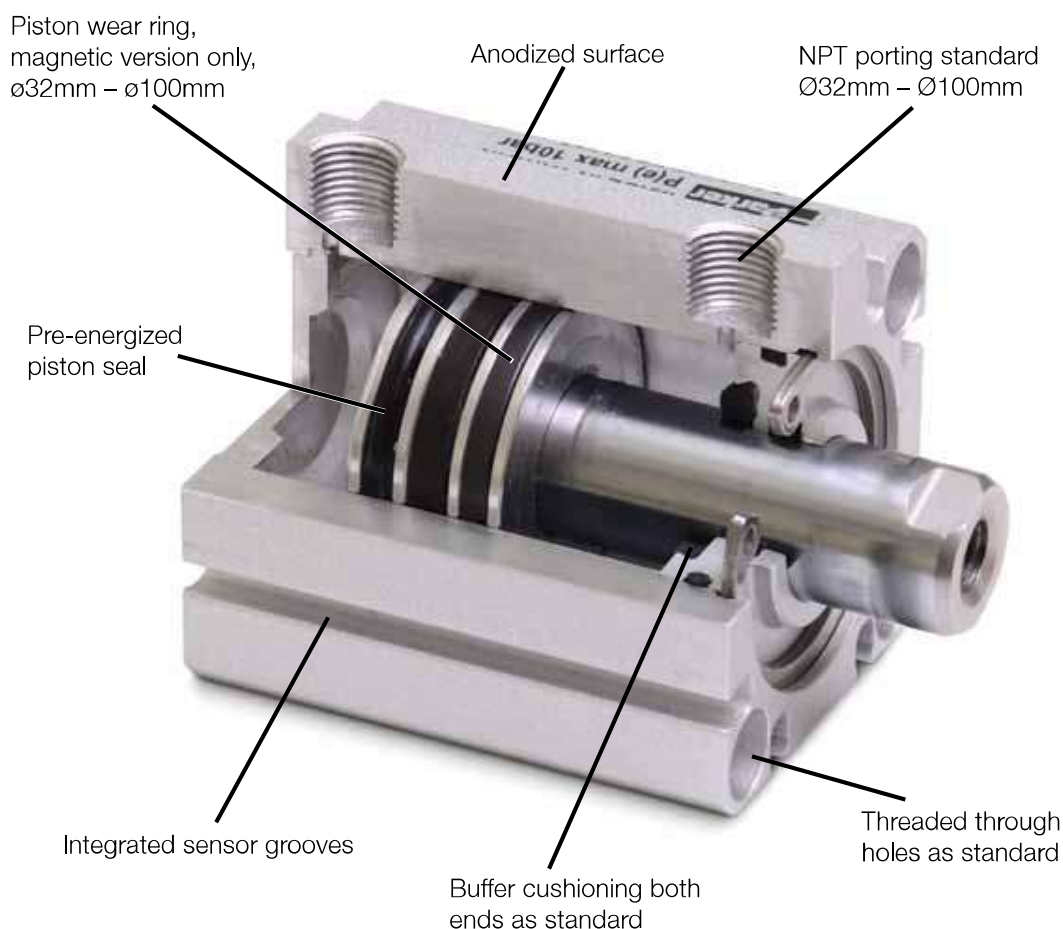


Features



P1Q Compact Cylinder

Parker's P1Q series cylinders provide an economical, compact design suited for a variety of applications. With its modular flexibility, the P1Q will provide the ideal solution machine builders need today.

The P1Q series is available in 10 bore sizes from 12 mm to 100 mm and standard strokes from 5 mm to 100 mm. The cylinder is supplied in a choice of magnetic or non-magnetic function, the non-magnetic version offers very short axial dimensions. For optimum compactness the P1Q series is supplied with female piston rod thread as standard. A rod stud is available to reconfigure to a male thread when needed.

The P1Q provides quieter operation due to its built in bumpers which are standard on all bore sizes. Included within the magnetic versions bores 32 - 100mm is a teflon piston wear ring providing superior life.

