



SLIDING BEARING

YNN
BEARINGS

Shanghai Yinin Imp.,&Exp., Co.,Ltd
Shanghai Yinin Bearing &Transmission Company

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YININ BEARING CATALOGUE

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Shanghai Yinin Imp.,&Exp., Co.,Ltd
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CONTENT

Clearance & Tolerance Of Spherical Plain Bearing	01-05
Spherical Plain Bearing	06-18
Ball Joint Rod Ends Bearing	19-21
Lined Ball Bearing	22-23



RADIAL INTERNAL CLEARANCE OF SPHERICAL PLAIN BEARINGS

1.Spherical plain bearing

Series E,EW,EM

d over incl mm	-	12	20	35	60	90	140	160	240
	12	20	35	60	90	140	160	240	315
C2 min Group C2 max um	8	10	12	15	18	18	18	18	18
	32	40	50	60	72	85	100	100	110
Group normal min max um	32	40	50	60	72	85	100	100	110
	68	82	100	120	142	165	192	192	210
Group C3 min max um	68	82	100	120	142	165	192	192	214
	104	124	150	180	212	245	284	284	318

Series G

d over incl mm	-	10	17	30	50	80	120	160	220
	10	17	30	50	80	120	160	220	280
C2 min Group C2 max um	8	10	12	15	18	18	18	18	18
	32	40	50	60	72	85	100	100	100
Group normal min max um	32	40	50	60	72	85	100	100	110
	68	82	100	120	142	165	192	192	210
Group C3 min max um	68	82	100	120	142	165	192	192	214
	104	124	150	180	212	245	284	284	318

Series F

d over incl mm	-	12	20	35	55	80	120
	12	20	35	55	80	120	150
Group normal min max um	32	40	50	60	72	85	100
	68	82	100	120	142	165	192

Series Z,WZ

d over incl mm	-	15.875	50.8	76.2	152.4	203.2	254
	15.875	50.8	76.2	152.4	203.2	254	304.8
Group normal min max um	50	80	100	130	180	200	230
	150	180	200	230	300	330	350

RADIAL INTERNAL CLEARANCE OF SPHERICAL PLAIN BEARIGS

Series GZ

d over incl mm	-	12.7	44.45	69.85
	12.7	44.45	69.85	139.7
Group normal min max um	50	80	100	130
	150	180	200	230

2.Rod Ends

Series E,EW

d over incl mm	-	12	20	35	60
	12	20	35	60	80
Group normal min max um	23	30	37	43	55
	68	82	100	120	142

Series P,ZP

d over incl mm	-	d over incl mm	-	8	14	20	35
	30		8	14	20	35	50
Group normal min max um	0	Group normal min max um	10	15	40	50	60
	35		30	60	80	90	110

TOLERANCES FOR SPHERICAL PLAIN BEARINGS

1. Symbol

d: Bearing bore diameter of shank diameter, nominal.

dmp: Single plane mean bore diameter of shaft diameter deviation.

Vdp: Bore diameter variation in a single radial plane.

Vdmp: Mean bore diameter variation.

Bs: Deviation of a single width of the inner ring.

B: Width of inner ring, nominal.

D: Bearing outside diameter or housing washer outside diameter, nominal.

Dmp: Single plane mean outside diameter deviation.

Cs: Deviation of a single width of the outer ring.

C: Width of outer ring, nominal.

Ts: Actual deviation of width of the angular contact spherical plain bearing.

Hs: Actual deviation of height of the spherical plain thrust bearing.

hs:his:Centre height deviation of rod ends of ball joint rod ends.

2.Spherical plain radial bearings

Inner ring

d over incl mm	-	10	18	30	50	80	120	150	180	250	315	315
	10	18	30	50	80	120	150	180	250	315	400	400
dmp um	0	0	0	0	0	0	0	0	0	0	0	0
	-8	-8	-10	-12	-15	-20	-25	-25	-30	-35	-40	-40
Vdp um	8	8	10	12	15	20	25	25	30	35	-	-
Vdmp um	6	6	8	9	11	15	19	19	23	26	-	-
Bs um	0	0	0	0	0	0	0	0	0	0	0	0
	-120	-120	-120	-120	-150	-120	-250	-250	-300	-350	-400	-400

