
SKF

Selection of bearing type

Bearing terminology

To better understand frequently used plain bearing and rod end specific terms, definitions are provided in **fig. 1** and **fig. 2**.

Spherical plain bearing
1 Outer ring
2 Sliding contact surfaces
3 Seal
4 Inner ring
5 Lubrication hole
6 Lubrication groove

Rod end
1 Spherical plain bearing
2 Rod end
2a Rod end housing
2b Rod end shank, with an external (male) thread. Shanks are also available with an internal (female) thread or with a welding shank.
3 Grease fitting

Fig. 1

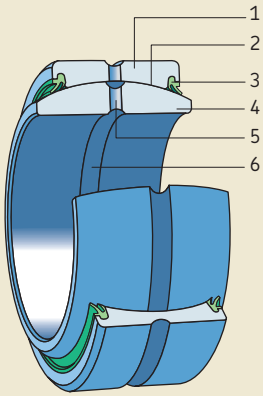
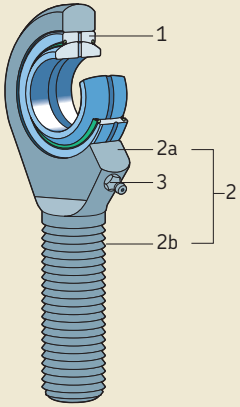


Fig. 2



Bearing types

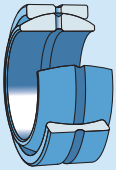
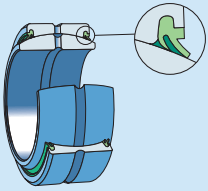
All the products listed below belong to the SKF standard assortment:

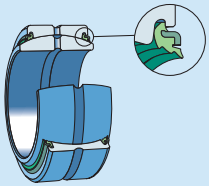
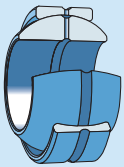
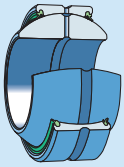
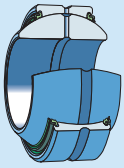
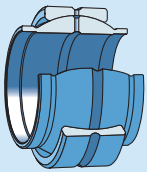
- radial spherical plain bearings requiring maintenance
- maintenance-free radial spherical plain bearings
- angular contact spherical plain bearings
- thrust spherical plain bearings
- steel/steel and steel/bronze rod ends requiring maintenance
- maintenance-free rod ends

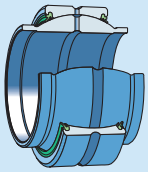
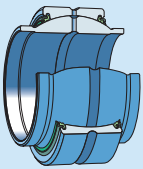
If the standard assortment does not meet the requirements of an application, SKF can produce special bearings or rod ends, provided quantities are sufficient to enable manufacturing economy.

Radial spherical plain bearings requiring maintenance

See chapter 2 starting on **page 99**

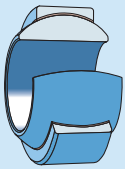
Bearing design Radial spherical plain bearings requiring maintenance	**Designation/** bore diameter range	**Characteristics**
Sliding contact surface combination: Steel/steel Suitable for heavy static or alternating loads, shock loads		
	**GE .. E** d = 4 – 12 mm	Open (without seals), can only be relubricated from the side
	**GE .. ES** d = 15 – 200 mm **GEZ .. ES** d = 0.5 – 6 in	Open (without seals), can be relubricated via lubrication holes and an annular groove in both rings
	**GE .. ES-2RS** d = 15 – 300 mm **GEZ .. ES-2RS** d = 0.75 – 6 in	With a double-lip seal on both sides, can be relubricated via lubrication holes and an annular groove in both rings

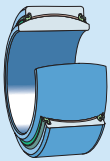
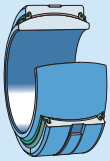
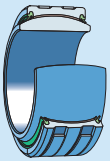
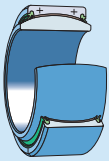
Bearing design Radial spherical plain bearings requiring maintenance	Designation/ bore diameter range	Characteristics
Sliding contact surface combination: Steel/steel Suitable for heavy static or alternating loads, shock loads		
	**GE .. ES-2LS** d = 20 – 300 mm **GEZ .. ES-2LS** d = 1 – 6 in	With a triple-lip heavy-duty seal on both sides, can be relubricated via lubrication holes and an annular groove in both rings
	**GEH .. ES** upon request **GEZH ..ES** d = 1.25 – 5.5 in	Open (not sealed); wider inner ring and larger outside diameter compared to GE .. ES and GEZ .. ES series, to enable higher load ratings and larger tilt angle; can be relubricated via lubrication holes and an annular groove in both rings
	**GEH .. ES-2RS** d = 20 – 120 mm **GEZH ..ES-2RS** d = 1.25 – 5.5 in	With a double-lip seal on both sides; wider inner ring and larger outside diameter compared to GE .. ES-2RS and GEZ .. ES-2RS series, to enable higher load ratings and larger tilt angle; can be relubricated via lubrication holes and an annular groove in both rings
	**GEH .. ES-2LS** d = 20 – 120 mm **GEZH .. ES-2LS** d = 1.25 – 5.5 in	With a triple-lip heavy-duty seal on both sides; wider inner ring and larger outside diameter compared to GE .. ES-2RS and GEZ .. ES-2RS series, to enable higher load ratings and larger tilt angle; can be relubricated via lubrication holes and an annular groove in both rings
	**GEM .. ES** upon request **GEZM .. ES** d = 0.5 – 6 in **GEG .. ES** d = 16 – 200 mm **GEG 12 ESA** d = 12 mm	Open (without seals); with an extended inner ring on both sides; can be relubricated via lubrication holes and an annular groove in both rings. For bearing arrangements where a spacer sleeve is normally incorporated on both sides of the inner ring. GEG series : The inner ring width equals the bore diameter Can only be relubricated via the outer ring

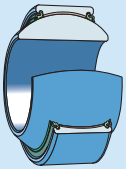
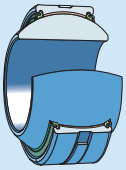
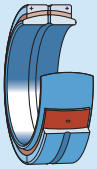
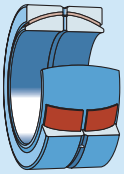
Bearing design Radial spherical plain bearings requiring maintenance	Designation/ bore diameter range	Characteristics
Sliding contact surface combination: Steel/steel Suitable for heavy static or alternating loads, shock loads		
	**GEM .. ES-2RS** d = 20 – 80 mm **GEZM .. ES-2RS** d = 0.75 – 6 in	With a double-lip seal and an extended inner ring on both sides, can be relubricated via lubrication holes and an annular groove in both rings
	**GEM .. ES-2LS** d = 20 – 80 mm **GEZM .. ES-2LS** d = 1 – 6 in	With a triple-lip heavy-duty seal and an extended inner ring on both sides, can be relubricated via lubrication holes and an annular groove in both rings

Maintenance-free radial spherical plain bearings

See chapter 3 starting on **page 125**

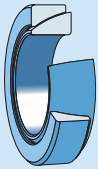
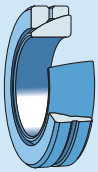
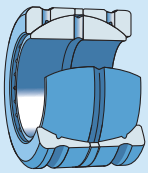
Bearing design Maintenance-free radial spherical plain bearings	Designation/ bore diameter range	Characteristics
Sliding contact surface combination: Steel/PTFE sintered bronze Suitable for heavy, constant direction loads, where low friction is required; limited suitability for alternating loads, shock loads.		
	**GE .. C** d = 4 – 30 mm **GE .. CJ2** d = 35 – 60 mm	Open (without seals), self-lubricating sliding surfaces have to be externally protected from contaminants
	**GEH .. C** d = 10 – 25 mm	Open (without seals), self-lubricating sliding surfaces have to be externally protected from contaminants; wider inner ring and larger outside diameter compared to GE .. C series, to enable higher load ratings and larger tilt angle

Bearing design Maintenance-free radial spherical plain bearings	Designation/ bore diameter range	Characteristics
Sliding contact surface combination: Steel/PTFE fabric Suitable for very heavy, constant direction loads, where low friction is required; limited suitability for alternating loads, shock loads		
	**GE .. TXE-2LS** d = 20 – 90 mm **GEZ .. TXE-2LS** d = 1 – 3.75 in **GE .. TXG3E-2LS** d = 20 – 60 mm	High performance bearing with a triple-lip heavy-duty seal on both sides, outer ring fractured at one point, self-lubricating sliding surfaces GE .. TXG3E-2LS series in stainless steel execution for use in corrosive environments
	**GE .. TXA-2LS** d = 100 – 300 mm **GEZ .. TXA-2LS** d = 4 – 6 in **GE .. TXG3A-2LS** d = 70 – 200 mm	High performance bearing with a triple-lip heavy-duty seal on both sides, axially split outer ring that is held together by one band, self-lubricating sliding surfaces GE .. TXG3A-2LS series with rings made of stainless steel for use in corrosive environments
	**GE .. TXGR** d = 12 – 17 mm	Open (without seals), stainless steel execution for use in corrosive environments, self-lubricating sliding surfaces have to be externally protected from contaminants
	**GEC .. TXA-2RS** d = 320 – 400 mm	High performance bearing with a double-lip seal on both sides, self-lubricating sliding surfaces, axially split outer ring that is held together by two bands
	**GEC .. TXA-2RS** d = 420 – 800 mm	High performance bearing with a double-lip seal on both sides, self-lubricating sliding surfaces, axially split outer ring that is bolted together

Bearing design Maintenance-free radial spherical plain bearings	Designation/ bore diameter range	Characteristics
Sliding contact surface combination: Steel/PTFE fabric Suitable for very heavy, constant direction loads, where low friction is required; limited suitability for alternating loads, shock loads		
	**GEH ..TXE-2LS** d = 20 – 80 mm	High performance bearing with a triple-lip heavy-duty seal on both sides; self-lubricating sliding surfaces, wider inner ring and larger outside diameter compared to GE .. TXE-2LS series, to enable higher load ratings and larger tilt angle
	GEH ..TXG3E-2LS d = 20 – 50 mm	GEH .. TXG3E-2LS series with rings made of stainless steel for use in corrosive environments
	**GEH ..TXA-2LS** d = 90 – 120 mm	High performance bearing with a triple-lip heavy-duty seal on both sides, self-lubricating sliding surfaces, wider inner ring and larger outside diameter compared to GE .. TXE-2LS series, to enable higher load ratings and larger tilt angle; axially split outer ring that is held together by one band
	GEH ..TXG3A-2LS d = 60 – 120 mm	GEH .. TXG3A-2LS series with rings made of stainless steel for use in corrosive environments
Sliding contact surface combination: Steel/PTFE FRP Suitable for heavy, constant direction loads, where low friction is required; limited suitability for alternating loads, shock loads; relatively insensitive to contaminants		
	**GEC .. FBAS** d = 320 – 1 000 mm	Open (without seals); axially split outer ring that is bolted together; self-lubricating capability; factory greased; lubrication holes and an annular groove in both rings; does not require relubrication, however, relubrication can extend bearing service life
	**GEP .. FS** d = 100 – 1 000 mm	Open (without seals); radially split outer ring that is separable to facilitate mounting; self-lubricating capability; factory greased; lubrication holes and an annular groove in both rings; does not require relubrication, however, relubrication can extend bearing service life Compared to GEC .. FBAS series, these bearings are wider and have a larger outside diameter for a given shaft size, resulting in a higher basic load rating. However, they have a smaller tilt angle.

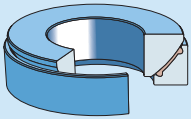
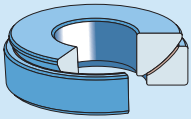
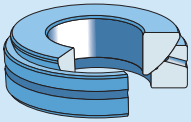
Angular contact spherical plain bearings

See chapter 4 starting on **page 151**

Bearing design Angular contact spherical plain bearings	Designation/ bore diameter range	Characteristics
Sliding contact surface combination: Steel/PTFE FRP Suitable for single direction axial loads or combined axial and radial loads, low coefficient of friction, relatively insensitive to contaminants		
	**GAC .. F** d = 25 – 120 mm	Open (without seals); self-lubricating capability; factory greased; does not require relubrication, however, relubrication can extend bearing service life
Sliding contact surface combination: Steel/PTFE fabric Suitable for single direction axial loads or combined axial and radial loads, very high load carrying capacity and low coefficient of friction		
	**GACD .. TX** upon request	Open (without seals), high performance bearing with self-lubricating sliding surface
Sliding contact surface combination: Steel/steel Suitable for heavy single direction axial loads or heavy combined axial and radial loads, heavy alternating loads		
	**GACD .. SA** upon request **GAZ .. SA** upon request	Open (without seals), multi-groove system, can be relubricated via lubrication holes and an annular groove in the outer ring
Sliding contact surface combination: Steel/steel Double direction angular contact bearing with a standard inner ring, bearing can be used instead of two angular contact bearings in a face-to-face arrangement, suitable for heavy combined radial and axial loads, heavy alternating loads		
	**GEZP(R) .. S** upon request	Open (without seals), multi-groove system, can be relubricated via lubrication holes and an annular groove in the inner ring and the two outer rings

Thrust spherical plain bearings

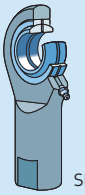
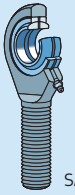
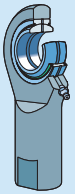
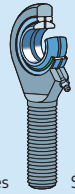
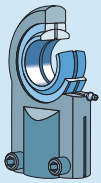
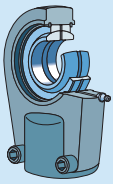
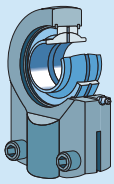
See chapter 5 starting on **page 159**

Bearing design Thrust spherical plain bearings	Designation/ bore diameter range	Characteristics
Sliding contact surface combination: Steel/PTFE FRP Suitable for single direction axial loads or combined axial and radial loads, low coefficient of friction, relatively insensitive to contaminants		
	**GX .. F** d = 17 – 120 mm	Open (without seals); self-lubricating capability; factory greased; does not require relubrication, however, relubrication can extend bearing service life
Sliding contact surface combination: Steel/PTFE fabric Suitable for heavy single direction axial loads or combined axial and radial loads, very high load carrying capacity and low coefficient of friction		
	**GXD .. TX** upon request	Open (without seals), high performance bearing with self-lubricating sliding surface
Sliding contact surface combination: Steel/steel Suitable for heavy single direction axial loads or combined axial and radial loads, heavy alternating loads		
	**GXD .. SA** upon request	Open (without seals), multi-groove system, can be relubricated via lubrication holes and an annular groove in the housing washer

Rod ends with a threaded shank, requiring maintenance

See chapter 6 starting on **page 167**

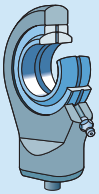
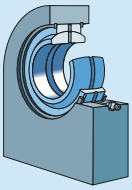
Bearing design Rod ends with a threaded shank, requiring maintenance	Designation/ bore diameter range	Characteristics
Sliding contact surface combination: Steel/steel Suitable for heavy static or alternating loads, shock loads		
 SI series  SA series	**SI(L) .. E** d = 6 – 12 mm **SA(L) .. E** d = 6 – 12 mm	With an open bearing (without seals), no relubrication facilities, available with a right-hand or left-hand thread (designation prefix L)

Bearing design Rod ends with a threaded shank, requiring maintenance	**Designation/** bore diameter range	**Characteristics**
Sliding contact surface combination: Steel/steel Suitable for heavy static or alternating loads, shock loads		
 SI series  SA series	**SI(L) .. ES** d = 15 – 30 mm **SA(L) .. ES** d = 15 – 30 mm	With an open bearing (without seals), can be lubricated via the relubrication facility in the rod end housing and via the pin (shaft), available with a right-hand or left-hand thread
 SI(A) series  SA(A) series	**SI(L) .. ES-2RS** d = 35 – 80 mm **SA(L) .. ES-2RS** d = 35 – 80 mm **SI(L)A .. ES-2RS** d = 40 – 80 mm **SA(L)A .. ES-2RS** d = 40 – 80 mm	With a double-lip seal on both sides of the bearing, can be lubricated via the relubrication facility in the rod end housing and via the pin (shaft), available with a right-hand or left-hand thread SIA and SAA series with different fitting dimensions (thread, height of the housing)
Sliding contact surface combination: Steel/steel Suitable for hydraulic cylinders, the slotted shank enables the rod end to be secured by tightening bolts		
	**SI(L)J .. ES** d = 16 – 100 mm **SI(L)J 12 E** d = 12 mm	With an open bearing (without seals), available with a right-hand or left-hand thread Sizes 16 and larger can be lubricated via the relubrication facility in the rod end housing and via the pin (shaft) No relubrication facilities
	**SI(L)R .. ES** d = 25 – 120 mm	With an open bearing (without seals), compact design, shorter female thread, can be lubricated via the relubrication facility in the rod end housing and via the pin (shaft), available with a right-hand or left-hand thread
	**SI(L)QG .. ES** d = 16 – 200 mm **SI(L)QG 12 ESA** d = 12 mm	With an open bearing (without seals), with an inner ring extended on both sides, can be lubricated via the relubrication facility in the rod end housing and via the pin (shaft), available with a right-hand or left-hand thread Can only be relubricated via the relubrication facilities in the rod end housing

Bearing design Rod ends with a threaded shank, requiring maintenance	Designation/ bore diameter range	Characteristics
Sliding contact surface combination: Steel/bronze Lower load carrying capacity compared to steel/steel rod ends, but more suitable for applications where lubricant starvation might occur		
 SIKAC .. M	**SI(L)KAC .. M** d = 5 – 30 mm	With an open bearing (without seals), available with a right-hand or left-hand thread
 SAKAC .. M	**SA(L)KAC .. M** d = 5 – 30 mm	Sizes 6 and larger can be lubricated via the relubrication facility in the rod end shank or housing

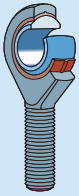
Rod ends with a welding shank, requiring maintenance

See chapter 6 starting on **page 167**

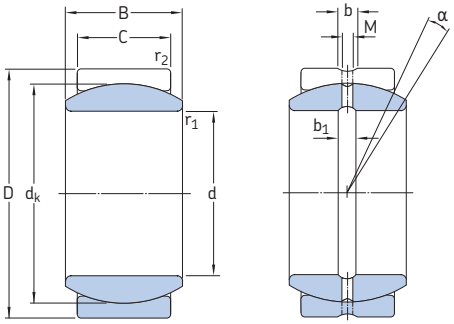
Bearing design Rod ends with a welding shank, requiring maintenance	Designation/ bore diameter range	Characteristics
Sliding contact surface combination: Steel/steel Suitable for heavy static or alternating loads, shock loads		
	**SC ..ES** d = 20 – 80 mm	With an open bearing (without seals), can be lubricated via a the relubrication facility in the rod end housing and via the pin (shaft) Primarily used for welding to piston rods and the bases of hydraulic cylinders Centred by a dowel pin
	**SCF ..ES** d = 20 – 120 mm	With an open bearing (without seals); can be lubricated via the the relubrication facility in the rod end housing and via the pin (shaft); high capacity design rod end compared to SC .. ES series, to enable heavier static loads Rectangular welding shank without a dowel pin

Maintenance-free rod ends with a threaded shank

See chapter 7 starting on **page 189**

Bearing design Maintenance-free rod ends with a threaded shank	**Designation/** bore diameter range	**Characteristics**
Sliding contact surface combination: Steel/PTFE sintered bronze Suitable for heavy, constant direction loads, where low coefficient of friction is required; limited suitability for alternating loads, shock loads		
 SI .. C	**SI(L) .. C** d = 6 – 30 mm **SA(L) .. C** d = 6 – 30 mm	With an open bearing (without seals), available with a right-hand or left-hand thread
 SA .. C		
Sliding contact surface combination: Steel/PTFE fabric Suitable for very heavy, constant direction loads, where low coefficient of friction is required; limited suitability for alternating loads, shock loads		
 SI(A) .. TXE-2LS	**SI(L) .. TXE-2LS** d = 35 – 80 mm **SA(L) .. TXE-2LS** d = 35 – 80 mm **SI(L)A .. TXE-2LS** d = 40 – 60 mm **SA(L)A .. TXE-2LS** d = 40 – 60 mm	With a high performance bearing with a triple-lip heavy-duty seal on both sides of the bearing, available with a right-hand or left-hand thread SIA and SAA series with different fitting dimensions (thread, height of the housing)
 SA(A) .. TXE-2LS		
Sliding contact surface combination: Steel/PTFE FRP Suitable for heavy, constant direction loads, where low coefficient of friction is required; limited suitability for alternating loads, shock loads		
 SIKB .. F	**SI(L)KB .. F** d = 5 – 22 mm **SA(L)KB .. F** d = 5 – 22 mm	With an open bearing (without seals), but relatively insensitive to contaminants, available with a right-hand or left-hand thread
 SAKB .. F		

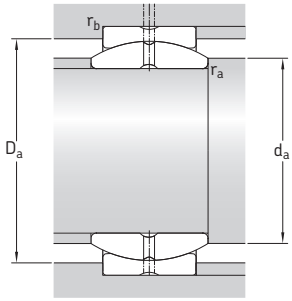
Radial spherical plain bearings, steel/steel, metric sizes
d **4 – 40** mm



GE .. E | GE .. ES | GE .. ES-2RS
GE .. ES-2LS | GEH .. ES-2RS
GEH .. ES-2LS

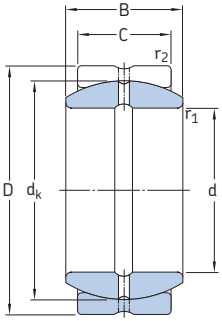
Principal dimensions				Angle of tilt[1]	Basic load ratings dynamic	static	Mass	Designations[2] without seals	with standards seals	suffix for heavy-duty seals
d	D	B	C	α	C	C_0				
mm				degrees	kN		kg	–		
4	12	5	3	16	2,04	10,2	0,003	**GE 4 E**		**–**
5	14	6	4	13	3,4	17	0,004	**GE 5 E**		**–**
6	14	6	4	13	3,4	17	0,004	**GE 6 E**		**–**
8	16	8	5	15	5,5	27,5	0,008	**GE 8 E**		**–**
10	19	9	6	12	8,15	40,5	0,012	**GE 10 E**		**–**
12	22	10	7	10	10,8	54	0,017	**GE 12 E**		**–**
15	26	12	9	8	17	85	0,032	**GE 15 ES**		**–**
	26	12	9	8	17	85	0,032	**GE 15 ES-2RS**		**–**
17	30	14	10	10	21,2	106	0,050	**GE 17 ES**		**–**
	30	14	10	10	21,2	106	0,050	**GE 17 ES-2RS**		**–**
20	35	16	12	9	30	146	0,065	**GE 20 ES**		**–**
	35	16	12	9	30	146	0,065	**GE 20 ES-2RS**		**-2LS**
	42	25	16	17	48	240	0,16	**GEH 20 ES-2RS**		**-2LS**
25	42	20	16	7	48	240	0,12	**GE 25 ES**		**–**
	42	20	16	7	48	240	0,12	**GE 25 ES-2RS**		**-2LS**
	47	28	18	17	62	310	0,20	**GEH 25 ES-2RS**		**-2LS**
30	47	22	18	6	62	310	0,16	**GE 30 ES**		**–**
	47	22	18	6	62	310	0,16	**GE 30 ES-2RS**		**-2LS**
	55	32	20	17	80	400	0,35	**GEH 30 ES-2RS**		**-2LS**
35	55	25	20	6	80	400	0,23	**GE 35 ES**		**–**
	55	25	20	6	80	400	0,23	**GE 35 ES-2RS**		**-2LS**
	62	35	22	15	100	500	0,47	**GEH 35 ES-2RS**		**-2LS**
40	62	28	22	7	100	500	0,32	**GE 40 ES**		**–**
	62	28	22	6	100	500	0,32	**GE 40 ES-2RS**		**-2LS**
	68	40	25	17	127	640	0,61	**GEH 40 ES-2RS**		**-2LS**

[1] To fully utilize the angle of tilt, the shaft shoulder should not be made larger than $d_{a\,max}$.
[2] Bearings with an outside diameter D ≥ 150 mm have the multi-groove system in the outer ring as standard. Bearings with an outside diameter D < 150 mm can be supplied with the multi-groove system on request (designation suffix ESL).

