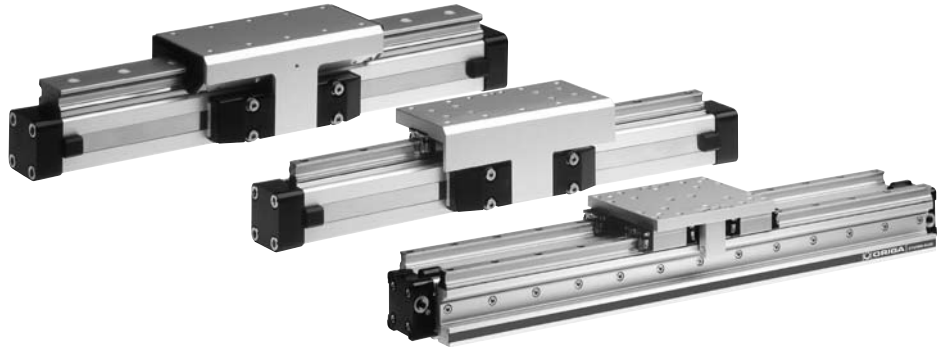


# Linear Guides Series OSP-P



## Contents

Description	Data Sheet No.	Page
Overview	P-1.40.001E	39-40
Plain bearing guide SLIDELINE	P-1.40.002E	41-42
Roller guide POWERSLIDE	P-1.40.003E	43-46
Aluminium roller guide PROLINE	P-1.40.005E	47-48
Recirculating ball bearing guide STARLINE	P-1.40.006E	49-54
Recirculating ball bearing guide KF	P-1.40.007E	55-60
Heavy duty guide HD	P-1.40.008E	61-65

## Adaptive modular system

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

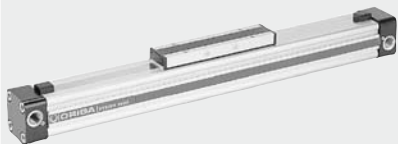
### Advantages:

- 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  
P-1.10.002E (Standard)  
P-1.10.020E (ATEX-Version)



## Linear Guides

### SLIDELINE

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

Piston diameters 16 – 80 mm

See data sheet  
P-1.40.002E (Standard)  
P-1.10.020E (ATEX-Version)

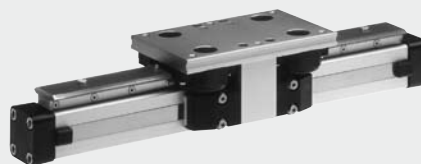


### POWERSLIDE

The roller guide for heavy loads and hard application conditions

Piston diameters 16 – 50 mm

See data sheet 1.40.003E



### PROLINE

The compact aluminium roller guide for high loads and velocities.

Active/ Passive Brake optional.

Piston diameters 16 – 50 mm

See data sheet no. P-1.40.005E

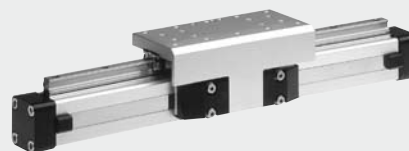


### STARLINE

Recirculating ball bearing guide for very high loads and precision

Piston diameters 16 – 50 mm

See data sheet no. P-1.40.006E



### KF GUIDE

Recirculating ball bearing guide for highest loads and precision.

Correspond to FESTO dimensions (Type DGPL-KF)

Piston diameters 16 – 50 mm

See data sheet no. P-1.40.007E

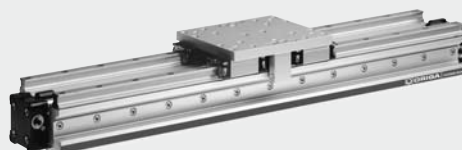


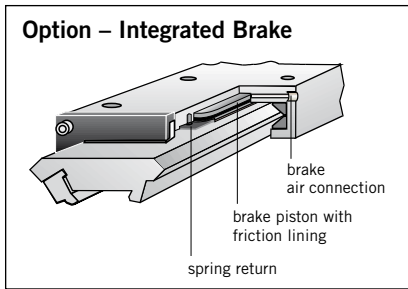
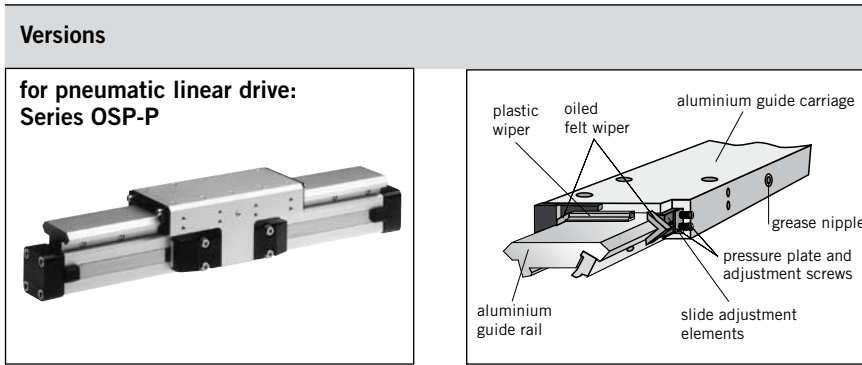
### HD HEAVY DUTY GUIDE

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

Piston diameters 25 – 50 mm

See data sheet no. P-1.40.008E

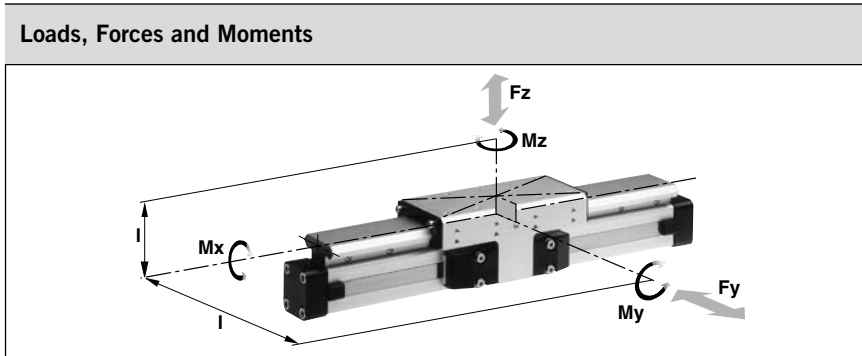




**Integrated Brake (optional)  
for series OSP-P25 to OSP-P50:**

- Actuated by pressure
- Released by exhausting and spring return

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



**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



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

**Features:**

- ATEX-version (without brake) is also available (see data sheet no. P-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)

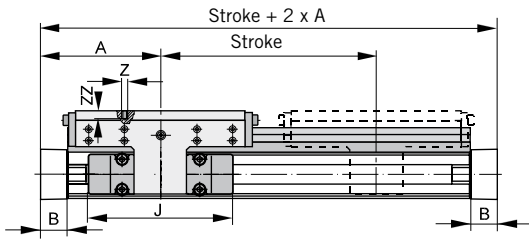
<sup>1)</sup> Only with integrated brake: Braking force on dry oil-free surface. Values are decreased for lubricated slideways  
<sup>2)</sup> Corrosion resistant fixtures available on request

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	
		Mx	My	Mz			Fy, Fz	with 0 mm stroke		increase per 100 mm stroke	OSP-P without brake
SL16	OSP-P16	6	11	11	325	–	0.57	0.22	0.23	20341	–
SL25	OSP-P25	14	34	34	675	325	1.55	0.39	0.61	20342	20409
SL32	OSP-P32	29	60	60	925	545	2.98	0.65	0.95	20196	20410
SL40	OSP-P40	50	110	110	1500	835	4.05	0.78	1.22	20343	20411
SL50	OSP-P50	77	180	180	2000	1200	6.72	0.97	2.06	20195	20412
SL63	OSP-P63	120	260	260	2500	–	11.66	1.47	3.32	20853	–
SL80	OSP-P80	120	260	260	2500	–	15.71	1.81	3.32	21000	–

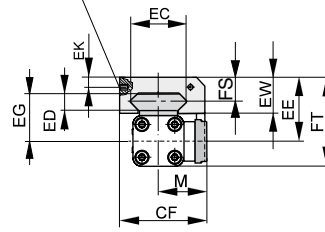
For linear drives see P-1.10.002E, for ATEX-version see P-1.10.020E  
For mountings see P-1.45.005E

## Dimensions

### Series OSP-P



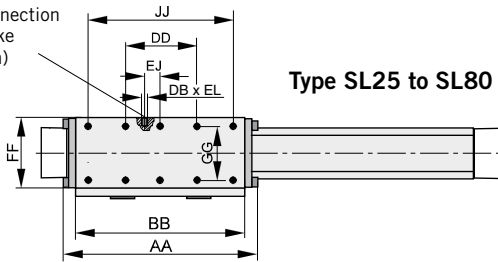
Air connection for brake (Option)



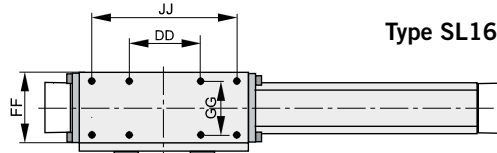
For further mounting elements and options see accessories.

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

Air connection for brake (Option)



Type SL25 to SL80



Type SL16

### 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

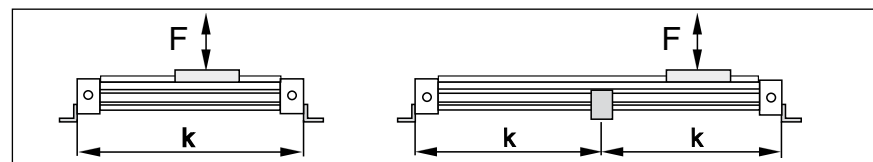
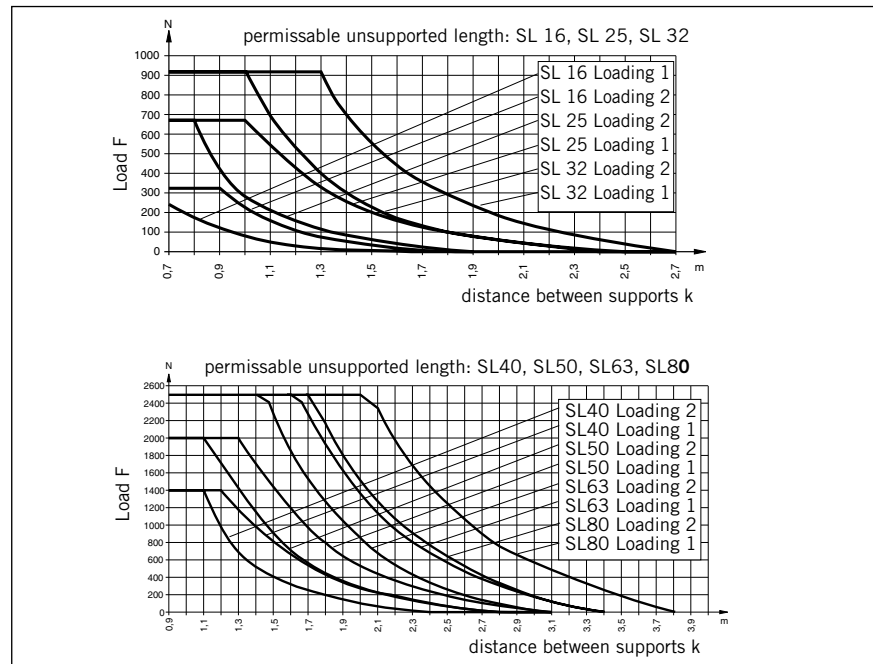
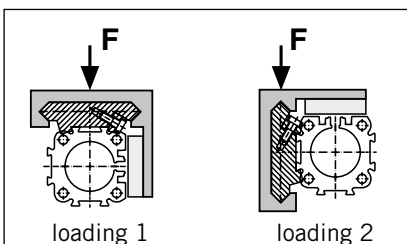
## Mid-Section Support

(for versions see P-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.

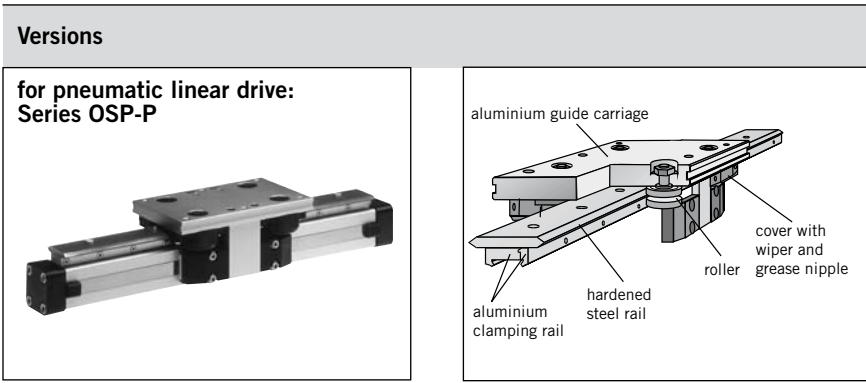
### Note:

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



P-A1P540E00DZ00X

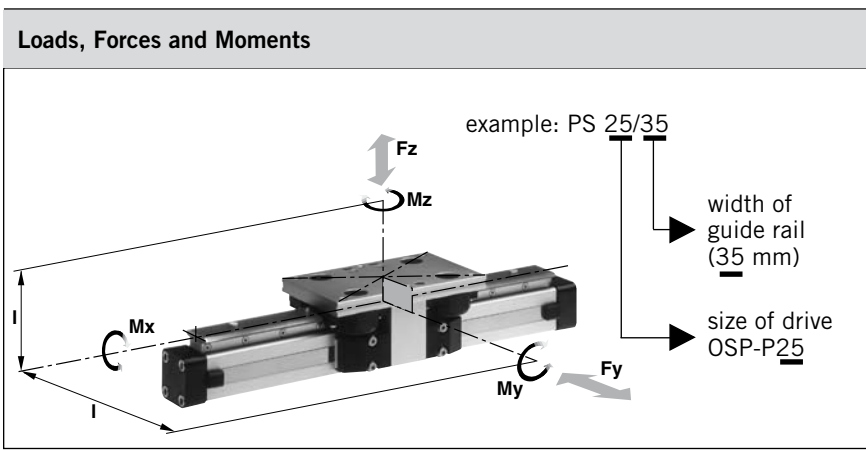
The right to introduce technical modifications is reserved



