Pneumatic Cylinders

Short stroke cylinders
Series C05 and C05S

Catalogue PDE2560TCUK-ul

Home

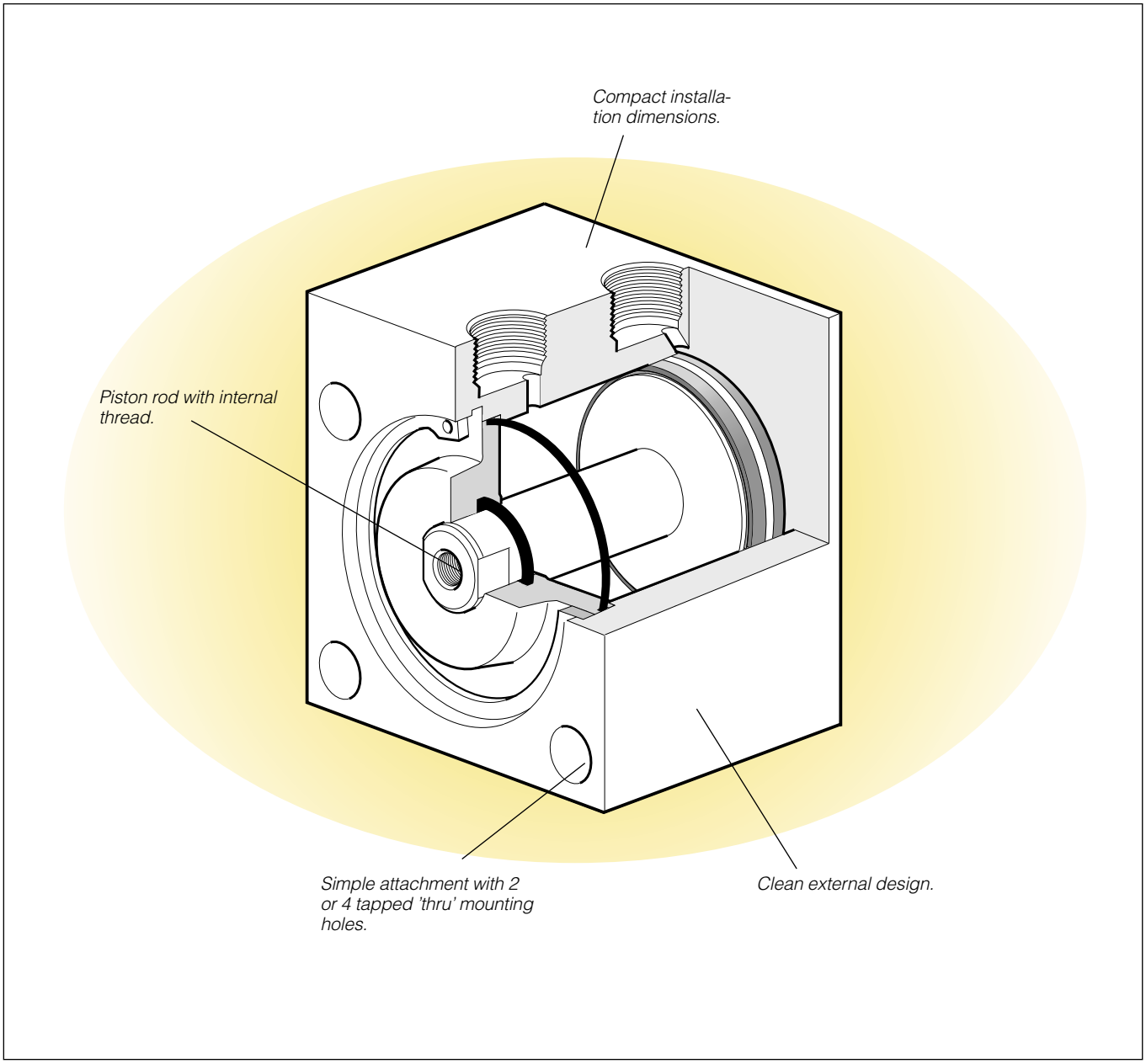
Features	Air cylinder	Hydraulic cylinder	Electro mechanical actuators
Overload safe	***	***	*
Easy to limit force	***	***	*
Easy to vary speed	***	***	*
Speed	***	**	**
Reliability	***	***	***
Robustness	***	***	*
Installation cost	***	*	**
Ease of service	***	**	*
Safety in damp environments	***	***	*
Safety in explosive atmospheres	***	***	*
Safety risk with electrical installations	***	***	*
Risk of oil leak	***	*	***
Clean, hygienic	***	**	*
Standardised measurements	***	***	*
Service life	***	***	*
Hydraulic system required	***	*	***
Weight	***	**	**
Purchase price	***	**	*
Power density	**	***	*
Noise level during operation	**	***	**
High force for size	**	***	*
Positioning possibilities	*	***	***
Total energy consumption	*	**	***
Service interval	*	**	***
Compressor capacity required	*	***	***

