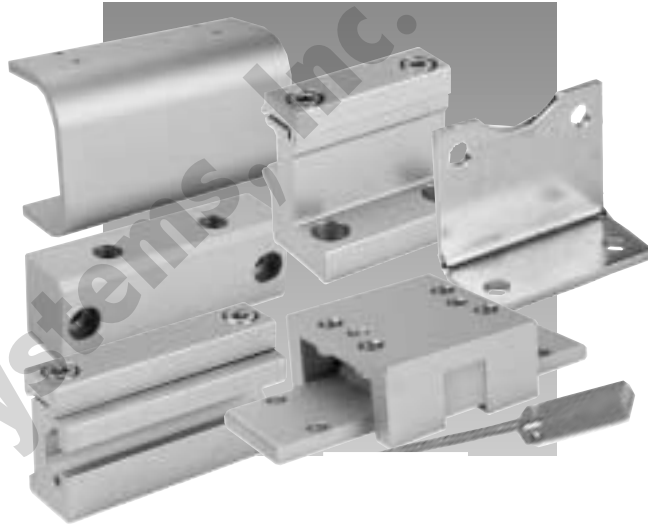



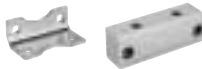

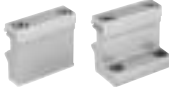






PNEUMATIC
GROUP

OSP

ORTMAN SYSTEM PLUS

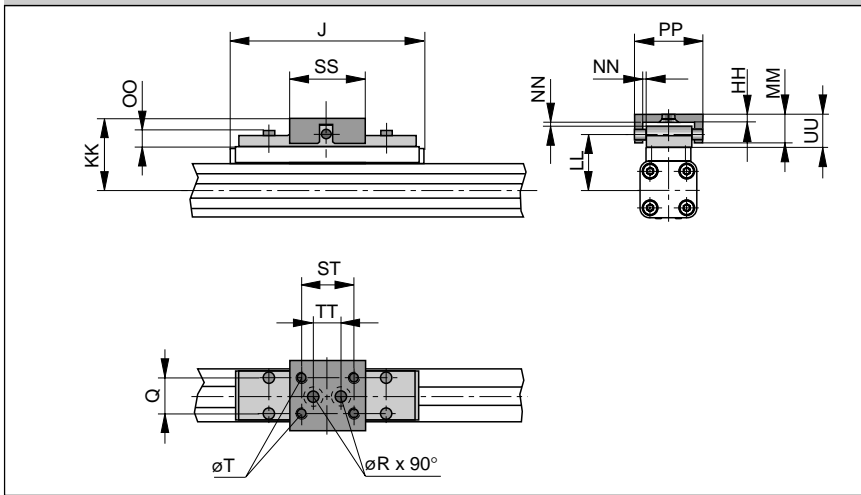
ACCESSORIES FOR
OSP-P LINEAR DRIVE
MOUNTINGS, PROXIMITY SENSORS



Linear Drive Accessories for Series OSP-P		
Description		Page
Clevis Mounting		49
End Cap Mountings		51
End Cap Mountings (for Linear Drives with guides)		53
Mid-Section Support		51
Mid-Section Support (for Linear Drives with guides)		54
Inversion Mounting		55
Adaptor Profile		56
T-Nut Profile		57
Shock Mounts		59
Proximity Sensors		60

The right to introduce technical modifications is reserved

Series OSP-P16 to 32



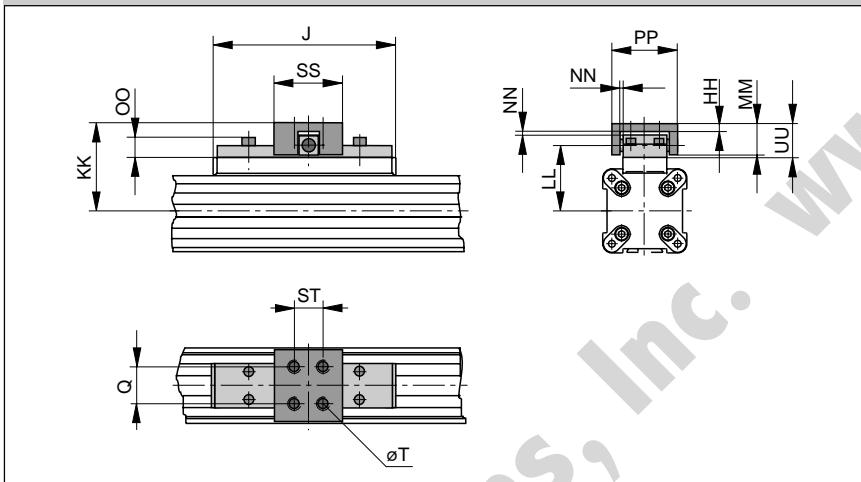
Linear Drive Accessories

ø 16-80 mm
Clevis Mounting



For Linear Drive
• For Series OSP-P

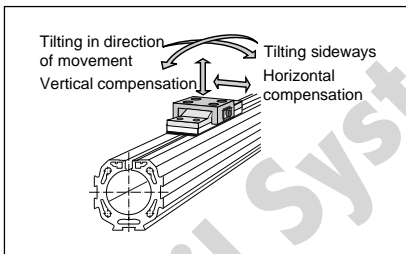
Series OSP-P40 to 80



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.



Please note:
When using additional inversion mountings, take into account the dimensions on page 55.



Dimension Table (mm)

Series	J	Q	T	øR	HH	KK	LL	MM	NN*	OO	PP	SS	ST	TT	UU	Order Number
OSP-P16	69	10	M4	4.5	3	34	26.6	10	1	8.5	26	28	20	10	11	OSP-20462
OSP-P25	117	16	M5	5.5	3.5	52	39	19	2	9	38	40	30	16	21	OSP-20005
OSP-P32	152	25	M6	6.6	6	68	50	28	2	13	62	60	46	40	30	OSP-20096
OSP-P40	152	25	M6	—	6	74	56	28	2	13	62	60	46	—	30	OSP-20024
OSP-P50	200	25	M6	—	6	79	61	28	2	13	62	60	46	—	30	OSP-20097
OSP-P63	256	37	M8	—	8	100	76	34	3	17	80	80	65	—	37	OSP-20466
OSP-P80	348	38	M10	—	8	122	96	42	3	16	88	90	70	—	42	OSP-20477

