

SIMIG[®]

SCHMEING

Polymer Bearings and Components



Technology for the future

Materials



Cages

PA 6.6
PP
PET
PTFE
PEEK
PVDF
PPS
PI
Full complement

Balls

Glass
Boro. Glass
AISI 420
AISI 316
Titan
Ceramics Si ₃ N ₄
Ceramics Al ₂ O ₃
Ceramics ZrO ₂
PP
PA 6.6
POM
PVDF

Races | Housing

POM
PP
PE
PET
PEEK
PVDF
PPS
PI

Balls of ball transfer units

PA 6.6
AISI 420
AISI 316
Ceramics Si ₃ N ₄
Ceramics Al ₂ O ₃
Ceramics ZrO ₂
POM
PP
PVDF

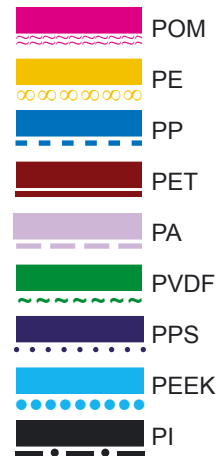
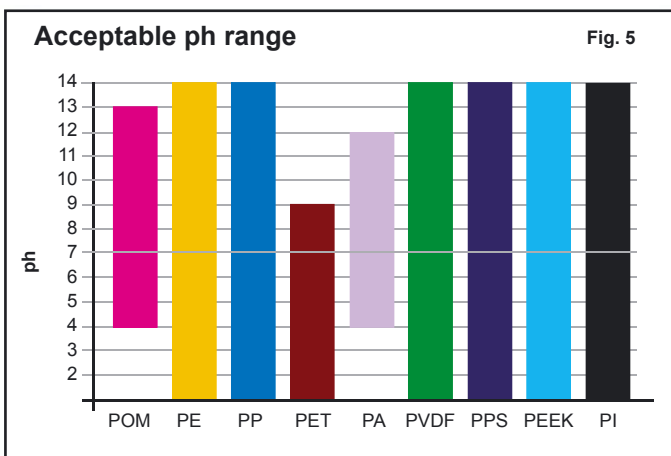
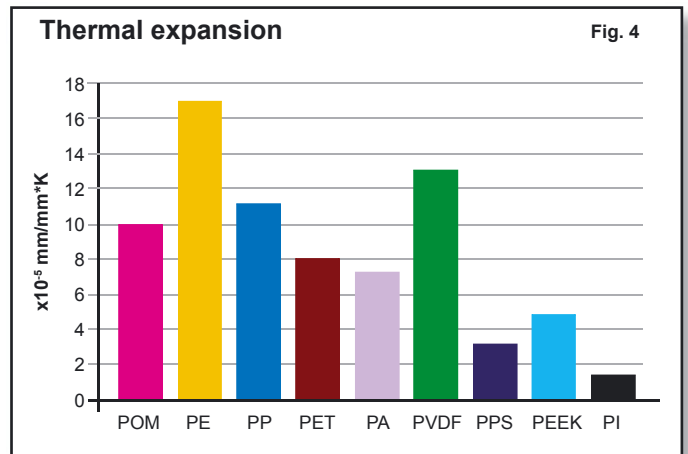
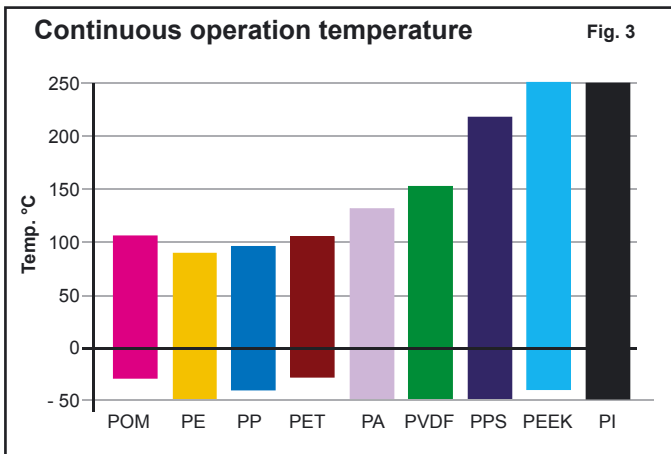
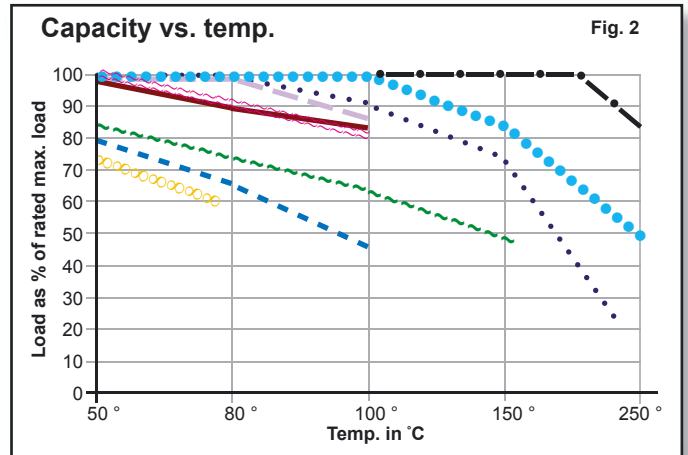
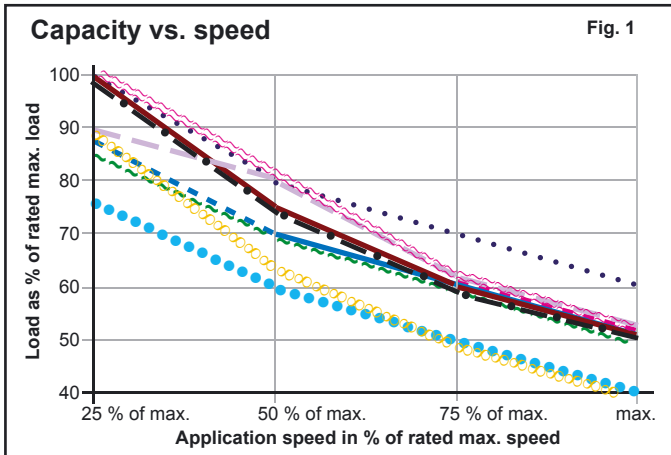
Examples for application