Outer ring

d over incl mm	10	18	30	50	80	120	150	180	250	315	400	500	630
	18	30	50	80	120	150	180	250	315	400	500	630	800
dmp um	0	0	0	0	0	0	0	0	0	0	0	0	0
	-8	-9	-11	-13	-15	-18	-25	-30	-35	-40	-45	-50	-750
Vdp um	10	12	15	17	20	24	33	40	47	53	60	-	-
Vdmp um	6	7	8	10	11	14	19	23	26	30	34	-	-
Cs um	0	0	0	0	0	0	0	0	0	0	0	0	0
	-240	-240	-240	-300	-400	-500	-500	-500	-700	-800	-900	-1000	-1100

3.Angular contact spherical plain bearings

Inner ring and width of bearing

d over incl mm	-	30	50	80	120	180
	30	50	80	120	180	200
dmp um	0	0	0	0	0	0
	-10	-12	-15	-20	-25	-30
Vdmp um	8	9	11	15	19	23
Bs um	0	0	0	0	0	0
	-100	-120	-150	-200	-300	-400
Ts um	150	150	200	250	350	350
	-300	-400	-500	-600	-700	-800

TOLERANCES FOR SPHERICAL PLAIN BEARINGS

Outer ring

d over incl mm	–	30	50	80	120	150	180	250
		30	50	80	120	150	180	250
Dmp um	0	0	0	0	0	0	0	0
	-11	-14	-16	-18	-20	-25	-30	-35
Vdmp um	8	11	12	14	15	19	23	26
Cs um	0	0	0	0	0	0	0	0
	-240	-240	-300	-400	500	-500	-600	-700

4.Spherical plain thrust bearings Shaft washer and height of bearing

d over incl mm	10	18	30	50	80	100	120	180
		18	30	50	80	100	120	180
Dmp um	0	0	0	0	0	0	0	0
	-8	-10	-12	-15	-20	-20	-25	-30
Vdmp um	6	8	9	11	15	15	19	23
Bs um	0	0	0	0	0	0	0	0
	-120	-120	-120	-150	-200	-200	-300	-400
Hs um	150	15	200	250	300	350	350	350
	-300	-400	-500	-600	-700	-700	-700	-800

5.Ball joint rod ends

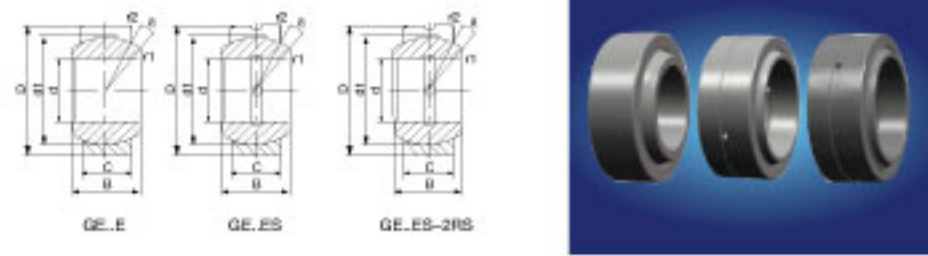
Shank or housing of ball joint					Rings of ball joint housing			
d over incl mm	–	6	10	18	d over incl mm	10	18	30
		6	10	18		30	18	30
dmp	0	0	0	0	Dmp	0	0	0
	-30	-36	-43	-52		-27	-33	-39
his	800				Cs	100		
	-1200					-100		

SPHERICAL PLAIN BEARINGS & ROD ENDS

Type	Structure	Designation	Size Range
Radial	Fitting Crack	GE...E,GE...ES,GEG...E,GEG...ES,GEF...ES	ID4-300mm
	Wide Inner Ring	GEEW...ES,GEEM...ES	ID12-80mm
	Two Pieces	GE...XS/K,GEK...XS	ID12-150mm
	Inch Dimension	GEZ...ES,GEGZ...ES,GEWZ...ES,	ID1/2" -6"
	Maintenance-free	GE...C,GEG...C,GE...ET,GE...XT, GEG...ET,GEG...XT,GEZ...ET	ID4-300mm
	Normal	GAC...S	ID25-200mm
Angular Contact	Inch Dimension	GACZ...S	ID1/2" -6"
	Maintenance-free	GAC...T	ID25-200mm
Thrust	Normal	GX...S	ID10-200mm
	Maintenance-free	GX...T	ID10-200mm
	Combination	SI...E,SL...ES,SA...E,SA...ES	ID5-80mm
	Maintenance-free	SIJK...C,SI...ET,SL...C,	ID5-80mm
Rod End		SAJK...C,SA...ET,SA...C	
	Inlaid Liner	SIBP...S,SABP...S	ID5-30mm
	Welding Shank	SK...ES,SF...ES	ID15-80mm
Ball Joint	One Shank	SQD...S	ID5-16mm
	Straight	SQZ...S	ID5-22mm
	Winding Shape	SQ...S	ID5-22mm

