

**Tie Rod
Pneumatic Cylinders**

4MA / 4ML Series - Non-Lube NFPA Air Cylinders

1-1/2" to 5" Bore Sizes

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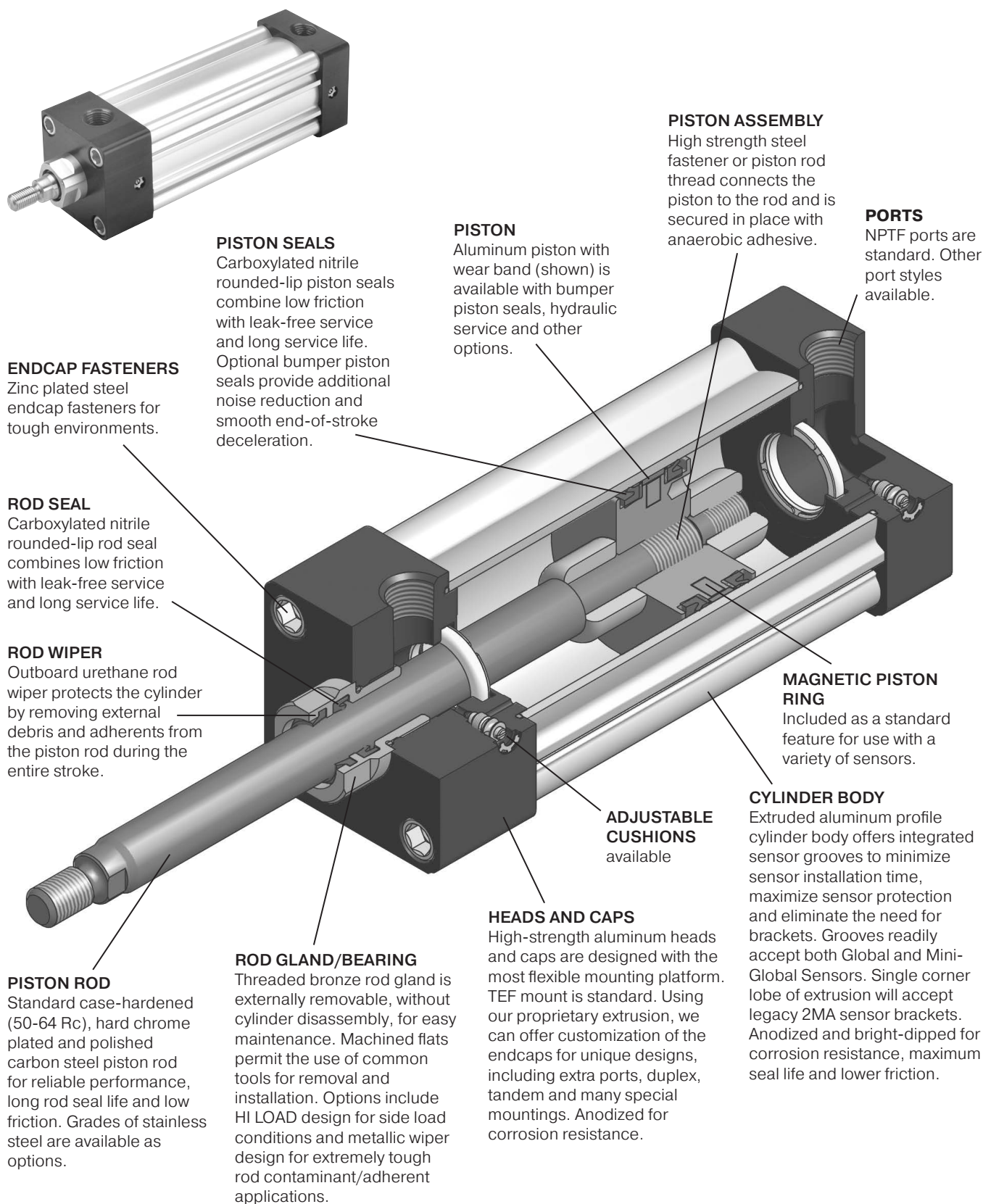
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4MA/4ML Series – 1-1/2" to 5" Bore Size

B	Tie Rod Pneumatic Cylinders	
	Series	4MA
	Series	4MAP
	Option	ACVB
	Option	LP50
	Series	P1D
	Series	P1F
	Series	2MNR



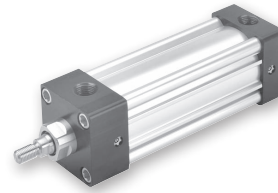
For a complete list of 4MA options, please see pages B3 and B8.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

Features

- Industry leading aluminum NFPA interchangeable cylinder with flexible construction
- Bore sizes – 1-1/2", 2", 2-1/2", 3-1/4", 4" and 5"
- Removable bronze alloy gland/bearing for easy maintenance
- Available in any practical stroke length
- 20 standard mounting styles available
- Extruded-profile aluminum body with integrated switch grooves
- Single rod end or double rod ends
- Cushions – standard and adjustable at both ends, optional non-cushioned
- RoHS compliant