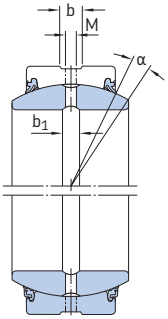


Dimensions							Abutment and fillet dimensions					
d	d_k	b	b_1	M	$r_{1\,min}$	$r_{2\,min}$	$d_{a\,min}$	$d_{a\,max}$	$D_{a\,min}$	$D_{a\,max}$	$r_{a\,max}$	$r_{b\,max}$
mm							mm					
4	8	–	–	–	0,3	0,3	5,5	6,2	7,6	10,7	0,3	0,3
5	10	–	–	–	0,3	0,3	6,6	8	9,5	12,6	0,3	0,3
6	10	–	–	–	0,3	0,3	7,5	8	9,5	12,6	0,3	0,3
8	13	–	–	–	0,3	0,3	9,6	10,2	12,3	14,5	0,3	0,3
10	16	–	–	–	0,3	0,3	11,7	13,2	17,5	15,2	0,3	0,3
12	18	–	–	–	0,3	0,3	13,8	15	17,1	20,4	0,3	0,3
15	22	2,3	2,3	1,5	0,3	0,3	16,9	18,4	20,9	24,3	0,3	0,3
	22	2,3	2,3	1,5	0,3	0,3	16,9	18,4	22,8	24,3	0,3	0,3
17	25	2,3	2,3	1,5	0,3	0,3	19	20,7	23,7	28,3	0,3	0,3
	25	2,3	2,3	1,5	0,3	0,3	19	20,7	26	28,3	0,3	0,3
20	29	3,1	3,1	2	0,3	0,3	22,1	24,2	27,6	33,2	0,3	0,3
	29	3,1	3,1	2	0,3	0,3	22,1	24,2	30,9	33,2	0,3	0,3
	35,5	3,1	3,1	2	0,3	0,6	22,7	25,2	36,9	39,2	0,3	0,6
25	35,5	3,1	3,1	2	0,6	0,6	28,2	29,3	33,7	39,2	0,6	0,6
	35,5	3,1	3,1	2	0,6	0,6	28,2	29,3	36,9	39,2	0,6	0,6
	40,7	3,1	3,1	2	0,6	0,6	28,6	29,5	41,3	44	0,6	0,6
30	40,7	3,1	3,1	2	0,6	0,6	33,3	34,2	38,7	44	0,6	0,6
	40,7	3,1	3,1	2	0,6	0,6	33,3	34,2	41,3	44	0,6	0,6
	47	3,9	3,9	2,5	0,6	1	33,7	34,4	48,5	50,9	0,6	1
35	47	3,9	3,9	2,5	0,6	1	38,5	39,8	44,6	50,9	0,6	1
	47	3,9	3,9	2,5	0,6	1	38,5	39,8	48,5	50,9	0,6	1
	53	3,9	3,9	2,5	0,6	1	38,8	39,8	54,5	57,8	0,6	1
40	53	3,9	3,9	2,5	0,6	1	43,6	45	50,3	57,8	0,6	1
	53	3,9	3,9	2,5	0,6	1	43,6	45	54,5	57,8	0,6	1
	60	4,6	4,6	3	0,6	1	44,1	44,7	61	63,6	0,6	1

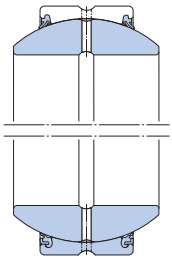
Radial spherical plain bearings, steel/steel, metric sizes
d **45 – 120** mm



GE .. ES



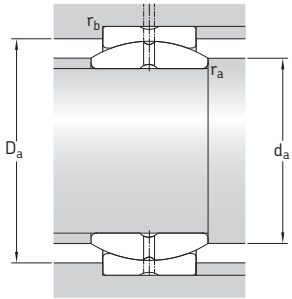
GE .. ES-2RS
GE .. ES-2LS



GEH .. ES-2RS
GEH .. ES-2LS

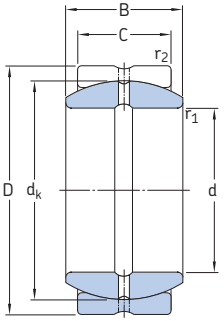
Principal dimensions				Angle of tilt[1]	Basic load ratings dynamic	static	Mass	Designations[2] without seals / with standard seals	suffix for heavy-duty seals
d	D	B	C	α	C	C_0			
mm				degrees	kN		kg	–	
45	68	32	25	7	127	640	0,46	**GE 45 ES**	–
	68	32	25	7	127	640	0,46	**GE 45 ES-2RS**	**-2LS**
	75	43	28	14	156	780	0,80	**GEH 45 ES-2RS**	**-2LS**
50	75	35	28	6	156	780	0,56	**GE 50 ES**	–
	75	35	28	6	156	780	0,56	**GE 50 ES-2RS**	**-2LS**
	90	56	36	17	245	1 220	1,60	**GEH 50 ES-2RS**	**-2LS**
60	90	44	36	6	245	1 220	1,10	**GE 60 ES**	–
	90	44	36	6	245	1 220	1,10	**GE 60 ES-2RS**	**-2LS**
	105	63	40	17	315	1 560	2,40	**GEH 60 ES-2RS**	**-2LS**
70	105	49	40	6	315	1 560	1,55	**GE 70 ES**	–
	105	49	40	6	315	1 560	1,55	**GE 70 ES-2RS**	**-2LS**
	120	70	45	16	400	2 000	3,40	**GEH 70 ES-2RS**	**-2LS**
80	120	55	45	6	400	2 000	2,30	**GE 80 ES**	–
	120	55	45	5	400	2 000	2,30	**GE 80 ES-2RS**	**-2LS**
	130	75	50	14	490	2 450	4,10	**GEH 80 ES-2RS**	**-2LS**
90	130	60	50	5	490	2 450	2,75	**GE 90 ES**	–
	130	60	50	5	490	2 450	2,75	**GE 90 ES-2RS**	**-2LS**
	150	85	55	15	610	3 050	6,30	**GEH 90 ES-2RS**	**-2LS**
100	150	70	55	7	610	3 050	4,40	**GE 100 ES**	–
	150	70	55	6	610	3 050	4,40	**GE 100 ES-2RS**	**-2LS**
	160	85	55	13	655	3 250	6,80	**GEH 100 ES-2RS**	**-2LS**
110	160	70	55	6	655	3 250	4,80	**GE 110 ES**	–
	160	70	55	6	655	3 250	4,80	**GE 110 ES-2RS**	**-2LS**
	180	100	70	12	950	4 750	11,0	**GEH 110 ES-2RS**	**-2LS**
120	180	85	70	6	950	4 750	8,25	**GE 120 ES**	–
	180	85	70	6	950	4 750	8,25	**GE 120 ES-2RS**	**-2LS**
	210	115	70	16	1 080	5 400	15,0	**GEH 120 ES-2RS**	**-2LS**

[1] To fully utilize the angle of tilt, the shaft shoulder should not be made larger than $d_{a\,max}$.
[2] Bearings with an outside diameter D ≥ 150 mm have the multi-groove system in the outer ring as standard. Bearings with an outside diameter D < 150 mm can be supplied with the multi-groove system on request (designation suffix ESL).

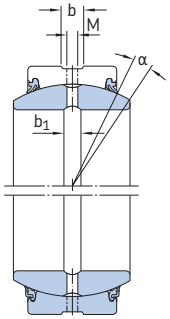


Dimensions							Abutment and fillet dimensions					
d	d_k	b	b_1	M	r_1 min	r_2 min	d_a min	d_a max	D_a min	D_a max	r_a max	r_b max
mm							mm					
45	60	4,6	4,6	3	0,6	1	49,4	50,8	57	63,6	0,6	1
	60	4,6	4,6	3	0,6	1	49,4	50,8	61	63,6	0,6	1
	66	4,6	4,6	3	0,6	1	49,8	50,1	66,2	70,5	0,6	1
50	66	4,6	4,6	3	0,6	1	54,6	56	62,7	70,5	0,6	1
	66	4,6	4,6	3	0,6	1	54,6	56	66,2	70,5	0,6	1
	80	6,2	6,2	4	0,6	1	55,8	57,1	79,7	84,2	0,6	1
60	80	6,2	6,2	4	1	1	66,4	66,8	76	84,2	1	1
	80	6,2	6,2	4	1	1	66,4	66,8	79,7	84,2	1	1
	92	7,7	7,7	4	1	1	67	67	92	99	1	1
70	92	7,7	7,7	4	1	1	76,7	77,9	87,4	99	1	1
	92	7,7	7,7	4	1	1	76,7	77,9	92	99	1	1
	105	7,7	7,7	4	1	1	77,5	78,3	104,4	113,8	1	1
80	105	7,7	7,7	4	1	1	87,1	89,4	99,7	113,8	1	1
	105	7,7	7,7	4	1	1	87,1	89,4	104,4	113,8	1	1
	115	9,5	9,5	5	1	1	87,2	87,2	112,9	123,5	1	1
90	115	9,5	9,5	5	1	1	97,4	98,1	109,3	123,5	1	1
	115	9,5	9,5	5	1	1	97,4	98,1	112,9	123,5	1	1
	130	11,3	11,3	5	1	1	98,2	98,4	131	143,2	1	1
100	130	11,3	11,3	5	1	1	107,8	109,5	123,5	143,2	1	1
	130	11,3	11,3	5	1	1	107,8	109,5	131	143,2	1	1
	140	11,5	11,5	5	1	1	108,1	111,2	141,5	153,3	1	1
110	140	11,5	11,5	5	1	1	118	121	133	153	1	1
	140	11,5	11,5	5	1	1	118	121	141,5	153	1	1
	160	13,5	13,5	6	1	1	119,5	124,5	157,5	172	1	1
120	160	13,5	13,5	6	1	1	129,5	135,5	152	172	1	1
	160	13,5	13,5	6	1	1	129,5	135,5	157,5	172	1	1
	180	13,5	13,5	6	1	1	130	138,5	180	202,5	1	1

Radial spherical plain bearings, steel/steel, metric sizes
d **140 – 300** mm



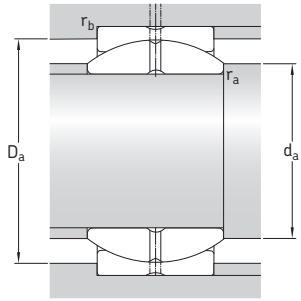
GE .. ES



GE .. ES-2RS
GE .. ES-2LS

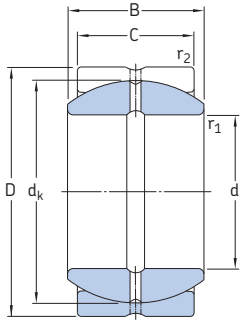
Principal dimensions				Angle of tilt[1]	Basic load ratings dynamic	static	Mass	Designations[2] without seals / with standard seals	suffix for heavy-duty seals
d	D	B	C	α	C	C_0			
mm				degrees	kN		kg	–	
140	210	90	70	7	1 080	5 400	11,0	**GE 140 ES**	**–**
	210	90	70	7	1 080	5 400	11,0	**GE 140 ES-2RS**	**-2LS**
160	230	105	80	8	1 370	6 800	14,0	**GE 160 ES**	**–**
	230	105	80	8	1 370	6 800	14,0	**GE 160 ES-2RS**	**-2LS**
180	260	105	80	6	1 530	7 650	18,5	**GE 180 ES**	**–**
	260	105	80	6	1 530	7 650	18,5	**GE 180 ES-2RS**	**-2LS**
200	290	130	100	7	2 120	10 600	28,0	**GE 200 ES**	**–**
	290	130	100	7	2 120	10 600	28,0	**GE 200 ES-2RS**	**-2LS**
220	320	135	100	8	2 320	11 600	35,5	**GE 220 ES-2RS**	**-2LS**
240	340	140	100	8	2 550	12 700	40,0	**GE 240 ES-2RS**	**-2LS**
260	370	150	110	7	3 050	15 300	51,5	**GE 260 ES-2RS**	**-2LS**
280	400	155	120	6	3 550	18 000	65,0	**GE 280 ES-2RS**	**-2LS**
300	430	165	120	7	3 800	19 000	78,5	**GE 300 ES-2RS**	**-2LS**

[1] To fully utilize the angle of tilt, the shaft shoulder should not be made larger than $d_{a\,max}$.
[2] Bearings with an outside diameter D ≥ 150 mm have the multi-groove system in the outer ring as standard.

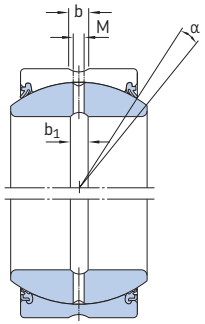


Dimensions							Abutment and fillet dimensions					
d	d_k	b	b_1	M	r_1 min	r_2 min	d_a min	d_a max	D_a min	D_a max	r_a max	r_b max
mm							mm					
140	180	13,5	13,5	6	1	1	149	155,5	171	202,5	1	1
	180	13,5	13,5	6	1	1	149	155,5	180	202,5	1	1
160	200	13,5	13,5	6	1	1	169,5	170	190	222	1	1
	200	13,5	13,5	6	1	1	169,5	170	197	222	1	1
180	225	13,5	13,5	6	1,1	1,1	191	199	214	250,5	1	1
	225	13,5	13,5	6	1,1	1,1	191	199	224,5	250,5	1	1
200	250	15,5	15,5	7	1,1	1,1	212,5	213,5	237,5	279,5	1	1
	250	15,5	15,5	7	1,1	1,1	212,5	213,5	244,5	279,5	1	1
220	275	15,5	15,5	7	1,1	1,1	232,5	239,5	271	309,5	1	1
240	300	15,5	15,5	7	1,1	1,1	252,5	265	298	329,5	1	1
260	325	15,5	15,5	7	1,1	1,1	273	288	321,5	359	1	1
280	350	15,5	15,5	7	1,1	1,1	294	313,5	344,5	388,5	1	1
300	375	15,5	15,5	7	1,1	1,1	314	336,5	371	418,5	1	1

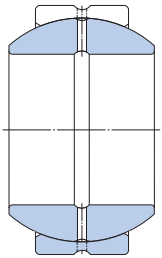
Radial spherical plain bearings, steel/steel, inch sizes
d **0.5 – 2** in



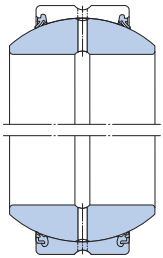
GEZ .. ES



GEZ .. ES-2RS
GEZ .. ES-2LS



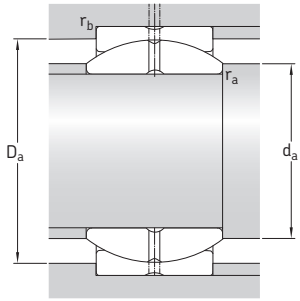
GEZH .. ES



GEZH .. ES-2RS
GEZH .. ES-2LS

Principal dimensions				Angle of tilt[1]	Basic load ratings dynamic	static	Mass	Designations without seals	suffix for seal variants standard	heavy-duty
d	D	B	C	α	C	C_0				
in/*mm*				degrees	lbf/*kN*		lb/*kg*	–		
0.5	0.8750	0.437	0.375	6	3 150	9 340	0.044	**GEZ 008 ES**	**–**	**–**
12,700	*22,225*	*11,10*	*9,53*		*14*	*41,5*	*0,020*			
0.625	1.0625	0.547	0.469	6	4 840	14 740	0.077	**GEZ 010 ES**	**–**	**–**
15,875	*26,988*	*13,89*	*11,91*		*21,5*	*65,5*	*0,035*			
0.75	1.2500	0.656	0.562	6	7 090	20 930	0.12	**GEZ 012 ES**	**-2RS**	**–**
19,050	*31,750*	*16,66*	*14,28*		*31,5*	*93*	*0,055*			
0.875	1.4375	0.765	0.656	6	9 560	28 580	0.19	**GEZ 014 ES**	**–**	**–**
22,225	*36,513*	*19,43*	*16,66*		*42,5*	*127*	*0,085*			
1	1.6250	0,875	0,750	6	12 600	37 350	0.26	**GEZ 100 ES**	**-2RS**	**-2LS**
25,400	*41,275*	*22,23*	*19,05*		*56*	*166*	*0,12*			
1.25	2.0000	1.093	0.937	6	19 460	58 500	0.51	**GEZ 104 ES**	**-2RS**	**-2LS**
31,750	*50,800*	*27,76*	*23,80*		*86,5*	*260*	*0,23*			
	2.4375	1.390	1.125	8	28 125	84 375	1.20	**GEZH 104 ES**	**-2RS**	**-2LS**
	61,913	*35,31*	*28,58*		*125*	*375*	*0,54*			
1.375	2.1875	1.187	1.031	6	23 400	69 750	0.77	**GEZ 106 ES**	**-2RS**	**-2LS**
34,925	*55,563*	*30,15*	*26,19*		*104*	*310*	*0,35*			
1.5	2.4375	1.312	1.125	6	28 130	84 380	0.93	**GEZ 108 ES**	**-2RS**	**-2LS**
38,100	*61,913*	*33,33*	*28,58*		*125*	*375*	*0,42*			
	2.8125	1.580	1.312	7	38 250	114 750	1.75	**GEZH 108 ES**	**-2RS**	**-2LS**
	71,438	*40,13*	*33,33*		*170*	*510*	*0,79*			
1.75	2.8125	1.531	1.312	6	38 250	114 750	1.40	**GEZ 112 ES**	**-2RS**	**-2LS**
44,450	*71,438*	*38,89*	*33,33*		*170*	*510*	*0,64*			
	3.1875	1.820	1.500	7	50 400	150 750	2.50	**GEZH 112 ES**	**-2RS**	**-2LS**
	80,963	*46,23*	*38,10*		*224*	*670*	*1,13*			
2	3.1875	1.750	1.500	6	50 400	150 750	2.05	**GEZ 200 ES**	**-2RS**	**-2LS**
50,800	*80,963*	*44,45*	*38,10*		*224*	*670*	*0,93*			
	3.5625	2.070	1.687	8	63 000	191 250	3.50	**GEZH 200 ES**	**-2RS**	**-2LS**
	90,488	*52,58*	*42,85*		*280*	*850*	*1,60*			

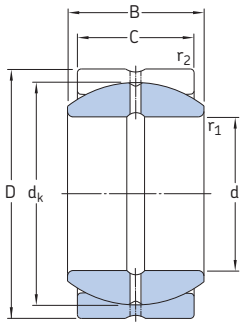
[1] To fully utilize the angle of tilt, the shaft shoulder should not be larger than $d_{a\ max}$.



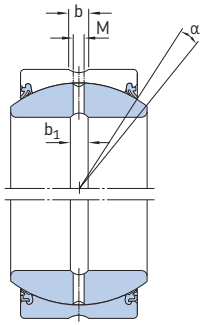
Dimensions							Abutment and fillet dimensions						
d	d_k	b	b_1	M	r_1[1] min	r_2[2] min	d_a min	d_a max	D_a min	$D_{a\ sealed}$ min	D_a max	r_a max	r_b max
in/*mm*							in/*mm*						
0.5	0.7190	0.102	0.098	0.059	0.006	0.024	0.54	0.57	0.68	–	0.78	0.006	0.024
12,700	*18,263*	*2,6*	*2,5*	*1,5*	*0,2*	*0,6*	*13,7*	*14,5*	*17,3*	–	*19,9*	*0,2*	*0,6*
0.625	0.8990	0.126	0.118	0.098	0.006	0.039	0.67	0.71	0.85	–	0.93	0.006	0.039
15,875	*22,835*	*3,2*	*3*	*2,5*	*0,2*	*1*	*17*	*18,1*	*21,7*	–	*23,6*	*0,2*	*1*
0.75	1.0800	0.126	0.118	0.098	0.012	0.039	0.82	0.86	1.03	1.1	1.11	0.012	0.039
19,050	*27,432*	*3,2*	*3*	*2,5*	*0,3*	*1*	*20,9*	*21,8*	*26,1*	*27,9*	*28,3*	*0,3*	*1*
0.875	1.2580	0.126	0.118	0.098	0.012	0.039	0.95	1	1.2	–	1.3	0.012	0.039
22,225	*31,953*	*3,2*	*3*	*2,5*	*0,3*	*1*	*24,2*	*25,4*	*30,4*	–	*33*	*0,3*	*1*
1	1.4370	0.126	0.118	0.098	0.012	0.039	1.08	1.14	1.37	1.39	1.48	0.012	0.039
25,400	*36,500*	*3,2*	*3*	*2,5*	*0,3*	*1*	*27,5*	*29*	*34,7*	*35,2*	*37,7*	*0,3*	*1*
1.25	1.7950	0.189	0.197	0.157	0.024	0.039	1.37	1.43	1.7	1.76	1.85	0.024	0.039
31,750	*45,593*	*4,8*	*5*	*4*	*0,6*	*1*	*34,8*	*36,2*	*43,3*	*44,8*	*47*	*0,6*	*1*
	2.1550	0.189	0,197	0.157	0.039	0.039	1.43	1.65	2.05	2.06	2.28	0.039	0.039
	54,737	*4,8*	*5*	*4*	*1*	*1*	*36,2*	*41,8*	*52*	*52,3*	*58*	*1*	*1*
1.375	1.9370	0.189	0.197	0.157	0.024	0.039	1.5	1.53	1.84	1.85	2.035	0.024	0.039
34,925	*49,200*	*4,8*	*5*	*4*	*0,6*	*1*	*38,1*	*38,9*	*46,7*	*47,1*	*51,7*	*0,6*	*1*
1.5	2.1550	0.189	0.197	0.157	0.024	0.039	1.63	1.71	2.05	2.06	2.28	0.024	0.039
38,100	*54,737*	*4,8*	*5*	*4*	*0,6*	*1*	*41,4*	*43,4*	*52*	*52,3*	*58*	*0,6*	*1*
	2.5150	0.189	0.197	0.157	0.039	0.039	1.69	1.96	2.39	2.41	2.65	0.039	0.039
	63,881	*4,8*	*5*	*4*	*1*	*1*	*42,8*	*49,7*	*60,7*	*61,3*	*67,4*	*1*	*1*
1.75	2.5150	0.189	0.197	0.157	0.024	0.039	1.91	2	2.39	2.41	2.65	0.024	0.039
44,450	*63,881*	*4,8*	*5*	*4*	*0,6*	*1*	*48,5*	*50,7*	*60,7*	*61,3*	*67,4*	*0,6*	*1*
	2.8750	0.189	0.197	0.157	0.059	0.039	2.00	2.22	2.73	2.85	2.99	0.059	0.039
	73,025	*4,8*	*5*	*4*	*1,5*	*1*	*50,9*	*56,5*	*69,4*	*72,4*	*75,9*	*1,5*	*1*
2	2.8750	0.189	0.197	0.157	0.024	0.039	2.17	2.28	2.73	2.85	2.99	0.024	0.039
50,800	*73,025*	*4,8*	*5*	*4*	*0,6*	*1*	*55,1*	*57,9*	*69,4*	*72,4*	*75,9*	*0,6*	*1*
	3.2350	0.224	0.197	0.157	0.059	0.039	2.26	2.48	3.07	3.11	3.36	0.059	0.039
	82,169	*5,7*	*5*	*4*	*1,5*	*1*	*57,5*	*63,1*	*78,1*	*79*	*85,3*	*1,5*	*1*

[1] Equal to maximum shaft fillet radius $r_{a\ max}$.
[2] Equal to maximum housing fillet radius $r_{b\ max}$.

