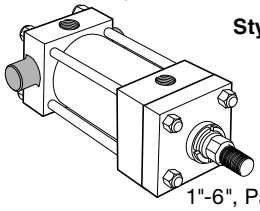
Cap Trunnion
Style DB

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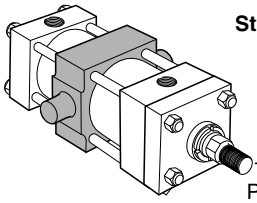
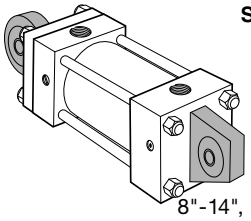
Intermediate Fixed Trunnion
Style DD

1 1/2"-6", Page 28
(NFPA MT4) 8"-14", Page 42

Spherical Bearing
Style SB

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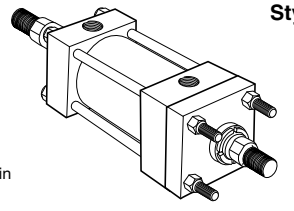
Double Rod Cylinders
Style KTB Shown

Most of the above illustrated mounting styles are available in double rod cylinders.
See Catalog Page 46.

For Cylinder Division Plant Locations – See Page II.

Parker Cylinder

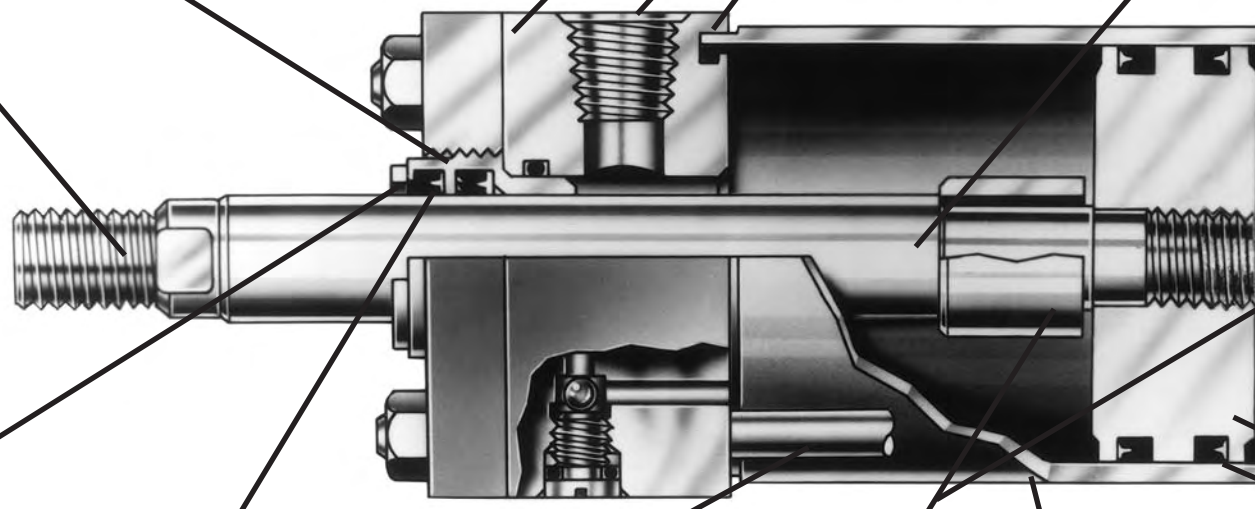
The inside story on why Series 2A is your best choice in heavy duty pneumatic cylinders

Steel Head – Bored and grooved to provide concentricity for mating parts.

Ports – NPTF ports are standard.

End Seals – Pressure-actuated cylinder body-to-head and cap "O" rings.

Primary Seal – Unique Serrated Lipseal™ is a proven leakproof design, completely self-compensating and self-relieving to withstand variations and conform to mechanical deflection that may occur.



Piston Rod Stud – Furnished on 2" diameter rods and smaller when standard style #4 rod end threads are required or on 1 3/8" diameter rods and smaller when style #8 threads are required. Also available in 2 times the catalog "A" dimension length. Studs have rolled threads and are made from high strength steel. Anaerobic adhesive is used to permanently lock the stud to the piston rod.

"Jewel" Rod Gland Assembly – Externally removable without cylinder disassembly. Long bearing surface is inboard of the seals, assuring positive lubrication from within the cylinder. An "O" ring is used as a seal between gland and head, and also serves as a prevailing torque-type lock.

Secondary Seal – Double-Service Wiperseal™ – acts as a secondary pressure seal on the extend stroke and cleans the rod on the return stroke.

High Strength Tie Rods – Made from 100,000 psi minimum yield steel with rolled threads for added strength.

Adjustable Floating Cushions – Cushions are optional and can be supplied at head end, cap end, or both ends without change in envelope or mounting dimensions.

The Cylinder Body – Hard chrome-plated bore, steel tubing honed to a 15 micro inch finish on 1 1/2" through 14" bore sizes. 1" bore size is aluminum with hard-coated bore.

Adjustable floating cushions

Cushions are optional, and can be supplied at head end, cap end, or both ends without change in envelope or mounting dimensions. All Parker cushions are adjustable.

The Series 2A cylinder design incorporates the longest cushion sleeve and cushion spear that can be provided in the standard envelope without decreasing the rod bearing and piston bearing lengths.

(1) When a cushion is specified at the head end:

a. A self-centering sleeve is furnished on the piston rod assembly.

b. A needle valve is provided that is flush with the side of the head when wide open. It may be identified by the fact that it is socket-keyed. It is located on side number 2, in all mounting styles except D, DB, DD, and E. In these styles it is located on side number 3.

c. A springless check valve is provided that is also flush with the side of the head and is mounted adjacent to the needle valve except on certain bores of mounting style C where it is mounted opposite the needle valve. It may be identified by the fact that it is slotted.

d. The check and needle valves are interchangeable in the head.

(2) When a cushion is specified at the cap end:

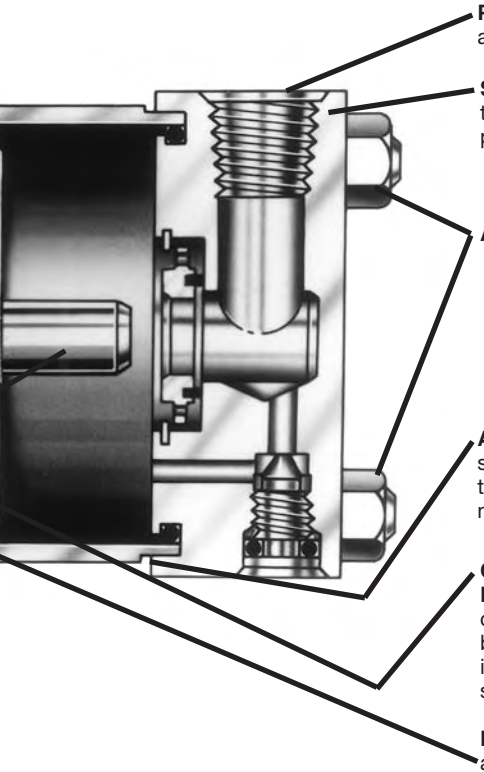
a. A cushion spear is provided on the piston rod assembly.

b. A "float check" self-centering bushing is provided which incorporates a large flow check valve for fast "out-stroke" action.

c. A socket-keyed needle valve is provided that is flush with the side of the cap when wide open. It is located on side number 2 in all mounting styles except D, DB, DD, and E. In these styles it is located on side number 3.

For additional information – call your local Parker Cylinder Distributor.

Piston Rod – Medium carbon steel, induction case-hardened, hard chrome-plated and polished to 10 RMS finish. Piston rods are made from 90,000 to 100,000 psi minimum yield material in 1/2" through 4" diameters. Larger diameters vary between 57,000 and 90,000 psi minimum material, depending on rod diameter. The piston thread equals the catalog style #4 rod end thread for each rod diameter to assure proper piston-to-rod thread strength. Two wrench flats are provided for rod end attachment.



Ports – NPTF ports are standard.

Steel Cap – Bored and grooved to provide concentricity for mating parts.

Alloy Steel Tie Rod Nuts

Align-A-Groove – A 3/16" wide surface machined at each end of the cylinder body. Makes precise mounting quick and easy.

One-Piece Nodular Iron Piston – The wide piston surface contacting cylinder bore reduces bearing loads. Anaerobic adhesive is used to permanently lock and seal the piston to the rod.

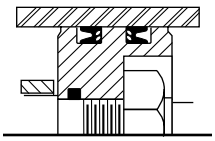
Piston Lipseal – Fully dynamic and self-compensating for variations in pressure, mechanical deflections and wear.

The exclusive "Jewel" gland gives you longer cylinder life, better performance and lower costs.

An extra-long inboard bearing surface insures lubrication from within the cylinder. Outboard of the bearing surface are two leakproof seals – The Lipseal and Wiperseal. The serrated Lipseal (primary seal) is completely self-compensating and self-relieving. It adjusts to mechanical deflections or any pressure variation from near-zero to rated operating pressure. The result is positive, no-leak sealing – regardless of conditions.

The Wiperseal does double duty. On the advance stroke, it acts as a secondary pressure seal. On the return, it wipes away any dirt on the rod. This means less wear on bearing surfaces and internal parts. Longer life for working parts. And, less loss of fluid. Plus, you can replace a "Jewel" gland without removing the tie rods or the retainer. Just a few twists with a spanner wrench does the job.

Prelubricated Wearing Surfaces
Parker Series 2A Air Cylinders are factory prelubricated. Lube-A-Cyl applied to seals, piston, cylinder bore, piston rod and gland surfaces provides lubrication for normal operation. Lube-A-Cyl has been field and laboratory tested, and is recommended by Parker for air cylinders where lubricant should remain in the cylinder and not be expelled into the atmosphere.



Piston with Retainer Nut – Optional at extra charge.

A

Cushion Length

Cylinder Bore (Inches)	Rod Diameter* (Inches)	Rod Number	Cushion Length (Inches)	
			Head*	Cap
1 1/2	5/8	1	7/8	13/16
	1	2	7/8	13/16
2	5/8	1	7/8	13/16
	1 3/8	2	7/8	13/16
2 1/2	5/8	1	7/8	13/16
	1 3/4	2	7/8	13/16
3 1/4	1	1	1 1/8	1
	2	2	13/16	1
4	1	1	1 1/8	1
	2 1/2	2	13/16	1
5	1	1	1 1/8	1
	3 1/2	2	13/16	1

Cylinder Bore (Inches)	Rod Diameter* (Inches)	Rod Number	Cushion Length (Inches)	
			Head*	Cap
6	1 3/8	1	1 3/8	1 1/4
	4	2	1 1/16	1 1/4
7	1 3/8	1	1 1/16	1 1/4
	2	4	1 1/16	1 1/4
8	1 3/8	1	1 1/16	1 1/4
	5 1/2	2	15/16	1 1/4
10	1 3/4	1	1 5/16	1 3/4
	5 1/2	0	1 3/16	1 3/4
12	2	1	1 5/16	1 3/4
	5 1/2	9	1 3/16	1 3/4
14	2 1/2	1	1 3/4	2
	5 1/2	8	1 11/16	2

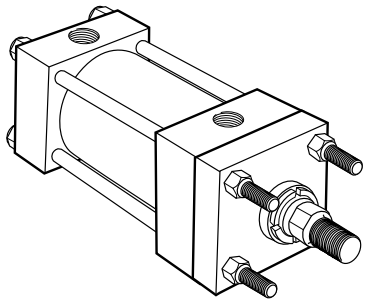
*Head end cushions for rod diameters not listed have cushion lengths with the limits shown.
For cushion selection and sizing see Section C.

For Cylinder Division Plant Locations – See Page II.

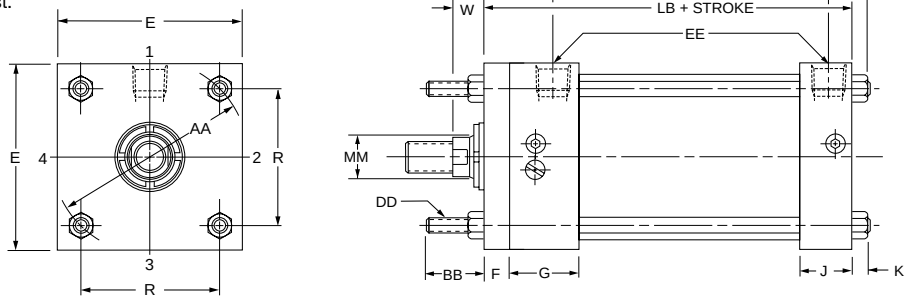
Parker Cylinder

Tie Rods Extended

Style TB
(NFPA Style MX3)



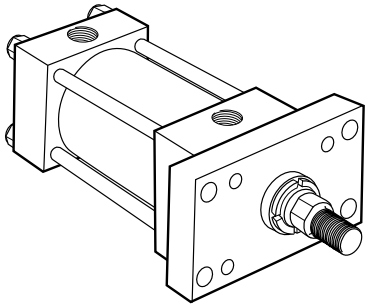
Basic Mounting (T) —
NFPA MX0 — no tie rods extended can be supplied upon request.

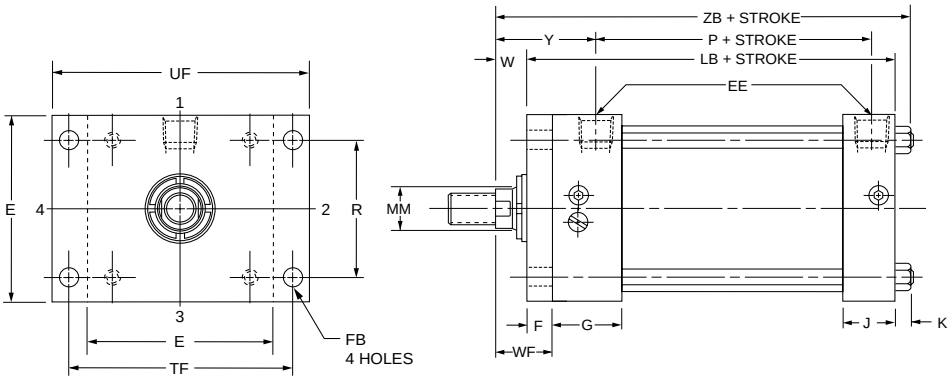


Style TB (NFPA MX3). Head Tie Rods Extended, illustrated: Style TC (NFPA MX2), Cap Tie Rods Extended; and Style TD (NFPA MX1), Both Ends Tie Rods Extended are also available. All "T" styles can be dimensioned from Style TB drawing at right.

Head Rectangular Flange

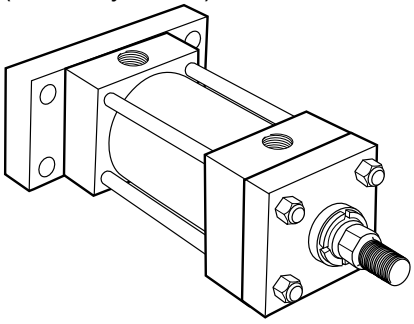
Style J
(NFPA Style MF1)

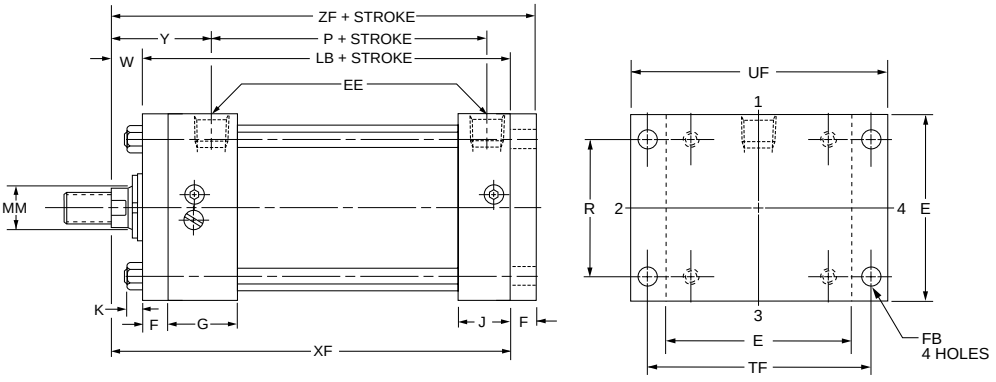




Cap Rectangular Flange

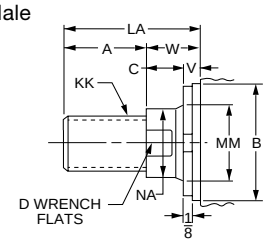
Style H
(NFPA Style MF2)



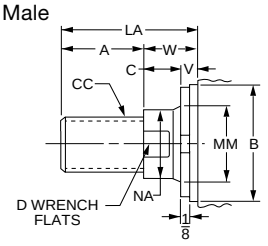


Rod End Dimensions — see table 2

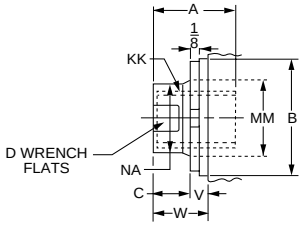
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



A high strength rod end stud is supplied on thread style 4 through 2" diameter rods and on thread style 8 through 1 3/8" diameter rods. Larger sizes or special rod ends are cut threads. Style 4 rod ends are recommended where the workpiece is secured against the rod shoulder. When the workpiece is not shouldered, style 4 rod ends are recommended through 2" piston rod diameters and style 8 rod ends are recommended on larger diameters. Use style 9 for applications where female rod end threads are required. If rod end is not specified, style 4 will be supplied.

"Special" Thread Style 3

Special thread, extension, rod eye, blank, etc., are also available.

To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensioned sketch.

For additional information – call your local Parker Cylinder Distributor.

Table 1—Envelope and Mounting Dimensions

Bore	AA	BB	DD	E	EE NPTF	F	FB	G	J	K	R	TF	UF	Add Stroke LB	Add Stroke P
1*	1.53	3/4	10-24	■	1/4	3/8	1/4	1 1/2	1	3/16	1.08	2	2 1/2	3 7/8	2 1/8
1 1/2	2.02	1	1/4-28	2	3/8**	3/8	5/16	1 1/2	1	1/4	1.43	2 3/4	3 3/8	4	2 1/4
2	2.6	1 1/8	5/16-24	2 1/2	3/8**	3/8	3/8	1 1/2	1	5/16	1.84	3 3/8	4 1/8	4	2 1/4
2 1/2	3.1	1 1/8	5/16-24	3	3/8**	3/8	3/8	1 1/2	1	5/16	2.19	3 7/8	4 5/8	4 1/8	2 3/8
3 1/4	3.9	1 3/8	3/8-24	3 3/4	1/2	5/8	7/16	1 3/4	1 1/4	3/8	2.76	4 11/16	5 1/2	4 7/8	2 5/8
4	4.7	1 3/8	3/8-24	4 1/2	1/2	5/8	7/16	1 3/4	1 1/4	3/8	3.32	5 7/16	6 1/4	4 7/8	2 5/8
5	5.8	1 13/16	1/2-20	5 1/2	1/2	5/8	9/16	1 3/4	1 1/4	7/16	4.10	6 5/8	7 5/8	5 1/8	2 7/8
6	6.9	1 13/16	1/2-20	6 1/2	3/4	3/4	9/16	2	1 1/2	7/16	4.88	7 5/8	8 5/8	5 3/4	3 1/8

* Cushions not available on 1" bore.
** On 1", 1 1/2", 2" and 2 1/2" bore sizes, the head-end (only) pipe thread is not full depth on cylinders with No. 2 rods. Minimum of three full threads available.
■ 1" bore head dimension is 1 3/4" x 1 1/2". See page B20.

Table 2—Rod Dimensions

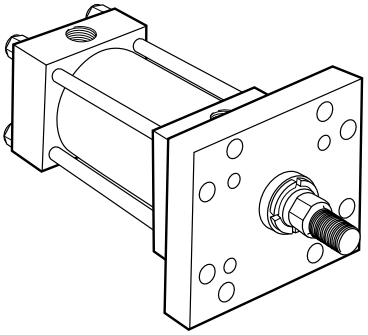
Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W
1	1(Std.)	1/2	7/16-20	5/16-24	5/8	.999	3/8	3/8	1 1/4	7/16	1/4	5/8
	2	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
1 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
2 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/2	1 11/16	3/4	1 1/2
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
	4	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4
3 1/4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
5	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5 1/8	3 3/8	5/8	1 5/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
	6	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8
	7	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5 1/8	2 7/8	5/8	1 5/8
6	1(Std.)	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8
	2	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4
	5	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	6	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	7	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2

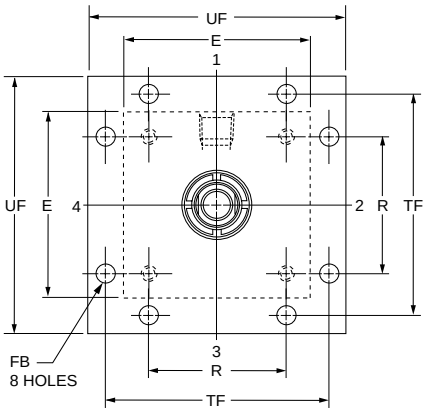
Table 3 — Envelope and Mounting Dimensions

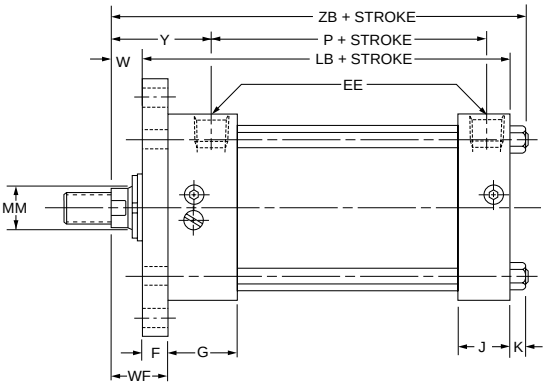
Bore	Rod No.	WF	Y	Add Stroke XF	Add Stroke ZB	Add Stroke ZF
1	1(Std.)	1	1 15/16	4 1/2	4 11/16	4 7/8
	2	1	1 15/16	4 1/2	4 11/16	4 7/8
1 1/2	1(Std.)	1	1 15/16	4 5/8	4 7/8	5
	2	1 3/8	2 5/16	5	5 1/4	5 3/8
2	1(Std.)	1	1 15/16	4 5/8	4 15/16	5
	2	1 5/8	2 9/16	5 1/4	5 9/16	5 5/8
	3	1 3/8	2 5/16	5	5 5/16	5 3/8
2 1/2	1(Std.)	1	1 15/16	4 3/4	5 1/16	5 1/8
	2	1 7/8	2 13/16	5 5/8	5 15/16	6
	3	1 3/8	2 5/16	5 1/8	5 7/16	5 1/2
	4	1 5/8	2 9/16	5 3/8	5 11/16	5 3/4
3 1/4	1(Std.)	1 3/8	2 7/16	5 5/8	6	6 1/4
	2	2	3 1/16	6 1/4	6 5/8	6 7/8
	3	1 5/8	2 11/16	5 7/8	6 1/4	6 1/2
	4	1 7/8	2 15/16	6 1/8	6 1/2	6 3/4
4	1(Std.)	1 3/8	2 7/16	5 5/8	6	6 1/4
	2	2 1/4	3 5/16	6 1/2	6 7/8	7 1/8
	3	1 5/8	2 11/16	5 7/8	6 1/4	6 1/2
	4	1 7/8	2 15/16	6 1/8	6 1/2	6 3/4
	5	2	3 1/16	6 1/4	6 5/8	6 7/8
5	1(Std.)	1 3/8	2 7/16	5 7/8	6 5/16	6 1/2
	2	2 1/4	3 5/16	6 3/4	7 3/16	7 3/8
	3	1 5/8	2 11/16	6 1/8	6 9/16	6 3/4
	4	1 7/8	2 15/16	6 3/8	6 13/16	7
	5	2	3 1/16	6 1/2	6 15/16	7 1/8
	6	2 1/4	3 5/16	6 3/4	7 3/16	7 3/8
	7	2 1/4	3 5/16	6 3/4	7 3/16	7 3/8
6	1(Std.)	1 5/8	2 13/16	6 5/8	7 1/16	7 3/8
	2	2 1/4	3 7/16	7 1/4	7 11/16	8
	3	1 7/8	3 1/16	6 7/8	7 5/16	7 5/8
	4	2	3 3/16	7	7 7/16	7 3/4
	5	2 1/4	3 7/16	7 1/4	7 11/16	8
	6	2 1/4	3 7/16	7 1/4	7 11/16	8
	7	2 1/4	3 7/16	7 1/4	7 11/16	8

Head Square Flange

Style JB
(NFPA Style MF5)

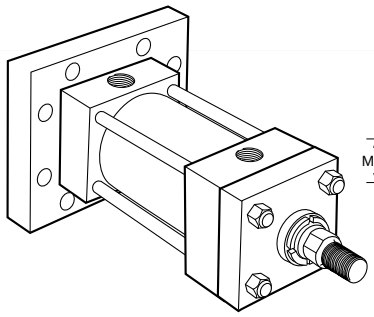


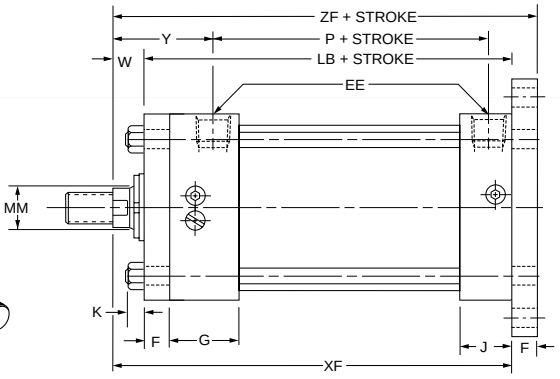


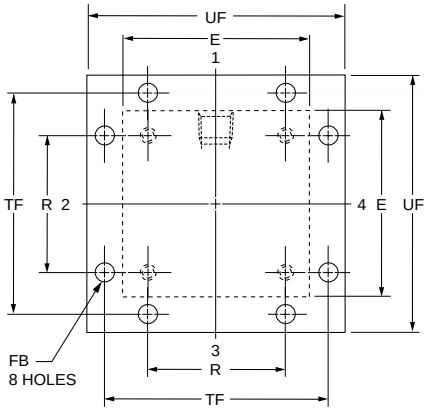


Cap Square Flange

Style HB
(NFPA Style MF6)

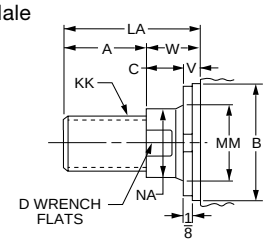




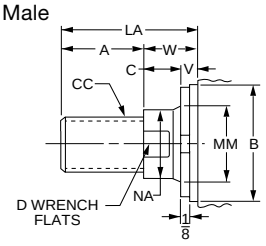


Rod End Dimensions — see table 2

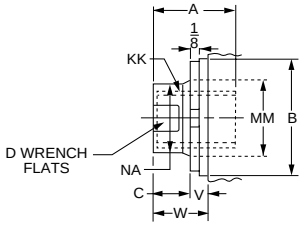
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



A high strength rod end stud is supplied on thread style 4 through 2" diameter rods and on thread style 8 through 1 3/8" diameter rods. Larger sizes or special rod ends are cut threads. Style 4 rod ends are recommended where the workpiece is secured against the rod shoulder. When the workpiece is not shouldered, style 4 rod ends are recommended through 2" piston rod diameters and style 8 rod ends are recommended on larger diameters. Use style 9 for applications where female rod end threads are required. If rod end is not specified, style 4 will be supplied.

"Special" Thread Style 3

Special thread, extension, rod eye, blank, etc., are also available.

To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensioned sketch.

For additional information – call your local Parker Cylinder Distributor.

Table 1—Envelope and Mounting Dimensions

Bore	E	EE NPTF	F	FB	G	J	K	R	TF	UF	Add Stroke LB	Add Stroke P
1*	■	1/4	3/8	1/4	1 1/2	1	3/16	1.08	2	2 1/2	3 7/8	2 1/8
1 1/2	2	3/8**	3/8	5/16	1 1/2	1	1/4	1.43	2 3/4	3 3/8	4	2 1/4
2	2 1/2	3/8**	3/8	3/8	1 1/2	1	5/16	1.84	3 3/8	4 1/8	4	2 1/4
2 1/2	3	3/8**	3/8	3/8	1 1/2	1	5/16	2.19	3 7/8	4 5/8	4 1/8	2 3/8
3 1/4	3 3/4	1/2	5/8	7/16	1 3/4	1 1/4	3/8	2.76	4 11/16	5 1/2	4 7/8	2 5/8
4	4 1/2	1/2	5/8	7/16	1 3/4	1 1/4	3/8	3.32	5 7/16	6 1/4	4 7/8	2 5/8
5	5 1/2	1/2	5/8	9/16	1 3/4	1 1/4	7/16	4.10	6 5/8	7 5/8	5 1/8	2 7/8
6	6 1/2	3/4	3/4	9/16	2	1 1/2	7/16	4.88	7 5/8	8 5/8	5 3/4	3 1/8

* Cushions not available on 1" bore.
** On 1", 1 1/2", 2" and 2 1/2" bore sizes, the head-end (only) pipe thread is not full depth on cylinders with No. 2 rods. Minimum of three full threads available.
■ 1" bore head dimension is 1 3/4" x 1 1/2". See page B20.

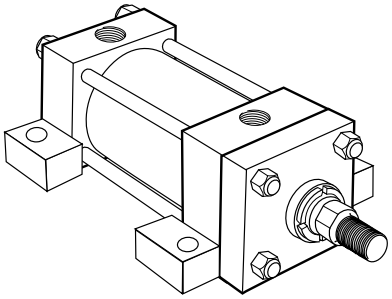
Table 2—Rod Dimensions

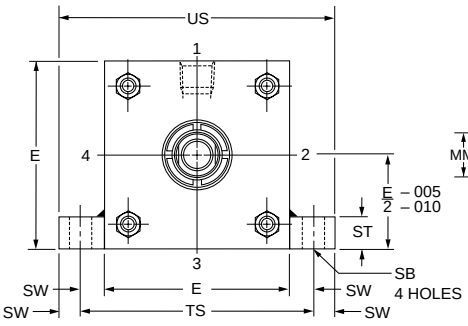
Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W
1	1(Std.)	1/2	7/16-20	5/16-24	5/8	.999	3/8	3/8	1 1/4	7/16	1/4	5/8
	2	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
1 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
2 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/2	1 11/16	3/4	1 1/2
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
	4	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4
3 1/4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
5	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5 1/8	3 3/8	5/8	1 5/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
	6	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8
	7	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5 1/8	2 7/8	5/8	1 5/8
6	1(Std.)	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8
	2	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4
	5	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	6	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	7	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2

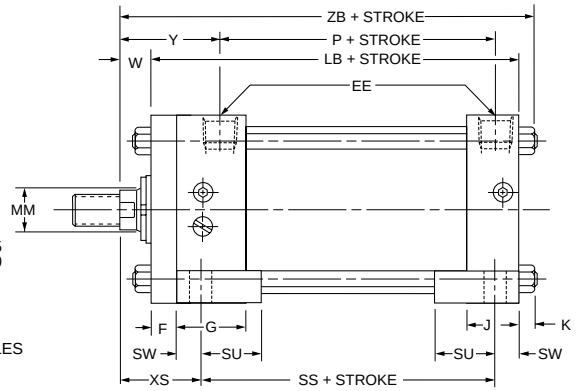
Table 3 — Envelope and Mounting Dimensions

Bore	WF	Y	Add Stroke XF	Add Stroke ZB	Add Stroke ZF
1	1	1 15/16	4 1/2	4 11/16	4 7/8
	1	1 15/16	4 1/2	4 11/16	4 7/8
1 1/2	1	1 15/16	4 5/8	4 7/8	5
	1 3/8	2 5/16	5	5 1/4	5 3/8
2	1	1 15/16	4 5/8	4 15/16	5
	1 5/8	2 9/16	5 1/4	5 9/16	5 5/8
	1 3/8	2 5/16	5	5 5/16	5 3/8
2 1/2	1	1 15/16	4 3/4	5 1/16	5 1/8
	1 7/8	2 13/16	5 5/8	5 15/16	6
	1 3/8	2 5/16	5 1/8	5 7/16	5 1/2
	1 5/8	2 9/16	5 3/8	5 11/16	5 3/4
3 1/4	1 3/8	2 7/16	5 5/8	6	6 1/4
	2	3 1/16	6 1/4	6 5/8	6 7/8
	1 5/8	2 11/16	5 7/8	6 1/4	6 1/2
	1 7/8	2 15/16	6 1/8	6 1/2	6 3/4
4	1 3/8	2 7/16	5 5/8	6	6 1/4
	2 1/4	3 5/16	6 1/2	6 7/8	7 1/8
	1 5/8	2 11/16	5 7/8	6 1/4	6 1/2
	1 7/8	2 15/16	6 1/8	6 1/2	6 3/4
	2	3 1/16	6 1/4	6 5/8	6 7/8
5	1 3/8	2 7/16	5 7/8	6 5/16	6 1/2
	1 5/8	2 11/16	6 1/8	6 9/16	6 3/4
	1 7/8	2 15/16	6 3/8	6 13/16	7
	2	3 1/16	6 1/2	6 15/16	7 1/8
	2 1/4	3 5/16	6 3/4	7 3/16	7 3/8
	2 1/4	3 5/16	6 3/4	7 3/16	7 3/8
6	1 5/8	2 13/16	6 5/8	7 1/16	7 3/8
	2 1/4	3 7/16	7 1/4	7 11/16	8
	1 7/8	3 1/16	6 7/8	7 5/16	7 5/8
	2	3 3/16	7	7 7/16	7 3/4
	2 1/4	3 7/16	7 1/4	7 11/16	8
	2 1/4	3 7/16	7 1/4	7 11/16	8
	2 1/4	3 7/16	7 1/4	7 11/16	8

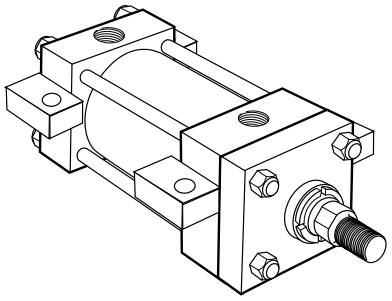
Side Lug
Style C
(NFPA Style MS2)

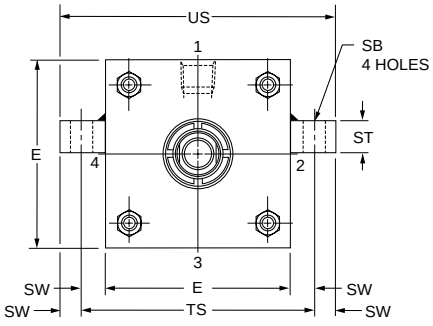


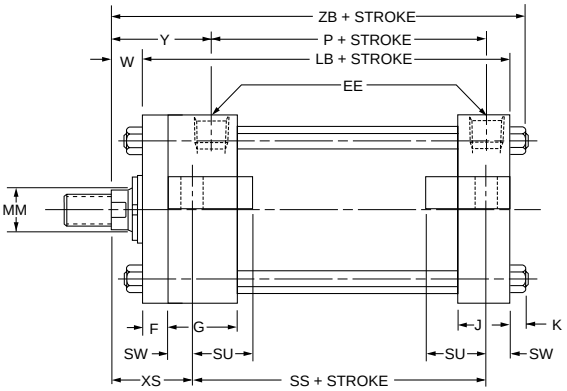




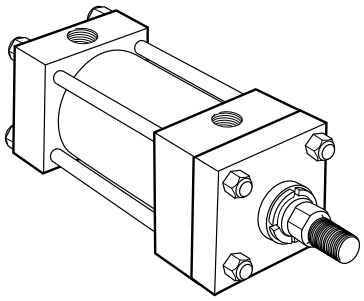
Centerline Lugs
Style E
(NFPA Style MS3)

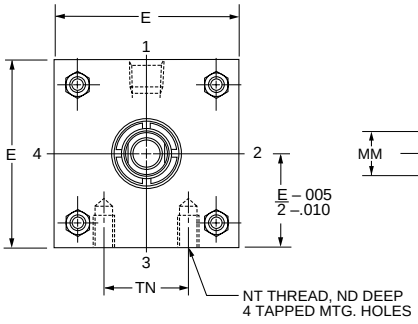


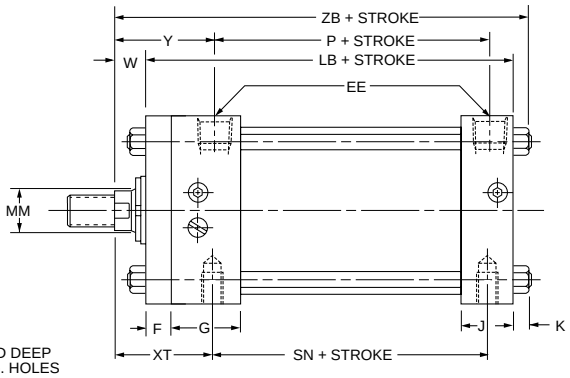




Side Tapped
Style F
(NFPA Style MS4)

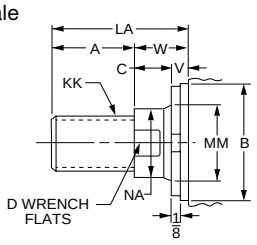




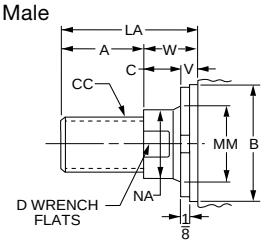


Rod End Dimensions — see table 2

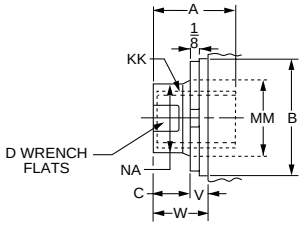
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



A high strength rod end stud is supplied on thread style 4 through 2" diameter rods and on thread style 8 through 1 3/8" diameter rods. Larger sizes or special rod ends are cut threads. Style 4 rod ends are recommended where the workpiece is secured against the rod shoulder. When the workpiece is not shouldered, style 4 rod ends are recommended through 2" piston rod diameters and style 8 rod ends are recommended on larger diameters. Use style 9 for applications where female rod end threads are required. If rod end is not specified, style 4 will be supplied.

