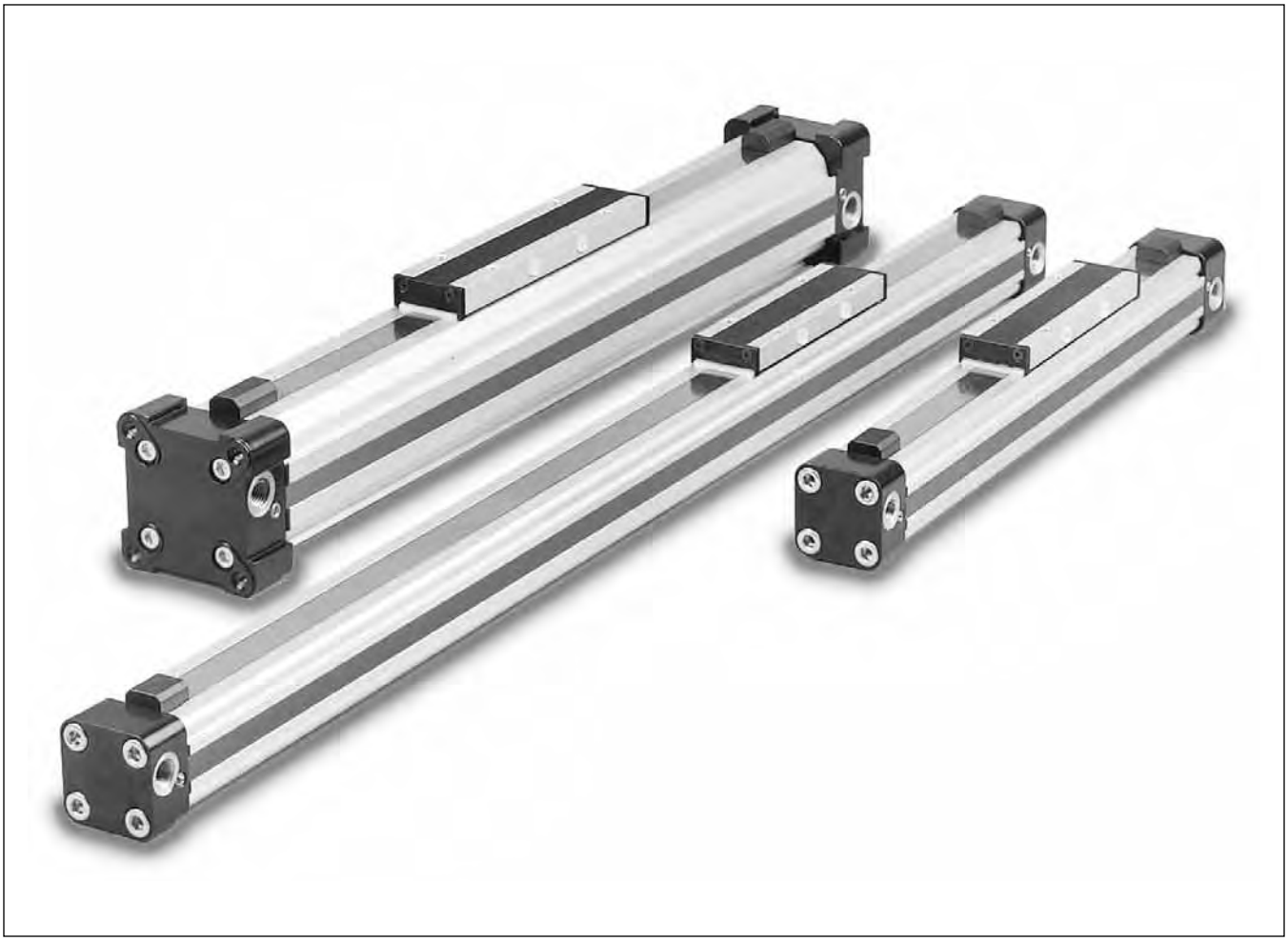
Rodless Pneumatic Cylinders Series OSP-P



Parker Hannifin Corporation
Pneumatic Division
Wadsworth, OH
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origa system plus
– innovation from A PROVEN design

A generation of linear drives which can be simply and neatly integrated into any machine layout.

A NEW MODULAR LINEAR DRIVE SYSTEM

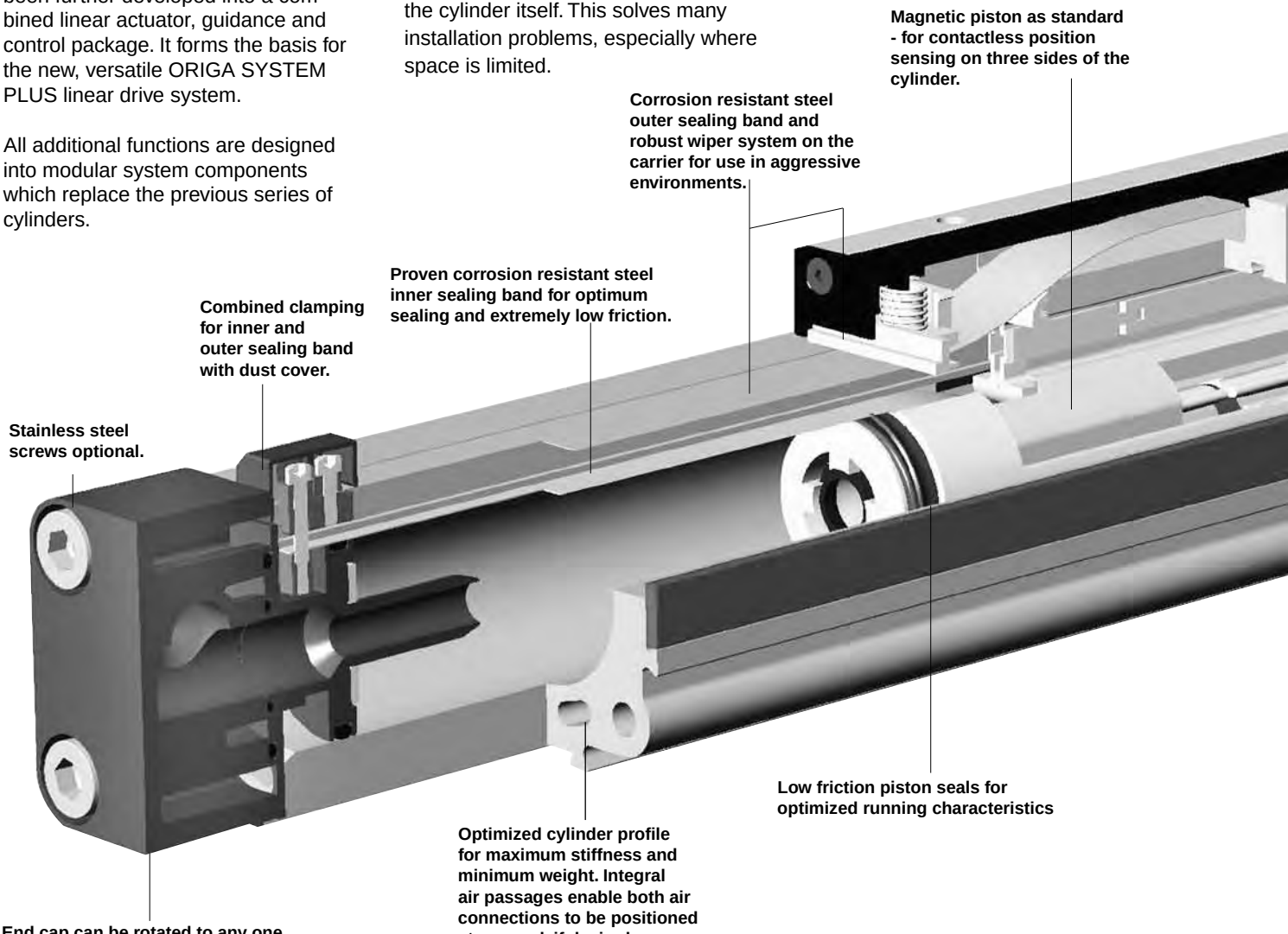
With this second generation linear drive PARKER-ORIGA offers design engineers complete flexibility. The well known ORIGA cylinder has been further developed into a combined linear actuator, guidance and control package. It forms the basis for the new, versatile ORIGA SYSTEM PLUS linear drive system.

All additional functions are designed into modular system components which replace the previous series of cylinders.

MOUNTING RAILS ON 3 SIDES

Mounting rails on 3 sides of the cylinder enable modular components such as linear guides, brakes, valves, magnetic switches etc. to be fitted to the cylinder itself. This solves many installation problems, especially where space is limited.

The modular system concept forms an ideal basis for additional customer-specific functions.



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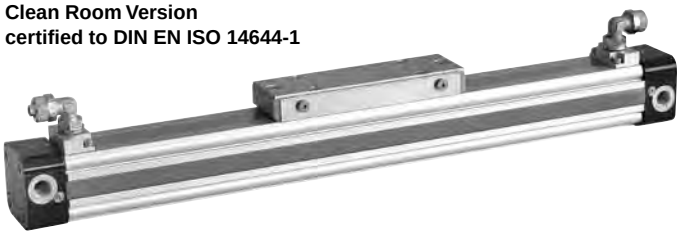
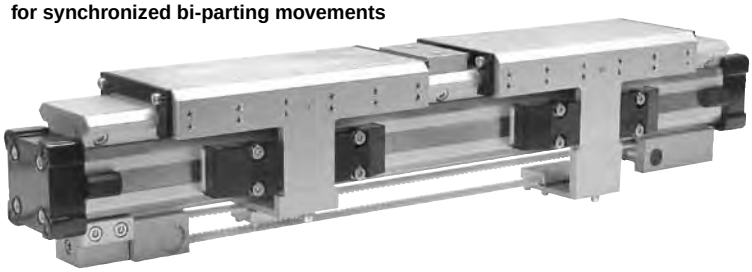
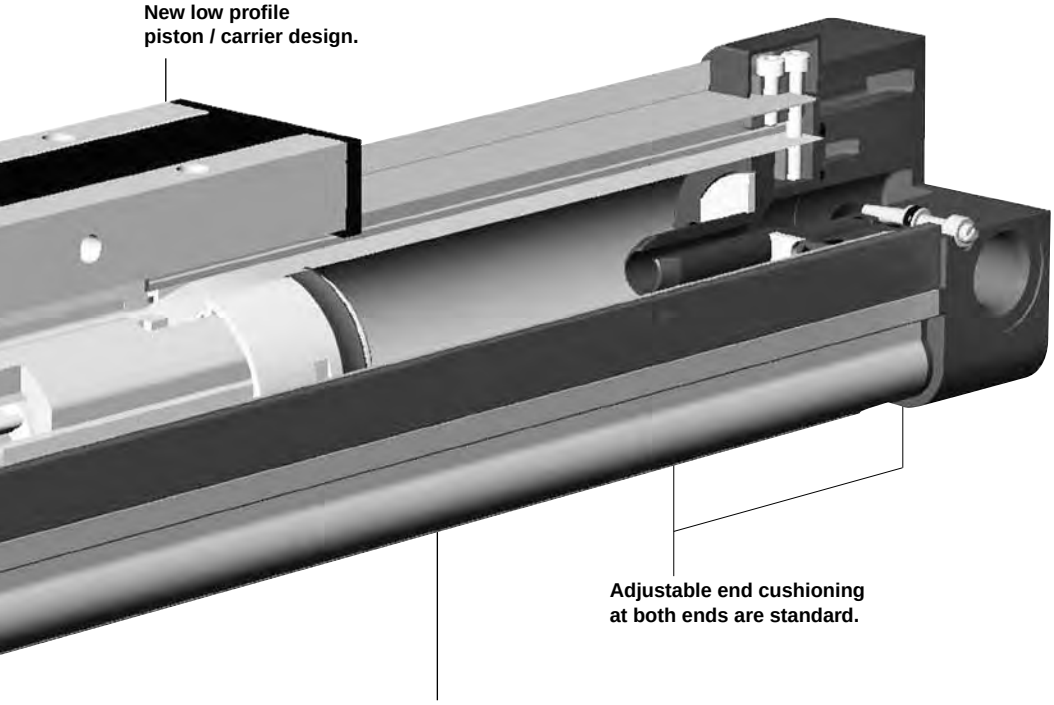
Clean Room Version
certified to DIN EN ISO 14644-1



Rodless Cylinder
for synchronized bi-parting movements



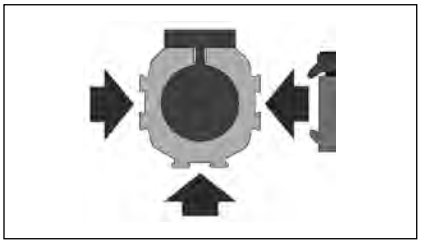
New low profile
piston / carrier design.



Adjustable end cushioning at both ends are standard.

Integral dovetail rails on three sides provide many adaptation possibilities (linear guides, magnetic switches, etc.).

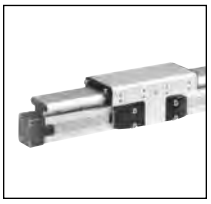
Modular system components are simply clamped on.



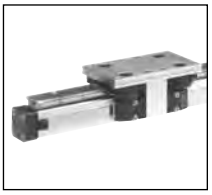
INTEGRATED VOE VALVES
The complete compact solution for optimal cylinder control.

SENSOFLEX
SFI-plus incremental measuring system with 0.1 (1.0) mm resolution

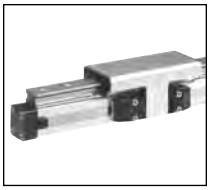
SLIDELINE
Combination with linear guides provides for heavier loads.



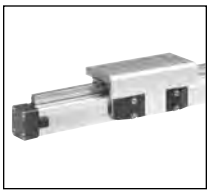
POWERSLIDE
Roller bearing precision guidance for smooth travel and high dynamic or static loads.



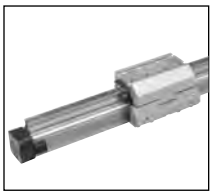
PROLINE
The compact aluminum roller guide for high loads and velocities.



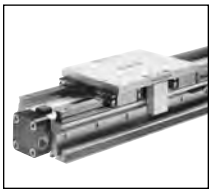
STARLINE
Recirculating ball bearing guide for very high loads and precision



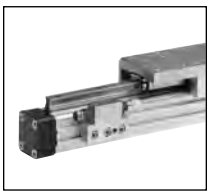
KF GUIDE
Recirculating ball bearing guide – the mounting dimensions correspond to FESTO Type: DGPL-KF



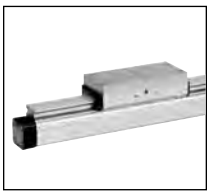
HEAVY DUTY GUIDE HD
for heavy duty applications.



VARIABLE STOP VS
The variable stop provides simple stroke limitation.



Passive pneumatic brake reacts automatically to pressure failure.



Active pneumatic brake for secure, positive stopping at any position.

