





## Order key


**P 1 J - S**    **0 3 2**    **D**    **S**    -    **0 0 2 5**

Cylinder bore mm
012
020
025
032
040
050
063

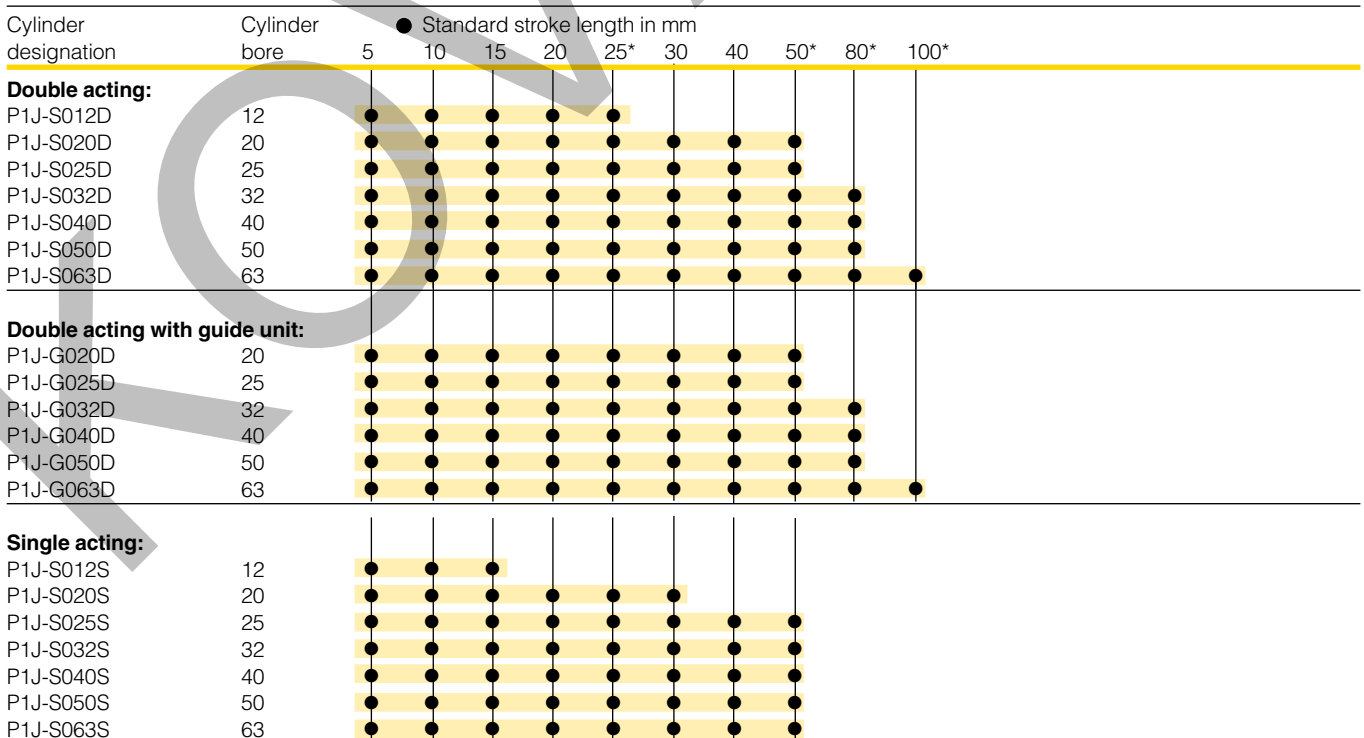
Cylindertype/Function	
<b>D</b> 	Double-acting, Ø12 - Ø63
<b>K</b> 	Double-acting, through piston rod, Ø20 - Ø63
<b>P</b> 	Double-acting, through piston rod hollow, Ø20 - Ø63, Not cylinder version <b>G</b>
<b>S</b> 	Single-acting, spring return for retract stroke, Ø12 - Ø63

Stroke length mm	
E.g. <b>0025</b>	= 25 mm
For standard stroke length and max length see tabel below.	

Sealing material	
<b>S</b>	Standard seals, -20 °C to +80 °C Stainless steel piston rod Magnetic piston

Cylinder version	
<b>S</b>	Standard cylinder
<b>K</b>	Cylinder with end cover in anodised aluminium.
<b>G</b> 	Cylinder with mounted guide unit, Ø20 - Ø63.

