

Multi-Brake Passive Brake with plain bearing guide Slideline SL



Series MB-SL 25 to 80
for Linear-drive
• Series OSP-P

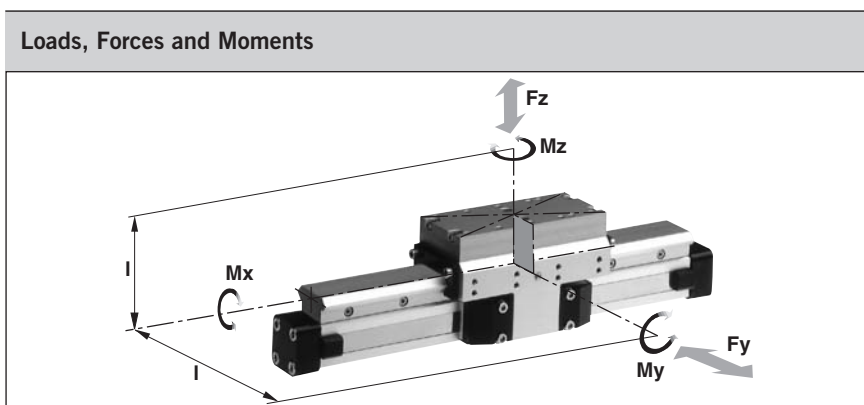
Function:

The Multi-Brake is a passive device. When the air pressure is removed the brake is actuated and movement of the cylinder is blocked. The brake is released by pressurisation.

The high friction, wear resistant brake linings allow the Multi-Brake to be used as a dynamic brake to stop cylinder movement in the shortest possible time. The powerful springs also allow the Multi-Brake to be used effectively in positioning applications.

Features:

- Brake operated by spring actuation
- Brake release by pressurisation
- Optional sensor to indicate brake lining wear
- Anodised aluminium rail, with prism shaped slide elements
- Adjustable plastic slide elements
- Composite sealing system with plastic and felt wiper elements to remove dirt and lubricate the slideway
- Replenishable guide lubrication by integrated grease nipples
- Blocking function in case of pressure loss
- Intermediate stops possible



Technical Data:

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

Load and moment data are based on speeds $v < 0.2$ m/s.

Operating pressure 4.5 - 8 bar
A pressure of 4.5 bar is required to release the brake.

For further technical information, please refer to the data sheets for linear drives OSP-P (1.10.002E)

¹⁾ Braking surface dry – oil on the braking surface will reduce the braking force

* **Please note:**
in the cushioning diagram, the mass of the guide carriage has to be added to the total moving mass.

Series	For linear drive	Max. moments [Nm]			Max. loads [N] Ly, Lz	Max. brake force [N] ¹⁾	Mass of linear drive with guide [kg]		Mass* guide carriage [kg]	Order No. –MB-SL	
		Mx	My	Mz			with 0 mm stroke	increase per 100 mm stroke		without sensor	with sensor for wear indication
MB-SL 25	OSP-P25	14	34	34	675	470	2.04	0.39	1.10	20796	on request
MB-SL 32	OSP-P32	29	60	60	925	790	3.82	0.65	1.79	20797	on request
MB-SL 40	OSP-P40	50	110	110	1500	1200	5.16	0.78	2.34	20798	on request
MB-SL 50	OSP-P50	77	180	180	2000	1870	8.29	0.97	3.63	20799	on request
MB-SL 63	OSP-P63	120	260	260	2500	2900	13.31	1.47	4.97	20800	on request
MB-SL 80	OSP-P80	120	260	260	2500	2900	17.36	1.81	4.97	20846	on request

