HOLDING DEVICES AND BRAKES FOR OSP-P
Versions:

• ACTIVE Brake
• Plain bearing guide with integrated Holding Device
• Aluminium roller guide with integrated Holding Device
• Plain bearing guide with PASSIVE Brake
• Aluminium roller guide with PASSIVE Brake

Holding Devices and Brakes

**Holding Device**
for pneumatic linear drive
Series OSP-P
Piston diameters 25 - 80 mm.
See page 37

**Slideline with Brake**
Plain bearing guide Slideline - SL with integrated Active Brake
Piston diameters 25 - 50 mm.
See page 23

**Proline with Brake**
Aluminium roller guide
Proline - PL with integrated Active Brake
Piston diameters 25 - 50 mm.
See page 33

**Multibrake with Slideline**
Multi-Brake – Passive Brake with plainbearing guide
Slideline - SL
Piston diameter 25 - 80 mm.
See page 41

**Multibrake with Proline**
Multi-Brake – Passive Brake with aluminium roller guide Proline - PL
Piston diameters 25 - 50 mm.
See page 45

Holding Device for pneumatic linear drive
Series OSP-P
Piston diameters 25 - 80 mm.
See page 37

Slideline with Brake
Plain bearing guide Slideline - SL with integrated Active Brake
Piston diameters 25 - 50 mm.
See page 23

Proline with Brake
Aluminium roller guide
Proline - PL with integrated Active Brake
Piston diameters 25 - 50 mm.
See page 33

Multibrake with Slideline
Multi-Brake – Passive Brake with plainbearing guide
Slideline - SL
Piston diameter 25 - 80 mm.
See page 41

Multibrake with Proline
Multi-Brake – Passive Brake with aluminium roller guide Proline - PL
Piston diameters 25 - 50 mm.
See page 45
Position Holding Device

Series AB 25 to 80 for linear drive
• Series OSP-P

Features:
• Actuated by pressurization
• Released by spring actuation
• Completely stainless version
• Holds position, even under changing load conditions

For further technical data, please refer to the data sheets for linear drives OSP-P (page 13)

Function

- Air Connection
- Pressure Plate
- Spring
- Brake Lining
- O-Ring for Brake Piston
- Cylinder Barrel OSP-P
- Brake Housing
- Brake Piston

Forces and Weights

<table>
<thead>
<tr>
<th>Series</th>
<th>For linear drive</th>
<th>Max. braking forces <a href="c">N</a></th>
<th>Brake pad way [mm]</th>
<th>Linear drive 0 mm stroke</th>
<th>Mass [kg] with brake increase per 100mm stroke</th>
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(c) at 6 bar both chambers pressurized with 6 bar.
Braking surface dry.
– oil on the braking surface will reduce the braking force

* Please Note: The mass of the brake has to be added to the total moving mass when using the cushioning diagram.

For additional information on loads, forces and moment, please refer to page 14
### Dimension Table (mm)

<table>
<thead>
<tr>
<th>Series</th>
<th>A</th>
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<th>J</th>
<th>X</th>
<th>Y</th>
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**Series OSP-P25 and P32 with Holding Device**

![Diagram of Series OSP-P25 and P32 with Holding Device](image)

**Series OSP-P40, P50, P63, P80 with Holding Device**

![Diagram of Series OSP-P40, P50, P63, P80 with Holding Device](image)
Series OSP – P25 and P32 with Holding Device: Type A3

End Cap Mountings
On the end-face of each cylinder end cap there are four threaded holes for mounting the cylinder. The hole layout is square, so that the mounting can be fitted to the bottom, top or either side.

Material: Series OSP-P25, P32:  
Galvanized steel  
The mountings are supplied in pairs.

Series OSP – P40, P50, P63, P80 with Holding Device AB: Type C3

Material: Series OSP-P40,P50, P63, P80:  
Anodized aluminium  
The mountings are supplied in pairs.  
Stainless steel version on request.

Dimension Table (mm)

<table>
<thead>
<tr>
<th>Series</th>
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<th>øU</th>
<th>AB</th>
<th>AC</th>
<th>AD</th>
<th>AE</th>
<th>AF</th>
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<th>DG</th>
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Mid Section Support

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. Deflection of 0.5mm max. between supports is permissible.

The mid section supports are attached to the dovetail rails, and can take axial loads.

Mid Section Supports

Note to Type E3:
Mid-section supports can only be mounted opposite of the brake housing.

Stainless steel version available on request.

Dimension Table (mm)

<table>
<thead>
<tr>
<th>Series</th>
<th>U</th>
<th>AF</th>
<th>DE</th>
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<th>DK</th>
<th>DM</th>
<th>DN</th>
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Accessories for linear drives with Holding Device – please order separately

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<thead>
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<th>Description</th>
<th>For details information, see page</th>
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<td>Clevis mounting</td>
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<tr>
<td>Adaptor profile</td>
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<tr>
<td>T-Nut profile</td>
<td>59</td>
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<tr>
<td>Sensors (can only be mounted opposite of the brake housing)</td>
<td>62</td>
</tr>
<tr>
<td>Displacement measuring system SFI</td>
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</tbody>
</table>
Multi-Brake
with plain bearing
guide Slideline SL

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

Features:
• Brake operated by spring actuation
• Brake release by pressurization
• Corrosion resistant as standard
• Optional sensor to indicate brake lining wear
• Anodized 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

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 pressurization.
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.