* = good, **=average, ***=excellent

Important
Before attempting any external or internal work on the cylinder or any connected components, make sure the cylinder is vented and disconnect the air supply in order to ensure isolation of the air supply.

Note
All technical data in this catalogue are typical data only.
Air quality is essential for maximum cylinder service life (see ISO 8573).

Contents **Page**



Cylinders, type C05 and C05S

Compact short stroke cylinders are available in single as well as double acting versions. Ideally suited for clamping and locking operations the range includes bores from 12 to 63 mm, providing thrust forces of up to 3000 N.

The design has been optimized to include the following features:

Installation

The compact design with mounting holes through the cylinder body makes the unit easy to install in confined spaces.

Clean design

The main body is machined from one piece thus providing an easy to clean unit. Fitted with stainless steel piston rod as standard for corrosion resistance.

Maintenance free

The units are pre-lubricated for use also without additional lubrication, reducing maintenance costs as well as providing an improved working environment.

Main data

Cylinder	Cylinder bore mm	area cm²	Piston rod diam mm	area cm²	Theor. piston force at 6 bar in N plus stroke	minus stroke	Air consumption[1] l	Spring force N	Stroke mm	Weight Kg
C05S-8-4-4	8	0.5	4	0.13	28	-	0,0045	2	4	0.016
C05S-12-5-4	12	1.1	5	0.20	65	-	0,0099	3	4	0.023
C05S-20-10-4	20	3.1	10	0.79	184	-	0,0151	6	4	0.067
C05S-32-12-5	32	8.0	12	1.13	463	-	0,0653	17	5	0.192
C05S-50-16-10	50	19.6	16	2.01	1145	-	0,1695	35	10	0.416
C05S-63-16-10	63	31.1	16	2.01	1825	-	0,2602	45	10	0.663
C05-12-5-10	12	1.1	5	0.20	68	56	0,0186	-	10	0.045
C05-20-1 0-10	20	3.1	10	0.79	190	143	0,0505	-	10	0.125
C05-32-12-10	32	8.0	12	1.13	480	415	0 1236	-	10	0.320
C05-32-12-25	32	8.0	12	1.13	480	415	0 1236	-	25	0.400
C05-50-16-25	50	19.6	16	2.01	1180	1060	0,3167	-	25	0.675
C05-63-16-25	63	31.1	16	2.01	1870	1750	0,4982	-	25	0.800

1) Consumption of free air per 10 mm stroke for a double stroke at 600 kPa (6 bar).

