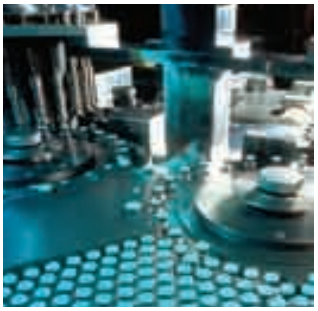

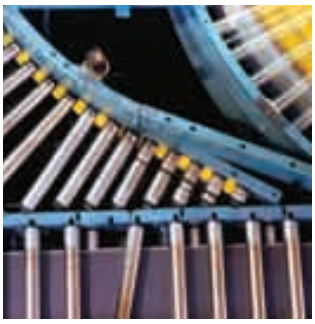

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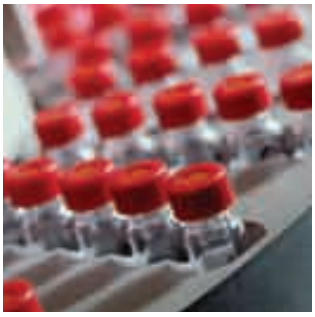

Pneumatic cylinders

Series P1G
Cartridge Cylinders

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P1G Cartridge Cylinder

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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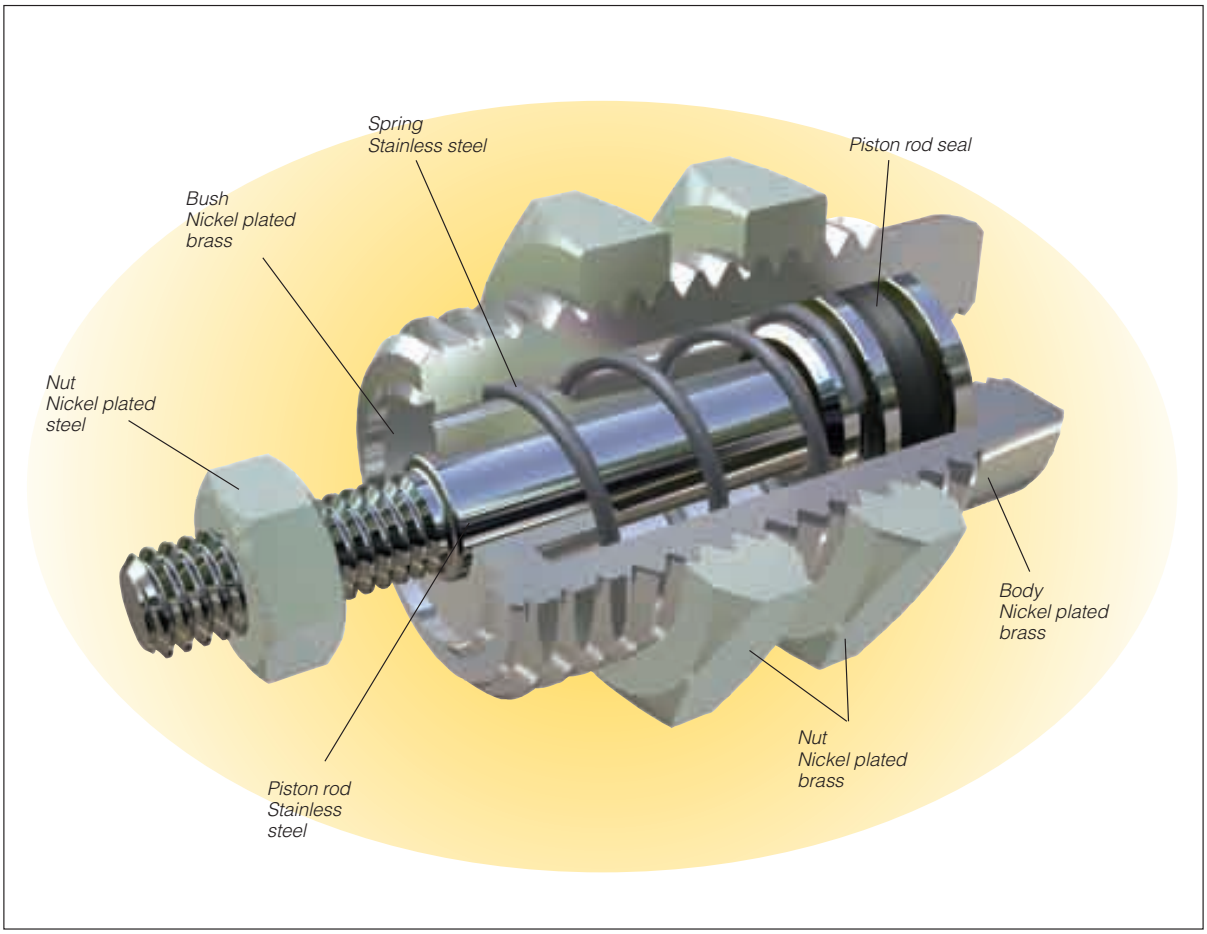

Cartridge cylinder P1G

P1G cartridge cylinders are the perfect solution for compact installation requirements. The cylinders are fully threaded on the outside, allowing them to be screwed into bores in tools, machine stands, etc. This means they require no additional space—instead they virtually disappear into the machine/equipment. They are designed for a long service life, and for non-lube operation. P1G cylinders are made of a material that allows them to be used in applications requiring a high level of corrosion resistance. They are all single acting, and are available with 6, 10 and 16 mm bore sizes. Each of the P1G cylinders is available with a choice of stroke length: 5, 10 or 15 mm. P1G cylinders are supplied complete with one piston rod nut and two lock nuts for easy installation.

