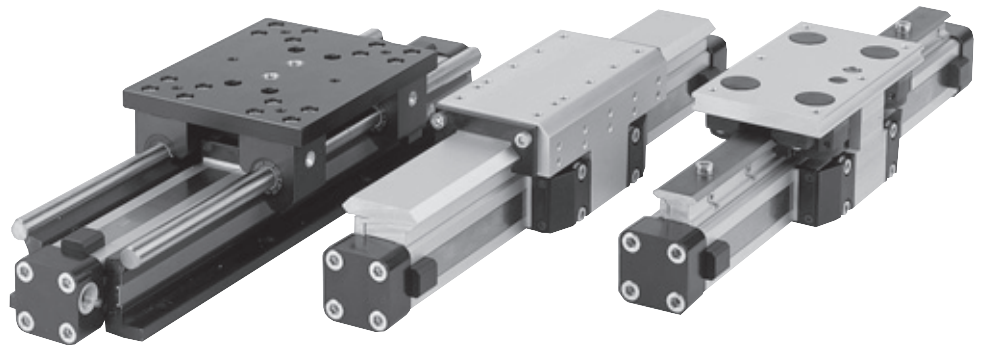


# Linear Guides Series OSP-P



## Contents

	Description	Data Sheet No.	Page
	Overview	1.40.001E	31-32
	Plain bearing guide SLIDELINE	1.40.002E	33-34
	Roller guide POWERSLIDE	1.40.003E	35-38
	Ball bushing guide GUIDELINE	1.40.004E	39-42
	Aluminium roller guide PROLINE	1.40.005E	43-44
<b>NEW</b>	Recirculating ball bearing guide STARLINE	1.40.006E	45-50
<b>NEW</b>	Recirculating ball bearing guide KF	1.40.007E	51-56

# OSP

— ORIGA  
— SYSTEM  
— PLUS

## Adaptive modular system

The Origa system plus – OSP – provides a comprehensive range of linear guides for the pneumatic and electric linear drives.

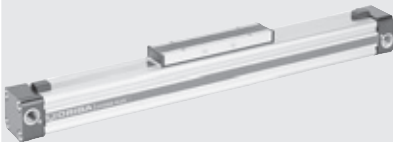
### Advantages:

- Takes high loads and forces
- High precision
- Smooth operation
- Can be retrofitted
- Can be installed in any position

### Rodless Pneumatic Cylinder Series OSP - P

Piston diameters 10 – 80 mm

See data sheet  
1.10.002E (Standard)  
1.10.020E (ATEX-Version)



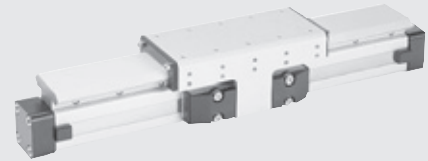
## Linear Guides

### SLIDELINE

The cost-effective plain bearing guide for medium loads. Brake optional.

Piston diameters 16 – 80 mm

See data sheet  
1.40.00E (Standard)  
1.10.020E (ATEX-Version)



### POWERSLIDE

The roller guide for heavy loads and hard application conditions

Piston diameters 16 – 50 mm

See data sheet  
1.40.003E

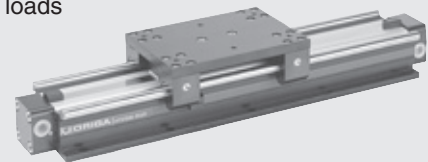


### GUIDELINE

The ball bushing guide for the heavy loads and greatest accuracy.

Piston diameters 25 – 50 mm

See data sheet  
1.40.004E

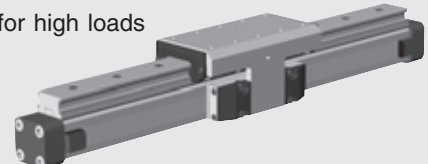


### PROLINE

The compact aluminium roller guide for high loads and velocities. Optional with brake.

Piston diameters 16 – 50 mm

See data sheet  
1.40.005E

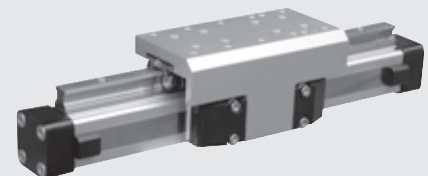


### STARLINE

Recirculating ball bearing guide for highest loads and precision

Piston diameters 16 – 50 mm

See data sheet  
1.40.006E



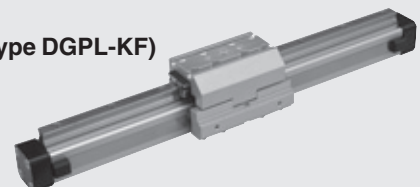
### KF GUIDE

Recirculating ball bearing guide for high loads and precision.

Correspond to FESTO dimensions (Type DGPL-KF)

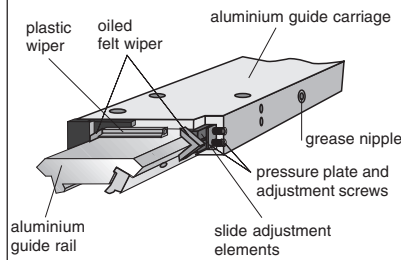
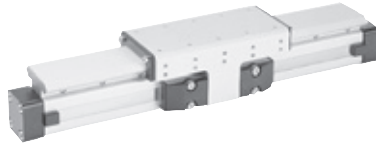
Piston diameters 16 – 50 mm

See data sheet  
1.40.007E

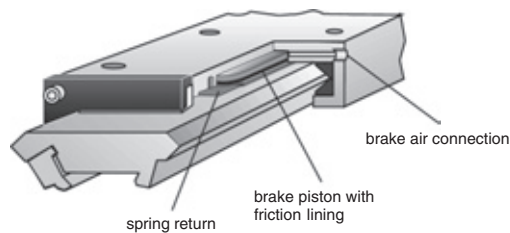


## Versions

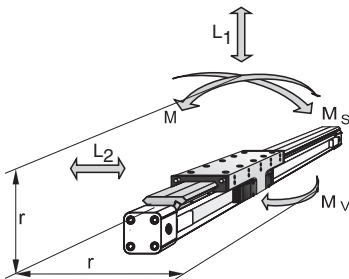
for pneumatic linear drive:  
Series OSP-P



## Option – Integrated Brake



## Loads, Forces and Moments



## Technical Data

The table shows the maximum permissible values for smooth operation, which should not be exceeded even under dynamic conditions.

The load and moment figures apply to speeds  $v < 0.2$  m/s.

### \* Please note:

In the cushioning diagram, add the mass of the guide carriage to the mass to be cushioned.

# Plain Bearing Guide SLIDELINE

**OSP**  
— ORIGA  
— SYSTEM  
— PLUS

Series SL 16 to 80  
for Linear-drive  
• Series OSP-P

## Features:

- ATEX-version (without brake) is also available (see data sheet no. 1.10.020E)
- Anodised aluminium guide rail with prism-shaped slideway arrangement
- Adjustable plastic slide elements – optional with integral brake
- Composite sealing system with plastic and felt wiper elements to remove dirt and lubricate the slideways.
- Corrosion resistant version available on request.
- Any length of stroke up to 5500 mm (longer strokes on request)

## Integrated Brake (optional) for series OSP-P25 to OSP-P50:

- Actuated by pressure
- Released by exhausting and spring return

For further technical data see also linear drives OSP-P (1.10.002E)

Series	For linear drive	Max. moments [Nm]			Max. loads [N]	Maximum braking force at 6 bar [N] <sup>1)</sup>	Mass of linear drive with guide [kg]		Mass * of guide carriage [kg]	Order No. SLIDELINE <sup>2)</sup> for	
		M	Ms	Mv			L <sub>1</sub> , L <sub>2</sub>	with 0 mm stroke		increase per 100 mm stroke	OSP-P without brake
SL16	OSP-P16	11	6	11	325	—	0.57	0.22	0.23	20341	—
SL25	OSP-P25	34	14	34	675	325	1.55	0.39	0.61	20342	20409
SL32	OSP-P32	60	29	60	925	545	2.98	0.65	0.95	20196	20410
SL40	OSP-P40	110	50	110	1500	835	4.05	0.78	1.22	20343	20411
SL50	OSP-P50	180	77	180	2000	1200	6.72	0.97	2.06	20195	20412
SL63	OSP-P63	260	120	260	2500	—	11.66	1.47	3.32	20853	—
SL80	OSP-P80	260	120	260	2500	—	15.71	1.81	3.32	21000	—

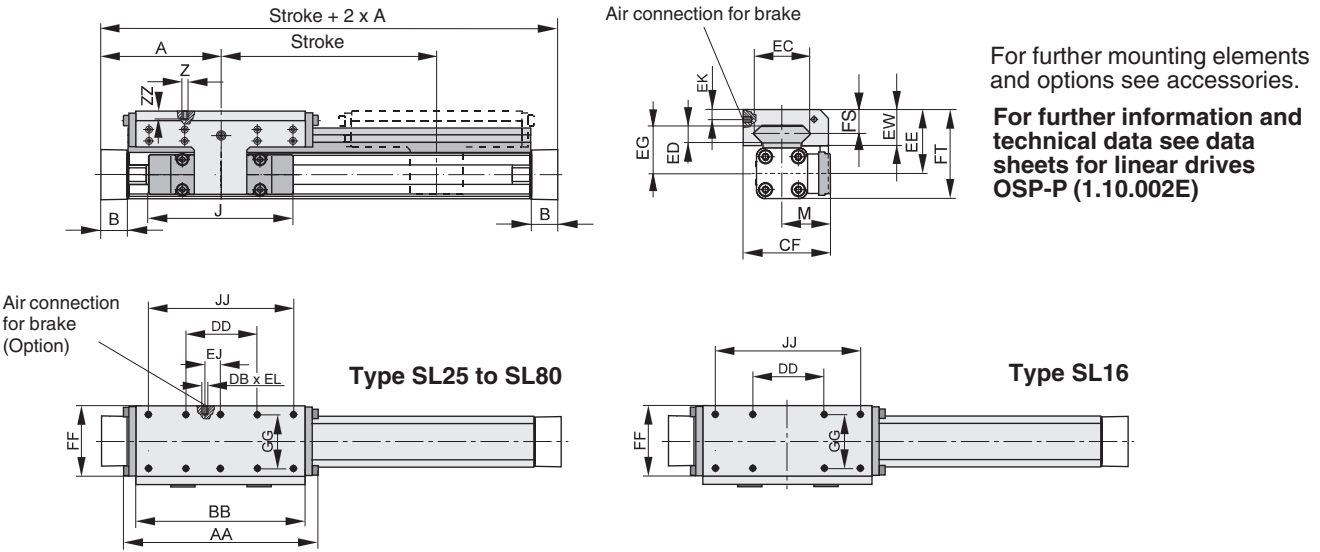
<sup>1)</sup> Only with integrated brake: Braking force on dry oil-free surface  
Values are decreased for lubricated slideways

<sup>2)</sup> Corrosion resistant fixtures available on request

For linear drives see 1.10.002E, for ATEX-version see 1.10.020E  
For mountings see 1.45.005E

## Dimensions

### Series OSP-P



### Dimension Table (mm)

Series	A	B	J	M	Z	AA	BB	DB	DD	CF	EC	ED	EE	EG	EJ	EK	EL	EW	FF	FT	FS	GG	JJ	ZZ
SL16	65	14	69	31	M4	106	88	-	30	55	36	8	40	30	-	-	-	22	48	55	14	36	70	8
SL25	100	22	117	40,5	M6	162	142	M5	60	72,5	47	12	53	39	22	6	6	30	64	73,5	20	50	120	12
SL32	125	25,5	152	49	M6	205	185	M5	80	91	67	14	62	48	32	6	6	33	84	88	21	64	160	12
SL40	150	28	152	55	M6	240	220	M5	100	102	77	14	64	50	58	6	6	34	94	98,5	21,5	78	200	12
SL50	175	33	200	62	M6	284	264	M5	120	117	94	14	75	56	81	6	6	39	110	118,5	26	90	240	16
SL63	215	38	256	79	M8	312	292	-	130	152	116	18	86	66	-	-	-	46	152	139	29	120	260	14
SL80	260	47	348	96	M8	312	292	-	130	169	116	18	99	79	-	-	-	46	152	165	29	120	260	14

## Mid-Section Support

(for versions see 1.45.005E)

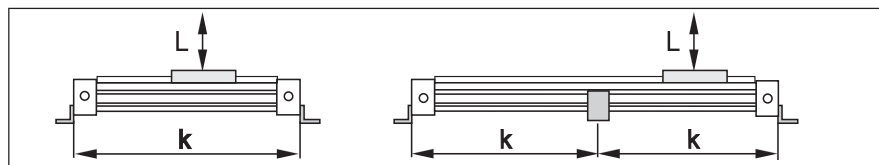
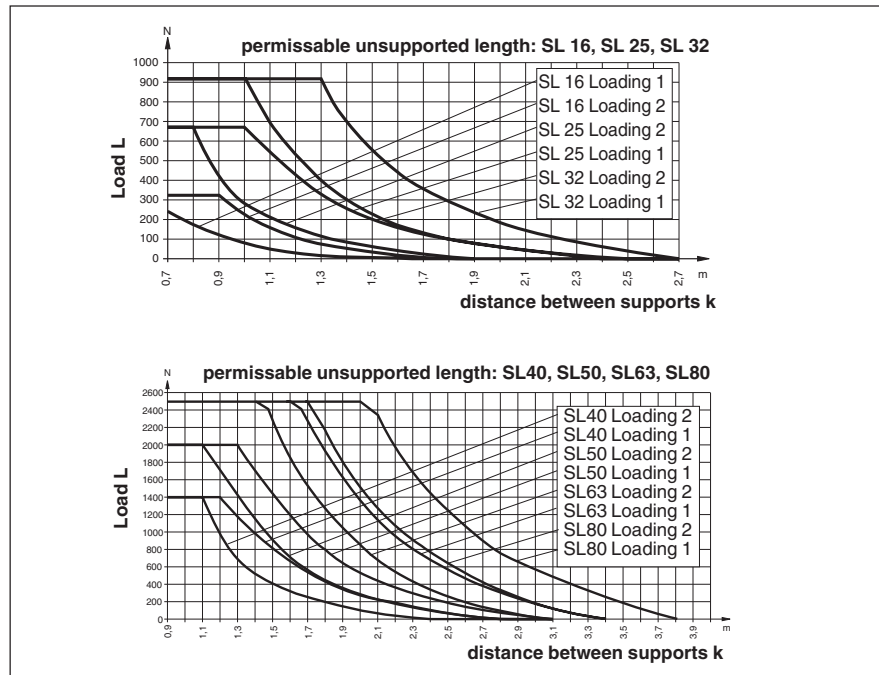
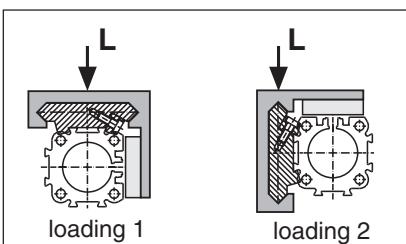
Mid-section supports are required from a certain stroke length to prevent excessive deflection and vibration of the linear drive. The diagrams show the maximum permissible unsupported length in relation to loading.