For linear drives see 1.10.002E
For mountings see 1.45.005E

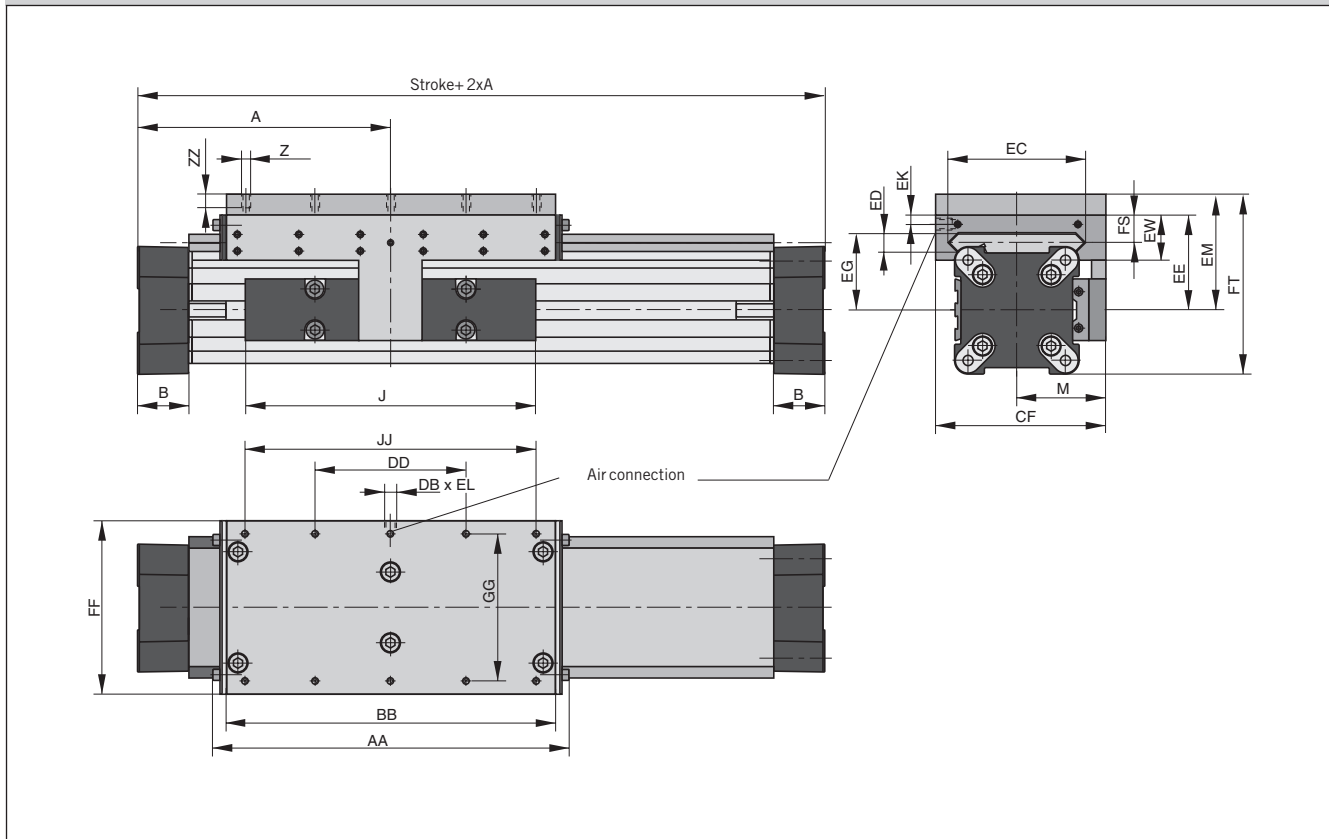
Data Sheet No. 1.42.003E-1



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The right to introduce technical modifications is reserved