# Roller Guide POWERSLIDE



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



**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)

**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 (P-1.10.002E).

**\* Please note:**  
In the cushioning diagram, add the mass of the guide carriage to the mass to be cushioned.

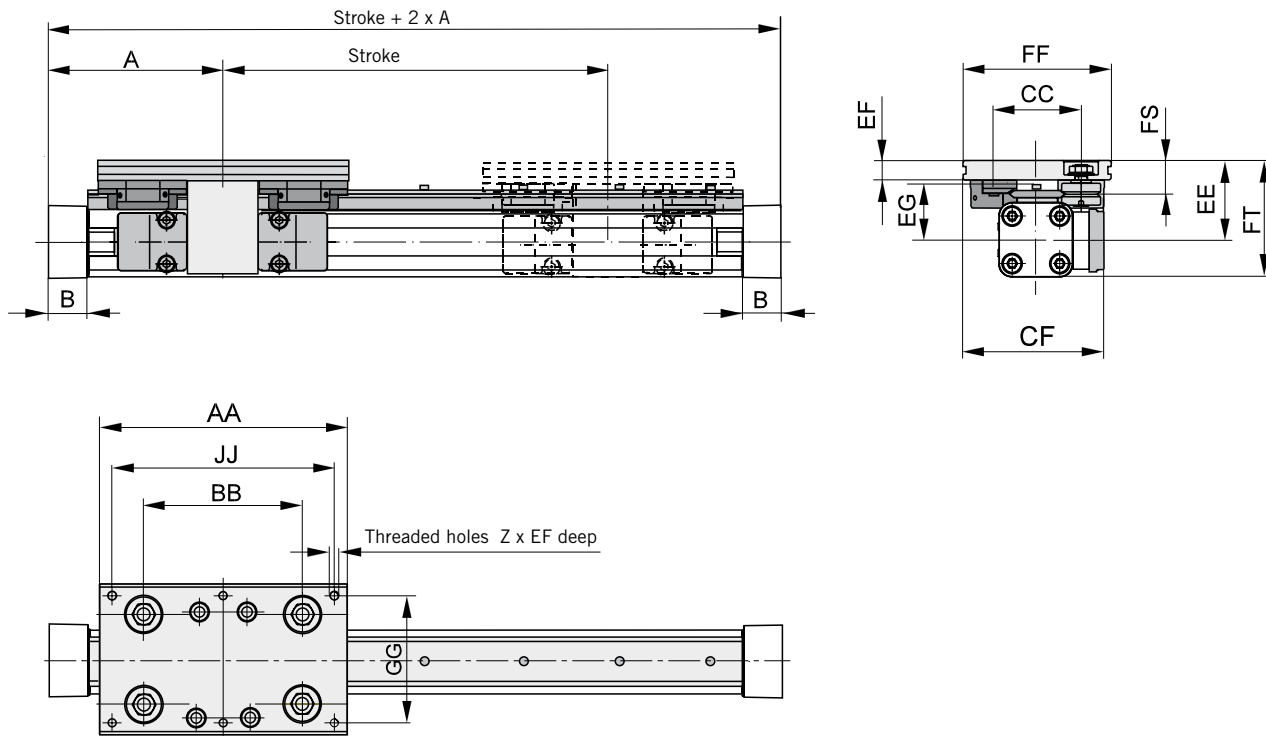
Series	For linear drive	Max. moments [Nm]			Max. load [N]	Mass of linear drive with guide [kg]		Mass * of guide carriage [kg]	Order-No. Powerslide for OSP-P <sup>1)</sup>
		Mx	My	Mz		Fy, Fz	with 0 mm stroke		
PS 16/25	OSP-P16	14	45	45	1400	0.93	0.24	0.7	20285
PS 25/25	OSP-P25	14	63	63	1400	1.5	0.4	0.7	20015
PS 25/35	OSP-P25	20	70	70	1400	1.7	0.4	0.8	20016
PS 25/44	OSP-P25	65	175	175	3000	2.6	0.5	1.5	20017
PS 32/35	OSP-P32	20	70	70	1400	2.6	0.6	0.8	20286
PS 32/44	OSP-P32	65	175	175	3000	3.4	0.7	1.5	20287
PS 40/44	OSP-P40	65	175	175	3000	4.6	1.1	1.5	20033
PS 40/60	OSP-P40	90	250	250	3000	6	1.3	2.2	20034
PS 50/60	OSP-P50	90	250	250	3000	7.6	1.4	2.3	20288
PS 50/76	OSP-P50	140	350	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)

For **linear drives** see P-1.10.002E  
For **mountings** see P-1.45.005E

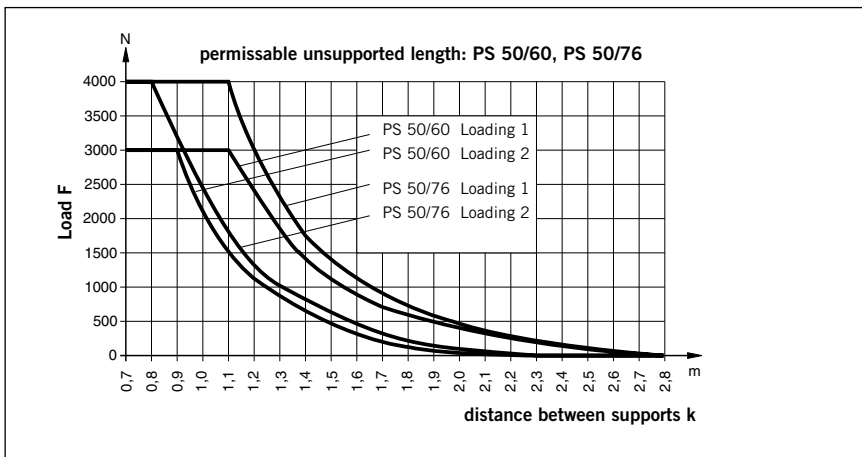
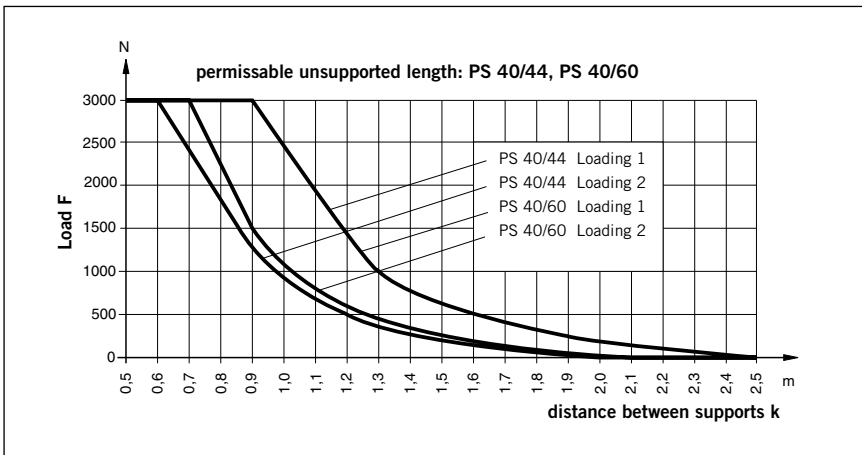
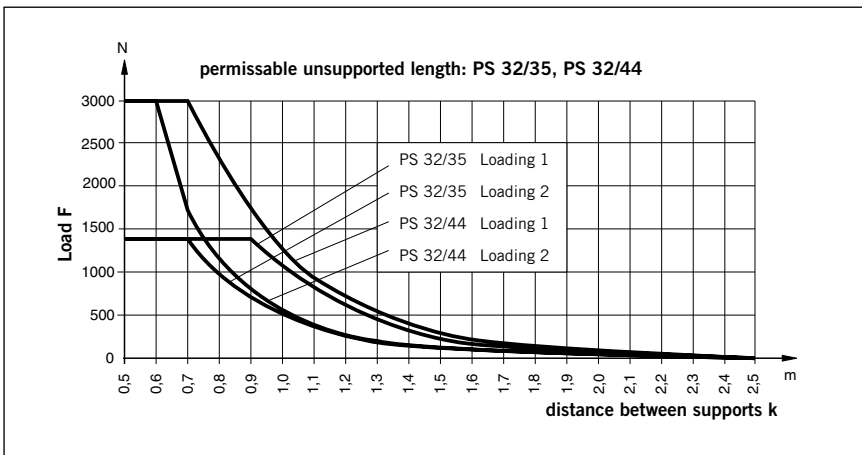
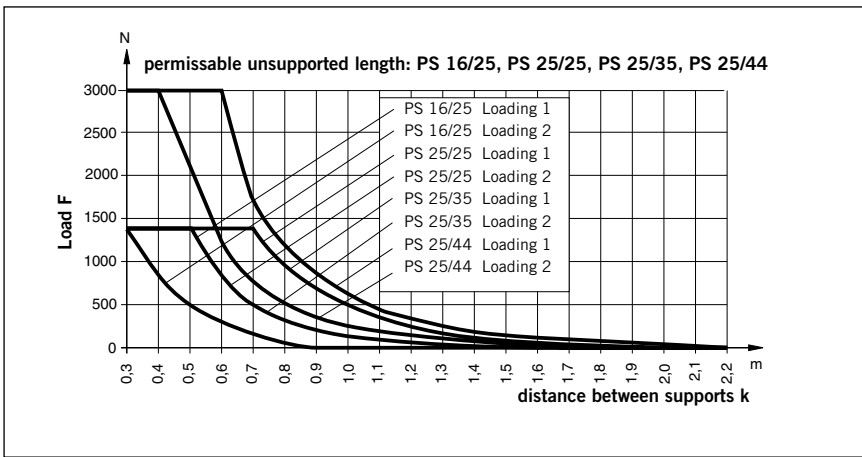
## Dimensions

### Series OSP-P



### Dimension Table (mm)

Series	A	B	Z	AA	BB	CC	CF	EE	EF	EG	FF	FS	FT	GG	JJ
PS 16/25	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



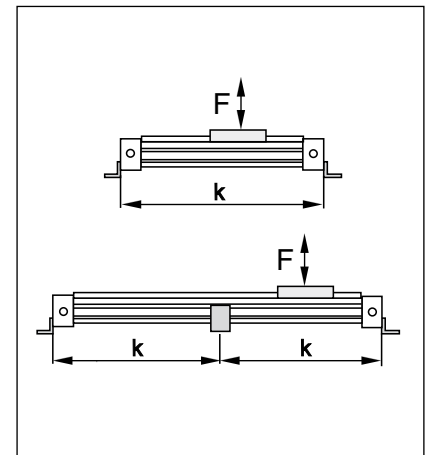
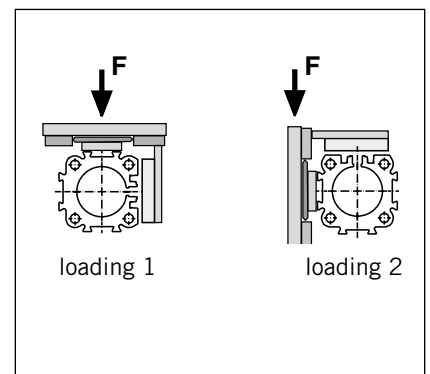
## Mid-Section Support

(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 P-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 $L_F$

$$L_F = \frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}}$$

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.

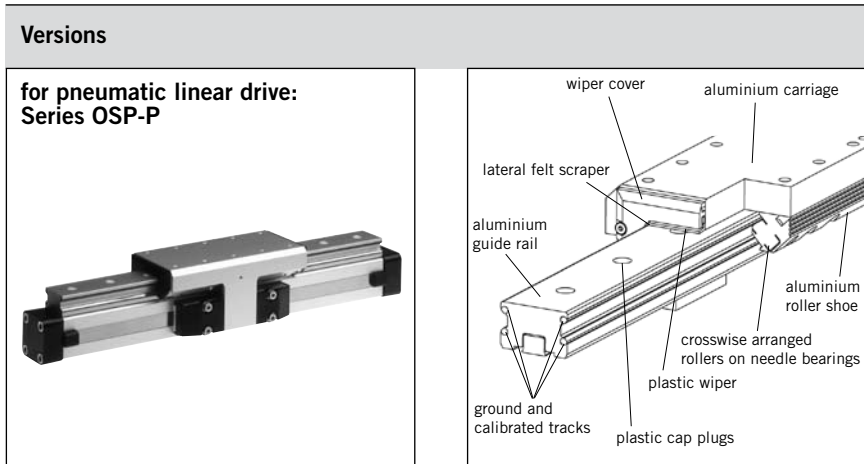
### 2. Service life calculation

• 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] = $\frac{680}{(L_F + 0,015)^3}$



P-A1 P539E00HAA00X

The right to introduce technical modifications is reserved



# Aluminium Roller Guide PROLINE



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

## Technical Data

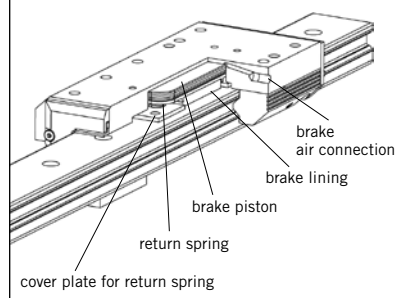
The table shows the maximal permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

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.