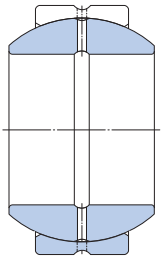
Radial spherical plain bearings, steel/steel, inch sizes
d **2.25 – 4** in



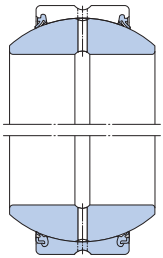
GEZ .. ES



GEZ .. ES-2RS
GEZ .. ES-2LS



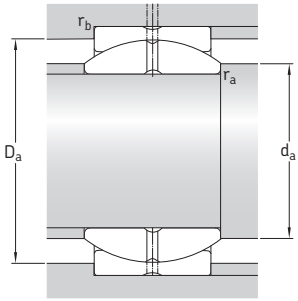
GEZH .. ES



GEZH .. ES-2RS
GEZH .. ES-2LS

Principal dimensions				Angle of tilt[1]	Basic load ratings dynamic	static	Mass	Designations without seals	suffix for seal variants standard	heavy-duty
d	D	B	C	α	C	C_0				
in/*mm*				degrees	lbf/*kN*		lb/*kg*	–		
2.25	3.5625	1.969	1.687	6	63 000	191 250	2.85	**GEZ 204 ES**	**-2RS**	**-2LS**
57,150	*90,488*	*50,01*	*42,85*		*280*	*850*	*1,30*			
	3.9375	2.318	1.875	8	77 625	234 000	4.65	**GEZH 204 ES**	**-2RS**	**-2LS**
	100,013	*58,88*	*47,63*		*345*	*1 040*	*2,10*			
2.5	3.9375	2.187	1.875	6	77 630	234 000	4.10	**GEZ 208 ES**	**-2RS**	**-2LS**
63,500	*100,013*	*55,55*	*47,63*		*345*	*1 040*	*1,85*			
	4.3750	2.545	2.062	8	95 625	285 750	6.30	**GEZH 208 ES**	**-2RS**	**-2LS**
	111,125	*64,64*	*52,38*		*425*	*1 270*	*2,85*			
2.75	4.3750	2.406	2.062	6	95 630	285 750	5.30	**GEZ 212 ES**	**-2RS**	**-2LS**
69,850	*111,125*	*61,11*	*52,38*		*425*	*1 270*	*2,40*			
	4.7500	2.790	2.250	8	112 500	337 500	8.05	**GEZH 212 ES**	**-2RS**	**-2LS**
	120,650	*70,87*	*57,15*		*500*	*1 500*	*3,65*			
3	4.7500	2.625	2.250	6	112 500	337 500	6.85	**GEZ 300 ES**	**-2RS**	**-2LS**
76,200	*120,650*	*66,68*	*57,15*		*500*	*1 500*	*3,10*			
	5.1250	3.022	2.437	8	131 625	396 000	10.0	**GEZH 300 ES**	**-2RS**	**-2LS**
	130,175	*76,76*	*61,90*		*585*	*1 760*	*4,55*			
3.25	5.1250	2.844	2.437	6	131 630	396 000	8.40	**GEZ 304 ES**	**-2RS**	**-2LS**
82,550	*130,175*	*72,24*	*61,90*		*585*	*1 760*	*3,80*			
	5.5000	3.265	2.625	9	153 000	459 000	12.3	**GEZH 304 ES**	**-2RS**	**-2LS**
	139,700	*82,93*	*66,68*		*680*	*2 040*	*5,60*			
3.5	5.5000	3.062	2.625	6	153 000	459 000	10.5	**GEZ 308 ES**	**-2RS**	**-2LS**
88,900	*139,700*	*77,78*	*66,68*		*680*	*2 040*	*4,80*			
	5.8750	3.560	2.812	9	175 500	531 000	15.0	**GEZH 308 ES**	**-2RS**	**-2LS**
	149,225	*90,42*	*71,43*		*780*	*2 360*	*6,80*			
3.75	5.8750	3.281	2.812	6	175 500	531 000	13.0	**GEZ 312 ES**	**-2RS**	**-2LS**
95,250	*149,225*	*83,34*	*71,43*		*780*	*2 360*	*5,80*			
	6.2500	3.738	3.000	9	202 500	596 250	17.9	**GEZH 312 ES**	**-2RS**	**-2LS**
	158,750	*94,95*	*76,20*		*900*	*2 650*	*8,10*			
4	6.2500	3.500	3.000	6	202 500	596 250	15.5	**GEZ 400 ES**	**-2RS**	**-2LS**
101,600	*158,750*	*88,90*	*76,20*		*900*	*2 650*	*7,00*			
	7.0000	4.225	3.375	9	252 000	765 000	30.0	**GEZH 400 ES**	**-2RS**	**-2LS**
	177,800	107,32	85,73		1 120	3 400	13,5			

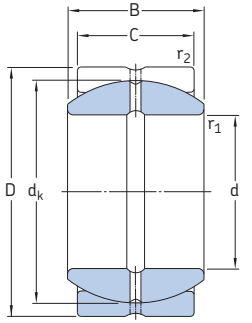
[1] To fully utilize the angle of tilt, the shaft shoulder should not be larger than $d_{a\ max}$.



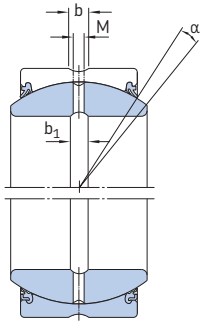
Dimensions							Abutment and fillet dimensions						
d	d_k	b	b_1	M	r_1 [1] min	r_2 [2] min	d_a min	d_a max	D_a min	$D_{a\ sealed}$ min	D_a max	r_a max	r_b max
in/*mm*							in/*mm*						
2.25	3.2350	0.224	0.197	0.157	0.024	0.039	2.43	2.57	3.07	3.11	3.36	0.024	0.039
57,150	*82,169*	*5,7*	*5*	*4*	*0,6*	*1*	*61,7*	*65,2*	*78,1*	*79*	*85,3*	*0,6*	*1*
	3.5900	0.354	0.315	0.256	0.059	0.039	2.52	2.74	3.41	3.43	3.73	0.059	0.039
	91,186	*9*	*8*	*6,5*	*1,5*	*1*	*64,1*	*69,6*	*86,6*	*87*	*94,7*	*1,5*	*1*
2.5	3.5900	0.354	0.315	0.256	0.024	0.039	2.69	2.85	3.41	3.43	3.73	0.024	0.039
63,500	*91,186*	*9*	*8*	*6,5*	*0,6*	*1*	*68,3*	*72,3*	*86,6*	*87*	*94,7*	*0,6*	*1*
	3.9500	0.354	0.315	0.256	0.079	0.039	2.84	3.02	3.75	3.78	4.16	0.079	0.039
	100,330	*9*	*8*	*6,5*	*2*	*1*	*72*	*76,7*	*95,3*	*96*	*105,7*	*2*	*1*
2.75	3.9500	0.354	0.315	0.256	0.024	0.039	2.95	3.13	3.75	3.78	4.16	0.024	0.039
69,850	*100,330*	*9*	*8*	*6,5*	*0,6*	*1*	*74,9*	*79,6*	*95,3*	*96*	*105,7*	*0,6*	*1*
	4.3120	0.354	0.315	0.256	0.079	0.039	3.09	3.29	4.09	4.13	4.53	0.079	0.039
	109,525	*9*	*8*	*6,5*	*2*	*1*	*78,6*	*83,5*	*104*	*104,8*	*115*	*2*	*1*
3	4.3120	0.354	0.315	0.256	0.024	0.039	3.2	3.42	4.09	4.13	4.53	0.024	0.039
76,200	*109,525*	*9*	*8*	*6,5*	*0,6*	*1*	*81,4*	*86,9*	*104*	*104,8*	*115*	*0,6*	*1*
	4.6750	0.366	0.315	0.256	0.079	0.039	3.35	3.57	4.44	4.5	4.90	0.079	0.039
	118,745	*9,3*	*8*	*6,5*	*2*	*1*	*85,1*	*90,6*	*112,8*	*114,2*	*124,4*	*2*	*1*
3.25	4.6750	0.366	0.315	0.256	0.024	0.039	3.46	3.71	4.44	4.5	4.9	0.024	0.039
82,550	*118,745*	*9,3*	*8*	*6,5*	*0,6*	*1*	*88*	*94,2*	*112,8*	*114,2*	*124,4*	*0,6*	*1*
	5.0400	0.413	0.315	0.256	0.079	0.039	3.65	3.84	4.79	4.83	5.27	0.079	0.039
	128,016	*10,5*	*8*	*6,5*	*2*	*1*	*92,7*	*97,5*	*121,6*	*122,8*	*133,8*	*2*	*1*
3.5	5.0400	0.413	0.315	0.256	0.024	0.039	3.72	4	4.79	4.83	5.27	0.024	0.039
88,900	*128,016*	*10,5*	*8*	*6,5*	*0,6*	*1*	*94,6*	*101,7*	*121,6*	*122,8*	*133,8*	*0,6*	*1*
	5.3900	0.413	0.315	0.256	0.079	0.039	3.91	4.04	5.12	5.17	5.63	0.079	0.039
	136,906	*10,5*	*8*	*6,5*	*2*	*1*	*99,3*	*102,5*	*130,1*	*131,4*	*143,1*	*2*	*1*
3.75	5.3900	0.413	0.315	0.256	0.024	0.039	3.98	4.28	5.12	5.17	5.63	0.024	0.039
95,250	*136,906*	*10,5*	*8*	*6,5*	*0,6*	*1*	*101,2*	*108,6*	*130,1*	*131,4*	*143,1*	*0,6*	*1*
	5.7500	0.413	0.394	0.315	0.079	0.039	4.17	4.37	5.47	5.49	6.00	0.079	0.039
	146,050	*10,5*	*10*	*8*	*2*	*1*	*105,8*	*110,9*	*139*	*139,5*	*152,5*	*2*	*1*
4	5.7500	0.413	0.394	0.315	0.024	0.039	4.25	4.55	5.47	5.49	6	0.024	0.039
101,600	*146,050*	*10,5*	*10*	*8*	*0,6*	*1*	*108*	*115,5*	*139*	*139,5*	*152,5*	*0,6*	*1*
	6.4750	0.433	0.394	0.315	0.079	0.043	4.45	4.9	6.16	6.18	6.73	0.079	0.043
	164,465	*11*	*10*	*8*	*2*	*1,1*	*113*	*124,5*	*156,5*	*157*	*171*	*2*	*1,1*

[1] Equal to maximum shaft fillet radius $r_{a\ max}$.
[2] Equal to maximum housing fillet radius $r_{b\ max}$.

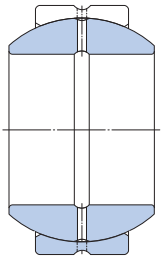
Radial spherical plain bearings, steel/steel, inch sizes
d **4.5 – 6** in



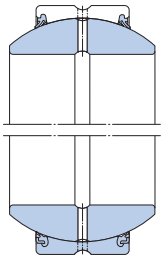
GEZ .. ES



GEZ .. ES-2RS
GEZ .. ES-2LS



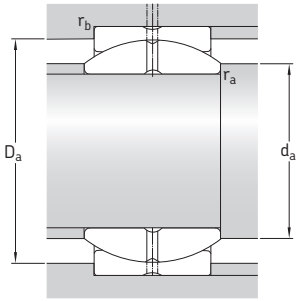
GEZH .. ES



GEZH .. ES-2RS
GEZH .. ES-2LS

Principal dimensions				Angle of tilt[1]	Basic load ratings dynamic	static	Mass	Designations without seals	suffix for seal variants standard	heavy-duty
d	D	B	C	α	C	C_0				
in/*mm*				degrees	lbf/*kN*		lb/*kg*	–		
4.5	7.0000	3.937	3.375	6	252 000	765 000	21.5	**GEZ 408 ES**	**-2RS**	**-2LS**
114,300	*177,800*	*100,00*	*85,73*		*1 120*	*3 400*	*9,80*			
	7.7500	4.690	3.750	9	315 000	933 750	36.0	**GEZH 408 ES**	**-2RS**	**-2LS**
	196,850	*119,17*	*95,25*		*1 400*	*4 150*	*16,5*			
4.75	7.3750	4.156	3.562	6	281 250	843 750	25.5	**GEZ 412 ES**	**-2RS**	**-2LS**
120,650	*187,325*	*105,56*	*90,48*		*1 250*	*3 750*	*11,5*			
5	7.7500	4.375	3.750	6	315 000	933 750	30.0	**GEZ 500 ES**	**-2RS**	**-2LS**
127,000	*196,850*	*111,13*	*95,25*		*1 400*	*4 150*	*13,5*			
5.5	8.7500	4.950	4.125	7	389 250	1 170 000	45.5	**GEZH 508 ES**	**-2RS**	**-2LS**
139,700	*222,250*	*125,73*	*104,78*		*1 730*	*5 200*	*20,5*			
6	8.7500	4.750	4.125	5	389 250	1 170 000	38.5	**GEZ 600 ES**	**-2RS**	**-2LS**
152,400	*222,250*	*120,65*	*104,78*		*1 730*	*5 200*	*17,5*			

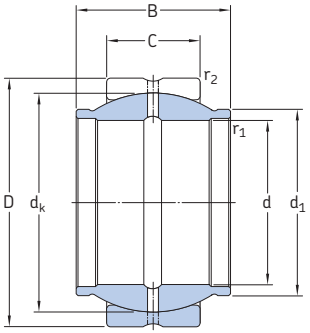
[1] To fully utilize the angle of tilt, the shaft shoulder should not be larger than $d_{a\ max}$.



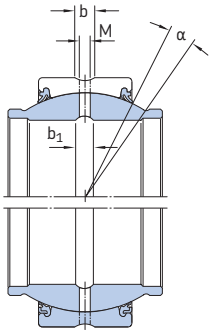
Dimensions							Abutment and fillet dimensions						
d	d_k	b	b_1	M	r_1[1] min	r_2[2] min	d_a min	d_a max	D_a min	$D_{a\ sealed}$ min	D_a max	r_a max	r_b max
in/*mm*							in/*mm*						
4.5	6.4750	0.433	0.394	0.315	0.039	0.043	4.82	5.14	6.16	6.18	6.73	0.039	0,043
114,300	*164,465*	*11*	*10*	*8*	*1*	*1,1*	*122,5*	*130,5*	*156,5*	*157*	*171*	*1*	*1,1*
	7.1900	0.433	0.394	0.315	0.079	0.043	4.96	5.45	6.83	6.91	7.42	0.079	0,043
	182,626	*11*	*10*	*8*	*2*	*1,1*	*126*	*138,4*	*173,5*	*175,5*	*188,5*	*2*	*1,1*
4.75	6.8250	0.433	0.394	0.315	0.039	0.043	5.08	5.41	6.5	6.56	7.05	0.039	0,043
120,650	*173,355*	*11*	*10*	*8*	*1*	*1,1*	*129*	*137,5*	*165*	*166,5*	*179*	*1*	*1,1*
5	7.1900	0.433	0.394	0.315	0.039	0.043	5.33	5.69	6.83	6.91	7.42	0.039	0,043
127,000	*182,626*	*11*	*10*	*8*	*1*	*1,1*	*135,5*	*144,5*	*173,5*	*175,5*	*188,5*	*1*	*1,1*
5.5	8.1560	0.591	0.433	0.315	0.079	0.043	5.98	6.46	7.76	7.78	8.41	0.079	0,043
139,700	*207,162*	*15*	*11*	*8*	*2*	*1,1*	*152*	*164*	*197*	*197,5*	*213,5*	*2*	*1,1*
6	8.1560	0.591	0.433	0.315	0.039	0.043	6.34	6.61	7.76	7.78	8.41	0.039	0,043
152,400	*207,162*	*15*	*11*	*8*	*1*	*1,1*	*161*	*168*	*197*	*197,5*	*213,5*	*1*	*1,1*

[1] Equal to maximum shaft fillet radius $r_{a\ max}$.
[2] Equal to maximum housing fillet radius $r_{b\ max}$.

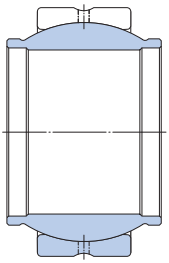
Radial spherical plain bearings with an extended inner ring, steel/steel, metric sizes
d **12 – 125** mm



GEG .. ES



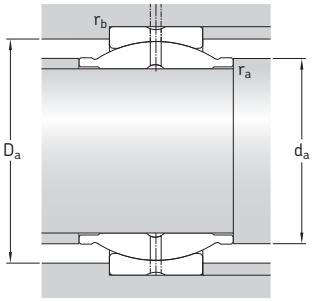
GEM .. ES-2RS
GEM .. ES-2LS



GEG .. ESA

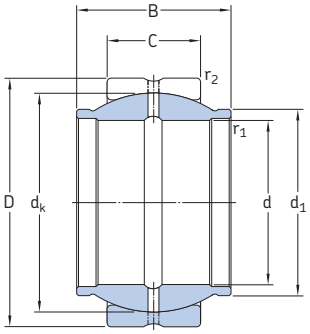
Principal dimensions				Angle of tilt	Basic load ratings dynamic	static	Mass	Designations[1] without seals with standard seals	suffix for heavy-duty seals
d	D	B	C	α	C	C_0			
mm				degrees	kN		kg	–	
12	22	12	7	4	10,8	54	0,020	**GEG 12 ESA**[2]	**–**
16	28	16	9	4	17,6	88	0,035	**GEG 16 ES**	**–**
20	35	20	12	4	30	146	0,070	**GEG 20 ES**	**–**
	35	24	12	6	30	146	0,073	**GEM 20 ES-2RS**	**-2LS**
25	42	25	16	4	48	240	0,13	**GEG 25 ES**	**–**
	42	29	16	4	48	240	0,13	**GEM 25 ES-2RS**	**-2LS**
30	47	30	18	4	62	310	0,17	**GEM 30 ES-2RS**	**-2LS**
32	52	32	18	4	65,5	325	0,17	**GEG 32 ES**	**–**
35	55	35	20	4	80	400	0,25	**GEM 35 ES-2RS**	**-2LS**
40	62	38	22	4	100	500	0,35	**GEM 40 ES-2RS**	**-2LS**
	62	40	22	4	100	500	0,34	**GEG 40 ES**	**–**
45	68	40	25	4	127	640	0,49	**GEM 45 ES-2RS**	**-2LS**
50	75	43	28	4	156	780	0,60	**GEM 50 ES-2RS**	**-2LS**
	75	50	28	4	156	780	0,56	**GEG 50 ES**	**–**
60	90	54	36	3	245	1 220	1,15	**GEM 60 ES-2RS**	**-2LS**
63	95	63	36	4	255	1 270	1,25	**GEG 63 ES**	**–**
70	105	65	40	4	315	1 560	1,65	**GEM 70 ES-2RS**	**-2LS**
80	120	74	45	4	400	2 000	2,50	**GEM 80 ES-2RS**	**-2LS**
	120	80	45	4	400	2 000	2,40	**GEG 80 ES**	**–**
100	150	100	55	4	610	3 050	4,80	**GEG 100 ES**	**–**
125	180	125	70	4	950	4 750	8,50	**GEG 125 ES**	**–**

[1] Bearings with an outside diameter D ≥ 150 mm have the multi-groove system in the outer ring as standard. Bearings with an outside diameter D < 150 mm can be supplied with the multi-groove system on request (designation suffix ESL).
[2] Can only be relubricated via the outer ring.



Dimensions								Abutment and fillet dimensions					
d	d_k	d_1	b	b_1	M	r_1 min	r_2 min	d_a min	d_a max	D_a min	D_a max	r_a max	r_b max
mm								mm					
12	18	15,5	2,3	–	1,5	0,3	0,3	14,5	15,5	17,1	20,4	0,3	0,3
16	23	20	2,3	2,3	1,5	0,3	0,3	18,7	20	21,9	26,3	0,3	0,3
20	29 29	25 24	3,1 3,1	3,1 3,1	2 2	0,3 0,3	0,3 0,3	23,1 23	25 24	27,6 30,9	33,2 33,2	0,3 0,3	0,3 0,3
25	35,5 35,5	30,5 29	3,1 3,1	3,1 3,1	2 2	0,6 0,3	0,6 0,6	29,2 28,3	30,5 29	33,7 36,9	39,2 39,2	0,6 0,3	0,6 0,6
30	40,7	34	3,1	3,1	2	0,3	0,6	33,5	34	41,3	44	0,3	0,6
32	43	38	3,9	3,9	2,5	0,6	1	36,3	38	40,9	48,1	0,6	1
35	47	40	3,9	3,9	2,5	0,6	1	38,8	40	48,5	50,9	0,6	1
40	53 53	45 46	3,9 3,9	3,9 3,9	2,5 2,5	0,6 0,6	1 1	44 44,8	45 46	54,5 50,3	57,8 57,8	0,6 0,6	1 1
45	60	52	4,6	4,6	3	0,6	1	49,6	52	61	63,6	0,6	1
50	66 66	57 57	4,6 4,6	4,6 4,6	3 3	0,6 0,6	1 1	54,8 55,9	57 57	66,2 62,7	70,5 70,5	0,6 0,6	1 1
60	80	68	6,2	6,2	4	0,6	1	65,4	68	79,7	84,2	0,6	1
63	83	71,5	6,2	6,2	4	1	1	69,7	71,5	78,9	89,2	1	1
70	92	78	7,7	7,7	4	0,6	1	75,7	78	92	99	0,6	1
80	105 105	90 91	7,7 7,7	7,7 7,7	4 4	0,6 1	1 1	86,1 88,7	90 91	104,4 99,7	113,8 113,8	0,6 1	1 1
100	130	113	11,3	11,3	5	1	1	110,1	113	123,5	143,2	1	1
125	160	138	13,5	13,5	6	1	1	136,5	138	152	172	1	1

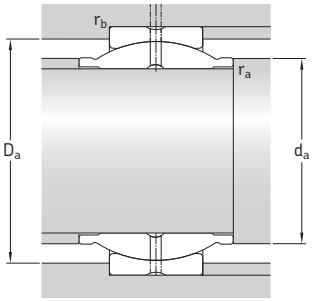
Radial spherical plain bearings with an extended inner ring, steel/steel, metric sizes
d **160 – 200** mm



GEG .. ES

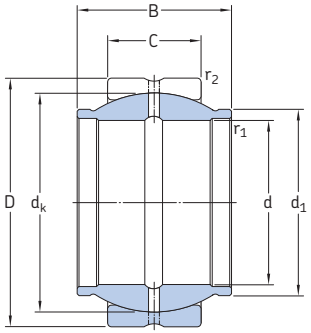
Principal dimensions				Angle of tilt	Basic load ratings dynamic	static	Mass	Designation[1] without seals
d	D	B	C	α	C	C_0		
mm				degrees	kN		kg	–
160	230	160	80	4	1 370	6 800	16,5	**GEG 160 ES**
200	290	200	100	4	2 120	10 600	32,0	**GEG 200 ES**

[1] Bearings with an outside diameter D ≥ 150 mm have the multi-groove system in the outer ring as standard.

