

High profile ball transfer unit



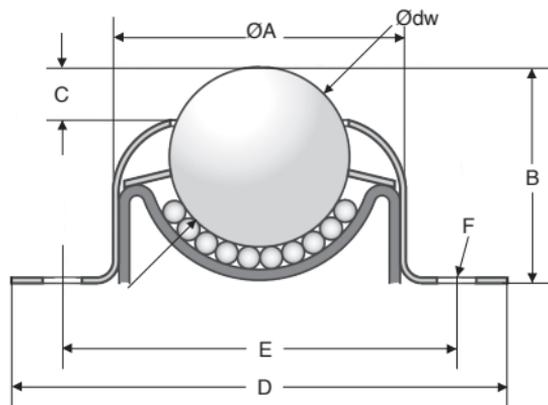
BPLF

For light loads

- **Pressed steel ball transfer unit with mounting plate**
- With 2 or 4 mounting holes for screws or rivets.
(The BPLF25-55-2F has 2 slots rather than 2 holes to accommodate different centre distances)
- For light loads
- Housing made from pressed steel
- With drainage hole and felt seal.
- Orientation: horizontal with ball upwards
- Max. speed: 1m/s
- Working temperature range: -20 to +70°C
- Materials:



BPL:galvanised steel body and steel balls
BPL/SS:stainless steel body and stainless steel balls



DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc.	Prix	-10%	-15%	-20%	On request

Part number	Ødw ball	ØA	B	C	D	E	F	Carrying capacity (kg)	Weight (kg)	Stock*	Price each 1 to 5
Steel body, steel balls											
BPLF25-45-2F	25,4	45,0	30,4	6,3	69 x 51	55,9 - 60,3	slot 2 x 5,5 x 7,7	55	0,155	✓	7,53 €
BPLF38-67-4	38,1	66,9	46,2	9,8	76,2 x 76,2	62,7 x 62,7	4 x Ø7,1	115	0,520	-	22,79 €
Stainless steel body / Stainless steel balls											
BPLF25-45-2F/SS	25,4	45,0	30,4	6,3	69 x 51	55,9 - 60,3	slot 2 x 5,5 x 7,7	55	0,151	✓	19,64 €

*Depending on availability - Dimensions in mm

- Pressed steel ball transfer unit
- With 2 fixing holes for screws or rivets
- For light loads
- Housing made from pressed sheet metal
- With drainage hole and felt seal.
- Orientation: horizontal with ball upwards
- Max. speed: 1m/s
- Working temperature range: -20 to +70°C
- Materials:

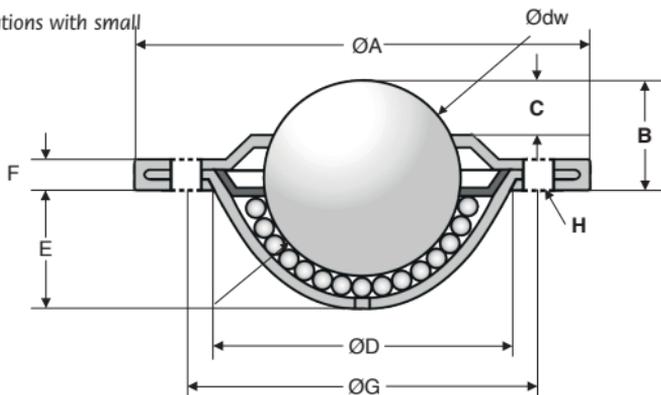


BPL:galvanised steel body and steel balls

BPL/SS: stainless steel body and steel balls
stainless steel 420

Advantages

- Ideal for small applications with small space requirements



DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc.	Net	-10%	-15%	-20%	On request

