ORIGA SYSTEM PLUS OSP-P

The “ORIGINAL” rodless pneumatic cylinders

A NEW Modular Linear Drive System

With this second generation linear drive Parker Origa offers design engineers complete flexibility. The well known ORIGA cylinder has been further developed into a combined linear actuator, guidance and control package. It forms the basis for the new, versatile ORIGA SYSTEM PLUS linear drive system.

All additional functions are designed into modular system components which replace the previous series of cylinders.

- Completely modular design
- Compact design
- Widest capability for speed, load and movement profiles
- End caps can be rotated 4 x 90°
- High loads and moments
- High service life up to 8,000km
- Low friction forces ≥ high action forces
- Wide speed range (0.005 – 30m/s)
- Modular System – easy to mount guides, brakes and displacement measuring system
Parker Origa rodless pneumatic cylinders are the first rodless cylinders that have been approved for use in potentially explosive atmospheres in Equipment Group II, Category 2 GD.

The Cylinders are to the ATEX Certification 94/9/EG (ATEX 95) for Pneumatic Components.

For full details and information on OSP-P range of rodless cylinders please see catalogue no.: P-A4P011GB

Special Versions

- for use in Ex-Areas
- for Clean Room Applications certified to DIN EN ISO 14644-1
- Stainless steel version for special applications
- with special pneumatic cushioning system for cycle time optimization, for Ø 16 to 50 mm – on request
- High Temperature Version for temperatures up to +120°C
- Low Temperature Version for temperatures down to -40°C
- Slow Speed Version v = 0.005 – 0.2 m/s
- High Speed Version Vmax. = 30 m/s
- Cylinders with extreme long strokes Stroke length up to 41 m
### Basic Linear Drive
**Standard Version**
- Series OSP-P
- Series OSP-E*
  - Belt drive
  - Belt drive with integrated Guides
  - Vertical belt drive with recirculating ball bearing guide
  - Series OSP-E*
  - Screw drive (Ball Screw, Trapezoidal Screw)

### Air Connection on the End-face or both at One End
- Series OSP-P

### Long-Stroke Cylinders
for strokes up to 41 m
- Series OSP-P

### Clean Room Cylinder
certified to DIN EN ISO 14644-1
- Series OSP-P
- Series OSP-E..SB

### Products for ATEX Areas
- Series OSP-P Rodless Cylinders

### Products for ATEX Areas
- Series OSP-P Rodless Cylinders with Linear Guide
- BASIC GUIDE

### Products for ATEX Areas
- Series OSP-P Rodless Cylinders with Linear Guide
- SLIDELINE

### Bi-parting Version
- Series OSP-P

### Integrated 3/2 Way Valves
- Series OSP-P

### Clevis Mounting
- Series OSP-P
- Series OSP-E Belt drive*
- Series OSP-E Screw drive*

### End Cap Mounting
- Series OSP-P
- Series OSP-E Belt drive*
- Series OSP-E Screw drive*

### Mid-Section Support
- Series OSP-P
- Series OSP-E Belt drive*
- Series OSP-E Screw drive*

### Inversion Mounting
- Series OSP-P
- Series OSP-E Belt drive*
- Series OSP-E Screw drive*

### BASIC GUIDE
- Series OSP-P

### Duplex Connection
- Series OSP-P

### Multiplex Connection
- Series OSP-P

### Linear Guides
- SLIDELINE
  - Series OSP-P
  - Series OSP-E Screw drive*

### Linear Guides
- POWERSLIDE
  - Series OSP-P
  - Series OSP-E Belt drive*
  - Series OSP-E Screw drive*

### Linear Guides
- PROLINE
  - Series OSP-P
  - Series OSP-E Belt drive*
  - Series OSP-E Screw drive*

### Linear Guides
- STARLINE
  - Series OSP-P

### Linear Guides
- KF
  - Series OSP-P

### Heavy Duty Linear Guides
- HD
  - Series OSP-P
  - Series OSP-E Screw drive*

### Intermediate stop module
- ZSM
  - Series OSP-P

### Brakes
- Active Brakes
- Passive Brakes

### Magnetic Switches
- Series OSP-P
- Series OSP-E Belt drive*
- Series OSP-E Screw drive*
- ATEX-Versions

### SENSOFLEX-Measuring system
- Series SFI-plus

### Variable Stop VS
- Series OSP-P
  - with Linear Guide STL, KF, HD

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* Information on electrical linear drives series OSP-E, please refer to catalogue P-A4P017GB
Origa System Plus
- Innovation from a proven design

A completely new generation of linear drives which can be simply and neatly integrated into any machine layout.

A NEW MODULAR LINEAR DRIVE SYSTEM

With this second generation linear drive Parker Origa offers design engineers complete flexibility. The well known ORIGA cylinder has been further developed into a combined linear actuator, guidance and control package. It forms the basis for the new, versatile ORIGA SYSTEM PLUS linear drive system.

All additional functions are designed into modular system components which replace the previous series of cylinders.

MOUNTING RAILS ON 3 SIDES

Mounting rails on 3 sides of the cylinder enable modular components such as linear guides, brakes, valves, magnetic switches etc. to be fitted to the cylinder itself. This solves many installation problems, especially where space is limited.

Stainless steel screws optional.

Corrosion resistant steel outer sealing band and robust wiper system on the carrier for use in aggressive environments.

End cap can be rotated to any one of the four positions (before or after delivery) so that the air connection can be in any desired position.

Combined clamping for inner and outer sealing band with dust cover.

Corrosion resistant steel inner sealing band for optimum sealing and extremely low friction.

Optimized cylinder profile for maximum stiffness and minimum weight. Integral air passages enable both air connections to be positioned at one end, if desired.

Magnetic piston as standard - for contactless position sensing on three sides of the cylinder.

Low friction piston seals for optimized running characteristics.

Install the OSP-P System to simplify design work! The files are compatible with all popular CAD systems and package hardware.

Corrosion resistant steel outer sealing band and robust wiper system on the carrier for use in aggressive environments.

Optimized cylinder profile for maximum stiffness and minimum weight. Integral air passages enable both air connections to be positioned at one end, if desired.
Clean Room Version
certified to DIN EN ISO 14644-1

Rodless Cylinder
for synchronized bi-parting movements

New low profile piston/carrier design.

Integral dovetail rails on three sides provide many adaptation possibilities (linear guides, magnetic switches, etc.).

Modular system components are simply clamped on.

Adjustable end cushioning at both ends are standard.

INTEGRATED VOE VALVES
The complete compact solution for optimal cylinder control.

SENSOFLEX
SFI-plus incremental measuring system with 0.1 (1.0) mm resolution.

BASIC GUIDE
Compact, robust plain bearing guide for medium loads.

SLIDELINE

POWERSLIDE
Roller guide for high loads and rough conditions.

PROLINE
The compact aluminum roller guide for high loads and velocities. Optional with Active-/ Passive-Brake.

STARLINE
Recirculating ball bearing guide for very high loads and precision.

KF GUIDE
Recirculating ball bearing guide – the mounting dimensions correspond to FESTO Type: DGPL-KF

HEAVY DUTY
GUIDE HD for heavy duty applications.

VARIABLE STOP V3
The variable stop provides simple stroke limitation.

PASSIVE BRAKE
reacts automatically to pressure failure.

ACTIVE BRAKE
pneumatic brake for secure, positive stopping at any position.
Options and Accessories for system versatility

**Series OSP-P**

**STANDARD VERSIONS**

**OSP-P10 to P80**

Standard carrier with integral guidance. End cap can be rotated 4 x 90° to position air connection on any side. Magnetic piston as standard. Dovetail profile for mounting of accessories and the cylinder itself.

**ATEX-Version**

For use in Ex-Areas

**STAINLESS VERSION**

For use in constantly damp or wet environments. All screws are A2 quality stainless steel (material no.1.4301 / 1.4303)

**SLOW SPEED OPTIONS**

Specially formulated grease lubrication facilitates slow, smooth and uniform piston travel in the speed range from 0.005 to 0.2 m/s. Minimum achievable speeds are dependent on several factors. Please consult our technical department.

**VITON® VERSION**

For use in an environment with high temperatures or in chemically aggressive areas. All seals are made of Viton®. Corrosion resistant steel sealing bands.

**LONG-STROKE VERSION**

For extremely long strokes up to max. 41 m

**BASIC CYLINDER OPTIONS**

**CLEAN ROOM CYLINDERS**

For use in clean room applications, certified with the IPA-Certificate (to DIN EN ISO 14644-1). The special design of the linear drive enables all emissions to be led away.

**BOTH AIR CONNECTIONS AT ONE END**

For simplified tubing connections and space saving.

**INTEGRATED VOE VALVES**

The complete compact solution for optimal cylinder control.

**DUPLEX CONNECTION**

The duplex connection combines two OSP-P cylinders of the same size into a compact unit with high performance.

**MULTIPLEX CONNECTION**

The multiplex connection combines two or more OSP-P cylinders of the same size into one unit. The orientation of the carriers can be freely selected.
ACCESSORIES

MAGNETIC SWITCHES
TYPE RS, ES, RST, EST
For electrical sensing of end and intermediate piston positions, also in EX-Areas.