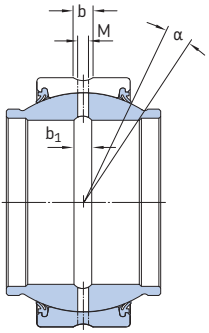


Dimensions								Abutment and fillet dimensions					
d	d_k	d_1	b	b_1	M	$r_{1\,min}$	$r_{2\,min}$	$d_{a\,min}$	$d_{a\,max}$	$D_{a\,min}$	$D_{a\,max}$	$r_{a\,max}$	$r_{b\,max}$
mm								mm					
160	200	177	13,5	13,5	6	1	1	172	177	190	222	1	1
200	250	221	15,5	15,5	7	1,1	1,1	213	221	237,5	279,5	1	1

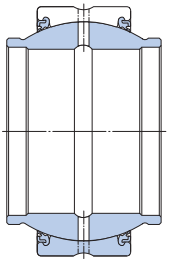
Radial spherical plain bearings with an extended inner ring, steel/steel, inch sizes
d **0.5 – 2.5** in



GEZM .. ES



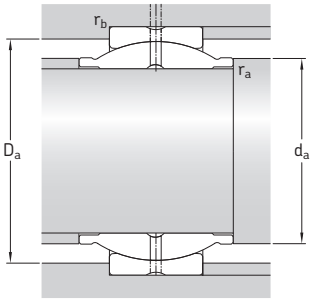
GEZM .. ES-2RS



GEZM .. ES-2LS

Principal dimensions				Angle of tilt[1]		Basic load ratings dynamic	static	Mass	Designations without seals	suffix for seal variants standard	heavy-duty
d	D	B	C	α	α sealed	C	C_0				
in/*mm*				degrees		lbf/*kN*		lb/*kg*	–		
0.5 *12,700*	0.8750 *22,225*	0.750 *19,05*	0.375 *9,53*	9	–	3 150 *14*	9 340 *41,5*	0.051 *0,023*	**GEZM 008 ES**	**–**	**–**
0.625 *15,875*	1.0625 *26,988*	0.937 *23,80*	0.469 *11,91*	9	–	4 840 *21,5*	14 738 *65,5*	0.090 *0,041*	**GEZM 010 ES**	**–**	**–**
0.75 *19,050*	1.2500 *31,750*	1.125 *28,58*	0.562 *14,28*	9	5	7 090 *31,5*	20 925 *93*	0.15 *0,068*	**GEZM 012 ES**	**-2RS**	**–**
0.875 *22,225*	1.4375 *36,513*	1.312 *33,33*	0.656 *16,66*	9	–	9 560 *42,5*	28 575 *127*	0.23 *0,11*	**GEZM 014 ES**	**–**	**–**
1 *25,400*	1.6250 *41,275*	1.500 *38,10*	0.750 *19,05*	9	5	12 600 *56*	37 350 *166*	0.34 *0,15*	**GEZM 100 ES**	**-2RS**	**-2LS**
1.25 *31,750*	2.0000 *50,800*	1.875 *47,63*	0.937 *23,80*	9	5	19 460 *86,5*	58 500 *260*	0.63 *0,29*	**GEZM 104 ES**	**-2RS**	**-2LS**
1.375 *34,925*	2.1875 *55,563*	2.062 *52,38*	1.031 *26,19*	9	5	23 400 *104*	69 750 *310*	0.81 *0,37*	**GEZM 106 ES**	**-2RS**	**-2LS**
1.5 *38,100*	2.4375 *61,913*	2.250 *57,15*	1.125 *28,58*	9	5	28 130 *125*	84 380 *375*	1.15 *0,51*	**GEZM 108 ES**	**-2RS**	**-2LS**
1.75 *44,450*	2.8125 *71,438*	2.625 *66,68*	1.312 *33,33*	9	5	38 250 *170*	114 750 *510*	1.80 *0,81*	**GEZM 112 ES**	**-2RS**	**-2LS**
2 *50,800*	3.1875 *80,963*	3.000 *76,20*	1.500 *38,10*	9	5	50 400 *224*	150 750 *670*	2.65 *1,20*	**GEZM 200 ES**	**-2RS**	**-2LS**
2.25 *57,150*	3.5625 *90,488*	3.375 *85,73*	1.687 *42,85*	9	5	63 000 *280*	191 250 *850*	3.65 *1,65*	**GEZM 204 ES**	**-2RS**	**-2LS**
2.5 *63,500*	3.9375 *100,013*	3.750 *95,25*	1.875 *47,63*	9	5	77 625 *350*	234 000 *1 040*	4.95 *2,25*	**GEZM 208 ES**	**-2RS**	**-2LS**

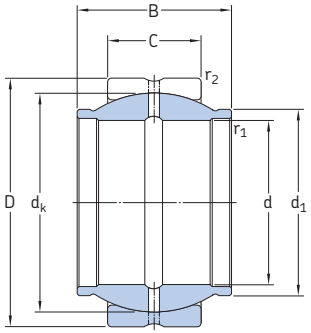
[1] To fully utilize the angle of tilt, the shaft shoulder should not be larger than $d_{a\ max}$.



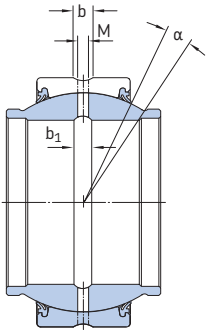
Dimensions								Abutment and fillet dimensions						
d	d_k	d_1	b	b_1	M	r_1[1] min	r_2[2] min	d_a min	d_a max	D_a min	$D_{a\ sealed}$ min	D_a max	r_a max	r_b max
in/*mm*								in/*mm*						
0.5	0.7190	0.625	0.102	0.098	0.059	0.012	0.024	0.56	0.63	0.68	–	0.78	0.012	0.024
12,700	*18,263*	*15,9*	*2,6*	*2,5*	*1,5*	*0,3*	*0,6*	*14,3*	*15,9*	*17,3*	–	*19,9*	*0,3*	*0,6*
0.625	0.8990	0.780	0.126	0.118	0.098	0.024	0.039	0.72	0.78	0.85	–	0.93	0.024	0.039
15,875	*22,835*	*19,8*	*3,2*	*3*	*2,5*	*0,6*	*1,0*	*18,4*	*19,8*	*21,7*	–	*23,6*	*0,6*	*1*
0.75	1.0800	0.920	0.126	0.118	0.098	0.024	0.039	0.85	0.92	1.03	1.1	1.11	0.024	0.039
19,050	*27,432*	*23,4*	*3,2*	*3*	*2,5*	*0,6*	*1,0*	*21,7*	*23,4*	*26,1*	*27,9*	*28,3*	*0,6*	*1*
0.875	1.2580	1.070	0.126	0.118	0.098	0.024	0.039	0.98	1.07	1.2	–	1.30	0.024	0.039
22,225	*31,953*	*27,2*	*3,2*	*3*	*2,5*	*0,6*	*1,0*	*24,9*	*27,2*	*30,4*	–	*33*	*0,6*	*1*
1	1.4370	1.220	0.126	0.118	0.098	0.024	0.039	1.11	1.22	1.37	1.39	1.48	0.024	0.039
25,400	*36,500*	*31,0*	*3,2*	*3*	*2,5*	*0,6*	*1,0*	*28,2*	*31*	*34,7*	*35,2*	*37,7*	*0,6*	*1*
1.25	1.7950	1.525	0.189	0.197	0.157	0.039	0.039	1.41	1.53	1.7	1.76	1.85	0.039	0.039
31,750	*45,593*	*38,7*	*4,8*	*5*	*4*	*1,0*	*1,0*	*35,8*	*38,7*	*43,3*	*44,8*	*47*	*1*	*1*
1.375	1.9370	1.670	0.189	0.197	0.157	0.039	0.039	1.54	1.67	1.84	1.85	2.04	0.039	0.039
34,925	*49,200*	*42,4*	*4,8*	*5*	*4*	*1,0*	*1,0*	*39,1*	*42,4*	*46,7*	*47,1*	*51,7*	*1*	*1*
1.5	2.1550	1.850	0.189	0.197	0.157	0.039	0.039	1.71	1.85	2.05	2.06	2.28	0.039	0.039
38,100	*54,737*	*47,0*	*4,8*	*5*	*4*	*1,0*	*1,0*	*43,3*	*47*	*52*	*52,3*	*58*	*1*	*1*
1.75	2.5150	2.165	0.189	0.197	0.157	0.039	0.039	1.97	2.17	2.39	2.41	2.65	0.039	0.039
44,450	*63,881*	*55,0*	*4,8*	*5*	*4*	*1,0*	*1,0*	*49,9*	*55*	*60,7*	*61,3*	*67,4*	*1*	*1*
2	2.8750	2.460	0.189	0.197	0.157	0.039	0.039	2.22	2.46	2.73	2.85	2.99	0.039	0.039
50,800	*73,025*	*62,5*	*4,8*	*5*	*4*	*1,0*	*1,0*	*56,5*	*62,5*	*69,4*	*72,4*	*75,9*	*1*	*1*
2.25	3.2350	2.760	0.224	0.197	0.157	0.039	0.039	2.48	2.76	3.07	3.11	3.36	0.039	0.039
57,150	*82,169*	*70,1*	*5,7*	*5*	*4*	*1,0*	*1,0*	*63,1*	*70,1*	*78,1*	*79*	*85,3*	*1*	*1*
2.5	3.5900	3.060	0.354	0.315	0.256	0.039	0.039	2.74	3.06	3.41	3.43	3.73	0.039	0.039
63,500	*91,186*	*77,7*	*9*	*8*	*6,5*	*1,0*	*1,0*	*69,6*	*77,7*	*86,6*	*87*	*94,7*	*1*	*1*

[1] Equal to maximum shaft fillet radius $r_{a\ max}$.
[2] Equal to maximum housing fillet radius $r_{b\ max}$.

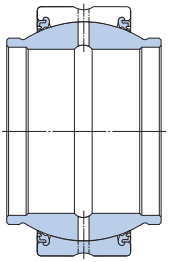
Radial spherical plain bearings with an extended inner ring, steel/steel, inch sizes
d **2.75 – 6** in



GEZM .. ES



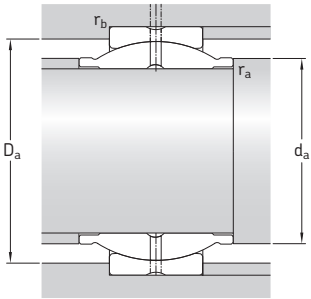
GEZM .. ES-2RS



GEZM .. ES-2LS

Principal dimensions				Angle of tilt[1]		Basic load ratings dynamic	static	Mass	Designations without seals	suffix for seal variants standard	heavy-duty
d	D	B	C	α	α sealed	C	C_0				
in/*mm*				degrees		lbf/*kN*		lb/*kg*	–		
2.75 *69,850*	4.3750 *111,125*	4.125 *104,78*	2.062 *52,38*	9	5	95 625 *430*	285 750 *1 270*	6.85 *3,10*	**GEZM 212 ES**	**-2RS**	**-2LS**
3 *76,200*	4.7500 *120,650*	4.500 *114,30*	2.250 *57,15*	9	5	112 500 *500*	337 500 *1 500*	8.80 *4,00*	**GEZM 300 ES**	**-2RS**	**-2LS**
3.25 *82,550*	5.1250 *130,175*	4.875 *123,83*	2.437 *61,90*	9	5	131 625 *590*	396 000 *1 760*	11.0 *5,00*	**GEZM 304 ES**	**-2RS**	**-2LS**
3.5 *88,900*	5.5000 *139,700*	5.250 *133,35*	2.625 *66,68*	9	5	153 000 *680*	459 000 *2 040*	14.0 *6,25*	**GEZM 308 ES**	**-2RS**	**-2LS**
3.75 *95,250*	5.8750 *149,225*	5.625 *142,88*	2.812 *71,43*	9	5	175 500 *780*	531 000 *2 360*	17.0 *7,60*	**GEZM 312 ES**	**-2RS**	**-2LS**
4 *101,600*	6.2500 *158,750*	6.000 *152,40*	3.000 *76,20*	9	5	202 500 *900*	596 250 *2 650*	20.0 *9,10*	**GEZM 400 ES**	**-2RS**	**-2LS**
4.5 *114,300*	7.0000 *177,800*	6.750 *171,45*	3.375 *85,73*	7	5	252 000 *1 120*	765 000 *3 400*	28.5 *13,0*	**GEZM 408 ES**	**-2RS**	**-2LS**
5 *127,000*	7.7500 *196,850*	7.500 *190,50*	3.750 *95,25*	7	5	315 000 *1 400*	933 750 *4 150*	38.5 *17,5*	**GEZM 500 ES**	**-2RS**	**-2LS**
6 *152,400*	8.7500 *222,250*	8.250 *209,55*	4.125 *104,78*	7	5	389 250 *1 730*	1 170 000 *5 200*	47.5 *21,5*	**GEZM 600 ES**	**-2RS**	**-2LS**

[1] To fully utilize the angle of tilt, the shaft shoulder should not be larger than $d_{a\ max}$.



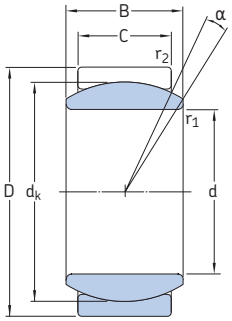
Dimensions								Abutment and fillet dimensions						
d	d_k	d_1	b	b_1	M	r_1[1] min	r_2[2] min	d_a min	d_a max	D_a min	$D_{a\ sealed}$ min	D_a max	r_a max	r_b max
in/*mm*								in/*mm*						
2.75	3.9500	3.380	0.354	0.315	0.256	0.039	0.039	3.00	3.38	3.75	3.78	4.16	0.039	0.039
69,850	*100,330*	*85,9*	*9*	*8*	*6,5*	*1,0*	*1,0*	*76,2*	*85,9*	*95,3*	*96*	*105,7*	*1*	*1*
3	4.3120	3.675	0.354	0.315	0.256	0.039	0.039	3.26	3.68	4.09	4.13	4.53	0.039	0.039
76,200	*109,525*	*93,3*	*9*	*8*	*6,5*	*1,0*	*1,0*	*82,8*	*93,3*	*104*	*104,8*	*115*	*1*	*1*
3.25	4.6750	3.985	0.366	0.315	0.256	0.039	0.039	3.52	3.99	4.44	4.5	4.90	0.039	0.039
82,550	*118,745*	*101,2*	*9,3*	*8*	*6,5*	*1,0*	*1,0*	*89,4*	*101,2*	*112,8*	*114,2*	*124,4*	*1*	*1*
3.5	5.0400	4.300	0.413	0.315	0.256	0.039	0.039	3.78	4.3	4.79	4.83	5.27	0.039	0.039
88,900	*128,016*	*109,2*	*10,5*	*8*	*6,5*	*1,0*	*1,0*	*95,9*	*109,2*	*121,6*	*122,8*	*133,8*	*1*	*1*
3.75	5.3900	4.590	0.413	0.315	0.256	0.039	0.039	4.04	4.59	5.12	5.17	5.63	0.039	0.039
95,250	*136,906*	*116,6*	*10,5*	*8*	*6,5*	*1,0*	*1,0*	*102,5*	*116,6*	*130,1*	*131,4*	*143,1*	*1*	*1*
4	5.7500	4.905	0.413	0.394	0.315	0.059	0.039	4.33	4.91	5.47	5.49	6.00	0.059	0.039
101,600	*146,050*	*124,6*	*10,5*	*10*	*8*	*1,5*	*1,0*	*110*	*124,6*	*139*	*139,5*	*152,5*	*1,5*	*1*
4.5	6.4750	5.525	0.433	0.394	0.315	0.079	0.043	4.94	5.53	6.16	6.18	6.73	0.079	0.043
114,300	*164,465*	*140,3*	*11*	*10*	*8*	*2,0*	*1,1*	*125,5*	*140,3*	*156,5*	*157*	*171*	*2*	*1,1*
5	7.1900	6.130	0.433	0.394	0.315	0.079	0.043	5.45	6.13	6.83	6.91	7.42	0.079	0.043
127,000	*182,626*	*155,7*	*11*	*10*	*8*	*2,0*	*1,1*	*138,5*	*155,7*	*173,5*	*175,5*	*188,5*	*2*	*1,1*
6	8.1560	7.020	0.591	0.433	0.315	0.079	0.043	6.46	7.02	7.76	7.78	8.41	0.079	0.043
152,400	*207,162*	*178,3*	*15*	*11*	*8*	*2,0*	*1,1*	*164*	*178,3*	*197*	*197,5*	*213,5*	*2*	*1,1*

[1] Equal to maximum shaft fillet radius $r_{a\ max}$.
[2] Equal to maximum housing fillet radius $r_{b\ max}$.

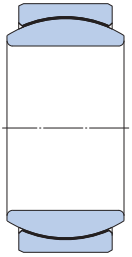

SKF

Maintenance-free radial spherical plain bearings

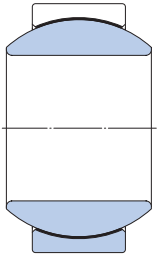
Maintenance-free radial spherical plain bearings, steel/PTFE sintered bronze, metric sizes
d **4 – 60** mm



GE .. C



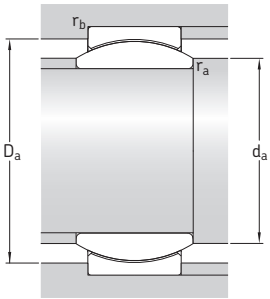
GE .. CJ2



GEH .. C

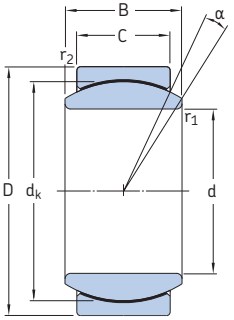
Principal dimensions				Angle of tilt[1]	Basic load ratings dynamic	static	Mass	Designation
d	D	B	C	α	C	C_0		
mm				degrees	kN		kg	–
4	12	5	3	16	2,16	5,4	0,003	**GE 4 C**
6	14	6	4	13	3,6	9	0,004	**GE 6 C**
8	16	8	5	15	5,85	14,6	0,008	**GE 8 C**
10	19	9	6	12	8,65	21,6	0,012	**GE 10 C**
	22	12	7	18	11,4	28,5	0,020	**GEH 10 C**
12	22	10	7	10	11,4	28,5	0,017	**GE 12 C**
	26	15	9	18	18	45	0,030	**GEH 12 C**
15	26	12	9	8	18	45	0,032	**GE 15 C**
	30	16	10	16	22,4	56	0,050	**GEH 15 C**
17	30	14	10	10	22,4	56	0,050	**GE 17 C**
	35	20	12	19	31,5	78	0,090	**GEH 17 C**
20	35	16	12	9	31,5	78	0,065	**GE 20 C**
	42	25	16	17	51	127	0,16	**GEH 20 C**
25	42	20	16	7	51	127	0,12	**GE 25 C**
	47	28	18	17	65,5	166	0,20	**GEH 25 C**
30	47	22	18	6	65,5	166	0,16	**GE 30 C**
35	55	25	20	6	80	200	0,23	**GE 35 CJ2**
40	62	28	22	7	100	250	0,32	**GE 40 CJ2**
45	68	32	25	7	127	320	0,46	**GE 45 CJ2**
50	75	35	28	6	156	390	0,56	**GE 50 CJ2**
60	90	44	36	6	245	610	1,10	**GE 60 CJ2**

[1] To fully utilize the angle of tilt, the shaft shoulder should not be larger than $d_{a\,max}$.

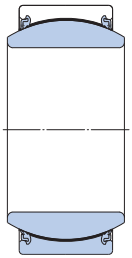


Dimensions				Abutment and fillet dimensions					
d	d_k	$r_{1\,min}$	$r_{2\,min}$	$d_{a\,min}$	$d_{a\,max}$	$D_{a\,min}$	$D_{a\,max}$	$r_{a\,max}$	$r_{b\,max}$
mm				mm					
4	8	0,3	0,3	5,4	6,2	7,6	10,7	0,3	0,3
6	10	0,3	0,3	7,4	8	9,5	12,7	0,3	0,3
8	13	0,3	0,3	9,4	10,2	12,3	14,6	0,3	0,3
10	16	0,3	0,3	11,5	13,2	15,2	17,6	0,3	0,3
	18	0,3	0,3	11,6	13,4	17,1	20,6	0,3	0,3
12	18	0,3	0,3	13,5	15	17,1	20,6	0,3	0,3
	22	0,3	0,3	13,7	16,1	20,9	24,5	0,3	0,3
15	22	0,3	0,3	16,6	18,4	20,9	24,5	0,3	0,3
	25	0,3	0,3	16,7	19,2	23,7	28,5	0,3	0,3
17	25	0,3	0,3	18,7	20,7	23,7	28,5	0,3	0,3
	29	0,3	0,3	18,9	21	27,6	33,4	0,3	0,3
20	29	0,3	0,3	21,8	24,2	27,6	33,4	0,3	0,3
	35,5	0,3	0,6	22,1	25,2	33,7	39,5	0,3	0,6
25	35,5	0,6	0,6	27,7	29,3	33,7	39,5	0,6	0,6
	40,7	0,6	0,6	27,9	29,5	38,7	44,4	0,6	0,6
30	40,7	0,6	0,6	32,8	34,2	38,7	44,4	0,6	0,6
35	47	0,6	1	37,9	39,8	44,7	51,4	0,6	1
40	53	0,6	1	42,9	45	50,4	58,3	0,6	1
45	60	0,6	1	48,7	50,8	57	64,2	0,6	1
50	66	0,6	1	53,9	56	62,7	71,1	0,6	1
60	80	1	1	65,4	66,8	76	85,8	1	1

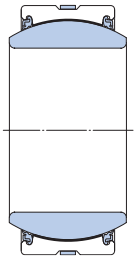
Maintenance-free radial spherical plain bearings, steel/PTFE fabric, metric sizes
d **12 – 90** mm



GE .. TXGR



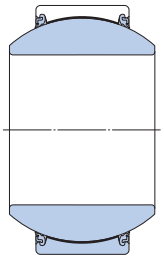
GE .. TX(G3)E-2LS



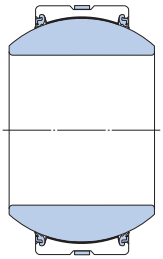
GE .. TX(G3)A-2LS

Principal dimensions				Angle of tilt[1]	Basic load ratings dynamic	static	Mass	Designations Material Bearing steel	Stainless steel
d	D	B	C	α	C	C_0			
mm				degrees	kN		kg	–	
12	22	10	7	10	30	50	0,017	**–**	**GE 12 TXGR**
15	26	12	9	8	47,5	80	0,032	**–**	**GE 15 TXGR**
17	30	14	10	10	60	100	0,050	**–**	**GE 17 TXGR**
20	35	16	12	9	83	140	0,065	**GE 20 TXE-2LS**	**GE 20 TXG3E-2LS**
	42	25	16	17	137	228	0,15	**GEH 20 TXE-2LS**	**GEH 20 TXG3E-2LS**
25	42	20	16	7	137	228	0,12	**GE 25 TXE-2LS**	**GE 25 TXG3E-2LS**
	47	28	18	17	176	290	0,19	**GEH 25 TXE-2LS**	**GEH 25 TXG3E-2LS**
30	47	22	18	6	176	290	0,16	**GE 30 TXE-2LS**	**GE 30 TXG3E-2LS**
	55	32	20	17	224	375	0,29	**GEH 30 TXE-2LS**	**GEH 30 TXG3E-2LS**
35	55	25	20	6	224	375	0,23	**GE 35 TXE-2LS**	**GE 35 TXG3E-2LS**
	62	35	22	15	280	465	0,39	**GEH 35 TXE-2LS**	**GEH 35 TXG3E-2LS**
40	62	28	22	6	280	465	0,32	**GE 40 TXE-2LS**	**GE 40 TXG3E-2LS**
	68	40	25	17	360	600	0,52	**GEH 40 TXE-2LS**	**GEH 40 TXG3E-2LS**
45	68	32	25	7	360	600	0,46	**GE 45 TXE-2LS**	**GE 45 TXG3E-2LS**
	75	43	28	14	440	735	0,69	**GEH 45 TXE-2LS**	**GEH 45 TXG3E-2LS**
50	75	35	28	6	440	735	0,56	**GE 50 TXE-2LS**	**GE 50 TXG3E-2LS**
	90	56	36	17	695	1 160	1,41	**GEH 50 TXE-2LS**	**GEH 50 TXG3E-2LS**
60	90	44	36	6	695	1 160	1,10	**GE 60 TXE-2LS**	**GE 60 TXG3E-2LS**
	105	63	40	17	880	1 460	2,06	**GEH 60 TXE-2LS**	**GEH 60 TXG3A-2LS**
70	105	49	40	6	880	1 460	1,55	**GE 70 TXE-2LS**	**GE 70 TXG3A-2LS**
	120	70	45	16	1 140	1 900	2,99	**GEH 70 TXE-2LS**	**GEH 70 TXG3A-2LS**
80	120	55	45	5	1 140	1 900	2,30	**GE 80 TXE-2LS**	**GE 80 TXG3A-2LS**
	130	75	50	14	1 370	2 320	3,55	**GEH 80 TXE-2LS**	**GEH 80 TXG3A-2LS**
90	130	60	50	5	1 370	2 320	2,75	**GE 90 TXE-2LS**	**GE 90 TXG3A-2LS**
	150	85	55	15	1 730	2 850	5,40	**GEH 90 TXA-2LS**	**GEH 90 TXG3A-2LS**

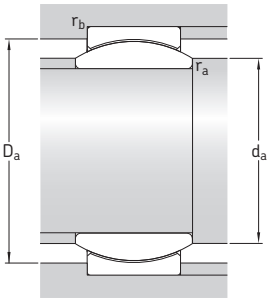
[1] To fully utilize the angle of tilt, the shaft shoulder should not be larger than $d_{a\,max}$.



