Rodless Pneumatic Cylinders
Series OSP-P

Standard Rodless Pneumatic Cylinders
System Concepts & Components ............. B2-B5
Technical Data ........................................ B7-B9
Dimensions .............................................. B10-B15
Active Brakes .......................................... B16-B19
Accessories (Mounts & Supports).......... B20-B29
Ordering Information ......................... B30

Clean Room Cylinders
Technical Data ....................................... B31-B32
Dimensions ............................................ B33
Ordering Information ....................... B34

Bi-parting Rodless Cylinders
Technical Data ......................................... B35
Dimensions ............................................. B36
Ordering Information ...................... B37
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.

The modular system concept forms an ideal basis for additional customer-specific functions.

Stainless steel screws optional.

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

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

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

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

Low friction piston seals for optimized running characteristics.

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.

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

Clean Room Version

certified to DIN EN ISO 14644-1

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

SLIDELINE
Combination with linear guides provides for heavier loads.

POWERSLIDE
Roller bearing precision guidance for smooth travel and high dynamic or static loads.

PROLINE
The compact aluminum roller guide for high loads and velocities.

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 VS
The variable stop provides simple stroke limitation.

Passive pneumatic brake reacts automatically to pressure failure.

Active pneumatic brake for secure, positive stopping at any position.

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

Clean Room Version certified to DIN EN ISO 14644-1

www.comoso.com
OPTIONS AND ACCESSORIES FOR SYSTEM VERSATILITY

SERIES OSP-P

STANDARD VERSIONS
OSP-P10 to P80
Pages B7-B15
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.

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.
Slow speed lubrication in combination with Viton® on demand.
Oil free operation preferred.

INTEGRATED VOE VALVES
Page B14
The complete compact solution for optimal cylinder control.

VITON® VERSION
For use in an environment with high temperatures or in chemically aggressive areas.
All seals are made of Viton®.
Sealing bands: Stainless steel

JOINT CLAMP CONNECTION
Page B28
The joint clamp connection combines two OSP-P cylinders of the same size into a compact unit with high performance.

BASIC CYLINDER OPTIONS

CLEAN ROOM CYLINDERS
Page B31-B34
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.

END-FACE AIR CONNECTION
Page B12
To solve special installation problems.

STAINLESS VERSION
For use in constantly damp or wet environments. All screws are A2 quality stainless steel

BOTH AIR CONNECTIONS AT ONE END
Page B13
For simplified tubing connections and space saving.

END FACING AIR CONNECTION
Page B12
To solve special installation problems.

MAGNETIC PISTON
Standard carrier with integral guidance. End cap can be rotated 4 x 90° to position air connection on any side.

MULTIPLEX CONNECTION
Page B29
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.

BASIC CYLINDER OPTIONS

CLEAN ROOM CYLINDERS
Page B31-B34
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.

END-FACE AIR CONNECTION
Page B12
To solve special installation problems.

STAINLESS VERSION
For use in constantly damp or wet environments. All screws are A2 quality stainless steel

BOTH AIR CONNECTIONS AT ONE END
Page B13
For simplified tubing connections and space saving.

END FACING AIR CONNECTION
Page B12
To solve special installation problems.

MAGNETIC PISTON
Standard carrier with integral guidance. End cap can be rotated 4 x 90° to position air connection on any side.
ACCESSORIES
MAGNETIC SWITCHES
TYPE RS, ES, RST, EST
Pages B102-B108
For electrical sensing of end and intermediate piston positions, also in EX-Areas.

CLEVIS MOUNTING
Page B20-B21
Carrier with tolerance and parallelism compensation for driving loads supported by external linear guides.

INVERSION MOUNTING
Page B22
The inversion mounting transfers the driving force to the opposite side, e.g. for dirty environments.

END CAP MOUNTING
Page B23
For end-mounting of the cylinder.

MID-SECTION SUPPORT
Page B24
For supporting long cylinders or mounting the cylinder by its dovetail rails.
Rodless Pneumatic Cylinder
\(\phi 10-80 \text{ mm}\)

**General Features**

- **Type**: Rodless cylinder
- **Series**: OSP-P
- **System**: Double-acting, with cushioning, position sensing capability
- **Mounting**: See drawings
- **Air Connection**: Threaded

**Ambient temperature range**

<table>
<thead>
<tr>
<th>(T_{\text{min}}) °C</th>
<th>(T_{\text{max}}) °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>-10</td>
<td>+80</td>
</tr>
</tbody>
</table>

**Weight (mass)**

- kg

**Installation**: In any position

**Medium**: Filtered, unlubricated compressed air (other media on request)

**Lubrication**: Permanent grease lubrication

- (additional oil mist lubrication not required)

**Option**: special slow speed grease

**Cylinder Profile**: Anodized aluminum

**Carrier (piston)**: Anodized aluminum

**End caps**: Aluminum, lacquered / Plastic (P10)

**Sealing bands**: Corrosion resistant steel

**Seals**: NBR (Option: Viton®)

**Screws**: Galvanized steel

**Option**: stainless steel

**Dust covers, wipers**: Plastic

**Max. operating pressure**: \(p_{\text{max}}\) bar

- 8

**Weight (mass) kg**

<table>
<thead>
<tr>
<th>Cylinder series (Basic cylinder)</th>
<th>Weight (Mass) kg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>At 0 mm stroke</td>
</tr>
<tr>
<td>OSP-P10</td>
<td>0.087</td>
</tr>
<tr>
<td>OSP-P16</td>
<td>0.22</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>0.65</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>1.44</td>
</tr>
<tr>
<td>OSP-P40</td>
<td>1.95</td>
</tr>
<tr>
<td>OSP-P50</td>
<td>3.53</td>
</tr>
<tr>
<td>OSP-P63</td>
<td>6.41</td>
</tr>
<tr>
<td>OSP-P80</td>
<td>12.46</td>
</tr>
</tbody>
</table>

**Size Comparison**

<table>
<thead>
<tr>
<th>P10</th>
<th>P16</th>
<th>P25</th>
<th>P32</th>
<th>P40</th>
<th>P50</th>
<th>P63</th>
<th>P80</th>
</tr>
</thead>
</table>

**Series OSP-P..**

- **Standard Versions**:
  - Double-acting with adjustable end cushioning
  - With magnetic piston for position sensing
  - Long-Stroke Cylinders for stroke lengths up to 41m (consult factory)

- **Special Versions**:
  - With special pneumatic cushioning system (on request)
  - Clean room cylinders (see page B31-B34)
  - 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 (OSP-80) for stroke lengths up to 41m**
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 \( v \leq 0.5 \text{ m/s} \).

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

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. If these maximum permissible values are exceeded, additional shock absorbers must be used.

<table>
<thead>
<tr>
<th>Cylinder Series (mm ( \varnothing ))</th>
<th>Theoretical Action Force at 6 bar (N)</th>
<th>Effective Action Force ( F_A ) at 6 bar (N)</th>
<th>max. Moments</th>
<th>max. Load F (N)</th>
<th>Cushion Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P10</td>
<td>47</td>
<td>32</td>
<td>0.2 1 0.3</td>
<td>20</td>
<td>2.5 *</td>
</tr>
<tr>
<td>OSP-P16</td>
<td>120</td>
<td>78</td>
<td>0.45 4 0.5</td>
<td>120</td>
<td>11</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>295</td>
<td>250</td>
<td>1.5 15 3</td>
<td>300</td>
<td>17</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>483</td>
<td>420</td>
<td>3 30 5</td>
<td>450</td>
<td>20</td>
</tr>
<tr>
<td>OSP-P40</td>
<td>754</td>
<td>640</td>
<td>6 60 8</td>
<td>750</td>
<td>27</td>
</tr>
<tr>
<td>OSP-P50</td>
<td>1178</td>
<td>1000</td>
<td>10 115 15</td>
<td>1200</td>
<td>30</td>
</tr>
<tr>
<td>OSP-P63</td>
<td>1870</td>
<td>1550</td>
<td>12 200 24</td>
<td>1650</td>
<td>32</td>
</tr>
<tr>
<td>OSP-P80</td>
<td>3016</td>
<td>2600</td>
<td>24 360 48</td>
<td>2400</td>
<td>39</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!

If the permitted limit values are exceeded, either additional shock absorbers should be fitted in the area of the center of gravity or you can consult us about our special cushioning system – we shall be happy to advise you on your specific application.
Mid-Section Supports

To avoid excessive bending and oscillation of the cylinder, mid-section supports are required dependent on specified stroke lengths and applied loads. The diagrams show the maximum possible support spacings depending on the load. Bending up to max. 0.5 mm is permissible between supports. The mid-section supports are clamped on to the dovetail profile of the cylinder tube. They are also able to take the axial forces.