SPHERICAL PLAIN BEARINGS

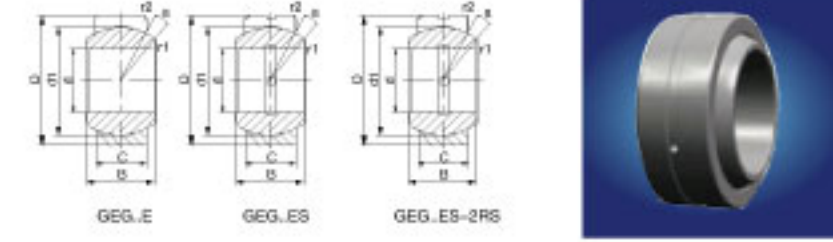
Radial Spherical plain Bearings **GE..E, GE..ES, GE..ES-2RS**



Bearing No.	Boundary Dimensions (mm)								Load Ratings (KN)		Mass (kg) Approx	
	d	D	B	C	dk	rs (min)	r1s (min)	α°	Dynamic (Cr)	Static (Cor)		
GE4E	4	12	5	3	8	0.3	0.3	16	2	10	0.0033	
GE5E	5	14	6	4	10	0.3	0.3	13	3.4	17	0.0038	
GE6E	6	14	6	4	10	0.3	0.3	13	3.4	17	0.004	
GE8E	8	16	8	5	13	0.3	0.3	15	5.5	27	0.008	
GE10E	10	19	9	6	16	0.3	0.3	12	8.1	40	0.011	
GE12E	12	22	10	7	18	0.3	0.3	10	10	53	0.015	
GE15ES	GE15ES-2RS	15	26	12	9	22	0.3	0.3	8	16	84	0.027
GE17ES	GE17ES-2RS	17	30	14	10	25	0.3	0.3	10	21	106	0.041
GE20ES	GE20ES-2RS	20	35	16	12	29	0.3	0.3	9	30	146	0.066
GE25ES	GE25ES-2RS	25	42	20	16	35.5	0.6	0.6	7	48	240	0.119
GE30ES	GE30ES-2RS	30	47	22	18	40.7	0.6	0.6	6	62	310	0.153
GE35ES	GE35ES-2RS	35	55	25	20	47	0.6	1	6	79	399	0.233
GE40ES	GE40ES-2RS	40	62	28	22	53	0.6	1	7	99	495	0.306
GE45ES	GE45ES-2RS	45	68	32	25	60	0.6	1	7	127	637	0.427
GE50ES	GE50ES-2RS	50	75	35	28	66	0.6	1	6	156	780	0.546
GE55ES	GE55ES-2RS	55	85	40	32	74	0.6	1	7	200	1000	0.939
GE60ES	GE60ES-2RS	60	90	44	36	80	1	1	6	245	1220	1.04
GE70ES	GE70ES-2RS	70	105	49	40	92	1	1	6	313	1560	1.55
GE80ES	GE80ES-2RS	80	120	55	45	105	1	1	6	400	2000	2.31
GE90ES	GE90ES-2RS	90	130	60	50	115	1	1	5	488	2440	2.75
GE100ES	GE100ES-2RS	100	150	70	55	130	1	1	7	607	3030	4.45
GE110ES	GE110ES-2RS	110	160	70	55	140	1	1	6	654	3270	4.82
GE120ES	GE120ES-2RS	120	180	85	70	160	1	1	6	950	4750	8.05
GE140ES	GE140ES-2RS	140	210	90	70	180	1	1	7	1070	5350	11.02
GE160ES	GE160ES-2RS	160	230	105	80	200	1	1	8	1360	6800	14.01
GE180ES	GE180ES-2RS	180	260	105	80	225	1.1	1.1	6	1530	7650	18.65
GE200ES	GE200ES-2RS	200	290	130	100	250	1.1	1.1	7	2120	10600	28.03