A distinction must be drawn between loading 1 and loading 2.

Deflection of 0.5 mm max. between supports is permissible.

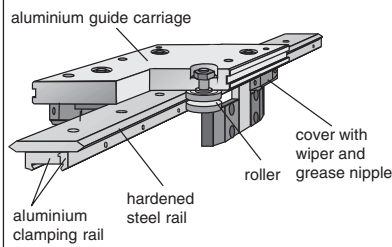
### Note:

For speeds  $v > 0.5$  m/s the distance between supports should not exceed 1 m.



## Versions

for pneumatic linear drive:  
Series OSP-P

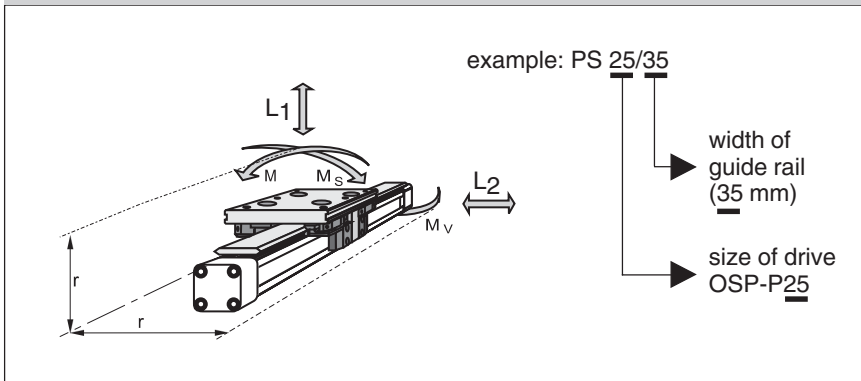


# Roller Guide POWERSLIDE

**OSP**  
— ORIGA  
— SYSTEM  
— PLUS

Series PS 16 to 50  
for Linear-drive  
• Series OSP-P

## Loads, Forces and Moments



### Technical Data

The Table shows the maximum permissible values for smooth operation, which should not be exceeded even under dynamic conditions.

For further information and technical data see data sheets for linear drives OSP-P (1.10.002E)

**\* Please note:**

In the cushioning diagram, add the mass of the guide carriage to the mass to be cushioned.

### Features:

- Anodised aluminium guide carriage with vee rollers having 2 rows of ball bearings
- Hardened steel guide rail
- Several guide sizes can be used on the same drive
- Corrosion resistance version available on request
- Max. speed  $v = 3$  m/s,
- Tough roller cover with wiper and grease nipple
- Any length of stroke up to 3500 mm, (longer strokes on request)

Series	For linear drive	Max. moments [Nm]			Max. load [N]	Mass of linear drive with guide [kg]	Mass * of guide carriage [kg]	Order-No. Powerslide for OSP-P <sup>1)</sup> [kg]	
		M	Ms	Mv					
PS 16/25	OSP-P16	45	14	45	1400	0.93	0.24	0.7	20285
PS 25/25	OSP-P25	63	14	63	1400	1.5	0.4	0.7	20015
PS 25/35	OSP-P25	70	20	70	1400	1.7	0.4	0.8	20016
PS 25/44	OSP-P25	175	65	175	3000	2.6	0.5	1.5	20017
PS 32/35	OSP-P32	70	20	70	1400	2.6	0.6	0.8	20286
PS 32/44	OSP-P32	175	65	175	3000	3.4	0.7	1.5	20287
PS 40/44	OSP-P40	175	65	175	3000	4.6	1.1	1.5	20033
PS 40/60	OSP-P40	250	90	250	3000	6	1.3	2.2	20034
PS 50/60	OSP-P50	250	90	250	3000	7.6	1.4	2.3	20288
PS 50/76	OSP-P50	350	140	350	4000	11.5	1.8	4.9	20289

<sup>1)</sup> corrosion resistance version available on request (max. loads and moments are 25% lower)

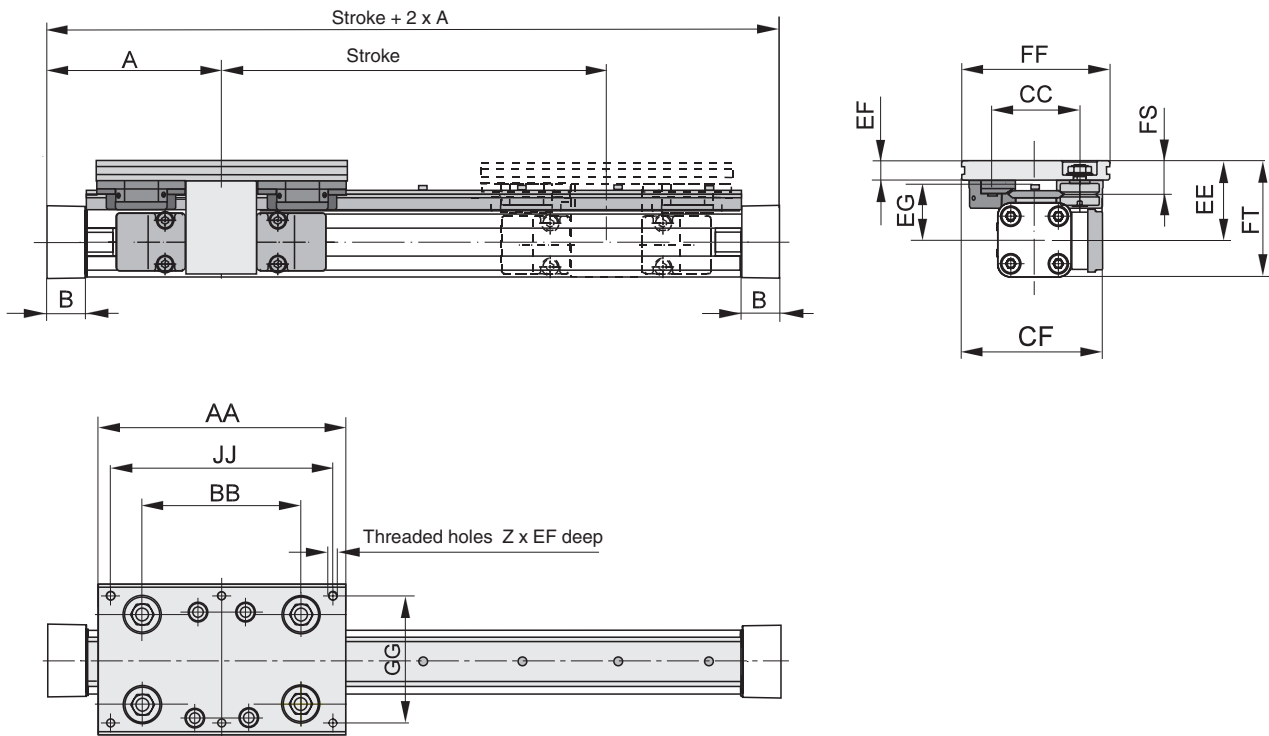
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The right to introduce technical modifications is reserved

For linear drives see 1.10.002E  
For mountings see 1.45.005E

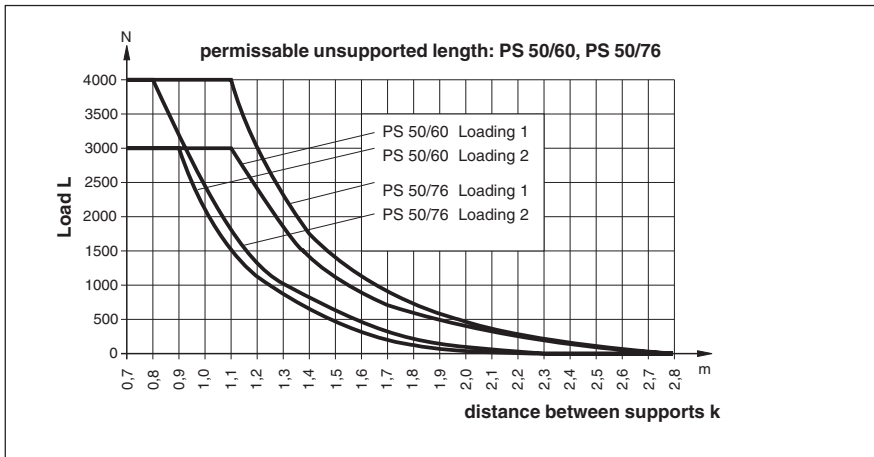
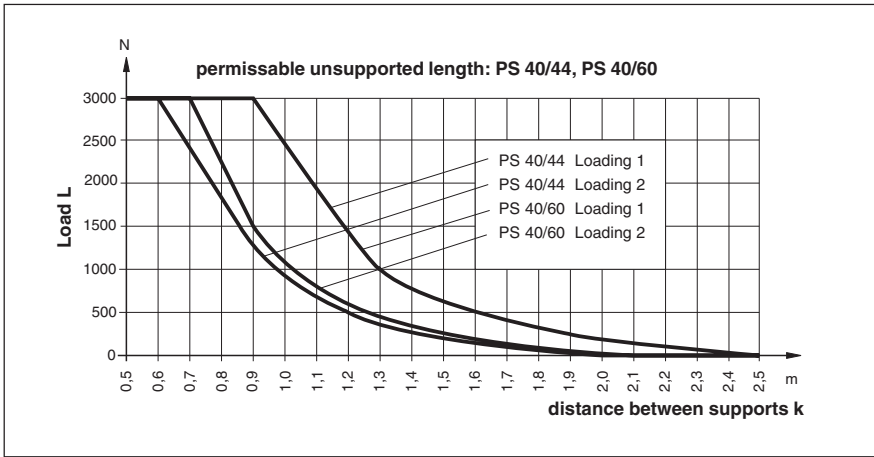
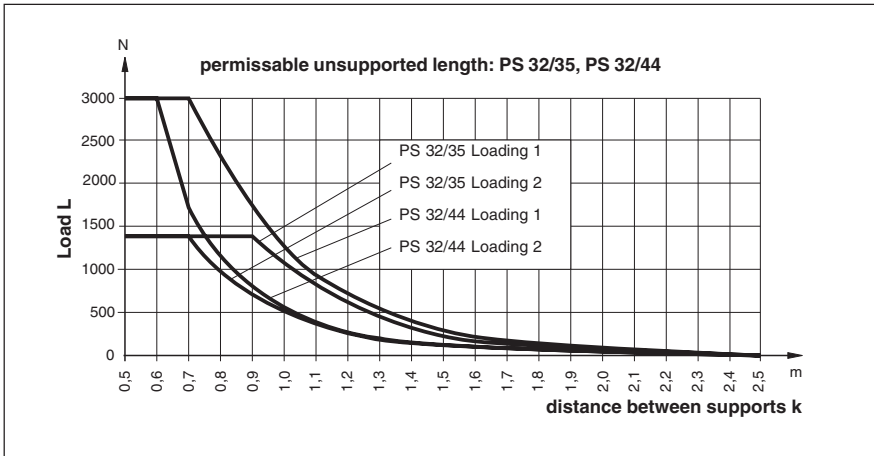
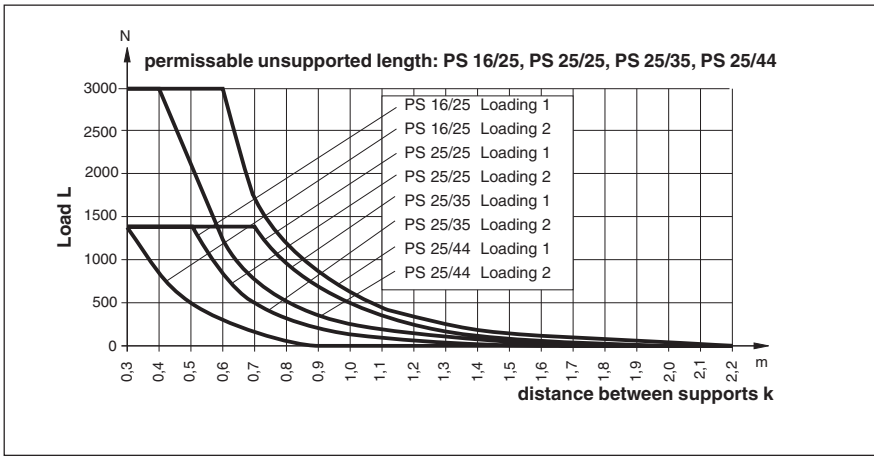
## Dimensions

### Series OSP-P



### Dimension Table (mm)

Series	A	B	Z	AA	BB	CC	CF	EE	EF	EG	FF	FS	FT	GG	JJ
PS16/25	65	14	4xM6	120	65	47	80	49	12	35	80	21	64	64	100
PS 25/25	100	22	6xM6	145	90	47	79.5	53	11	39	80	20	73.5	64	125
PS 25/35	100	22	6xM6	156	100	57	89.5	52.5	12.5	37.5	95	21.5	73	80	140
PS 25/44	100	22	6xM8	190	118	73	100	58	15	39	116	26	78.5	96	164
PS 32/35	125	25.5	6xM6	156	100	57	95.5	58.5	12.5	43.5	95	21.5	84.5	80	140
PS 32/44	125	25.5	6xM8	190	118	73	107	64	15	45	116	26	90	96	164
PS 40/44	150	28	6xM8	190	118	73	112.5	75	15	56	116	26	109.5	96	164
PS 40/60	150	28	6xM8	240	167	89	122.5	74	17	54	135	28.5	108.5	115	216
PS 50/60	175	33	6xM8	240	167	89	130.5	81	17	61	135	28.5	123.5	115	216
PS 50/76	175	33	6xM10	280	178	119	155.5	93	20	64	185	39	135.5	160	250



# Mid-Section Support

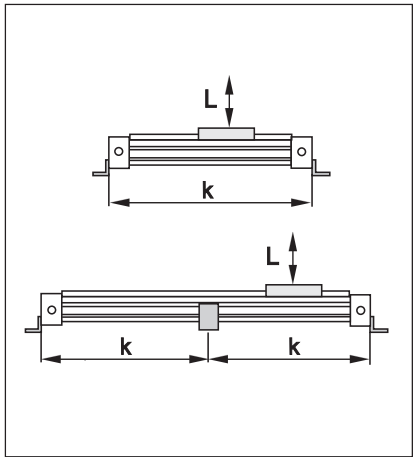
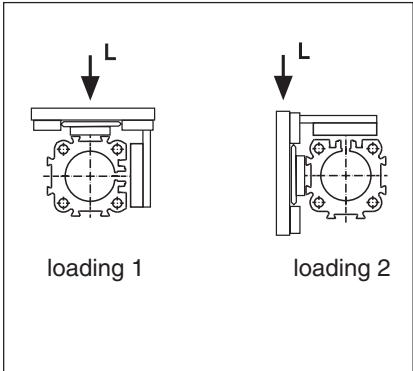
(for versions, see accessories)

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.