Permissible Support Spacings: OSP - P10 - P32

Permissible Support Spacings: OSP - P40 - P80
Cylinder Stroke and Dead Length A
- Free choice of stroke length up to 6000 mm in 1 mm steps.
- Longer strokes on request.

Tandem Cylinder
Two pistons are fitted: dimension “Z” is optional. (Please note minimum distance “Zmin”).
- Free choice of stroke length up to 6000 mm in 1 mm steps.
- Longer strokes on request.
- Stroke length to order is stroke + dimension “Z”

Please note:
To avoid multiple actuation of magnetic switches, the second piston is not equipped with magnets.

Dimensions of Basic Cylinder OSP-P10

Dimensions of Tandem Cylinder

End Cap/Air Connection
Series OSP-P10

Carrier
Series OSP-P10

Dimension Table (mm)

| Cylinder Series | A  | B  | C  | D  | E  | F  | G  | H  | I  | J  | K  | L  | M  | N  | P  | Q  | R  | S  | T  | U  | V  | W  | X  | Y  | Z_{\text{min}} | CF | EM | EN | FB | FH | ZZ |
|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------------|----|----|----|----|----|----|
| OSP-P10         | 44.5 | 12 | 19 | M5 | 12 | M3 | 5  | 6  | 60 | 8.5 | 22 | 17.5 | 10.5 | 3.4 | 16 | 22.5 | 31 | M3 | 64 | 32 | 9.5 | 2  | 17 | 17 | 6 |

B10

Parker Hannifin Corporation
Parker-Origa
Glendale Heights, Illinois
www.parker.com/pneu/rodless

www.comoso.com
Dimensions of Basic Cylinder OSP - P16-P80

Cylinder Stroke and Dead Length A
- Free choice of stroke length up to 6000 mm in 1 mm steps.
- Longer strokes on request.

Tandem Cylinder
Two pistons are fitted: dimension “Z” is optional. (Please note minimum distance ‘Zmin’).
- Free choice of stroke length up to 6000 mm in 1 mm steps.
- Longer strokes on request.
- Stroke length to order is stroke + dimension “Z”

Please note:
To avoid multiple actuation of magnetic switches, the second piston is not equipped with magnets.

Cylinder Series OSP-P Pneumatic Rodless Cylinders and Linear Guides
Standard Rodless Pneumatic Cylinders

Dimension Table (mm)

| Cylinder Series | A | B | C | D | E | G | H | I | J | K | M | O | S | V | X | Y | Z | BW | BX | BY | CF | EN | FB | FH | ZZ |
| OSP-P16        | 65| 14| 30| M5| 18| M3| 9 | 5,5| 69| 15| 23| 33,2| 22| 16,5| 36| M4| 81| 10,8| 1,8| 28,4| 38| 3| 30| 27,2| 7 |
| OSP-P25        | 100| 22| 41| G1/8| 27| M5| 15| 9 | 117| 21,5| 31| 47| 33| 25| 65| M5| 128| 17,5| 2,2| 40| 52,5| 3,6| 40| 39,5| 8 |
| OSP-P32        | 125| 25,5| 52| G1/4| 36| M6| 15| 11,5| 152| 28,5| 38| 59| 36| 27| 90| M6| 170| 20,5| 2,5| 44| 66,5| 5,5| 52| 51,7| 1 |
| OSP-P40        | 150| 28| 69| G1/4| 54| M6| 15| 12| 152| 34| 44| 72| 36| 27| 90| M6| 212| 21| 3| 54| 78,5| 7,5| 62| 63| 10 |
| OSP-P50        | 175| 33| 87| G1/4| 70| M6| 15| 14,5| 200| 43| 49| 86| 36| 27| 110| M6| 251| 27| –| 59| 92,5| 11| 76| 77| 10 |
| OSP-P63        | 215| 38| 106| G3/8| 78| M8| 21| 14,5| 256| 54| 63| 107| 50| 34| 140| M8| 313| 30| –| 64| 117| 12| 96| 96| 16 |
| OSP-P80        | 260| 47| 132| G1/2| 96| M10| 25| 22| 348| 67| 80| 133| 52| 36| 190| M10| 384| 37,5| –| 73| 147| 16,5| 122| 122| 20 |

Catalog 0980
Dimensions

www.comoso.com
Air Connection on the End-Face #5

In some situations it is necessary or desirable to fit a special end cap with the air connection on the end-face instead of the standard end cap with the air connection on the side. The special end cap can also be rotated 4 x 90° to locate the cushion adjustment screw as desired. Supplied in pairs.

Note: Position #2 is the standard location.

### Dimension Table (mm)

<table>
<thead>
<tr>
<th>Cylinder Series</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>G</th>
<th>H</th>
<th>BX</th>
<th>BW</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P16</td>
<td>14</td>
<td>30</td>
<td>M5</td>
<td>18</td>
<td>M3</td>
<td>9</td>
<td>1.8</td>
<td>10.8</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>22</td>
<td>41</td>
<td>G1/8</td>
<td>27</td>
<td>M5</td>
<td>15</td>
<td>2.2</td>
<td>17.5</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>25.5</td>
<td>52</td>
<td>G1/4</td>
<td>36</td>
<td>M6</td>
<td>15</td>
<td>2.5</td>
<td>20.5</td>
</tr>
<tr>
<td>OSP-P40</td>
<td>28</td>
<td>69</td>
<td>G1/4</td>
<td>54</td>
<td>M6</td>
<td>15</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>OSP-P50</td>
<td>33</td>
<td>87</td>
<td>G1/4</td>
<td>70</td>
<td>M6</td>
<td>15</td>
<td>–</td>
<td>27</td>
</tr>
<tr>
<td>OSP-P63</td>
<td>38</td>
<td>106</td>
<td>G3/8</td>
<td>78</td>
<td>M8</td>
<td>21</td>
<td>–</td>
<td>30</td>
</tr>
<tr>
<td>OSP-P80</td>
<td>47</td>
<td>132</td>
<td>G1/2</td>
<td>96</td>
<td>M10</td>
<td>25</td>
<td>–</td>
<td>37.5</td>
</tr>
</tbody>
</table>
Single End Porting

A special end cap with both air connections on one side is available for situations where shortage of space, simplicity of installation or the nature of the process make it desirable. Air supply to the other end is via internal air passages (OSP-P25 to P80) or via a hollow aluminum profile fitted externally (OSP-P16). In this case the end caps cannot be rotated.

Please note:
When combining the OSP-P16 single end porting with inversion mountings, RS magnetic switches can only be mounted directly opposite to the external air-supply profile.

Dimension Table (mm)

| Cylinder Series | B  | C  | D  | E  | G  | H  | I1 | I2 | BX | BW | EN | EN1 | EN2 | FA | FB | FC | FE | FG | FL | FN |
|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| OSP-P16         | 14 | 30 | M5 | 18 | M3 | 9  | 5.5| –  | 1.8| 10.8| 3  | –  | –  | 12.6| 12.6| 4  | 27 | 21 | 36 | –  |
| OSP-P25         | 22 | 41 | G1/8| 27 | M5 | 15 | 9  | –  | 2.2| 17.5| 3.6| 3.9| –  | –  | –  | –  | –  | –  | –  | –  |
| OSP-P32         | 25.5| 52 | G1/8| 36 | M6 | 15 | 12.2| 10.5| –  | 20.5| –  | –  | –  | –  | –  | –  | –  | –  | –  | –  | 15.2|
| OSP-P40         | 28 | 69 | G1/8| 54 | M6 | 15 | 12 | 12  | –  | 21 | –  | –  | –  | –  | –  | –  | –  | –  | –  | –  | 17 |
| OSP-P50         | 33 | 87 | G1/4| 70 | M6 | 15 | 14.5| 14.5| –  | 27 | –  | –  | –  | –  | –  | –  | –  | –  | –  | –  | 22 |
| OSP-P63         | 38 | 106| G3/8| 78 | M8 | 21 | 16.5| 13.5| –  | 30 | –  | –  | –  | –  | –  | –  | –  | –  | –  | –  | 25 |
| OSP-P80         | 47 | 132| G1/2| 96 | M10| 25 | 22 | 17  | –  | 37.5| –  | –  | –  | –  | –  | –  | –  | –  | –  | –  | 34.5|
Integrated 3/2 Way Valves VOE

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.