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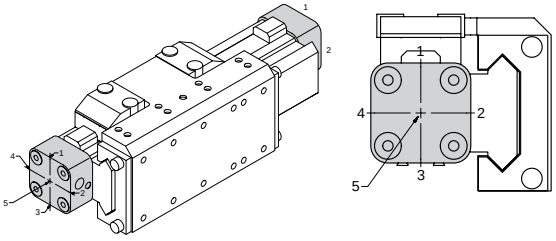
Ordering Instructions / Part Numbering System for OSP Series

OSP - P 4 1 1 0 0

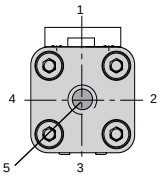
1 Series	2 Bore	3 Mount Single Piston	4 Mount Double Piston	5 Seals	6 Grease
P Pneumatic	**0** 10	**0** If Double (All)	**0** If Single (All)	**0** Buna	**0** Std
C Pneumatic Cleanroom**	**1** 16	**1** Std Mnt (NR20) (All)	**1** Std Mnt (NR20) (All)	**1** Viton	**1** Slow
	2 25	**2** Floating Mount (NR25) (All)	**2** Floating Mount (NR25) (All)	**2**	**2** Clean
	3 32	**3** Invert Mount (NR30) (All)	**3** Invert Mount (NR30) (All)	**3**	**3** Food
	4 40	**4** Invert Float Mount (NR35) (All)	**4** Invert Float Mount (NR35) (All)	**4**	**4**
	5 50	**5** Slideline (NR50) (16, 25, 32, 40, 50, 63, 80)	**5** Slideline (NR50) (Two Pistons, Two Carriages) (16, 25, 32, 40, 50, 63, 80)	**5**	**5**
	6 63	**6** Powerslide 25 (16, 25)	**6** Powerslide 25 (Two Pistons, Two Carriages) (16, 25)	**6**	**6**
	8 80	**7** Powerslide 35 (25, 32)	**7** Powerslide 35 (Two Pistons, Two Carriages) (25, 32)	**7**	**7**
		8 Powerslide 44 (25, 32, 40)	**8** Powerslide 44 (Two Pistons, Two Carriages) (25, 32, 40)	**8**	**8**
		9 Powerslide 60 (40, 50)	**9** Powerslide 60 (Two Pistons, Two Carriages) (40, 50)	**9**	**9**
		A Powerslide 76 (50)	**A** Powerslide 76 (Two Pistons, Two Carriages) (50)	**A** Special	**A** Special
		B Brake Active-Pressure (25, 32, 40, 50, 63, 80)	**B** Brake Active-Pressure (25, 32, 40, 50, 63, 80)	**B**	**B**
		C	**C**	**C**	**C**
		D Joint Clamp Std (25, 32, 40, 50)	**D** Joint Clamp Std (25, 32, 40, 50)	**D**	**D**
		E Joint Clamp Floating (25, 32, 40, 50)	**E** Joint Clamp Floating (25, 32, 40, 50)	**E**	**E**
		F Joint Clamp Invert (25, 32, 40, 50)	**F** Joint Clamp Invert (25, 32, 40, 50)	**F**	**F**
		G Joint Clamp Invert Float (25, 32, 40, 50)	**G** Joint Clamp Invert Float (25, 32, 40, 50)	**G**	**G**
		H Joint Clamp Plate (25, 32, 40, 50)	**H** Joint Clamp Plate (25, 32, 40, 50)	**H**	**H**
		J Joint Clamp Invert Plate (25, 32, 40, 50)	**J** Joint Clamp Invert Plate (25, 32, 40, 50)	**J**	**J**
		K Joint Clamp Brake Active-Pressure (25, 32, 40, 50)	**K** Joint Clamp Brake Active-Pressure (25, 32, 40, 50)	**K**	**K**
		L Starline (16, 25, 32, 40, 50)	**L**	**L**	**L**
		M	**M**	**M**	**M**
		N SL Multibrake-Passive w/Sensor (25, 32, 40, 50, 63, 80)	**N** SL-Biparting (40)	**N**	**N**
		P SL Multibrake-Passive w/o Sensor (25, 32, 40, 50, 63, 80)	**P**	**P**	**P**
		Q Proline / GDL (16, 25, 32, 40, 50)	**Q**	**Q**	**Q**
		R Proline w/Active Brake-Pressure (25, 32, 40, 50)	**R**	**R**	**R**
		S Proline w/Multibrake w/o Sensor (25, 32, 40, 50)	**S**	**S**	**S**
		T "T" Section Piston Mount (NR22) (40, 50, 63, 80)	**T** "T" Section Piston Mount (NR22) (40, 50, 63, 80)	**T**	**T**
		U Slideline w/Active Brake (25, 32, 40, 50)	**U** Slideline w/Active Brake (Two Pistons, Two Carriages) (25, 32, 40, 50)	**U**	**U**
		V	**V**	**V**	**V**
		W	**W**	**W**	**W**
		X	**X**	**X**	**X**
		Y Hd Heavy Duty Series (25, 32, 40, 50)	**Y**	**Y**	**Y**
		Z Special	**Z** Special	**Z**	**Z**

**Pneumatic Cleanroom: Only available in 16, 25 and 32 base cylinders without guide systems.

Cylinder with guide end cap positioning



Basic cylinder end cap positioning



Note: Position #2 is the standard location.

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7	8	9*	10	11	12	13 14 15 16 17 18
0	0	0	0	0	0	0

Ports	Screws & Coating	End Cap Support	Center Support Qty.	Switch	Switch Qty	Stroke (mm)
0 Std (Pos 2) (Only Available Option for 10mm Cyl)	**0** Std	**0** None	**0** none	**0** None	**0**	– 0 0 0 0 0
1 Pos 5	**1** Stainless Hardware	**1** A1 (10, 16, 25, 32)		**1** NO Reed KL3045 (All Except 10mm)		–
2 Single	**2** Xylan Coated Aluminum	**2** A2 (16, 25, 32)		**2** NC Reed KL3048 (All Except 10mm)		–
3 Pos 1	**3** Stainless / Xylan	**3** A3 (25, 32)		**3** PNP KL3054+4041 (All Except 10mm)		–
4 Pos 3	**4**	**4** C1 (40, 50, 63, 80)		**4** NPN KL3060+4041 (All Except 10mm)		–
5 Pos 4	**5**	**5** C2 (40, 50)		**5** NO Reed 3047 (Only 10mm)		–
6 VOE (25-G1/8, 32-G1/4, 40-G3/8, 50-G3/8) 24VDC	**6**	**6** C3 (40, 50, 63, 80)		**6** PNP 3049+4041 (Only 10mm)		–
7 VOE (25-G1/8, 32-G1/4, 40-G3/8, 50-G3/8) 230VAC	**7**	**7** C4 (40, 50)		**7** NPN 3753+4041 (Only 10mm)		–
8	**8**	**8** B1 (25, 32)		**8**		–
9	**9**	**9** B3 (16)		**9**		–
A Special	**A**	**A** B4 (25, 32)		**A**		–
B	**B**	**B** D1 (All)		**B**		–
C	**C**	**C** E1 (All Except 10mm)		**C**		–
D	**D**	**D** E2 (16, 25, 32, 40, 50)		**D**		–
E	**E**	**E** E3 (16, 25, 32, 40, 50, 63, 80)		**E**		–
F	**F**	**F** E4 (25, 32, 40, 50)		**F** Servotec (25,32) 24VDC		–
G	**G**	**G** A1+D1 (10, 16, 25, 32)		**G** NC Reed with Connector and 5m Cable, KL3087 and 4041 (All Except 10mm)		–
H	**H**	**H** B1+D1 (25, 32)		**H** Servotec (25, 32) 220VAC		–
J	**J**	**J** C1+D1 (40, 50, 63, 80)		**J** KL3047 + KC3102 (All Except 10mm)		–
K	**K**	**K** A1+E1 (16, 25, 32)		**K**		–
L	**L**	**L** B1+E1 (25, 32)		**L**		–
M	**M**	**M** C1+E1 (40, 50, 63, 80)		**M**		–
N	**N**	**N** A2+E2 (16, 25, 32)		**N**		–
P	**P**	**P** C2+E2 (40, 50)		**P**		–
Q	**Q**	**Q** A3+E3 (25, 32)		**Q**		–
R	**R**	**R** B3+E3 (16)		**R**		–
S	**S**	**S** C3+E3 (40, 50, 63, 80)		**S**		–
T	**T**	**T** B4+E4 (25, 32)		**T**		–
U	**U**	**U** C4+E4 (40, 50)		**U**		–
V	**V**	**V** B2 (16, 25, 32)		**V**		–
W	**W**	**W** B5 (32)		**W**		–
X	**X**	**X** B2+E2 (16, 25, 32)		**X**		–
Y	**Y**	**Y** B5+E5 (32)		**Y**		–
Z	**Z** Special	**Z** Special		**Z** Special		–
		# E5 (32)				

* Two End Supports are Supplied in the OSP-P Part Number

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Linear Drives	OSP-P10	OSP-P16	OSP-P25	OSP-P32	OSP-P40	OSP-P50	OSP-P63	OSP-P80
Theoretical Force at 6 bar (N)	47	120	295	483	754	1178	1870	3010
Effective Force at 6 bar (N)	32	78	250	420	640	1000	1550	2600
Velocity v (m/s)	> 0.005	> 0.005	> 0.005	> 0.005	> 0.005	> 0.005	> 0.005	> 0.005
Magnetic Piston (three sides)	X	❑	❑	❑	❑	❑	❑	❑
Lubrication - Prelubricated	❑	❑	❑	❑	❑	❑	❑	❑
Multiple Air Ports (4 x 90°)	X	❑	❑	❑	❑	❑	❑	❑
Both Air Connections at End-face	X	❍	❍	❍	❍	❍	❍	❍
Air Connection on the End-face	X	❍	❍	❍	❍	❍	❍	❍
Cushioning	❑	❑	❑	❑	❑	❑	❑	❑
Cushioning Length (mm)	2,50	11	17	20	27	30	32	39
Stroke Length (mm) ▲	1 - 6000	1 - 6000	1 - 6000	1 - 6000	1 - 6000	1 - 6000	1 - 6000	1 - 6000
Pressure Range pmax (bar)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Temperature Range (°C) ✳	-10 – + 80	-10 – + 80	-10 – + 80	-10 – + 80	-10 – + 80	-10 – + 80	-10 – + 80	-10 – + 80
Viton / Chemical Resistance	❍	❍	❍	❍	❍	❍	❍	❍
Stainless Steel Parts	❍	❍	❍	❍	❍	❍	❍	❍
Clevis Mounting	❍	❍	❍	❍	❍	❍	❍	❍
Slow Speed Lubrication	❍	❍	❍	❍	❍	❍	❍	❍
Duplex Connection / Multiplex Connection	X	on request	❍	❍	❍	❍	on request	on request
Tandem Piston	❍	❍	❍	❍	❍	❍	❍	❍
Basic Cylinder								
F (N)	20	120	300	450	750	1200	1650	2400
Mx (Nm)	0.2	0.45	1.5	3	6	10	12	24
My (Nm)	1	4	15	30	60	115	200	360
Mz (Nm)	0.3	0.5	3	5	8	15	24	48
SLIDELINE								
F (N)	X	325	675	925	1500	2000	2500	2500
Mx (Nm)	X	6	14	29	50	77	120	120
My (Nm)	X	11	34	60	110	180	260	260
Mz (Nm)	X	11	34	60	110	180	260	260
PROLINE								
F (N)	X	542	857	1171	2074	3111	X	X
Mx (Nm)	X	8	16	29	57	111	X	X
My (Nm)	X	12	39	73	158	249	X	X
Mz (Nm)	X	12	39	73	158	249	X	X
POWERSLIDE								
F (N)	X	1400	1400 - 3000	1400 - 3000	3000	3000 - 4000	X	X
Mx (Nm)	X	14	14 - 65	20 - 65	65 - 90	90 - 140	X	X
My (Nm)	X	45	63 - 175	70 - 175	175 - 250	250 - 350	X	X
Mz (Nm)	X	45	63 - 175	70 - 175	175 - 250	250 - 350	X	X
STARLINE								
F (N)	X	1000	3100	3100	4000-7500	4000-7500	X	X
Mx (Nm)	X	15	50	62	150	210	X	X
My (Nm)	X	30	110	160	400	580	X	X
Mz (Nm)	X	30	110	160	400	580	X	X
– Variable Stop	X	❍	❍	❍	❍	❍	X	X
KF Guide								
F (N)	X	1000	3100	3100	4000-7500	4000-7500	X	X
Mx (Nm)	X	12	35	44	119	170	X	X
My (Nm)	X	25	90	133	346	480	X	X
Mz (Nm)	X	25	90	133	346	480	X	X
– Variable Stop	X	❍	❍	❍	❍	❍	X	X

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Linear Drives	OSP-P10	OSP-P16	OSP-P25	OSP-P32	OSP-P40	OSP-P50	OSP-P63	OSP-P80
HD Heavy Duty Guide								
F (N)	X	X	**6000**	**6000**	**15000**	**18000**	X	X
Mx (Nm)	X	X	**260**	**285**	**800**	**1100**	X	X
My (Nm)	X	X	**320**	**475**	**1100**	**1400**	X	X
Mz (Nm)	X	X	**320**	**475**	**1100**	**1400**	X	X
– Variable Stop	X	X	❍	❍	❍	❍	X	X
– Intermediate Stop Module	X	X	❍	X	X	X	X	X
Active Brake								
Braking Force at 6 bar (brake surface dry) (N)	X	X	**350**	**590**	**900**	**1400**	**2170**	**4000**
SLIDELINE SL / PROLINE PL with Brakes								
Active Brake								
SL Braking Force at 6 bar (brake surface dry) (N)	X	X	325	545	835	1200	X	X
PL Braking Force at 6 bar (brake surface dry) (N)	X	X	on request	on request	on request	on request	X	X
Passive Brake Multibrake								
SL Braking Force at 6 bar (brake surface dry) (N)	X	X	470	790	1200	1870	2900	2900
PL Braking Force at 6 bar (brake surface dry) (N)	X	X	315	490	715	1100	–	–
Magnetic Switches								
Standard Version	❍	❍	❍	❍	❍	❍	❍	❍
T-Nut Version	❍	❍	❍	❍	❍	❍	❍	❍
Displacement Measuring Systems								
SFI-plus Incremental	X	X	❍	❍	❍	❍	❍	❍
Integrated Valves 3/2 WV NO VOE	X	X	❍	❍	❍	❍	on request	on request
Mountings								
End Cap Mounting / Mid-Section Support	❍	❍	❍	❍	❍	❍	❍	❍
Inversion Mounting	X	❍	❍	❍	❍	❍	❍	❍
Shock Absorber for Intermediate Positioning	X	X	on request	on request	on request	on request	X	X
Adaptor Profile / T-Nut Profile	X	❍	❍	❍	❍	❍	X	X
Special Cylinders								
Special Pneumatical Cushioning System	X	on request	on request	on request	on request	on request	X	X
Clean Room Cylinders to DIN EN ISO 14644-1	X	❍	❍	❍	X	X	X	X
Bi-parting Version	X	X	X	X	❍	X	X	X
High-Speed up to 30 m/s	X	on request	on request	on request	X	X	X	X

❑ = Standard Version
▲ = Longer Strokes on Request
❊ = other temperature Ranges on Request
❍ = Option
X = Not Applicable

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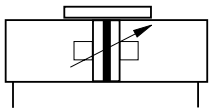
Rodless Pneumatic Cylinder

ø 10-80 mm

OSP
ORIGA SYSTEM PLUS

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 41m (consult factory)

Special Versions:

- With special pneumatic cushioning system (on request)
- Clean room cylinders (see page B31-B33)
- 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 (Ø50-80mm) for stroke lengths up to 41m

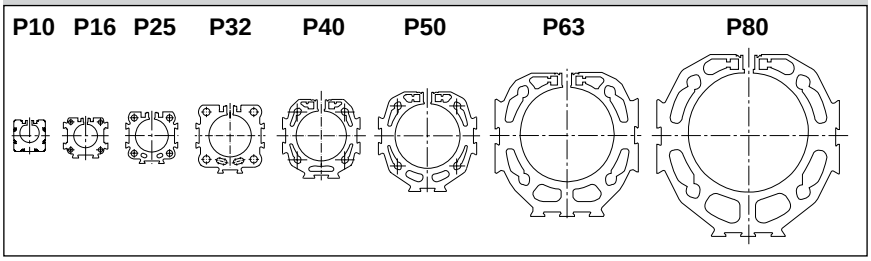
Characteristics Pressures quoted as gauge pressure

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 Body			Anodized aluminum
	Carrier (piston)			Anodized aluminum
	End caps			Aluminum, 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

Cylinder series (Basic cylinder)	Weight (Mass) kg	
	At 0 mm stroke	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



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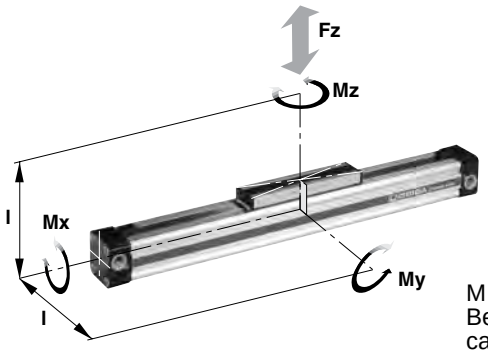
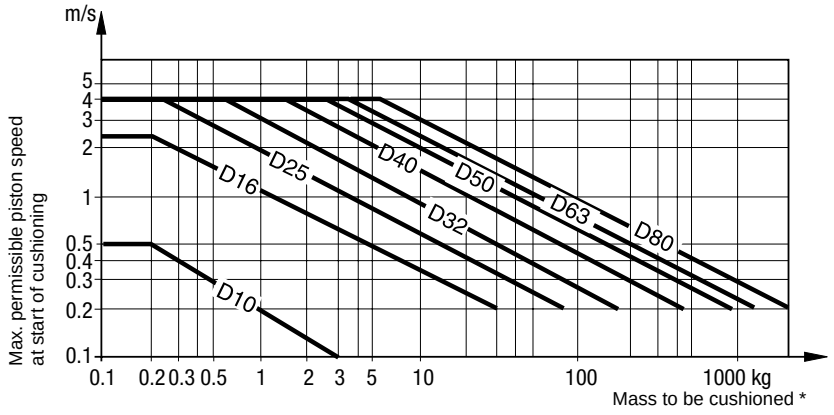


M = F ·l
Bending moments are calculated from the center of the linear actuator

Cylinder Series (mm Ø)	Theoretical Action Force at 6 bar (N)	Effective 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!



