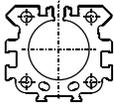
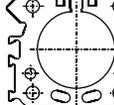
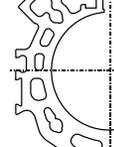


Characteristics		Pressures quoted as gauge pressure	
Characteristics	Symbol	Unit	Description
<b>General Features</b>			
Type			Rodless cylinder
Series			OSPP-BG
System			Double-acting, with cushioning, position sensing capability
Mounting			See drawings
Air Connection			Threaded
Ambient temperature range	$T_{min}$ $T_{max}$	°C °C	-10 +80 - Other temperature ranges on request
Weight (mass)		kg	See table below
Installation			free
Medium			Filtered, unlubricated compressed air (other media on request)
Lubrication			Permanent grease lubrication (additional oil mist lubrication not required) Option: special slow speed grease
Material	Cylinder Profile		Anodized aluminium
	Carrier, (piston)		Anodized aluminium
	End caps		Al, catalytically coated
	Sealing bands		Corrosion resistant steel
	Seals		NBR (Option: Viton®)
	Screws		Galvanized steel Option: stainless steel
	Dust covers, wipers		Plastic
Max. operating pressure	$p_{max}$	bar	8

Weight (mass) [kg]		
Cylinder series (basic cylinder)	Weight (mass) [kg]	
	at 0 mm stroke	per 100 mm stroke
OSPP-BG25	1.09	0.22
OSPP-BG32	2.26	0.38
OSPP-BG40	3.52	0.41
OSPP-BG50	5.30	0.58

Size Comparison				
BG25	BG32	BG40	BG50	
				

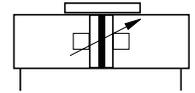
For **Magnetic Switches** see page 123-126

# Plain Bearing BASIC GUIDE

∅ 25 - 50 mm



Series OSPP- BG



### Standard Versions:

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

### Special Versions:

- Stainless steel screws
- Slow speed lubrication
- Viton® seals
- Both air connections on one end
- Air connection on the end-face
- Integrated Valves VOE



- End cap can be rotated 4 x 90° to position air connection as desired
- Free choice of stroke length up to 6000 mm

# Plain Bearing BASIC GUIDE



Size BG 25 to 50  
Compact, robust plain bearing guide  
for medium loads  
• Series OSP-P

### 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:

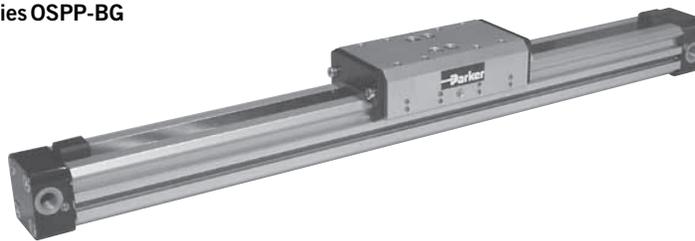
- Corrosion resistant version available on request
- VOE-Valves
- ATEX-version  (see page 35-36)

### Accessories:

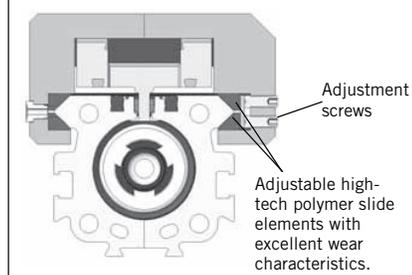
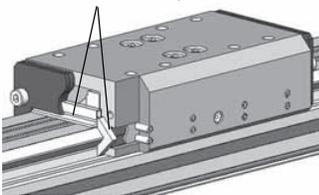
- Mid-Section Support
- End Cap Mountings
- Magnetic Switches