Tie Rod Pneumatic Cylinders
4MA/4ML Series – 1-1/2" to 5" Bore Size

Operating Information

	4MA	4ML
Operating pressure:	250 PSIG (17 bar) maximum air service	400 PSIG (27 bar) maximum hydraulic service
Temperature range –		
Standard seals	-10°F to 165°F (-23°C to 74°C)	
Fluorocarbon seals	-10°F to 250°F (-23°C to 121°C)	
Low temperature seals	-50°F to 150°F (-46°C to 66°C)	
Filtration requirements:	40 micron, dry filtered air Filtered hydraulic oil	

Ordering Information

2.00	J	4MA	U	1	4	A	6.000
Bore Size 1.50 ¹ 2.00 2.50 3.25 4.00 5.00	Double Rod Cylinder Specify "K" only if double rod cylinder is required.	Series 4MA Air Service 4ML Hydraulic Service ²	Ports U NPTF R BSPP B BSPT T SAE	Piston Rod Number Specify rod code number for required diameter. ^{8, 2}	Stroke Length Specify stroke length required in inches. ¹¹	Cushion Cap End Blank Non-Cushioned Cap End C Cushioned Cap End (not available for 4ML)	Piston Rod Thread Type A Standard (UNF unified thread) W BSF British Fine M* Metric
Cushion Head End Blank Non-Cushioned Head End C Cushioned Head End (not available for 1.50" bore with 1" rod or 4ML)	Mounting Style Specify mounting style code (see table on following page).	Special Modification Specify "S" only for special modification other than rod end, and then describe modification in item notes. (Includes 4MA with Linear Position Sensor Option) ⁷	Seals Blank Standard (nitrile seals) V Fluorocarbon Seals ⁴ E Fluorocarbon Rod Wiper and Rod Seal Only ⁵ 4 Low Temperature Seals ⁴ M Metallic Rod Wiper, Nitrile Seals ⁶	Piston Rod Thread Style 4 Small Male 8 Intermediate Male 9 Short Female 55 For Use with Split Coupler 9 3 Special (and specify all dimensions required) 6 Full Male	Rod Material and Gland Code Blank Standard Rod and Gland H Standard Rod and HI LOAD Gland ¹³ Y 17-4 PH Stainless Steel Rod and Standard Gland Z 17-4 PH Stainless Steel Rod and HI LOAD Gland ¹³ J 303 Stainless Steel Rod and Standard Gland K 303 Stainless Steel Rod and HI LOAD Gland ¹³ S 316 Stainless Steel Rod and Standard Gland T 316 Stainless Steel Rod and HI LOAD Gland ¹³		
Cylinder Construction Blank* Standard (extruded body, standard round lobe orientation) A* Extruded Body, Round Lobe Orientation Rotated 90 Degrees from Standard N* Extruded Body, Round Lobe Orientation Rotated 180 Degrees from Standard Z* Extruded Body, Round Lobe Orientation Rotated 270 Degrees from Standard T Aluminum Round Tube and Carbon Steel Tie Rods & Nuts							
Piston Type² Blank Lipseals and Magnetic Ring (legacy) (standard for 4ML) 1 Lipseals, No Magnetic Ring (legacy) 2 Lipseals, No Magnetic Ring (aluminum piston) 3 Lipseals and Magnetic Ring (aluminum piston) (standard for 4ML) 4 Bumper Seals, No Magnetic Ring ¹² 6 Bumper Seals and Magnetic Ring ¹² B Lipseals, 1/4" Thick Bumpers Both Ends ³ H Lipseals, 1/4" Thick Bumper Head End ³ C Lipseals, 1/4" Thick Bumper Cap End ³ D Lipseals and Magnetic Ring, 1/4" Thick Bumpers Both Ends ³ F Lipseals and Magnetic Ring, 1/4" Thick Bumper Head End ³ R Lipseals and Magnetic Ring, 1/4" Thick Bumper Cap End ³							

B

Tie Rod Pneumatic Cylinders

4MA Series

4MAP Series

ACVB Option

LPSO Option

PID Series

P1F Series

2MNR Series

For ordering purposes, when special options or common modifications are requested, the factory will assign a sequential part number in place of the model number.