Part number	Ødw	ball ØA	B	C	ØD	E	F	ØG	ØH	Carrying capacity (kg)	Weight (g)	Price each 1 to 5	Stock*
													✓
Steel body, steel balls													
BPL15-41	15,0	41,0	10,8	5,0	24,0	8,5	3,2	30,0	2 x 3,4	15	0,045	✓	5,46 €
BPL19-61	19,0	61,0	10,0	3,2	29,1	12,0	3,2	44,5	2 x 5,1	25	0,090	✓	5,32 €
BPL25-73	25,4	73,0	14,2	6,3	37,2	15,8	3,5	55,6	2 x 5,1	55	0,170	✓	7,19 €
BPL25-56	25,0	56,0	14,6	7,8	36,0	15,4	3,3	45,0	2 x 4,0	60	0,125	✓	7,71 €
BPL32-73	32,0	73,7	16,2	8,0	45,5	19,9	4,2	58,7	2 x 5,1	125	0,269	✓	11,86 €
Stainless steel body / Stainless steel balls													
BPL19-61/SS	19,0	61,0	10,0	3,2	29,1	12,0	3,2	44,5	2 x 5,1	25	0,086	✓	13,41 €
BPL25-73/SS	25,4	73,0	14,2	6,3	37,2	15,8	3,5	55,6	2 x 5,1	55	0,172	-	19,41 €
BPL32-73/SS	32,0	73,7	16,2	8,0	45,5	19,9	4,2	58,7	2 x 5,1	125	0,256	✓	26,70 €

* Depending on availability - Dimensions in mm

Flange mounting ball transfer unit Stock

BPPE

Plastic

- **Plastic ball mounting ball transfer unit**
- Push fit for rapid installation & replacement where only single-sided access to the mounting surface is available
- Clips compensate for irregularities in seat bore diameter
- Max. speed: 1m/s
- Working temperature range: -20 to +70°C
- Materials:
Acetal body and balls (POM)

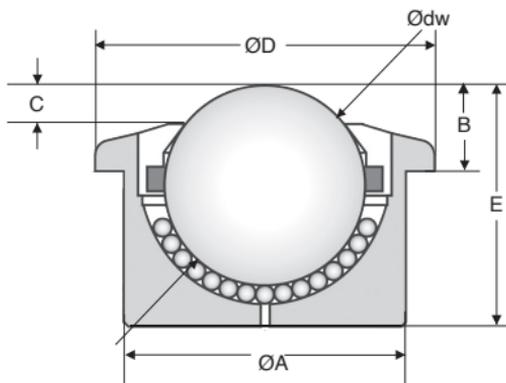


Advantages

- Resists salt water and chemical attacks
- Non-conductive and non-magnetic
- Suitable for antimicrobial applications
- For use in chemical, pharmaceutical and medical applications

Accessory

- BPHFC_{CLIP}, clip for ball transfer unit (tome 5 p.43)



DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc.	Net	-10%	-15%	-20%	On request

Part number	Ødw ball	ØA	B	C	ØD	E	Carrying capacity (kg)	Weight (g)	Stock*	Price each
										1 to 5
BPPE15-24/PP	15	24	8,0	4,8	30	20,0	7	0,010	✓	24,08 €
BPPE22-36/PP	22	36	9,8	4,5	45	30,5	10	0,035	✓	36,11 €
BPPE30-45/PP	30	45	13,8	5,8	55	37,0	15	0,065	✓	43,00 €
BPPE45-62/PP	45	62	19,0	8,5	75	53,5	20	0,182	-	95,27 €

*Depending on availability. All dimensions in mm.

- **Pressed steel ball transfer unit**
- Push fit for rapid installation & replacement where only single-sided access to the mounting surface is available
- For light loads
- Housing made from pressed steel
- Orientation: horizontal with ball upwards
- Max. speed: 1m/s
- Working temperature range: -20 to +70°C
- Materials:

BPL : galvanized steel body and steel balls

BPL/SS : stainless steel body and steel balls

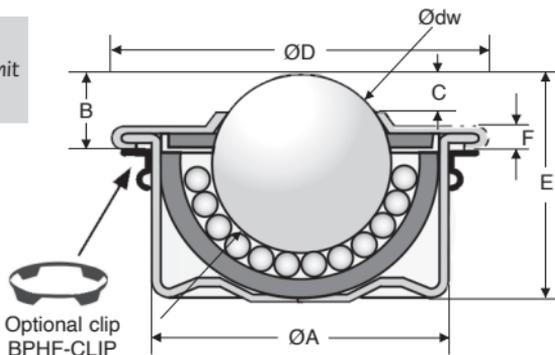


Advantages

- Optional clips compensate for irregularities in seat bore diameter

Accessory

- BPHFCUP, clip for ball transfer unit (tome 5 p.49)



DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc.	Net	-10%	-15%	-20%	On request

Part number	Ødw ball	ØA	B	C	ØD	E	F	Carrying capacity (kg)	Weight (g)	Stock*	Price each
											1 to 5
Steel body, steel balls											
BPLE15-24	15	24	9,5	4,6	31	21,0	2,8	60	0,041	✓	4,69 €
BPLE22-36	22	36	9,8	3,9	45	29,5	2,9	160	0,128	✓	8,62 €
BPLE30-45	30	45	13,8	6,8	55	37,0	3,6	280	0,253	✓	13,01 €
BPLE45-62	45	62	19,0	9,0	75	53,5	4,0	600	0,720	-	63,08 €
Stainless steel body, stainless steel balls											
BPLE15-24/SS	15	24	9,5	4,6	31	21,0	2,8	40	0,039	✓	14,49 €
BPLE22-36/SS	22	36	9,8	3,9	45	29,5	2,9	90	0,125	✓	25,12 €
BPLE30-45/SS	30	45	13,8	6,8	55	37,0	3,6	200	0,271	✓	56,09 €
BPLE45-62/SS	45	62	19,0	9,0	75	53,5	4,0	260	0,710	-	152,24 €

All dimensions in mm. *Depending on availability

Flush fitting ball transfer unit with flange

Stock

BPHF

For heavy loads

- Carrying ball for handling solid body
- For heavy loads
- Machined bodies and covers
- Lubricated for life
- Orientation: horizontal with ball upwards
- Unique drainage hole
- Max. speed: 1.5m/s
- Working temperature range: -30 to +100°C
- Materials:

BPHF:galvanised steel body and chromed steel ball

BPHF/AS:galvanised steel body and 420 stainless steel balls

BPHF-SS:body, components and balls- 420 stainless steels

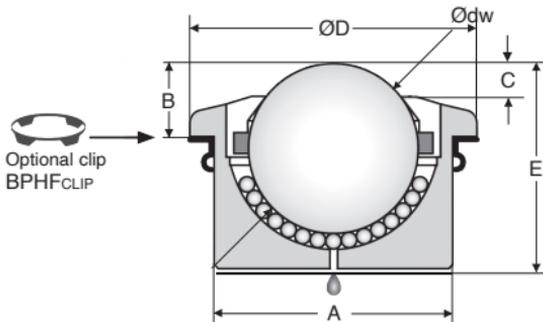


Advantages

- Good resistance to shocks
- Optional clips compensate for irregularities in seat bore diameter

Accessory

- BPHF_{CLIP}, clip for ball transfer unit (tome 5 p.49)



DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc.	Net	-10%	-15%	-20%	On request

Part number	Ødw ball	ØA	B	C	ØD	E	Carrying capacity (kg)	Weight (g)	Stock*	Price each 1 to 5
Steel body, steel balls										
BPHF15-24	15	24	9,5	4,0	31	21,0	60	0,059	✓	6,34 €
BPHF22-36	22	36	9,8	3,8	45	30,5	180	0,189	✓	12,38 €
BPHF30-45	30	45	13,8	5,8	55	36,8	350	0,360	✓	19,60 €
BPHF45-62	45	62	19,0	9,0	75	53,5	600	1,010	✓	63,42 €
Steel body, stainless steel balls										
BPHF15-24/AS	15	24	9,5	4,0	31	21,0	50	0,059	✓	7,91 €
BPHF22-36/AS	22	36	9,8	3,8	45	30,5	180	0,188	✓	13,72 €
BPHF30-45/AS	30	45	13,8	5,8	55	36,8	350	0,357	✓	24,04 €
BPHF45-62/AS	45	62	19,0	9,0	75	53,5	600	1,000	-	83,48 €
Stainless steel body, stainless steel balls										
BPHF15-24/SS	15	24	9,5	4,0	31	21,0	40	0,058	✓	21,62 €
BPHF22-36/SS	22	36	9,8	3,8	45	30,5	126	0,188	✓	70,28 €
BPHF30-45/SS	30	45	13,8	5,8	55	36,8	220	0,357	✓	68,69 €
BPHF45-62/SS	45	62	19,0	9,0	75	53,5	350	1,020	-	169,05 €

