

# xiros®

Polymer ball bearings



# ...plastics

# xiros® polymer ball bearings | Application examples

Other exciting applications ► [www.igus.eu/xiros-applications](http://www.igus.eu/xiros-applications)

## Labelling machine

Depending on the size of the system, between 12 and 36 guide rollers are used in the SleeveMatic's film storage. Two xiros® ball bearings are used per guide roller. (Krones AG)



## Thermoforming machine

In this Thermoforming machine for coffee-cream portion packs, xiros® A500 plastic ball bearings are used for their high chemical resistance. (frischli Milchwerke GmbH)



## Bike wash system

To mount the washing brushes, the manufacturer of the "cycleWash" has used two xiros® slewing ring ball bearings with stainless steel balls. The bearing rings consist of the wear-resistant ball bearing material xiroduer B180.



## Wet film thickness gauge

This precision tester for accurate and rapid measurement of all liquid paint, coatings, oil coatings and adhesives is equipped with a durable and solvent-resistant xiros® B180 polymer ball bearing.



## Film guide rollers

There is no contamination of the films through lubricants, due to the use of maintenance-free xiros® flange bearings.



## Pellet ovens

Two lubrication-free polymer ball bearings are used in the mechanical drive unit. These ensure that the pellets are fed into the combustion chamber via the roller. (Erwin Koppe – Keramische Heizgeräte GmbH)



## Pool cleaner

xiros® B180 polymer ball bearings from igus® allow pool cleaners a lubrication-free underwater operation. Resistant to chemicals, lightweight and maintenance-free.

xiros® radial deep groove ball bearings – standard product range



The classic:  
PA cage  
▶ Page 828



Cost-effective and FDA-compliant:  
B180 cage  
▶ Page 828



FDA-compliant:  
PE cage  
▶ Page 828



With shield or labyrinth seal:  
LCC with B180 cage  
▶ Page 834



Cost-effective, black:  
xirodur S180,  
PA cage  
▶ Page 836



High resistance to chemicals:  
xirodur C160, PP cage  
▶ Page 842



For high temperatures up to +120°C:  
xirodur A500, PA cage  
▶ Page 846



For heat and chemicals:  
xirodur A500,  
PEEK cage  
▶ Page 846

xiros® radial deep groove ball bearings – standard product range



Lightweight and non-metallic:  
xirodur A500, PAI balls  
▶ Page 846



Antistatic:  
xirodur F180,  
PA cage  
▶ Page 850



Antistatic and FDA-compliant:  
xirodur F180, PE cage  
▶ Page 850



Conductive:  
xirodur F182,  
PA cage  
▶ Page 852



High speeds:  
xirodur D180, PA cage  
▶ Page 854



Detectable:  
xirodur M180  
xirodur M180 cage  
▶ Page 855



For the tobacco industry:  
xirodur T220,  
PP cage  
▶ Page 856



For temperatures up to +120°C:  
xirodur G220, PP cage  
▶ Page 857

xiros® radial deep groove ball bearings – further materials

xiros® radial deep groove ball bearings with flange and guide rollers



Single flange:  
xirodur B180,  
PA cage  
▶ Page 858



With double flange:  
xirodur B180,  
PA cage  
▶ Page 858



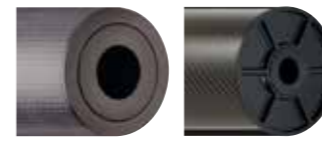
Antistatic:  
xirodur F180,  
PA cage  
▶ Page 858



Guide roller:  
Aluminium tube  
▶ Page 860



Guide roller:  
Plastic approved for food contact  
▶ Page 861



Guide roller:  
Carbon fibre tube with ball bearing  
▶ Page 862



End caps:  
xirodur B180,  
PA cage  
▶ Page 864

xiros® – other designs



With profile:  
xirodur B180  
▶ Page 866



Spherical radial deep groove ball bearings:  
xirodur B180  
▶ Page 867



Double row for higher loads:  
xirodur B180  
▶ Page 868



Multi-axis bearing:  
xirodur B180,  
PP balls  
▶ Page 869



Skate wheel:  
xirodur B180,  
PA cage  
▶ Page 870



Fixed flange ball bearing, FDA-compliant, fixed version:  
xirodur B180  
▶ Page 871



Polymer balls transfer units:  
xirodur B180, POM balls  
▶ Page 872



Axial polymer ball transfer units:  
with spherical roller  
▶ Page 873

xiros® thrust bearings and slewing ring bearings



Single row:  
xirodur B180,  
glass or stainless steel balls  
▶ Page 874



Double row:  
xirodur B180,  
glass/PAI/stainless steel balls  
▶ Page 874



Thrust bearing:  
xirodur B180,  
glass or stainless steel balls  
▶ Page 875



Slewing ring bearing:  
xirodur B180,  
with gear teeth or with cage  
▶ Page 876



Pillow block ball bearing, FDA-compliant, fixed version:  
xirodur B180  
▶ Page 878



Pillow block ball bearing, fixed or pivoting  
▶ Page 880



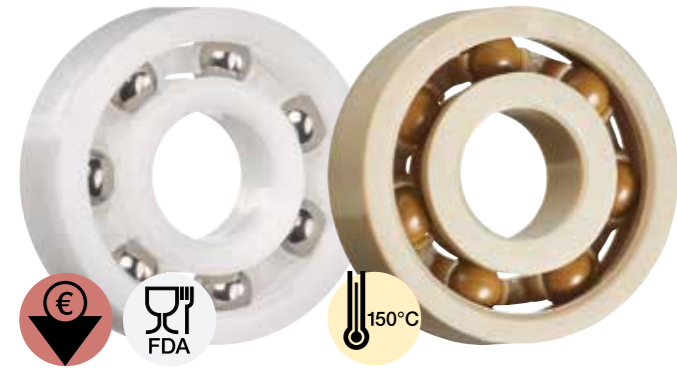
4-hole fixed flange ball bearing, pivoting  
▶ Page 882



2-hole fixed flange ball bearing, pivoting  
▶ Page 883

xiros® combinations with igubal®

Lubrication and maintenance-free



## Lubrication-free polymer ball bearings


xiros® polymer ball bearings revolutionise the ball bearing market. Where conventional metallic ball bearings are suitable, many applications can be successfully implemented by their maintenance-free dry operation and the use of xirodur high-performance polymers.


- Lubrication and maintenance-free
- Corrosion-resistant
- Non-metallic (due to the use of glass and plastic balls), therefore non-magnetic
- For temperatures up to +150 °C (depending on material)
- High media resistance, suitable for washdown
- Lightweight
- Electrically insulating (or ESD-compliant)
- FDA-compliant (depending on material)
- Predictable service life


### Typical application areas


- Packaging
- Textile industry
- Test engineering and quality assurance
- Optical industry
- Model making


 **Available from stock**  
Detailed information about delivery time online.

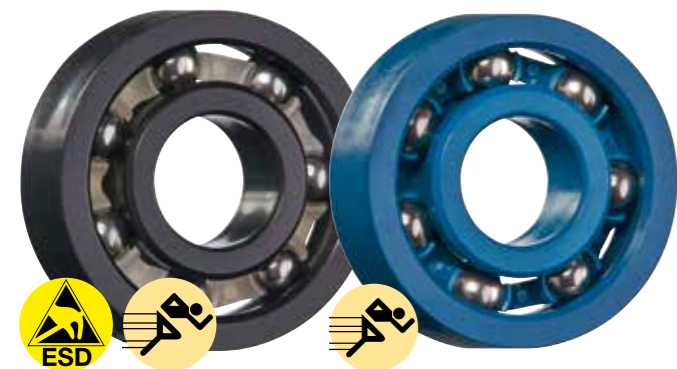
 **Price breaks online**  
No minimum order value. No minimum order quantity.

 **max. +150 °C**  
**min. -100 °C**

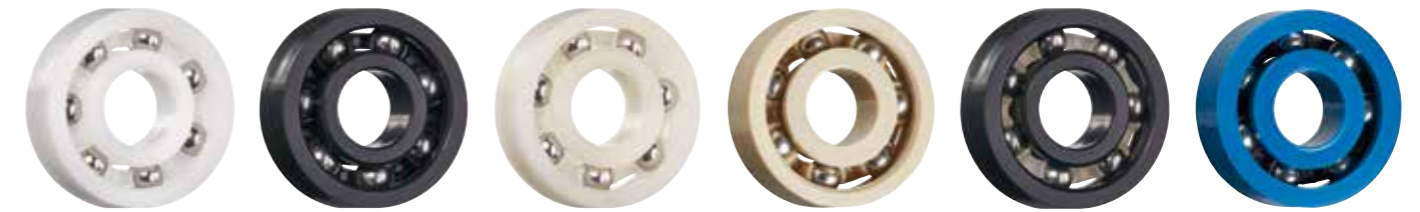
 **10 xirodur materials**  
**Ø 3–60mm**

 **Imperial dimensions available**  
► **Page 1517**

 **Service life calculation**  
► **www.igus.eu/xiros-expert**



Overview types



### xiros® radial deep groove ball bearings – standard product range for 6 materials:

- xirodur B180 – cost-effective standard
- xirodur S180 – cost-effective, black
- xirodur C160 – resistant to chemicals
- xirodur A500 – for heat and chemicals
- xirodur F180 – antistatic
- xirodur F182 – conductive
- xirodur D180 – high speeds

► **From page 828**



### xiros® radial deep groove ball bearings – materials for special applications

- xirodur M180 – detectable
- xirodur T220 – for the tobacco industry
- xirodur G220 – for temperatures up to +120 °C

► **From page 855**



### xiros® radial deep groove ball bearings with flange and guide rollers

- With single or double flange
- Made from xirodur B180 or F180
- xiros® system solution: Aluminium, PVC or carbon fibre tube with 2 fixed flange ball bearings

► **From page 858**



### xiros® radial deep groove ball bearings – further designs

- With spherical outer diameter
- Double row for higher loads
- Multi-axis bearing for rotary and linear movements

► **From page 866**



### xiros® thrust bearings

- For absorbing axial loads
- xirodur B180 with glass or stainless steel balls

► **From page 874**



### xiros® slewing ring bearing

- With glass or stainless steel balls
- Outer toothed profile
- With cage

► **From page 876**



### xiros® combinations with igubal®

- Fixed or pivoting versions
- For maintenance-free use in conveyor belts and cam rollers

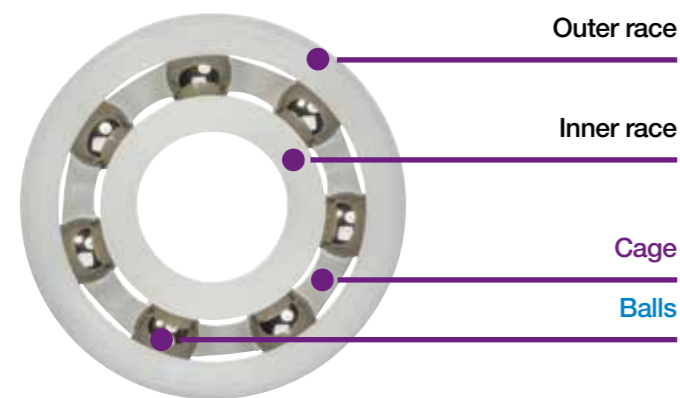
► **From page 880**

**Radial deep groove ball bearings design**

The xiros® polymer ball bearings are single-row deep groove ball bearings based on DIN 625. The lubrication and maintenance-free ball bearings consist of four components:

**The outer and inner races**

The suitability of a xiros® polymer ball bearings is largely determined by the materials of the two races. These are made from igus® tribo-polymers to maximise service life and minimise friction. Choice of 5 materials. They allow different values of application temperature, media resistance and price. The table of materials (► Page 824) provides exact information on this topic.



**The cage**

The material of the ball bearing cage must fit well to the application. The various material options have quite different chemical and temperature resistance values. The cage materials are compatible with all the different race options within xiros®.

**The balls**

The ball materials differ most significantly. In addition to steel, glass or plastics are used. This produces a large difference in mass, which in turn affects inertia, weight and chemical resistance. Stainless steel balls (1.4401) are cost-effective, resistant to chemicals and suitable for high temperatures, but are the heaviest in the range. Glass balls (soda-lime glass) are also resistant to chemicals and have a medium weight. Just like polymer balls, they are non-metallic and non-magnetic. In addition to their excellent chemical resistance, the polymer balls (PAI) are even lighter than stainless steel or glass balls.

**Other designs**

**xiros® radial deep groove ball bearings**

The other designs include:

- Convex rollers which can run directly on a profile
- Profiled rollers, e.g. for thread/cable guidance
- Thrust and slewing ring bearings for absorbing axial loads
- Multi-axis bearings for linear and radial movements
- Ball bearings designed e.g. for installation in tube ends (also for guide rollers)
- Double-row bearings for absorbing higher forces

**Pillow block and fixed flange bearings**

This range is made up by combining xiros® polymer ball bearings with the igubal® pillow block and fixed flange housings, resulting in a higher flexibility in terms of installation of the bearings. The bearing housings make it easy for the user to install these maintenance-free components. Both fixed flange and pillow block bearings are available as fixed or as pivoting design. The difference between the two options is that the pivoting type can compensate for shaft and/or bearing misalignment. A spherical outer race is pressed into the bearing housing, ensuring self-aligning action. If necessary, the inner bearing can be pivoted in all directions. Possible misalignment of two bearing points lying together can thus be compensated for.

**Measurement requirement for injection-moulded xiros® polymer ball bearings**

The outer race of our ball bearings has a conical shape. This simplifies the installation in a suitable housing (with the narrow side first). After press-fit into a housing machined to a H7 tolerance the bearing clearance is reduced. Therefore the bearings must be measured over the entire width of the ball bearing. Starting at an angle of 90° from the injection point.



**Development and tests**

Through numerous tests the race materials were optimised. The polymers we have developed for use with ball bearings allow higher speeds, greater loads, and longer service life. But the development continues. We believe that polymer ball bearing technology will continue to advance, especially with our experience in the development of tribological polymer materials. Challenge us, talk to us about your applications, tell us what you need from a polymer ball bearing. In the igus® test laboratory the service life and wear of xiros® polymer ball bearings are tested. In addition to the actual material comparison, tests indicate these experiments also answer questions about the impact of external influences such as temperature, humidity or dust.



igus® extends the xiros® test stand in the industry's largest test laboratory for plastics in motion

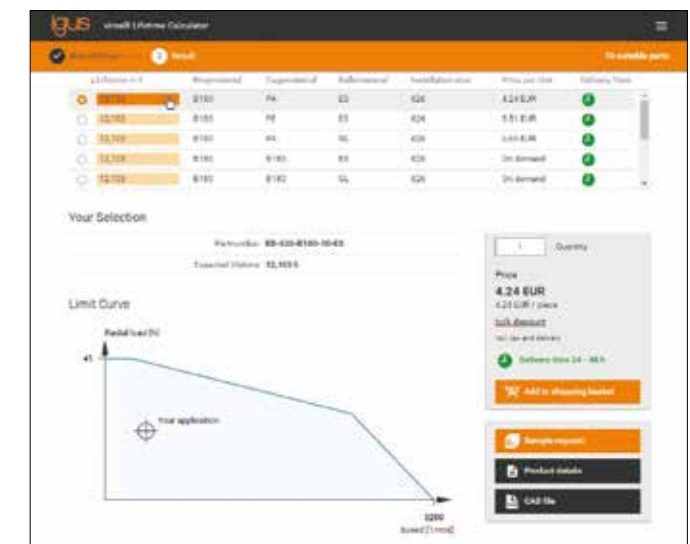
**Predictability**

As part of the development of xiros® polymer ball bearing tests are carried out continuously. The high number of test results makes it very difficult to present this information in tabular form. It is for this reason that igus® has developed the online service life calculator, which uses real test results to give an accurate calculation.