Sensors and Accessories

When position signals are needed anywhere along the stroke the integrated sensor grooves provide flexible mounting of any combination of PNP, NPN, reed sensors with flying leads and M8 cord options within the Parker P8S Global Sensor Family.

In addition to the compactness and modular design flexibility of the P1Q are a range of cylinder mountings including flange, foot and clevis brackets to ease installation

Technical Information

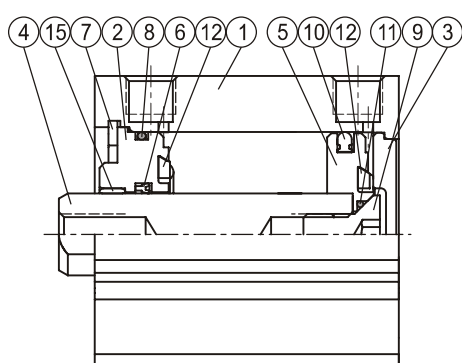
General technical data

Product type	Compact	
Bore size	12 - 100 mm	
Stroke length	100 mm	
Versions	P1Q...B/E	Double acting, Non magnetic
	P1Q...G/N	Double acting, Magnetic
Cushioning	Elastic bumpers	
Position sensing	Proximity sensor	
Installation	Direct	Through holes
		Female thread on front and rear end face
	Accessories	Cylinder mountings
Mounting position	Any	

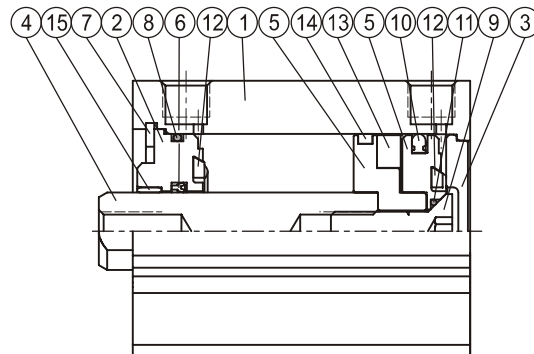
Operating and environmental data

Operating medium	For best possible service life and trouble-free operation it is recommended to use dry, filtered compressed air to ISO 8573-1:2010 quality class 3.4.3. This specifies a dew point of +3°C for indoor operation (a lower dew point should be selected for outdoor operation) and is in line with the air quality from most standard compressors with a standard filter. Refer to page 18.
Operating pressure	0.5 bar to 10 bar
Ambient temperature	-5°C to 60°C
Pre-lubricated	Further lubrication is normally not necessary. If additional lubrication is introduced it must be continued.
Corrosion resistance	High resistance to corrosion and chemicals. Materials and surface treatment have been selected for industrial applications where solvents and detergents are frequently used.

Non magnetic



Magnetic



Material specification

Part No	Part name / bore	12 - 25	32	40 - 100
1	Body	Hard anodised aluminium alloy		
2	Front cover	Hard anodised aluminium alloy		Anodised aluminium alloy
3	Rear cover	Anodised aluminium alloy		
4	Piston rod	Stainless steel		Medium carbon steel
5	Piston	Anodised aluminium alloy		
6	Piston rod seal	NBR		
7	Circlip	Stainless steel		Spring steel
8	O ring	NBR		
9	Piston bolt	Stainless steel		SCM
10	Piston seal	NBR		
11	Piston gasket	NBR		
12	Buffer	NBR		
13	Magnet	Plastic		
14	Wear ring	-	Teflon	
15	Bush	-	-	Copper