The right to introduce technical modifications is reserved

Linear Drive Accessories

∅ 16-80 mm

End Cap Mountings



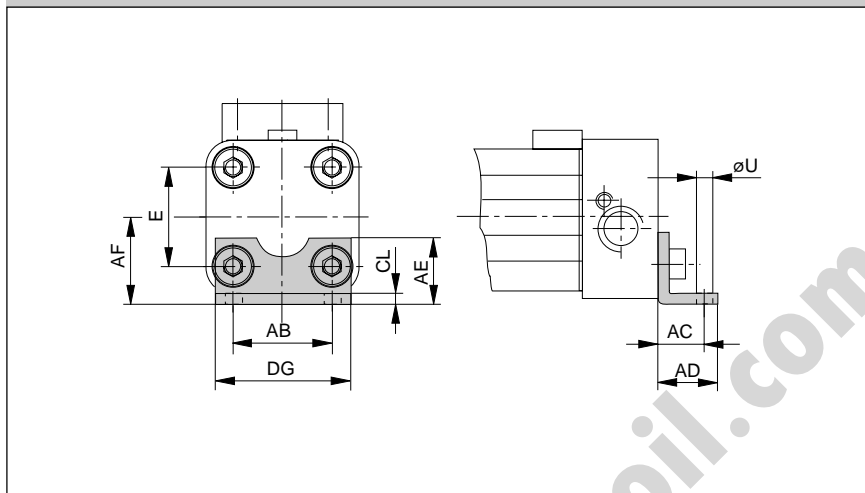
For Linear Drive
• For Series OSP-P

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.

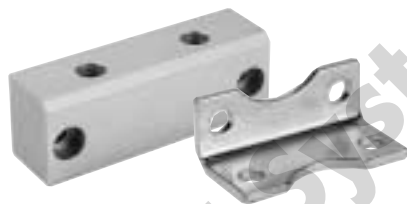
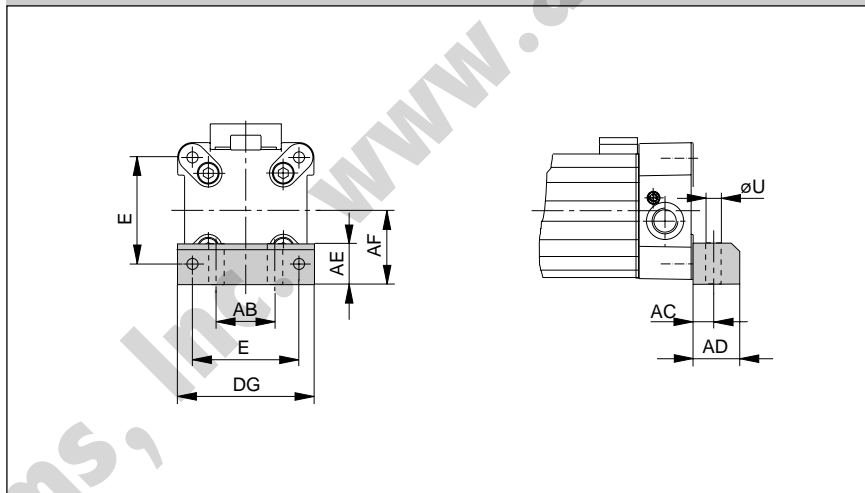
Material:
Series OSP-P16 – P32:
Galvanized steel.
Series OSP-P40 – P50:
Anodized aluminum.

The mountings are supplied in pairs.

Series OSP-P16 to 32: Type A1



Series OSP-P40 to 80: Type C1



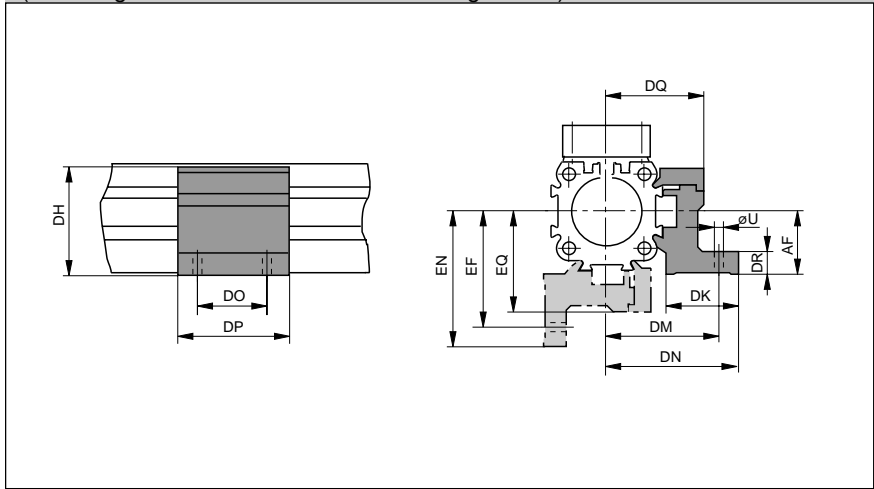
Dimension Table (mm)

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

(* = Pair)

The right to introduce technical modifications is reserved

Series OSP-16 to 80, Type E1
(Mounting from above / below with 2 through holes)



Linear Drive Accessories

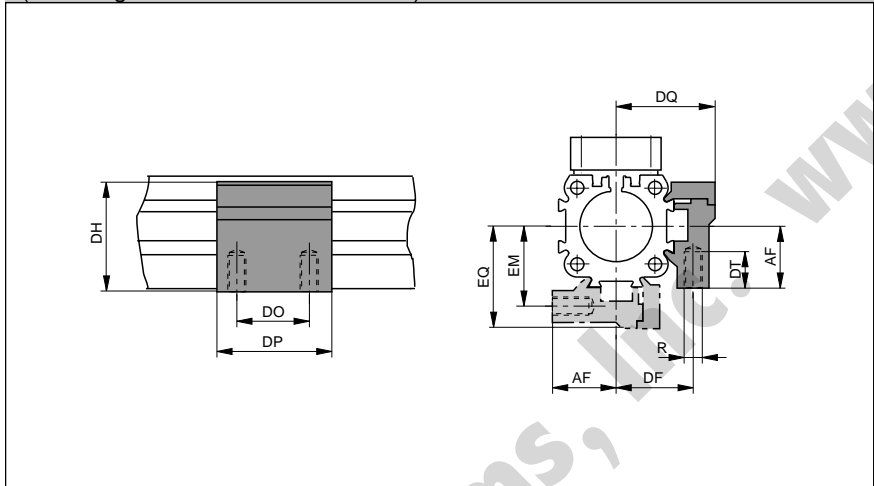
ø 16-80 mm

Mid-Section Support

OSP
— ORTMAN
— SYSTEM
— PLUS

For Linear Drive
• For Series OSP-P

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



Note on Types E1 and D1:
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)