The predictability of xiros® polymer ball bearings is one of the most important advantages. Based on the results of many wear tests, the user can calculate the service life of xiros® polymer ball bearings reliably and interpret the application.



► [www.igus.eu/xiros-expert](http://www.igus.eu/xiros-expert)



Download the online tool app now



# xiros® polymer ball bearings | Technical data

## Material properties and chemical resistance

General properties	Unit	xirodur			
		B180	S180	C160	A500
Density	g/cm <sup>3</sup>	1.41	1.40	1.11	1.30
Colour		white	black	opaque	brown
Max. moisture absorption at +23°C/50% r.h.	% weight	0.2	0.2	0.1	0.1
Max. total moisture absorption	% weight	0.7	0.7	0.2	0.4
Mechanical properties					
Flexural modulus	MPa	2,500	2,700	1,900	4,300
Flexural strength at +20°C	MPa	68	65	35	130
Shore D hardness		77	78	67	85
Electrical properties					
Specific volume resistance <sup>1)</sup>	Ωcm	> 10 <sup>14</sup>	> 10 <sup>13</sup>	> 10 <sup>14</sup>	> 10 <sup>14</sup>
Surface resistance <sup>1)</sup>	Ω	> 10 <sup>14</sup>	> 10 <sup>13</sup>	> 10 <sup>14</sup>	> 10 <sup>14</sup>
Thermal properties of xiros® polymer ball bearings <sup>1)</sup>					
Max. long-term application temperature	°C	+80	+80	+60	+150 (PEEK) +120 (PA)
Min. long-term application temperatures (in combination with cage material)	°C	-40	-45	0	-100 (PEEK) -40 (PA)

<sup>1)</sup> Depending on the geometry

Table 01: Material data

Medium	xirodur			
	B180	S180	C160	A500
Alcohols	+	+	+	+
Greases, oils without additives	+	+	+	+
Hydrocarbons	+	+	+ up to 0	+
Fuels	+	+	+ up to 0	+
Strong alkali	+ up to 0	+ up to 0	+	+
Strong acid	-	-	+ up to 0	+
UV radiation	-	0	0	+
Diluted base	+	+	+	+
Diluted acid	0 to -	0 to -	+	+

+ resistant 0 conditionally resistant - not resistant

Table 02: Chemical resistance of xiros® materials

Detailed chemicals resistance table for xiros® products ► From page 1542

## Recommended tolerances

Fitting	Housing hole	Shaft
Standard:	H7	h6
Press-fit		

For further questions about the dimensioning of the hole and the shaft please contact us.

F180	F182	xirodur				G220	igumid G
		D180	M180	T220	G220		
1.36	1.42	1.22	1.67	1.28	1.14	1.37	
black	black	blue	blue	beige	grey	black	
0.2	0.2	0.5	0.2	0.3	2.1	1.4	
1.3	0.7	1.4	0.6	0.5	8.9	5.6	
1,600	3,000	135	2,500	1,800	3,000	7,800	
70	95	n.a.	68	65	n.a.	240	
79	79	48	77	76	n.a.	79	
< 10 <sup>12</sup> <sup>1)</sup>	< 10 <sup>4</sup>	> 10 <sup>14</sup>	> 10 <sup>9</sup>	> 10 <sup>10</sup>	> 10 <sup>13</sup>	> 10 <sup>11</sup>	
< 10 <sup>12</sup> <sup>1)</sup>	< 10 <sup>4</sup>	> 10 <sup>14</sup>	> 10 <sup>9</sup>	> 10 <sup>10</sup>	> 10 <sup>12</sup>	> 10 <sup>11</sup>	
+80	+80	+80	+80	+100	+100	+120	
-40	-40	-50	-40	-40	-40	-40	

F180	F182	xirodur				G220	igumid G
		D180	M180	T220	G220		
+	+	+ up to 0	+	+	0	+	
+	+	+	+	+	+	+	
+	+	+	+	+	+	+	
+	+	+	+	+	+	+	
+ up to 0	+ up to 0	+ up to 0	+ up to 0	+ up to 0	+ up to 0	-	
-	-	0	-	-	-	+ up to 0	
0	0	-	-	+	-	-	
+	+	+ up to 0	+	+	+	0 to -	
0 to -	0 to -	+ up to 0	0 to -	0 to -	0 to -	+	

## Ball materials

Description	Specification
ES: stainless steel	1.4401
GL: glass	Soda-lime glass or borosilicate glass
PAI: Plastic	Polyamide-imide
PP: Plastic	Polypropylene



FDA



xirodur B180 cage,  
stainless steel balls



xirodur B180 cage,  
glass balls



PA cage,  
stainless steel balls



PA cage,  
glass balls

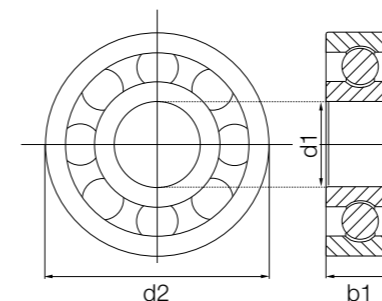
FDA



PE cage,  
stainless steel balls



Special designs made from xirodur B180  
► From page 867



Order key

Type	Material
Ball bearings	Dimensions according to DIN 625-1
Face material	Cage material
	Ball material

**BB-623-B180-10-ES**

Options:

- Cage material
  - 10 = PA
  - 30 = xirodur B180
  - 50 = PE
- Ball material
  - ES = Stainless steel
  - GL = Glass



Imperial dimensions available  
► Page 1517

### Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight				
	stat. [N]	dyn. [N]		B180/ES [g]	B180/GL [g]	PA/ES [g]	PA/GL [g]	PE/ES [g]
623	25	34	4,500	0.37	0.31	0.40	0.32	0.39
633	33	45	4,000	0.83	0.64	-	-	-
684	10	11	4,600	0.26	0.20	-	-	-
694	12	14	4,000	0.42	0.35	-	-	-
604	30	32	3,600	0.65	0.45	-	-	-
624	33	45	4,000	0.79	0.60	0.85	0.62	0.83
634	40	40	3,700	1.50	1.00	-	-	-
685	12	14	4,000	0.45	0.37	-	-	-
695	29	30	3,500	0.73	0.53	-	-	-
605	32	33	3,500	0.96	0.77	-	-	-
625	40	40	3,700	1.42	0.96	1.55	1.01	1.52
635	41	43	3,200	2.59	1.76	-	-	-
686	29	30	3,500	0.76	0.57	-	-	-
696	29	30	3,500	1.05	0.85	-	-	-
606	50	53	3,300	1.89	1.25	-	-	-
626	60	62	3,200	2.06	1.60	2.44	1.69	2.35
636	80	94	2,200	3.96	2.71	-	-	-
687	32	34	3,200	0.80	0.61	-	-	-
697	39	41	3,000	1.47	1.05	-	-	-
607	41	43	3,200	1.97	1.52	-	-	-
627	80	94	2,400	3.85	2.60	-	-	-
688	39	41	3,000	1.17	0.76	1.19	0.75	-
698	60	62	3,200	2.34	1.52	-	-	-
608	80	94	2,400	3.76	2.51	3.79	2.54	3.73



Order example:

BB-623-B180-10-ES = Radial deep groove ball bearing with race material xirodur B180, PA cage and stainless steel balls



Available from stock

### Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination					Part No.
			B180/ES	B180/GL	PA/ES	PA/GL	PE/ES	
3	10	4	●	●	●	●	●	BB-623-B180- <input type="text"/> - <input type="text"/>
3	13	5	●	●	-	-	-	BB-633-B180- <input type="text"/>
4	9	4	●	●	-	-	-	BB-684-B180- <input type="text"/>
4	11	4	●	●	-	-	-	BB-694-B180- <input type="text"/>
4	12	4	●	●	-	-	-	BB-604-B180- <input type="text"/>
4	13	5	●	●	●	●	●	BB-624-B180- <input type="text"/> - <input type="text"/>
4	16	5	●	●	-	-	-	BB-634-B180- <input type="text"/>
5	11	5	●	●	-	-	-	BB-685-B180- <input type="text"/>
5	13	4	●	●	-	-	-	BB-695-B180- <input type="text"/>
5	14	5	●	●	-	-	-	BB-605-B180- <input type="text"/>
5	16	5	●	●	●	●	●	BB-625-B180- <input type="text"/> - <input type="text"/>
5	19	6	●	●	-	-	-	BB-635-B180- <input type="text"/>
6	13	5	●	●	-	-	-	BB-686-B180- <input type="text"/>
6	15	5	●	●	-	-	-	BB-696-B180- <input type="text"/>
6	17	6	●	●	-	-	-	BB-606-B180- <input type="text"/>
6	19	6	●	●	●	●	●	BB-626-B180- <input type="text"/> - <input type="text"/>
6	22	7	●	●	-	-	-	BB-636-B180- <input type="text"/>
7	14	5	●	●	-	-	-	BB-687-B180- <input type="text"/>
7	17	5	●	●	-	-	-	BB-697-B180- <input type="text"/>
7	19	6	●	●	-	-	-	BB-607-B180- <input type="text"/>
7	22	7	●	●	-	-	-	BB-627-B180- <input type="text"/>
8	16	5	●	●	●	●	-	BB-688-B180- <input type="text"/> - <input type="text"/>
8	19	6	●	●	-	-	-	BB-698-B180- <input type="text"/>
8	22	7	●	●	●	●	●	BB-608-B180- <input type="text"/> - <input type="text"/>



## Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight				
	stat. [N]	dyn. [N]		B180/ES	B180/GL	PA/ES	PA/GL	PE/ES
				[g]	[g]	[g]	[g]	[g]
628	100	110	2,300	5.57	3.4	–	–	–
638	110	130	2,200	7.82	5.65	–	–	–
689	40	42	2,500	1.30	0.88	–	–	–
699	43	45	2,250	2.08	1.66	–	–	–
609	100	110	2,300	5.12	2.95	–	–	–
629	110	128	2,200	6.20	4.03	6.14	–	–
6800	43	45	2,250	1.56	1.07	–	–	–
6900	60	64	2,000	3.24	2.04	–	–	–
6000	110	130	2,200	5.98	3.83	5.95	3.78	5.98
6200	130	147	2,000	9.32	6.56	9.26	6.51	–
6300	140	150	1,800	13.83	11.02	13.75	–	–
6701	16	18	2,200	0.68	0.57	–	–	–
6801	60	64	2,000	1.82	1.40	–	–	–
6901	80	83	1,800	3.12	2.10	–	–	–
6001	130	147	2,000	6.36	4.18	6.78	4.34	6.66
6201	140	150	1,800	10.04	7.25	9.97	7.12	–
6301	160	220	1,600	15.69	12.90	–	–	–
6702	19	21	1,800	0.94	0.81	–	–	–
6802	80	83	1,800	2.46	1.46	–	–	–
6902	90	94	1,700	4.37	3.12	–	–	–
6002	140	150	1,800	8.68	5.92	8.72	6.23	8.60
6202	160	220	1,600	11.71	8.96	12.26	9.11	12.10
6302	250	320	1,400	10.56	3.95	10.49	–	–
6703	23	25	1,600	0.66	–	–	–	–
6803	90	94	1,700	2.83	1.65	–	–	–
6903	90	94	1,700	–	0.79	–	–	–
6003	160	220	1,600	10.23	7.45	10.72	7.61	10.55
6203	250	320	1,400	19.36	12.75	17.45	12.68	–
6303	280	360	1,200	21.68	13.60	–	–	–
6704	30	36	1,400	1.39	1.17	–	–	–
6804	100	120	1,500	5.19	3.59	–	–	–
6904	140	144	1,150	9.76	–	–	–	–
6004	250	320	1,400	20.81	12.93	19.46	12.89	19.44
6204	280	360	1,200	30.22	22.14	28.87	22.33	–
6304	380	400	1,000	43.85	31.05	–	–	–
6705	32	38	1,200	1.58	1.40	–	–	–
6805	140	144	1,150	6.48	4.16	–	–	–
6905	160	162	900	4.49	4.49	–	–	–
6005	280	360	1,200	24.14	16.07	22.93	15.67	22.58
6205	310	370	1,000	35.99	27.92	34.82	27.51	–
6305	480	520	850	61.12	45.48	–	–	–



## Order example:

**BB-628-B180-30-ES** = Radial deep groove ball bearing with race material xirodur B180, xirodur B180 cage and stainless steel balls

## Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination					Part No.
			B180/ES	B180/GL	PA/ES	PA/GL	PE/ES	
8	24	8	●	●	–	–	–	BB-628-B180-30- <input type="text"/>
8	28	9	●	●	–	–	–	BB-638-B180-30- <input type="text"/>
9	17	5	●	●	–	–	–	BB-689-B180-30- <input type="text"/>
9	20	6	●	●	–	–	–	BB-699-B180-30- <input type="text"/>
9	24	7	●	●	–	–	–	BB-609-B180-30- <input type="text"/>
9	26	8	●	●	●	–	–	BB-629-B180- <input type="text"/> - <input type="text"/>
10	19	5	●	●	–	–	–	BB-6800-B180-30- <input type="text"/>
10	22	6	●	●	–	–	–	BB-6900-B180-30- <input type="text"/>
10	26	8	●	●	●	●	●	BB-6000-B180- <input type="text"/> - <input type="text"/>
10	30	9	●	●	●	●	–	BB-6200-B180- <input type="text"/> - <input type="text"/>
10	35	11	●	●	●	–	–	BB-6300-B180- <input type="text"/> - <input type="text"/>
12	18	4	●	●	–	–	–	BB-6701-B180-30- <input type="text"/>
12	21	5	●	●	–	–	–	BB-6801-B180-30- <input type="text"/>
12	24	6	●	●	–	–	–	BB-6901-B180-30- <input type="text"/>
12	28	8	●	●	●	●	●	BB-6001-B180- <input type="text"/> - <input type="text"/>
12	32	10	●	●	●	●	–	BB-6201-B180- <input type="text"/> - <input type="text"/>
12	37	12	●	●	–	–	–	BB-6301-B180-30- <input type="text"/>
15	21	4	●	●	–	–	–	BB-6702-B180-30- <input type="text"/>
15	24	5	●	●	–	–	–	BB-6802-B180-30- <input type="text"/>
15	28	7	●	●	–	–	–	BB-6902-B180-30- <input type="text"/>
15	32	9	●	●	●	●	●	BB-6002-B180- <input type="text"/> - <input type="text"/>
15	35	11	●	●	●	●	●	BB-6202-B180- <input type="text"/> - <input type="text"/>
15	42	13	●	●	●	–	–	BB-6302-B180- <input type="text"/> - <input type="text"/>
17	23	4	●	–	–	–	–	BB-6703-B180-30-ES
17	26	5	●	●	–	–	–	BB-6803-B180-30- <input type="text"/>
17	30	7	–	●	–	–	–	BB-6903-B180-30-GL
17	35	10	●	●	●	●	●	BB-6003-B180- <input type="text"/> - <input type="text"/>
17	40	12	●	●	●	●	–	BB-6203-B180- <input type="text"/> - <input type="text"/>
17	47	14	●	●	–	–	–	BB-6303-B180-30- <input type="text"/>
20	27	4	●	●	–	–	–	BB-6704-B180-30- <input type="text"/>
20	32	7	●	●	–	–	–	BB-6804-B180-30- <input type="text"/>
20	37	9	●	–	–	–	–	BB-6904-B180-30-ES
20	42	12	●	●	●	●	●	BB-6004-B180- <input type="text"/> - <input type="text"/>
20	47	14	●	●	●	●	–	BB-6204-B180- <input type="text"/> - <input type="text"/>
20	52	15	●	●	–	–	–	BB-6304-B180-30- <input type="text"/>
25	32	4	●	●	–	–	–	BB-6705-B180-30- <input type="text"/>
25	37	7	●	●	–	–	–	BB-6805-B180-30- <input type="text"/>
25	42	9	●	●	–	–	–	BB-6905-B180-30- <input type="text"/>
25	47	12	●	●	●	●	●	BB-6005-B180- <input type="text"/> - <input type="text"/>
25	52	15	●	●	●	●	–	BB-6205-B180- <input type="text"/> - <input type="text"/>
25	62	17	●	●	–	–	–	BB-6305-B180-30- <input type="text"/>