MOUNTING FOR
OSP-P10 UP TO P80

CLEVIS MOUNTING
Carrier with tolerance and parallelism compensation for driving loads supported by external linear guides.

MID-SECTION SUPPORT
For supporting long cylinders or mounting the cylinder by its dovetail rails.

END CAP MOUNTING
For end-mounting of the cylinder.

INVERSION MOUNTING
The inversion mounting transfers the driving force to the opposite side, e.g. for dirty environments.
OSP-P Application examples

ORIGA SYSTEM PLUS – rodless linear drives offer maximum flexibility for any application.

The high load capacity of the piston can cope with high bending moments without additional guides.

The mechanical design of the OSP-P allows synchronised movement of two cylinders.

Integrated guides offer optimal guidance for applications requiring high performance, easy assembly and maintenance free operation.

When using external guides, the clevis mounting is used to compensate for deviations in parallelism.

Optimal system performance by combining multi-axis cylinder combinations.

For further information and assembly instructions, please contact your local Parker Origa dealer.
Rodless Pneumatic Cylinder
Ø 10-80 mm

Standard Versions:
- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing

Long-Stroke Cylinders for stroke lengths up to 41 m
See page 133

Special Versions:
- Cushioning system for cycle time optimization (on request)
- Clean room cylinders
- ATEX-Version
- Stainless steel screws
- Slow speed lubrication
- Viton® seals
- Both air connections on one end
- Air connection on the end-face
- Integrated Valves

- End cap can be rotated 4 x 90° to position air connection as desired
- Free choice of stroke length up to 6000 mm, Long-Stroke version (Ø50-80mm) for stroke lengths up to 41 m

Size Comparison

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Features</strong></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Rodless cylinder</td>
</tr>
<tr>
<td>Series</td>
<td>OSP-P</td>
</tr>
<tr>
<td>System</td>
<td>Double-acting, with cushioning, position sensing capability</td>
</tr>
<tr>
<td>Mounting</td>
<td>See drawings</td>
</tr>
<tr>
<td>Air Connection</td>
<td>Threaded</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>$T_{\text{min}} = -10 , ^\circ\text{C}$</td>
</tr>
<tr>
<td>Temperature range</td>
<td>$T_{\text{max}} = +80 , ^\circ\text{C}$</td>
</tr>
<tr>
<td>Installation</td>
<td>In any position</td>
</tr>
<tr>
<td>Medium</td>
<td>Filtered, unlubricated compressed air (other media on request)</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Permanent grease lubrication (additional oil mist lubrication not required)</td>
</tr>
<tr>
<td></td>
<td>Option: special slow speed grease</td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td></td>
</tr>
<tr>
<td>Cylinder Profile</td>
<td>Anodized aluminium</td>
</tr>
<tr>
<td>Carrier (piston)</td>
<td>Anodized aluminium</td>
</tr>
<tr>
<td>End caps</td>
<td>Aluminium, lacquered / Plastic (P10)</td>
</tr>
<tr>
<td>Sealing bands</td>
<td>Corrosion resistant steel</td>
</tr>
<tr>
<td>Seals</td>
<td>NBR (Option: Viton®)</td>
</tr>
<tr>
<td>Screws</td>
<td>Galvanized steel</td>
</tr>
<tr>
<td></td>
<td>Option: stainless steel</td>
</tr>
<tr>
<td>Dust covers, wipers</td>
<td>Plastic</td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>$p_{\text{max}} = 8 , \text{bar}$</td>
</tr>
</tbody>
</table>
**Loads, Forces and Moments**

**Choice of cylinder is decided by:**

- Permissible loads, forces and moments
- Performance of the pneumatic end cushions.

The main factors here are the mass to be cushioned and the piston speed at start of cushioning (unless external cushioning is used, e.g., hydraulic shock absorbers).

The adjacent 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 $v \leq 0.5$ m/s.

When working out the action force required, it is essential to take into account the friction forces generated by the specific application or load.

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P10</td>
<td>47</td>
<td>32</td>
<td>0.2</td>
<td>1</td>
<td>0.3</td>
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<tr>
<td>OSP-P16</td>
<td>120</td>
<td>78</td>
<td>0.45</td>
<td>4</td>
<td>0.5</td>
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<tr>
<td>OSP-P25</td>
<td>295</td>
<td>250</td>
<td>1.5</td>
<td>15</td>
<td>3</td>
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<tr>
<td>OSP-P32</td>
<td>483</td>
<td>420</td>
<td>3</td>
<td>30</td>
<td>5</td>
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<tr>
<td>OSP-P40</td>
<td>754</td>
<td>640</td>
<td>6</td>
<td>60</td>
<td>8</td>
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<tr>
<td>OSP-P50</td>
<td>1178</td>
<td>1000</td>
<td>10</td>
<td>115</td>
<td>15</td>
</tr>
<tr>
<td>OSP-P63</td>
<td>1870</td>
<td>1550</td>
<td>12</td>
<td>200</td>
<td>24</td>
</tr>
<tr>
<td>OSP-P80</td>
<td>3016</td>
<td>2600</td>
<td>24</td>
<td>360</td>
<td>48</td>
</tr>
</tbody>
</table>

* A rubber element (non-adjustable) is used for end cushioning. To deform the rubber element enough to reach the absolute end position would require a $\Delta p$ of 4 bar!

**Cushioning Diagram**

Work out your expected moving mass and read off the maximum permissible speed at start of cushioning. Alternatively, take your desired speed and expected mass and find the cylinder size required.

Please note that piston speed at start of cushioning is typically ca. 50% higher than the average speed, and that it is this higher speed which determines the choice of cylinder.

<table>
<thead>
<tr>
<th>Mass to be cushioned [kg]</th>
<th>Max. permissible piston speed at start of cushioning [m/s]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>1</td>
</tr>
<tr>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>0.5</td>
<td>3</td>
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<tr>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>50</td>
<td>9</td>
</tr>
<tr>
<td>100</td>
<td>10</td>
</tr>
</tbody>
</table>

* For cylinders with linear guides or brakes, please be sure to take the mass of the carriage or the brake housing into account.

If the permitted limit values are exceeded, either additional shock absorbers should be fitted in the area of the centre of gravity or you can consult us about our special cushioning system – we shall be happy to advise you on your specific application.
Integrated 3/2 Way Valves

VOE
Series OSP-P25, P32, P40 and P50

For optimal control of the OSP-P cylinder, 3/2 way valves integrated into the cylinder’s end caps can be used as a compact and complete solution. They allow for easy positioning of the cylinder, smooth operation at the lowest speeds and fast response, making them ideally suited for the direct control of production and automation processes.

Features:
- Complete compact solution
- Various connection possibilities:
  Free choice of air connection with rotating end caps with VOE valves, Air connection can be rotated 4 x 90°
  Solenoid can be rotated 4 x 90°,
  Pilot valve can be rotated 180°
- High piston velocities can be achieved with max. 3 exhaust ports
- Minimal installation requirements
- Requires just one air connection per valve
- Optimal control of the OSP-P cylinder
- Excellent positioning characteristics
- Integrated operation indicator
- Integrated exhaust throttle valve
- Manual override - indexed
- Adjustable end cushioning
- Easily retrofitted – please note the increase in the overall length of the cylinder!

Characteristics 3/2 Way Valves VOE

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>3/2 Way Valves with spring return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumatic diagram</td>
<td>![Pneumatic Diagram]</td>
</tr>
<tr>
<td>Type</td>
<td>VOE-25</td>
</tr>
<tr>
<td>Actuation</td>
<td>electrical</td>
</tr>
<tr>
<td>Basic position</td>
<td>P → A open, R closed</td>
</tr>
<tr>
<td>Type</td>
<td>Poppet valve, non overlapping</td>
</tr>
<tr>
<td>Mounting</td>
<td>integrated in end cap</td>
</tr>
<tr>
<td>Installation</td>
<td>in any position</td>
</tr>
<tr>
<td>Port size</td>
<td>G 1/8</td>
</tr>
<tr>
<td>Temperature</td>
<td>-10°C to +50°C *</td>
</tr>
<tr>
<td>Operating pressure</td>
<td>2-8 bar</td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>24 V DC / 230 V AC, 50 Hz</td>
</tr>
<tr>
<td>Power consumption</td>
<td>2.5 W / 6 VA</td>
</tr>
<tr>
<td>Duty cycle</td>
<td>100%</td>
</tr>
<tr>
<td>Electrical Protection</td>
<td>IP 65 DIN 40050</td>
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<tr>
<td>* other temperature ranges on request</td>
<td></td>
</tr>
</tbody>
</table>

For further technical information see catalogue P-A4P011GB
## Order Instructions - Basic Cylinder

<table>
<thead>
<tr>
<th>1-4</th>
<th>5+6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12-16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
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<td>OSPP</td>
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<td>0</td>
<td>0</td>
<td>0100</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Piston-Ø
- 10
- 16
- 25
- 32
- 40
- 50
- 63
- 80