"Special" Thread Style 3
Special thread, extension, rod eye, blank, etc., are also available.

To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensioned sketch.

For additional information – call your local Parker Cylinder Distributor.

Table 1—Envelope and Mounting Dimensions

Bore	E	EE NPTF	F	G	J	K	NT	SB•	ST	SU	SW	TN	TS	US	Add Stroke LB	P	SN	SS
1*	■	1/4	3/8	1 1/2	1	3/16	10-24	9/32†	5/16†	3/4†	5/16†	9/16	2 1/8†	2 3/4†	3 7/8	2 1/8	2 1/8	2 7/8†
1 1/2	2	3/8**	3/8	1 1/2	1	1/4	1/4-20	7/16	1/2	15/16	3/8	5/8	2 3/4	3 1/2	4	2 1/4	2 1/4	2 7/8
2	2 1/2	3/8**	3/8	1 1/2	1	5/16	5/16-18	7/16	1/2	15/16	3/8	7/8	3 1/4	4	4	2 1/4	2 1/4	2 7/8
2 1/2	3	3/8**	3/8	1 1/2	1	5/16	3/8-16	7/16	1/2	15/16	3/8	1 1/4	3 3/4	4 1/2	4 1/8	2 3/8	2 3/8	3
3 1/4	3 3/4	1/2	5/8	1 3/4	1 1/4	3/8	1/2-13	9/16	3/4	1 1/4	1/2	1 1/2	4 3/4	5 3/4	4 7/8	2 5/8	2 5/8	3 1/4
4	4 1/2	1/2	5/8	1 3/4	1 1/4	3/8	1/2-13	9/16	3/4	1 1/4	1/2	2 1/16	5 1/2	6 1/2	4 7/8	2 5/8	2 5/8	3 1/4
5	5 1/2	1/2	5/8	1 3/4	1 1/4	7/16	5/8-11	13/16	1	1 9/16	11/16	2 11/16	6 7/8	8 1/4	5 1/8	2 7/8	2 7/8	3 1/8
6	6 1/2	3/4	3/4	2	1 1/2	7/16	3/4-10	13/16	1	1 9/16	11/16	3 1/4	7 7/8	9 1/4	5 3/4	3 1/8	3 1/8	3 5/8

* Cushions not available on 1" bore.
** On 1", 1 1/2", 2" and 2 1/2" bore sizes, the head-end (only) pipe thread is not full depth on cylinders with No. 2 rods. Minimum of three full threads available.
• Upper surface spot-faced for socket head screws.
† Mounting style E not available in 1" bore. ■ 1" bore head dimension is 1 3/4" x 1 1/2". See page B20.

Table 2—Rod Dimensions

Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W
1	1(Std.)	1/2	7/16-20	5/16-24	5/8	.999	3/8	3/8	1 1/4	7/16	1/4	5/8
	2	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
1 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
2 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/2	1 11/16	3/4	1 1/2
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
	4	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4
3 1/4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
5	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5 1/8	3 3/8	5/8	1 5/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
	6	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8
	7	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5 1/8	2 7/8	5/8	1 5/8
6	1(Std.)	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8
	2	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4
	5	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	6	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	7	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2

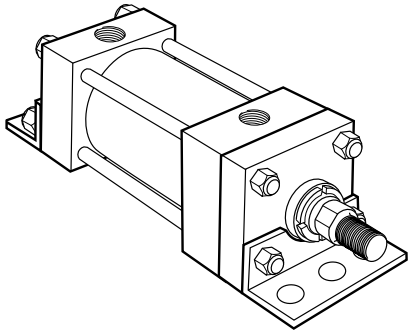
* Mounting style E not available in 1" bore.

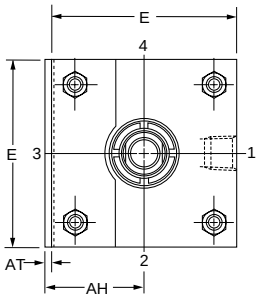
Table 3 — Envelope and Mounting Dimensions

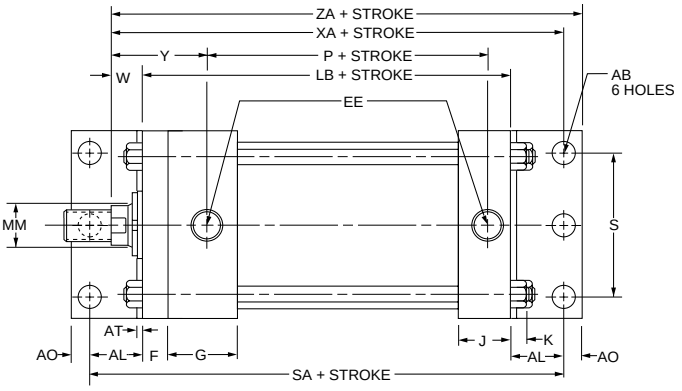
Bore	ND	XS	XT	Y	Add Stroke ZB
1	1/4	1 15/16*	1 15/16	1 15/16	4 11/16
	1/4	1 15/16*	1 15/16	1 15/16	4 11/16
1 1/2	5/16	1 3/8	1 15/16	1 15/16	4 7/8
	5/16	1 3/4	2 5/16	2 5/16	5 1/4
2	11/32	1 3/8	1 15/16	1 15/16	4 15/16
	11/32	2	2 9/16	2 9/16	5 9/16
	11/32	1 3/4	2 5/16	2 5/16	5 5/16
2 1/2	7/16	1 3/8	1 15/16	1 15/16	5 1/16
	7/16	2 1/4	2 13/16	2 13/16	5 15/16
	7/16	1 3/4	2 5/16	2 5/16	5 7/16
	7/16	2	2 9/16	2 9/16	5 11/16
3 1/4	1/2	1 7/8	2 7/16	2 7/16	6
	1/2	2 1/2	3 1/16	3 1/16	6 5/8
	1/2	2 1/8	2 11/16	2 11/16	6 1/4
	1/2	2 3/8	2 15/16	2 15/16	6 1/2
4	5/8	1 7/8	2 7/16	2 7/16	6
	5/8	2 3/4	3 5/16	3 5/16	6 7/8
	5/8	2 1/8	2 11/16	2 11/16	6 1/4
	5/8	2 3/8	2 15/16	2 15/16	6 1/2
	5/8	2 1/2	3 1/16	3 1/16	6 5/8
5	3/4	2 1/16	2 7/16	2 7/16	6 5/16
	3/4	2 15/16	3 5/16	3 5/16	7 3/16
	3/4	2 5/16	2 11/16	2 11/16	6 9/16
	3/4	2 9/16	2 15/16	2 15/16	6 13/16
	3/4	2 11/16	3 1/16	3 1/16	6 15/16
	3/4	2 15/16	3 5/16	3 5/16	7 3/16
	3/4	2 15/16	3 5/16	3 5/16	7 3/16
6	7/8	2 5/16	2 13/16	2 13/16	7 1/16
	7/8	2 15/16	3 7/16	3 7/16	7 11/16
	7/8	2 9/16	3 1/16	3 1/16	7 5/16
	7/8	2 11/16	3 3/16	3 3/16	7 7/16
	7/8	2 15/16	3 7/16	3 7/16	7 11/16
	7/8	2 15/16	3 7/16	3 7/16	7 11/16
	7/8	2 15/16	3 7/16	3 7/16	7 11/16

Side End Angles

Style CB
(NFPA Style MS1)

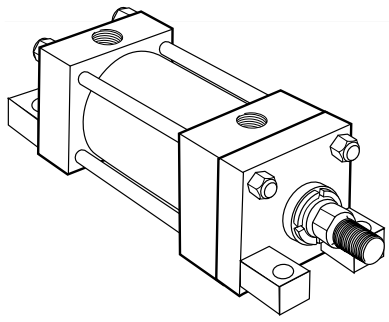


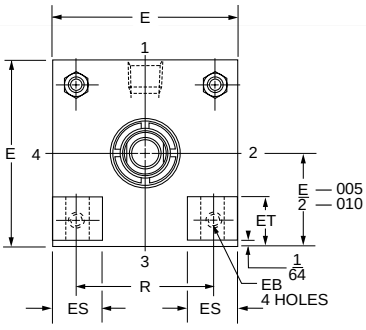


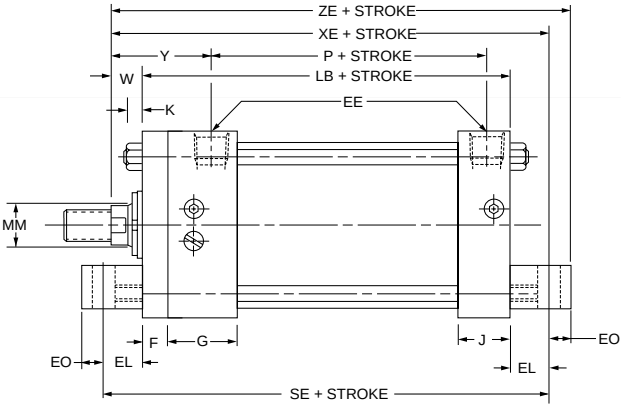


Side End Lugs

Style G
(NFPA Style MS7)

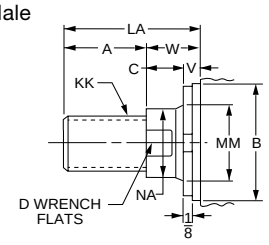




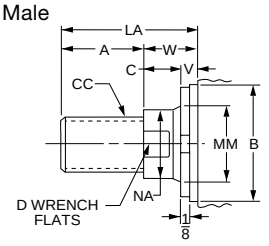


Rod End Dimensions — see table 2

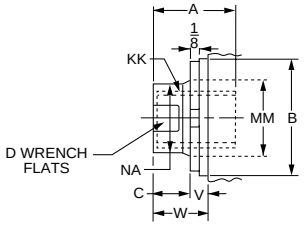
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



A high strength rod end stud is supplied on thread style 4 through 2" diameter rods and on thread style 8 through 1 3/8" diameter rods. Larger sizes or special rod ends are cut threads. Style 4 rod ends are recommended where the workpiece is secured against the rod shoulder. When the workpiece is not shouldered, style 4 rod ends are recommended through 2" piston rod diameters and style 8 rod ends are recommended on larger diameters. Use style 9 for applications where female rod end threads are required. If rod end is not specified, style 4 will be supplied.

"Special" Thread Style 3

Special thread, extension, rod eye, blank, etc., are also available.

To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensioned sketch.

For additional information – call your local Parker Cylinder Distributor.

Table 1—Envelope and Mounting Dimensions

Bore	AB	AH	AL	AO	AT	E	EB	EE NPTF	EL	EO	ES	ET	F	G	J	K	R	S	Add Stroke LB	P	SA	SE
1*	3/8†‡	1†	13/16†	5/16†	1/8†	■	•	1/4	•	•	•	•	3/8	1 1/2	1	3/16	1.08•	15/16†	3 7/8	2 1/8	5 1/2†	•
1 1/2	7/16	1 3/16	1	3/8	1/8	2	5/16	3/8**	3/4	1/4	9/16	17/32	3/8	1 1/2	1	1/4	1.43	1 1/4	4	2 1/4	6	5 1/2
2	7/16	1 7/16	1	3/8	1/8	2 1/2	3/8	3/8**	15/16	5/16	5/8	5/8	3/8	1 1/2	1	5/16	1.84	1 3/4	4	2 1/4	6	5 7/8
2 1/2	7/16	1 5/8	1	3/8	1/8	3	3/8	3/8**	1 1/16	5/16	13/16	25/32	3/8	1 1/2	1	5/16	2.19	2 1/4	4 1/8	2 3/8	6 1/8	6 1/4
3 1/4	9/16	1 15/16	1 1/4	1/2	1/8	3 3/4	7/16	1/2	7/8	3/8	1	15/16	5/8	1 3/4	1 1/4	3/8	2.76	2 3/4	4 7/8	2 5/8	7 3/8	6 5/8
4	9/16	2 1/4	1 1/4	1/2	1/8	4 1/2	7/16	1/2	1	3/8	1 1/4	1 5/32	5/8	1 3/4	1 1/4	3/8	3.32	3 1/2	4 7/8	2 5/8	7 3/8	6 7/8
5	11/16	2 3/4	1 3/8	5/8	3/16	5 1/2	9/16	1/2	1 1/16	1/2	1 3/8	1 3/8	5/8	1 3/4	1 1/4	7/16	4.10	4 1/4	5 1/8	2 7/8	7 7/8	7 1/4
6	13/16	3 1/4	1 3/8	5/8	3/16	6 1/2	9/16	3/4	1	1/2	1 3/4	1 19/32	3/4	2	1 1/2	7/16	4.88	5 1/4	5 3/4	3 1/8	8 1/2	7 3/4

* Cushions not available on 1" bore.
** On 1", 1 1/2", 2" and 2 1/2" bore sizes, the head-end (only) pipe thread is not full depth on cylinders with No. 2 rods. Minimum of three full threads available.
† Mounting style CB available in 1" bore for rod No. 1 only.
‡ Mounting style CB for 1" bore only is furnished with four mounting holes (two each end). Center holes omitted.
■ 1" bore head dimension is 1 3/4" x 1 1/2". See page B20.
• Mounting style G not available in 1" bore.

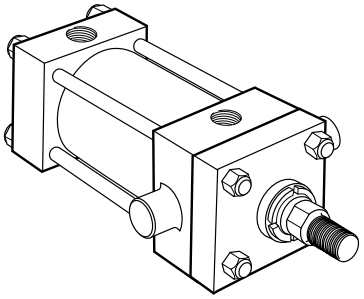
Table 2—Rod Dimensions

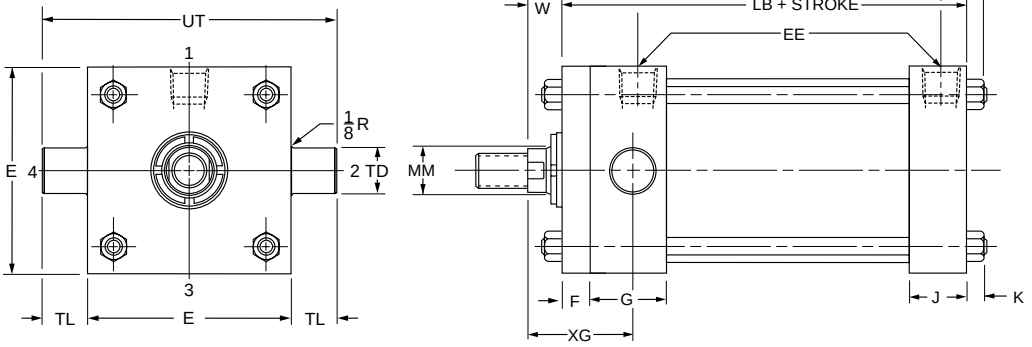
Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W	Y	Add Stroke XA	XE	ZA	ZE
1	1(Std.)	1/2	7/16-20	5/16-24	5/8	.999	3/8	3/8	1 1/4	7/16	1/4	5/8	1 15/16	5 5/16*	•	5 5/8*	•
	2	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8	1 15/16	*	•	*	•
1 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8	1 15/16	5 5/8	5 3/8	6	5 5/8
	2	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1	2 5/16	6	5 3/4	6 3/8	6
2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8	1 15/16	5 5/8	5 9/16	6	5 7/8
	2	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4	2 9/16	6 1/4	6 3/16	6 5/8	6 1/2
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1	2 5/16	6	5 15/16	6 3/8	6 1/4
2 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8	1 15/16	5 3/4	5 13/16	6 1/8	6 1/8
	2	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/2	1 11/16	3/4	1 1/2	2 13/16	6 5/8	6 11/16	7	7
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1	2 5/16	6 1/8	6 3/16	6 1/2	6 1/2
	4	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4	2 9/16	6 3/8	6 7/16	6 3/4	6 3/4
3 1/4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	1 5/16	1/4	3/4	2 7/16	6 7/8	6 1/2	7 3/8	6 7/8
	2	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8	3 1/16	7 1/2	7 1/8	8	7 1/2
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1	2 11/16	7 1/8	6 3/4	7 5/8	7 1/8
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4	2 15/16	7 3/8	7	7 7/8	7 3/8
4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	1 5/16	1/4	3/4	2 7/16	6 7/8	6 5/8	7 3/8	7
	2	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8	3 5/16	7 3/4	7 1/2	8 1/4	7 7/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1	2 11/16	7 1/8	6 7/8	7 5/8	7 1/4
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4	2 15/16	7 3/8	7 1/8	7 7/8	7 1/2
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8	3 1/16	7 1/2	7 1/4	8	7 5/8
5	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	1 5/16	1/4	3/4	2 7/16	7 1/4	6 15/16	7 7/8	7 7/16
	2	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5 1/8	3 3/8	5/8	1 5/8	3 5/16	8 1/8	7 13/16	8 3/4	8 5/16
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1	2 11/16	7 1/2	7 3/16	8 1/8	7 11/16
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4	2 15/16	7 3/4	7 7/16	8 3/8	7 15/16
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8	3 1/16	7 7/8	7 9/16	8 1/2	8 1/16
	6	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8	3 5/16	8 1/8	7 13/16	8 3/4	8 5/16
	7	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5 1/8	2 7/8	5/8	1 5/8	3 5/16	8 1/8	7 13/16	8 3/4	8 5/16
6	1(Std.)	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8	2 13/16	8	7 5/8	8 5/8	8 1/8
	2	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	3 7/16	8 5/8	8 1/4	9 1/4	8 3/4
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	3 1/16	8 1/4	7 7/8	8 7/8	8 3/8
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	3 3/16	8 3/8	8	9	8 1/2
	5	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	3 7/16	8 5/8	8 1/4	9 1/4	8 3/4
	6	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	3 7/16	8 5/8	8 1/4	9 1/4	8 3/4
	7	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	3 7/16	8 5/8	8 1/4	9 1/4	8 3/4

Table 3 — Envelope and Mounting Dimensions

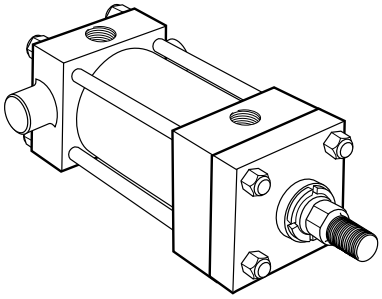
* Mounting style CB available in 1" bore for rod No. 1 only.
• Mounting style G not available in 1" bore.
Caution: When using mounting styles CB and G, check clearance between mounting members and rod attachment or accessory. If necessary, specify longer rod extension to avoid interference with mounting members.

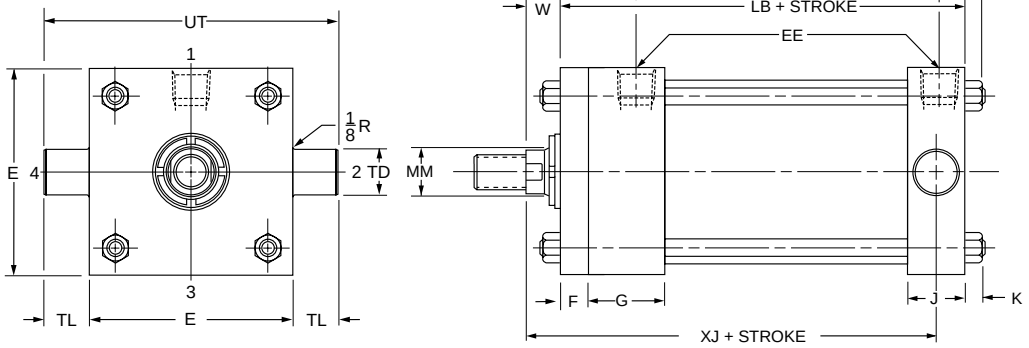
Head Trunnion
Style D
(NFPA Style MT1)



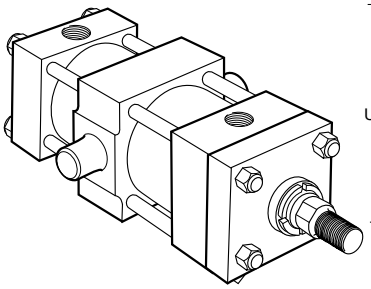


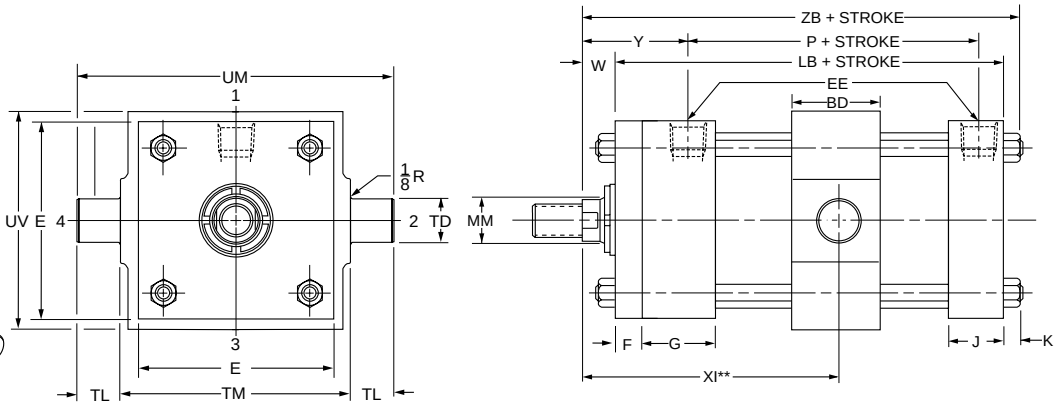
Cap Trunnion
Style DB
(NFPA Style MT2)





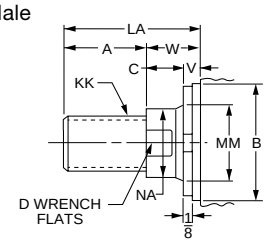
Intermediate Fixed Trunnion
Style DD
(NFPA Style MT4)



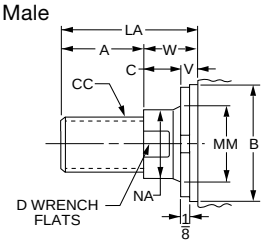


Rod End Dimensions — see table 2

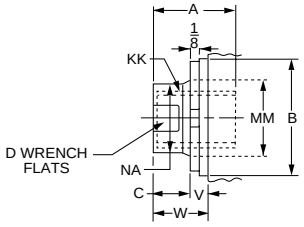
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



A high strength rod end stud is supplied on thread style 4 through 2" diameter rods and on thread style 8 through 1 3/8" diameter rods. Larger sizes or special rod ends are cut threads. Style 4 rod ends are recommended where the workpiece is secured against the rod shoulder. When the workpiece is not shouldered, style 4 rod ends are recommended through 2" piston rod diameters and style 8 rod ends are recommended on larger diameters. Use style 9 for applications where female rod end threads are required. If rod end is not specified, style 4 will be supplied.

"Special" Thread Style 3
Special thread, extension, rod eye, blank, etc., are also available.

To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensioned sketch.

For additional information – call your local Parker Cylinder Distributor.

Table 1—Envelope and Mounting Dimensions

Bore	BD	E	EE NPTF	F	G	J	K	+.000 TD -.001	TL	TM	UM	UT	UV	Add Stroke LB	Add Stroke P	Style DD Min. Stroke
1*	•	■	1/4	3/8	1 1/2	1	3/16	.750•	3/4•	•	•	3	•	3 7/8	2 1/8	•
1 1/2	1 1/4	2	3/8**	3/8	1 1/2	1	1/4	1.000	1	2 1/2	4 1/2	4	2 1/2	4	2 1/4	1/4
2	1 1/2	2 1/2	3/8**	3/8	1 1/2	1	5/16	1.000	1	3	5	4 1/2	3	4	2 1/4	1/2
2 1/2	1 1/2	3	3/8**	3/8	1 1/2	1	5/16	1.000	1	3 1/2	5 1/2	5	3 1/2	4 1/8	2 3/8	3/8
3 1/4	2	3 3/4	1/2	5/8	1 3/4	1 1/4	3/8	1.000	1	4 1/2	6 1/2	5 3/4	4 1/4	4 7/8	2 5/8	7/8
4	2	4 1/2	1/2	5/8	1 3/4	1 1/4	3/8	1.000	1	5 1/4	7 1/4	6 1/2	5	4 7/8	2 5/8	7/8
5	2	5 1/2	1/2	5/8	1 3/4	1 1/4	7/16	1.000	1	6 1/4	8 1/4	7 1/2	6	5 1/8	2 7/8	5/8
6	2 1/2	6 1/2	3/4	3/4	2	1 1/2	7/16	1.375	1 3/8	7 5/8	10 3/8	9 1/4	7	5 3/4	3 1/8	1 1/8

* Cushions not available on 1" bore.
** On 1", 1 1/2", 2" and 2 1/2" bore sizes, the head-end (only) pipe thread is not full depth on cylinders with No. 2 rods. Minimum of three full threads available.
• Mounting style not available in 1" bore.
■1" bore head dimension is 1 3/4" x 1 1/2". See page B20.

Table 2—Rod Dimensions

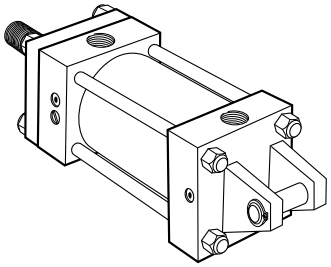
Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W
1	1(Std.)	1/2	7/16-20	5/16-24	5/8	.999	3/8	3/8	1 1/4	7/16	1/4	5/8
	2	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
1 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
2 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/2	1 11/16	3/4	1 1/2
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
	4	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4
3 1/4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
5	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5 1/8	3 3/8	5/8	1 5/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
	6	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8
	7	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5 1/8	2 7/8	5/8	1 5/8
6	1(Std.)	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	15/16	1/4	7/8
	2	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4
	5	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	6	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	7	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2

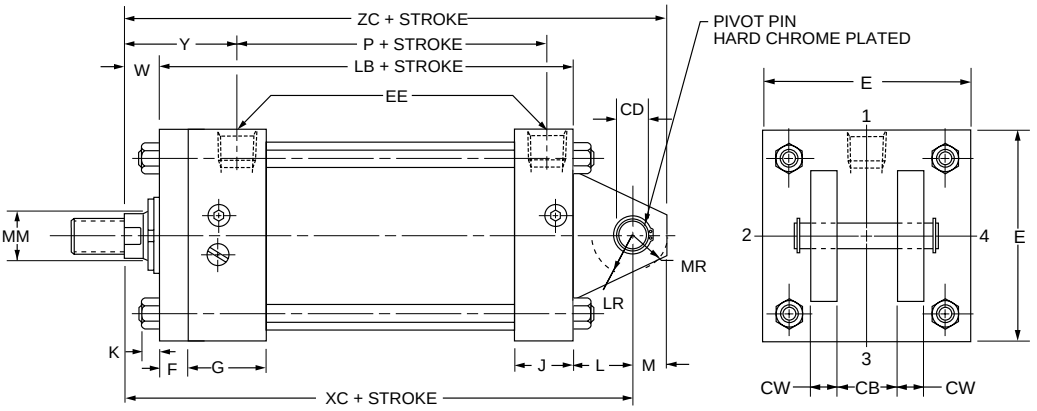
* Mounting style DD not available in 1" bore.
**Dimension XI to be specified by customer.

Table 3 — Envelope and Mounting Dimensions

Bore	XG	Min.** XI	Y	Add Stroke XJ	Add Stroke ZB
1	1 3/4	*	1 15/16	4	4 11/16
	1 3/4	*	1 15/16	4	4 11/16
1 1/2	1 3/4	3 3/16	1 15/16	4 1/8	4 7/8
	2 1/8	3 9/16	2 5/16	4 1/2	5 1/4
2	1 3/4	3 5/16	1 15/16	4 1/8	4 15/16
	2 3/8	3 15/16	2 9/16	4 3/4	5 9/16
	2 1/8	3 11/16	2 5/16	4 1/2	5 5/16
2 1/2	1 3/4	3 5/16	1 15/16	4 1/4	5 1/16
	2 5/8	4 3/16	2 13/16	5 1/8	5 15/16
	2 1/8	3 11/16	2 5/16	4 5/8	5 7/16
	2 3/8	3 15/16	2 9/16	4 7/8	5 11/16
3 1/4	2 1/4	4 3/16	2 7/16	5	6
	2 7/8	4 13/16	3 1/16	5 5/8	6 5/8
	2 1/2	4 7/16	2 11/16	5 1/4	6 1/4
	2 3/4	4 11/16	2 15/16	5 1/2	6 1/2
4	2 1/4	4 3/16	2 7/16	5	6
	3 1/8	5 1/16	3 5/16	5 7/8	6 7/8
	2 1/2	4 7/16	2 11/16	5 1/4	6 1/4
	2 3/4	4 11/16	2 15/16	5 1/2	6 1/2
	2 7/8	4 13/16	3 1/16	5 5/8	6 5/8
5	2 1/4	4 5/16	2 7/16	5 1/4	6 5/16
	3 1/8	5 1/16	3 5/16	6 1/8	7 3/16
	2 1/2	4 7/16	2 11/16	5 1/2	6 9/16
	2 3/4	4 11/16	2 15/16	5 3/4	6 13/16
	2 7/8	4 13/16	3 1/16	5 7/8	6 15/16
	3 1/8	5 1/16	3 5/16	6 1/8	7 3/16
	3 1/8	5 1/16	3 5/16	6 1/8	7 3/16
6	2 5/8	4 15/16	2 13/16	5 7/8	7 1/16
	3 1/4	5 9/16	3 7/16	6 1/2	7 11/16
	2 7/8	5 3/16	3 1/16	6 1/8	7 5/16
	3	5 5/16	3 3/16	6 1/4	7 7/16
	3 1/4	5 9/16	3 7/16	6 1/2	7 11/16
	3 1/4	5 9/16	3 7/16	6 1/2	7 11/16
	3 1/4	5 9/16	3 7/16	6 1/2	7 11/16

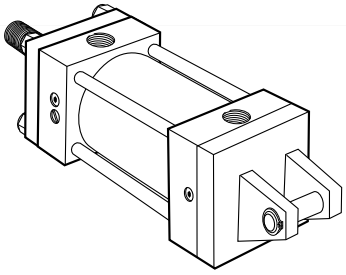
Cap Fixed Clevis
Style BB
(NFPA Style MP1)

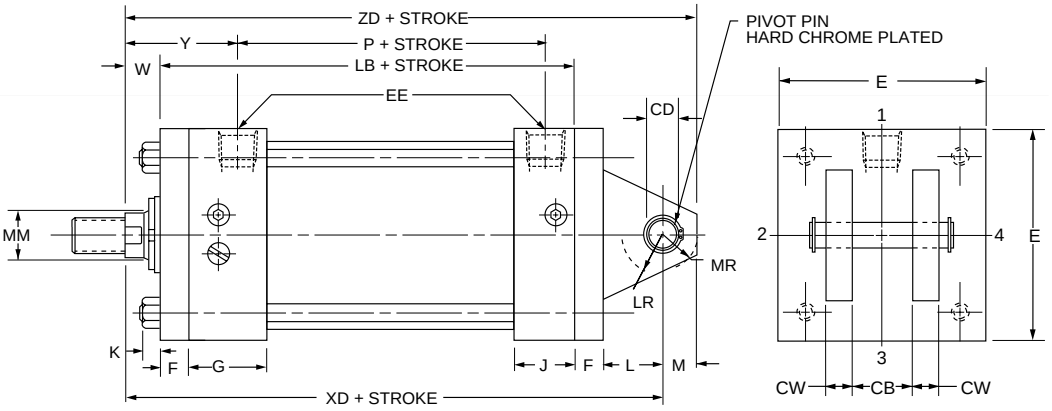




The 1", 4", 5" and 6" bore sizes have tie rod nuts at both ends as shown. Tie rods thread into cap on all other bore sizes.

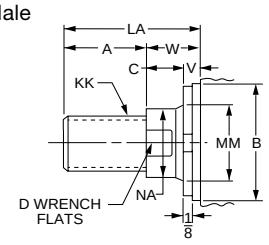
Cap Detachable Clevis
Style BC
(NFPA Style MP2)



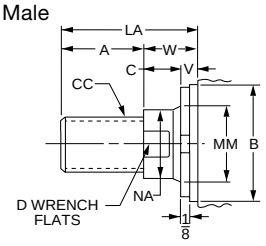


Rod End Dimensions — see table 2

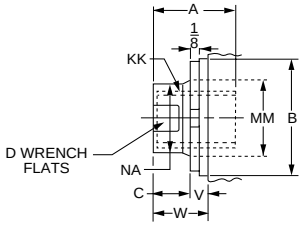
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



A high strength rod end stud is supplied on thread style 4 through 2" diameter rods and on thread style 8 through 1 3/8" diameter rods. Larger sizes or special rod ends are cut threads. Style 4 rod ends are recommended where the workpiece is secured against the rod shoulder. When the workpiece is not shouldered, style 4 rod ends are recommended through 2" piston rod diameters and style 8 rod ends are recommended on larger diameters. Use style 9 for applications where female rod end threads are required. If rod end is not specified, style 4 will be supplied.

"Special" Thread Style 3
Special thread, extension, rod eye, blank, etc., are also available.

To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensioned sketch.

For additional information – call your local Parker Cylinder Distributor.