A distinction must be drawn between loading 1 and loading 2. Deflection of 0.5 mm max. between supports is permissible.

**Note**

For speeds  $v > 0.5$  m/s the distance between supports should not exceed 1m.



For further mounting elements and options see 1.45.001E.

## Service life

Calculation of service life is achieved in two stages:

- Determination of load factor  $L_F$  from the loads to be carried
- Calculation of service life in km

### 1. Calculation of load factor $L_F$

$$L_F = \frac{M}{M_{\max}} + \frac{M_S}{M_{S \max}} + \frac{M_V}{M_{V \max}} + \frac{L_1}{L_{1 \max}} + \frac{L_2}{L_{2 \max}}$$

with combined loads,  $L_F$  should not exceed the value 1.

## Lubrication

For maximum system life, lubrication of the rollers must be maintained at all times.

Only high quality Lithium based greases should be used.

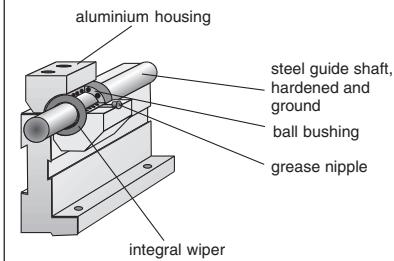
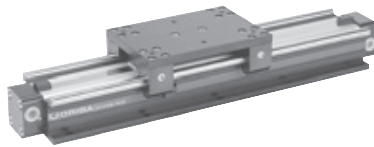
Lubrication intervals are dependant on environmental conditions (temperature, running speed, grease quality etc.) therefore the installation should be regularly inspected.

### 2. Service life calculation

• For PS 16/25, PS 25/25, PS 25/35, and PS 32/35	Service life [km] = $\frac{106}{(L_F + 0,02)^3}$
• For PS 25/44, PS 32/44, PS 40/44, PS 40/60 and PS 50/60:	Service life [km] = $\frac{314}{(L_F + 0,015)^3}$
• For PS 50/76:	Service life [km] = $\frac{680}{(L_F + 0,015)^3}$

## Versions

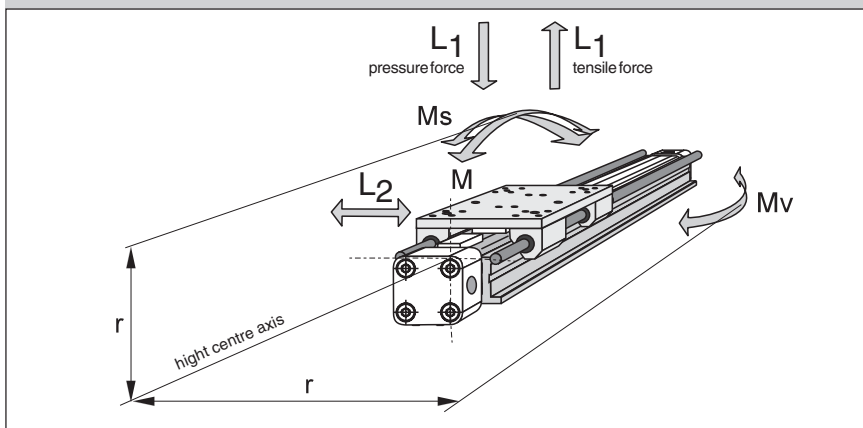
for pneumatic linear drive:  
Series OSP-P



# Ball bushing guide GUIDELINE

**OSP**  
— ORIGA  
— SYSTEM  
— PLUS

## Loads, Forces and Moments



Series GDL 25 to 50  
for Linear-drive  
• Series OSP-P

## Features

- Anodised aluminium guide rail with four ball bushings
- Hardened and ground steel guide shafts
- Stainless steel guide shafts available on request
- Max. speed  $v = 3$  m/s
- OSP-P: smooth slow speed operation  
 $v_{\min} \leq 0.02$  m/s.
- Any length of stroke up to 6000 mm (longer strokes on request)

## Technical Data

The Table shows the maximum permissible values for smooth operation, which should not be exceeded even under dynamic conditions.

For further information and technical data see data sheets for linear drives OSP-P (1.10.002E)

### \* Please note:

In the cushioning diagram, add the mass of the guide carriage to the mass to be cushioned.

Series	For linear drive	Max. moments [Nm]			Max. load [N]			Mass of linear drive with guide [kg]		Mass * of guide carriage [kg]	Order No. GUIDELINE for OSP-P <sup>1)</sup>
		M	Ms	Mv	L <sub>1</sub> pressure force	L <sub>2</sub> tensile force	L <sub>3</sub>	with 0 mm stroke	increase per 100 mm stroke		
GDL 25	OSP-P25	115	75	90	2500	2100	1650	2.5	0.7	1.1	20175
GDL 32	OSP-P32	145	90	115	2500	2100	1650	3.6	0.9	1.2	20180
GDL 40	OSP-P40	440	330	310	8000	6250	4400	6.3	1.4	2.0	20177
GDL 50	OSP-P50	500	375	355	8000	6250	4400	8.6	1.6	2.2	20183

<sup>1)</sup> corrosion resistance version available on request (max. loads and moments are 30% lower)

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The right to introduce technical modifications is reserved

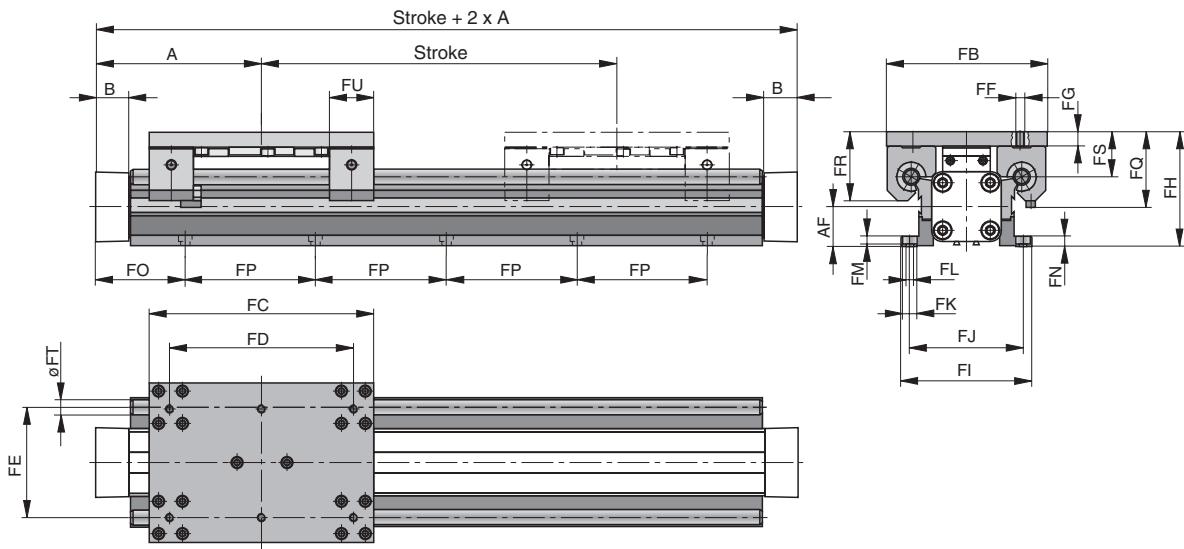
For linear drives see 1.10.002E

Data Sheet No. 1.40.004E-1

**HOERBIGER**  
**ORIGA**

## Dimensions

### Series OSP-P



For further options see 1.45.001E.

#### Arrangement of magnetic switches:

Magnetic switches can be fitted anywhere on either side. The magnet can be screwed on to one of the four ball bushing housings from underneath.

#### Note:

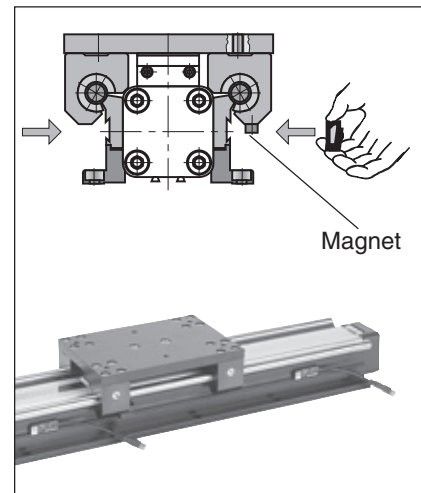
The guideline linear guide must be mounted on a flat surface along its entire length.

#### Magnetic switches

– see accessories 1.45.100E, 1.45.104E

#### Linear Drives

OSP-P see data sheet 1.10.002E



**Dimension Table (mm)**

Series	A	B	AF	FB	FC	FD	FE	FF	FG	FH	FI	FJ	øFK	øFL	FM	FN	FP	FQ	FR	FS	øFT	FU
<b>GDL 25</b>	100	22	22	120	145	110	70	M6	11	78	86	73	10.5	6.0	5.7	8	100	56.5	51.5	33.5	12	32
<b>GDL 32</b>	125	25.5	30	120	170	140	80	M6	11	86	98	85	10.5	6.0	5.7	8	100	56.5	51.5	33.5	12	32
<b>GDL 40</b>	150	28	38	160	180	140	110	M8	14	108	120	104	12	7.5	6.8	10	100	73	61	38	16	36
<b>GDL 50</b>	175	33	48	180	200	160	120	M8	14	118	134	118	12	7.5	6.8	10	100	73	61	38	16	36

FO				
OSP-P				
x	P25	P32	P40	P50
00	50.0	75.0	50.0	75.0
01	50.5	75.5	50.5	75.5
02	51.0	76.0	51.0	76.0
03	51.5	76.5	51.5	76.5
04	52.0	77.0	52.0	77.0
05	52.5	77.5	52.5	77.5
06	53.0	78.0	53.0	78.0
07	53.5	78.5	53.5	78.5
08	54.0	79.0	54.0	79.0
09	54.5	79.5	54.5	79.5
10	55.0	80.0	55.0	80.0
11	55.5	80.5	55.5	80.5
12	56.0	81.0	56.0	81.0
13	56.5	81.5	56.5	81.5
14	57.0	82.0	57.0	82.0
15	57.5	82.5	57.5	82.5
16	58.0	83.0	58.0	83.0
17	58.5	83.5	58.5	83.5
18	59.0	84.0	59.0	84.0
19	59.5	84.5	59.5	84.5
20	60.0	85.0	60.0	85.0
21	60.5	85.5	60.5	85.5
22	61.0	86.0	61.0	86.0
23	61.5	86.5	61.5	86.5
24	62.0	87.0	62.0	87.0
25	62.5	87.5	62.5	87.5
26	63.0	88.0	63.0	88.0
27	63.5	88.5	63.5	88.5
28	64.0	89.0	64.0	89.0
29	64.5	89.5	64.5	89.5
30	65.0	90.0	65.0	90.0
31	65.5	90.5	65.5	90.5
32	66.0	91.0	66.0	91.0
33	66.5	91.5	66.5	91.5
34	67.0	92.0	67.0	92.0
35	67.5	92.5	67.5	92.5
36	68.0	93.0	68.0	93.0
37	68.5	93.5	68.5	93.5
38	69.0	94.0	69.0	94.0
39	69.5	94.5	69.5	94.5
40	70.0	95.0	70.0	95.0
41	70.5	95.5	70.5	95.5
42	71.0	96.0	71.0	96.0
43	71.5	96.5	71.5	96.5
44	72.0	97.0	72.0	97.0
45	72.5	97.5	72.5	97.5
46	73.0	98.0	73.0	98.0
47	73.5	98.5	73.5	98.5
48	74.0	99.0	74.0	99.0
49	74.5	99.5	74.5	99.5

FO				
OSP-P				
x	P25	P32	P40	P50
50	75.0	50.0	75.0	50.0
51	75.5	50.5	75.5	50.5
52	76.0	51.0	76.0	51.0
53	76.5	51.5	76.5	51.5
54	77.0	52.0	77.0	52.0
55	77.5	52.5	77.5	52.5
56	78.0	53.0	78.0	53.0
57	78.5	53.5	78.5	53.5
58	79.0	54.0	79.0	54.0
59	79.5	54.5	79.5	54.5
60	80.0	55.0	80.5	55.0
61	80.5	55.5	80.5	55.5
62	81.0	56.0	81.0	56.0
63	81.5	56.5	81.5	56.5
64	82.0	57.0	82.0	57.0
65	82.5	57.5	82.5	57.5
66	83.0	58.0	83.0	58.0
67	83.5	58.5	83.5	58.5
68	84.0	59.0	84.0	59.0
69	84.5	59.5	84.5	59.5
70	85.0	60.0	85.0	60.0
71	85.5	60.5	85.5	60.5
72	86.0	61.0	86.0	61.0
73	86.5	61.5	86.5	61.5
74	87.0	62.0	87.0	62.0
75	87.5	62.5	87.5	62.5
76	88.0	63.0	88.0	63.0
77	88.5	63.5	88.5	63.5
78	89.0	64.0	89.0	64.0
79	89.5	64.5	89.5	64.5
80	90.0	65.0	90.0	65.0
81	90.5	65.5	90.5	65.5
82	91.0	66.0	91.0	66.0
83	91.5	66.5	91.5	66.5
84	92.0	67.0	92.0	67.0
85	92.5	67.5	92.5	67.5
86	93.0	68.0	93.0	68.0
87	93.5	68.5	93.5	68.5
88	94.0	69.0	94.0	69.0
89	94.5	69.5	94.5	69.5
90	95.0	70.0	95.0	70.0
91	95.5	70.5	95.5	70.5
92	96.0	71.0	96.0	71.0
93	96.5	71.5	96.5	71.5
94	97.0	72.0	97.0	72.0
95	97.5	72.5	97.5	72.5
96	98.0	73.0	98.0	73.0
97	98.5	73.5	98.5	73.5
98	99.0	74.0	99.0	74.0
99	99.5	74.5	99.5	74.5

**Note:**

The dimension FO is derived from the last two digits of the stroke:

**Example:**



For a cylinder OSP-P25 the adjacent table indicates that for x=25mm:  
**FO = 62.5 mm**

## System Life

The calculation for expected service life is achieved in three steps:

- Determination of the load factor  $L_F$ , inserting actual values into the adjacent equation
- Determination of guidance constant  $K_F$
- Calculation of the service life in km

## Lubrication

For maximum system life, lubrication of the ball bushings must be maintained at all times.

Only high quality Lithium based greases should be used.

