



Pneumatic Cylinders

***Short stroke cylinders
Series C05 and C05S***


*Catalogue PDE2560TCUK-ul
December 2006*




Short Stroke Cylinders - C05 and C05S

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).



WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

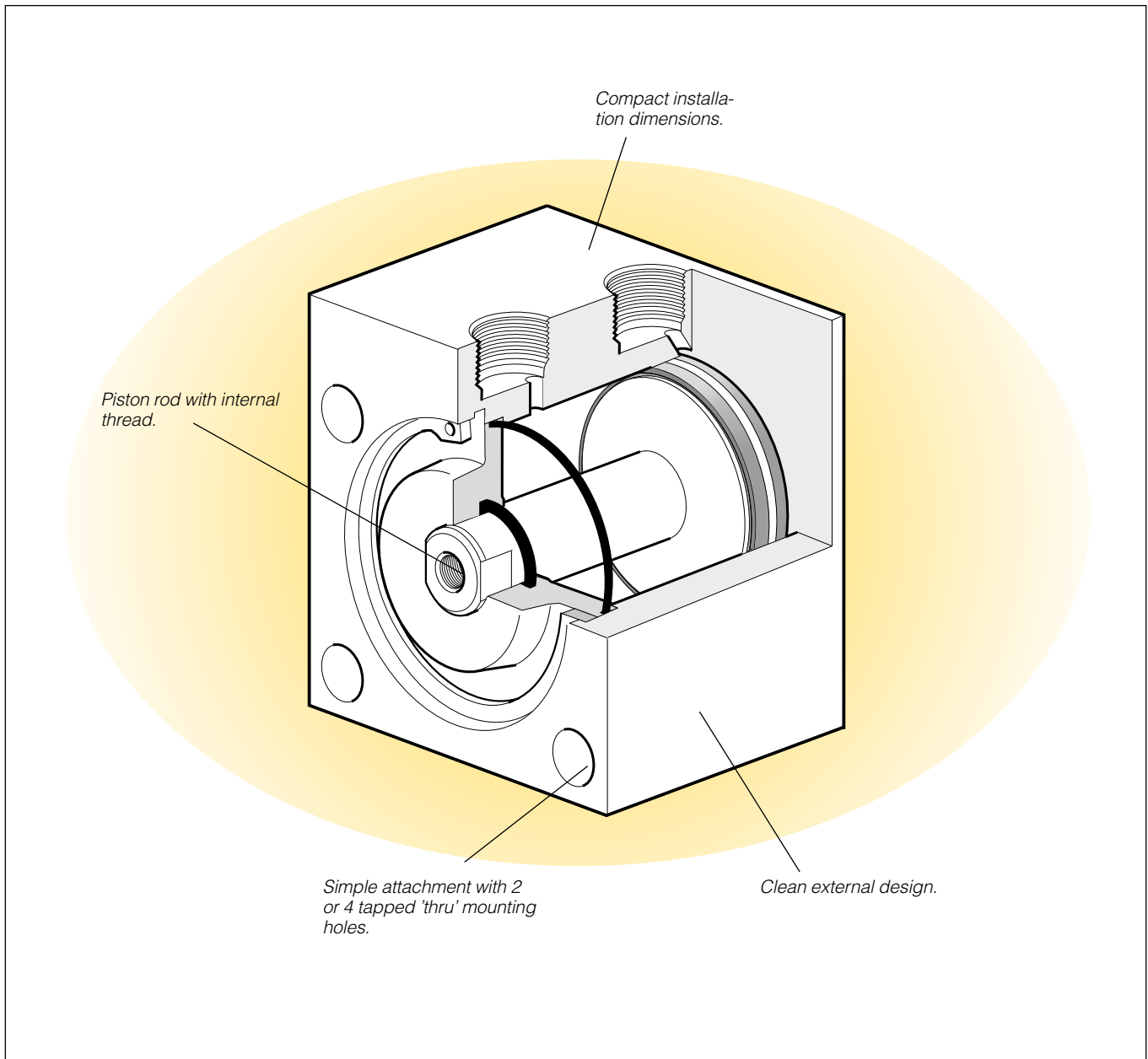
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Short Stroke Cylinders - C05 and C05S



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.