GEH .. TX(G3)E-2LS

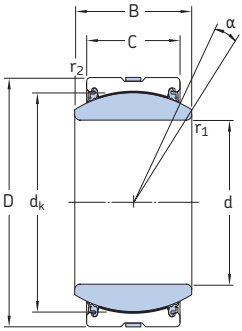


GEH .. TX(G3)A-2LS

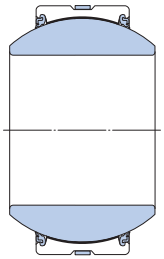


Dimensions				Abutment and fillet dimensions					
d	d_k	r_1 min	r_2 min	d_a min	d_a max	D_a min	D_a max	r_a max	r_b max
mm				mm					
12	18	0,3	0,3	13,8	15	17,1	20,4	0,3	0,3
15	22	0,3	0,3	16,9	18,4	20,9	24,3	0,3	0,3
17	25	0,3	0,3	19	20,7	23,7	28,3	0,3	0,3
20	29	0,3	0,3	22,1	24,2	27,6	33,2	0,3	0,3
	35,5	0,3	0,6	22,9	25,2	36,9	39,2	0,3	0,6
25	35,5	0,6	0,6	28,2	29,3	36,9	39,2	0,6	0,6
	40,7	0,6	0,6	28,7	29,5	41,3	44	0,6	0,6
30	40,7	0,6	0,6	33,3	34,2	41,3	44	0,6	0,6
	47	0,6	1	33,8	34,4	48,5	51	0,6	1
35	47	0,6	1	38,5	39,8	48,5	51	0,6	1
	53	0,6	1	39	39,7	54,5	57,5	0,6	1
40	53	0,6	1	43,5	45	54,5	57,5	0,6	1
	60	0,6	1	44,2	44,7	61	63,5	0,6	1
45	60	0,6	1	49,5	50,8	61	63,5	0,6	1
	66	0,6	1	50	50	66,5	70,5	0,6	1
50	66	0,6	1	54,5	56	66,5	70,5	0,6	1
	80	0,6	1	56	57,1	80	84	0,6	1
60	80	1	1	66,5	66,8	80	84	1	1
	92	1	1	67	67	92	99	1	1
70	92	1	1	76,5	77,9	92	99	1	1
	105	1	1	77,8	78,2	105	113	1	1
80	105	1	1	87	89,4	105	113	1	1
	115	1	1	87,1	87,1	113	123	1	1
90	115	1	1	97,5	98,1	113	123	1	1
	130	1	1	98,3	98,3	131	144	1	1

Maintenance-free radial spherical plain bearings, steel/PTFE fabric, metric sizes
d **100 – 300** mm



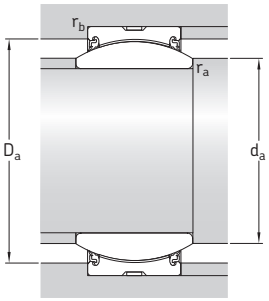
GE .. TX(G3)A-2LS



GEH .. TX(G3)A-2LS

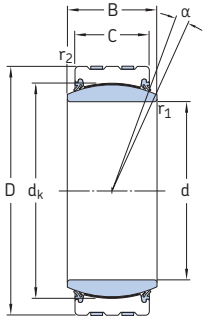
Principal dimensions				Angle of tilt[1]	Basic load ratings dynamic	static	Mass	Designations Material Bearing steel	Stainless steel
d	D	B	C	α	C	C_0			
mm				degrees	kN		kg	–	
100	150	70	55	6	1 730	2 850	4,40	**GE 100 TXA-2LS**	**GE 100 TXG3A-2LS**
	160	85	55	13	1 860	3 100	5,90	**GEH 100 TXA-2LS**	**GEH 100 TXG3A-2LS**
110	160	70	55	6	1 860	3 100	4,80	**GE 110 TXA-2LS**	**GE 110 TXG3A-2LS**
	180	100	70	12	2 700	4 500	9,50	**GEH 110 TXA-2LS**	**GEH 110 TXG3A-2LS**
120	180	85	70	6	2 700	4 500	8,25	**GE 120 TXA-2LS**	**GE 120 TXG3A-2LS**
	210	115	70	16	3 000	5 000	14,90	**GEH 120 TXA-2LS**	**GEH 120 TXG3A-2LS**
140	210	90	70	7	3 000	5 000	11,0	**GE 140 TXA-2LS**	**GE 140 TXG3A-2LS**
160	230	105	80	8	3 800	6 400	14,0	**GE 160 TXA-2LS**	**GE 160 TXG3A-2LS**
180	260	105	80	6	4 300	7 200	18,5	**GE 180 TXA-2LS**	**GE 180 TXG3A-2LS**
200	290	130	100	7	6 000	10 000	28,0	**GE 200 TXA-2LS**	**GE 200 TXG3A-2LS**
220	320	135	100	8	6 550	11 000	35,5	**GE 220 TXA-2LS**	–
240	340	140	100	8	7 200	12 000	40,0	**GE 240 TXA-2LS**	–
260	370	150	110	7	8 650	14 300	51,5	**GE 260 TXA-2LS**	–
280	400	155	120	6	10 000	16 600	65,0	**GE 280 TXA-2LS**	–
300	430	165	120	7	10 800	18 000	78,5	**GE 300 TXA-2LS**	–

[1] To fully utilize the angle of tilt, the shaft shoulder should not be larger than $d_{a\ max}$.

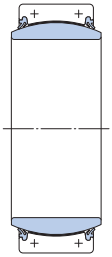


Dimensions				Abutment and fillet dimensions					
d	d_k	r_1 min	r_2 min	d_a min	d_a max	D_a min	D_a max	r_a max	r_b max
mm				mm					
100	130	1	1	108	109,5	131	144	1	1
	140	1	1	108,5	111,2	141,5	153	1	1
110	140	1	1	118	121	141,5	153	1	1
	160	1	1	120	124,5	157,5	172	1	1
120	160	1	1	130	135,5	157,5	172	1	1
	180	1	1	130,5	138	180	202	1	1
140	180	1	1	149	155,5	180	202	1	1
160	200	1	1	170	170	197	222	1	1
180	225	1,1	1,1	191	199	224,5	250	1	1
200	250	1,1	1,1	213	213,5	244,5	279	1	1
220	275	1,1	1,1	233	239,5	271	309	1	1
240	300	1,1	1,1	253	265	298	329	1	1
260	325	1,1	1,1	273	288	321,5	359	1	1
280	350	1,1	1,1	294	313,5	344,5	388	1	1
300	375	1,1	1,1	314	336,5	371	418	1	1

Maintenance-free radial spherical plain bearings, steel/PTFE fabric, metric sizes
d **320 – 800** mm



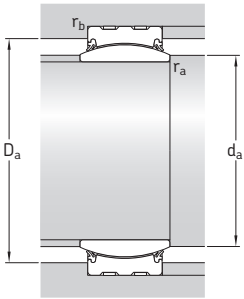
GEC .. TXA-2RS
d ≤ 400 mm



GEC .. TXA-2RS
d ≥ 420 mm

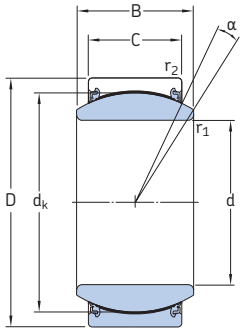
Principal dimensions				Angle of tilt[1]	Basic load ratings dynamic	static	Mass	Designation
d	D	B	C	α	C	C_0		
mm				degrees	kN		kg	–
320	440	160	135	4	14 000	23 200	75	**GEC 320 TXA-2RS**
340	460	160	135	3	14 600	24 500	82,5	**GEC 340 TXA-2RS**
360	480	160	135	3	15 300	25 500	84	**GEC 360 TXA-2RS**
380	520	190	160	4	19 300	32 500	125	**GEC 380 TXA-2RS**
400	540	190	160	3	20 400	34 000	130	**GEC 400 TXA-2RS**
420	560	190	160	3	21 200	35 500	140	**GEC 420 TXA-2RS**
440	600	218	185	3	26 000	43 000	195	**GEC 440 TXA-2RS**
460	620	218	185	3	27 000	45 000	200	**GEC 460 TXA-2RS**
480	650	230	195	3	30 000	50 000	235	**GEC 480 TXA-2RS**
500	670	230	195	3	31 000	51 000	245	**GEC 500 TXA-2RS**
530	710	243	205	3	34 500	57 000	290	**GEC 530 TXA-2RS**
560	750	258	215	3	38 000	63 000	340	**GEC 560 TXA-2RS**
600	800	272	230	3	43 000	72 000	405	**GEC 600 TXA-2RS**
630	850	300	260	3	52 000	86 500	525	**GEC 630 TXA-2RS**
670	900	308	260	3	55 000	91 500	590	**GEC 670 TXA-2RS**
710	950	325	275	3	62 000	102 000	685	**GEC 710 TXA-2RS**
750	1 000	335	280	3	65 500	110 000	770	**GEC 750 TXA-2RS**
800	1 060	355	300	3	75 000	125 000	910	**GEC 800 TXA-2RS**

[1] To fully utilize the angle of tilt, the shaft shoulder should not be larger than $d_{a\,max}$.



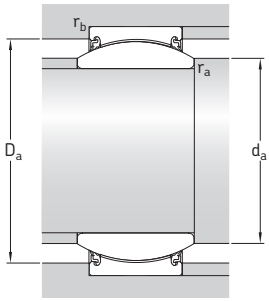
Dimensions				Abutment and fillet dimensions					
d	d_k	r_1 min	r_2 min	d_a min	d_a max	D_a min	D_a max	r_a max	r_b max
mm				mm					
320	380	1,1	3	337	344	376	414	1	3
340	400	1,1	3	357	366	396	434	1	3
360	420	1,1	3	376	388	416	454	1	3
380	450	1,5	4	400	407	445	490	1,5	4
400	470	1,5	4	420	429	465	510	1,5	4
420	490	1,5	4	439	451	485	530	1,5	4
440	520	1,5	4	461	472	514	568	1,5	4
460	540	1,5	4	482	494	534	587	1,5	4
480	565	2	5	504	516	559	613	2	5
500	585	2	5	524	537	579	633	2	5
530	620	2	5	555	570	613	672	2	5
560	655	2	5	585	602	648	711	2	5
600	700	2	5	627	644	692	760	2	5
630	740	3	6	662	676	732	802	3	6
670	785	3	6	702	722	776	853	3	6
710	830	3	6	744	763	821	901	3	6
750	875	3	6	784	808	865	950	3	6
800	930	3	6	835	859	920	1008	3	6

Maintenance-free radial spherical plain bearings, steel/PTFE fabric, inch sizes
d **1 – 3.75** in



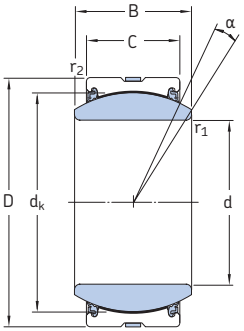
GEZ .. TXE-2LS

Principal dimensions				Angle of tilt	Basic load ratings dynamic	static	Mass	Designation
d	D	B	C	α	C	C_0		
in/*mm*				degrees	lbf/*kN*		lb/*kg*	–
1 *25,400*	1.6250 *41,275*	0.875 *22,23*	0.750 *19,05*	6	18 680 *83*	37 350 *166*	0.26 *0,12*	**GEZ 100 TXE-2LS**
1.25 *31,750*	2.0000 *50,800*	1.093 *27,76*	0.937 *23,80*	6	29 030 *129*	58 500 *260*	0.51 *0,23*	**GEZ 104 TXE-2LS**
1.375 *34,925*	2.1875 *55,563*	1.187 *30,15*	1.031 *26,19*	5	35 100 *156*	69 750 *310*	0.77 *0,35*	**GEZ 106 TXE-2LS**
1.5 *38,100*	2.4375 *61,913*	1.312 *33,33*	1.125 *28,58*	6	41 850 *186*	84 380 *375*	0.93 *0,42*	**GEZ 108 TXE-2LS**
1.75 *44,450*	2.8125 *71,438*	1.531 *38,89*	1.312 *33,33*	6	57 380 *255*	114 750 *510*	1.40 *0,64*	**GEZ 112 TXE-2LS**
2 *50,800*	3.1875 *80,963*	1.750 *44,45*	1.500 *38,10*	6	75 380 *335*	150 750 *670*	2.05 *0,93*	**GEZ 200 TXE-2LS**
2.25 *57,150*	3.5625 *90,488*	1.969 *50,01*	1.687 *42,85*	6	95 630 *425*	191 250 *850*	2.85 *1,30*	**GEZ 204 TXE-2LS**
2.5 *63,500*	3.9375 *100,013*	2.187 *55,55*	1.875 *47,63*	6	117 000 *520*	234 000 *1 040*	4.10 *1,85*	**GEZ 208 TXE-2LS**
2.75 *69,850*	4.3750 *111,125*	2.406 *61,11*	2.062 *52,38*	6	141 750 *630*	285 750 *1 270*	5.30 *2,40*	**GEZ 212 TXE-2LS**
3 *76,200*	4.75 *120,650*	2.625 *66,68*	2.25 *57,15*	6	168 750 *750*	337 500 *1500*	6.84 *3,1*	**GEZ 300 TXE-2LS**
3.25 *82,550*	5.125 *130,175*	2.844 *72,24*	2.437 *61,9*	6	198 000 *880*	396 000 *1760*	8.38 *3,8*	**GEZ 304 TXE-2LS**
3.5 *88,900*	5.5 *139,700*	3.062 *77,78*	2.625 *66,68*	6	229 500 *1020*	459 000 *2040*	10.58 *4,8*	**GEZ 308 TXE-2LS**
3.75 *95,250*	5.875 *149,225*	3.281 *83,34*	2.812 *71,43*	6	265 500 *1180*	531 000 *2360*	12.79 *5,8*	**GEZ 312 TXE-2LS**



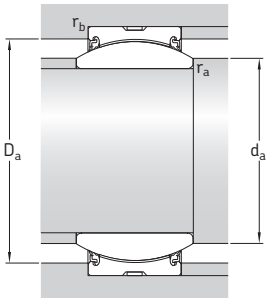
Dimensions				Abutment and fillet dimensions					
d	d_k	r_1 min	r_2 min	d_a min	d_a max	D_a min	D_a max	r_a max	r_b max
in/*mm*				in/*mm*					
1 *25,400*	1.4370 *36,500*	0.012 *0,3*	0.039 *1*	1.09 *27,6*	1.14 *28,9*	1.45 *36,8*	1.46 *37,1*	0.012 *0,3*	0.039 *1*
1.25 *31,750*	1.7950 *45,593*	0.024 *0,6*	0.039 *1*	1.38 *35*	1.42 *36,1*	1.81 *45,9*	1.83 *46,4*	0.024 *0,6*	0.039 *1*
1.375 *34,925*	1.9370 *49,200*	0.024 *0,6*	0.039 *1*	1.51 *38,3*	1.53 *38,8*	1.93 *49*	2.01 *51*	0.024 *0,6*	0.039 *1*
1.5 *38,100*	2.1550 *54,737*	0.024 *0,6*	0.039 *1*	1.64 *41,6*	1.71 *43,4*	2.17 *55,1*	2.25 *57,2*	0.024 *0,6*	0.039 *1*
1.75 *44,450*	2.5150 *63,881*	0.024 *0,6*	0.039 *1*	1.92 *48,8*	1.99 *50,6*	2.52 *64,1*	2.62 *66,5*	0.024 *0,6*	0.039 *1*
2 *50,800*	2.8750 *73,025*	0.024 *0,6*	0.039 *1*	2.18 *55,4*	2.28 *57,9*	2.85 *72,4*	2.95 *74,9*	0.024 *0,6*	0.039 *1*
2.25 *57,150*	3.2350 *82,169*	0.024 *0,6*	0.039 *1*	2.44 *62*	2.56 *65,1*	3.22 *81,9*	3.31 *84,1*	0.024 *0,6*	0.039 *1*
2.5 *63,500*	3.5900 *91,186*	0.024 *0,6*	0.039 *1*	2.7 *68,6*	2.85 *72,3*	3.56 *90,4*	3.68 *93,4*	0.024 *0,6*	0.039 *1*
2.75 *69,850*	3.9500 *100,330*	0.024 *0,6*	0.039 *1*	2.96 *75,2*	3.13 *79,5*	3.95 *100,4*	4.1 *104,2*	0.024 *0,6*	0.039 *1*
3 *76,200*	4.3120 *109,525*	0.024 *0,6*	0.039 *1*	3.220 *81,8*	3.417 *86,8*	4.299 *109,2*	4.469 *113,5*	0.024 *0,6*	0.039 *1*
3.25 *82,550*	4.675 *118,745*	0.024 *0,6*	0.039 *1*	3.480 *88,4*	3.709 *94,2*	4.677 *118,8*	4.831 *122,7*	0.024 *0,6*	0.039 *1*
3.5 *88,900*	5.04 *128,016*	0.024 *0,6*	0.039 *1*	3.740 *95*	4.000 *101,6*	5.024 *127,6*	5.197 *132*	0.024 *0,6*	0.039 *1*
3.75 *95,250*	5.39 *136,906*	0.024 *0,6*	0.039 *1*	4.000 *101,6*	4.276 *108,6*	5.362 *136,2*	5.559 *141,2*	0.024 *0,6*	0.039 *1*

Maintenance-free radial spherical plain bearings, steel/PTFE fabric, inch sizes
d **4 – 6** in



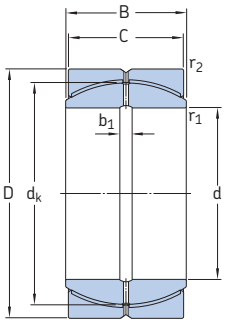
GEZ .. TXA-2LS

Principal dimensions				Angle of tilt	Basic load ratings dynamic	static	Mass	Designation
d	D	B	C	α	C	C_0		
in/*mm*				degrees	lbf/*kN*		lb/*kg*	–
4 *101,600*	6.25 *158,750*	3.5 *88,9*	3 *76,2*	6	301 500 *1340*	596 250 *2650*	15.435 *7*	**GEZ 400 TXA-2LS**
4.5 *114,300*	7 *177,800*	3.937 *100*	3.375 *85,725*	6	382 500 *1700*	765 000 *3400*	21.609 *9,8*	**GEZ 408 TXA-2LS**
4.75 *120,650*	7.375 *187,325*	4.156 *105,56*	3.562 *90,48*	6	427 500 *1900*	843 750 *3750*	25.358 *11,5*	**GEZ 412 TXA-2LS**
5 *127*	7.75 *196,850*	4.375 *111,13*	3.75 *95,25*	6	468 000 *2080*	933 750 *4150*	29.768 *13,5*	**GEZ 500 TXA-2LS**
6 *152,400*	8.75 *222,250*	4.75 *120,65*	4.125 *104,78*	5	585 000 *2600*	1 170 000 *5200*	38.588 *17,5*	**GEZ 600 TXA-2LS**

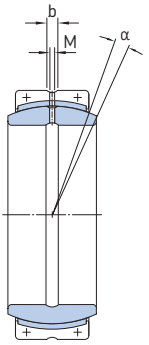


Dimensions				**Abutment and fillet dimensions**					
d	d_k	r_1 min	r_2 min	d_a min	d_a max	D_a min	D_a max	r_a max	r_b max
in/*mm*				in/*mm*					
4 *101,600*	5.75 *146,050*	0.024 *0,6*	0.039 *1*	4.272 *108,5*	4.547 *115,5*	5.709 *145*	5.925 *150,5*	0.024 *0,6*	0.039 *1*
4.5 *114,300*	6.475 *164,465*	0.039 *1*	0.043 *1,1*	4.843 *123*	5.138 *130,5*	6.358 *161,5*	6.634 *168,5*	0.039 *1*	0.043 *1,1*
4.75 *120,650*	6.825 *173,355*	0.039 *1*	0.043 *1,1*	5.098 *129,5*	5.413 *137,5*	6.850 *174*	6.969 *177*	0.039 *1*	0.043 *1,1*
5 *127*	7.19 *182,626*	0.039 *1*	0.043 *1,1*	5.354 *136*	5.689 *144,5*	7.106 *180,5*	7.323 *186*	0.039 *1*	0.043 *1,1*
6 *152,400*	8.156 *207,162*	0.039 *1*	0.043 *1,1*	6.358 *161,5*	6.614 *168*	8.012 *203,5*	8.307 *211*	0.039 *1*	0.043 *1,1*

Maintenance-free radial spherical plain bearings, steel/PTFE FRP, metric sizes
d **100 – 420** mm

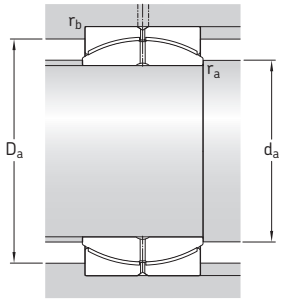


GEP .. FS



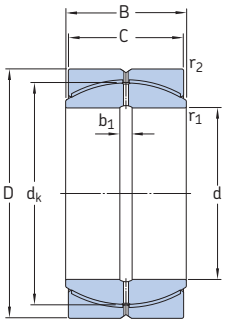
GEC .. FBAS

Principal dimensions				Angle of tilt	Basic load ratings dynamic	static	Mass	Designation
d	D	B	C	α	C	C_0		
mm				degrees	kN		kg	–
100	150	71	67	2	600	900	4,5	**GEP 100 FS**
110	160	78	74	2	720	1 080	5,35	**GEP 110 FS**
120	180	85	80	2	850	1 270	7,95	**GEP 120 FS**
140	210	100	95	2	1 200	1 800	13	**GEP 140 FS**
160	230	115	109	2	1 600	2 400	16,5	**GEP 160 FS**
180	260	128	122	2	2 080	3 100	24,5	**GEP 180 FS**
200	290	140	134	2	2 450	3 650	33,5	**GEP 200 FS**
220	320	155	148	2	3 050	4 550	46	**GEP 220 FS**
240	340	170	162	2	3 550	5 400	53,5	**GEP 240 FS**
260	370	185	175	2	4 250	6 400	69,5	**GEP 260 FS**
280	400	200	190	2	5 000	7 500	89,5	**GEP 280 FS**
300	430	212	200	2	5 600	8 300	110	**GEP 300 FS**
320	440	160	135	4	3 000	4 500	69,0	**GEC 320 FBAS**
	460	230	218	2	6 400	9 650	135	**GEP 320 FS**
340	460	160	135	3	3 150	4 750	73,0	**GEC 340 FBAS**
	480	243	230	2	7 100	10 800	150	**GEP 340 FS**
360	480	160	135	3	3 250	4 900	77,0	**GEC 360 FBAS**
	520	258	243	2	8 150	12 200	200	**GEP 360 FS**
380	520	190	160	4	4 300	6 550	116	**GEC 380 FBAS**
	540	272	258	2	9 150	13 700	220	**GEP 380 FS**
400	540	190	160	3	4 500	6 700	120	**GEC 400 FBAS**
	580	280	265	2	9 650	14 600	275	**GEP 400 FS**
420	560	190	160	3	4 650	6 950	126	**GEC 420 FBAS**
	600	300	280	2	10 600	16 000	300	**GEP 420 FS**

