Standard Cylinders ISO 15552

Global product range

The P1F Series meets the specifications of the ISO 15552 standard. This means full interchangeability to any cylinder anywhere around the globe.
The P1F will be available throughout the extensive worldwide Parker Hannifin organisation – for the benefit to you and your customers.

Features

- Smooth profile or Tie-Rods design.
- Bore sizes 32 - 125 mm.
- Stroke up to 2500 mm.
- Corrosion resistant design.
- Stainless steel piston rod.
- Polyurethane seal technology.
- Stainless steel cushioning screws on same side.
- New adjustable pneumatic and mechanical cushioning system reduces noise.
- Full range of mountings.
- Full range of drop-in‘ sensors.

Design Variants

Smooth profile - P1F-S, P1F-K

The P1F in bore sizes Ø32 to Ø125 mm is a smooth profile designed cylinder with a magnetic piston used for standard temperature range from -20°C to +80°C. Utilising internal composite technology to save weight and reduce impact kinetic energy, while assuring the high performance and functionality expected for an ISO cylinder. Aluminium end covers, stainless steel piston rod guided with a PTFE coated steel bearing, pneumatic cushioning and polyurethane (PUR) seals as standard, this is our smooth profile industrial ISO cylinder.

Smooth profile - P1F-A

Similar to the smooth profile version but in an ATEX variant and a restricted temperature range from -20°C to +60°C. Average speed up to 0.5 m/s and max. frequency 1Hz.

CE Ex II 2GD Ex h IIC T4 T=120°C GDb –20°C≤Ta≤+60°C

Twin Rods smooth profile - P1F-R, P1F-Q

Similar to the smooth profile version but with Twin Rods for non-rotating applications like handling and packaging.

Tie-Rods round profile - P1F-T, P1F-N

Similar to the smooth profile version but in a Tie-Rods design for heavy duty applications. Round tube is made in anodised aluminium; Tie-Rods in stainless steel as a standard.
Bore sizes Ø32 to Ø125 mm.
Large bore sizes Ø160 to Ø320 mm, see catalogue PDE2667TCEN.

Technical Data

Cylinder forces

Bore/piston rod [mm]	Stroke	Surface area [cm²]	Max theoretical force in N in relation to applied pressure in bar									
			1	2	3	4	5	6	7	8	9	10
32/12	+	8.0	80	161	241	322	402	**483**	563	643	724	804
	-	6.9	69	138	207	276	346	**415**	484	553	622	691
40/16	+	12.6	126	251	377	503	628	**754**	880	1005	1131	1257
	-	10.6	106	211	317	422	528	**633**	739	844	950	1056
50/20	+	19.6	196	393	589	785	982	**1178**	1374	1571	1767	1964
	-	16.5	165	330	495	660	825	**990**	1155	1319	1484	1649
63/20	+	31.2	312	623	935	1247	1559	**1870**	2182	2494	2806	3117
	-	28.0	280	561	841	1121	1402	**1682**	1962	2242	2523	2803
80/25	+	50.3	503	1005	1508	2011	2513	**3016**	3519	4021	4524	5027
	-	45.4	454	907	1361	1814	2268	**2721**	3175	3629	4082	4536
100/25	+	78.5	785	1571	2356	3142	3927	**4712**	5498	6283	7069	7854
	-	73.6	736	1473	2209	2945	3682	**4418**	5154	5891	6627	7363
125/32	+	122.7	1227	2454	3682	4909	6136	**7363**	8590	9818	11045	12272
	-	114.7	1147	2294	3440	4587	5734	**6881**	8027	9174	10321	11468

+ = outward stroke
- = return stroke

Cylinder air consumption

Bore/piston rod [mm]	Stroke	Surface area [cm²]	Air consumption in l/mm in relation to applied pressure in bar									
			1	2	3	4	5	6	7	8	9	10
32/12 (G1/8)	+	8.0	0.016	0.024	0.032	0.040	0.048	**0.056**	0.064	0.072	0.079	0.087
	-	6.9	0.014	0.021	0.027	0.034	0.041	**0.048**	0.055	0.061	0.068	0.075
40/16 (G1/4)	+	12.6	0.025	0.037	0.050	0.062	0.075	**0.087**	0.099	0.112	0.124	0.137
	-	10.6	0.021	0.031	0.042	0.052	0.063	**0.073**	0.083	0.094	0.104	0.115
50/20 (G1/4)	+	19.6	0.039	0.058	0.078	0.097	0.117	**0.136**	0.155	0.175	0.194	0.213
	-	16.5	0.033	0.049	0.065	0.082	0.098	**0.114**	0.130	0.147	0.163	0.179
63/20 (G3/8)	+	31.2	0.062	0.093	0.123	0.154	0.185	**0.216**	0.247	0.277	0.308	0.339
	-	28.0	0.056	0.083	0.111	0.139	0.166	**0.194**	0.222	0.249	0.277	0.305
80/25 (G3/8)	+	50.3	0.100	0.150	0.199	0.249	0.298	**0.348**	0.398	0.447	0.497	0.546
	-	45.4	0.090	0.135	0.180	0.224	0.269	**0.314**	0.359	0.404	0.448	0.493
100/25 (G1/2)	+	78.5	0.156	0.234	0.311	0.389	0.466	**0.544**	0.621	0.699	0.776	0.854
	-	73.6	0.146	0.219	0.292	0.364	0.437	**0.510**	0.582	0.655	0.728	0.800
125/32 (G1/2)	+	122.7	0.244	0.365	0.486	0.607	0.728	**0.850**	0.971	1.092	1.213	1.334
	-	114.7	0.228	0.341	0.454	0.567	0.681	**0.794**	0.907	1.020	1.134	1.247