All dimensions in mm. *Depending on availability

- **Ball transfer unit with solid body**
- For heavy loads
- Machined bodies and covers
- Lubricated for life
- Orientation: horizontal with ball upwards
- Unique drainage hole
- Max. speed: 1.5m/s
- Working temperature range: -30 to +100°C
- Materials:

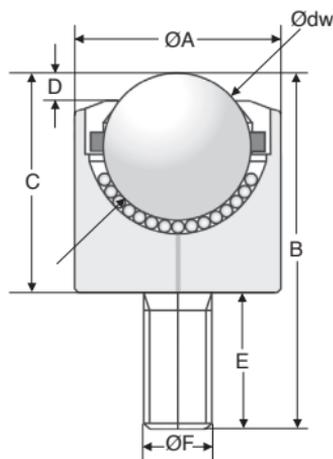
BPHT:galvanised steel body and chromed steel balls

BPHT/AS:galvanised steel body and 420 stainless steel balls



Advantages

- Good resistance to shocks



DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc.	Net	-10%	-15%	-20%	On request

Part number	Ødw ball	ØA	B	C	D	E	ØF	Carrying capacity (kg)	Weight (kg)	Stock*	Price each 1 to 5
Steel body, steel balls											
BPHT15-25	15	25	46	26,0	5	20,0	M8x1,25	60	0,083	✓	14,54 €
BPHT22-36	22	36	62,9	37,5	4,5	25,4	M12 x 1,75	180	0,256	✓	22,73 €
BPHT30-45	30	45	69,2	43,8	6,5	25,4	M12 x 1,75	350	0,440	✓	29,05 €
BPHT45-62	45	62	107,3	66,0	8,5	41,3	M20 x 2,5	600	1,360	-	105,24 €
Steel body, stainless steel balls											
BPHT15-25/AS	15	25	46	26,0	5	20,0	M8x1,25	50	0,083	✓	15,31 €
BPHT22-36/AS	22	36	62,9	37,5	4,5	25,4	M12 x 1,75	180	0,256	✓	24,04 €
BPHT30-45/AS	30	45	69,2	43,8	6,5	25,4	M12 x 1,75	350	0,430	✓	31,69 €
BPHT45-62/AS	45	62	107,3	66,0	8,5	41,3	M20 x 2,5	600	1,350	-	128,01 €

All dimensions in mm. *Depending on availability

Cylindrical flush fitting ball transfer unit

BPH

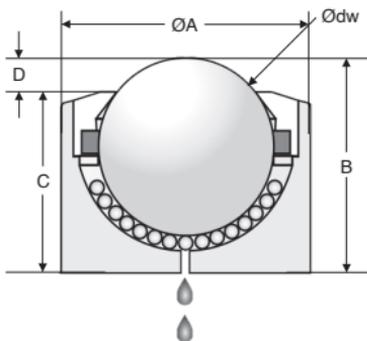
For heavy loads

- Flush fitting ball transfer unit with flange
- For heavy loads
- Carrying ball for handling solid body
- Machined bodies and covers
- Lubricated for life
- Orientation: horizontal with ball upwards
- Unique drainage hole
- Max. speed: 1.5m/s
- Working temperature range: -30 to +100°C
- Materials:
 - BPH:** galvanised steel body and chromed steel ball
 - BPH/AS:** galvanised steel body and 420 stainless steel balls