Lubrication intervals are dependant on environmental conditions (temperature, running speed, grease quality etc.) therefore the installation should be regularly inspected.

### 1. Calculation of load factor $L_F$

$$L_F = \frac{M}{M_{\max}} + \frac{M_S}{M_{S \max}} + \frac{M_V}{M_{V \max}} + \frac{L_{1 \text{ pressure force}}}{L_{1 \text{ pressure force max}}} + \frac{L_{1 \text{ tensile force}}}{L_{1 \text{ tensile force max}}} + \frac{L_2}{L_{2 \max}}$$

with combined loads,  $L_F$  should not exceed the value 1.

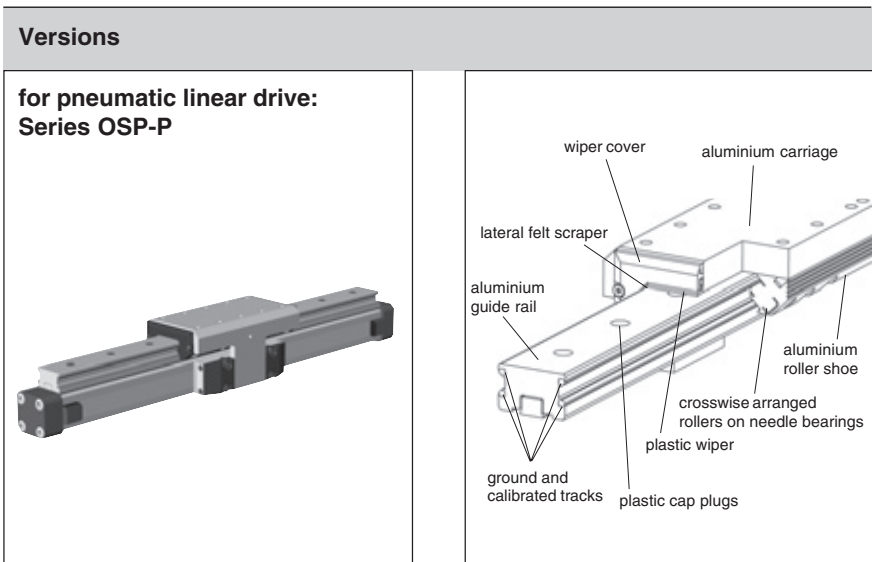
### 2. Guidance constant $K_F$

Installation	guidance constant $K_F$	
	GDL 25, GDL 32	GDL 40, GDL 50
Horizontal	200	210
Sideways	250	320
Vertical	90	120

### 3. Service life calculation

Approximate service life is calculated using the following equation:

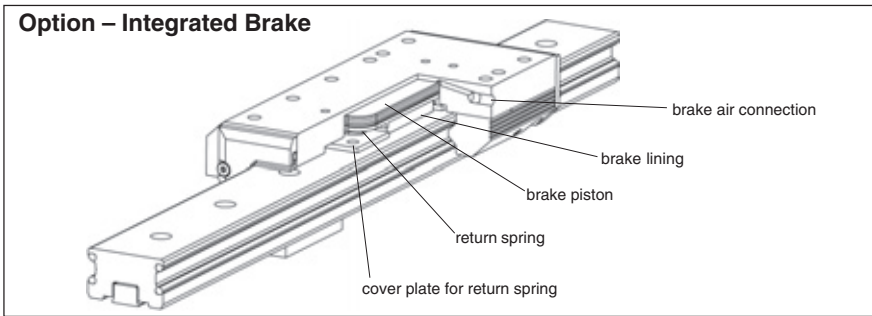
$$\text{Service life [km]} = \frac{K_F}{L_F^3}$$



# Aluminium Roller Guide PROLINE

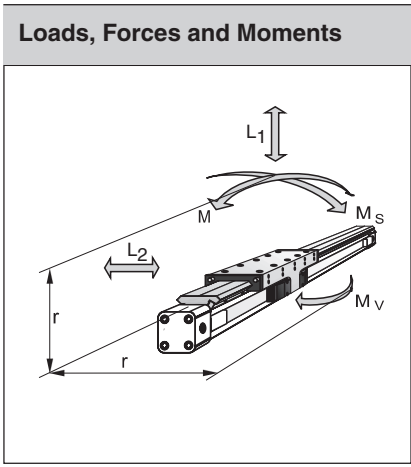


**Series PL 16 to 50 for Linear-drive • Series OSP-P**



**Features:**

- High precision
- High velocities (10 m/s)
- Smooth operation - low noise
- Integrated wiper system
- Long life lubrication
- Compact dimensions - compatible to Slideline plain bearing guide
- Any length of stroke up to 3750 mm



**Technical Data**

The table shows the maximal permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M}{M_{max}} + \frac{M_s}{M_{s max}} + \frac{M_v}{M_{v max}} + \frac{L_1}{L_{1max}} + \frac{L_2}{L_{2max}} \leq 1$$

The sum of the loads should not exceed >1. With a load factor of less than 1, service life is 8000 km

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

**Integrated Brake (optional) for Series OSP-P25 to OSP-P50:**

- Actuated by pressurisation
- Release by depressurisation and spring actuation

**\* Please note:**

The mass of the carriage has to be added to the total moving mass when using the cushioning diagram.

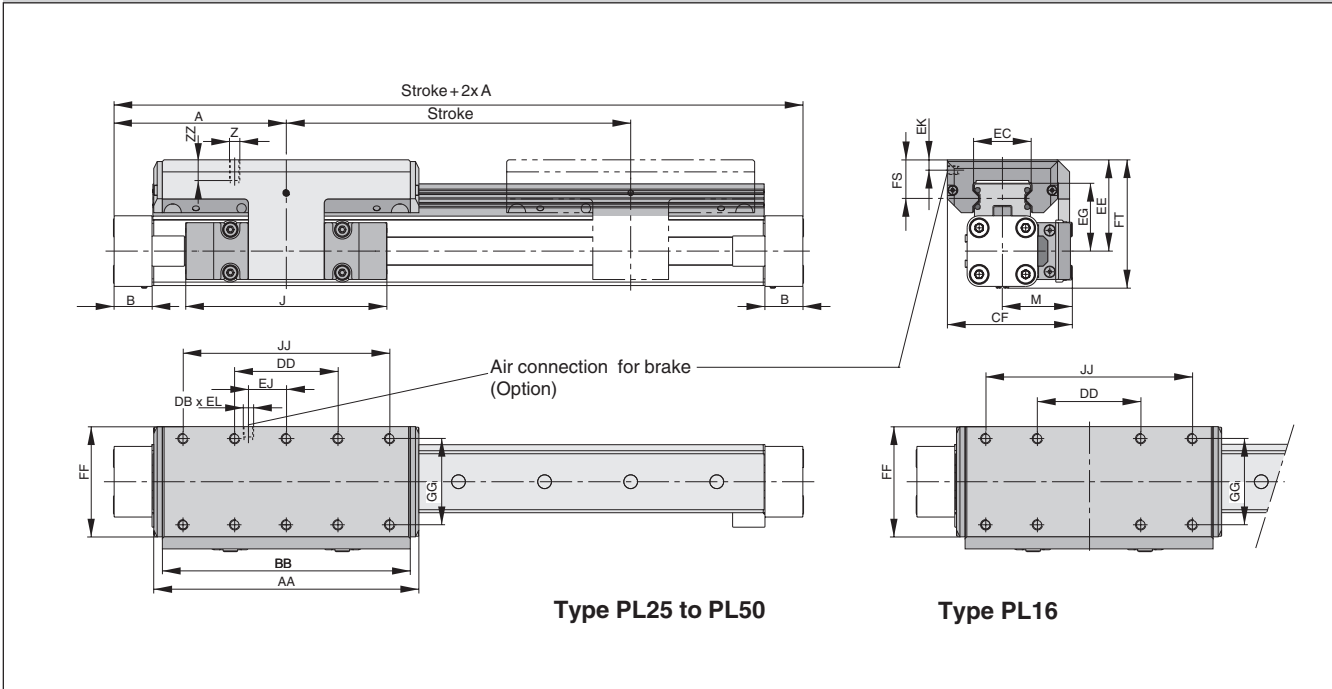
Series	For linear drive	Max. moments [Nm]			Max. loads [N] L <sub>1</sub> , L <sub>2</sub>	Maximum braking force at 6 bar [N] <sup>1)</sup>	Mass of linear drive with guide [kg]		Mass * guide carriage [kg]	Order No. PROLINE for OSP-P	
		M	Ms	Mv			with 0 mm stroke	increase per 100 mm stroke		without brake	with brake
PL 16	OSP-P16	12	8	12	542	-	0.55	0.19	0.24	20855	-
PL 25	OSP-P25	39	16	39	857	on request	1.65	0.40	0.75	20856	20860
PL 32	OSP-P32	73	29	73	1171	on request	3.24	0.62	1.18	20857	20861
PL 40	OSP-P40	158	57	158	2074	on request	4.35	0.70	1.70	20858	20862
PL 50	OSP-P50	249	111	249	3111	on request	7.03	0.95	2.50	20859	20863

<sup>1)</sup> Only for version with brake:  
Braking surface dry – oiled surface reduces the effective braking force.

For linear drives see 1.10.002E  
For mountings see 1.45.005E



**Dimension Table (mm) Series OSP-P PL16, PL25, PL32, PL40, PL50**



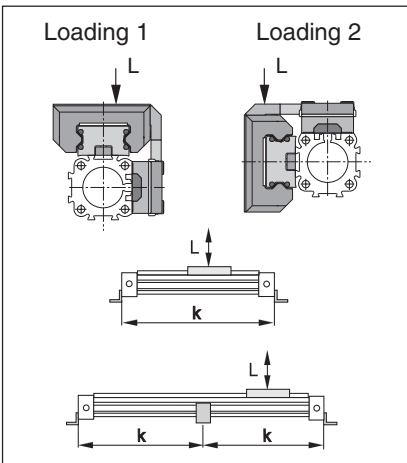
**Dimension Table (mm) Series OSP-P PL16, PL25, PL32, PL40, PL50**

Series	A	B	J	M	Z	AA	BB	DB	DD	CF	EC	EE	EG	EJ	EK	EL	FF	FS	FT	GG	JJ	ZZ
PL16	65	14	69	31	M4	98	88	-	30	55	23	40	30	-	-	-	48	17	55	36	70	8
PL25	100	22	117	40.5	M6	154	144	M5	60	72.5	32.5	53	39	22	6	6	64	23	73.5	50	120	12
PL32	125	25.5	152	49	M6	197	187	M5	80	91	42	62	48	32	6	6	84	25	88	64	160	12
PL40	150	28	152	55	M6	232	222	M5	100	102	47	64	50.5	58	6	6	94	23.5	98.5	78	200	12
PL50	175	33	200	62	M6	276	266	M5	120	117	63	75	57	81	6	6	110	29	118.5	90	240	16

**Mid-Section Support**

(For versions, see 1.45.005E)

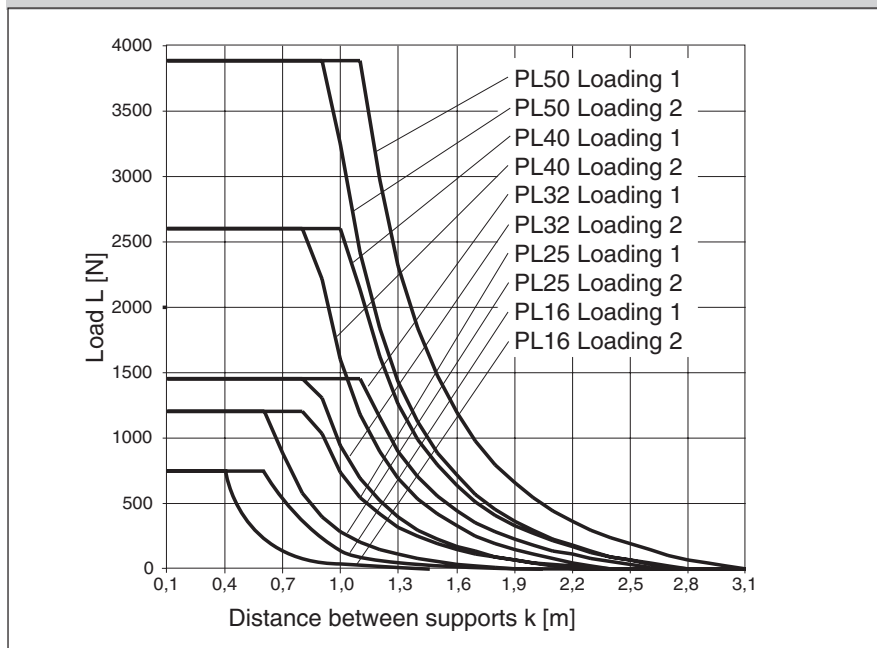
Mid-section supports are required from a certain stroke length to prevent excessive deflection and vibration of the linear drive. The diagrams show the maximum permissible unsupported length in relation to loading. A distinction must be drawn between loading 1 and loading 2. Deflection of 0.5 mm max. between supports is permissible.



**Note:**

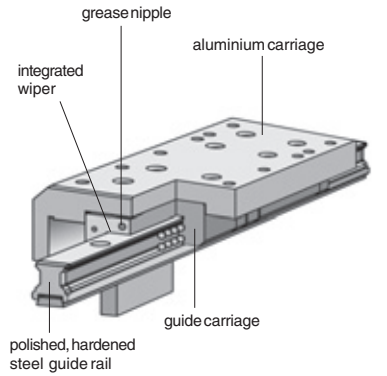
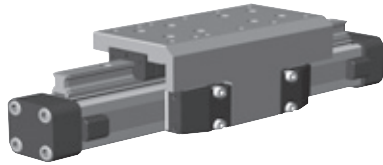
For speeds  $v > 0.5$  m/s the distance between supports should not exceed 1 m.

**Permissible Unsupported Length PL16, PL25, PL32, PL40 und PL50**

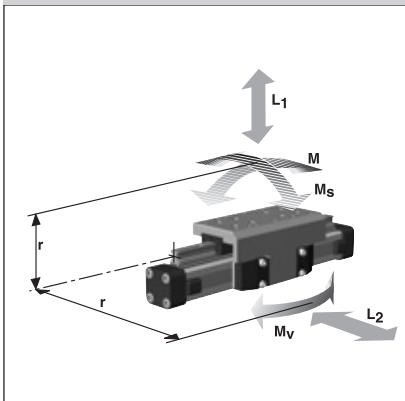


## Versions

for pneumatic linear drive:  
Series OSP-P



## Loads, Forces and Moments



## Technical Data

The table shows the maximum permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M}{M_{\max}} + \frac{M_s}{M_{s\max}} + \frac{M_v}{M_{v\max}} + \frac{L_1}{L_{1\max}} + \frac{L_2}{L_{2\max}} \leq 1$$

The sum of the loads should not exceed >1

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

### \*\* Please note:

The mass of the carriage has to be added to the total moving mass when using the cushioning diagram.