## Versions

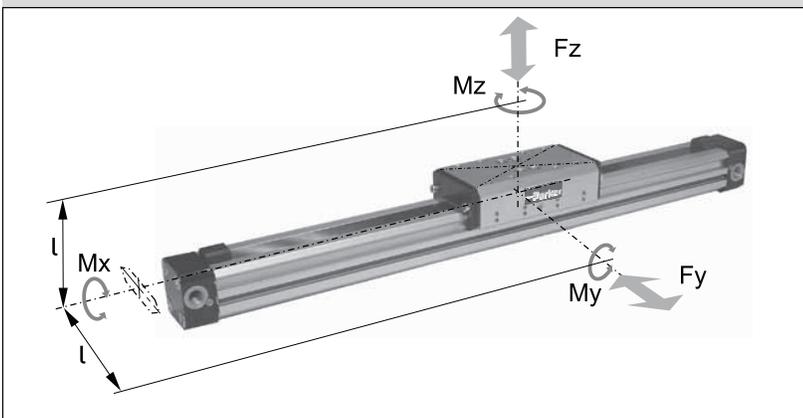
### Pneumatic linear drive Series OSPP-BG



Composite sealing system with high-tech polymer and felt wiper elements to remove dirt and lubricate the slideways.



## Loads, Forces and Moments



### 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 gures apply to speeds  $v < 0.2$  m/s.

### \* Please note:

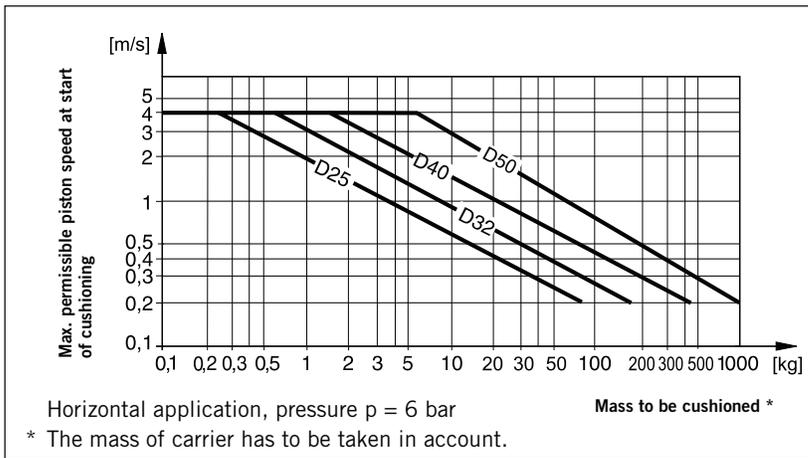
In the cushioning diagram, add the mass of the guide carriage to the mass to be cushioned.