Characteristics:
- 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><img src="image1" alt="Pneumatic Diagram" /> <img src="image2" alt="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>
</tbody>
</table>
| Temperature     | -10°C to +50°C *
| Operating pressure | 2-8 bar |
| Nominal voltage | 24 V DC / 230 V AC, 50 Hz |
| Power consumption | 2.5 W / 6 VA |
| Duty cycle      | 100% |
| Electrical Protection | IP 65 DIN 40050 |

* other temperature ranges on request
Dimensions VOE Valves OSP-P25 and P32

Dimension Table (mm)

<table>
<thead>
<tr>
<th>Cylinder Series</th>
<th>AV</th>
<th>BV</th>
<th>C</th>
<th>CV</th>
<th>DV</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>V6</th>
<th>V7</th>
<th>V8</th>
<th>V9</th>
<th>V10</th>
<th>V11</th>
<th>V12</th>
<th>V13</th>
<th>V14</th>
<th>V15</th>
<th>V16</th>
<th>V17</th>
<th>V18</th>
<th>V19</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P25</td>
<td>115</td>
<td>37</td>
<td>41</td>
<td>47</td>
<td>G1/8</td>
<td>11</td>
<td>46</td>
<td>90.5</td>
<td>22</td>
<td>30</td>
<td>18.5</td>
<td>32.5</td>
<td>2.5</td>
<td>3.3</td>
<td>18.5</td>
<td>26.5</td>
<td>20.5</td>
<td>24</td>
<td>5</td>
<td>4</td>
<td>14</td>
<td>G1/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSP-P32</td>
<td>139</td>
<td>39.5</td>
<td>52</td>
<td>58</td>
<td>G1/4</td>
<td>20.5</td>
<td>46</td>
<td>96</td>
<td>22</td>
<td>32</td>
<td>20.5</td>
<td>34.7</td>
<td>6</td>
<td>9</td>
<td>20.5</td>
<td>32</td>
<td>26</td>
<td>32</td>
<td>7.5</td>
<td>6</td>
<td>18</td>
<td>G1/4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dimensions VOE Valves OSP-P40 and P50

Dimension Table (mm)

<table>
<thead>
<tr>
<th>Cylinder Series</th>
<th>AV</th>
<th>BV</th>
<th>C</th>
<th>CV</th>
<th>DV</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>V6</th>
<th>V7</th>
<th>V8</th>
<th>V9</th>
<th>V10</th>
<th>V11</th>
<th>V12</th>
<th>V13</th>
<th>V14</th>
<th>V15</th>
<th>V16</th>
<th>V17</th>
<th>V18</th>
<th>V19</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P40</td>
<td>170</td>
<td>48</td>
<td>69</td>
<td>81</td>
<td>G3/8</td>
<td>24</td>
<td>46</td>
<td>103</td>
<td>22</td>
<td>33</td>
<td>M5</td>
<td>6.7</td>
<td>24</td>
<td>42</td>
<td>8.3</td>
<td>8.3</td>
<td>24</td>
<td>39</td>
<td>42</td>
<td>32</td>
<td>32</td>
<td>7.5</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>OSP-P50</td>
<td>190</td>
<td>48</td>
<td>87</td>
<td>82</td>
<td>G3/8</td>
<td>24</td>
<td>46</td>
<td>102</td>
<td>22</td>
<td>33</td>
<td>M5</td>
<td>4.5</td>
<td>24</td>
<td>42</td>
<td>12.2</td>
<td>12.2</td>
<td>24</td>
<td>38</td>
<td>44</td>
<td>32</td>
<td>32</td>
<td>7.5</td>
<td>6</td>
<td>18</td>
</tr>
</tbody>
</table>

*End cap can be rotated 4x90°
Active Brake

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 B7)

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

Forces and Weights

<table>
<thead>
<tr>
<th>Series</th>
<th>For linear drive</th>
<th>Max. braking force (N) (1)</th>
<th>Brake pad way (mm)</th>
<th>Linear drive with brake increase per 100mm stroke</th>
<th>Mass (kg)</th>
<th>Order No. Active brake</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB 25</td>
<td>OSP-P25</td>
<td>350</td>
<td>2.5</td>
<td>1.0</td>
<td>0.197</td>
<td>0.35 20806</td>
</tr>
<tr>
<td>AB 32</td>
<td>OSP-P32</td>
<td>590</td>
<td>2.5</td>
<td>2.02</td>
<td>0.354</td>
<td>0.58 20807</td>
</tr>
<tr>
<td>AB 40</td>
<td>OSP-P40</td>
<td>900</td>
<td>2.5</td>
<td>2.83</td>
<td>0.415</td>
<td>0.88 20808</td>
</tr>
<tr>
<td>AB 50</td>
<td>OSP-P50</td>
<td>1400</td>
<td>2.5</td>
<td>5.03</td>
<td>0.566</td>
<td>1.50 20809</td>
</tr>
<tr>
<td>AB 63</td>
<td>OSP-P63</td>
<td>2170</td>
<td>3.0</td>
<td>9.45</td>
<td>0.925</td>
<td>3.04 20810</td>
</tr>
<tr>
<td>AB 80</td>
<td>OSP-P80</td>
<td>4000</td>
<td>3.0</td>
<td>18.28</td>
<td>1.262</td>
<td>5.82 20811</td>
</tr>
</tbody>
</table>

(1) – 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.
# Dimensions

**Series OSP-P25 and P32 with Active Brake AB**

![Diagram of Series OSP-P25 and P32 with Active Brake AB]

**Series OSP-P40, P50, P63, P80 with Active Brake AB**

![Diagram of Series OSP-P40, P50, P63, P80 with Active Brake AB]

---

## Dimension Table (mm)

<table>
<thead>
<tr>
<th>Series</th>
<th>A</th>
<th>B</th>
<th>J</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
<th>CF</th>
<th>DA</th>
<th>DB</th>
<th>FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB 25</td>
<td>100</td>
<td>22</td>
<td>117</td>
<td>29.5</td>
<td>43</td>
<td>13</td>
<td>74</td>
<td>4</td>
<td>M5</td>
<td>50</td>
</tr>
<tr>
<td>AB 32</td>
<td>125</td>
<td>25.5</td>
<td>151.4</td>
<td>36</td>
<td>50</td>
<td>15</td>
<td>88</td>
<td>4</td>
<td>M5</td>
<td>62</td>
</tr>
<tr>
<td>AB 40</td>
<td>150</td>
<td>28</td>
<td>151.4</td>
<td>45</td>
<td>58</td>
<td>22</td>
<td>102</td>
<td>7</td>
<td>M5</td>
<td>79.5</td>
</tr>
<tr>
<td>AB 50</td>
<td>175</td>
<td>33</td>
<td>200</td>
<td>54</td>
<td>69.5</td>
<td>23</td>
<td>118.5</td>
<td>7.5</td>
<td>M5</td>
<td>97.5</td>
</tr>
<tr>
<td>AB 63</td>
<td>215</td>
<td>38</td>
<td>256</td>
<td>67</td>
<td>88</td>
<td>28</td>
<td>151</td>
<td>9</td>
<td>G1/8</td>
<td>120</td>
</tr>
<tr>
<td>AB 80</td>
<td>260</td>
<td>47</td>
<td>348</td>
<td>83</td>
<td>105</td>
<td>32</td>
<td>185</td>
<td>10</td>
<td>G1/8</td>
<td>149</td>
</tr>
</tbody>
</table>
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.