Technical Information

Main data: P1Q

Cylinder designation	Cylinder bore mm	Cylinder area cm ²	Piston rod area mm	Piston rod area cm ²	Thread (female)	Thread (male)	Total weight		Air consumption liters	Port size
							at 0 mm stroke kg	addition per 5 mm stroke kg		
P1Q012	12	1.1	6	0.28	M3 x 0.5	M5 x 0.8	0.06	0.01	0.0139 ¹⁾	M5
P1Q016	16	2.0	8	0.50	M4 x 0.7	M6 x 1.0	0.07	0.02	0.0246 ¹⁾	M5
P1Q020	20	3.1	10	0.79	M5 x 0.8	M8 x 1.25	0.09	0.03	0.0385 ¹⁾	M5
P1Q025	25	4.9	12	1.1	M6 x 1.0	M10 x 1.25	0.13	0.03	0.0633 ¹⁾	M5
P1Q032	32	8.0	16	2.0	M8 x 1.25	M14 x 1.5	0.19	0.03	0.1050 ¹⁾	1/8
P1Q040	40	12.6	16	2.0	M8 x 1.25	M14 x 1.5	0.25	0.03	0.1620 ¹⁾	1/8
P1Q050	50	19.6	20	3.1	M10 x 1.5	M18 x 1.5	0.45	0.04	0.2530 ¹⁾	1/4
P1Q063	63	31.2	20	3.1	M10 x 1.5	M18 x 1.5	0.68	0.05	0.4140 ¹⁾	1/4
P1Q080	80	50.3	25	4.9	M16 x 2.0	M22 x 1.5	1.25	0.07	0.6690 ¹⁾	3/8
P1Q100	100	78.5	30	7.0	M20 x 2.5	M26 x 1.5	1.93	0.15	1.0430 ¹⁾	3/8

¹⁾ Free air consumption per 10 mm stroke length for a double stroke at 6 bar.

Cylinder forces, double acting variants

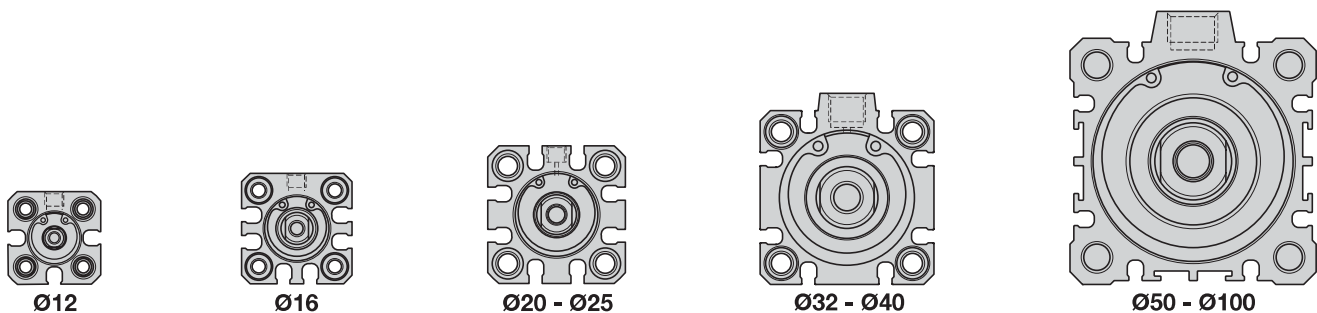
Cyl. bore / piston rod mm	Stroke piston area cm ²	Max theoretical force in N (bar)										
		1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	
12/6	+	1.1	11	23	34	45	57	68	79	90	102	113
	-	0.8	8	17	25	34	42	51	59	68	76	85
16/8	+	2.0	20	40	60	80	101	121	141	161	181	201
	-	1.5	15	30	45	60	75	90	106	121	136	151
20/10	+	3.1	31	63	94	126	157	188	220	251	283	314
	-	2.4	24	47	71	94	118	141	165	188	212	236
25/12	+	4.9	49	98	147	196	245	295	344	393	442	491
	-	3.8	38	76	113	151	189	227	264	302	340	378
32/16	+	8.0	80	161	241	322	402	483	563	643	724	804
	-	6.0	60	121	181	241	302	362	422	483	543	603
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	1963
	-	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
100/30	+	78.5	785	1571	2356	3142	3927	4712	5498	6283	7069	7854
	-	71.5	715	1430	2145	2860	3575	4290	5005	5720	6435	7150

