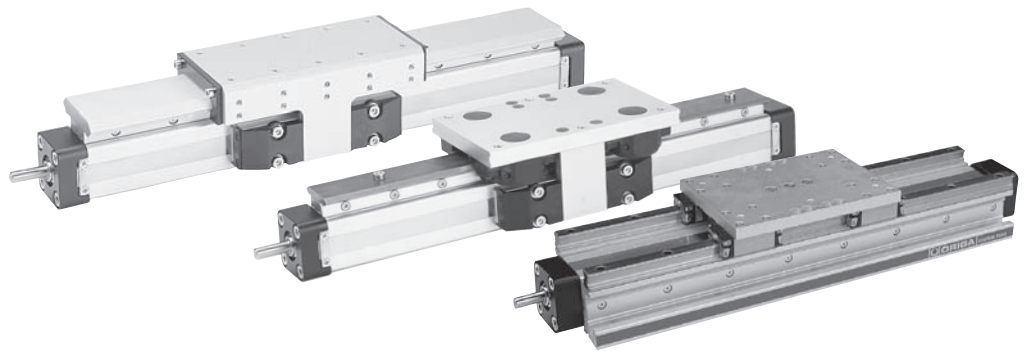


Linear Guides Series OSP-E



Contents

Description	Data Sheet No.	Page
Overview	1.40.020E	101-102
Plain Bearing SLIDELINE	1.40.021E	103-104
Roller Guide POWERSLIDE	1.40.022E	105-108
Aluminium Roller Guide PROLINE	1.40.024E	109-111
NEW Heavy-duty guide HD	1.40.025E	113-115

Linear Guides

Adaptive modular system

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

Versions:

Electric linear drive

Series:

- OSP-E..B
- OSP-E..SB
- OSP-E..ST

Sizes:

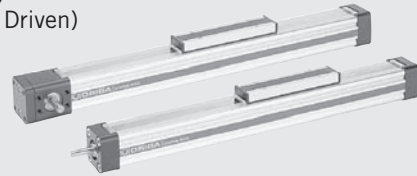
25 - 32 - 50

Advantages:

- takes high loads and moments
- high precision
- smooth operation
- can be retrofitted
- can be installed in any position

Electric linear drive

- Series OSP-E..B (Toothed Belt Driven)
- Series OSP-E..SB (Ball Screw Driven)
- Series OSP-E..ST (Trapezoidal Screw Driven)



SLIDELINE

The cost-effective plain bearing guide for medium loads.

- for spindle drives only
- Series OSP-E..SB, OSP-E..ST

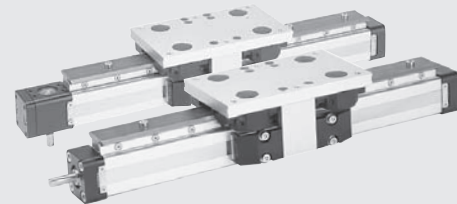
See data sheet 1.40.021E



POWERSLIDE

The roller guide for heavy loads.

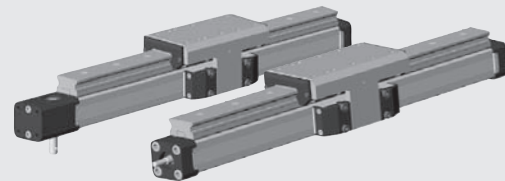
See data sheet 1.40.022E



PROLINE

The ball bushing guide for heavy loads and speed.

See data sheet 1.40.024E

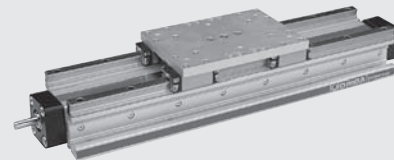


HD-Guide (heavy-duty guide)

The recirculating ball bearing guide for the heaviest loads and greatest accuracy.

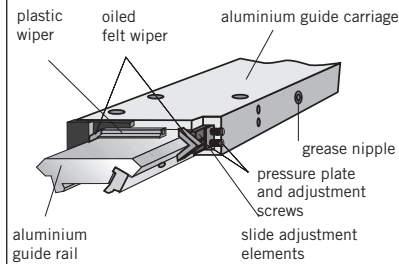
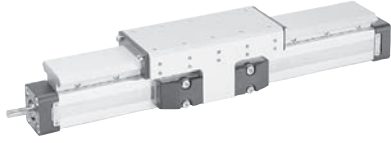
- for Screw Drives only
- Series OSP-E..SB, OSP-E..ST

See data sheet 1.40.025E



Versions

– for electric linear drive:
Series OSP-E Screw



Plain Bearing Guide SLIDELINE

OSP
— ORIGA
— SYSTEM
— PLUS

Series SL 25 to 50
for Linear Drive
• Series OSP-E Screw

Technical Data

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

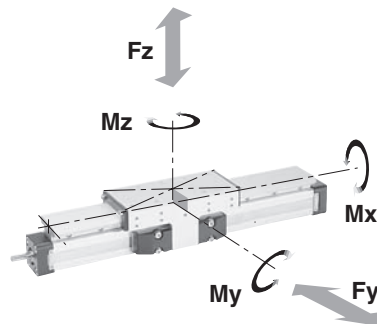
The load and moment figures apply to speeds $v < 0.2$ m/s.

Features:

- anodised aluminium guide rail with prism-shaped slideway arrangement
- adjustable plastic slide elements
- composite sealing system with plastic and felt wiper elements to remove dirt and lubricate the slideways.
- corrosion-resistant version available on request

For further technical data see also linear drive OSP-E (1.30.002E, 1.35.002E).

Loads, forces and moments



Series	Max. Moments [Nm]			Max. Load [N] F	Mass of Drive with guide [kg]		Masse of guide carriage [kg]	Ident-Nr. SLIDELINE ¹⁾ without brake for OSP-E Screw
	Mx	My	Mz		with 0 mm stroke OSP-E Screw	increase per 100 mm stroke OSP-E Screw		
SL 25	14	34	34	675	1.8	0.42	0.61	20342
SL 32	29	60	60	925	3.6	0.73	0.95	20196
SL50	77	180	180	2000	8.7	1.44	2.06	20195