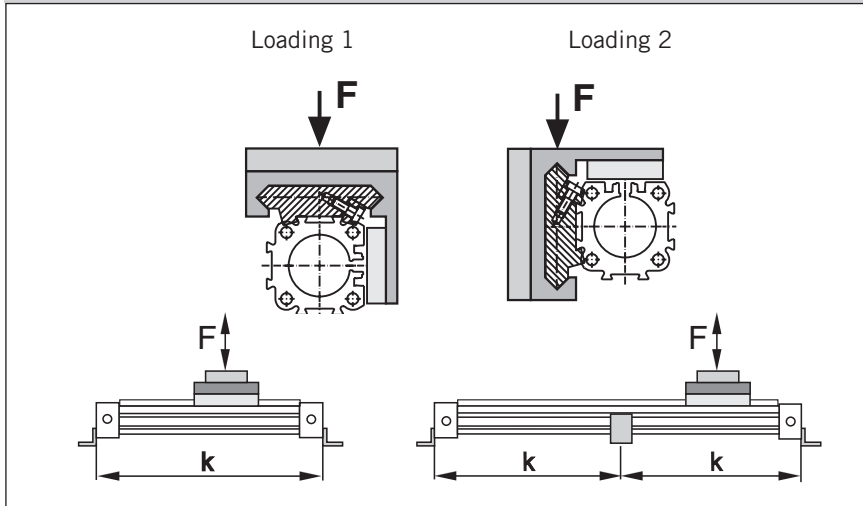
Series OSP-P with Passive Brake MB-SL



Dimension Table (mm)

Series	A	B	J	M	Z	AA	BB	DB	DD	CF	EC	ED	EE	EG	EK	EL	EM	EW	FF	FT	FS	GG	JJ	ZZ
MB-SL25	100	22	117	40,5	M6	162	142	M5	60	72.5	47	12	53	39	9	5	73	30	64	93.5	20	50	120	12
MB-SL32	125	25.5	152	49	M6	205	185	G1/8	80	91	67	14	62	48	7	10	82	33	84	108	21	64	160	12
MB-SL40	150	28	152	55	M6	240	220	G1/8	100	102	77	14	64	50	6.5	10	84	34	94	118.5	21.5	78	200	12
MB-SL50	175	33	200	62	M6	284	264	G1/8	120	117	94	14	75	56	10	12	95	39	110	138.5	26	90	240	12
MB-SL63	215	38	256	79	M8	312	292	G1/8	130	152	116	18	86	66	11	12	106	46	152	159	29	120	260	13
MB-SL80	260	47	348	96	M8	312	292	G1/8	130	169	116	18	99	79	11	12	119	46	152	185	29	120	260	13

Loading



Mid Section Support

(for versions see 1.45.005E)

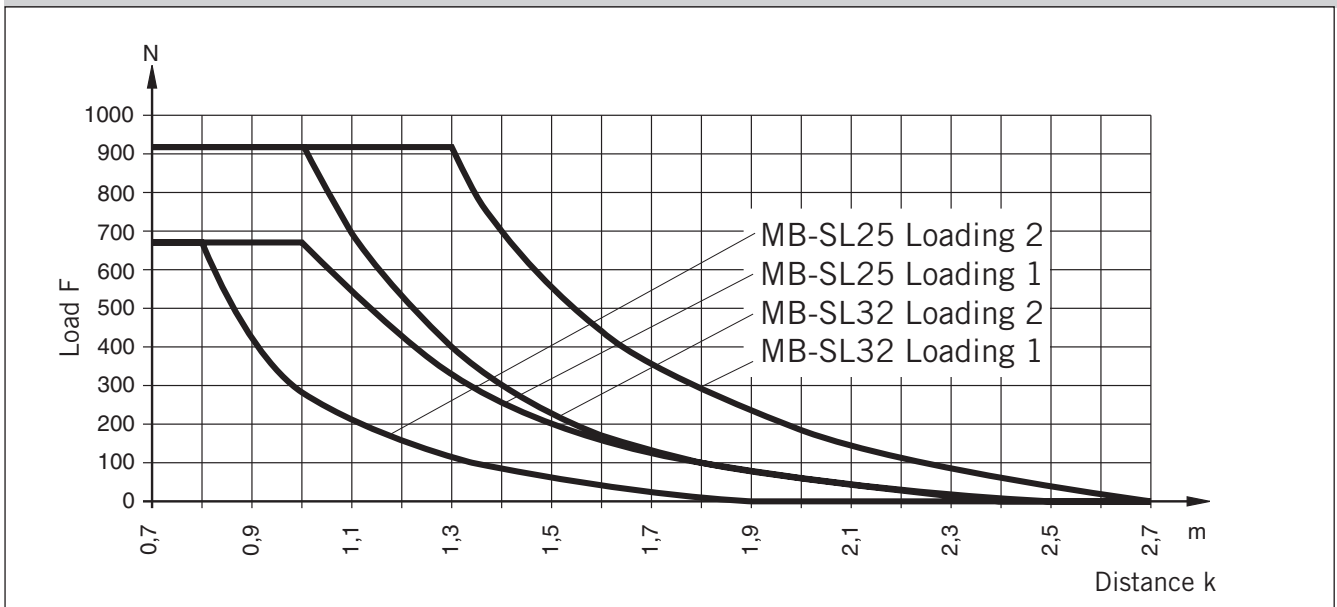
Mid section supports are required from a certain stroke length to prevent excessive deflection and vibration of the linear drive.