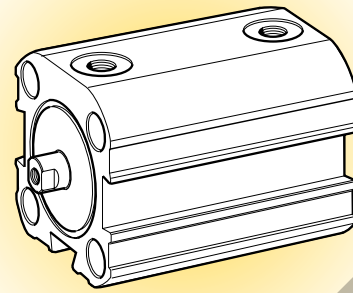
## Standard stroke length



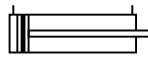
\* Standard stroke length in mm according to ISO 4393

## Data

Working pressure	Max. 10 bar
Working temperature	Max. +80 °C Min. -20 °C



## Double acting



Cyl. bore mm	Stroke mm	Order code
<b>12</b> M5 thread	05	P1J-S012DS-0005
	10	P1J-S012DS-0010
	15	P1J-S012DS-0015
	20	P1J-S012DS-0020
	25	P1J-S012DS-0025
<b>20</b> M5 thread	05	P1J-S020DS-0005
	10	P1J-S020DS-0010
	15	P1J-S020DS-0015
	20	P1J-S020DS-0020
	25	P1J-S020DS-0025
	30	P1J-S020DS-0030
	40	P1J-S020DS-0040
<b>25</b> M5 thread	05	P1J-S025DS-0005
	10	P1J-S025DS-0010
	15	P1J-S025DS-0015
	20	P1J-S025DS-0020
	25	P1J-S025DS-0025
	30	P1J-S025DS-0030
	40	P1J-S025DS-0040
<b>32</b> G1/8 thread	05	P1J-S032DS-0005
	10	P1J-S032DS-0010
	15	P1J-S032DS-0015
	20	P1J-S032DS-0020
	25	P1J-S032DS-0025
	30	P1J-S032DS-0030
	40	P1J-S032DS-0040
	50	P1J-S032DS-0050
	80	P1J-S032DS-0080

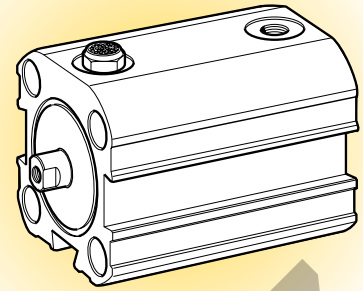
## Double acting



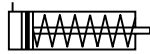
Cyl. bore mm	Stroke mm	Order code
<b>40</b> G1/8 thread	05	P1J-S040DS-0005
	10	P1J-S040DS-0010
	15	P1J-S040DS-0015
	20	P1J-S040DS-0020
	25	P1J-S040DS-0025
	30	P1J-S040DS-0030
	40	P1J-S040DS-0040
	50	P1J-S040DS-0050
<b>50</b> G1/8 thread	05	P1J-S050DS-0005
	10	P1J-S050DS-0010
	15	P1J-S050DS-0015
	20	P1J-S050DS-0020
	25	P1J-S050DS-0025
	30	P1J-S050DS-0030
	40	P1J-S050DS-0040
	50	P1J-S050DS-0050
<b>63</b> G1/8 thread	05	P1J-S063DS-0005
	10	P1J-S063DS-0010
	15	P1J-S063DS-0015
	20	P1J-S063DS-0020
	25	P1J-S063DS-0025
	30	P1J-S063DS-0030
	40	P1J-S063DS-0040
	50	P1J-S063DS-0050
	80	P1J-S063DS-0080
	100	P1J-S063DS-0100