Application	Races	Cages	Balls
Conveying systems, Apparatus engineering, Air conditioning	POM	PA	AISI 420
Electro plating, Electro polishing	PP	PP	Glass
Food processing	POM	PA	AISI 316
Vacuum applications	PVDF	PVDF	Glass
Fiber processing	POM	PA	Glass
Conveyor ovens	PPS	PPS	Boro. Glass
Textile finishing	POM	PA	AISI 316
Medical radiation	PET	PET	AISI 316
Medical radiation (sterilization)	PPS	PPS	Glass
Photo processing	PP/PET	PP	AISI 316
Computer assembly	POM	PA	AISI 420
Automotive application (high temperature)	PPS	PPS	AISI 420
Automotive application	POM	PA	AISI 420
Model and lightweight construction	POM	PA	Glass

Ball transfer units	Housing	Balls
Materials-handling technology	POM	AISI 316/PA
Swivel tables	POM	AISI 316/PA
Food processing	POM	AISI 316
Electroplating	PP/PVDF	Ceramics
Semiconductor industry	PP/PVDF	Ceramics
Medical engineering (sterilization)	PEEK	AISI 316
Electrical engineering	POM	PA
Vacuum systems	PVDF	PVDF
Air conditioning	PE	AISI 316

Technology for the future

Engineering data



Example of how to determine approximate load rating based on actual application parameters: If your bearing will be

- a. 6204 with POM races
- and b. actual application temp. is 80 °C
- and c. actual application speed is 525 rpm

then use dynamic load rating from page 5 times percent from fig. 1 and times percent from fig. 2, you get an actual application load rating of 302 N
 $(420 \text{ N} \times 80 \% \times 90 \% = 302 \text{ N})$

This means that **in your application** the 6204 with POM races should handle a load of 302 N.

We recommend to test the bearings in your current application.

Special products



Single row and double row plastic ball bearings specially designed to be used as pulleys for flat and round belts in the production of computer motherboards.

Advantages: These chemically resistant bearings have been specially designed to facilitate simplicity in construction, keeping costs down.



Flanged plastic ball bearings are extremely smooth running when used in conveyor roller operations.

Advantages: Because of the use of plastic in the construction of the inner and outer bearing races, tight tolerance is not required. The flanged plastic bearing will easily be fitted into the pipe with a light press fit vs. the normal tolerance associated with metal bearing used in the same application.



Plastic ball bearings made of PPS, PEEK or PI with glass balls can be used in high temperature applications such as drying plants, pass through type furnaces or sterilizers.

Advantages: The PI material is capable for temperatures to 250° C without lubrication. Even in difficult conditions such as extreme humidity or steam, these bearings are suitable for continuous high temperature use.



Full-complement plastic ball bearings

Advantages: Increase of the maximum bearing capacity. No cages (ball retainers) will be required.

Special products



Special rolling bearings for special applications, integrated into the product as complete structural component, ball or needle bearing, as toothed wheel.

Advantages: Possibility of integrating design, thus cost saving.



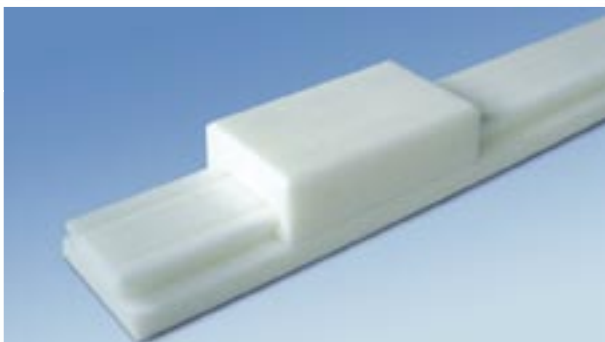
Standard steel ball bearings with plastic-covered outer ring.

Advantages: Noise attenuation, for transportation of sensible goods.