Advantages

- Good resistance to shocks



DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc.	Net	-10%	-15%	-20%	On request

Part number	Ødw ball	ØA	B	C	D	Carrying capacity (kg)	Weight (g)	Price each 1 to 5
Steel body, steel balls								
BPH15-24	15	24	20,0	15,0	5,0	60	0,049	9,49 €
BPH22-36	22	36	30,5	26,0	4,5	180	0,177	12,39 €
BPH30-45	30	45	36,8	30,3	6,5	350	0,335	18,50 €
BPH45-62	45	62	53,5	45,0	8,5	600	0,940	55,47 €
Steel body, stainless steel balls								
BPH15-24/AS	15	24	20,0	15,0	5,0	50	0,048	11,59 €
BPH22-36/AS	22	36	30,5	26,0	4,5	180	0,178	14,80 €
BPH30-45/AS	30	45	36,8	30,3	6,5	350	0,338	21,37 €
BPH45-62/AS	45	62	53,5	45,0	8,5	600	0,970	81,88 €

All dimensions in mm



Spring loaded ball transfer unit

For heavy loads

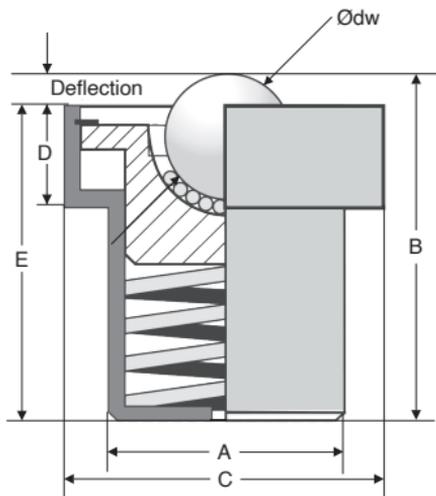
BPHRF

- **Ball transfer unit with solid body**
- For heavy loads
- Machined bodies and covers
- Lubricated for life
- Orientation: horizontal with ball upwards
- Unique drainage hole
- Max. speed: 1.5m/s
- Working temperature range: -30 to +100°C
- Materials:
Galvanised steel body and chromed steel balls



Advantages

- Good resistance to shocks



DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc.	Net	-10%	-15%	-20%	On request

Part number	Ødw ball	ØA	B	ØC	D	E	Carrying capacity (kg)	Deflection	Load at max deflection	Price each
										1 to 5
BPHRF22-39	22	39,0	58,0	50	14,0	53,5	70	4,5	90	90,20 €
BPHRF30-48	30	48,5	70,0	62	17,5	63,0	135	7,0	170	142,18 €
BPHRF45-66	45	66,5	100,5	85	25,5	90,0	230	10,5	290	185,91 €

All dimensions in mm

Spring loaded ball transfer unit



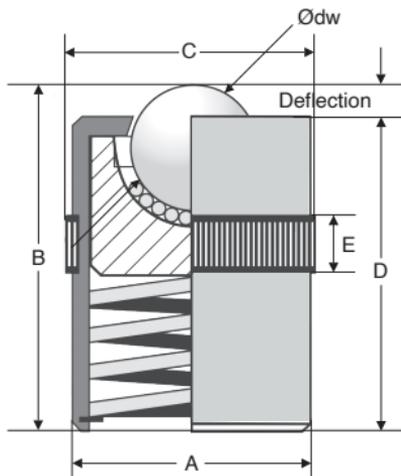
BPHR

For heavy loads

- **Ball transfer unit with solid body**
- For heavy loads
- Machined bodies and covers
- Lubricated for life
- Orientation: horizontal with ball upwards
- Unique drainage hole
- Max. speed: 1.5m/s
- Working temperature range: -30 to +100°C
- Materials:
Galvanised steel body and chromed steel balls