Series	R	U	AF	DF	DH	DK	DM	DN	DO	DP	DQ	DR	DT	EF	EM	EN	EQ	OrderNo.	
																		TypeD1	TypeE1
OSP-P16	M3	3.4	15	20	29.2	24	32	36.4	18	30	27	6	6.5	32	20	36.4	27	OSP-20434	OSP-20435
OSP-P25	M5	5.5	22	27	38	26	40	47.5	36	50	34.5	8	10	41.5	28.5	49	36	OSP-20008	OSP-20009
OSP-P32	M5	5.5	30	33	46	27	46	54.5	36	50	40.5	10	10	48.5	35.5	57	43	OSP-20157	OSP-20158
OSP-P40	M6	7	38	35	61	34	53	60	45	60	45	10	11	56	38	63	48	OSP-20027	OSP-20028
OSP-P50	M6	7	48	40	71	34	59	67	45	60	52	10	11	64	45	72	57	OSP-20162	OSP-20163
OSP-P63	M8	9	57	47.5	91	44	73	83	45	65	63	12	16	79	53.5	89	69	OSP-20451	OSP-20452
OSP-P80	M10	11	72	60	111.5	63	97	112	55	80	81	15	25	103	66	118	87	OSP-20480	OSP-20482

The right to introduce technical modifications is reserved

Overview																		
Mounting Type	Type	Type – OSP Guides																
		SLIDELINE PROLINE MULTIBRAKE						POWERSLIDE										
		16 ¹⁾	25	32	40	50	63 ¹⁾	80 ¹⁾	16/ 25	25/ 25	25/ 35	25/ 44	32/ 35	32/ 44	40/ 44	40/ 60	50/ 60	50/ 76
End cap mounting 	Type A1	X							X									
	Type A2	O	O	O														
	Type A3									O	O		O					
End cap mounting, reinforced 	Type B1		X	X					X	X	X	X	X					
	Type B3								O									
	Type B4											O	O					
End cap mounting 	Type C1				X	X	X	X							X	X	X	X
	Type C2				O	O												
	Type C3						O	O							O	O		
	Type C4															O	O	
Mid-section support, small Mid-section support, wide 	Type D1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Type E1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Type E2	O	O	O	O	O												
	Type E3						O	O	O	O	O		O	O	O			
	Type E4											O	O	O	O			

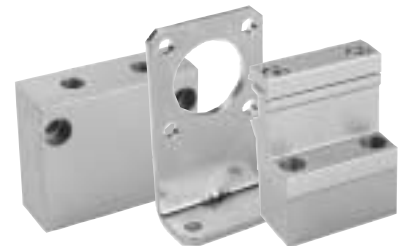
- X = carriage mounted in top (12 o'clock position)
- O = carriage mounted in lateral (3 or 9 o'clock position)
-  = available components
- 1) = not available for all sizes

Linear Drive Accessories

Mountings for Linear Drives fitted with OSP-guides

OSP
— ORTMAN
— SYSTEM
— PLUS

For Linear Drive
• For Series OSP-P



End cap mountings *

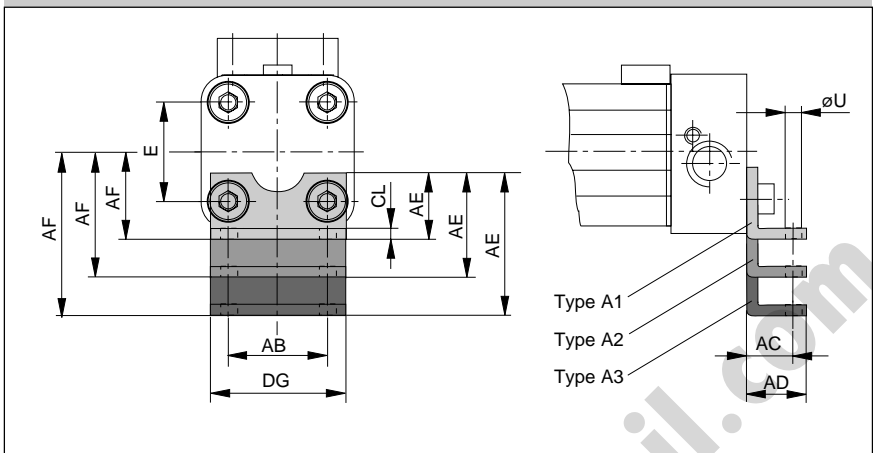
Four internal screw threads are located in the end faces of all OSP actuators for mounting the drive unit. End cap mountings may be secured across any two adjacent screws.

Material: Series OSP-16, 25, 32:
zinc plated steel
Series OSP-40,50, 63, 80:
anodized aluminum

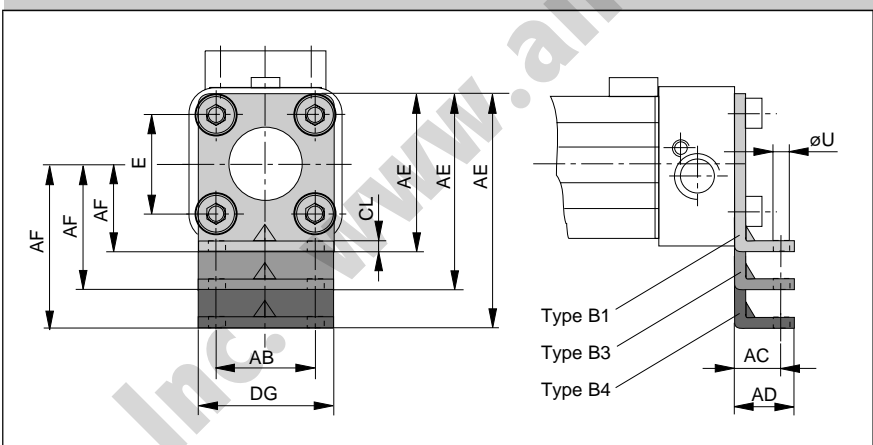
Supplied in pairs.