SPHERICAL PLAIN BEARINGS

Radial Spherical plain Bearings **GEG..E, GEG..ES, GEG..ES-2RS**

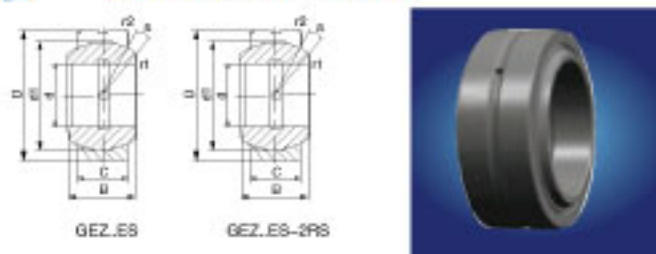


Bearing No.	Boundary Dimensions (mm)								Load Ratings (KN)		Mass (kg) Approx	
	d	D	B	C	dk	rs (min)	r1s (min)	α°	Dynamic (Cr)	Static (Cor)		
GEG4E	4	14	7	4	10	0.3	0.3	20	3.4	17	0.005	
GEG5E	5	16	9	5	13	0.3	0.3	21	5.5	27	0.008	
GEG6E	6	16	9	5	13	0.3	0.3	21	5.5	27	0.006	
GEG8E	8	19	11	6	16	0.3	0.3	21	8.1	40	0.014	
GEG10E	10	22	12	7	18	0.3	0.3	18	10	53	0.021	
GEG12E	12	26	15	9	22	0.3	0.3	18	16	84	0.033	
GEG15ES	GEG15ES-2RS	15	30	16	10	25	0.3	0.3	16	21	106	0.049
GEG17ES	GEG17ES-2RS	17	35	20	12	29	0.3	0.3	19	30	146	0.083
GEG20ES	GEG20ES-2RS	20	42	25	16	35.5	0.3	0.6	17	48	240	0.153
GEG25ES	GEG25ES-2RS	25	47	28	18	40.7	0.6	0.6	17	62	310	0.203
GEG30ES	GEG30ES-2RS	30	55	32	20	47	0.6	1	17	79	399	0.304
GEG35ES	GEG35ES-2RS	35	62	35	22	53	0.6	1	16	99	495	0.408
GEG40ES	GEG40ES-2RS	40	68	40	25	60	0.6	1	17	127	637	0.542
GEG45ES	GEG45ES-2RS	45	75	43	28	66	0.6	1	15	156	780	0.713
GEG50ES	GEG50ES-2RS	50	90	56	36	80	0.6	1	17	245	1220	1.14
GEG60ES	GEG60ES-2RS	60	105	63	40	92	1	1	17	313	1560	2.05
GEG70ES	GEG70ES-2RS	70	120	70	45	105	1	1	16	400	2000	3.01
GEG80ES	GEG80ES-2RS	80	130	75	50	115	1	1	14	488	2440	3.64
GEG90ES	GEG90ES-2RS	90	150	85	55	130	1	1	15	607	3030	5.22
GEG100ES	GEG100ES-2RS	100	160	85	55	140	1	1	14	654	3270	6.05
GEG110ES	GEG110ES-2RS	110	180	100	70	160	1	1	12	950	4750	9.68
GEG120ES	GEG120ES-2RS	120	210	115	70	180	1	1	16	1070	5350	14.01
GEG140ES	GEG140ES-2RS	140	230	130	80	200	1	1	16	1360	6800	19.01
GEG160ES	GEG160ES-2RS	160	260	135	80	225	1.1	1.1	16	1530	7650	20.02
GEG180ES	GEG180ES-2RS	180	290	155	100	250	1.1	1.1	14	2120	10600	32.21