* For cylinders with linear guides or brakes, please be sure to take the mass of the carriage or the brake housing into account.

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

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 ≤ 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.

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.

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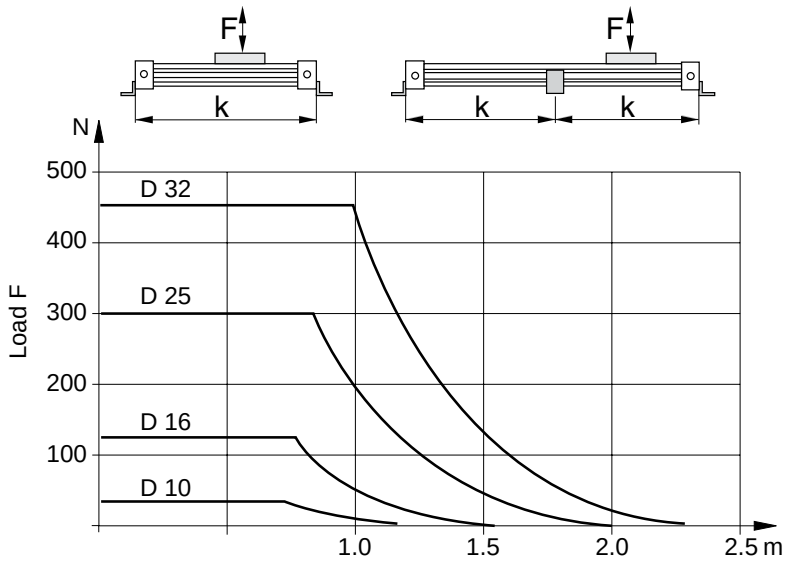
Mid-Section Supports

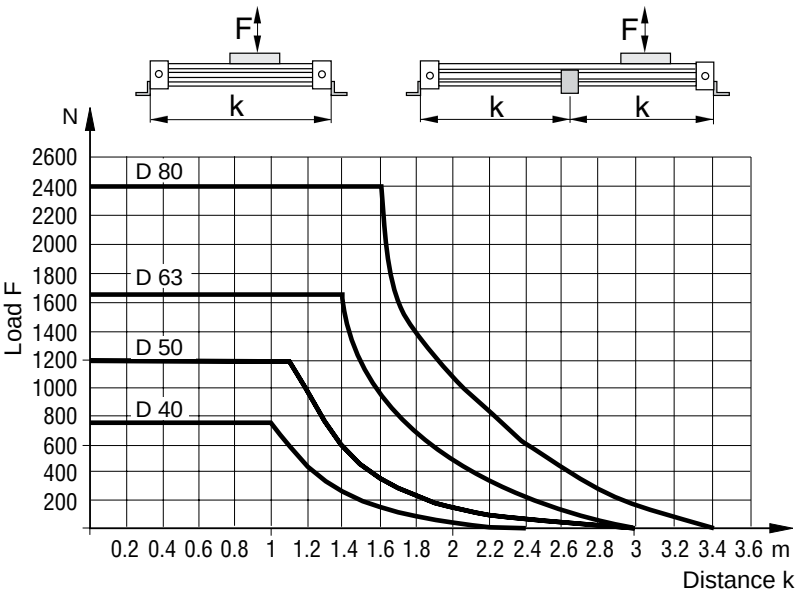
To avoid excessive bending and oscillation of the cylinder, mid-section supports are required. The diagrams show the maximum possible support spacings depending on the load.

Bending up to max. 0.5 mm is permissible between supports. The mid-section supports are clamped on to the dovetail profile of the cylinder tube.

Permissible Support Spacings: OSP - P10 - P32



Permissible Support Spacings: OSP - P40 - P80



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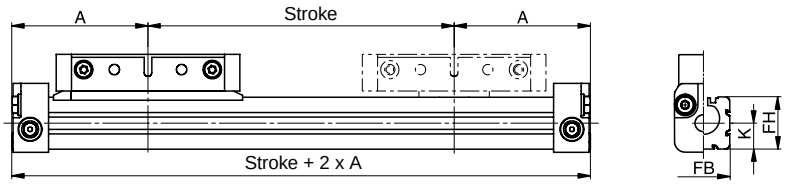
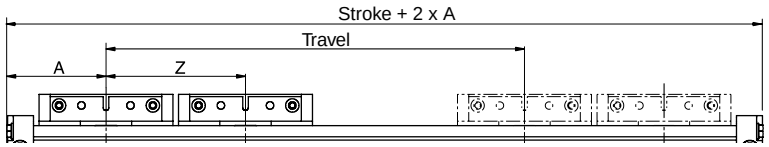
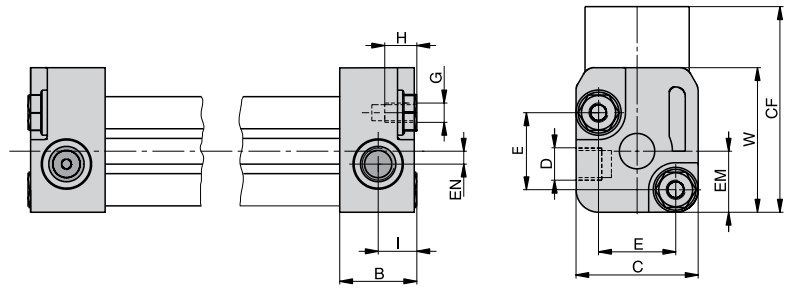
Dimensions of Basic Cylinder OSP-P10

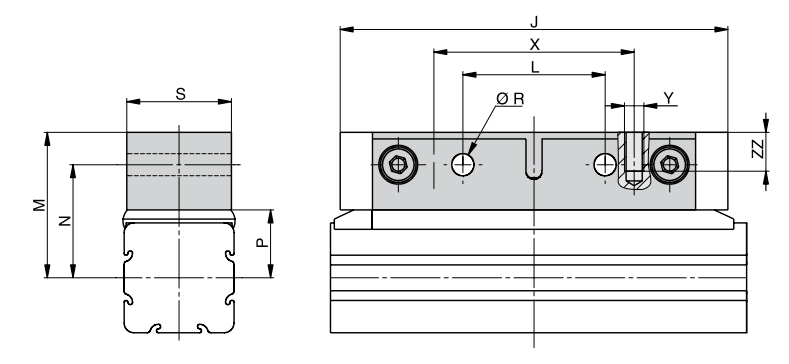




End Cap / Air Connection OSP -P10



Carrier Series OSP-P10



Cylinder Stroke and Dead Length A

- Stroke length up to 6000 mm in 1 mm increments.
- Longer strokes on request.

Tandem Cylinder

Two pistons are provided. Dimension "Z" must be specified. (Please note minimum distance "Zmin").

- Stroke length up to 6000 mm in 1 mm incrementss.
- Longer strokes on request.
- **Order stroke length as desired "Travel" + Z dimension.**

Please note:
To avoid multiple actuation of magnetic switches, the second piston is not equipped with magnets.

Dimension Table (mm)

Cylinder Series	A	B	C	D	E	G	H	I	J	K	L	M	N	P	R	S	W	X	Y	Z_{min}	CF	EM	EN	FB	FH	ZZ
OSP-P10	44.5	12	19	M5	12	M3	5	6	60	8.5	22	22.5	17.5	10.5	3.4	16	22.5	31	M3	64	32	9.5	2	17	17	6

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Cylinder Stroke and Dead Length A

- Stroke length up to 6000 mm in 1 mm steps.
- Longer strokes on request.

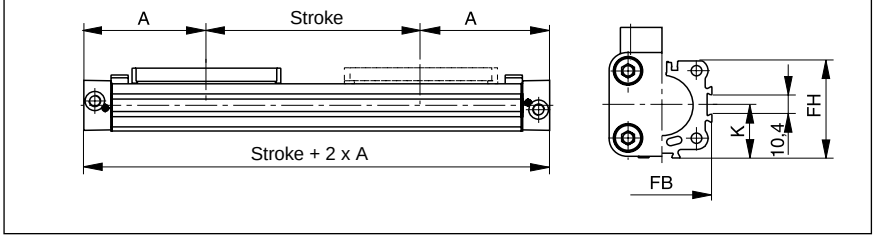
Tandem Cylinder

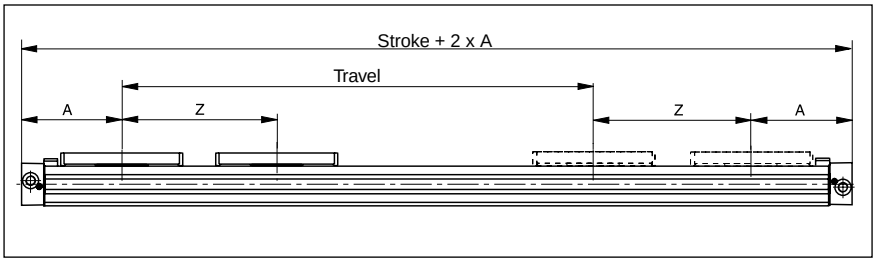
Two pistons are provided. Dimension "Z" must be specified. (Please note minimum distance "Zmin").

- Stroke length up to 6000 mm in 1 mm steps.
- Longer strokes on request.
- **Order stroke length as desired "Travel" + Z dimension.**

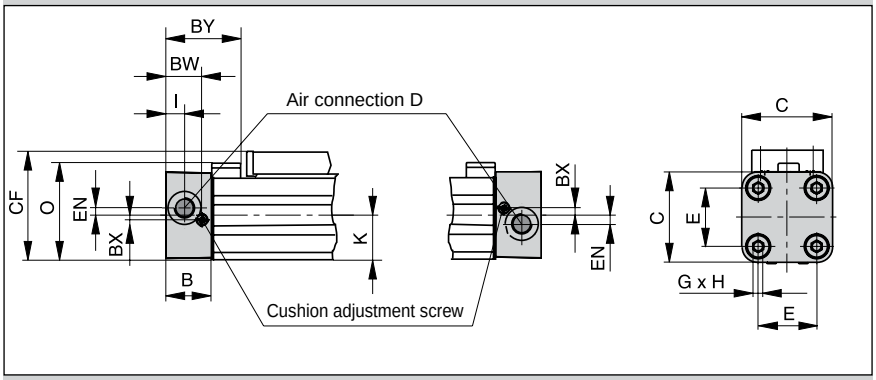
Please note:
To avoid multiple actuation of magnetic switches, the second piston is not equipped with magnets.

Dimensions of Basic Cylinder - OSP - P16-P80

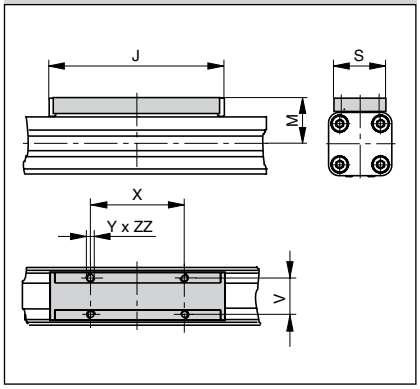




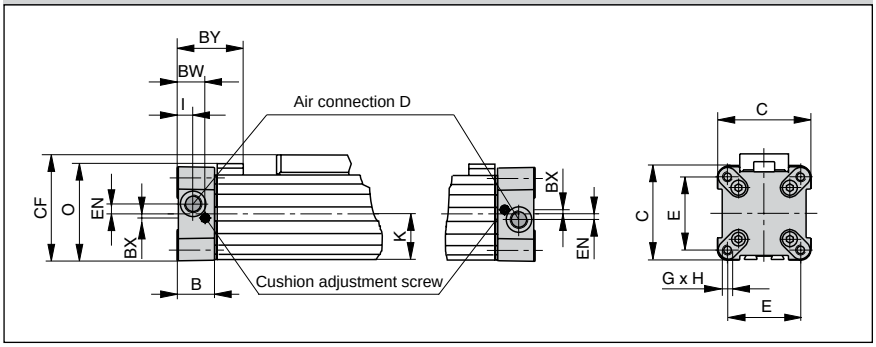
End Cap/Air Connection can be rotated 4 x 90° - OSP-P16 to P32



Carrier Series - OSP-P16 to P80



End Cap/Air Connection can be rotated 4 x 90° - OSP-P40 to P80



Dimension Table (mm)

Cylinder Series	A	B	C	D	E	G	H	I	J	K	M	O	S	V	X	Y	Z	BW	BX	BY	CF	EN	FB	FH	ZZ
OSP-P16	65	14	30	M5	18	M3	9	5.5	69	15	23	33.2	22	16.5	36	M4	81	10.8	1.8	28.4	38	3	30	27.2	7
OSP-P25	100	22	41	G1/8	27	M5	15	9	117	21.5	31	47	33	25	65	M5	128	17.5	2.2	40	52.5	3.6	40	39.5	8
OSP-P32	125	25.5	52	G1/4	36	M6	15	11.5	152	28.5	38	59	36	27	90	M6	170	20.5	2.5	44	66.5	5.5	52	51.7	1
OSP-P40	150	28	69	G1/4	54	M6	15	12	152	34	44	72	36	27	90	M6	212	21	3	54	78.5	7.5	62	63	10
OSP-P50	175	33	87	G1/4	70	M6	15	14.5	200	43	49	86	36	27	110	M6	251	27	–	59	92.5	11	76	77	10
OSP-P63	215	38	106	G3/8	78	M8	21	14.5	256	54	63	107	50	34	140	M8	313	30	–	64	117	12	96	96	16
OSP-P80	260	47	132	G1/2	96	M10	25	22	348	67	80	133	52	36	190	M10	384	37.5	–	73	147	16.5	122	122	20