+ = outward stroke
- = return stroke

free air consumption for 1 cycle, 10 mm inward and 10 mm outward

Weight

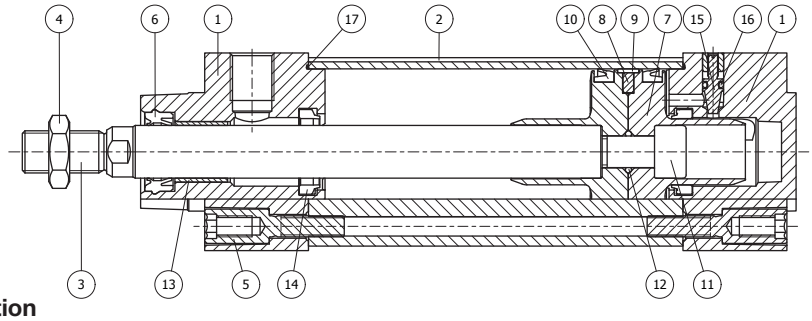
Cyl.-bore	P1F-S/A/L/H		P1F-T		Moving parts		Adder for rod lock	
[mm]	Base 0 mm [kg]	per 100 mm [kg]	Base 0 mm [kg]	per 100 mm [kg]	Base 0 mm [kg]	per 100 mm [kg]	P1F-H [kg]	P1F-L [kg]
Ø32	0.54	0.23	0.49	0.27	0.10	0.09	0.6	0.41
Ø40	0.74	0.32	0.73	0.31	0.19	0.16	0.8	0.44
Ø50	1.22	0.47	1.19	0.52	0.34	0.25	1.0	0.61
Ø63	1.69	0.49	1.68	0.54	0.40	0.24	1.2	1.25
Ø80	2.50	0.73	2.48	0.84	0.73	0.39	1.4	2.45
Ø100	3.65	0.80	3.66	0.88	1.02	0.38	1.6	3.72
Ø125	6.41	1.37	6.30	1.32	2.01	0.63	1.8	6.07

Technical Data

Product type	Standard cylinder according to ISO 15552
Bore size	32 - 125 mm
Stroke length	5 - 2500 mm
Versions	Double acting
Cushioning	Adjustable air cushioning
Position sensing	Proximity sensor
Installation	ISO cylinder and piston rod mountings

Operating and environmental data

Operating medium	For best possible service life and trouble-free operation dry filtered compressed air to ISO 8573-1:2010 quality 3.4.3 should be used. This specifies a dew point of + 3°C for indoor operation (a lower dew point should be selected for minus temperature operation and we recommend the use of an inline dryer) and is in line with the air quality from most standard compressors with a standard filter.			
Operating pressure	1 to 10 bar			
Ambient temperature	Standard temperature (option M):	-20°C to +80°C	Metal scraper (option Q):	-30°C to +80°C
	High temperature (option F):	-10°C to +150°C	FKM wiper rod seal (option V):	-10°C to +80°C
	Low temperature (option L):	-40°C to + 80°C	POLON wiper rod seal (option D):	-20°C to +80°C
Pre-lubricated	Further lubrication is normally not necessary. If additional lubrication is introduced it must be continued. Hydraulic oil type HLP (DIN 51524. ISO 11158). Viscosity by 40°C: 32 mm2/s (cst). Example: Shell Tellus 32 or equal.			
Corrosion resistance	Material and surface treatment selected for typical industrial applications with resistance to corrosion and chemicals.			