## Option – Integrated Brake

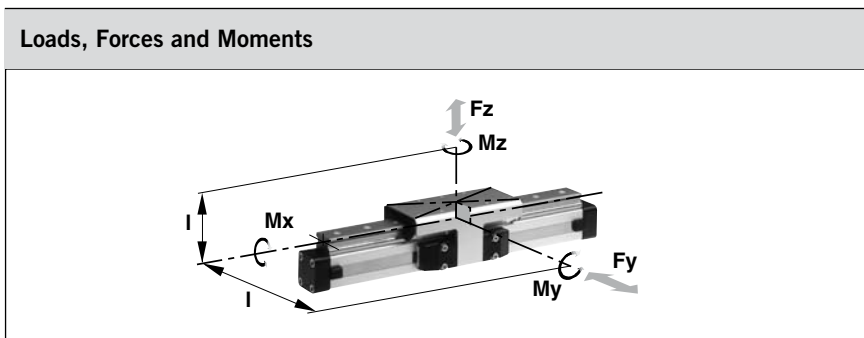


## Features:

- 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

## 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.

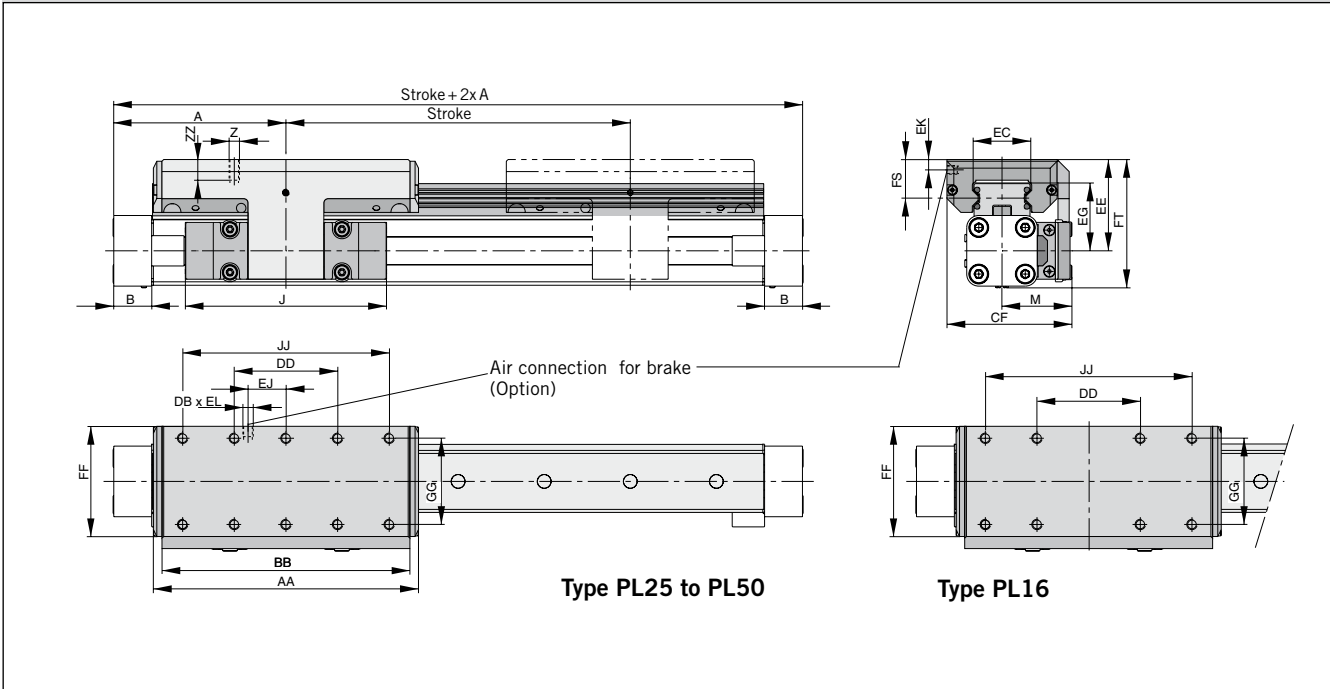
Series	For linear drive	Max. moments [Nm]			Max. loads [N] Fy, Fz	Maximum braking force at 6 bar [N] <sup>1)</sup>	Mass of linear drive with guide [kg]		Mass * guide carriage [kg]	Order No. PROLINE for OSP-P	
		Mx	My	Mz			with 0 mm stroke	increase per 100 mm stroke		without brake	with brake
PL 16	OSP-P16	8	12	12	542	-	0.55	0.19	0.24	20855	-
PL 25	OSP-P25	16	39	39	857	on request	1.65	0.40	0.75	20856	20860
PL 32	OSP-P32	29	73	73	1171	on request	3.24	0.62	1.18	20857	20861
PL 40	OSP-P40	57	158	158	2074	on request	4.35	0.70	1.70	20858	20862
PL 50	OSP-P50	111	249	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 P-1.10.002E  
For mountings see P-1.45.005E

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



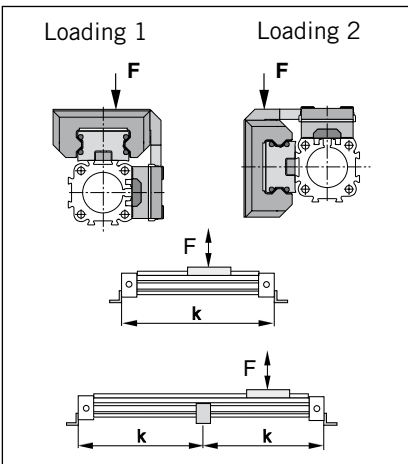
**Dimension Table (mm) Series OSP-P PL16, PL25, PL32, PL40, PL50**

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 P-1.45.005E)

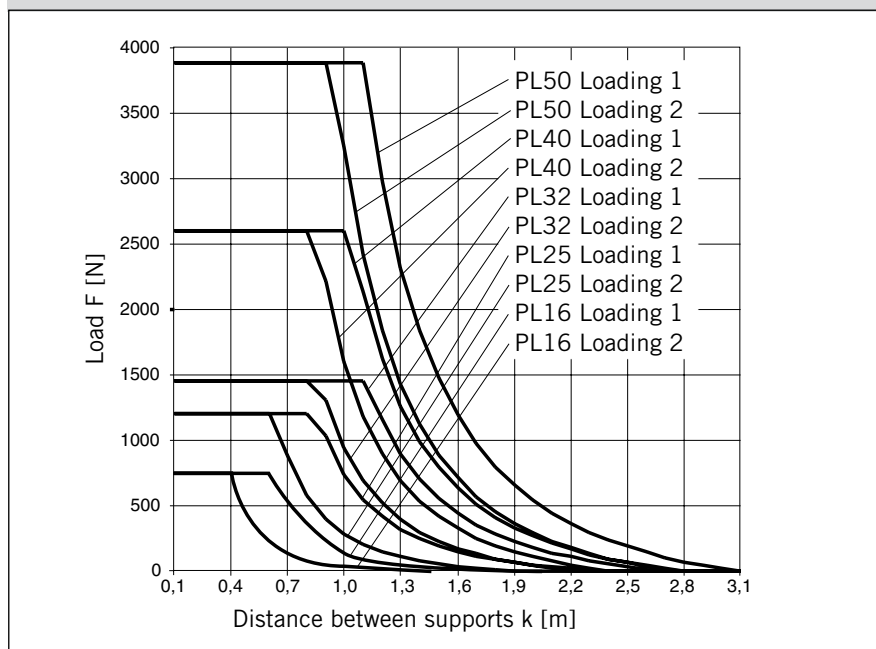
Mid-section supports are required from a certain stroke length to prevent excessive deflection and vibration of the linear drive. The diagrams show the maximum permissible unsupported length in relation to loading. A distinction must be drawn between loading 1 and loading 2. Deflection of 0.5 mm max.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

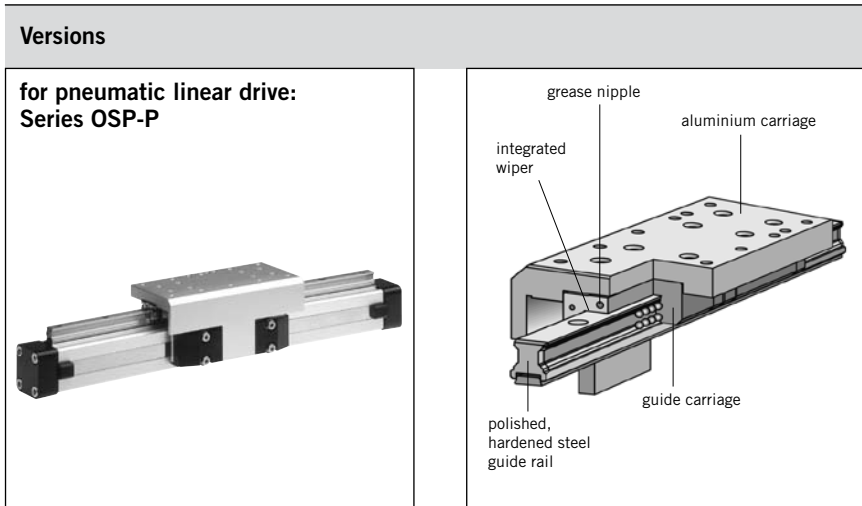


### Note:

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**

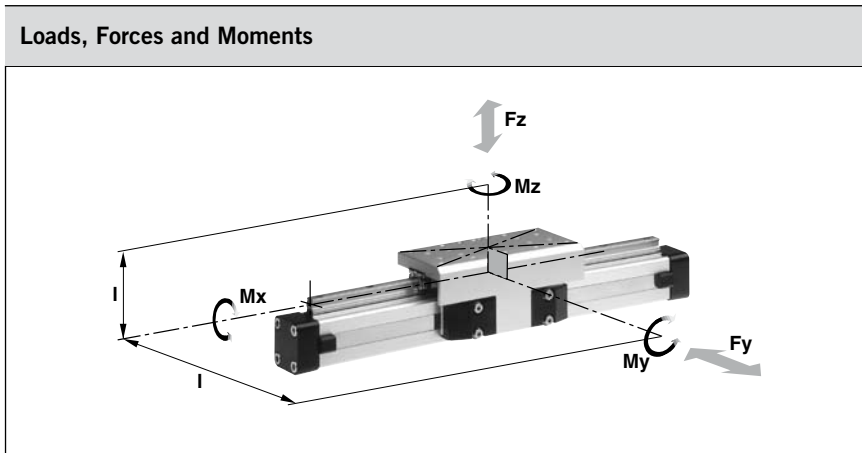




# Recirculating Ball Bearing Guide STARLINE



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
- 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

**Technical Data**

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

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

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{1max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not exceed >1

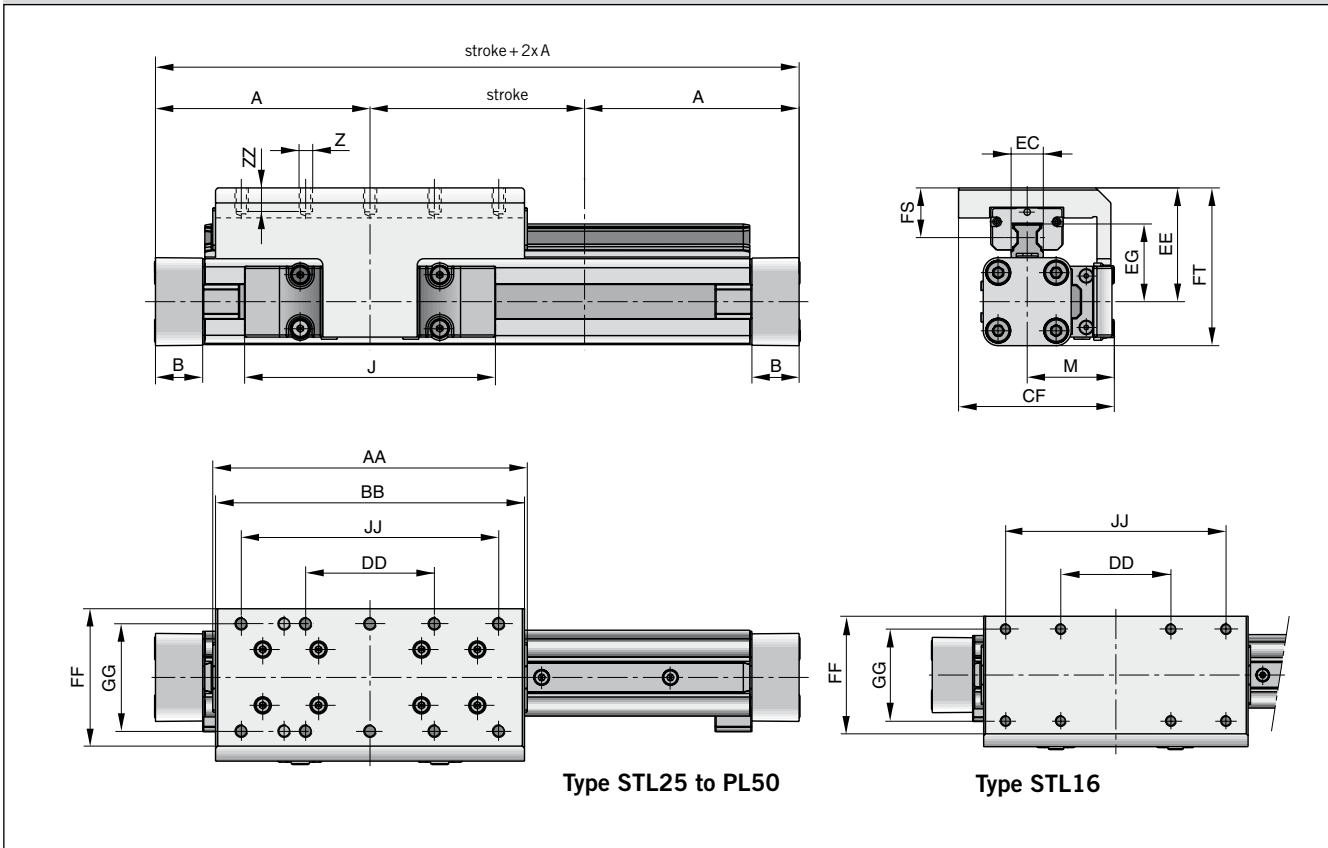
**\*\* Please note:**

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]		Mass of linear drive with guide [kg]		Mass ** guide carriage [kg]	Order No. STARLINE for OSP-P
		Mx	My	Mz	Fy	Fz	with 0 mm stroke	increase per 100 mm stroke		
<b>STL16</b>	OSP-P16	15	30	30	1000	1000	0.598	0.210	0.268	<b>21111</b>
<b>STL25</b>	OSP-P25	50	110	110	3100	3100	1.733	0.369	0.835	<b>21112</b>
<b>STL32</b>	OSP-P32	62	160	160	3100	3100	2.934	0.526	1.181	<b>21113</b>
<b>STL40</b>	OSP-P40	150	400	400	4000	7500	4.452	0.701	1.901	<b>21114</b>
<b>STL50</b>	OSP-P50	210	580	580	4000	7500	7.361	0.936	2.880	<b>21115</b>