Available  
from stock

## Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight				
	stat. [N]	dyn. [N]		B180/ES [g]	B180/GL [g]	PA/ES [g]	PA/GL [g]	PE/ES [g]
6706	34	41	1,000	1.76	1.59	–	–	–
6806	160	162	900	4.49	1.82	–	–	–
6906	190	193	850	13.15	10.13	–	–	–
16006	380	420	900	–	–	28.53	17.33	–
6006	380	400	1,000	–	–	34.15	22.70	–
6206	480	520	850	55.89	39.73	–	–	–
6306	520	660	750	27.00	8.52	–	–	–
6007	480	520	850	–	–	47.29	30.71	–
6008	520	660	750	–	–	54.84	38.73	–
6009	660	690	650	–	–	33.52	57.52	–
6010	740	780	600	–	–	82.33	54.00	–
6011	930	950	550	–	–	119.64	75.80	–
6012	990	1,050	500	–	–	126.66	80.54	–

## Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination					Part No.
			B180/ES	B180/GL	PA/ES	PA/GL	PE/ES	
30	37	4	●	●	–	–	–	BB-6706-B180-30-□
30	42	7	●	●	–	–	–	BB-6806-B180-30-□
30	47	9	●	●	–	–	–	BB-6906-B180-30-□
30	55	9	–	–	●	●	–	BB-16006-B180-10-□
30	55	13	–	–	●	●	–	BB-6006-B180-10-□
30	62	16	●	●	–	–	–	BB-6206-B180-30-□
30	72	19	●	●	–	–	–	BB-6306-B180-30-□
35	62	14	–	–	●	●	–	BB-6007-B180-10-□
40	68	15	–	–	●	●	–	BB-6008-B180-10-□
45	75	16	–	–	●	●	–	BB-6009-B180-10-□
50	80	16	–	–	●	●	–	BB-6010-B180-10-□
55	90	18	–	–	●	●	–	BB-6011-B180-10-□
60	95	18	–	–	●	●	–	BB-6012-B180-10-□



Order example:

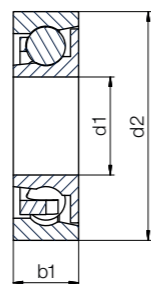
BB-6706-B180-30-ES = Thin ring bearing with race material xirodur B180, xirodur B180 cage and stainless steel balls



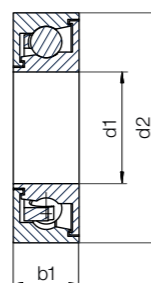
Available from stock



PA cage, with shield on one side stainless steel or glass balls



B180 cage, with labyrinth seal, stainless steel balls



#### Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		stainless steel [g]	glass [g]
623	10	25	4,500	0.41	0.33
626	41	43	3,200	2.56	1.71
608	80	94	2,200	3.93	2.67
6000	110	130	2,200	6.21	4.15
6001	138	147	2,000	7.09	4.61
6202	142	155	1,700	12.73	9.63
6003	160	220	1,600	11.12	8.03
6004	250	320	1,400	20.20	13.60
6005	280	360	1,200	23.89	16.51

#### With labyrinth seal

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		stainless steel [g]	glass [g]
6003	160	220	1,600	11.02	8.27



#### Order example:

BB-623-B180-10-ES-C = Radial deep groove ball bearing with race material xirodur B180, PA cage, stainless steel balls and shield



#### Order key

Type	Material
Ball bearings	Options: Cage material 10 = PA 30 = xirodur B180 Ball material ES = Stainless steel GL = Glass Shield or labyrinth seal C = One-sided shield LCC = Labyrinth seal
Dimensions according to DIN 625-1	
Race material	
Cage material	
Ball material	
With shield	

#### Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination		Part No.
			PA/ES	PA/GL	
3	10	4	●	●	BB-623-B180-10-□-C
6	19	6	●	●	BB-626-B180-10-□-C
8	22	7	●	●	BB-608-B180-10-□-C
10	26	8	●	●	BB-6000-B180-10-□-C
12	28	8	●	●	BB-6001-B180-10-□-C
15	35	11	●	●	BB-6202-B180-10-□-C
17	35	10	●	●	BB-6003-B180-10-□-C
20	42	12	●	●	BB-6004-B180-10-□-C
25	47	12	●	●	BB-6005-B180-10-□-C

#### Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination		Part No.
			B180/ES	B180/GL	
17	35	10	●	●	BB-6003-B180-30-□-LCC



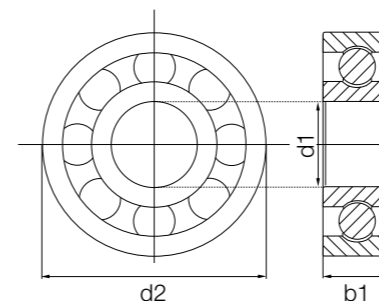
Available from stock



PA cage,  
stainless steel balls



PA cage,  
glass balls



### Order key

Type	Material
<b>BB-608-S180-10-ES</b>	
Ball bearings	
Dimensions according to DIN 625-1	
Race material	
Cage material	
Ball material	

**Cage material**  
10 = PA  
Options:  
**Ball material**  
ES = Stainless steel  
GL = Glass

### Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		PA/ES [g]	PA/GL [g]
623	25	34	4,500	0.40	0.31
633	33	45	4,000	0.90	0.67
684	10	11	4,600	0.30	0.22
694	12	14	4,000	–	–
604	30	32	3,600	0.63	–
624	33	45	4,000	0.77	0.58
634	40	40	3,700	–	–
685	12	14	4,000	0.44	0.36
695	29	30	3,500	–	–
605	32	33	3,500	0.95	–
625	40	40	3,700	1.56	1.01
635	41	43	3,200	2.03	–
686	29	30	3,500	0.76	0.56
696	29	30	3,500	–	–
606	50	53	3,300	–	–
626	60	62	3,200	2.53	1.70
636	80	94	2,200	3.94	2.70
687	32	34	3,200	–	–
697	39	41	3,000	–	–
607	41	43	3,200	–	–
627	80	94	2,400	3.83	2.59
688	39	41	3,000	–	–
698	60	62	3,200	2.33	–
608	80	94	2,400	3.74	2.48

### Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination		Part No.
			PA/ES	PA/GL	
3	10	4	●	●	BB-623-S180-10-□
3	13	5	●	●	BB-633-S180-10-□
4	9	4	●	●	BB-684-S180-10-□
4	11	4	●	●	BB-694-S180-10-□
4	12	4	●	●	BB-604-S180-10-□
4	13	5	●	●	BB-624-S180-10-□
4	16	5	●	●	BB-634-S180-10-□
5	11	5	●	●	BB-685-S180-10-□
5	13	4	●	●	BB-695-S180-10-□
5	14	5	●	●	BB-605-S180-10-□
5	16	5	●	●	BB-625-S180-10-□
5	19	6	●	●	BB-635-S180-10-□
6	13	5	●	●	BB-686-S180-10-□
6	15	5	●	●	BB-696-S180-10-□
6	17	6	●	●	BB-606-S180-10-□
6	19	6	●	●	BB-626-S180-10-□
6	22	7	●	●	BB-636-S180-10-□
7	14	5	●	●	BB-687-S180-10-□
7	17	5	●	●	BB-697-S180-10-□
7	19	6	●	●	BB-607-S180-10-□
7	22	7	●	●	BB-627-S180-10-□
8	16	5	●	●	BB-688-S180-10-□
8	19	6	●	●	BB-698-S180-10-□
8	22	7	●	●	BB-608-S180-10-□



#### Order example:

BB-623-S180-10-ES = Radial deep groove ball bearing with race material xirodur S180, PA cage and stainless steel balls



#### Available from stock

Upon request

## Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		PA/ES [g]	PA/GL [g]
628	100	110	2,300	5.55	3.38
638	110	130	2,200	–	–
689	40	42	2,500	1.29	0.87
699	43	45	2,250	–	–
609	100	110	2,300	–	–
629	110	128	2,200	–	–
6800	43	45	2,250	–	–
6900	60	64	2,000	–	–
6000	110	130	2,200	5.93	3.76
6200	130	147	2,000	9.30	6.51
6300	140	150	1,800	–	–
6701	16	18	2,200	–	–
6801	60	64	2,000	0.84	–
6901	80	83	1,800	–	–
6001	130	147	2,000	7.08	4.34
6201	140	150	1,800	9.99	7.20
6301	160	220	1,600	–	–
6702	19	21	1,800	–	–
6802	80	83	1,800	–	–
6902	90	94	1,700	–	–
6002	140	150	1,800	8.63	6.23
6202	160	220	1,600	11.6	8.2
6302	250	320	1,400	–	–
6703	23	25	1,600	0.22	–
6803	90	94	1,700	1.74	–
6903	90	94	1,700	–	–
6003	160	220	1,600	10.74	7.61
6203	250	320	1,400	14.4	10.2
6303	280	360	1,200	–	–
6704	30	36	1,400	–	–
6804	100	120	1,500	–	–
6904	140	144	1,150	5.83	–
6004	250	320	1,400	19.53	12.92
6204	280	360	1,200	26.2	17.7
6304	380	400	1,000	18.69	–
6705	32	38	1,200	–	–
6805	140	144	1,150	–	–
6905	160	162	900	–	–
6005	280	360	1,200	23.9	16.7
6205	310	370	1,000	35.2	24.6
6305	480	520	850	–	–



## Order example:

BB-628-S180-10-ES = Radial deep groove ball bearing with race material xirodur S180, PA cage and stainless steel balls

## Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination		Part No.
			PA/ES	PA/GL	
8	24	8	●	●	BB-628-S180-10- <input type="text"/>
8	28	9	●	●	BB-638-S180-10- <input type="text"/>
9	17	5	●	●	BB-689-S180-10- <input type="text"/>
9	20	6	●	●	BB-699-S180-10- <input type="text"/>
9	24	7	●	●	BB-609-S180-10- <input type="text"/>
9	26	8	●	●	BB-629-S180-10- <input type="text"/>
10	19	5	●	●	BB-6800-S180-10- <input type="text"/>
10	22	6	●	●	BB-6900-S180-10- <input type="text"/>
10	26	8	●	●	BB-6000-S180-10- <input type="text"/>
10	30	9	●	●	BB-6200-S180-10- <input type="text"/>
10	35	11	●	●	BB-6300-S180-10- <input type="text"/>
12	18	4	●	●	BB-6701-S180-10- <input type="text"/>
12	21	5	●	●	BB-6801-S180-10- <input type="text"/>
12	24	6	●	●	BB-6901-S180-10- <input type="text"/>
12	28	8	●	●	BB-6001-S180-10- <input type="text"/>
12	32	10	●	●	BB-6201-S180-10- <input type="text"/>
12	37	12	●	●	BB-6301-S180-10- <input type="text"/>
15	21	4	●	●	BB-6702-S180-10- <input type="text"/>
15	24	5	●	●	BB-6802-S180-10- <input type="text"/>
15	28	7	●	●	BB-6902-S180-10- <input type="text"/>
15	32	9	●	●	BB-6002-S180-10- <input type="text"/>
15	35	11	●	●	BB-6202-S180-10- <input type="text"/>
15	42	13	●	●	BB-6302-S180-10- <input type="text"/>
17	23	4	●	●	BB-6703-S180-10- <input type="text"/>
17	26	5	●	●	BB-6803-S180-10- <input type="text"/>
17	30	7	●	●	BB-6903-S180-10- <input type="text"/>
17	35	10	●	●	BB-6003-S180-10- <input type="text"/>
17	40	12	●	●	BB-6203-S180-10- <input type="text"/>
17	47	14	●	●	BB-6303-S180-10- <input type="text"/>
20	27	4	●	●	BB-6704-S180-10- <input type="text"/>
20	32	7	●	●	BB-6804-S180-10- <input type="text"/>
20	37	9	●	●	BB-6904-S180-10- <input type="text"/>
20	42	12	●	●	BB-6004-S180-10- <input type="text"/>
20	47	14	●	●	BB-6204-S180-10- <input type="text"/>
20	52	15	●	●	BB-6304-S180-10- <input type="text"/>
25	32	4	●	●	BB-6705-S180-10- <input type="text"/>
25	37	7	●	●	BB-6805-S180-10- <input type="text"/>
25	42	9	●	●	BB-6905-S180-10- <input type="text"/>
25	47	12	●	●	BB-6005-S180-10- <input type="text"/>
25	52	15	●	●	BB-6205-S180-10- <input type="text"/>
25	62	17	●	●	BB-6305-S180-10- <input type="text"/>



## Available from stock

Upon request

## Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		PA/ES [g]	PA/GL [g]
6706	34	41	1,000	–	–
<b>6806</b>	160	162	900	3.90	–
<b>6906</b>	190	193	850	13.11	10.09
6006	380	400	1,000	–	–
6206	480	520	850	–	–
6306	520	660	750	–	–

## Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination		Part No.
			PA/ES	PA/GL	
30	37	4	●	●	BB-6706-S180-10- <input type="text"/>
30	42	7	●	●	BB-6806-S180-10- <input type="text"/>
30	47	9	●	●	BB-6906-S180-10- <input type="text"/>
30	55	13	●	●	BB-6006-S180-10- <input type="text"/>
30	62	16	●	●	BB-6206-S180-10- <input type="text"/>
30	72	19	●	●	BB-6306-S180-10- <input type="text"/>



### Order example:

**BB-6706-S180-10-ES** = Radial deep groove ball bearing with race material xirodur S180, PA cage and stainless steel balls