Short Stroke Cylinders - C05 and C05S

Main data

Cylinder	Cylinder		Piston rod		Theor. piston force		Air consumption ¹⁾ l	Spring force N	Stroke mm	Weight Kg
	bore mm	area cm ²	diam mm	area cm ²	at 6 bar in N plus stroke	minus stroke				
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
C05-20-10-10	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.
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Recommended air quality for cylinders

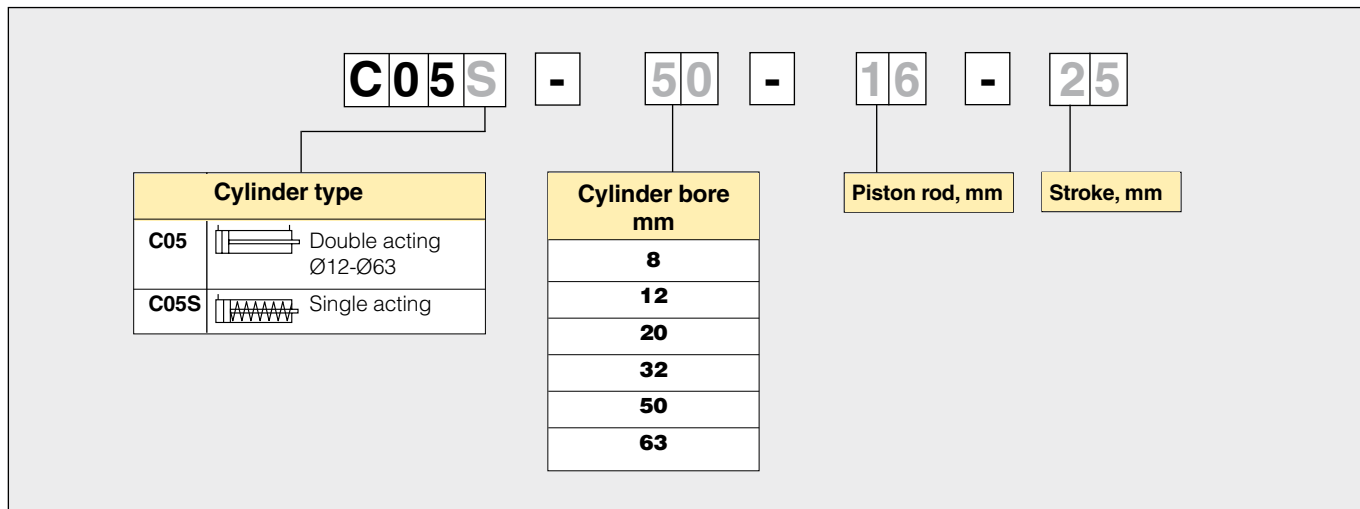
For best possible service life and trouble-free operation, ISO 8573-1 quality class 3.4.3 should be used. This means 5 µm filter (standard filter) dew point +3 °C for indoor operation (a lower dew point should be selected for outdoor operation) and oil concentration 1.0 mg oil/m³, which is what a standard compressor with a standard filter gives.

ISO 8573-1 quality classes

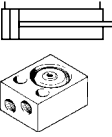
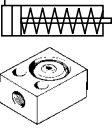
Quality class	Pollution		Water max. press. dew point (°C)	Oil max concentration (mg/m ³)
	particle size (µm)	max concentration (mg/m ³)		
1	0,1	0,1	-70	0,01
2	1	1	-40	0,1
3	5	5	-20	1,0
4	15	8	+3	5,0
5	40	10	+7	25
6	-	-	+10	-