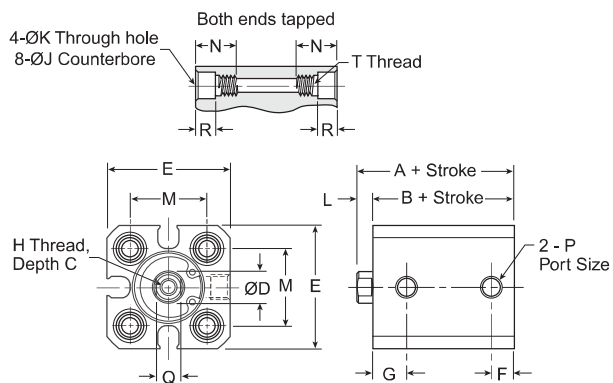
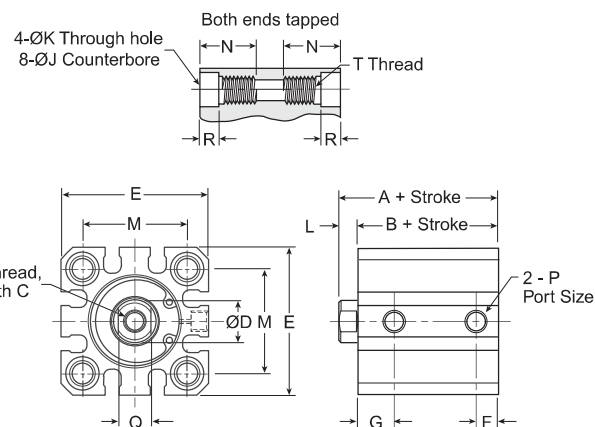
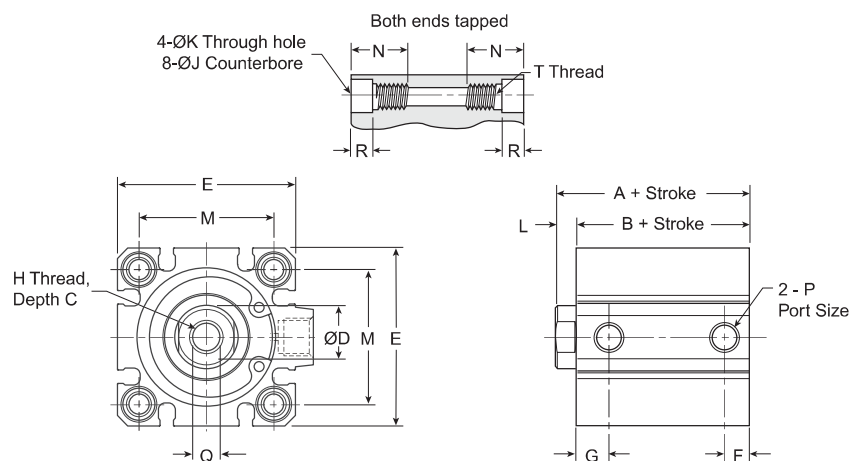
+ = Outward stroke
- = Return stroke

Note:

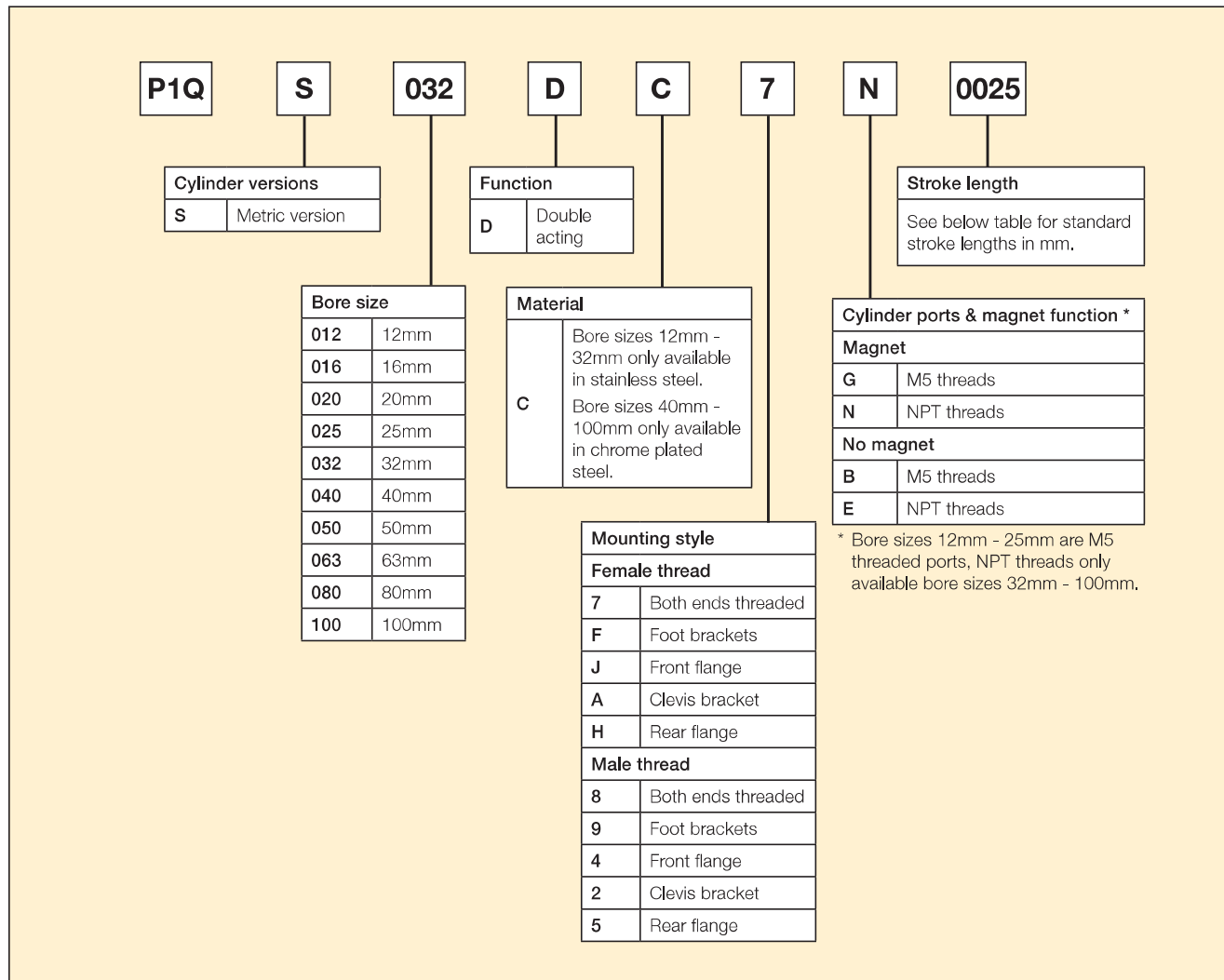
Select a theoretical force 50-100% larger than the force required

Front profiles by bore size



Non-magnet Dimensions**Non-magnet Dimensions****Ø12 - Ø16****Ø20 - Ø25****Ø32 - Ø100**

Bore size	A		B		C mm	D mm	E mm	F mm	G mm	H	J mm	K mm	L mm	M mm	N mm	P	Q mm	R mm	T
	5 to 50mm	75 to 100mm	5 to 50mm	75 to 100mm															
12	20.5	—	17	—	6	6	25	5	7.5	M3x0.5	6.5	3.5	3.5	15.5	11	M5x0.8	5	4	M4x0.7
16	20.5	—	17	—	8	8	29	5	7.5	M4x0.7	6.5	3.5	3.5	20	11	M5x0.8	6	4	M4x0.7
20	24	—	19.5	—	7	10	36	5.5	9	M5x0.8	9	5.4	4.5	25.5	17	M5x0.8	8	7	M6x1.0
25	27.5	—	22.5	—	12	12	40	5.5	11	M6x1.0	9	5.4	5	28	17	M5x0.8	10	7	M6x1.0
32	30	40	23	33	13	16	45	7.5	10.5	M8x1.25	9	5.5	7	34	17	1/8"	14	7	M6x1.0
40	36.5	46.5	29.5	39.5	13	16	52	8	11	M8x1.25	9	5.5	7	40	17	1/8"	14	7	M6x1.0
50	38.5	48.5	30.5	40.5	15	20	64	10.5	10.5	M10x1.5	11	6.6	8	50	22	1/4"	17	8	M8x1.25
63	44	54	36	46	15	20	77	10.5	15	M10x1.5	14	9	8	60	28.5	1/4"	17	10.5	M10x1.5
80	53.5	63.5	43.5	53.5	21	25	98	12.5	16	M16x2.0	17.5	11	10	77	35.5	3/8"	22	13.5	M12x1.75
100	65	75	53	63	27	30	117	13	23	M20x2.5	17.5	11	12	94	35.5	3/8"	27	13.5	M12x1.75