For **linear drives** see P-1.10.002E  
For **mountings** see P-1.45.005E

## Dimensions Series OSP-P STL16 to STL 50

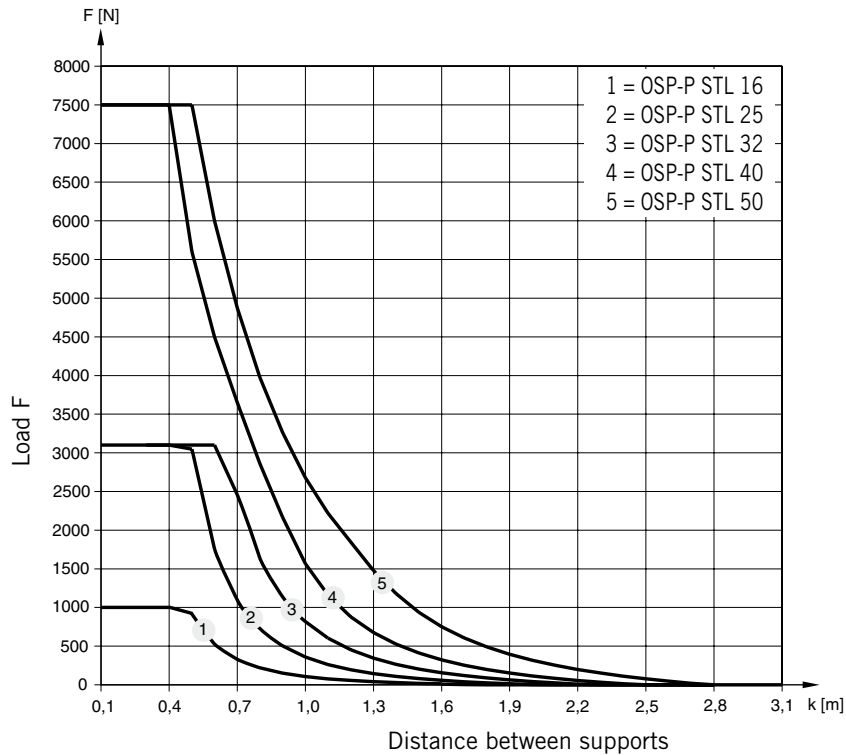


Dimension Table (mm) Series OSP-P STL16 to STL50

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

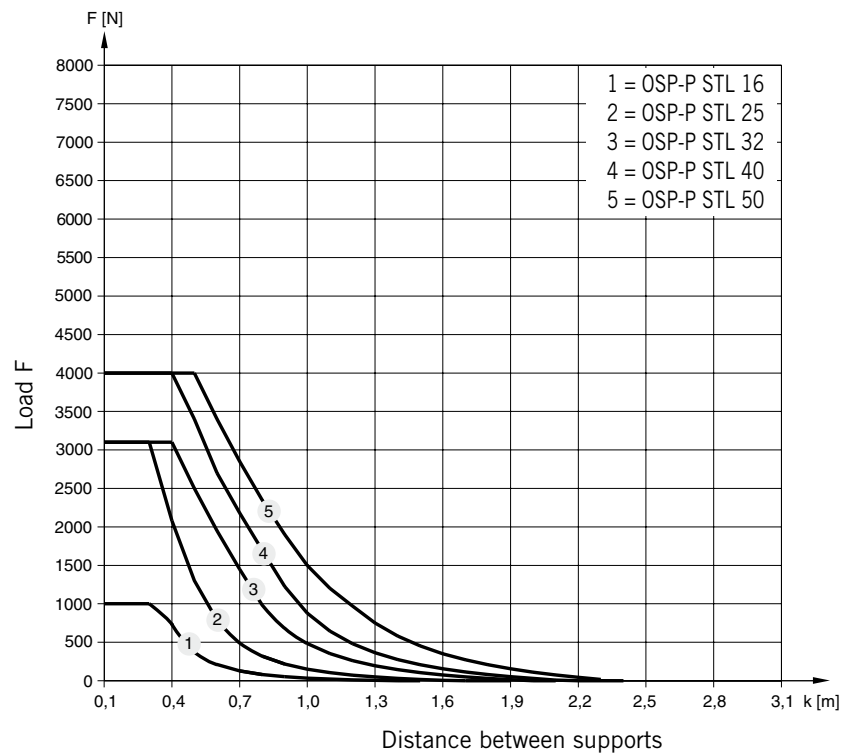
### Permissible Unsupported Length STL16 to STL50

Loading 1 – Top carrier



### Permissible Unsupported Length STL16 to STL50

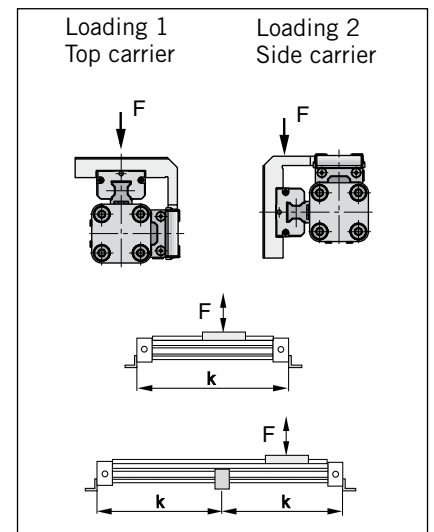
Loading 2 – Side carrier



## Mid-Section Support

(For versions, see P-1.45.005E-8, P1-.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 provides simple stroke limitation.

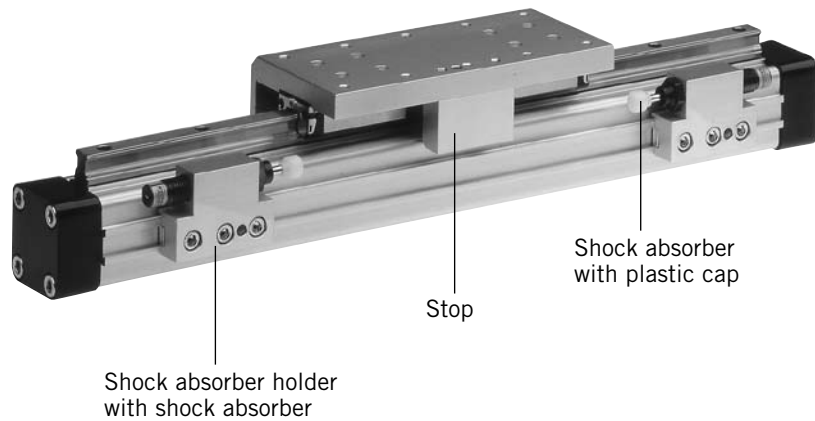
It can be retrofitted and positioned anywhere along the stroke length. For every cylinder diameter two types of shock absorber are available – see „Shock Absorber Selection“ below.

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

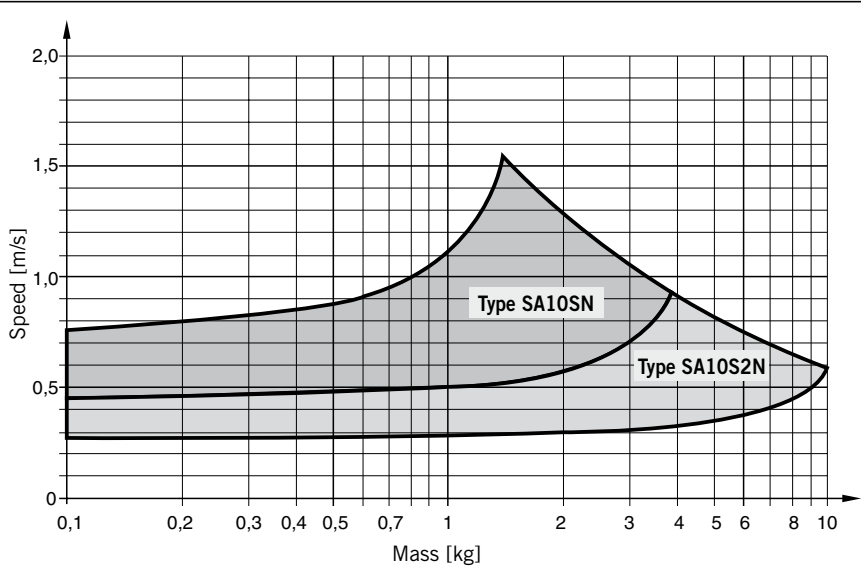


## Shock Absorber Selection

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

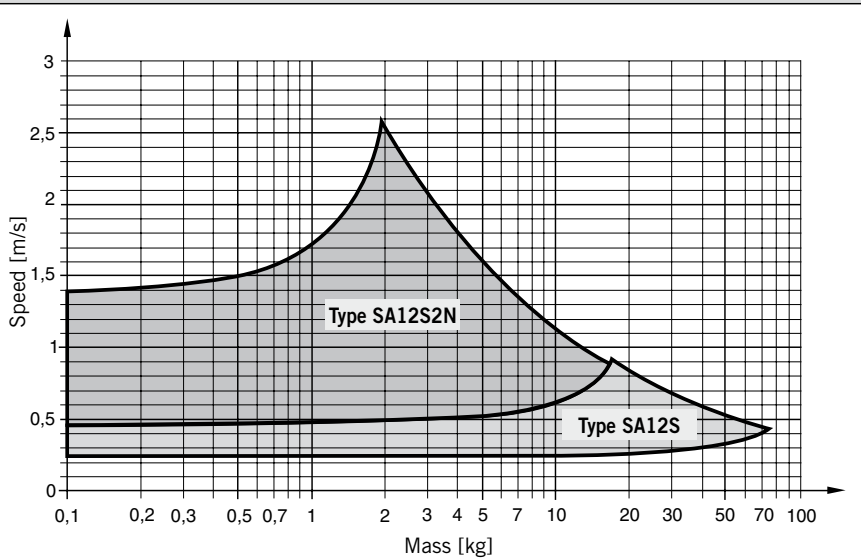
The mass of the carrier itself must be taken into account.

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



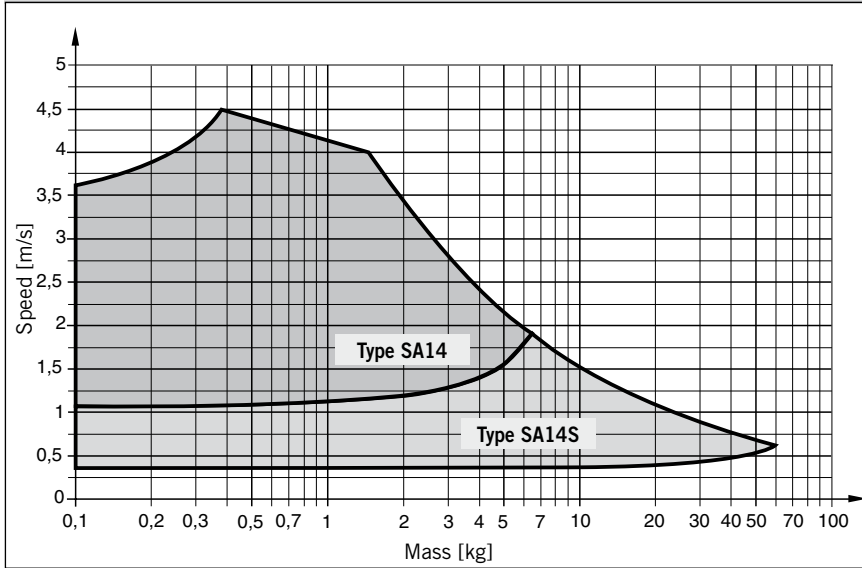
The values relate to an effective driving force of 78 N (6 bar)

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



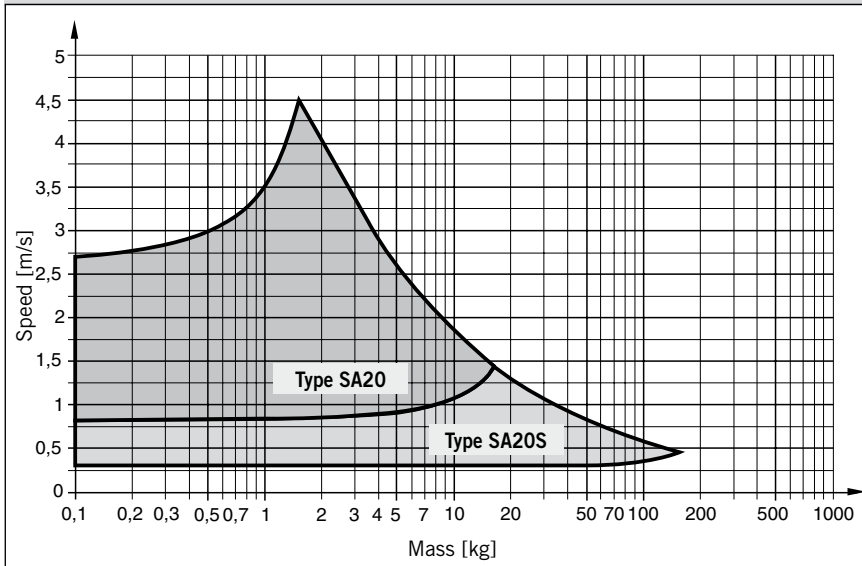
The values relate to an effective driving force of 250 N (6 bar)

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



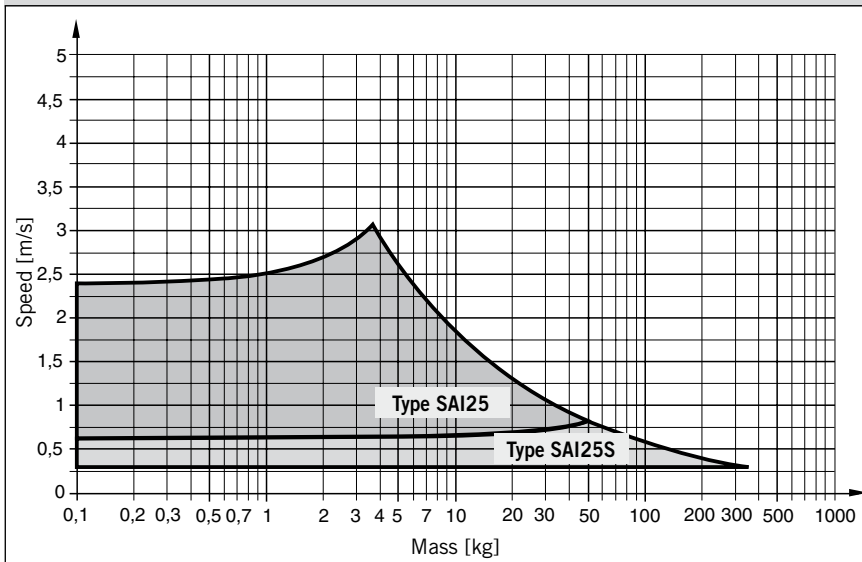
The values relate to an effective driving force of 420 N (6 bar)

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



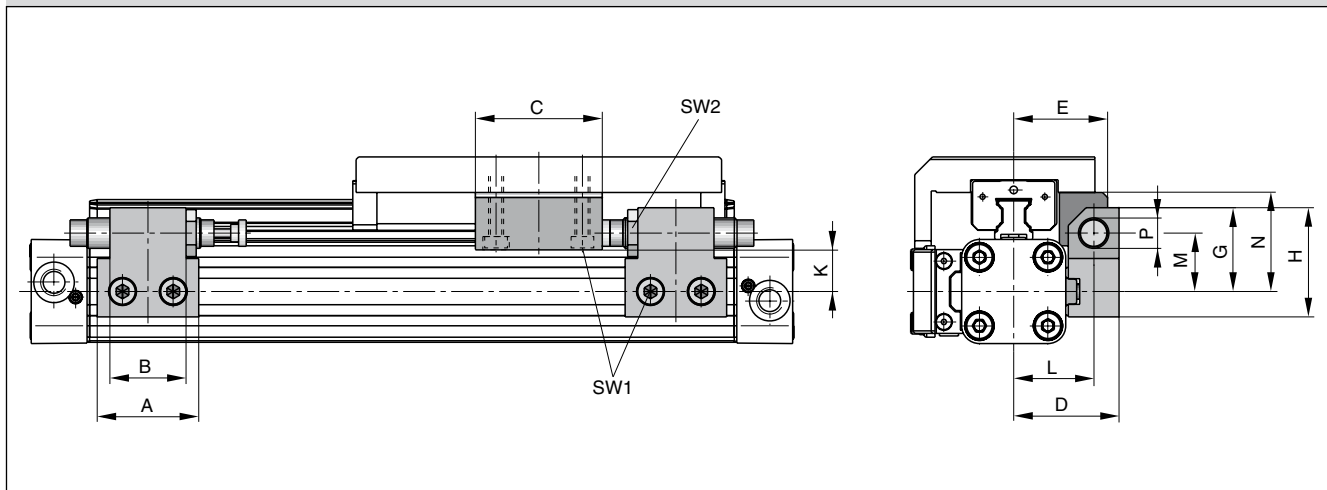
The values relate to an effective driving force of 640 N (6 bar)