Table 1—Envelope and Mounting Dimensions

Bore	CB	+.000 CD• -.002	CW	E	EE NPTF	F	G	J	K	L	LR	M	MR	Add Stroke LB	Add Stroke P
1*	†	.441†	†	■	1/4	3/8	1 1/2	1	3/16	1/2†	1/2†	7/16†	1/2†	3 7/8	2 1/8
1 1/2	3/4	.501	1/2	2	3/8**	3/8	1 1/2	1	1/4	3/4	3/4	1/2	5/8	4	2 1/4
2	3/4	.501	1/2	2 1/2	3/8**	3/8	1 1/2	1	5/16	3/4	3/4	1/2	5/8	4	2 1/4
2 1/2	3/4	.501	1/2	3	3/8**	3/8	1 1/2	1	5/16	3/4	3/4	1/2	5/8	4 1/8	2 3/8
3 1/4	1 1/4	.751	5/8	3 3/4	1/2	5/8	1 3/4	1 1/4	3/8	1 1/4	1	3/4	15/16	4 7/8	2 5/8
4	1 1/4	.751	5/8	4 1/2	1/2	5/8	1 3/4	1 1/4	3/8	1 1/4	1	3/4	15/16	4 7/8	2 5/8
5	1 1/4	.751	5/8	5 1/2	1/2	5/8	1 3/4	1 1/4	7/16	1 1/4	1	3/4	15/16	5 1/8	2 7/8
6	1 1/2	1.001	3/4	6 1/2	3/4	3/4	2	1 1/2	7/16	1 1/2	1 1/4	1	1 3/16	5 3/4	3 1/8

* Cushions not available on 1" bore.
** On 1", 1 1/2", 2" and 2 1/2" bore sizes, the head-end (only) pipe thread is not full depth on cylinders with No. 2 rods. Minimum of three full threads available.
† In 1" bore size model only, a single eye mounting, 7/16" thick, is used. Dimension CD (.441") is hole diameter – pin not supplied.
• Dimension CD is pin diameter except in 1" bore. ■1" bore head dimension is 1 3/4" x 1 1/2". See page B20.

Table 2—Rod Dimensions

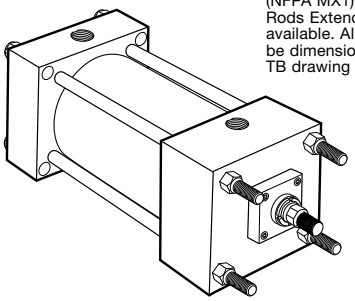
Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W
1	1(Std.)	1/2	7/16-20	5/16-24	5/8	.999	3/8	3/8	1 1/4	7/16	1/4	5/8
	2	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
1 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
2 1/2	1(Std.)	5/8	1/2-20	7/16-20	3/4	1.124	3/8	1/2	1 3/8	9/16	1/4	5/8
	2	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/2	1 11/16	3/4	1 1/2
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	15/16	1/2	1
	4	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 7/8	1 5/16	5/8	1 1/4
3 1/4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
4	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
5	1(Std.)	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	15/16	1/4	3/4
	2	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5 1/8	3 3/8	5/8	1 5/8
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 5/8	1 5/16	3/8	1
	4	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/4	1 11/16	1/2	1 1/4
	5	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 5/8	1 15/16	1/2	1 3/8
	6	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 5/8	2 3/8	5/8	1 5/8
	7	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5 1/8	2 7/8	5/8	1 5/8
6	1(Std.)	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8
	2	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4
	5	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	6	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	7	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2

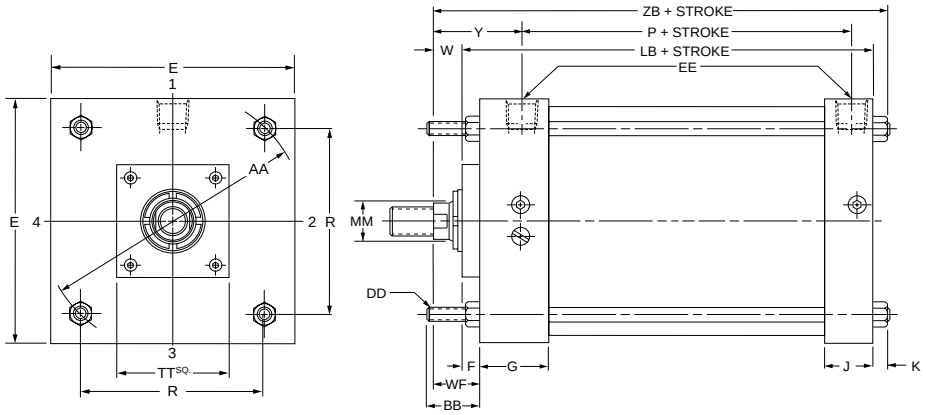
Table 3 — Envelope and Mounting Dimensions

Bore	Y	Add Stroke XC	Add Stroke XD	Add Stroke ZC	Add Stroke ZD
1	1 15/16	5	5 3/8	5 7/16	5 13/16
	1 15/16	5	5 3/8	5 7/16	5 13/16
1 1/2	1 15/16	5 3/8	5 3/4	5 7/8	6 1/4
	2 5/16	5 3/4	6 1/8	6 1/4	6 5/8
2	1 15/16	5 3/8	5 3/4	5 7/8	6 1/4
	2 9/16	6	6 3/8	6 1/2	6 7/8
	2 5/16	5 3/4	6 1/8	6 1/4	6 5/8
2 1/2	1 15/16	5 1/2	5 7/8	6	6 3/8
	2 13/16	6 3/8	6 3/4	6 7/8	7 1/4
	2 5/16	5 7/8	6 1/4	6 3/8	6 3/4
	2 9/16	6 1/8	6 1/2	6 5/8	7
3 1/4	2 7/16	6 7/8	7 1/2	7 5/8	8 1/4
	3 1/16	7 1/2	8 1/8	8 1/4	8 7/8
	2 11/16	7 1/8	7 3/4	7 7/8	8 1/2
	2 15/16	7 3/8	8	8 1/8	8 3/4
4	2 7/16	6 7/8	7 1/2	7 5/8	8 1/4
	3 5/16	7 3/4	8 3/8	8 1/2	9 1/8
	2 11/16	7 1/8	7 3/4	7 7/8	8 1/2
	2 15/16	7 3/8	8	8 1/8	8 3/4
	3 5/16	7 1/2	8 1/8	8 1/4	8 7/8
5	2 7/16	7 1/8	7 3/4	7 7/8	8 1/2
	3 5/16	8	8 5/8	8 3/4	9 3/8
	2 11/16	7 3/8	8	8 1/8	8 3/4
	2 15/16	7 5/8	8 1/4	8 3/8	9
	3 1/16	7 3/4	8 3/8	8 1/2	9 1/8
	3 5/16	8	8 5/8	8 3/4	9 3/8
	3 5/16	8	8 5/8	8 3/4	9 3/8
6	2 13/16	8 1/8	8 7/8	9 1/8	9 7/8
	3 7/16	8 3/4	9 1/2	9 3/4	10 1/2
	3 1/16	8 3/8	9 1/8	9 3/8	10 1/8
	3 3/16	8 1/2	9 1/4	9 1/2	10 1/4
	3 7/16	8 3/4	9 1/2	9 3/4	10 1/2
	3 7/16	8 3/4	9 1/2	9 3/4	10 1/2
	3 7/16	8 3/4	9 1/2	9 3/4	10 1/2

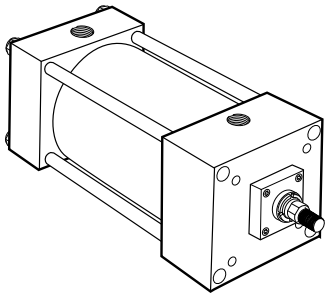
Tie Rods Extended
Style TB
(NFPA Style MX3)

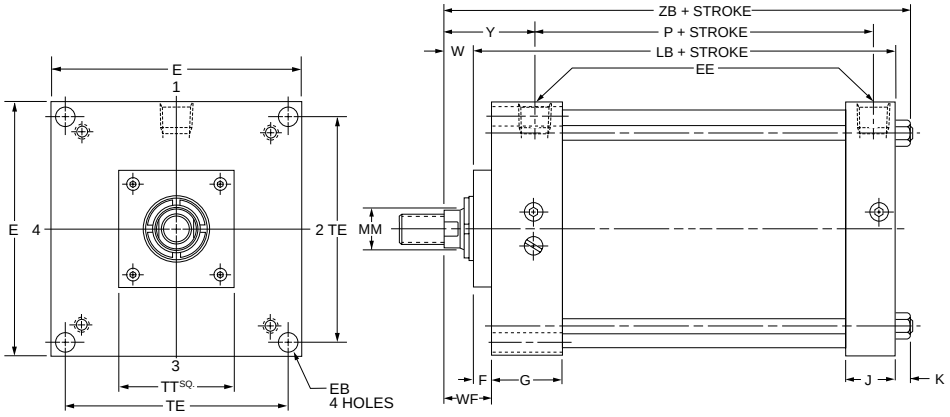
Style TB (NFPA MX3) Head Tie Rods Extended, illustrated: Style TC (NFPA MX2), Cap Tie Rods Extended; and Style TD (NFPA MX1), Both Ends Tie Rods Extended are also available. All "T" styles can be dimensioned from Style TB drawing at right.



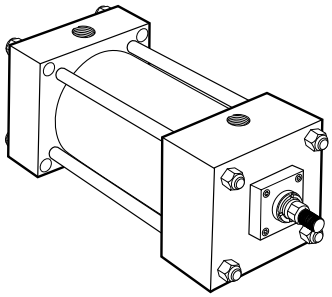


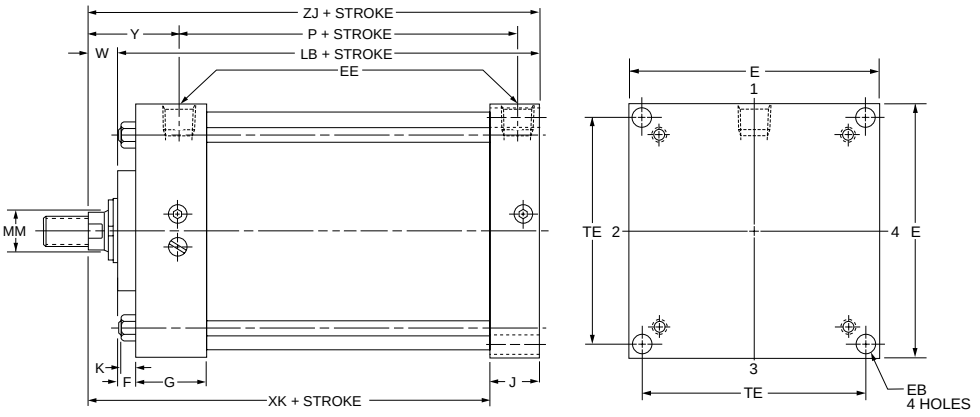
Head Square Flange
Style JB
(NFPA Style ME3)





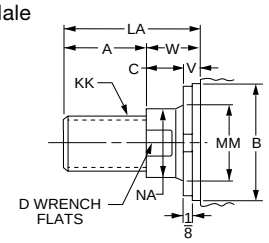
Cap Square Flange
Style HB
(NFPA Style ME4)



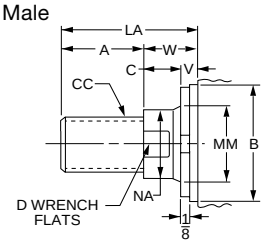


Rod End Dimensions — see table 2

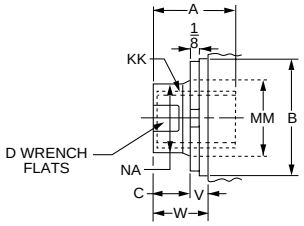
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



A high strength rod end stud is supplied on thread style 4 through 2" diameter rods and on thread style 8 through 1 3/8" diameter rods. Larger sizes or special rod ends are cut threads. Style 4 rod ends are recommended where the workpiece is secured against the rod shoulder. When the workpiece is not shouldered, style 4 rod ends are recommended through 2" piston rod diameters and style 8 rod ends are recommended on larger diameters. Use style 9 for applications where female rod end threads are required. If rod end is not specified, style 4 will be supplied.

"Special" Thread Style 3

Special thread, extension, rod eye, blank, etc., are also available.

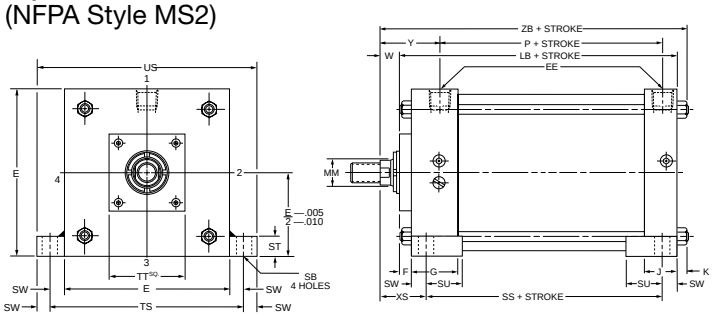
To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensional sketch.

For additional information – call your local Parker Cylinder Distributor.

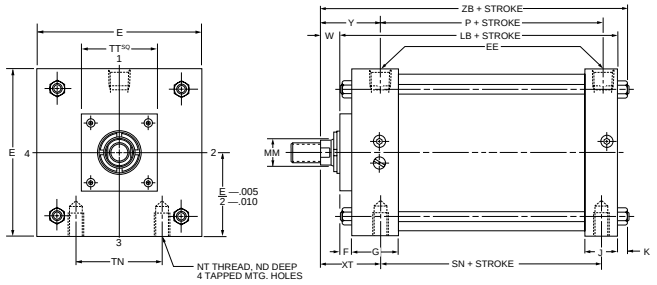
Series 2A
Heavy Duty Air Cylinders

Side Lug, Side Tapped, Cap Trunnion, Head Trunnion, Cap Fixed Clevis Mountings 7" Bore Size

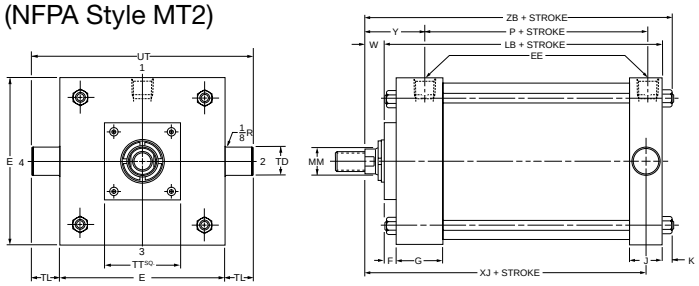
Side Lug
Style C
(NFPA Style MS2)



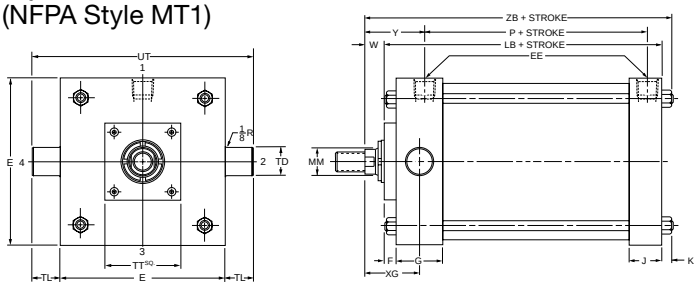
Side Tapped
Style F
(NFPA Style MS4)



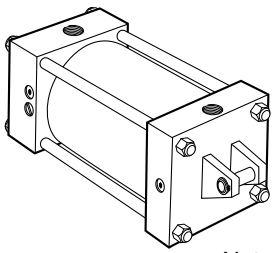
Cap Trunnion
Style DB
(NFPA Style MT2)

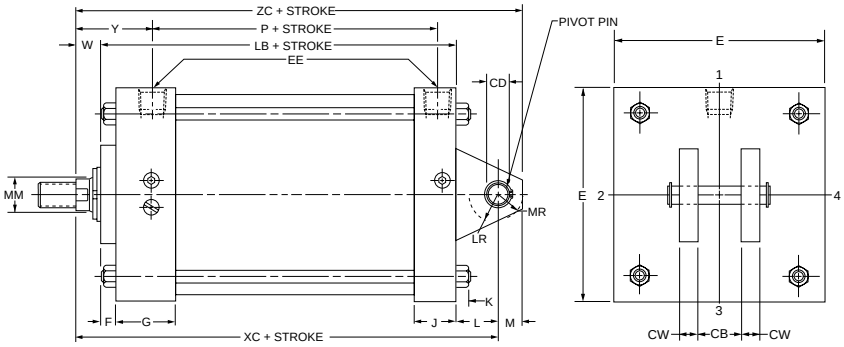


Head Trunnion
Style D
(NFPA Style MT1)



Cap Fixed Clevis
Style BB
(NFPA Style MP1)





Note: Other mounting styles and double rod end cylinders are available on request. Consult factory for details.

Table 1—Envelope and Mounting Dimensions

Bore	AA	BB	CB	+.000 CD -.002	CW	DD	E	EB	EE	F	G	J	K	L	LR	M	MR	ND	NT	R	SB	ST	SU	SW	+.000 TD -.001	TE	TL	TN	TS	US	UT	Add Stroke LB	P	SN	SS
7	8.1	2 5/16	1 1/2	1.001	3/4	5/8-18	7 1/2	9/16	3/4	3/4	2	1 1/2	9/16	1 1/2	1 1/4	1	1 3/16	1 1/8	3/4-10	5.73	13/16	1	1 9/16	11/16	1.375	6 3/4	1 3/8	3 1/2	8 7/8	10 1/4	10 1/4	5 7/8	3 1/4	3 1/4	3 3/4

Table 2—Rod Dimensions

Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W	WF	Y
7	1	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8	1 5/8	2 13/16
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	1 7/8	3 1/16
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	2	3 3/16

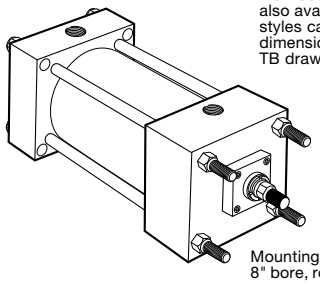
Table 3 — Envelope and Mounting Dimensions

Bore	TT	XG	XS	XT	Add Stroke XC	XJ	XK	ZB	ZC	ZJ
7	4	2 5/8	2 5/16	2 13/16	8 1/4	6	5 1/4	7 5/16	9 1/4	6 3/4
	4	2 7/8	2 9/16	3 1/16	8 1/2	6 1/4	5 1/2	7 9/16	9 1/2	7
	4	3	2 11/16	3 3/16	8 5/8	6 3/8	5 5/8	7 11/16	9 5/8	7 1/8

For Cylinder Division Plant Locations – See Page II.

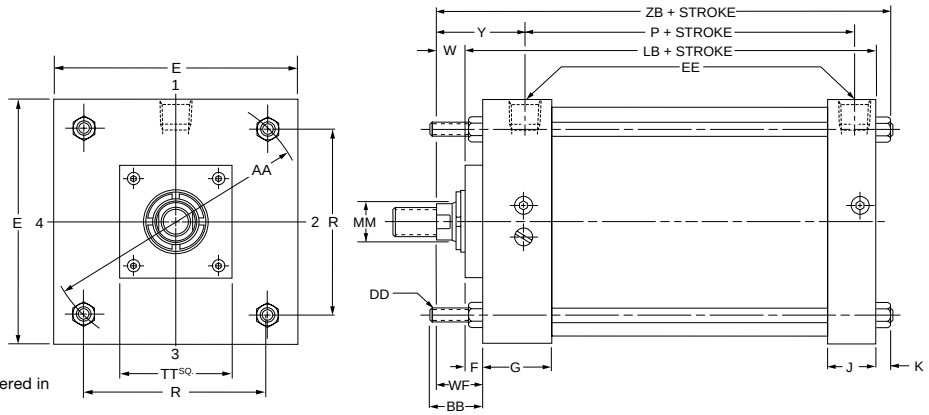
Parker Cylinder

Tie Rods Extended
Style TB
(NFPA Style MX3)

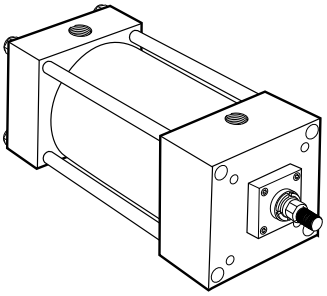


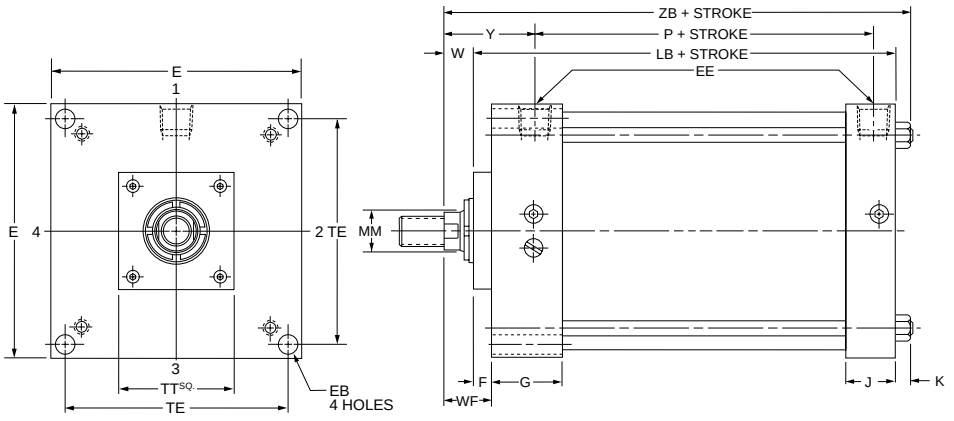
Style TB (NFPA MX3) Head Tie Rods Extended, illustrated: Style TC (NFPA MX2), Cap Tie Rods Extended; and Style TD (NFPA MX1), Both Ends Tie Rods Extended are also available. All "T" styles can be dimensioned from Style TB drawing at right.

Mounting styles TB & TD not offered in 8" bore, rod codes #2, 9 and 0.

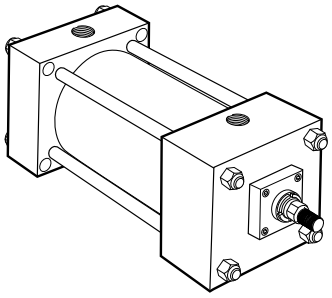


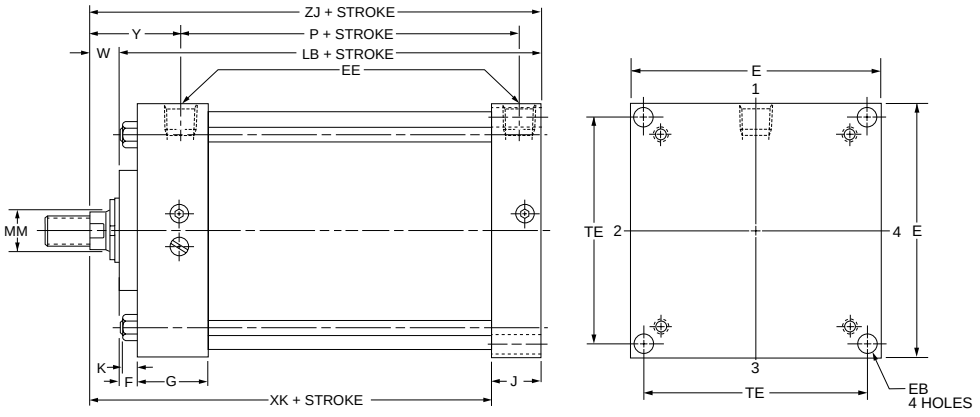
Head Square Flange
Style JB
(NFPA Style ME3)





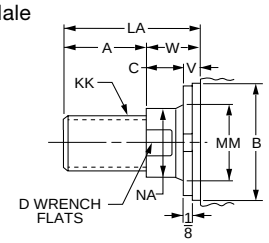
Cap Square Flange
Style HB
(NFPA Style ME4)



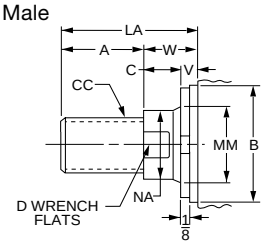


Rod End Dimensions — see table 2

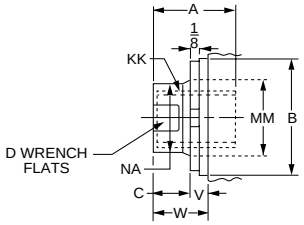
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



A high strength rod end stud is supplied on thread style 4 through 2" diameter rods and on thread style 8 through 1 3/8" diameter rods. Larger sizes or special rod ends are cut threads. Style 4 rod ends are recommended where the workpiece is secured against the rod shoulder. When the workpiece is not shouldered, style 4 rod ends are recommended through 2" piston rod diameters and style 8 rod ends are recommended on larger diameters. Use style 9 for applications where female rod end threads are required. If rod end is not specified, style 4 will be supplied.

"Special" Thread Style 3

Special thread, extension, rod eye, blank, etc., are also available.

To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensional sketch.

For additional information – call your local Parker Cylinder Distributor.

Table 1—Envelope and Mounting Dimensions

Bore	AA	BB	DD	E	EB	EE NPTF	F	G	J	K	R	TE	Add Stroke LB	Add Stroke P
8	9.1	2 5/16	5/8-18	8 1/2	11/16	3/4	3/4	2	1 1/2	9/16	6.44	7.57	5 7/8	3 1/4
10	11.2	2 11/16	3/4-16	10 5/8	13/16	1	3/4	2 1/4	2	11/16	7.92	9.40	7 1/8	4 1/8
12	13.3	2 11/16	3/4-16	12 3/4	13/16	1	3/4	2 1/4	2	11/16	9.40	11.10	7 5/8	4 5/8
14	15.4	3 3/16	7/8-14	14 3/4	15/16	1 1/4	3/4	2 3/4	2 1/4	3/4	10.90	12.87	8 7/8	5 1/2

Table 2—Rod Dimensions

Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W
8	1(Std.)	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8
	2	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4
	5	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	6	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	7	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2
	8	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	9	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2
	0	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2
10	1(Std.)	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8
	3	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4
	4	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	5	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	6	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2
	7	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	8	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2
	9	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2
	0	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2
12	1(Std.)	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4
	3	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	4	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	5	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2
	6	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	7	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2
	8	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2
	9	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2
14	1(Std.)	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	3	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	4	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2
	5	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	6	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2
	7	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2
	8	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2

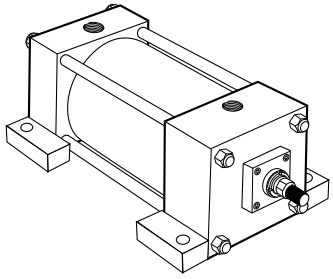
Table 3 — Envelope and Mounting Dimensions

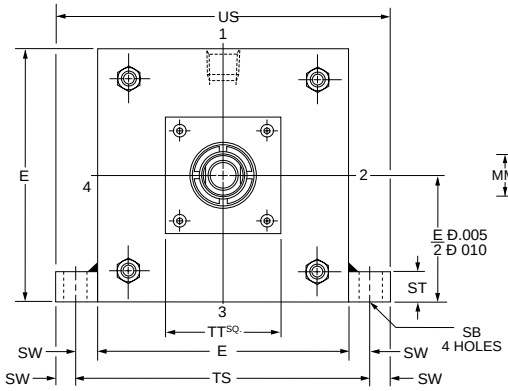
Bore	Rod No.	TT	WF	Y	Add Stroke XK	Add Stroke ZB	Add Stroke ZJ
8	1(Std.)	4	1 5/8	2 13/16	5 1/4	7 5/16	6 3/4
	2	7	2 1/4	3 7/16	5 7/8	7 15/16	7 3/8
	3	4	1 7/8	3 1/16	5 1/2	7 9/16	7
	4	4	2	3 3/16	5 5/8	7 11/16	7 1/8
	5	4	2 1/4	3 7/16	5 7/8	7 15/16	7 3/8
	6	5 1/2	2 1/4	3 7/16	5 7/8	7 15/16	7 3/8
	7	5 1/2	2 1/4	3 7/16	5 7/8	7 15/16	7 3/8
	8	5 1/2	2 1/4	3 7/16	5 7/8	7 15/16	7 3/8
	9	7	2 1/4	3 7/16	5 7/8	7 15/16	7 3/8
	0	7	2 1/4	3 7/16	5 7/8	7 15/16	7 3/8
10	1(Std.)	4	1 7/8	3 1/8	6 1/4	8 15/16	8 1/4
	3	4	2	3 1/4	6 3/8	9 1/16	8 3/8
	4	4	2 1/4	3 1/2	6 5/8	9 5/16	8 5/8
	5	5 1/2	2 1/4	3 1/2	6 5/8	9 5/16	8 5/8
	6	5 1/2	2 1/4	3 1/2	6 5/8	9 5/16	8 5/8
	7	5 1/2	2 1/4	3 1/2	6 5/8	9 5/16	8 5/8
	8	7	2 1/4	3 1/2	6 5/8	9 5/16	8 5/8
	9	7	2 1/4	3 1/2	6 5/8	9 5/16	8 5/8
	0	7	2 1/4	3 1/2	6 5/8	9 5/16	8 5/8
12	1(Std.)	4	2	3 1/4	6 7/8	9 9/16	8 7/8
	3	4	2 1/4	3 1/2	7 1/8	9 13/16	9 1/8
	4	5 1/2	2 1/4	3 1/2	7 1/8	9 13/16	9 1/8
	5	5 1/2	2 1/4	3 1/2	7 1/8	9 13/16	9 1/8
	6	5 1/2	2 1/4	3 1/2	7 1/8	9 13/16	9 1/8
	7	7	2 1/4	3 1/2	7 1/8	9 13/16	9 1/8
	8	7	2 1/4	3 1/2	7 1/8	9 13/16	9 1/8
	9	7	2 1/4	3 1/2	7 1/8	9 13/16	9 1/8
14	1(Std.)	4	2 1/4	3 13/16	8 1/8	11 1/8	10 3/8
	3	5 1/2	2 1/4	3 13/16	8 1/8	11 1/8	10 3/8
	4	5 1/2	2 1/4	3 13/16	8 1/8	11 1/8	10 3/8
	5	5 1/2	2 1/4	3 13/16	8 1/8	11 1/8	10 3/8
	6	7	2 1/4	3 13/16	8 1/8	11 1/8	10 3/8
	7	7	2 1/4	3 13/16	8 1/8	11 1/8	10 3/8
	8	7	2 1/4	3 13/16	8 1/8	11 1/8	10 3/8

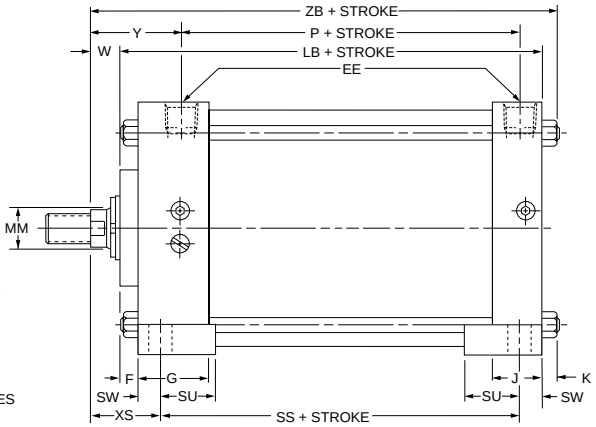
For Cylinder Division Plant Locations – See Page II.

Side Lug

Style C
(NFPA Style MS2)

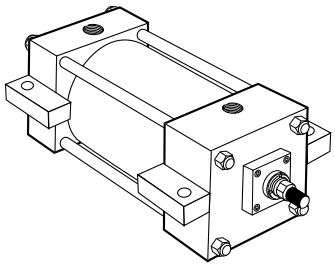


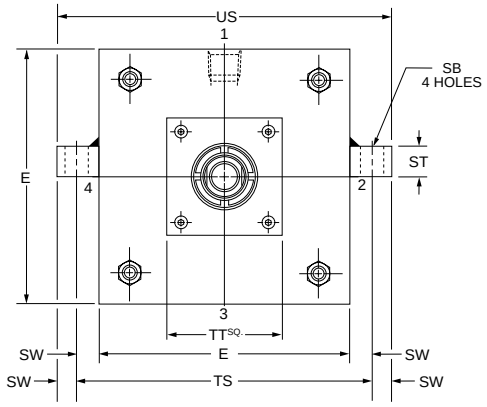


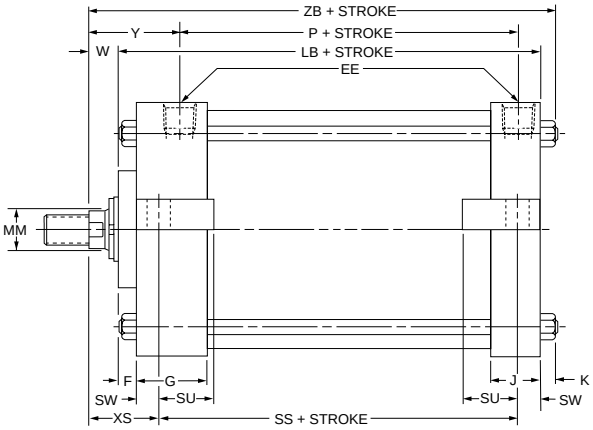


Centerline Lugs

Style E
(NFPA Style MS3)

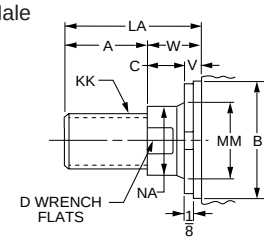




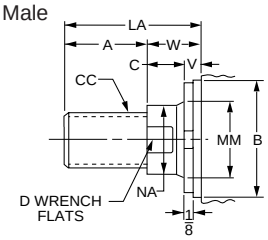


Rod End Dimensions — see table 2

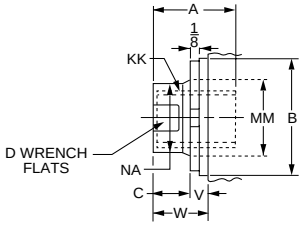
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



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"Special" Thread Style 3

Special thread, extension, rod eye, blank, etc., are also available.

To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensional sketch.

For additional information – call your local Parker Cylinder Distributor.

Table 1—Envelope and Mounting Dimensions

Bore	E	EE NPTF	F	G	J	K	SB*	ST	SU	SW	TS	US	Add Stroke LB	Add Stroke P	Add Stroke SS
8	8 1/2	3/4	3/4	2	1 1/2	9/16	13/16	1	1 9/16	11/16	9 7/8	11 1/4	5 7/8	3 1/4	3 3/4
10	10 5/8	1	3/4	2 1/4	2	11/16	1 1/16	1 1/4	2	7/8	12 3/8	14 1/8	7 1/8	4 1/8	4 5/8
12	12 3/4	1	3/4	2 1/4	2	11/16	1 1/16	1 1/4	2	7/8	14 1/2	16 1/4	7 5/8	4 5/8	5 1/8
14	14 3/4	1 1/4	3/4	2 3/4	2 1/4	3/4	1 5/16	1 1/2	2 1/2	1 1/8	17	19 1/4	8 7/8	5 1/2	5 7/8

* Upper surface spotfaced for socket head screws.