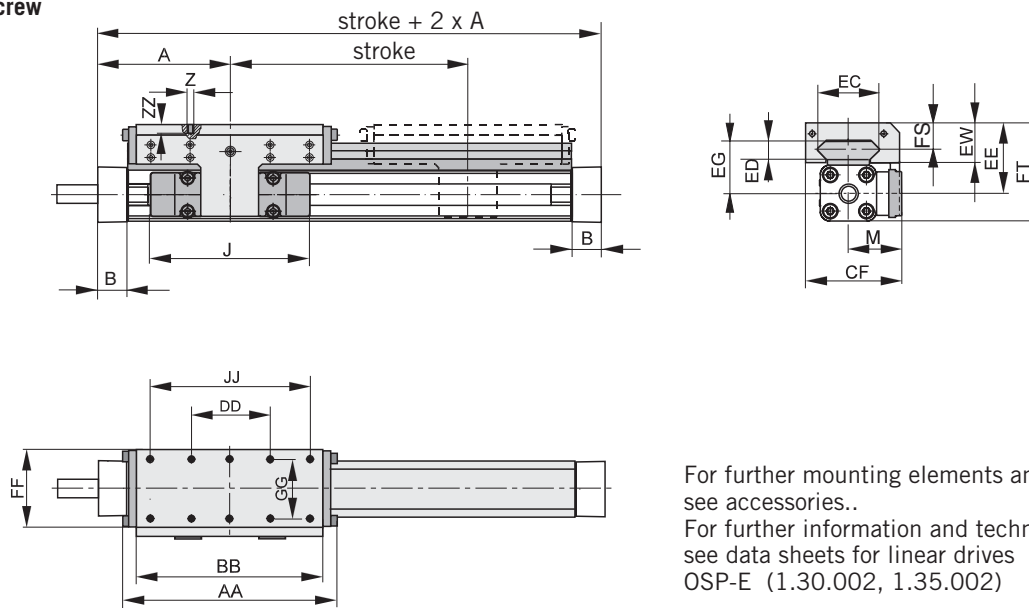
¹⁾ Corrosion resistant fixtures available on request

The right to introduce technical modifications is reserved

Linear Drive see 1.20.002E, 1.25.002E, 1.30.002E, 1.35.002E
Mountings see 1.44.014E

Dimensions

Series OSP-E Screw



For further mounting elements and options see accessories..
For further information and technical data see data sheets for linear drives OSP-E (1.30.002, 1.35.002)

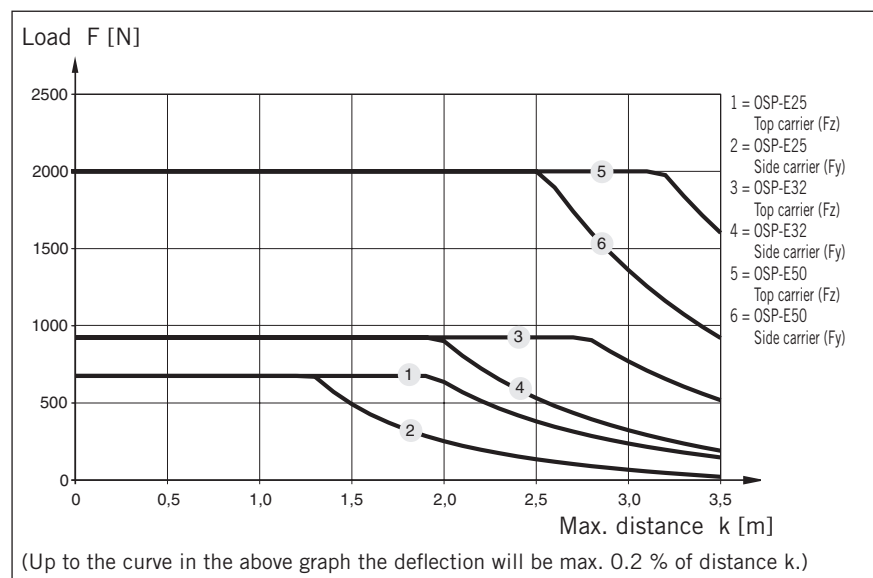
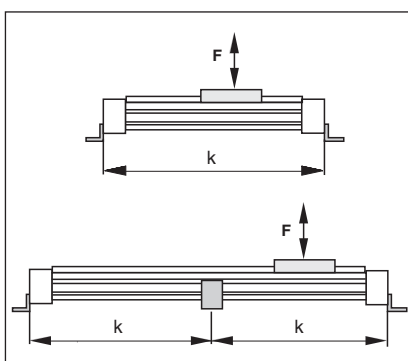
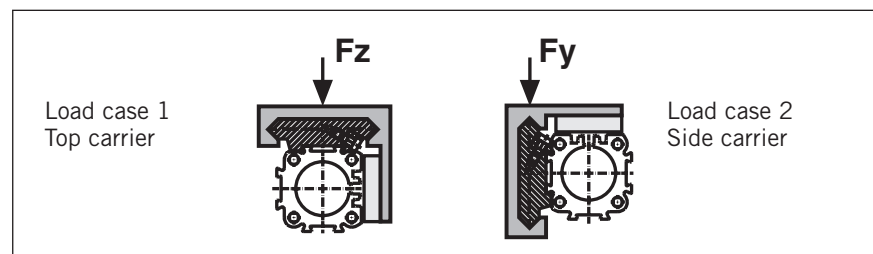
Dimension Table [mm]

Series	A	B	J	M	Z	AA	BB	DD	CF	EC	ED	EE	EG	EW	FF	FT	FS	GG	JJ	ZZ
SL25	100	22	117	40.5	M6	162	142	60	72.5	47	12	53	39	30	64	73.5	20	50	120	12
SL32	125	25.5	152	49	M6	205	185	80	91	67	14	62	48	33	84	88	21	64	160	12
SL50	175	33	200	62	M6	284	264	120	117	94	14	75	56	39	110	118.5	26	90	240	16

Mid-Section Support

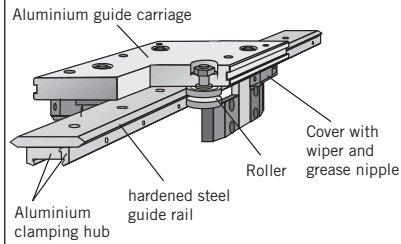
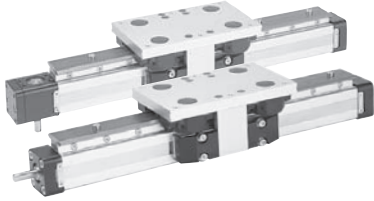
(for versions see 1.44.014E-4)

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.