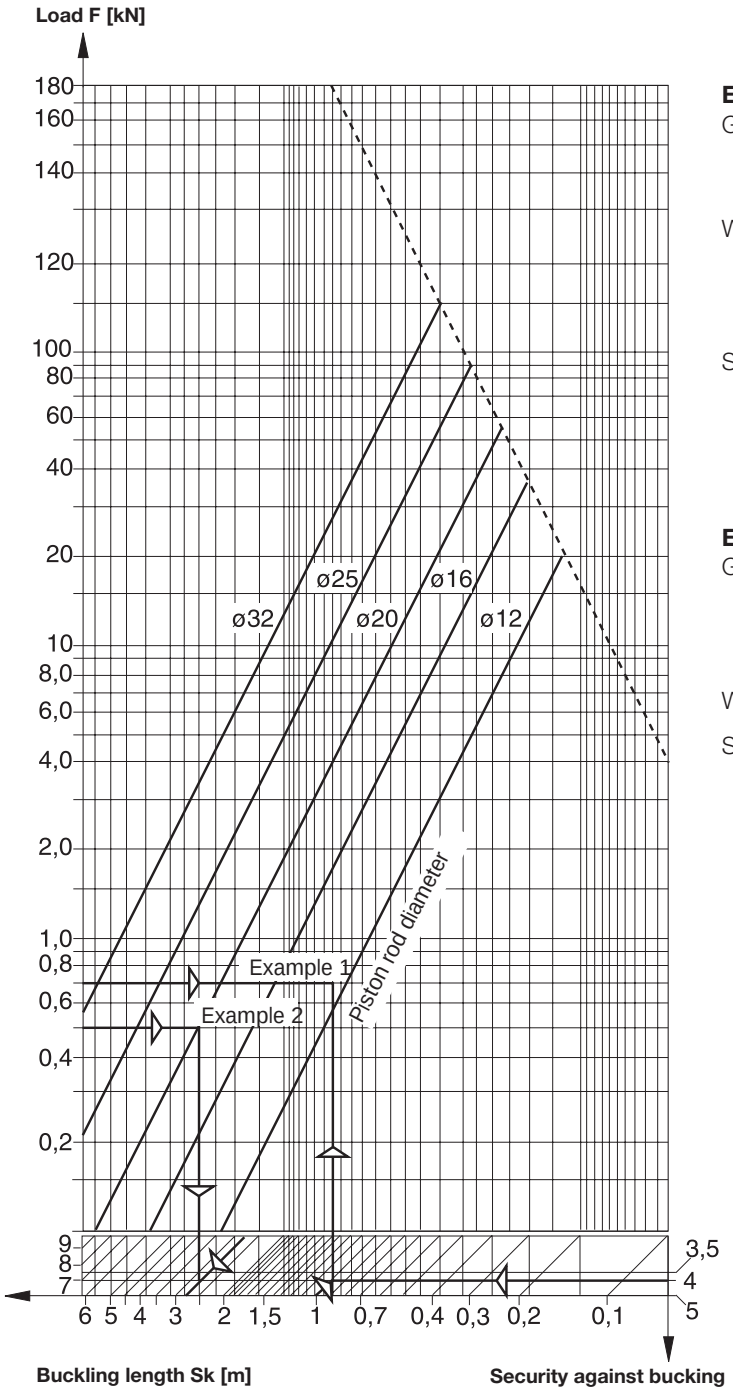
Material specification

Pos	Part		Specification
1	End covers		Aluminium / Optional black anodised (options V & D only)
2	Cylinder barrel		Anodised aluminium (profile or round tube)
3	Piston rod	Standard	Austenitic stainless steel, DIN X8 CrNiS 18-9
		Optional	Chromium plated steel DIN C45E
		Optional	Chromium plated stainless steel DIN X2 CrNiMoN 17-12-2, Acid proof
4	Piston rod nut		Zinc plated steel / Stainless steel (option V & D only)
5	End cover screws		Zinc plated steel / Stainless steel (option V & D only)
6	Piston rod seal	Standard	Polyurethane (PUR)
		Optional	Fluoro elastomer (FKM) / Ultrathanpolyurethane (TPU-PUR) / Metallic scraper (Brass) nitrile (NBR) / Polon / UHMW-PE
7	Piston	Standard	Poloxymethylene (POM)
		Optional	Aluminium
8	Magnet		Plastic coated magnetic material
9	Piston bearing	Standard	Poloxymethylene (POM)
		Optional	Polytetrafluoroethylene (PTFE), for aluminium piston
10	Piston seals	Standard	Polyurethane (PUR)
		Optional	Fluoro elastomer (FKM) / Ultrathanpolyurethane (TPU-PUR)
11	Piston bolt		Zinc plated steel
12	O-ring piston bolt	Standard	Nitrile rubber (NBR)
		Optional	Fluoro elastomer (FKM)
13	Piston rod bearing		Multilayer Steel / PTFE / Optional high polymer (option V & D only)
14	Cushioning seals	Standard	Polyurethane (PUR)
		Optional	Fluoro elastomer (FKM) / Ultrathanpolyurethane (TPU-PUR)
15	Cushioning screw		Stainless steel DIN X8 CrNiS 18-9
16	O-ring cushioning screw	Standard	Nitrile rubber (NBR)
		Optional	Fluoro elastomer (FKM)
17	O-ring end cover	Standard	Nitrile rubber (NBR)
		Optional	Fluoro elastomer (FKM)
	Tie-Rods		Austenitic stainless steel, DIN X8 CrNiS 18-9
	Tie-Rods nut		Zinc plated steel

Piston rod load diagram

The piston rod diameter has to be determined to prevent the rod from buckling. Always take the maximum piston thrust force achievable at the specified operating pressure with the cylinder in question.

Loads resulting from longer strokes (as indicated in the diagram) on request. In case of special mounting conditions and transverse forces please consult. Recommended security factor against buckling: 3,5 to 5.



Example 1:

Given Piston thrust: 0.7 kN
Stroke length: 1000 mm
Operating pressure: approx. 6 bar

Wanted Piston rod diameter with 4-fold security against buckling;
Check the piston thrust of the cylinder diameter resulting from the piston rod diameter.

Solution see example 1 in piston rod load diagram.
The piston rod diameter lies between 12 and 16 mm - a cylinder with a piston rod of 16 mm diameter therefore has to be chosen.