### Available from stock

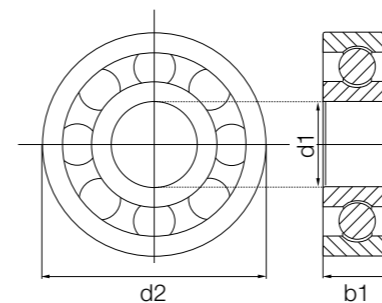
Upon request



PP cage,  
stainless steel balls



PP cage,  
glass balls



## Order key

Type	Material
Ball bearings	Dimensions according to DIN 625-1
Face material	Cage material
	Ball material

**BB-623-C160-20-ES**

Cage material  
20 = PP  
Options:  
Ball material  
ES = Stainless steel  
GL = Glass

## Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		PP/ES [g]	PP/GL [g]
623	10	11	4,000	0.35	0.26
624	12	13	3,650	–	–
625	20	22	3,100	–	0.21
635	30	31	2,900	1.76	1.03
626	30	34	2,600	2.15	1.43
636	40	42	2,050	2.06	–
627	40	43	2,000	–	–
688	20	21	2,750	1.06	0.24
608	40	46	2,200	3.37	2.21
628	57	61	1,800	–	–
638	60	62	1,670	6.27	4.10
629	60	63	1,680	–	–
6800	20	24	2,100	–	–
6000	60	65	1,700	5.48	3.33
6200	78	81	1,540	7.50	4.71
6801	30	32	1,920	0.84	0.92
6001	70	74	1,580	6.59	3.80
6201	80	83	1,260	–	–
6802	40	43	1,700	–	0.46
6002	80	85	1,500	5.72	4.86
6202	80	85	1,130	–	–
6803	50	51	1,650	–	–
6003	90	96	1,300	9.10	6.22
6203	140	142	1,010	–	–
6804	50	54	1,480	–	–

## Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination		Part No.
			PP/ES	PP/GL	
3	10	4	●	●	BB-623-C160-20-□
4	13	5	●	●	BB-624-C160-20-□
5	16	5	●	●	BB-625-C160-20-□
5	19	6	●	●	BB-635-C160-20-□
6	19	6	●	●	BB-626-C160-20-□
6	22	7	●	●	BB-636-C160-20-□
7	22	7	●	●	BB-627-C160-20-□
8	16	5	●	●	BB-688-C160-20-□
8	22	7	●	●	BB-608-C160-20-□
8	24	8	●	●	BB-628-C160-20-□
8	28	9	●	●	BB-638-C160-20-□
9	26	8	●	●	BB-629-C160-20-□
10	19	5	●	●	BB-6800-C160-20-□
10	26	8	●	●	BB-6000-C160-20-□
10	30	9	●	●	BB-6200-C160-20-□
12	21	5	●	●	BB-6801-C160-20-□
12	28	8	●	●	BB-6001-C160-20-□
12	32	10	●	●	BB-6201-C160-20-□
15	24	5	●	●	BB-6802-C160-20-□
15	32	9	●	●	BB-6002-C160-20-□
15	35	11	●	●	BB-6202-C160-20-□
17	26	5	●	●	BB-6803-C160-20-□
17	35	10	●	●	BB-6003-C160-20-□
17	40	12	●	●	BB-6203-C160-20-□
20	32	7	●	●	BB-6804-C160-20-□



## Order example:

BB-623-C160-20-ES = Radial deep groove ball bearing with race material xirodur C160, PP cage and stainless steel balls



## Available from stock

Upon request

### Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		PP/ES [g]	PP/GL [g]
6004	140	142	1,000	17.81	11.20
6204	140	145	950	22.85	4.89
6805	80	82	1,075	–	–
6005	140	151	960	20.63	13.29
6205	170	181	810	26.70	4.89

### Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination		Part No.
			PP/ES	PP/GL	
20	42	12	●	●	BB-6004-C160-20- <input type="text"/>
20	47	14	●	●	BB-6204-C160-20- <input type="text"/>
25	37	7	●	●	BB-6805-C160-20- <input type="text"/>
25	47	12	●	●	BB-6005-C160-20- <input type="text"/>
25	52	15	●	●	BB-6205-C160-20- <input type="text"/>



#### Order example:

BB-6004-C160-20-ES = Radial deep groove ball bearing with race material xirodur C160, PP cage and stainless steel balls



#### Available from stock

Upon request





PA cage,  
stainless steel balls



PEEK cage,  
stainless steel balls

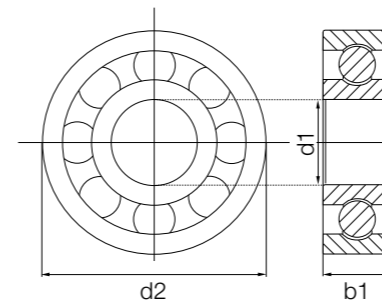


PEEK cage,  
glass balls



PEEK cage,  
PAI balls

FDA



Type Material

**BB-623-A500-10-ES**

- Ball bearings
- Dimensions according to DIN 625-1
- Race material
- Cage material
- Ball material

Options:  
**Cage material**  
 10 = PA  
 70 = PEEK  
**Ball material**  
 ES = Stainless steel  
 GL = Glass  
 PAI = Polyamide-imide

### Technical data

Installation size	Radial load capacity				Max. speed [rpm]	Weight			
	stat. [N]	dyn. [N]	stat. dyn. PEEK/PAI [N]			PA/stainless steel [g]	PEEK/stainless steel [g]	PEEK/glass [g]	PEEK/PAI [g]
			stat. [N]	dyn. [N]					
623	27	30	-	-	5,000	0.4	0.4	0.3	-
624	30	40	-	-	4,500	1.9	1.0	0.9	-
625	36	43	-	-	3,700	-	-	-	-
635	48	52	-	-	3,400	-	-	-	-
626	54	60	15	20	3,400	2.3	2.3	1.6	1.4
636	72	76	-	-	2,450	-	-	-	-
627	72	74	-	-	2,600	-	-	-	-
688	36	38	-	-	3,150	-	-	-	-
608	72	78	18	25	2,700	3.7	3.7	2.4	2.2
628	98	104	-	-	2,500	-	-	-	-
638	102	108	-	-	2,300	-	-	-	-
629	102	112	-	-	2,350	-	-	-	-
6800	42	46	-	-	2,300	-	-	-	-
6000	102	107	25	34	2,100	6.0	6.0	3.8	3.4
6200	126	132	-	-	2,100	-	-	-	-
6801	54	57	-	-	2,150	-	-	-	-
6001	105	124	-	-	2,040	-	-	-	-
6201	132	141	-	-	1,820	-	-	-	-
6802	72	76	-	-	1,920	-	-	-	-
6002	132	145	32	41	1,900	9.1	9.1	5.2	5.6
6202	135	146	-	-	1,600	-	-	-	-
6803	84	84	-	-	1,760	-	-	-	-
6003	138	152	-	-	1,790	-	-	-	-
6203	228	232	-	-	1,450	-	-	-	-

### Dimensions [mm]

Inner Ø	Outer Ø	Width	Cage/ball material combination				Part No.
			PA/ES	PEEK/ES	PEEK/GL	PEEK/PAI	
d1	d2	b1					
3	10	4	●	●	●	-	BB-623-A500- <input type="text"/> - <input type="text"/>
4	13	5	●	●	●	-	BB-624-A500- <input type="text"/> - <input type="text"/>
5	16	5	●	●	●	-	BB-625-A500- <input type="text"/> - <input type="text"/>
5	19	6	●	●	●	-	BB-635-A500- <input type="text"/> - <input type="text"/>
6	19	6	●	●	●	●	BB-626-A500- <input type="text"/> - <input type="text"/>
6	22	7	●	●	●	-	BB-636-A500- <input type="text"/> - <input type="text"/>
7	22	7	●	●	●	-	BB-627-A500- <input type="text"/> - <input type="text"/>
8	16	5	●	●	●	-	BB-688-A500- <input type="text"/> - <input type="text"/>
8	22	7	●	●	●	●	BB-608-A500- <input type="text"/> - <input type="text"/>
8	24	8	●	●	●	-	BB-628-A500- <input type="text"/> - <input type="text"/>
8	28	9	●	●	●	-	BB-638-A500- <input type="text"/> - <input type="text"/>
9	26	8	●	●	●	-	BB-629-A500- <input type="text"/> - <input type="text"/>
10	19	5	●	●	●	-	BB-6800-A500- <input type="text"/> - <input type="text"/>
10	26	8	●	●	●	●	BB-6000-A500- <input type="text"/> - <input type="text"/>
10	30	9	●	●	●	-	BB-6200-A500- <input type="text"/> - <input type="text"/>
12	21	5	●	●	●	-	BB-6801-A500- <input type="text"/> - <input type="text"/>
12	28	8	●	●	●	●	BB-6001-A500- <input type="text"/> - <input type="text"/>
12	32	10	●	●	●	-	BB-6201-A500- <input type="text"/> - <input type="text"/>
15	24	5	●	●	●	-	BB-6802-A500- <input type="text"/> - <input type="text"/>
15	32	9	●	●	●	●	BB-6002-A500- <input type="text"/> - <input type="text"/>
15	35	11	●	●	●	-	BB-6202-A500- <input type="text"/> - <input type="text"/>
17	26	5	●	●	●	-	BB-6803-A500- <input type="text"/> - <input type="text"/>
17	35	10	●	●	●	●	BB-6003-A500- <input type="text"/> - <input type="text"/>
17	40	12	●	●	●	-	BB-6203-A500- <input type="text"/> - <input type="text"/>



Order example:

BB-623-A500-10-ES = Radial deep groove ball bearing with race material xirodur A500, PA cage and stainless steel balls



Available from stock

Upon request

## Technical data

Installation size	Radial load capacity				Max. speed [rpm]	Weight			
	stat. [N]	dyn. [N]	PEEK/PAI			PA/ stainless steel [g]	PEEK/ stainless steel [g]	PEEK/ glass [g]	PEEK/ PAI [g]
			stat. [N]	dyn. [N]					
6804	90	93	–	–	1,560	–	–	–	–
6004	234	250	62	88	1,700	19.7	19.7	13.2	11.7
6204	234	238	–	–	1,270	–	–	–	–
6805	132	135	–	–	980	–	–	–	–
6005	405	420	–	–	1,500	–	–	–	–
6205	422	440	–	–	1,100	–	–	–	–

## Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination				Part No.
			PA/ES	PEEK/ES	PEEK/GL	PEEK/PAI	
20	32	7	●	●	●	–	BB-6804-A500- <input type="text"/> - <input type="text"/>
20	42	12	●	●	●	●	BB-6004-A500- <input type="text"/> - <input type="text"/>
20	47	14	●	●	●	–	BB-6204-A500- <input type="text"/> - <input type="text"/>
25	37	7	●	●	●	–	BB-6805-A500- <input type="text"/> - <input type="text"/>
25	47	12	●	●	●	●	BB-6005-A500- <input type="text"/> - <input type="text"/>
25	52	15	●	●	●	–	BB-6205-A500- <input type="text"/> - <input type="text"/>



## Order example:

BB-623-A500-10-ES = Radial deep groove ball bearing with race material xirodur A500, PA cage and stainless steel balls



## Available from stock

Upon request



PA cage,  
stainless steel balls



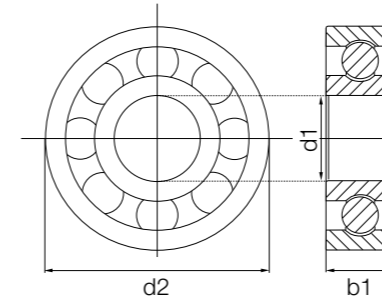
PE cage,  
stainless steel balls



Special designs  
made from xirodur F180  
► Page 858

### Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		PA/ES [g]	PE/ES [g]
623	10	25	4,500	0.39	0.39
624	20	33	4,000	0.83	0.82
625	40	40	3,700	1.54	1.50
626	41	43	3,200	2.50	2.36
608	80	94	2,200	3.79	3.67
6000	110	130	2,200	5.86	5.76
6001	138	147	2,000	6.72	6.62
6002	140	150	1,800	8.59	8.50
6003	160	220	1,600	10.53	10.39
6004	250	320	1,400	19.24	19.18
6005	280	360	1,200	22.43	22.04



### Order key

Type	Material
Ball bearings	Dimensions according to DIN 625-1
Face material	Cage material
Ball material	Ball material

Options:  
**Cage material**  
 10 = PA  
 50 = PE  
**Ball material**  
 ES = Stainless steel

### Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination		Part No.
			PA/ES	PE/ES	
3	10	4	●	●	BB-623-F180-□-ES
4	13	5	●	●	BB-624-F180-□-ES
5	16	5	●	●	BB-625-F180-□-ES
6	19	6	●	●	BB-626-F180-□-ES
8	22	7	●	●	BB-608-F180-□-ES
10	26	8	●	●	BB-6000-F180-□-ES
12	28	8	●	●	BB-6001-F180-□-ES
15	32	9	●	●	BB-6002-F180-□-ES
17	35	10	●	●	BB-6003-F180-□-ES
20	42	12	●	●	BB-6004-F180-□-ES
25	47	12	●	●	BB-6005-F180-□-ES



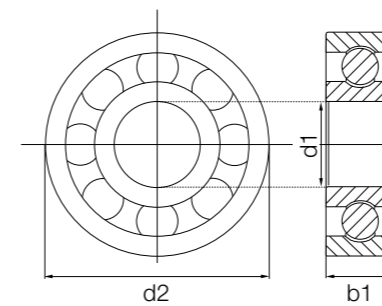
Order example:  
 BB-623-F180-10-ES = Radial deep groove ball bearing with race material xirodur F180, PA cage and stainless steel balls



Available  
from stock



PA cage,  
stainless steel balls



## Order key

Type Material

**BB-608-F182-10-ES**

Ball bearings	Dimensions according to DIN 625-1	Race material	Cage material	Ball material
---------------	-----------------------------------	---------------	---------------	---------------

Cage material

10 = PA

Ball material

ES = Stainless steel

## Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight PA/ES [g]
	stat. [N]	dyn. [N]		
608	80	94	2,200	–
6000	110	130	2,200	–
6001	138	147	2,000	4.31

## Dimensions [mm]

Inner Ø	Outer Ø	Width	Cage/ball material combination	Part No.
d1	d2	b1	PA/ES	
8	22	7	●	BB-608-F182-10-ES
10	26	8	●	BB-6000-F182-10-ES
12	28	8	●	BB-6001-F182-10-ES



### Order example:

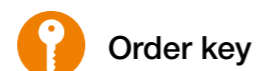
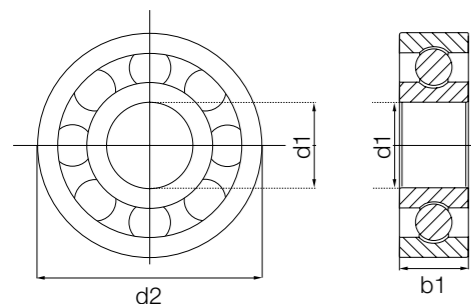
BB-608-F182-10-ES = Radial deep groove ball bearing with race material xirodur F182, PA cage and stainless steel balls



Available from stock

Upon request

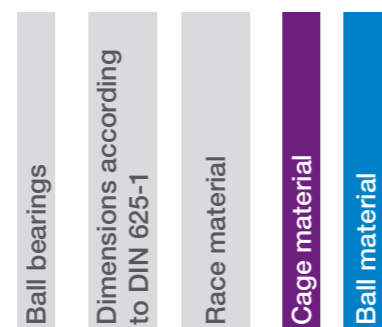
Races made of xirodur D180 – for high speeds