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

<table>
<thead>
<tr>
<th>Series</th>
<th>E</th>
<th>øU</th>
<th>AB</th>
<th>AC</th>
<th>AD</th>
<th>AE</th>
<th>AF</th>
<th>CL</th>
<th>DG</th>
<th>Order No.</th>
<th>Type A3</th>
<th>Type C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB 25</td>
<td>27</td>
<td>5.8</td>
<td>27</td>
<td>16</td>
<td>22</td>
<td>45</td>
<td>49</td>
<td>2.5</td>
<td>39</td>
<td>2060</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>AB 32</td>
<td>36</td>
<td>6.6</td>
<td>36</td>
<td>18</td>
<td>26</td>
<td>42</td>
<td>52</td>
<td>3</td>
<td>50</td>
<td>3060</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>AB 40</td>
<td>54</td>
<td>9</td>
<td>30</td>
<td>12.5</td>
<td>24</td>
<td>46</td>
<td>60</td>
<td>–</td>
<td>68</td>
<td>–</td>
<td>20339</td>
<td>–</td>
</tr>
<tr>
<td>AB 50</td>
<td>70</td>
<td>9</td>
<td>40</td>
<td>12.5</td>
<td>24</td>
<td>54</td>
<td>72</td>
<td>–</td>
<td>86</td>
<td>–</td>
<td>20350</td>
<td>–</td>
</tr>
<tr>
<td>AB 63</td>
<td>78</td>
<td>11</td>
<td>48</td>
<td>15</td>
<td>30</td>
<td>76</td>
<td>93</td>
<td>–</td>
<td>104</td>
<td>–</td>
<td>20821</td>
<td>–</td>
</tr>
<tr>
<td>AB 80</td>
<td>96</td>
<td>14</td>
<td>60</td>
<td>17.5</td>
<td>35</td>
<td>88</td>
<td>110</td>
<td>–</td>
<td>130</td>
<td>–</td>
<td>20822</td>
<td>–</td>
</tr>
</tbody>
</table>
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 0.5 mm 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>UU</th>
<th>AF</th>
<th>DE</th>
<th>DH</th>
<th>DK</th>
<th>DM</th>
<th>DN</th>
<th>DO</th>
<th>DP</th>
<th>DQ</th>
<th>DR</th>
<th>DS</th>
<th>Order No. Type E3</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB 25</td>
<td>5.5</td>
<td>10</td>
<td>49</td>
<td>16</td>
<td>65</td>
<td>26</td>
<td>40</td>
<td>47.5</td>
<td>36</td>
<td>50</td>
<td>34.5</td>
<td>35</td>
<td>5.7</td>
<td>20353</td>
</tr>
<tr>
<td>AB 32</td>
<td>5.5</td>
<td>10</td>
<td>52</td>
<td>16</td>
<td>68</td>
<td>27</td>
<td>46</td>
<td>54.5</td>
<td>36</td>
<td>50</td>
<td>40.5</td>
<td>32</td>
<td>5.7</td>
<td>20356</td>
</tr>
<tr>
<td>AB 40</td>
<td>7</td>
<td>–</td>
<td>60</td>
<td>23</td>
<td>83</td>
<td>34</td>
<td>53</td>
<td>60</td>
<td>45</td>
<td>60</td>
<td>45</td>
<td>32</td>
<td>–</td>
<td>20359</td>
</tr>
<tr>
<td>AB 50</td>
<td>7</td>
<td>–</td>
<td>72</td>
<td>23</td>
<td>95</td>
<td>34</td>
<td>59</td>
<td>67</td>
<td>45</td>
<td>60</td>
<td>52</td>
<td>31</td>
<td>–</td>
<td>20362</td>
</tr>
<tr>
<td>AB 63</td>
<td>9</td>
<td>–</td>
<td>93</td>
<td>34</td>
<td>127</td>
<td>44</td>
<td>73</td>
<td>83</td>
<td>45</td>
<td>65</td>
<td>63</td>
<td>48</td>
<td>–</td>
<td>20453</td>
</tr>
<tr>
<td>AB 80</td>
<td>11</td>
<td>–</td>
<td>110</td>
<td>39.5</td>
<td>149.5</td>
<td>63</td>
<td>97</td>
<td>112</td>
<td>55</td>
<td>80</td>
<td>81</td>
<td>53</td>
<td>–</td>
<td>20819</td>
</tr>
</tbody>
</table>

Accessories for linear drives with Active Brakes – please order separately

<table>
<thead>
<tr>
<th>Description</th>
<th>For detailed information, see page no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clevis mounting</td>
<td>B21</td>
</tr>
<tr>
<td>Adaptor profile</td>
<td>B25</td>
</tr>
<tr>
<td>T-groove profile</td>
<td>B26</td>
</tr>
<tr>
<td>Connection profile</td>
<td>B27</td>
</tr>
<tr>
<td>Magnetic switch (can only be mounted opposite of the brake housing)</td>
<td>B102-B108</td>
</tr>
<tr>
<td>Incremental displacement measuring system SFI-plus</td>
<td>B113-B115</td>
</tr>
</tbody>
</table>
Linear Drive Accessories

ø 10 mm
Clevis Mounting

For Linear-drive
• Series OSP-P

When external guides are used, parallelism deviations can lead to mechanical strain on the piston. This can be avoided by the use of a clevis mounting.

In the drive direction, the mounting has very little play.
Freedom of movement is provided as follows:
• Tilting in direction of movement
• Vertical compensation
• Tilting sideways
• Horizontal compensation

Dimension Table (mm)

<table>
<thead>
<tr>
<th>Series</th>
<th>ø R</th>
<th>V</th>
<th>AR</th>
<th>AS</th>
<th>HH</th>
<th>KK</th>
<th>LL</th>
<th>MM</th>
<th>NN*</th>
<th>PP</th>
<th>SS</th>
<th>TT</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P10</td>
<td>3.4</td>
<td>3.5</td>
<td>2</td>
<td>27</td>
<td>2</td>
<td>26</td>
<td>19</td>
<td>11.5</td>
<td>1</td>
<td>24</td>
<td>20</td>
<td>10</td>
<td>20971 –</td>
</tr>
</tbody>
</table>

* Dimension NN gives the possible plus and minus play in horizontal and vertical movement, which also makes tilting sideways possible.
Linear Drive Accessories

Series OSP-P16 to 32

For Linear-drive
• Series OSP-P

When external guides are used, parallelism deviations can lead to mechanical strain on the piston. This can be avoided by the use of a clevis mounting.

In the drive direction, the mounting has very little play.

Freedom of movement is provided as follows:
• Tilting in direction of movement
• Vertical compensation
• Tilting sideways
• Horizontal compensation

A stainless steel version is also available.

Please note:
When using additional inversion mountings, take into account the dimensions in page B22.

Dimension Table (mm)

<table>
<thead>
<tr>
<th>Series</th>
<th>J</th>
<th>Q</th>
<th>T</th>
<th>øR</th>
<th>HH</th>
<th>KK</th>
<th>LL</th>
<th>MM</th>
<th>NN*</th>
<th>OO</th>
<th>PP</th>
<th>SS</th>
<th>ST</th>
<th>TT</th>
<th>UU</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P16</td>
<td>69</td>
<td>10</td>
<td>M4</td>
<td>4.5</td>
<td>3</td>
<td>34</td>
<td>26.6</td>
<td>10</td>
<td>1</td>
<td>8.5</td>
<td>26</td>
<td>28</td>
<td>20</td>
<td>10</td>
<td>11</td>
<td>20462</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>117</td>
<td>16</td>
<td>M5</td>
<td>5.5</td>
<td>3.5</td>
<td>39</td>
<td>19</td>
<td>2</td>
<td>9</td>
<td>38</td>
<td>40</td>
<td>30</td>
<td>16</td>
<td>21</td>
<td>20092</td>
<td></td>
</tr>
<tr>
<td>OSP-P32</td>
<td>152</td>
<td>25</td>
<td>M6</td>
<td>6.6</td>
<td>6</td>
<td>68</td>
<td>50</td>
<td>2</td>
<td>13</td>
<td>62</td>
<td>60</td>
<td>46</td>
<td>30</td>
<td>20094</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSP-P40</td>
<td>152</td>
<td>25</td>
<td>M6</td>
<td>–</td>
<td>6</td>
<td>74</td>
<td>56</td>
<td>2</td>
<td>13</td>
<td>62</td>
<td>60</td>
<td>46</td>
<td>30</td>
<td>20024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSP-P50</td>
<td>200</td>
<td>25</td>
<td>M6</td>
<td>–</td>
<td>6</td>
<td>79</td>
<td>61</td>
<td>2</td>
<td>13</td>
<td>62</td>
<td>60</td>
<td>46</td>
<td>–</td>
<td>30</td>
<td>20095</td>
<td></td>
</tr>
<tr>
<td>OSP-P63</td>
<td>256</td>
<td>37</td>
<td>M8</td>
<td>–</td>
<td>8</td>
<td>100</td>
<td>76</td>
<td>3</td>
<td>17</td>
<td>80</td>
<td>80</td>
<td>65</td>
<td>–</td>
<td>37</td>
<td>20466</td>
<td></td>
</tr>
<tr>
<td>OSP-P80</td>
<td>348</td>
<td>38</td>
<td>M10</td>
<td>–</td>
<td>8</td>
<td>122</td>
<td>96</td>
<td>42</td>
<td>3</td>
<td>16</td>
<td>88</td>
<td>90</td>
<td>70</td>
<td>–</td>
<td>42</td>
<td>20478</td>
</tr>
</tbody>
</table>

* Dimension NN gives the possible plus and minus play in horizontal and vertical movement, which also makes tilting sideways possible.
Linear Drive Accessories

Φ 16-80 mm

Inversion Mounting

For Linear-drive
• Series OSP-P

In dirty environments, or where there are special space problems, inversion of the cylinder is recommended.
The inversion bracket transfers the driving force to the opposite side of the cylinder. The size and position of the mounting holes are the same as on the standard cylinder.
Stainless steel version on demand.