### Data

Working pressure	Max. 10 bar
Working temperature	Max. +80 °C Min. -20 °C

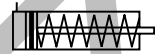


### Single acting

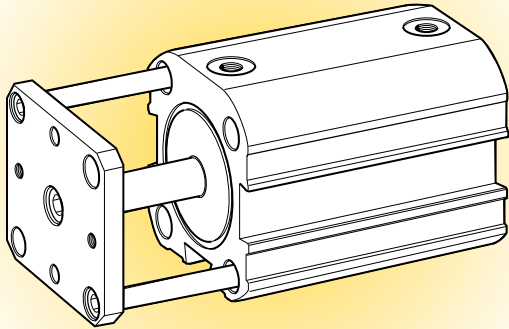


Cyl. bore mm	Stroke mm	Order code
<b>12</b> M5 thread	05	P1J-S012SS-0005
	10	P1J-S012SS-0010
	15	P1J-S012SS-0015
<b>20</b> M5 thread	05	P1J-S020SS-0005
	10	P1J-S020SS-0010
	15	P1J-S020SS-0015
	20	P1J-S020SS-0020
	25	P1J-S020SS-0025
	30	P1J-S020SS-0030
<b>25</b> M5 thread	05	P1J-S025SS-0005
	10	P1J-S025SS-0010
	15	P1J-S025SS-0015
	20	P1J-S025SS-0020
	25	P1J-S025SS-0025
	30	P1J-S025SS-0030
	40	P1J-S025SS-0040
	50	P1J-S025SS-0050
<b>32</b> G1/8 thread	05	P1J-S032SS-0005
	10	P1J-S032SS-0010
	15	P1J-S032SS-0015
	20	P1J-S032SS-0020
	25	P1J-S032SS-0025
	30	P1J-S032SS-0030
	40	P1J-S032SS-0040
	50	P1J-S032SS-0050

### Single acting



Cyl. bore mm	Stroke mm	Order code
<b>40</b> G1/8 thread	05	P1J-S040SS-0005
	10	P1J-S040SS-0010
	15	P1J-S040SS-0015
	20	P1J-S040SS-0020
	25	P1J-S040SS-0025
	30	P1J-S040SS-0030
<b>50</b> G1/8 thread	05	P1J-S050SS-0005
	10	P1J-S050SS-0010
	15	P1J-S050SS-0015
	20	P1J-S050SS-0020
	25	P1J-S050SS-0025
	30	P1J-S050SS-0030
	40	P1J-S050SS-0040
	50	P1J-S050SS-0050
<b>63</b> G1/8 thread	05	P1J-S063SS-0005
	10	P1J-S063SS-0010
	15	P1J-S063SS-0015
	20	P1J-S063SS-0020
	25	P1J-S063SS-0025
	30	P1J-S063SS-0030
	40	P1J-S063SS-0040
	50	P1J-S063SS-0050



**Technical data**

Working medium	Dry, filtered compressed air
Working pressure	Max. 10 bar
Working temperature	-20 °C to +80 °C

**Materials, external guide device**

Mounting plate	Anodised aluminium
Guides	Stainless steel, DIN X 10 CrNiS 18 9
Sleeves	Multi-layer, PTFE/bronze/steel
Securing bolts	Surface-finished steel

Other data as for the basic cylinder.

**Guide unit**

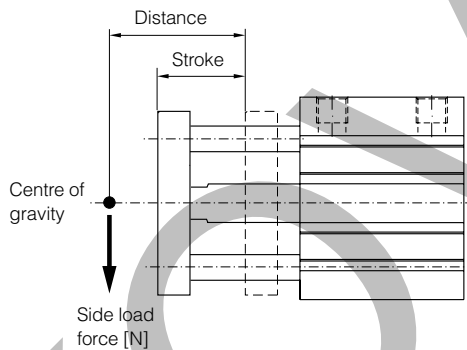
The P1J cylinders can be fitted with an external guide unit to prevent the piston rod from turning. It guides the piston rod and enables the cylinder to resist turning torques on the piston rod and/or transverse forces.

The device consists of a substantial mounting plate and twin guide rods that run in two support bearings. The mounting plate, which has pre-drilled mounting holes, is connected to the piston rod.

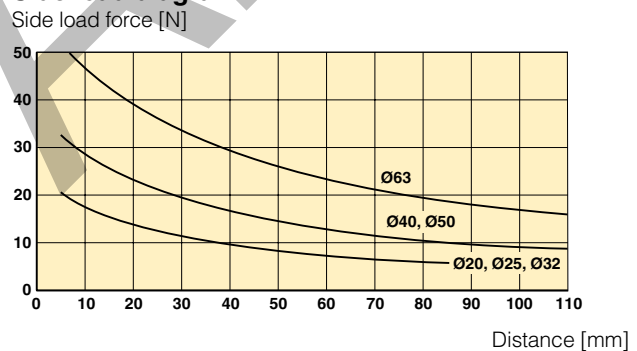
The device is available for 20, 25, 32, 40, 50 and 63 mm diameter cylinders, with stroke lengths from 5 to 100 mm. Order codes on Pages 6 and 10.

**Permissible side loading**

Permissible side loading as a function of the load distance as shown below.