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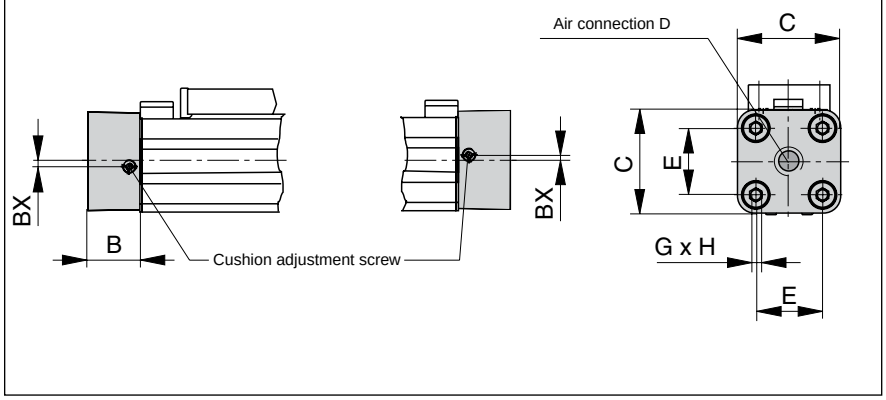
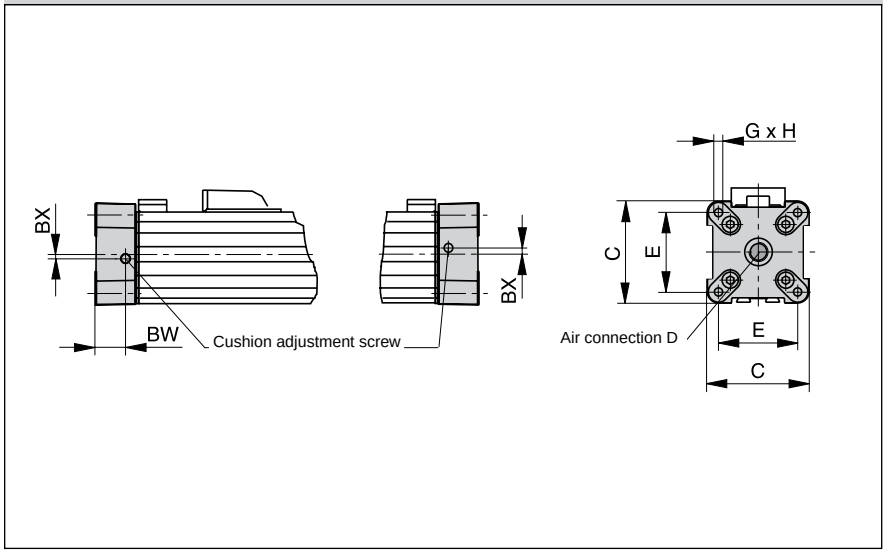
Series OSP-P16 to P32

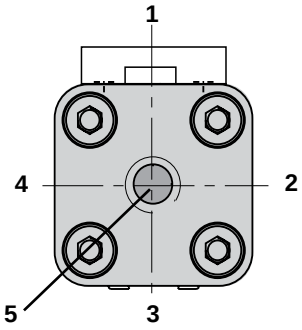


Series OSP-P40 to P80



Air Connection on the End-Face #5

In some situations it is necessary or desirable to fit a special end cap with the air connection on the end-face instead of the standard end cap with the air connection on the side. The end cap can also be rotated 4 x 90° to locate the cushion adjustment screw as desired. Supplied in pairs.



Note: Position #2 is the standard location.

Dimension Table (mm)

Cylinder Series	B	C	D	E	G	H	BX	BW
OSP-P16	14	30	M5	18	M3	9	1.8	10.8
OSP-P25	22	41	G1/8	27	M5	15	2.2	17.5
OSP-P32	25.5	52	G1/4	36	M6	15	2.5	20.5
OSP-P40	28	69	G1/4	54	M6	15	3	21
OSP-P50	33	87	G1/4	70	M6	15	–	27
OSP-P63	38	106	G3/8	78	M8	21	–	30
OSP-P80	47	132	G1/2	96	M10	25	–	37.5

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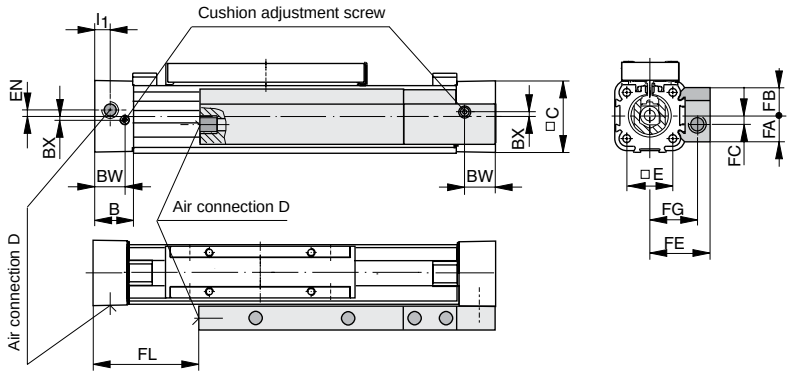
Single End Porting

A special end cap with both air connections on one side is available for situations where space, simplicity of installation or the nature of the process make it desirable.
Air supply to the other end is via internal air passages (OSP-P25 to P80) or via a hollow aluminum profile fitted externally (OSP-P16).

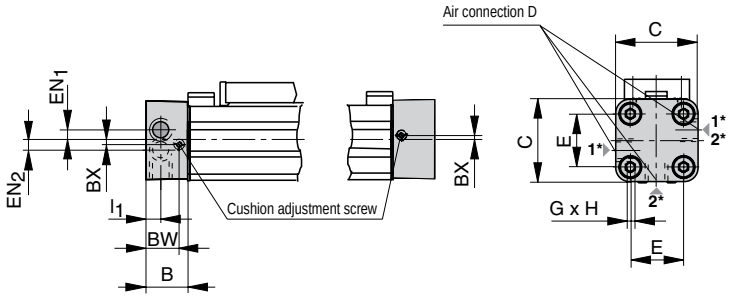
In this case the end caps cannot be rotated.

Please note:
When combining the OSP-P16 single end porting with inversion mountings, RS magnetic switches can only be mounted directly opposite to the external air-supply profile.

Series OSP-P16

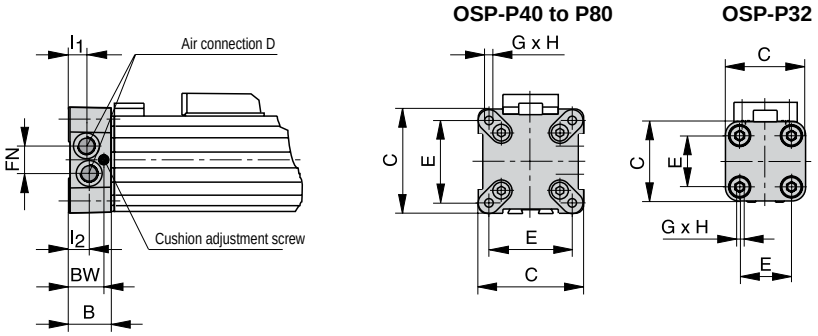


Series OSP-P25



* Versions of Air Connection Positions: 1 → 1 or 2 → 2

Series OSP-P32 to P80



Dimension Table (mm)

Cylinder Series	B	C	D	E	G	H	l_1	l_2	BX	BW	EN	EN_1	EN_2	FA	FB	FC	FE	FG	FL	FN
OSP-P16	14	30	M5	18	M3	9	5.5	–	1.8	10.8	3	–	–	12.6	12.6	4	27	21	36	–
OSP-P25	22	41	G1/8	27	M5	15	9	–	2.2	17.5	–	3.6	3.9	–	–	–	–	–	–	–
OSP-P32	25.5	52	G1/8	36	M6	15	12.2	10.5	–	20.5	–	–	–	–	–	–	–	–	–	15.2
OSP-P40	28	69	G1/8	54	M6	15	12	12	–	21	–	–	–	–	–	–	–	–	–	17
OSP-P50	33	87	G1/4	70	M6	15	14.5	14.5	–	27	–	–	–	–	–	–	–	–	–	22
OSP-P63	38	106	G3/8	78	M8	21	16.5	13.5	–	30	–	–	–	–	–	–	–	–	–	25
OSP-P80	47	132	G1/2	96	M10	25	22	17	–	37.5	–	–	–	–	–	–	–	–	–	34.5

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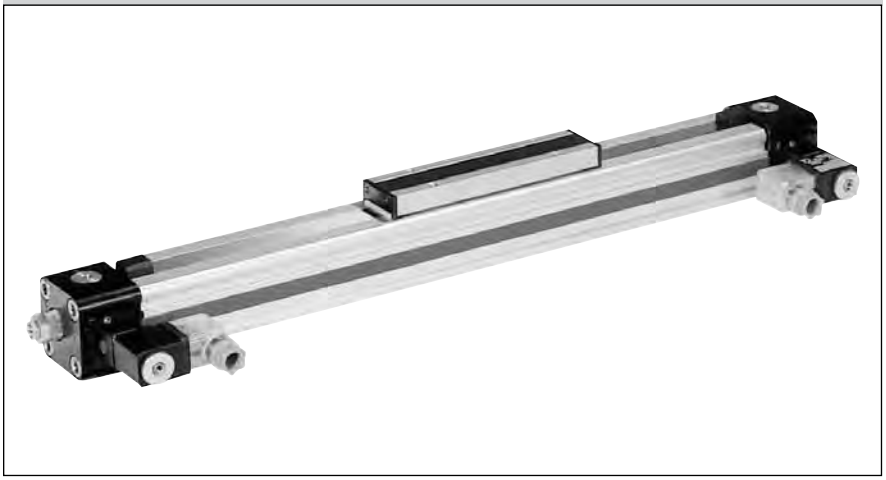
Integrated 3/2 Way Valves VOE - OSP-P25, P32, P40 and P50



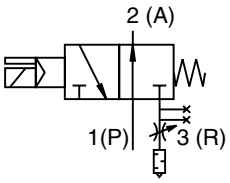
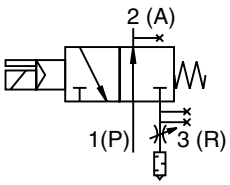
Integrated 3/2 Way Valves VOE

For optimal control of the OSP-P cylinder, 3/2 way valves integrated into the cylinder's end caps can be used as a compact and complete solution. They allow for easy positioning of the cylinder, smooth operation at the lowest speeds and fast response, making them ideally suited for the direct control of production and automation processes.

Characteristics:

- Complete compact solution
- Various connection possibilities: Free choice of air connection with rotating end caps with VOE valves, Air connection can be rotated 4 x 90°, Solenoid can be rotated 4 x 90°, Pilot Valve can be rotated 180°
- High piston velocities can be achieved with max. 3 exhaust ports
- Minimal installation requirements
- Requires just one air connection per valve
- Optimal control of the OSP-P cylinder
- Excellent positioning characteristics
- Integrated operation indicator
- Integrated exhaust throttle valve
- Manual override - indexed
- Adjustable end cushioning
- Easily retrofitted – please note the increase in the overall length of the cylinder!

Characteristics 3/2 Way Valves VOE

Characteristics	3/2 Way Valves with spring return			
Pneumatic diagram				
Type	VOE-25	VOE-32	VOE-40	VOE-50
Actuation	electrical			
Basic position	P → A open, R closed			
Type	Poppet valve, non overlapping			
Mounting	integrated in end cap			
Installation	in any position			
Port size	G 1/8	G 1/4	G 3/8	G 3/8
Temperature	-10°C to +50°C *			
Operating pressure	2-8 bar			
Nominal voltage	24 V DC / 230 V AC, 50 Hz			
Power consumption	2,5 W / 6 VA			
Duty cycle	100%			
Electrical Protection	IP 65 DIN 40050			

* other temperature ranges on request

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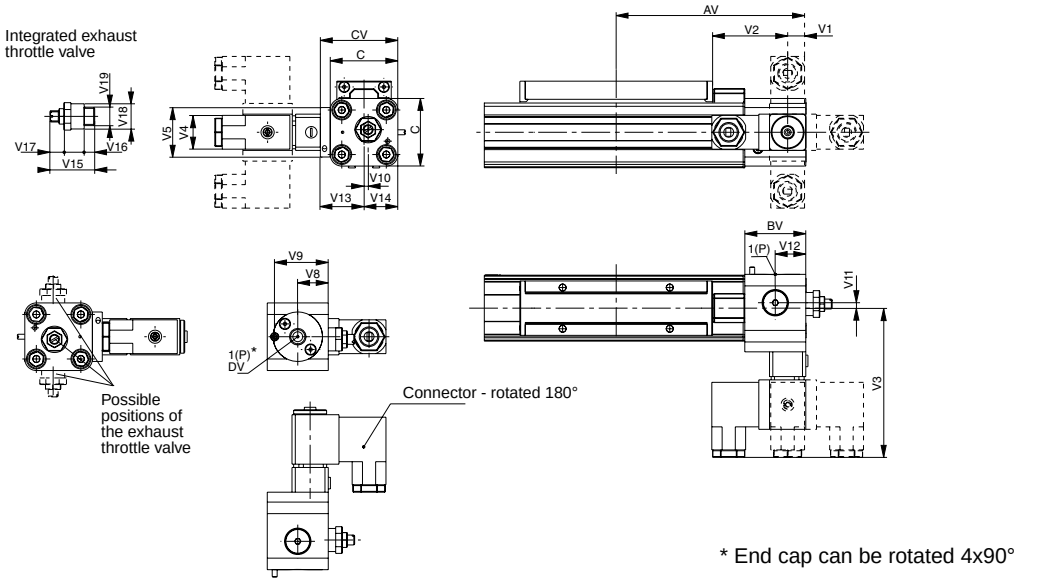
Dimensions VOE Valves - OSP-P25 and P32

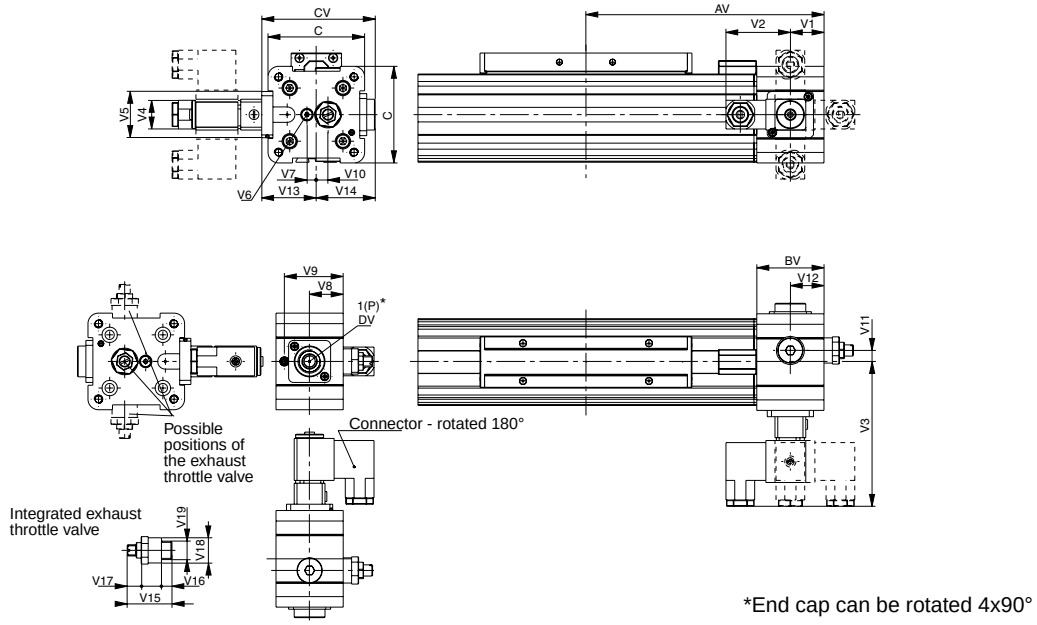


* End cap can be rotated 4x90°

Dimension Table (mm)

Cylinder Series	AV	BV	C	CV	DV	V1	V2	V3	V4	V5	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19
OSP-P25	115	37	41	47	G1/8	11	46	90.5	22	30	18.5	32.5	2.5	3.3	18.5	26.5	20.5	24	5	4	14	G1/8
OSP-P32	139	39.5	52	58	G1/4	20.5	46	96	22	32	20.5	34.7	6	5	20.5	32	26	32	7.5	6	18	G1/4