Versions

– for electric linear drive:
Series OSP-E Belt
Series OSP-E Screw



Roller Guide- POWERSLIDE

OSP
— ORIGA
— SYSTEM
— PLUS

Series PS 25 to 50
for Linear Drive

- Series OSP-E Belt *
- Series OSP-E Screw

Technical Data

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

For further information and technical data see data sheets for linear drives OSP-E Belt (1.20.002E, 1.25.002E) and OSP-E Ball Screw (1.30.002E, 1.35.002E)

Features:

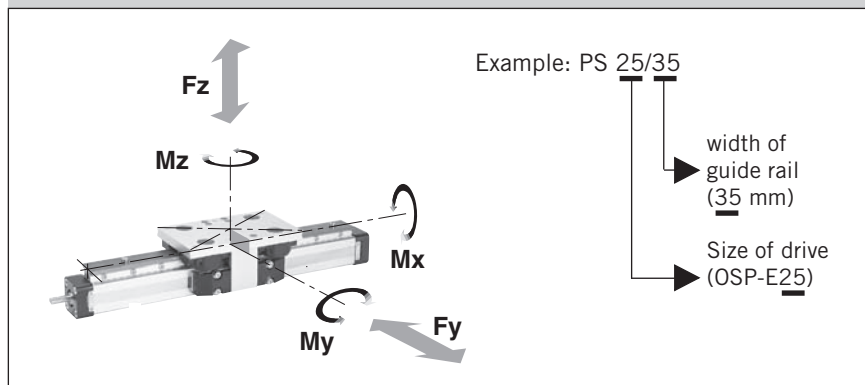
- anodised aluminium guide carriage with vee rollers having 2 rows of ball bearings
- hardened steel guide rail
- several guide sizes can be used on the same drive
- max. speed $v = 3$ m/s
- tough roller cover with wiper and grease nipple
- any length of stroke up to 3500 mm (longer strokes on request).
The maximum stroke lengths of drives OSP-E..B, OSP-E..SB and OSP-E..ST must be observed.

OSP-E Belt:

For position of guides see page 1.40.022E -2

* Series PS for OSP-E Bi-parting version on request

Loads, forces and moments

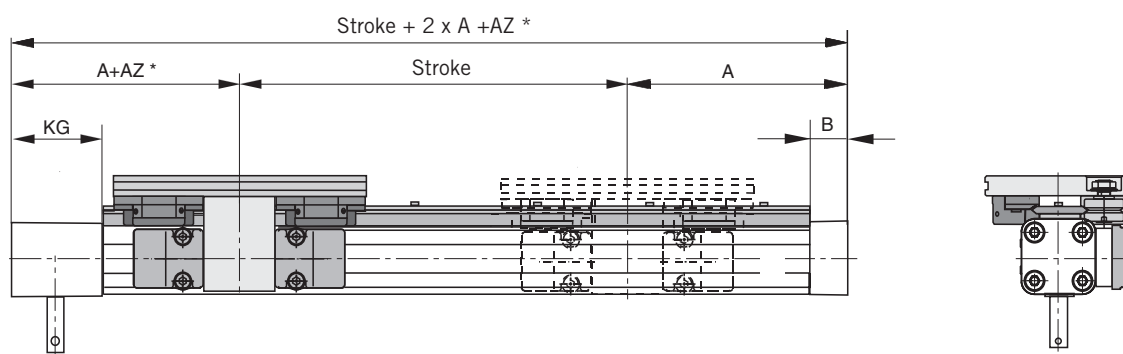


Series	Max. Moments [Nm]			Max. Load [N] Fy, Fz	Mass of drive with guide [kg] with 0 mm stroke				Mass * of guide carriage [kg]	Order No. Powerslide for	
	Mx	My	Mz		OSP-E Belt	OSP-E Screw	increase per 100 mm stroke			OSP-E* Belt	OSP-E Screw
PS 25/25	14	63	63	910	1.9	1.8	0.30	0.37	0.7	20304	20015
PS 25/35	17	70	70	1010	2.1	1.9	0.34	0.41	0.8	20305	20016
PS 25/44	20	175	175	1190	3.0	2.7	0.42	0.49	1.5	20306	20017
PS 32/35	20	70	70	1400	3.1	3.2	0.51	0.63	0.8	20307	20286
PS 32/44	50	175	175	2300	4.0	4.1	0.59	0.70	1.5	20308	20287
PS 50/60	90	250	250	3000	8.8	8.7	1.04	1.36	2.3	20309	20288
PS 50/76	140	350	350	4000	12.2	12.0	1.28	1.6	4.9	20310	20289

The right to introduce technical modifications is reserved

For **Linear drives** see **data sheet** 1.20.002E, 1.25.002E, 1.30.002E, 1.35.002E
For **Mountings** see **data sheet** 1.44.014E

Dimensions – Series OSP-E Belt

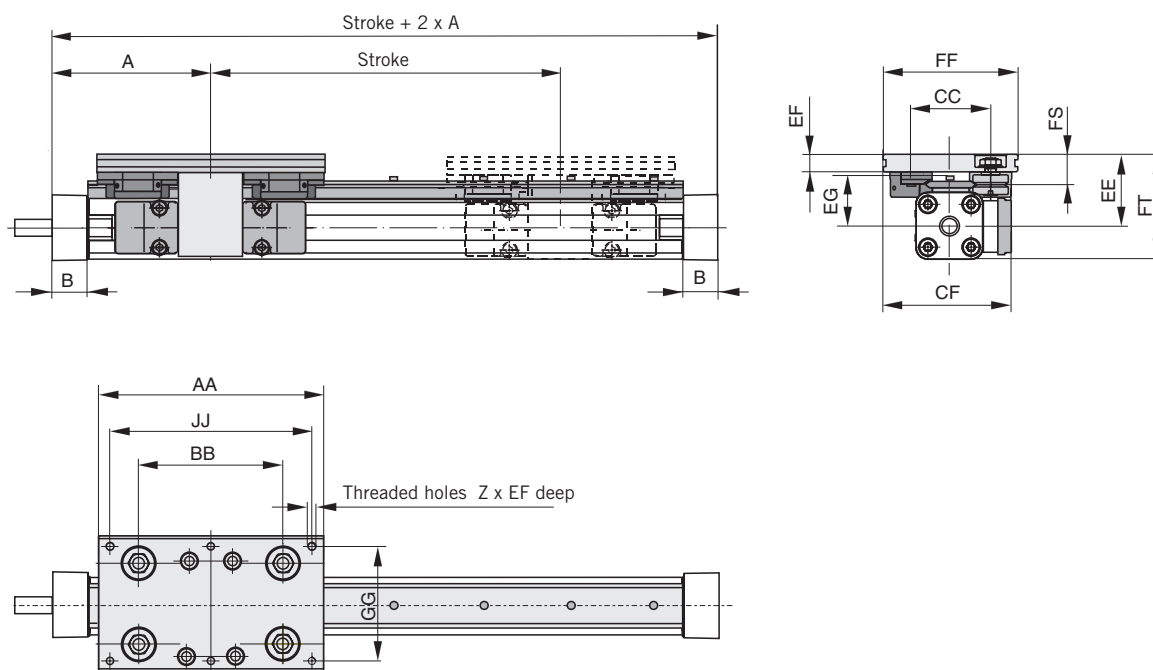


* Please note

The dimension „AZ“ must be added to „A“. Stroke length to order is stroke + dimension „AZ“ + safety clearance (see Data Sheet 1.20.002-6, 1.25.002-6)

Please also note the effect of dimension „AZ“ when retrofitting a guide – contact your local HOERBIGER-ORIGA technical support department.