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

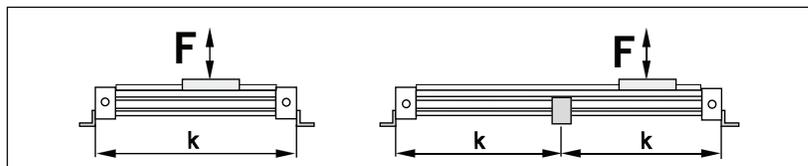
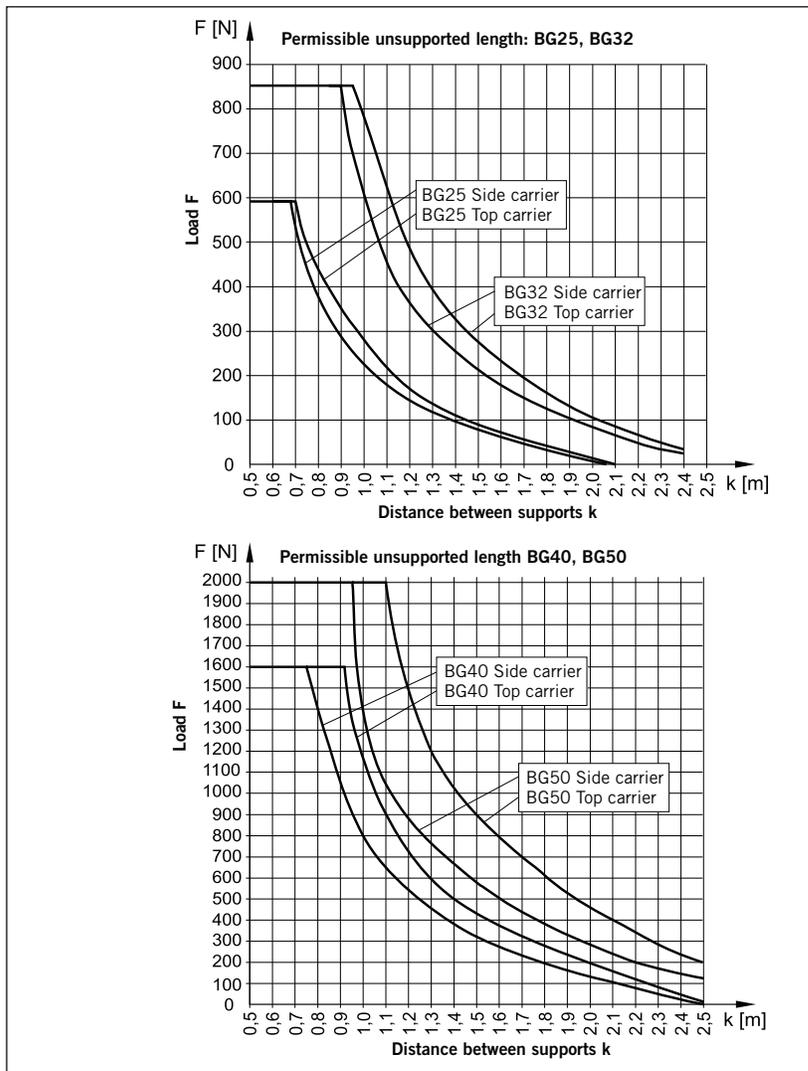
The sum of the loads should not exceed 1.

Series	Max. Moments [Nm]			Max. Load [Nm] F <sub>y</sub> , F <sub>z</sub>	Mass of Basic Guide [kg]		Mass * of guide carriage [kg]	Cushion Length [mm]
	M <sub>x</sub>	M <sub>y</sub>	M <sub>z</sub>		at 0 mm stroke	per 100 mm stroke		
BG25	10	28	28	590	1.09	0.22	0.29	17
BG32	17	43	43	850	2.26	0.38	0.69	20
BG40	39	110	110	1600	3.52	0.41	1.37	27
BG50	67	165	165	2000	5.30	0.58	1.91	30

Mountings see page 44



If the permitted limit values are exceeded, additional shock absorbers should be fitted in the area of the centre of gravity.



## 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 approx.

50 % higher than the average speed, and that it is this higher speed which determines the choice of cylinder.

## Mid-Section Support

(Versions see page 44)

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

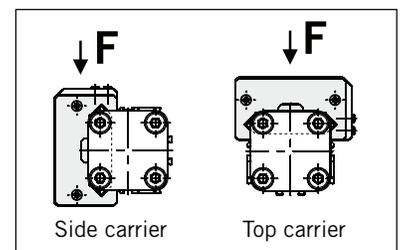
The diagrams show the maximum permissible unsupported length in relation to loading. A distinction must be drawn between

loading 1 and loading 2.

Deflection of 0.5 mm max. between supports is permissible.

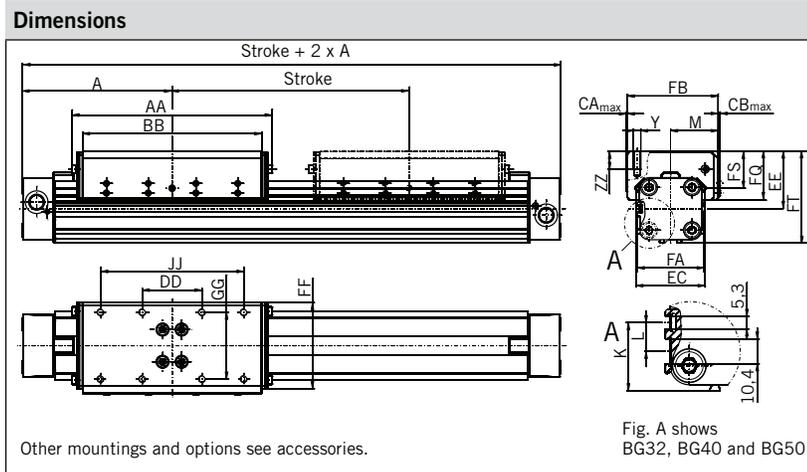
### Note:

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



## Cylinder Stroke and Dead Length A

- Free choice of stroke length up to 6000 mm in 1 mm steps.
- Longer strokes on request.

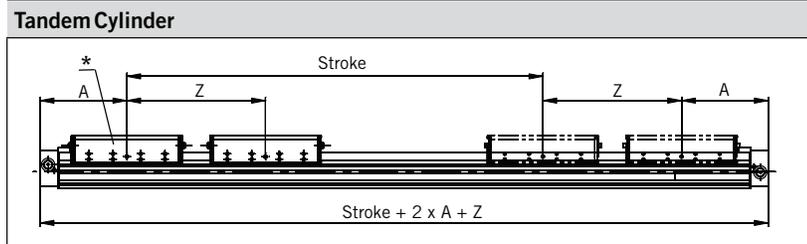


## Tandem Cylinder

Two pistons are fitted: dimension "Z" is optional.

(Please note minimum distance  $Z_{min}$ ).

- Available sizes  $\varnothing$  25, 32, 40, 50
- 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"**



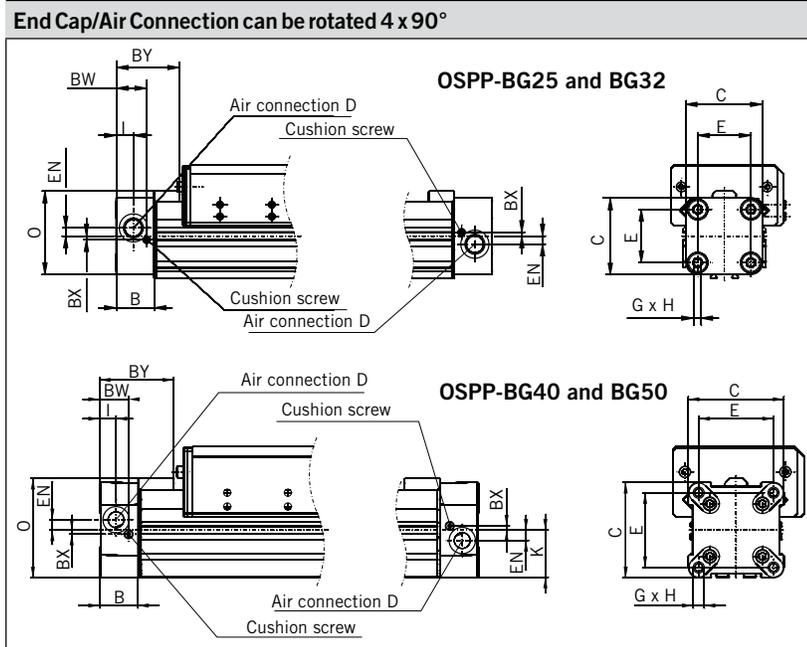
Please note:

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

## Standard air connection

End cap can be rotated 4 x 90°. The air connection and cushion screw can therefore be positioned as desired.