Advantages

- Good resistance to shocks



DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc.	Net	-10%	-15%	-20%	On request

Part number	Ødw ball	ØA	B	ØC	D	E	Carrying capacity (kg)	Deflection	Load at max	Price each
									deflection	
BPHR12-24	12,7	23,9	30	24,5	28,5	10,5	40	1,5	90	70,96 €
BPHR16-30	15,8	29,9	36	30,5	34,5	10,5	60	1,5	110	101,66 €
BPHR25-40	25,4	39,8	48	40,5	46,5	10,5	100	1,5	175	127,23 €
BPHR30-50	30,0	49,9	60	50,5	58,5	12,3	335	1,5	585	258,29 €

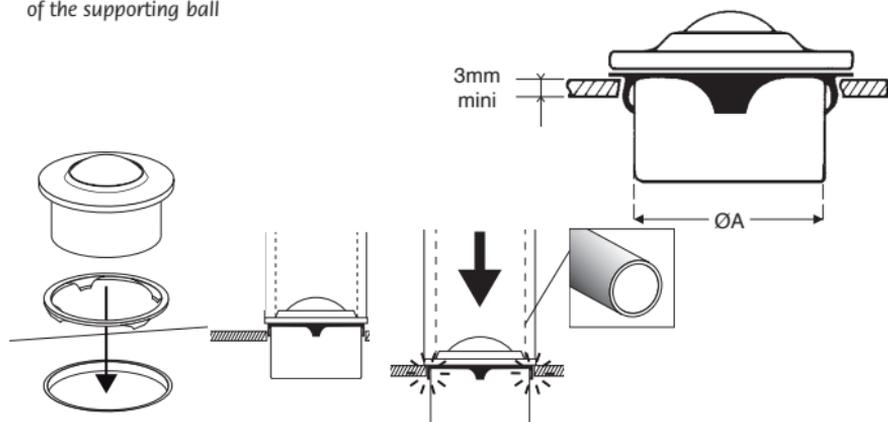
All dimensions in mm

- **Mounting clip for barrel shaped ball transfer units**
- Compensates for irregularities in size and diameter
- Ideal for where there is only access to one side of the mounting surface
- When using mounting clips, the diameter and height will change. For effective retention, a plate thickness of at least 3 mm is required



Mounting

- 1 Install the clip in the bore
- 2 Push the ball unit through the clip
- 3 The external tabs extend and grip the shaft of the supporting ball



Typical application

DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc.	Net	-10%	-15%	-20%	On request

Part number	ØA	Ø Bore min/max	Additional height	For ball unit	Stock*	Price each 1 to 5
Steel clip						
BPHF15-CLIP	24	25,0 - 25,5	+0,3	BPHF15 - BPLE15 - BPPE15	✓	1,81 €
BPHF22-CLIP	36	37,0 - 37,5	+0,3	BPHF22 - BPLE22 - BPPE22	✓	2,15 €
BPHF30-CLIP	45	46,0 - 46,5	+0,3	BPHF30 - BPLE30 - BPPE30	✓	2,21 €
BPHF45-CLIP	62	63,0 - 63,5	+0,3	BPHF45 - BPLE45 - BPPE45	-	2,55 €
Stainless steel fixing clip						
BPHF15-CLIP/SS	24	25,0 - 25,5	+0,3	BPHF15 - BPLE15 - BPPE15	-	2,25 €
BPHF22-CLIP/SS	36	37,0 - 37,5	+0,3	BPHF22 - BPLE22 - BPPE22	-	2,60 €
BPHF30-CLIP/SS	45	46,0 - 46,5	+0,3	BPHF30 - BPLE30 - BPPE30	-	3,47 €

*Depending on availability - Dimensions in mm

- **Ball caster for positioning and aligning parts**
- The ball rolls durably on the sliding bearing
- The surface of the part is preserved
- Working temperature: -50°C to +90°C
- The load capacity decreases linearly at temperatures > 20°C.
(Example: at 90°C, the load capacity is 60% max.)
- Materials:
Burnished steel screw and steel ball bearing
Plain bearing: polyurethane