Dimensions – Series OSP-E Screw



Dimension Table [mm]

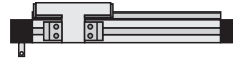
Series	A		B		Z	AA	AZ	BB	CC	CF	EE	EF	EG	FF	FS	FT	GG	JJ	KG
	OSP-E Belt	OSP-E Screw	OSP-E Belt	OSP-E Screw															
PS 25/25	125	100	22	22	6xM6	145	5	90	47	79.5	53	11	39	80	20	73,5	64	125	57
PS 25/35	125	100	22	22	6xM6	156	10	100	57	89.5	52.5	12.5	37.5	95	21.5	73	80	140	57
PS 25/44	125	100	22	22	6xM8	190	27	118	73	100	58	15	39	116	26	78.5	96	164	57
PS 32/35	150	125	25	25.5	6xM6	156	-	100	57	95.5	58.5	12.5	43.5	95	21.5	84.5	80	140	61
PS 32/44	150	125	25	25.5	6xM8	190	6	118	73	107	64	15	45	116	26	90	96	164	61
PS 50/60	200	175	25	33	6xM8	240	5	167	89	130.5	81	17	61	135	28.5	123.5	115	216	85
PS 50/76	200	175	25	33	6xM10	280	25	178	119	155.5	93	20	64	185	39	135.5	160	250	85

OSP-E Belt – If combined with a linear guide, please also state position of linear guide

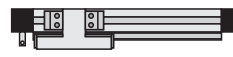
**Position of Drive Shaft
Standard = 0**

Position of Linear Guide

Standard
Position of the guide on the opposite side of the drive shaft



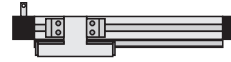
Opposite to Standard
Position of the guide on the side of the drive shaft



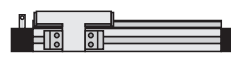
**Position of Drive Shaft
Opposite to Standard = 1**

Position of Linear Guide

Standard
Position of the guide on the opposite side of the drive shaft



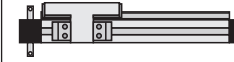
Opposite to Standard
Position of the guide on the side of the drive shaft



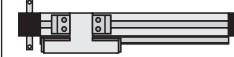
**Position of Drive Shaft
Both Sides = 2**

Position of Linear Guide

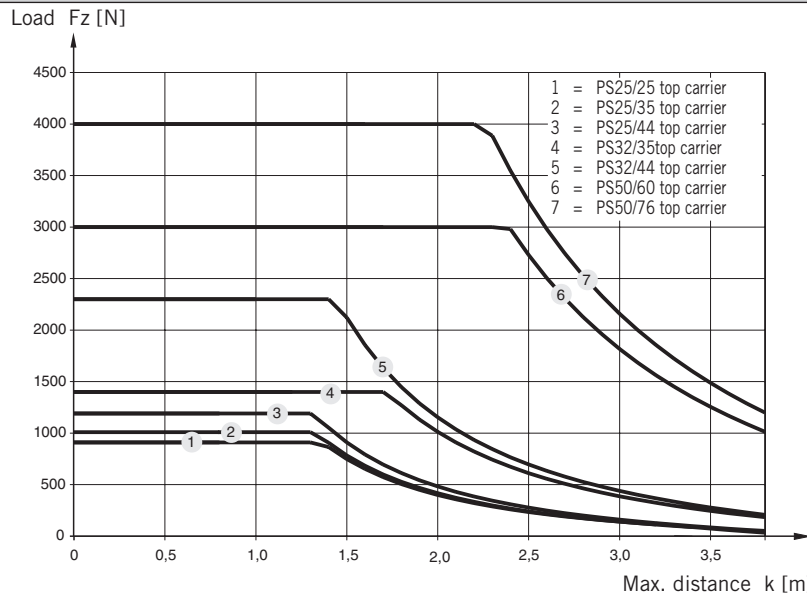
Standard
Position of the guide on the opposite side of the drive shaft



Opposite to Standard
Position of the guide on the side of the drive shaft



Load Case 1 – Top Carrier

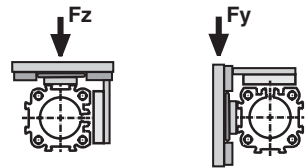


(Up to the curve in the above graph the deflection will be max. 0.2 % of distance k.)

**Mid-Section
Support**

(for versions see 1.44.014E-4)

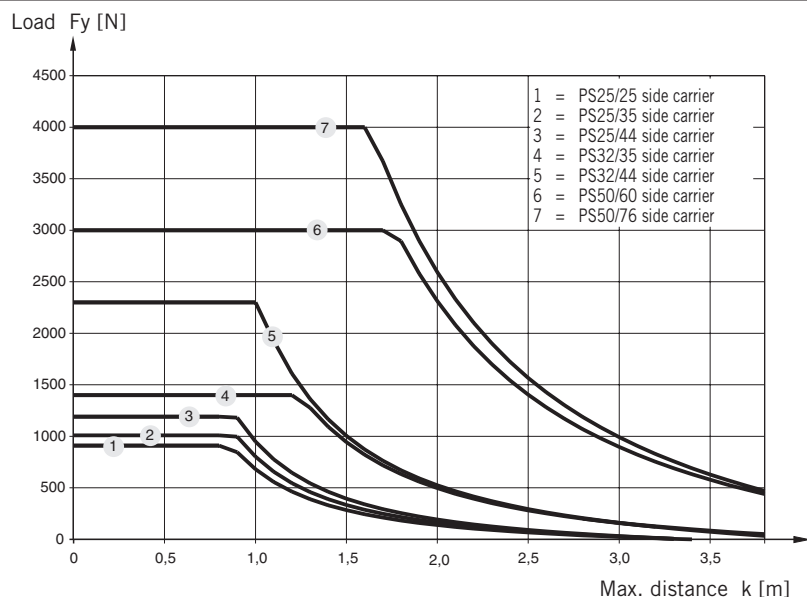
Mid-section supports are required from a certain stroke length to prevent excessive deflection and vibration of the linear drive. The diagrams show the maximum permissible unsupported length in relation to loading.



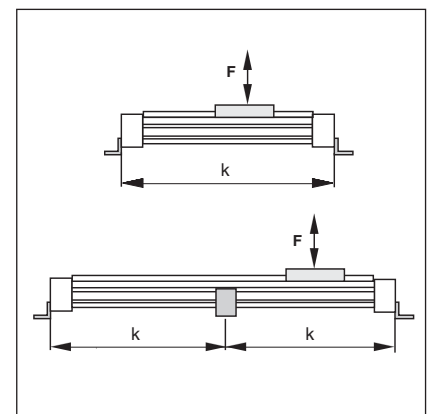
Load case 1
Top carrier

Load case 2
Side carrier

Load Case 2 – Side Carrier



(Up to the curve in the above graph the deflection will be max. 0.2 % of distance k.)



Other Mountings and Options see data sheet 1.45.024E

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

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

with combined loads, L_F must 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.