\* piston with magnet



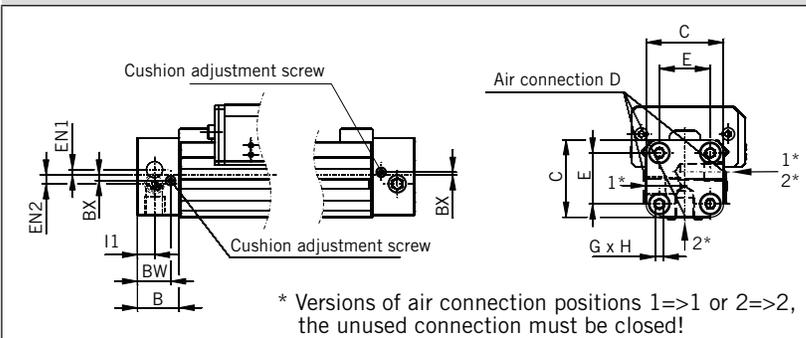
**Dimension Table [mm]**

Series	A	B	C	D	E	G	H	I	K	L	M	O	Y	Z <sub>min</sub>	AA	BB	BW
BG25	100	22	41	G1/8	27	M5	15	9	17.5	-	32	47	M6	128	126	108	17.5
BG32	125	25.5	52	G1/4	36	M6	15	11.5	28.5	12	40	59	M6	170	168	150	20.5
BG40	150	28	69	G1/4	54	M6	15	12	34.5	12	47	72	M6	212	198	178	21
BG50	175	33	87	G1/4	70	M6	15	14.5	43.5	12	54	86	M6	251	240	220	27

Series	BX	BY	CA <sub>max</sub>	CB <sub>max</sub>	DD	EC	EE	EN	FA	FB	FF	FQ	FS	FT	GG	JJ	ZZ
BG25	2.2	40	1.5	1.5	40	44	38	3.6	44	60	56	32	24	59.5	43	80	12
BG32	2.5	44	0	2	50	58	48	5.5	56	76	72	40.8	30.8	76.5	56	120	12
BG40	3	54	0	1	70	67	58	7.5	67	89	84	48	36	92.5	60	140	12
BG50	-	59	0	0	100	77.5	63	11	80	101	94	49	36	106.5	78	200	12

**End cap - Air connection both at one end**  
**Series OSPP-BG 25**

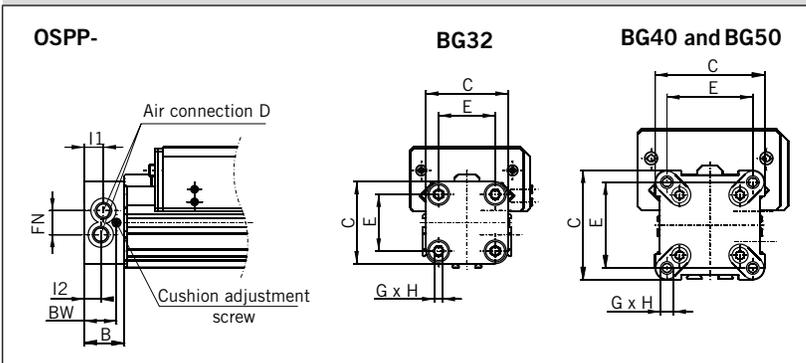


**Both Air Connections at One End**

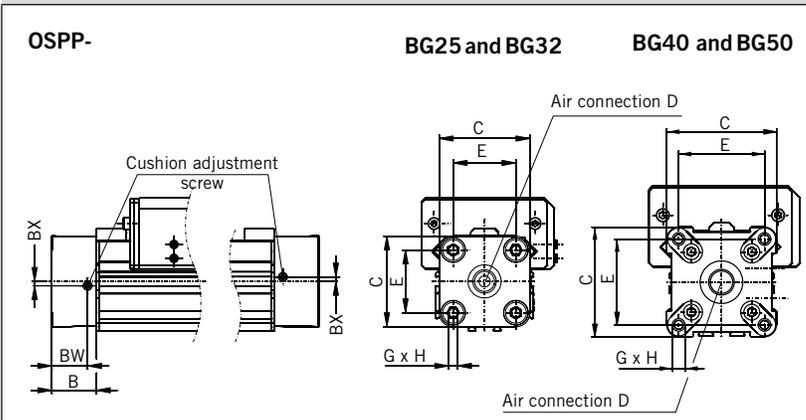
A special end cap with both air connections on one side is available for situations where shortage of space, simplicity of installation or the nature of the process make it desirable. Air supply to the other end is given via internal air passages.