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 (page 13).

### Function
- Wear resistant brake lining, for long service life
- Sensor for wear indication (option)

### 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 (page 13).

### Loads, Forces and Moments

<table>
<thead>
<tr>
<th>Series</th>
<th>For linear drive</th>
<th>Max. Linear loads (N)</th>
<th>Max. moment loads (Nm)</th>
<th>Max. brake force (N)</th>
<th>Mass of linear drive with guide (kg)</th>
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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.
### Dimension Table (mm)

<table>
<thead>
<tr>
<th>Series</th>
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<th>J</th>
<th>M</th>
<th>Z</th>
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Mid Section Support

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 und MB-SL80**
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 pressurized 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 pressurized. 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

<table>
<thead>
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<th>Way Valves</th>
<th>Port size</th>
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<td>M5, G1/8, G1/4, G1/2</td>
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</tr>
<tr>
<td>Pressure Regulating Valve</td>
<td>G1/8 - G3/8</td>
</tr>
<tr>
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<tr>
<td>Non-Return Valves</td>
<td>G1/8, G1/4</td>
</tr>
<tr>
<td>Screw-in Speed Regulating Valves</td>
<td>G1/8, G1/4</td>
</tr>
</tbody>
</table>
### Multi-Brake with Aluminium Roller Guide Proline PL

**Series MB-PL 25 to 50**
- **Series OSP-P**

#### Features:
- Brake operated by spring actuation
- Brake release by pressurization
- Corrosion resistant as standard
- 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

#### 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 pressurization. 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.

#### Loads, Forces and Moments

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

\[
M_1 + M_2 + M_{\text{max}} + M_{\text{max}} \leq M_{V_{\text{max}}} \leq 1
\]

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.

#### Technical Data

- **Series MB-PL 25**
  - **OSP-P25**
    - 55 23 55 1210 315 2.14 0.40 1.24
  - **OSP-P32**
    - 91 36 91 1460 490 4.08 0.62 2.02
  - **OSP-P40**
    - 198 72 198 2600 715 5.44 0.70 2.82
  - **OSP-P50**
    - 313 139 313 3890 1100 8.60 0.95 4.07

* 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.
**Mid Section Support**

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 OSP-P MB-PL25, MB-PL32, MB-PL40, MB-PL50**

<table>
<thead>
<tr>
<th>Loading 1</th>
<th>Loading 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Loading 1 Diagram" /></td>
<td><img src="image2" alt="Loading 2 Diagram" /></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Series</th>
<th>A</th>
<th>B</th>
<th>Z</th>
<th>AA</th>
<th>BB</th>
<th>DD</th>
<th>CF</th>
<th>EC</th>
<th>EE</th>
<th>GD</th>
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<th>EL</th>
<th>EM</th>
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<th>FT</th>
<th>GG</th>
<th>JJ</th>
<th>ZZ</th>
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</thead>
<tbody>
<tr>
<td>MB-PL25</td>
<td>100</td>
<td>22</td>
<td>117</td>
<td>40.5 M6</td>
<td>144</td>
<td>145</td>
<td>60</td>
<td>72.5</td>
<td>53</td>
<td>39</td>
<td>9</td>
<td>5</td>
<td>73</td>
<td>84</td>
<td>25</td>
<td>77.5</td>
<td>60</td>
<td>120</td>
</tr>
<tr>
<td>MB-PL32</td>
<td>125</td>
<td>25.5</td>
<td>152</td>
<td>49 M6</td>
<td>197</td>
<td>187</td>
<td>80</td>
<td>91</td>
<td>82</td>
<td>46</td>
<td>7</td>
<td>10</td>
<td>82</td>
<td>94</td>
<td>25</td>
<td>98</td>
<td>64</td>
<td>160</td>
</tr>
<tr>
<td>MB-PL40</td>
<td>150</td>
<td>28</td>
<td>152</td>
<td>55 M6</td>
<td>232</td>
<td>222</td>
<td>100</td>
<td>102</td>
<td>84</td>
<td>64</td>
<td>10</td>
<td>12</td>
<td>84</td>
<td>94</td>
<td>25</td>
<td>118</td>
<td>78</td>
<td>200</td>
</tr>
<tr>
<td>MB-PL50</td>
<td>175</td>
<td>33</td>
<td>200</td>
<td>62 M6</td>
<td>276</td>
<td>266</td>
<td>120</td>
<td>117</td>
<td>95</td>
<td>75</td>
<td>10</td>
<td>12</td>
<td>95</td>
<td>110</td>
<td>29</td>
<td>118.5</td>
<td>90</td>
<td>240</td>
</tr>
</tbody>
</table>

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**Series OSP-P with Passive Brake MB-PL**

**Stroke + 2 x A**

**Mid Section Support (for versions see page 56)**
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 pressurized 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 pressurized. 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.

**Required Components**

<table>
<thead>
<tr>
<th>Way Valves</th>
<th>Port size</th>
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<tbody>
<tr>
<td>M5</td>
<td>G1/8</td>
</tr>
<tr>
<td></td>
<td>G1/4</td>
</tr>
<tr>
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<td>G1/2</td>
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<table>
<thead>
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<tbody>
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<tr>
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