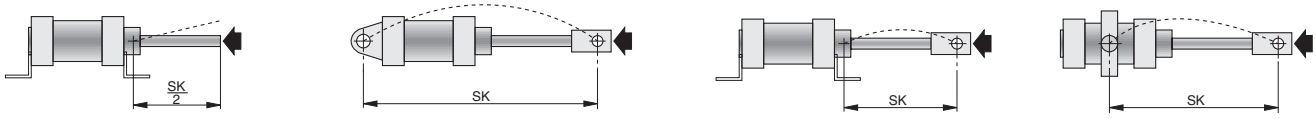
Example 2:

Given Cylinder: Ø 50 mm
Piston rod: Ø 20 mm
Stroke length: 1000 mm
Piston thrust: 0.5 kN at 6 bar

Wanted max. stroke with 4-fold security against buckling

Solution see example 2 in piston rod load diagram.
Sk = 2900 mm
max. stroke = 1450 mm

Buckling Possibilities of Piston Rods



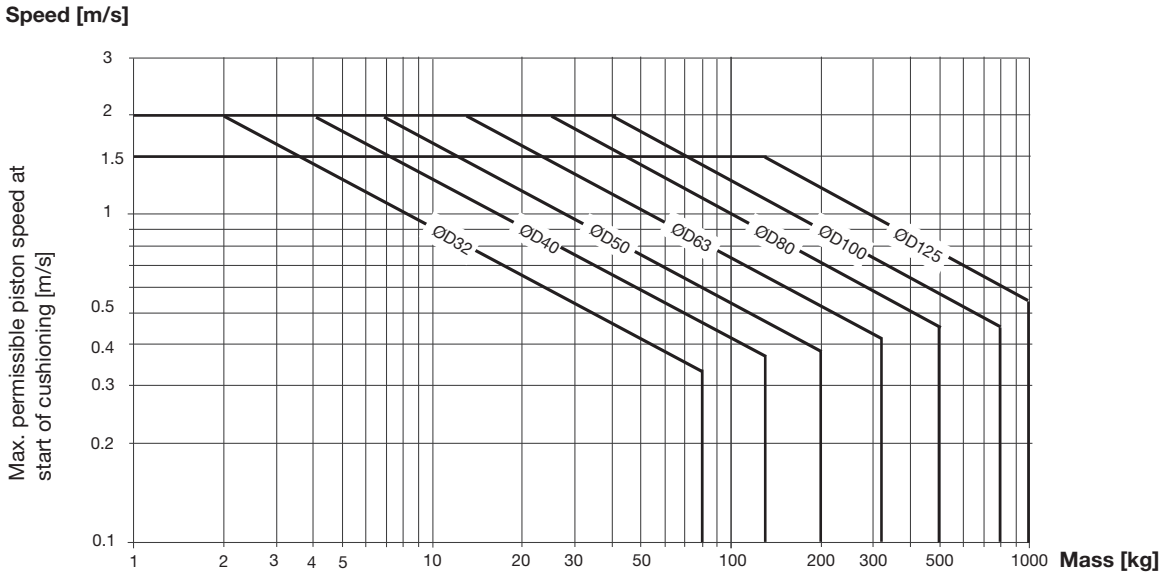
Cushioning Characteristics

Air cushion is used to absorb kinetic energy due to load and speed at both end of stroke. This typically consists of a threaded needle screw that adjusts into an orifice in the cylinder end plate. By adjusting the screw further into the orifice you lessen the amount of air that can escape in a given time. Slowing the exhaust of air creates back pressure which slows the piston as it enters into the end cushioning seal.

Cushioning Diagram

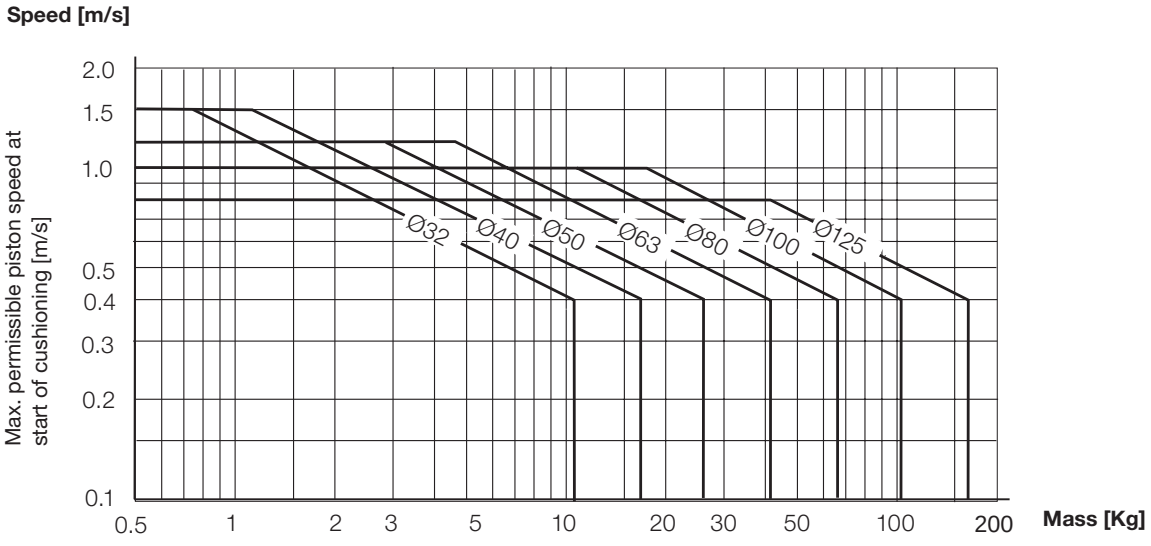
Work out your expected moving mass and read off the maximum permissible speed at start of cushioning. Alternatively, take your desired speed and expected mass and find the cylinder size required. Please note that piston speed at start of cushioning is typically approx. 50 % higher than the average speed, and that it is this higher speed which determines the choice of cylinder.