# Recirculating Ball Bearing Guide STARLINE

**OSP**  
— ORIGA  
— SYSTEM  
— PLUS

Series STL 16 to 50  
for Linear Drive Series OSP-P

### Features:

- Polished and hardened steel guide rail
- For very high loads in all directions
- High precision
- Integrated wiper system
- Integrated grease nipples
- Any length of stroke up to 3700 mm (longer strokes on request)
- Anodized aluminium guide carriage – dimensions compatible with OSP guides SLIDELINE and PROLINE
- Installation height (STL16 - 32) compatible with OSP guides SLIDELINE and PROLINE
- Maximum speed  
STL16: v = 3 m/s  
STL25 to 50: v = 5 m/s

A1P704E00HAE00X

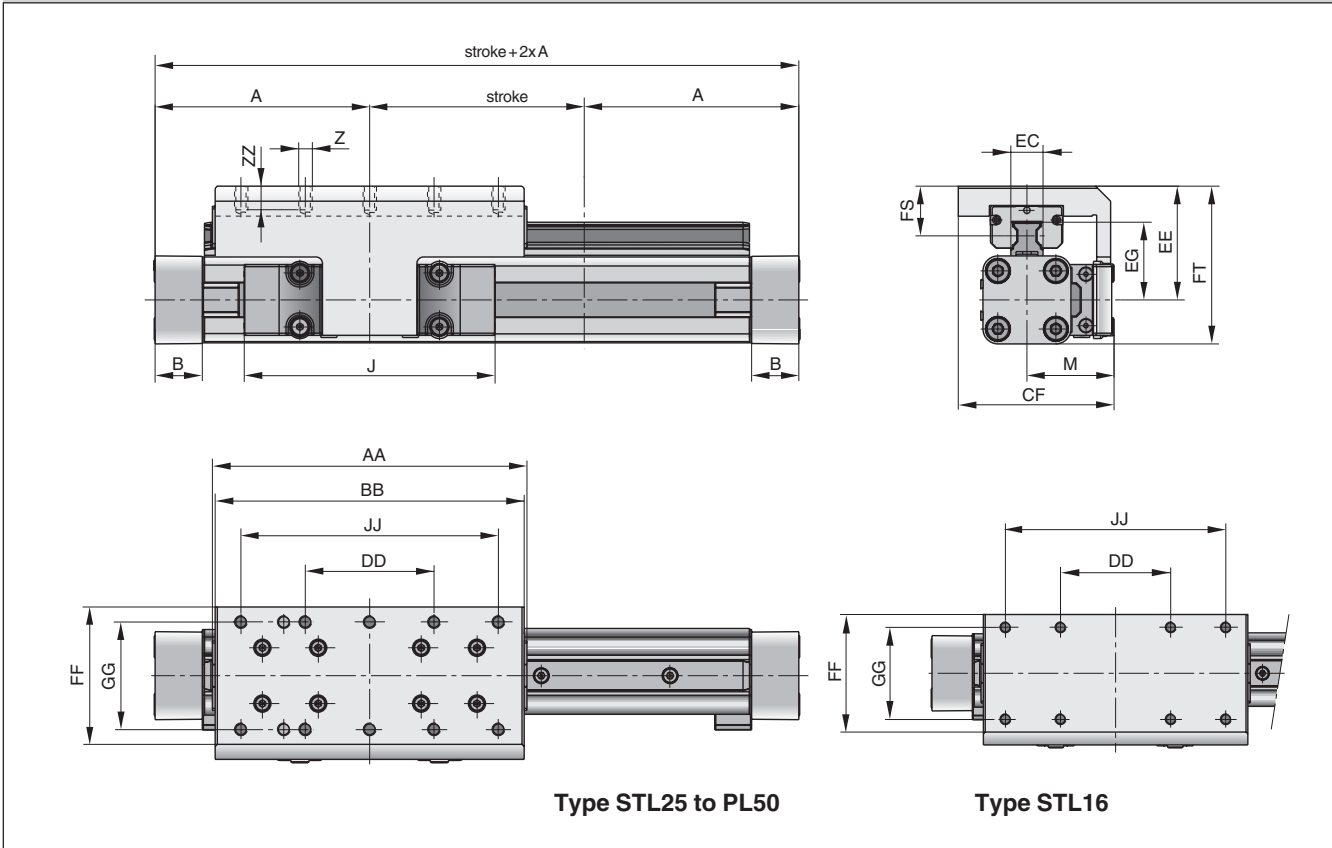
Series	For linear drive	Max. moments [Nm]			Max. loads [N]		Mass of linear drive with guide [kg]		Mass ** guide carriage [kg]	Order No. STARLINE for OSP-P
		M	Ms	Mv	L1	L2	with 0 mm stroke	increase per 100 mm stroke		
STL16	OSP-P16	30	15	30	1000	1000	0.598	0.210	0.268	21111
STL25	OSP-P25	110	50	110	3100	3100	1.733	0.369	0.835	21112
STL32	OSP-P32	160	62	160	3100	3100	2.934	0.526	1.181	21113
STL40	OSP-P40	400	150	400	7500	4000	4.452	0.701	1.901	21114
STL50	OSP-P50	580	210	580	7500	4000	7.361	0.936	2.880	21115

For linear drives see 1.10.002E  
For mountings see 1.45.005E

Data Sheet No. 1.40.006E-1

**HOERBIGER**  
**ORIGA**

## Dimensions Series OSP-P STL16 to STL 50

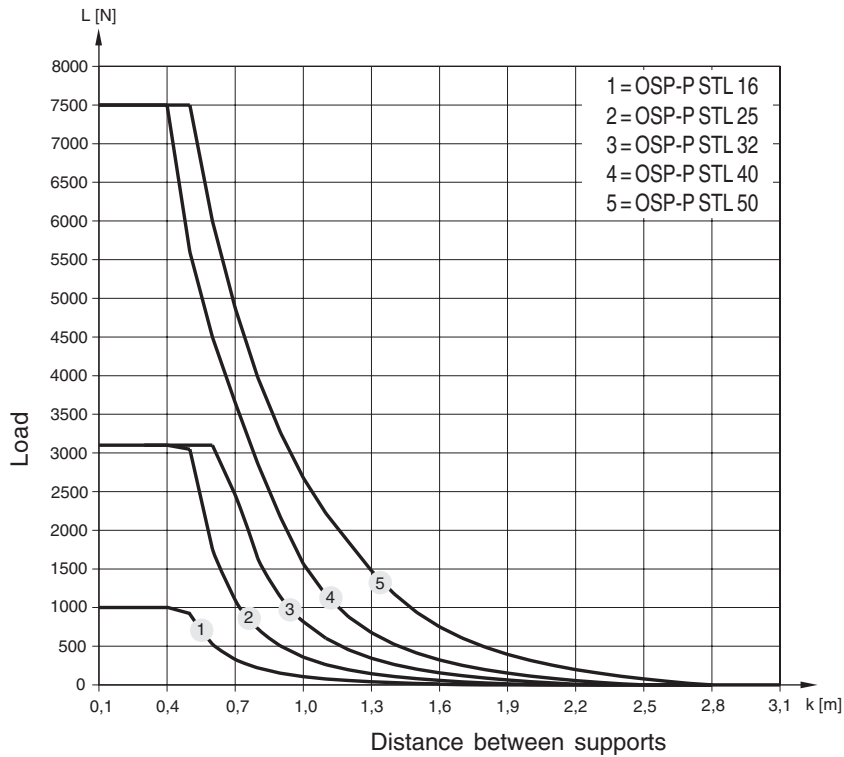


Dimension Table (mm) Series OSP-P STL16 to STL50

Series	A	B	J	M	Z	AA	BB	CF	DD	EC	EE	EG	FF	FS	FT	GG	JJ	ZZ
<b>STL16</b>	65	14	69	31	M4	93	90	55	30	15	40	24.6	48	18	55	36	70	8
<b>STL25</b>	100	22	117	40.5	M6	146.6	144	72.5	60	15	53	36.2	64	23.2	73.5	50	120	12
<b>STL32</b>	125	25.5	152	49	M6	186.6	184	91	80	15	62	42.2	84	26.2	88	64	160	12
<b>STL40</b>	150	28	152	55	M6	231	226	102	100	20	72	51.6	94	28.5	106.5	78	200	12
<b>STL50</b>	175	33	200	62	M6	270.9	266	117	120	23	85	62.3	110	32.5	128.5	90	240	16

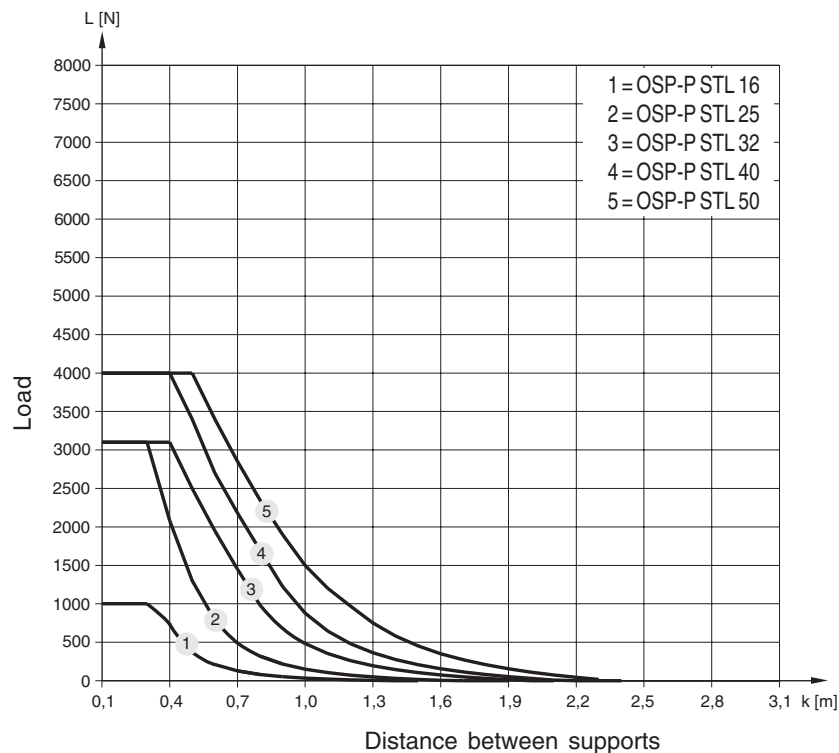
### Permissible Unsupported Length STL16 to STL50

#### Loading 1 – Top carrier



### Permissible Unsupported Length STL16 to STL50

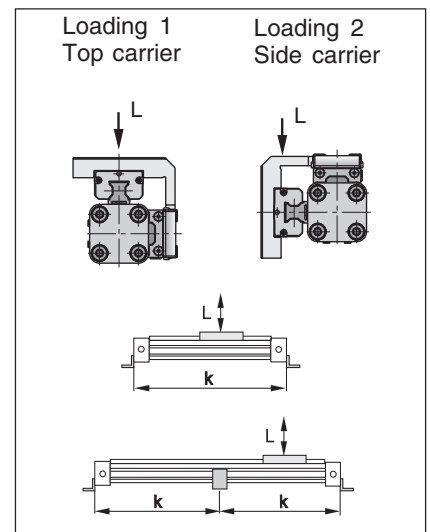
#### Loading 2 – Side carrier



## Mid-Section Support

(For versions, see 1.45.005E-8, 1.45.005E-9)

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. A distinction must be drawn between loading 1 and loading 2. Deflection of 0.5 mm max. between supports is permissible.



#### Note:

For speeds  $v > 0.5$  m/s the distance between supports should not exceed 1 m.

## Variable Stop

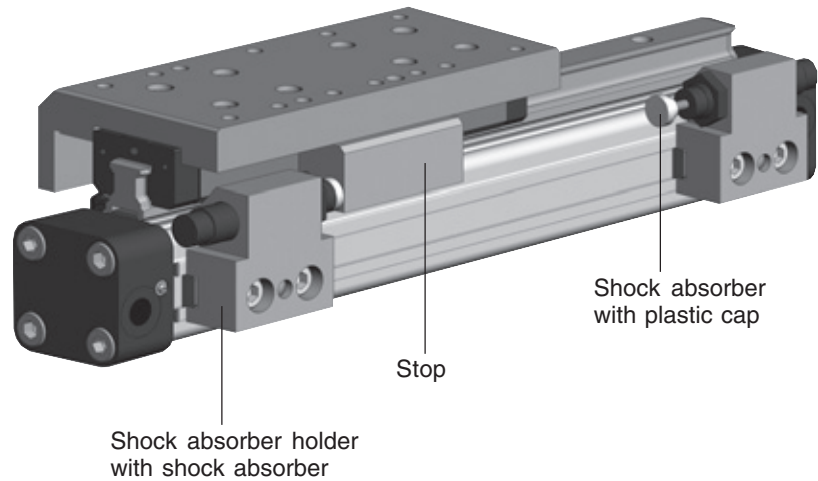
The variable stop Type VS is used to provide intermediate stopping positions. It can be retrofitted and positioned anywhere along the stroke length. For every cylinder diameter two types of shock absorber are available – see „Shock Absorber Selection“ below.

Mid-section supports and magnetic switches can still be fitted on the same side as the variable stop.

Depending on the application, two variable stops can be fitted if required.