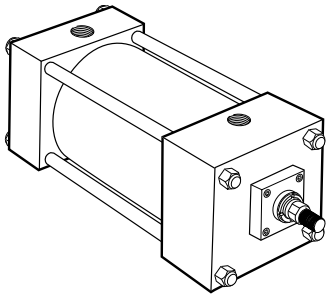
Table 2—Rod Dimensions

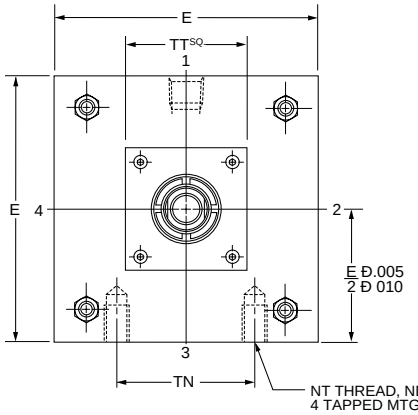
Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W	TT	XS	Y	Add Stroke ZB
8	1(Std.)	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8	4	2 5/16	2 13/16	7 5/16
	2	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	2 15/16	3 7/16	7 15/16
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	4	2 9/16	3 1/16	7 9/16
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	4	2 11/16	3 3/16	7 11/16
	5	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	2 15/16	3 7/16	7 15/16
	6	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	2 15/16	3 7/16	7 15/16
	7	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	2 15/16	3 7/16	7 15/16
	8	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	2 15/16	3 7/16	7 15/16
	9	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	2 15/16	3 7/16	7 15/16
	0	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	2 15/16	3 7/16	7 15/16
10	1(Std.)	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	4	2 3/4	3 1/8	8 15/16
	3	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	4	2 7/8	3 1/4	9 1/16
	4	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	3 1/8	3 1/2	9 5/16
	5	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	3 1/8	3 1/2	9 5/16
	6	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	3 1/8	3 1/2	9 5/16
	7	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	3 1/8	3 1/2	9 5/16
	8	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	3 1/8	3 1/2	9 5/16
	9	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	3 1/8	3 1/2	9 5/16
	0	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	3 1/8	3 1/2	9 5/16
12	1(Std.)	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	4	2 7/8	3 1/4	9 9/16
	3	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	3 1/8	3 1/2	9 13/16
	4	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	3 1/8	3 1/2	9 13/16
	5	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	3 1/8	3 1/2	9 13/16
	6	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	3 1/8	3 1/2	9 13/16
	7	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	3 1/8	3 1/2	9 13/16
	8	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	3 1/8	3 1/2	9 13/16
	9	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	3 1/8	3 1/2	9 13/16
14	1(Std.)	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	3 3/8	3 13/16	11 1/8
	3	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	3 3/8	3 13/16	11 1/8
	4	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	3 3/8	3 13/16	11 1/8
	5	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	3 3/8	3 13/16	11 1/8
	6	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	3 3/8	3 13/16	11 1/8
	7	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	3 3/8	3 13/16	11 1/8
	8	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	3 3/8	3 13/16	11 1/8

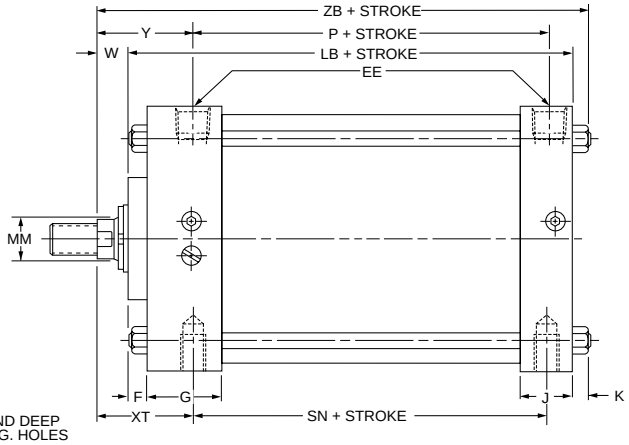
Table 3 — Envelope and Mounting Dimensions

Side Tapped

Style F
(NFPA Style MS4)



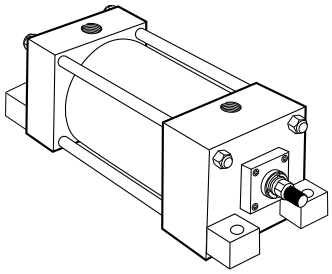


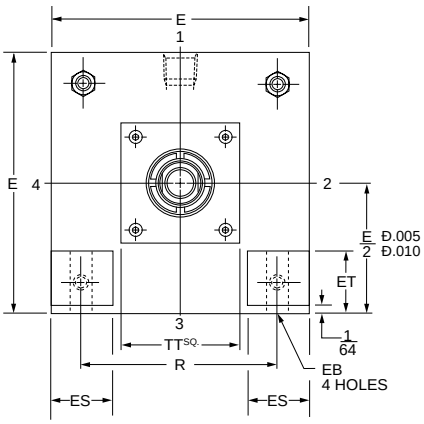


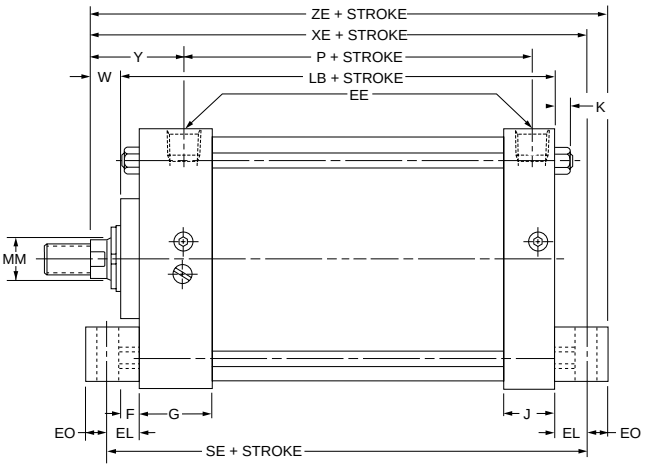
Side End Lugs

Style G
(NFPA Style MS7)

Cylinders with this mounting style are mounted on the precision ground surfaces of the head and cap. There must be a minimum gap of at least 1/64 of an inch between the bottom of the lug and the mounting surface before the mounting bolts are tightened.



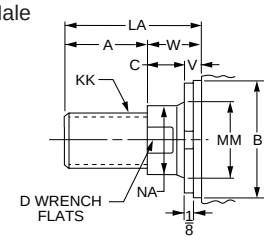




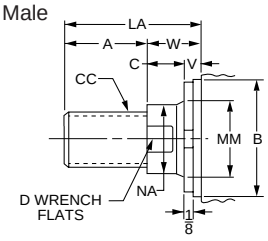
Not offered in the following sizes: 8" bore, rod codes #2, 6, 7, 8, 9 and 0; 10" bore, rod codes #8, 9 and 0; and 12" bore, rod codes #7, 8 and 9.

Rod End Dimensions — see table 2

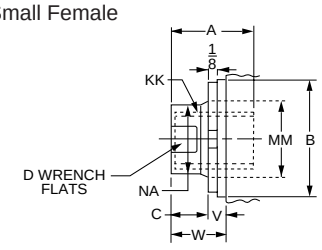
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



A high strength rod end stud is supplied on thread style 4 through 2" diameter rods and on thread style 8 through 1 3/8" diameter rods. Larger sizes or special rod ends are cut threads. Style 4 rod ends are recommended where the workpiece is secured against the rod shoulder. When the workpiece is not shouldered, style 4 rod ends are recommended through 2" piston rod diameters and style 8 rod ends are recommended on larger diameters. Use style 9 for applications where female rod end threads are required. If rod end is not specified, style 4 will be supplied.

Special Thread Style 3

Special thread, extension, rod eye, blank, etc., are also available.

To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensional sketch.

For additional information – call your local Parker Cylinder Distributor.

Table 1—Envelope and Mounting Dimensions

Bore	E	EB	EE NPTF	EL	EO	ES	ET	F	G	J	K	ND	NT	R	TN	Add Stroke LB	P	SE	SN
8	8 1/2	11/16	3/4	1 1/8	5/8	2 1/4	2 1/32	3/4	2	1 1/2	9/16	1 1/8	3/4-10	6.44	4 1/2	5 7/8	3 1/4	7 3/8	3 1/4
10	10 5/8	13/16	1	1 5/16	5/8	2 3/4	2 11/16	3/4	2 1/4	2	11/16	1 1/2	1-8	7.92	5 1/2	7 1/8	4 1/8	9	4 1/8
12	12 3/4	13/16	1	1 5/16	5/8	3 1/2	3 5/16	3/4	2 1/4	2	11/16	1 1/2	1-8	9.40	7 1/4	7 5/8	4 5/8	9 1/2	4 5/8
14	14 3/4	15/16	1 1/4	1 1/2	3/4	4	3 13/16	3/4	2 3/4	2 1/4	3/4	1 7/8	1 1/4-7	10.90	8 3/8	8 7/8	5 1/2	11 1/8	5 1/2

Table 2—Rod Dimensions

Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W	TT	XT	Y	Add Stroke XE	ZB	ZE
8	1(Std.)	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8	4	2 13/16	2 13/16	7 7/8	7 5/16	8 1/2
	2	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	3 7/16	3 7/16	*	7 15/16	*
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	4	3 1/16	3 1/16	8 1/8	7 9/16	8 3/4
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	4	3 3/16	3 3/16	8 1/4	7 11/16	8 7/8
	5	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	3 7/16	3 7/16	8 1/2	7 15/16	9 1/8
	6	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	3 7/16	3 7/16	*	7 15/16	*
	7	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	3 7/16	3 7/16	*	7 15/16	*
	8	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	3 7/16	3 7/16	*	7 15/16	*
	9	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	3 7/16	3 7/16	*	7 15/16	*
	0	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	3 7/16	3 7/16	*	7 15/16	*
10	1(Std.)	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	4	3 1/8	3 1/8	9 9/16	8 15/16	10 3/16
	3	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	4	3 1/4	3 1/4	9 11/16	9 1/16	10 5/16
	4	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	3 1/2	3 1/2	9 15/16	9 5/16	10 9/16
	5	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	3 1/2	3 1/2	9 15/16	9 5/16	10 9/16
	6	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	3 1/2	3 1/2	9 15/16	9 5/16	10 9/16
	7	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	3 1/2	3 1/2	9 15/16	9 5/16	10 9/16
	8	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	3 1/2	3 1/2	*	9 5/16	*
	9	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	3 1/2	3 1/2	*	9 5/16	*
	0	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	3 1/2	3 1/2	*	9 5/16	*
12	1(Std.)	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	4	3 1/4	3 1/4	10 3/16	9 9/16	10 13/16
	3	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	3 1/2	3 1/2	10 7/16	9 13/16	11 1/16
	4	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	3 1/2	3 1/2	10 7/16	9 13/16	11 1/16
	5	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	3 1/2	3 1/2	10 7/16	9 13/16	11 1/16
	6	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	3 1/2	3 1/2	10 7/16	9 13/16	11 1/16
	7	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	3 1/2	3 1/2	*	9 13/16	*
	8	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	3 1/2	3 1/2	*	9 13/16	*
	9	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	3 1/2	3 1/2	*	9 13/16	*
14	1(Std.)	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	3 13/16	3 13/16	11 7/8	11 1/8	12 5/8
	3	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	3 13/16	3 13/16	11 7/8	11 1/8	12 5/8
	4	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	3 13/16	3 13/16	11 7/8	11 1/8	12 5/8
	5	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	3 13/16	3 13/16	11 7/8	11 1/8	12 5/8
	6	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	3 13/16	3 13/16	11 7/8	11 1/8	12 5/8
	7	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	3 13/16	3 13/16	11 7/8	11 1/8	12 5/8
	8	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	3 13/16	3 13/16	11 7/8	11 1/8	12 5/8

Table 3 — Envelope and Mounting Dimensions

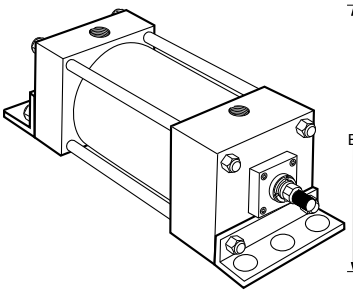
* Mounting style G not offered in this rod size.

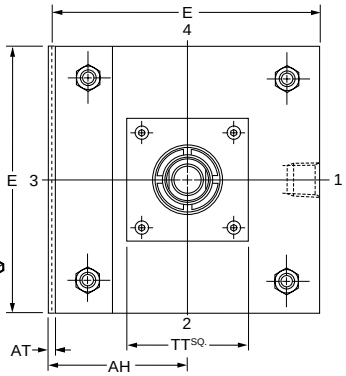
Caution: When using mounting style G, check clearance between mounting members and rod attachment or accessory. If necessary, specify longer rod extension to avoid interference with mounting members.

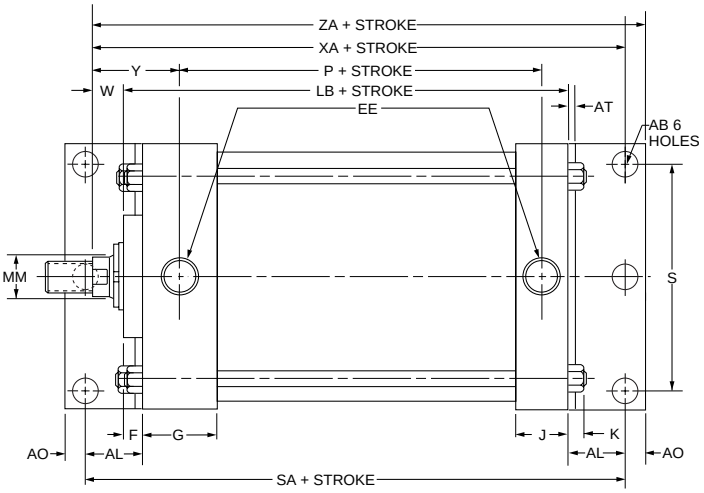
For Cylinder Division Plant Locations – See Page II.

Side End Angles

Style CB
(NFPA Style MS1)



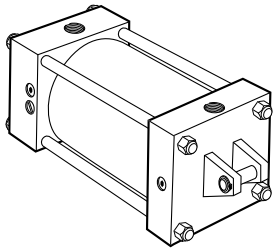


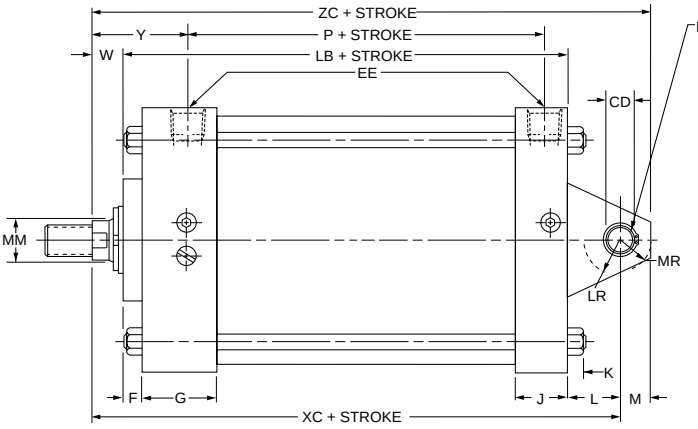


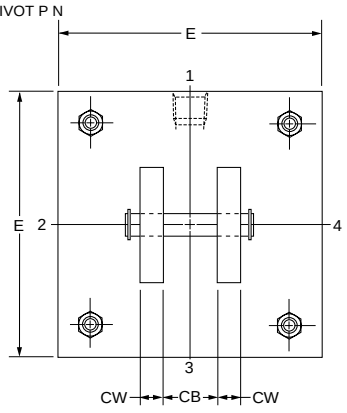
Not offered in the following sizes: 8" bore, rod codes #2, 6, 7, 8, 9 and 0; 10" bore, rod codes #8, 9 and 0.

Cap Fixed Clevis

Style BB
(NFPA Style MP1)

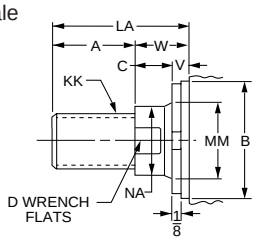




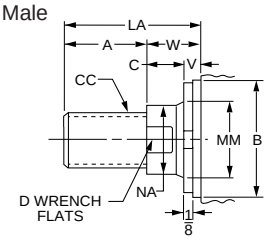


Rod End Dimensions — see table 2

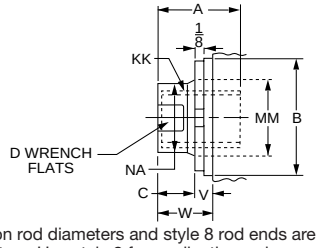
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



A high strength rod end stud is supplied on thread style 4 through 2" diameter rods and on thread style 8 through 1 3/8" diameter rods. Larger sizes or special rod ends are cut threads. Style 4 rod ends are recommended where the workpiece is secured against the rod shoulder. When the workpiece is not shouldered, style 4 rod ends are recommended through 2" piston rod diameters and style 8 rod ends are recommended on larger diameters. Use style 9 for applications where female rod end threads are required. If rod end is not specified, style 4 will be supplied.

"Special" Thread Style 3

Special thread, extension, rod eye, blank, etc., are also available.

To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensional sketch.

For additional information – call your local Parker Cylinder Distributor.

Table 1—Envelope and Mounting Dimensions

Bore	AB	AH	AL	AO	AT	CB	+.000 CD* -.002	CW	E	EE NPTF	F	G	J	K	L	LR	M	MR	S	Add Stroke LB	Add Stroke P	Add Stroke SA
8	13/16	4 1/4	1 13/16	11/16	1/4	1 1/2	1.001	3/4	8 1/2	3/4	3/4	2	1 1/2	9/16	1 1/2	1 1/4	1	1 3/16	7 1/8	5 7/8	3 1/4	8 3/4
10	1 1/16	5 5/16	2 1/8	7/8	1/4	2	1.376	1	10 5/8	1	3/4	2 1/4	2	11/16	2 1/8	1 7/8	1 3/8	1 5/8	8 7/8	7 1/8	4 1/8	10 5/8
12	1 1/16	6 3/8	2 1/8	7/8	3/8	2 1/2	1.751	1 1/4	12 3/4	1	3/4	2 1/4	2	11/16	2 1/4	2 1/8	1 3/4	2 1/8	11	7 5/8	4 5/8	11 1/8
14	1 5/16	7 3/8	2 7/16	1 1/16	3/8	2 1/2	2.001	1 1/4	14 3/4	1 1/4	3/4	2 3/4	2 1/4	3/4	2 1/2	2 3/8	2	2 3/8	12 5/8	8 7/8	5 1/2	13

* CD is pin diameter.

A

Table 2—Rod Dimensions

Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W	TT	Y	Add Stroke XA	Add Stroke XC	Add Stroke ZA	Add Stroke ZC
8	1(Std.)	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8	4	2 13/16	8 9/16	8 1/4	9 1/4	9 1/4
	2	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	3 7/16	*	8 7/8	*	9 7/8
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	4	3 1/16	8 13/16	8 1/2	9 1/2	9 1/2
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	4	3 3/16	8 15/16	8 5/8	9 5/8	9 5/8
	5	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	3 7/16	9 3/16	8 7/8	9 7/8	9 7/8
	6	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	3 7/16	*	8 7/8	*	9 7/8
	7	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	3 7/16	*	8 7/8	*	9 7/8
	8	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	3 7/16	*	8 7/8	*	9 7/8
	9	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	3 7/16	*	8 7/8	*	9 7/8
	0	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	3 7/16	*	8 7/8	*	9 7/8
10	1(Std.)	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8	4	3 1/8	10 3/8	10 3/8	11 1/4	11 3/4
	3	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	4	3 1/4	10 1/2	10 1/2	11 3/8	11 7/8
	4	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	3 1/2	10 3/4	10 3/4	11 5/8	12 1/8
	5	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	3 1/2	10 3/4	10 3/4	11 5/8	12 1/8
	6	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	3 1/2	10 3/4	10 3/4	11 5/8	12 1/8
	7	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	3 1/2	10 3/4	10 3/4	11 5/8	12 1/8
	8	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	3 1/2	*	10 3/4	*	12 1/8
	9	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	3 1/2	*	10 3/4	*	12 1/8
	0	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	3 1/2	*	10 3/4	*	12 1/8
12	1(Std.)	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4	4	3 1/4	11	11 1/8	11 7/8	12 7/8
	3	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	3 1/2	11 1/4	11 3/8	12 1/8	13 1/8
	4	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	3 1/2	11 1/4	11 3/8	12 1/8	13 1/8
	5	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	3 1/2	11 1/4	11 3/8	12 1/8	13 1/8
	6	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	3 1/2	11 1/4	11 3/8	12 1/8	13 1/8
	7	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	3 1/2	11 1/4	11 3/8	12 1/8	13 1/8
	8	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	3 1/2	11 1/4	11 3/8	12 1/8	13 1/8
	9	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	3 1/2	11 1/4	11 3/8	12 1/8	13 1/8
14	1(Std.)	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2	4	3 13/16	12 13/16	12 7/8	13 7/8	14 7/8
	3	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2	5 1/2	3 13/16	12 13/16	12 7/8	13 7/8	14 7/8
	4	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2	5 1/2	3 13/16	12 13/16	12 7/8	13 7/8	14 7/8
	5	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2	5 1/2	3 13/16	12 13/16	12 7/8	13 7/8	14 7/8
	6	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2	7	3 13/16	12 13/16	12 7/8	13 7/8	14 7/8
	7	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2	7	3 13/16	12 13/16	12 7/8	13 7/8	14 7/8
	8	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2	7	3 13/16	12 13/16	12 7/8	13 7/8	14 7/8

* Mounting style G not offered in this rod size.

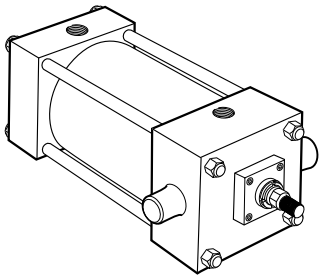
Caution: When using mounting style G, check clearance between mounting members and rod attachment or accessory. If necessary, specify longer rod extension to avoid interference with mounting members.

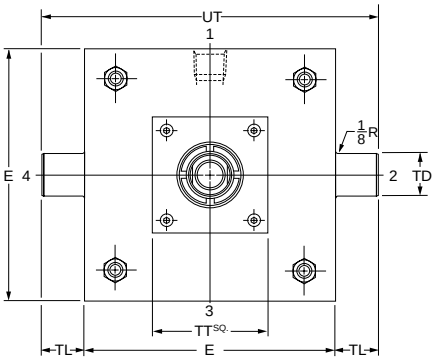
Table 3 — Envelope and Mounting Dimensions

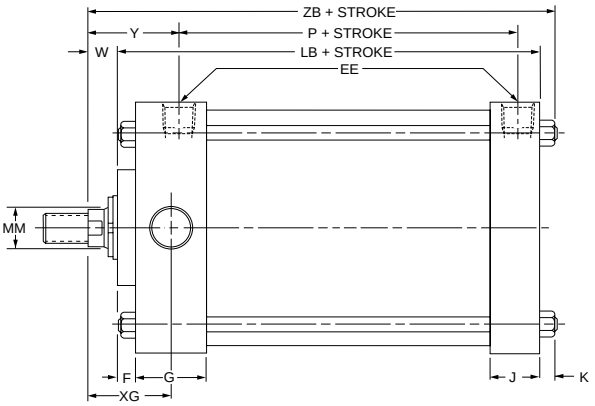
For Cylinder Division Plant Locations – See Page II.

Parker Cylinder

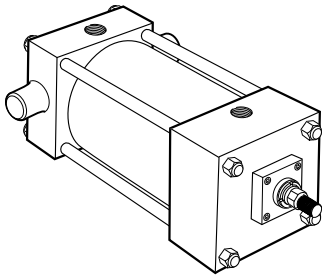
Head Trunnion
Style D
(NFPA Style MT1)

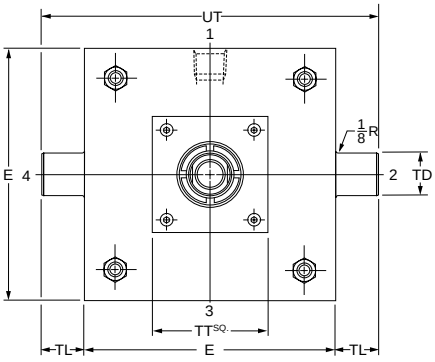


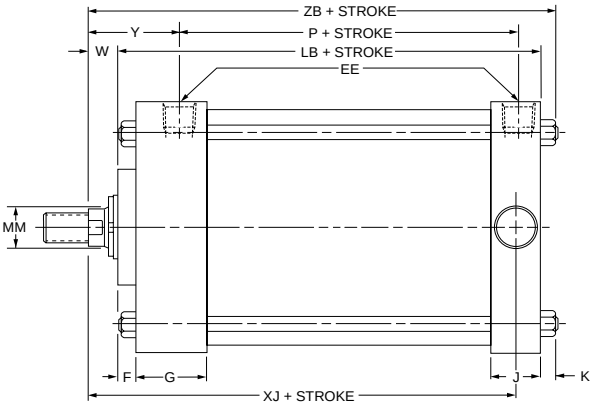




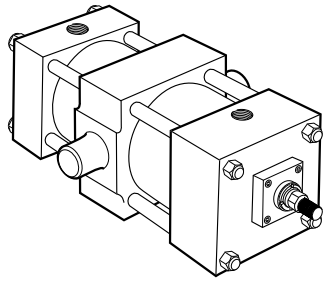
Cap Trunnion
Style DB
(NFPA Style MT2)

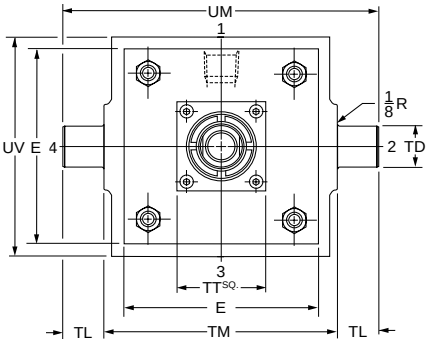


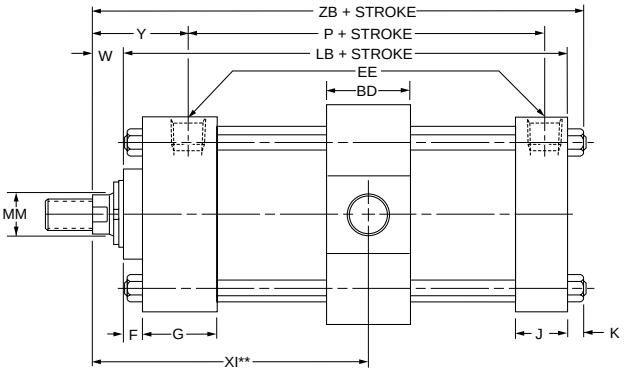




Intermediate Fixed Trunnion
Style DD
(NFPA Style MT4)

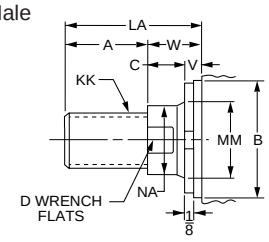




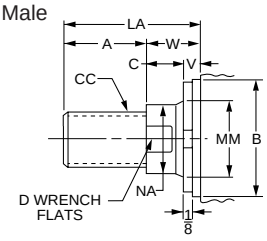


Rod End Dimensions — see table 2

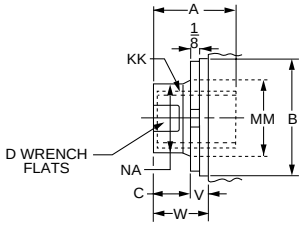
Thread Style 4
(NFPA Style SM)
Small Male



Thread Style 8
(NFPA Style IM)
Intermediate Male



Thread Style 9
(NFPA Style SF)
Small Female



A high strength rod end stud is supplied on thread style 4 through 2" diameter rods and on thread style 8 through 1 3/8" diameter rods. Larger sizes or special rod ends are cut threads. Style 4 rod ends are recommended where the workpiece is secured against the rod shoulder. When the workpiece is not shouldered, style 4 rod ends are recommended through 2" piston rod diameters and style 8 rod ends are recommended on larger diameters. Use style 9 for applications where female rod end threads are required. If rod end is not specified, style 4 will be supplied.

"Special" Thread Style 3

Special thread, extension, rod eye, blank, etc., are also available.

To order, specify "Style 3" and give desired dimensions for CC or KK, A and LA. If otherwise special, furnish dimensional sketch.

For additional information – call your local Parker Cylinder Distributor.

Table 1—Envelope and Mounting Dimensions

Bore	BD	E	EE NPTF	F	G	J	K	+.000 TD -.001	TL	TM	UM	UT	UV	Add Stroke LB	Add Stroke P	Style DD Min. Stroke
8	2 1/2	8 1/2	3/4	3/4	2	1 1/2	9/16	1.375	1 3/8	9 3/4	12 1/2	11 1/4	9 1/2	5 7/8	3 1/4	7/8
10	3	10 5/8	1	3/4	2 1/4	2	11/16	1.750	1 3/4	12	15 1/2	14 1/8	11 3/4	7 1/8	4 1/8	7/8
12	3	12 3/4	1	3/4	2 1/4	2	11/16	1.750	1 3/4	14	17 1/2	16 1/4	13 3/4	7 5/8	4 5/8	3/8
14	3 1/2	14 3/4	1 1/4	3/4	2 3/4	2 1/4	3/4	2.000	2	16 1/4	20 1/4	18 3/4	16	8 7/8	5 1/2	3/8

A

Table 2—Rod Dimensions

Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	Rod Extensions and Pilot Dimensions A	+.000 -.002 B	C	D	LA	NA	V	W
8	1(Std.)	1 3/8	1 1/4-12	1-14	1 5/8	1.999	5/8	1 1/8	2 1/2	1 5/16	1/4	7/8
	2	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2
	3	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/8	1 1/2	3 1/8	1 11/16	3/8	1 1/8
	4	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4
	5	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	6	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	7	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2
	8	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	9	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2
	0	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2
10	1(Std.)	1 3/4	1 1/2-12	1 1/4-12	2	2.374	3/4	1 1/2	3 1/8	1 11/16	3/8	1 1/8
	3	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4
	4	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	5	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	6	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2
	7	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	8	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2
	9	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2
	0	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2
12	1(Std.)	2	1 3/4-12	1 1/2-12	2 1/4	2.624	7/8	1 11/16	3 1/2	1 15/16	3/8	1 1/4
	3	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	4	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	5	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2
	6	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	7	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2
	8	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2
	9	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2
14	1(Std.)	2 1/2	2 1/4-12	1 7/8-12	3	3.124	1	2 1/16	4 1/2	2 3/8	1/2	1 1/2
	3	3	2 3/4-12	2 1/4-12	3 1/2	3.749	1	2 5/8	5	2 7/8	1/2	1 1/2
	4	3 1/2	3 1/4-12	2 1/2-12	3 1/2	4.249	1	3	5	3 3/8	1/2	1 1/2
	5	4	3 3/4-12	3-12	4	4.749	1	3 3/8	5 1/2	3 7/8	1/2	1 1/2
	6	4 1/2	4 1/4-12	3 1/4-12	4 1/2	5.249	1	3 7/8	6	4 3/8	1/2	1 1/2
	7	5	4 3/4-12	3 1/2-12	5	5.749	1	4 1/4	6 1/2	4 7/8	1/2	1 1/2
	8	5 1/2	5 1/4-12	4-12	5 1/2	6.249	1	4 5/8	7	5 3/8	1/2	1 1/2

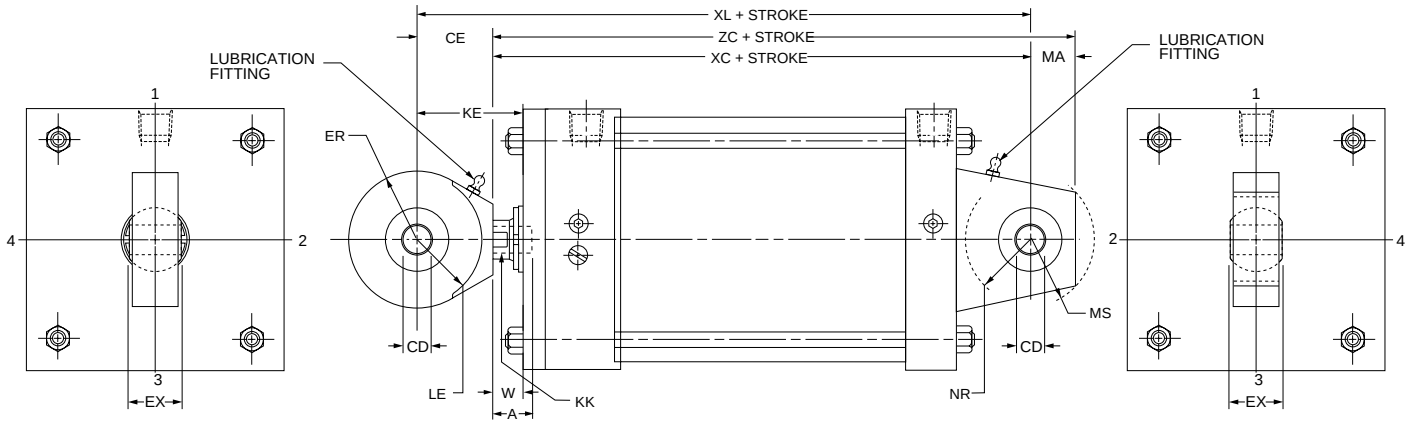
**Dimension XI to be specified by customer.

Table 3 — Envelope and Mounting Dimensions

Bore	Rod No.	TT	XG	Min.** XI	Y	Add Stroke XJ	Add Stroke ZB
8	1(Std.)	4	2 5/8	4 15/16	2 13/16	6	7 5/16
	2	7	3 1/4	5 9/16	3 7/16	6 5/8	7 15/16
	3	4	2 7/8	5 3/16	3 1/16	6 1/4	7 9/16
	4	4	3	5 5/16	3 3/16	6 3/8	7 11/16
	5	4	3 1/4	5 9/16	3 7/16	6 5/8	7 15/16
	6	5 1/2	3 1/4	5 3/16	3 7/16	6 5/8	7 15/16
	7	5 1/2	3 1/4	5 9/16	3 7/16	6 5/8	7 15/16
	8	5 1/2	3 1/4	5 9/16	3 7/16	6 5/8	7 15/16
	9	7	3 1/4	5 9/16	3 7/16	6 5/8	7 15/16
	0	7	3 1/4	5 9/16	3 7/16	6 5/8	7 15/16
10	1(Std.)	4	3	5 11/16	3 1/8	7 1/4	8 15/16
	3	4	3 1/8	5 13/16	3 1/4	7 3/8	9 1/16
	4	4	3 3/8	6 1/16	3 1/2	7 5/8	9 5/16
	5	5 1/2	3 3/8	6 1/16	3 1/2	7 5/8	9 5/16
	6	5 1/2	3 3/8	6 1/16	3 1/2	7 5/8	9 5/16
	7	5 1/2	3 3/8	6 1/16	3 1/2	7 5/8	9 5/16
	8	7	3 3/8	6 1/16	3 1/2	7 5/8	9 5/16
	9	7	3 3/8	6 1/16	3 1/2	7 5/8	9 5/16
	0	7	3 3/8	6 1/16	3 1/2	7 5/8	9 5/16
12	1(Std.)	4	3 1/8	5 13/16	3 1/4	7 7/8	9 9/16
	3	4	3 3/8	6 1/16	3 1/2	8 1/8	9 13/16
	4	5 1/2	3 3/8	6 1/16	3 1/2	8 1/8	9 13/16
	5	5 1/2	3 3/8	6 1/16	3 1/2	8 1/8	9 13/16
	6	5 1/2	3 3/8	6 1/16	3 1/2	8 1/8	9 13/16
	7	7	3 3/8	6 1/16	3 1/2	8 1/8	9 13/16
	8	7	3 3/8	6 1/16	3 1/2	8 1/8	9 13/16
	9	7	3 3/8	6 1/16	3 1/2	8 1/8	9 13/16
14	1(Std.)	4	3 5/8	6 13/16	3 13/16	9 1/4	11 1/8
	3	5 1/2	3 5/8	6 13/16	3 13/16	9 1/4	11 1/8
	4	5 1/2	3 5/8	6 13/16	3 13/16	9 1/4	11 1/8
	5	5 1/2	3 5/8	6 13/16	3 13/16	9 1/4	11 1/8
	6	7	3 5/8	6 13/16	3 13/16	9 1/4	11 1/8
	7	7	3 5/8	6 13/16	3 13/16	9 1/4	11 1/8
	8	7	3 5/8	6 13/16	3 13/16	9 1/4	11 1/8

For Cylinder Division Plant Locations – See Page II.