The mass is the sum of internal and external friction, plus any gravitational forces.



Horizontal application, pressure p = 6 bar, mass guided externally

Cushioning Diagram for Cylinders with rod locks

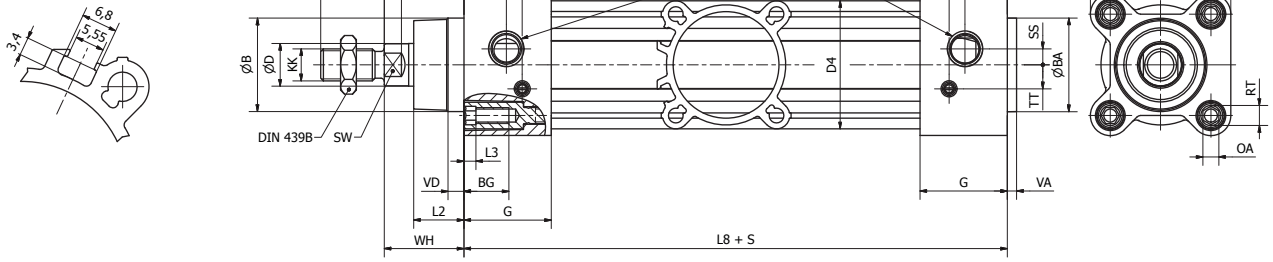


Horizontal application, pressure p = 6 bar, mass guided externally

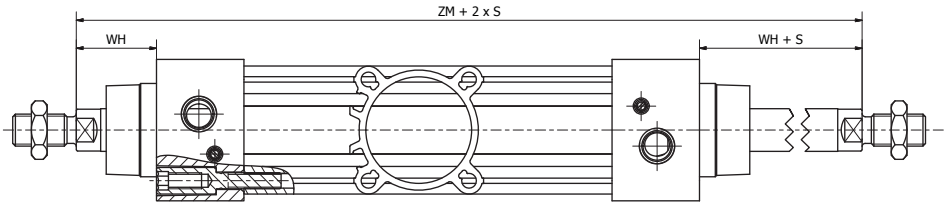
Dimensions

Smooth profile design

P1F-S / P1F-A

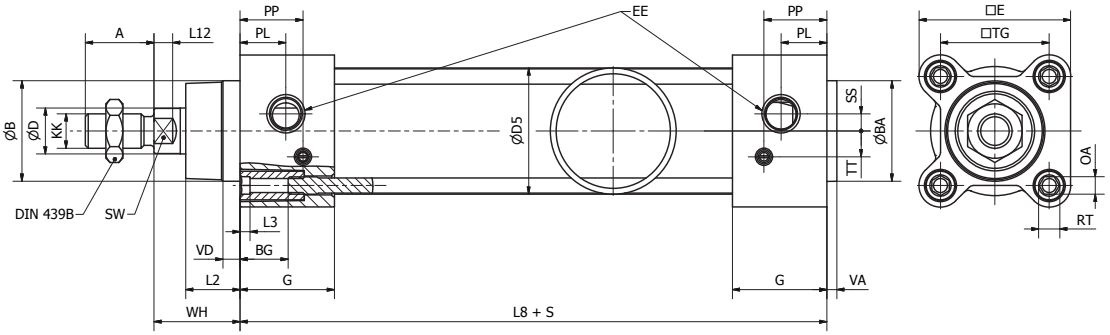


P1F-K

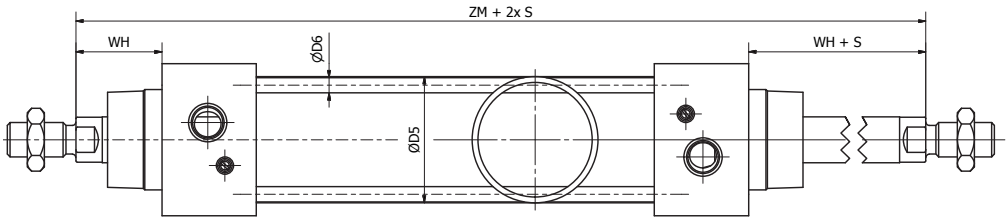


Tie-Rods with round profile design

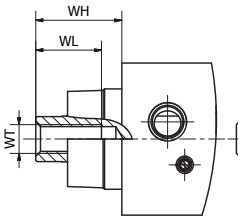
P1F-T



P1F-N



Female piston rod option



Dimensions

Dimensions [mm]

Cyl.-bore [mm]	A	ØB d11	ØBA d11	BG	ØD	D4	ØD5	ØD6	E	EE	G	KK	L2	L3	L8
Ø32	22	30	30	17	12	42.5	35	5.3	47	G1/8	28.4	M10x1.25	16.8	4.5	94
Ø40	24	35	35	17	16	48	43	5.3	53	G1/4	33	M12x1.25	19	4.5	105
Ø50	32	40	40	18	20	59.5	54	7.1	64.5	G1/4	33.4	M16x1.5	27.6	4.5	106
Ø63	32	45	45	18	20	69.5	67	7.1	75	G3/8	39.4	M16x1.5	24.3	4.5	121
Ø80	40	45	45	19.5	25	86	85	8.9	94	G3/8	39.4	M20x1.5	30.1	5.5	128
Ø100	40	55	55	19.5	25	103	105	8.9	111	G1/2	44.3	M20x1.5	34	5.5	138
Ø125	54	60	60	20	32	130	130	10.8	136	G1/2	50.8	M27x2	45	0	160