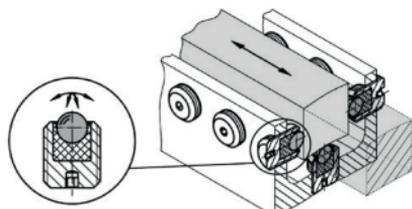
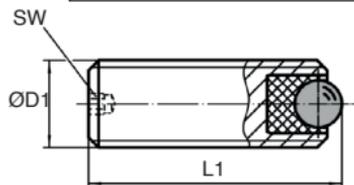


Applications

- Enables low-friction guidance
- **⚠ Not suitable for indexing!**

Advantage

- Adjusting the position of the carrier ball from the rear.



Typical application

DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc. Price	-10%	-15%	-20%	On request	

Part number	ØD1	L1	Ball		Max. tightening torque (Nm)	Max load capacity for static use (N)	Weight (g)	Price each 1 to 5
			ØD	SW				
BPVM6-8	M6	8	2,5	1,5	0,1	172	1	14,87 €
BPVM6-16	M6	16	2,5	1,5	0,1	172	3	14,87 €
BPVM8-10	M8	10	3,5	1,5	0,3	336	3	14,96 €
BPVM8-20	M8	20	3,5	1,5	0,3	336	7	14,96 €
BPVM10-12	M10	12	4,5	2,0	0,6	556	5	15,08 €
BPVM10-25	M10	25	4,5	2,0	0,6	556	13	15,08 €
BPVM12-16	M12	16	6,5	2,5	1,4	1161	10	16,59 €
BPVM12-35	M12	35	6,5	2,5	1,4	1161	27	16,59 €
BPVM16-20	M16	20	8,5	3,0	3,2	1986	24	18,91 €
BPVM16-50	M16	50	8,5	3,0	3,2	1986	71	18,91 €

Dimensions in mm

- **Ball caster for positioning and orienting parts**
- The ball rolls durably on the sliding bearing
- The surface of the part is preserved
- Working temperature: -50°C to +90°C
- The load capacity decreases linearly at temperatures > 20°C..
(Example: at 90°C, the load capacity is 60% max.)

- Materials:

Screw stainless steel 303 hardened stainless steel ball

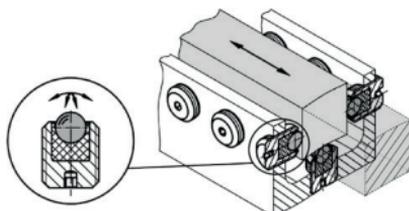
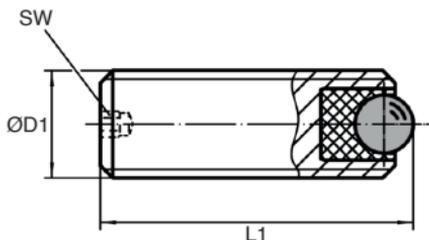
Plain bearing: polyurethane

Applications

- Enables low-friction guidance
- ⚠ **Not suitable for indexing!**

Advantage

- Adjusting the position of the carrier ball from the rear.



Typical application

DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc.	Price -10%	-15%	-20%	On request	

Part number	ØD1	L1	Ball		Max. tightening torque (Nm)	Max load capacity for static use (N)	Weight (g)	Price each 1 to 5
			ØD	SW				
BPVM6-8/SS	M6	8	2,5	1,5	0,1	172	1	20,85 €
BPVM6-16/SS	M6	16	2,5	1,5	0,1	172	3	20,85 €
BPVM8-10/SS	M8	10	3,5	1,5	0,3	336	3	20,98 €
BPVM8-20/SS	M8	20	3,5	1,5	0,3	336	7	20,98 €
BPVM10-12/SS	M10	12	4,5	2,0	0,6	556	5	21,12 €
BPVM10-25/SS	M10	25	4,5	2,0	0,6	556	13	21,12 €
BPVM12-16/SS	M12	16	6,5	2,5	1,4	1161	10	22,07 €
BPVM12-35/SS	M12	35	6,5	2,5	1,4	1161	27	22,07 €
BPVM16-20/SS	M16	20	8,5	3,0	3,2	1986	24	26,49 €
BPVM16-50/SS	M16	50	8,5	3,0	3,2	1986	71	26,49 €