**In this case the end caps cannot be rotated.**

**End cap - Air connection both at one end**  
**Series OSPP-BG32 to BG50**



**End cap - Air connection on the End-face**  
**Series OSPP-BG25 to BG50**



**Air Connection on the End-face**

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.

**Dimension Table [mm]**

Series	B	C	D	E	G	H	BW	BX	BY	EN1	EN2	FN	I1	I2
<b>BG25</b>	22	41	G1/8	27	M5	15	17.5	2.2	40	3.6	3.9	-	9	-
<b>BG32</b>	25.5	52	G1/4	36	M6	15	20.5	2.5	44	-	-	15.2	12.2	10.5
<b>BG40</b>	28	69	G1/4	54	M6	15	21	3	54	-	-	17	12	12
<b>BG50</b>	33	87	G1/4	70	M6	15	27	-	59	-	-	22	14.5	14.5

# Linear Drive Accessories

## End Cap Mountings

∅ 25-50 mm



For linear drive  
• Series OSPP-BG

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.

The air connection can still be positioned as desired.



## Mid-Section Support

For linear drive  
• Series OSPP-BG

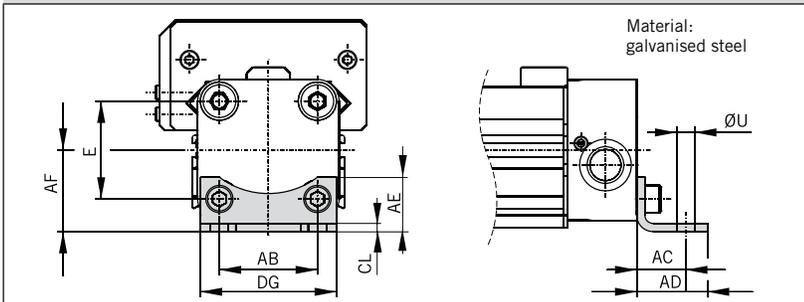
For permissible support spacings see diagram page 41.

Stainless steel version on request.



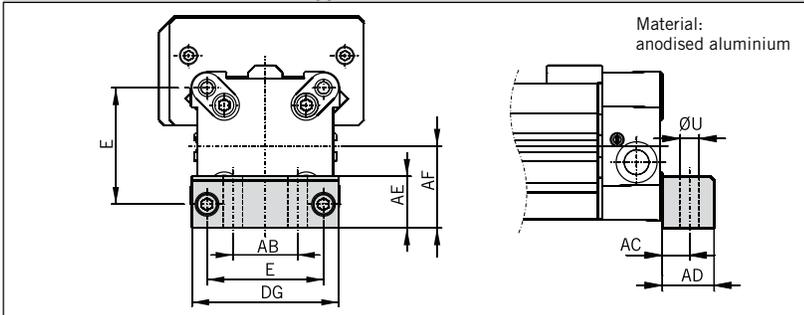
Series OSPP-BG25 and BG32: Type A1

(Supplied in pairs)

