

General Description: The Parker P1A series of pneumatic cylinders are intended for use in a wide range of applications. These cylinders are particularly suitable for lighter duties in the packaging, food and textile industries. Hygienic design, the use of corrosion-resistant materials and initial lubrication with our food-grade grease makes the cylinders suitable for food industry applications.

Proven design and high quality manufacturing throughout ensure long service life and optimum performance.

Mounting dimensions are in accordance with ISO 6432 and CETOP RP52P. This greatly simplifies installation and world-wide interchangeability.

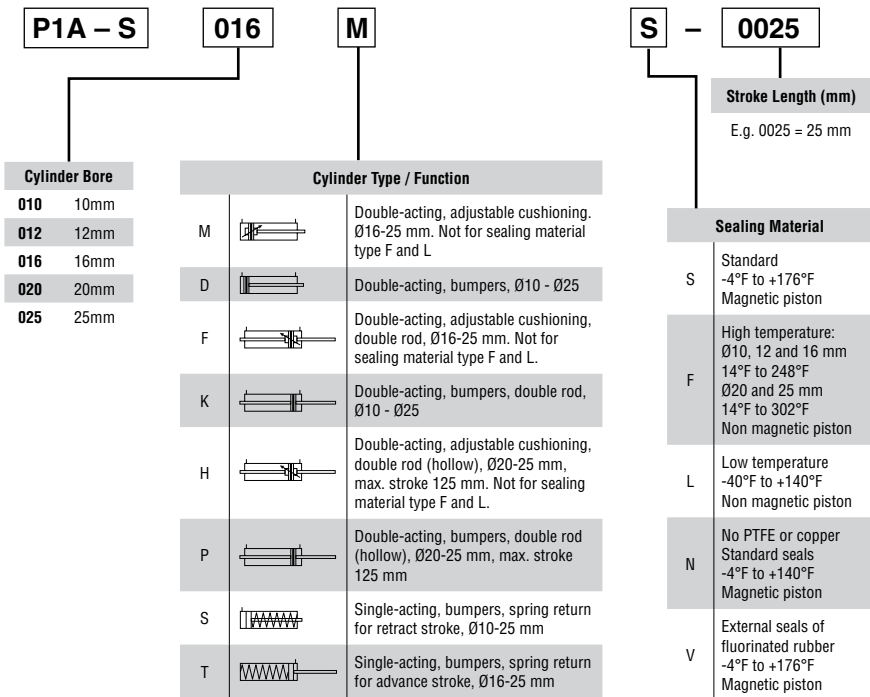
The Mini ISO range is available with bumpers or adjustable pneumatic cushioning. Controlled by simple bleed screws for fine adjustment, the adjustable cushioned cylinders can be operated with higher mass loads and at higher speeds than those with fixed end cushioning bumpers.

The Mini ISO range is also available in an all-stainless version with piston rod, cylinder body and end covers of stainless steel for use in extremely severe environments. Consult the Actuator Division for more information.

A complete range of sensors for proximity sensing is available as accessories: both reed and solid state sensors are available. Either can be supplied with flying leads or cable and multi-pin connector.

MINI ISO PNEUMATIC CYLINDERS

P1A SERIES - HOW TO ORDER



MINI ISO PNEUMATIC CYLINDERS

P1A SERIES - STROKE LENGTHS

Cylinder Model	Bore Size	Stroke Length (+ = standard, - = non-standard, blank = N/A)															
		10	15	20	25*	30	40	50*	80*	100*	125*	160*	200*	250*	320*	400*	500*
Double Acting with fixed end-cushioning:																	
P1A-S 010 D	10	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-
P1A-S 012 D	12	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-
P1A-S 016 D	16	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-
P1A-S 020 D	20	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-
P1A-S 025 D	25	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-
Double Acting with adjustable end-cushioning:																	
P1A-S 016 M	16				+	+	+	+	+	+	+	+	+	+	+	+	+
P1A-S 020 M	20				+	+	+	+	+	+	+	+	+	+	+	+	+
P1A-S 025 M	25				+	+	+	+	+	+	+	+	+	+	+	+	+
Single Acting:																	
P1A-S 010 SS	10	+	+	-	+	-	+	+	+								
P1A-S 012 SS	12	+	+	-	+	-	+	+	+								
P1A-S 016 SS(TS)	16	+	+	-	+	-	+	+	+	+	+						
P1A-S 020 SS(TS)	20	+	+	-	+	-	+	+	+	+							
P1A-S 025 SS(TS)	25	+	+	-	+	-	+	+	+	+							

*Standard stroke lengths in mm according to ISO 4393

** Not for the TS version

Note: For sensor specifications and part numbers, please refer to the Electronic Sensors section.

MINI ISO PNEUMATIC CYLINDERS

P1A SERIES - STANDARD SPECIFICATIONS

Working Pressure	max	145 PSI
Working Temperature	max	176°F
	min	4°F
High-Temperature Version	max	Ø20 and 25 mm - 302°F Ø10, 12 and 16 mm - 248°F
	min	14°F
Low-Temperature Version	max	140°F
	min	-40°F

Prelubricated, further lubrication is not normally necessary.

If additional lubrication is introduced it must be continued.

MINI ISO PNEUMATIC CYLINDERS

P1A SERIES - MATERIAL SPECIFICATION

Piston rod:	Stainless steel, DIN X 10 CrNiS 18 9
Piston rod seal:	Fluorocarbon rubber FPM
Piston rod bearing:	Multilayer PTFE/steel
End covers:	Anodized aluminium
O-ring, internal:	Nitrile rubber, NBR
Cylinder barrel:	Stainless steel, DIN X 5 CrNi 18 10
Piston, complete:	Nitrile rubber, NBR/steel
Magnet holder:	Thermoplastic elastomer
Magnet:	Plastic-coated magnetic material
Return spring:	Surface-treated steel
Cushioning screw:	Stainless steel, DIN X 10 CrNiS 18 9

Cylinders are supplied complete with nose mounting and piston rod nuts.