Dimensions in mm

BPPL

For countersinking

- **Plain bearing ball caster**
- Maintenance free
- Working temperature: -50°C to +90°C
- The load capacity decreases linearly at temperatures > 20°C.
(Example: at 90°C, the load capacity is 60% max.)
- Materials:
 - Case: Stainless steel
 - Plan bearing: polyurethane
 - Ball: Hardened stainless steel



Advantage

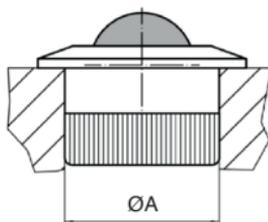
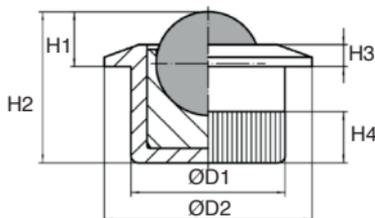
- The knurled outside allows easy fitting into the holes of additional preparation.

Assembly

- Fastening is done by pushing the carrier ball with knurled outside
- The carrier balls can be fitted with **BPPL/TOOL** mounting tools.

Application

- Transport, conveyor, workstation and packaging systems.



Mounting tool

DISCOUNTS

Qty	1+	6+	20+	40+	60+
Disc. Price	-10%	-15%	-20%	On request	

Part number	Ball		H1	H2	H3	H4	ØA (H7) Hole	Load capacity (kg)	Weight (g)	Price each 1 to 5	
	ØD	ØD1									ØD2
BPPL6-10	6,5	10,0	13	3,2	11,2	1,2	4,2	10,0	116	4	13,69 €
BPPL8-12	8,5	12,6	17	4,5	12,4	1,8	4,2	12,6	198	8	14,87 €

Mounting tool

BPPL6-10/TOOL	For carrier ball BPPL6-10	118	29,82 €
BPPL8-12/TOOL	For carrier ball BPPL8-12	125	29,82 €

Dimensions in mm

Load carrying ball transfer units

Technical information

	Max load (kg)	% load friction	Speed (m/sec)	Load shocks	Difficult conditions	Orientation	Omnidirectional
Range BPHR	335	2	1,5	✓✓✓✓✓			✓✓✓
Range BPH	600	2	1,5	✓✓✓✓	Options 'SS'		✓✓✓
Range BPL	600	3	1	✓✓✓	Options 'SS'		✓✓✓
Range BPPE	20	3	1	✓			✓✓✓

Load

The weight of the article to be moved should be divided by 3, this gives the maximum weight that any single ball will carry. If a greater positioning accuracy is required then this coefficient of 3 can be increased. The condition and surface hardness of the article to be moved should also be taken into account to avoid being marked by the balls.

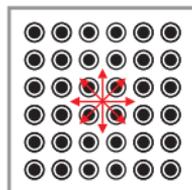
$$\text{Load C} > \frac{\text{load weight}}{3}$$

Spacing of ball transfer units

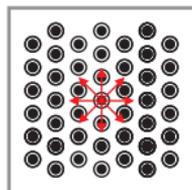
The pitch of the ball transfer units is determined by dividing the shortest dimension of the article to be moved by 3.5. This ensures that at least 3 ball transfer units will be in contact with article along its shortest dimension at any time.

$$\text{Spacing} = \frac{\text{shortest dimension}}{3,5}$$

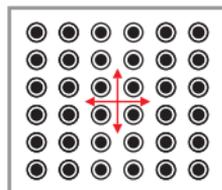
Direction of movements



square pitch



Diamond



Elongated pitch spacing