Cyl.-bore [mm]	L12	OA	PL	PP	RT	SS	SW	TG	TT	VA	VD	WH	WL	WT	ZM
Ø32	6	6	14	20	M6	5	10	32.5	6.5	3.6	6	26	21	M8x1	146
Ø40	6.5	6	16	22	M6	6	13	38	9	3.5	6	30	23	M10x1.25	165
Ø50	8	8	15.5	21.5	M8	6	17	46.5	9	3.6	6	37	31	M14x1.5	180
Ø63	8	8	18	28	M8	10	17	56.5	11	3.5	6	37	31	M14x1.5	195
Ø80	10	10	20	30	M10	11.5	22	72	14	3.5	6	46	39	M18x1.5	220
Ø100	10	10	18	33	M10	11.5	22	89	14	3.5	6	51	39	M18x1.5	240
Ø125	13	8	20	40	M12	0	27	110	22	5.5	9	65	53	M24x2	290

Tolerances [mm]

Cyl.-bore [mm]	A	L8	TG	ZM	stroke tolerance		
					s ≤ 350 mm	350 mm < s ≤ 600 mm	s > 600 mm
Ø32	0 / - 0.5	± 0.3	± 0.4	-0.4 /+ 2.2	+ 1.7	+ 1.9	+ 2.3
Ø40	0 / - 0.5	± 0.3	± 0.4	-0.4 /+ 2.2	+ 1.7	+ 1.9	+ 2.3
Ø50	0 / - 0.5	± 0.4	± 0.4	-0.4 /+ 2.2	+ 1.8	+ 2	+ 2.4
Ø63	0 / - 0.5	- 0.5 / + 0.3	± 0.4	-0.4 /+ 2.2	+ 1.9	+ 2.1	+ 2.5
Ø80	0 / - 0.5	± 0.4	± 0.4	-0.4 /+ 2.2	+ 1.9	+ 2.1	+ 2.5
Ø100	0 / - 0.5	± 0.5	± 0.4	-0 /+ 2.5	+ 2.0	+ 2.2	+ 2.6
Ø125	0 / - 1.0	± 0.5	± 0.4	-0 /+ 2.6	+ 2.1	+ 2.3	+ 2.7

Order code

Order Instructions	P	1	F	-	S	0	3	2	M	S	-	0	1	6	0	-	0	0	0	0

Profile/cylinder design	
S	Smooth
A [1]	ATEX smooth
K	Smooth with through rod
L [2] [4]	Smooth with dynamic rod lock
H [2] [4]	Smooth with static rod lock
T	Tie-Rods
N	Tie-Rods with through rod
P [2]	Air reservoir

Cylinder bore size	
032	32 mm
040	40 mm
050	50 mm
063	63 mm
080	80 mm
100	100 mm
125	125 mm

Temperature range	
M [1]	Standard Temperature -20° to +80°C
F [3]	High Temperature -10° to +150°C
L [3]	Low Temperature -40°C to +80°C
Q [4]	Metallic scraper -30°C to +80°C
V [5]	FKM rod seal -10°C to +80°C
D [5]	Polon rod seal -20°C to +80°C

Rod extension or trunnion mounting	
0000	without
P . . .	Piston rod extension in mm
G000	Trunnion mount +90° vs. air ports
7000	Trunnion mount +0° vs. air ports
H . . .	piston rod extension in mm with trunnion +90°
8 . . .	piston rod extension in mm with trunnion +0°

Cylinder stroke	
....	Stroke length in mm

Piston style	
-	Standard with magnet
F	Standard w/o magnet
X	Aluminium with magnet
A	Aluminium w/o magnet
Air reservoir	
-	without piston

Piston Rod material male thread	
S [1]	Stainless steel
C	Chrome plated carbon steel
R*	Chrome plated stainless steel
Piston Rod material female thread	
E [1]	Stainless steel
F	Chrome plated carbon steel
G	Chrome plated stainless steel
Air reservoir	
A	without piston rod

[1] ATEX version is specified for standard temperature range -20°C to +60°C
[2] in standard temperature range -20°C to +80°C
[3] High and low temp option only with aluminium piston
[4] Only in combination with chrome plated piston rod material
[5] With anodised end covers, high polymer piston rod bushing
and stainless steel end covers screws and nut. Only for S and K cylinder design

Standard strokes for all P1F cylinders compliant to ISO 4393
(with the exception of stroke 40 mm)
Non standard strokes up to 2500 mm

Order code **Cylinder bore** (mm) **● = Standard stroke (mm)** **= Non standard stroke to special order**