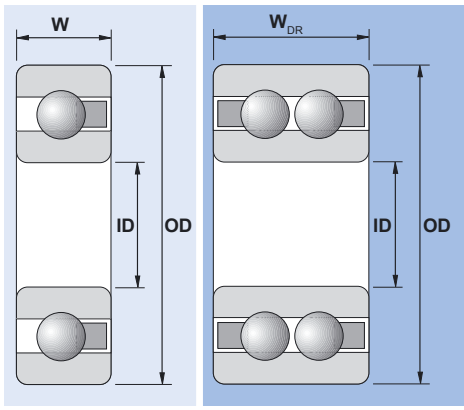
Obtainable are further types such as thrust ball bearings, special ball transfer units, deep groove ball bearings with Z-shields, insert bearings, etc.

Advantages: Simplified construction of the installations, even permitted for use in the food-processing sector (FDA).



Linear guides made of plastic material

Advantages: The guides can do without any grease or oil, thus being usable for many sterile fields of application such as food-processing industry. The linear guides, developed according to customer's requirements, can also be made in small-lot production.



Bearings – metric size single and double row

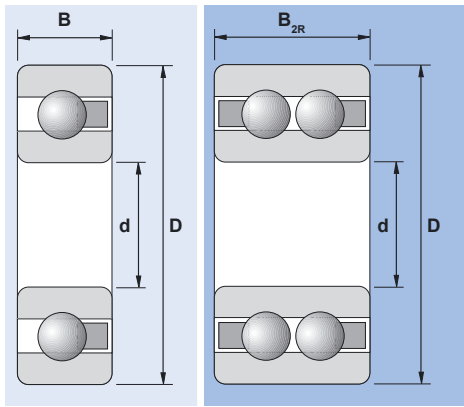


Code	Single row			DR W	Single row			Double row		
	ID	OD	W		capacity stat.	dyn.	max. speed	capacity stat.	dyn.	max. speed
	mm	mm	mm	mm	N	N	rpm	N	N	rpm
623	3	10	4	6	30	45	4500	54	81	4050
624	4	13	5	8	40	60	3600	72	108	3250
625	5	16	5	9	45	65	3050	81	117	2750
626	6	19	6	10	50	70	2600	90	126	2340
607	7	19	6	10	50	70	2600	90	126	2340
627	7	22	7	10	55	80	2200	99	144	1980
608	8	22	7	10	55	80	2200	99	144	1980
609	9	24	7	10	60	90	2050	108	162	1850
629	9	26	8	13	70	100	1900	126	180	1710
6000	10	26	8	13	90	130	1900	162	234	1710
6200	10	30	9	13	110	160	1650	198	288	1480
6300	10	35	11	18	190	280	1400	342	504	1260
6001	12	28	8	13	110	160	1750	198	288	1580
6201	12	32	10	16	150	220	1550	270	396	1390
6301	12	37	12	20	210	310	1300	378	558	1170
16002	15	32	8	13	130	190	1500	234	342	1350
6002	15	32	9	13	140	200	1500	252	360	1350
6202	15	35	11	16	170	250	1400	306	450	1260
6302	15	42	13	20	260	370	1200	468	666	1080
16003	17	35	8	13	160	240	1400	288	432	1260
6003	17	35	10	13	170	260	1400	306	468	1260
6203	17	40	12	18	220	320	1250	396	576	1120
6303	17	47	14	20	260	370	1050	468	666	945
16004	20	42	8	16	190	290	1150	342	522	1035
6004	20	42	12	16	200	300	1150	360	540	1035
6204	20	47	14	20	270	420	1050	486	756	945
6304	20	52	15	25	350	500	950	630	900	855
16005	25	47	8	16	210	310	1050	378	558	950
6005	25	47	12	17	240	360	1050	432	648	950
6205	25	52	15	20	320	480	950	576	864	855
6305	25	62	17	30	400	600	725	720	1080	650
16006	30	55	9	17	240	370	900	432	666	810
6006	30	55	13	18	280	420	900	504	756	810
6206	30	62	16	24	360	550	800	648	990	720
6306	30	72	19	32	460	700	675	828	1260	600
16007	35	62	9	17	270	410	800	432	666	720
6007	35	62	14	20	320	480	800	576	864	720
6207	35	72	17	28	410	620	700	738	1116	630
6307	35	80	21	35	490	750	600	882	1350	540
16008	40	68	9	17	300	450	750	540	810	675
6008	40	68	15	22	350	520	750	630	936	675
6208	40	80	18	32	440	660	625	792	1188	560
6308	40	90	23	36	520	800	575	936	1440	510
16009	45	75	10	18	330	500	650	594	900	575
6009	45	75	16	23	380	560	650	684	1008	575
6209	45	85	19	32	470	720	580	846	1296	520
6309	45	100	25	40	540	900	500	972	1620	500
6010	50	80	16	26	390	580	600	702	1044	540
6210	50	90	20	32	540	770	550	972	1386	500
6011	55	90	18	28	400	600	550	720	1080	480
6211	55	100	21	38	600	800	500	1080	1440	450
6012	60	95	18	28	420	640	500	756	1152	450

Ball bearings with ZZ shields on inquiry.