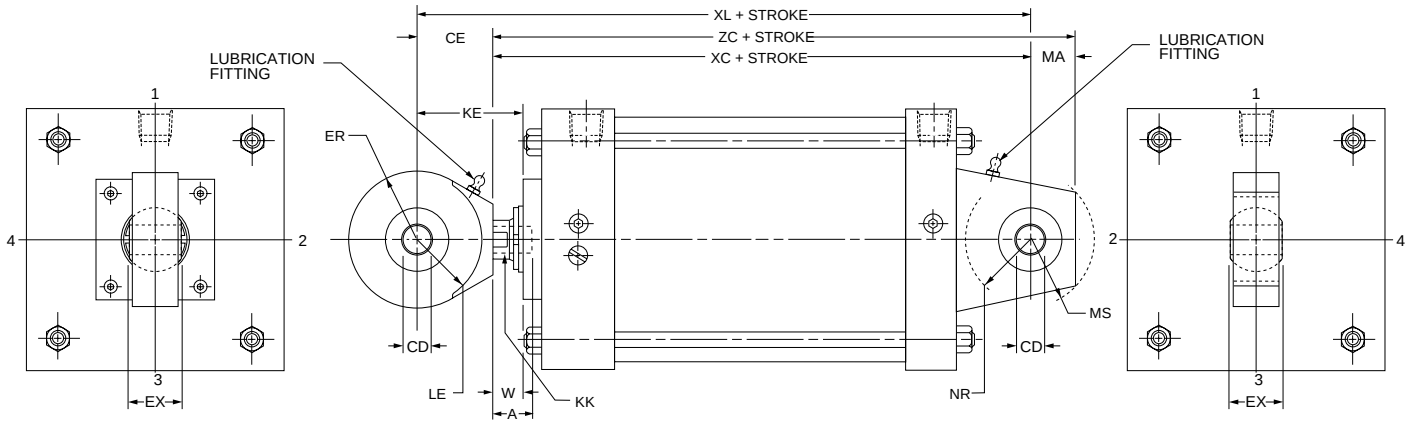
Parker Cylinder



Bore	Rod No.	Rod Dia. MM	Thread Style 9 KK	Thread Style 7 KK	A	W	Add Stroke XC	Add Stroke XL	Add Stroke ZC	KE	CD*	CE	ER	EX	LE	MA	MS	NR	Max. Oper. PSI 2A
1½	1(Std.)	⅝	7/16-20	—	¾	⅝	5⅜	6¼	6⅛	1½	-.0005 .5000	⅞	13/16	7/16	¾	¾	15/16	⅝	250
	2	1	**	7/16-20	¾	1	5¾	6⅝	6½	1⅞									
2	1(Std.)	⅝	7/16-20	—	¾	⅝	5⅜	6¼	6⅛	1½	-.0005 .5000	⅞	13/16	7/16	¾	¾	15/16	⅝	250
	2	1⅜	**	7/16-20	¾	1¼	6	6⅞	6¾	2⅛									
	3	1	**	7/16-20	¾	1	5¾	6⅝	6½	1⅞									
2½	1(Std.)	⅝	7/16-20	—	¾	⅝	5½	6⅜	6¼	1½	-.0005 .5000	⅞	13/16	7/16	¾	¾	15/16	⅝	250
	2	1¾	**	7/16-20	¾	1½	6⅜	7¼	7⅛	2⅜									
	3	1	**	7/16-20	¾	1	5⅞	6¾	6⅝	1⅞									
	4	1⅜	**	7/16-20	¾	1¼	6⅛	7	6⅞	2⅛									
3¼	1(Std.)	1	¾-16	—	1⅛	¾	6⅞	8⅛	7⅞	2	-.0005 .7500	1¼	1⅛	21/32	1 1/16	1	1⅜	1	250
	2	2	**	¾-16	1⅛	1⅜	7½	8¾	8½	2⅝									
	3	1⅜	**	¾-16	1⅛	1	7⅛	8⅜	8⅛	2¼									
	4	1¾	**	¾-16	1⅛	1¼	7⅜	8⅝	8⅜	2½									
4	1(Std.)	1	¾-16	—	1⅛	¾	6⅞	8⅛	7⅞	2	-.0005 .7500	1¼	1⅛	21/32	1 1/16	1	1⅜	1	250
	2	2½	**	¾-16	1⅛	1⅝	7¾	9	8¾	2⅞									
	3	1⅜	**	¾-16	1⅛	1	7⅛	8⅜	8⅛	2¼									
	4	1¾	**	¾-16	1⅛	1¼	7⅜	8⅝	8⅜	2½									
	5	2	**	¾-16	1⅛	1⅜	7½	8¾	8½	2⅝									
5	1(Std.)	1	¾-16	—	1⅛	¾	7⅛	8⅜	8⅛	2	-.0005 .7500	1¼	1⅛	21/32	1 1/16	1	1⅜	1	250
	2	3½	**	¾-16	1⅛	1⅝	8	9¼	9	2⅞									
	3	1⅜	**	¾-16	1⅛	1	7⅜	8⅝	8⅜	2¼									
	4	1¾	**	¾-16	1⅛	1¼	7⅝	8⅞	8⅝	2½									
	5	2	**	¾-16	1⅛	1⅜	7¾	9	8¾	2⅝									
	6	2½	**	¾-16	1⅛	1⅝	8	9¼	9	2⅞									
	7	3	**	¾-16	1⅛	1⅝	8	9¼	9	2⅞									
6	1(Std.)	1⅜	1-14	—	1⅝	⅞	8⅛	10	9⅜	2¾	-.0005 10000	1⅞	1¼	⅞	1 7/16	1¼	1 11/16	1¼	250
	2	4	**	1-14	1⅝	1½	8¾	10⅝	10	3⅜									
	3	1¾	**	1-14	1⅝	1⅛	8⅜	10¼	9⅝	3									
	4	2	**	1-14	1⅝	1¼	8½	10⅜	9¾	3⅛									
	5	2½	**	1-14	1⅝	1½	8¾	10⅝	10	3⅜									
	6	3	**	1-14	1⅝	1½	8¾	10⅝	10	3⅜									
	7	3½	**	1-14	1⅝	1½	8¾	10⅝	10	3⅜									

Maximum operating pressure at 4:1 design factor is based on tensile strength of material. Pressure ratings are based on standard commercial bearing ratings.
Note: For additional dimensions see Series 2A, page 30.
* Dimension CD is hole diameter.
** Corresponding rod eye pin diameter may not match pin diameter of cap.
Rod No. 1 is standard.

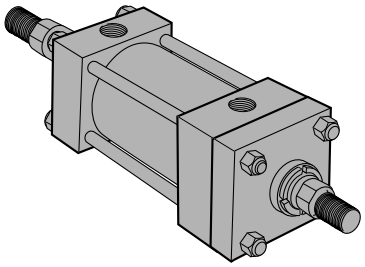
For additional information – call your local Parker Cylinder Distributor.



Bore	Rod No.	Rod Dia. MM	Thread Style 9 KK	Thread Style 7 KK	A	W	Add Stroke XC	Add Stroke XL	Add Stroke ZC	KE	CD*	CE	ER	EX	LE	MA	MS	NR	Max. Oper. PSI 2A
8	1(Std.)	1 3/8	1-14	–	1 5/8	7/8	8 1/4	10 1/8	9 1/2	2 3/4	-.0005 1.0000	1 7/8	1 1/4	7/8	1 7/16	1 1/4	1 11/16	1 1/4	250
	2	5 1/2	**	1-14	1 5/8	1 1/2	8 7/8	10 3/4	10 1/8	3 3/8									
	3	1 3/4	**	1-14	1 5/8	1 1/8	8 1/2	10 3/8	9 3/4	3									
	4	2	**	1-14	1 5/8	1 1/4	8 5/8	10 1/2	9 7/8	3 1/8									
	5	2 1/2	**	1-14	1 5/8	1 1/2	8 7/8	10 3/4	10 1/8	3 3/8									
	6	3	**	1-14	1 5/8	1 1/2	8 7/8	10 3/4	10 1/8	3 3/8									
	7	3 1/2	**	1-14	1 5/8	1 1/2	8 7/8	10 3/4	10 1/8	3 3/8									
	8	4	**	1-14	1 5/8	1 1/2	8 7/8	10 3/4	10 1/8	3 3/8									
	9	4 1/2	**	1-14	1 5/8	1 1/2	8 7/8	10 3/4	10 1/8	3 3/8									
	0	5	**	1-14	1 5/8	1 1/2	8 7/8	10 3/4	10 1/8	3 3/8									
10	1(Std.)	1 3/4	1 1/4-12	–	2	1 1/8	10 3/8	12 1/2	12 1/4	3 1/4	-.0005 1.3750	2 1/8	1 11/16	1 3/16	1 7/8	1 7/8	2 7/16	1 5/8	250
	3	2	**	1 1/4-12	2	1 1/4	10 1/2	12 5/8	12 3/8	3 3/8									
	4	2 1/2	**	1 1/4-12	2	1 1/2	10 3/4	12 7/8	12 5/8	3 5/8									
	5	3	**	1 1/4-12	2	1 1/2	10 3/4	12 7/8	12 5/8	3 5/8									
	6	3 1/2	**	1 1/4-12	2	1 1/2	10 3/4	12 7/8	12 5/8	3 5/8									
	7	4	**	1 1/4-12	2	1 1/2	10 3/4	12 7/8	12 5/8	3 5/8									
	8	4 1/2	**	1 1/4-12	2	1 1/2	10 3/4	12 7/8	12 5/8	3 5/8									
	9	5	**	1 1/4-12	2	1 1/2	10 3/4	12 7/8	12 5/8	3 5/8									
	0	5 1/2	**	1 1/4-12	2	1 1/2	10 3/4	12 7/8	12 5/8	3 5/8									
12	1(Std.)	2	1 1/2-12	–	2 1/4	1 1/4	11 1/8	13 5/8	13 5/8	3 3/4	-.0005 1.7500	2 1/2	2 1/16	1 17/32	2 1/8	2 1/2	2 7/8	2 1/16	250
	3	2 1/2	**	1 1/2-12	2 1/4	1 1/2	11 3/8	13 7/8	13 7/8	4									
	4	3	**	1 1/2-12	2 1/4	1 1/2	11 3/8	13 7/8	13 7/8	4									
	5	3 1/2	**	1 1/2-12	2 1/4	1 1/2	11 3/8	13 7/8	13 7/8	4									
	6	4	**	1 1/2-12	2 1/4	1 1/2	11 3/8	13 7/8	13 7/8	4									
	7	4 1/2	**	1 1/2-12	2 1/4	1 1/2	11 3/8	13 7/8	13 7/8	4									
	8	5	**	1 1/2-12	2 1/4	1 1/2	11 3/8	13 7/8	13 7/8	4									
	9	5 1/2	**	1 1/2-12	2 1/4	1 1/2	11 3/8	13 7/8	13 7/8	4									
14	1(Std.)	2 1/2	1 7/8-12	–	3	1 1/2	12 7/8	15 5/8	15 3/8	4 1/4	-.0005 2.0000	2 3/4	2 1/2	1 3/4	2 1/2	2 1/2	3 5/16	2 3/8	250
	3	3	**	1 7/8-12	3	1 1/2	12 7/8	15 5/8	15 3/8	4 1/4									
	4	3 1/2	**	1 7/8-12	3	1 1/2	12 7/8	15 5/8	15 3/8	4 1/4									
	5	4	**	1 7/8-12	3	1 1/2	12 7/8	15 5/8	15 3/8	4 1/4									
	6	4 1/2	**	1 7/8-12	3	1 1/2	12 7/8	15 5/8	15 3/8	4 1/4									
	7	5	**	1 7/8-12	3	1 1/2	12 7/8	15 5/8	15 3/8	4 1/4									
	8	5 1/2	**	1 7/8-12	3	1 1/2	12 7/8	15 5/8	15 3/8	4 1/4									

Maximum operating pressure at 4:1 design factor is based on tensile strength of material. Pressure ratings are based on standard commercial bearing ratings.
Note: For additional dimensions see Series 2A, page 40.
* Dimension CD is hole diameter.
** Corresponding rod eye pin diameter may not match pin diameter of cap. Rod No. 1 is standard.

For Cylinder Division Plant Locations – See Page II.



Mounting Styles for Single Rod Models	Mounting Styles for Corresponding Double Rod Models*	Dimensions Shown on This Page Supplement Dimensions on Pages Listed Below	
		1"-6" Bores Page No.	8"-14" Bores Page No.
T	KT	20	34
TB**	KTB	20	34
TD	KTD	20	34
J	KJ	20	—
JB**	KJB	22	34
C**	KC	24	36
E	KE	24	36
F	KF	24	38
CB	KCB	26	40
G	KC	26	38
D	KD	28	42
DD	KDD†	28	42

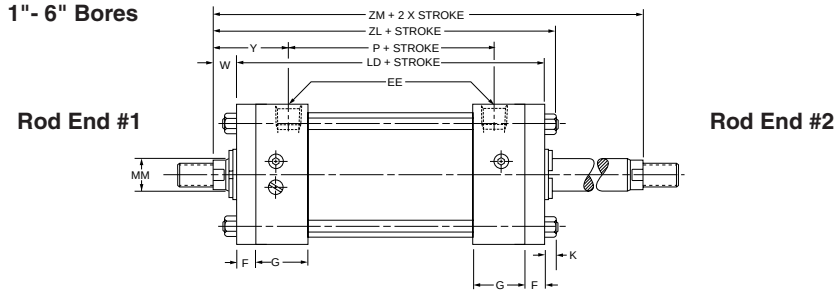
*If only one end of these Double Rod Cylinders is to be cushioned, be sure to specify clearly which end this will be.

**Available in 7" bore, page 32.

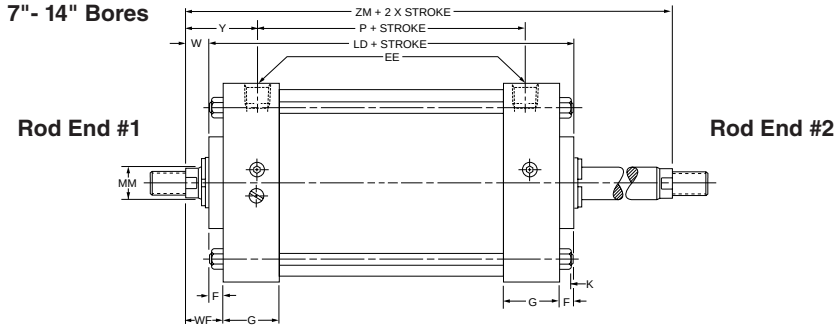
†Specify XI dimension from rod end #1.

How to Use Double Rod Cylinder Dimensioned Drawings

1"- 6" Bores

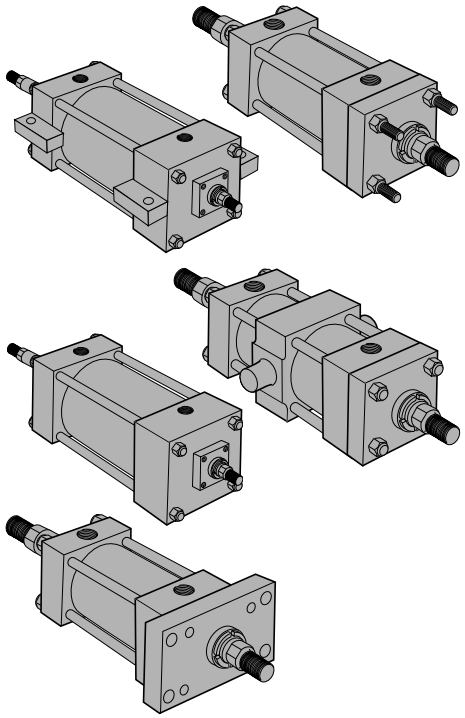


7"- 14" Bores



To determine dimensions for a double rod cylinder, first refer to the desired single rod mounting style cylinder shown on preceding pages of this catalog. (See table at left.) After selecting necessary dimensions from that drawing, return to this page supplement the single rod dimensions with those shown on drawings at right and dimension table below. Note that double rod cylinders have a head (Dim. G) at both ends and that dimension LD replace LB and ZL replaces ZB, etc. The double rod dimensions differ from, or are in addition to those for single rod cylinders shown on preceding pages and provide the information needed to completely dimension a double rod cylinder.

On a double rod cylinder where the two rod ends are different, be sure to clearly state which rod end is to be assembled at which end. Port position 1 is standard. If other than standard, specify pos. 2, 3 or 4 when viewed from rod end #1 only. See port position information in Section C.



All dimensions are in inches and apply to Code 1 rod sizes only. For alternate rod sizes, determine all envelope dimensions (within LD dim.) as described above and then use appropriate rod end dimensions for proper rod size from single rod cylinder.

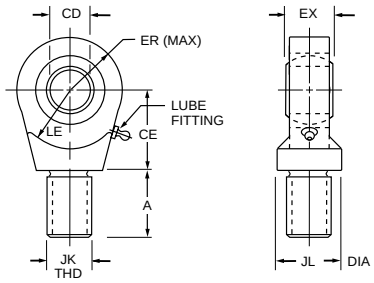
Bore	Rod No.	Rod Dia. MM	Add Stroke										Add 2X Stroke
			LD	ZL	SAK	XAK	ZAK	SSK	SNK	SEK	XEK	ZEK	ZM
1	1	1/2	4 3/4	5 1/2	6 3/8	6 3/16	6 1/2	3 3/8*	2 1/8	*	*	*	6
1 1/2	1	5/8	4 7/8	5 3/4	6 7/8	6 1/2	6 7/8	3 3/8	2 1/4	6 3/8	6 1/4	6 1/2	6 1/8
2	1	5/8	4 7/8	5 13/16	6 7/8	6 1/2	6 7/8	3 3/8	2 1/4	6 3/4	6 7/16	6 3/4	6 1/8
2 1/2	1	5/8	5	5 15/16	7	6 5/8	7	3 1/2	2 3/8	7 1/8	6 11/16	7	6 1/4
3 1/4	1	1	6	7 1/8	8 1/2	8	8 1/2	3 3/4	2 5/8	7 3/4	7 5/8	8	7 1/2
4	1	1	6	7 1/8	8 1/2	8	8 1/2	3 3/4	2 5/8	8	7 3/4	8 1/8	7 1/2
5	1	1	6 1/4	7 7/16	9	8 3/8	9	3 5/8	2 7/8	8 3/8	8 1/16	8 9/16	7 3/4
6	1	1 3/8	7	8 5/16	9 3/4	9 1/4	9 7/8	4 1/8	3 1/8	9	8 7/8	9 3/8	8 3/4
7	1	1 3/8	7 1/8	—	—	—	—	4 1/4	3 1/4	—	—	—	8 7/8
8	1	1 3/8	7 1/8	—	9 1/4	9 1/16	9 3/4	4 1/4	3 1/4	7 7/8	8 3/8	9	8 7/8
10	1	1 3/4	8 1/8	—	10 7/8	10 5/8	11 1/2	4 7/8	4 1/8	9 1/4	9 13/16	10 7/16	10 3/8
12	1	2	8 5/8	—	11 3/8	11 1/4	12 1/8	5 3/8	4 5/8	9 3/4	10 7/16	11 1/16	11 1/8
14	1	2 1/2	10 1/8	—	13 1/2	13 5/16	14 3/8	6 3/8	5 1/2	11 5/8	12 3/8	13 1/8	13 1/8
Replaces: On single rod mounting styles:			LB	ZB	SA	XA	ZA	SS	SN	SE	XE	ZE	—
			All Mtg. Styles		CB			C,E	F	G			All Mtgs.

* Mounting styles KE, KG and KDD not available in 1" and 7" bore sizes.

For additional information – call your local Parker Cylinder Distributor.

Parker offers a complete range of Cylinder Accessories to assure you of the greatest versatility in present or future cylinder applications. Accessories offered for the respective cylinder include the Rod Eye, Pivot Pin and Clevis Bracket. To select the proper part number for any desired accessory refer to the charts below.

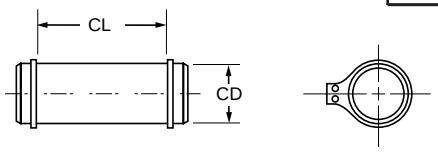
Spherical Rod Eye



Order to fit Piston Rod Thread Size.

Bore Sizes	Series 2A	1 1/2, 2 & 2 1/2	3 1/4, 4 & 5	6 & 8	10	12	14
Rod Eye	Part No.	132290	132291	132292	132293	132294	132295
	CD	.5000 -.0005	.7500 -.0005	1.0000 -.0005	1.3750 -.0005	1.7500 -.0005	2.0000 -.0005
	A	11/16	1	1 1/2	2	2 1/8	2 7/8
	CE	7/8	1 1/4	1 7/8	2 1/8	2 1/2	2 3/4
	EX	7/16	21/32	7/8	1 3/16	1 17/32	1 3/4
	ER	13/16	1 1/8	1 1/4	1 11/16	2 1/16	2 1/2
	LE	3/4	1 1/16	1 7/16	1 7/8	2 1/8	2 1/2
	JK	7/16-20	3/4-16	1-14	1 1/4-12	1 1/2-12	1 7/8-12
	JL	7/8	1 5/16	1 1/2	2	2 1/4	2 3/4
	LOAD CAPACITY LBS.	2644	9441	16860	28562	43005	70193

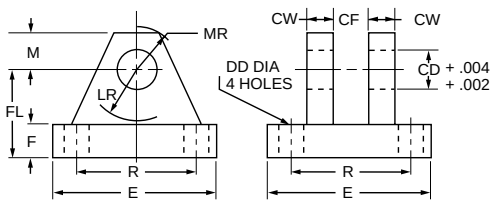
Pivot Pin



Pivot Pins are furnished with (2) Retainer Rings.

Bore Sizes	Series 2A	1 1/2, 2 & 2 1/2	3 1/4, 4 & 5	6 & 8	10	12	14
Pivot Pin	Part No.	83962	83963	83964	83965	83966	83967
	CD	.4997 -.0004	.7497 -.0005	.9997 -.0005	1.3746 -.0006	1.7496 -.0006	1.9996 -.0007
	CL	1 9/16	2 1/32	2 1/2	3 5/16	4 7/32	4 15/16
	LOAD CAPACITY LBS.	8600	19300	34300	65000	105200	137400

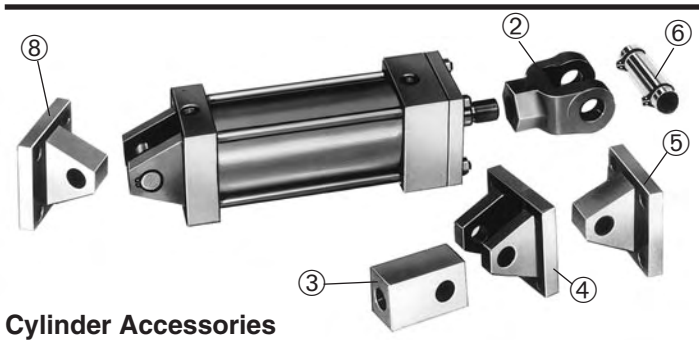
Clevis Bracket



Order to fit Mounting Plate or Rod Eye.

Bore Sizes	Series 2A	1 1/2, 2 & 2 1/2	3 1/4, 4 & 5	6 & 8	10	12	14
Clevis Bracket	Part No.	83947	83948	83949	83950	83951	83952
	CD	1/2	3/4	1	1 3/8	1 3/4	2
	CF	7/16	21/32	7/8	1 3/16	1 17/32	1 3/4
	CW	1/2	5/8	3/4	1	1 1/4	1 1/2
	DD	13/32	17/32	17/32	21/32	29/32	29/32
	E	3	3 3/4	5 1/2	6 1/2	8 1/2	10 5/8
	F	1/2	5/8	3/4	7/8	1 1/4	1 1/2
	FL	1 1/2	2	2 1/2	3 1/2	4 1/2	5
	LR	15/16	1 3/8	1 11/16	2 7/16	2 7/8	3 5/16
	M	1/2	7/8	1	1 3/8	1 3/4	2
	MR	5/8	1	1 3/16	1 5/8	2 1/16	2 3/8
	R	2.05	2.76	4.10	4.95	6.58	7.92
	LOAD CAPACITY LBS.	5770	9450	14300	20322	37800	50375

For Cylinder Division Plant Locations – See Page II.



Cylinder Accessories

Parker offers a complete range of cylinder accessories to assure you of greatest versatility in present or future cylinder applications.

Rod End Accessories

Accessories offered for the rod end of the cylinder include Rod Clevis, Eye Bracket, Knuckle, Clevis Bracket and Pivot Pin. To select the proper part number for any desired accessory, refer to Chart A below and look opposite the thread size of the rod end as indicated in the first column. The Pivot Pins, Eye Brackets and Clevis Brackets are listed opposite the thread size which their mating Knuckles or Clevises fit.

Chart A

Thread Size	Mating Parts			Mating Parts			Alignment Coupler
	Rod Clevis	Eye Bracket	Pin	Knuckle	Clevis Bracket	Pin	
5/16-24	51221	74077	—	74075	74076	74078	134757 0031
7/16-20	50940	69195	68368	69089	69205	68368	134757 0044
1/2-20	50941	69195	68368	69090	69205	68368	134757 0050
3/4-16	50942	69196	68369	69091	69206†	68369	134757 0075
3/4-16	133284	69196	68369	69091	69206	68369	134757 0075
7/8-14	50943	*85361	68370	69092	69207	68370	134757 0088
1-14	50944	*85361	68370	69093	69207	68370	134757 0100
1-14	133285	*85361	68370	69093	69207	68370	134757 0100
1 1/4-12	50945	69198	68371	69094	69208	68371	134757 0125
1 1/4-12	133286	69198	68371	69094	69208	68371	134757 0125
1 1/2-12	50946	*85362	68372	69095	69209	68372	133739 0150
1 3/4-12	50947	*85363	68373	69096	69210	69215	133739 0175
1 7/8-12	50948	*85363	68373	69097	69210	69215	133739 0188
2 1/4-12	50949	*85364	68374	69098	69211	68374	Consult Factory
2 1/2-12	50950	*85365	68375	69099	69212	68375	
2 3/4-12	50951	*85365	68375	69100	69213	69216	
3 1/4-12	50952	73538	73545	73536	73542	73545	
3 1/2-12	50953	73539	73547	73437	73542	73545	
4-12	50954	73539	73547	73438	73543	82181	
4 1/2-12	–	–	–	73439	73544	73547	

†For alignment coupler dimensions, see Section C.

*Cylinder accessory dimensions conform to NFPA recommended standard NFPA/T3.6.8 R1-1984, NFPA recommended standard fluid power systems — cylinder — dimensions for accessories for cataloged square head industrial types. Parker adopted this standard in April, 1985. Eye Brackets or Mounting Plates shipped before this date may have different dimensions and will not necessarily interchange with the NFPA standard. For dimensional information on older style Eye Brackets or Mounting Plates consult Drawing #144805 or previous issues of this catalog.

NOTE: For economical accessory selection, it is recommended that rod end style 4 be specified on your cylinder order.

Accessory Load Capacity

The various accessories on Pages 48 and 49 have been load rated for your convenience. The load capacity in bs. shown on page 49, is the recommended maximum load for that accessory based on a 4:1 design factor in tensions. (Pivot Pin is rated in shear.) Before specifying, compare the actual load or the tension (pull) force at maximum operating pressure of the cylinder with the load capacity of the accessory you plan to use. If load or pull force of cylinder exceeds load capacity of accessory, consult factory.

Mounting Plates

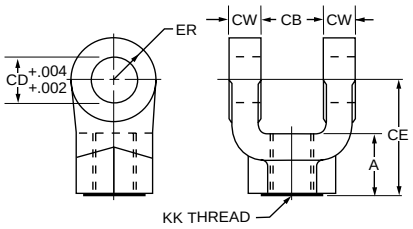
Mounting Plates for Style BB and Style BC (Clevis mounted) cylinders are offered. To select proper part number for your application, refer to Chart B, above right.

Chart B

Mtg. Plate Part No.	Series 2A Bore Size
74076‡	1"
69195	1 1/2", 2", 2 1/2"
69196	3 1/4", 4", 5"
*85361	6", 7", 8"
69198	10"
*85362	12"
*85363	14"

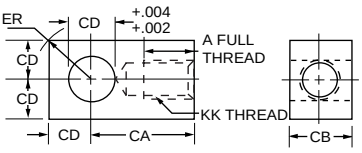
‡Mounting plate for 1" bore single lug BC & BB cylinder mounting style is Clevis Bracket P/N 74076.

② Female Rod Clevis



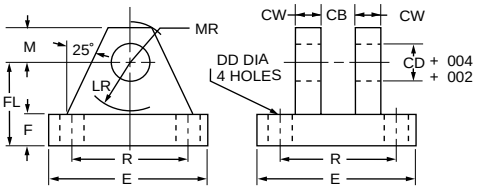
Order to fit thread size.

③ Knuckle (Female Rod Eye)



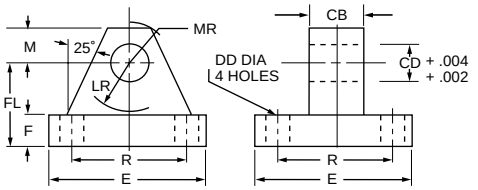
Order to fit thread size.

④ Clevis Bracket for Knuckle



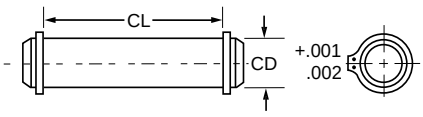
Order to fit Knuckle.

⑧ Mounting Plate or ⑤ Eye Bracket



1. When used to mate with the Rod Clevis, select from Chart A.
2. When used to mount the Style BB or BC cylinders, select from the Mounting Plate Selection Table. See Chart B at lower left.

⑥ Pivot Pin



1. Pivot Pins are furnished with Clevis Mounted Cylinders as standard.
2. Pivot Pins are furnished with (2) Retainer Rings.
3. Pivot Pins must be ordered as a separate item if to be used with Knuckles, Rod Clevises, or Clevis Brackets.

For additional information – call your local Parker Cylinder Distributor.

	Female Rod Clevis Part Number																		
	51221†	50940	50941	50942	133284	50943	50944	133285	50945	133286	50946	50947	50948	50949	50950	50951	50952	50953	50954
A	13/16	3/4	3/4	1 1/8	1 1/8	1 5/8	1 5/8	1 5/8	1 7/8	2	2 1/4	3	3	3 1/2	3 1/2	3 1/2	3 1/2‡	4‡	4‡
CB	11/32	3/4	3/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2	2	2 1/2	2 1/2	2 1/2	3	3	3	4	4 1/2	4 1/2
CD	5/16	1/2	1/2	3/4	3/4	1	1	1	1 3/8	1 3/8	1 3/4	2	2	2 1/2	3	3	3 1/2	4	4
CE	2 1/4	1 1/2	1 1/2	2 1/8	2 3/8	2 15/16	2 15/16	3 1/8	3 3/4	4 1/8	4 1/2	5 1/2	5 1/2	6 1/2	6 3/4	6 3/4	7 3/4	8 13/16	8 13/16
CW	13/64	1/2	1/2	5/8	5/8	3/4	3/4	3/4	1	1	1 1/4	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2	2 1/4	2 1/4
ER	19/64	1/2	1/2	3/4	3/4	1	1	1	1 3/8	1 3/8	1 3/4	2	2	2 1/2	2 3/4	2 3/4	3 1/2	4	4
KK	5/16-24	7/16-20	1/2-20	3/4-16	3/4-16	7/8-14	1-14	1-14	1 1/4-12	1 1/4-12	1 1/2-12	1 3/4-12	1 7/8-12	2 1/4-12	2 1/2-12	2 3/4-12	3 1/4-12	3 1/2-12	4-12
Load Capacity Lbs. ⊖	2600	4250	4900	11200	11200	18800	19500	19500	33500	33500	45600	65600	65600	98200	98200	98200	156700	193200	221200

	Knuckle Part Number																
	74075	69089	69090	69091	69092	69093	69094	69095	69096	69097	69098	69099	69100	73536	73437	73438	73439
A	3/4	3/4	3/4	1 1/8	1 1/8	1 5/8	2	2 1/4	2 1/4	3	3 1/2	3 1/2	3 5/8	4 1/2	5	5 1/2	5 1/2
CA	1 1/2	1 1/2	1 1/2	2 1/16	2 3/8	2 13/16	3 7/16	4	4 3/8	5	5 13/16	6 1/8	6 1/2	7 5/8	7 5/8	9 1/8	9 1/8
CB	7/16	3/4	3/4	1 1/4	1 1/2	1 1/2	2	2 1/2	2 1/2	2 1/2	3	3	3 1/2	4	4	4 1/2	5
CD	7/16	1/2	1/2	3/4	1	1	1 3/8	1 3/4	2	2	2 1/2	3	3	3 1/2	3 1/2	4	4
ER	19/32	23/32	23/32	1 1/16	1 7/16	1 7/16	1 31/32	2 1/2	2 27/32	2 27/32	3 9/16	4 1/4	4 1/4	4 31/32	4 31/32	5 11/16	5 11/16
KK	5/16-24	7/16-20	1/2-20	3/4-16	7/8-14	1-14	1 1/4-12	1 1/2-12	1 3/4-12	1 7/8-12	2 1/4-12	2 1/2-12	2 3/4-12	3 1/4-12	3 1/2-12	4-12	4 1/2-12
Load Capacity Lbs.⊖	3300	5000	5700	12100	13000	21700	33500	45000	53500	75000	98700	110000	123300	161300	217300	273800	308500

	Clevis Bracket for Knuckle Part Number												
	74076	69205	69206	69207	69208	69209	69210	69211	69212	69213	73542	73543	73544
CB	15/32	3/4	1 1/4	1 1/2	2	2 1/2	2 1/2	3	3	3 1/2	4	4 1/2	5
CD	7/16	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3	3 1/2	4	4
CW	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	2	2	2
DD	17/64	13/32	17/32	21/32	21/32	29/32	1 1/16	1 3/16	1 5/16	1 5/16	1 13/16	2 1/16	2 1/16
E	2 1/4	3 1/2	5	6 1/2	7 1/2	9 1/2	12 3/4	12 3/4	12 3/4	12 3/4	15 1/2	17 1/2	17 1/2
F	3/8	1/2	5/8	3/4	7/8	7/8	1	1	1	1	1 11/16	1 15/16	1 15/16
FL	1	1 1/2	1 7/8	2 1/4	3	3 5/8	4 1/4	4 1/2	6	6	6 11/16	7 11/16	7 11/16
LR	5/8	3/4	1 3/16	1 1/2	2	2 3/4	3 3/16	3 1/2	4 1/4	4 1/4	5	5 3/4	5 3/4
M	3/8	1/2	3/4	1	1 3/8	1 3/4	2 1/4	2 1/2	3	3	3 1/2	4	4
MR	1/2	5/8	29/32	1 1/4	1 21/32	2 7/32	2 25/32	3 1/8	3 19/32	3 19/32	4 1/8	4 7/8	4 7/8
R	1.75	2.55	3.82	4.95	5.73	7.50	9.40	9.40	9.40	9.40	12.00	13.75	13.75
Load Capacity Lbs.⊖	3600	7300	14000	19200	36900	34000	33000	34900	33800	36900	83500	102600	108400

	Eye Bracket and Mounting Plate Part Number										
	74077	69195	69196	85361*	69198	85362*	85363*	85364*	85365*	73538	73539
CB	5/16	3/4	1 1/4	1 1/2	2	2 1/2	2 1/2	3	3	4	4 1/2
CD	5/16	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	3	3 1/2	4
DD	17/64	13/32	17/32	21/32	21/32	29/32	1 1/16	1 3/16	1 5/16	1 13/16	2 1/16
E	2 1/4	2 1/2	3 1/2	4 1/2	5	6 1/2	7 1/2	8 1/2	9 1/2	12 5/8	14 7/8
F	3/8	3/8	5/8	7/8	7/8	1 1/8	1 1/2	1 3/4	2	1 11/16	1 15/16
FL	1	1 1/8	1 7/8	2 3/8	3	3 3/8	4	4 3/4	5 1/4	5 11/16	6 7/16
LR	5/8	3/4	1 1/4	1 1/2	2 1/8	2 1/4	2 1/2	3	3 1/4	4	4 1/2
M	3/8	1/2	3/4	1	1 3/8	1 3/4	2	2 1/2	2 3/4	3 1/2	4
MR	1/2	9/16	7/8	1 1/4	1 5/8	2 1/8	2 7/16	3	3 1/4	4 1/8	5 1/4
R	1.75	1.63	2.55	3.25	3.82	4.95	5.73	6.58	7.50	9.62	11.45
Load Capacity Lbs.⊖	1700	4100	10500	20400	21200	49480	70000	94200	121900	57400	75000

	Pivot Pin Part Number													
	74078	68368	68369	68370	68371	68372	68373	69215	68374	68375	69216	73545	82181	73547•
CD	7/16	1/2	3/4	1	1 3/8	1 3/4	2	2	2 1/2	3	3	3 1/2	4	4
CL	1 5/16	1 7/8	2 5/8	3 1/8	4 1/8	5 3/16	5 3/16	5 11/16	6 3/16	6 1/4	6 3/4	8 1/4	8 5/8	9
Shear Capacity Lbs.⊖	6600	8600	19300	34300	65000	105200	137400	137400	214700	309200	309200	420900	565800	565800

*Cylinder accessory dimensions conform to NFPA recommended standard NFPA/T3.6 8 R1-1984, NFPA recommended standard fluid power systems — cylinder — dimensions foraccessories for cataloged square head industrial types. Parker adopted this standard in April, 1985. Eye Brackets or Mounting Plates shipped before this date may have different dimensions and will not necessarily interchange with the NFPA standard. For dimensional information on older style Eye Brackets or Mounting Plates consult Drawing #144805 or previous issues of this catalog.