Please note:
Other components of the OSP system such as mid-section supports, magnetic switches and the external air passage for the P16, can still be mounted on the free side of the cylinder.

When combining single end porting with inversion mountings, RS magnetic switches can only be mounted directly opposite to the external air-supply profile.

Important Note:
May be used in combination with Clevis Mounting, ref. dimensions in pages B20-B21.

### Dimension Table (mm)

<table>
<thead>
<tr>
<th>Series</th>
<th>V</th>
<th>X</th>
<th>Y</th>
<th>BC</th>
<th>BE</th>
<th>BH</th>
<th>BJ</th>
<th>ZZ</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P16</td>
<td>16.5</td>
<td>36</td>
<td>M4</td>
<td>69</td>
<td>23</td>
<td>33</td>
<td>25</td>
<td>4</td>
<td>20446</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>25</td>
<td>65</td>
<td>M5</td>
<td>117</td>
<td>31</td>
<td>44</td>
<td>33.5</td>
<td>6</td>
<td>20037</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>27</td>
<td>90</td>
<td>M6</td>
<td>150</td>
<td>38</td>
<td>52</td>
<td>39.5</td>
<td>6</td>
<td>20161</td>
</tr>
<tr>
<td>OSP-P40</td>
<td>27</td>
<td>90</td>
<td>M6</td>
<td>150</td>
<td>46</td>
<td>60</td>
<td>45</td>
<td>8</td>
<td>20039</td>
</tr>
<tr>
<td>OSP-P50</td>
<td>27</td>
<td>110</td>
<td>M6</td>
<td>200</td>
<td>55</td>
<td>65</td>
<td>52</td>
<td>8</td>
<td>20166</td>
</tr>
<tr>
<td>OSP-P63</td>
<td>34</td>
<td>140</td>
<td>M8</td>
<td>255</td>
<td>68</td>
<td>83.5</td>
<td>64</td>
<td>10</td>
<td>20459</td>
</tr>
<tr>
<td>OSP-P80</td>
<td>36</td>
<td>190</td>
<td>M10</td>
<td>347</td>
<td>88</td>
<td>107.5</td>
<td>82</td>
<td>15</td>
<td>20490</td>
</tr>
</tbody>
</table>
End Cap Mountings

Series OSP-P10 : Type A1

Series OSP-P16 to 32: Type A1

Series OSP-P40 to 80: Type C1

Linear Drive Accessories
Ø 10-80 mm
End Cap Mountings

On the end-face of each end cap there are four threaded holes for mounting the actuator. The hole layout is square, so that the mounting can be fitted to the bottom, top or either side, regardless of the position chosen for the air connection.

Material:
- Series OSP-P10 – P32: Galvanized steel.
- Series OSP-P40 – P80: Anodized aluminum.

The mountings are supplied in pairs.

Dimension Table (mm)

<table>
<thead>
<tr>
<th>Series</th>
<th>E</th>
<th>ØU</th>
<th>AB</th>
<th>AC</th>
<th>AD</th>
<th>AE</th>
<th>AF</th>
<th>CL</th>
<th>DG</th>
<th>Order No. (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P10</td>
<td>-</td>
<td>3.6</td>
<td>12</td>
<td>10</td>
<td>14</td>
<td>20.2</td>
<td>11</td>
<td>1.6</td>
<td>18.4</td>
<td>0240 –</td>
</tr>
<tr>
<td>OSP-P16</td>
<td>18</td>
<td>3.6</td>
<td>18</td>
<td>10</td>
<td>14</td>
<td>12.5</td>
<td>15</td>
<td>1.6</td>
<td>26</td>
<td>20408 –</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>27</td>
<td>5.8</td>
<td>27</td>
<td>16</td>
<td>22</td>
<td>18</td>
<td>22</td>
<td>2.5</td>
<td>39</td>
<td>2010 –</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>36</td>
<td>6.6</td>
<td>36</td>
<td>18</td>
<td>26</td>
<td>20</td>
<td>30</td>
<td>3</td>
<td>50</td>
<td>3010 –</td>
</tr>
<tr>
<td>OSP-P40</td>
<td>54</td>
<td>9</td>
<td>30</td>
<td>12.5</td>
<td>24</td>
<td>24</td>
<td>38</td>
<td>–</td>
<td>68</td>
<td>–</td>
</tr>
<tr>
<td>OSP-P50</td>
<td>70</td>
<td>9</td>
<td>40</td>
<td>12.5</td>
<td>24</td>
<td>30</td>
<td>48</td>
<td>–</td>
<td>86</td>
<td>–</td>
</tr>
<tr>
<td>OSP-P63</td>
<td>78</td>
<td>11</td>
<td>48</td>
<td>15</td>
<td>30</td>
<td>40</td>
<td>57</td>
<td>–</td>
<td>104</td>
<td>–</td>
</tr>
<tr>
<td>OSP-P80</td>
<td>96</td>
<td>14</td>
<td>60</td>
<td>17.5</td>
<td>35</td>
<td>50</td>
<td>72</td>
<td>–</td>
<td>130</td>
<td>–</td>
</tr>
</tbody>
</table>

(*= Pair)
Linear Drive Accessories

Ø 10-80 mm

Mid-Section Support

Note on Types E1 and D1
(P16 – P80):
The mid-section support can also be mounted on the underside of the actuator, in which case its distance from the center of the actuator is different.

Stainless steel version on demand.

Dimension Table (mm) Series OSP-P10

<table>
<thead>
<tr>
<th>Series</th>
<th>U</th>
<th>AF</th>
<th>AH</th>
<th>AJ</th>
<th>AK</th>
<th>AN</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P10</td>
<td>3.6</td>
<td>11</td>
<td>25.4</td>
<td>33.4</td>
<td>3.5</td>
<td>12</td>
<td>0250</td>
</tr>
</tbody>
</table>

Dimension Table (mm) – Series OSP-P16 to P80

<table>
<thead>
<tr>
<th>Series</th>
<th>R</th>
<th>U</th>
<th>UU</th>
<th>AF</th>
<th>DF</th>
<th>DH</th>
<th>DK</th>
<th>DM</th>
<th>DN</th>
<th>DO</th>
<th>DP</th>
<th>DQ</th>
<th>DR</th>
<th>DS</th>
<th>DT</th>
<th>EF</th>
<th>EM</th>
<th>EN</th>
<th>EQ</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P16</td>
<td>M3</td>
<td>3.4</td>
<td>6</td>
<td>15</td>
<td>20</td>
<td>29.2</td>
<td>24</td>
<td>32</td>
<td>36.4</td>
<td>18</td>
<td>30</td>
<td>27</td>
<td>6</td>
<td>3.4</td>
<td>6.5</td>
<td>32</td>
<td>20</td>
<td>36.4</td>
<td>27</td>
<td>20435</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>M5</td>
<td>5.5</td>
<td>10</td>
<td>22</td>
<td>27</td>
<td>38</td>
<td>26</td>
<td>40</td>
<td>47.5</td>
<td>36</td>
<td>50</td>
<td>34.5</td>
<td>8</td>
<td>5.7</td>
<td>10</td>
<td>41.5</td>
<td>28.5</td>
<td>49</td>
<td>36</td>
<td>20009</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>M5</td>
<td>5.5</td>
<td>10</td>
<td>30</td>
<td>33</td>
<td>46</td>
<td>27</td>
<td>46</td>
<td>54.5</td>
<td>36</td>
<td>50</td>
<td>40.5</td>
<td>10</td>
<td>5.7</td>
<td>10</td>
<td>48.5</td>
<td>35.5</td>
<td>57</td>
<td>43</td>
<td>20158</td>
</tr>
<tr>
<td>OSP-P40</td>
<td>M6</td>
<td>7</td>
<td>38</td>
<td>35</td>
<td>61</td>
<td>34</td>
<td>53</td>
<td>60</td>
<td>45</td>
<td>10</td>
<td>60</td>
<td>65</td>
<td>12</td>
<td>6</td>
<td>11</td>
<td>56</td>
<td>38</td>
<td>63</td>
<td>48</td>
<td>20028</td>
</tr>
<tr>
<td>OSP-P50</td>
<td>M6</td>
<td>7</td>
<td>48</td>
<td>40</td>
<td>71</td>
<td>34</td>
<td>59</td>
<td>67</td>
<td>45</td>
<td>10</td>
<td>60</td>
<td>65</td>
<td>12</td>
<td>6</td>
<td>11</td>
<td>64</td>
<td>45</td>
<td>63</td>
<td>57</td>
<td>20163</td>
</tr>
<tr>
<td>OSP-P63</td>
<td>M8</td>
<td>9</td>
<td>57</td>
<td>47.5</td>
<td>91</td>
<td>44</td>
<td>73</td>
<td>83</td>
<td>45</td>
<td>65</td>
<td>63</td>
<td>12</td>
<td>6</td>
<td>16</td>
<td>79</td>
<td>53.5</td>
<td>89</td>
<td>69</td>
<td>20452</td>
<td></td>
</tr>
<tr>
<td>OSP-P80</td>
<td>M10</td>
<td>11</td>
<td>72</td>
<td>60</td>
<td>111.5</td>
<td>63</td>
<td>97</td>
<td>112</td>
<td>55</td>
<td>80</td>
<td>81</td>
<td>15</td>
<td>25</td>
<td>103</td>
<td>66</td>
<td>118</td>
<td>87</td>
<td>20482</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
OSP-P Pneumatic Rodless Cylinders and Linear Guides