Load and speed ratings are for comparison purposes only. Graphs on page 3 should be used to determine actual application values. Other sizes available on special orders.

Technology for the future



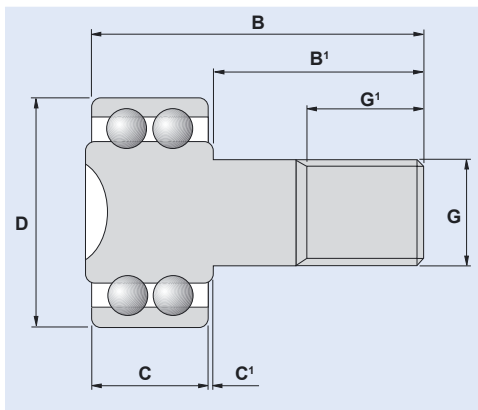
Bearings – inch size single and double row



Code	ID		Single row OD		W		DR W		Single row capacity			Double row capacity		
	mm	inch	mm	inch	mm	inch	mm	inch	stat. N	dyn. N	max. speed U/min	stat. N	dyn. N	max. speed U/min
R4	6,35	1/4	15,88	5/8	5,0	0,196	9,53	3/8	40	60	3600	72	108	2900
R4 A	6,35	1/4	19,05	3/4	5,56	7/32	9,53	3/8	50	70	2600	90	130	2100
R4 AW	6,35	1/4	19,05	3/4	7,14	9/32	12,7	1/2	50	70	2600	90	130	2100
R6	9,53	3/8	22,22	7/8	5,56	7/32	11,11	7/16	60	80	2200	110	150	1750
R6 A	9,53	3/8	22,22	7/8	7,14	9/32	11,11	7/16	60	80	2200	110	150	1750
R8	12,7	1/2	28,58	1-1/8	6,35	1/4	11,11	7/16	110	160	1750	200	290	1400
R8 A	12,7	1/2	28,58	1-1/8	9,53	3/8	12,7	1/2	110	160	1750	200	290	1400
R10	15,88	5/8	34,93	1-3/8	7,14	9/32	14,29	9/16	170	250	1400	300	450	1150
R10 A	15,88	5/8	34,93	1-3/8	9,53	3/8	14,29	9/16	170	250	1400	300	450	1150
R10 B	15,88	5/8	34,93	1-3/8	11,11	7/16	14,29	9/16	170	250	1400	300	450	1150
R12	19,05	3/4	41,28	1-5/8	7,94	5/16	15,88	5/8	200	300	1200	360	540	960
R16	25,4	1,0	50,8	2,0	12,7	1/2	19,05	3/4	240	360	1050	430	650	840

Ball bearings with ZZ shields on inquiry.

Load and speed ratings are for comparison purposes only. Graphs on page 3 should be used to determine actual application values.



Guide rollers

available also with dimensions
based on inch-system

Code	D	C	B	B'	C'	G	G'	load capacity		speed
	mm	mm	mm	mm	mm	mm	mm	stat. N	dyn. N	n max rpm
KR 16	16	11	28	16	0,6	M 6	8	45	65	3050
KR 19	19	11	32	20	0,6	M 8	10	50	70	2600
KR 22	22	12	36	23	0,6	M 10x1	12	55	80	2200
KR 26	26	12	36	23	0,6	M 10x1	12	70	100	1900
KR 30	30	14	40	25	0,6	M 12x1,5	13	110	160	1650
KR 32	32	14	40	25	0,6	M 12x1,5	13	150	220	1550
KR 35	35	18	52	32,5	0,8	M 16x1,5	17	170	250	1400
KR 40	40	20	58	36,5	0,8	M 18x1,5	19	220	320	1250
KR 47	47	24	66	40,5	0,8	M 20x1,5	21	260	370	1050

Ball bearings with ZZ shields on inquiry.

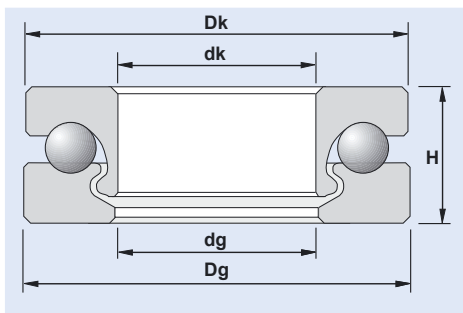
Load and speed ratings are for comparison purposes only. Graphs on page 3 should be used to determine actual application values.
Other sizes available on special orders.

Technology for the future



Thrust ball bearing units

SMG can manufacture thrust bearings in most standard inch or metric sizes as well as custom sizes. Most thrust bearings are manufactured with POM races and glass or AISI 316 balls. All other materials listed on page 2 are available for thrust bearings upon special request. Contact SMG for assistance.