Additional data

Working pressure	Max 10 bar
Working temperature	-20 °C to +70 °C

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

Material specifications

Cylinder housing	Black anodized aluminium
Front end cover, single action Ø50-63	Black anodized aluminium
Front end cover, other	Brass
Piston rod bearing single action Ø50-63	PTFE/Brass/steel
Piston rod bearing, other	Brass
Piston, Ø8-32 mm	Stainless steel
Piston, Ø50-63 mm	Aluminium
Piston rod	Stainless steel
Seals	Nitrile, NBR
Circlip	Steel spring
Return spring	Surface treated steel spring

Working medium, air quality

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

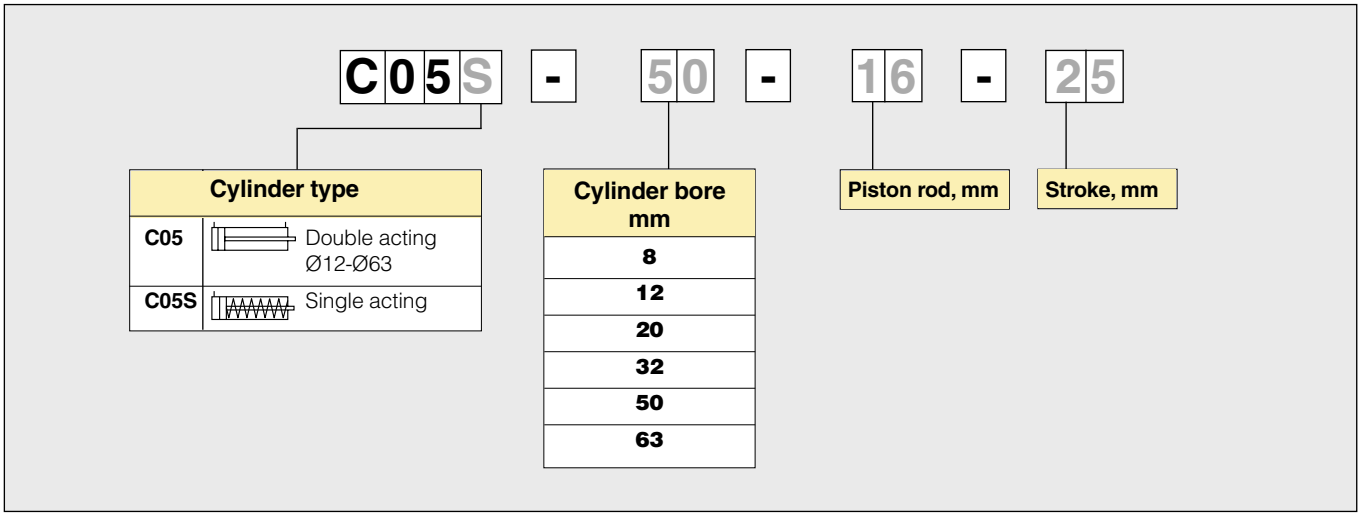
Recommended air quality for cylinders

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/m³, which is what a standard compressor with a standard filter gives.

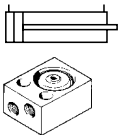
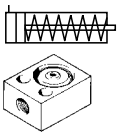
ISO 8573-1 quality classes

Quality class	Pollution particle size (µm)	Pollution max concentration (mg/m³)	Water max. press. dew point (°C)	Oil max concentration (mg/m³)
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	-