Linear Drive Accessories
Ø 16-50 mm
Adaptor Profile

Adaptor Profile OSP
- A universal attachment for mounting of valves etc.
- Solid material

Dimension Table (mm)

<table>
<thead>
<tr>
<th>Series</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>L</th>
<th>X</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Standard</td>
</tr>
<tr>
<td>OSP-P16</td>
<td>14</td>
<td>20.5</td>
<td>28</td>
<td>M3</td>
<td>12</td>
<td>27</td>
<td>50</td>
<td>38</td>
<td>20432</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>16</td>
<td>23</td>
<td>32</td>
<td>M5</td>
<td>10.5</td>
<td>30.5</td>
<td>50</td>
<td>36</td>
<td>20006</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>16</td>
<td>23</td>
<td>32</td>
<td>M5</td>
<td>10.5</td>
<td>36.5</td>
<td>50</td>
<td>36</td>
<td>20006</td>
</tr>
<tr>
<td>OSP-P40</td>
<td>20</td>
<td>33</td>
<td>43</td>
<td>M6</td>
<td>14</td>
<td>45</td>
<td>80</td>
<td>65</td>
<td>20025</td>
</tr>
<tr>
<td>OSP-P50</td>
<td>20</td>
<td>33</td>
<td>43</td>
<td>M6</td>
<td>14</td>
<td>52</td>
<td>80</td>
<td>65</td>
<td>20025</td>
</tr>
</tbody>
</table>

For Linear-drive
- Series OSP-P

Dimensions

Drive Profile
Linear Drive Accessories

Ø 16-50 mm T-Slot Profile

For Linear-drive
• Series OSP-P

T-Slot Profile OSP
• A universal attachment for mounting with standard T-Nuts

### Dimension Table (mm)

<table>
<thead>
<tr>
<th>Series</th>
<th>TA</th>
<th>TB</th>
<th>TC</th>
<th>TD</th>
<th>TE</th>
<th>TF</th>
<th>TG</th>
<th>TH</th>
<th>TL</th>
<th>Order No. Standard</th>
<th>Order No. Stainless</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P16</td>
<td>5</td>
<td>11.5</td>
<td>14</td>
<td>28</td>
<td>1.8</td>
<td>6.4</td>
<td>12</td>
<td>27</td>
<td>50</td>
<td>20433</td>
<td>20439</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>5</td>
<td>11.5</td>
<td>16</td>
<td>32</td>
<td>1.8</td>
<td>6.4</td>
<td>14.5</td>
<td>34.5</td>
<td>50</td>
<td>20007</td>
<td>20187</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>5</td>
<td>11.5</td>
<td>16</td>
<td>32</td>
<td>1.8</td>
<td>6.4</td>
<td>14.5</td>
<td>40.5</td>
<td>50</td>
<td>20007</td>
<td>20187</td>
</tr>
<tr>
<td>OSP-P40</td>
<td>8.2</td>
<td>20</td>
<td>20</td>
<td>43</td>
<td>4.5</td>
<td>12.3</td>
<td>20</td>
<td>51</td>
<td>80</td>
<td>20026</td>
<td>20268</td>
</tr>
<tr>
<td>OSP-P50</td>
<td>8.2</td>
<td>20</td>
<td>20</td>
<td>43</td>
<td>4.5</td>
<td>12.3</td>
<td>20</td>
<td>58</td>
<td>80</td>
<td>20026</td>
<td>20268</td>
</tr>
</tbody>
</table>
Dimensions

<table>
<thead>
<tr>
<th>Cylinder Series</th>
<th>for mounting on the carrier of</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>L</th>
<th>X</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P16</td>
<td>OSP25</td>
<td>14</td>
<td>20.5</td>
<td>28</td>
<td>8.5</td>
<td>12</td>
<td>27</td>
<td>5.5</td>
<td>10</td>
<td>50</td>
<td>25</td>
<td>20849</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>OSP32-50</td>
<td>16</td>
<td>23</td>
<td>32</td>
<td>8.5</td>
<td>10.5</td>
<td>30.5</td>
<td>6.6</td>
<td>11</td>
<td>60</td>
<td>27</td>
<td>20850</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>OSP32-50</td>
<td>16</td>
<td>23</td>
<td>32</td>
<td>8.5</td>
<td>10.5</td>
<td>36.5</td>
<td>6.6</td>
<td>11</td>
<td>60</td>
<td>27</td>
<td>20850</td>
</tr>
<tr>
<td>OSP-P40</td>
<td>OSP32-50</td>
<td>20</td>
<td>33</td>
<td>43</td>
<td>8</td>
<td>14</td>
<td>45</td>
<td>6.6</td>
<td>11</td>
<td>60</td>
<td>27</td>
<td>20851</td>
</tr>
<tr>
<td>OSP-P50</td>
<td>OSP32-50</td>
<td>20</td>
<td>33</td>
<td>43</td>
<td>8</td>
<td>14</td>
<td>52</td>
<td>6.6</td>
<td>11</td>
<td>60</td>
<td>27</td>
<td>20851</td>
</tr>
</tbody>
</table>

Possible Combinations

Combination of Series OSP-P with system profiles

Combination of Series OSP-P with Series OSP-P
Linear Drive Accessories
ø 25-50 mm
Joint Clamp Connection

For connection of cylinders of the Series OSP-P

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

Features
- Increased load and torque capacity
- Higher driving forces

Included in delivery:
2 clamping profiles with screws
1 mounting plate with fixings

---

<table>
<thead>
<tr>
<th>Cylinder Series</th>
<th>C</th>
<th>J</th>
<th>LA</th>
<th>LB</th>
<th>LC</th>
<th>LD</th>
<th>LE</th>
<th>LF</th>
<th>LG</th>
<th>LH</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P25</td>
<td>41</td>
<td>117</td>
<td>52</td>
<td>86</td>
<td>10</td>
<td>41</td>
<td>M5</td>
<td>100</td>
<td>70</td>
<td>85</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>52</td>
<td>152</td>
<td>64</td>
<td>101</td>
<td>12</td>
<td>50</td>
<td>M6</td>
<td>130</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>OSP-P40</td>
<td>69</td>
<td>152</td>
<td>74</td>
<td>111</td>
<td>12</td>
<td>56</td>
<td>M6</td>
<td>130</td>
<td>90</td>
<td>110</td>
</tr>
<tr>
<td>OSP-P50</td>
<td>87</td>
<td>200</td>
<td>88</td>
<td>125</td>
<td>12</td>
<td>61</td>
<td>M6</td>
<td>180</td>
<td>100</td>
<td>124</td>
</tr>
</tbody>
</table>
Linear Drive Accessories

Ø 25-50 mm
Multiplex Connection

For connection of cylinders of the Series OSP-P

The multiplex connection combines two or more OSP-P cylinders of the same size into one unit.