### Stroke Length
- In mm (5 digits)

### Piston Mounting
- 0 without
- 1 clevis mounting

### add. Guide Carriage
- 0 without

### Measuring system
- 0 without
- X SFI 0.1 mm
- Y SFI 1 mm

### Version / Piston
- 0 standard
- 1 Tandem

### Lubrication
- 0 standard
- 1 slow speed

### Seals
- 0 standard (NBR)
- 1 Viton

### Screws
- 0 standard
- 1 Stainless

### Cushioning
- 0 standard
- 1 max. length

### End cap position
- 0° in front
- 90° underneath
- 180° at the back
- 270° same side as outerband

### Guides / Brakes / Inversion
- A Activebrake AB
- M Inversion
- N Duplex

### Cover / Cable Channel
- 0 standard
- 1 Cable channel
- 2 Cable channel two-sided
- X without cover rail

### Air Connection
- 0 standard
- 1 end face
- 2 both at one end
- 3 left stand. right end face
- 4 right stand. left end face
- A 3/2 Way valve VOE 24 V = Ø 25, 32, 40, 50
- B 3/2 Way valve VOE 230 V~/110 V = Ø 25, 32, 40, 50
- C 3/2 Way valve VOE 48 V = Ø 25, 32, 40, 50
- E 3/2 Way valve VOE 110 V~ Ø 25, 32, 40, 50

### Measuring system
- 0 without
- X SFI 0.1 mm
- Y SFI 1 mm

### End cap position (air connection)
1) Viton with VOE not available.
2) Slow speed lubrication in combination with Viton® seals on demand
3) „Lubrication slow speed” in combination with „max. cushioning length” not possible.
Long Stroke Cylinder Ø 50-80 mm for strokes up to 41 m

Standard Versions:
- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing

Special Versions:
- Stainless steel screws
- Slow speed lubrication
- Viton® seals

Options:
- Displacement measuring system SFI-plus
- Active brake AB..

Size Comparison

<table>
<thead>
<tr>
<th></th>
<th>P50</th>
<th>P63</th>
<th>P80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø</td>
<td>50</td>
<td>63</td>
<td>80</td>
</tr>
<tr>
<td>Stroke (mm)</td>
<td>0</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>3.53</td>
<td>6.41</td>
<td>12.46</td>
</tr>
</tbody>
</table>

Weight (mass) [kg]

<table>
<thead>
<tr>
<th>Cylinder series (Basic cylinder)</th>
<th>Weight (Mass) [kg] at 0 mm stroke</th>
<th>Weight (Mass) [kg] per 100 mm stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P50LS</td>
<td>3.53</td>
<td>0.566</td>
</tr>
<tr>
<td>OSP-P63LS</td>
<td>6.41</td>
<td>0.925</td>
</tr>
<tr>
<td>OSP-P80LS</td>
<td>12.46</td>
<td>1.262</td>
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</tbody>
</table>

Characteristics

**General Features**

<table>
<thead>
<tr>
<th>Type</th>
<th>Rodless cylinder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>OSP-P</td>
</tr>
<tr>
<td>System</td>
<td>Double-acting, with cushioning, position sensing capability</td>
</tr>
<tr>
<td>Mounting</td>
<td>See drawings</td>
</tr>
<tr>
<td>Air Connection</td>
<td>Threaded</td>
</tr>
<tr>
<td>Ambient temperature range</td>
<td>T_min: 10 °C, T_max: +40 °C on request</td>
</tr>
<tr>
<td>Installation</td>
<td>Vertical, horizontal (piston at top or at bottom)</td>
</tr>
<tr>
<td>Medium</td>
<td>Filtered, un lubricated compressed air (other media on request)</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Permanent grease lubrication (additional oil mist lubrication not required)</td>
</tr>
</tbody>
</table>

**Material**

<table>
<thead>
<tr>
<th>Cylinder Profile</th>
<th>Anodized aluminium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrier (piston)</td>
<td>Anodized aluminium</td>
</tr>
<tr>
<td>End caps</td>
<td>Anodized aluminium</td>
</tr>
<tr>
<td>Sealing bands</td>
<td>Corrosion resistant steel</td>
</tr>
<tr>
<td>Seals</td>
<td>NBR (Option: Viton®)</td>
</tr>
<tr>
<td>Screws</td>
<td>Galvanized steel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dust covers, wipers</th>
<th>Plastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating pressure p_max</td>
<td>8 bar</td>
</tr>
<tr>
<td>Max. speed v</td>
<td>2 m/s</td>
</tr>
</tbody>
</table>

For further technical information see catalogue P-A4P011GB
**Clean Room Cylinder Ø 16-32 mm**
Certified to DIN EN ISO 14644-1

**Standard Versions:**
- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing
- Stainless steel screws

**Special Versions:**
- Slow speed lubrication
- Viton® seals

**Features:**
- Clean room classification
  - ISO Class 4 at \( v_m = 0.14 \) m/s
  - ISO Class 5 at \( v_m = 0.5 \) m/s
- Suitable for smooth slow speed operation down to \( v_m = 0.005 \) m/s
- Optional stroke length up to 1200 mm (longer strokes on request)
- Low maintenance
- Compact design with equal force and velocity in both directions
- Aluminium piston with bearing rings to support high direct and cantilever loads

**Size Comparison**

<table>
<thead>
<tr>
<th>Cylinder series</th>
<th>Weight (Mass) [kg] At 0 mm stroke</th>
<th>Weight (Mass) [kg] per 100 mm stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P16</td>
<td>0.22</td>
<td>0.1</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>0.65</td>
<td>0.197</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>1.44</td>
<td>0.354</td>
</tr>
</tbody>
</table>

For further technical information see catalogue P-A4P011GB

---

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Features</strong></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Rodless cylinder</td>
</tr>
<tr>
<td>Series</td>
<td>OSP-P</td>
</tr>
<tr>
<td>System</td>
<td>Double-acting, with cushioning, position sensing capability</td>
</tr>
<tr>
<td>Mounting</td>
<td>See drawings</td>
</tr>
<tr>
<td>Air Connection</td>
<td>Threaded</td>
</tr>
<tr>
<td>Ambient temperature range</td>
<td>(-10^\circ C ) - Other temperature ranges</td>
</tr>
<tr>
<td>Installation</td>
<td>In any position</td>
</tr>
<tr>
<td>Medium</td>
<td>Filtered, un lubricated compressed air (other media on request)</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Permanent grease lubrication (additional oil mist lubrication not required) Option: special slow speed grease</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder Profile</td>
<td>Anodized aluminium</td>
</tr>
<tr>
<td>Carrier (piston)</td>
<td>Anodized aluminium</td>
</tr>
<tr>
<td>End caps</td>
<td>Aluminium, lacquered</td>
</tr>
<tr>
<td>Sealing bands</td>
<td>Corrosion resistant steel</td>
</tr>
<tr>
<td>Seals</td>
<td>NBR (Option: Viton®)</td>
</tr>
<tr>
<td>Screws</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Covers</td>
<td>Anodised aluminium</td>
</tr>
<tr>
<td>Guide plate</td>
<td>Plastic</td>
</tr>
<tr>
<td>Max. operating pressure ( p_{max} )</td>
<td>8 bar</td>
</tr>
</tbody>
</table>
Order Instructions - Clean Room Cylinder

1) The combination „Slow speed lubrication“ and „Viton® sealings“ are available on request.
2) max. stroke lengths 1200 mm, longer strokes on request.
Components for EX-Areas

Information for ATEX-Directives

The rodless pneumatic cylinders of Parker Origa are the first linear drive unit, for that Ex range in the group of equipment II, Category 2 GD are certified.

Detail informations for use pneumatic components in Ex-Areas see leaflet PDE2584TCUK „EU Directive 94/9/EG (ATEX 95) for Pneumatic Components“.