⊖ See Accessory Load Capacity note on page 48.

•These sizes supplied with cotter pins.

†Includes Pivot Pin.

‡Consult appropriate cylinder rod end dimensions for compatibility.

For Cylinder Division Plant Locations – See Page II.

How to Order Series "2A" Cylinders

When ordering Series 2A cylinders, please review the following:

Note: Duplicate cylinders can be ordered by giving the SERIAL NUMBER from the nameplate of the original cylinder. Factory records supply a quick positive identification.

Piston Rods: Specify rod code number based on diameter. Give thread style number for a standard thread or specify dimensions. See "Style 3 Rod End" below.

Cushions: If cushions are required specify according to the model number on the next page. If the cylinder is to have a double rod and only one cushion is required, be sure to specify clearly which end of the cylnder is to be cushioned.

Special Modifications: Additional information is required on orders for cylinders with special modifications. This is best handled with descriptive notes. For further information, consult factory.

Fluid Medium: Series 2A hydraulic cylinders are equipped with seals for use with lubricated air.

Class 1 Seals

Class 1 seals are the seals provided as standard in a cylinder assembly unless otherwise specified. For further information on fluid compat bility or operating limitations of all components, see section C.

For the 2A series cylinders the following make-up Class 1 Seals:

Primary Piston Rod Seal – Nitrile with PTFE back-up washers
Piston Rod Wiper – Nitrile
Piston Seals – Nitrile with polymyte back-up washers
O-Rings – Nitrile

Combination Mountings

Single Rod End The first mounting is the one called out on the head end of the cylinder. The second or subsequent mountings are called out as they appear in the assembly moving away from the rod end. Exception: When tie rod mountings are part of a combination, the model number should contain an "S" (Special) in the model code and a note in the body of the order clarifying the mounting arrangement. The "P" is used to define a thrust key and is not considered to be a mounting. However, it is located at the primary end.

Example: 4.00 CCBB2ALTS14AC x 10.000

Combination "C" mounting head only. "BB" mounting cap end
This cylinder is also cushioned at both ends.

Double Rod End In general, the model number is read left to right corresponding to the cylinder as viewed from left to right with the primary end at rod end #1. See Double Rod Models information page in this section. For this option the piston rod number, piston rod end, and piston rod threads are to be specified for both ends. The simplest are for symmetric cylinders such as: TD, C, E, F, G, and CB mounts. All other mounting styless, the description of the first rod end will be at the mounting end. In the case of multiple mounts, the description of the first rod end will be at the primary mounting end. For "DD" mounts, the description of the first rod end will be the same location as the "XI" dimension.

Example: 4.00 KDD2ALT24A/18A x 10.000 XI=8

This is a center trunnion mounting cylinder with the XI dimension measured from the code 2 rod side of the cylinder which has the style 4 thread. The opposite end code 1 rod with the style 8 thread.

Style 3 Rod End

A style 3 rod end indicates a special rod end configuration. All special piston rod dimensions must have **all three:** KK; A; W/WF or LA/LAF specified with the rod fully retracted. A sketch or drawing should be submitted for rod ends requiring special machining such as snap ring grooves, keyways, tapers, multiple diameters, etc. It is good design practice to have this machining done on a diameter at least 0.065 inches smaller than the piston rod diameter. This allows the piston rod to have a chamfer preventing rod seal damage during assembly or maintenance. Standard style 55 rod ends with a longer than standard WG dimension should call out a style 3 rod end and the note: **same as 55 except WG=____**. A drawing should be submitted for special 55 rod ends that have specific tolerances or special radii. Special rod ends that have smaller than standard male threads, larger than standard female threads, or style 55 rod ends with smaller than standard AF or AE dimensions are to be reviewed by Engineering for proper strength at operating pressure.

Service Policy

On cylinders returned to the factory for repairs, it is standard policy for the Cylinder Division to make such part replacements as will put the cylinder in as good as new condition. Should the condition of the returned cylinder be such that expenses for repair would exceed the costs of a new one, you will be notified.

Address all correspondence and make shipments to, Service Department at your nearest regional plant listed in the pages of this catalog.

Certified Dimensions

Parker Cylinder Division guarantees that all cylinders ordered from this catalog will be built to dimensions shown. All dimensions are certified to be correct, and thus it is not necessary to request certified drawings.

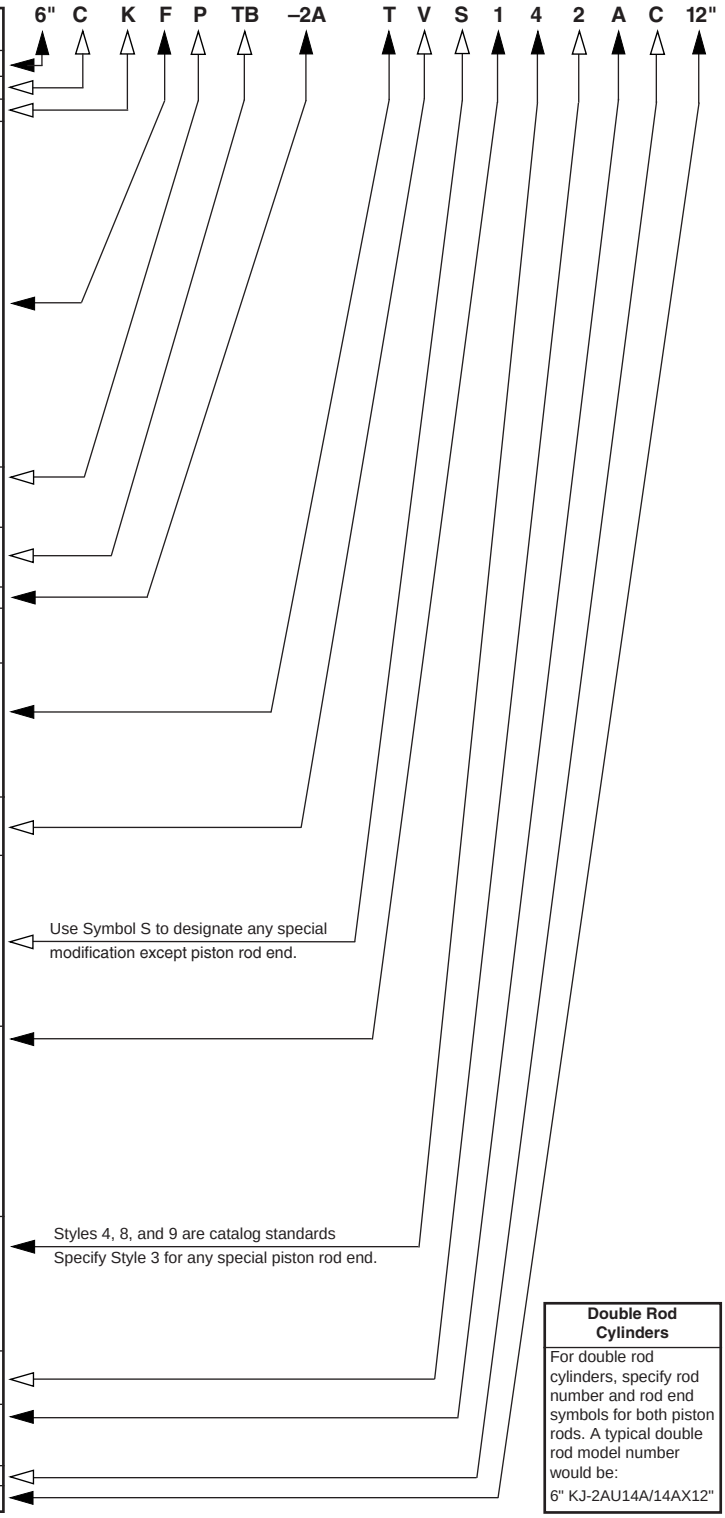
For additional information – call your local Parker Cylinder Distributor.

Series 2A Model Numbers – How to Develop Them – How to "Decode" Them

Parker Series 2A cylinders can be completely and accurately described by a model number consisting of coded symbols. To develop a model number, select only those symbols that represent the cylinder required, and place them in the sequence indicated below.

Note: Page numbers with a letter prefix, ie: C77, are located in section C of this catalog.

Feature	Description	Page No.	Symbol
Bore*	Specify in inches	—	—
Cushion-Head	Used **only** if cushion required	C101-103	C
Double-Rod	Used **only** if double-rod cylinder is required	A46	K
Mounting* Style	Head Tie Rods Extended	20 & 34	TB
	Cap Tie Rods Extended	20 & 34	TC
	Both End Tie Rods Extended	20 & 34	TD
	Head Rectangular Flange	20	J
	Cap Rectangular Flange	20	H
	Head Square Flange	22 & 34	JB
	Cap Square Flange	22 & 34	HB
	Side Lugs	24 & 36	C
	Centerline Lugs	24 & 36	E
	Side Tapped	24 & 38	F
	Side End Angles	26 & 40	CB
	Side End Lugs	26 & 38	G
	Cap Fixed Clevis	30 & 40	BB
	Head Trunnion	28 & 42	D
	Cap Trunnion	28 & 42	DB
	Intermediate Fixed Trunnion ‡	28 & 42	DD
	Cap Detachable Clevis	30	BC
	Spherical Bearing	44 & 45	SB
Mounting Modifications	Thrust Key (Styles C,F,G, & CB **only**)	C93	P
	Manifold Port O-Ring Seal (Style C **only**)	C89-91	M
	Removable Trunnions	C88	R
Combination Mounting Style	Any Practical Mounting Style	–	As
	Listed Above	–	listed
		–	above
Series*	Used in **all** 2A Model Numbers	–	–2A
Piston	Lipseal™ Piston standard. No need for symbol in model number.	–	–
	Piston Bumper Seals	C20	4
Ports*	NPTF (Dry Seal Pipe Thread) is standard.	C89-91	U
	Used **only** for SAE Straight Thread O-Ring Port	C89-91	T
	Used **only** for BSP (Parallel Thread SO 228)	C89-91	R
	Used **only** for BSPT (Taper Thread ISO 7-Rc)	C89-91	B
	Used **only** for Metric Thread	C89-91	G
	Used **only** for Metric Thread per SO 6149	C89-91	Y
Common Modifications	Nut Retained Piston	A19	F
	Fluorocarbon Seals	C83	V
	Water Service	C83	W
Special Modifications	Used **only** if special Modifications are required: Oversize Ports	C89-91	
	Port Position Change	C89-91	
	Rod End Bellows	C104	
	Special Seals	C83	S
	Stop Tube†	C95	
	Stroke Adjuster	C93	
	Tie Rod Supports	C93	
	Water Service Modification	C83	
Piston Rod* Number	For Single Rod Cylinders, select one only. Refer to Rod number listing, Table 2, Pages 20 through 43. Note: Check chart in Section C, page 96 for minimum piston rod diameter	–	1
		–	2
		–	3
		–	4
		–	5
		–	6
		–	7
		–	8
		–	9
		–	0
Piston* Rod End	Select:		
	Style 4 Small Male	C92	4
	Style 7 Female Thread for Spherical Rod Eye	A44, 45	7
	Style 8 Intermediate Male	C92	8
	Style 9 Short Female	C92	9
	Style 55 Rod End for Flange Coupling	C19	55
	Style 3 Special (Specify)	C92	3
Piston Rod Alternate Thread	Used **only** for stud two times longer than standard.	C92	2
Piston Rod* Threads	UNF Standard	C92	A
	BSF (British Fine)	C92	W
	Metric	C101-C103	M
Cushion-Cap	Used **only** if cushion required	C93	C
Stroke*†	Specify in inches		–



Double Rod Cylinders

For double rod cylinders, specify rod number and rod end symbols for both piston rods. A typical double rod model number would be:

6" KJ-2AU14A/14AX12"

*Required for Basic Cylinder Model Number

Dark Arrows Indicate Basic Minimum Model Number

‡Specify XI dimension

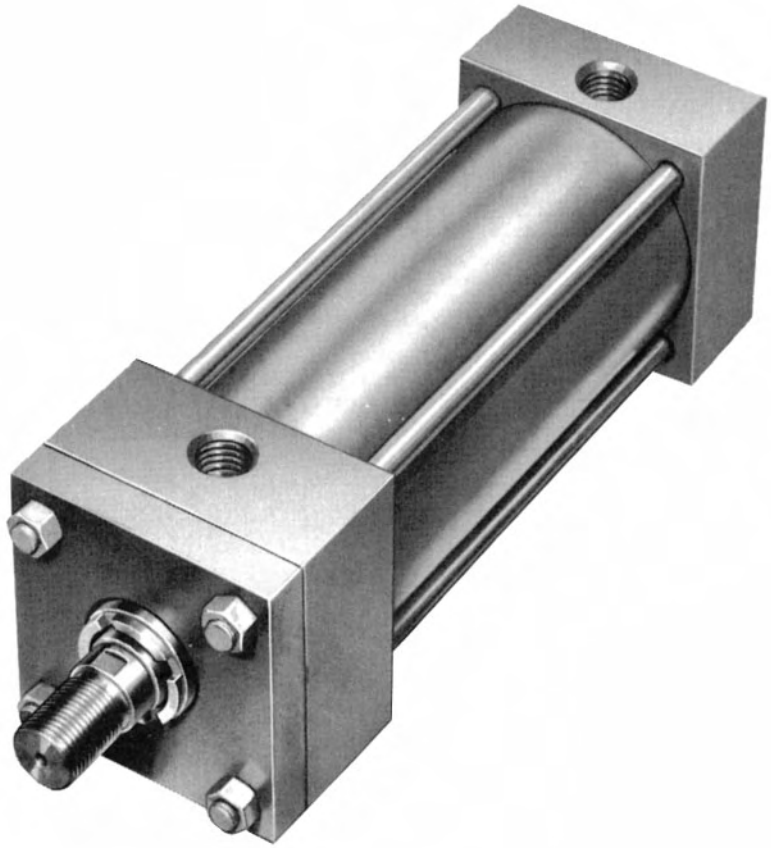
†In case of Stop Tube, call out gross stroke length.

Cylinder serial numbers are factory production record numbers and are assigned to each cylinder, in addition to the model number.

For Cylinder Division Plant Locations – See Page II.

Parker Non-Lube Heavy Duty Air Cylinders

Series 2AN



For millions of trouble free cycles

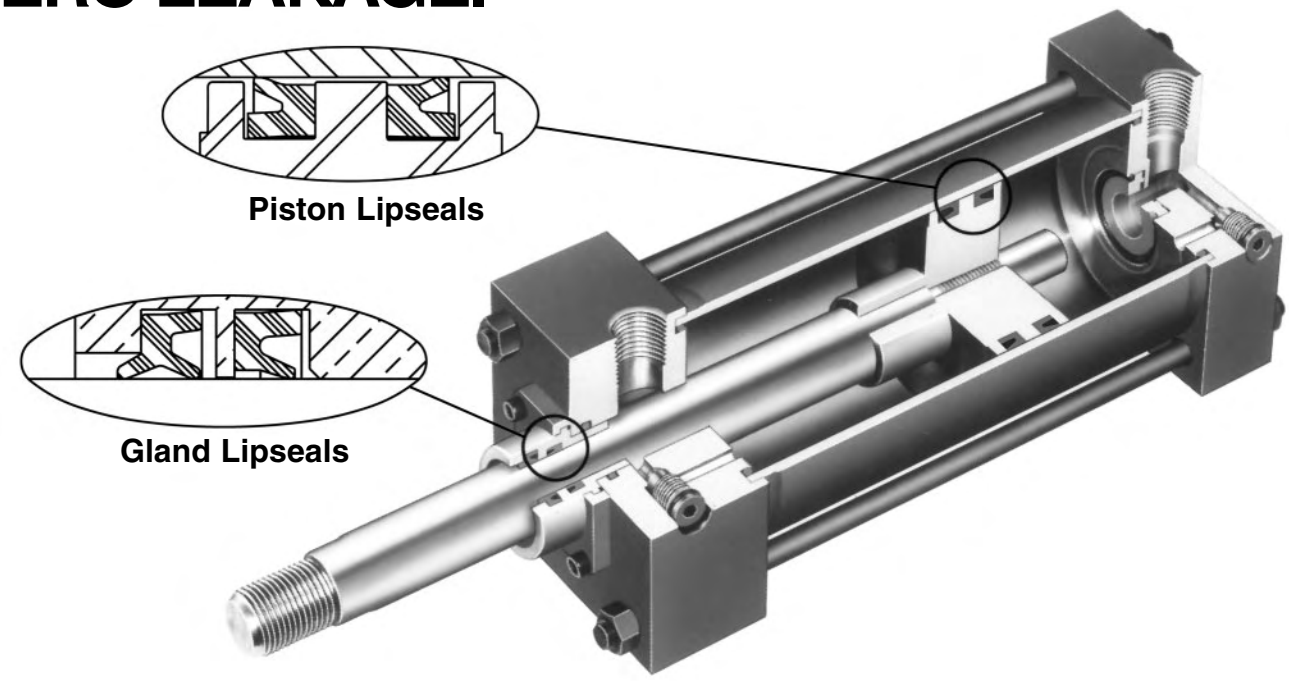
- **Nominal Pressure – 250 PSI – Air Service**
- **Standard Bore Sizes 1½" through 14"**
- **Piston Rod Diameters – ⅝" through 5½"**
- **17 Standard Mounting Styles**
- **N.F.P.A. Interchangeable**
- **Exceeds Automotive Specifications**

For additional information – call your local Parker Cylinder Distributor.

Another Parker Cylinder Innovation…

The SERIES 2AN Non-Lube Air Cylinder with Proven Performance.

Over 21 million trouble free cycles with… ZERO LEAKAGE.



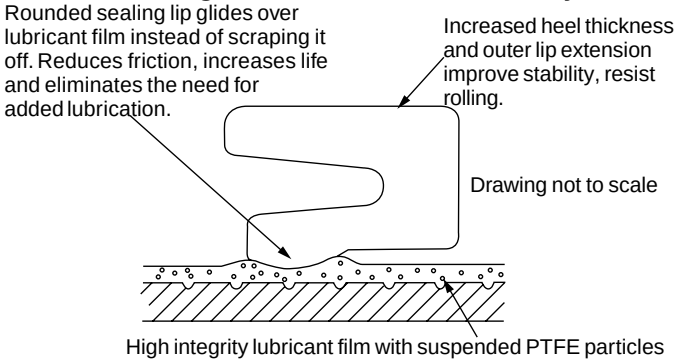
Design Data
In 1971 Parker experimented with the use of specially designed composite materials in the piston and gland of their cylinders. Their use of storing lubricating oil met with good results. Through extensive testing it was learned that the outside diameter of the material in the piston and the inside diameter on the material in the gland showed signs of wear and ultimately would lose contact with the surface of the cylinder body bore or piston rod. As a result, the cylinders lost their self lubricating capacity.

Today's industrial market demands more from a pneumatic cylinder. Cylinders are still required to handle tough, heavy-duty applications. But, more and more, these cylinders operate in environments or circumstances where it is not possible or advantageous to add lubrication to the compressed air entering the cylinder. Certain packaging and assembly operations, food environments, and microprocessor chip manufacturing are typical examples of areas where the exhausting of oil into the environment is not desirable. In many other situations, "non-lube" systems are used when proper air line lubrication is not present because of the time and expense of keeping lubricators filled and operating correctly.

Increased market demand and continuous research and testing efforts inspired the development of the Series 2AN Non-Lubricated Air Cylinder. In bore sizes to 12" diameter and rod diameters to 2-1/2", the Parker Series 2AN air cylinder features rounded lip rod and piston seals. These seals glide over the PTFE based lubricant that is provided at the time of manufacture. The Parker Series 2AN Non Lubricated Air Cylinder maintains the lubricant film where it belongs; on the seals bearing surfaces, piston rod and cylinder bore.

Benefits include… long seal and bearing life. No oil needs to be added through the use of lubricators. As the cylinder strokes, no oil is expelled into the atmosphere with the exhaust air.

Anatomy of Series 2AN
Sealing and Lubricant Retention Systems



For Cylinder Division Plant Locations – See Page II.

Parker Cylinder

In the Series 2AN you get all the cost saving benefits and features of the popular heavy duty Series 2A air cylinder including…

- **The Jewel Rod Gland Assembly for positive no leak sealing**
- **Piston rod, hard chrome plated and case hardened steel**
- **High strength rolled thread Piston Rod Stud**
- **Steel tube cylinder body with chrome-plated micro finish bore…**

PLUS the innovative "NON-LUBE" feature which further increases your benefits of lower operating and maintenance costs.

Standard Specifications

- Heavy Duty Service—ANSI/(NFPA) T3.6.7R2-1996 Specifications and Mounting Dimension Standards.
- Standard Construction—Square Head —Tie Rod Design.
- Standard Temperature— -10°F. to +165°F.
- Standard Fluid—Filtered Dry Air.
- Strokes—Available in any Practical Stroke Length.
- Cushions—Optional at either end or both ends of stroke. "Float Check" at cap end.

In line with our policy of continuing product improvement, specifications in this catalog are subject to change.

Available Bore and Rod Sizes*

Bore Sizes Available	1 1/2"	2"	2 1/2"	3 1/4"	4"	5"	6"	8"	10"	12"	14"

Rod Sizes Available	5/8"	1"	1 3/8"	1 3/4"	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	5 1/2"

*For specific cylinder bore size/piston rod availabilities and dimensions, see Series 2A Cylinder.

For additional information – call your local Parker Cylinder Distributor.

How to order Series "2AN" Non-Lube Air Cylinders

Data Required on all 2AN Cylinder Orders

When ordering Series "2AN" cylinders, be sure to specify each of the following requirements:

(**Note:** Duplicate cylinders can be ordered by giving the SERIAL NUMBER from the nameplate of the original cylinder. Factory records supply a quick, positive identification.)

a) Bore Size

b) Mounting Style
Specify your choice of mounting style — as shown and dimensioned in Series 2A. If double rod is wanted, specify "with double rod".

c) Series Designation ("2AN")

d) Length of Stroke

e) Piston Rod Diameter
Specify rod diameter or rod code number. In Series "2AN" cylinders, standard rod diameters (code No. 1) will be furnished if not otherwise specified, unless length of stroke makes the application questionable.

f) Piston Rod End Thread Style
Give thread style number or specify dimensions. Thread style number 4 will be supplied if not otherwise specified.

g) Cushions (if required)
Specify "Cushion-head end", "Cushion-cap end" or "Cushion-both ends" as required. If cylinder is to have a double rod and only one cushion is required, be sure to specify clearly which end of the cylinder is to be cushioned.

A

Note: Parker Series 2AN cylinders can be completely and accurately described by a model number consisting of coded symbols. To develop a model number select only those symbols that represent the cylinder required and place them in the sequence as shown in the chart below.

Series 2AN Model Numbers – How to Develop Them – How to Decode Them.

	BORE SIZE	CUSHION HEAD END	DOUBLE ROD	MOUNTING STYLE	MOUNTING MOD.	COMBINATION MOUNTING STYLE	SERIES	PORT	SPECIAL FEATURES	ROD NO.	ROD END THREAD STYLE NO.	THREAD TYPE	CUSHION CAP END	STROKE
	3 1/4"	**C**	**K**	**F**	**P**	**TB**	**2AN**	**U**	**S**	**1**	**4**	**A**	**C**	**X12**
EXAMPLE	Specify 1 1/2" thru 14"	Specify only if cushion head end is required	Use only if Double Rod Cylinder is required	Specify–Mounting Style BB, BC, C, CB, D, DB, DD, E, F, G, H, HB, J, JB, T, TB, TC, TD	Specify: P–for Thrust Key–Mtg. Style C, F, G & CB only M–for Manifold Ports Style C only R–for Removable Trunnion Mtg. Style D & DB only	Specify any practical Mounting Style available	Specify Series 2AN	Specify–Port Type required: U = NPTF T = S.A.E. R = BSP B = BSPT G = METRIC	Specify: Only if special modification is required Note: Do not use symbol "S" for Rod End Modifications	Specify: Rod Code No.	Specify: Style 4 Small Male Style 8 Intermediate Male Style 9 Short Female Style 3 Special. Specify KK, A, LA or W Dim.	Specify: A = UNF W = BSF M = METRIC	Specify only if Cushion Cap End is Req'd.	Specify in inches. Show Symbol "X" just ahead of stroke length.

Modifications: All modifications that apply to the Series 2A Air Cylinder also apply to the Series 2AN *except* the use of Fluorocarbon seals. The maximum temperature of the Series 2AN is +165°F. Consult factory for higher temperature applications.

Warranty

Seller warrants the goods sold hereunder to be free from defects in material and workmanship. This warranty shall terminate eighteen months after date of shipment from Seller's plant and claims not made in writing within such period are waived.

The above warranty does not extend to goods damaged after date of shipment from Seller's plant where the damage is not directly due to a defect in material or workmanship, nor does it apply to goods altered or repaired by anyone other than Seller's authorized employees, nor to goods furnished by Buyer or acquired at Buyer's request and/or to Buyer's specifications.

If the goods are in accordance with or in reference to an engineering drawing specified by or furnished to the customer, the specifications and information on the drawing shall be applicable in determining such correct use, operation and application.

When claiming a breach of warranty, Buyer must notify Seller promptly whereupon Seller will either examine the goods at their site, or issue shipping instructions for return to Seller (transportation costs prepaid by Buyer). When any goods sold hereunder are proved not as warranted, Seller's sole obligation under this warranty shall be to repair or replace the goods, at its option, without charge to Buyer.

The above warranty comprises Seller's sole and entire warranty obligation and liability to Buyer, its customers and assigns in connection with goods sold hereunder. All other warranties, express or implied, including but not limited to, warranties of merchantability and fitness, are expressly excluded.

For Cylinder Division Plant Locations – See Page II.

Parker Cylinder

Series MA

The No-Compromise Design N.F.P.A. Air Cylinder from Parker

Proven Parker reliability at a cost that makes it right for your air cylinder application.

Exclusive with the New Parker Check Seal Cushions:

- Faster Cycle Time
- Easy Precision Adjustment
- Minimum Wear
- Low Pressure Drop

Factory Prelubricated
200 psi nominal air pressure
Standard bore sizes: 1½", 2", 2½", 3¼", 4", 5" and 6"
12 Standard mounting styles

For additional information – call your local Parker Cylinder Distributor.

Parker Series MA

N.F.P.A. Industrial Air Cylinders

Parker Series MA air cylinders meet or exceed N.F.P.A. Pneumatic Standards and except for Tie Rod Mount Styles conform to ANSI Standard B93.15-1981 for mounting dimensions of Square Head Industrial Fluid Power Cylinders.

For heavy-duty applications see Parker Series 2A cylinder page 17.

A

Standard Specifications

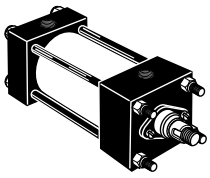
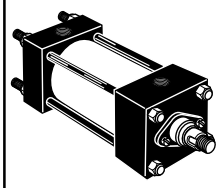
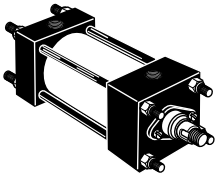
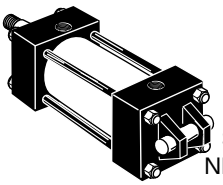
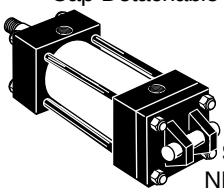
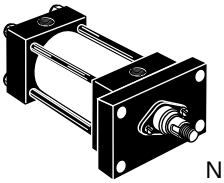
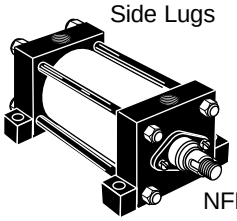
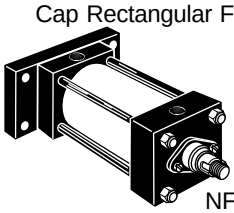
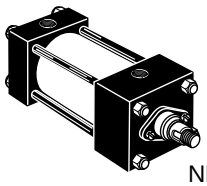
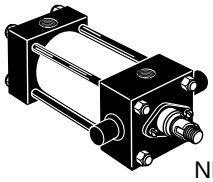
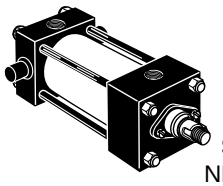
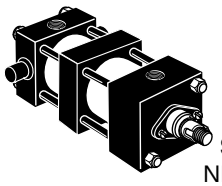
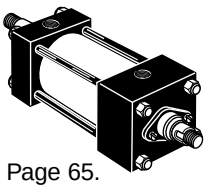
- Seven bore sizes – $1^1/_2$" through 6"
- Three rod diameters – $^5/_8$", 1" and $1^3/_8$"
- Twelve mounting styles
- Choice of three rod end styles
- Cushions at head, cap or both ends
- Double rod models in six mounting styles
- JIC interchangeable
- Temperature Range – 10° F. to 165° F.*

*See Section C for higher temperature service, operating fluids, and temperature range.

For complete ordering information, see Page 69.

AVAILABLE MOUNTINGS

For Single Rod Styles, see Pages 60 through 63.

Tie Rods Extended Head End  **Style TB**	Tie Rods Extended Cap End  **Style TC** NFPA MX2	Tie Rods Extended Both Ends  **Style TD**	Cap Fixed Clevis  **Style BB** NFPA MP1
Cap Detachable Clevis  **Style BC** NFPA MP2	Head Rectangular Flange  **Style J** NFPA MF1	Side Lugs  **Style C** NFPA MS2	Cap Rectangular Flange  **Style H** NFPA MF2
Side Tapped  **Style F** NFPA MS4	Head Trunnion  **Style D** NFPA MT1	Cap Trunnion  **Style DB** NFPA MT2	Intermediate Trunnion  **Style DD** NFPA MT4
	Double Rod Cylinders  **Style KTB** For Double Rod Styles, see Page 65.		

For Cylinder Division Plant Locations – See Page II.

Parker Cylinder

Parker Series MA

N.F.P.A. Industrial Air Cylinders

The inside story on the no-compromise design

Here's an inside look at the solid design and construction that makes Parker Series MA the high performing, longer-lasting, economical choice for your air cylinder applications.

Ports
N.P.T.F. ports are standard.

Rugged square steel heads and caps resist shock and provide maximum strength within minimum space. Factory-treated to resist corrosion.

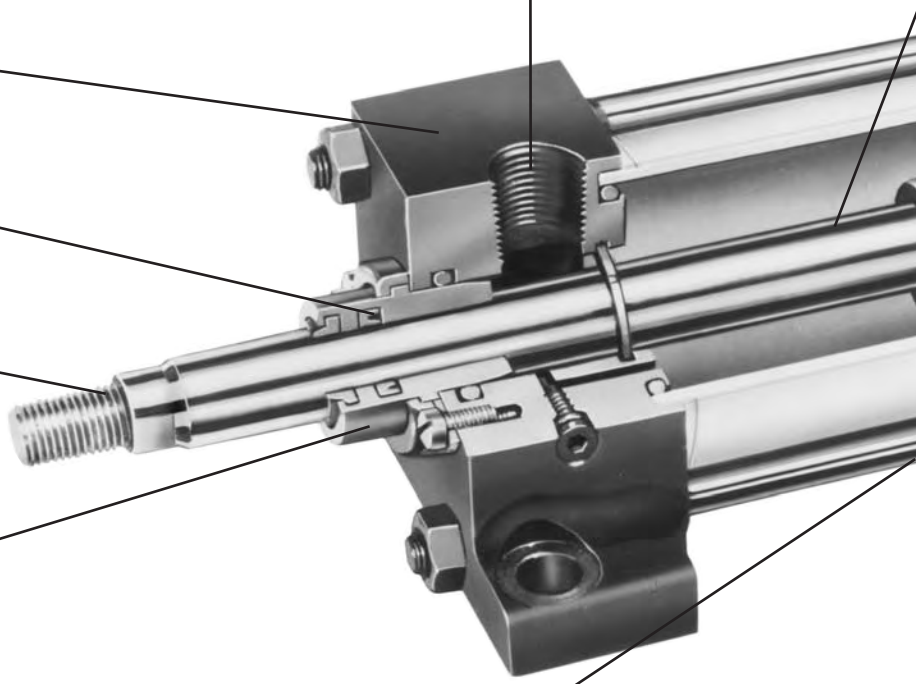
Piston rod lipseal/wiper combination is completely self-compensating for zero leakage at all pressures. Keeps pressure in, contamination out.

High strength piston rod end stud (125,000 psi minimum yield steel) with rolled threads for 52% greater strength at this critical fatigue point. Choice of male or female thread at no extra cost. Anaerobic adhesive is used to permanently lock the stud to the rod.

Bolt-on, high strength, rod gland removes screwdriver-easy on all mounting styles and bore sizes for fast, on-the-job rod seal replacement if needed.

Extra long inboard bearing surface insures lubrication from within the cylinder for longer life.

Factory prelubrication of rod and piston seal surfaces (rod bearing and cylinder bore surfaces).



Tie rods are 100,000 psi minimum yield steel with rolled threads for added strength. High strength nuts provide extra margin of safety.

Parker's New Exclusive Check Seal Cushions

For Increased Productivity and Maximum Performance

The Parker check seal cushion is new and different from ordinary cushion designs. It combines the sealing capabilities of a lipseal for efficient capture of air for effective cushioning with check valve action for quick stroke reversal.

The lipseal design also provides "floating cushions" to assure cushion repeatability and long life. At the start of the stroke in each direction, the check valve design allows full fluid flow to piston face with a minimum pressure drop for maximum power stroke.

Additional benefits of the new check seal cushions are increased productivity and top performance for faster cycle time, minimum wear, easy adjustment and low pressure drop.

The basic cushion design is optional and available on either the head end, cap end or both ends without change in envelope or mounting dimensions. A cushion adjusting needle is supplied for easy, precise adjustment on all bore sizes.

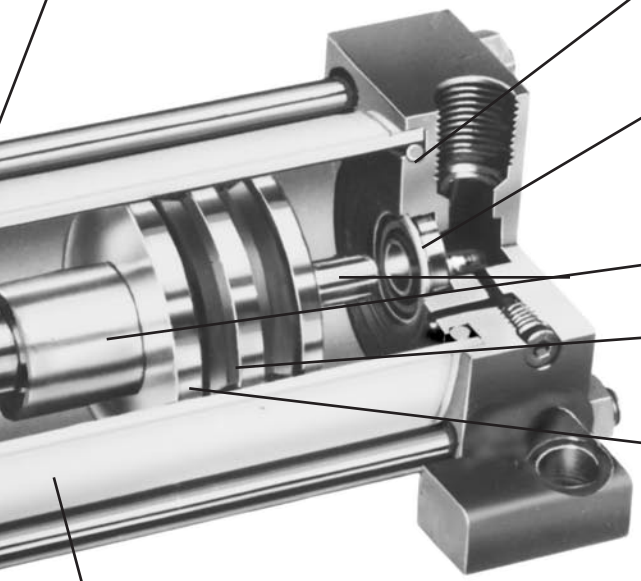
At the **head end** of the cylinder, the check seal is assembled into a groove in the central bore of the head, with the groove being slightly wider and larger in diameter than the check seal, so that it floats laterally and radially within predetermined limits. The check seal has four grooves molded into the face to provide flow passages; the assembly is put together with the lip of the seal facing toward the inside of the cylinder.