Cylinder forcess

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

Order code	Theoretical piston force at 6 bar			
			Spring retraction	
	Nmax	Nmin	Nmax	Nmin
Single acting, spring return				
P1G-S006SS-0005	15,0	12,9	3,7	1,6
P1G-S006SS-0010	14,9	12,7	3,9	1,7
P1G-S006SS-0015	15,0	12,7	3,9	1,6
P1G-S010SS-0005	38,8	34,6	11,6	7,4
P1G-S010SS-0010	40,2	34,2	12,0	6,0
P1G-S010SS-0015	39,4	33,4	12,8	6,8
P1G-S016SS-0005	109,6	108,8	9,6	8,8
P1G-S016SS-0010	104,4	100,3	18,1	14,0
P1G-S016SS-0015	104,4	100,3	18,1	14,0

Material specification

Cylinder housing	Stainless steel
Piston rod bearing/	
Front end cover	Nickel plated brass
Cylinderhus	Nickel plated brass
Piston seal, Ø6	Nitrilgummi NBR
Piston seal, Ø10 and 16	Polyurethane
Return spring	Stainless steel
Piston rod nut	Nickel plated steel
Mounting nut	Nickel plated brass

Spare part = new cylinder

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	-

Additional data

Working pressure	max	7 bar
	min	2 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.

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P1G Cartridge Cylinder

Order key

P1G – S 016 S S – 0005

Cylinder bore mm
006
010
016

	Cylinder type / function
S	Single-acting, spring return for retract stroke

	Sealing material
S	Standard, -20 °C to +80 °C

Sealing material	
0005	5
0010	10
0015	15

Single-acting spring return

Cyl.bore mm	Stroke mm	Weight g	Order code
6 Conn. M5	5	10	**P1G-S006SS-0005**
	10	13	**P1G-S006SS-0010**
	15	15	**P1G-S006SS-0015**
10 Conn. M5	5	27	**P1G-S010SS-0005**
	10	32	**P1G-S010SS-0010**
	15	36	**P1G-S010SS-0015**
16 Conn. M5	5	70	**P1G-S016SS-0005**
	10	78	**P1G-S016SS-0010**
	15	87	**P1G-S016SS-0015**

Cylinders are supplied complete with two mounting nuts and one piston rod nut.

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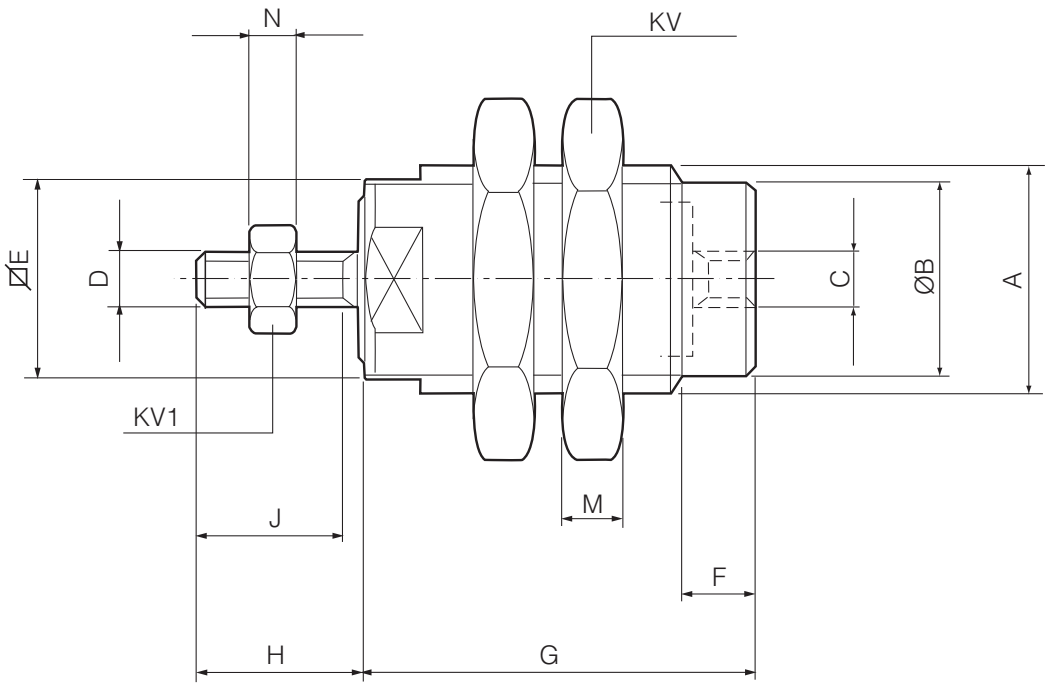
Dimensions



Cylinder bore	A	ØB	C	D	E	F	G			H	J	KV	KV1	M	N
							5[1]	10[1]	15[1]						
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
6	M10x1	8,5	M5	M3x0,5	9	5	18,5	25,5	32,5	9	9	14	5,5	3	2,4
10	M15x1,5	13	M5	M4x0,7	14	5	20,5	27	34	11,5	11	19	7	4	3,2
16	M22x1,5	19	M5	M5x0,8	20	6	23,5	29,5	36	14	12	27	8	5	4

1) Stroke length in mm

Caution

Avoid side loads on the piston rod
Avoid loading the piston rod during retraction
Do not operate the cylinders with excessive inertia.

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Catalogue PDE2571TCUK-ul. April 2008

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