Model Number Index, Technical Data**Ordering information****Standard strokes**

Bore size	5	10	15	25	30	40	50	75	100
12 - 16	•	•	•	•	•				
20 - 25		•	•	•	•	•	•		
32		•	•	•	•	•	•	•	•
40 - 50			•	•	•	•	•	•	•
63 - 100			•	•	•	•	•	•	

Common part numbers**Double Acting / Non-Magnetic - Female Threaded Piston Rod****12mm**

Stroke (mm)	Part number
5	P1QS012DC7B0005
10	P1QS012DC7B0010
15	P1QS012DC7B0015
20	P1QS012DC7B0020
25	P1QS012DC7B0025
30	P1QS012DC7B0030

16mm

5	P1QS016DC7B0005
10	P1QS016DC7B0010
15	P1QS016DC7B0015
20	P1QS016DC7B0020
25	P1QS016DC7B0025
30	P1QS016DC7B0030

20mm

10	P1QS020DC7B0010
15	P1QS020DC7B0015
20	P1QS020DC7B0020
25	P1QS020DC7B0025
30	P1QS020DC7B0030
40	P1QS020DC7B0040
50	P1QS020DC7B0050

25mm

10	P1QS025DC7B0010
15	P1QS025DC7B0015
20	P1QS025DC7B0020
25	P1QS025DC7B0025
30	P1QS025DC7B0030
40	P1QS025DC7B0040
50	P1QS025DC7B0050

32mm

Stroke (mm)	Part number
10	P1QS032DC7E0010
15	P1QS032DC7E0015
20	P1QS032DC7E0020
25	P1QS032DC7E0025
30	P1QS032DC7E0030
40	P1QS032DC7E0040
50	P1QS032DC7E0050
75	P1QS032DC7E0075
100	P1QS032DC7E0100

40mm

15	P1QS040DC7E0015
20	P1QS040DC7E0020
25	P1QS040DC7E0025
30	P1QS040DC7E0030
40	P1QS040DC7E0040
50	P1QS040DC7E0050
75	P1QS040DC7E0075
100	P1QS040DC7E0100

50mm

15	P1QS050DC7E0015
20	P1QS050DC7E0020
25	P1QS050DC7E0025
30	P1QS050DC7E0030
40	P1QS050DC7E0040
50	P1QS050DC7E0050
75	P1QS050DC7E0075
100	P1QS050DC7E0100

63mm

Stroke (mm)	Part number
15	P1QS063DC7E0015
20	P1QS063DC7E0020
25	P1QS063DC7E0025
30	P1QS063DC7E0030
40	P1QS063DC7E0040
50	P1QS063DC7E0050
75	P1QS063DC7E0075

80mm

15	P1QS080DC7E0015
20	P1QS080DC7E0020
25	P1QS080DC7E0025
30	P1QS080DC7E0030
40	P1QS080DC7E0040
50	P1QS080DC7E0050
75	P1QS080DC7E0075

100mm

15	P1QS100DC7E0015
20	P1QS100DC7E0020
25	P1QS100DC7E0025
30	P1QS100DC7E0030
40	P1QS100DC7E0040
50	P1QS100DC7E0050
75	P1QS100DC7E0075