Series OSP – 16, 25, 32: Type A



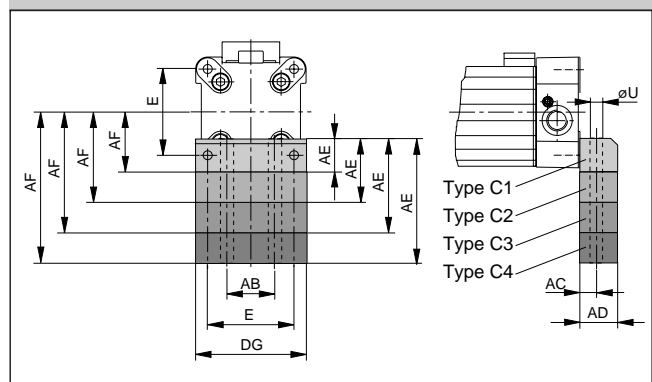
Series OSP – 16, 25, 32: Type B



Dimension Table (mm)
– Dimensions AE and AF (Dependent on the mounting type)

Mount type	Dimensions AE for size							AF for size						
	16	25	32	40	50	63	80	16	25	32	40	50	63	80
A1	12.5	18	20	-	-	-	-	15	22	30	-	-	-	-
A2	27.5	33	34	-	-	-	-	30	37	44	-	-	-	-
A3	-	45	42	-	-	-	-	-	49	52	-	-	-	-
B1	-	42	55	-	-	-	-	-	22	30	-	-	-	-
B3	55	-	-	-	-	-	-	42	-	-	-	-	-	-
B4	-	80	85	-	-	-	-	-	60	60	-	-	-	-
C1	-	-	-	24	30	40	50	-	-	-	38	48	57	72
C2	-	-	-	37	39	-	-	-	-	-	51	57	-	-
C3	-	-	-	46	54	76	88	-	-	-	60	72	93	110
C4	-	-	-	56	77	-	-	-	-	-	70	95	-	-

Series OSP – 40, 50, 63, 80: Type C



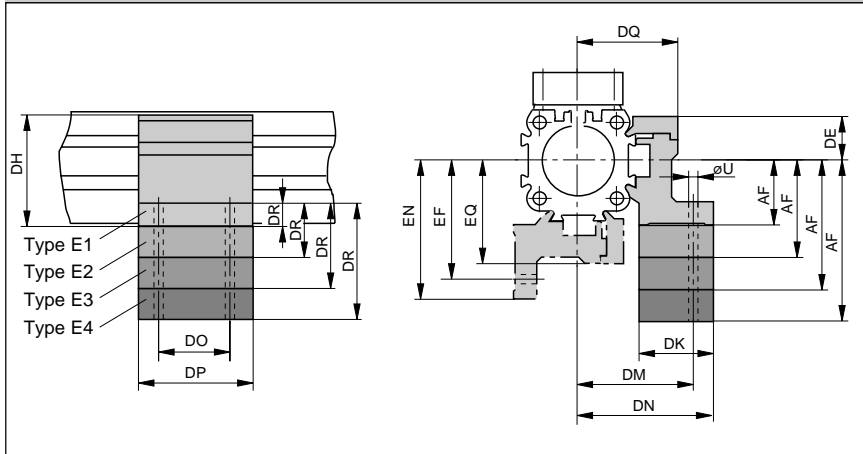
Dimension Table (mm)

Series	E	øU	AB	AC	AD	CL	DG
OSP-P16	18	3.6	18	10	14	1.6	26
OSP-P25	27	5.8	27	16	22	2.5	39
OSP-P32	36	6.6	36	18	26	3	50
OSP-P40	54	9	30	12.5	24	-	68
OSP-P50	70	9	40	12.5	24	-	86
OSP-P63	78	11	48	15	30	-	104
OSP-P80	96	14	60	17.5	35	-	130

* see mounting instructions on page 52

Series OSP-16 to 80: Type E.

(Mounting from above / below using a cap screw)



Mid-section supports

Information regarding type E1 and D1:

Mounting of the mid-section supports is also possible on the lower side of the drive. In this case, please note the new center line dimensions.

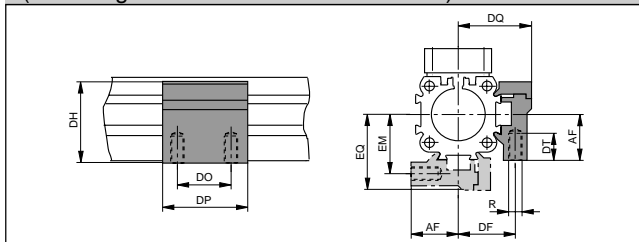
See layout information on pages 22, 25, 32, 41, and 44

Stainless-steel version on request.



Series OSP-16 to 80: Type D1

(Mounting from below with thread screw)



Dimension Table (mm)

– Dimensions AF and DR (Dependent on the mounting type)

Mount. type	Dimensions DR for size								AF for size							
	16	25	32	40	50	63	80	16	25	32	40	50	63	80		
D1	–	–	–	–	–	–	–	15	22	30	38	48	57	72		
E1	6	8	10	10	10	12	15	15	22	30	38	48	57	72		
E2	21	23	24	23	19	–	–	30	37	44	51	57	–	–		
E3	33	35	32	32	34	48	53	42	49	52	60	72	93	110		
E4	–	46	40	42	57	–	–	–	60	60	70	95	–	–		

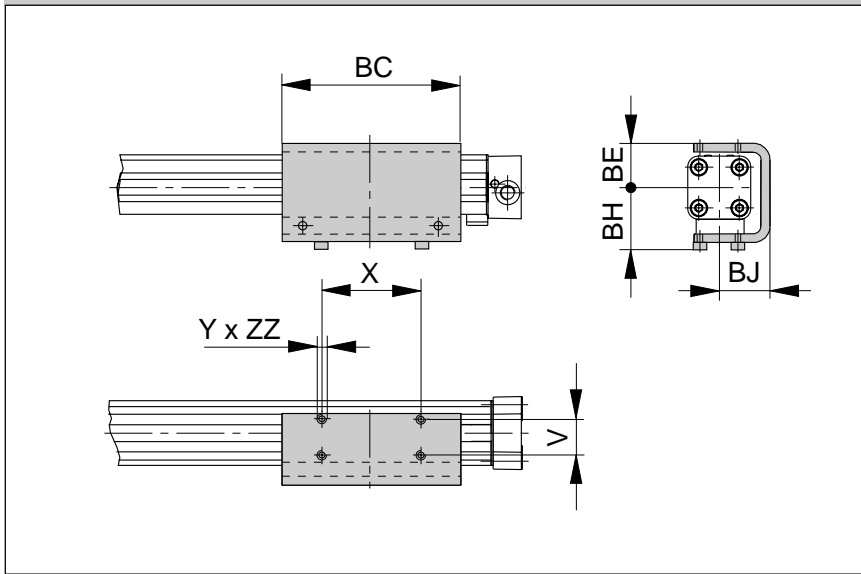
Dimension Table (mm)