Dimensions VOE Valves OSP-P40 and P50



*End cap can be rotated 4x90°

Dimension Table (mm)

Cylinder Series	AV	BV	C	CV	DV	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19
OSP-P40	170	48	69	81	G3/8	24	46	103	22	33	M5	6.7	24	42	8.3	8.3	24	39	42	32	7.5	6	18	G1/4
OSP-P50	190	48	87	82	G3/8	24	46	102	22	33	M5	4.5	24	42	12.2	12.2	24	38	44	32	7.5	6	18	G1/4

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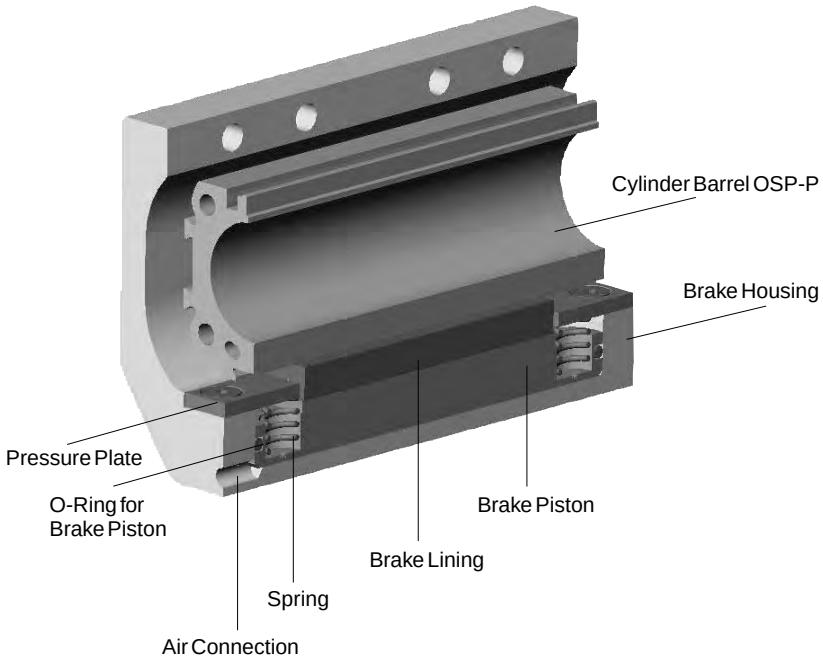
Function



Active Brake

OSP
ORIGA SYSTEM PLUS

Series AB 25 to 80
for linear drive
• Series OSP-P

Features:

- Actuated by pressurization
- Released by spring actuation
- Completely stainless version
- Holds position, even under changing load conditions

Note:
For combinations Active Brake AB + SFI-plus + Magnetic Switch contact our technical department please.

Forces and Weights

Series	For linear drive	Max. braking force (N) ([1]	Brake pad way (mm)	Mass (kg) Linear drive with brake 0 mm stroke	Mass (kg) Linear drive with brake increase per 100mm stroke	Mass (kg) brake*	**Order No. Active brake**
AB 25	OSP-P25	350	2.5	1.0	0.197	0.35	**20806FIL**
AB 32	OSP-P32	590	2.5	2.02	0.354	0.58	**20807FIL**
AB 40	OSP-P40	900	2.5	2.83	0.415	0.88	**20808FIL**
AB 50	OSP-P50	1400	2.5	5.03	0.566	1.50	**20809FIL**
AB 63	OSP-P63	2170	3.0	9.45	0.925	3.04	**20810FIL**
AB 80	OSP-P80	4000	3.0	18.28	1.262	5.82	**20811FIL**

([1 – at 6 bar
both chambers pressurized with 6 bar
Braking surface dry
– oil on the braking surface will reduce the braking force

*** Please Note:**
The mass of the brake has to be added to the total moving mass when using the cushioning diagram.

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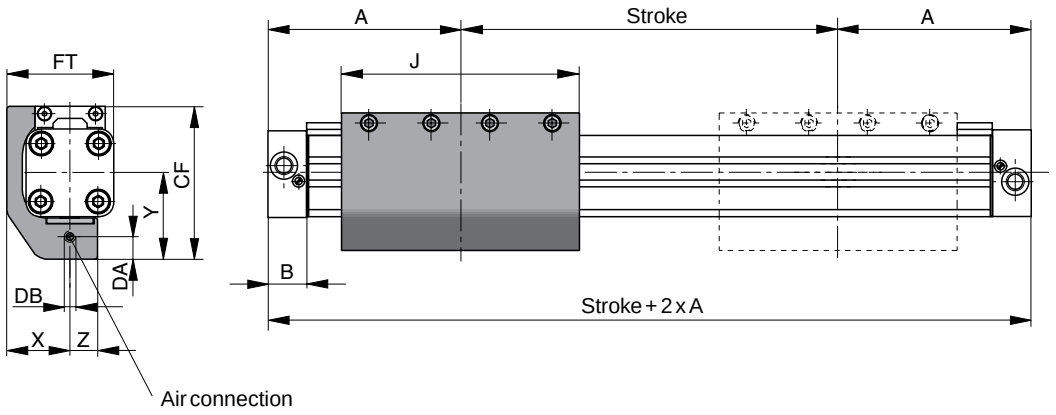
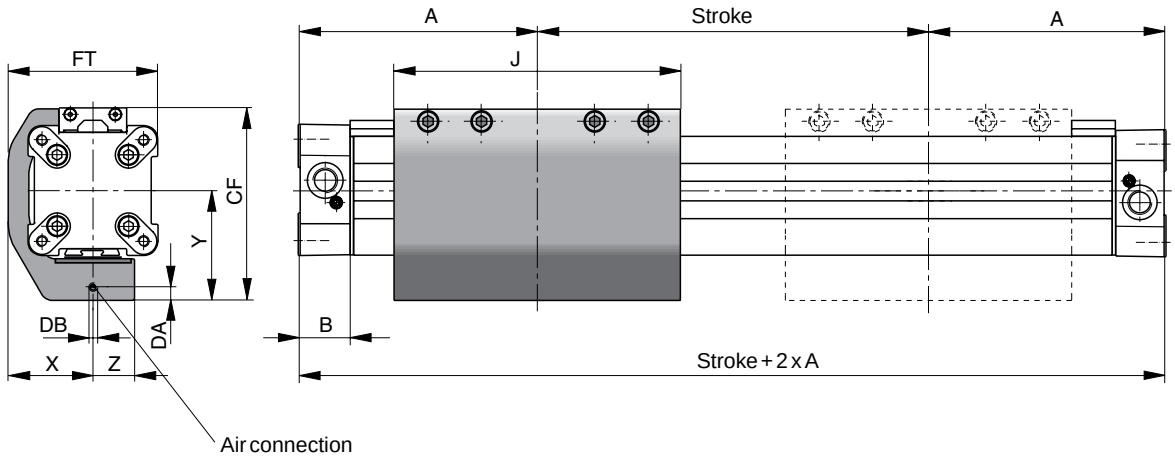
Series OSP-P25 and P32 with Active Brake AB



Series OSP-P40, P50, P63, P80 with Active Brake AB



Dimension Table (mm)

Series	A	B	J	X	Y	Z	CF	DA	DB	FT
AB 25	100	22	117	29.5	43	13	74	4	M5	50
AB 32	125	25.5	151.4	36	50	15	88	4	M5	62
AB 40	150	28	151.4	45	58	22	102	7	M5	79.5
AB 50	175	33	200	54	69.5	23	118.5	7.5	M5	97.5
AB 63	215	38	256	67	88	28	151	9	G1/8	120
AB 80	260	47	348	83	105	32	185	10	G1/8	149

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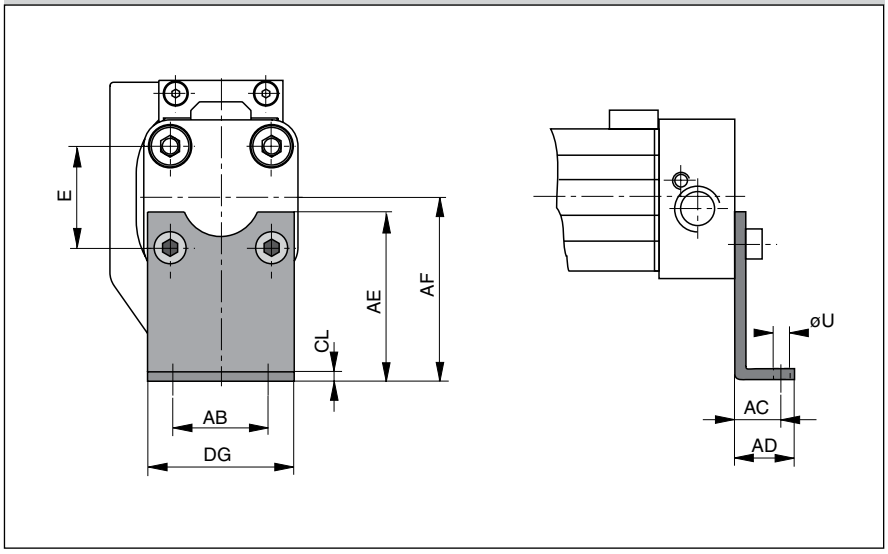
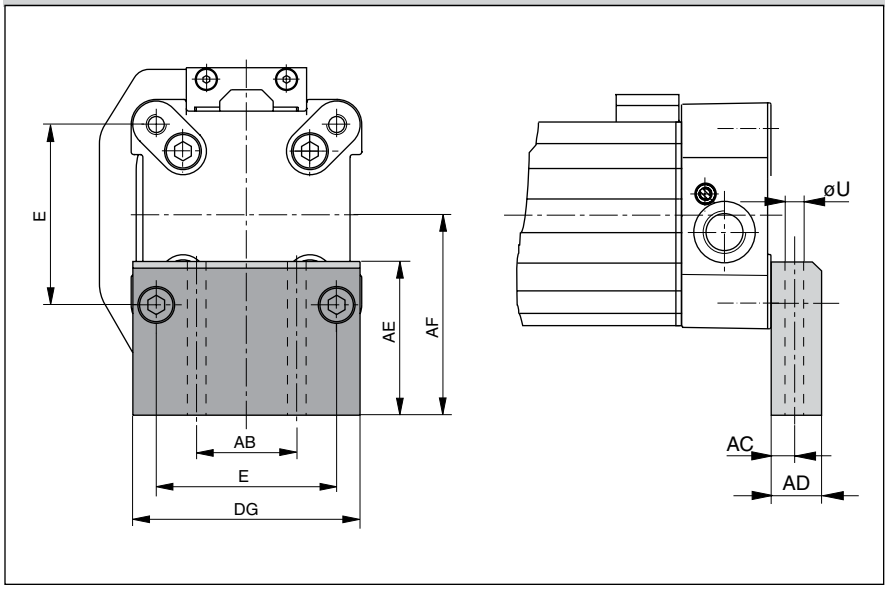
Series OSP – P25 and P32 with Active Brake AB: Type A3



Series OSP – P40 , P50, P63, P80 with Active Brake AB: Type C3



End Cap Mountings

On the end-face of each cylinder end cap there are four threaded holes for mounting the cylinder. The hole layout is square, so that the mounting can be fitted to the bottom, top or either side.

Material:
Series OSP-P25, P32:
Galvanized steel

The mountings are supplied in pairs.

Material:
Series OSP-P40,P50, P63, P80:
Anodized aluminum

The mountings are supplied in pairs.

Stainless steel version on request.

Dimension Table (mm)

Series	E	øU	AB	AC	AD	AE	AF	CL	DG	Order No. Type A3	Order No. Type C3
AB 25	27	5.8	27	16	22	45	49	2.5	39	**2060FIL**	**–**
AB 32	36	6.6	36	18	26	42	52	3	50	**3060FIL**	**–**
AB 40	54	9	30	12.5	24	46	60	–	68	**–**	**20339FIL**
AB 50	70	9	40	12.5	24	54	72	–	86	**–**	**20350FIL**
AB 63	78	11	48	15	30	76	93	–	104	**–**	**20821FIL**
AB 80	96	14	60	17.5	35	88	110	–	130	**–**	**20822FIL**

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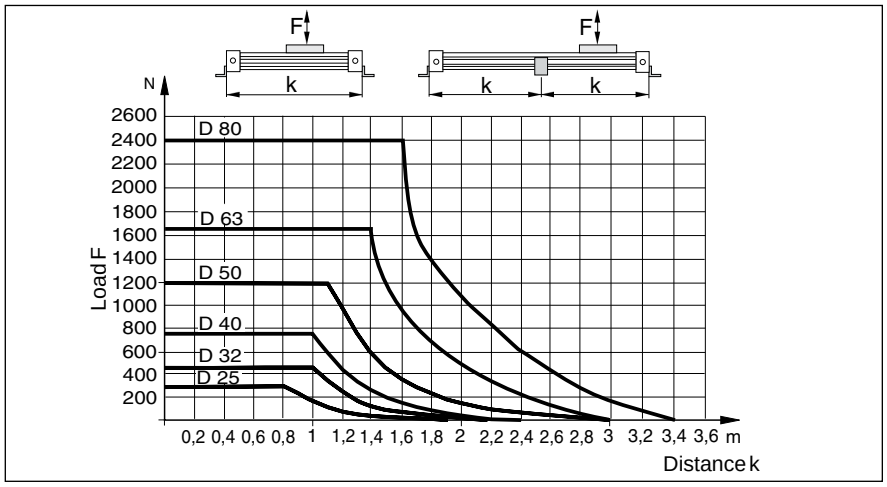
Mid-Section Support

Mid-section supports are required from a certain stroke length to prevent excessive deflection and vibration of the linear drive.

The diagrams show the maximum permissible unsupported length in relation to loading. Deflection of 0.5 mm max. between supports is permissible.

The Mid-Section supports are attached to the dovetail rails, and can take axial loads.



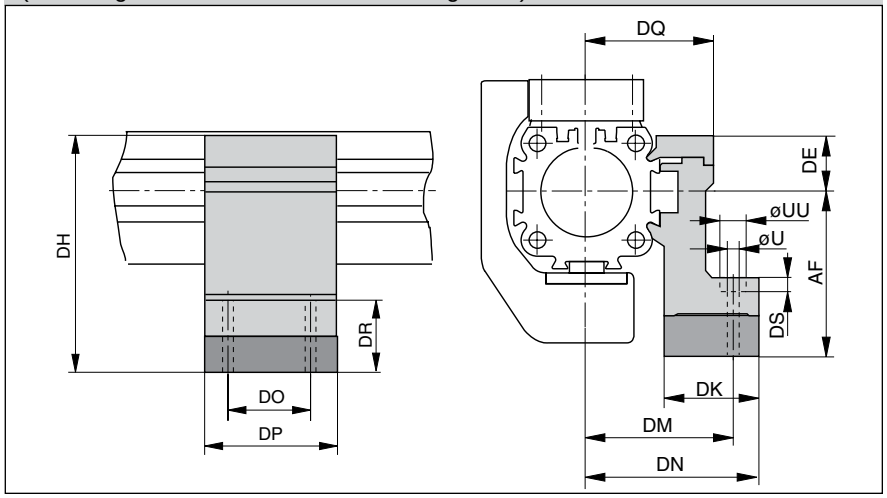
Mid-Section Supports

Note to Type E3:

Mid-Section supports can only be mounted opposite of the brake housing.

Stainless steel version available on request.