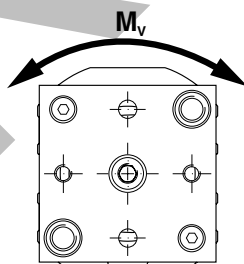


**Side load diagram**

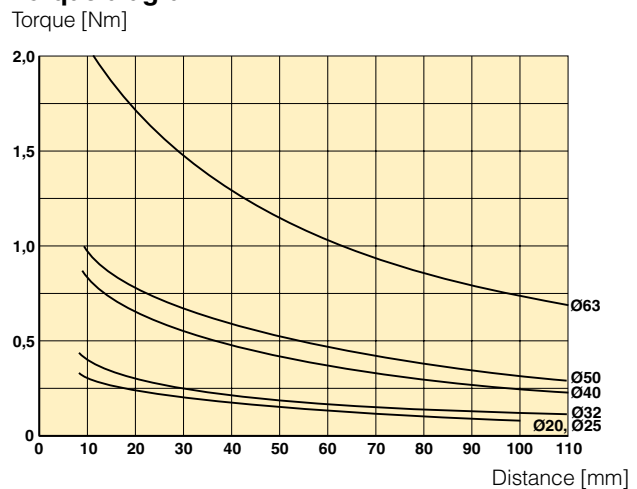


**Permissible Torque**

Permissible torque as shown below as a function of the load distance as shown in the load figure above.

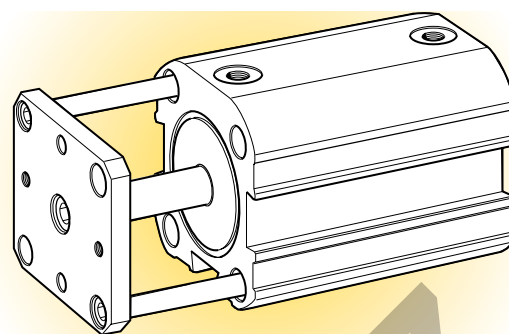


**Torque diagram**

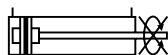


## Data

Working pressure	Max. 10 bar
Working temperature	Max. +80 °C Min. -20 °C



### Double acting, guided



Cyl. bore mm	Stroke mm	Order code	
<b>20</b> M5 thread	05	P1J-G020DS-0005	
	10	P1J-G020DS-0010	
	15	P1J-G020DS-0015	
	20	P1J-G020DS-0020	
	25	P1J-G020DS-0025	
	30	P1J-G020DS-0030	
	40	P1J-G020DS-0040	
<b>25</b> M5 thread	05	P1J-G025DS-0005	
	10	P1J-G025DS-0010	
	15	P1J-G025DS-0015	
	20	P1J-G025DS-0020	
	25	P1J-G025DS-0025	
	30	P1J-G025DS-0030	
	40	P1J-G025DS-0040	
M5 thread	50	P1J-G025DS-0050	
	<b>32</b> G1/8 thread	05	P1J-G032DS-0005
		10	P1J-G032DS-0010
		15	P1J-G032DS-0015
		20	P1J-G032DS-0020
		25	P1J-G032DS-0025
		30	P1J-G032DS-0030
40		P1J-G032DS-0040	
50	50	P1J-G032DS-0050	
	80	P1J-G032DS-0080	

### Double acting, guided



Cyl. bore mm	Stroke mm	Order code	
<b>40</b> G1/8 thread	05	P1J-G040DS-0005	
	10	P1J-G040DS-0010	
	15	P1J-G040DS-0015	
	20	P1J-G040DS-0020	
	25	P1J-G040DS-0025	
	30	P1J-G040DS-0030	
	40	P1J-G040DS-0040	
<b>50</b> G1/8 thread	50	P1J-G040DS-0050	
	80	P1J-G040DS-0080	
	<b>50</b> G1/8 thread	05	P1J-G050DS-0005
		10	P1J-G050DS-0010
		15	P1J-G050DS-0015
		20	P1J-G050DS-0020
		25	P1J-G050DS-0025
30		P1J-G050DS-0030	
40		P1J-G050DS-0040	
<b>63</b> G1/8 thread	50	P1J-G050DS-0050	
	80	P1J-G050DS-0080	
	05	P1J-G063DS-0005	
	10	P1J-G063DS-0010	
	15	P1J-G063DS-0015	
	20	P1J-G063DS-0020	
	25	P1J-G063DS-0025	
30	P1J-G063DS-0030		
40	40	P1J-G063DS-0040	
	50	P1J-G063DS-0050	
	80	P1J-G063DS-0080	
	100	P1J-G063DS-0100	