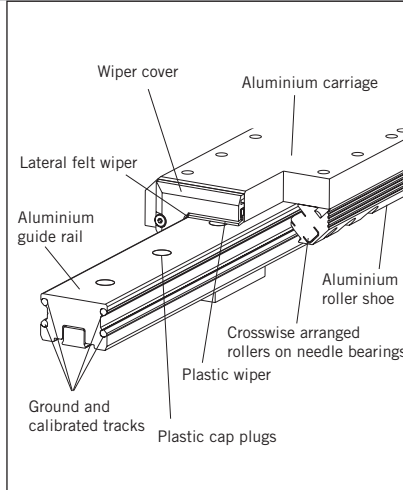
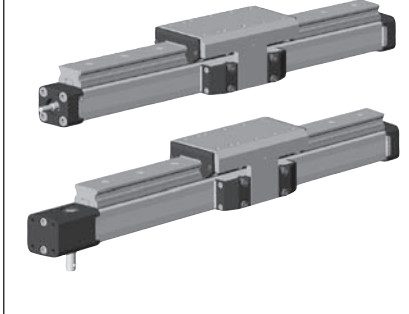
Lubrication intervals are dependent on environmental conditions (temperature, running speed, grease quality etc.) therefore the installation should be regularly inspected.

2. Calculation of service life

• For 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 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 electric Linear Drive:
Series OSP-E Belt
Series OSP-E Screw



Aluminium Roller Guide PROLINE

OSP
— ORIGA
— SYSTEM
— PLUS

**Series PL 25 to 50
for Linear Drive**
• Series OSP-E Belt *
• Series OSP-E Screw

Technical Data

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

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

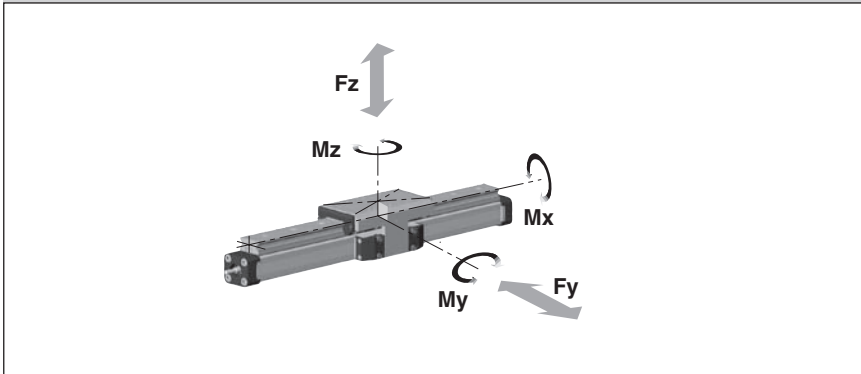
The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

With a load factor of < 1, the service life is 5000 km.
The sum of the loads must not exceed >1

Features:

- High precision
- High velocities (10 m/s)
- Smooth operation - low noise
- Integrated wiper system
- Compact dimensions - compatible to Slideline plain bearing guide
- Stainless steel version available on request
- Any length of stroke up to 3750 mm
The maximum stroke lengths of drives OSP-E..B, OSP-E..SB and OSP-E..ST must be observed

Loads, Forces and Moments



OSP-E Belt:

for position of guides see page 1.40.024E-2

For further information and technical data see data sheets for linear drives OSP-E Belt (1.20.002E, 1.25.002E) and OSP-E Ball Screw (1.30.002E, 1.35.002E)

* **Series PL for OSP-E Bi-parting version on request**

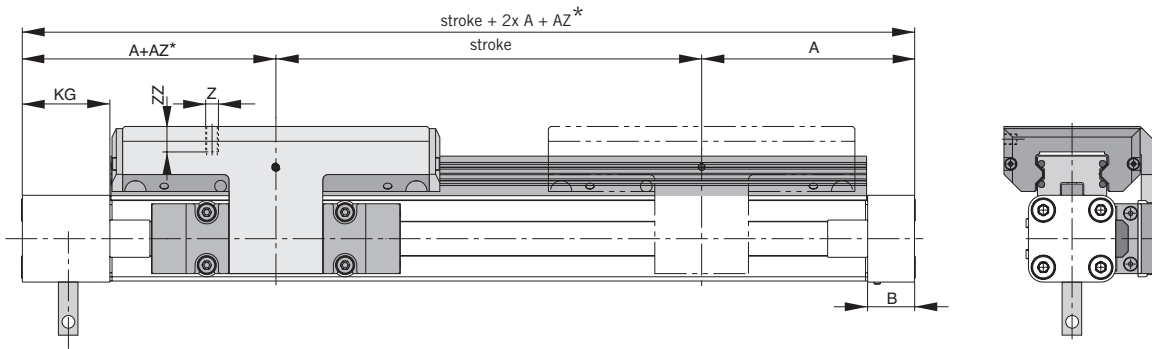
Series	Max. Moments [Nm]			Max. Load [N] Fy, Fz	Mass of drive with guide [kg]				Mass guide-carriage [kg]	Order No. PROLINE ¹⁾ for	
	Mx	My	Mz		OSP-E Belt	OSP-E Screw	increase per 100 mm stroke OSP-E Belt	OSP-E Screw		OSP-E Belt*	OSP-E Screw
PL 25	19	44	44	986	1.9	1.8	0.33	0.40	0.75	20874	20856
PL 32	33	84	84	1348	3.6	3.7	0.58	0.70	1.18	20875	20857
PL 50	128	287	287	3582	8.9	8.8	1.00	1.32	2.50	20876	20859

¹⁾ Stainless steel version on request

The right to introduce technical modifications is reserved

For **Linear Drives** see 1.20.002E, 1.25.002E, 1.30.002E, 1.35.002E
For **Mountings** see 1.44.014E