Code	dk mm	Dg mm	dg mm	Dk mm	H mm	Capacity		max. speed rpm
						stat. N	dyn. N	
51100	10	24	11	23	9	200	250	600
51200	10	26	11	25	11	210	260	600
51101	12	26	13	25	9	320	400	540
51201	12	28	13	27	11	330	410	540
51102	15	28	16	27	9	500	625	500
51202	15	32	16	31	12	520	650	500
51103	17	30	18	29	9	570	710	480
51203	17	35	18	34	12	600	750	480
51104	20	35	21	34	10	650	810	460
51204	20	40	21	39	14	690	860	460
51105	25	42	26	41	11	710	880	410
51305	25	52	26	51	18	820	1025	380
51205	25	47	26	46	15	750	930	400
51106	30	47	31	46	11	760	950	400
51206	30	52	31	51	16	820	1025	375
51306	30	60	31	59	21	860	1070	360
51107	35	52	36	51	12	810	1010	390
51207	35	62	36	61	18	870	1090	365
51307	35	68	36	67	24	950	1185	350
51108	40	60	41	59	13	890	1110	375
51208	40	68	41	67	19	940	1175	350
51308	40	78	41	77	26	1000	1250	320
51109	45	65	46	64	14	950	1185	360
51209	45	73	46	72	20	1010	1260	330
51309	45	85	46	84	28	1070	1335	310
51110	50	70	51	69	14	1020	1275	340
51210	50	78	51	77	22	1100	1375	310
51310	50	95	51	94	31	1180	1475	290
51111	55	78	56	77	16	1050	1310	310
51211	55	90	56	89	25	1160	1450	280
51311	55	105	56	104	35	1270	1585	270
51112	60	85	61	84	17	1120	1400	280
51212	60	95	61	94	26	1300	1620	250
51312	60	110	61	109	35	1500	1870	240

Load and speed ratings are for comparison purposes only. Graphs on page 3 should be used to determine actual application values.



General technical data

Dimensions

The main dimensions of the radial plastic ball bearings are in conformity with the specification of DIN 625-1:1989 and DIN 616:2000 or ISO 15:1989 respectively, except for the distance between the edges. The main dimensions of the plastic thrust bearings, with the exception of the distances between the edges, are in conformance with DIN 616:2000 or ISO 104:2002 respectively.

Bearing tolerances

Inner diameter	Tolerance	Outer diameter	Tolerance	Width	Tolerance
3 - 17 mm 1/8" - 11/16"	+/- 0.03 mm +/- 0.0012"	10 - 30 mm 3/8" - 1-1/8"	+/- 0.04 mm +/- 0.0016"	4 - 8 mm 5/32" - 5/16"	- 0.1 mm - 0.004"
20 - 50 mm 3/4" - 2"	+/- 0.04 mm +/- 0.0016"	35 - 47 mm 1-3/8" - 1-7/8"	+/- 0.05 mm +/- 0.002"	10 - 14 mm 7/16" - 9/16"	- 0.1 mm - 0.004"
55 - 70 mm 2-1/8" - 2-3/4"	+/- 0.05 mm +/- 0.002"	52 - 80 mm 2-1/8" - 3-1/8"	+/- 0.06 mm +/- 0.0024"	14 - 20 mm 5/8" - 7/8"	- 0.1 mm - 0.004"
		90 - 125 mm 3-1/2" - 5"	+/- 0.08 mm +/- 0.0032"		

These tolerances are for bearings with races of POM only. Other materials may have different tolerances.

Assembly instructions (Radial Ball Bearings)

We recommend a press fit on the ID and a loose fit on the OD (or the reverse is also okay). This will compensate for any growth of the shaft or housing. However, a press fit on the ID AND OD, or a too tight press fit on the ID OR OD will reduce or eliminate the radial clearance and may cause the bearing to fail.

For a press fit on the ID, the shaft should be 0.02 mm larger than the bearing inner diameter. For a press fit on the OD, the housing bore should be 0.02 mm smaller than the bearing OD.

If you should like help to calculate these values, please contact SMG for technical support.

Radial bearing clearance

Bore		Radial bearing clearance	
d [mm]		[µm]	
more than	up to	min.	max.
	9	60	140
9	17	70	150
17	20	80	160
20	25	80	170
30	35	90	180
35	45	100	200
45	60	110	210

These data are standard values for our radial bearings. The bearing clearance can be changed according to customer's order.