Technical Data (deviant to the Standard Cylinder)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Features</td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td>T&lt;sub&gt;min&lt;/sub&gt; -10 °C</td>
</tr>
<tr>
<td>temperature range</td>
<td>T&lt;sub&gt;max&lt;/sub&gt; +60 °C</td>
</tr>
<tr>
<td>Max. switching frequency</td>
<td>1 (double stroke/s) Basic cylinder 0.5 (1 stroke/s) Cylinder with guide</td>
</tr>
<tr>
<td>Operating pressure range p&lt;sub&gt;max&lt;/sub&gt;</td>
<td>Max. 8 bar</td>
</tr>
<tr>
<td>Max. speed v&lt;sub&gt;max&lt;/sub&gt;</td>
<td>3 (Basic cylinder) 2 (Cylinder with guide SLIDELINE and cylinder with guide BASIC GUIDE)</td>
</tr>
<tr>
<td>Medium</td>
<td>Filtered, unlubricated compressed air – free from water and dirt to ISO 8573-1</td>
</tr>
<tr>
<td></td>
<td>Solids: Class 7 particle size &lt; 40 µm for Gas</td>
</tr>
<tr>
<td></td>
<td>Water content: pressure dew point +3 °C, class 4, but at least 5 °C below minimum operating temperature</td>
</tr>
<tr>
<td>Noise level</td>
<td>70 dB (A)</td>
</tr>
</tbody>
</table>

Information for materials

- Aluminium: See data sheet "Material"
- Lubrication: See security data sheet "Grease for use in Cylinder with guides"
- Sealing bands: Corrosion resistant steel

Equipment Group II Categorie 2GD

Rodless cylinder: ☺ II 2GD c T4 T135°C -10°C£Ta£+60°C

<table>
<thead>
<tr>
<th>Series</th>
<th>Size</th>
<th>Stroke range</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P</td>
<td>Ø 10 to 80</td>
<td>1– 6000 mm</td>
<td>Mountings programme</td>
</tr>
<tr>
<td>BASIC GUIDE</td>
<td>Ø 25 to 50</td>
<td>1– 6000 mm</td>
<td>Mountings programme</td>
</tr>
<tr>
<td>SLIDELINE</td>
<td>Ø 16 to 80</td>
<td>1– 5500 mm</td>
<td>Mountings programme</td>
</tr>
</tbody>
</table>

For further technical information see catalogue P-A4P011GB
Synchronised Rodless Cylinder
Ø 40 mm
For synchronised bi-parting movements
Type OSP-P40-SL-BP

Applications:
• Opening and closing operations
• Gripping of workpieces – outside
• Gripping of hollow workpieces – inside
• Gripping underneath larger objects
• Clamping force adjustable via pressure regulator

Features:
• Accurate bi-parting movement through toothed belt synchronization
• Optimum slow speed performance
• Increased action force
• Anodized aluminium guide rail with prism-form slideway arrangement
• Adjustable polymer slide units
• Combined sealing system with polymer and felt elements to remove dirt and lubricate the slideway
• Integrated grease nipples for guide lubrication

Table:

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Features</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Rodless cylinder for synchronised bi-parting movements</td>
</tr>
<tr>
<td>Series</td>
<td>OSP-P</td>
</tr>
<tr>
<td>System</td>
<td>Double-acting with end cushioning for contactless position sensing</td>
</tr>
<tr>
<td>Guide</td>
<td>Slideline SL40</td>
</tr>
<tr>
<td>Synchronisation</td>
<td>Toothed belt</td>
</tr>
<tr>
<td>Mounting</td>
<td>See drawings</td>
</tr>
<tr>
<td>Ambient temperature range</td>
<td>-10 °C to +60 °C</td>
</tr>
<tr>
<td>Installation</td>
<td>In any position</td>
</tr>
<tr>
<td>Medium</td>
<td>Filtered, unlubricated compressed air (other media on request)</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Special slow speed grease - additional oil mist lubrication not required</td>
</tr>
<tr>
<td>Operating pressure $p_{max}$</td>
<td>6 bar</td>
</tr>
<tr>
<td>Cushioning middle position</td>
<td>Elastic buffer</td>
</tr>
<tr>
<td>Max. speed $v_{max}$</td>
<td>0.2 m/s</td>
</tr>
<tr>
<td>Max. stroke of each stroke</td>
<td>500 mm</td>
</tr>
<tr>
<td>Max. mass per guide carrier</td>
<td>25 kg</td>
</tr>
<tr>
<td>Max. moments on guide carrier</td>
<td></td>
</tr>
<tr>
<td>Lateral moment $M_{x_{max}}$</td>
<td>25 Nm</td>
</tr>
<tr>
<td>Axial moment $M_{y_{max}}$</td>
<td>46 Nm</td>
</tr>
<tr>
<td>Rotating moment $M_{z_{max}}$</td>
<td>46 Nm</td>
</tr>
<tr>
<td>Material</td>
<td></td>
</tr>
<tr>
<td>Toothed belt</td>
<td>Steel-corded polyurethane</td>
</tr>
<tr>
<td>Belt wheel</td>
<td>Aluminium</td>
</tr>
</tbody>
</table>

For further technical information see catalogue P-A4P011GB
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

Linear Guides

SLIDELINE
The cost-effective plain bearing guide for medium loads.
Active/Passive Brake optional.
Piston diameters 16 – 80 mm
See page 141 (Standard)
See page 136 (ATEX-Version)

POWERSLIDE
The roller guide for heavy loads and hard application conditions
Piston diameters 16 – 50 mm
See page 143

PROLINE
The compact aluminium roller guide for high loads and velocities.
Active/Passive Brake optional.
Piston diameters 16 – 50 mm
See page 145

STARLINE
Recirculating ball bearing guide for very high loads and precision
Piston diameters 16 – 50 mm
See page 147

KF GUIDE
Recirculating ball bearing guide.
Correspond to FESTO dimensions (Type DGPL-KF)
Piston diameters 16 – 50 mm
See page 151

HD HEAVY DUTY GUIDE
Recirculating ball bearing guide for highest loads and greatest accuracy.
Piston diameters 25 – 50 mm
See page 153
Plain Bearing Guide

**BASIC GUIDE**

Series BG 25 to 50 for Linear Drive

Compact, robust plain bearing guide for medium loads

**Features:**
- Compact: guide rail integrated in cylinder profile tube
- Robust: wiper system and grease nipples for long service life
- Smooth operation
- Simple to (re-) adjust
- Integrated grease nipples
- Any length of stroke up to 6000 mm (longer strokes on request)

**Options:**
- Corrosion resistant version available on request
- VOE-Valves

**Accessories:**
- Mid-Section Support
- End Cap Mountings
- Magnetic Switches

**Loads, Forces and Moments**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BG25</td>
<td>10 28 28</td>
<td>590</td>
<td>1.09 0.22</td>
<td>0.29 17</td>
<td></td>
</tr>
<tr>
<td>BG32</td>
<td>17 43 43</td>
<td>850</td>
<td>2.26 0.38</td>
<td>0.69 20</td>
<td></td>
</tr>
<tr>
<td>BG40</td>
<td>39 110 110</td>
<td>1600</td>
<td>3.52 0.41</td>
<td>1.37 27</td>
<td></td>
</tr>
<tr>
<td>BG50</td>
<td>67 165 165</td>
<td>2000</td>
<td>5.30 0.58</td>
<td>1.91 30</td>
<td></td>
</tr>
</tbody>
</table>

For further technical information see catalogue P-A4P011GB

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

\[
\frac{M_x}{M_{x,\text{max}}} + \frac{M_y}{M_{y,\text{max}}} + \frac{M_z}{M_{z,\text{max}}} + \frac{F_y}{F_{y,\text{max}}} + \frac{F_z}{F_{z,\text{max}}} \leq 1
\]

The sum of the loads should not exceed 1.
**Order Instructions - BASIC GUIDE**

<table>
<thead>
<tr>
<th>1-6</th>
<th>7+8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14-18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23</th>
<th>24</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSPPBG</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>01100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Piston-Ø**
- 25
- 32
- 40
- 50

**Version/Piston**
- 0: Standard
- 1: Tandem
- 6: ATEX Standard

**Air Connection**
- 0: Standard
- 1: Both at one end (not turnable)
- 2: Left standard right end face
- 3: Right standard left end face

**Seals**
- 0: Standard (NBR)
- 1: Viton®

**Lubrication**
- 0: Standard
- 1: Slow speed

**Screws**
- 0: Standard
- 1: Stainless

**Cushioning**
- 0: Standard

**End Cap Position**
- 0: l+r 0° = in front
- 1: l+r 90° = underneath
- 2: l+r 180° = at the back
- 3: l+r 270° = same side as outerband
- 4: l 180° = at the back; r 0° = in front
- 5: l 0° = in front; r 90° = underneath
- 6: l 180° = at the back; r 90° = underneath
- 7: l 270° = same side as outerband; r 0° = in front
- 8: l 0° = in front; r 180° = at the back
- 9: l 270° = same side as outerband; r 90° = underneath
- A: l 0° = in front; r 270° = same side as outerband
- B: l 180° = at the back; r 270° = same side as outerband
- C: l 90° = underneath; r 180° = at the back
- D: l 0° = in front; r 270° = same side as outerband
- E: l 90° = underneath; r 270° = same side as outerband
- F: l 180° = at the back; r 270° = same side as outerband

**Stroke**
- Input in mm (5 digits)

**Piston Mounting**
- 0: Without

**Cover/Cable Channel**
- 0: Standard
- 1: Cable channel dove tail Ø 32, 40, 50
- 2: Cable channel dove tail two-sided Ø 32, 40, 50

---

1) Viton with VOE not possible.
2) “Slow speed lubrication” in combination with Viton® seals on demand.
3) ATEX with VOE not possible.
Plain Bearing Guide

**SLIDELINE**
Series SL 16 to 80 for Linear Drive

**Features:**
- ATEX-version (without brake) is also available
  See page 136
- 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)

**Loads, Forces and Moments**

![Diagram](image)

**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 $v < 0.2 \text{ m/s}$. For further technical information see catalogue P-A4P011GB.