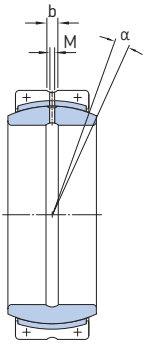


Dimensions							Abutment and fillet dimensions					
d	d_k	b	b_1	M	$r_{1\,min}$	$r_{2\,min}$	$d_{a\,min}$	$d_{a\,max}$	$D_{a\,min}$	$D_{a\,max}$	$r_{a\,max}$	$r_{b\,max}$
mm							mm					
100	135	7,5	7,5	4	1	1	107	114	125,6	141,9	1	1
110	145	7,5	7,5	4	1	1	117	122	135	151	1	1
120	160	7,5	7,5	4	1	1	128	135	149	171	1	1
140	185	7,5	7,5	4	1	1	148	155	173	200	1	1
160	210	7,5	7,5	4	1	1	169	175	195	218	1	1
180	240	7,5	7,5	4	1,1	1,1	191	203	224	246	1	1
200	260	11,5	11,5	5	1,1	1,1	211	219	242	276	1	1
220	290	13,5	13,5	6	1,1	1,1	232	245	270	304	1	1
240	310	13,5	13,5	6	1,1	1,1	253	259	289	323	1	1
260	340	15,5	15,5	7	1,1	1,1	274	285	317	352	1	1
280	370	15,5	15,5	7	1,1	1,1	294	311	345	381	1	1
300	390	15,5	15,5	7	1,1	1,1	315	327	363	411	1	1
320	380	21	21	8	1,1	3	328	344	370	426	1	3
	414	21	21	8	1,1	3	335	344	385	434	1	3
340	400	21	21	8	1,1	3	348	366	391	446	1	3
	434	21	21	8	1,1	3	356	359	404	453	1	3
360	420	21	21	8	1,1	3	368	388	412,5	466	1	3
	474	21	21	8	1,1	4	377	397	441	490	1	4
380	450	21	21	8	1,5	4	389	407	435,5	503	1,5	4
	494	21	21	8	1,5	4	398	412	460	508	1,5	4
400	470	21	21	8	1,5	4	409	429	457	523	1,5	4
	514	21	21	8	1,5	4	418	431	478	549	1,5	4
420	490	21	21	8	1,5	4	429	451	478,5	543	1,5	4
	534	21	21	8	1,5	4	439	441	497	568	1,5	4

Maintenance-free radial spherical plain bearings, steel/PTFE FRP, metric sizes
d **440 – 850** mm

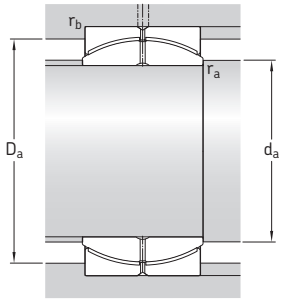


GEP .. FS



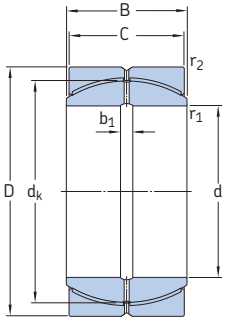
GEC .. FBAS

Principal dimensions				Angle of tilt	Basic load ratings dynamic	static	Mass	Designation
d	D	B	C	α	C	C_0		
mm				degrees	kN		kg	–
440	600	218	185	3	5 850	8 800	176	**GEC 440 FBAS**
	630	315	300	2	12 200	18 600	360	**GEP 440 FS**
460	620	218	185	3	6 000	9 000	182	**GEC 460 FBAS**
	650	325	308	2	12 900	19 600	380	**GEP 460 FS**
480	650	230	195	3	6 700	10 000	216	**GEC 480 FBAS**
	680	340	320	2	14 300	21 200	435	**GEP 480 FS**
500	670	230	195	3	6 800	10 200	224	**GEC 500 FBAS**
	710	355	335	2	15 300	23 200	500	**GEP 500 FS**
530	710	243	205	3	7 650	11 400	266	**GEC 530 FBAS**
	750	375	355	2	17 000	25 500	585	**GEP 530 FS**
560	750	258	215	4	8 500	12 700	313	**GEC 560 FBAS**
	800	400	380	2	19 600	29 000	730	**GEP 560 FS**
600	800	272	230	3	9 800	14 600	378	**GEC 600 FBAS**
	850	425	400	2	22 000	33 500	860	**GEP 600 FS**
630	850	300	260	3	11 800	18 000	494	**GEC 630 FBAS**
	900	450	425	2	24 500	37 500	1 040	**GEP 630 FS**
670	900	308	260	3	12 500	18 600	551	**GEC 670 FBAS**
	950	475	450	2	27 500	41 500	1 210	**GEP 670 FS**
710	950	325	275	3	14 000	21 200	643	**GEC 710 FBAS**
	1 000	500	475	2	31 000	46 500	1 400	**GEP 710 FS**
750	1 000	335	280	3	15 000	22 400	727	**GEC 750 FBAS**
	1 060	530	500	2	34 500	52 000	1 670	**GEP 750 FS**
800	1 060	355	300	3	17 300	26 000	861	**GEC 800 FBAS**
	1 120	565	530	2	39 000	58 500	1 940	**GEP 800 FS**
850	1 120	365	310	3	18 600	28 000	983	**GEC 850 FBAS**
	1 220	600	565	2	45 000	67 000	2 600	**GEP 850 FS**

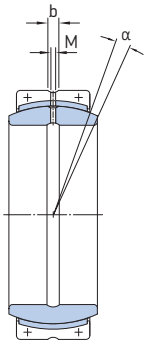


Dimensions							Abutment and fillet dimensions					
d	d_k	b	b_1	M	$r_{1,2}$ min		d_a min	d_a max	D_a max	D_a min	r_a max	r_b max
mm							mm					
440	520	27	27	10	1,5	4	450	472	502	583	1,5	4
	574	27	27	10	1,5	4	460	479	534	596	1,5	4
460	540	27	27	10	1,5	4	470	494	524,5	603	1,5	4
	593	27	27	10	1,5	5	481	496	552	612	1,5	5
480	565	27	27	10	2	5	491	516	547,5	629	2	5
	623	27	27	10	2	5	503	522	580	641	2	5
500	585	27	27	10	2	5	511	537	571	650	2	5
	643	27	27	10	2	5	523	536	598	670	2	5
530	620	27	27	10	2	5	541	570	605	689	2	5
	673	27	27	10	2	5	554	558	626	709	2	5
560	655	27	27	10	2	5	572	602	639	729	2	5
	723	27	27	10	2	5	585	602	673	758	2	5
600	700	27	27	10	2	5	612	644	683	779	2	5
	773	27	27	10	2	6	627	645	719	801	2	6
630	740	35	35	13	3	6	646	676	716	824	3	6
	813	35	35	13	3	6	661	677	757	850	3	6
670	785	35	35	13	3	6	686	722	765	874	3	6
	862	35	35	13	3	6	702	719	802	898	3	6
710	830	35	35	13	3	6	726	763	810	924	3	6
	912	35	35	13	3	6	743	762	849	946	3	6
750	875	35	35	13	3	6	766	808	856	974	3	6
	972	35	35	13	3	6	784	814	904	1 005	3	6
800	930	35	35	13	3	6	817	859	907	1 033	3	6
	1 022	35	35	13	3	6	836	851	951	1 062	3	6
850	985	35	35	13	3	6	867	914	963	1 093	3	6
	1 112	35	35	13	3	7,5	888	936	1 035	1 156	3	7,5

Maintenance-free radial spherical plain bearings, steel/PTFE FRP, metric sizes
d **900 – 1 000** mm

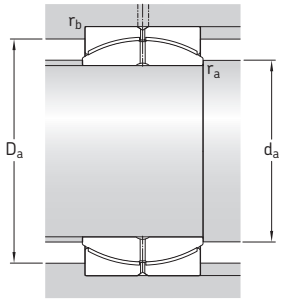


GEP .. FS



GEC .. FBAS

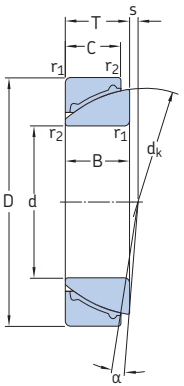
Principal dimensions				Angle of tilt	Basic load ratings dynamic	static	Mass	Designation
d	D	B	C	α	C	C_0		
mm				degrees	kN		kg	–
900	1 180	375	320	3	20 400	31 000	1 120	**GEC 900 FBAS**
	1 250	635	600	2	49 000	73 500	2 690	**GEP 900 FS**
950	1 250	400	340	3	23 200	34 500	1 340	**GEC 950 FBAS**
	1 360	670	635	2	56 000	85 000	3 620	**GEP 950 FS**
1 000	1 320	438	370	3	27 000	40 000	1 650	**GEC 1000 FBAS**
	1 450	710	670	2	63 000	95 000	4 470	**GEP 1000 FS**



Dimensions							Abutment and fillet dimensions					
d	d_k	b	b_1	M	$r_{1\,min}$	$r_{2\,min}$	$d_{a\,min}$	$d_{a\,max}$	$D_{a\,min}$	$D_{a\,max}$	$r_{a\,max}$	$r_{b\,max}$
mm							mm					
900	1 040	35	35	13	3	6	917	970	1 017	1 153	3	6
	1 142	35	35	13	3	7,5	938	949	1 063	1 183	3	7,5
950	1 100	40	40	15	4	7,5	969	1 024	1 074	1 217	4	7,5
	1 242	40	40	15	4	7,5	993	1 045	1 156	1 290	4	7,5
1 000	1 160	40	40	15	4	7,5	1 020	1 074	1 128	1 287	4	7,5
	1 312	40	40	15	4	7,5	1 045	1 103	1 221	1 378	4	7,5

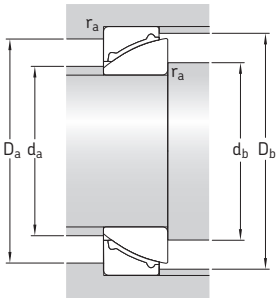

SKF

Maintenance-free angular contact spherical plain bearings, steel/PTFE FRP
d **25 – 120** mm



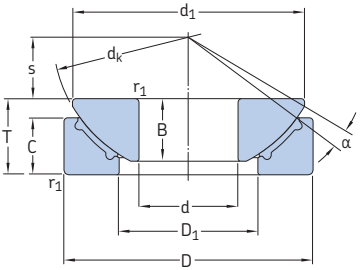
GAC .. F

Principal dimensions			Angle of tilt	Basic load ratings dynamic	static	Mass	Designation
d	D	T	α	C	C_0		
mm			degrees	kN		kg	–
25	47	15	3,5	21,6	34,5	0,14	**GAC 25 F**
30	55	17	3,5	27	43	0,21	**GAC 30 F**
35	62	18	3,5	32,5	52	0,27	**GAC 35 F**
40	68	19	3,5	39	62	0,33	**GAC 40 F**
45	75	20	3	45,5	73,5	0,42	**GAC 45 F**
50	80	20	3	53	85	0,46	**GAC 50 F**
60	95	23	3	69,5	112	0,73	**GAC 60 F**
70	110	25	2,5	88	143	1,05	**GAC 70 F**
80	125	29	2,5	110	176	1,55	**GAC 80 F**
90	140	32	2,5	134	216	2,10	**GAC 90 F**
100	150	32	2	170	270	2,35	**GAC 100 F**
110	170	38	2	200	320	3,70	**GAC 110 F**
120	180	38	1,5	240	380	4,00	**GAC 120 F**



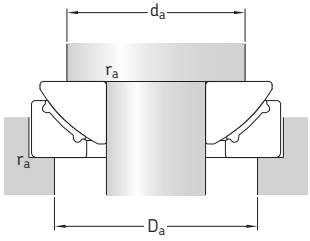
Dimensions							Abutment and fillet dimensions				
d	d_k	B	C	r_1 min	r_2 min	s	d_a max	d_b max	D_a min	D_b min	r_a max
mm							mm				
25	42	15	14	0,6	0,3	0,6	29	39	34	43	0,6
30	49,5	17	15	1	0,3	1,3	35	45	39	50,5	1
35	55,5	18	16	1	0,3	2,1	40	50	45	56,5	1
40	62	19	17	1	0,3	2,8	45	54	50	63	1
45	68,5	20	18	1	0,3	3,5	51	60	55	69	1
50	74	20	19	1	0,3	4,3	56	67	60	74,5	1
60	88,5	23	21	1,5	0,6	5,7	68	77	70	90	1,5
70	102	25	23	1,5	0,6	7,2	78	92	85	103	1,5
80	115	29	25,5	1,5	0,6	8,6	88	104	95	116	1,5
90	128,5	32	28	2	0,6	10,1	101	118	105	129	2
100	141	32	31	2	0,6	11,6	112	128	120	141	2
110	155	38	34	2,5	0,6	13	124	145	130	156	2,5
120	168	38	37	2,5	0,6	14,5	134	155	140	169	2,5


SKF



GX .. F

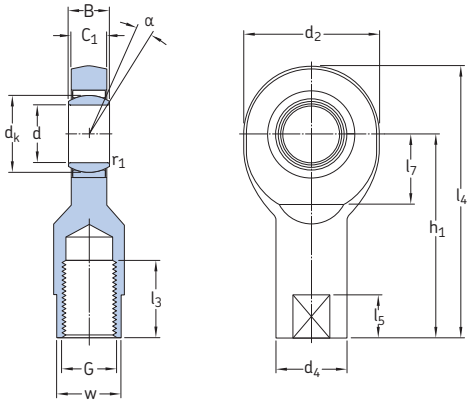
Principal dimensions			Angle of tilt	Basic load ratings dynamic	static	Mass	Designation
d	D	T	α	C	C_0		
mm			degrees	kN		kg	–
17	47	16	5	36,5	58,5	0,14	**GX 17 F**
20	55	20	5	46,5	73,5	0,25	**GX 20 F**
25	62	22,5	5	69,5	112	0,42	**GX 25 F**
30	75	26	5	95	153	0,61	**GX 30 F**
35	90	28	6	134	216	0,98	**GX 35 F**
40	105	32	6	173	275	1,50	**GX 40 F**
45	120	36,5	6	224	355	2,25	**GX 45 F**
50	130	42,5	6	275	440	3,15	**GX 50 F**
60	150	45	6	375	600	4,65	**GX 60 F**
70	160	50	5	475	750	5,40	**GX 70 F**
80	180	50	5	570	915	6,95	**GX 80 F**
100	210	59	5	735	1 180	11,0	**GX 100 F**
120	230	64	4	880	1 430	14,0	**GX 120 F**



Dimensions								Abutment and fillet dimensions		
d	d_k	d_1	D_1	B	C	r_1 min	s	d_a min	D_a max	r_a max
mm								mm		
17	52	43,5	27	11,8	11,2	0,6	11	34	37	0,6
20	60	50	31	14,5	13,8	1	12,5	40	44	1
25	68	58,5	34,5	16,5	16,7	1	14	45	47	1
30	82	70	42	19	19	1	17,5	56	59	1
35	98	84	50,5	22	20,7	1	22	66	71	1
40	114	97	59	27	21,5	1	24,5	78	84	1
45	128	110	67	31	25,5	1	27,5	89	97	1
50	139	120	70	33	30,5	1	30	98	105	1
60	160	140	84	37	34	1	35	109	120	1
70	176	153	94,5	42	36,5	1	35	121	125	1
80	197	172	107,5	43,5	38	1	42,5	135	145	1
100	222	198	127	51	46	1	45	155	170	1
120	250	220	145	53,5	50	1	52,5	170	190	1


SKF

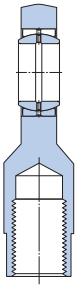
Rod ends with a female thread, steel/steel
d **6 – 80** mm



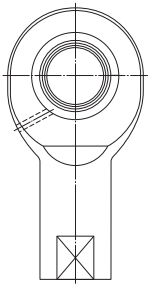
SI(L) .. E

Principal dimensions						Angle of tilt	Basic load ratings dynamic	static	Mass	Designations Rod end with right-hand thread	left-hand thread
d	d_2 max	G 6H	B	C_1 max	h_1	α	C	C_0			
mm						degrees	kN		kg	–	
6	22	M 6	6	4,5	30	13	3,4	8,15	0,023	**SI 6 E**[1]	**SIL 6 E**[1]
8	25	M 8	8	6,5	36	15	5,5	12,9	0,036	**SI 8 E**[1]	**SIL 8 E**[1]
10	30	M 10	9	7,5	43	12	8,15	19	0,065	**SI 10 E**[1]	**SIL 10 E**[1]
12	35	M 12	10	8,5	50	10	10,8	25,5	0,11	**SI 12 E**[1]	**SIL 12 E**[1]
15	41	M 14	12	10,5	61	8	17	37,5	0,18	**SI 15 ES**	**SIL 15 ES**
17	47	M 16	14	11,5	67	10	21,2	44	0,25	**SI 17 ES**	**SIL 17 ES**
20	54	M 20×1,5	16	13,5	77	9	30	57	0,36	**SI 20 ES**	**SIL 20 ES**
25	65	M 24×2	20	18	94	7	48	90	0,65	**SI 25 ES**	**SIL 25 ES**
30	75	M 30×2	22	20	110	6	62	116	1,00	**SI 30 ES**	**SIL 30 ES**
35	84	M 36×3	25	22	130	6	80	134	1,40	**SI 35 ES-2RS**	**SIL 35 ES-2RS**
40	94	M 39×3	28	24	142	6	100	166	2,20	**SIA 40 ES-2RS**	**SILA 40 ES-2RS**
	94	M 42×3	28	24	145	6	100	166	2,30	**SI 40 ES-2RS**	**SIL 40 ES-2RS**
45	104	M 42×3	32	28	145	7	127	224	2,90	**SIA 45 ES-2RS**	**SILA 45 ES-2RS**
	104	M 45×3	32	28	165	7	127	224	3,20	**SI 45 ES-2RS**	**SIL 45 ES-2RS**
50	114	M 45×3	35	31	160	6	156	270	4,10	**SIA 50 ES-2RS**	**SILA 50 ES-2RS**
	114	M 52×3	35	31	195	6	156	270	4,50	**SI 50 ES-2RS**	**SIL 50 ES-2RS**
60	137	M 52×3	44	39	175	6	245	400	6,30	**SIA 60 ES-2RS**	**SILA 60 ES-2RS**
	137	M 60×4	44	39	225	6	245	400	7,10	**SI 60 ES-2RS**	**SIL 60 ES-2RS**
70	162	M 56×4	49	43	200	6	315	530	9,50	**SIA 70 ES-2RS**	**SILA 70 ES-2RS**
	162	M 72×4	49	43	265	6	315	530	10,5	**SI 70 ES-2RS**	**SIL 70 ES-2RS**
80	182	M 64×4	55	48	230	5	400	655	15,0	**SIA 80 ES-2RS**	**SILA 80 ES-2RS**
	182	M 80×4	55	48	295	5	400	655	19,0	**SI 80 ES-2RS**	**SIL 80 ES-2RS**

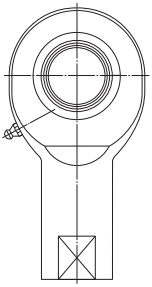
[1] No relubrication facilities.



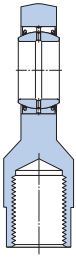
SI(L) .. ES

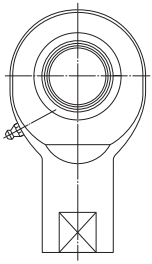


d ≤ 20 mm



d ≥ 25 mm



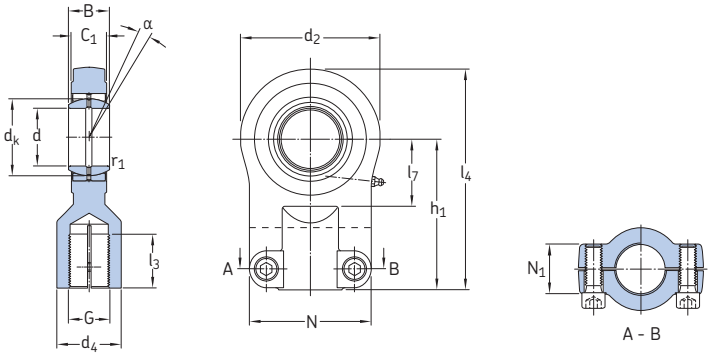


SI(L)A .. ES-2RS
SI(L) .. ES-2RS

Dimensions

d	d_k	d_4 ≈	l_3 min	l_4 max	l_5 ≈	l_7 min	r_1 min	w h14
mm								
6	10	11	11	43	8	10	0,3	9
8	13	13	15	50	9	11	0,3	11
10	16	16	15	60	11	13	0,3	14
12	18	19	18	69	12	17	0,3	17
15	22	22	21	83	14	19	0,3	19
17	25	25	24	92	15	22	0,3	22
20	29	28	30	106	16	24	0,3	24
25	35,5	35	36	128	18	30	0,6	30
30	40,7	42	45	149	19	34	0,6	36
35	47	49	60	174	25	40	0,6	41
40	53 53	58 58	65 65	191 194	25 25	46 46	0,6 0,6	50 50
45	60 60	65 65	65 65	199 219	30 30	50 50	0,6 0,6	55 55
50	66 66	70 70	68 68	219 254	30 30	58 58	0,6 0,6	60 60
60	80 80	82 82	70 70	246 296	35 35	73 73	1 1	70 70
70	92 92	92 92	80 80	284 349	40 40	85 85	1 1	80 80
80	105 105	105 105	85 85	324 389	45 45	98 98	1 1	90 90

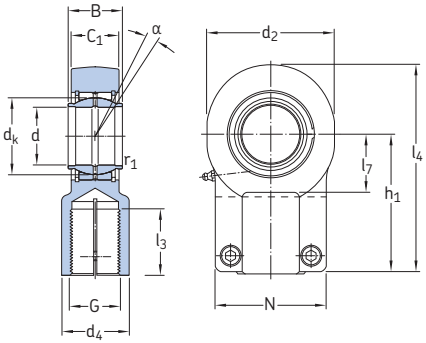
Rod ends with a female thread, for hydraulic cylinders, steel/steel
d **12 – 70** mm



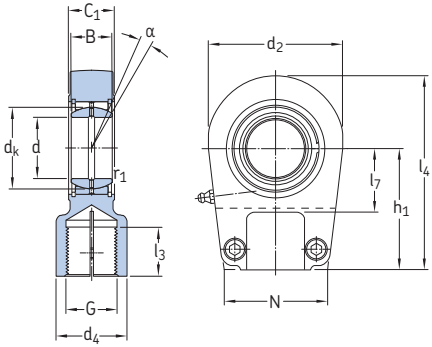
SI(L)J .. ES

Principal dimensions						Angle of tilt	Basic load ratings dynamic	static	Mass	Designations Rod end with right-hand thread	left-hand thread[1]
d	d_2 max	G 6H	B	C_1 max	h_1	α	C	C_0			
mm						degrees	kN		kg	–	
12	36	M 10×1,25	10	8	42	3	10,8	21,2	0,14	**SIJ 12 E**[2]	**SILJ 12 E**[2]
	33	M 12×1,25	12	11	38	4	10,8	22	0,11	**SIQG 12 ESA**[3]	**SILQG 12 ESA**[3]
16	45	M 12×1,25	14	11	48	3	21,2	23,5	0,25	**SIJ 16 ES**	**SILJ 16 ES**
	41	M 14×1,5	16	14	44	4	17,6	32,5	0,21	**SIQG 16 ES**	**SILQG 16 ES**
20	55	M 14×1,5	16	13	58	3	30	51	0,40	**SIJ 20 ES**	**SILJ 20 ES**
	48	M 16×1,5	20	17,5	52	4	30	43	0,40	**SIQG 20 ES**	**SILQG 20 ES**
25	65	M 16×1,5	20	17	68	3	48	73,5	0,68	**SIJ 25 ES**	**SILJ 25 ES**
	57	M 16×1,5	20	23,5	50	7	48	52	0,49	**SIR 25 ES**	**SILR 25 ES**
	59	M 20×1,5	25	22	65	4	48	69,5	0,66	**SIQG 25 ES**	**SILQG 25 ES**
30	80	M 20×1,5	22	19	85	3	62	112	1,35	**SIJ 30 ES**	**SILJ 30 ES**
	65	M 22×1,5	22	28,5	60	6	62	78	0,77	**SIR 30 ES**	**SILR 30 ES**
32	71	M 27×2	32	28	80	4	65,5	100	1,20	**SIQG 32 ES**	**SILQG 32 ES**
35	79	M 28×1,5	25	30,5	70	6	80	118	1,20	**SIR 35 ES**	**SILR 35 ES**
40	98	M 27×2	28	23	105	3	100	146	2,40	**SIJ 40 ES**	**SILJ 40 ES**
	95	M 35×1,5	28	35,5	85	7	100	200	2,10	**SIR 40 ES**	**SILR 40 ES**
	90	M 33×2	40	34	97	4	100	176	2,00	**SIQG 40 ES**	**SILQG 40 ES**
50	122	M 33×2	35	30	130	3	156	216	3,80	**SIJ 50 ES**	**SILJ 50 ES**
	118	M 45×1,5	35	40,5	105	6	156	280	3,60	**SIR 50 ES**	**SILR 50 ES**
	110	M 42×2	50	42	120	4	156	270	3,50	**SIQG 50 ES**	**SILQG 50 ES**
60	160	M 42×2	44	38	150	3	245	405	8,50	**SIJ 60 ES**	**SILJ 60 ES**
	132	M 58×1,5	44	50,5	130	6	245	325	6,00	**SIR 60 ES**	**SILR 60 ES**
63	134	M 48×2	63	53,5	140	4	255	375	6,80	**SIQG 63 ES**	**SILQG 63 ES**
70	156	M 65×1,5	49	55,5	150	6	315	450	9,40	**SIR 70 ES**	**SILR 70 ES**

[1] Check availability of rod ends with left-hand thread.
[2] No relubrication facilities.
[3] Can only be relubricated via the outer ring.