Series OSP-P25 to P80 with Active Brake AB: Type E3
(Mounting from above / below with through-bolt)



Dimension Table (mm)

Series	U	UU	AF	DE	DH	DK	DM	DN	DO	DP	DQ	DR	DS	Order No. Type E3
AB 25	5.5	10	49	16	65	26	40	47.5	36	50	34.5	35	5.7	**20353FIL**
AB 32	5.5	10	52	16	68	27	46	54.5	36	50	40.5	32	5.7	**20356FIL**
AB 40	7	–	60	23	83	34	53	60	45	60	45	32	–	**20359FIL**
AB 50	7	–	72	23	95	34	59	67	45	60	52	31	–	**20362FIL**
AB 63	9	–	93	34	127	44	73	83	45	65	63	48	–	**20453FIL**
AB 80	11	–	110	39.5	149.5	63	97	112	55	80	81	53	–	**20819FIL**

Accessories for linear drives with Active Brakes – please order separately

Description	For detailed information, see page no.
Clevis mounting	**B21**
Adaptor profile	**B26**
T-groove profile	**B27**
Connection profile	**B28**
Magnetic switch (can **only** be mounted opposite of the brake housing)	**B93-B100**
Incremental displacement measuring system SFI-plus	**B103-B108**

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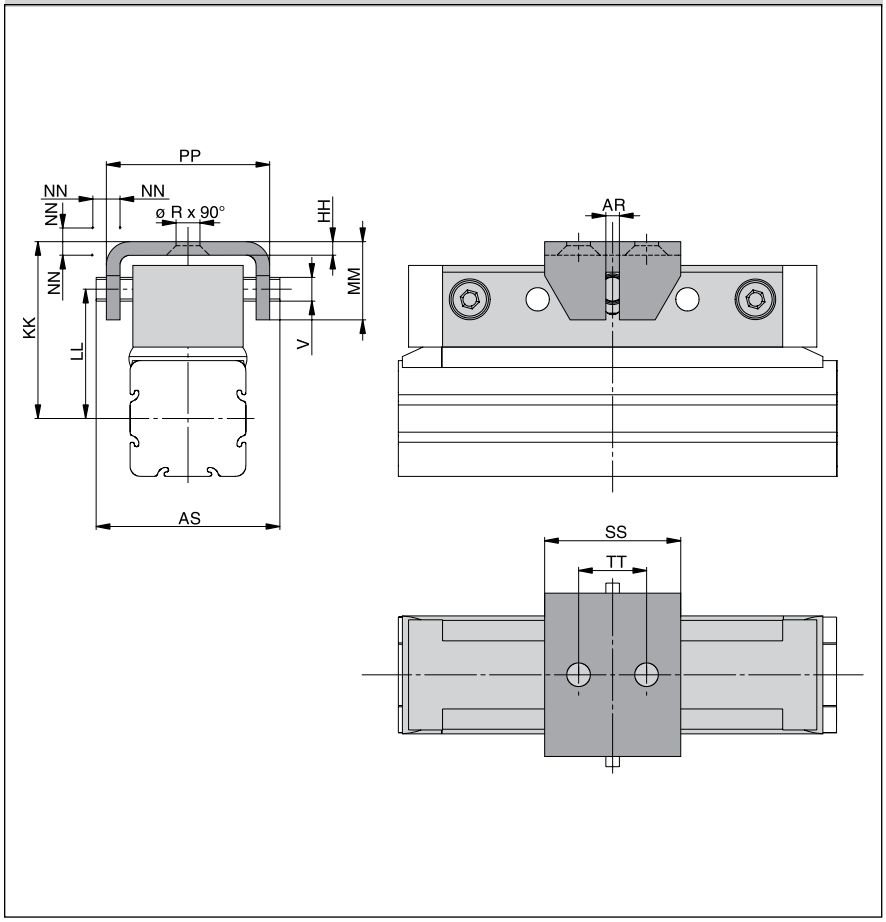
Series OSP-P10



Linear Drive Accessories

ø 10 mm
Clevis Mounting

OSP
ORIGA SYSTEM PLUS

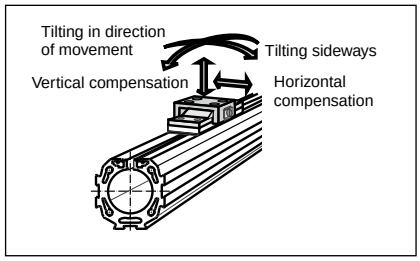
For Linear-drive
- **Series OSP-P**

When external guides are used, parallelism deviations can lead to mechanical strain on the piston. This can be avoided by the use of a clevis mounting.

In the drive direction, the mounting has very little play.

Freedom of movement is provided as follows:

- **Tilting in direction of movement**
- **Vertical compensation**
- **Tilting sideways**
- **Horizontal compensation**



Dimension Table (mm)

Series	ø R	V	AR	AS	HH	KK	LL	MM	NN*	PP	SS	TT	Order No. Standard	Order No. Stainless
OSP-P10	3.4	3.5	2	27	2	26	19	11.5	1	24	20	10	**20971FIL**	**–**

*** Dimension NN gives the possible plus and minus play in horizontal and** vertical movement, which also makes tilting sideways possible.

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Linear Drive Accessories

ø 16-80 mm
Clevis Mounting

OSP
ORIGA SYSTEM PLUS

For Linear-drive
- **Series OSP-P**

When external guides are used, parallelism deviations can lead to mechanical strain on the piston. This can be avoided by the use of a clevis mounting.

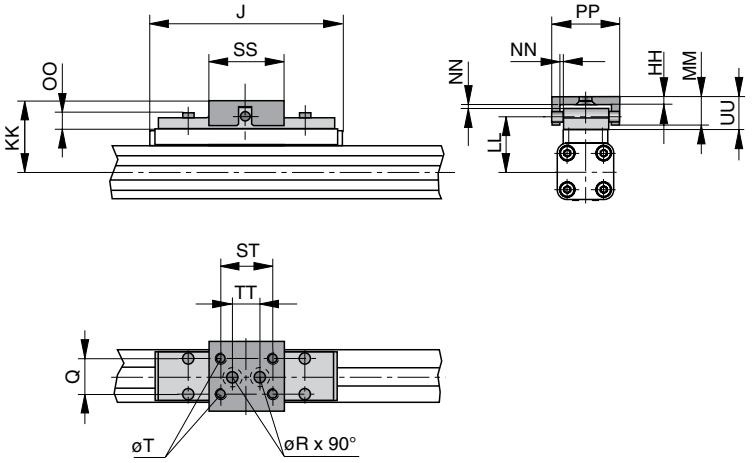
In the drive direction, the mounting has very little play.

Freedom of movement is provided as follows:

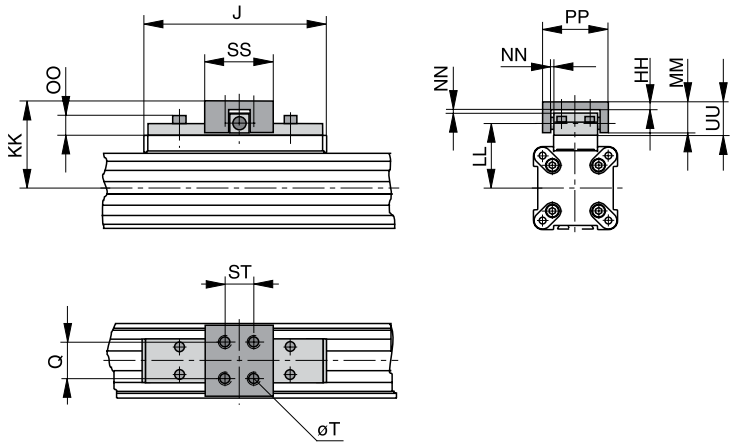
- **Tilting in direction of movement**
- **Vertical compensation**
- **Tilting sideways**
- **Horizontal compensation**

A stainless steel version is also available.

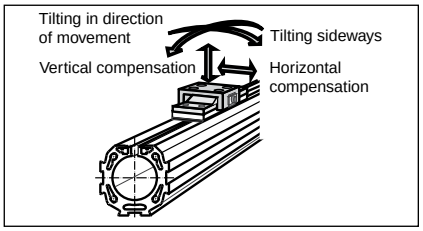
Series OSP-P16 to 32



Series OSP-P40 to 80



Please note:
When using additional inversion mountings, take into account the dimensions in page B23.



Dimension Table (mm)

Series	J	Q	T	ø R	HH	KK	LL	MM	NN*	OO	PP	SS	ST	TT	UU	Order No. Standard	Order No. Stainless
OSP-P16	69	10	M4	4.5	3	34	26.6	10	1	8.5	26	28	20	10	11	**20462FIL**	**20463FIL**
OSP-P25	117	16	M5	5.5	3.5	52	39	19	2	9	38	40	30	16	21	**20005FIL**	**20092FIL**
OSP-P32	152	25	M6	6.6	6	68	50	28	2	13	62	60	46	40	30	**20096FIL**	**20094FIL**
OSP-P40	152	25	M6	–	6	74	56	28	2	13	62	60	46	–	30	**20024FIL**	**20093FIL**
OSP-P50	200	25	M6	–	6	79	61	28	2	13	62	60	46	–	30	**20097FIL**	**20095FIL**
OSP-P63	256	37	M8	–	8	100	76	34	3	17	80	80	65	–	37	**20466FIL**	**20467FIL**
OSP-P80	348	38	M10	–	8	122	96	42	3	16	88	90	70	–	42	**20477FIL**	**20478FIL**

* Dimension NN gives the possible plus and minus play in horizontal and vertical movement, which also makes tilting sideways possible.

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Linear Drive Accessories

ø 16-80 mm
Inversion Mounting

OSP
ORIGA SYSTEM PLUS

For Linear-drive
- **Series OSP-P**

In dirty environments, or where there are special space problems, inversion of the cylinder is recommended.

The inversion bracket transfers the driving force to the opposite side of the cylinder. The size and position of the mounting holes are the same as on the standard cylinder.

Stainless steel version on demand.

Please note:

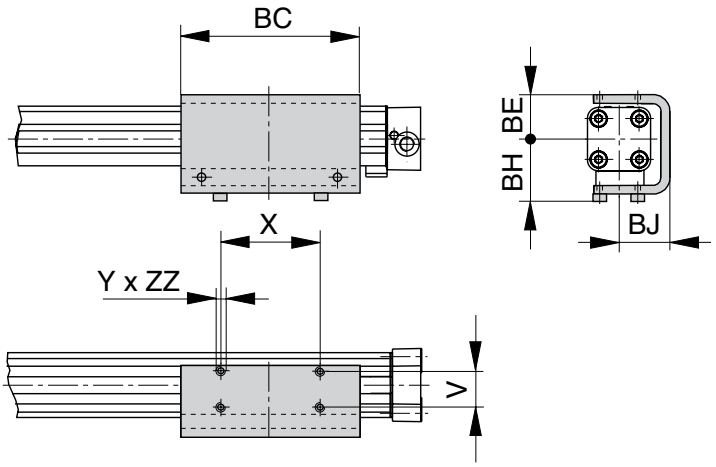
Other components of the OSP system such as **mid-section supports, magnetic switches** and **the external air passage for the P16,** can still be mounted on the free side of the cylinder.

When combining single end porting with inversion mountings, RS magnetic switches can only be mounted directly opposite to the external air-supply profile.

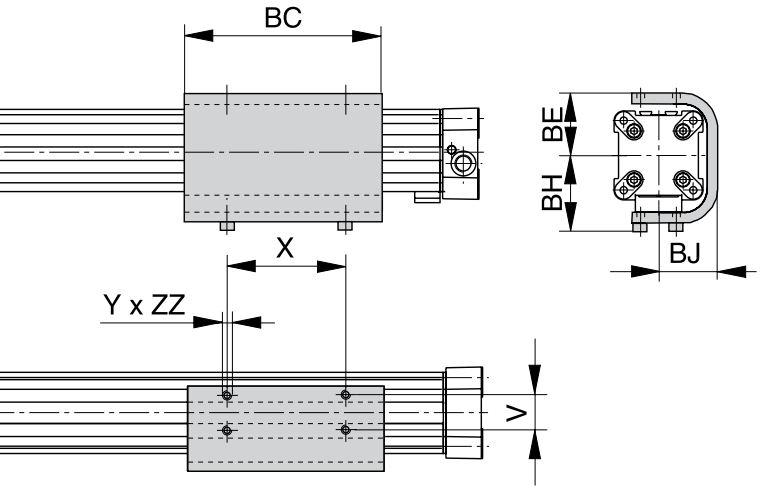
Important Note:

May be used in combination with Clevis Mounting, ref. dimensions in pages B21-B22.

Series OSP-P16 to 32



Series OSP-P40 to 80



Dimension Table (mm)

Series	V	X	Y	BC	BE	BH	BJ	ZZ	Order No.
OSP-P16	16.5	36	M4	69	23	33	25	4	**20446FIL**
OSP-P25	25	65	M5	117	31	44	33.5	6	**20037FIL**
OSP-P32	27	90	M6	150	38	52	39.5	6	**20161FIL**
OSP-P40	27	90	M6	150	46	60	45	8	**20039FIL**
OSP-P50	27	110	M6	200	55	65	52	8	**20166FIL**
OSP-P63	34	140	M8	255	68	83.5	64	10	**20459FIL**
OSP-P80	36	190	M10	347	88	107.5	82	15	**20490FIL**

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Linear Drive Accessories

ø 10-80 mm
End Cap Mountings

For Linear-drive
- **Series OSP-P**

On the end-face of each end cap there are four threaded holes for mounting the actuator.
The hole layout is square, so that the mounting can be fitted to the bottom, top or either side, regardless of the position chosen for the air connection.

Material:

Series OSP-P10 – P32:

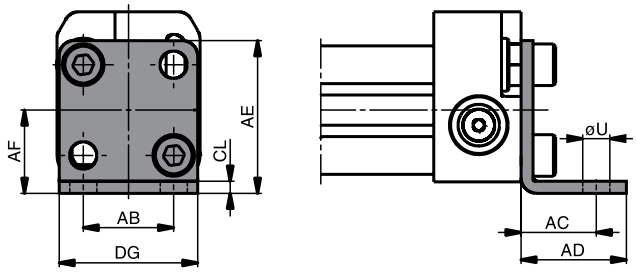
Galvanized steel.

Series OSP-P40 – P80:

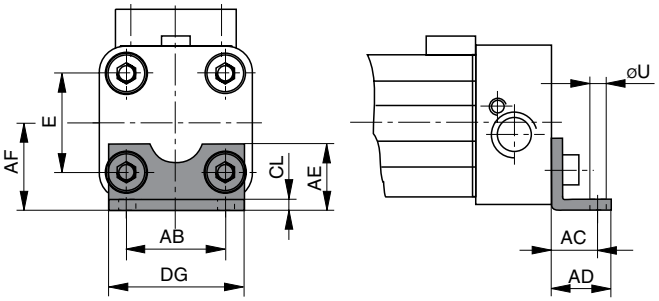
Anodized aluminum.

The mountings are supplied in pairs.