**Cylinder forces, double acting variants**

Cyl. bore/ pist. rod mm	Stroke	Piston area cm <sup>2</sup>	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
<b>12/6</b>	+	1,1	11	23	34	45	57	<b>68</b>	79	90	102	113
	-	0,8	8	17	25	34	42	<b>51</b>	59	68	76	85
<b>20/10</b>	+	3,1	31	63	94	126	157	<b>188</b>	220	251	283	314
	-	2,3	23	46	69	92	115	<b>138</b>	161	184	207	231
<b>25/10</b>	+	4,9	49	98	147	196	245	<b>295</b>	344	393	442	491
	-	4,1	41	82	124	165	206	<b>247</b>	289	330	371	412
<b>32/12</b>	+	8,0	80	161	241	322	402	<b>483</b>	563	643	724	804
	-	6,9	69	138	207	276	346	<b>415</b>	484	553	622	691
<b>40/12</b>	+	12,6	126	251	377	503	628	<b>754</b>	880	1005	1131	1257
	-	11,4	114	229	343	457	572	<b>686</b>	800	915	1029	1144
<b>50/16</b>	+	19,6	196	393	589	785	982	<b>1178</b>	1374	1571	1767	1963
	-	17,6	176	352	529	705	881	<b>1057</b>	1234	1410	1586	1762
<b>63/16</b>	+	31,2	312	623	935	1247	1559	<b>1870</b>	2182	2494	2806	3117
	-	29,2	292	583	875	1166	1548	<b>1750</b>	2041	2333	2625	2916

+ = Outward stroke  
- = Return stroke

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

**Cylinder forces single acting variants**

Indicated cylinder forces are theoretical and should be reduced according to the working conditions.

Order code	Theoretical piston force at 6 bar				Order code	Theoretical piston force at 6 bar			
	+ stroke		Spring retraction			+ stroke		Spring retraction	
	Nmax	Nmin	Nmax	Nmin		Nmax	Nmin	Nmax	Nmin
<b>Single acting,</b>					<b>Single acting,</b>				
P1J-S012SS-0005	59	58	9	8	P1J-S040SS-0005	704	701	53	50
P1J-S012SS-0010	60	58	9	7	P1J-S040SS-0010	706	701	53	48
P1J-S012SS-0015	61	58	9	6	P1J-S040SS-0015	709	701	53	45
					P1J-S040SS-0020	712	701	53	42
P1J-S020SS-0005	159	156	32	29	P1J-S040SS-0025	715	701	53	39
P1J-S020SS-0010	161	156	32	27	P1J-S040SS-0030	718	701	53	36
P1J-S020SS-0015	164	156	32	24	P1J-S040SS-0040	712	701	53	42
P1J-S020SS-0020	166	156	32	22	P1J-S040SS-0050	715	701	53	39
P1J-S020SS-0025	169	156	32	19					
P1J-S020SS-0030	172	156	32	16	P1J-S050SS-0005	1088	1079	99	90
					P1J-S050SS-0010	1096	1079	99	82
P1J-S025SS-0005	265	262	32	29	P1J-S050SS-0015	1105	1079	99	73
P1J-S025SS-0010	267	262	32	27	P1J-S050SS-0020	1114	1079	99	64
P1J-S025SS-0015	270	262	32	24	P1J-S050SS-0025	1123	1079	99	55
P1J-S025SS-0020	272	262	32	22	P1J-S050SS-0030	1131	1079	99	47
P1J-S025SS-0025	275	262	32	19	P1J-S050SS-0040	1114	1079	99	64
P1J-S025SS-0030	278	262	32	16	P1J-S050SS-0050	1123	1079	99	55
P1J-S025SS-0040	272	262	32	22					
P1J-S025SS-0050	275	262	32	19	P1J-S063SS-0005	1774	1767	103	96
					P1J-S063SS-0010	1780	1767	103	90
P1J-S032SS-0005	439	436	46	43	P1J-S063SS-0015	1786	1767	103	84
P1J-S032SS-0010	442	436	46	40	P1J-S063SS-0020	1793	1767	103	77
P1J-S032SS-0015	445	436	46	37	P1J-S063SS-0025	1799	1767	103	71
P1J-S032SS-0020	447	436	46	35	P1J-S063SS-0030	1806	1767	103	64
P1J-S032SS-0025	450	436	46	32	P1J-S063SS-0040	1793	1767	103	77
P1J-S032SS-0030	453	436	46	29	P1J-S063SS-0050	1799	1767	103	71
P1J-S032SS-0040	447	436	46	35					
P1J-S032SS-0050	450	436	46	32					