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



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

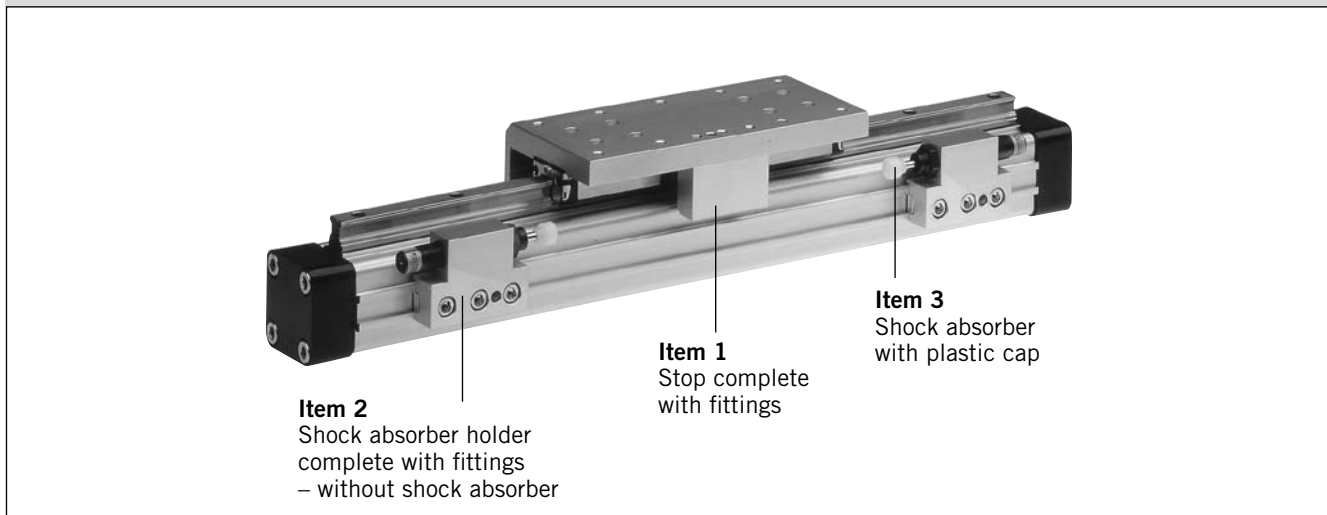
### Dimensions – Variable Stop Type VS16 to VS50



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

Series	Type	A	B	C	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

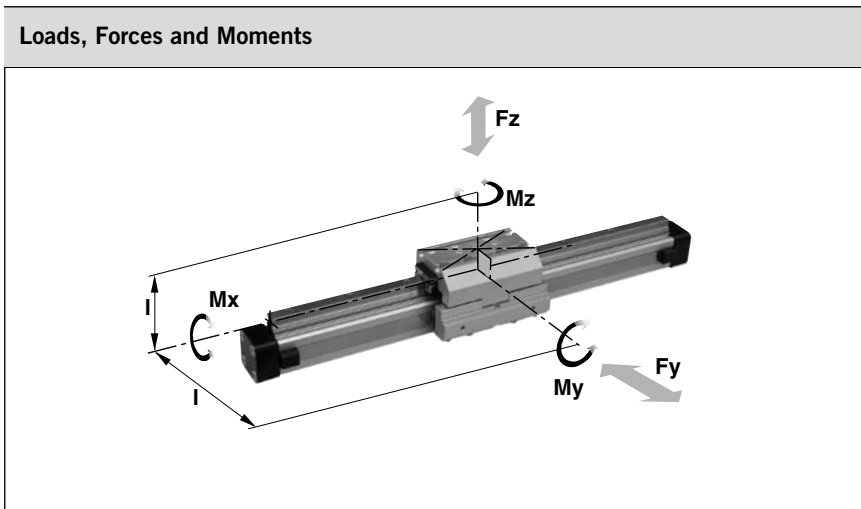
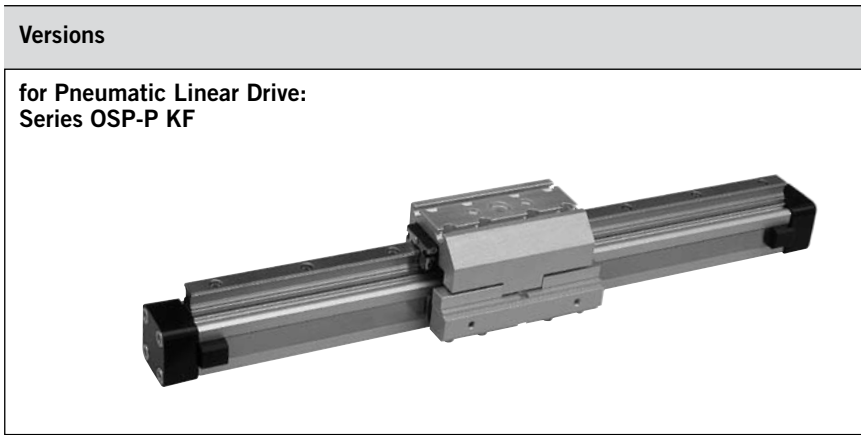


### Order Instructions – Variable Stop Type VS16 to VS50

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	SA10SN	7718	SA12S2N	7723	SA14	7708	SA20	7710	SAI25	7712
	Shock absorber, version S	SA10S2N	7721	SA12S	7707	SA14S	7709	SA20S	7711	SAI25S	7713

\* Shock absorber with plastic cap





**Technical Data**

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

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

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.	
		Mx	My	Mz	Fy	Fz	with 0 mm stroke	increase per 100 mm stroke			Groove Stone	KF for OSP-P
<b>KF16</b>	OSP-P16	12	25	25	1000	1000	0.558	0.21	0.228	–	–	<b>21101</b>
<b>KF25</b>	OSP-P25	35	90	90	3100	3100	1.522	0.369	0.607	M5	<b>13508</b>	<b>21102</b>
<b>KF32</b>	OSP-P32	44	133	133	3100	3100	2.673	0.526	0.896	M5	<b>13508</b>	<b>21103</b>
<b>KF40</b>	OSP-P40	119	346	346	4000	7100	4.167	0.701	1.531	M6	<b>13509</b>	<b>21104</b>
<b>KF50</b>	OSP-P50	170	480	480	4000	7500	7.328	0.936	2.760	M8	<b>13510</b>	<b>21105</b>

For **linear drives** see P-1.10.002E  
For **mountings** see P-1.45.005E

# Recirculating Ball Bearing Guide KF

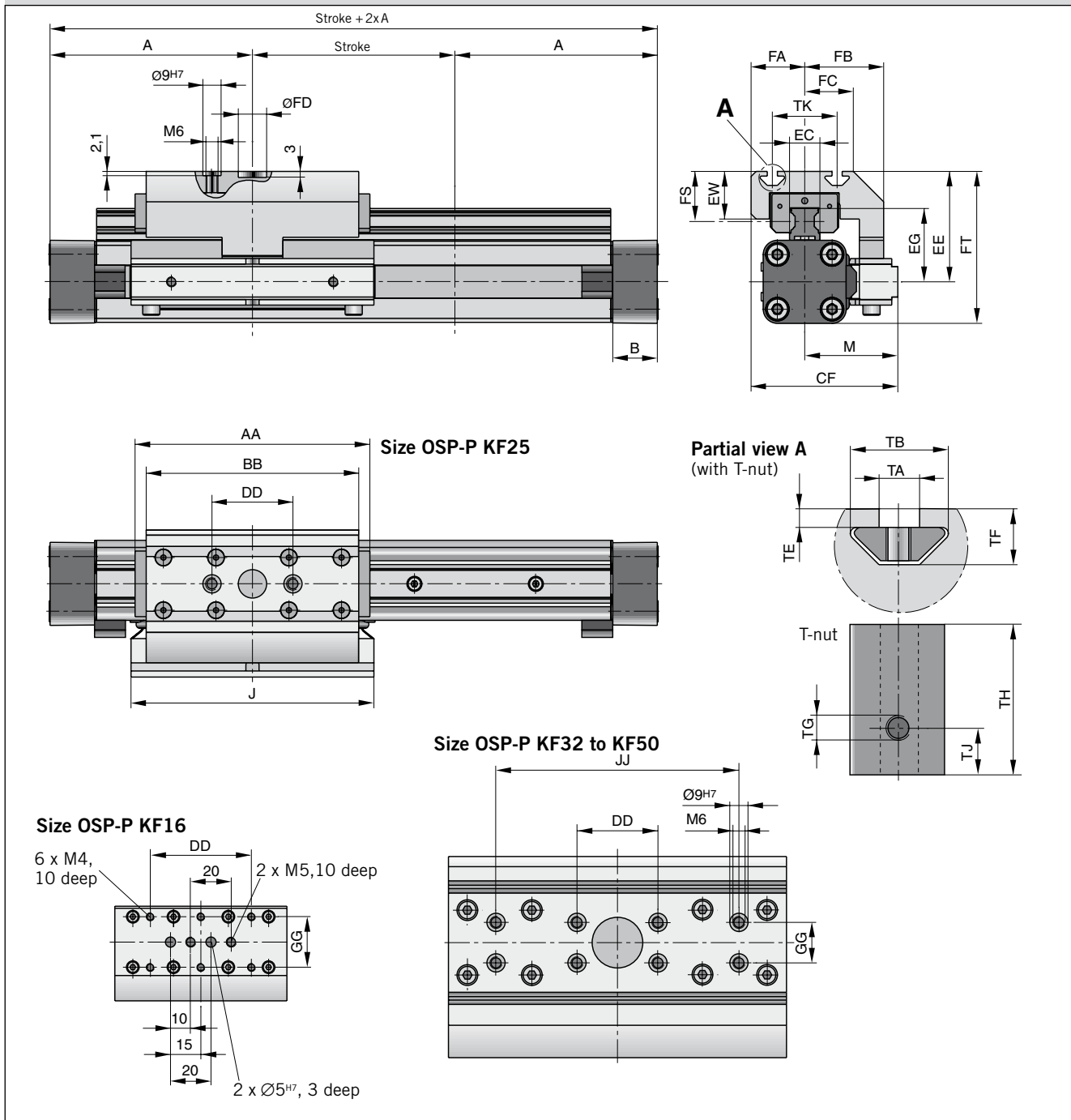


Series KF16 to KF50  
For Linear Drives  
Series OSP-P CLASSIC

**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
- Maximum speed  
KF16, KF40: v = 3 m/s  
KF25, KF32, KF50: v = 5 m/s

Dimensions Series OSP-P KF16 to KF50



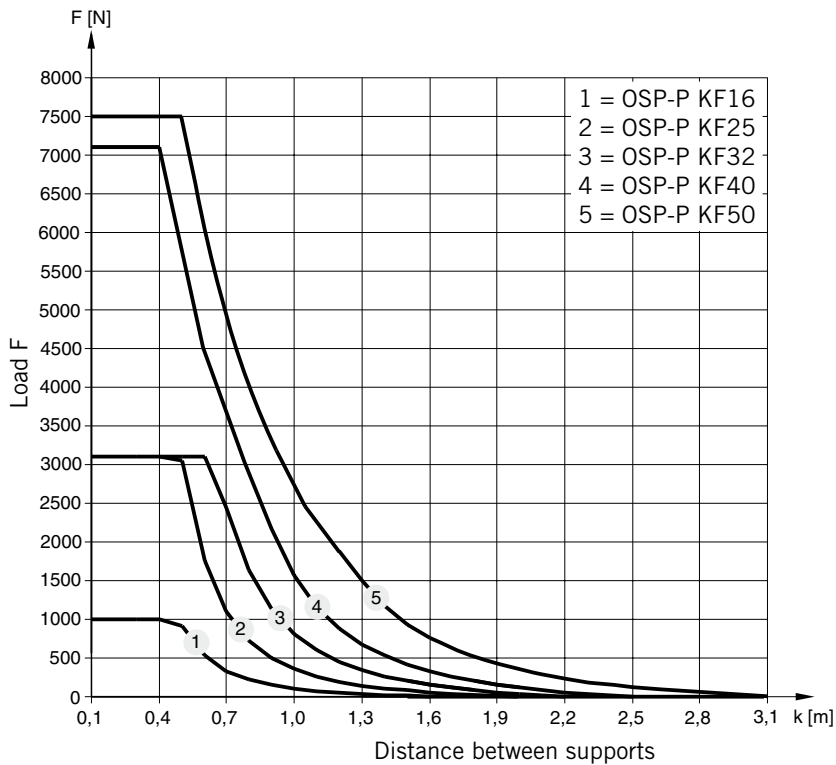
Dimension Table (mm) Series OSP-P KF16, KF25, KF32, KF40, KF50

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	TK
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	32
KF32	34	53.8	34	25 <sup>G7</sup>	86.5	24.7	5	12.1	1.8	6.4	M5	11.5	4	47
KF40	42.5	56.8	41	25 <sup>G7</sup>	104	26	6	12.8	1.8	8.4	M6	17	5.5	55
KF50	52	65	50	25 <sup>G7</sup>	134	38	8	21.1	4.5	12.5	M8	23	7.5	72

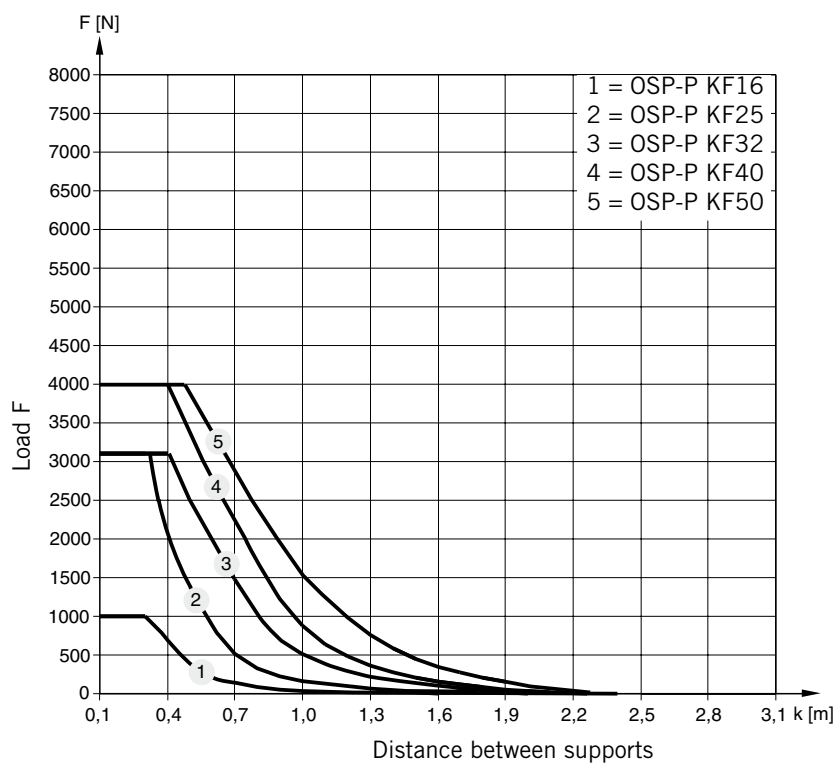
### Permissible Unsupported Length OSP-P KF16 to KF50

Loading 1 – Top carrier



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

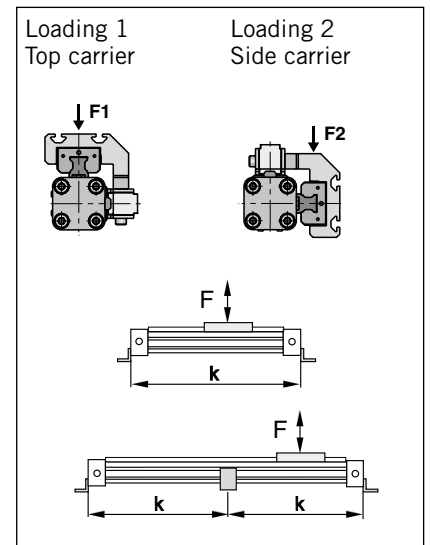
Loading 2 – Side carrier



## Mid-Section Support

(For versions, see P-1.45.005-5E, P1-.45.005E-8, P-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 provides simple stroke limitation.