### Variable Stop Type VS16 to VS50

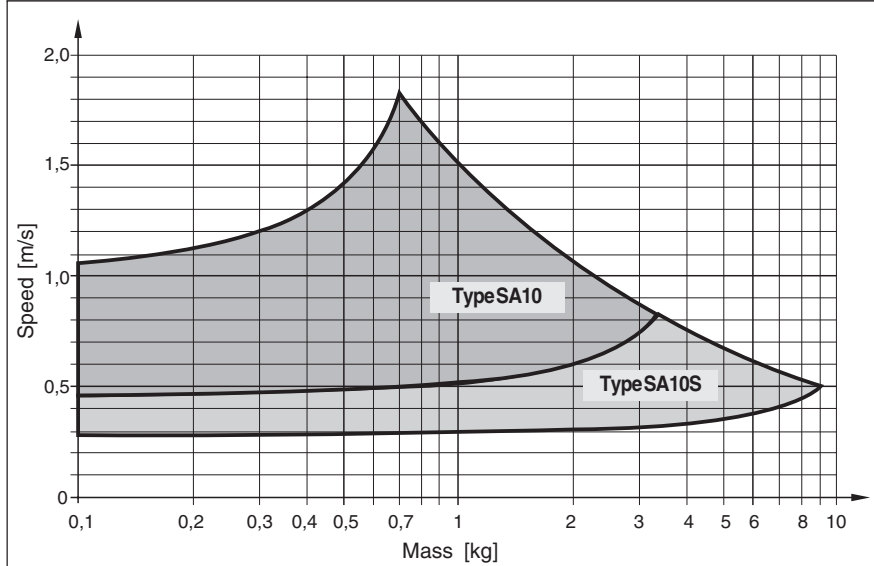
Arrangement with two variable stops



## Shock Absorber Selection

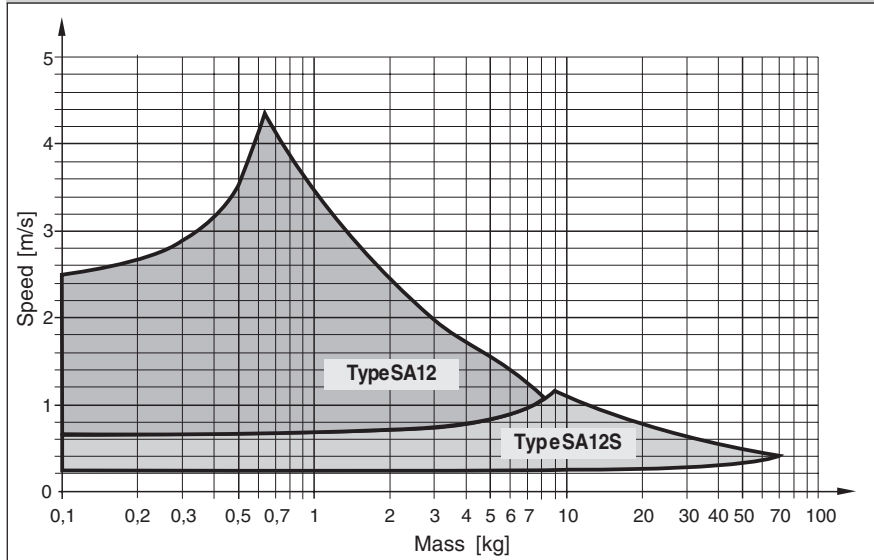
The shock absorber is selected in dependence on the mass and speed. The mass of the carrier itself must be taken into account.

### Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-STL16



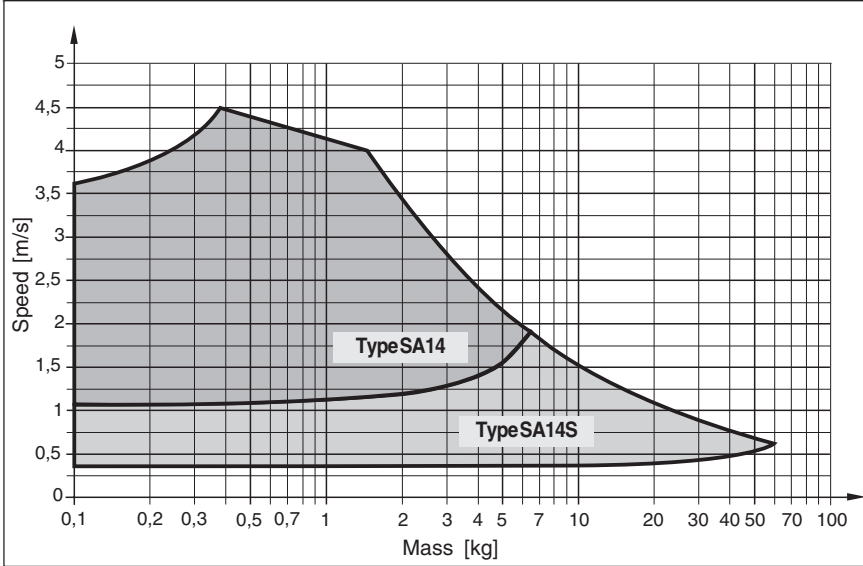
The values relate to an effective driving force of 78 N (6 bar)

### Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-STL25



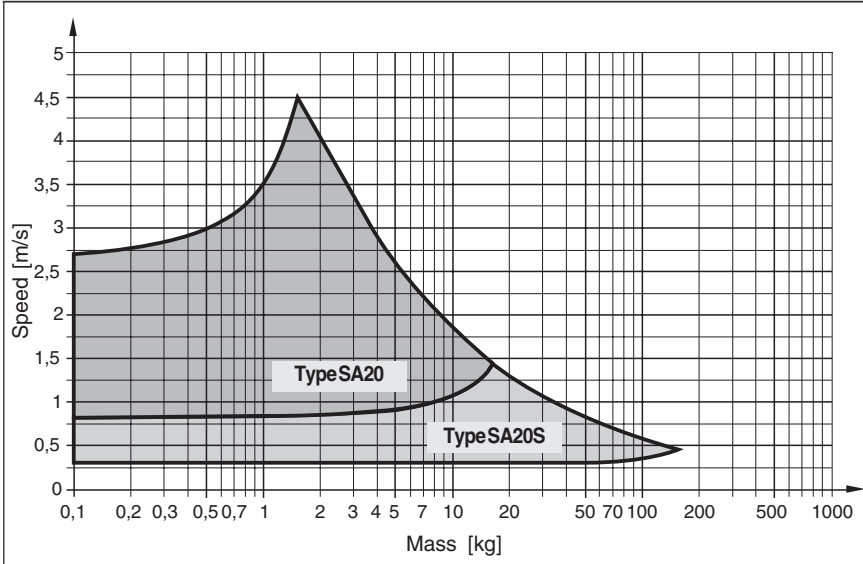
The values relate to an effective driving force of 250 N (6 bar)

**Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-STL32**



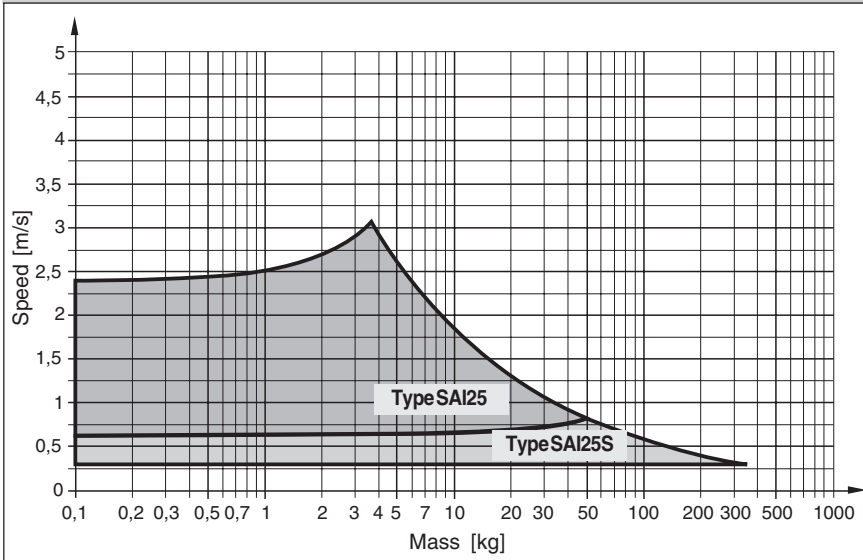
The values relate to an effective driving force of 420 N (6 bar)

**Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-STL40**



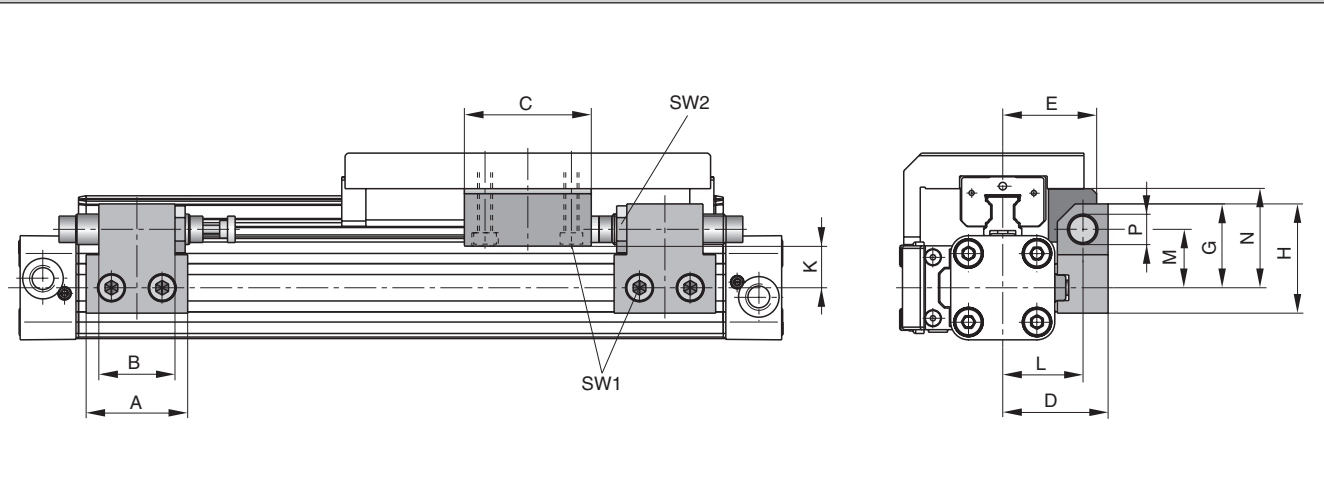
The values relate to an effective driving force of 640 N (6 bar)

**Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-STL50**



The values relate to an effective

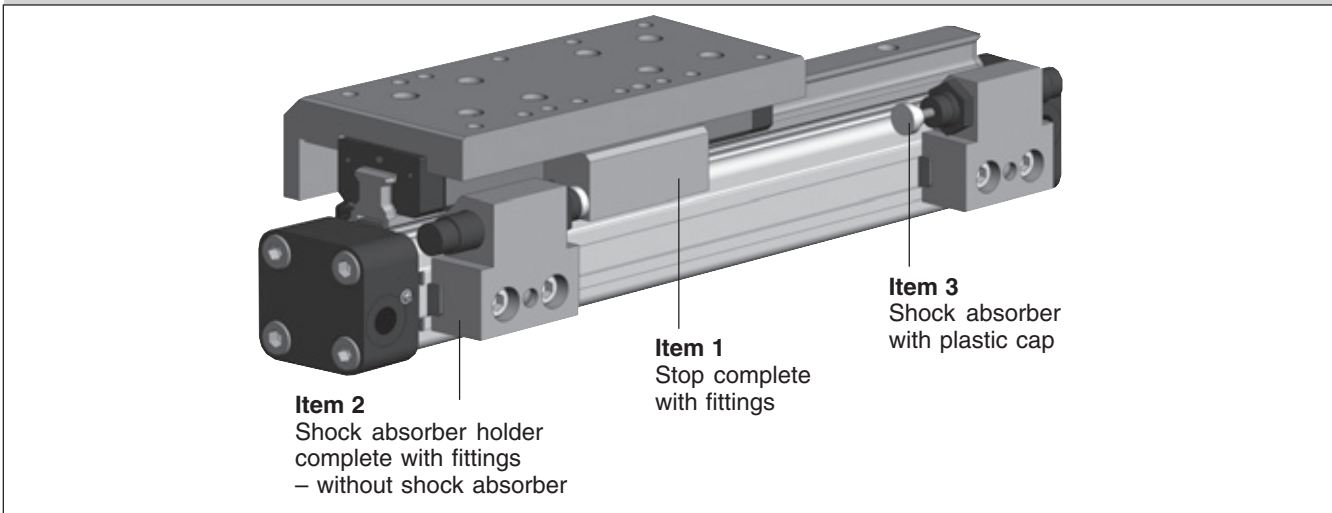
## Dimensions – Variable Stop Type VS16 to VS50



Dimension Table (mm) – Variable Stop Type VS16 to VS50

Series	Type	A	B	C	D	E	G	H	K	L	M	N	P	SW1	SW2
OSP-STL16	VS16	30	14	25	33	30	28	38	16.2	25.5	20.5	30	M10x1	4	12.5
OSP-STL25	VS25	40	30	50	41.5	37	33	43	18	31.5	23	39	M12x1	5	16
OSP-STL32	VS32	60	40	50	45.5	42	35	45	19	35.5	25	48	M14x1.5	5	17
OSP-STL40	VS40	84	52	60	64	59	48	63	25.6	50	34	58.6	M20x1.5	5	24
OSP-STL50	VS50	84	-	60	75	69	55	70	26.9	57	38	66.9	M25x1.5	5	30

## Order Information – Variable Stop Type VS16 to VS50



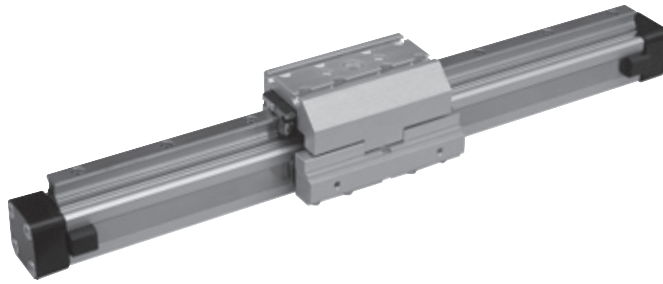
## Order Instructions – Variable Stop Type VS16 to VS50

Item	Description	Size									
		VS16		VS25		VS32		VS40		VS50	
		Type	Order No.	Type	Order No.	Type	Order No.	Type	Order No.	Type	Order No.
1	Stop, complete	-	21196	-	21197	-	21198	-	21199	-	21200
2	Shock absorber holder, complete	-	21201	-	21202	-	21203	-	21204	-	21205
3 *	Shock absorber, standard	SA10	7900	SA12	7706	SA14	7708	SA20	7710	SAI25	7712
	Shock absorber, version S	SA10S	7907	SA12S	7707	SA14S	7709	SA20S	7711	SAI25S	7713

\* Shock absorber with plastic cap

## Versions

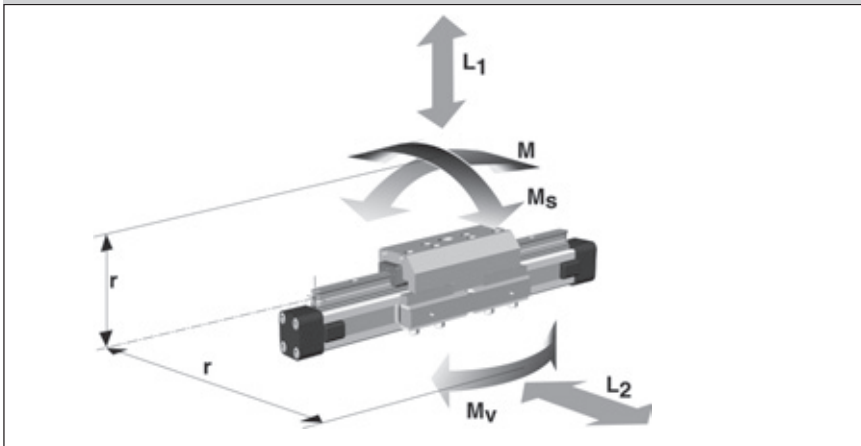
for Pneumatic Linear Drive:  
Series OSP-P KF



# Recirculating Ball Bearing Guide KF

**OSP**  
— ORIGA  
— SYSTEM  
— PLUS

## Loads, Forces and Moments



Series KF16 to KF50  
For Linear Drives Series OSP-P

### Features:

- Anodized aluminium guide carriage, the mounting dimensions correspond to FESTO Type: DGPL-KF
- Polished and hardened steel guide rail
- For high loads in all directions
- High precision
- Integrated wiper system
- Integrated grease nipples
- Any length of stroke up to 3700 mm (longer strokes on request)
- Maximum speed  
KF16, KF40: v = 3 m/s  
KF25, KF32, KF50: v = 5 m/s

### Technical Data

The table shows the maximum permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M}{M_{\max}} + \frac{M_s}{M_{s\max}} + \frac{M_v}{M_{v\max}} + \frac{L_1}{L_{1\max}} + \frac{L_2}{L_{2\max}} \leq 1$$

The sum of the loads should not exceed >1

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

**\* Please note:**  
the mass of the carriage has to be added to the total moving mass when using the cushioning diagram.