SPHERICAL PLAIN BEARINGS

Radial Spherical plain Bearings

GEZ..ES,GEZ..ES-2RS



Bearing No.	Boundary Dimensions (mm)								Load Ratings (KN)		Mass (kg) Approx
	d	D	B	C	dk	rs (min)	r1s (min)	$\alpha^{\circ \infty}$	Dynamic (Cr)	Static (Cor)	
GEZ12ES	12.7	22.225	11.1	9.525	18	0.15	0.6	6	13	41	0.022
	0.5	0.875	0.437	0.375	0.707	0.006	0.024				
GEZ15ES	15.875	26.988	13.894	11.913	23	0.15	0.6	6	22	65	0.036
	0.625	1.0625	0.547	0.469	0.904	0.006	0.024				
GEZ19ES	19.05	31.75	16.662	14.275	27.5	0.3	0.6	6	31	95	0.053
	0.75	1.25	0.656	0.562	1.081	0.012	0.024				
GEZ22ES	22.225	36.513	19.431	16.662	32	0.3	0.6	6	42	127	0.085
	0.875	1.4375	0.756	0.656	1.258	0.012	0.024				
GEZ25ES	25.4	41.275	22.225	19.05	36.5	0.3	0.6	6	56	166	0.121
	1	1.625	0.875	0.75	1.437	0.012	0.024				
GEZ31ES	31.75	50.8	27.762	23.8	45.5	0.6	0.6	6	86	260	0.23
	1.25	2	1.093	0.937	1.788	0.024	0.024				
GEZ34ES	34.925	55.563	30.15	26.187	49	0.6	1	6	102	310	0.35
	1.375	2.1875	1.187	1.031	1.926	0.024	0.04				
GEZ38ES	38.1	61.913	33.325	28.575	54.7	0.6	1	6	125	375	0.42
	1.5	2.4375	1.312	1.125	2.154	0.024	0.04				
GEZ44ES	44.45	71.438	38.887	33.325	63.9	0.6	1	6	170	510	0.64
	1.75	2.8125	1.531	1.312	2.511	0.024	0.04				
GEZ50ES	50.8	80.963	44.45	38.1	73	0.6	1	6	224	670	0.93
	2	3.1875	1.75	1.5	2.869	0.024	0.04				
GEZ57ES	57.15	90.488	50.013	42.85	82	0.6	1	6	280	850	1.3
	2.25	3.5625	1.969	1.687	3.223	0.024	0.04				
GEZ63ES	63.5	100.013	55.55	47.625	92	1	1	6	355	1060	1.85
	2.5	3.9375	2.187	1.875	3.616	0.04	0.04				
GEZ69ES	69.85	111.125	61.112	52.375	100	1	1	6	415	1250	2.4
	2.75	4.375	2.406	2.062	3.937	0.04	0.04				
GEZ76ES	76.2	120.65	66.675	57.15	109.5	1	1	6	500	1500	3.1
	3	4.75	2.625	2.25	4.303	0.04	0.04				
GEZ82ES	82.55	130.175	72.238	61.9	119	1	1	6	585	1760	3.8
	3.25	5.125	2.844	2.437	4.685	0.04	0.04				
GEZ88ES	88.9	139.7	77.775	66.675	128	1	1	6	680	2040	4.8
	3.5	5.5	3.062	2.625	5.04	0.04	0.04				

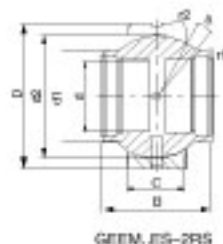
SPHERICAL PLAIN BEARINGS

Bearing No.	Boundary Dimensions (mm)								Load Ratings (KN)		Mass (kg) Approx
	d	D	B	C	dk	rs (min)	r1s (min)	$\alpha^{\circ \infty}$	Dynamic (Cr)	Static (Cor)	
GEZ95ES	95.25	149.225	83.337	71.425	137	1	1	6	780	2360	5.8
	3.75	5.875	3.281	2.812	5.393	0.04	0.04				
GEZ101ES	101.6	158.75	88.9	76.2	146	1	1	6	900	2650	7
	4	6.25	3.5	3	5.748	0.04	0.04				
GEZ107ES	107.95	168.275	94.463	80.95	155	1	1	6	1000	3000	8.41
	4.25	6.625	3.719	3.187	6.102	0.04	0.04				
GEZ114ES	114.3	177.8	100.013	85.725	164.5	1	1	6	1120	3400	9.8
	4.5	7	3.937	3.375	6.476	0.04	0.04				
GEZ120ES	120.65	187.325	105.562	90.475	173.5	1	1	6	1250	3750	11.5
	4.75	7.375	4.156	3.562	6.83	0.04	0.04				
GEZ127ES	127	196.85	111.125	95.25	183	1	1	6	1400	4150	13.5
	5	7.75	4.375	3.75	7.204	0.04	0.04				
GEZ152ES	152.4	222.25	120.65	104.775	207	1	1	5	1730	5200	17.5
	6	8.75	4.75	4.125	8.15	0.04	0.04				