Dimensions Series OSP-E Belt PL25, PL32, PL50

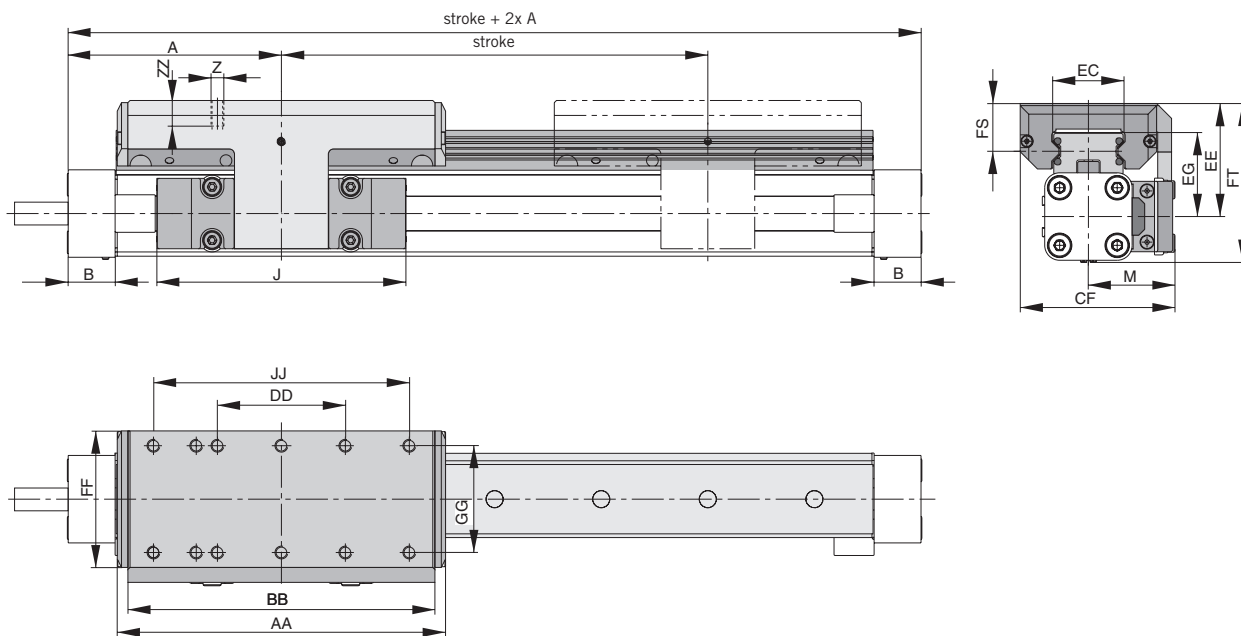


* Please observe:
 Dimension "AZ" must be added to dimension "A". The stroke to be ordered will be: stroke + min. dimension "AZ" + additional length
 (see data sheet 1.20.002-6, 1.25.002-6)
 Please observe the effect of dimension "AZ" when retrofitting a guide. Please contact our application engineers.

Dimension Table [mm] Series OSP-E Belt PL25, PL32, PL50

Series	A	B	J	M	Z	AA	AZ	BB	DD	CF	EC	EE	EG	FF	FS	FT	GG	JJ	KG	ZZ
PL25	125	22	117	40,5	M6	154	10	144	60	72.5	32.5	53	39	64	23	73.5	50	120	57	12
PL32	150	25	152	49	M6	197	11	187	80	91	42	62	48	84	25	88	64	160	61	12
PL50	200	25	200	62	M6	276	24	266	120	117	63	75	57	110	29	118.5	90	240	85	16


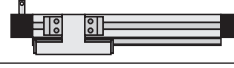

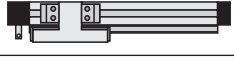
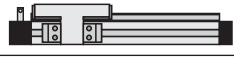
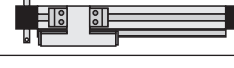
Dimensions Series OSP-E Screw PL25, PL32, PL50

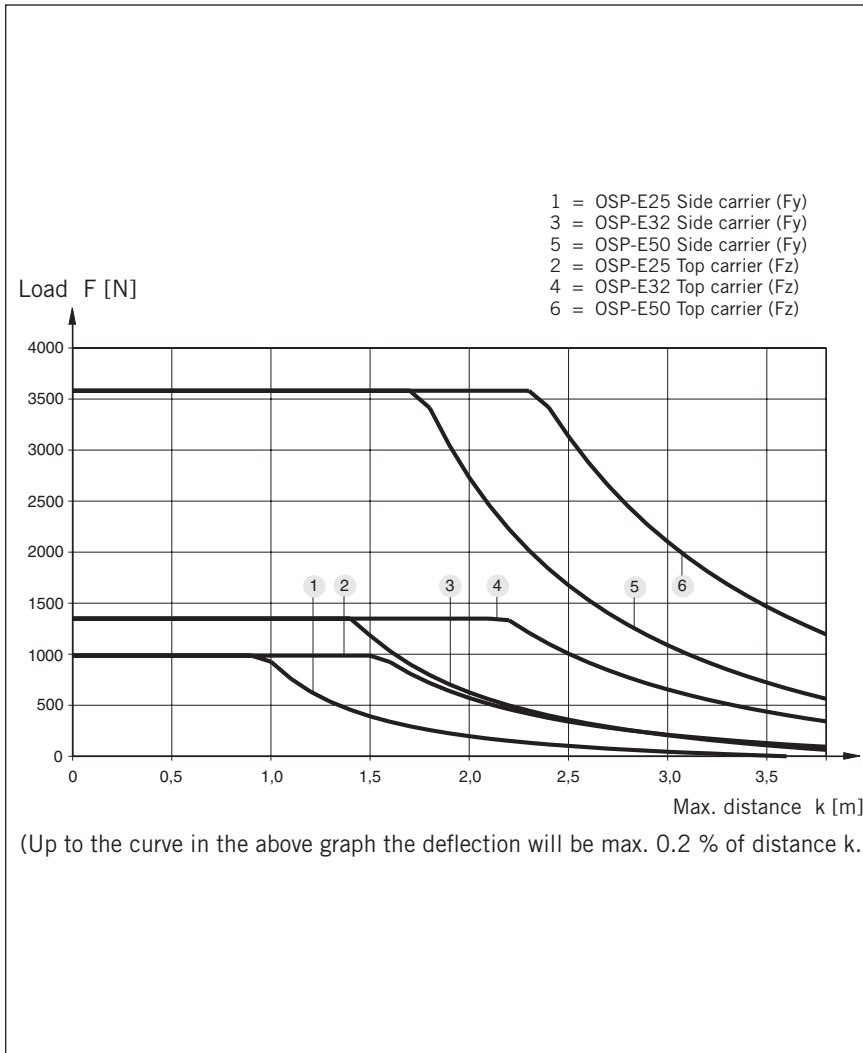


Dimension Table [mm] OSP-E Screw PL25, PL32, PL50

Series	A	B	J	M	Z	AA	BB	DD	CF	EC	EE	EG	FF	FS	FT	GG	JJ	ZZ
PL25	100	22	117	40.5	M6	154	144	60	72.5	32.5	53	39	64	23	73.5	50	120	12
PL32	125	25.5	152	49	M6	197	187	80	91	42	62	48	84	25	88	64	160	12
PL50	175	33	200	62	M6	276	266	120	117	63	75	57	110	29	118.5	90	240	16

OSP-E Belt – If combined with a linear guide, please also state position of linear guide