PA cage,  
stainless steel balls

Order key

Type Material

BB-623-D180-10-ES



Cage material

10 = PA

Ball material

ES = Stainless steel

## Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight PA/ES [g]
	stat. [N]	dyn. [N]		
623	7	12	5,500	0.40
626	13	18	4,500	2.00
608	20	32	4,300	3.70
6000	28	36	4,200	5.78
6001	32	49	4,000	6.55
6002	44	50	3,870	8.26

## Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination PA/ES	Part No.
3	10	4	●	BB-623-D180-10-ES
6	19	6	●	BB-626-D180-10-ES
8	22	7	●	BB-608-D180-10-ES
10	26	8	●	BB-6000-D180-10-ES
12	28	8	●	BB-6001-D180-10-ES
15	32	9	●	BB-6002-D180-10-ES

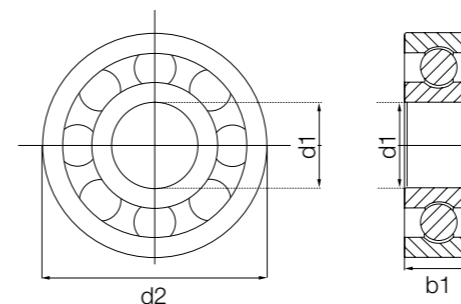


Order example:

BB-623-D180-10-ES = Radial deep groove ball bearing with race material xirodur D180, PA cage and stainless steel balls

Available  
from stock

xirodur M180 – detectable

xirodur M180 cage,  
stainless steel balls

Order key

Type Material

BB-6000-M180-40-ES



Cage material

40 = xirodur M180

Ball material

ES = Stainless steel

## Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight M180/ES [g]
	stat. [N]	dyn. [N]		
6000	85	119	1,900	6.53
6003	180	250	1,400	11.01

## Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Part No.
10	26	8	BB-6000-M180-40-ES
17	35	10	BB-6003-M180-40-ES



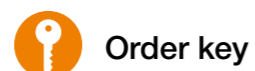
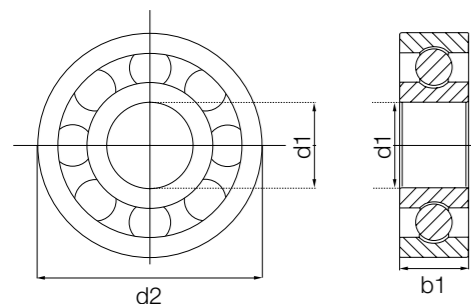
Order example:

BB-6000-M180-40-ES = Radial deep groove ball bearing with race material xirodur M180, M180 cage and stainless steel balls

Available  
from stock



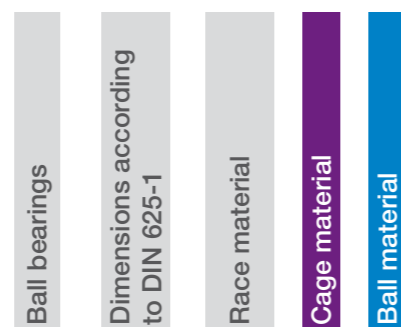
PP cage,  
stainless steel balls



Order key

Type Material

**BB-6002-T220-20-ES**



Cage material

20 = PP

Ball material

ES = Stainless steel

### Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight PP/ES [g]
	stat. [N]	dyn. [N]		
6002	130	160	1,200	8.36

### Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Part No.
15	32	9	<b>BB-6002-T220-20-ES</b>



Order example:

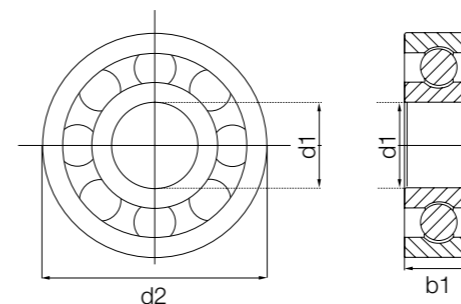
**BB-6002-T220-20-ES** = Radial deep groove ball bearing with race material xirodur T220, PP cage and stainless steel balls



Available  
from stock



PA cage,  
stainless steel balls



Order key

Type Material

**BB-6000-G220-10-ES**



Cage material

10 = PA

Ball material

ES = Stainless steel

### Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight PA/ES [g]
	stat. [N]	dyn. [N]		
6000	95	110	2,000	5.49

### Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Part No.
10	26	8	<b>BB-6000-G220-10-ES</b>



Order example:

**BB-6000-G220-10-ES** = Radial deep groove ball bearing with race material xirodur G220, PA cage and stainless steel balls



Available  
from stock

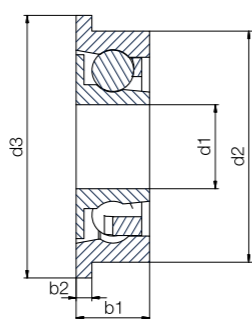
Single flange with shield



xirodur B180,  
PA cage, stainless  
steel balls



xirodur S180,  
PA cage, stainless  
steel balls



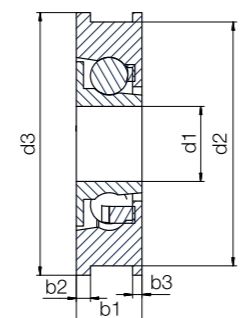
Double flange with shield



xirodur B180 races  
PA cage, stainless  
steel  
or glass balls



xirodur F180 races  
PA cage, stainless  
steel balls



Technical data

Installation size	Double flange	Radial load capacity		Max. speed [rpm]	Weight				
		stat. [N]	dyn. [N]		B180			F180	
					PA/ES [g]	PA/GL [g]	B180/ES [g]	PA/ES [g]	S180 PA/ES [g]
<b>Radial deep groove ball bearing with single flange with shield for guide roller</b>									
626	-	60	62	3,200	-	-	-	-	1.32
688	-	39	41	3,000	-	-	-	-	0.66
608	-	80	94	2,400	-	-	-	-	2.00
608	-	80	94	2,200	5.55	-	-	-	-
6000	-	110	130	1,900	7.55	-	-	-	-
6000	-	110	130	1,900	10.06	-	-	-	-
6001	-	130	147	1,750	7.53	5.09	-	-	-
6001	-	130	147	1,750	12.02	-	-	-	-
6002	-	140	150	1,600	11.44	-	-	-	-
6003	-	160	220	1,550	11.42	-	-	-	-
6004	-	250	320	1,400	-	-	16.36	-	-
6004	-	250	320	1,400	-	-	29.60	-	-
<b>Radial deep groove ball bearing with single or double flange and shields</b>									
608	-	80	94	2,200	5.69	4.47	-	5.49	-
608	●	80	94	2,200	5.82	5.93	-	5.61	-



Order example:

BB-6000F2830-B180-10-ES = Radial deep groove ball bearing with single flange for system solution BBT (guide roller), race material xirodur B180 with PA cage and stainless steel balls



Order key with single flange

Type	Material
Ball bearings	
Dimensions according to DIN 625-1	
Single flange	
Outer Ø [mm]	
Race material	
Cage material	
Ball material	



Also available as complete system solution  
▶ Page 860



Order key with double flange

Type	Material	Design
Ball bearings		
Dimensions according to DIN 625-1		
Double flange		
Race material		
Cage material		
Ball material		
Double shield		

Flange

F = Single flange  
FF = Double flange  
Race material  
F180 = xirodur F180  
B180 = xirodur B180  
S180 = xirodur S180

Cage material

10 = PA  
30 = xirodur B180

Ball material

ES = Stainless steel

GL = Glass

Shield

C = With shield

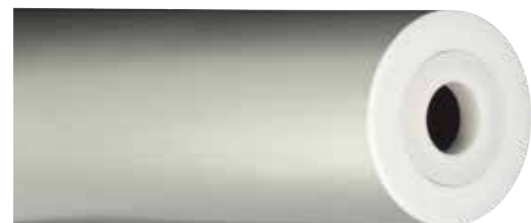
CC = Double shield

Dimensions [mm]

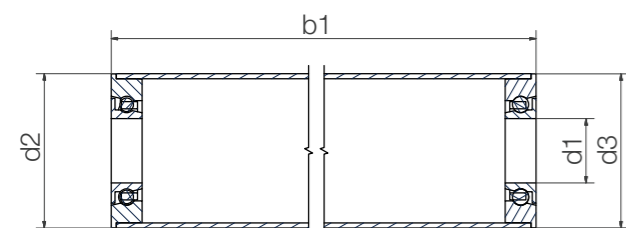
Inner Ø	Outer Ø	Width	Cage/ball material combination							Part No.
			B180			F180		S180		
			d1	d2	d3	b1	b2	PA/ES	PA/GL	
6.0	19.0	22.0	6.0	1.5	-	-	-	-	●	BB-626F-S180-10-ES-C
8.0	16.0	18.0	5.0	1.0	-	-	-	-	●	BB-688F-S180-10-ES-C
8.0	22.0	25.0	7.0	1.5	-	-	-	-	●	BB-608F-S180-10-ES-C
8.0	28.0	30.0	7.0	2.0	●	-	-	-	-	BB-608F2830-B180-10-ES
10.0	28.0	30.0	9.0	2.0	●	-	-	-	-	BB-6000F2830-B180-10-ES
10.0	35.0	38.0	9.0	2.0	●	-	-	-	-	BB-6000F3538-B180-10-ES
12.0	28.0	30.0	9.0	2.0	●	-	-	-	-	BB-6001F2830-B180-10-ES
12.0	35.0	38.0	9.0	2.0	●	-	-	-	-	BB-6001F3538-B180-10-ES
15.0	35.0	38.0	9.0	2.0	●	-	-	-	-	BB-6002F3538-B180-10-ES
17.0	35.0	38.0	10.0	2.0	●	-	-	-	-	BB-6003F3538-B180-10-ES
20.0	46.0	50.0	12.0	2.0	-	-	●	-	-	BB-6004F4650G-B180-30-ES
20.0	56.0	60.0	12.0	2.0	-	-	●	-	-	BB-6004F5660G-B180-30-ES
8.0	26.0	28.0	8.5	1.5	●	●	-	●	-	BB-608F-□-10-□-CC
8.0	26.0	28.0	7.0	1.5/1.0 (b3)	●	●	-	●	-	BB-608FF-□-10-□-CC



Available from stock



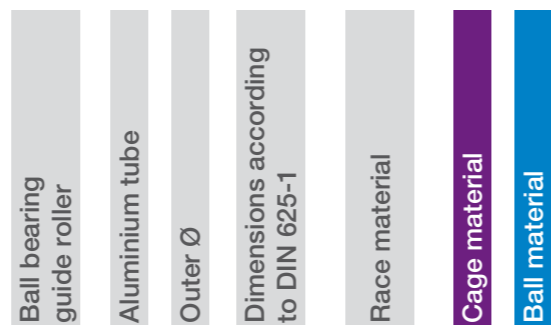
Aluminium tube with xirodur B180 ball bearing



Order key

Type	Material
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**BBT-AC 38-6000-B180-10-ES**



Radial deep groove ball bearings with flange also available as individual parts  
▶ Page 858

**Cage material**  
10 = PA  
30 = xirodur B180

**Ball material**  
ES = Stainless steel

Dimensions [mm]

Inner Ø d1	Outer Ø d2	Flange Ø d3	Length b1	Part No.
8	30	29.9	50 – 1,500	<a href="#">BBT-AC30-608-B180-10-ES</a>
10	30	29.9	50 – 1,500	<a href="#">BBT-AC30-6000-B180-10-ES</a>
12	30	29.9	50 – 1,500	<a href="#">BBT-AC30-6001-B180-10-ES</a>
10	38	37.9	50 – 1,500	<a href="#">BBT-AC38-6000-B180-10-ES</a>
12	38	37.9	50 – 1,500	<a href="#">BBT-AC38-6001-B180-10-ES</a>
15	38	37.9	50 – 1,500	<a href="#">BBT-AC38-6002-B180-10-ES</a>
17	38	37.9	50 – 1,500	<a href="#">BBT-AC38-6003-B180-10-ES</a>
20	50	49.9	50 – 1,500	<a href="#">BBT-AC50-6004-B180-30-ES</a>
20	60	59.9	50 – 1,500	<a href="#">BBT-AC60-6004-B180-30-ES</a>



Online configurator for xiros® system solutions  
▶ [www.igus.eu/xirosAlu](http://www.igus.eu/xirosAlu)



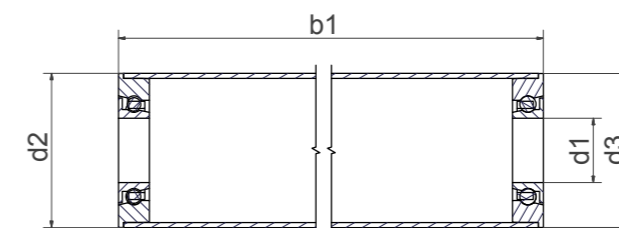
Order example:  
[BBT-AC38-6000-B180-10-ES](#), L=500mm = Aluminium tube with 2 ball bearings with race material xirodur B180, PA cage and stainless steel balls, total length 500mm



Available from stock



PVC tube with xirodur B180 ball bearing



● Components for use in food in accordance with 10/2011/EU and 1935/2004/EG

Order key

Type	Material
------	----------

**BBT-PVC 50-6004-B180-30-ES**



**Cage material**  
30 = xirodur B180

**Ball material**  
ES = Stainless steel

Dimensions [mm]

Inner Ø d1	Outer Ø d2	Flange Ø d3	Length b1	Part No.
8	30	30	50 – 1,000	<a href="#">BBT-PVC30-608-B180-30-ES</a>
10	30	30	50 – 1,000	<a href="#">BBT-PVC30-6000-B180-30-ES</a>
10	40	40	50 – 1,000	<a href="#">BBT-PVC40-6000-B180-30-ES</a>
12	40	40	50 – 1,000	<a href="#">BBT-PVC40-6001-B180-30-ES</a>
15	40	40	50 – 1,000	<a href="#">BBT-PVC40-6002-B180-30-ES</a>
17	40	40	50 – 1,000	<a href="#">BBT-PVC40-6003-B180-30-ES</a>
20	50	50	50 – 1,000	<a href="#">BBT-PVC50-6004-B180-30-ES</a>
20	63	63	50 – 1,000	<a href="#">BBT-PVC63-6004-B180-30-ES</a>

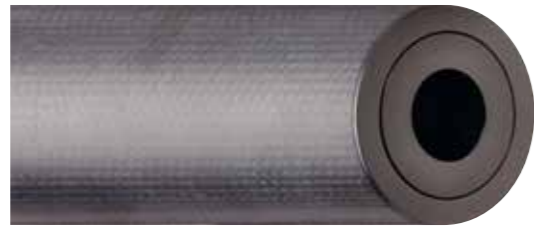


Order example:  
[BBT-PVC50-6004-B180-30-ES](#), L=200mm = PVC tube with 2 ball bearings with race material xirodur B180, xirodur B180 cage and stainless steel balls, total length 200mm