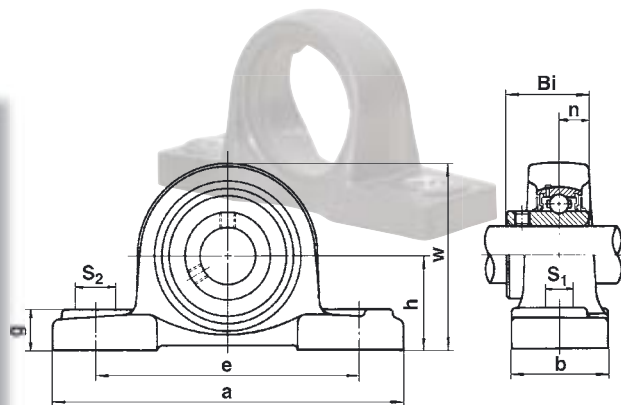
Technology for the future

Pillow blocks and 4/2 bolt flange housings reinforced thermoplastic

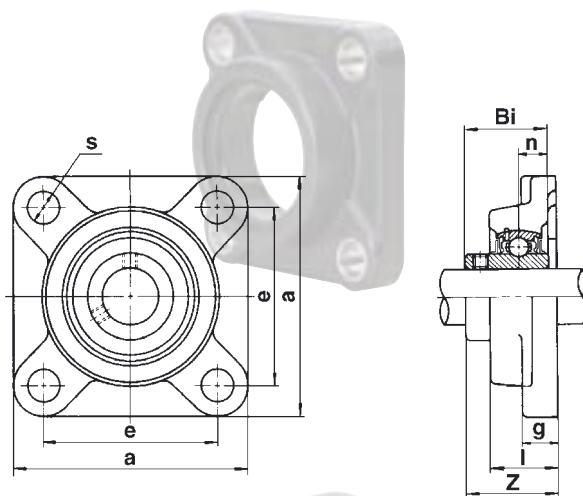
SMG housings are manufactured from extra strong glass fiber reinforced PA. In addition, the PA is formed around a small steel frame to provide strength near that of metal housings. These housings have exceptional chemical resistance and can not rust. And they are lightweight.

SMG housings are industry standard sizes and dimensions and will accept the polymer insert bearings listed on page 11 or most steel insert bearings. The bolt holes have zinc-plated sleeves or optional stainless steel sleeves.

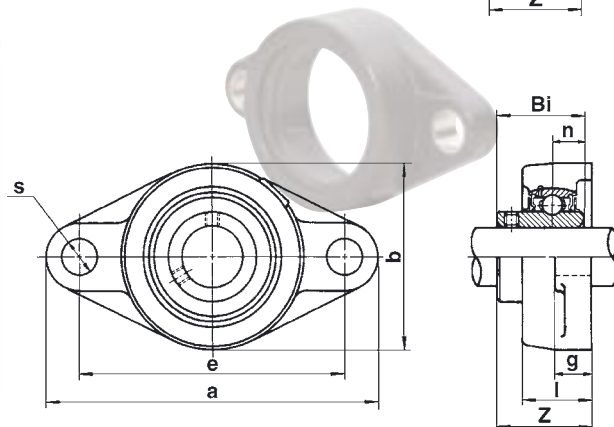
Thermoplastic Pillow Blocks								
Type	h mm	a mm	e mm	b mm	S ₁ mm	S ₂ mm	g mm	w mm
PL 200-P	33,3	126	96	32	12	17,5	16	64
PL 201-P	33,3	126	96	32	12	17,5	16	64
PL 202-P	33,3	126	96	32	12	17,5	16	64
PL 203-P	33,3	126	96	32	12	17,5	16	64
PL 204-P	33,3	126	96	32	12	17,5	16	64
PL 205-P	36,5	134	105	32	12	17,5	16	70,5
PL 206-P	42,9	159	121	40	14,5	21,5	19	82
PL 207-P	47,6	164	126	45	14,5	21,5	19	93
PL 208-P	49,2	176	136	48	14,5	21,5	19	99



Thermoplastic 4 Bolt Flange housings					
Type	a mm	e mm	g mm	l mm	S mm
F 200-P	86	63,5	15	30	12
F 201-P	86	63,5	15	30	12
F 202-P	86	63,5	15	30	12
F 203-P	86	63,5	15	30	12
F 204-P	86	63,5	15	30	12
F 205-P	95	70	15	31	12
F 206-P	108	82,5	15,3	33	12
F 207-P	118	92	17	35	14,5
F 208-P	130	101,5	17	39	14,5

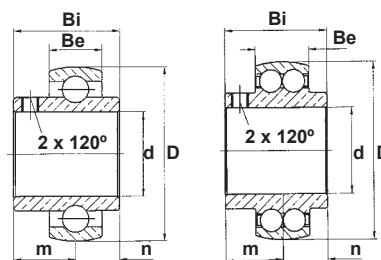


Thermoplastic 2 Bolt Flange housings						
Type	a mm	e mm	b mm	g mm	l mm	S mm
FL 200-P	112	90	60,5	15	29,5	12
FL 201-P	112	90	60,5	15	29,5	12
FL 202-P	112	90	60,5	15	29,5	12
FL 203-P	112	90	60,5	15	29,5	12
FL 204-P	112	90	60,5	15	29,5	12
FL 205-P	124	99	70	15	30	12
FL 206-P	142,5	116,5	83	15	33	12
FL 207-P	156	130	96	17	35	14,5