Series	R	U	DE	DF	DH	DK	DM	DN	DO	DP	DQ	DT	EF	EM	EN	EQ
OSP-P16	M3	3,4	14,2	20	29,2	24	32	36,4	18	30	27	6,5	32	20	36,4	27
OSP-P25	M5	5,5	16	27	38	26	40	47,5	36	50	34,5	10	41,5	28,5	49	36
OSP-P32	M5	5,5	16	33	46	27	46	54,5	36	50	40,5	10	48,5	35,5	57	43
OSP-P40	M6	7	23	35	61	34	53	60	45	60	45	11	56	38	63	48
OSP-P50	M6	7	23	40	71	34	59	67	45	60	52	11	64	45	72	57
OSP-P63	M8	9	34	47,5	91	44	73	83	45	65	63	16	79	53,5	89	69
OSP-P80	M10	11	39,5	60	111,5	63	97	112	55	80	81	25	103	66	118	87

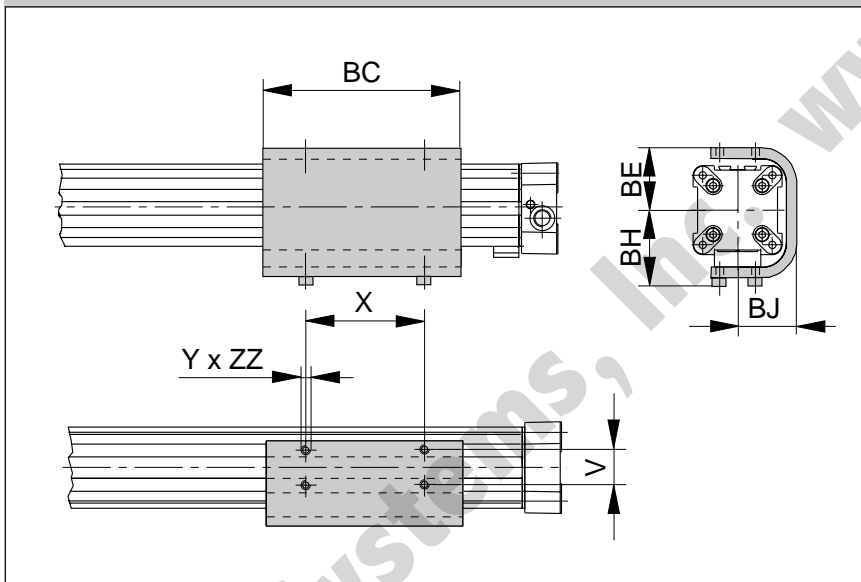
Ordering information for mountings Type A – Type B – Type C – Type D – Type E

Mounting type (versions)	Order No. size						
	16	25	32	40	50	63	80
A1*)	OSP-20408	OSP-2010	OSP-3010	–	–	–	–
A2*)	OSP-20464	OSP-2040	OSP-3040	–	–	–	–
A3*)	–	OSP-2060	OSP-3060	–	–	–	–
B1*)	–	OSP-20311	OSP-20313	–	–	–	–
B3*)	OSP-20465	–	–	–	–	–	–
B4*)	–	OSP-20312	OSP-20314	–	–	–	–
C1*)	–	–	–	OSP-4010	OSP-5010	OSP-6010	OSP-8010
C2*)	–	–	–	OSP-20338	OSP-20349	–	–
C3*)	–	–	–	OSP-20339	OSP-20350	OSP-20821	OSP-20822
C4*)	–	–	–	OSP-20340	OSP-20351	–	–
D1	OSP-20434	OSP-20008	OSP-20157	OSP-20027	OSP-20162	OSP-20451	OSP-20480
E1	OSP-20435	OSP-20009	OSP-20158	OSP-20028	OSP-20163	OSP-20452	OSP-20482
E2	OSP-20436	OSP-20352	OSP-20355	OSP-20358	OSP-20361	–	–
E3	OSP-20437	OSP-20353	OSP-20356	OSP-20359	OSP-20362	OSP-20453	OSP-20819
E4	–	OSP-20354	OSP-20357	OSP-20360	OSP-20363	–	–

Series OSP-16 to 32



Series OSP-40 to 80



Linear Drive Accessories

∅ 16-80 mm

Inversion Mounting

OSP
— ORTMAN
— SYSTEM
— PLUS

For Linear Drive
• For 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**, **proximity 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 switches can only be mounted directly opposite to the external air-supply profile.

Important Note:

May be used in combination with Clevis Mounting, ref. page 49.

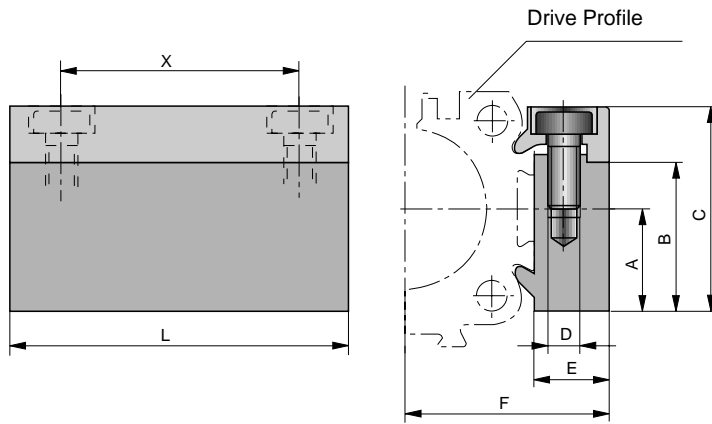
Dimension Table (mm)

Series	V	X	Y	BC	BE	BH	BJ	ZZ	Order No.
OSP-P16	16.5	36	M4	69	23	33	25	4	OSP-20446
OSP-P25	25	65	M5	117	31	44	33.5	6	OSP-20037
OSP-P32	27	90	M6	150	38	52	39.5	6	OSP-20161
OSP-P40	27	90	M6	150	46	60	45	8	OSP-20039
OSP-P50	27	110	M6	180	55	65	52	8	OSP-20166
OSP-P63	34	140	M8	255	68	83,5	64	10	OSP-20459
OSP-P80	36	190	M10	347	88	107,5	82	15	OSP-20490



The right to introduce technical modifications is reserved

Dimensions



Linear Drive Accessories

∅ 16-50 mm

Adaptor Profile

OSP

— ORTMAN
— SYSTEM
— PLUS

For Linear Drive
• For Series OSP-P

Adaptor Profile OSP

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

Dimension Table (mm)