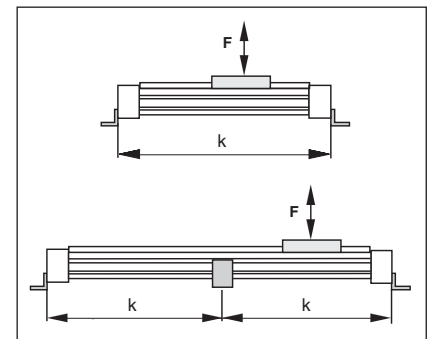
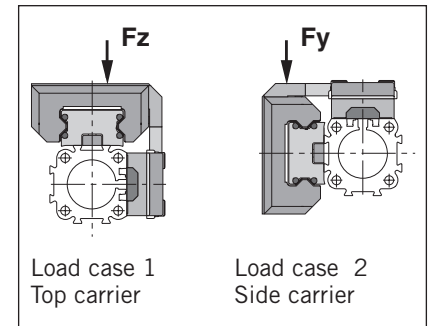
Position of Drive Shaft Standard = 0	Position of Drive Shaft Opposite to Standard = 1	Position of Drive Shaft Both Sides = 2
Position of Guide Standard Guide opposite the drive shaft 	Position of Guide Standard Guide opposite the drive shaft 	Position of Guide Standard Guide opposite the drive shaft 
Opposite to Standard Guide on same side as drive shaft 	Opposite to Standard Guide on same side as drive shaft 	Opposite to Standard Guide on same side as drive shaft 



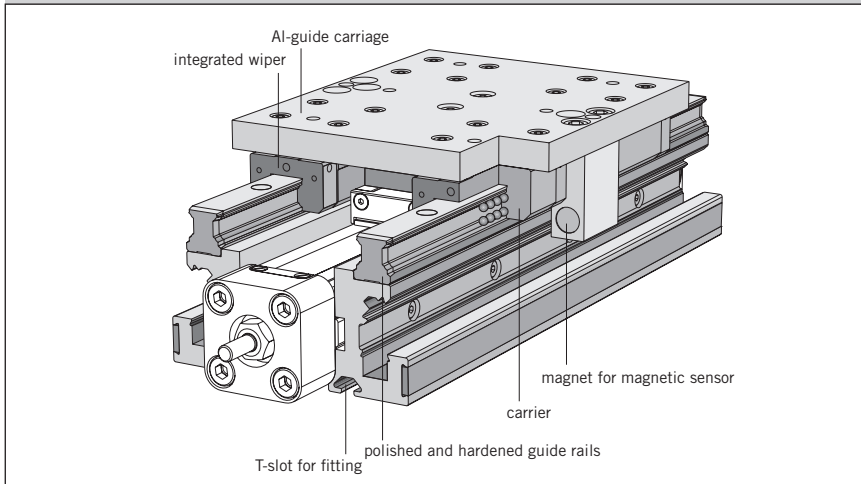
Mid-Section Support

(for versions see 1.44.014E)

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.



Version for Electric Linear-Drive: Series OSP-E Screw



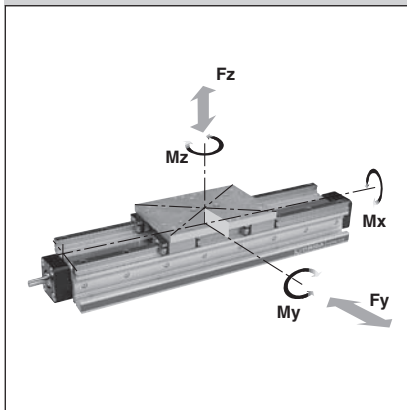
Heavy-duty-Guide HD



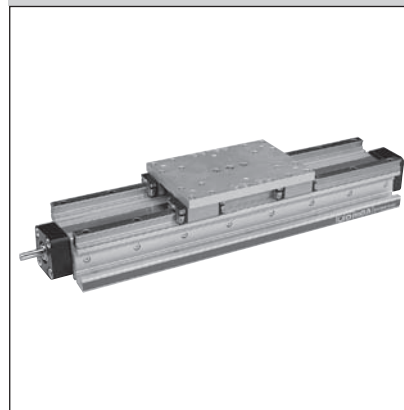
Series HD 25 to 50
for Linear Drive

- Series OSP-E..SB, ..ST

Loads, forces and moments



OSP-E..SB, ..ST



Technical Data

For the maximum permissible loads please refer to the table below. If several forces and moments loads act upon the guide simultaneously, the following equation will apply:

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

The total of the loads must not exceed 1 under any circumstances.

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

Features:

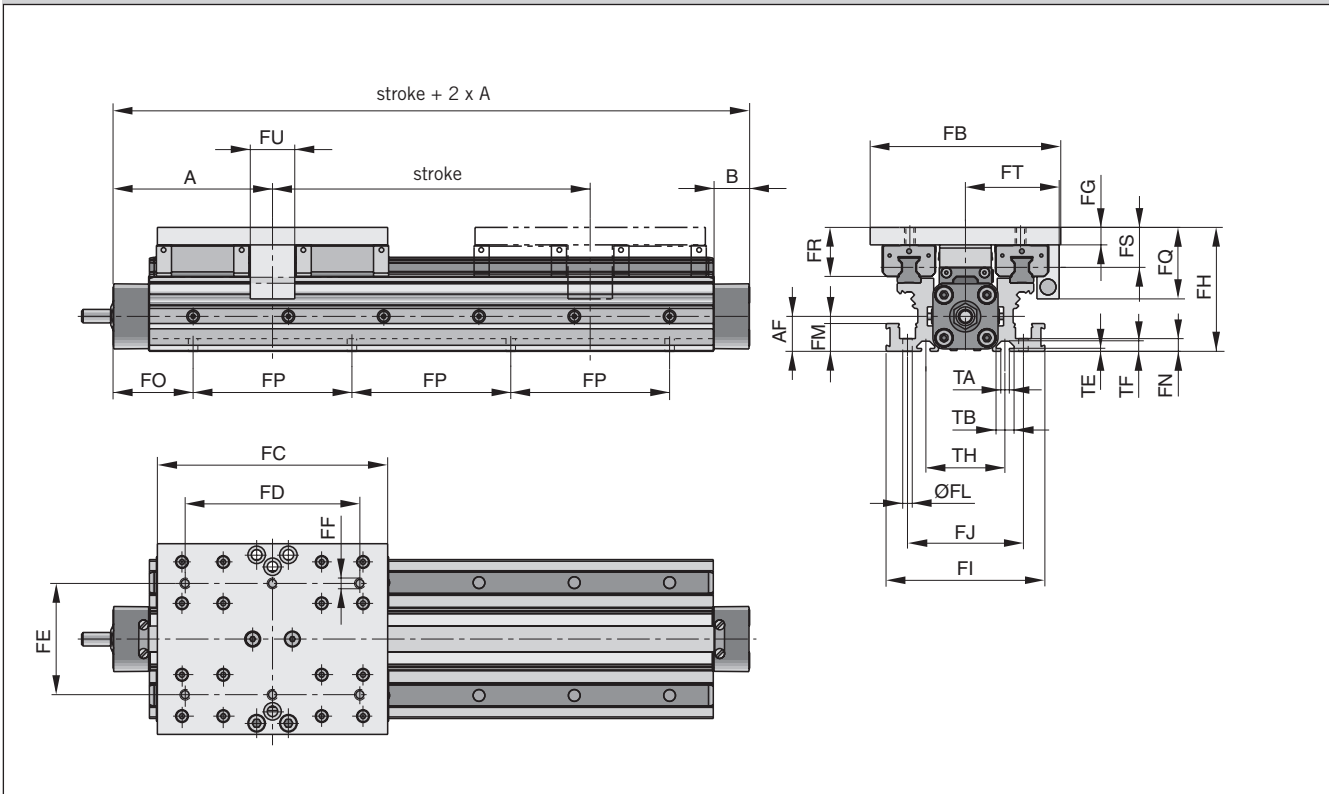
- Guide system
 - 4-row recirculating ball bearing guide
- polished and hardened guide rails of steel
- for highest loads in all directions
- highest precision
- integrated wiper
- grease nipple for relubrication
- anodized guide carriage with the same connecting dimension s as OSP-guide GUIDELINE
- maximum velocity v = 5 m/s