A cushion sleeve is mounted on the piston rod, so that as the rod extends, air ahead of the piston flows freely out the head-end port. When the end of the cushion sleeve reaches the lip of the check seal, it seals on the wall of the groove, trapping air for cushioning.

As pressure is applied to the head-end port on retraction, the air forces the seal towards the inside of the cylinder. The air

For additional information – call your local Parker Cylinder Distributor.

Hard chrome-plated and polished piston rod of 100,000 psi yield, high tensile strength steel for reliable performance and long rod seal life, less friction.



Cylinder body O-ring seals are pressure-actuated for positive sealing. Commercially available and easily replaced, if necessary.

Unique "check seal" cushions with molded flow passages combine the benefits of floating cushions with check valve action, provides effective cushioning and quick stroke reversal for more cycles per hour and higher production rates. Cushion needle valves make precise adjustment quick and easy.

Longest standard cushions in the industry for maximum cushioning capability.

Fully dynamic, self-compensating Lipseal™ piston seals designed for no-leak service at all operating pressures; easily replaced, if needed, without removing piston from rod.

One-piece, nodular iron piston, positively locked to rod – retains lubrication and provides a wide bearing surface. An anaerobic adhesive is used to permanently lock and seal the piston to the rod.

Piston-to-rod thread diameter increases with rod diameter for added strength and is equal to outer end Style 4 thread on all rod sizes.

Aluminum Alloy cylinder body with corrosion resistant smooth hard coated bore on 1½" and 2" bores.

Chrome Plated Steel Tubing honed to a 15 micro inch finish on 2½", 3¼", 4", 5" and 6" bores (cylinders supplied with reed switches are equipped with aluminum barrels).

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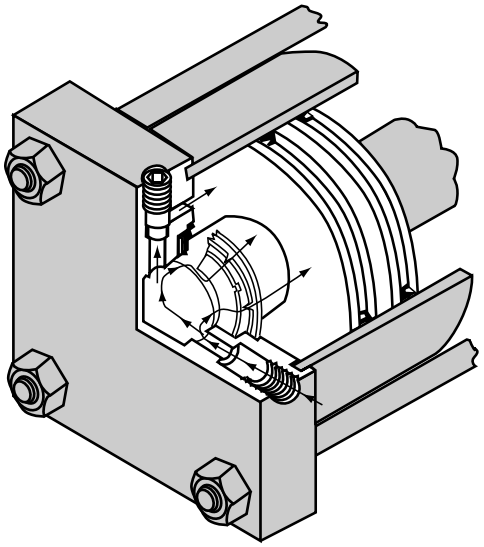
then flows around the OD of the seal and through the flutes of the seal washer. Full-flow, quick starts with little or no pressure drop is just one of the major benefits of the design.

At the **cap end** of the cylinder, the check seal is assembled into a cavity in the face of the cap with four beads molded on the OD to provide a flow passage. A fluted washer and retaining ring, rather than a groove, and a cushion spear which extends from the rear face of the piston complete the cap end assembly. When the rounded, tapered portion of the cushion spear reaches the lip of the seal, the seal seats against the rear wall of the cavity, trapping air for cushioning.

The configuration of the check-seal lip, and the controlled shape of the cushion sleeve together prevent the lip from rolling over or extruding. A check seal used at both ends provides the benefits of floating cushions with check valve action for maximum cushion effectiveness and quick stroke reversal. This new check-seal design has been tested in millions of cycles, in the lab and in the field.

Series MA cushions are the longest in the industry and are designed for maximum customer benefit.



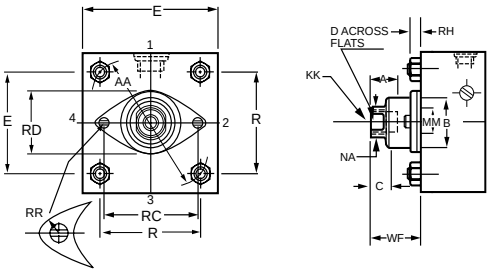
For Cylinder Division Plant Locations – See Page II.

Basic Cylinder Style T (NFPA Style MX0)

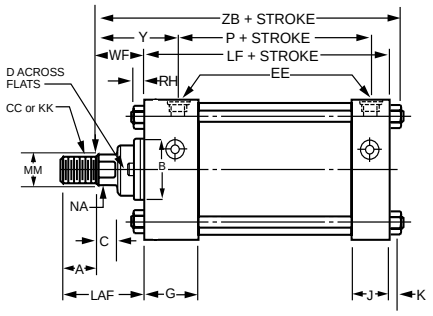
Rod end Style 4 is standard per dimension KK. Styles 8 or 9 are optional at no extra charge. A high strength rod end stud is standard on Styles 4 and 8 for all rod sizes.

For special rod ends such as nonstandard threads, rod extensions, blanks, etc., specify Style 3 and furnish desired dimensions for CC, KK, A, WF, LA and LAF.

If rod end is not specified, Style 4 will be supplied.



Style 9 Rod End
NFPA SF

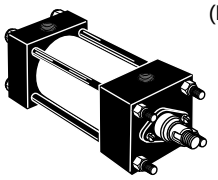


Style 4 & 8 Rod End
NFPA SM & IM

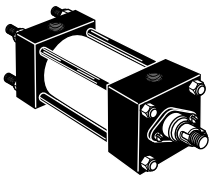
Rod End Dimensions – Styles 9 (NFPA SF), 4 (NFPA SM) and 8 (NFPA IM)																			Basic Envelope and Mounting Dimensions								
			Thread																					Add Stroke		
Bore	Rod No.	Rod Dia. MM	Style 8 CC	Style 4 & 9 KK	A	+.000 -.002 B	C	D	LA	LAF	NA	RC	RD	RH	RR	V	W	WF	Y	AA	E	(NPTF) EE	G	J	K	LF	P	ZB
1 1/2	1	5/8	1/2-20	7/16-20	3/4	.999	3/8	1/2	1 3/8	1 3/4	9/16	1 11/16	1 5/16	3/16	11/64	1/4	5/8	1	1 15/16	2.02	2	3/8	1 1/2	1	1/4	3 5/8	2 1/4	4 7/8
2	1	5/8	1/2-20	7/16-20	3/4	.999	3/8	1/2	1 3/8	1 3/4	9/16	1 11/16	1 5/16	3/16	11/64	1/4	5/8	1	1 15/16	2.6	2 1/2	3/8	1 1/2	1	5/16	3 5/8	2 1/4	4 15/16
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	2 1/2	15/16	2 3/16	1 13/16	3/16	11/64	1/2	1	1 3/8	2 5/16									5 5/16
2 1/2	1	5/8	1/2-20	7/16-20	3/4	.999	3/8	1/2	1 3/8	1 3/4	9/16	1 11/16	1 5/16	3/16	11/64	1/4	5/8	1	1 15/16	3.1	3	3/8	1 1/2	1	5/16	3 3/4	2 3/8	5 1/16
	3	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	2 1/8	2 1/2	15/16	2 3/16	1 13/16	3/16	11/64	1/2	1	1 3/8	2 5/16									5 7/16
3 1/4	1	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	2 1/2	15/16	2 3/16	1 13/16	3/16	11/64	1/4	3/4	1 3/8	2 7/16	3.9	3 3/4	1/2	1 3/4	1 1/4	3/8	4 1/4	2 5/8	6
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.874	5/8	1 1/8	2 5/8	3 1/4	15/16	2 11/16	2 15/64	7/32	13/64	3/8	1	1 5/8	2 11/16									6 1/4
4	1	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	2 1/2	15/16	2 3/16	1 13/16	3/16	11/64	1/4	3/4	1 3/8	2 7/16	4.7	4 1/2	1/2	1 3/4	1 1/4	3/8	4 1/4	2 5/8	6
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.874	5/8	1 1/8	2 5/8	3 1/4	15/16	2 11/16	2 15/64	7/32	13/64	3/8	1	1 5/8	2 11/16									6 1/4
5	1	1	7/8-14	3/4-16	1 1/8	1.499	1/2	7/8	1 7/8	2 1/2	15/16	2 3/16	1 13/16	3/16	11/64	1/4	3/4	1 3/8	2 7/16	5.8	5 1/2	1/2	1 3/4	1 1/4	7/16	4 1/2	2 7/8	6 5/16
	3	1 3/8	1 1/4-12	1-14	1 5/8	1.874	5/8	1 1/8	2 5/8	3 1/4	15/16	2 11/16	2 15/64	7/32	13/64	3/8	1	1 5/8	2 11/16									6 9/16

Tie Rod Mounted Styles TB, TC, TD

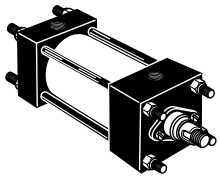
Style TB

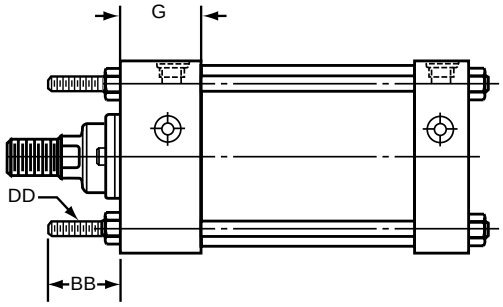


Style TC
NFPA
(MX2)



Style TD





Style TB, Tie Rods Extended, is illustrated at right. Style TC, Cap Tie Rods Extended, and Style TD, Both Ends Tie Rods Extended, can be dimensioned from Style TB drawing.

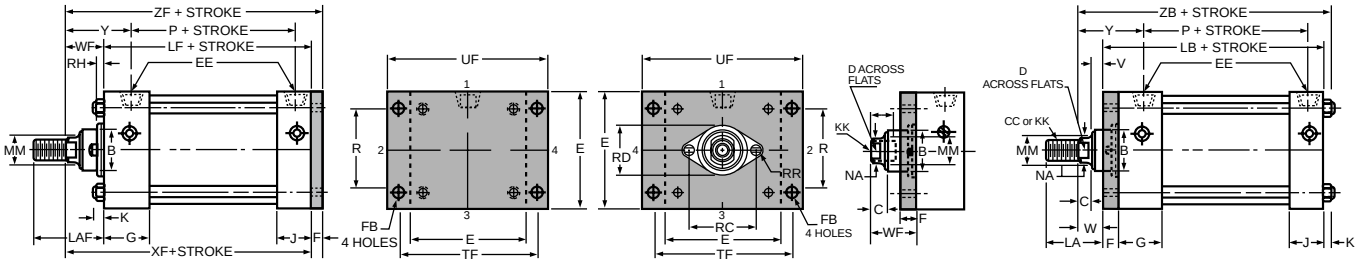
Dimensions for Specific Series MA Mounting Styles H, J, C, F, BB and BC

Bore	Rod No.	Rod Dia. MM	BB	CB	+.000 -.002 CD	CW	DD	F	FB	L	LR	M	MR	ND	NT	R	SB*
1 1/2	1	5/8	1	3/4	.501	1/2	1/4-28	3/8	5/16	3/4	3/4	1/2	5/8	5/16	1/4-20	1.43	7/16
2	1	5/8	1 1/8	3/4	.501	1/2	5/16-24	3/8	3/8	3/4	3/4	1/2	5/8	11/32	5/16-18	1.84	7/16
	3	1															
2 1/2	1	5/8	1 1/8	3/4	.501	1/2	5/16-24	3/8	3/8	3/4	3/4	1/2	5/8	7/16	3/8-16	2.19	7/16
	3	1															
3 1/4	1	1	1 3/8	1 1/4	.751	5/8	3/8-24	5/8	7/16	1 1/4	1	3/4	15/16	1/2	1/2-13	2.76	9/16
	3	1 3/8															
4	1	1	1 3/8	1 1/4	.751	5/8	3/8-24	5/8	7/16	1 1/4	1	3/4	15/16	5/8	1/2-13	3.32	9/16
	3	1 3/8															
5	1	1	1 13/16	1 1/4	.751	5/8	1/2-20	5/8	9/16	1 1/4	1	3/4	15/16	3/4	5/8-11	4.10	13/16
	3	1 3/8															

*Upper surface spotfaced for socket head screws.

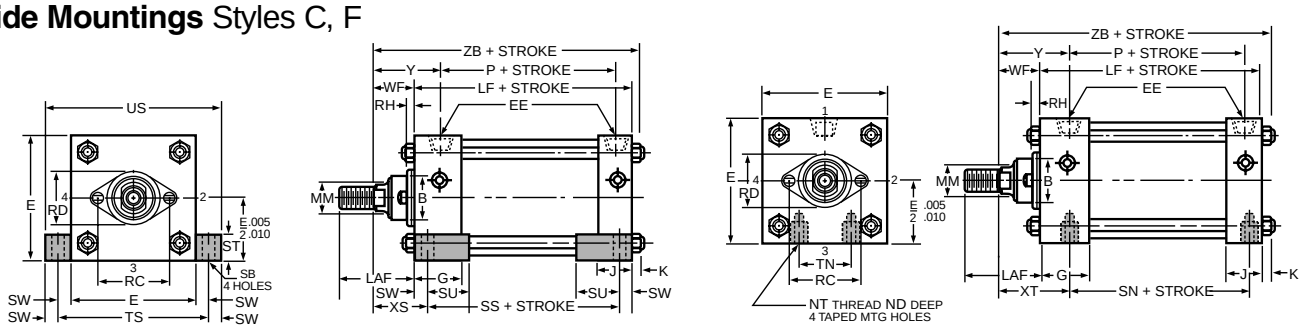
For additional information – call your local Parker Cylinder Distributor.

Flange Mountings Styles H, J



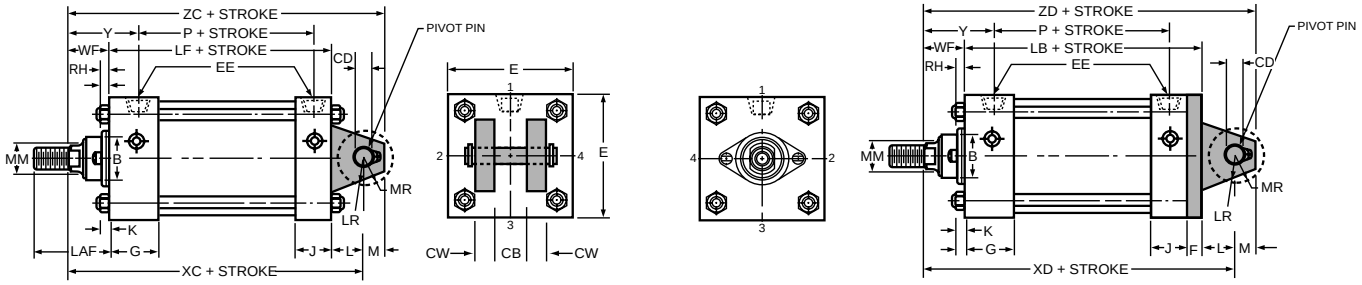
Style H (NFPA MF2) **Style 9 Rod End** J Mount Only **Style J** (NFPA MF1)

Side Mountings Styles C, F



Style C (NFPA MS2) **Style F** (NFPA MS4)

Pivot Mountings Styles BB, BC



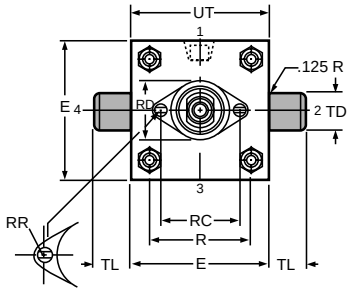
Style BB (NFPA MP1) **Style BC** (NFPA MP2)

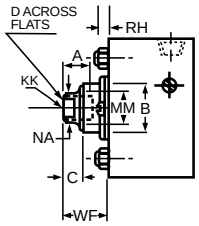
Tie Rods thread into Cap on 1 1/2", 2", 2 1/2" & 3 1/4" bore sizes as shown. Larger sizes have Tie Rod Nuts at both ends.

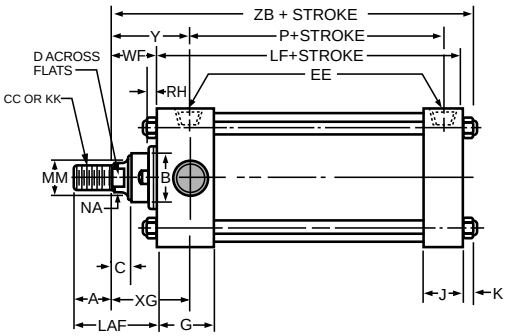
									Add Stroke									
ST	**SU**	**SW**	**TF**	**TN**	**TS**	**UF**	**US**	**LB**	**SN**	**SS**	**XC**	**XD**	**XF**	**XS**	**XT**	**ZC**	**ZF**	**ZD**
1/2	15/16	3/8	2 3/4	5/8	2 3/4	3 3/8	3 1/2	4	2 1/4	2 7/8	5 3/8	5 3/4	4 5/8	1 3/8	1 15/16	5 7/8	5	6 1/4
1/2	15/16	3/8	3 3/8	7/8	3 1/4	4 1/8	4	4	2 1/4	2 7/8	5 3/8 5 3/4	5 3/4 6 1/8	4 5/8 5	1 3/8 1 3/4	1 15/16 2 5/16	5 7/8 6 1/4	5 5 3/8	6 1/4 6 5/8
1/2	15/16	3/8	3 7/8	1 1/4	3 3/4	4 5/8	4 1/2	4 1/8	2 3/8	3	5 1/2 5 7/8	5 7/8 6 1/4	4 3/4 5 1/8	1 3/8 1 3/4	1 15/16 2 5/16	6 6 3/8	5 1/8 5 1/2	6 3/8 6 3/4
3/4	1 1/4	1/2	4 11/16	1 1/2	4 3/4	5 1/2	5 3/4	4 7/8	2 5/8	3 1/4	6 7/8 7 1/8	7 1/2 7 3/4	5 5/8 5 7/8	1 7/8 2 1/8	2 7/16 2 11/16	7 5/8 7 7/8	6 1/4 6 1/2	8 1/4 8 1/2
3/4	1 1/4	1/2	5 7/16	2 1/16	5 1/2	6 1/4	6 1/2	4 7/8	2 5/8	3 1/4	6 7/8 7 1/8	7 1/2 7 3/4	5 5/8 5 7/8	1 7/8 2 1/8	2 7/16 2 11/16	7 5/8 7 7/8	6 1/4 6 1/2	8 1/4 8 1/2
1	1 9/16	11/16	6 5/8	2 11/16	6 7/8	7 5/8	8 1/4	5 1/8	2 7/8	3 1/8	7 1/8 7 3/8	7 3/4 8	5 7/8 6 1/8	2 1/16 2 5/16	2 7/16 2 11/16	7 7/8 8 1/8	6 1/2 6 3/4	8 1/2 8 3/4

For Cylinder Division Plant Locations – See Page II.

Head Trunnion Mounting Style D (NFPA Style MT1)



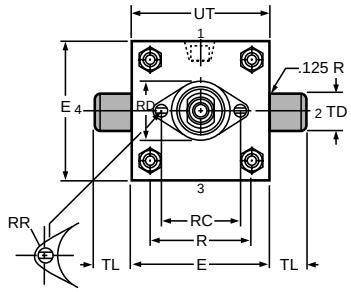


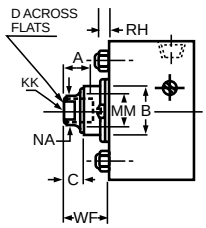


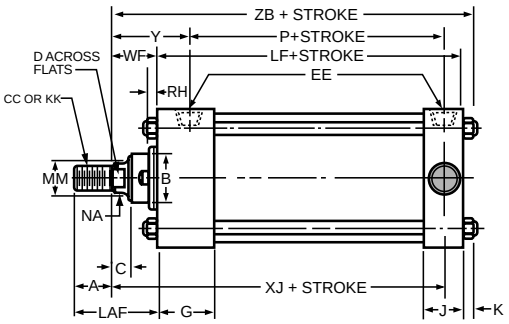
Style 9 Rod End
(NFPA SF)

Style 4 & 8 Rod End
(NFPA SM & IM)

Cap Trunnion Mounting Style DB (NFPA Style MT2)



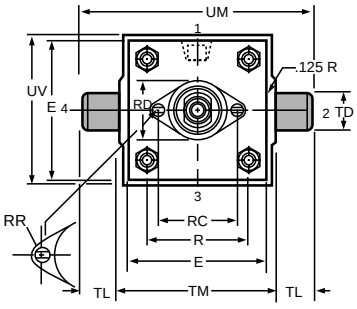


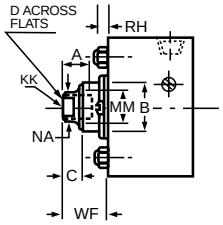


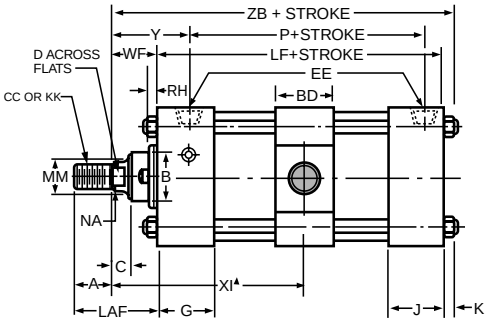
Style 9 Rod End
(NFPA SF)

Style 4 & 8 Rod End
(NFPA SM & IM)

Intermediate Fixed Trunnion Mounting Style DD (NFPA Style MT4)







Style 9 Rod End
(NFPA SF)

Style 4 & 8 Rod End
(NFPA SM & IM)

Note: For Rod End Dimensions See Page 60.			Basic Envelope and Mounting Dimensions																			
			Thread																	Add Stroke			
Bore	Rod No.	Rod Dia. MM	Style 8 CC	Style 4 & 9 KK	BD	E	(NPTF) EE	G	J	K	+.000 TD -.001	TL	TM	UM	UT	UV	XG	Min. XI▲	LF	P	XJ	ZB
1 1/2	1	5/8	1/2-20	7/16-20	1 1/4	2	3/8	1 1/2	1	1/4	1.000	1	2 1/2	4 1/2	4	2 1/2	1 3/4	3 3/16	3 5/8	2 1/4	4 1/8	4 7/8
2	1 3	5/8 1	1/2-20 7/8-14	7/16-20 3/4-16	1 1/2	2 1/2	3/8	1 1/2	1	5/16	1.000	1	3	5	4 1/2	3	1 3/4 2 1/8	3 5/16 3 11/16	3 5/8	2 1/4	4 1/8 4 1/2	4 15/16 5 5/16
2 1/2	1 3	5/8 1	1/2-20 7/8-14	7/16-20 3/4-16	1 1/2	3	3/8	1 1/2	1	5/16	1.000	1	3 1/2	5 1/2	5	3 1/2	1 3/4 2 1/8	3 5/16 3 11/16	3 3/4	2 3/8	4 1/4 4 5/8	5 1/16 5 7/16
3 1/4	1 3	1 1 3/8	7/8-14 1 1/4-12	3/4-16 1-14	2	3 3/4	1/2	1 3/4	1 1/4	3/8	1.000	1	4 1/2	6 1/2	5 3/4	4 1/4	2 1/4 2 1/2	4 3/16 4 7/16	4 1/4	2 5/8	5 5 1/4	6 6 1/4
4	1 3	1 1 3/8	7/8-14 1 1/4-12	3/4-16 1-14	2	4 1/2	1/2	1 3/4	1 1/4	3/8	1.000	1	5 1/4	7 1/4	6 1/2	5	2 1/4 2 1/2	4 3/16 4 7/16	4 1/4	2 5/8	5 5 1/4	6 6 1/4
5	1 3	1 1 3/8	7/8-14 1 1/4-12	3/4-16 1-14	2	5 1/2	1/2	1 3/4	1 1/4	7/16	1.000	1	6 1/4	8 1/4	7 1/2	6	2 1/4 2 1/2	4 3/16 4 7/16	4 1/2	2 7/8	5 1/4 5 1/2	6 5/16 6 9/16

▲ Dimension XI to be specified by customer

For additional information – call your local Parker Cylinder Distributor.

A

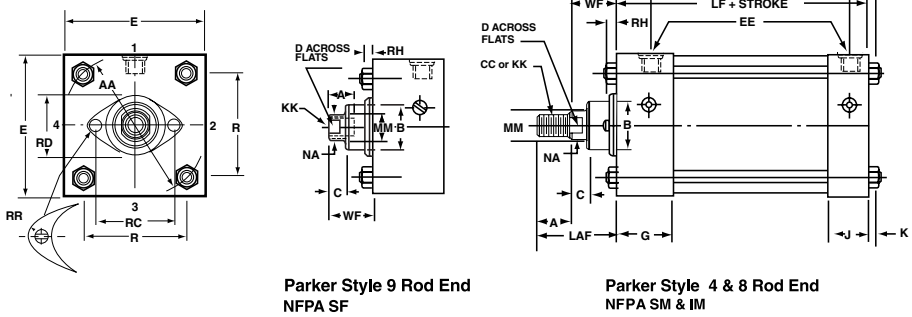
Basic Cylinder Style T (NFPA Style MX0)

Rod end Style 4 is standard per dimension KK. Styles 8 or 9 are optional at no extra charge. A high strength rod end stud is standard on Styles 4 and 8 for all rod sizes.

For special rod ends such as nonstandard threads, rod extensions, blanks, etc., specify Style 3 and furnish desired dimensions for CC, KK, A, WF, LA and LAF.

If rod end is not specified, Style 4 will be supplied.

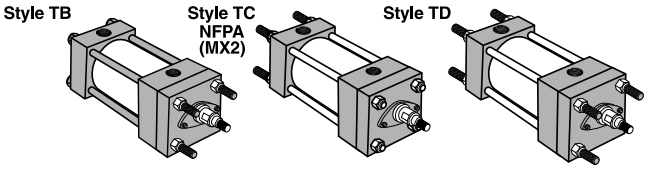
See Table 3 for rod end dimensions.

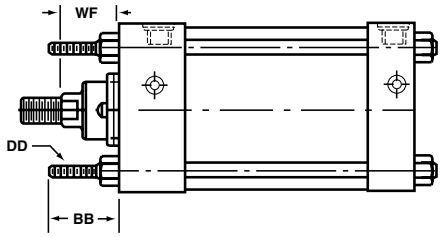


Parker Style 9 Rod End
NFPA SF

Parker Style 4 & 8 Rod End
NFPA SM & IM

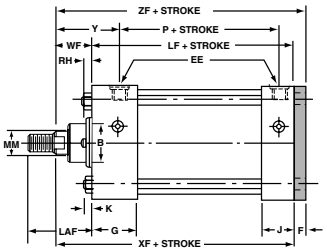
Tie Rod Mounted Styles, TB, TC, TD



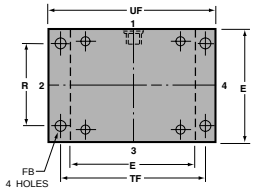


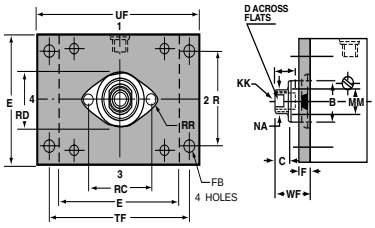
Style TB, Tie Rods Extended, is illustrated at right. Style TC, Cap Tie Rods Extended, and Style TD, Both Ends Tie Rods Extended, can be dimensioned from Style TB drawing.

Flange Mountings Styles H, J

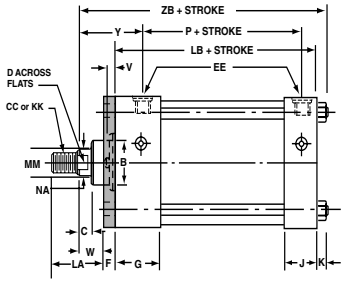


Style H (NFPA MF2)



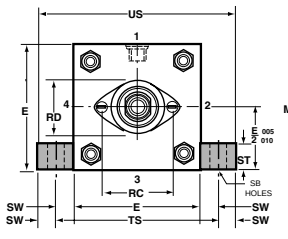


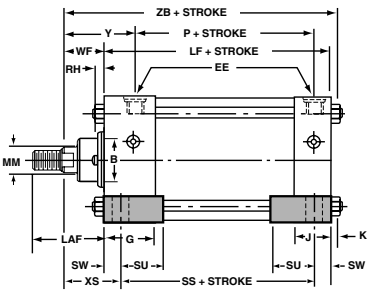
Style 9 Rod End (NFPA SF)



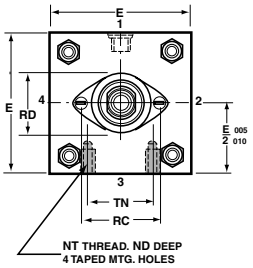
Style J (NFPA MF1)

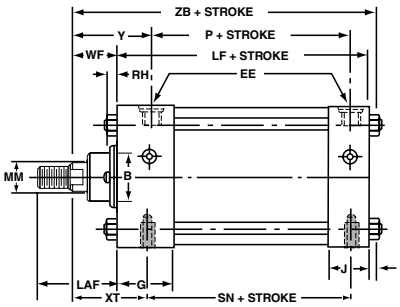
Side Mountings Styles C, F





Style C (NFPA MS2)



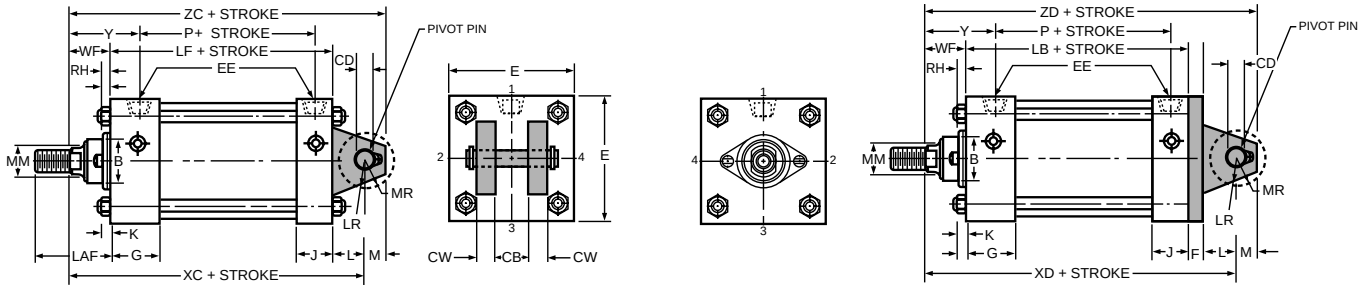


Style F (NFPA MS4)

For Cylinder Division Plant Locations – See Page II.

Parker Cylinder

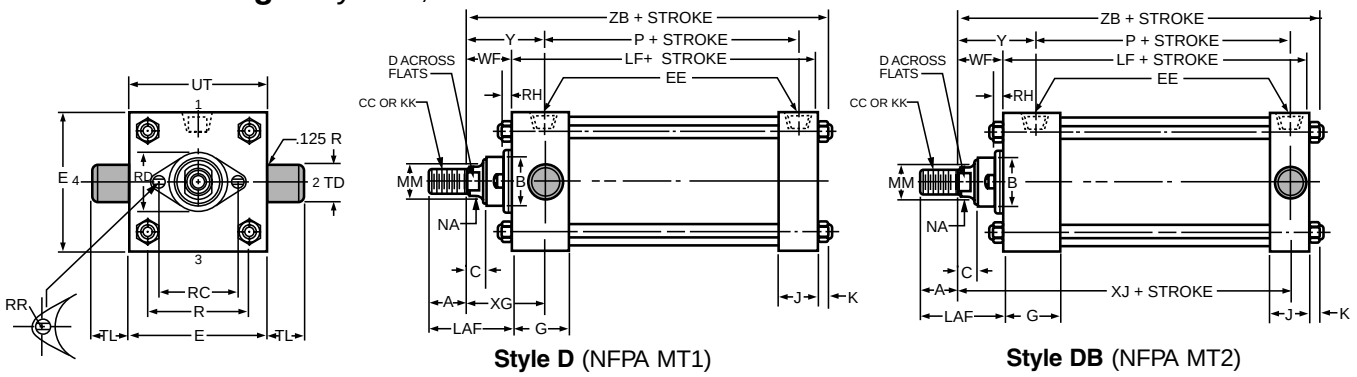
Pivot Mountings Styles BB, BC



Style BB (NFPA MP1)

Style BC (NFPA MP2)

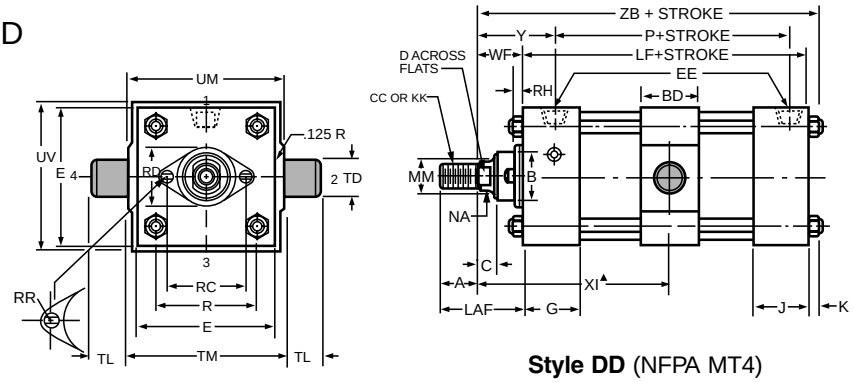
Trunnion Mountings Styles D, DB



Style D (NFPA MT1)

Style DB (NFPA MT2)

Trunnion Mounting Style DD



Style DD (NFPA MT4)

Table 3 Rod End Dimensions—Styles 9 (NFPA SF), 4 (NFPA SM) and 8 (NFPA IM)

Bore	Rod No.	Rod Dia. MM	Thread Style 8 CC	Thread Style 4 & 9 KK	A	+.000 -.002 B	MIN. C	D	LA	LAF	NA	RC	RD	RH	RR	V	W	WF	Y
6	1	1 3/8	1 1/4-12	1-14	1 5/8	1.874	5/8	1 1/8	2 1/2	3 1/4	1 5/16	2 11/16	2 15/64	7/32	13/64	1/4	7/8	1 5/8	2 13/16

Table 4 Basic Envelope and Mounting Dimensions

Bore	Rod No.	Rod Dia. MM	AA	BB	BD	CB	+.000 -.002 CD	CW	DD	E	(NPTF) EE	F	FB	G	J	K	L	LR	M	MR	ND	NT	R	SB•	ST	SU	SW
6	1	1 3/8	6.9	1 13/16	2 1/2	1 1/2	1.001	3/4	1/2-20	6 1/2	3/4	3/4	9/16	2	1 1/2	7/16	1 1/2	1 1/4	1	1 3/16	7/8	3/4-10	4.88	13/16	1	1 9/16	11/16

Basic Envelope and Mounting Dimensions (cont.)

Bore	Rod No.	Rod Dia. MM	+.000 TD -.002	TF	TL	TM	TN	TS	UF	UM	US	UT	UV	XG	MIN. XI ▲	ADD STROKE LB	LF	P	SN	SS	XC	XD	XF	XJ	XS	XT	ZB	ZC	ZF
6	1	1 3/8	1.375	7 5/8	1 3/8	7 5/8	3 1/4	7 7/8	8 5/8	10 3/8	9 1/4	9 1/4	7	2 5/8	4 15/16	5 3/4	5	3 1/8	3 1/8	3 5/8	8 1/8	8 7/8	6 5/8	5 7/8	2 5/16	2 13/16	7 1/16	9 1/8	7 3/8

• Upper surface spotfaced for socket head screws. ▲ Dimension XI to be specified by customer.