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



Linear Drive Accessories

∅ 16-50 mm

T-Nut Profile

OSP

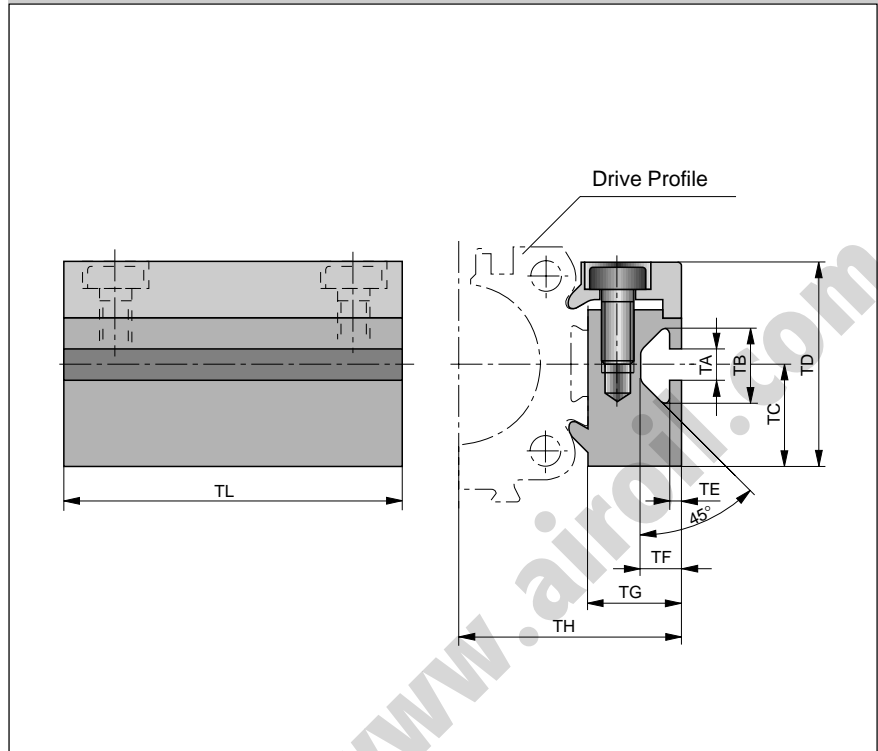
—ORTMAN
—SYSTEM
—PLUS

For Linear Drive
• For Series OSP-P

T-Nut Profile OSP

- A universal attachment for mounting with standard T-Nuts

Dimensions



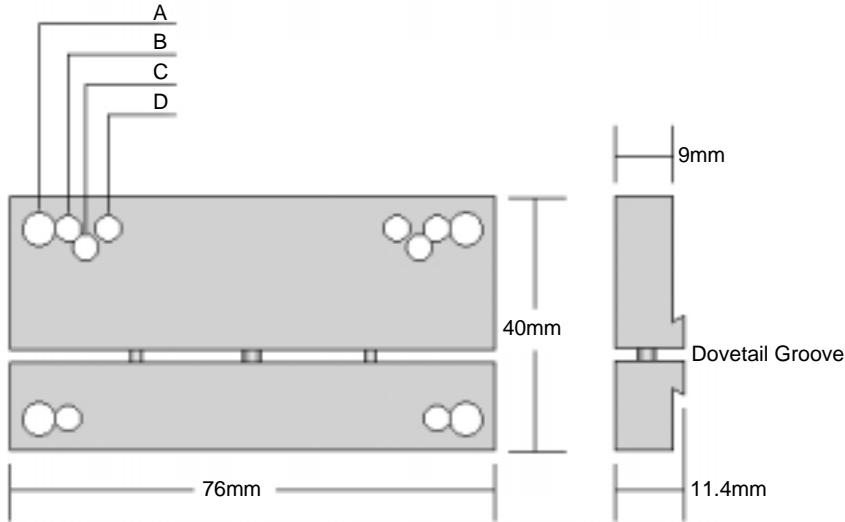
Dimension Table (mm)

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



The right to introduce technical modifications is reserved

Dimensions

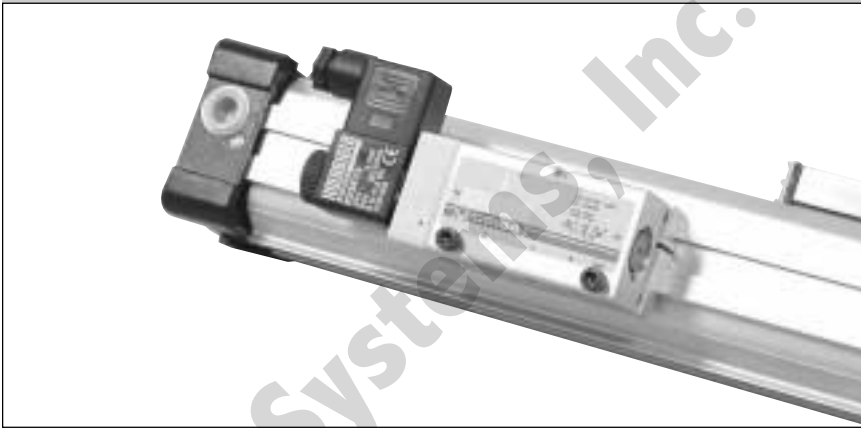


Mounting Holes:
A = 5/2-way; 1/4" NPT
B = 5/2-way; 1/8" NPT
C = 3/2-way; 1/4" NPT
D = 3/2-way; 1/8" NPT