Series	Max. Moments [Nm]			Max. Load [N]		Mass of drive with guide [kg] at 0 mm stroke				Mass guide-carrier [kg]	Order No HD-guide for OSP-E
	Mx	My	Mz	Fy	Fz	ad per 100 mm stroke					
						OSP-E..SB	OSP-E..ST	OSP-E..SB	OSP-E..ST		
HD 25	260	320	320	6000	6000	3.215	3.315	0.957	1.007	1.289	21246
HD 32	285	475	475	6000	6000	4.868	4.968	1.198	1.258	1.367	21247
HD 50	1100	1400	1400	18000	18000	13.218	13.318	2.554	2.674	3.551	21249

The right to introduce technical modification is reserved

For Linear Drives see 1.30.002E, 1.35.002E

Dimensions Series OSP-E Screw HD25, HD32, HD50



Hint:

The heavy-duty guide HD must be fitted to a level surface over the entire length.

If T-nuts are used, the distance between them must not exceed 100 mm.

Arrangement of magnetic switches:

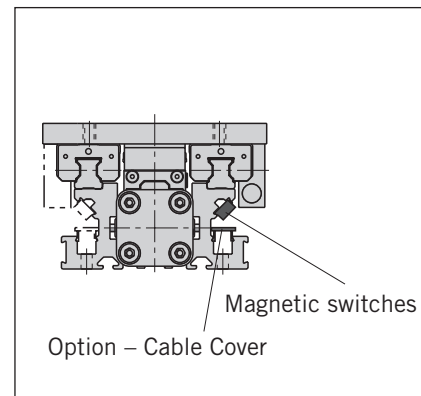
The magnetic switches can be fitted to either side over the entire length.

More Informations:

Magnet switch see data sheet
1.44.030E

Cable duct see data sheet
1.44.040E

Linear drives OSP-E see data sheet
1.30.002E, 1.35.002E



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
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
HD50	22	10	100	58	44	35.5	89	30	8.2	20	4.5	12.3	76

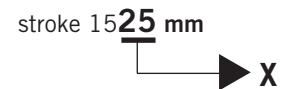
FO			
OSP-E..SB, ..ST			
x	HD25	HD32	HD50
00	50.0	75.0	75.0
01	50.5	75.5	75.5
02	51.0	76.0	76.0
03	51.5	76.5	76.5
04	52.0	77.0	77.0
05	52.5	77.5	77.5
06	53.0	78.0	78.0
07	53.5	78.5	78.5
08	54.0	79.0	79.0
09	54.5	79.5	79.5
10	55.0	80.0	80.0
11	55.5	80.5	80.5
12	56.0	81.0	81.0
13	56.5	81.5	81.5
14	57.0	82.0	82.0
15	57.5	82.5	82.5
16	58.0	83.0	83.0
17	58.5	83.5	83.5
18	59.0	84.0	84.0
19	59.5	84.5	84.5
20	60.0	85.0	85.0
21	60.5	85.5	85.5
22	61.0	86.0	86.0
23	61.5	86.5	86.5
24	62.0	87.0	87.0
25	62.5	87.5	87.5
26	63.0	88.0	88.0
27	63.5	88.5	88.5
28	64.0	89.0	89.0
29	64.5	89.5	89.5
30	65.0	90.0	90.0
31	65.5	90.5	90.5
32	66.0	91.0	91.0
33	66.5	91.5	91.5
34	67.0	92.0	92.0
35	67.5	92.5	92.5
36	68.0	93.0	93.0
37	68.5	93.5	93.5
38	69.0	94.0	94.0
39	69.5	94.5	94.5
40	70.0	95.0	95.0
41	70.5	95.5	95.5
42	71.0	96.0	96.0
43	71.5	96.5	96.5
44	72.0	97.0	97.0
45	72.5	97.5	97.5
46	73.0	98.0	98.0
47	73.5	98.5	98.5
48	74.0	99.0	99.0
49	74.5	99.5	99.5

FO			
OSP-E..SB, ..ST			
x	HD25	HD32	HD50
50	75.0	50.0	50.0
51	75.5	50.5	50.5
52	76.0	51.0	51.0
53	76.5	51.5	51.5
54	77.0	52.0	52.0
55	77.5	52.5	52.5
56	78.0	53.0	53.0
57	78.5	53.5	53.5
58	79.0	54.0	54.0
59	79.5	54.5	54.5
60	80.0	55.0	55.0
61	80.5	55.5	55.5
62	81.0	56.0	56.0
63	81.5	56.5	56.5
64	82.0	57.0	57.0
65	82.5	57.5	57.5
66	83.0	58.0	58.0
67	83.5	58.5	58.5
68	84.0	59.0	59.0
69	84.5	59.5	59.5
70	85.0	60.0	60.0
71	85.5	60.5	60.5
72	86.0	61.0	61.0
73	86.5	61.5	61.5
74	87.0	62.0	62.0
75	87.5	62.5	62.5
76	88.0	63.0	63.0
77	88.5	63.5	63.5
78	89.0	64.0	64.0
79	89.5	64.5	64.5
80	90.0	65.0	65.0
81	90.5	65.5	65.5
82	91.0	66.0	66.0
83	91.5	66.5	66.5
84	92.0	67.0	67.0
85	92.5	67.5	67.5
86	93.0	68.0	68.0
87	93.5	68.5	68.5
88	94.0	69.0	69.0
89	94.5	69.5	69.5
90	95.0	70.0	70.0
91	95.5	70.5	70.5
92	96.0	71.0	71.0
93	96.5	71.5	71.5
94	97.0	72.0	72.0
95	97.5	72.5	72.5
96	98.0	73.0	73.0
97	98.5	73.5	73.5
98	99.0	74.0	74.0
99	99.5	74.5	74.5

NOTE:

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

Sample :



For a cylinder OSP-E25 the table shows that for x = 25 mm: FO = 62.5 mm