Cylinders with double piston rods are supplied with two piston rod nuts

Variants Mini ISO:

Low-temperature version, type L:

Piston rod seal:	Nitrile rubber, NBR
Piston complete:	Nitrile rubber, NBR/steel

High-temperature version, type F:

Piston rod seal:	Fluorocarbon rubber, FPM
Piston complete, Ø10-Ø16:	HNBR/steel
Piston complete, Ø20-Ø25:	FPM/steel

PTFE and copper free cylinders, type N:

Piston rod bearing:	PA plastic
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Cylinders with outer sealings in fluorocarbon, type V:

Piston rod seal/	
Scraper ring:	Fluorocarbon rubber, FPM

Note: Spare part = new cylinder

MINI ISO PNEUMATIC CYLINDERS

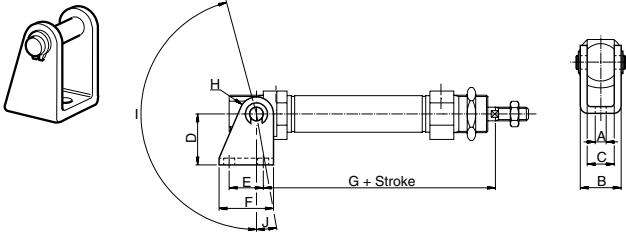
P1A SERIES - QUICK REFERENCE

Model #	Cylinder		Piston Rod		Thread	Total Weight at 0mm Stroke (lbs)	Additional Weight per 10mm Stroke (lbs)	Air Consumption	Port Size
	Bore (mm)	Area (cm ²)	Dia. (mm)	Area (cm ²)					
Double Acting, cushioned stroke									
P1A-S 010 D	10	0.78	4	0.13	M4	0.09	0.007	0.0004 ¹⁾	M5
P1A-S 012 D	12	1.13	6	0.28	M6	0.15	0.009	0.0005 ¹⁾	M5
P1A-S 016 D	16	2.01	6	0.28	M6	0.20	0.012	0.0009 ¹⁾	M5
P1A-S 020 D	20	3.14	8	0.50	M8	0.40	0.015	0.0010 ¹⁾	G1/8
P1A-S 025 D	25	4.91	10	0.78	M10x1.25	0.89	0.025	0.0023 ¹⁾	G1/8
Double Acting, adjustable cushioning									
P1A-S 016 M	16	2.01	6	0.28	M6	0.20	0.012	0.0009 ¹⁾	M5
P1A-S 020 M	20	3.14	8	0.50	M8	0.40	0.015	0.0010 ¹⁾	G1/8
P1A-S 025 M	25	4.91	10	0.78	M10x1.25	0.89	0.025	0.0023 ¹⁾	G1/8
Single Acting									
P1A-S 010 SS	10	0.78	4	0.13	M4	0.09	0.007	0.0002 ¹⁾	M5
P1A-S 012 SS	12	1.13	6	0.28	M6	0.18	0.009	0.0003 ¹⁾	M5
P1A-S 016 SS(TS)	16	2.01	6	0.28	M6	0.22	0.012	0.0005 ¹⁾	M5
P1A-S 020 SS(TS)	20	3.14	8	0.50	M8	0.40	0.015	0.0008 ¹⁾	G1/8
P1A-S 025 SS(TS)	25	4.91	10	0.78	M10x1.25	0.58	0.025	0.0013 ¹⁾	G1/8

1) Free air consumption per 10 mm stroke length for a double stroke at 87 PSI

CYLINDER MOUNTINGS

P1A SERIES - CLEVIS BRACKET



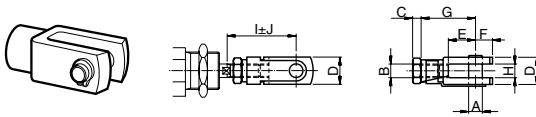
Intended for articulated mounting of the cylinder. Supplied with shaft for mounting on the rear end cover.

Material:
 Bracket: surface-treated steel, black
 Pin: surface hardened steel
 Circlips: according to DIN 471: Stainless steel
 This mounting is also available in stainless steel.

Part No.	Cylinder Ø (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (°)	J (°)
P1A-4CMT	10	4.5	13	8	24	12.5	20	65.3	5	160	17
P1A-4DMT	12	5.5	18	12	27	15.0	25	73.0	7	170	15
	16	5.5	18	12	27	15.0	25	80.0	7	170	15
P1A-4HMT	20	6.5	24	16	30	20.0	32	91.0	10	165	10
	25	6.5	24	16	30	20.0	32	100.0	10	165	10

CYLINDER MOUNTINGS

P1A SERIES - CLEVIS



According to ISO 8140. Intended for articulated mounting of the cylinder. This mounting is adjustable in the axial direction. Supplied complete with pin.

Material: Galvanized steel
 This mounting is also available in stainless steel.

Part No.	Cylinder Ø (mm)	A (mm)	B	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)
P1A-4CRC	10	4	M4	2.2	8	8	5	16	4	22.0	2.0
P1A-4DRC	12-16	6	M6	3.2	12	12	7	24	6	31.0	3.0
P1A-4HRC	20	8	M8	4.0	16	16	10	32	8	40.5	3.5
P1A-4JRC	25	10	M10x1.25	5.0	20	20	12	40	10	49.0	3.0