## Main data

Cylinder designation	Cylinder		Piston rod			Basic weight		Guided weight		Air consumption Litre	Port thread
	Bore	Area	Diam.	Area	Thread (female)	at 0 mm stroke	per 10 mm stroke	at 0 mm stroke	per 10 mm stroke		
	mm	cm <sup>2</sup>	mm	cm <sup>2</sup>		kg	kg	kg	kg		
<b>Double acting</b>											
P1J-S 012 DS	12	1,13	6	0,28	M3	0,06	0,016	-	-	0,0139 <sup>1)</sup>	M5
P1J-S 020 DS	20	3,14	10	0,78	M5	0,13	0,030	0,17	0,033	0,0385 <sup>1)</sup>	M5
P1J-S 025 DS	25	4,91	10	0,78	M5	0,15	0,035	0,21	0,038	0,0633 <sup>1)</sup>	M5
P1J-S 032 DS	32	8,04	12	1,13	M6	0,20	0,044	0,27	0,050	0,1050 <sup>1)</sup>	G1/8
P1J-S 040 DS	40	12,6	12	1,13	M6	0,29	0,054	0,40	0,058	0,1680 <sup>1)</sup>	G1/8
P1J-S 050 DS	50	19,6	16	2,01	M8	0,50	0,070	0,65	0,080	0,2610 <sup>1)</sup>	G1/8
P1J-S 063 DS	63	31,2	16	2,01	M8	0,77	0,100	1,08	0,110	0,4220 <sup>1)</sup>	G1/8
<b>Single acting</b>											
P1J-S 012 SS	12	1,13	6	0,28	M3	0,06	0,016	-	-	0,0079 <sup>1)</sup>	M5
P1J-S 020 SS	20	3,14	10	0,78	M5	0,13	0,030	0,17	0,033	0,0220 <sup>1)</sup>	M5
P1J-S 025 SS	25	4,91	10	0,78	M5	0,16	0,035	0,22	0,038	0,0344 <sup>1)</sup>	M5
P1J-S 032 SS	32	8,04	12	1,13	M6	0,21	0,044	0,28	0,050	0,0563 <sup>1)</sup>	G1/8
P1J-S 040 SS	40	12,6	12	1,13	M6	0,30	0,054	0,41	0,058	0,0882 <sup>1)</sup>	G1/8
P1J-S 050 SS	50	19,6	16	2,01	M8	0,52	0,070	0,67	0,080	0,1372 <sup>1)</sup>	G1/8
P1J-S 063 SS	63	31,2	16	2,01	M8	0,80	0,100	1,11	0,110	0,2184 <sup>1)</sup>	G1/8

1) Free air consumption per 10 mm stroke length for a double stroke at a pressure of 600 kPa (6 bar)

## Working medium, air quality

Working medium Dry, filtered compressed air to ISO 8573-1 class 3.4.3.

## Recommended air quality for cylinders

For best possible service life and trouble-free operation, ISO 8573-1 quality class 3.4.3 should be used. This means 5 µm filter (standard filter) dew point +3 °C for indoor operation (a lower dew point should be selected for outdoor operation) and oil concentration 1.0 mg oil/m<sup>3</sup>, which is what a standard compressor with a standard filter gives.

## ISO 8573-1 quality classes

Quality class	particle size (µm)	max concentration (mg/m <sup>3</sup> )	Water max. press. dew point (°C)	Oil max concentration (mg/m <sup>3</sup> )
1	0,1	0,1	-70	0,01
2	1	1	-40	0,1
3	5	5	-20	1,0
4	15	8	+3	5,0
5	40	10	+7	25
6	-	-	+10	-