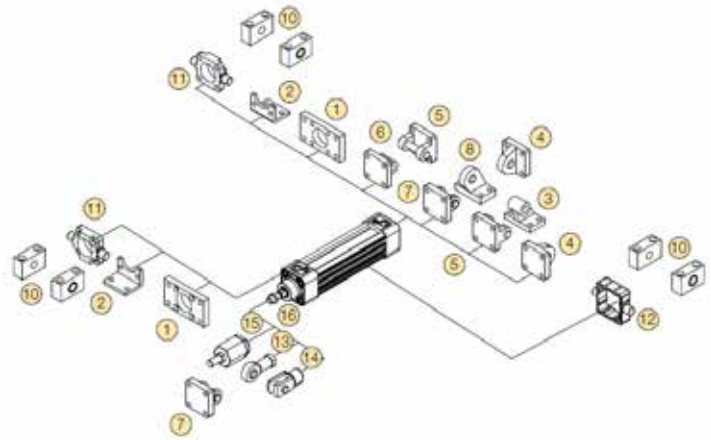
	0025	0040	0050	0080	0100	0125	0160	0200	0250	0320	0400	0500	0600	0700	0800	2500	
P1F-S032MS -	●	●	●	●	●	●	●	●	●	●	●	●				//	**-0000**
P1F-S040MS -	●	●	●	●	●	●	●	●	●	●	●	●				//	**-0000**
P1F-S050MS -	●	●	●	●	●	●	●	●	●	●	●	●				//	**-0000**
P1F-S063MS -	●	●	●	●	●	●	●	●	●	●	●	●				//	**-0000**
P1F-S080MS -	●	●	●	●	●	●	●	●	●	●	●	●				//	**-0000**
P1F-S100MS -	●	●	●	●	●	●	●	●	●	●	●	●				//	**-0000**
P1F-S125MS -	●	●	●	●	●	●	●	●	●	●	●	●				//	**-0000**

Mountings

	Flange MF1 / MF2 (1)	Foot brackets MS1 (2)	Pivot bracket with rigid bearing AB7 (3)	Swivel eye bracket MP6 (4)	Clevis bracket MP2 (5)
					
Ø32	P1C-4KMB	P1C-4KMF	P1C-4KMDB	P1C-4KMSB	P1C-4KMTB
Ø40	P1C-4LMB	P1C-4LMF	P1C-4LMDB	P1C-4LMSB	P1C-4LMTB
Ø50	P1C-4MMB	P1C-4MMF	P1C-4MMDB	P1C-4MMSB	P1C-4MMTB
Ø63	P1C-4NMB	P1C-4NMF	P1C-4NMDB	P1C-4NMSB	P1C-4NMTB
Ø80	P1C-4PMB	P1C-4PMF	P1C-4PMDB	P1C-4PMSB	P1C-4PMTB
Ø100	P1C-4QMB	P1C-4QMF	P1C-4QMDB	P1C-4QMSB	P1C-4QMTB
Ø125	P1C-4RMB	P1C-4RMF	P1C-4RMDB	P1C-4RMSB	P1C-4RMTB

	Clevis bracket MP4 (6)	Clevis bracket AB6 (7)	Pivot bracket with swivel bearing CS7 (8)	3 and 4 position flange JP1 (9)	Pivot brackets AT4 (10)
					
Ø32	P1C-4KMEB	P1C-4KMCB	P1C-4KMAF	P1E-6KB0	9301054261
Ø40	P1C-4LMEB	P1C-4LMCB	P1C-4LMAF	P1E-6LB0	9301054262
Ø50	P1C-4MMEB	P1C-4MMCB	P1C-4MMAF	P1E-6MB0	9301054262
Ø63	P1C-4NMEB	P1C-4NMCB	P1C-4NMAF	P1E-6NB0	9301054264
Ø80	P1C-4PMEB	P1C-4PMCB	P1C-4PMAF	P1E-6PB0	9301054264
Ø100	P1C-4QMEB	P1C-4QMCB	P1C-4QMAF	P1E-6QB0	9301054266
Ø125	P1C-4RMEB	P1C-4RMCB	P1C-4RMAF		9301054266

	Flange trunnion MT5/MT6 (11)	Intermediate trunnion MT4 (12)
		
Ø32	P1D-4KMYF	refer to page 34
Ø40	P1D-4LMYF	refer to page 34
Ø50	P1D-4MMYF	refer to page 34
Ø63	P1D-4NMYF	refer to page 34
Ø80	P1D-4PMYF	refer to page 34
Ø100	P1D-4QMYF	refer to page 34
Ø125		refer to page 34



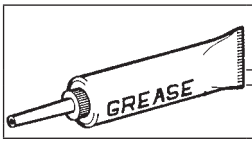
	Nut MR9 (pack of 10) (16) Zinc plated steel	Nut MR9 (pack of 10) (16) Stainless steel	Swivel rod eye AP6 (13)	Clevis AP2 (14)	Flexo coupling PM5 (15)
					
Ø32	P14-4KRPZ	P14-4KRPS	P1C-4KRS	P1C-4KRC	P1C-4KRF
Ø40	P14-4LRPZ	P14-4LRPS	P1C-4LRS	P1C-4LRC	P1C-4LRF
Ø50	P14-4MRPZ	P14-4MRPS	P1C-4MRS	P1C-4MRC	P1C-4MRF
Ø63	P14-4MRPZ	P14-4MRPS	P1C-4MRS	P1C-4MRC	P1C-4MRF
Ø80	P14-4PRPZ	P14-4PRPS	P1C-4PRS	P1C-4PRC	P1C-4PRF
Ø100	P14-4PRPZ	P14-4PRPS	P1C-4PRS	P1C-4PRC	P1C-4PRF
Ø125	P14-4RRPZ	P14-4RRPS	P1C-4RRS	P1C-4RRC	P1C-4RRF

Seal Kits

Complete seal kits consisting of:

- 2 piston seals.
- 2 cushioning seals.
- 1 wiper / piston rod seal.
- 2 O-Rings.