Available from stock

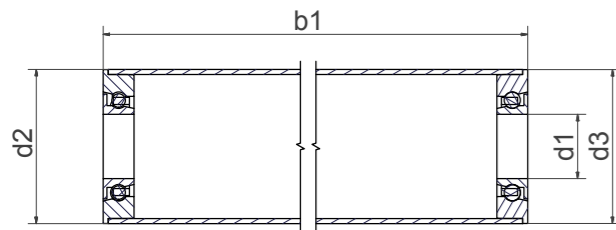




Carbon fibre tube with xirodur S180 ball bearing, available as ESD version (with xirodur F180 ball bearing)



Carbon fibre tube with xirodur F180 ball bearing



#### Dimensions [mm]

Inner Ø	Outer Ø	Flange Ø	Length	Part No.
d1	d2	d3	b1	
20	50	49.9	50 – 1,000	<b>BBT-CF50-6004-S180-10-ES</b>
20	100	100.0	50 – 1,000	<b>BBT-CF100-6004-F180-10-ES</b>

#### Order key

Type Material

**BBT-CF 50-6004-□-30-ES**

Ball bearing guide roller	Carbon fibre tube	Outer Ø	Dimensions according to DIN 625-1	Race material	Cage material	Ball material
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#### Cage material

**30** = xirodur B180

#### Ball material

**ES** = Stainless steel



#### Order example:

**BBT-CF50-6004-S180-30-ES, L=200mm** = Carbon fibre tube with 2 ball bearings xirodur S180, xirodur B180 cage and stainless steel balls, total length 200mm



#### Delivery time: approximately 3 weeks

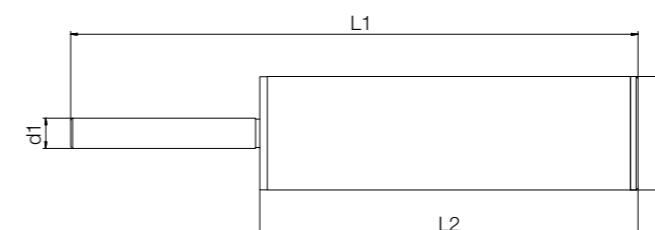
With xirodur F180 as ESD version available upon request



Closed special solution with aluminium tube and polymer ball bearing for guide rollers and label rollers



Ready-to-install complete systems with shaft to required size upon request



#### Dimensions [mm]

Outer Ø	Length	Part No.
d2	L1	
50	According to customer request	<b>BBTG-AC30-XX-30-ES</b>

#### Order key

Type Material

**BBTG-AC 30-XX-30-ES**

Ball bearing guide roller	Aluminium tube	Outer Ø	Length – upon request	Cage material	Ball material
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#### Cage material

**30** = xirodur B180

#### Ball material

**ES** = Stainless steel



#### Order example:

**BBTG-AC30-XX-30-ES, L=200mm** = Aluminium with 2 ball bearings xirodur S180, xirodur B180 cage and stainless steel balls, total length 200mm



#### Available

upon request



PA cage,  
stainless steel or  
glass balls



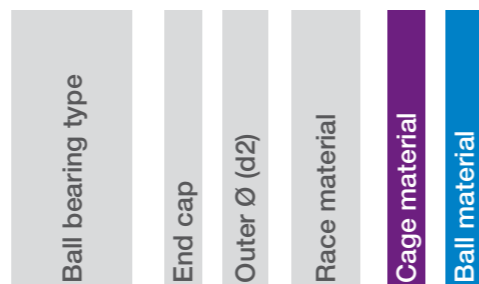
PA cage,  
stainless steel balls  
hexagon nut socket



Order key

Type Material

BB-6204EC44.5-B180-10-ES



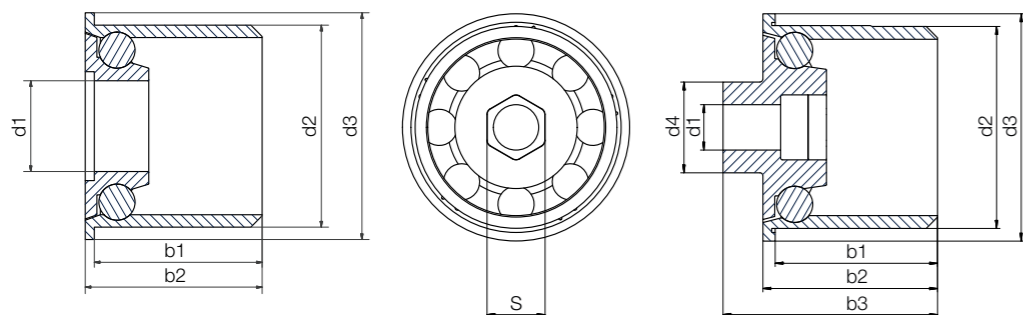
Cage material  
10 = PA

Options:  
Ball material  
ES = Stainless steel  
GL = Glass

- Fast and easy retrofits in many standard tubes
- Good axial stability

Example "6204EC"

Example "6204ECM8"



Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		PA/ES [g]	PA/GL [g]
6204	245	294	1,800	41.66	29.85
6204	245	294	1,800	48.44	-

Dimensions [mm]

Inner Ø		Outer Ø		Width			S	Cage/ball material combination		Part No.
d1	d2	d3	d4	b1	b2	b3		PA/ES	PA/GL	
20	44.5	50	-	35.8	38.5	-	-	●	●	BB-6204EC44.5-B180-10-□
10	44.5	50	20	35.8	38.5	47.3	M8	●	●	BB-6204ECM8-B180-10-ES

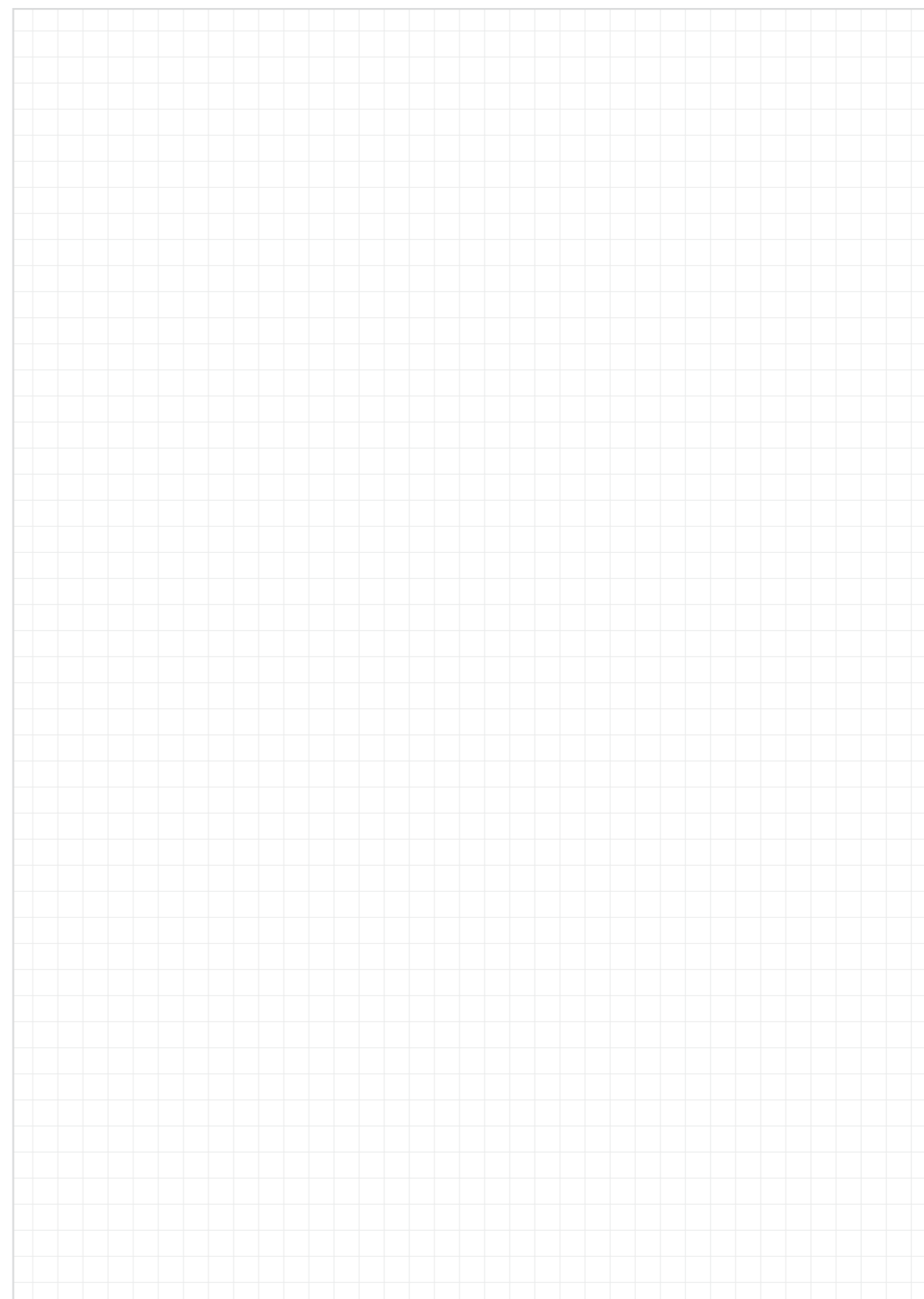


Order example:

BB-6204EC44.5-B180-10-ES = End cap with race material xirodur B180, with PA cage and stainless steel balls



Available from stock





xirodur B180 cage, stainless steel balls Type 6000PP3



xirodur B180 cage, stainless steel balls Type 608P6

Order key

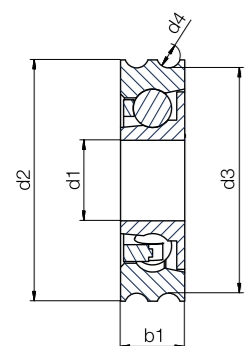
Type	Material	Design
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**BB-608 P6-B180-30-ES-C**

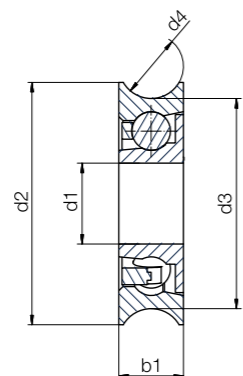
Ball bearings	Dimensions according to DIN 625-1	Profile P6	Face material	Cage material	Ball material	With shield
				30 = xirodur B180	ES = Stainless steel	C = Shield on one side

- One-piece design
- Replaces several components

Example "Profile PP3"



Example "Profile P8"



Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight B180/ES [g]
	stat. [N]	dyn. [N]		
608P6	80	94	2,200	3.96
608P8	140	130	1,800	23.37
6000P8	110	130	2,200	7.14
6000PP3	110	130	2,200	7.86
6201P9	160	147	1,600	27.05

Dimensions [mm]

Inner Ø d1	Outer Ø d2	Base Ø d3	Groove Ø d4	Width b1	Part No.
8	24	20.5	6	7	BB-608P6-B180-30-ES-C
8	48	32	8	14	BB-608P8-B180-30-ES
10	30	26	8	8	BB-6000P8-B180-30-ES-C
10	30	28	3	8	BB-6000PP3-B180-30-ES-C
12	60	43.5	9	12	BB-6201P9-B180-30-ES

Order example: **BB-608P6-B180-30-ES** = Radial deep groove ball bearing, profile P8 with race material xirodur B180, xirodur B180 cage and stainless steel balls

Available from stock



xirodur B180 races PA cage, stainless steel balls



xirodur B180 races PA cage, glass balls

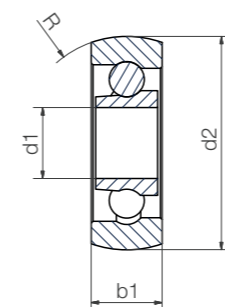
Order key

Type	Material
------	----------

**BB-608SO-B180-10-ES**

Ball bearings	Dimensions according to DIN 625-1	Spherical outer Ø	Face material	Cage material	Ball material
				10 = PA	ES = Stainless steel

- Use in skewed/curved/twisted profiles
- Prevents edge stress



Race material B180 = xirodur B180  
 Cage material 10 = PA  
 Options:  
 Ball material ES = Stainless steel, GL = Glass

Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		PA/ES [g]	PA/GL [g]
608	80	94	2,200	4.63	3.34
6000	110	130	1,900	7.86	5.70
6001	138	147	1,750	13.51	11.10

Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination		Part No.
			PA/ES	PA/GL	
8	24.00	8	●	●	BB-608SO-B180-10- <input type="checkbox"/>
10	28.96	10	●	●	BB-6000SO-B180-10- <input type="checkbox"/>
12	35.56	12	●	●	BB-6001SO-B180-10- <input type="checkbox"/>

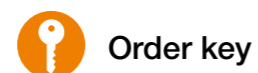
Order example: **BB-608SO-B180-10-ES** = Ball bearing with spherical outer diameter, race material xirodur B180, PA cage and stainless steel balls

Available from stock



PA cage,  
stainless steel or  
glass balls

- Higher loads
- More cost-effective than two comparable bearings



Order key

Type	Material	Design
------	----------	--------

BB-6000-B180-10-ES-D

Ball bearings	Dimensions according to DIN 625-1	Race material	Cage material	Ball material	Double row
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Cage material

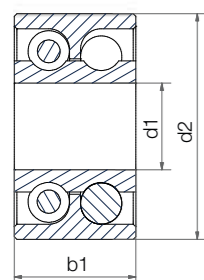
10 = PA

Options:

Ball material

ES = Stainless steel

GL = Glass



## Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		PA/ES [g]	PA/GL [g]
6000	200	240	1,000	11.23	6.90
6004	420	470	650	35.60	22.55

## Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Cage/ball material combination		Part No.
			PA/ES	PA/GL	
10	26	14	●	●	BB-6000-B180-10-□-D
20	42	20	●	●	BB-6004-B180-10-□-D



Order example:

BB-6000-B180-10-ES-D = Double row ball bearing with race material xirodur B180, PA cage and stainless steel balls

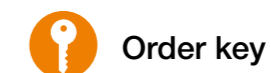


Available  
from stock



PP balls

- For rotary and linear motions



Order key

Type	Material
------	----------

BB-MB-1633-11-B180-PP

Ball bearings	Multi-axis bearing	Inner Ø (d1)	Outer Ø (d2)	Width (b)	Housing material	Ball material
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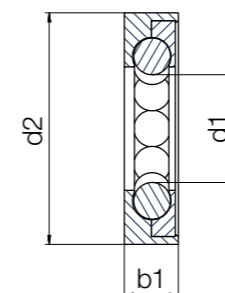
Housing material

B180 =

xirodur B180

Ball material

PP = Polypropylene



## Technical data

Type	Radial load capacity		Max. speed [rpm]	Weight B180/PP [g]
	stat. [N]	dyn. [N]		
BB-MB	55	70	500	6.86

## Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Part No.
16.3	33	11	BB-MB-1633-11-B180-PP



Order example:

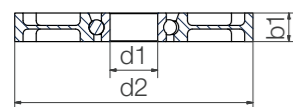
BB-MB-1633-11-B180-PP = Multi-axis bearing with race material xirodur B180, B180 housing and PP balls