Insert bearings

Single and double row



Code	d		D	Bi	Be	m	n	Load capacity single row (N)			Load capacity double row (N)		
	mm	inch						stat.	dyn	rpm	stat.	dyn	rpm
UC 200-P	10	3/8	47	31,0	17	18,3	12,7	270	420	1050	490	750	945
UC 201-P	12	7/16; 1/2	47	31,0	17	18,3	12,7	270	420	1050	490	750	945
UC 202-P	15	5/8	47	31,0	17	18,3	12,7	270	420	1050	490	750	945
UC 203-P	17	3/4	47	31,0	17	18,3	12,7	270	420	1050	490	750	945
UC 204-P	20	7/8	47	31,0	17	18,3	12,7	270	420	1050	490	750	945
UC 205-P	25	1	52	34,1	17	19,6	14,5	320	480	950	580	860	855
UC 206-P	30	1-1/16; 1-1/8 1-1/4; 1-3/16	62	38,1	19	22,2	15,9	360	550	800	650	990	720
UC 207-P	35	1-1/4; 1-3/8	72	42,9	20	25,4	17,5	410	620	700	740	1110	630
UC 208-P	40	1-1/2; 1-5/8	80	49,2	21	30,2	19,0	440	660	625	790	1200	560
UC 209-P	45	1-3/4; 1-7/8	85	49,2	22	30,2	19,0	470	720	580	840	1300	520

Ball bearings with ZZ shields on inquiry.

Load and speed ratings are for comparison purposes only. Graphs on page 3 should be used to determine actual application values.

All bearings are manufactured with spherical OD to fit standard metal housings or the SMG Schmeing reinforced PA housings listed on page 10. The standard bearing material is POM races with AISI 316 balls. Other materials listed on page 2 are also available on special request. Bearings can be specially manufactured to meet your specific application needs.

Photographic and film materials

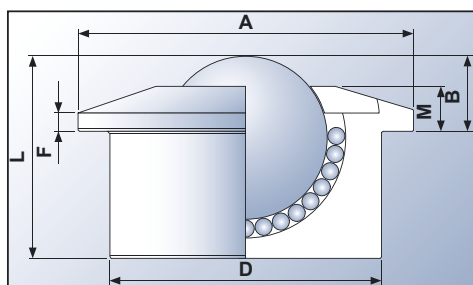
For more than 30 years SMG has been a leading OEM and aftermarket supplier to the photographic processing industry worldwide. Companies whose reputation keep them at the forefront of their industries depend on SMG Schmeing quality products.

Most standard bearings and splice pads are in stock for machines manufactured by Kodak, Agfa, GPE, Houston, Noritsu, San Marco, and many more. Contact SMG for details.

Please ask for our product line summary.



Ball transfer units out of plastic



Ref No.	SMG-Part.-No.	Materials		Ball Ø (mm)	Dimensions (mm)						Weight (g)	Load capacity C (N)
		Housing	Balls		A	B	D	F	M	L		
					flange diameter	working height of ball	base diameter	flange thickness	bottom flange to top of outer ring	overall height		
515	467.015 467.115	POM POM	1.4401 PA	15	31 ± 0,1	9,5 ± 0,2	24 ± 0,065	2,8	6,3	21	24 12	70
522	467.022 467.122	POM POM	1.4401 PA	22	45 ± 0,1	9,8 ± 0,2	36 ± 0,080	2,8	5,5	30	74 36	100
530	467.030 467.130	POM POM	1.4401 PA	30	55 ± 0,2	13,8 ± 0,3	45 ± 0,080	4	8,3	37	162 66	150
545	467.045 467.145	POM POM	1.4401 PA	45	75 ± 0,2	19 ± 0,4	62 ± 0,095	4	10	53,5	502 176	200

Ball transfer units out of plastic compared to steel units

Advantages

- ✓ resistant to acids and lyes
- ✓ no lubrication, maintenance-free
- ✓ low friction
- ✓ low weight* (up to 70 % less)
- ✓ appropriated for use in vacuum or pressure
- ✓ electrical characteristics: non-conductive
- ✓ saltwater-proof
- ✓ free of metallic components*
- ✓ flexibility in design for best possible product integration
- ✓ resistance to high temperatures up to 250° C (for our „high temperature materials“)
- ✓ transport of fragile goods such as glass*
- ✓ appropriated for use in explosive atmosphere (acc. to ATEX guidelines)
- ✓ appropriated for use in antimicrobial applications
- ✓ **execution acc. to customer's requirements possible**

* depending on selection of materials

Attention: Lower load compared to steel units, electrical characteristics: non-conductive, lower thermal stability (standard material POM approx. 90° C), higher thermal expansion coefficient

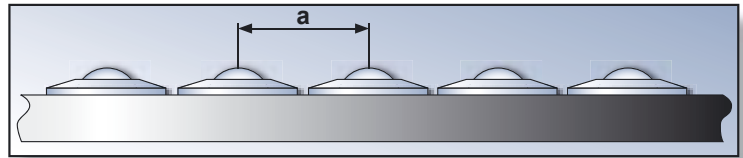
Technology for the future

Ball transfer units out of plastic

technical data

Arrangement of the ball transfer units:

For articles with a uniform, smooth undersurface, the distance between the ball transfer units is calculated by dividing the smallest edge length by 3.

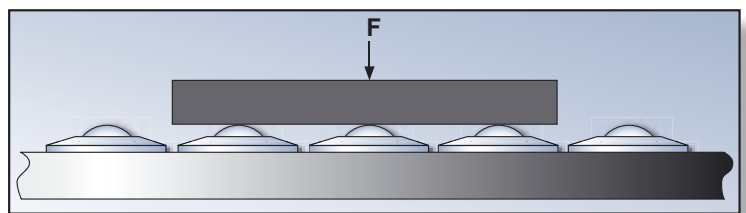


Undersurface of the conveyed article = 300 x 800 mm
Distance between ball transfer units $a = 300/3 = 100$ mm

Determining the load for ball transfer units:

To determine the load for a ball transfer unit, the mass of the conveyed article is divided by 3.

mass = 500 N
ball transfer unit load $F = 500/3 = 166$ N



Conveying speed: $V_{\max} = 1$ m/sec.