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

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

2) Corrosion resistant fixtures available on request

**Integrated Brake (optional) for series OSP-P25 to OSP-P50:**
- Actuated by pressure
- Released by exhausting and spring return

For further technical information see catalogue P-A4P011GB

**Carriage Without Brake**

**Option - Integrated Brake**

**Table: For linear drive**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mx</td>
<td>My</td>
<td>Mz</td>
<td>Fy, Fz</td>
<td>with 0 mm stroke</td>
<td>increase per 100 mm stroke</td>
</tr>
<tr>
<td>SL16</td>
<td>OSP-P16</td>
<td>6</td>
<td>11</td>
<td>11</td>
<td>325</td>
<td>-</td>
</tr>
<tr>
<td>SL25</td>
<td>OSP-P25</td>
<td>14</td>
<td>34</td>
<td>34</td>
<td>675</td>
<td>325</td>
</tr>
<tr>
<td>SL32</td>
<td>OSP-P32</td>
<td>29</td>
<td>60</td>
<td>60</td>
<td>925</td>
<td>545</td>
</tr>
<tr>
<td>SL40</td>
<td>OSP-P40</td>
<td>50</td>
<td>110</td>
<td>110</td>
<td>1600</td>
<td>835</td>
</tr>
<tr>
<td>SL50</td>
<td>OSP-P50</td>
<td>77</td>
<td>180</td>
<td>180</td>
<td>2000</td>
<td>1200</td>
</tr>
<tr>
<td>SL63</td>
<td>OSP-P63</td>
<td>120</td>
<td>260</td>
<td>260</td>
<td>2500</td>
<td>-</td>
</tr>
<tr>
<td>SL80</td>
<td>OSP-P80</td>
<td>120</td>
<td>260</td>
<td>260</td>
<td>2500</td>
<td>-</td>
</tr>
</tbody>
</table>

**Please use this order pattern:** Order-No. + „stroke in mm” (5 digits)
Example: SLIDELINE guide without brake D25 mm, stroke 1000 mm: 20342-01000
## Order Instructions - SLIDELINE

<table>
<thead>
<tr>
<th>1-4</th>
<th>5-6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12-16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
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<th>22</th>
<th>23</th>
<th>24</th>
<th>25</th>
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</thead>
<tbody>
<tr>
<td>OSPP</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>01100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Piston-Ø
- 16
- 25
- 32
- 40
- 50
- 63
- 80

### Stroke
- Input in mm (5 digits)
- 0
- Without

### Piston Mounting
- 0
- Without

### Measuring System
- 0
- Without
- X
- SFI 0.1 mm
- Y
- SFI 1 mm

### Version / Piston
- 0
- Standard
- 1
- Tandem

### Seals
- 0
- Standard (NBR)
- 1
- Viton®

### Cushioning
- 0
- Standard

### Screws
- 0
- Standard
- 1
- Stainless

### Air Connection
- 0
- Standard
- 1
- End face
- 2
- Both at one end (not turnable)
- 3
- Left standard
- 4
- Right standard
- A
- 3/2 way valve VDE 24 V = Ø 25, 32, 40, 50
- B
- 3/2 way valve VDE 230 V~/110 V = Ø 25, 32, 40, 50
- C
- 3/2 way valve VDE 48 V = Ø 25, 32, 40, 50
- E
- 3/2 way valve VDE 110 V = Ø 25, 32, 40, 50

### Lubrication
- 0
- Standard
- 1
- Slow speed

### End Cap Position
- 0
- L + R 0° = In front
- 1
- L + R 90° = Underneath
- 2
- L + R 180° = At the back
- 3
- L + R 270° = Same side as outerband
- 4
- L 90° = Underneath; R 0° = In front
- 5
- L 180° = At the back; R 0° = In front
- 6
- L 270° = Same side as outerband; R 0° = In front
- 7
- L 0° = In front; R 90° = Underneath
- 8
- L 180° = At the back; R 90° = Underneath
- 9
- L 270° = Same side as outerband; R 90° = Underneath
- A
- L 0° = In front; R 180° = At the back
- B
- L 90° = Underneath; R 180° = At the back
- C
- L 270° = Same side as outerband; R 180° = At the back
- D
- L 0° = In front; R 270° = Same side as outerband
- E
- L 90° = Underneath; R 270° = Same side as outerband
- F
- L 180° = At the back; R 270° = Same side as outerband

### Guides / Brakes / Inversion
- 0
- Without
- 2
- Slideline SL Ø 16-80
- 3
- Slideline with Activebrake SL-AB Ø 25-50
- 4
- Slideline with Multibrake SL-MB Ø 25-80

### Cover / Cable Channel
- 0
- Standard
- 1
- Cable channel
- 2
- Cable channel two-sided
- X
- Without Cover rail

### Add. Guide Carriage
- 0
- Without
- 2
- Guide Carriage Slideline SL Ø 16-80
- 3
- Guide Carriage Slideline Activebrake SL-AB Ø 25-50
- 4
- Guide Carriage Slideline Multibrake SL-MB Ø 25-80
- M
- Guide Carriage Slideline Multibrake SL-MB without brake function Ø 25-80

---

1) Viton with VOE not possible.

2) “Slow speed lubrication” in combination with Viton® seals on demand.
Roller Guide

POWERSLIDE

Series PS 16 to 50 for Linear Drive

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 $v = 3 \text{ m/s}$,
- Tough roller cover with wiper and grease nipple
- Any length of stroke up to 3500 mm, (longer strokes on request)

Loads, Forces and Moments

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

For further technical information see catalogue P-A4P011GB

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>PS 16/25</td>
<td>OSP-P16</td>
<td>14 45 45</td>
<td>1400</td>
<td>0.93 0.24</td>
<td>0.7</td>
<td>20285</td>
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<tr>
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<td>OSP-P25</td>
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<td>1400</td>
<td>1.5 0.4</td>
<td>0.7</td>
<td>20015</td>
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<td>PS 25/44</td>
<td>OSP-P25</td>
<td>65 175 175</td>
<td>3000</td>
<td>2.6 0.5</td>
<td>1.5</td>
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<tr>
<td>PS 32/35</td>
<td>OSP-P32</td>
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<td>2.6 0.6</td>
<td>0.8</td>
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<td>PS 32/44</td>
<td>OSP-P32</td>
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<td>3000</td>
<td>3.4 0.7</td>
<td>1.5</td>
<td>20287</td>
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<td>PS 40/44</td>
<td>OSP-P40</td>
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<td>3000</td>
<td>4.6 1.1</td>
<td>1.5</td>
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<td>4000</td>
<td>11.5 1.8</td>
<td>4.9</td>
<td>20289</td>
</tr>
</tbody>
</table>

\(^1\) Corrosion resistance version available on request (max. loads and moments are 25% lower)

\(^{**}\) Please use this order pattern: Order-No. + stroke in mm (5 digits)

Example: PS25/25 Guide D25 mm, stroke 1000 mm: 20015-01000
**Order Instructions - POWERSLIDE**

<table>
<thead>
<tr>
<th><strong>Part Number</strong></th>
<th><strong>Piston Ø</strong></th>
<th><strong>Stroke</strong></th>
<th><strong>Piston Mounting</strong></th>
<th><strong>Measuring System</strong></th>
<th><strong>Air Connection</strong></th>
<th><strong>Seals</strong></th>
<th><strong>Lubrication</strong></th>
<th><strong>End Cap Position</strong></th>
<th><strong>Guides/Brakes/Inversion</strong></th>
<th><strong>Cover/Cable Channel</strong></th>
<th><strong>Add Guide Carriage</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>OSPP</td>
<td>16, 25, 32, 40, 50</td>
<td>Input in mm (5 digits)</td>
<td>without</td>
<td>0</td>
<td>standard</td>
<td>0</td>
<td>standard</td>
<td>0</td>
<td>PSXX/25 Powerslide</td>
<td>0 standard</td>
<td>0 without</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PSXX/35 Powerslide</td>
<td>1 cable channel</td>
<td>E Guide Carriage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PSXX/44 Powerslide</td>
<td>2 cable channel</td>
<td>F Guide Carriage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PSXX/60 Powerslide</td>
<td>1 cable channel</td>
<td>G Guide Carriage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PSXX/76 Powerslide</td>
<td>2 cable channel</td>
<td>H Guide Carriage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A Guide Carriage</td>
<td>3 cable channel</td>
<td>I Guide Carriage</td>
</tr>
</tbody>
</table>

**Version / Piston**
- 0 standard
- 1 Tandem

**Screws**
- 0 standard
- 1 stainless

**Cushioning**
- 0 standard
- 1 max. length

**Lubrication**
- 0 standard
- 1 Slow speed

**Seals**
- 0 standard (NBR)
- 1 Viton

**End Cap Position**
- 0 l + r 0° = in front
- 1 l + r 90° = underneath
- 2 l + r 180° = at the back
- 3 l + r 270° = same side as outerband
- 4 l 0° = in front; r 90° = in front
- 5 l 180° = at the back; r 90° = underneath
- 6 l 270° = same side as outerband; r 0° = in front
- 7 l 180° = at the back; r 90° = underneath
- 8 l 270° = same side as outerband; r 90° = underneath
- 9 l 270° = same side as outerband; r 90° = underneath
- A l 0° = in front; r 180° = at the back
- B l 90° = underneath; r 180° = at the back
- C l 270° = same side as outerband; r 180° = at the back
- D l 0° = in front; r 270° = same side as outerband
- E l 180° = at the back; r 270° = same side as outerband
- F l 180° = at the back; r 270° = same side as outerband