Available  
from stock

PA cage,  
stainless steel ballsPA cage,  
glass balls

- Larger outer diameter for smaller shafts
- Also used as roller in profiles



## Order key

Type	Material
------	----------

BB-6004SW100-B180-10-ES

Ball bearings	Dimensions according to DIN 625-1	Skate wheel	Outer Ø	Race material	Cage material	Ball material
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## Cage material

10 = PA

Options:

Ball material

ES = Stainless steel

GL = Glass

## Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		PA/ES [g]	PA/GL [g]
6004	245	294	1,400	58.81	58.81

## Dimensions [mm]

Inner Ø d1	Outer Ø d2	Width b1	Part No.
20	100	12	BB-6004SW100-B180-10- <input type="text"/>

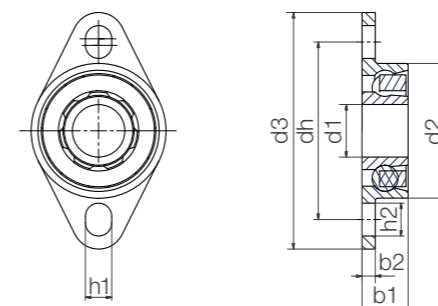
## Order example:

BB-6004SW100-B180-10-ES = xiros® skate wheel with race material xirodur B180. 100mm outer diameter, PA cage and stainless steel balls

Available from stock

xirodur B180 cage  
Stainless steel balls

- For less precise holding fixtures



## Order key

Type	Material
------	----------

BB-FL-608-B180-30-ES

Ball bearings	Fixed flange ball bearing	Dimensions according to DIN 625-1	Housing material	Cage material	Ball material
---------------	---------------------------	-----------------------------------	------------------	---------------	---------------

## Cage material

30 = xirodur B180

Ball material

ES = Stainless steel

## Technical data

Installation size	Radial load capacity		Max. speed [rpm]	Weight B180/ES [g]
	stat. [N]	dyn. [N]		
626	60	62	3,200	2.89
608	80	92	2,200	3.65
6000	110	130	2,200	6.49
6001	130	147	2,000	7.68
6003	160	220	1,600	11.13
6004	250	320	1,400	25.06

## Dimensions [mm]

d1	d2	d3	b1	b2	dh	h1	h2	Part No.
6	19	33.5	6	2	25	3	4.5	BB-FL-626-B180-30-ES
8	20.7	35.8	7	2	26.8	4	5	BB-FL-608-B180-30-ES
10	26	41	8	2	32	4	5	BB-FL-6000-B180-30-ES
12	28	44	8	2	35	4	5	BB-FL-6001-B180-30-ES
17	35	54	10	2.5	44	4	6	BB-FL-6003-B180-30-ES
20	42	84	12	4	63	8	12	BB-FL-6004-B180-30-ES

## Order example:

BB-FL-608-B180-30-ES = Fixed flange ball bearing with xirodur B180 housing, xirodur B180 cage and stainless steel balls

Available from stock



Order key

Type Material

BB-522B-B180-POM

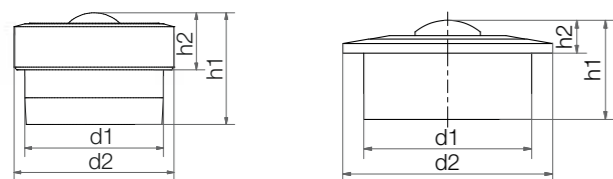


Polymer ball transfer unit

POM = POM (ball transfer unit)

Option

B = New generation



BB-505(B)-B180-POM

BB-515(B)-B180-POM

BB-522(B)-B180-POM

## Technical data and dimensions [mm]

Installation size	Max. stat. load capacity axial [N]	Inner Ø		Height		Weight [g]	Part No.
		d1	d2	h1	h2		
505	35	10.4	12.0	8.4	4.3	0.88	BB-505-B180-POM
515	80	24.0	31.0	21.0	9.8	10.73	BB-515-B180-POM
522	110	36.0	45.0	30.0	9.8	28.80	BB-522-B180-POM

## Technical data and dimensions [mm]

Installation size	Max. stat. load capacity axial [N]	Inner Ø		Height		Weight [g]	Part No.
		d1	d2	h1	h2		
505B	150	10.4	12.0	8.4	4.3	0.92	BB-505B-B180-POM
515B	300	24.0	31.0	21.0	9.8	11.19	BB-515B-B180-POM
522B	500	36.0	45.0	30.0	9.8	29.97	BB-522B-B180-POM



## Recommended tolerances

We recommend the following hole tolerances for the ball transfer units housings:

## Installation size

- 505 ▶ 10.40mm H7
- 515/515A ▶ 23.95mm H7
- 522/522A ▶ 35.95mm H7

In general: The height tolerance of all installation sizes is  $\pm 0.2$ mm

## Order example:

BB-505-B180-POM = Polymer ball transfer unit with housing material xirodur B180 and POM ball transfer unit



Available from stock



Order key

Type Material

BB-522A-B180-HS



Options

Ball transfer unit

HH (Hard roller) =

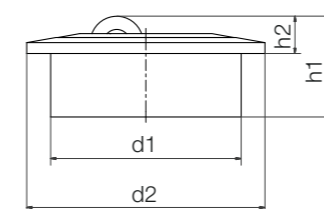
xirodur B180

HS (Soft roller) =

xirodur D180

For high loads (HH)

With soft roller made from xirodur D180 (HS)



BB-515A-B180-HH/-HS

BB-522A-B180-HH/-HS

## Technical data and dimensions [mm]

Installation size	Max. stat. load capacity axial [N]	Inner Ø		Height		Weight		Part No.
		d1	d2	h1	h2	HS [g]	HH [g]	
515A	150	24.0	31.0	14.3	5.3	9.96	9.99	BB-515A-B180-□
522A	300	36.0	45.0	21.25	7.05	24.69	24.71	BB-522A-B180-□



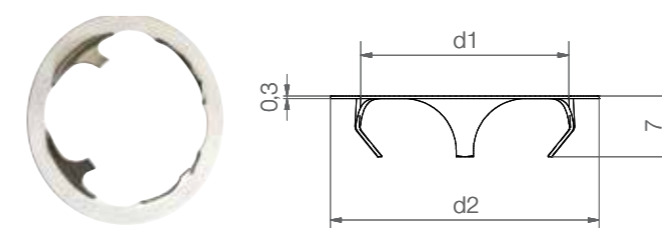
## Order example:

BB-515A-B180-HS = Axial polymer ball transfer unit with housing material xirodur B180 and soft roller made from xirodur D180



Available from stock

## Accessories: Clamping rings for xiros® polymer ball transfer units



xiros® clamping rings made of stainless steel offer the possibility to install xiros® polymer ball transfer units in another orientation than the standard horizontal position. Easy assembly and disassembly.

## Dimensions [mm]

For ball transfer unit	d1	d2	Housing hole	Weight [g]	Part No.
BB-515-B180-POM/BB-515A-B180-□	24	31	25H7	0.91	BB-515-CR
BB-522-B180-POM/BB-522A-B180-□	36	41	37H7	1.61	BB-522-CR



Available from stock



Order key

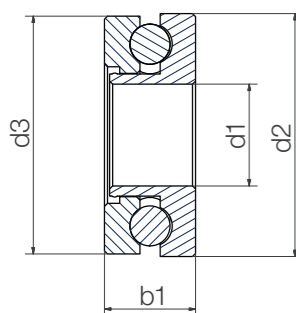
Type	Material
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**BB-51104-B180-ES-D**

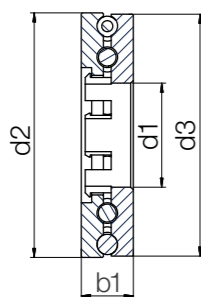
Ball bearings	Dimensions according to DIN 711	Face/cage material	Ball material	Double row
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Options  
**Ball material**  
 ES = Stainless steel  
 GL = Glass  
**Suffix**  
 Blank = Single row  
 D = Double row

Single or double row,  
with stainless steel or glass balls



Single row bearing



Double row bearing

Technical data

Installation size	Single row	Double row	Load capacity		Max. speed [rpm]	Weight	
			stat. [N]	dyn. [N]		B180/ES [g]	B180/GL [g]
51100	●	–	200	250	600	6.61	4.12
51104	●	–	650	810	460	13.72	8.19
51104	–	●	975	1,215	460	18.96	8.99

Dimensions [mm]

Inner Ø		Outer Ø		Width	Cage/ball material combination		Part No.
d1	d2	d3	b1		B180/ES	B180/GL	
10	24	23.5	9	10	●	●	BB-51100-B180-□
20	35	34.5	10		●	●	BB-51104-B180-□
20	47	46.5	10		●	●	BB-51104-B180-□-D



Order example:

BB-51100-B180-ES = Thrust bearing with race material xirodur B180, B180 cage and stainless steel balls



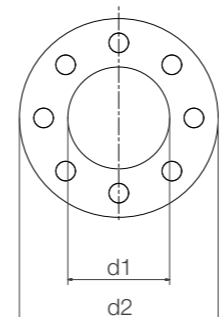
Available from stock



Standard type with stainless steel or glass balls



Slim Line design with stainless steel or glass balls



Order key

Type	Material
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**BB-6004TW-B180-ES-SL**

Ball bearings	Dimensions according to DIN 625-1	Thrust washer	Face material	Ball material	Slim Line
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Options  
**Ball material**  
 ES = Stainless steel  
 GL = Glass  
**Suffix**  
 Blank = Standard  
 SL = Slim Line

Technical data (related to metallic shafts)

Installation size	Slim Line	Recommended load capacity		Max. speed [rpm]	Weight	
		stat. [N]	dyn. [N]		B180/ES [g]	B180/GL [g]
626	–	341	425	2,000	1.35	0.81
608	–	482	600	1,700	2.25	1.17
6000	–	610	782	1,500	3.04	1.50
6000	●	405	500	1,500	2.09	1.20
6004	–	975	1,215	700	6.87	4.41
6006	–	925	1,540	600	5.51	3.39
6006	●	520	680	600	4.23	2.98

Dimensions [mm]

Inner Ø		Outer Ø		Width	Race/ball material combination		Part No.
d1	d2	b1	b2		B180/ES	B180/GL	
6.2	18.8	2.0	3.18	2.0	●	●	BB-626TW-B180-□
8.2	21.8	2.0	3.97		●	●	BB-608TW-B180-□
10.2	25.8	2.0	4.76		●	●	BB-6000TW-B180-□
10.2	25.8	2.0	3.97	3.0	●	●	BB-6000TW-B180-□-SL
21.0	41.0	2.5	4.76		●	●	BB-6004TW-B180-□
29.9	45.5	2.5	4.76		●	●	BB-6006TW-B180-□
29.9	45.5	2.5	3.97	2.5	●	●	BB-6006TW-B180-□-SL



Order example:

BB-6000TW-B180-ES-SL = Thrust washer with race material xirodur B180, stainless steel balls, Slim Line version



Available from stock

# xiros® slewing ring ball bearings | Product range

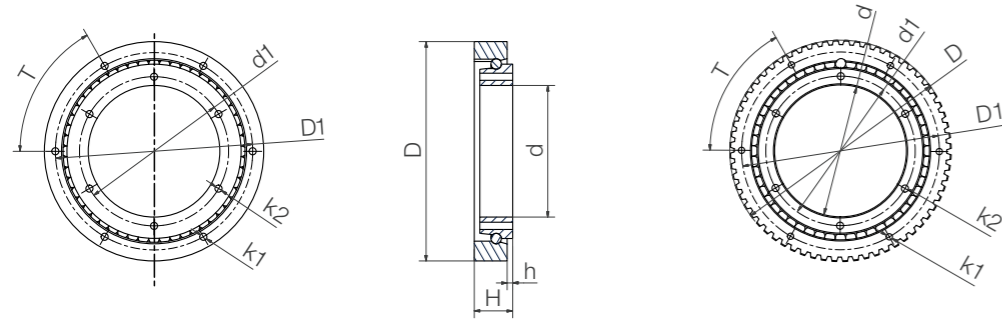
## xirodur B180 – for absorbing higher axial loads



Stainless steel balls



Glass balls

Stainless steel balls,  
with cage made from  
xirodur B180Stainless steel balls,  
with outer drive ring (HDT5)

### Technical data

Type	Load capacity		Max. permissible moment [Nm]	Max. speed [rpm]	Weight	
	Axial [N]	Radial [N]			stainless steel [g]	glass [g]
<b>Standard with stainless steel or glass balls</b>						
RT-01-60	800	720	40	350	111.68	7.33
RT-01-100	1,600	1,250	60	250	283.85	243.76
<b>Slewing ring bearing with xirodur B180 cage</b>						
RT-01-40-B180-30	500	260	30	900	63.46	–
RT-01-60-B180-30	600	300	30	800	101.22	–
RT-01-100-B180-30	1,020	760	55	650	248.90	–
RT-01-150-B180-30	2,000	1,100	75	600	398.00	–
RT-01-400-B180-30	5,800	2,900	170	500	–	6338
<b>Slewing ring bearing with outer drive ring</b>						
RT-01-60HDT5-B180-30	800	720	40	320	97.00	–



### Order example:

BB-RT-01-60-ES = Standard slewing ring bearing with race material xirodur B180 and [stainless steel balls](#)

BB-RT-01-60-B180-30-ES = Slewing ring bearing with race material xirodur B180, [cage](#) and stainless steel balls

BB-RT-01-60-HDT5-B180-ES = Slewing ring bearing with race material xirodur B180, outer drive ring and stainless steel balls

BB-RT-01-60-HDT5-B180-30-ES = Slewing ring bearing with race material xirodur B180, outer drive ring, [cage](#) and stainless steel balls



### Order key

Type	Design	Material
Ball bearings	Slewing ring bearing	Type 01
Inner Ø		Ball material
Options		
Ball material		
ES = Stainless steel		
GL = Glass		

BB-RT-01-60-ES



### Order key with cage

Type	Design	Material
Ball bearings	Slewing ring bearing	Type 01
Inner Ø		Race material
		Cage material
		Ball material

BB-RT-01-60-B180-30-ES

### Dimensions [mm]

d	d1	D	D1	h	H	T	k1	k2	Part No.
<b>Standard with stainless steel or glass balls</b>									
60	68	100	90	2.5	17.5	60	3.3	3.3	BB-RT-01-60- <input type="checkbox"/>
100	110	160	150	5.0	20.0	60	5.2	5.2	BB-RT-01-100- <input type="checkbox"/>
<b>Slewing ring bearing with xirodur B180 cage</b>									
40	80	47	72	2.5	15	60	3.3	3.3	BB-RT-01-40-B180-30-ES
60	68	100	90	2.5	17.5	60	3.3	3.3	BB-RT-01-60-B180-30-ES
100	160	110	150	5.0	20	60	5.2	5.2	BB-RT-01-100-B180-30-ES
150	210	163	197	5.0	20	60	6.1	6.1	BB-RT-01-150-B180-30-ES
400	450	600	550	10.0	40	51.43	8.0	8.0	BB-RT-01-400-B180-30-GL
<b>Slewing ring bearing with outer drive ring</b>									
60	68	100	90	2.5	17.5	60	3.3	3.3	BB-RT-01-60HDT5-B180-30-ES