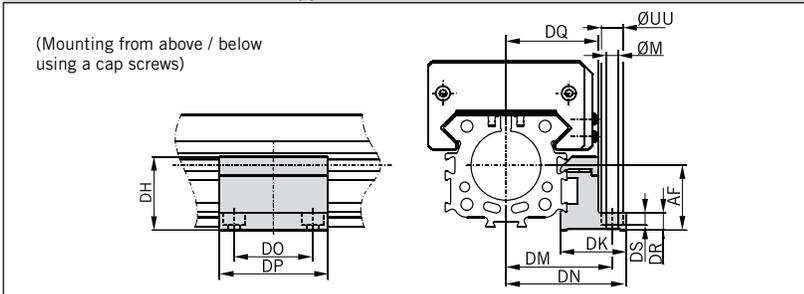


Series OSPP-BG40 and BG50: Type C1

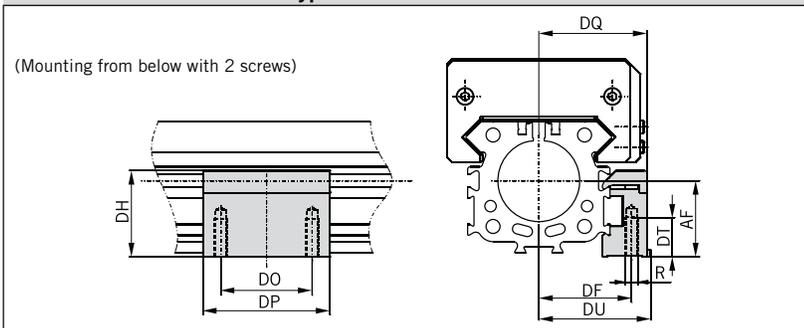
(Supplied in pairs)



Series OSPP-BG25 to BG50: Type E1BG



Series OSPP-BG25 to BG50: Type D1BG



Dimension Table [mm]

Series	E	R	∅U	∅M	AB	AC	AD	AE	AF	CL	DF	DG
BG25	27	M5	5.8	5.5	27	16	22	18	22	2.5	29	39
BG32	36	M5	6.6	5.5	36	18	26	20	30	3	36.5	50
BG40	54	M6	9	7	30	12.5	24	24	38	-	39	68
BG50	70	M6	9	7	40	12.5	24	30	48	-	45.5	86

Series	DH	DK	DM	DN	DO	DP	DQ	DR	DS	DT	DU	∅UU	Ident-No.			
													Type A1*	Type C1*	Type E1BG	Type D1BG
BG25	20	30.5	42	49.5	36	50	35	8	5.7	15	36.5	10	2010FIL	-	21482FIL	21483FIL
BG32	34	30.5	49	55.5	36	50	42.5	8	5.7	15	42.5	10	3010FIL	-	21487FIL	21488FIL
BG40	43	34	56	63	45	60	48	10	-	11	48	-	-	4010FIL	21510FIL	21511FIL
BG50	56	34	62.5	69.5	45	60	54	23	-	11	54.5	-	-	5010FIL	21594FIL	21593FIL

\* = Pair

**Order Instructions – BASIC GUIDE**

1-6	7+8	9	10	11	12	13	14-18	19	20	21	22	23	24	25
OSPPBG	25	0	0	0	0	0	01100	0	0	0	0	0	0	0

Piston-Ø
25
32
40
50

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

Version / Piston
0 Standard
1 Tandem
* 6 ATEX Standard <sup>3)</sup>

Screws
0 standard
1 stainless

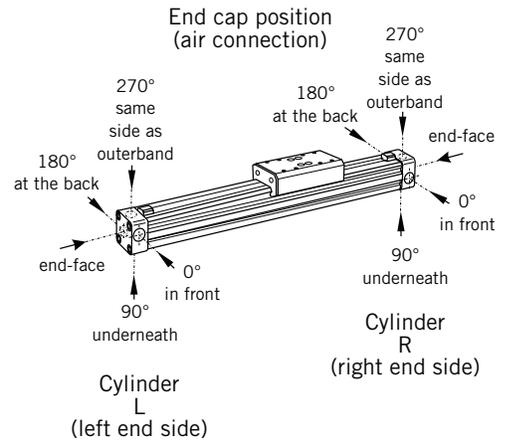
Cushioning
0 standard

Lubrication
0 standard
1 slow speed <sup>2)</sup>

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

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
E 3/2 way valve VOE 110 V~ Ø 25, 32, 40, 50

Seals
0 standard (NBR)
1 Viton <sup>® 1)</sup>



\* for more informations ATEX Basic Guide see page 35

- 1) Viton with VOE not possible.
- 2) "Slow speed lubrication" in combination with „Viton<sup>®</sup>“ seals on demand.
- 3) ATEX with VOE not possible.

**Accessories – please order separately**

Description	Further information see
End Cap Mounting	Page 44
Mid-Section Support	Page 44
Magnetic Switches	Page 123