Order key



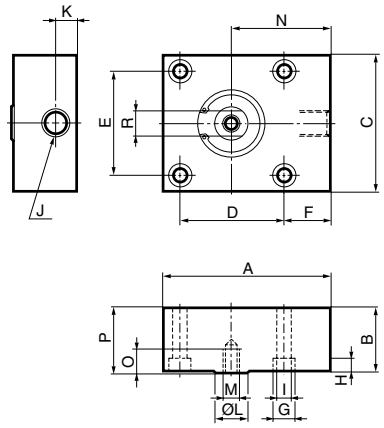
Main data for C05 and C05S cylinders

Symbol	Cyl. dia. mm	Piston rod mm	Spring force Max N	Spring force Min N	Conn. thread	Stroke mm	Weight Kg	Designation
Double acting 	**12**	5/-			M5	10	0,01	**C05-12-5-10**
	20	10/M5			M5	10	0,25	**C05-20-10-10**
	32	12/M6			G1/8	10	0,30	**C05-32-12-10**
					G1/8	25	0,79	**C05-32-12-25**
	50	16/M8			G1/4	25	0,65	**C05-50-16-25**
	63	16/M8			G1/4	25	1,07	**C05-63-16-25**
Single acting 	**8**	4/-	3	2	M5	4	0,02	**C05S-8-4-4**
	12	5/-	7	3	M5	4	0,02	**C05S-12-5-4**
	20	10/M5	10	6	G1/8	4	0,16	**C05S-20-10-4**
	32	12/M6	25	19	G1/8	5	0,21	**C05S-32-12-5**
	50	16/M8	42	35	G1/4	10	0,36	**C05S-50-16-10**
	63	16/M8	58	45	G1/4	10	0,56	**C05S-63-16-10**

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

Dimensions, basic cylinder

Single acting



AirCad™ Drawing Library

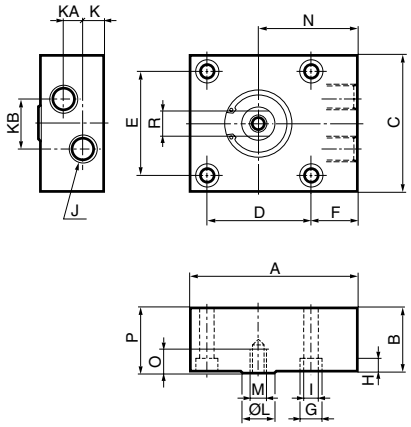
CAD drawings on the Internet

Our home page www.parker.com/euro_pneumatic includes the AirCad Drawing Library with 2D and 3D drawings for the main versions.

Type	A	B	C	D	E	F	G	H	I	J	K	KA	KB	L
C05S-8-4-4	20	16	18	0*	11	5,5	6	3,4	3,4	M5	5,0	-	-	4
C05S-12-5-4	25	16	20	0*	13	7,0	6	3,4	3,4	M5	6,0	-	-	5
C05S-20-10-4	40	20	32	0*	20	9,0	10	5,0	5,5	G1/8	9,5	-	-	10
C05S-32-12-5	55	26	45	0*	32	14,0	10	5,0	5,5	G1/8	9,5	-	-	12
C05S-50-16-10	80	30	65	50	50	22,5	11	6,5	6,5	G1/4	11,0	-	-	16
C05S-63-16-10	90	35	80	62	62	19,0	15	9,0	9,0	G1/4	11,0	-	-	16

Type	M	N	O	P	R
C05S-8-4-4	-	13,5	-	17	-
C05S-12-5-4	-	15,0	-	17	-
C05S-20-10-4	M5	24,0	8	21	-
C05S-32-12-5	M6	32,0	12	27	9
C05S-50-16-10	M8	47,5	12	31	14
C05S-63-16-10	M8	50,0	14	36	14

Double acting



Type	A	B	C	D	E	F	G	H	I	J	K	KA	KB	L
C05-12-5-10	25	27	20	0*	13	7,0	6	3,4	3,4	M5	6,0	13,0	3	5
C05-20-10-10	40	30	32	0*	20	9,0	10	5,0	5,5	M5	6,0	16,0	6	10
C05-32-12-10	55	36	45	0*	32	14,0	10	5,0	5,5	G1/8	9,5	16,5	14	12
C05-32-12-25	55	51	45	0*	32	14,0	10	5,0	5,5	G1/8	9,5	31,5	0**	12
C05-50-16-25	80	50	65	50	50	22,5	11	6,5	6,5	G1/4	11,0	28,0	0**	16
C05-63-16-25	90	55	80	62	62	19,0	15	9,0	9,0	G1/4	11,0	33,0	0**	16

Type	M	N	O	p	R
C05-12-5-10	-	16,0	-	28	-
C05-20-10-10	M5	24,0	8	31	-
C05-32-12-10	M6	32,0	12	37	9
C05-32-12-25	M6	32,0	12	52	9
C05-50-16-25	M8	47,5	12	51	14
C05-63-16-25	M8	50,0	14	56	14

* Only two mounting holes (F).
** Connections in-line.