Short Stroke Cylinders - C05 and C05S

Order key



Main data for C05 and C05S cylinders

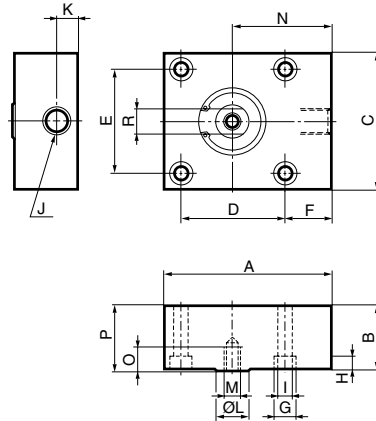
Symbol	Cyl. dia. mm	Piston rod mm	Spring force		Conn. thread	Stroke mm	Weight Kg	Designation
			Max N	Min N				
	12	5/-			M5	10	0,01	C05-12-5-10
	20	10/M5			M5	10	0,25	C05-20-10-10
	32	12/M6			G1/8	10	0,30	C05-32-12-10
					G1/8	25	0,79	C05-32-12-25
	50	16/M8			G1/4	25	0,65	C05-50-16-25
63	16/M8			G1/4	25	1,07	C05-63-16-25	
	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.

Short Stroke Cylinders - C05 and C05S

Dimensions, basic cylinder

Single acting



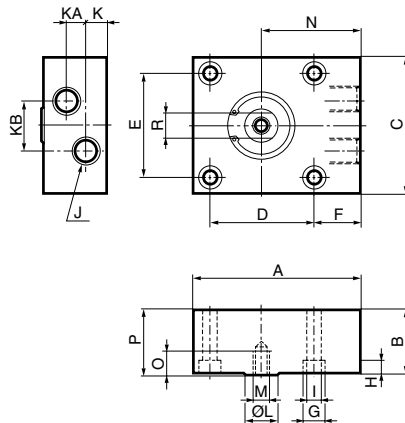
CAD drawings on the Internet

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.



www.parker.com

Pneumatic Division Sales Offices

Austria - Wr.Neustadt

Tel: +43 2622 23501
Fax: +43 2622 66212

Norway - Langhus

Tel: +47 6491 1000
Fax: +47 6491 1090

Belgium - Nivelles

Tel: +32 67 280 900
Fax: +32 67 280 999

Poland - Warsaw

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**Czech & Slovak
Republics - Klecany**

Tel: +420 284 083 111
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**Portugal - Leça da
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Fax: +351 22 996 1527

Denmark - Ballerup

Tel: +45 43 560400
Fax: +45 43 733107

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Fax : +33 4 50 03 67 37

Slovenia - Novo mesto

Tel: +386 7337 6650
Fax: +386 7337 6651

Germany - Kaarst

Tel: +49 2131 4016-0
Fax: +49 2131 4016-9199

Spain - Madrid

Tel: +34 91 675 7300
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Greece - Athens

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Fax: +30 210 933 6451

Sweden - Spånga

Tel: +46 (0) 8 5979 5000
Fax: +46 (0) 8 5979 5120

Hungary - Budapest

Tel: +36 1 220 4155
Fax: +36 1 422 1525

Switzerland - Bolligen

Tel: +41 31 917 18 50
Fax: +41 31 917 18 59

Ireland - Dublin

Tel: +353 1 4666370
Fax: +353 1 4666376

Turkey - Istanbul

Tel: +90 212 482 91 06
Fax: +90 212 482 91 10

Italy - Corsico, Milan

Tel: +39 02 4519 21
Fax: +39 02 4479 340

UK - Warwick

Tel: +44 1926 317 878
Fax: +44 1926 317 855

Netherlands - Oldenzaal

Tel: +31 541 585000
Fax: +31 541 585459

Ukraine - Kiev

Tel: + 380 44 220 7432
Fax: + 380 44 220 6534



Parker Hannifin Ltd.

Pneumatic Division,
Walkmill Lane, Bridgtown,
Cannock, Staffs. WS11 0LR
United Kingdom

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