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.

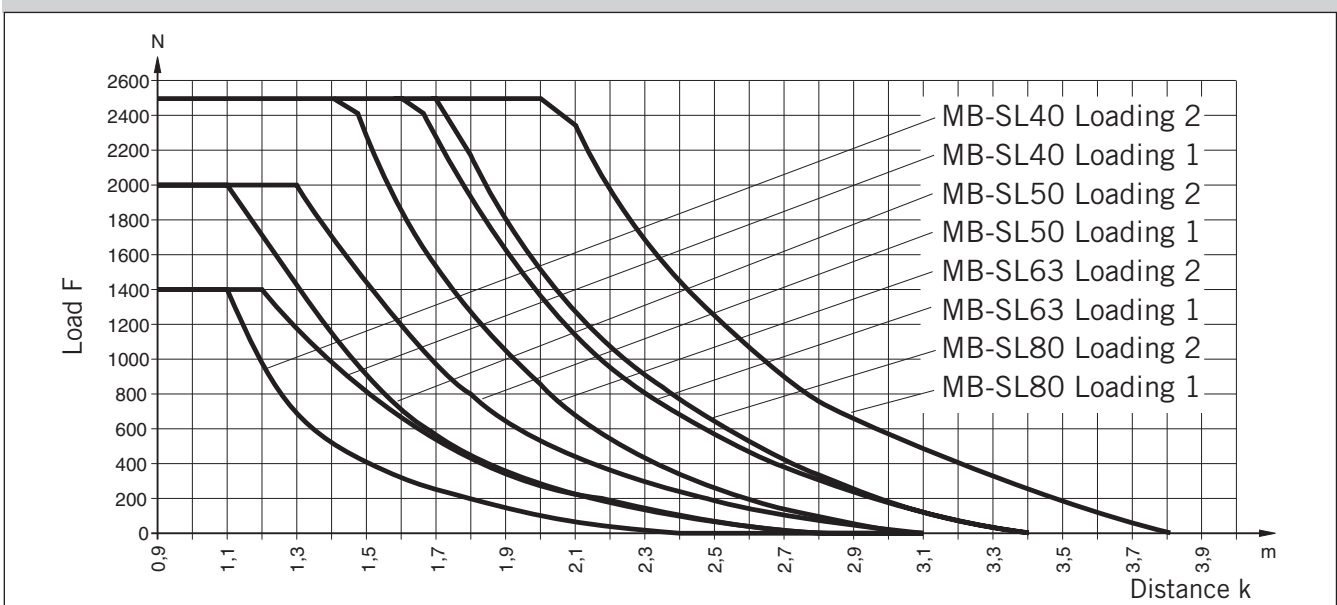
Note:

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

Permissible Unsupported Length MB-SL25, MB-SL32

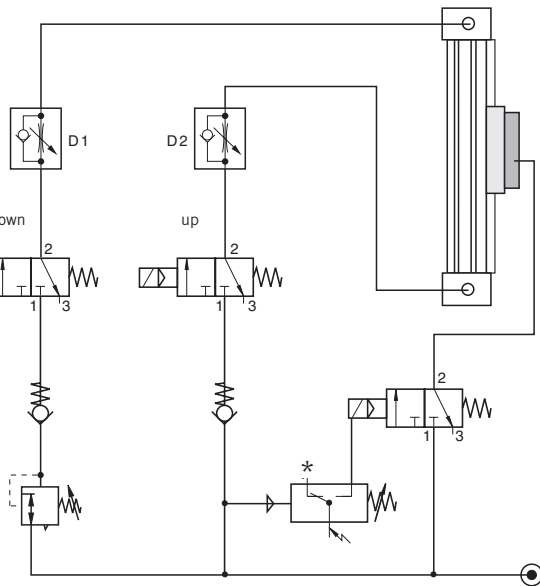


Permissible Unsupported Length MB-SL40, MB-SL50, MB-SL63 and MB-SL80

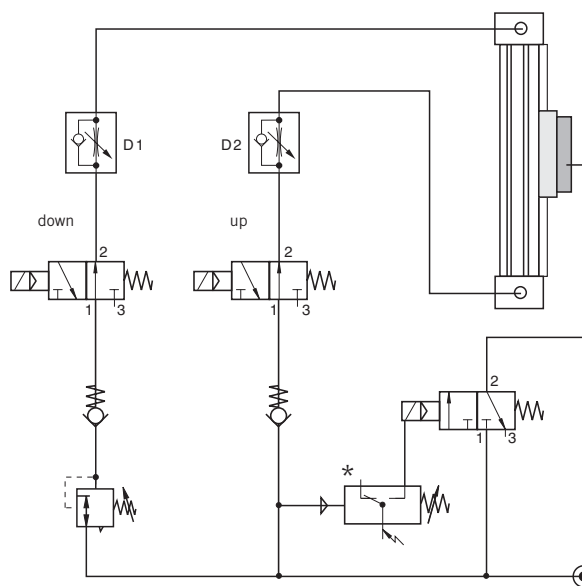


Application Example - Vertical Application

Control of a cylinder with 3/2 way valves. Basic position – **exhausted**



Control of a cylinder with 3/2 way valves. Basic position – **pressurised**



Control Examples


Under normal operating circumstances the pressure switch is closed and the air flows through the 3/2 way solenoid valves from port 1 to 2, thus lifting the brake from the rail (operating condition).

The brake is pressurised by means of a 3/2 way valve in combination with a pressure switch. When there is a pressure loss, the brake is actuated by the pressure switch.

When the air pressure is restored to both cylinder chambers, the brake is lifted and the linear drive can be moved again.

The speed regulating valves D1 and D2 control the speed of the linear drive, and have no influence on the brake. The two non-return valves give the system a higher stability.

The pressure regulating valve is used to compensate for the downward force in this vertical application.

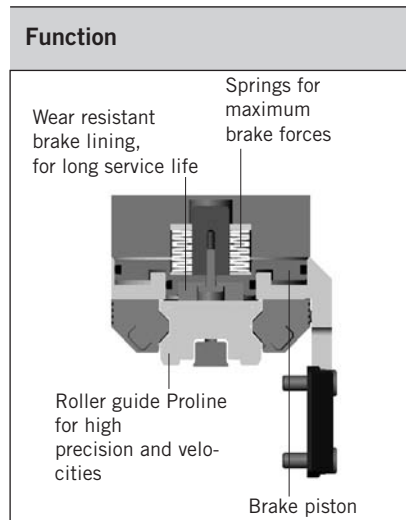
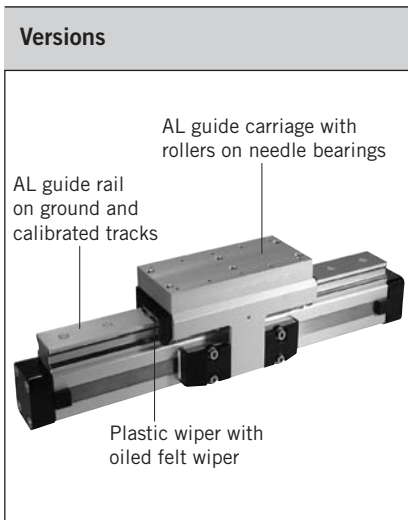
Please note:  **Before the brake is lifted, make sure that both air chambers of the linear drive are pressurised. Small diameter tubing, fittings and valves with a nominal diameter, and tubing that is too long all change the reaction time of the brake!**

*** Tip:** The pressure switch actuates the brake when the pressure drops below the set value.

For accessories, such as tubing and fittings, please refer to our separate catalogue.