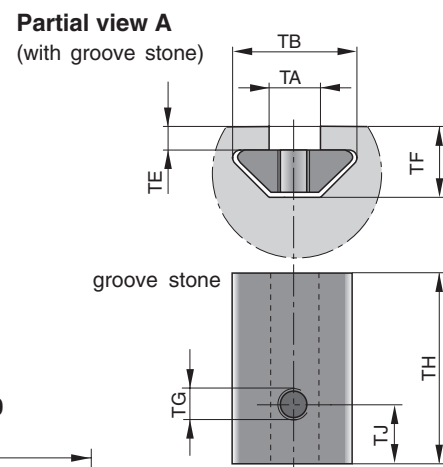
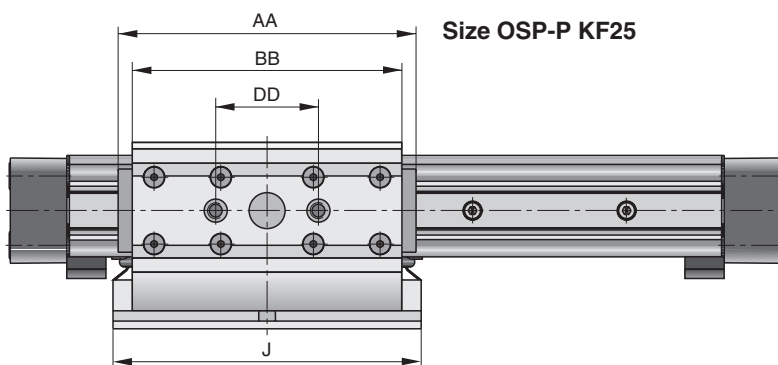
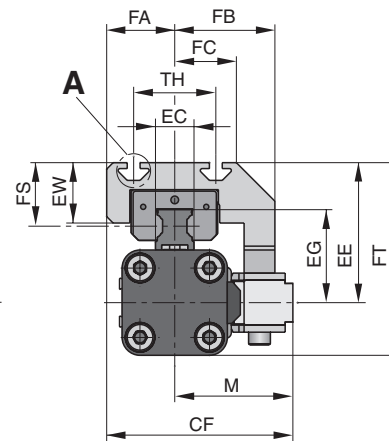
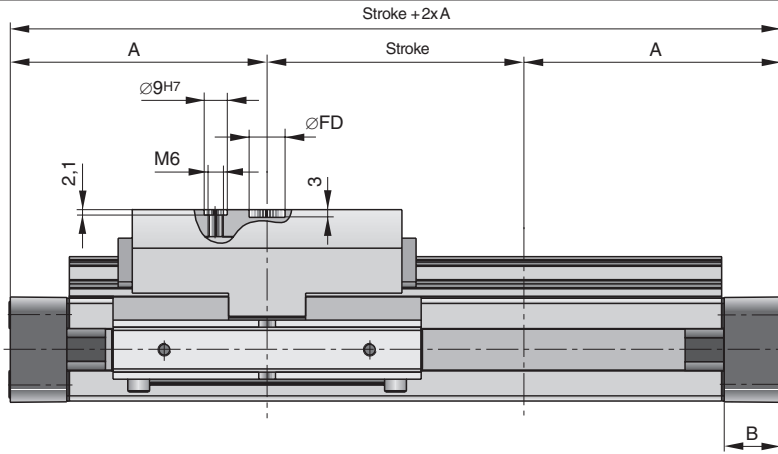
Series	for Linear Drive	Max. Moments [Nm]			Max. Load [N]		Mass of drive with guide [kg]		Mass * guide carriage [kg]	Groove stone Thread Size	Order No.	
		M	Ms	Mv	L1	L2	with 0 mm stroke	increase per 100 mm stroke			Groove Stone	KF for OSP-P
KF16	OSP-P16	25	12	25	1000	1000	0.558	0.21	0.228	—	—	21101
KF25	OSP-P25	90	35	90	3100	3100	1.522	0.369	0.607	M5	13508	21102
KF32	OSP-P32	133	44	133	3100	3100	2.673	0.526	0.896	M5	13508	21103
KF40	OSP-P40	346	119	346	7100	4000	4.167	0.701	1.531	M6	13509	21104
KF50	OSP-P50	480	170	480	7500	4000	7.328	0.936	2.760	M8	13510	21105

For linear drives see 1.10.002E  
For mountings see 1.45.005E

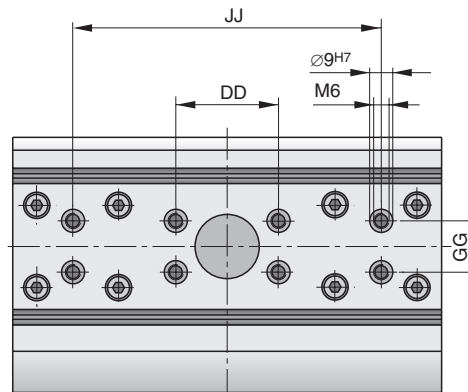
Data Sheet No.1.40.007E-1

**HOERBIGER**  
**ORIGA**

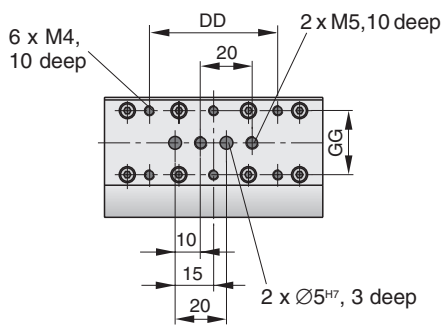
**Dimensions Series OSP-P KF16 to KF50**



**Size OSP-P KF32 to KF50**



**Size OSP-P KF16**



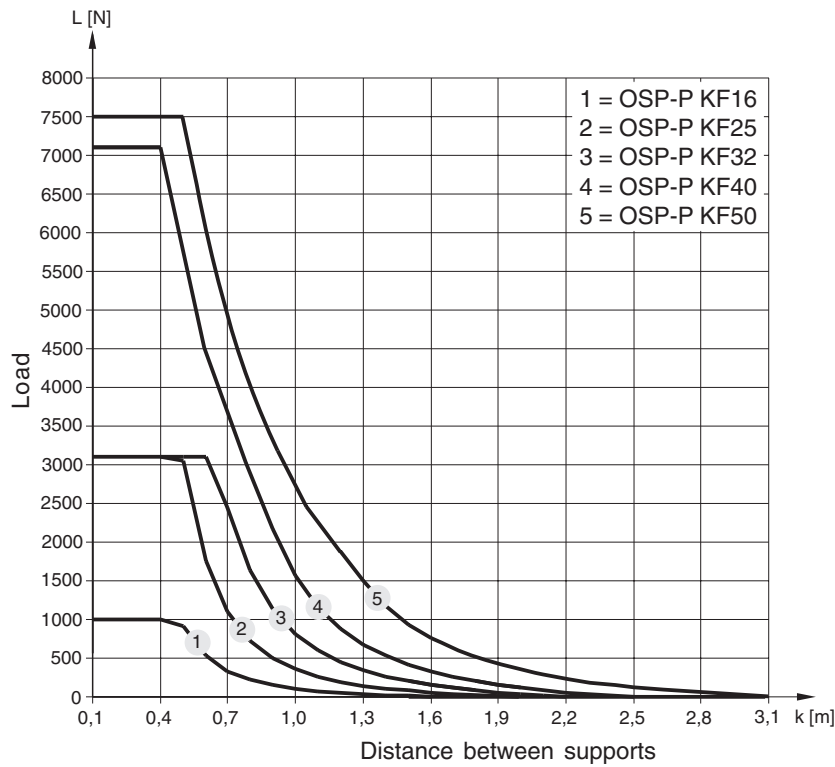
**Dimension Table (mm) Series OSP-P KF16, KF25, KF32, KF40, KF50**

Series	A	B	J	AA	BB	CF	DD	EC	EE	EG	EW	JJ	GG	M
KF16	65	14	76	93	85	48	50	15	41	24.6	10	–	25	30
KF25	100	22	120	120.2	105	72.5	40	15	54.5	36.2	23.5	–	–	46
KF32	125	25.5	160	146.2	131	93.8	40	15	60.5	42.2	23.5	–	20	59.8
KF40	150	28	150	188.5	167	103.3	40	20	69.5	51.6	26.5	120	20	60.8
KF50	175	33	180	220.2	202	121	40	23	90.5	62.3	32.5	120	40	69

Series	FA	FB	FC	FD	FT	FS	TA	TB	TE	TF	TG	TH	TJ
KF16	17.7	29	16.5	–	56	19	–	–	–	–	–	–	–
KF25	26.5	39	24	14 <sup>G7</sup>	75	24.7	5	12.1	2.3	6.9	M5	11.5	4
KF32	34	53.8	34	25 <sup>G7</sup>	86.5	24.7	5	12.1	1.8	6.4	M5	11.5	4
KF40	42.5	56.8	41	25 <sup>G7</sup>	104	26	6	12.8	1.8	8.4	M6	17	5.5
KF50	52	65	50	25 <sup>G7</sup>	134	38	8	21.1	4.5	12.5	M8	23	7.5

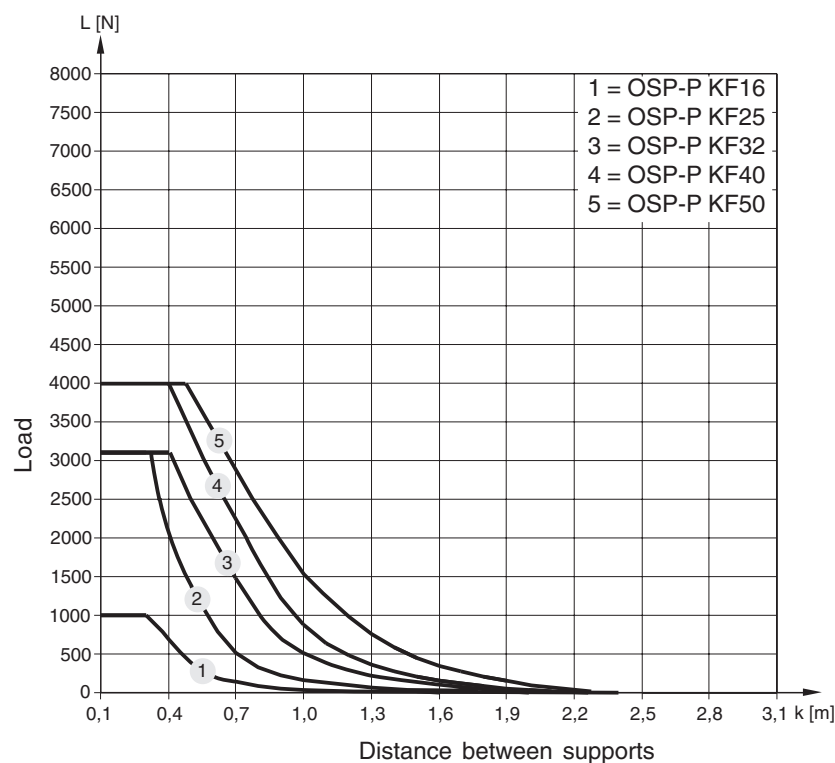
### Permissible Unsupported Length OSP-P KF16 to KF50

#### Loading 1 – Top carrier



### Permissible Unsupported Length OSP-P KF16 to KF50

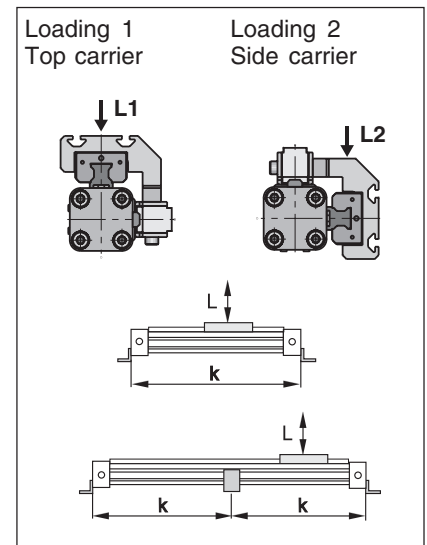
#### Loading 2 – Side carrier



## Mid-Section Support

(For versions, see 1.45.005-5E, 1.45.005E-8, 1.45.005E-9)

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. A distinction must be drawn between loading 1 and loading 2. Deflection of 0.5 mm max. between supports is permissible.



#### Note:

For speeds  $v > 0.5$  m/s the distance between supports should not exceed 1 m.

## Variable Stop

The variable stop Type VS is used to provide intermediate stopping positions.

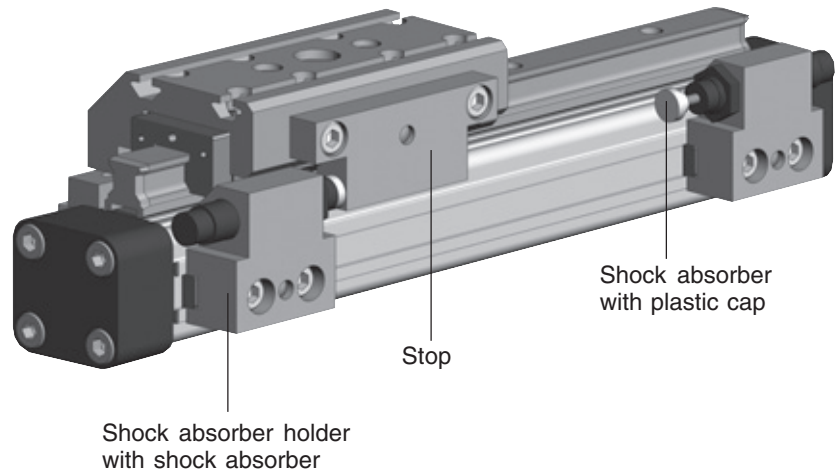
It can be retrofitted and positioned anywhere along the stroke length. For every cylinder diameter two types of shock absorber are available – see „Shock Absorber Selection“ below.