## Material specification

### Double and single-acting

Piston rod	Stainless steel, DIN X10 CrNiS 18 9
Piston rod seal	Nitrile rubber, NBR
Piston rod bearing, Ø20-Ø63 mm	Multi-layer PTFE/bronze/steel
Piston bearing, Ø20-Ø63 mm	UHMWPE plastic
A-cover, Ø12 mm	Brass
End cover	Aluminium
Locking ring, Ø12 mm	Surface-finished steel
O-ring, cover, Ø12 mm	Nitrile rubber, NBR
Barrel	Anodised aluminium
Piston, Ø12 mm	Brass
Piston, Ø20-Ø63 mm	Aluminium
Piston seal	Nitrile rubber, NBR
Return spring, Ø12 mm	Stainless steel
Return spring, Ø20-Ø63 mm	Surface-treated steel

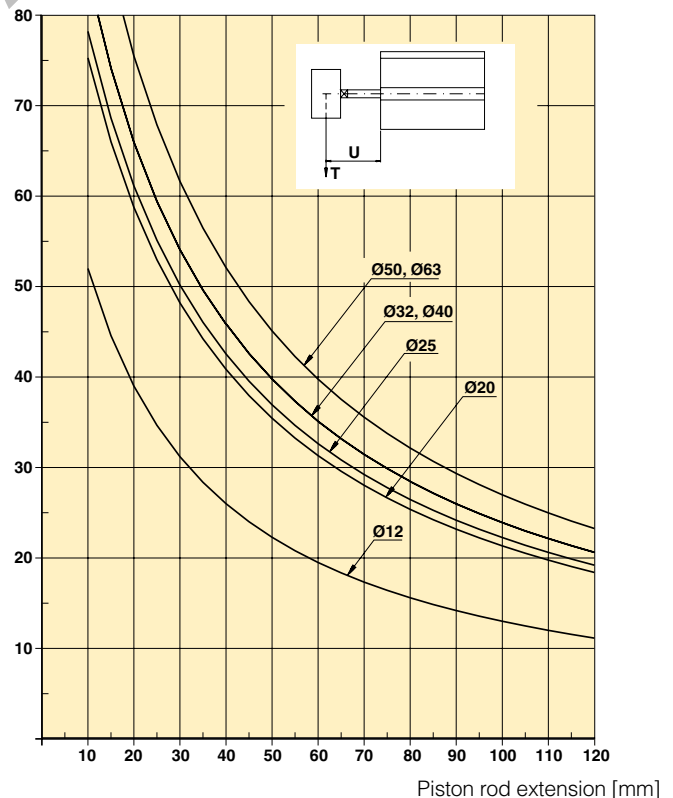
## Other data

Working pressure Max. 10 bar  
Working temperature Max +80 °C  
Min -20 °C

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

## Side load force diagram

Permissible side loading as a function of piston rod extension. Side load [N]