SI(L)QG .. ES

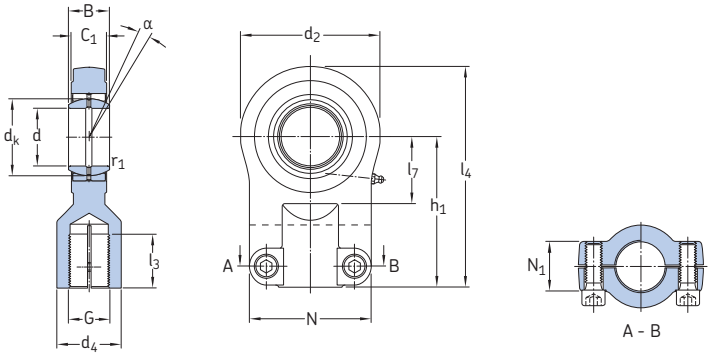


SI(L)R .. ES

Dimensions									Cylinder bolt with internal hexagon (ISO 4762:1998)	
d	d_k	d_4 max	l_3 min	l_4 max	l_7 min	N max	N_1 max	r_1 min	Size	Tightening torque
mm									–	Nm
12	18	17	15	62	16	40	13	0,3	M 6	10
	18	17	17	55	13	33	11	0,3	M 5	5,5
16	25	21	17	70,5	20	45	13	0,3	M 6	10
	23	22	19	64,5	17	41	14	0,3	M 6	9,5
20	29	25	19	85,5	25	55	17	0,3	M 8	25
	29	26,5	23	77	21	48	18	0,3	M 8	23
25	35,5	30	23	100,5	30	62	17	0,6	M 8	25
	35,5	26	17	79,5	27	42	23,5	0,6	M 8	23
	35,5	31	29	97	26	55	18	0,6	M 8	23
30	40,7	36	29	125	35	80	19	0,6	M 10	45
	40,7	33	23	93,5	29	47	28,5	0,6	M 8	23
32	43	38	37	116,5	31	67	23	0,6	M 10	46
35	47	41,5	29	110,5	37	59	30,5	0,6	M 10	46
40	53	45	37	155	45	90	23	0,6	M 10	45
	53	50,5	36	133,5	44	67	35,5	0,6	M 10	46
	53	47	46	143	40	81	28	0,6	M 10	46
50	66	55	46	192,5	58	105	30	0,6	M 12	80
	66	62,5	46	164,5	54	89	40,5	0,6	M 12[1)]	79[1)]
	66	58	57	175,5	49	97,5	33	0,6	M 12	79
60	80	68	57	230	68	134	38	1	M 16	160
	80	76,5	59	202,5	64	91	50,5	1	M 16[1)]	46[1)]
63	83	70	64	213,5	61	116	40	1	M 16[1)]	195[1)]
70	92	87,5	66	234,5	74	101	55,5	1	M 16[1)]	79[1)]

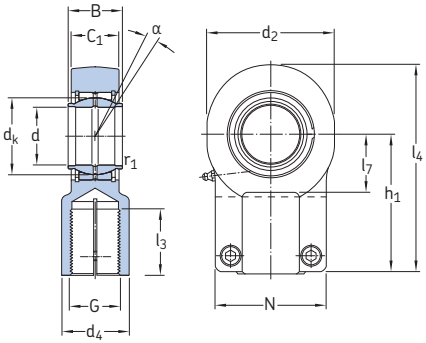
[1)] Bolts, position of bolts, and tightening torque may vary.

Rod ends with a female thread, for hydraulic cylinders, steel/steel
d **80 – 200** mm

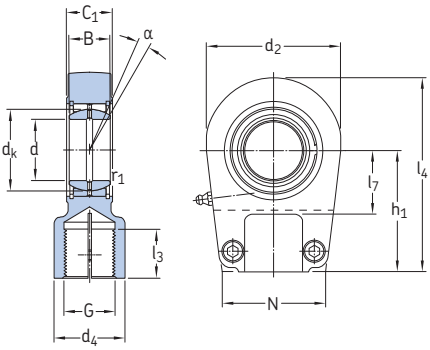


SI(L)J .. ES

Principal dimensions						Angle of tilt	Basic load ratings dynamic	static	Mass	Designations Rod end with right-hand thread	left-hand thread
d	d_2 max	G 6H	B	C_1 max	h_1	α	C	C_0			
mm						degrees	kN		kg	–	
80	205	M 48×2	55	47	185	3	400	610	14,5	**SIJ 80 ES**	**SILJ 80 ES**
	178	M 80×2	55	60,5	170	6	400	560	13,0	**SIR 80 ES**	**SILR 80 ES**
	170	M 64×3	80	68	180	4	400	600	14,5	**SIQG 80 ES**	**SILQG 80 ES**
100	240	M 64×3	70	57	240	3	610	780	29,5	**SIJ 100 ES**	**SILJ 100 ES**
	232	M 110×2	70	70,5	235	7	610	950	30,0	**SIR 100 ES**	**SILR 100 ES**
	212	M 80×3	100	85,5	210	4	610	930	28,0	**SIQG 100 ES**	**SILQG 100 ES**
120	343	M 130×3	85	90,5	310	6	950	2 450	84,0	**SIR 120 ES**	**SILR 120 ES**
125	268	M 100×3	125	105	260	4	950	1 430	43,0	**SIQG 125 ES**	**SILQG 125 ES**
160	328	M 125×4	160	133	310	4	1 370	2 200	80,0	**SIQG 160 ES**	**SILQG 160 ES**
200	420	M 160×4	200	165	390	4	2 120	3 400	165	**SIQG 200 ES**	**SILQG 200 ES**



SI(L)QG .. ES

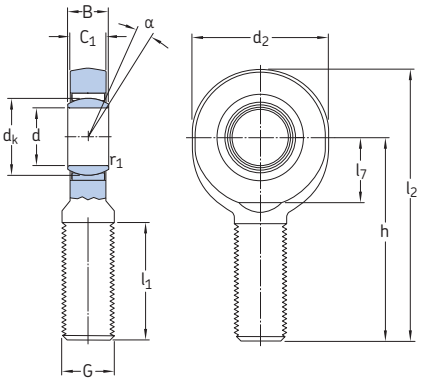


SI(L)R .. ES

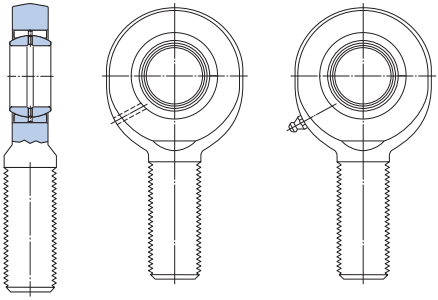
Dimensions									Cylinder bolt with internal hexagon (ISO 4762:1998)	
d	d_k	d_4 max	l_3 min	l_4 max	l_7 min	N max	N_1 max	r_1 min	Size	Tightening torque
mm									–	Nm
80	105	90	64	287,5	92	156	47	1	M 20	310
	105	103,5	81	267,5	79	126	60,5	1	M 20[1)]	195[1)]
	105	91	86	272,5	77	150	50	1	M 20[1)]	390[1)]
100	130	110	86	360	116	190	57	1	M 24	530
	130	140	111	362,5	103	167	70,5	1	M 24[1)]	390[1)]
	130	110	96	324	97	180	65	1	M 24[1)]	670[1)]
120	160	175	135	493	138	257	86	1	M 24[1)]	670[1)]
125	160	135	113	407	118	202	75	1	M 24[1)]	670[1)]
160	200	165	126	490	148	252	85	1	M 24[1)]	670[1)]
200	250	215	161	623	193	323	106	1,1	M 30[1)]	1 350[1)]

[1)] Bolts, position of bolts, and tightening torque may vary.

Rod ends with a male thread, steel/steel
d **6 – 80** mm



SA(L) .. E



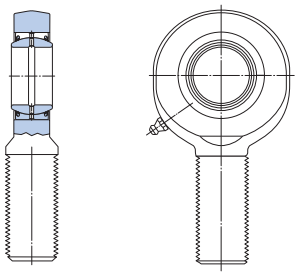
SA(L) .. ES

d ≤ 20 mm

d ≥ 25 mm

Principal dimensions						Angle of tilt	Basic load ratings dynamic	static	Mass	Designations Rod end with right-hand thread	left-hand thread
d	d_2 max	G 6g	B	C_1 max	h	α	C	C_0			
mm						degrees	kN		kg	–	
6	22	M 6	6	4,5	36	13	3,4	8,15	0,017	**SA 6 E**[1]	**SAL 6 E**[1]
8	25	M 8	8	6,5	42	15	5,5	12,9	0,029	**SA 8 E**[1]	**SAL 8 E**[1]
10	30	M 10	9	7,5	48	12	8,15	18,3	0,053	**SA 10 E**[1]	**SAL 10 E**[1]
12	35	M 12	10	8,5	54	10	10,8	24,5	0,078	**SA 12 E**[1]	**SAL 12 E**[1]
15	41	M 14	12	10,5	63	8	17	28	0,13	**SA 15 ES**	**SAL 15 ES**
17	47	M 16	14	11,5	69	10	21,2	31	0,19	**SA 17 ES**	**SAL 17 ES**
20	54	M 20×1,5	16	13,5	78	9	30	42,5	0,32	**SA 20 ES**	**SAL 20 ES**
25	65	M 24×2	20	18	94	7	48	78	0,53	**SA 25 ES**	**SAL 25 ES**
30	75	M 30×2	22	20	110	6	62	81,5	0,90	**SA 30 ES**	**SAL 30 ES**
35	84	M 36×3	25	22	130	6	80	110	1,30	**SA 35 ES-2RS**	**SAL 35 ES-2RS**
40	94	M 39×3	28	24	150	6	100	140	1,85	**SAA 40 ES-2RS**	**SALA 40 ES-2RS**
	94	M 42×3	28	24	145	6	100	140	1,90	**SA 40 ES-2RS**	**SAL 40 ES-2RS**
45	104	M 42×3	32	28	163	7	127	200	2,45	**SAA 45 ES-2RS**	**SALA 45 ES-2RS**
	104	M 45×3	32	28	165	7	127	200	2,55	**SA 45 ES-2RS**	**SAL 45 ES-2RS**
50	114	M 45×3	35	31	185	6	156	245	3,30	**SAA 50 ES-2RS**	**SALA 50 ES-2RS**
	114	M 52×3	35	31	195	6	156	245	3,90	**SA 50 ES-2RS**	**SAL 50 ES-2RS**
60	137	M 52×3	44	39	210	6	245	360	5,70	**SAA 60 ES-2RS**	**SALA 60 ES-2RS**
	137	M 60×4	44	39	225	6	245	360	6,25	**SA 60 ES-2RS**	**SAL 60 ES-2RS**
70	162	M 56×4	49	43	235	6	315	490	7,90	**SAA 70 ES-2RS**	**SALA 70 ES-2RS**
	162	M 72×4	49	43	265	6	315	490	10,0	**SA 70 ES-2RS**	**SAL 70 ES-2RS**
80	182	M 64×4	55	48	270	5	400	585	12,0	**SAA 80 ES-2RS**	**SALA 80 ES-2RS**
	182	M 80×4	55	48	295	5	400	585	14,5	**SA 80 ES-2RS**	**SAL 80 ES-2RS**

[1] No relubrication facilities.

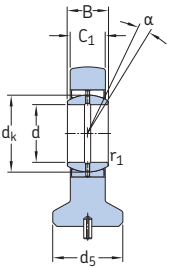


SA(L)A .. ES-2RS

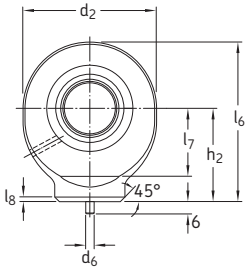
Dimensions

d	d_k	l_1 min	l_2 max	l_7 min	r_1 min
mm					
6	10	16	49	10	0,3
8	13	21	56	11	0,3
10	16	26	65	13	0,3
12	18	28	73	17	0,3
15	22	34	85	19	0,3
17	25	36	94	22	0,3
20	29	43	107	24	0,3
25	35,5	53	128	30	0,6
30	40,7	65	149	34	0,6
35	47	82	174	40	0,6
40	53 53	86 90	199 194	46 46	0,6 0,6
45	60 60	92 95	217 219	50 50	0,6 0,6
50	66 66	104 110	244 254	58 58	0,6 0,6
60	80 80	115 120	281 296	73 73	1 1
70	92 92	125 132	319 349	85 85	1 1
80	105 105	140 147	364 389	98 98	1 1

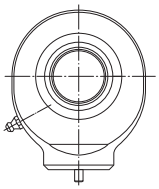
Rod ends with a cylindrical section welding shank, steel/steel
d **20 – 80** mm



SC .. ES



d = 20 mm



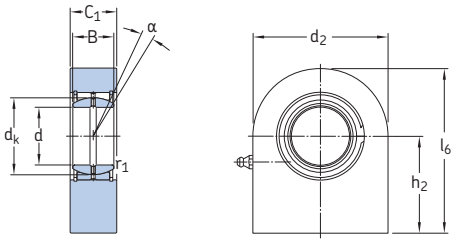
d ≥ 25 mm

Principal dimensions					Angle of tilt	Basic load ratings dynamic	static	Mass	Designation
d	d_2 max	B	C_1 max	h_2	α	C	C_0		
mm					degrees	kN		kg	–
20	54	16	13,5	38	9	30	46,5	0,20	**SC 20 ES**
25	65	20	18	45	7	48	73,5	0,45	**SC 25 ES**
30	75	22	20	51	6	62	96,5	0,65	**SC 30 ES**
35	84	25	22	61	6	80	112	1,00	**SC 35 ES**
40	94	28	24	69	7	100	134	1,30	**SC 40 ES**
45	104	32	28	77	7	127	180	1,90	**SC 45 ES**
50	114	35	31	88	6	156	220	2,50	**SC 50 ES**
60	137	44	39	100	6	245	335	4,60	**SC 60 ES**
70	162	49	43	115	6	315	455	6,80	**SC 70 ES**
80	182	55	48	141	6	400	550	9,70	**SC 80 ES**

Dimensions

d	d_k	d_5 max	d_6	l_6 max	l_7 min	r_1 min	l_8
mm							
20	29	29	4	66	24	0,3	2
25	35,5	35	4	78	30	0,6	3
30	40,7	42	4	89	34	0,6	3
35	47	49	4	104	40	0,6	3
40	53	54	4	118	46	0,6	4
45	60	60	6	132	50	0,6	4
50	66	64	6	150	58	0,6	4
60	80	72	6	173	73	1	4
70	92	82	6	199	85	1	5
80	105	97	6	237	98	1	5

Rod ends with a rectangular section welding shank, steel/steel
d **20 – 80** mm



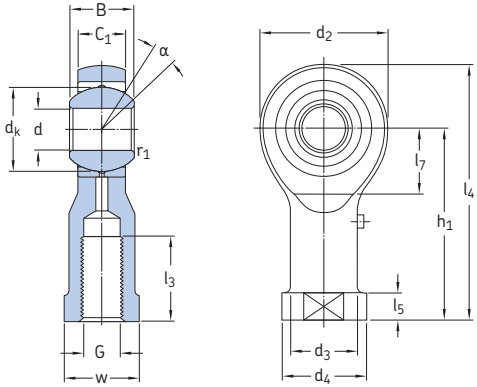
SCF .. ES

Principal dimensions					Angle of tilt	Basic load ratings dynamic	static	Mass	Designation
d	d_2 max	B	C_1 max	h_2 js13	α	C	C_0		
mm					degrees	kN		kg	–
20	51,5	16	20	38	9	30	63	0,35	**SCF 20 ES**
25	56,5	20	24	45	7	48	65,5	0,53	**SCF 25 ES**
30	66,5	22	29	51	6	62	110	0,87	**SCF 30 ES**
35	85	25	31	61	6	80	183	1,55	**SCF 35 ES**
40	102	28	36,5	69	7	100	285	2,45	**SCF 40 ES**
45	112	32	41,5	77	7	127	360	3,40	**SCF 45 ES**
50	125,5	35	41,5	88	6	156	415	4,45	**SCF 50 ES**
60	142,5	44	51,5	100	6	245	530	7,00	**SCF 60 ES**
70	166,5	49	57	115	6	315	680	10,0	**SCF 70 ES**
80	182,5	55	62	141	6	400	750	15,0	**SCF 80 ES**
90	228,5	60	67	150	5	490	1 290	23,5	**SCF 90 ES**
100	252,5	70	72	170	7	610	1 430	31,5	**SCF 100 ES**
110	298	70	83	185	6	655	2 200	48,0	**SCF 110 ES**
120	363	85	92,5	210	6	950	3 250	79,5	**SCF 120 ES**

Dimensions

d	d_k	l_6 max	r_1 min
mm			
20	29	64	0,3
25	35,5	73,5	0,6
30	40,7	85	0,6
35	47	103,5	0,6
40	53	120	0,6
45	60	133	0,6
50	66	151	0,6
60	80	171,5	1
70	92	198,5	1
80	105	232,5	1
90	115	264,5	1
100	130	296,5	1
110	140	334	1
120	160	391,5	1

Rod ends with a female thread, steel/bronze
d **5 – 30** mm



SI(L)KAC .. M(/VZ019)
d ≥ 6 mm

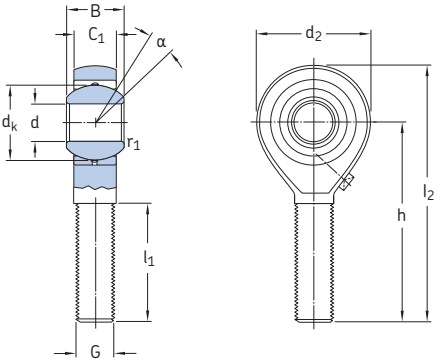
Principal dimensions						Angle of tilt	Basic load ratings dynamic	static	Mass	Designations Rod end with right-hand thread	left-hand thread
d	d_2 max	G 6H	B	C_1 max	h_1	α	C	C_0			
mm						degrees	kN		kg	–	
5	19	M 5	8	7,5	27	13	3,25	5,4	0,017	**SIKAC 5 M**[1]	**SILKAC 5 M**[1]
	19	M 4	8	7,5	27	13	3,25	5,4	0,017	**SIKAC 5 M/VZ019**[1]	**–**
6	21	M 6	9	7,5	30	13	4,3	5,4	0,025	**SIKAC 6 M**	**SILKAC 6 M**
8	25	M 8	12	9,5	36	14	7,2	9,15	0,043	**SIKAC 8 M**	**SILKAC 8 M**
10	29	M 10	14	11,5	43	13	10	12,2	0,072	**SIKAC 10 M**	**SILKAC 10 M**
	29	M 10×1,25	14	11,5	43	13	10	12,2	0,072	**SIKAC 10 M/VZ019**	**–**
12	33	M 12	16	12,5	50	13	13,4	14	0,11	**SIKAC 12 M**	**SILKAC 12 M**
	33	M 12×1,25	16	12,5	50	13	13,4	14	0,11	**SIKAC 12 M/VZ019**	**–**
14	37	M 14	19	14,5	57	16	17	20,4	0,16	**SIKAC 14 M**	**SILKAC 14 M**
16	43	M 16	21	15,5	64	15	21,6	29	0,22	**SIKAC 16 M**	**SILKAC 16 M**
	43	M 16×1,5	21	15,5	64	15	21,6	29	0,22	**SIKAC 16 M/VZ019**	**–**
18	47	M 18×1,5	23	17,5	71	15	26	35,5	0,30	**SIKAC 18 M**	**SILKAC 18 M**
20	51	M 20×1,5	25	18,5	77	14	31,5	35,5	0,40	**SIKAC 20 M**	**SILKAC 20 M**
22	55	M 22×1,5	28	21	84	15	38	45	0,50	**SIKAC 22 M**	**SILKAC 22 M**
25	61	M 24×2	31	23	94	15	47,5	53	0,65	**SIKAC 25 M**	**SILKAC 25 M**
30	71	M 30×2	37	27	110	17	64	69,5	1,15	**SIKAC 30 M**	**SILKAC 30 M**
	71	M 27×2	37	27	110	17	64	69,5	1,15	**SIKAC 30 M/VZ019**	**–**

[1] No relubrication facilities.