**Guide Carriage**
- 0 without

- 1 Powerslide PSXX/25 Ø 16, 25
- 2 Powerslide PSXX/35 Ø 25, 32
- 3 Powerslide PSXX/44 Ø 25, 32, 40
- 4 Powerslide PSXX/60 Ø 32, 50
- 5 Powerslide PSXX/76 Ø 50

**Air Connection**
- 0 standard
- 1 on the end face
- 2 both at one end (not turnable)
- 3 left standard right end face
- 4 right standard left end face

**Add Guide Carriage**
- 0 without

- E Guide Carriage Powerside PSXX/25 Ø 16, 25
- F Guide Carriage Powerside PSXX/35 Ø 25, 32
- G Guide Carriage Powerside PSXX/44 Ø 25, 32, 40
- H Guide Carriage Powerside PSXX/60 Ø 40, 50
- I Guide Carriage Powerside PSXX/76 Ø 50

**Seal**
- 0 standard (NBR)
- 1 Viton

- 1) Viton with VOE not possible.
- 3) „Lubrication slow speed” in combination with „max. cushioning length” not possible.
Aluminium Roller Guide
PROLINE
Series PL 16 to 50 for Linear Drive

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

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:

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

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.

For further technical information see catalogue P-A4P011GB

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

### Technical Data

**Series**

<table>
<thead>
<tr>
<th></th>
<th></th>
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<tr>
<td>PL 16</td>
<td>OSP-P16</td>
<td>8    12 12</td>
<td>542</td>
<td>-</td>
<td>0.55</td>
<td>0.19</td>
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<tr>
<td>PL 25</td>
<td>OSP-P25</td>
<td>16   39 39</td>
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<td>1.65</td>
<td>0.40</td>
<td>20856 20860</td>
</tr>
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<td>PL 32</td>
<td>OSP-P32</td>
<td>29   73 73</td>
<td>1171</td>
<td>on request</td>
<td>3.24</td>
<td>0.62</td>
<td>20857 20861</td>
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<tr>
<td>PL 40</td>
<td>OSP-P40</td>
<td>57   158 158</td>
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<td>4.35</td>
<td>0.70</td>
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</tr>
<tr>
<td>PL 50</td>
<td>OSP-P50</td>
<td>111  249 249</td>
<td>3111</td>
<td>on request</td>
<td>7.03</td>
<td>0.95</td>
<td>20859 20863</td>
</tr>
</tbody>
</table>

$^1$ Please use this order pattern: Order-No. + „stroke in mm“ (5 digits)
Example: PROLINE guide without brake D16 mm, stroke 1000 mm: 20855-01000
### Order Instructions - PROLINE

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<thead>
<tr>
<th>1-4</th>
<th>5+6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12-16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23</th>
<th>24</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSPP</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>01100</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

#### Piston-Ø
- 16
- 25
- 32
- 40
- 50

#### Stroke
- Input in mm (5 digits)

#### Piston Mounting
- 0 without

#### Screws
- 0 standard

#### Cushioning
- 0 standard
- 1 max. length

#### Version / Piston
- 0 standard
- 1 Tandem

#### Lubrication
- 0 standard
- 1 Slow speed

#### Seals
- 0 standard (NBR)
- 1 Viton

#### Air Connection
- 0 standard
- 1 on the end face
- 2 both at one end (not turnable)
- 3 left standard right end face
- 4 right standard left end face

#### Guides / Brakes / Inversion
- 0 without
- 6 Proline PL Ø 16-50
- 7 Proline with Activebrake PL-AB Ø 25-50
- 8 Proline with Multibrake PL-MB Ø 25-50

#### Measuring system
- 0 without
- X SFI 0.1 mm
- Y SFI 1 mm

#### Covers / Cable Channel
- 0 standard
- 1 cable channel
- 2 cable channel two-sided
- X without Cover rail

#### End cap position

1. 0° = in front
2. 90° = underneath
3. 180° = at the back
4. 270° = same side as outerband
5. 180° at the back; r 0° = in front
6. 180° = at the back; r 0° = in front
7. 180° = at the back; r 90° = underneath
8. 180° = at the back; r 90° = underneath
9. 180° = at the back; r 90° = underneath
10. 180° = at the back; r 90° = underneath
11. 180° = at the back; r 90° = underneath
12. 180° = at the back; r 90° = underneath
13. 180° = at the back; r 90° = underneath
14. 180° = at the back; r 90° = underneath
15. 180° = at the back; r 90° = underneath
16. 180° = at the back; r 90° = underneath
17. 180° = at the back; r 90° = underneath

#### Cover / Cable Channel

- 0 without
- 6 Guide Carriage Proline PL Ø 16-50
- 7 Guide Carriage Proline Activebrake PL-AB Ø 25-50

#### Add. Guide Carriage
- 0 without
- 6 Guide Carriage Proline PL Ø 16-50
- 7 Guide Carriage Proline Activebrake PL-AB Ø 25-50

#### Viton with VOE not possible.

2) “Slow speed lubrication” in combination with „Viton®” seals on demand.

3) “Lubrication slow speed” in combination with „max. cushioning length” not possible.
Recirculating Ball Bearing Guide  
**STARLINE**  
Series STL 16 to 50 for Linear Drive

**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

**Loads, Forces and Moments**

**Features:**
- Maximum speed  
  - STL16: \( v = 3 \text{ m/s} \)  
  - STL25 to 50: \( v = 5 \text{ m/s} \)

**Technical Data**

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

\[
\frac{M_x}{M_{x\text{ max}}} + \frac{M_y}{M_{y\text{ max}}} + \frac{M_z}{M_{z\text{ max}}} + \frac{F_y}{F_{y\text{ max}}} + \frac{F_z}{F_{z\text{ max}}} \leq 1
\]

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.

For further technical information see catalogue P-A4P011GB

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>STL 16</td>
<td>OSP-P16</td>
<td>15</td>
<td>30</td>
<td>30</td>
<td>1000</td>
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</tr>
<tr>
<td>STL 25</td>
<td>OSP-P25</td>
<td>50</td>
<td>110</td>
<td>110</td>
<td>3100</td>
<td>1.733</td>
<td>0.369</td>
<td>0.835</td>
</tr>
<tr>
<td>STL 32</td>
<td>OSP-P32</td>
<td>62</td>
<td>160</td>
<td>160</td>
<td>3100</td>
<td>2.934</td>
<td>0.526</td>
<td>1.181</td>
</tr>
<tr>
<td>STL 40</td>
<td>OSP-P40</td>
<td>150</td>
<td>400</td>
<td>400</td>
<td>4000</td>
<td>4.452</td>
<td>0.701</td>
<td>1.901</td>
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<tr>
<td>STL 50</td>
<td>OSP-P50</td>
<td>210</td>
<td>580</td>
<td>580</td>
<td>4000</td>
<td>7.361</td>
<td>0.936</td>
<td>2.880</td>
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</table>

**Please note:**

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

**Please use this order pattern:** Order-No. + „stroke in mm“ (5 digits)  
**Example:** STARLINE guide D16 mm, stroke 1000 mm: 21111-01000
Variable Stop
Type VS16 to VS50

Arrangement with two variable stops

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“.

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.

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

<table>
<thead>
<tr>
<th>Speed [m/s]</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>0.2</td>
<td>0.3</td>
</tr>
<tr>
<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>0.8</td>
<td>0.9</td>
</tr>
<tr>
<td>0.9</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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-STL16

<table>
<thead>
<tr>
<th>Speed [m/s]</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>0.2</td>
<td>0.3</td>
</tr>
<tr>
<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>0.8</td>
<td>0.9</td>
</tr>
<tr>
<td>0.9</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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-STL25

<table>
<thead>
<tr>
<th>Speed [m/s]</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>0.2</td>
<td>0.3</td>
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<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>0.8</td>
<td>0.9</td>
</tr>
<tr>
<td>0.9</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Speed [m/s]</th>
<th>Mass [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>0.2</td>
<td>0.3</td>
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<td>0.4</td>
</tr>
<tr>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>0.8</td>
<td>0.9</td>
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<tr>
<td>0.9</td>
<td>1.0</td>
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</tbody>
</table>

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

<table>
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<tr>
<th>Speed [m/s]</th>
<th>Mass [kg]</th>
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<tbody>
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<tr>
<td>0.2</td>
<td>0.3</td>
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<tr>
<td>0.3</td>
<td>0.4</td>
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<td>0.5</td>
<td>0.6</td>
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<tr>
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<td>0.7</td>
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<td>0.9</td>
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<tr>
<td>0.9</td>
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</table>