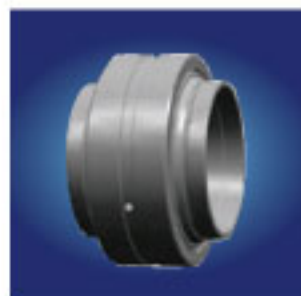
SPHERICAL PLAIN BEARINGS

Radial Spherical plain Bearings

GEEM..ES



GEEM..ES-2RS

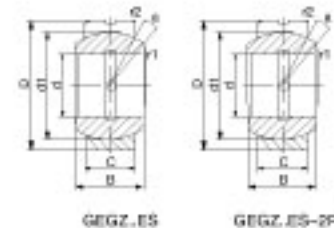


Bearing No.	Boundary Dimensions (mm)									Load Ratings (KN)		Mass (kg) Approx
	d	D	B	C	d1 (max)	dk	rs (min)	r1s (min)	α°	Dynamic (Cr)	Static (Cor)	
GEEM20ES-2RS	20	35	24	12	24	29	0.3	0.3	6	30	146	0.073
GEEM25ES-2RS	25	42	29	16	29	35.5	0.3	0.6	4	48	240	0.13
GEEM30ES-2RS	30	47	30	18	34	40.7	0.3	0.6	4	62	310	0.17
GEEM35ES-2RS	35	55	35	20	40	47	0.6	1	4	79	399	0.25
GEEM40ES-2RS	40	62	38	22	45	53	0.6	1	4	99	495	0.35
GEEM45ES-2RS	45	68	40	25	52	60	0.6	1	4	127	637	0.49
GEEM50ES-2RS	50	75	43	28	57	66	0.6	1	4	156	780	0.6
GEEM60ES-2RS	60	90	54	36	68	80	0.6	1	3	245	1220	1.15
GEEM70ES-2RS	70	105	65	40	78	92	0.6	1	4	313	1560	1.65
GEEM80ES-2RS	80	120	74	45	90	105	0.6	1	4	400	2000	2.5

SPHERICAL PLAIN BEARINGS

Radial Spherical plain Bearings

GEGZ..ES,GEGZ..ES-2RS



GEGZ..ES

GEGZ..ES-2RS

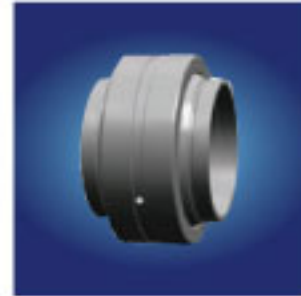
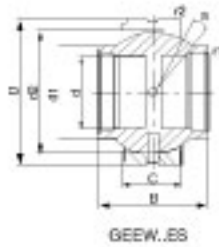


Bearing No.	Boundary Dimensions (mm)									Load Ratings (KN)		Mass (kg) Approx
	d	D	B	C	dk	rs (min)	r1s (min)	α°	Dynamic (Cr)	Static (Cor)		
GEGZ31ES	GEGZ31ES-2RS	31.75	61.913	35.306	28.575	54.7	0.6	1	15	125	375	0.454
		1.25	2.4375	1.39	1.125	2.155	0.024	0.04				
GEGZ38ES	GEGZ38ES-2RS	38.1	71.438	40.132	33.325	63.9	0.6	1	14	170	510	0.726
		1.5	2.8125	1.58	1.312	2.515	0.024	0.04				
GEGZ44ES	GEGZ44ES-2RS	44.45	80.963	46.228	38.1	73	0.6	1	14	224	670	1.14
		1.75	3.1875	1.82	1.5	2.875	0.024	0.04				
GEGZ50ES	GEGZ50ES-2RS	50.8	90.488	52.578	42.85	82	0.6	1	14	280	850	1.68
		2	3.5625	2.07	1.687	3.235	0.024	0.04				
GEGZ57ES	GEGZ57ES-2RS	57.15	100.013	58.877	47.625	92	0.6	1	14	355	1060	2.01
		2.25	3.9375	2.318	1.875	3.59	0.024	0.04				
GEGZ63ES	GEGZ63ES-2RS	63.5	111.125	64.643	52.375	100	1	1	14	415	1250	2.95
		2.5	4.375	2.545	2.062	3.95	0.04	0.04				
GEGZ69ES	GEGZ69ES-2RS	69.85	120.65	70.866	57.15	109.5	1	1	14	500	1500	3.63
		2.75	4.75	2.79	2.25	4.312	0.04	0.04				
GEGZ76ES	GEGZ76ES-2RS	76.2	130.175	76.759	61.9	119	1	1	14	585	1760	4.36
		3	5.125	3.022	2.437	4.675	0.04	0.04				
GEGZ82ES	GEGZ82ES-2RS	82.55	139.7	82.931	66.675	128	1	1	14	680	2040	5.31
		3.25	5.5	3.265	2.625	5.04	0.04	0.04				
GEGZ88ES	GEGZ88ES-2RS	88.9	149.225	90.424	71.425	137	1	1	14	780	2360	6.81
		3.5	5.875	3.56	2.812	5.39	0.04	0.04				
GEGZ95ES	GEGZ95ES-2RS	95.25	158.75	94.945	76.2	146	1	1	14	900	2650	8.85
		3.75	6.25	3.738	3	5.75	0.04	0.04				
GEGZ101ES	GEGZ101ES-2RS	101.6	177.8	107.315	85.725	164.5	1	1	10	1120	3400	10.2
		4	7	4.225	3.375	6.475	0.04	0.04				
GEGZ114ES	GEGZ114ES-2RS	114.3	196.85	119.126	95.25	183	1	1	10	1400	4150	13.6
		4.5	7.75	4.69	3.75	7.19	0.04	0.04				