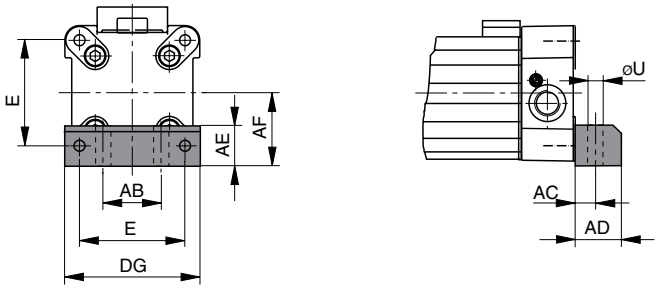
Series OSP-P10 : Type A1



Series OSP-P16 to 32: Type A1



Series OSP-P40 to 80: Type C1



Dimension Table (mm)

Series	E	ØU	AB	AC	AD	AE	AF	CL	DG	Order No. (* Type A1	Order No. (* Type C1
OSP-P10	-	3.6	12	10	14	20.2	11	1.6	18.4	**0 240**	**–**
OSP-P16	18	3.6	18	10	14	12.5	15	1.6	26	**20408FIL**	**–**
OSP-P25	27	5.8	27	16	22	18	22	2.5	39	**2010**	**–**
OSP-P32	36	6.6	36	18	26	20	30	3	50	**3010**	**–**
OSP-P40	54	9	30	12.5	24	24	38	–	68	**–**	**4010FIL**
OSP-P50	70	9	40	12.5	24	30	48	–	86	**–**	**5010FIL**
OSP-P63	78	11	48	15	30	40	57	–	104	**–**	**6010FIL**
OSP-P80	96	14	60	17.5	35	50	72	–	130	**–**	**8010FIL**

(*= Pair

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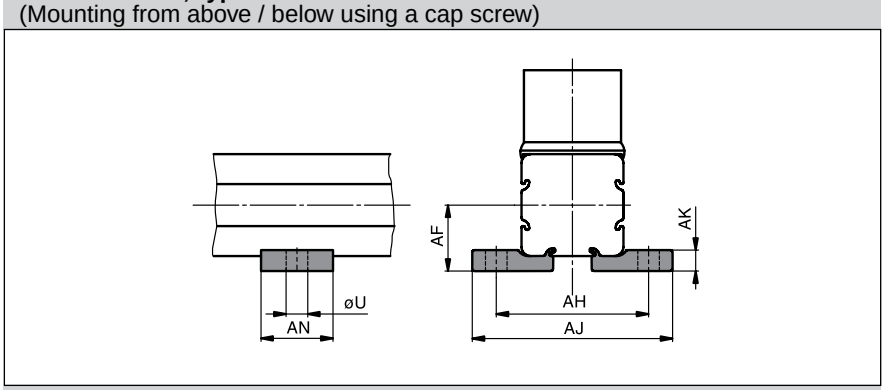
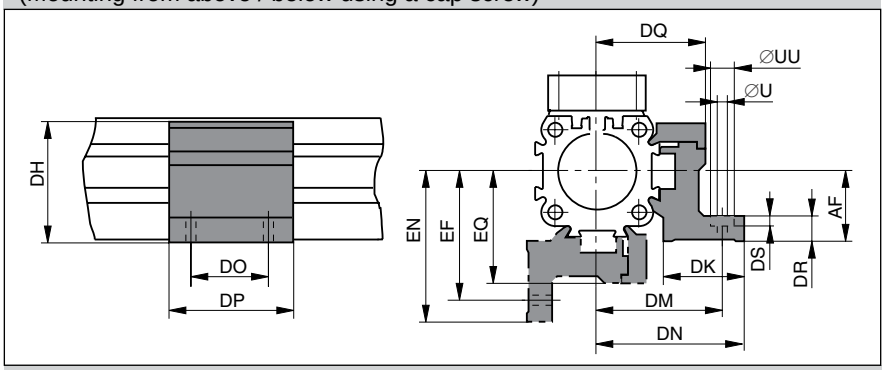
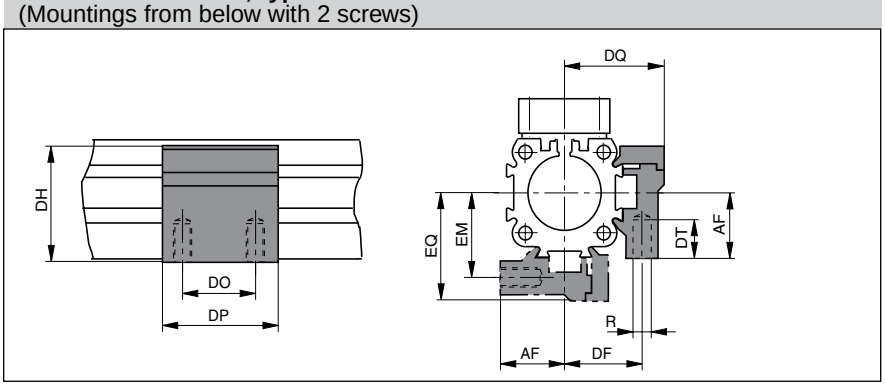
Series OSP-10, Type E1
(Mounting from above / below using a cap screw)



Series OSP-P16 to P80: Type E1
(Mounting from above / below using a cap screw)



Series OSP-16 to 80, Type D1
(Mountings from below with 2 screws)



Linear Drive Accessories

ø 10-80 mm
Mid-Section Support

OSP
ORIGA SYSTEM PLUS

For Linear-drive
- **Series OSP-P**

Note on Types E1 and D1 (P16 – P80):

The mid-section support can also be mounted on the underside of the actuator, in which case its distance from the center of the actuator is different.

Stainless steel version on demand.

Dimension Table (mm) - OSP-P10

Series	U	AF	AH	AJ	AK	AN	Order No. Type E1	Order No. Type D1
OSP-P10	3.6	11	25.4	33.4	3.5	12	**0250**	**-**

Dimension Table (mm) - OSP-P16 to P80

Series	R	U	UU	AF	DF	DH	DK	DM	DN	DO	DP	DQ	DR	DS	DT	EF	EM	EN	EQ	Order No. Type E1	Order No. Type D1
OSP-P16	M3	3.4	6	15	20	29.2	24	32	36.4	18	30	27	6	3.4	6.5	32	20	36.4	27	**20435FIL**	**20434FIL**
OSP-P25	M5	5.5	10	22	27	38	26	40	47.5	36	50	34.5	8	5.7	10	41.5	28.5	49	36	**20009FIL**	**20008FIL**
OSP-P32	M5	5.5	10	30	33	46	27	46	54.5	36	50	40.5	10	5.7	10	48.5	35.5	57	43	**20158FIL**	**20157FIL**
OSP-P40	M6	7	–	38	35	61	34	53	60	45	60	45	10	–	11	56	38	63	48	**20028FIL**	**20027FIL**
OSP-P50	M6	7	–	48	40	71	34	59	67	45	60	52	10	–	11	64	45	72	57	**20163FIL**	**20162FIL**
OSP-P63	M8	9	–	57	47.5	91	44	73	83	45	65	63	12	–	16	79	53.5	89	69	**20452FIL**	**20451FIL**
OSP-P80	M10	11	–	72	60	111.5	63	97	112	55	80	81	15	–	25	103	66	118	87	**20482FIL**	**20480FIL**

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Linear Drive Accessories

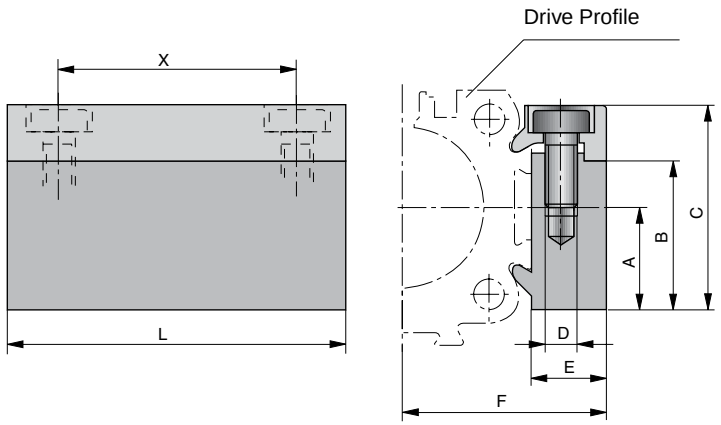
ø 16-50 mm
Adaptor Profile

OSP
ORIGA SYSTEM PLUS

For Linear-drive
- **Series OSP-P**

Adaptor Profile OSP
- A universal attachment for mounting of valves etc.
- Solid material

Dimensions



Dimension Table (mm)

Series	A	B	C	D	E	F	L	X	Order No. Standard	Order No. Stainless
OSP-P16	14	20.5	28	M3	12	27	50	38	**20432FIL**	**20438FIL**
OSP-P25	16	23	32	M5	10.5	30.5	50	36	**20006FIL**	**20186FIL**
OSP-P32	16	23	32	M5	10.5	36.5	50	36	**20006FIL**	**20186FIL**
OSP-P40	20	33	43	M6	14	45	80	65	**20025FIL**	**20267FIL**
OSP-P50	20	33	43	M6	14	52	80	65	**20025FIL**	**20267FIL**

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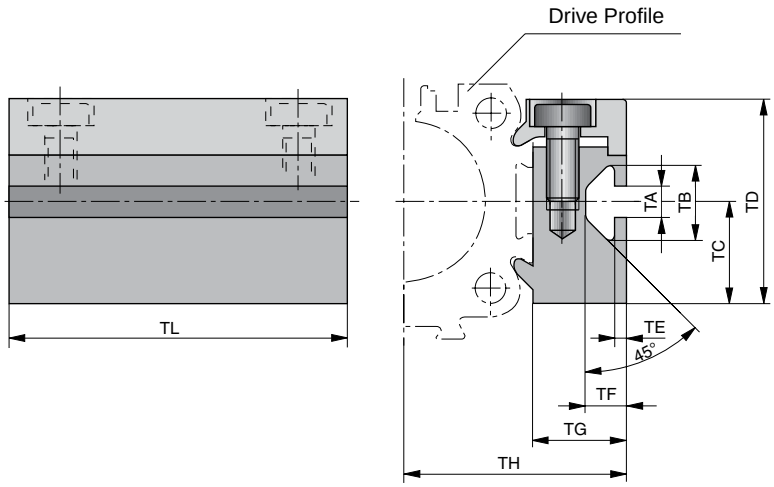
Dimensions



Linear Drive Accessories

ø 16-50 mm
T-Slot Profile

OSP
ORIGA SYSTEM PLUS

For Linear-drive

- **Series OSP-P**

T-Slot Profile OSP

- A universal attachment for mounting with standard T-Nuts

Dimension Table (mm)

Series	TA	TB	TC	TD	TE	TF	TG	TH	TL	Order No. Standard	Order No. Stainless
OSP-P16	5	11.5	14	28	1.8	6.4	12	27	50	**20433FIL**	**20439**
OSP-P25	5	11.5	16	32	1.8	6.4	14.5	34.5	50	**20007FIL**	**20187**
OSP-P32	5	11.5	16	32	1.8	6.4	14.5	40.5	50	**20007FIL**	**20187**
OSP-P40	8.2	20	20	43	4.5	12.3	20	51	80	**20026FIL**	**20268**
OSP-P50	8.2	20	20	43	4.5	12.3	20	58	80	**20026FIL**	**20268**

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Linear Drive Accessories

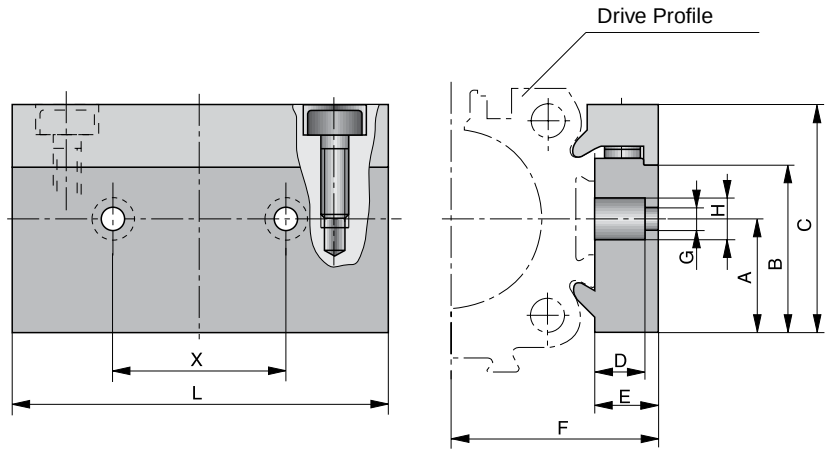
ø 16-50 mm
Connection Profile

OSP
ORIGA SYSTEM PLUS

For combining

- **Series OSP-P with system profiles**
- **Series OSP-P with Series OSP-P**

Dimensions



Dimension Table (mm)

Cylinder Series	for mounting on the carrier of	A	B	C	D	E	F	G	H	L	X	Order No.
OSP-P16	OSP25	14	20.5	28	8.5	12	27	5.5	10	50	25	**20849FIL**
OSP-P25	OSP32-50	16	23	32	8.5	10.5	30.5	6.6	11	60	27	**20850FIL**
OSP-P32	OSP32-50	16	23	32	8.5	10.5	36.5	6.6	11	60	27	**20850FIL**
OSP-P40	OSP32-50	20	33	43	8	14	45	6.6	11	60	27	**20851FIL**
OSP-P50	OSP32-50	20	33	43	8	14	52	6.6	11	60	27	**20851FIL**

Possible Combinations

Combination of Series OSP-P with system profiles

Combination of Series OSP-P with Series OSP-P

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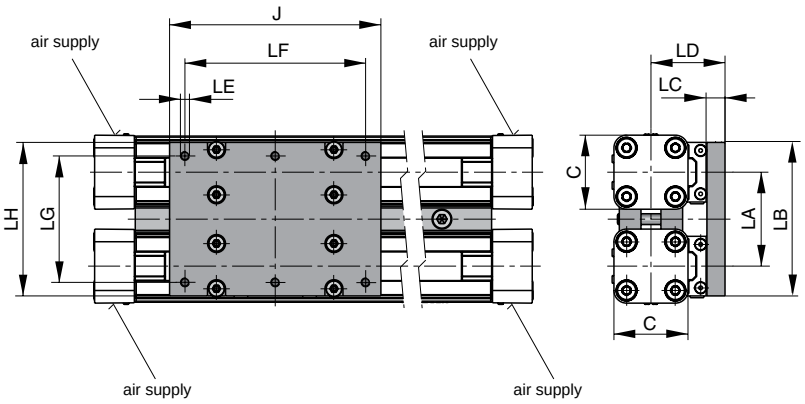
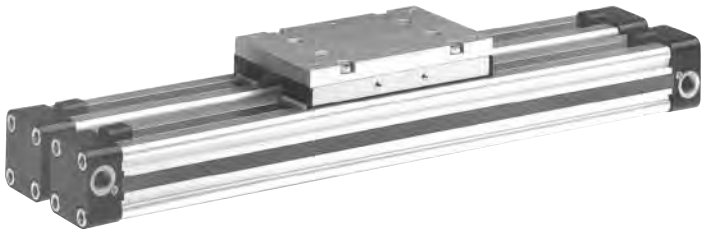
Dimensions



Dimension Table (mm)

Cylinder Series	C	J	LA	LB	LC	LD	LE	LF	LG	LH
OSP-P25	41	117	52	86	10	41	M5	100	70	85
OSP-P32	52	152	64	101	12	50	M6	130	80	100
OSP-P40	69	152	74	111	12	56	M6	130	90	110
OSP-P50	87	200	88	125	12	61	M6	180	100	124



Linear Drive Accessories

ø 25-50 mm

Joint Clamp Connection

OSP
ORIGA SYSTEM PLUS

For connection of cylinders of the
Series OSP-P

The joint clamp connection combines two OSP-P cylinders of the same size into a compact unit with high performance.

Features

- Increased load and torque capacity
- Higher driving forces

Included in delivery:

2 clamping profiles with screws
1 mounting plate with fixings

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Linear Drive Accessories

ø 25-50 mm
Multiplex Connection

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For connection of cylinders of the Series OSP-P

The multiplex connection combines two or more OSP-P cylinders of the same size into on unit.