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

<table>
<thead>
<tr>
<th>Series</th>
<th>Type</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>P</th>
<th>SW1</th>
<th>SW2</th>
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<tbody>
<tr>
<td>OSP-STL16</td>
<td>VS16</td>
<td>30</td>
<td>14</td>
<td>25</td>
<td>33</td>
<td>30</td>
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<td>38</td>
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<td>52</td>
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<td>64</td>
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<td>48</td>
<td>63</td>
<td>25.6</td>
<td>50</td>
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<td>OSP-STL50</td>
<td>VS50</td>
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<td>-</td>
<td>60</td>
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<td>70</td>
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Order information - Variable Stop Type VS16 to VS50 - without cylinder and without guide

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<td></td>
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<td>Type</td>
<td>Order No.</td>
<td>Type</td>
<td>Order No.</td>
<td>Type</td>
<td>Order No.</td>
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<td>1</td>
<td>Stop, complete</td>
<td>-</td>
<td>21196FIL</td>
<td>-</td>
<td>21197FIL</td>
<td>-</td>
<td>21198FIL</td>
<td>-</td>
<td>21199FIL</td>
</tr>
<tr>
<td>2</td>
<td>Shock absorber holder complete</td>
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<td>21201FIL</td>
<td>-</td>
<td>21202FIL</td>
<td>-</td>
<td>21203FIL</td>
<td>-</td>
<td>21204FIL</td>
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<tr>
<td>3*</td>
<td>Shock absorber, soft</td>
<td>SA10SN</td>
<td>7718FIL</td>
<td>SA12SN</td>
<td>7723FIL</td>
<td>SA14</td>
<td>7708FIL</td>
<td>SA20</td>
<td>7710FIL</td>
</tr>
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<td></td>
<td>Shock absorber, hard</td>
<td>SA10SN</td>
<td>7721FIL</td>
<td>SA12S</td>
<td>7707FIL</td>
<td>SA14S</td>
<td>7709FIL</td>
<td>SA20S</td>
<td>7711FIL</td>
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</table>

*Shock absorber with plastic cap

Note: Order instructions for VS in combination with the cylinder and guide see page 150, pos.18
### Order Instructions- STARLINE

<table>
<thead>
<tr>
<th>1-4</th>
<th>5+6</th>
<th>7</th>
<th>8</th>
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<tbody>
<tr>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Piston-Ø
- 16
- 25
- 32
- 40
- 50

#### Stroke
Input in mm (5 digits)

#### Piston Mounting
- 0 without

#### Measuring system
- 0 without
- X SFI 0.1 mm
- Y SFI 1 mm

#### Version / Piston
- 0 standard
- 1 Tandem

#### Air Connection
- 0 standard
- 1 on the end face
- 2 both at one end (not turnable)
- 3 left standard right end face
- 4 right standard left end face

#### Seals
- 0 standard (NBR)
- 1 Viton®

#### Lubrication
- 0 standard

#### Cushioning
- 0 standard
- 1 max. length
- 2 VS variable stop, soft left for Starline
- 3 VS variable stop, hard, left for Starline
- 4 VS variable stop, soft, right for Starline
- 5 VS variable stop, hard, right for Starline
- 6 VS variable stop, soft, both sides for Starline
- 7 VS variable stop, hard, both sides for Starline

#### Screws
- 0 standard

#### Guides / Brakes / Inversion
- 0 without
- B Starline STL

#### Measuring system
- 0 without

#### Cover / Cable Channel
- 0 standard
- 1 cable channel
- 2 cable channel two-sided
- X without Coverrail

#### End cap position
- 0 l+r 0° = in front
- 1 l+r 90° = underneath
- 2 l+r 180° = at the back
- 3 l+r 270° = same side as outerband
- 4 l 10° = in front; r 90° = underneath
- 5 l 180° = at the back; r 90° = underneath
- 6 l 270° = same side as outerband; r 0° = in front
- 7 l 90° = underneath; r 90° = underneath
- 8 l 270° = same side as outerband; r 180° = at the back
- 9 l 0° = in front; r 180° = at the back
- A l 10° = in front; r 180° = at the back
- B l 180° = at the back; r 180° = at the back
- C l 270° = same side as outerband; r 180° = at the back
- D l 0° = in front; r 270° = same side as outerband
- E l 180° = at the back; r 270° = same side as outerband
- F l 90° = underneath; r 270° = same side as outerband

#### End cap position
- 0 270° same side as outerband
- 1 180° at the back
- 2 90° underneath

#### Cylinder L (left end side)

1) Viton with VOE not possible.
2) “Slow speed lubrication” in combination with “Viton®” seals on demand.
3) “Lubrication slow speed” in combination with “max. cushioning length” not possible.
Recirculating Ball Bearing Guide
Series KF 16 to 50 for Linear Drive

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

Loads, Forces and Moments

\[
\frac{M_x}{M_{x,\text{max}}} + \frac{M_y}{M_{y,\text{max}}} + \frac{M_z}{M_{z,\text{max}}} + \frac{F_y}{F_{y,\text{max}}} + \frac{F_z}{F_{z,\text{max}}} \leq 1
\]

The sum of the loads should not exceed >1.

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

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<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>KF16</td>
<td>OSP-P16</td>
<td>12</td>
<td>25</td>
<td>1000</td>
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<td>KF25</td>
<td>OSP-P25</td>
<td>35</td>
<td>90</td>
<td>3100</td>
<td>3100</td>
<td>1.522</td>
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<td>133</td>
<td>3100</td>
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<td>346</td>
<td>4000</td>
<td>7100</td>
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<td>1.531</td>
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<td>KF50</td>
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<td>480</td>
<td>4000</td>
<td>7500</td>
<td>7.328</td>
<td>0.936</td>
<td>2.760</td>
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</table>

Note: Order instructions for VS in combination with the cylinder and guide see page 152, pos.18

** Please use this order pattern: Order-No. + _stroke in mm_ (5 digits)
Example: KF guide D16 mm, stroke 1000 mm: 21101-01000

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. 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

For shock absorber selection in dependence on mass and speed see page 148.

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

For further technical information see catalogue P-A4P011GB
## Order Instructions- KF

<table>
<thead>
<tr>
<th>1-4</th>
<th>5-6</th>
<th>7</th>
<th>8</th>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Piston-Ø
- 16
- 25
- 32
- 40
- 50

### Stroke
- Input in mm (6 digits)

### Piston Mounting
- 0 without
- X SFI 0.1 mm
- Y SFI 1 mm

### Measuring system

### Version / Piston
- C Classic
- T Classic Tandem

### Lubrication
- 0 standard
- 1 Slow speed

### Screws
- 0 standard

### Cushioning
- 0 standard
- 1 max. length

### Seals
- 0 standard (NBR)
- 1 Viton®

### Air Connection
- 0 standard
- 1 on the end face
- 2 both at one end (not turnable)
- 3 left standard right end face
- 4 right standard left end face

#### A
- 3/2 way valve VOE 24 V= Ø 25, 32, 40, 50

#### B
- 3/2 way valve VOE 230 V~/110 V= Ø 25, 32, 40, 50

#### C
- 3/2 way valve VOE 48 V= Ø 25, 32, 40, 50

#### D
- 3/2 way valve VOE 110 V= Ø 25, 32, 40, 50

### End cap position
- 0 hr 0° = in front
- 1 hr 90° = underneath
- 2 hr 180° = at the back
- 3 hr 270° = same side as outerband
- 4 190° = underneath; r 0° = in front
- 5 1180° = at the back; r 0° = in front
- 6 1270° = same side as outerband; r 0° = in front
- 7 10° = in front; r 180° = underneath
- 8 1180° = at the back; r 190° = underneath
- 9 1270° = same side as outerband; r 190° = underneath
- A 10° = in front; r 180° = at the back
- B 190° = underneath; r 180° = at the back
- C 1270° = same side as outerband; r 180° = at the back
- D 10° = in front; r 270° = same side as outerband
- E 190° = underneath; r 270° = same side as outerband
- F 1180° = at the back; r 270° = same side as outerband

### Guides / Brakes / Inversion
- 0 without
- C KF

### Cover / Cable Channel
- 0 standard
- 1 cable channel
- 2 cable channel two-sided
- X without Cover rail

### Cushioning
- 0 standard
- 1 max. length

### End cap position (air connection)

### Measuring system

### add. Guide Carriage
- 0 without
- C Guide Carriage KF

### Cylinder
- L (left end side)

---

1) Viton with VOE not possible.
2) “Slow speed lubrication” in combination with „Viton®“ seals on demand.
3) “Lubrication slow speed” in combination with „max. cushioning length“ not possible.
Heavy Duty Guide HD
Series HD 25 to 50 for Linear Drive

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 \( v = 5 \text{ m/s} \)

Loads, Forces and Moments

The sum of the loads should not exceed \( >1 \).

\[
\frac{M_x}{M_{x \text{ max}}} + \frac{M_y}{M_{y \text{ max}}} + \frac{M_z}{M_{z \text{ max}}} + \frac{F_y}{F_{y \text{ max}}} + \frac{F_z}{F_{z \text{ max}}} \leq 1
\]

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.