Required Components

Way Valves	
Port size	see catalogue
M5, G1/8	Valves
G1/4, G1/2	A4P026E
Pressure Regulating Valves	
G1/8 - G3/8	see catalogue
	Air Preparation
	A4P006E
	Data sheet no.
	5.12.006E
Pneumatic Accessories	
P/E-Switch	see catalogue
Non-Return Valves	Pneumatic Accessories
G1/8 - G3/8	A4P021E
Screw-in Speed Regulating Valves	
M5 - G1/4	



Multi-Brake Passive Brake with Aluminium Roller Guide Proline PL



**Series MB-PL 25 to 50
for Linear-drive**
• Series OSP-P

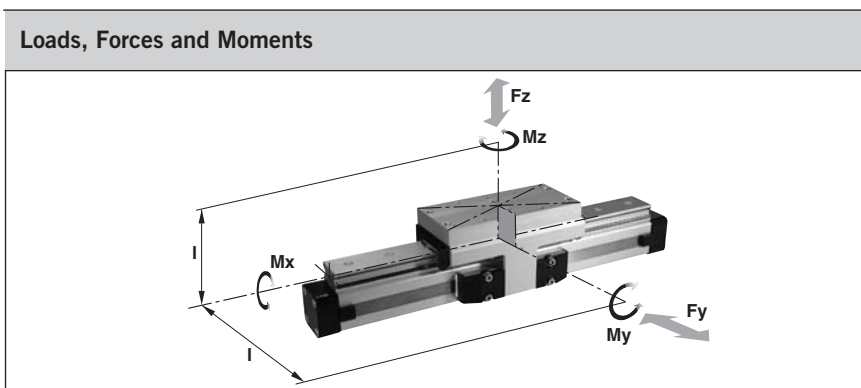
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Features:

- Brake operated by spring actuation
- Brake release by pressurisation
- Optional sensor to indicate brake lining wear
- Composite sealing system with plastic and felt wiper elements to remove dirt and lubricate the slideway
- Blocking function in case of pressure loss
- Intermediate stops possible



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.

Operating Pressure 4.5 - 8 bar. A pressure of min. 4.5 bar release the brake.

¹⁾ Braking surface dry – oil on the braking surface will reduce the braking force
* **Please note:** In the cushioning diagram, the mass of the guide carriage has to be added to the total moving mass.

Series	For linear drive	Max. moments [Nm]			Max. loads [N] F _y , F _z	Max. brake force [N] ¹⁾	Mass of linear drive with guide [kg]		Mass* guide carriage [kg]	Order No. – MB-PL	
		M _x	M _y	M _z			with 0 mm stroke	increase per 100 mm stroke		without sensor	with sensor for wear indication
MB-PL25	OSP-P25	16	39	39	857	315	2.14	0.40	1.24	20864	on request
MB-PL32	OSP-P32	29	73	73	1171	490	4.08	0.62	2.02	20865	on request
MB-PL40	OSP-P40	57	158	158	2074	715	5.46	0.70	2.82	20866	on request
MB-PL50	OSP-P50	111	249	249	3111	1100	8.60	0.95	4.07	20867	on request