SPHERICAL PLAIN BEARINGS

Radial Spherical plain Bearings

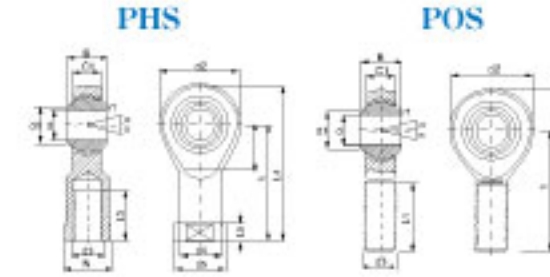
GEEW..ES



Bearing No.	Boundary Dimensions (mm)									Load Ratings (KN)		Mass (kg) Approx
	d	D	B	C	d1 (max)	dk	rs (min)	r1s (min)	α°	Dynamic (Cr)	Static (Cor)	
GEEW12ES	12	22	12	7	15.5	18	0.3	0.3	4	10	53	0.022
GEEW15ES	15	26	15	9	18.5	22	0.3	0.3	5	16	84	0.031
GEEW16ES	16	28	16	9	20	23	0.3	0.3	4	17	85	0.035
GEEW17ES	17	30	17	10	21	25	0.3	0.3	7	21	106	0.044
GEEW20ES	20	35	20	12	25	29	0.3	0.3	4	30	146	0.071
GEEW25ES	25	42	25	16	30.5	35.5	0.6	0.6	4	48	240	0.131
GEEW30ES	30	47	30	18	34	40.7	0.6	0.6	4	62	310	0.168
GEEW32ES	32	52	32	18	37	44	0.6	1	4	65	328	0.182
GEEW35ES	35	55	35	20	40	47	0.6	1	4	79	399	0.253
GEEW40ES	40	62	40	22	46	53	0.6	1	4	99	495	0.338
GEEW45ES	45	68	45	25	52	60	0.6	1	4	127	637	0.481
GEEW50ES	50	75	50	28	57	66	0.6	1	4	156	780	0.558
GEEW60ES	60	90	60	36	68	80	1	1	4	245	1220	1.15
GEEW63ES	63	95	63	36	71.5	83	1	1	4	253	1260	1.25
GEEW70ES	70	105	70	40	78	92	1	1	4	313	1560	1.71
GEEW80ES	80	120	80	45	91	105	1	1	4	400	2000	2.39
GEEW90ES	90	130	90	50	99	115	1	1	4	488	2440	3.21
GEEW100ES	100	150	100	55	113	130	1	1	4	607	3030	4.79
GEEW110ES	110	160	110	55	124	140	1	1	4	654	3270	5.78
GEEW125ES	125	180	125	70	138	160	1	1	4	950	4750	8.49
GEEW160ES	160	230	160	80	177	200	1	1	4	1360	6800	16.5
GEEW200ES	200	290	200	100	221	250	1.1	1.1	4	2120	10600	32.1

SPHERICAL PLAIN BEARINGS

Rod Ends



1. Inlaid Liner Rod Ends with Femal Thread

Bearing No.	Boundary Dimensions (mm)										Load Ratings (KN)		Mass (kg) Approx
	C1	d	B	d2 (max)	d3	h1	L3 (min)	L4 (max)	L5 (max)	d5 (max)	Dynamic (Cr)	Static (Cor)	
PHS 5	6	5	8	16	M5 × 0.8	27	14	35	4	11	3.3	4.1	13
PHS 6	6.75	6	9	18	M6 × 1	30	14	39	5	13	4.3	5.3	13
PHS 8	9	8	12	22	M8 × 1.25	36	17	47	5	16	6.8	8.5	14
PHS 10	10.5	10	14	26	M10 × 1.5	43	21	56	6.5	19	10	11	14
PHS 12	12	12	16	30	M12 × 1.75	50	24	65	6.5	22	13	14	13
PHS 14	13.5	14	19	34	M14 × 2	57	27	74	8	25	17	20	16
PHS 16	15	16	21	38	M16 × 2	64	33	83	8	27	21	25	15
PHS 18	16.5	18	23	42	M18 × 1.5	71	36	92	10	31	26	30	15
PHS 20	18	20	25	46	M20 × 1.5	77	40	100	10	34	31	35	15
PHS 22	20	22	28	50	M22 × 1.5	84	43	109	12	37	38	43	15
PHS 25	22	25	31	60	M24 × 2	94	48	124	12	42	47	65	15
PHS 28	25	28	35	66	M27 × 2	103	53	136	12	46	59	77	15
PHS 30	25	30	37	70	M30 × 2	110	56	145	15	50	63	86	17