For further technical information see catalogue P-A4P011GB

Options:
- With variable stop
- With intermediate stop module

Version with pneumatic linear drive series OSP-P

Technical Data

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<tr>
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<tr>
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<td>OSP-P25</td>
<td>260</td>
<td>320</td>
<td>320</td>
<td>6000</td>
<td>6000</td>
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<td>HD32</td>
<td>OSP-P32</td>
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<td>475</td>
<td>475</td>
<td>6000</td>
<td>6000</td>
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<td>HD40</td>
<td>OSP-P40</td>
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<td>1100</td>
<td>1100</td>
<td>15000</td>
<td>15000</td>
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<td>HD50</td>
<td>OSP-P50</td>
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<td>1400</td>
<td>1400</td>
<td>18000</td>
<td>18000</td>
</tr>
</tbody>
</table>

** Please use this order pattern: Order-No. + „stroke in mm” (5 digits)
Example: HD Guide D25 mm, stroke 1000 mm: 21246-01000

Note: Order instructions for VS in combination with HD guide see page 154, pos.18

For shock absorber selection in dependence on mass and speed see page 148.

* Please note:
The mass of the carriage has to be added to the total moving mass when using the cushioning diagram
### Order Instructions - HEAVY DUTY - HD

<table>
<thead>
<tr>
<th>1-4</th>
<th>5+6</th>
<th>7</th>
<th>8</th>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Piston-Ø
- 25
- 32
- 40
- 50

#### Stroke
- Input in mm (5 digits)

#### Piston Mounting
- 0 without

#### Measuring system
- 0 without
- X SFI 0.1 mm
- Y SFI 1 mm

#### Version / Piston
- 0 standard
- 1 Tandem

#### Lubrication
- 0 standard
- 1 Slow speed

#### Cushioning
- 0 standard
- 1 max. length
- 2 VS variable stop, soft left for HD
- 3 VS variable stop, hard, left for HD
- 4 VS variable stop, soft, right for HD
- 5 VS variable stop, hard, right for HD
- 6 VS variable stop, soft, both sides for HD
- 7 VS variable stop, hard, both sides for HD

#### Cover / Cable Channel
- 0 standard
- 1 cable-channel
- 2 cablechannel two-sided
- X without Coverrail

#### Air Connection
- 0 standard
- 1 on the end face
- 2 both at one end (not turnable)
- 3 left standard right end face
- 4 right standard left end face

#### screws
- 0 standard

#### Seals
- 0 standard (NBR)
- 1 Viton®

#### End cap position
- 0 l+r 0° = in front
- 1 l+r 0° = in front
- 2 l+r 90° = underneath
- 3 l+r 90° = underneath
- 4 l+r 180° = at the back
- 5 l+r 180° = at the back
- 6 l+r 270° = same side as outerband
- 7 l+r 270° = same side as outerband

#### Guides / Brakes / Inversion
- 0 without
- D HD

#### Add. Guide Carriage
- 0 without
- D Guide Carriage HD

---

1) Viton with VOE not possible.
2) “Slow speed lubrication” in combination with “Viton®” seals on demand.
3) “Lubrication slow speed” in combination with “max. cushioning length” not possible.
Intermediate Stop Module
Type ZSM .. HD

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

Operating information

<table>
<thead>
<tr>
<th>Description</th>
<th>For intermediate stop module</th>
<th>Order-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock absorber holder with shock absorber SA14S, both sides</td>
<td>ZSM25HD</td>
<td>21342BFIL</td>
</tr>
<tr>
<td>Shock absorber holder with shock absorber SA14S, left</td>
<td>ZSM25HD</td>
<td>21342LFIL</td>
</tr>
<tr>
<td>Shock absorber holder with shock absorber SA14S, right</td>
<td>ZSM25HD</td>
<td>21342RFIL</td>
</tr>
<tr>
<td>Intermediate position stop complete, without magnetic switch option</td>
<td>ZSM25HD</td>
<td>21343FIL</td>
</tr>
<tr>
<td>Intermediate position stop complete, with magnetic switch option</td>
<td>ZSM25HD</td>
<td>21344FIL</td>
</tr>
<tr>
<td>End stop with fine adjustment</td>
<td>ZSM25HD</td>
<td>21346FIL</td>
</tr>
</tbody>
</table>

* 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.

For further technical information see catalogue P-A4P011GB
Active Brakes and Passive Brakes

Active Brake
for pneumatic linear drive
Series OSP-P
Piston diameters 25 - 80 mm.
See page 157

Slideline with Active Brake
Plain bearing guide SLIDELINE - SL
with integrated ACTIVE Brake
Piston diameters 25 - 50 mm.
See page 141

Proline with Active Brake
Aluminium roller guide
PROLINE - PL with
integrated ACTIVE Brake
Piston diameters 25 - 50 mm.
See page 145

Multibrake with Slideline
MULTI BRAKE – PASSIVE Brake
with plain bearing guide
SLIDELINE - SL
Piston diameter 25 - 80 mm.
See page 158

Multibrake with Proline
MULTI BRAKE – PASSIVE Brake
with aluminium roller guide
PROLINE - PL
Piston diameters 25 - 50 mm.
See page 159

Versions:
- ACTIVE Brake
- Plain bearing guide with integrated ACTIVE Brake
- Aluminium roller guide with integrated ACTIVE Brake
- Plain bearing guide with PASSIVE Brake
- Aluminium roller guide with PASSIVE Brake
Active Brake
Series AB 25 to 80 for Linear Drive

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

Function

Forces and Weights

<table>
<thead>
<tr>
<th>Series</th>
<th>Max. braking force [N]</th>
<th>Brake pad way [mm]</th>
<th>Mass [kg] Linear drive with brake 0 mm stroke</th>
<th>Mass [kg] increase per 100 mm stroke</th>
<th>Brake [kg]</th>
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<tr>
<td>AB 25</td>
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(*) – at 6 bar
both chambers pressurised 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 further technical information see catalogue P-A4P011GB

Note:
For combinations Active Brake AB + SFI-plus + Magnetic Switch contact our technical department please.

Active brake in combination with Basic Cylinder see page 132, pos.20
Multi-Brake
Passive Brake
with plain bearing guide Slideline SL
Series MB-SL 25 to 80 for Linear Drive

Features:
- Brake operated by spring actuation
- Brake release by pressurisation
- 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

Loads, Forces and Moments

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.

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 \( v < 0.2 \text{ m/s} \). Operating pressure 4.5 - 8 bar
A pressure of 4.5 bar is required to release the brake.

For further technical information see catalogue P-A4P011GB

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** Please use this order pattern: Order-No. + „stroke in mm“ (5 digits)
Example: MB-SL guide with passive brake D 25 mm, stroke 1000 mm: 20796-01000
Multi-Brake
Passive Brake
with Aluminium Roller Guide Proline PL
Series MB-PL 25 to 50 for Linear Drive

Features:
• Brake operated by spring actuation
• Brake release by pressurisation
• 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

Loads, Forces and Moments

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

\[
\frac{M_x}{M_{x\text{ max}}} + \frac{M_y}{M_{y\text{ max}}} + \frac{M_z}{M_{z\text{ max}}} + \frac{L_y}{L_{y\text{ max}}} + \frac{L_z}{L_{z\text{ max}}} \leq 1
\]

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

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.

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.

For further technical information see catalogue P-A4P011GB

Function
Wear resistant brake lining, for long service life
Springs for maximum brake forces
Roller guide Proline for high precision and velocities
Brake piston

For linear drive

### Technical Data

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** Please use this order pattern: Order-No. + „stroke in mm” (5 digits) Example: MB-PL guide with passive brake, D25 mm, stroke 1000 mm: 20864-01000

MB-PL in combination with cylinder see page 146, pos. 20
Linear Drive Accessories
(Mountings and Magnetic Switches)
Series OSP-P

Description
Overview
Clevis Mounting
End Cap Mountings
End Cap Mountings (for Linear Drives with guides)
Mid-Section Support
Mid-Section Support (for Linear Drives with guides)
Inversion Mounting
Adaptor Profile
T-Slot Profile
Connection Profile
Duplex Connection
Multiplex Connection
Magnetic Switch, standard version
Magnetic Switch for T-Nut mounting
Magnetic Switch ATEX-version (ex)
Cable Cover

Origa - Sensoflex
Displacement measuring system for automated movement
Series SFI-plus
(Incremental measuring system)

Characteristics:
• Contactless magnetic displacement measurement system
• Displacement length up to 32 m
• Resolution 0.1 mm (option: 1 mm)
• Displacement speed up to 10m/s
• For linear and non-linear rotary motion
• Suitable for almost any control or display unit with a counter input

The SFI-plus magnetic displacement measuring system consists of 2 main components.
• Measuring Scale
  Self-adhesive magnetic measuring scale
• Sensing Head
  Converts the magnetic poles into electrical signals which are then processed by counter inputs downstream
  (e.g. PLC, PC, digital counter)

For further technical information see catalogue P-A4P011GB
Note: Order instructions in combination with basic cylinder see page 132, pos.25