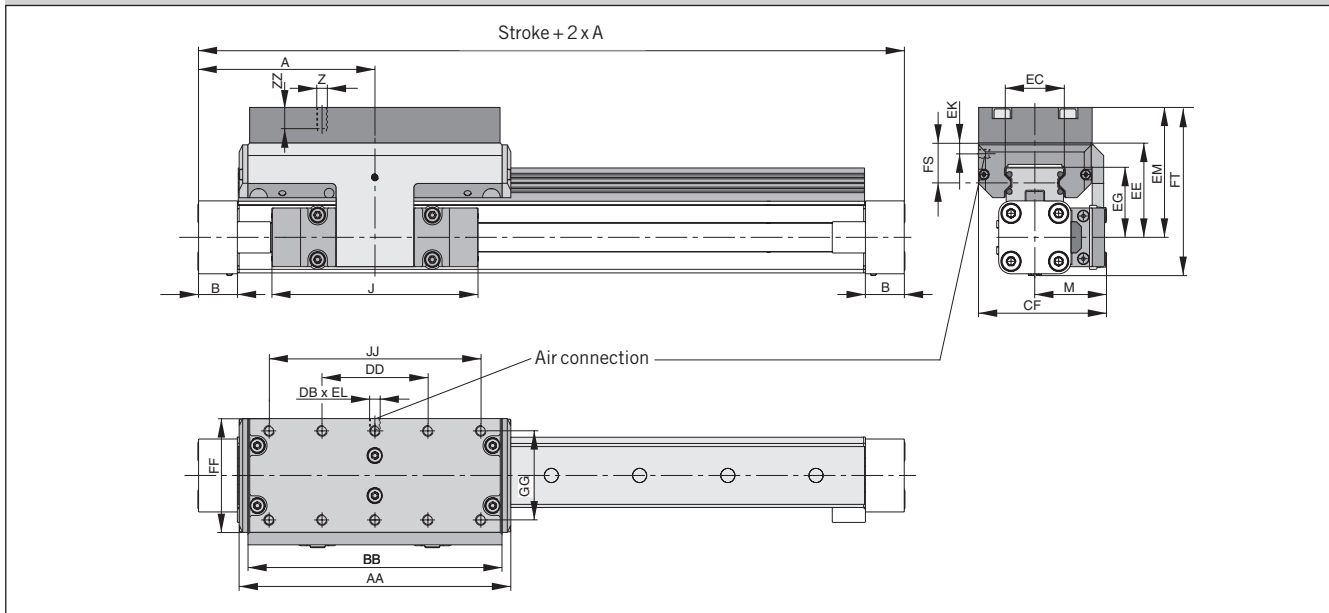
For linear drives see 1.10.002E
For mountings see 1.45.005E



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Series OSP-P with Passive Brake MB-PL



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

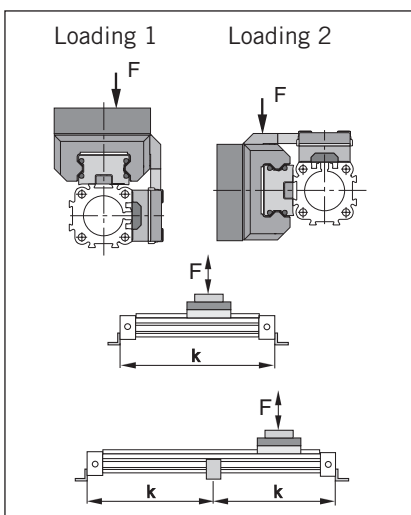
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MB-PL50	175	33	200	62	M6	276	266	G1/8	120	117	63	75	57	10	12	95	110	29	138.5	90	240	16

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(for versions see 1.45.005E)