Mid-section supports and magnetic switches can still be fitted on the same side as the variable stop.

Depending on the application, two variable stops can be fitted if required.

### Variable Stop Type VS16 to VS50

Arrangement with two variable stops

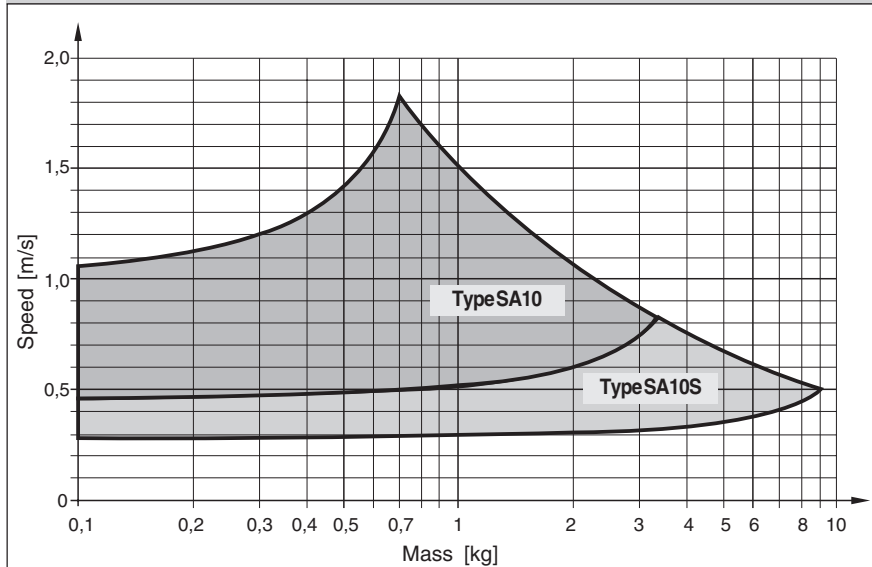


## Shock Absorber Selection

The shock absorber is selected in dependence on the mass and speed.

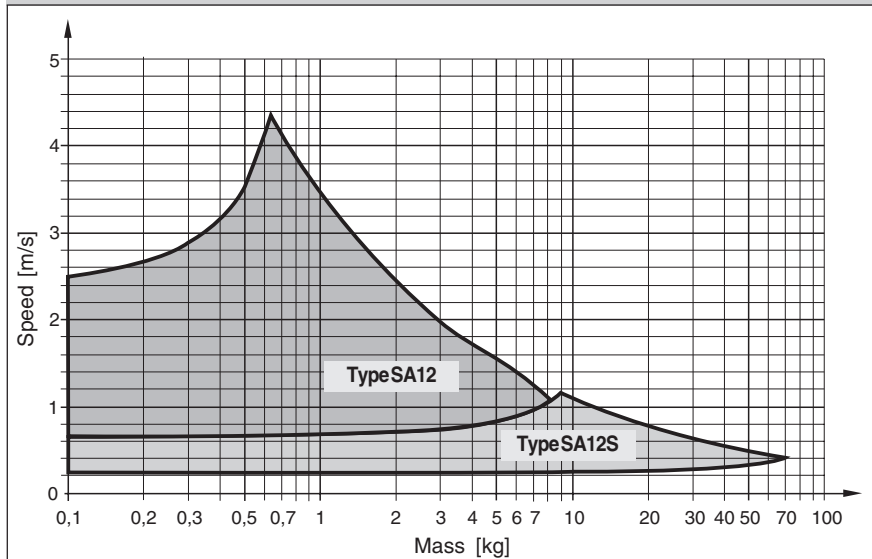
The mass of the carrier itself must be taken into account.

### Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-KF16



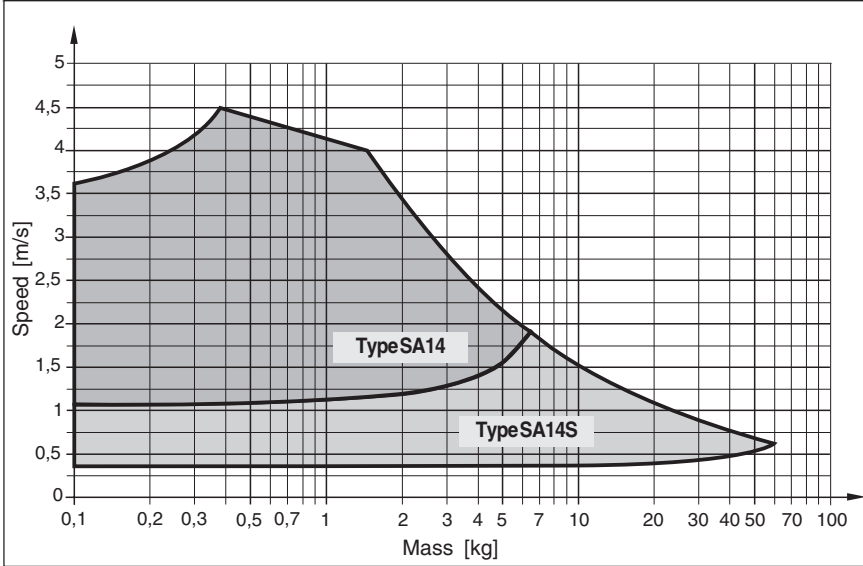
The values relate to an effective driving force of 78 N (6 bar)

### Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-KF25



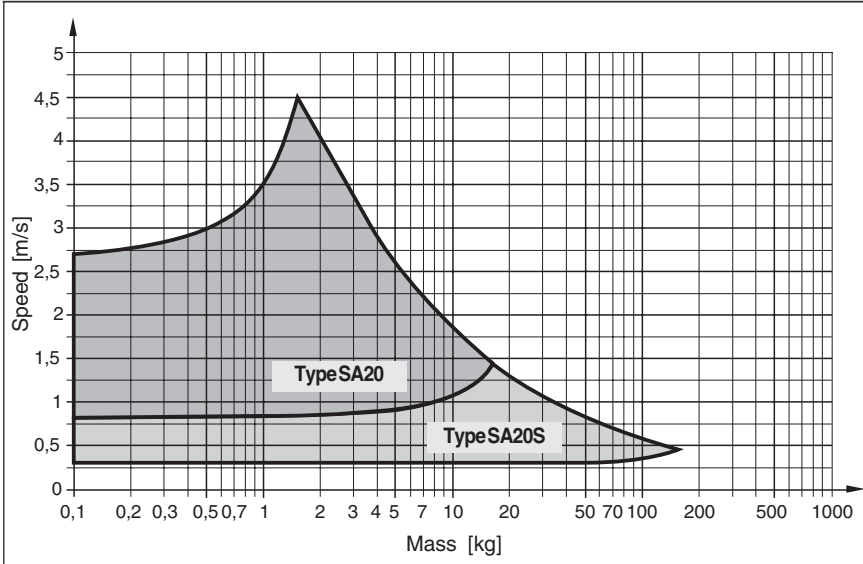
The values relate to an effective driving force of 250 N (6 bar)

**Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-KF32**



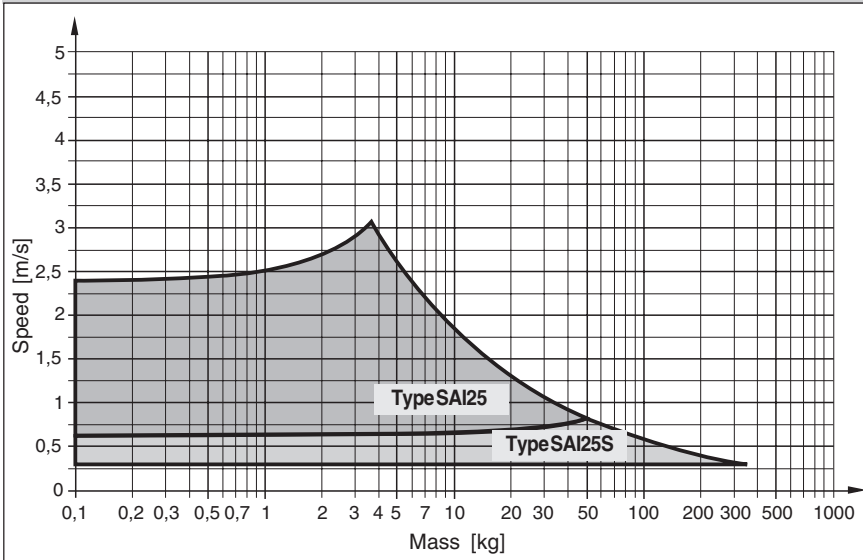
The values relate to an effective driving force of 420 N (6 bar)

**Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-KF40**



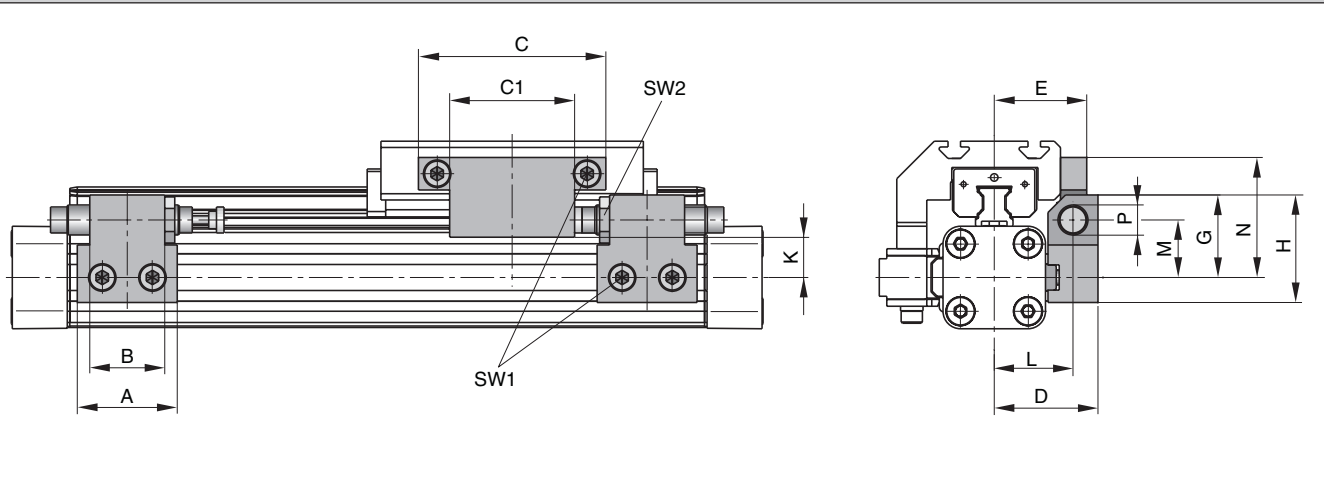
The values relate to an effective driving force of 640 N (6 bar)

**Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-KF50**



The values relate to an effective driving force of 1000 N (6 bar)

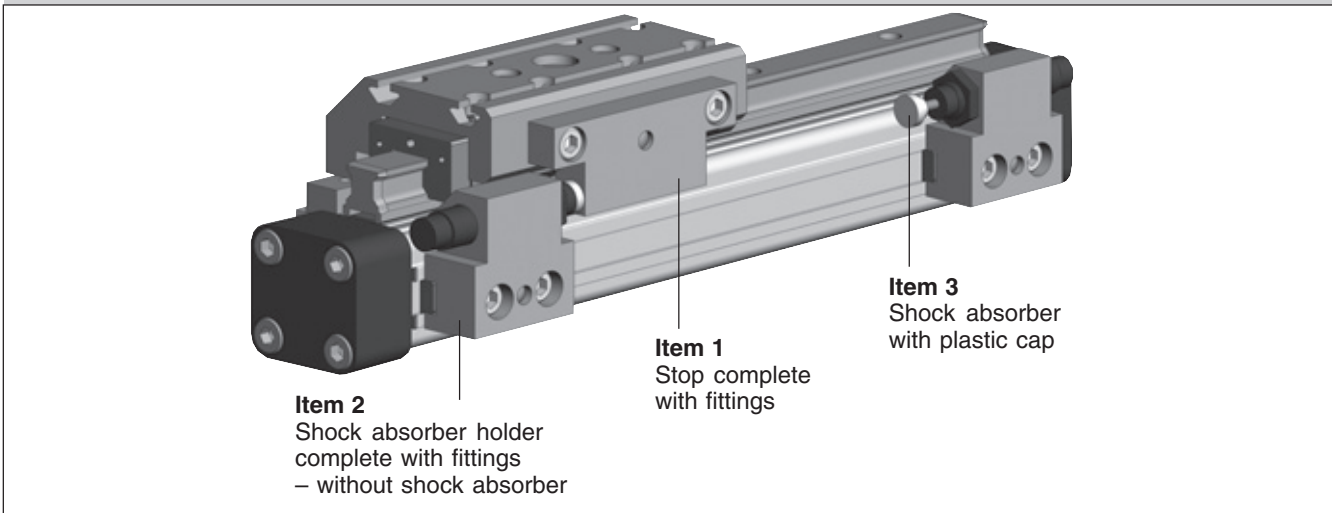
## Dimensions – Variable Stop Type VS16 to VS50



Dimension Table (mm) – Variable Stop Type VS16 to VS50

Series	Type	A	B	C	C1	D	E	G	H	K	L	M	N	P	SW1	SW2
OSP-KF16	VS16	30	14	50	25	33	29.7	28	38	16.2	25.5	20.5	40.5	M10 x 1	4	12.5
OSP-KF25	VS25	40	30	75	50	41.5	37	33	43	18	31.5	23	48	M12 x 1	5	16
OSP-KF32	VS32	60	40	50	-	45.5	41.5	35	45	19	35.5	25	37	M14 x 1.5	5	17
OSP-KF40	VS40	84	52	60	-	64	59	48	63	25.5	50	34	43	M20 x 1.5	5	24
OSP-KF50	VS50	84	-	60	-	75	69	55	70	26.9	57	38	58	M25 x 1.5	5	30

## Order Information – Variable Stop Type VS16 to VS50



## Order Instructions – Variable Stop Type VS16 to VS50

Item	Description	VS16		VS25		VS32		VS40		VS50	
		Type	Order No.	Type	Order No.	Type	Order No.	Type	Order No.	Type	Order No.
1	Stop, complete	-	21186	-	21187	-	21188	-	21189	-	21190
2	Shock absorber holder, complete	-	21201	-	21202	-	21203	-	21204	-	21205
3 *	Shock absorber, standard	SA10	7900	SA12	7706	SA14	7708	SA20	7710	SAI25	7712
	Shock absorber, version S	SA10S	7907	SA12S	7707	SA14S	7709	SA20S	7711	SAI25S	7713

\* Shock absorber with plastic cap