

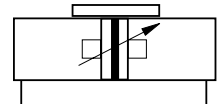
Characteristics				Pressures quoted as gauge pressure			
Characteristics	Symbol	Unit	Description				
General Features							
Type			Rodless cylinder				
Series			OSP-P				
System			Double-acting, with cushioning, position sensing capability				
Mounting			See drawings				
Air Connection			Threaded				
Ambient temperature range	T_{min} T_{max}	°C °C	-10 +80	Other temperature ranges on request			
Weight (mass)		kg	See table below				
Installation			In any position				
Medium			Filtered, unlubricated compressed air (other media on request)				
Lubrication			Permanent grease lubrication (additional oil mist lubrication not required) Option: special slow speed grease				
Material	Cylinder Profile		Anodized aluminium				
	Carrier (piston)		Anodized aluminium				
	End caps		Aluminium, lacquered / Plastic (P10)				
	Sealing bands		Corrosion resistant steel				
	Seals		NBR (Option: Viton®)				
	Screws		Galvanized steel Option: stainless steel				
	Dust covers, wipers		Plastic				
Max. operating pressure	p_{max}	bar	8				
Weight (mass) [kg]							
Series (Basic cylinder)	At 0 mm stroke		Weight (mass) [kg] per 100 mm stroke				
OSP-P10	0.087		0.052				
OSP-P16	0.22		0.1				
OSP-P25	0.65		0.197				
OSP-P32	1.44		0.354				
OSP-P40	1.95		0.415				
OSP-P50	3.53		0.566				
OSP-P63	6.41		0.925				
OSP-P80	12.46		1.262				
Size Comparison							
P10	P16	P25	P32	P40	P50	P63	P80
For linear guides see from page 47 For magnetic switches see from page 123 For mountings and accessories see from page 101							

Rodless Pneumatic Cylinder

∅ 10-80 mm



Series OSP-P..



Standard Versions:

- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing

Long-Stroke Cylinders for stroke lengths up to 41 m

(see page 25-29)

Special Versions:

- with special pneumatic cushioning system (on request)
- Clean room cylinders (see page 31-34)
- ATEX-Version (Ex) (see page 35-36)
- Stainless steel screws
- Slow speed lubrication
- Viton® seals
- Both air connections on one end
- Air connection on the end-face
- Integrated Valves



- End cap can be rotated 4 x 90° to position air connection as desired
- Free choice of stroke length up to 6000 mm, Long-Stroke version (∅50-80mm) for stroke lengths up to 41 m

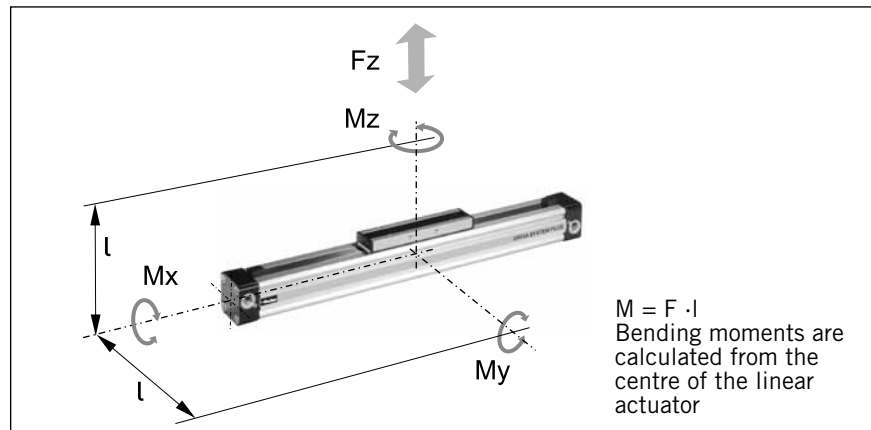
Loads, Forces and Moments

Choice of cylinder is decided by:

- Permissible loads, forces and moments
- Performance of the pneumatic end cushions. The main factors here are the mass to be cushioned and the piston speed at start of cushioning (unless external cushioning is used, e. g. hydraulic shock absorbers).

The adjacent table shows the maximum values for light, shock-free operation, which must not be exceeded even in dynamic operation. **Load and moment data are based on speeds $v \leq 0.5$ m/s.**

When working out the action force required, it is essential to take into account the friction forces generated by the specific application or load.



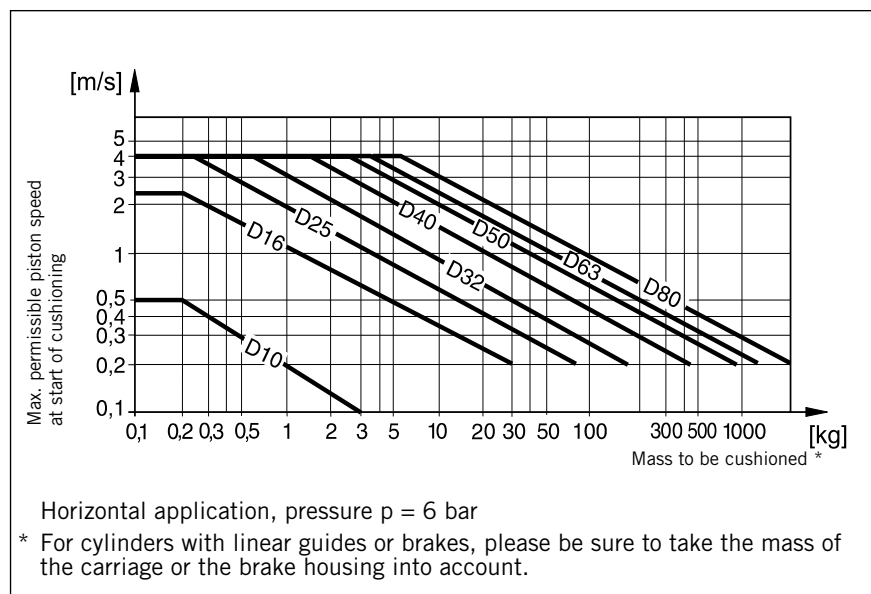
Cylinder-Series [mm Ø]	Theoretical Action Force at 6 bar [N]	effektive Action Force F_A at 6 bar [N]	max. Moments			max. Load F [N]	Cushion Length [mm]
			Mx [Nm]	My [Nm]	Mz [Nm]		
OSP-P10	47	32	0.2	1	0.3	20	2.5 *
OSP-P16	120	78	0.45	4	0.5	120	11
OSP-P25	295	250	1.5	15	3	300	17
OSP-P32	483	420	3	30	5	450	20
OSP-P40	754	640	6	60	8	750	27
OSP-P50	1178	1000	10	115	15	1200	30
OSP-P63	1870	1550	12	200	24	1650	32
OSP-P80	3016	2600	24	360	48	2400	39

* A rubber element (non-adjustable) is used for end cushioning. To deform the rubber element enough to reach the absolute end position would require a Δp of 4 bar!

Cushioning Diagram

Work out your expected moving mass and read off the maximum permissible speed at start of cushioning. Alternatively, take your desired speed and expected mass and find the cylinder size required.

Please note that piston speed at start of cushioning is typically ca. 50 % higher than the average speed, and that it is this higher speed which determines the choice of cylinder. If these maximum permissible values are exceeded, additional shock absorbers must be used.



If the permitted limit values are exceeded, either additional shock absorbers should be fitted in the area of the centre of gravity or you can consult us about our special cushioning system
– we shall be happy to advise you on your specific application.