Features
- The orientation of the carriers can be freely selected

Included in delivery:
2 clamping profiles with clamping screws

Dimension Table (mm)

<table>
<thead>
<tr>
<th>Cylinder Series</th>
<th>C</th>
<th>M</th>
<th>LA</th>
<th>LE</th>
<th>XLA</th>
<th>Order No.</th>
<th>Standard</th>
<th>Stainless</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P25</td>
<td>41</td>
<td>31</td>
<td>52</td>
<td>84.5</td>
<td>53.5</td>
<td>20035</td>
<td>20193</td>
<td></td>
</tr>
<tr>
<td>OSP-P32</td>
<td>52</td>
<td>38</td>
<td>64</td>
<td>104.5</td>
<td>66.5</td>
<td>20167</td>
<td>20265</td>
<td></td>
</tr>
<tr>
<td>OSP-P40</td>
<td>69</td>
<td>44</td>
<td>74</td>
<td>121.5</td>
<td>77.5</td>
<td>20036</td>
<td>20275</td>
<td></td>
</tr>
<tr>
<td>OSP-P50</td>
<td>87</td>
<td>49</td>
<td>88</td>
<td>142.5</td>
<td>93.5</td>
<td>20168</td>
<td>20283</td>
<td></td>
</tr>
</tbody>
</table>
Ordering Instructions / Part Numbering System for OSP-P Rodless Basic Pneumatic Series

<table>
<thead>
<tr>
<th>Bore</th>
<th>10</th>
<th>16</th>
<th>25</th>
<th>32</th>
<th>40</th>
<th>50</th>
<th>63</th>
<th>80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke</td>
<td>x x x x x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Seals
- 0: Standard
- 1: Viton
- S: Special

Lubrication
- 0: Standard
- 1: Slow Speed
- 4: Food
- S: Special

Air Connections / Porting
- 0: Standard (position #2)
- 1: End Face (position #5)
- 2: Single End Porting
- 3: Left Stand (pos #2), Right End Face (pos #5)
- 4: Right Stand (pos #2), Left End Face (pos #5)
- 6: Single End Porting End Face

Piston Style
- 0: Standard
- 1: Tandem
- S: Special

Corrosion Resistant, Hardware
- 0: Standard
- 1: Stainless
- S: Special

Guides / Brakes / Inversion Mounts
- 0: Non e
- A: AB Activebrake
- M: Inversion (NR30)
- N: Joint Clamp Plate (NR24)
- S: Special

Cushioning / Stops
- 0: Standard
- S: Special

End Cap Mounts
- 0: Without
- 1: A1 (10,16,25,32)
- 2: A2 (16,25,32)
- 3: A3 (25,32)
- 4: B1 (25,32)
- 5: B3 (16)
- 6: B4 (25,32)
- 7: B5 (32)
- 8: C1 (40,50,63,80)
- 9: C2 (40,50)
- C: C3 (40,50,63,80)
- D: C4 (40,50)

Add. Carriage
- 0: Without
- S: Special

Switches / Measuring System
- 0: none
- 1: NO Reed-KL3045 (All except 10mm) Qty. 2
- 2: NC Reed-KL3048 (All except 10mm) Qty. 2
- 3: PNP KL3054+4041 (All except 10mm) Qty. 2
- 4: NPN KL3060+4041 (All except 10mm) Qty. 2
- 5: NO Reed-KL3045 (10mm only) Qty. 2
- 6: PNP 3049+4041 (10mm only) Qty. 2
- 7: PNP 3753+4041 (10mm only) Qty. 2
- X: 21240 SFI 0.1mm
- Y: 21241 SFI 1mm
- Z: 4650 SFA S: Special

Note: Comes in pairs

End Cap Position
- 0: 45° = In Front (pos #2)
- 1: 90° = Underneath (pos #3)
- 2: 180° = At the Back (pos #4)
- 3: 270° = Same Face as Outerband (pos #2,1)
- 4: 190° = Underneath; r 0° = In Front (pos #3,2)
- 5: 180° = At the Back; r 0° = In Front (pos #4,2)
- 6: 127° = Same Face as Outerband; r 0° = In Front (pos #1,2)
- 7: 10° = In Front; r 90° = Underneath (pos #2,3)
- 8: 180° = At the Back; r 90° = Underneath (pos #4,3)
- 9: 270° = Same Face as Outerband; r 90° = Underneath (pos #1,3)
- A: 10° = In Front; r 180° = At the Back (pos #2,4)
- B: 190° = Underneath; r 180° = At the Back (pos #3,4)
- C: 270° = Same Face as Outerband; r 180° = At the Back (pos #1,4)
- D: 10° = In Front; r 270° = Same Face as Outerband (pos #2,1)
- E: 190° = Underneath; r 270° = Same Face as Outerband (pos #3,1)
- F: 180° = At the Back; r 270° = Same Face as Outerband (pos #4,1)
- S: Special

Notes:
- 10mm bore can only have standard port locations.
- Single End Porting on 16mm bore, then end caps cannot be rotated.

Note: Position #2 is the standard location.
Clean Room Cylinder

ø 16 – 32 mm

Rodless Cylinder
certified to
DIN EN ISO 14644-1

Material:
- Stainless steel screws
- Slow speed lubrication
- Viton® seals

Features:
- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing
- Suitable for smooth slow speed operation up to \( v_{\text{min}} = 0.005 \text{ m/s} \)
- Optional stroke length up to 1200 mm (longer strokes on request)
- Low maintenance
- Compact design with equal force and velocity in both directions
- Aluminum piston with bearing rings to support high direct and cantilever loads
Function:
The clean room cylinders of the ORIGA SYSTEM PLUS (OSP-P) combines the efficiency of the PARKER-ORIGA slot seal system with vacuum protection against progressive wear and contamination from the sliding components. A partial vacuum drawn between inner and outer sealing bands prevents emission into the clean room. To achieve the necessary vacuum a suction flow of ca. 4 m³/h is required.

Certification
Based on the PARKER-ORIGA rodless cylinder, proven in worldwide markets, PARKER-ORIGA now offers the only rodless cylinder on the market with a certification from IPA Institute for the cleanroom specification according to DIN EN ISO 14644-1.

Function Diagram

Loads, Forces and Moments

<table>
<thead>
<tr>
<th>Cylinder Series (mm Ø)</th>
<th>Effective Force at 6 bar (N)</th>
<th>Max. Moment Mx (Nm)</th>
<th>My (Nm)</th>
<th>Mz (Nm)</th>
<th>Max. Load Fz (N)</th>
<th>Cushion length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P16</td>
<td>78</td>
<td>0.45</td>
<td>4</td>
<td>0.5</td>
<td>120</td>
<td>11</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>250</td>
<td>1.5</td>
<td>15</td>
<td>3.0</td>
<td>300</td>
<td>17</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>420</td>
<td>3.0</td>
<td>30</td>
<td>5.0</td>
<td>450</td>
<td>20</td>
</tr>
</tbody>
</table>

Load and moment data are based on speeds v ≤ 0.2 m/s. The adjacent table shows the maximum values for light, shock-free operation which must not be exceeded even in dynamic operation.
### Dimensions (mm)

<table>
<thead>
<tr>
<th>Cylinder Series</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>M</th>
<th>O</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P16</td>
<td>65</td>
<td>14</td>
<td>30</td>
<td>M5</td>
<td>18</td>
<td>M3</td>
<td>9</td>
<td>5.5</td>
<td>69</td>
<td>15</td>
<td>25</td>
<td>31</td>
<td>24</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>100</td>
<td>22</td>
<td>41</td>
<td>G1/8</td>
<td>27</td>
<td>M5</td>
<td>15</td>
<td>9</td>
<td>117</td>
<td>21.5</td>
<td>33</td>
<td>48.5</td>
<td>35</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>125</td>
<td>25.5</td>
<td>52</td>
<td>G1/4</td>
<td>36</td>
<td>M6</td>
<td>15</td>
<td>11.5</td>
<td>152</td>
<td>28.5</td>
<td>40</td>
<td>53.6</td>
<td>38</td>
</tr>
</tbody>
</table>

### Dimension Table (mm)

<table>
<thead>
<tr>
<th>Cylinder Series</th>
<th>T</th>
<th>V</th>
<th>X</th>
<th>Y</th>
<th>BW</th>
<th>BX</th>
<th>BY</th>
<th>CF</th>
<th>EN</th>
<th>FB</th>
<th>FH</th>
<th>GP</th>
<th>ZZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP-P16</td>
<td>29.6</td>
<td>16.5</td>
<td>36</td>
<td>M4</td>
<td>10.8</td>
<td>1.8</td>
<td>28.5</td>
<td>40</td>
<td>3</td>
<td>30</td>
<td>27.2</td>
<td>25.7</td>
<td>7</td>
</tr>
<tr>
<td>OSP-P25</td>
<td>40.6</td>
<td>25</td>
<td>65</td>
<td>M5</td>
<td>17.5</td>
<td>2.2</td>
<td>40.5</td>
<td>54.5</td>
<td>3.6</td>
<td>40</td>
<td>39.5</td>
<td>41</td>
<td>8</td>
</tr>
<tr>
<td>OSP-P32</td>
<td>45</td>
<td>27</td>
<td>90</td>
<td>M6</td>
<td>20.5</td>
<td>2.5</td>
<td>47.1</td>
<td>68.5</td>
<td>5.5</td>
<td>52</td>
<td>51.7</td>
<td>46.2</td>
<td>10</td>
</tr>
</tbody>
</table>
# Ordering Instructions / Part Numbering System for OSP-P Clean Room Series