For inventory, lead times, and kit lookup, visit www.pdnplu.com

B3

Parker Hannifin Corporation
Pneumatic Division
Wadsworth, Ohio
www.parker.com/pdn/rotary

Mounting Styles

Tie Rod Pneumatic Cylinders 4MA/4ML Series – 1-1/2" to 5" Bore Size

4MA/4ML Mounting Styles for 1-1/2" to 5" Bore

B
Tie Rod Pneumatic
Cylinders

4MA
Series

4MAP
Series

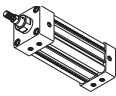
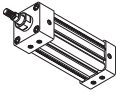
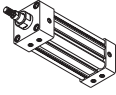
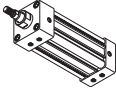
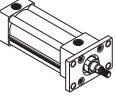
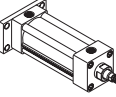
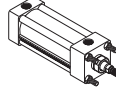
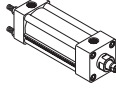
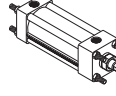
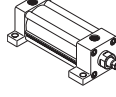
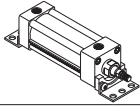
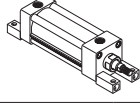
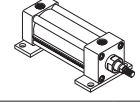
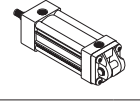
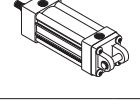
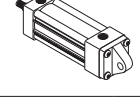
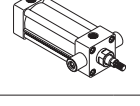
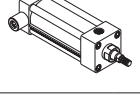
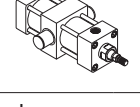
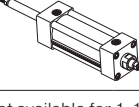
ACVB
Option

LPSO
Option

P1D
Series

P1F
Series

2MNR
Series

Mounting Style	NFPA Mounting	Description	Bore Size
TEF 	MX5/MS4	Sleeve Nut with Side Tap (standard mount)	4MA/4ML 1-1/2 - 5*
		w/LPSO	2 - 5
		w/LPSO w/stop tube	2 - 5
T 	MX0	No Mount (same construction as TEF)	4MA/4ML 1-1/2 - 5
		w/LPSO	2 - 5
		w/LPSO w/stop tube	2 - 5
TE 	MX5	Sleeve Nut (same construction as TEF)	4MA/4ML 1-1/2 - 5
		w/LPSO	2 - 5
		w/LPSO w/stop tube	2 - 5
F 	MS4	Side Tap (same construction as TEF)	4MA/4ML 1-1/2 - 5*
		w/LPSO	2 - 5
		w/LPSO w/stop tube	2 - 5
J 	MF1	Head Rectangular Flange	4MA/4ML 1-1/2 - 5
		w/LPSO	2 - 5 **
		w/LPSO w/stop tube	2 - 5
H 	MF2	Cap Rectangular Flange	4MA/4ML 1-1/2 - 5
		w/LPSO	2 - 5 **
		w/LPSO w/stop tube	2 - 5 **
TB 	MX3	Tie Rods Extended Head End	4MA/4ML 1-1/2 - 5
		w/LPSO w/stop tube	2 - 5
TC 	MX2	Tie Rods Extended Cap End	4MA/4ML 1-1/2 - 5
TD 	MX1	Tie Rods Extended Both Ends	4MA/4ML 1-1/2 - 5
C 	MS2	Side Lug	4MA/4ML 1-1/2 - 5
		w/LPSO	2 - 5
		w/LPSO w/stop tube	2 - 5
Mounting Style	NFPA Mounting	Description	Bore Size
CB 	MS1	Side End Angle	4MA/4ML 1-1/2 - 5
		w/LPSO	2 - 5
		w/LPSO w/stop tube	2 - 5
G 	MS7	Side End Lug	4MA/4ML 1-1/2 - 4*
		w/LPSO	2 - 4
		w/LPSO w/stop tube	2 - 4
NB 	N/A	Base Bar	4MA/4ML 1-1/2 - 4*
		w/LPSO	2 - 4
		w/LPSO w/stop tube	2 - 4
BB 	MP1	Cap Fixed Clevis	4MA/4ML 1-1/2 - 5
		w/LPSO	2 - 5 **
		w/LPSO w/stop tube	2 - 5 **
BC 	MP2	Cap Detachable Clevis	4MA/4ML 1-1/2 - 5
		w/LPSO	2 - 5 **
		w/LPSO w/stop tube	2 - 5 **
BE 	MP4	Cap Detachable Eye	4MA/4ML 1-1/2 - 5
		w/LPSO	2 - 5 **
		w/LPSO w/stop tube	2 - 5 **
D 	MT1	Head Trunnion	4MA/4ML 1-1/2 - 5*
		w/LPSO	2 - 5
		w/LPSO w/stop tube	2 - 5
DB 	MT2	Cap Trunnion	4MA/4ML 1-1/2 - 5
		w/LPSO	2 - 5 **
		w/LPSO w/stop tube	2 - 5 **
DD 	MT4	Intermediate Trunnion	4MA/4ML 1-1/2 - 5
KTEF † 	MDX5/MDS4	Double Rod End, TEF Mount	4MA/4ML 1-1/2 - 5
		w/LPSO	2 - 5
		w/LPSO w/stop tube	2 - 5

* Not available for 1-1/2" bore with 1" rod.

** May interfere with mounting. Please provide clearance for Linear Sensor overhang (see page B75).

† Double rod end cylinders can be ordered with head mountings, i.e. KJ.

Sensors

See section L for sensors.



Kits & Accessories

See page B34.



For inventory, lead times, and kit lookup, visit www.pdnplu.com