Available  
from stock





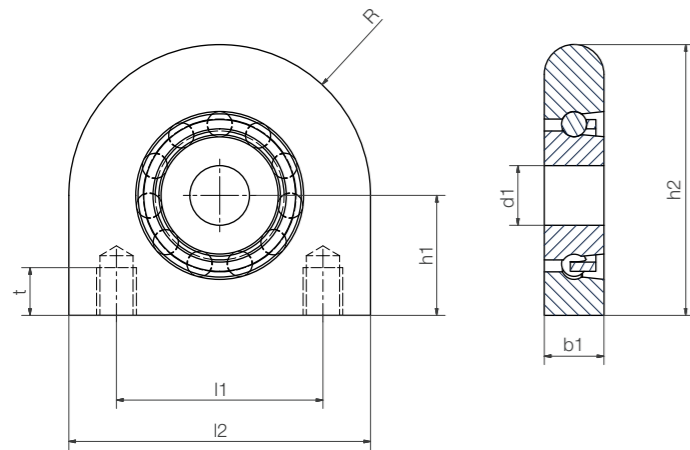
Type Material

**ESTM-BB1-F25-B180-ES-SL**

Pillow block bearing  
 Ball bearing, single row  
 Fixed version  
 Inner Ø  
 Race/cage material  
 Ball material  
 Slim Line

**Race/cage material**  
 B180 = xirodur B180  
**Ball material**  
 ES = Stainless steel

- FDA-compliant components
- Can withstand loads of up to approximately 50kg (depending on installation size)

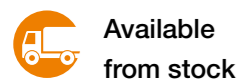


Technical data

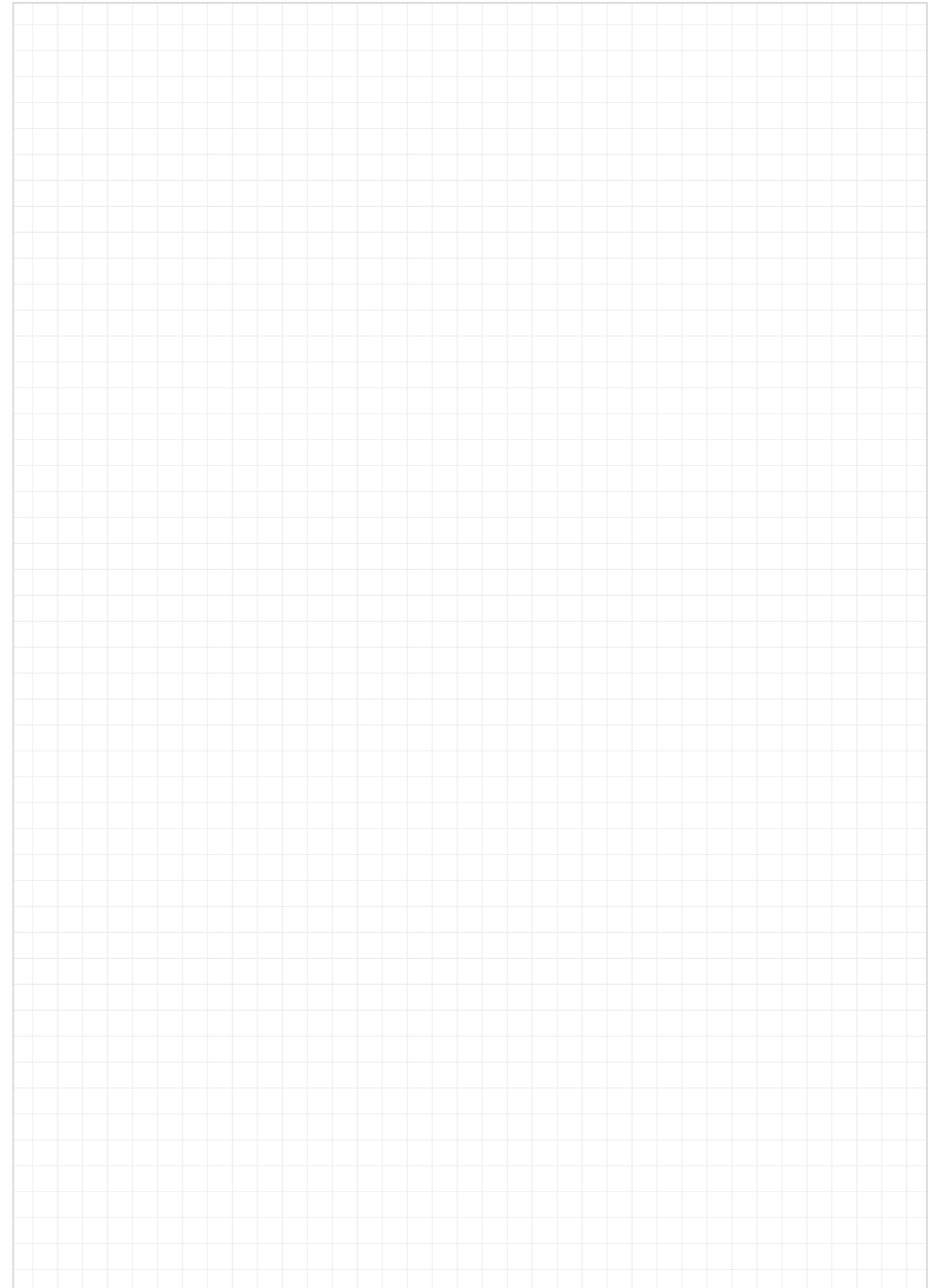
Type	Load capacity, radial		Max. speed [rpm]	Weight stainless steel [g]
	stat. [N]	dyn. [N]		
ESTM-F15	270	350	1,250	86
ESTM-F17	280	360	1,200	85
ESTM-F20	290	370	1,150	83
ESTM-F25	480	520	850	119
ESTM-F30	500	550	840	163

Technical data

d1	b1	h1	h2	l1	l2	R	Thread	t	Part No.
15	15	30.2	68.2	52	76	38	M10	12	ESTM-BB1-F15-B180-ES-SL
17	15	30.2	68.2	52	76	38	M10	12	ESTM-BB1-F17-B180-ES-SL
20	15	30.2	68.2	52	76	38	M10	12	ESTM-BB1-F20-B180-ES-SL
25	17	36.5	78.5	56	84	42	M10	15	ESTM-BB1-F25-B180-ES-SL
30	19	42.9	89.9	66	94	47	M14	18	ESTM-BB1-F30-B180-ES-SL



Available from stock



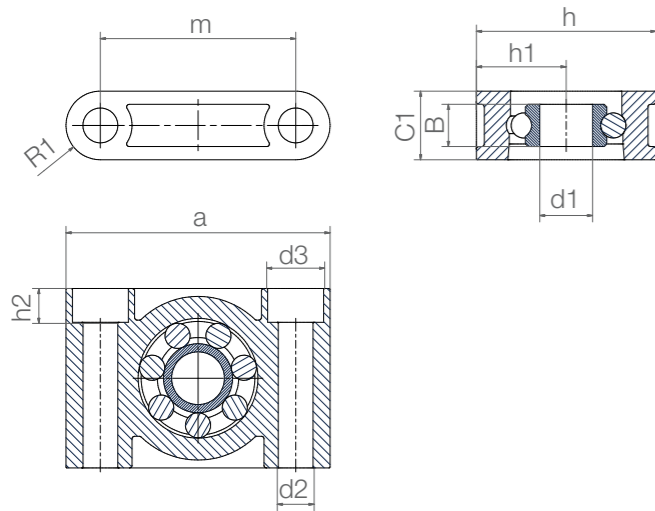
Fixed version



igumid G housing,  
PA cage, stainless  
steel balls

igumid G housing,  
PA cage,  
glass balls

- Assembly-friendly



Order key

Type	Material
ESTM-BB1-F06-B180-ES	
Pillow block bearing	
Ball bearing, single row	
Fixed version	
Inner Ø	
Race material	
Ball material	

Race material  
B180 = xirodur B180  
Options:  
Ball material  
ES = Stainless steel  
GL = Glass

Technical data

Type	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		B180/ES [g]	B180/GL [g]
ESTM-F06	41	43	2,600	7.7	6.7
ESTM-F10	110	130	1,900	20.2	18.2
ESTM-F20	250	320	1,150	54.1	47.7

Dimensions [mm]

Inner Ø d1	Hole Ø d2	d3	h	h1	h2	a	m	C1	B	R1	Part No.
6	5.5	-	22	11	-	36	26	10	6	5.0	ESTM-BB1-F06-B180-□
10	6.6	10.6	34	17	6.6	50	37	13	8	6.5	ESTM-BB1-F10-B180-□
20	9.0	14.0	48	24	8.6	72	54	18	12	9.0	ESTM-BB1-F20-B180-□

Order example:  
ESTM-BB1-F06-B180-ES = Pillow block bearing, fixed version, made from xirodur B180 with stainless steel balls

Available  
from stock

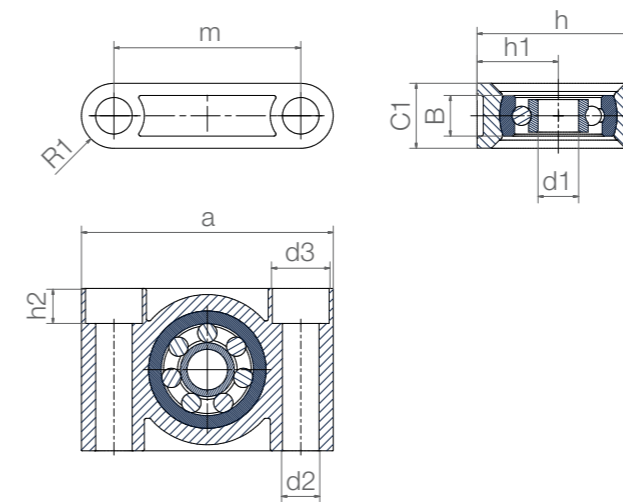
Pivoting version



igumid G housing,  
PA cage, stainless  
steel balls

igumid G housing,  
PA cage,  
Glass balls

- Compensation of misalignment errors



Order key

Type	Material
ESTM-BB1-P 08-B180-ES	
Pillow block bearing	
Ball bearing, single row	
Pivoting version	
Inner Ø	
Race material	
Ball material	

Race material  
B180 = xirodur B180  
Options:  
Ball material  
ES = Stainless steel  
GL = Glass

Technical data

Type	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		B180/ES [g]	B180/GL [g]
ESTM-P08	80	94	2,200	19.6	18.2
ESTM-P10	110	130	1,900	32.9	30.3
ESTM-P12	130	147	1,750	54.8	52.8

Dimensions [mm]

Inner Ø d1	Hole Ø d2	d3	h	h1	h2	a	m	C1	B	R1	Max. pivot angle	Part No.
8	6.6	10.6	34	17	6.4	50	37	13	8	6.5	±5°	ESTM-BB1-P08-B180-□
10	9.0	14.0	40	20	8.6	62	46	16	10	8	±5°	ESTM-BB1-P10-B180-□
12	9.0	14.0	48	24	8.6	72	54	18	12	9	±5°	ESTM-BB1-P12-B180-□

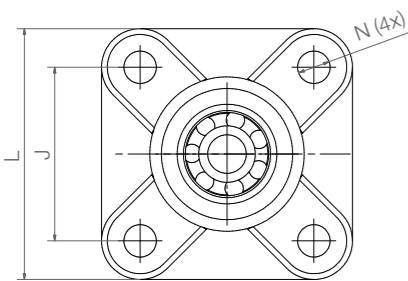
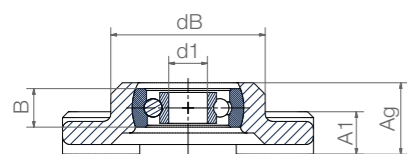
Order example:  
ESTM-BB1-P08-B180-ES = Pillow block bearing, pivoting version, made from xirodur B180 with stainless steel balls

Available  
from stock



igumid G housing,  
PA cage,  
stainless steel balls or  
glass balls

- Compensation of misalignment errors



Order key

Type	Material
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EFSM-BB1-P 08-B180-ES

4-hole fixed flange ball bearings	Ball bearing, single row	Pivoting version	Inner Ø	Face material	Ball material
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**Race material**

B180 = xirodur B180

Options:

**Ball material**

ES = Stainless steel

GL = Glass

## Technical data

Type	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		B180/ES [g]	B180/GL [g]
EFSM-P08	80	94	2,200	25.2	24.0
EFSM-P10	110	130	1,900	48.8	46.2
EFSM-P12	130	147	1,750	80.0	77.7

## Dimensions [mm]

Inner Ø d1	dB d2	L	J	A1	Ag	B	N	Max. pivot angle	Part No.
8	32.5	52	36	9	15.5	8	6.4	±20°	EFSM-BB1-P08-B180- <input type="checkbox"/>
10	40.0	65	45	11	18.8	10	8.4	±20°	EFSM-BB1-P10-B180- <input type="checkbox"/>
12	48.0	74	52	14	23.5	12	8.4	±20°	EFSM-BB1-P12-B180- <input type="checkbox"/>



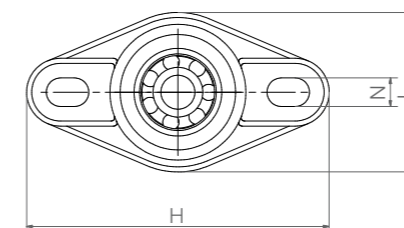
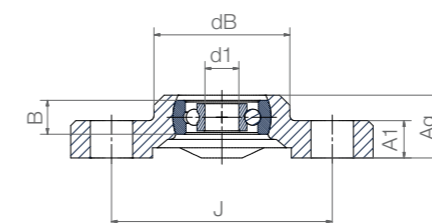
Order example:

EFSM-BB1-P08-B180-ES = 4-hole fixed flange ball bearing with race material xirodur B180 and stainless steel balls

Available  
from stock

igumid G housing,  
PA cage,  
stainless steel balls or  
glass balls

- Trouble-free readjustment thanks to elongated holes
- Precise alignment of the bearings not necessary



Order key

Type	Material
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EFOM-BB1-P 08-B180-ES

2-hole fixed flange ball bearings	Ball bearing, single row	Pivoting version	Inner Ø	Face material	Ball material
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**Race material**

B180 = xirodur B180

Options:

**Ball material**

ES = Stainless steel

GL = Glass

## Technical data

Type	Radial load capacity		Max. speed [rpm]	Weight	
	stat. [N]	dyn. [N]		B180/ES [g]	B180/GL [g]
EFOM-P08	80	94	2,200	19.5	18.1
EFOM-P10	110	130	1,900	36.3	33.6
EFOM-P12	130	147	1,750	61.7	59.4

## Dimensions [mm]

Inner Ø d1	dB d2	H	L	J	A1	Ag	B	N	Max. pivot angle	Part No.
8	32.5	72.6	38	53	10	15.5	8	6.4x10.1	±20°	EFOM-BB1-P08-B180- <input type="checkbox"/>
10	40.0	89.0	47	65	11	18.8	10	8.4x12.5	±20°	EFOM-BB1-P10-B180- <input type="checkbox"/>
12	48.5	101.0	58.5	75	14	23.5	12	8.4x12.5	±20°	EFOM-BB1-P12-B180- <input type="checkbox"/>



Order example:

EFOM-BB1-P08-B180-ES = 2-hole fixed flange ball bearing with race material xirodur B180 and stainless steel balls

Available  
from stock