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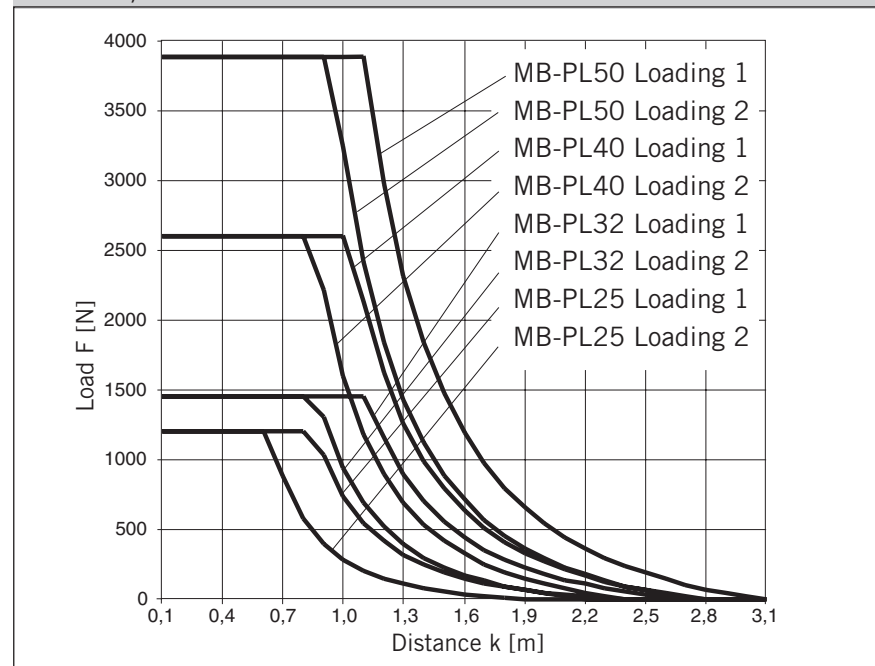
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Note:

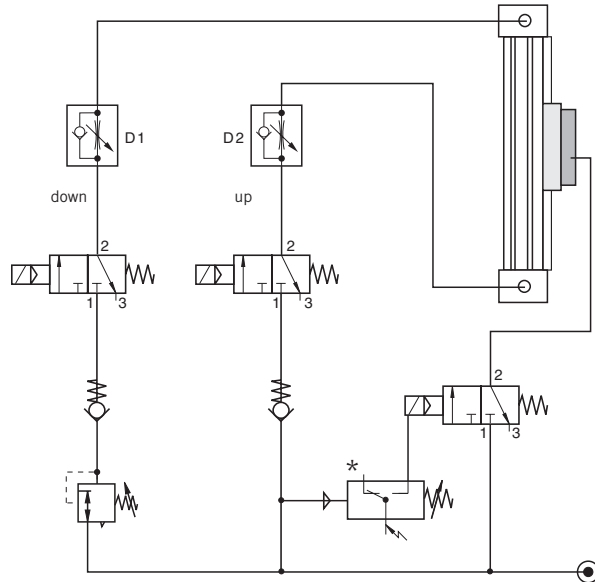
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Permissible Unsupported Length OSP-P MB-PL25, MB-PL32, MB-PL40, MB-PL50

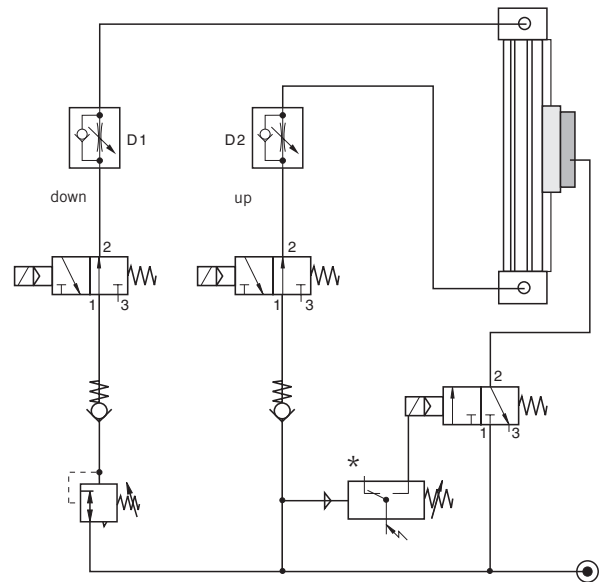


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Pneumatic Accessories	
P/E-Switch	see catalogue
Non-Return Valves	Pneumatic Accessories
G1/8 - G3/8	A4P021E
Screw-in Speed Regulating Valves	
M5 - G1/4	