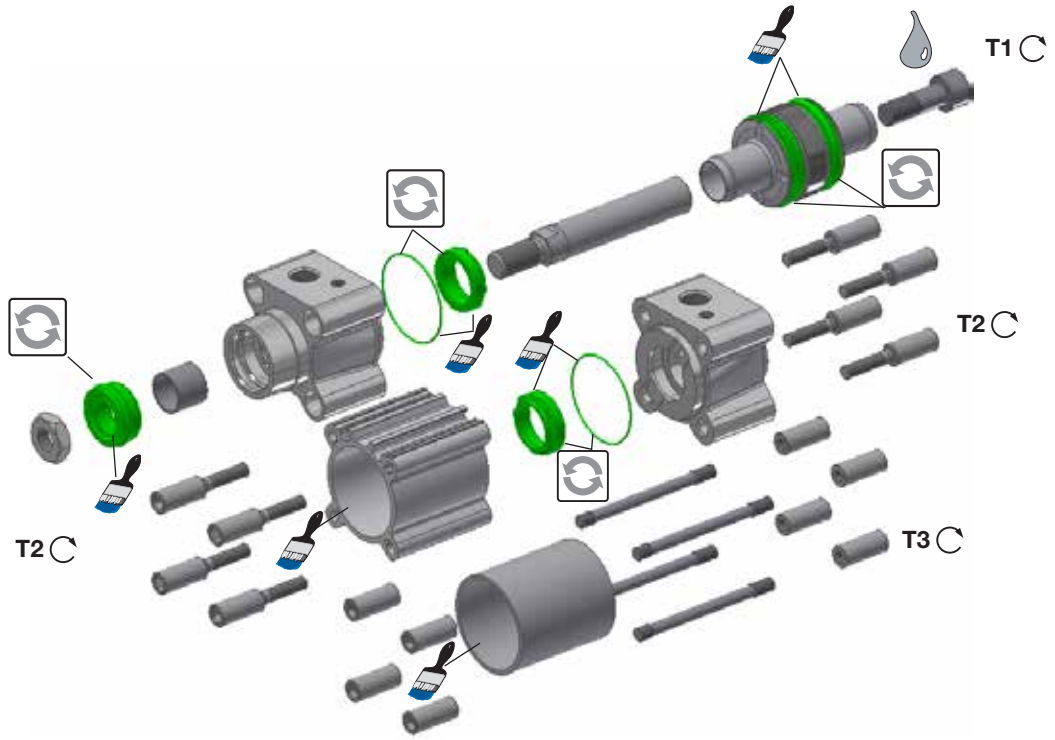
Greases



Standard and low temperature	30 g	9127394541
High temperature	30 g	9127394521

Cyl.-bore [mm]	Standard temperature [1]	High temperature [1]	Low temperature [1]	Metallic scraper [1] [2]	FKM Wiper seal [1]	With dyn. rod lock [1]	With static rod lock [1]	Polon/ UHMW-PE
Ø32	**P1F-6032RN**	**P1F-6032RF**	**P1F-6032RL**	**P1F-6032RQ**	**P1F-6032RV**	**P1F-6032RNL**	**P1F-6032RNH**	**P1F-6032RD**
Ø40	**P1F-6040RN**	**P1F-6040RF**	**P1F-6040RL**	**P1F-6040RQ**	**P1F-6040RV**	**P1F-6040RNL**	**P1F-6040RNH**	**P1F-6040RD**
Ø50	**P1F-6050RN**	**P1F-6050RF**	**P1F-6050RL**	**P1F-6050RQ**	**P1F-6050RV**	**P1F-6050RNL**	**P1F-6050RNH**	**P1F-6050RD**
Ø63	**P1F-6063RN**	**P1F-6063RF**	**P1F-6063RL**	**P1F-6063RQ**	**P1F-6063RV**	**P1F-6063RNL**	**P1F-6063RNH**	**P1F-6050RD**
Ø80	**P1F-6080RN**	**P1F-6080RF**	**P1F-6080RL**	**P1F-6080RQ**	**P1F-6080RV**	**P1F-6080RNL**	**P1F-6080RNH**	**P1F-6080RD**
Ø100	**P1F-6100RN**	**P1F-6100RF**	**P1F-6100RL**	**P1F-6100RQ**	**P1F-6100RV**	**P1F-6100RNL**	**P1F-6100RNH**	**P1F-6100RD**
Ø125	**P1F-6125RN**	**P1F-6125RF**	**P1F-6125RL**	**P1F-6125RQ**	**P1F-6125RV**	**P1F-6125RNL**	**P1F-6125RNH**	**P1F-6125RD**

[1] for through piston rod, add K at the end, ie P1F-6032RNK
[2] -30 to +80°C



Cyl.-bore [mm]	AF ⬡ [mm]	Plastic piston T1 [Nm]	Alu Piston T1 [Nm]	AF ⬡ [mm]	T2 [Nm]	AF ⬡ [mm]	T3 [Nm]
Ø32	6	4.5	15	6	11	6	4.5
Ø40	8	11	30	8	11	6	4.5
Ø50	10	20	40	10	18	8	9.5
Ø63	10	20	40	10	18	8	9.5
Ø80	14	40	120	14	29	6	19
Ø100	14	120	120	14	29	6	19
Ø125	14	120	120	14	70	8	40

= Included in seal kit

= Socket head across flats

= Tightening torque

Lubricated with grease

Locking fluid
Loctite 270 or Loctite 2701 locking fluid must be used