## Bore
- 16
- 25
- 32

## Piston Style
- 0 Standard
- G Viton
- S Special

## Seals
- 0 Standard
- 1 Viton
- S Special

## Air Connection / Porting
- 0 Standard
- 7 Clean Room

## Lubrication
- 0 Standard
- 1 Slow Speed
- 4 Food
- 5 Clean Room
- S Special

## Stroke
- x x x x x

## Cushioning / Stops
- 0 Standard

## End Cap Position
- 0 l+r "0" = In Front (pos #2)

## Piston Mountings
- 0 None
- X Dovetail
- S X without

## Corrosion Resist, Hardware
- 0 Standard
- 1 Stainless
- S Special

## add. Carriage
- 0 Without

## Dovetail Cover
- 0 Standard
- X Without
- S Cover Rail
- Special

## Guides / Brakes
- 0 None

## Stroke
- x x x x x

## Cushioning / Stops
- 0 Standard

## End Cap Mounts
- 0 Without
- 1 A1 (16,25,32)
- 2 A2 (16,25,32)
- 3 A3 (25,32)
- 4 B1 (25,32)
- 6 B3 (16)
- 7 B4 (25,32)
- 8 B5 (32)

## Switches / Measuring System
- 0 None
- 1 NO Reed-KL3045 Qty. 2
- 2 NC Reed-KL3048 Qty. 2
- 3 PNP KL3054+4041 Qty. 2
- 4 NPN KL3060+4041 Qty. 2

Note: 2 switches will be supplied. For different quantity, please order as a separate line item.

Note: Position #2 is the standard location.
Rodless Cylinder Ø 40 mm for synchronized bi-parting movements

Type OSP-P40-SL-BP

Features:
- Accurate bi-parting movement through toothed belt synchronization
- Optimum slow speed performance
- Increased action force
- Anodized aluminum 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

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

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Symbol</th>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Features</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td></td>
<td></td>
<td>Rodless cylinder for synchronized bi-parting movements</td>
</tr>
<tr>
<td>Series</td>
<td></td>
<td></td>
<td>OSP-P</td>
</tr>
<tr>
<td>System</td>
<td></td>
<td></td>
<td>Double acting with end cushioning. For contactless position sensing</td>
</tr>
<tr>
<td>Guide</td>
<td></td>
<td></td>
<td>Slideline SL40</td>
</tr>
<tr>
<td>Synchronization</td>
<td></td>
<td></td>
<td>Toothed belt</td>
</tr>
<tr>
<td>Mounting</td>
<td></td>
<td></td>
<td>See drawings</td>
</tr>
<tr>
<td>Ambient temperature range</td>
<td>$T_{min}$</td>
<td>°C</td>
<td>-10</td>
</tr>
<tr>
<td></td>
<td>$T_{max}$</td>
<td>°C</td>
<td>+60</td>
</tr>
<tr>
<td>Weight (Mass)</td>
<td>kg</td>
<td></td>
<td>see table page B36</td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td></td>
<td>Filtered, unlubricated compressed air (other media on request)</td>
</tr>
<tr>
<td>Lubrication</td>
<td></td>
<td></td>
<td>Special slow speed grease – additional oil mist lubrication not required</td>
</tr>
<tr>
<td>Material</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toothed Belt</td>
<td></td>
<td></td>
<td>Steel-corded polyurethane</td>
</tr>
<tr>
<td>Belt wheel</td>
<td></td>
<td></td>
<td>Aluminum</td>
</tr>
<tr>
<td>Operating pressure range</td>
<td>$p_{max}$</td>
<td>bar</td>
<td>6</td>
</tr>
<tr>
<td>Cushioning middle position</td>
<td></td>
<td></td>
<td>Elastic buffer</td>
</tr>
<tr>
<td>Max. Speed</td>
<td>$v_{max}$</td>
<td>m/s</td>
<td>0.2</td>
</tr>
<tr>
<td>Max. stroke of each stroke</td>
<td>mm</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Max. mass per guide carrier</td>
<td>kg</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Max. moments on guide carrier</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lateral moment</td>
<td>$M_{x_{max}}$</td>
<td>Nm</td>
<td>25</td>
</tr>
<tr>
<td>axial moment</td>
<td>$M_{y_{max}}$</td>
<td>Nm</td>
<td>46</td>
</tr>
<tr>
<td>rotating moment</td>
<td>$M_{z_{max}}$</td>
<td>Nm</td>
<td>46</td>
</tr>
</tbody>
</table>

For more technical information see pages B41

Applications:
- Gripping – outside
- Gripping – inside
- Gripping – underneath
- Door opening and closing
Function:
The OSP-P40-SL-BP bidirectional linear drive is based on the OSP-P40 rodless pneumatic cylinder and adapted SLIDELINE SL40 polymer plain-bearing guides. Two pistons in the cylinder bore are connected via yokes and carriers to the SLIDELINE guide carriers, which handle the forces and moments generated.
The bi-parting movements of the guide carriers are accurately synchronized by a recirculating toothed belt.

The two pistons are driven from the middle to the end positions via a common G1/4 air connection in the middle of the cylinder, and are driven from the end positions to the middle via an air connection in each end cap. End position cushioning is provided by adjustable air cushioning in the end caps, and middle position cushioning by rubber buffers.

Dimensions (mm)

<table>
<thead>
<tr>
<th>Port size G1/4</th>
<th>Port size G1/4</th>
<th>Port size G1/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 End cap can be rotated 4x90°</td>
<td>2</td>
<td>3 End cap can be rotated 4x90°</td>
</tr>
</tbody>
</table>

Air connections:
To drive the guide carriers to the middle position: pressurize ports 1 and 3.
To drive the guide carriers to the end positions: pressurize port 2.

For more dimensions see pages B11 and B42
Ordering Instructions / Part Numbering System for OSP-P Bi-Parting Rodless Cylinders Series

| Bore | 40 |
| Seals | 0 Standard |
| Stroke | xxxxxx |
| Cushioning / Stops | 0 Standard |
| Piston Style | N Bi-Parting |
| Lubrication | 0 Standard |
| Piston Mountings | 0 None |
| Corrosion Resist, Hardware | 0 Standard |
| Guides / Brakes | 0 None |
| Air Connections / Porting | Add. Carriage | Without |
| 0 Standard (position #2) | 1 End Face (position #5) |
| 2 Single End Porting | 3 Left Stand (pos #2), Right End Face (pos #5) |
| 4 Right Stand (pos #2), Left End Face (pos #5) | 6 Single End Porting End Face |
| S Special |

End Cap Position

<table>
<thead>
<tr>
<th>Position</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>l+r 0° = In Front (pos #2)</td>
</tr>
<tr>
<td>1</td>
<td>l+r 90° = Underneath (pos #3)</td>
</tr>
<tr>
<td>2</td>
<td>l+r 180° = At the Back (pos #4)</td>
</tr>
<tr>
<td>3</td>
<td>l+r 270° = Same Face as Outerband (pos #2,1)</td>
</tr>
<tr>
<td>4</td>
<td>l 90° = Underneath; r 0° = In Front (pos #3,2)</td>
</tr>
<tr>
<td>5</td>
<td>l 180° = At the Back; r 0° = In Front (pos #4,2)</td>
</tr>
<tr>
<td>6</td>
<td>l 270° = Same Face as Outerband; r 0° = In Front (pos #1,2)</td>
</tr>
<tr>
<td>7</td>
<td>l 0° = In Front; r 90° = Underneath (pos #2, 3)</td>
</tr>
<tr>
<td>8</td>
<td>l 180° = At the Back; r 90° = Underneath (pos #4,3)</td>
</tr>
<tr>
<td>9</td>
<td>l 270° = Same Face as Outerband; r 90° = Underneath (pos #1,3)</td>
</tr>
<tr>
<td>A</td>
<td>l 0° = In Front; r 180° = At the Back (pos #2,4)</td>
</tr>
<tr>
<td>B</td>
<td>l 90° = Underneath; r 180° = At the Back (pos #3,4)</td>
</tr>
<tr>
<td>C</td>
<td>l 270° = Same Face as Outerband; r 180° = At the Back (pos #1,4)</td>
</tr>
<tr>
<td>D</td>
<td>l 0° = In Front; r 270° = Same Face as Outerband (pos #2,1)</td>
</tr>
<tr>
<td>E</td>
<td>l 90° = Underneath; r 270° = Same Face as Outerband (pos #3,1)</td>
</tr>
<tr>
<td>F</td>
<td>l 180° = At the Back; r 270° = Same Face as Outerband (pos #4,1)</td>
</tr>
<tr>
<td>S</td>
<td>Special</td>
</tr>
</tbody>
</table>

Note: Position #2 is the standard location.