Load capacity:

The stated local capacities apply to all mounting orientations and relate to 10^6 rotations of the load ball.

Temperature factor:

Operation temperature up to 30° C.
At temperatures above 30° C, please consider reduction in load capacity.

Temperature °C	Temperature factor f_T
40	0,93
50	0,85
60	0,75
70	0,60
80	0,45

$$L = (C/F)^3 \times 10^6$$

L = Nominal life (rotations)

C = Load capacity [N]

F = Load [N]

The load capacity must be multiplied by the temperature factor.

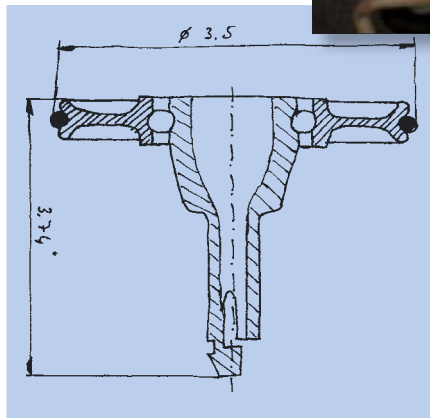




SMG Schmeing has the experience and resources to help you develop a special assembly or design a bearing unique to your specifications.



Our administration offices.



Our engineers will work closely with you, listening to your ideas and analyzing your needs. Together we will develop a concept that will satisfy all your requirements.

We use the latest CAD technology to create the engineering drawings showing all the technical details of the part.

Prototypes are manufactured on modern CNC lathe and milling machines.

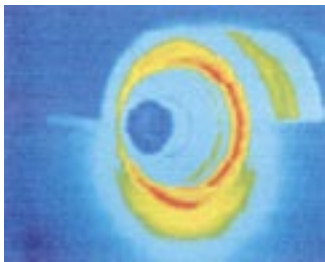


Technology for the future

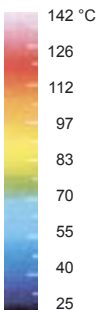
SMG Schmeing has the experience and resources to help you develop a special assembly or design a bearing unique to your specifications.



Small run quantities will be manufactured by our experienced craftsmen on the finest lathe machines available. For large quantities, Schmeing's capabilities include the in-house manufacturing of tooling to create our own molds allowing creative flexibility, while insuring quality and controlling costs.



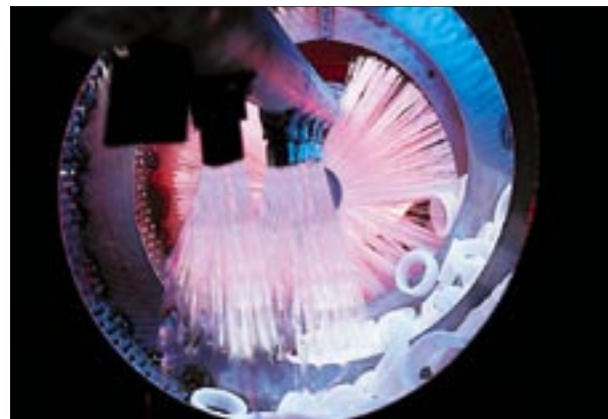
Extensive testing is used to confirm the performance and specifications that can be expected on full production.



Our computer controlled mold machines range in size up to 225 tons allowing us to produce even big parts in multi-cavity molds to reduce costs.



Because of our exclusive Clean Race Technology Process and strict quality assurance, SMG Schmeing bearings and assemblies are preferred worldwide for medical and food processing applications.



Technology for the future



MADE IN GERMANY

SMG offers you practical solutions to your problems in the field of intricate and high-quality plastic parts and components. As a branch of Schmeing, which has a development department, production plant and sales organisation of its own, SMG is at the customer's service from the conceptual phase and designing to the construction of prototypes and large-scale production. It's the customer who profits from this combination of designing, production by injection moulding and cutting and in-plant tool manufacture in one hand. Apart from many years of experience in manufacturing precision parts out of synthetic materials, SMG has testing and measuring machines in keeping with the latest technology, and a material testing laboratory as well.

SCHMEING, a company of long tradition, has been a reliable partner in the textile industry for nearly 200 years, gaining an international reputation as a manufacturer of high-quality accessories for weaving mills. SMG is a synonym for quality in German manufacturing.

GROZ-BECKERT®

SMG and SCHMEING are members of the Groz-Beckert Group. Groz-Beckert is the leading manufacturer of needles and system components for making textile fabrics, employing 7,000 people worldwide – 2,000 of them in the parent company in Albstadt-Ebingen.

www.groz-beckert.com



Please also see our product brochure Plastics technology.



Plastics technology

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