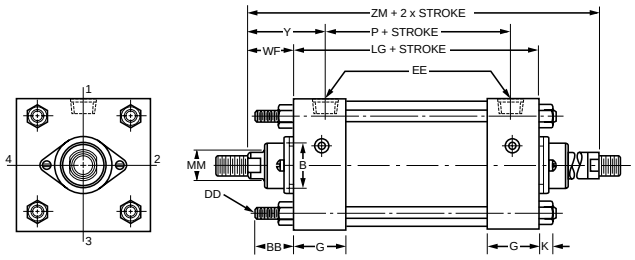
For additional information – call your local Parker Cylinder Distributor.

To dimension double rod cylinders, select the desired mounting style and refer to corresponding single rod model on pages 60-64. After obtaining necessary dimensions from that drawing, supplement those with the drawings and tables below.

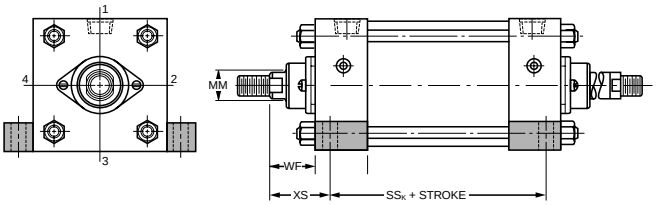
Tie Rods Extended
Parker Style KT

Tie Rods Extended Head End, Style **KTB.**

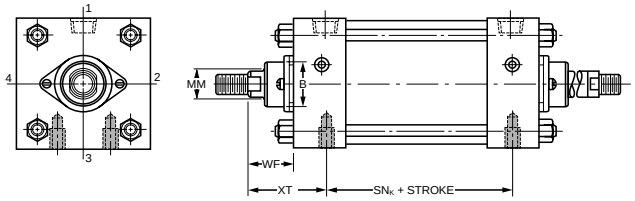
Tie Rods Extended Both Ends, Style **KTD.**



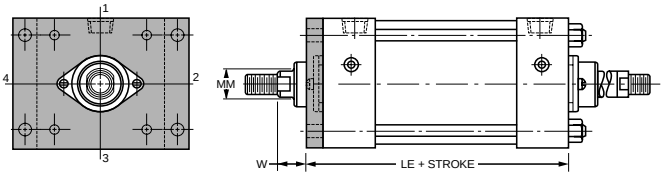
Side Lug Mounting
Parker Style KC



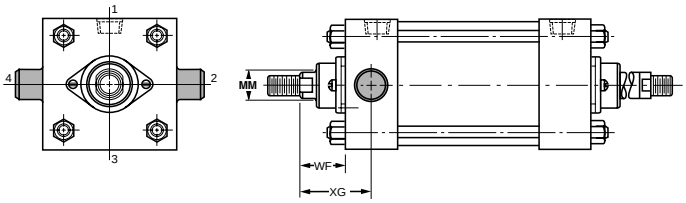
Side Tapped Mounting
Parker Style KF



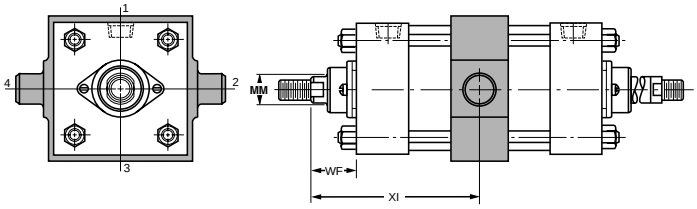
Rectangular Flange Mounting
Parker Style KJ



Head Trunnion Mounting
Parker Style KD



Intermediate Fixed Trunnion Mounting
Parker Style KDD



Double Rod Cylinder Dimensions

Bore	Rod Dia.	Rod No.	Add Stroke LG	LE	SS_K	SN_K	Add 2x Stroke ZM
1 1/2	5/8	1	4 1/8	4 1/2	3 3/8	2 1/4	6 1/8
2	5/8	1	4 1/8	4 1/2	3 3/8	2 1/4	6 1/8
	1	3					6 7/8
2 1/2	5/8	1	4 1/4	4 5/8	3 1/2	2 3/8	6 1/4
	1	3					7
3 1/4	1	1	4 3/4	5 3/8	3 3/4	2 5/8	7 1/2
	1 3/8	3					8
4	1	1	4 3/4	5 3/8	3 3/4	2 5/8	7 1/2
	1 3/8	3					8
5	1	1	5	5 5/8	3 5/8	2 7/8	7 3/4
	1 3/8	3					8 1/4
6	1 3/8	1	5 1/2	6 1/4	4 1/8	3 1/8	8 3/4
REPLACES DIMENSION			**LF**	**LB**	**SS**	**SN**	**–**
ON SINGLE ROD MOUNTING STYLES			**T, TB, TC, C, F, D & DD**	**J**	**C**	**F**	**ALL**

On a double rod cylinder where the two rod ends will be different, be sure to state very clearly which rod end is to go at which end of the cylinder.

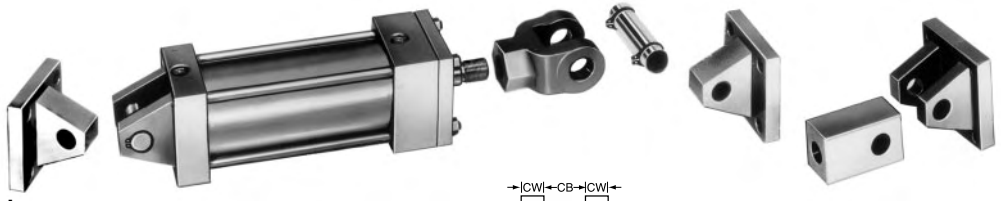
NOTE: For Rod End Dimensions, see pages 60 and 64.

For Cylinder Division Plant Locations – See Page II.

Cylinder Accessories

Parker offers a range of heavy-duty cylinder accessories for convenient mounting of pivot mount cylinders or for use at rod end of fixed mount types. All are load capacity rated for use at 4:1 design factor in tension or compression (pivot pin is rated in shear) when used on bore sizes recommended in tables below. Select rod clevises or knuckles by bore and thread size along with mating parts shown. Pivot pin must be ordered as separate item, if needed.

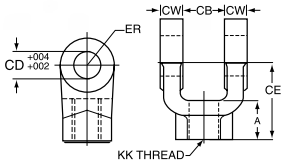
Mounting Plate



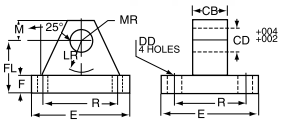
Mounting Plates

Mounting plates for Style BB and Style BC (clevis mounted) cylinders are offered. To select proper part number for your application, refer to Chart below.

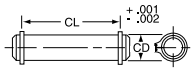
Mounting Plate	Series "MA"
Part No.	Bore Size
69195	1 1/2", 2", 2 1/2"
69196	3 1/4", 4", 5"
▲85361	6"



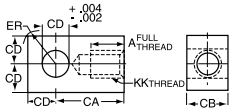
FEMALE ROD CLEVIS
(Order to fit thread size)



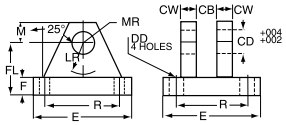
MOUNTING PLATE
OR EYE BRACKET



PIVOT PIN



ROD KNUCKLE
(Order to fit thread size)



CLEVIS BRACKET
FOR KNUCKLE

Dimensions for Rod Clevis and Mating Parts

Bore Size	Rod Dia.	KK Thread Size	Rod Clevis	Eye Brkt.	Pivot Pin	A	CB	CD	CE	CL	CW	DD	E	ER	F	FL	LR	M	MR	R
1 1/2	5/8	7/16-20	50940	69195	68368	3/4	3/4	1/2	1 1/2	1 7/8	1/2	13/32	2 1/2	1/2	3/8	1 1/8	3/4	1/2	9/16	1.63
2	5/8	7/16-20	50940	69195	68368	3/4	3/4	1/2	1 1/2	1 7/8	1/2	13/32	2 1/2	1/2	3/8	1 1/8	3/4	1/2	9/16	1.63
	1	3/4-16	50942 133284	69196	68369	1 1/8	1 1/4	3/4	2 1/8 2 3/8	2 5/8	5/8	17/32	3 1/2	3/4	5/8	1 7/8	1 1/4	3/4	7/8	2.55
2 1/2	5/8	7/16-20	50940	69195	68368	3/4	3/4	1/2	1 1/2	1 7/8	1/2	13/32	2 1/2	1/2	3/8	1 1/8	3/4	1/2	9/16	1.63
	1	3/4-16	50942 133284	69196	68369	1 1/8	1 1/4	3/4	2 1/8 2 3/8	2 5/8	5/8	17/32	3 1/2	3/4	5/8	1 7/8	1 1/4	3/4	7/8	2.55
3 1/4	1	3/4-16	50942 133284	69196	68369	1 1/8	1 1/4	3/4	2 1/8 2 3/8	2 5/8	5/8	17/32	3 1/2	3/4	5/8	1 7/8	1 1/4	3/4	7/8	2.55
	1 3/8	1-14	50944 133285	85361▲	68370	1 5/8	1 1/2	1	2 15/16 3 1/8	3 1/8	3/4	21/32	4 1/2	1	7/8	2 3/8	1 1/2	1	1 1/4	3.25
4 & 5	1	3/4-16	50942 133284	69196	68369	1 1/8	1 1/4	3/4	2 1/8 2 3/8	2 5/8	5/8	17/32	3 1/2	3/4	5/8	1 7/8	1 1/4	3/4	7/8	2.55
	1 3/8	1-14	50944 133285	85361▲	68370	1 5/8	1 1/2	1	2 15/16 3 1/8	3 1/8	3/4	21/32	4 1/2	1	7/8	2 3/8	1 1/2	1	1 1/4	3.25
-	1 3/8	1-14	50944 133285	85361▲	68370	1 5/8	1 1/2	1	2 15/16 3 1/8	3 1/8	3/4	21/32	4 1/2	1	7/8	2 3/8	1 1/2	1	1 1/4	3.25

Dimensions for Rod Knuckle and Mating Parts

Bore Size	Rod Dia.	KK Thread Size	Knuckle	Clevis Brkt.	Pivot Pin	A	CA	CB	CD	CL	CW	DD	E	ER	F	FL	LR	M	MR	R
1 1/2	5/8	7/16-20	69089	69205	68368	3/4	1 1/2	3/4	1/2	1 7/8	1/2	13/32	3 1/2	23/32	1/2	1 1/2	3/4	1/2	5/8	2.55
2	5/8	7/16-20	69089	69205	68368	3/4	1 1/2	3/4	1/2	1 7/8	1/2	13/32	3 1/2	23/32	1/2	1 1/2	3/4	1/2	5/8	2.55
	1	3/4-16	69091	69206	68369	1 1/8	2 1/16	1 1/4	3/4	2 5/8	5/8	17/32	5	1 1/16	5/8	1 7/8	1 3/16	3/4	29/32	3.82
2 1/2	5/8	7/16-20	69089	69205	68368	3/4	1 1/2	3/4	1/2	1 7/8	1/2	13/32	3 1/2	23/32	1/2	1 1/2	3/4	1/2	5/8	2.55
	1	3/4-16	69091	69206	68369	1 1/8	2 1/16	1 1/4	3/4	2 5/8	5/8	17/32	5	1 1/16	5/8	1 7/8	1 3/16	3/4	29/32	3.82
3 1/4	1	3/4-16	69091	69206	68369	1 1/8	2 1/16	1 1/4	3/4	2 5/8	5/8	17/32	5	1 1/16	5/8	1 7/8	1 3/16	3/4	29/32	3.82
	1 3/8	1-14	69093	69207	68370	1 5/8	2 13/16	1 1/2	1	3 1/8	3/4	21/32	6 1/2	1 7/16	3/4	2 1/4	1 1/2	1	1 1/4	4.95
4 & 5	1	3/4-16	69091	69206	68369	1 1/8	2 1/16	1 1/4	3/4	2 5/8	5/8	17/32	5	1 1/16	5/8	1 7/8	1 3/16	3/4	29/32	3.82
	1 3/8	1-14	69093	69207	68370	1 5/8	2 13/16	1 1/2	1	3 1/8	3/4	21/32	6 1/2	1 7/16	3/4	2 1/4	1 1/2	1	1 1/4	4.95
6	1 3/8	1-14	69093	69207	68370	1 5/8	2 13/16	1 1/2	1	3 1/8	3/4	21/32	6 1/2	1 7/16	3/4	2 1/4	1 1/2	1	1 1/4	4.95

▲Cylinder accessory dimensions conform to NFPA recommended standard NFPA/T3.6.8 R1-1984, NFPA recommended standard fluid power systems – cylinder – dimensions for accessories for cataloged square head industrial types. Parker adopted his standard in April, 1985. Eye brackets or mounting plates shipped before this date may have different dimensions and will not necessarily interchange with the NFPA standard. For dimensional information on older style eye brackets or mounting plates consult Drawing #144805.

For additional information – call your local Parker Cylinder Distributor.

NOTES

How to Order Series "MA" Cylinders

When ordering Series MA cylinders, please review the following:

Note: Duplicate cylinders can be ordered by giving the SERIAL NUMBER from the nameplate of the original cylinder. Factory records supply a quick positive identification.

Piston Rods: Specify rod code number based on diameter. Give thread style number for a standard thread or specify dimensions. See "Style 3 Rod End" below.

Cushions: If cushions are required specify according to the model number on the next page. If the cylinder is to have a double rod and only one cushion is required, be sure to specify clearly which end of the cylnder is to be cushioned.

Special Modifications: Additional information is required on orders for cylinders with special modifications. This is best handled with descriptive notes. For further information, consult factory.

Fluid Medium: Series MA hydraulic cylinders are equipped with seals for use with lubricated air.

Class 1 Seals

Class 1 seals are the seals provided as standard in a cylinder assembly unless otherwise specified. For further information on fluid compatibility or operating limitations of all components, see section C.

For the MA series cylinders the following make-up Class 1 Seals:

Primary Piston Rod Seal – Nitrile with PTFE back-up washers
Piston Rod Wiper – Nitrile
Piston Seals – Nitrile with polymyte back-up washers
O-Rings – Nitrile

Combination Mountings

Single Rod End The first mounting is the one called out on the head end of the cylinder. The second or subsequent mountings are called out as they appear in the assembly moving away from the rod end. Exception: When tie rod mountings are part of a combination, the model number should contain an "S" (Special) in the model code and a note in the body of the order clarifying the mounting arrangement. The "P" is used to define a thrust key and is not considered to be a mounting. However, it is located at the primary end.

Example: 4.00 CCBBMALTS14AC x 10.000

Combination "C" mounting head only. "BB" mounting cap end
This cylinder is also cushioned at both ends.

Double Rod End In general, the model number is read left to right corresponding to the cylinder as viewed from left to right with the primary end at rod end #1. See Double Rod Models information page in this section. For this option the piston rod number, piston rod end, and piston rod threads are to be specified for both ends. The simplest are for symmetric cylinders such as: TD, C, E, F, G, and CB mounts. All other mounting styless, the description of the first rod end will be at the mounting end. In the case of multiple mounts, the description of the first rod end will be at the primary mounting end. For "DD" mounts, the description of the first rod end will be the same location as the "XI" dimension.

Example: 4.00 KDDMALT24A/18A x 10.000 XI=8

This is a center trunnion mounting cylinder with the XI dimension measured from the code 2 rod side of the cylinder which has the style 4 thread. The opposite end code 1 rod with the style 8 thread.

Style 3 Rod End

A style 3 rod end indicates a special rod end configuration. All special piston rod dimensions must have **all three:** KK; A; W/WF or LA/LAF specified with the rod fully retracted. A sketch or drawing should be submitted for rod ends requiring special machining such as snap ring grooves, keyways, tapers, multiple diameters, etc. It is good design practice to have this machining done on a diameter at least 0.065 inches smaller than the piston rod diameter. This allows the piston rod to have a chamfer preventing rod seal damage during assembly or maintenance. Standard style 55 rod ends with a longer than standard WG dimension should call out a style 3 rod end and the note: **same as 55 except WG=____**. A drawing should be submitted for special 55 rod ends that have specific tolerances or special radii. Special rod ends that have smaller than standard male threads, larger than standard female threads, or style 55 rod ends with smaller than standard AF or AE dimensions are to be reviewed by Engineering for proper strength at operating pressure.

Service Policy

On cylinders returned to the factory for repairs, it is standard policy for the Cylinder Division to make such part replacements as will put the cylinder in as good as new condition. Should the condition of the returned cylinder be such that expenses for repair would exceed the costs of a new one, you will be notified.

Address all correspondence and make shipments to, Service Department at your nearest regional plant listed in the pages of this catalog.

Certified Dimensions

Parker Cylinder Division guarantees that all cylinders ordered from this catalog will be built to dimensions shown. All dimensions are certified to be correct, and thus it is not necessary to request certified drawings.

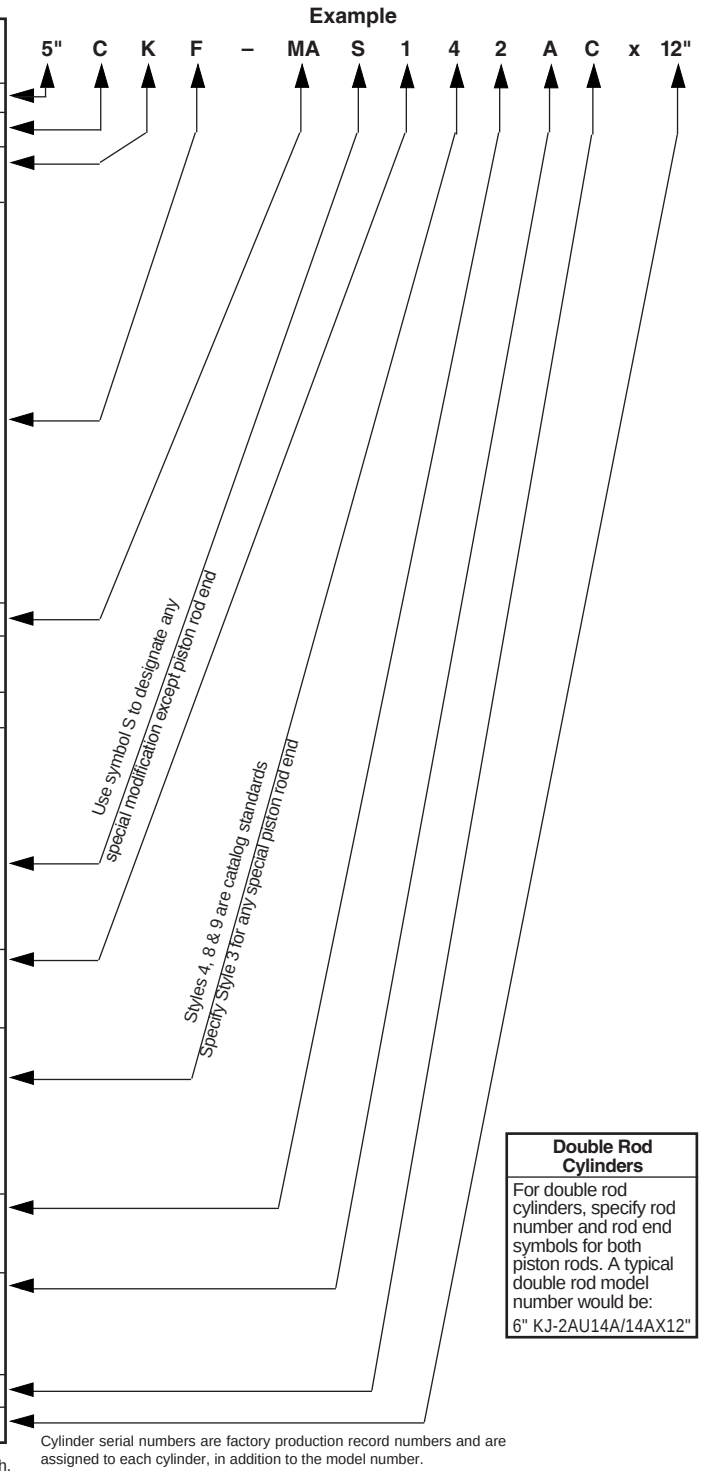
For additional information – call your local Parker Cylinder Distributor.

Series MA Model Numbers – How to Develop Them – How to "Decode" Them

Parker Series MA cylinders can be completely and accurately described by a model number consisting of coded symbols. To develop a model number, select only those symbols that represent the cylinder required, and place them in the sequence indicated below.

Note: Page numbers with a letter prefix, ie: C77, are located in section C of this catalog.

Feature	Description	Page No.	Symbol
Bore	Specify in inches	—	—
Cushion Head	Used **only** if cushion head is required	58	C
Double Rod	Used **only** if double rod cylinder is required	65	K
Mounting Style	Head Tie Rods Extended		T B
	Cap Tie Rods Extended		T C
	Both End Tie Rods Extended		T D
	Head Rectangular Flange		J
	Cap Rectangular Flange	60, 61	H
	Side Lug	62, 63,	C
	Side Tapped	64 & 65	F
	Cap Fixed Clevis		B B
	Cap Detachable Clevis		B C
	Head Trunnion		D
	Cap Trunnion		D B
	Intermediate Fixed Trunnion		D D
Series	Used in all MA Model Numbers	–	M A
Piston	Lipseal™ Piston standard. No need for symbol in model number.	–	–
Ports	NPTF (Dry Seal) Ports are standard.	C89-91	–
Special Modifications	Used **only** if special modifications are required:		
	Oversize Ports	C89-91	
	Port Position Change	C89-91	
	Stop Tube•	C95	S
	Stroke Adjuster	C93	
	Fluorocarbon Seals	C83	
Piston Rod Number	For Single Rod Cylinders, Select only one. Check chart on Page C96 for minimum piston rod diameter.	60 & 65	1 3
Piston Rod End	Select:		
	Style 4 Small Male		4
	Style 8 Intermediate Male	60, 62, 64, 65	8
	Style 9 Short Female		9
	Style 3 Special (Specify)		3
Piston Rod Alternate Threads	Used **only** for two times longer than standard.	C92	2
Piston Rod Threads	UNF Standard		A
	BSF (British Fine)	C92	W
	Metric		M
Cushion Cap	Used **only** if cushion cap is required	58	C
Stroke•	Specify in inches	C93	–



Double Rod Cylinders

For double rod cylinders, specify rod number and rod end symbols for both piston rods. A typical double rod model number would be:
6" KJ-2AU14A/14AX12"

Cylinder serial numbers are factory production record numbers and are assigned to each cylinder, in addition to the model number.

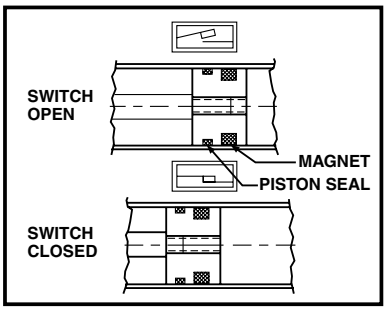
*Required for Basic Cylinder Model Number •In case of stop tube, call out gross stroke length.
Dark Arrows Indicate Basic Minimum Model Number.

For Cylinder Division Plant Locations – See Page II.

Magnetically Actuated Switches

The MA adjustable switch has been designed for use on Series MA Pneumatic Cylinders. It is a normally open switch. The compact design of the switch causes a minimum interference with cylinder envelope dimensions. The MA switch will sense the magnetic piston through a non-ferrous cylinder barrel. Several MA switches may be mounted on a single cylinder to control or sequence several functions.

The MA switch is mounted on a single tie rod with an aluminum extrusion for easy adjustment. Its rugged construction will provide millions of trouble free cycles. It is ideally suited as an input to programmable controllers or to activate an industrial relay.



Switch Specifications

	Reed Switch Assembly MAR-2 L074480000	Solid State Switch Assembly MAS-3 PNP Sourcing L074490000 MAS-4 NPN Sinking L074500000
Switching Logic	Normally Open, SPST	NPN or PNP
Supply Voltage Range	5 to 125 V AC/DC	5 TO 30 VDC
Max. Switching Power	10 Watts (Resistive) 5 Watts (Inductive)	6 Watts
Max. Switching Current	300 mA (Resistive) 150 mA (Inductive)	200 mA at 24 VDC
Circuit Current Consumption	–	Max 14 mA at 24 VDC
Short Circuit Interruption Current	–	370 mA
Leakage Current	–	10 µA Maximum
Residual Voltage	Maximum 3 V	1.5 V Maximum
"On" State Voltage Drop	1.7V Maximum	See Below
Response	1000 Hz Maximum	1000 Hz Maximum
Shock Resistance	30G Non-Repeated Shock	30G Non-Repeated Shock
Degree Of Protection	IEC IP 67	IEC IP 67

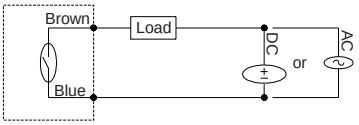
	Reed Switch Assembly MAR-2 L074480000	Solid State Switch Assembly MAS-3 PNP Sourcing L074490000 MAS-4 NPN Sinking L074500000
Operating Temperature	14° to 140°F (-10° to 60°C)	14° to 158°F (-10° to 70°C)
Storage Temperature	-4° to 158°F (-20° to 70°C)	-4° to 176°F (-20° to 80°C)
LED Indicator	Red, Target Present When On	Red, Target Present When On
Minimum Current To Light LED	18 mA	1 mA
Lead Wire Lengths	39 Inches, 1 Meter	39 Inches, 1 Meter

[1]Polarity is restricted to DC operation: (+) to Brown (-) to Blue
If these connections are reversed the contacts will close, but the LED will not light.
Note: For switches with connectors and cordsets, see Section C.

Circuits

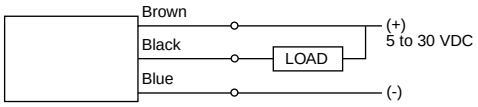
Reed Switch (MAS-2)

Part No. L074480000
NOTE: Polarity must be observed for DC operation only.



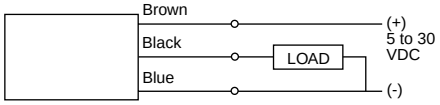
NPN Sinking Output (MAS-4)

Part No. L074500000
Color of Cable ..... Black
"On" State Voltage Drop ..... 0.7V Maximum



PNP Sourcing Output (MAS-3)

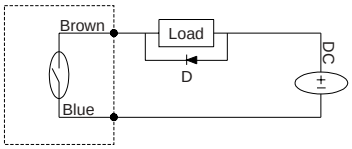
Part No. L074490000
Color of Cable ..... Gray
"On" State Voltage Drop ..... 0.2V Maximum



Circuit for Switching Contact Protection (Inductive Loads)

(Required for proper operation 24V DC)

Put Diode parallel to loads following polarity as shown below.

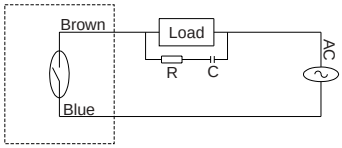


D: Diode: select a Diode with the breakdown voltage and current rating according to the load.

Typical Example—100 Volt, 1 Amp Diode
Load: Relay coil (under 0.5W coil rating) **(Recommended for longer life 125 VAC)**

Put a resistor and capacitor in parallel with the load. Select the resistor and capacitor according to the load.

Typical Example:
Load: Relay coil (under 2W coil rating)
R: Resistor 1 KΩ - 5 KΩ, 1/4 W
C: Capacitor 0.1 µF, 600 V



⚠ Caution

– Use an ampmeter to test reed switch current. Testing devices such as incandescent light bulbs may subject the reed switch to high in-rush loads.

– **NOTE:** When checking an unpowered reed switch for continuity with a digital ohmmeter the resistance reading will change from infinity to a very large resistance (2 M ohm) when the switch is activated. This is due to the presence of a diode in the reed switch.

– Anti-magnetic shielding is recommended for reed switches exposed to high external RF or magnetic fields.

– The magnetic field strength of the piston magnet is designed to operate with our switches. Other manufacturers' switches or sensors may not operate correctly in conjunction with these magnets.

– Current capabilities are relative to operational temperatures.

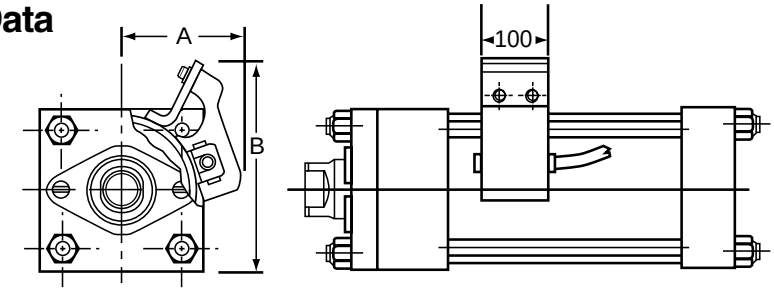
– Use relay coils for reed switch contact protection.

– The operation of some 120 VAC PLC's (especially some older Allen-Bradley PLC's) can overload the reed switch. The switch may fail to release after the piston magnet has passed. This problem may be corrected by the placement of a 700 to 1K OHM resistor between the switch and the PLC input terminal. Consult the manufacturer of the PLC for appropriate circuit.

– Switches with long wire leads (greater than 15 feet) can cause capacitance build-up and sticking will result. Attach a resistor in series with the reed switch (the resistor should be installed as close as possible to the switch). The resistor should be selected such that R (ohms) >E/0.3.

For additional information – call your local Parker Cylinder Distributor.

MA Switch Mounting Data



Bore	A	B	PISTON TRAVEL AT MIDSTROKE (SWITCH ON) (±.01)	MINIMUM ACTIVATION DISTANCE FROM END OF STROKE	
				Head	Cap
1½	1.90	2.71	.37	.20	.20
2	2.10	3.25	.37	.20	.20
2½*	2.20	3.60	.37	.13	.13
3¼*	2.70	4.25	.37	.13	.13
4*	2.90	4.90	.37	.13	.13
5*†	3.20	5.85	.37	0	0
6*†	3.82	6.70	.37	0	0

NOTE:
* To maintain minimum activation distance switch can only be mounted with "LED" against end plate because of cable interference on 'End of Stroke' applications.

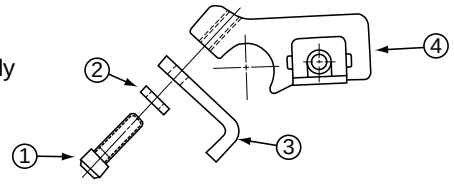
† On 5.0" and 6.0" bore cylinders, end of stroke activation will occur without the switch physically touching the head or cap.

A

Standard MA Switch Assembly

Consists of:

1. 0106280032 (2) #8-32 Sh. Cap Screw
2. 0108850008 (2) Lockwasher
3. 0854530000 (1) Bracket Clamp
4. (1) Switch & Bracket Sub-Assembly
   MAR-2 – 0862580000
   MAS-3 – 0862590000
   MAS-4 – 0862600000



How to Order:

MA switches are not mounted to the cylinder prior to shipment. When ordering a cylinder to accommodate a MA switch:

1. Derive a proper model number as shown in the table below.
2. Place an "S" in the special features column.
3. Underneath the model number specify:
   1) Cylinder prepared for MA switch.
4. As a separate item specify the number of switch assemblies required.

	BORE SIZE	CUSHION HEAD END	DOUBLE ROD	MOUNTING STYLE	SERIES	SPECIAL FEATURES	PISTON ROD NO.	PISTON ROD END	PISTON ROD ALTERNATE THREADS	THREAD TYPE	CUSHION CAP END	STROKE
	6	C	K	J	MA	S	1	4	2	A	C	X12
EXAMPLE	Specify 1½" thru 6"	Specify only if cushion head end is required	Use only if Double Rod Cylinder is required	Specify Mounting Style: T, TB, TC, TD, J, H, C, F, BB, BC, D, DB or DD	Specify Series MA	Specify for cylinder prepared for switches and/or other modifications	Specify Rod Code No.	Specify Style 4 Small Male Style 8 Intermediate Male Style 9 Short Female Style 3 Special Specify KK, A, LA, LAF, W, WF Dim.	Use only for 2x longer than standard rod end thread	Specify: A = UNF W = BSF M = METRIC	Specify only if Cushion Cap End is required	Specify in inches. Show Symbol "X" just ahead of stroke length

Example: To order a 2½" x 10" MA cylinder with MA switches to sense the end of stroke at both the head and cap end specify:

Item	Qty.	Description
A	(1)	2.50 C J MAS 14A C x 10.000 (1) Cylinder prepared for MA Switch
B	(2)	(*) Switch Assemblies

* #L074480000 – MAR-2
#L074490000 – MAS-3
#L074500000 – MAS-4

For Cylinder Division Plant Locations – See Page II.

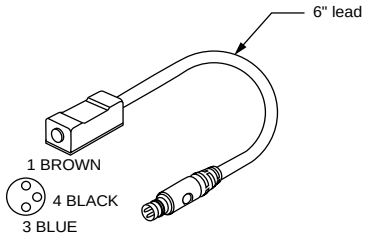
Magnet Actuated Switches with Quick Connect

Magnet Actuated Switches are available for Series SRM, P, 2MA, MP, and RC cylinders. Refer to the appropriate Catalog information for electrical specifications on each switch. The standard lead wire length is 39" (1 meter).

Switches for the above cylinders are also offered with a 6 (six) inch lead with a male quick connect option.

Quick Connect Option

(Switch shown without mounting brackets)



Switches are supplied with the bracket to mount the switch to the cylinder. Refer to the switch information for each series for bracket dimensions.

Switches with 6" Lead and Quick Connect Male End

Series	Reed	NPN Sinking	PNP Sourcing
SR, P	145903000C	146714000C	146715000C
MA	L07448000C	L07450000C	L07449000C
2MA			
(1½"-2½", 5",6")	L07486000C	L07488000C	L07491000C
(3¼", 4",8")	L07487000C	L07490000C	L07492000C
MP			
32mm, 40mm	L07525000C	L07528000C	L07531000C
50mm, 63mm	L07526000C	L07529000C	L07532000C
80mm, 100mm	L07527000C	L07530000C	L07533000C
RC	L07480000C	L07481000C	L07482000C

Cordset with Female Quick Connect (Order Separately)

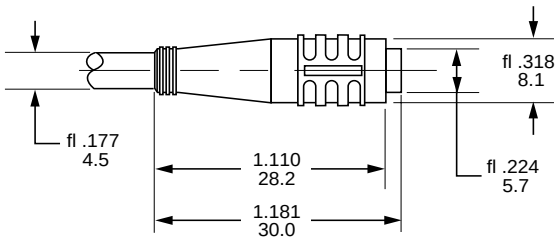
A female connector is available for all switches with the male quick connect option. The male plug will accept a snap-on or threaded connector. Cylinder Division cordset part numbers and other manufacturer's part numbers are listed below:

Manufacturer	Snap-On Version	Threaded Version
Parker	086620S005	086620T005

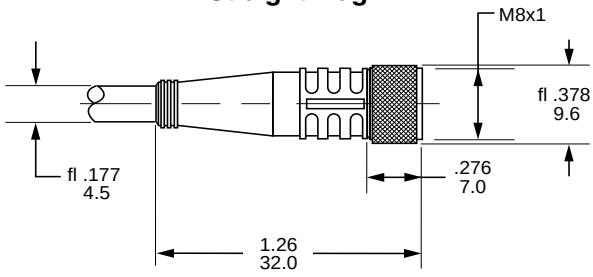
Cordset Specifications:

Connector:	Oil resistant polyurethane body material, PA 6 (Nylon) contact carrier, spacings to VDE 0110 Group C, (150 VAC / DC)
Contacts:	Gold plated beryllium copper, machined from solid stock
Coupling Method:	Snap-Lock or chrome plated brass nut
Cord Construction:	Oil resistant black PUR jacket, non-wicking, non-hygroscopic, 300V. Cable end is stripped and tinned.
Conductors:	Extra high flex stranding, PVC insulation
Temperature:	-40° to 185°F (-40° to 85°C)
Protection:	NEMA 1, 3, 4, 6P and IEC IP67
Cable Length:	6.56 ft (2m) or 16.4 ft (5m)

Snap-On Straight Plug



Threaded Straight Plug



For additional information – call your local Parker Cylinder Distributor.