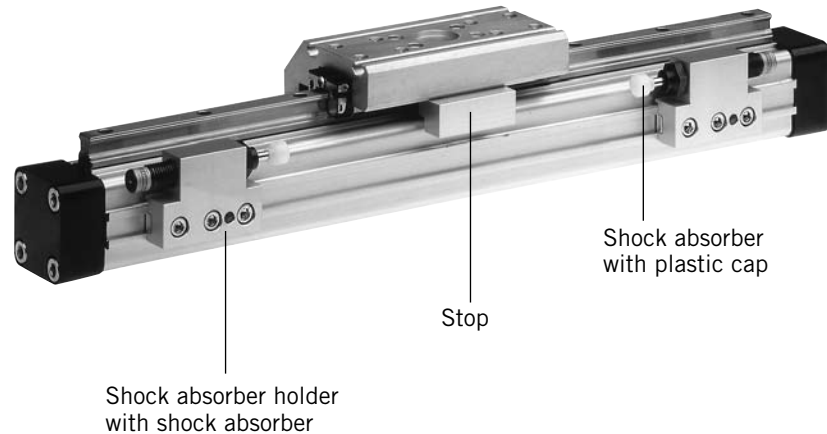
It can be retrofitted and positioned anywhere along the stroke length. For every cylinder diameter two types of shock absorber are available – see „Shock Absorber Selection“ below.

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

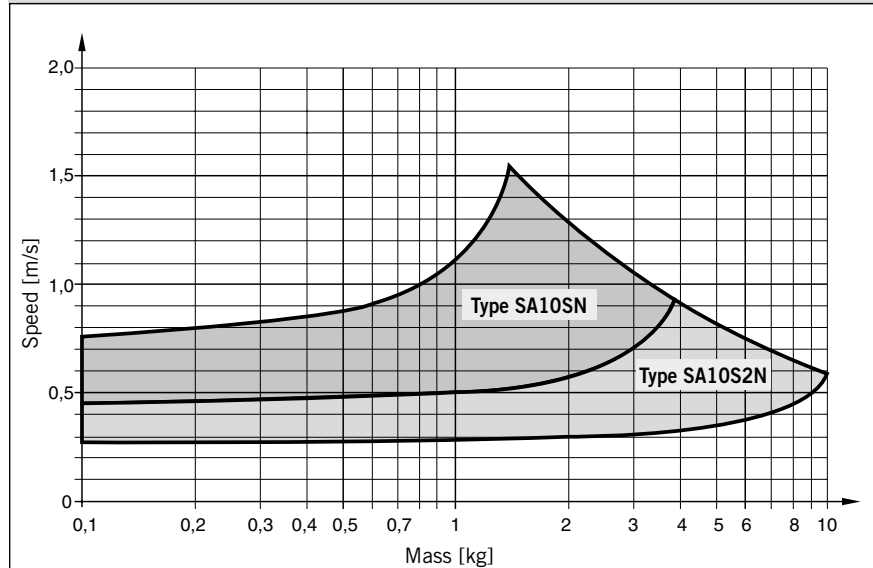


## Shock Absorber Selection

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

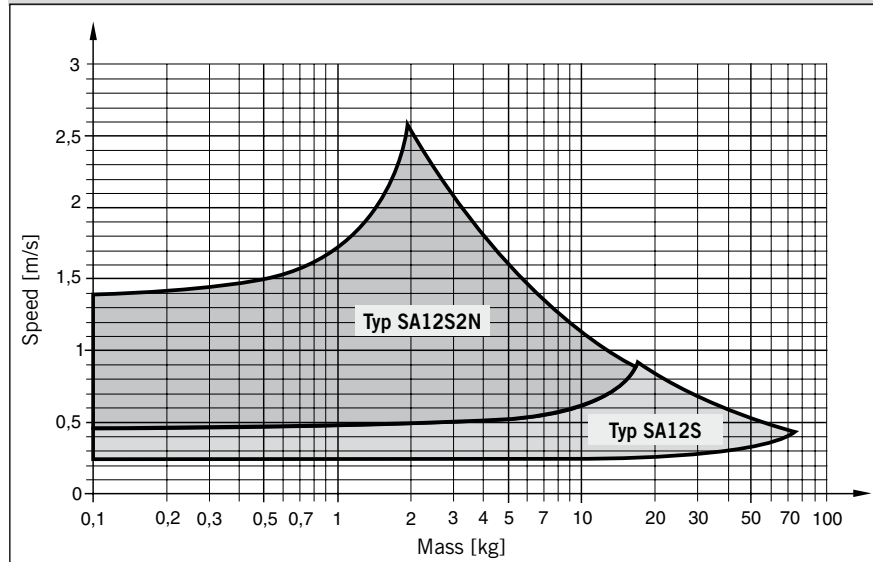
The mass of the carrier itself must be taken into account.

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



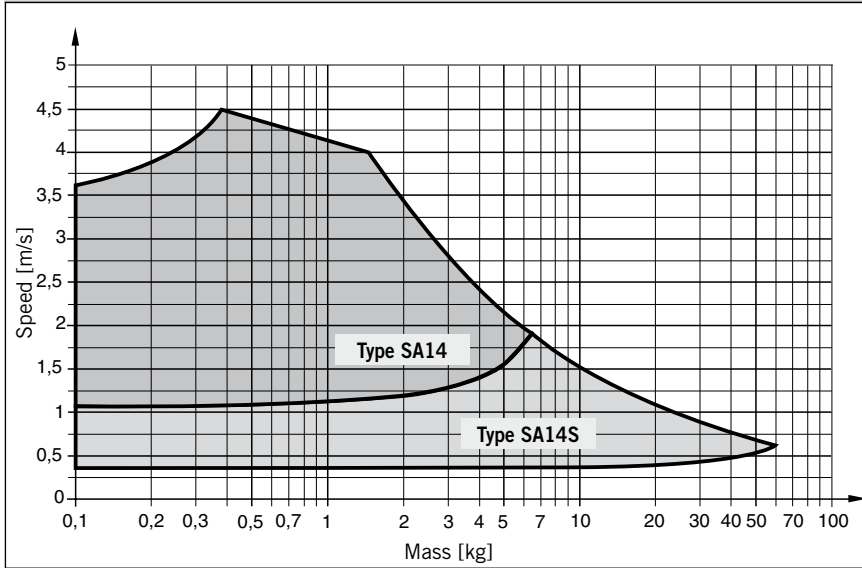
The values relate to an effective driving force of 78 N (6 bar)

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



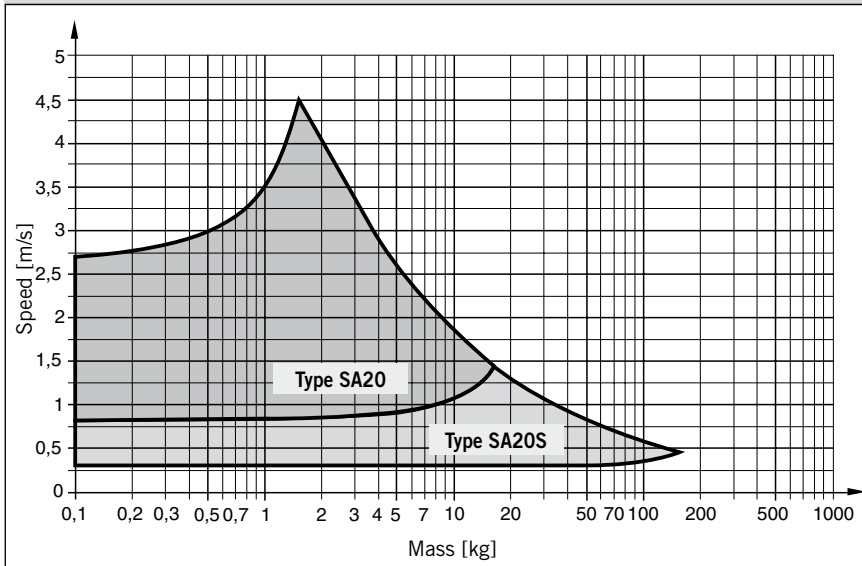
The values relate to an effective driving force of 250 N (6 bar)

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



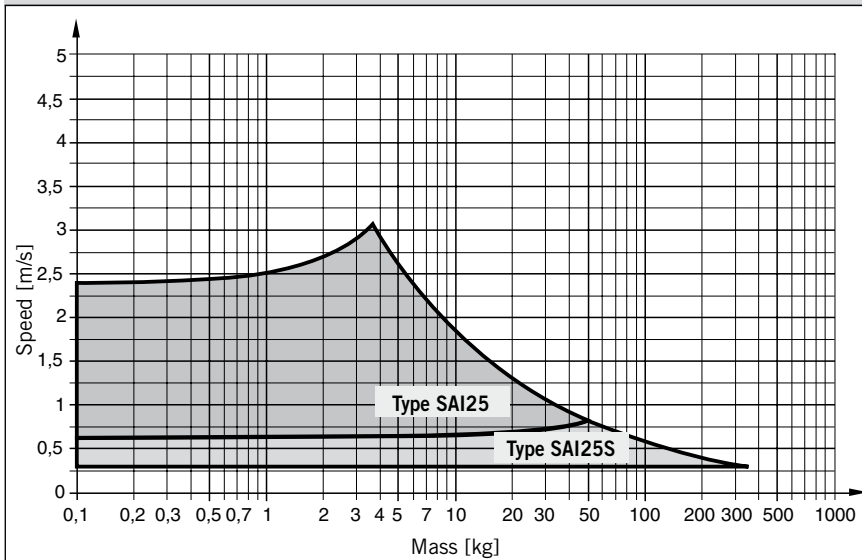
The values relate to an effective driving force of 420 N (6 bar)

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



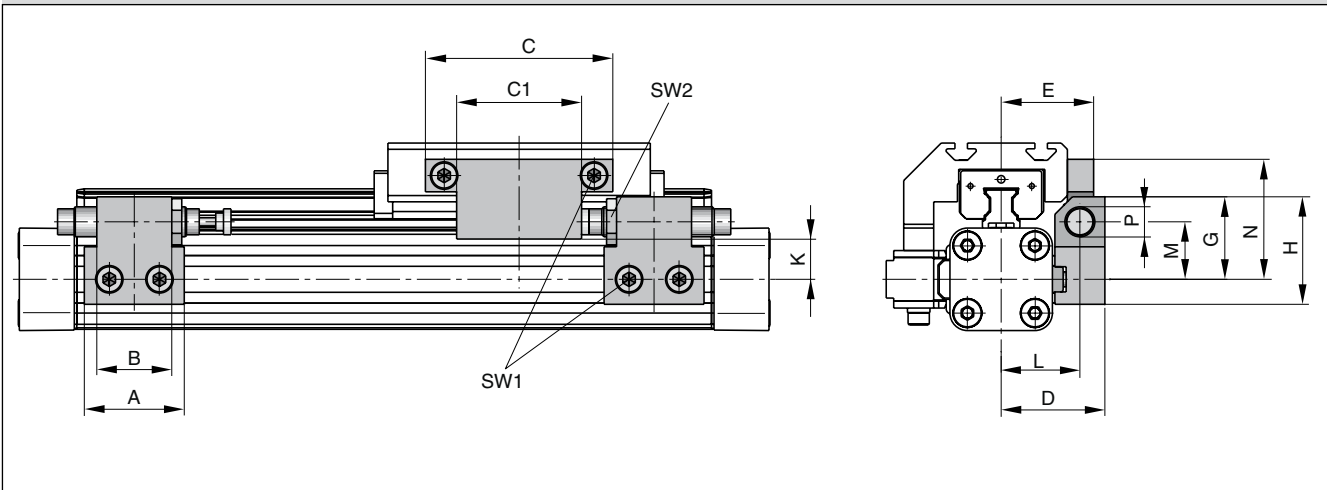
The values relate to an effective driving force of 640 N (6 bar)

**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)

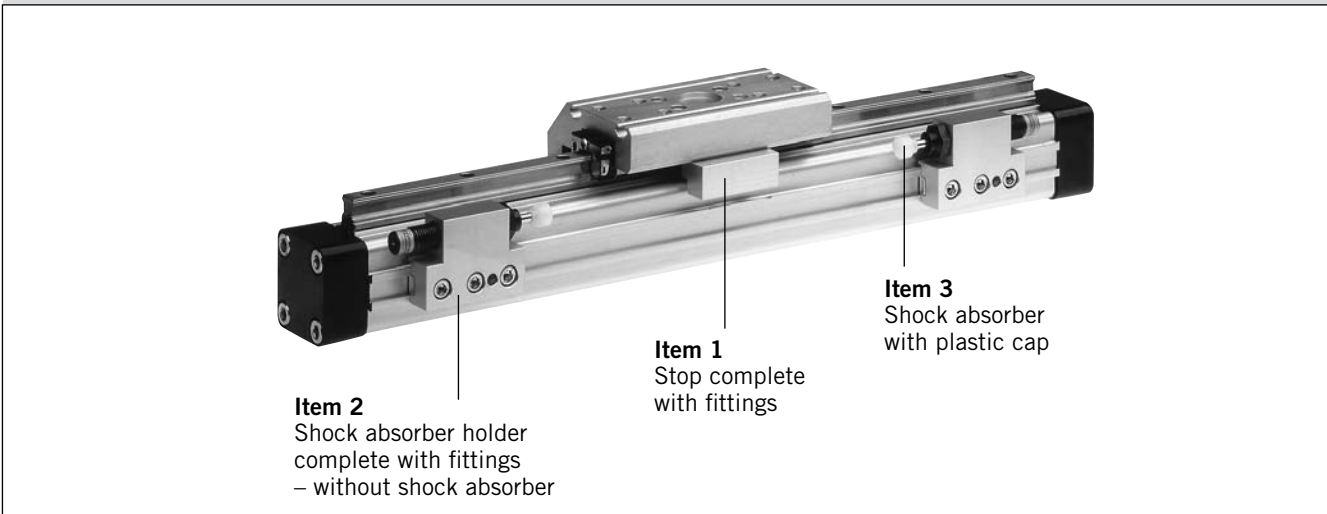
### Dimensions – Variable Stop Type VS16 to VS50