Dimensions

d	d_k	d_3 ≈	d_4 max	l_3 min	l_4 max	l_5 ≈	l_7 min	r_1 min	w h14
mm									
5	11,1	9	12	8	38	4	9	0,3	9
	11,1	9	12	10	38	4	9	0,3	9
6	12,7	10	14	9	42	5	10	0,3	11
8	15,8	12,5	17	12	50	5	12	0,3	14
10	19	15	20	15	59	6,5	14	0,3	17
	19	15	20	20	59	6,5	14	0,3	17
12	22,2	17,5	23	18	68	6,5	16	0,3	19
	22,2	17,5	23	22	68	6,5	16	0,3	19
14	25,4	20	27	21	77	8	18	0,3	22
16	28,5	22	29	24	87	8	21	0,3	22
	28,5	22	29	28	87	8	21	0,3	22
18	31,7	25	32	27	96	10	23	0,3	27
20	34,9	27,5	37	30	105	10	25	0,3	30
22	38,1	30	40	33	114	12	27	0,3	32
25	42,8	33,5	44	36	127	12	30	0,3	36
30	50,8	40	52	45	148	15	35	0,3	41
	50,8	40	52	51	148	15	35	0,3	41

Rod ends with a male thread, steel/bronze
d **5 – 30** mm



SA(L)KAC .. M
d ≥ 6 mm

Principal dimensions						Angle of tilt	Basic load ratings dynamic	static	Mass	Designations Rod end with right-hand thread	left-hand thread
d	d_2 max	G 6g	B	C_1 max	h	α	C	C_0			
mm						degrees	kN		kg	–	
5	19	M 5	8	6	33	13	3,25	4,8	0,013	**SAKAC 5 M**[1]	**SALKAC 5 M**[1]
6	21	M 6	9	6,75	36	13	4,3	4,8	0,020	**SAKAC 6 M**	**SALKAC 6 M**
8	25	M 8	12	9	42	14	7,2	8	0,032	**SAKAC 8 M**	**SALKAC 8 M**
10	29	M 10	14	10,5	48	13	10	10,8	0,054	**SAKAC 10 M**	**SALKAC 10 M**
12	33	M 12	16	12	54	13	12,2	12,2	0,085	**SAKAC 12 M**	**SALKAC 12 M**
14	37	M 14	19	13,5	60	16	17	17,3	0,13	**SAKAC 14 M**	**SALKAC 14 M**
16	43	M 16	21	15	66	16	21,6	23,2	0,19	**SAKAC 16 M**	**SALKAC 16 M**
18	47	M 18×1,5	23	16,5	72	16	26	29	0,26	**SAKAC 18 M**	**SALKAC 18 M**
20	51	M 20×1,5	25	18	78	16	29	29	0,34	**SAKAC 20 M**	**SALKAC 20 M**
22	55	M 22×1,5	28	20	84	16	38	39	0,44	**SAKAC 22 M**	**SALKAC 22 M**
25	61	M 24×2	31	22	94	15	46,5	46,5	0,60	**SAKAC 25 M**	**SALKAC 25 M**
30	71	M 30×2	37	25	110	17	61	61	1,05	**SAKAC 30 M**	**SALKAC 30 M**

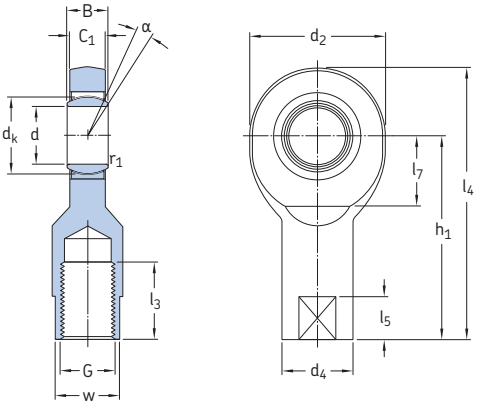
[1] No relubrication facilities.

Dimensions

d	d_k	l_1 min	l_2 max	r_1 min
mm				
5	11,1	19	44	0,3
6	12,7	21	48	0,3
8	15,8	25	56	0,3
10	19	28	64	0,3
12	22,2	32	72	0,3
14	25,4	36	80	0,3
16	28,5	37	89	0,3
18	31,7	41	97	0,3
20	34,9	45	106	0,3
22	38,1	48	114	0,3
25	42,8	55	127	0,3
30	50,8	66	148	0,3


SKF

Maintenance-free rod ends with a female thread, steel/PTFE sintered bronze
d **6 – 30** mm



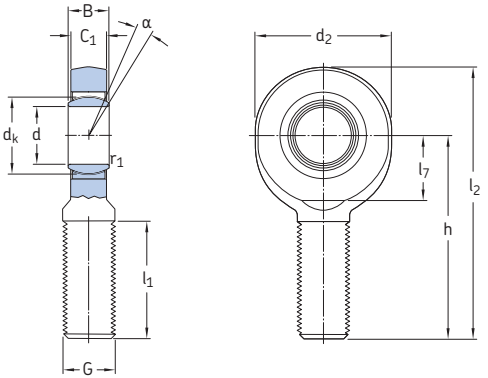
SI(L) .. C

Principal dimensions						Angle of tilt	Basic load ratings dynamic	static	Mass	Designations Rod end with right-hand thread	left-hand thread
d	d_2 max	G 6H	B	C_1 max	h_1	α	C	C_0			
mm						degrees	kN		kg	–	
6	22	M 6	6	4,5	30	13	3,6	8,15	0,023	**SI 6 C**	**SIL 6 C**
8	25	M 8	8	6,5	36	15	5,8	12,9	0,036	**SI 8 C**	**SIL 8 C**
10	30	M 10	9	7,5	43	12	8,65	19	0,065	**SI 10 C**	**SIL 10 C**
12	35	M 12	10	8,5	50	10	11,4	25,5	0,11	**SI 12 C**	**SIL 12 C**
15	41	M 14	12	10,5	61	8	18	37,5	0,18	**SI 15 C**	**SIL 15 C**
17	47	M 16	14	11,5	67	10	22,4	46,5	0,25	**SI 17 C**	**SIL 17 C**
20	54	M 20×1,5	16	13,5	77	9	31,5	57	0,35	**SI 20 C**	**SIL 20 C**
25	65	M 24×2	20	18	94	7	51	90	0,65	**SI 25 C**	**SIL 25 C**
30	75	M 30×2	22	20	110	6	65,5	118	1,05	**SI 30 C**	**SIL 30 C**

Dimensions

d	d_k	d_4 ≈	l_3 min	l_4 max	l_5 ≈	l_7 min	r_1 min	w h14
mm								
6	10	11	11	43	8	10	0,3	9
8	13	13	15	50	9	11	0,3	11
10	16	16	15	60	11	13	0,3	14
12	18	19	18	69	12	17	0,3	17
15	22	22	21	83	14	19	0,3	19
17	25	25	24	92	15	22	0,3	22
20	29	28	30	106	16	24	0,3	24
25	35,5	35	36	128	18	30	0,6	30
30	40,7	42	45	149	19	34	0,6	36

Maintenance-free rod ends with a male thread, steel/PTFE sintered bronze
d **6 – 30** mm



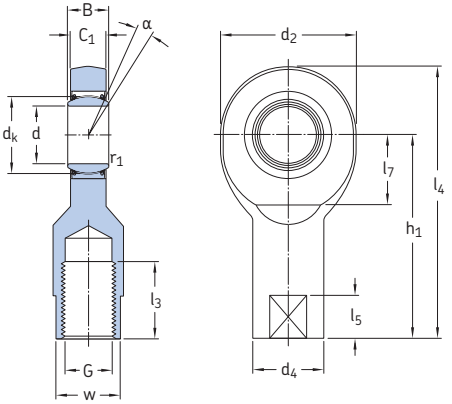
SA(L) .. C

Principal dimensions						Angle of tilt	Basic load ratings dynamic	static	Mass	Designations Rod end with right-hand thread	left-hand thread
d	d_2 max	G 6g	B	C_1 max	h	α	C	C_0			
mm						degrees	kN		kg	–	
6	22	M 6	6	4,5	36	13	3,6	8,15	0,017	**SA 6 C**	**SAL 6 C**
8	25	M 8	8	6,5	42	15	5,85	12,9	0,030	**SA 8 C**	**SAL 8 C**
10	30	M 10	9	7,5	48	12	8,65	18,3	0,053	**SA 10 C**	**SAL 10 C**
12	35	M 12	10	8,5	54	10	11,4	24,5	0,078	**SA 12 C**	**SAL 12 C**
15	41	M 14	12	10,5	63	8	18	34,5	0,13	**SA 15 C**	**SAL 15 C**
17	47	M 16	14	11,5	69	10	22,4	42,5	0,19	**SA 17 C**	**SAL 17 C**
20	54	M 20×1,5	16	13,5	78	9	31,5	51	0,32	**SA 20 C**	**SAL 20 C**
25	65	M 24×2	20	18	94	7	51	78	0,57	**SA 25 C**	**SAL 25 C**
30	75	M 30×2	22	20	110	6	65,5	104	0,90	**SA 30 C**	**SAL 30 C**

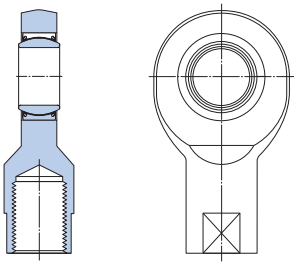
Dimensions

d	d_k	l_1 min	l_2 max	l_7 min	r_1 min
mm					
6	10	16	49	10	0,3
8	13	21	56	11	0,3
10	16	26	65	13	0,3
12	18	28	73	17	0,3
15	22	34	85	19	0,3
17	25	36	94	22	0,3
20	29	43	107	24	0,3
25	35,5	53	128	30	0,6
30	40,7	65	149	34	0,6

Maintenance-free rod ends with a female thread, steel/PTFE fabric
d **35 – 80** mm



SI(L) .. TXE-2LS



SI(L)A .. TXE-2LS

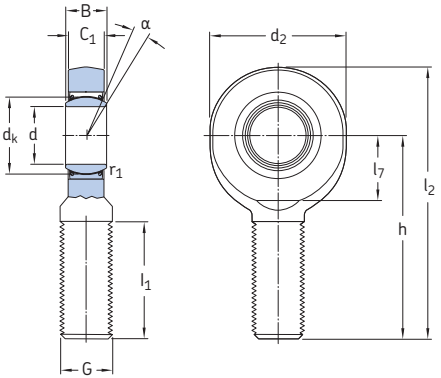
Principal dimensions						Angle of tilt	Basic load ratings[1] dynamic	static	Mass	Designations Rod end with right-hand thread	left-hand thread
d	d_2 max	G 6H	B	C_1 max	h_1	α	C	C_0			
mm						degrees	kN		kg	–	
35	84	M 36×3	25	22	130	6	224	134	1,40	**SI 35 TXE-2LS**	**SIL 35 TXE-2LS**
40	94	M 39×3	28	24	142	7	280	166	2,20	**SIA 40 TXE-2LS**	**SILA 40 TXE-2LS**
	94	M 42×3	28	24	145	7	280	166	2,30	**SI 40 TXE-2LS**	**SIL 40 TXE-2LS**
45	104	M 42×3	32	28	145	7	360	224	2,90	**SIA 45 TXE-2LS**	**SILA 45 TXE-2LS**
	104	M 45×3	32	28	165	7	360	224	3,20	**SI 45 TXE-2LS**	**SIL 45 TXE-2LS**
50	114	M 45×3	35	31	160	6	440	270	4,10	**SIA 50 TXE-2LS**	**SILA 50 TXE-2LS**
	114	M 52×3	35	31	195	6	440	270	4,50	**SI 50 TXE-2LS**	**SIL 50 TXE-2LS**
60	137	M 52×3	44	39	175	6	695	400	6,30	**SIA 60 TXE-2LS**	**SILA 60 TXE-2LS**
	137	M 60×4	44	39	225	6	695	400	7,10	**SI 60 TXE-2LS**	**SIL 60 TXE-2LS**
70	162	M 72×4	49	43	265	6	880	530	10,5	**SI 70 TXE-2LS**	**SIL 70 TXE-2LS**
80	182	M 80×4	55	48	295	5	1 140	655	19,0	**SI 80 TXE-2LS**	**SIL 80 TXE-2LS**

[1] Dynamic load rating of the bearing to be used for basic rating life calculation only. Check suitability of the rod end against its static load rating in all cases. The dynamic load applied on the rod end must not exceed its static load rating.

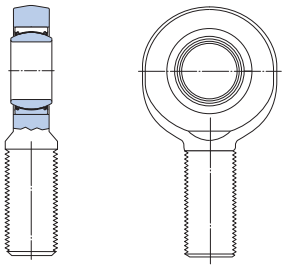
Dimensions

d	d_k	d_4 ≈	l_3 min	l_4 max	l_5 ≈	l_7 min	r_1 min	w h14
mm								
35	47	49	60	174	25	40	0,6	41
40	53	58	65	191	25	46	0,6	50
	53	58	65	194	25	46	0,6	50
45	60	65	65	199	30	50	0,6	55
	60	65	65	219	30	50	0,6	55
50	66	70	68	219	30	58	0,6	60
	66	70	68	254	30	58	0,6	60
60	80	82	70	246	35	73	1	70
	80	82	70	296	35	73	1	70
70	92	92	80	349	40	85	1	80
80	105	105	85	389	40	98	1	90

Maintenance-free rod ends with a male thread, steel/PTFE fabric
d **35 – 80** mm



SA(L) .. TXE-2LS



SA(L)A .. TXE-2LS

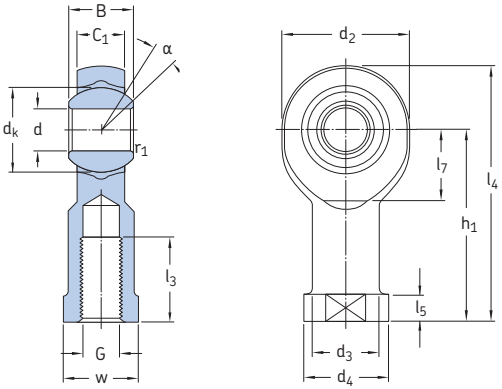
Principal dimensions						Angle of tilt	Basic load ratings[1] dynamic	static	Mass	Designations Rod end with right-hand thread	left-hand thread
d	d_2 max	G 6g	B	C_1 max	h	α	C	C_0			
mm						degrees	kN		kg	–	
35	84	M 36×3	25	22	130	6	224	110	1,30	**SA 35 TXE-2LS**	**SAL 35 TXE-2LS**
40	94	M 39×3	28	24	150	6	280	140	1,85	**SAA 40 TXE-2LS**	**SALA 40 TXE-2LS**
	94	M 42×3	28	24	145	6	280	140	1,90	**SA 40 TXE-2LS**	**SAL 40 TXE-2LS**
45	104	M 42×3	32	28	163	7	360	200	2,45	**SAA 45 TXE-2LS**	**SALA 45 TXE-2LS**
	104	M 45×3	32	28	165	7	360	200	2,55	**SA 45 TXE-2LS**	**SAL 45 TXE-2LS**
50	114	M 45×3	35	31	185	6	440	245	3,30	**SAA 50 TXE-2LS**	**SALA 50 TXE-2LS**
	114	M 52×3	35	31	195	6	440	245	3,90	**SA 50 TXE-2LS**	**SAL 50 TXE-2LS**
60	137	M 52×3	44	39	210	6	695	360	5,70	**SAA 60 TXE-2LS**	**SALA 60 TXE-2LS**
	137	M 60×4	44	39	225	6	695	360	6,25	**SA 60 TXE-2LS**	**SAL 60 TXE-2LS**
70	162	M 72×4	49	43	265	6	880	490	10,0	**SA 70 TXE-2LS**	**SAL 70 TXE-2LS**
80	182	M 80×4	55	48	295	5	1 140	585	14,5	**SA 80 TXE-2LS**	**SAL 80 TXE-2LS**

[1] Dynamic load rating of the bearing to be used for basic rating life calculation only. Check suitability of the rod end against its static load rating in all cases. The dynamic load applied on the rod end must not exceed its static load rating.

Dimensions

d	d_k	l_1 min	l_2 max	l_7 min	r_1 min
mm					
35	47	82	174	40	0,6
40	53	86	199	46	0,6
	53	90	194	46	0,6
45	60	92	217	50	0,6
	60	95	219	50	0,6
50	66	104	244	58	0,6
	66	110	254	58	0,6
60	80	115	281	73	1
	80	120	296	73	1
70	92	132	349	85	1
80	105	147	389	98	1

Maintenance-free rod ends with a female thread, steel/PTFE FRP
d **5 – 22** mm



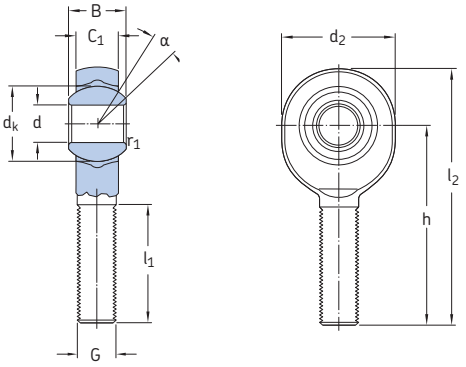
SI(L)KB .. F

Principal dimensions						Angle of tilt	Basic load ratings dynamic	static	Mass	Designations Rod end with right-hand thread	left-hand thread
d	d_2 max	G 6H	B	C_1 max	h_1	α	C	C_0			
mm						degrees	kN		kg	–	
5	19	M 5	8	6	27	13	3,25	5,3	0,019	**SIKB 5 F**	**SILKB 5 F**
6	21	M 6	9	6,75	30	13	4,25	6,8	0,028	**SIKB 6 F**	**SILKB 6 F**
8	25	M 8	12	9	36	14	7,1	11,4	0,047	**SIKB 8 F**	**SILKB 8 F**
10	29	M 10	14	10,5	43	13	9,8	14,3	0,079	**SIKB 10 F**	**SILKB 10 F**
	29	M 10×1,25	14	10,5	43	13	9,8	14,3	0,079	**SIKB 10 F/VZ019**	–
12	33	M 12	16	12	50	13	13,2	17	0,12	**SIKB 12 F**	**SILKB 12 F**
	33	M 12×1,25	16	12	50	13	13,2	17	0,12	**SIKB 12 F/VZ019**	–
14	37	M 14	19	13,5	57	16	17	27,5	0,16	**SIKB 14 F**	**SILKB 14 F**
16	43	M 16	21	15	64	15	21,4	34,5	0,23	**SIKB 16 F**	**SILKB 16 F**
	43	M 16×1,5	21	15	64	15	21,4	34,5	0,23	**SIKB 16 F/VZ019**	–
18	47	M 18×1,5	23	16,5	71	15	26	41,5	0,33	**SIKB 18 F**	**SILKB 18 F**
20	51	M 20×1,5	25	18	77	14	31	50	0,38	**SIKB 20 F**	**SILKB 20 F**
22	55	M 22×1,5	28	20	84	15	38	61	0,52	**SIKB 22 F**	**SILKB 22 F**

Dimensions

d	d_k	d_3 ≈	d_4 max	l_3 min	l_4 max	l_5 ≈	l_7 min	r_1 min	w h14
mm									
5	11,1	9	12	8	37	4	9	0,3	9
6	12,7	10	14	9	41	5	10	0,3	11
8	15,8	12,5	17	12	49	5	12	0,3	14
10	19 19	15 15	20 20	15 20	58 58	6,5 6,5	14 14	0,3 0,3	17 17
12	22,2 22,2	17,5 17,5	23 23	18 22	67 67	6,5 6,5	16 16	0,3 0,3	19 19
14	25,4	20	27	21	76	8	18	0,3	22
16	28,5 28,5	22 22	29 29	24 28	86 86	8 8	21 21	0,3 0,3	22 22
18	31,7	25	32	27	95	10	23	0,3	27
20	34,9	27,5	37	30	103	10	25	0,3	30
22	38,1	30	40	33	114	12	27	0,3	32

Maintenance-free rod ends with a male thread, steel/PTFE FRP
d **5 – 22** mm



SA(L)KB ..F

Principal dimensions						**Angle of tilt**	**Basic load ratings** dynamic	static	**Mass**	**Designations** Rod end with right-hand thread	left-hand thread
d	d_2 max	G 6g	B	C_1 max	h	α	C	C_0			
mm						degrees	kN		kg	–	
5	19	M 5	8	6	33	13	3,25	5,3	0,015	**SAKB 5 F**	**SALKB 5 F**
6	21	M 6	9	6,75	36	13	4,25	6,8	0,021	**SAKB 6 F**	**SALKB 6 F**
8	25	M 8	12	9	42	14	7,1	10	0,035	**SAKB 8 F**	**SALKB 8 F**
10	29	M 10	14	10,5	48	13	9,8	12,5	0,059	**SAKB 10 F**	**SALKB 10 F**
12	33	M 12	16	12	54	13	13,2	15	0,10	**SAKB 12 F**	**SALKB 12 F**
14	37	M 14	19	13,5	60	16	17	25,5	0,13	**SAKB 14 F**	**SALKB 14 F**
16	43	M 16	21	15	66	15	21,4	34,5	0,20	**SAKB 16 F**	**SALKB 16 F**
18	47	M 18×1,5	23	16,5	72	15	26	41,5	0,26	**SAKB 18 F**	**SALKB 18 F**
20	51	M 20×1,5	25	18	78	14	31	50	0,37	**SAKB 20 F**	**SALKB 20 F**
22	55	M 22×1,5	28	20	84	15	38	58,5	0,46	**SAKB 22 F**	**SALKB 22 F**

Dimensions

d	d_k	l_1 min	l_2 max	r_1 min
mm				
5	11,1	19	44	0,3
6	12,7	21	48	0,3
8	15,8	25	56	0,3
10	19	28	64	0,3
12	22,2	32	72	0,3
14	25,4	36	80	0,3
16	28,5	37	89	0,3
18	31,7	41	97	0,3
20	34,9	45	106	0,3
22	38,1	48	114	0,3


SKF

Other SKF plain bearings and special solutions

Spherical plain bearings for road vehicles

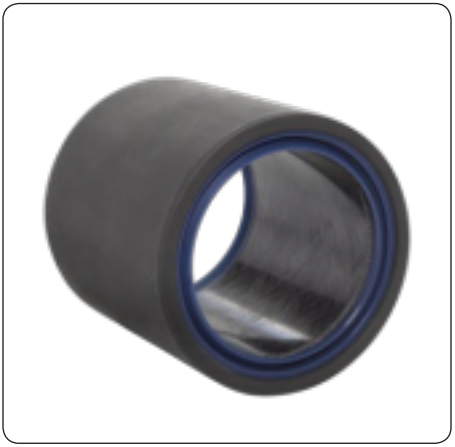
SKF spherical plain bearings or bearing units are also available for special applications. Therefore, SKF works closely with the customer to develop customized products, e.g. solutions for centring propeller shafts or gear shifts.

Plain bearings for railway vehicles

The SKF assortment of plain bearings for railway vehicles includes bogie swivel bearings for trams and heavy-duty goods wagons as well as spherical plain bearings and rod ends for transverse stabilizers, tilting mechanisms etc.

Bushing units for off-highway vehicles

Many off-highway vehicles have bushings made of steel or bronze that require relubrication. SKF has developed state-of-the-art bushing units with seals. As these units do not require grease, costs are reduced and productivity is increased.



Spherical plain bearings and rod ends for the aircraft industry

SKF supplies a wide assortment of special spherical plain bearings and rod ends in various designs and materials for aerospace applications worldwide. The main applications are airframe bearings for the transmission of rotating, tilting and oscillating movements as used in undercarriages, spoilers, height and side rudders, wing flaps etc.

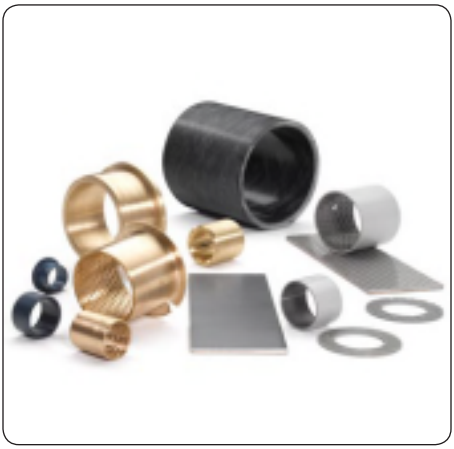
Bushings, thrust washers and strips

SKF offers a wide assortment of bushings available from stock. Bushings are suitable for rotating, oscillating and linear movements and are available as cylindrical or flanged designs. Thrust washers are intended for applications where axial space is limited, maintenance is not possible and where lubricant starvation can occur.

SKF also supplies strips made of the same materials as thrust washers. They can be bent, pressed or coined to form flat linear guides, e.g. L-shaped or V-shaped profiles, or other types of dry sliding components.

Different materials meet different requirements:

- solid bronze, the traditional robust material
- sintered bronze with oil impregnation, for high sliding velocities
- wrapped bronze with lubrication pockets, for contaminated environments
- PTFE composite with reduced friction, for long service life
- POM composite, for minimal maintenance under arduous conditions
- PTFE polyamide, cost-effective and maintenance-free
- filament wound, for extreme conditions



Rod ends for the food industry

The food and beverage processing industries have unique requirements. Depending on the application, equipment has to withstand the following influences:

- hot, cold or wet environments
- frequent wash downs
- exposure to harsh cleaning agents
- food and liquid contaminants
- a variety of chemicals

To deal with these challenging operating conditions, SKF offers rod ends with a stainless steel housing or with a composite housing. Both series are equipped with a stainless steel inner ring and an injection moulded PTFE FRP dry sliding layer. The used materials provide the following properties:

- corrosion resistant
- good wear resistance
- low friction
- cost-effective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Product index

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