Features

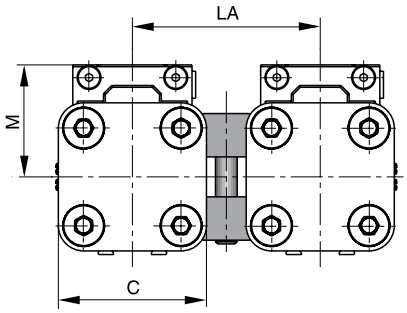
- The orientation of the carriers can be freely selected

Included in delivery:

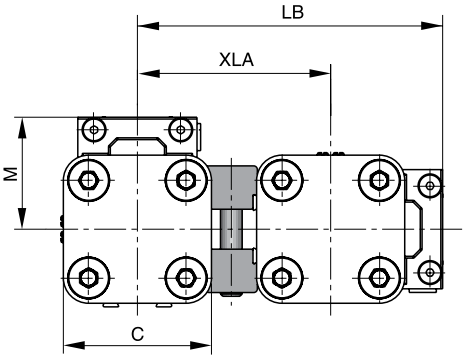
2 clamping profiles with clamping screws

Dimensions

Installation:
Top carrier/Top carrier



Installation:
Top carrier/Side carrier



Dimension Table (mm)

Cylinder Series	C	M	LA	LE	XLA	Order No.	
						Standard	Stainless
OSP-P25	41	31	52	84.5	53.5	**20035**	**20193**
OSP-P32	52	38	64	104.5	66.5	**20167**	**20265**
OSP-P40	69	44	74	121.5	77.5	**20036**	**20275**
OSP-P50	87	49	88	142.5	93.5	**20168**	**20283**

Note: Part number must include stroke. As example: 20035-SSSSS where S = cylinder stroke

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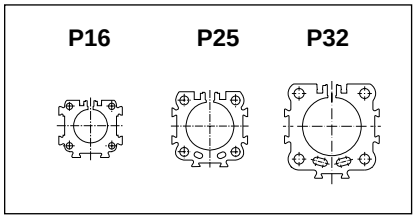
Characteristics		Pressure quoted as gauge pressure		
Characteristics		Symbol	Unit	Description
General Features				
Type				Rodless Cylinder
Series				OSP-P
System				Double-acting, with cushioning, position sensing capability
Mounting				see drawings
Air connection				Threaded
Ambient and medium temperature range		T_{min} T_{max}	°C °C	-10 – other temperature ranges +80 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 aluminum
	Carrier (piston)			Anodized aluminum
	End caps			Aluminum, lacquered
	Sealing bands			Corrosion resistant steel
	Seals			NBR (Option: Viton®)
	Screws			Stainless steel
	Covers			Anodized aluminum
	Guide plate			Plastic
Max. operating pressure*		p_{max}	bar	8

* Pressure quoted as gauge pressure

Weight (Mass) kg

Cylinder series (basic cylinder)	Weight (Mass) kg	
	at 0 mm stroke	per 100 mm stroke
OSP-P16	0.22	0.1
OSP-P25	0.65	0.197
OSP-P32	1.44	0.354

Size Comparison



Clean Room Cylinder

ø 16 – 32 mm Rodless Cylinder certified to DIN EN ISO 14644-1

OSP
ORIGA SYSTEM PLUS

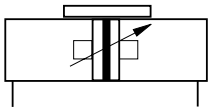
Standard Versions:

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

Special Versions:

- Slow speed lubrication
- Viton® seals

Series OSP-P..



Features:

- Clean room classification
  ISO Class 4 at v_m = 0.14 m/s
  ISO Class 5 at v_m = 0.5 m/s
- Suitable for smooth slow speed operation up to v_{min} = 0.005 m/s
- Optional stroke length up to 1200 mm (longer strokes on request)
- Low maintenance
- Compact design with equal force and velocity in both directions
- Aluminum piston with bearing rings to support high direct and cantilever loads

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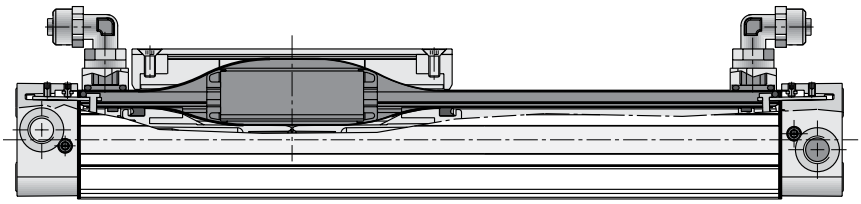
Certification

Based on the PARKER-ORIGA rodless cylinder, proven in world wide markets, PARKER-ORIGA now offers the only rodless cylinder on the market with a certification from IPA Institute for the cleanroom specification according to DIN EN ISO 14644-1.

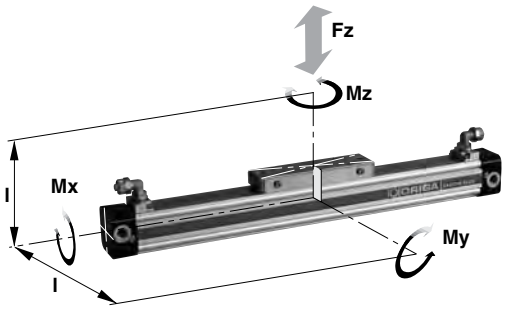
Function:

The clean room cylinders of the ORIGA SYSTEM PLUS (OSP-P) combines the efficiency of the PARKER-ORIGA slot seal system with vacuum protection against progressive wear and contamination from the sliding components. A partial vacuum drawn between inner and outer sealing bands prevents emission into the clean room. To achieve the necessary vacuum a suction flow of ca. 4 m^3/h is required.

Function Diagram



Loads, Forces and Moments



Mx = F · l
My = F · l
Mz = F · l

Cylinder Series (mm Ø)	Effective Force at 6 bar (N)	Max. Moment Mx (Nm)	My (Nm)	Mz (Nm)	Max. Load Fz (N)	Cushion length (mm)
OSP-P16	78	0.45	4	0.5	120	11
OSP-P25	250	1.5	15	3.0	300	17
OSP-P32	420	3.0	30	5.0	450	20

Load and moment data are based on speeds v ≤ 0.2 m/s.
The adjacent table shows the maximum values for light, shock-free operation which must not be exceeded even in dynamic operation.

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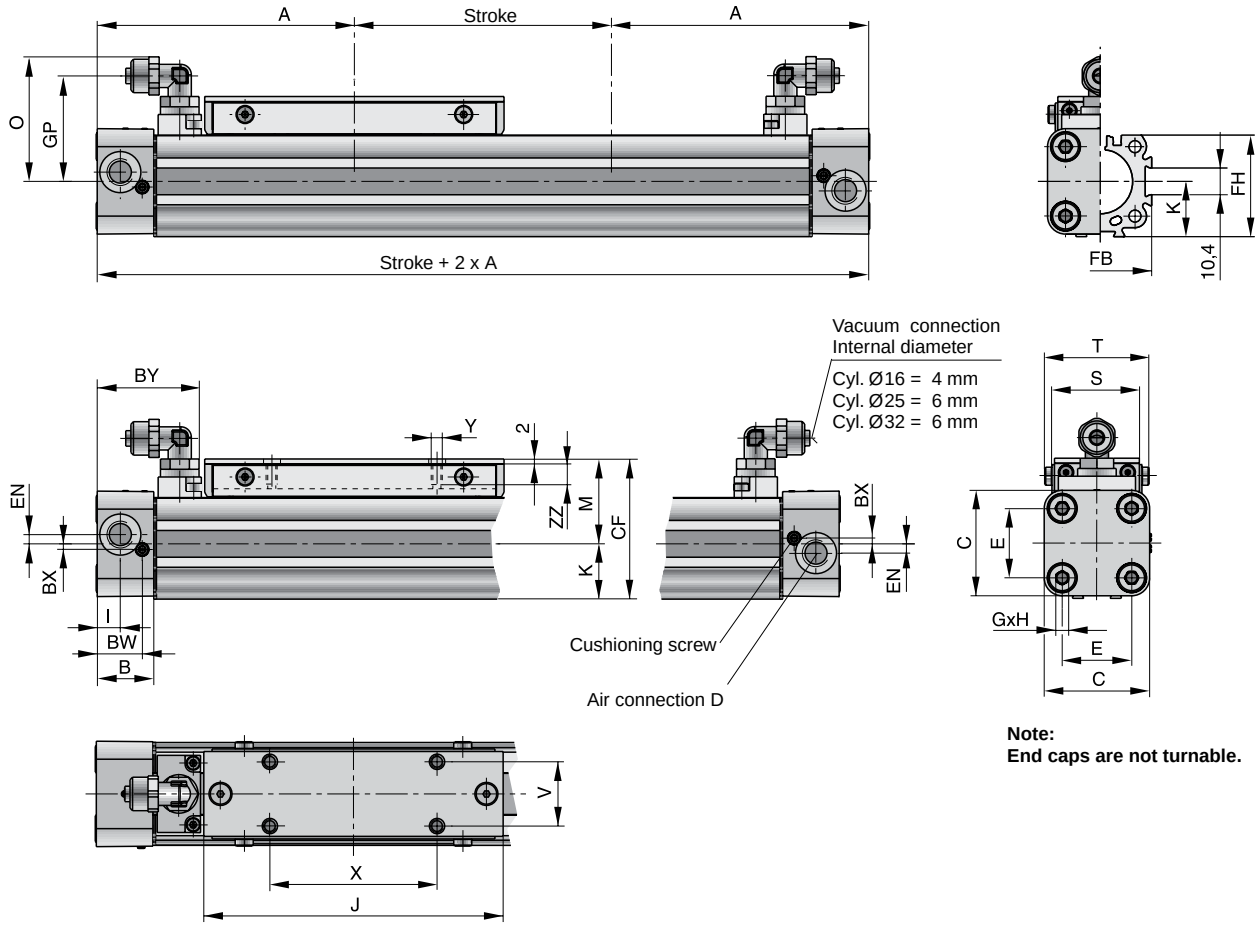
Dimensions (mm)



Note:
End caps are not turnable.

Dimension Table (mm)

Cylinder Series	A	B	C	D	E	G	H	I	J	K	M	O	S
OSP-P16	65	14	30	M5	18	M3	9	5.5	69	15	25	31	24
OSP-P25	100	22	41	G1/8	27	M5	15	9	117	21.5	33	48.5	35
OSP-P32	125	25.5	52	G1/4	36	M6	15	11.5	152	28.5	40	53.6	38

Cylinder Series	T	V	X	Y	BW	BX	BY	CF	EN	FB	FH	GP	ZZ
OSP-P16	29.6	16.5	36	M4	10.8	1.8	28.5	40	3	30	27.2	25.7	7
OSP-P25	40.6	25	65	M5	17.5	2.2	40.5	54.5	3.6	40	39.5	41	8
OSP-P32	45	27	90	M6	20.5	2.5	47.1	68.5	5.5	52	51.7	46.2	10

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Rodless Cylinder Ø 40 mm

for synchronized bi-parting movements

Type OSP-P40-SL-BP

Features:

- Accurate bi-parting movement through toothed belt synchronization
- Optimum slow speed performance
- Increased action force
- Anodized aluminum guide rail with prism-form slideway arrangement
- Adjustable polymer slide units
- Combined sealing system with polymer and felt elements to remove dirt and lubricate the slideway
- Integrated grease nipples for guide lubrication

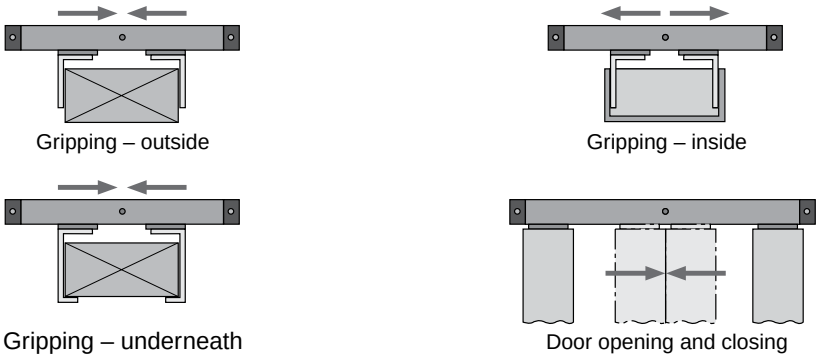
Applications:

- Opening and closing operations
- Gripping of workpieces – outside
- Gripping of hollow workpieces – inside
- Gripping underneath larger objects
- Clamping force adjustable via pressure regulator

Characteristics

Characteristics	Symbol	Unit	Description
General Features			
Type			Rodless cylinder for synchronized bi-parting movements
Series			OSP-P
System			Double acting with end cushioning. For contactless position sensing
Guide			Slideline SL40
Synchronization			Toothed belt
Mounting			See drawings
Ambient temperature range	T_{min} T_{max}	°C °C	-10 +60
Weight (Mass)		kg	see table page B35
Medium			Filtered, unlubricated compressed air (other media on request)
Lubrication			Special slow speed grease – additional oil mist lubrication not required
Material			
Toothed Belt			Steel-corded polyurethane
Belt wheel			Aluminum
Operating pressure range	p_{max}	bar	6
Cushioning middle position			Elastic buffer
Max. Speed	v_{max}	m/s	0.2
Max. stroke of each stroke		mm	500
Max. mass per guide carrier		kg	25
Max. moments on guide carrier			
lateral moment	Mx_{max}	Nm	25
axial moment	My_{max}	Nm	46
rotating moment	Mz_{max}	Nm	46
For more technical information see pages B41			

Applications



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Weight (mass) kg

Cylinder series (Basic cylinder)	Weight (Mass) kg	
	At 0 mm stroke	per 100 mm stroke
OSP-P40-SL-BP	10.334	2.134

Function:

The OSP-P40-SL-BP bidirectional linear drive is based on the OSP-P40 rodless pneumatic cylinder and adapted SLIDELINE SL40 polymer plain-bearing guides.

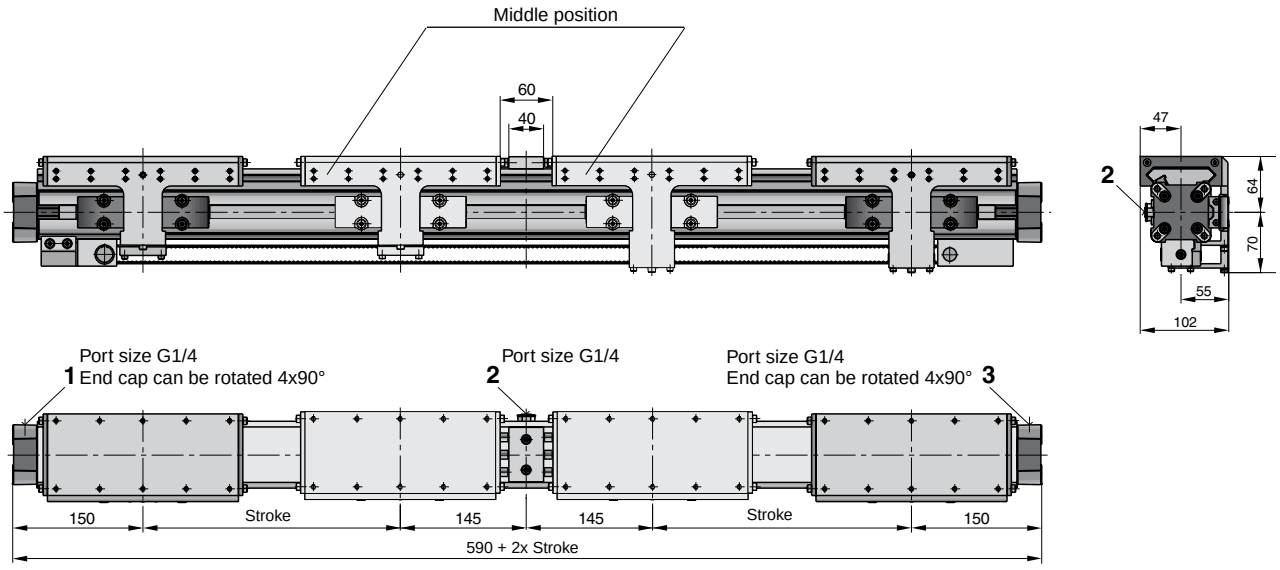
Two pistons in the cylinder bore are connected via yokes and carriers to the SLIDELINE guide carriers, which handle the forces and moments generated.

The bi-parting movements of the guide carriers are accurately synchronized by a recirculating toothed belt.

The two pistons are driven from the middle to the end positions via a common G1/4 air connection in the middle of the cylinder, and are driven from the end positions to the middle via an air connection in each end cap.

End position cushioning is provided by adjustable air cushioning in the end caps, and middle position cushioning by rubber buffers.

Dimensions (mm)



Air connections:

To drive the guide carriers to the middle position: pressurize ports 1 and 3.

To drive the guide carriers to the end positions: pressurize port 2.

For more dimensions see pages B12 and B42

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