Linear Drive Accessories Valve Mounting Plate

OSP
—ORTMAN
—SYSTEM
—PLUS

Typical Valve Installation Using Valve Mounting Plate

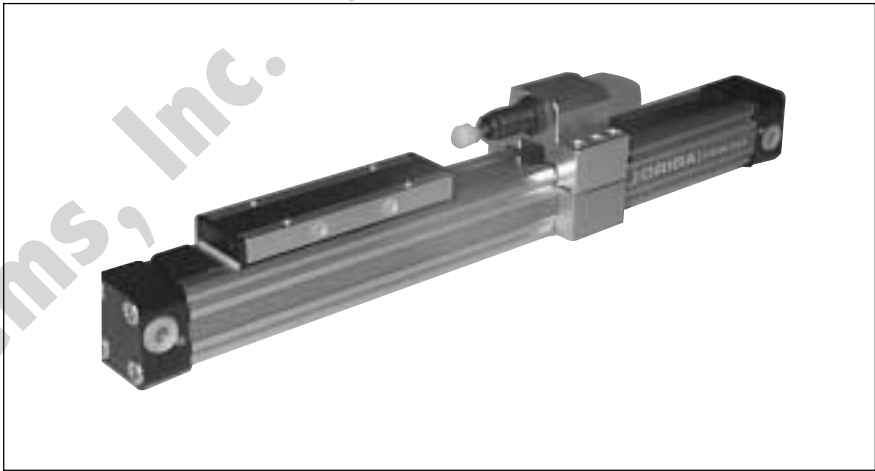
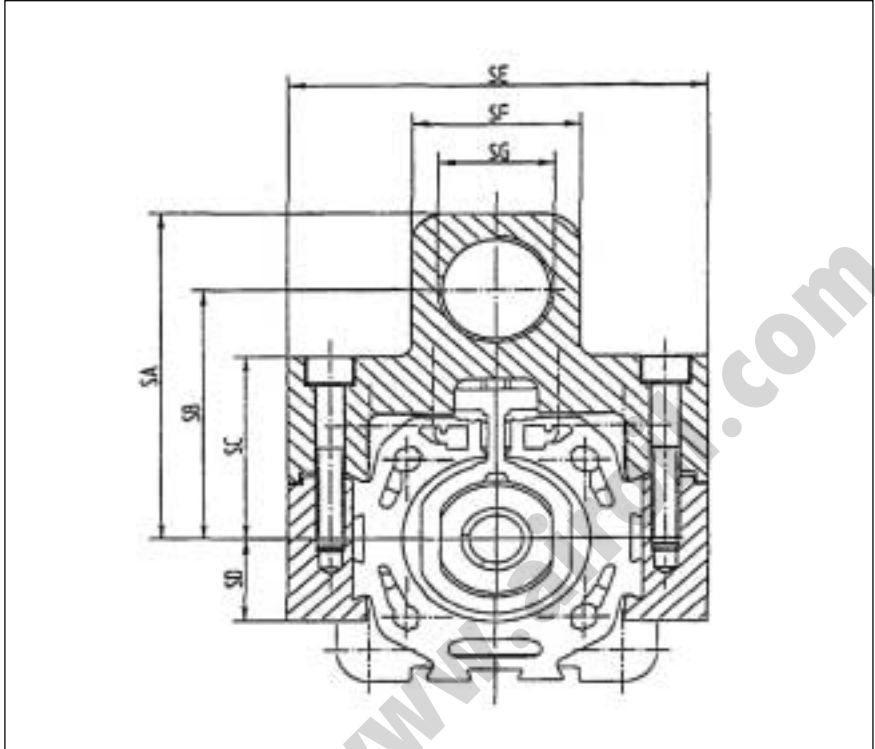


Ordering Information:
Order #: PD 40372

Linear Drive Assembly Adjustable Shock Mount

OSP
—ORTMAN
—SYSTEM
—PLUS

Dimensions



Dimension Table (mm)

Series	Order No.	SA	SB	SC	SD	SE	SF	SG	SH=Length
OSP-25	OSP-20169	51	40	31	16	61	33	M14x1.5	36
OSP-32	OSP-20173	64	50	38	16	73	36	M20x1.5	36
OSP-40	OSP-20170	78	60	44	20	90	36	M25x1.5	42
OSP-50	OSP-20174	83	65	49	20	104	36	M25x1.5	42

Linear Drive Accessories

∅ 16-80 mm
Proximity Sensors

OSP
— ORTMAN
— SYSTEM
— PLUS

For electrical sensing of the carrier position, e.g. at the end positions, proximity sensors may be fitted.

Position sensing is contactless and is based on magnets fitted as standard to the carrier. A yellow LED indicates operating status.

The universal proximity sensors are suitable for all ORTMAN OSP-Actuators and aluminum profile rod type cylinders.

Piston, speed and switching distance affect signal duration and should be considered in conjunction with the minimum reaction time of ancillary control equipment.

$$\text{Min. reaction time} = \frac{\text{Switching distance}}{\text{Piston speed}}$$

*) other versions on request
**) RS with connector (RS-S)



Characteristics	Symbol	Unit	Description	
Electrical Characteristics			Type RS	Type ES
Operating voltage	U _B	V	10-240 AC/DC (NO) 10-150 AC/DC (NC) 10-70 AC/DC (NC)**	10-30 DC
Connection			Two wire	Three wire
Switching function			Normally open (NO) Normally closed (NC)	PNP NPN closing
Max. permanent switching current	I _{Dmax}	mA	200	200
Max. switching capacity		VA (W)	10 VA	—
Residual voltage at I _{Lmax}		V	<3	<3
Max. current consumption		mA	—	<20
Status indicator			LED, yellow	
Typical switching time		ms	on: <2	on: <2
Switch-off delay		ms	—	ca. 25
Pole reversal			LED does not work	—
Pole reversal protection			-	Built in
Short circuit protection			-	Built in
Switchable capacity		µF	0,1 at 100 V, 24 VDC	
Switching distance		mm	ca. 15	ca. 15
Hysteresis for OSP		mm	ca. 8	ca. 3
Mechanical Characteristics				
Housing			Makrolon, grey	
Insulation class			F to VDE 0580	
Connection *)			Cable, 5m long	3-pole connector M8, cable length ca.100mm**
Cable cross section (highly flexible)		mm ²	2 x 0.14	3 x 0.14
Cable (highly flexible)*			PVC	PUR, black
Wire colors			brown AC/DC+ blue or white signal output	Pin 1 = +, brown Pin 3 = 0V, blue Pin 4 = Signal black or white
Permissible minimum bending radius of cable	fixed	mm	≥ 20	
	moving	mm	≥ 70	
Switching point accuracy		mm	± 0.2	
Temperature range *)	ϑ _{min} ϑ _{max}	°C °C	-25 +80	other temperature ranges on request
Service life			3 x 10 ⁶ up to 6 x 10 ⁶	Theoretically unlimited
Switching cycles				
Electrical protection		IP	67 to DIN 40005	
Shock resistance		m/s ²	100 (contact switches)	500
Weight (mass)		kg	0.12	

Type RS

In the type RS contact is made by a mechanical **reed switch** encapsulated in glass.
 Direct connection with 2-pole cable, 5m long, open ended (Type RS-K).
 With 3-pole connector M8, cable length ca. 100 mm (Type RS-S).

Type ES

In the type ES contact is made by an **electronic switch** – without bounce or wear and protected from pole reversal. The output is short circuit proof and insensitive to shocks and vibrations. Connection is by 3-pole connector for easy disconnection.
 Fitted with connection cable 100 mm long with connector. A 5 m cable with connector and open end can be ordered separately, or use the Order No. for the complete Type ES with 5 m cable.