### 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

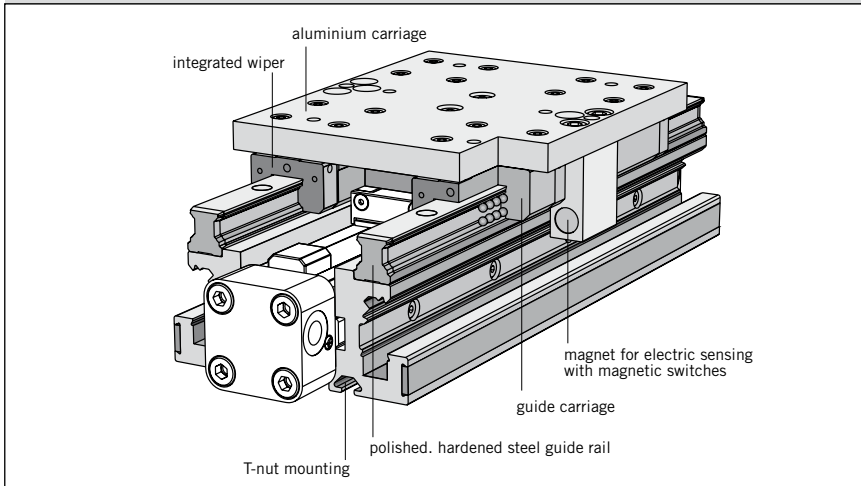


### Order Instructions – Variable Stop Type VS16 to VS50

Item	Description	Size 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	SA10SN	7718	SA12S2N	7723	SA14	7708	SA20	7710	SAI25	7712
	Shock absorber, version S	SA10S2N	7721	SA12S	7707	SA14S	7709	SA20S	7711	SAI25S	7713

\* Shock absorber with plastic cap

Version with pneumatic linear drive series OSP-P

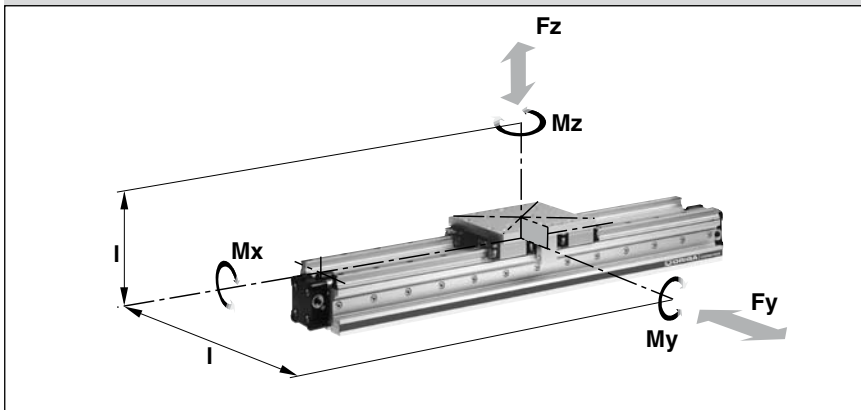


# Heavy Duty-Guide HD



Series HD 25 to 50  
for Linear Drive Series OSP-P

Loads. Forces and Moments



Features:

- Guide system: 4-row recirculating ball bearing guide
- Polished and hardened steel guide rail
- For highest loads in all directions
- Highest precision
- Integrated wiper system
- Integrated grease nipples
- Any lengths of stroke up to 3700 mm (longer strokes on request)
- Anodized aluminium guide carriage - dimensions compatible with OSP guide GUIDELINE
- Maximum speed v = 5 m/s

Options:

- With variable stop
- With intermediate stop module

Technical Data

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

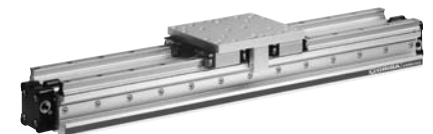
$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not >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 does not have to be added to the total moving mass when using the cushioning diagram.



Series	for linear drive	Max. moments [Nm]			Max. loads [N]		Mass of the linear drive with guide [kg]		Mass * guide carriage [kg]	Order No. HDguide for OSP-P
		Mx	My	Mz	Fy	Fz	with 0 mm stroke	increase per 100 mm stroke		
HD 25	OSP-P25	260	320	320	6000	6000	3.065	0.924	1.289	21246
HD 32	OSP-P32	285	475	475	6000	6000	4.308	1.112	1.367	21247
HD 40	OSP-P40	800	1100	1100	15000	15000	7.901	1.748	2.712	21248
HD 50	OSP-P50	1100	1400	1400	18000	18000	11.648	2.180	3.551	21249

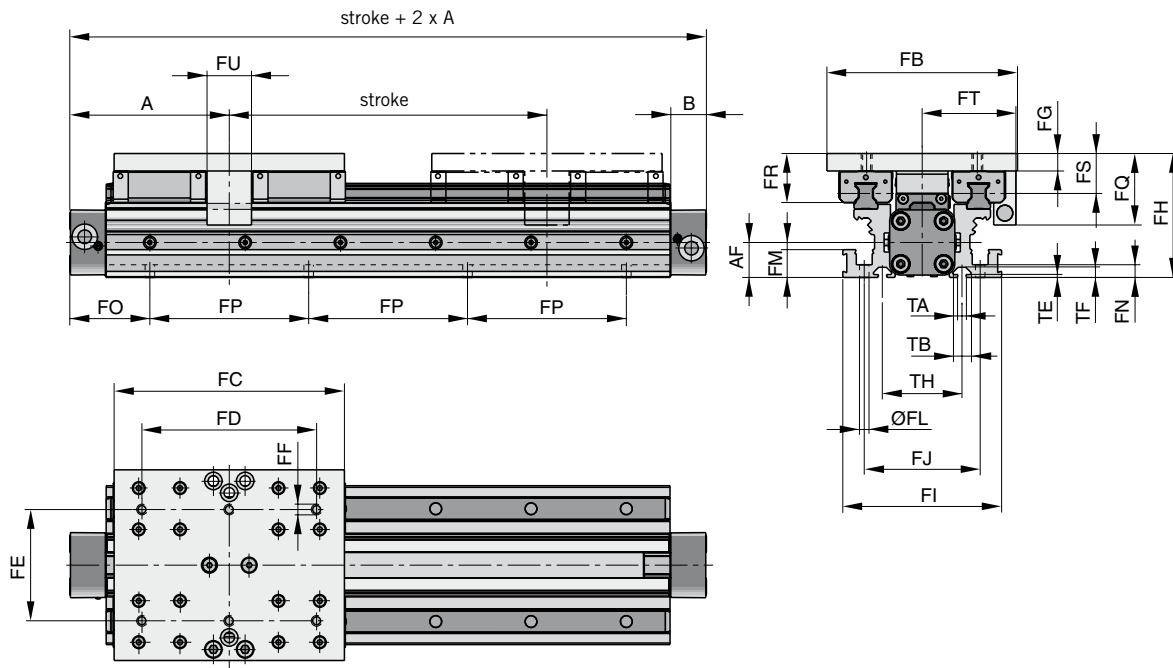
For linear drives see P-1.10.002E

P-A1P739E00EAE00X

The right to introduce technical modifications is reserved

## Dimensions

### Series OSP-P



#### Note:

The HD heavy duty guide must be mounted on a flat surface for its entire length.

If T-grooves or T-bolts are used, the distance between them should not exceed 100 mm.

#### Variable Stop Type VS25 to VS50

The variable stop provides simple stroke limitation and can be supplied mounted on the right or left, as required.

For further information see following data sheets:

For dimensions and order instructions see P-1.40.008E-4

For shock absorber selection see P1-.40.006E-4, -5

#### Incremental displacement measuring system ORIGA-Sensoflex Series SFI-plus

can be supplied mounted on the right or left, as required.

For further information see data sheet P-1.50.002E

#### Arrangement of magnetic switches:

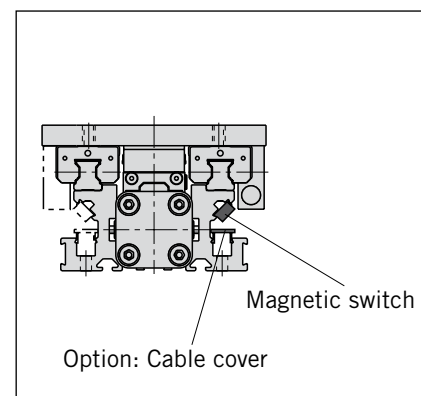
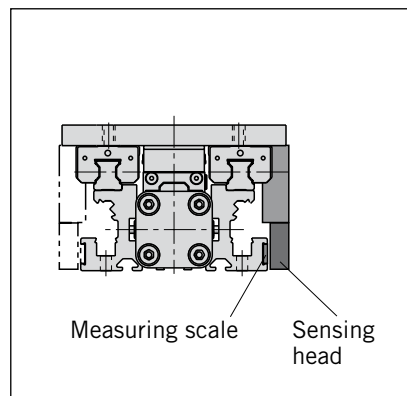
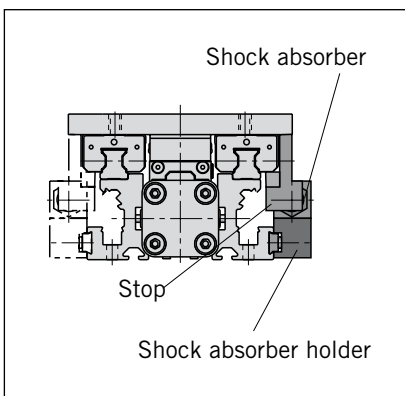
Magnetic switches can be fitted anywhere on either side.

For further information see following data sheets:

Magnetic Switches P-1.45.100E, P-1.45.104E and P-1.45.105E

Cable Cover P-1.45.102E-1

Linear Drives OSP-P P-1.10.002E





Dimension Table (mm)													
Series	A	B	AF	FB	FC	FD	FE	FF	FG	FH	FI	FJ	ØFL
HD25	100	22	22	120	145	110	70	M6	11	78	100	73	6
HD32	125	25.5	30	120	170	140	80	M6	11	86	112	85	6
HD40	150	28	38	160	180	140	110	M8	14	108	132	104	7.5
HD50	175	33	48	180	200	160	120	M8	14	118	150	118	7.5

Series	FM	FN	FP	FQ	FR	FS	FT	FU	TA	TB	TE	TF	TH
HD25	17.5	8	100	45	31	25	59	28	5.2	11.5	1.8	6.4	50
HD32	17.5	8	100	45	31	25	63	30	5.2	11.5	1.8	6.4	60
HD40	22	10	100	58	40	31.5	76	30	8.2	20	4.5	12.3	66
HD50	22	10	100	58	44	35.5	89	30	8.2	20	4.5	12.3	76

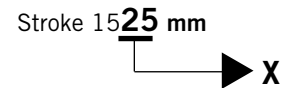
FO				
OSP-P				
x	HD25	HD32	HD40	HD50
00	50.0	75.0	50.0	75.0
01	50.5	75.5	50.5	75.5
02	51.0	76.0	51.0	76.0
03	51.5	76.5	51.5	76.5
04	52.0	77.0	52.0	77.0
05	52.5	77.5	52.5	77.5
06	53.0	78.0	53.0	78.0
07	53.5	78.5	53.5	78.5
08	54.0	79.0	54.0	79.0
09	54.5	79.5	54.5	79.5
10	55.0	80.0	55.0	80.0
11	55.5	80.5	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	HD25	HD32	HD40	HD50
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	80.0	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:**

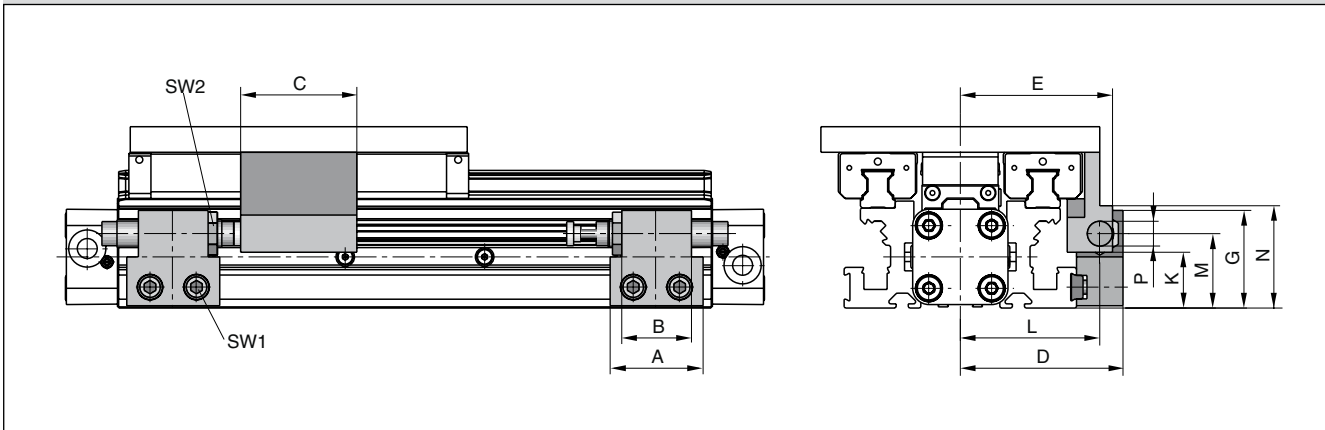
the dimension FO is derived from the last two digits of the stroke:

**Example:**



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

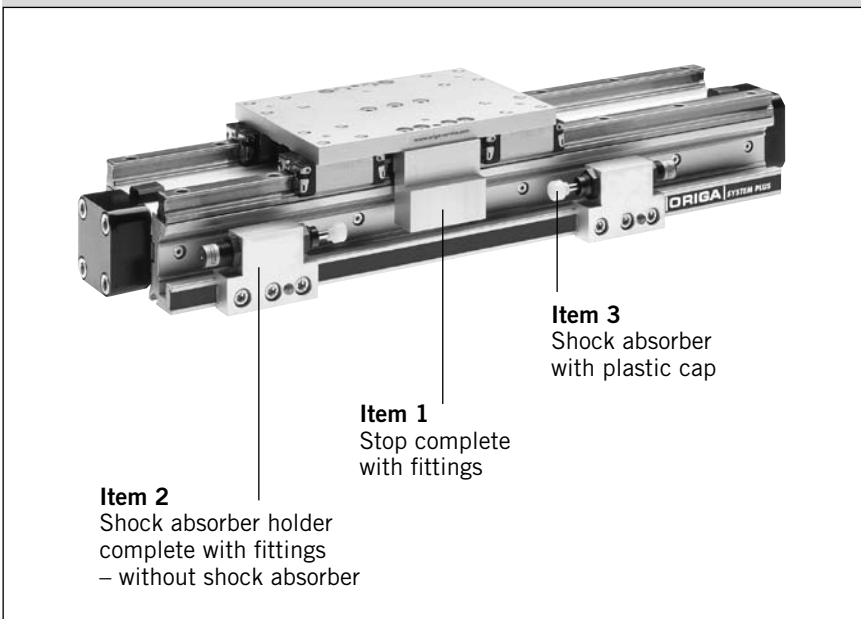
### Dimensions – Variable Stop Type VS25 to VS50



### Dimension Table (mm) – Variable Stop Type VS25 to VS50

Series	Type	A	B	C	D	E	G	K	L	M	N	P	SW1	SW2
OSP-HD25	VS25	40	30	50	70	65.5	42	26	60	32	42	M12 x 1	5	16
OSP-HD32	VS32	60	40	54	73	71	44	28	63	34	53	M14 x 1.5	5	17
OSP-HD40	VS40	84	52	55	96	92	59	35	82	45	61	M20 x 1.5	5	24
OSP-HD50	VS50	84	-	60	107	105	66	37	89	49	66	M25 x 1.5	5	30

### Order Information – Variable Stop Type VS25 to VS50



### Shock Absorber Selection

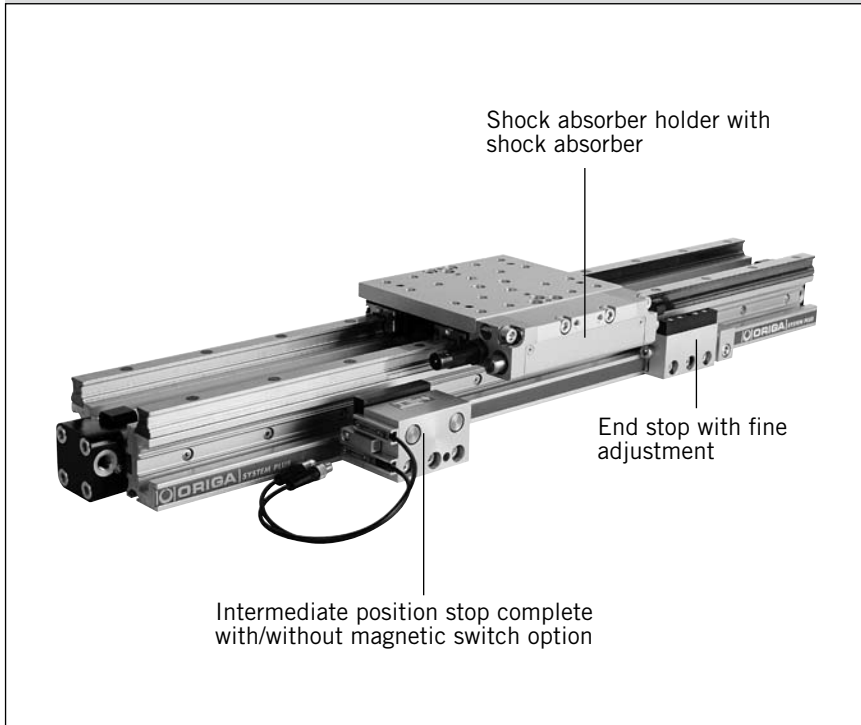
For shock absorber selection in dependence on mass and speed see data sheet P-1.40.006E-4. -5

### Order Instructions – Variable Stop Type VS25 to VS50

Item	Description	Size VS25		VS32		VS40		VS50	
		Type	Order No.	Type	Order No.	Type	Order No.	Type	Order No.
1	Stop, complete	-	21257	-	21258	-	21259	-	21260
2	Shock absorber holder, complete	-	21202	-	21203	-	21204	-	21205
3 *	Shock absorber, standard	SA12S2N	7723	SA14	7708	SA20	7710	SAI25	7712
	Shock absorber, version S	SA12S	7707	SA14S	7709	SA20S	7711	SAI25S	7713

\* Shock absorber with plastic cap (see data sheet P-1.40.006E-4. -5)

## Intermediate stop module Type ZSM..HD



# Intermediate stop module

The intermediate stop module ZSM allows the guide carriage to stop at any desired intermediate positions with high accuracy. It can be retrofitted. Depending on the application, i.e. the number of intermediate stops, one or more intermediate position stops can be used. The intermediate position stops can be retracted and extended without the need for the guide carriage to be moved back out of position. Therefore the guide carriage can be made to stop at the defined intermediate positions in any order.

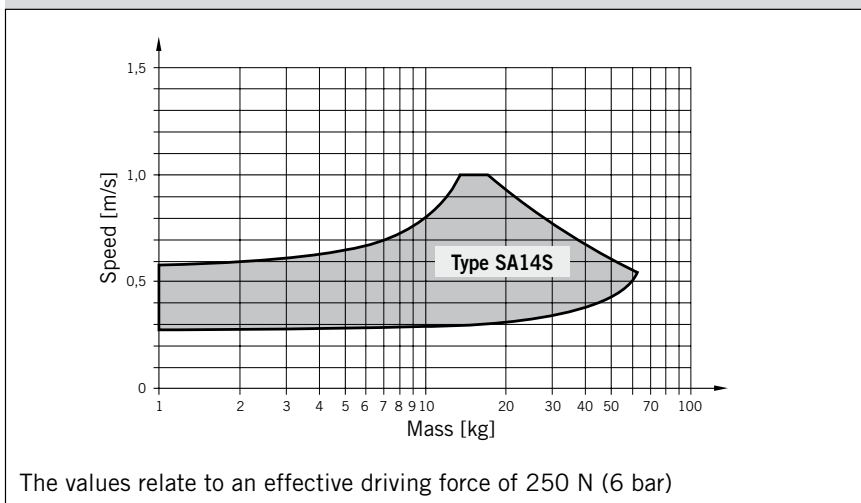
### ORIGA intermediate stop module ZSM:

- Allows stopping at any intermediate positions
- Intermediate position stops can be located steplessly anywhere along the whole stroke length
- Movement to the next position without reverse stroke
- Compact unit
- Cost-effective positioning module without electrical or electronic components
- Option: end stop with fine adjustment

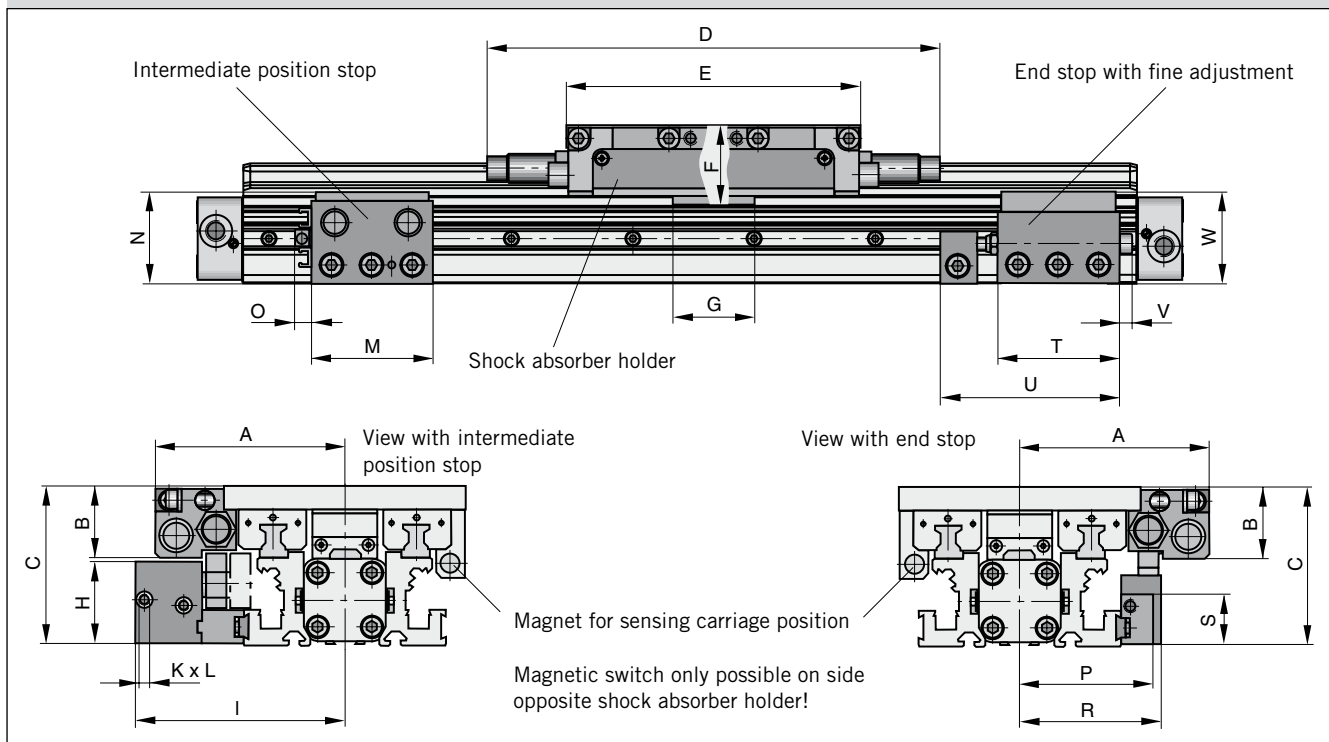
### Technical data

Temperature range	-10°C to +70°C
Operating pressure range	4 – 8 bar
Intermediate position grid	85 mm

## Shock Absorber Type SA14S



## Dimensions – intermediate stop module Type ZSM..HD

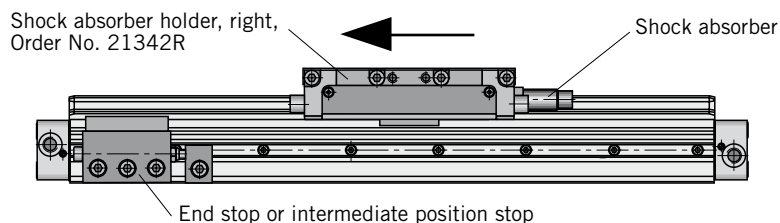


## Dimension table (mm) – intermediate stop module Type ZSM..HD

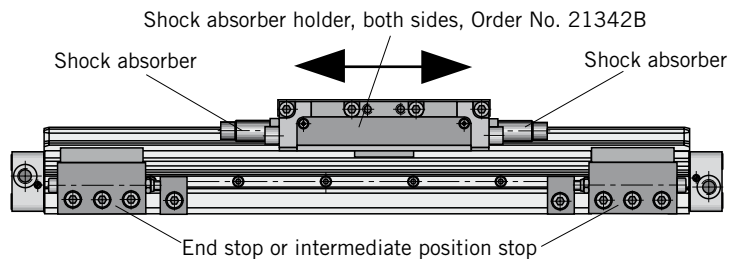
Series	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	R	S	T	U	V	W
ZSM25	94	35	78	224	145	39	40	41	104	M5	5	60	45	8	66	70	26	60	93	6	45

## Shock absorber arrangement in dependence on direction of movement

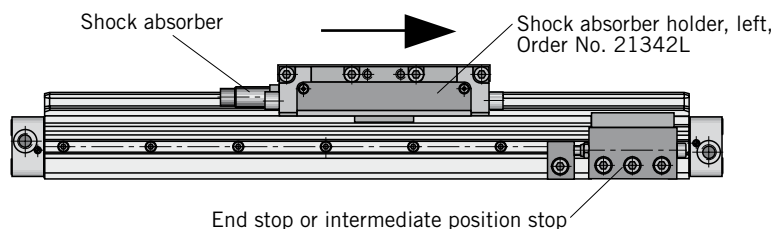
### From right to left



### In both directions



### From left to right



**Order instructions – intermediate stop module Type ZSM..HD**

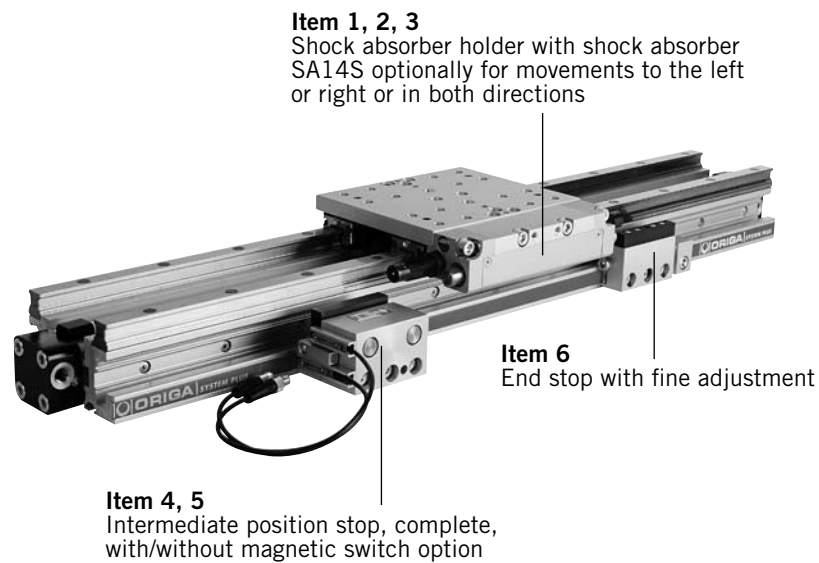


Illustration shows version with shock absorber holder for movement in both directions and magnetic switch option with T-slot switches (for magnetic switches see Accessories P-1.45.104E)

**Order instructions – intermediate stop module Type ZSM..HD**

Item	Description	For intermediate stop module	Order-No.
1*	Shock absorber holder with shock absorber SA14S, both sides	ZSM25HD	<b>21342B</b>
2*	Shock absorber holder with shock absorber SA14S, left	ZSM25HD	<b>21342L</b>
3*	Shock absorber holder with shock absorber SA14S, right	ZSM25HD	<b>21342R</b>
4	Intermediate position stop complete, without magnetic switch option	ZSM25HD	<b>21343</b>
5	Intermediate position stop complete, with magnetic switch option	ZSM25HD	<b>21344</b>
6	End stop with fine adjustment	ZSM25HD	<b>21346</b>

\* The shock absorbers are installed in the shock absorber holder and adjusted in our workshop.

**Note:**

**For movement onwards from the intermediate position, the intermediate position stop must advance.**

**The intermediate position stop can only advance if both cylinder chambers of the OSP-P cylinder are pressurized.**