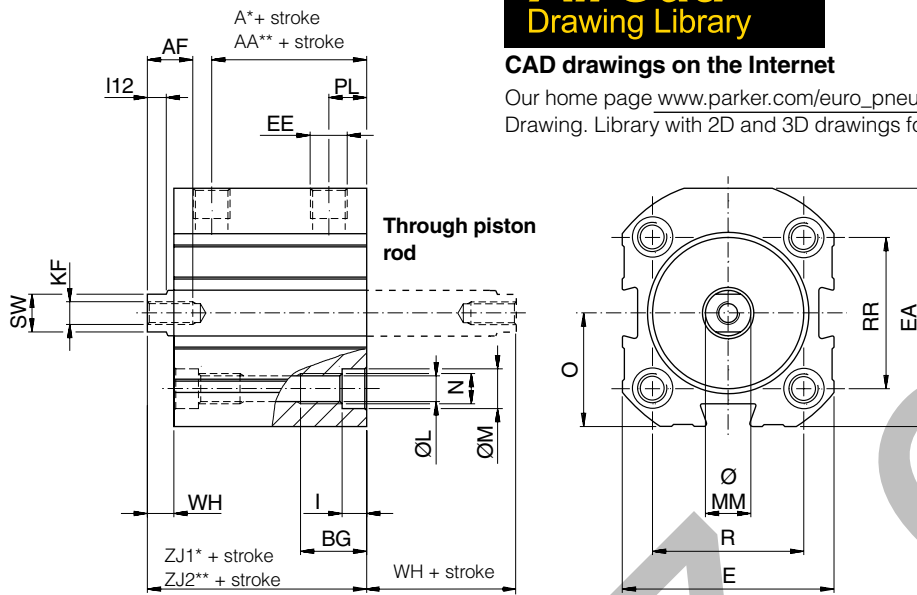


Double and single acting cylinders

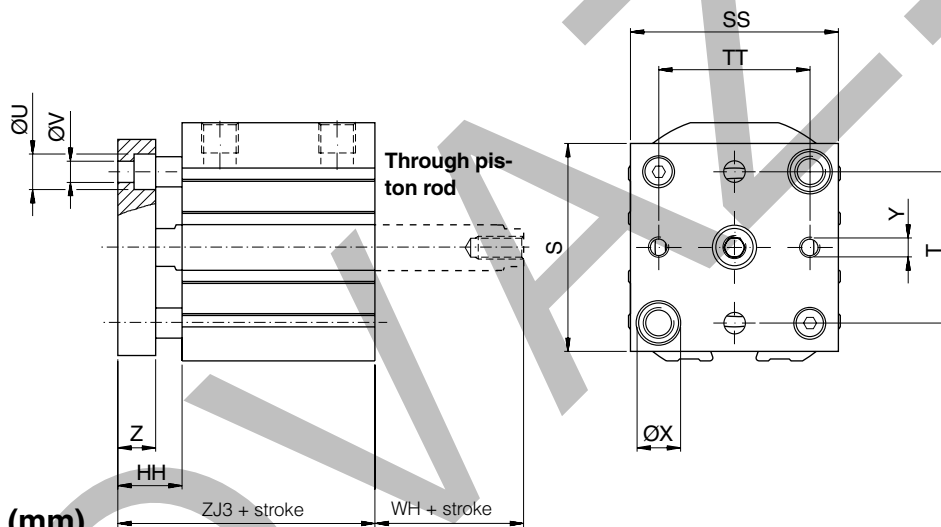


CAD drawings on the Internet

Our home page [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic) includes the AirCad Drawing Library with 2D and 3D drawings for the main versions.



Guided cylinder



Dimensions (mm)

Cylinder bore	A*	AA**	AF	BG	E	EA	EE	HH	I	KF	L	I12	M	MM	N	O	PL
12	25,0	-	5	9	26	30,0	M5	-	3,5	M3	3,4	3,0	6,1	6	M4	15,0	6,5
20	31,5	-	10	15	33	43,0	M5	14,8	5,5	M5	5,3	4,5	9,2	10	M6	21,5	6,5
25	32,5	47,5	10	15	40	44,5	M5	16,0	5,5	M5	5,3	4,5	9,2	10	M6	22,5	6,5
32	32,6	50,6	12	15	46	54,0	G1/8	15,7	5,5	M6	5,3	5,0	9,2	12	M6	25,5	10,0
40	34,0	52,0	12	18	56	63,0	G1/8	17,0	6,5	M6	6,9	5,0	10,5	12	M8	30,0	10,0
50	38,5	56,5	12	18	66	73,0	G1/8	19,0	6,5	M8	6,9	5,5	10,5	16	M8	35,0	10,0
63	40,0	60,0	12	25	83	87,5	G1/8	20,0	9,0	M8	9,3	5,5	15,0	16	M10	41,5	10,0

Cylinder bore	R	RR	S	SS	SW	T	TT	U	V	WH	X	Y	Z	ZJ1*	ZJ2**	ZJ3
12	13	18	-	-	5	-	-	-	-	4,0	-	-	-	38,0	-	-
20	20	30	42	32	8	22	22	8,0	4,5	4,8	9,4	M4	10	42,8	-	52,8
25	27	27	40	39	8	28	26	8,0	4,5	6,0	9,4	M4	10	45,0	60,0	45,5
32	32	36	48	45	10	36	32	9,4	5,5	5,7	9,4	M4	10	45,5	63,5	55,5
40	40	40	55	55	10	40	40	9,4	5,5	7,0	11,5	M5	10	47,0	65,0	57,0
50	50	50	65	65	13	50	50	11,5	6,5	7,0	11,5	M6	12	53,0	71,0	65,0
63	62	62	80	80	13	62	62	14,5	9,0	8,0	14,5	M6	12	57,0	77,0	69,0

\* A and ZJ1 = Double acting cylinders and single acting cylinders up to stroke length 30 mm

\*\* AA and ZJ2 = Single acting cylinders, stroke length 31 to 50 mm

Length tolerances ±1 mm

Stroke length tolerances +1.5/0 mm