Proximity Sensors RS and ES

Electrical Service Life Protective Measures

Magnetic switches are sensitive to excessive currents and inductions. With high switching frequencies and inductive loads such as relays, solenoid valves or lifting magnets, service life will be greatly reduced.

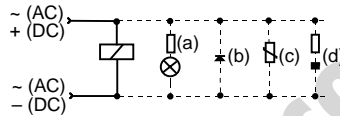
With **resistive and capacitive loads** with high switch-on current, such as light bulbs, a protective resistor should be fitted. This also applies to long cable lengths and voltages over 100 V.

In the switching of inductive loads such as relays, solenoid valves and lifting magnets, voltage peaks

(transients) are generated which must be suppressed by protective diodes, RC loops or varistors.

Connection Examples

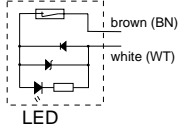
- Load with protective circuits
- (a) Protective resistor for light bulb
 - (b) Freewheel diode on inductivity
 - (c) Varistor on inductivity
 - (d) RC element on inductivity



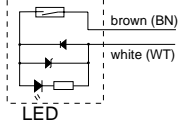
For the type ES, external protective circuits are not normally needed.

Electrical Connection, Type RS

Normally closed (NC)

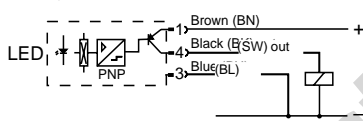


Normally open (NO)

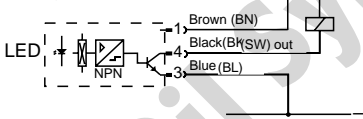


Electrical Connection, Type ES

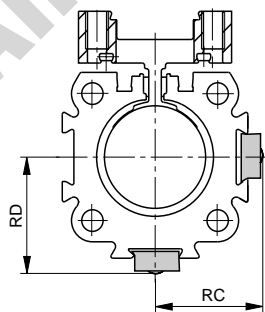
Standard Version: Type PNP



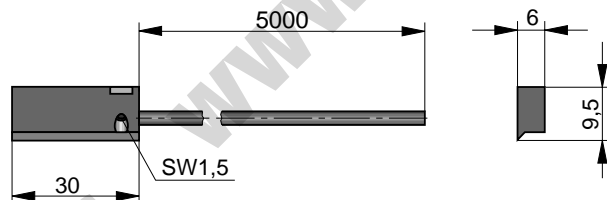
Optional Version: Type NPN



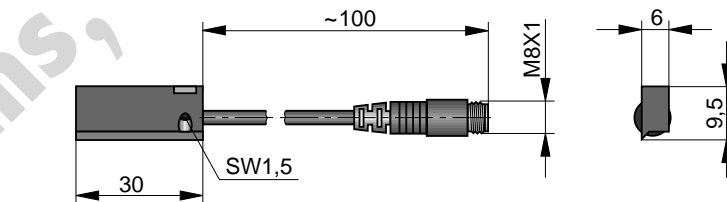
Dimensions



Dimensions (mm) – Type RS-K



Dimensions (mm) – Type ES-S/RS-S*



PIN assignment (view of pins) according to DIN EN 50044

* Operating voltage max. 70 V

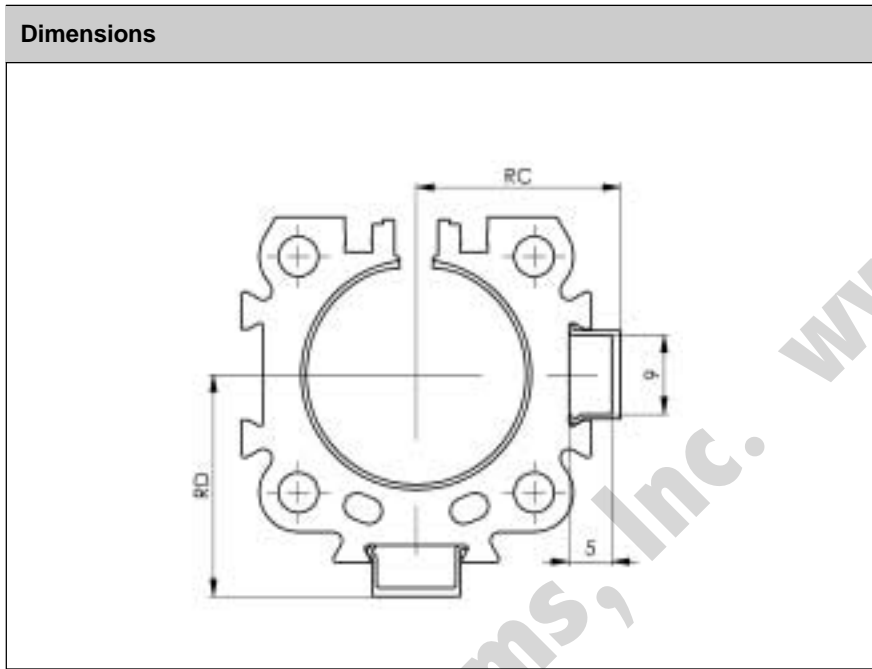
Dimension Table (mm) and Order Instructions

Series	Dimens. (mm)		Order No. ES		ES			
	RC	RD	RS closer Normally open	RS opener Normally closed	PNP	NP	PNP	NP
OSP-16	20	20,5	Type RS-K KL3045	Type RS-K KL3048	Type ES-S KL3054	Type ES-S KL3060	Type ES-S complete	Type ES-S complete with 5 m cable 10751
OSP-25	25	27						
OSP-32	31	34						
OSP-40	36	39						
OSP-50	43	48						
OSP-63	53	59						
OSP-80	66	72						
Cable 5 m with connector and with open end for sensor Type ES-S/RS-S								



Cable Pit for OSP-P

OSP
—ORTMAN
—SYSTEM
—PLUS



Dimension Table (mm)			
Series	RC	RD	Order No. (mm)
OSP-P16	18.5	19	OSP-20852 - 00000
OSP-P25	23.5	25.5	OSP-20852 - 00000
OSP-P32	29.5	32.5	OSP-20852 - 00000
OSP-P40	34.5	37.5	OSP-20852 - 00000
OSP-P50	41.5	46.5	OSP-20852 - 00000
OSP-P63	51.5	57.5	OSP-20852 - 00000
OSP-P80	64.5	70.5	OSP-20852 - 00000