Note: When the tread is left-hand, mark it by: PHS...L

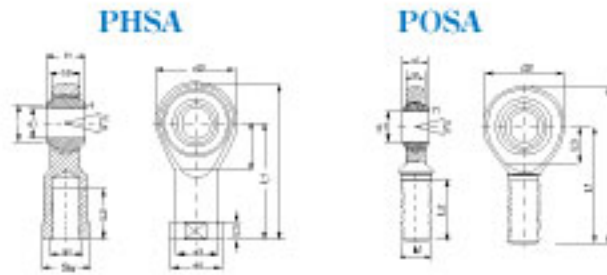
2. Inlaid Liner Rod Ends with Mail Thread

Bearing No.	Boundary Dimensions (mm)										Load Ratings (KN)		Mass (kg) Approx
	d	B	r1	C1	d1	d2	d3	h	L1	L2	Dynamic (Cr)	Static (Cor)	
POS 5	5	8	0.3	6	7.7	16	M5 × 0.8	33	20	41	3.3	3.9	13
POS 6	6	9	0.3	6.75	9	18	M6 × 1	36	22	45	4.3	5.3	13
POS 8	8	12	0.3	9	10.4	22	M8 × 1.25	42	25	53	6.8	8.5	14
POS 10	10	14	0.6	10.5	12.9	26	M10 × 1.5	48	29	61	10	11	14
POS 12	12	16	0.6	12	15.4	30	M12 × 1.75	54	33	69	13	14	13
POS 14	14	19	0.6	13.5	16.9	34	M14 × 2	60	36	77	17	20	16
POS 16	16	21	0.6	15	19.4	38	M16 × 2	66	40	85	21	25	15
POS 18	18	23	0.6	16.5	21.9	42	M18 × 1.5	72	44	93	26	30	15
POS 20	20	25	0.6	18	24.4	46	M20 × 1.5	78	47	101	31	35	15
POS 22	22	28	0.6	20	25.8	50	M22 × 1.5	84	51	109	38	43	15
POS 25	25	31	0.6	22	29.6	60	M24 × 2	94	57	124	47	65	15
POS 28	28	35	0.6	25	32.3	66	M27 × 2	103	62	136	59	77	15
POS 30	30	37	0.6	25	34.8	70	M30 × 2	110	66	145	63	86	17

Note: When the tread is left-hand, mark it by: POS...L

SPHERICAL PLAIN BEARINGS

Rod Ends



3. Maintenance-Free Rod Ends with Female Thread

Bearing No.	Boundary Dimensions (mm)										Load Ratings (KN)		Mass (kg) Approx
	M	d1	d2	d4	b1	b2	L1	L2	d3	α°	Dynamic (Cr)	Static (Cor)	
PHSA 6	M6 x 1	6	20	13	9	6.75	30	12	10	13	4.3	7.2	0.027
PHSA 8	M8 x 1.25	8	24	16	12	9	36	16	12.5	13	7.2	11.6	0.046
PHSA 10	M10 x 1.5	10	28	19	14	10.5	43	20	15	13	10	14.5	0.076
PHSA 12	M12 x 1.75	12	32	22	16	12	50	22	17.5	13	13.4	17	0.115
PHSA 14	M14 x 2	14	36	25	19	13.5	57	25	20	13	17	24	0.17
PHSA 16	M16 x 2	16	42	27	21	15	64	28	22	13	21.6	28.5	0.23
PHSA 18	M18 x 1.2	18	46	31	23	16.5	71	32	25	13	26	42.5	0.32
PHSA 20	M20 x 1.5	20	50	34	25	18	77	33	27.5	13	31.5	42.5	0.42
PHSA 22	M22 x 1.5	22	54	37	28	20	84	37	30	13	38	57	0.54
PHSA 25	M25 x 2	25	60	42	31	22	94	42	33.5	13	47.5	68	0.75
PHSA 30	M30 x 2	30	70	50	37	25	110	51	40	13	64	88	1.3

Note: when the thread is left-hand, mark it by: PHSA(L)(SIL...T/K)

4. Maintenance-Free Rod Ends with Female Thread

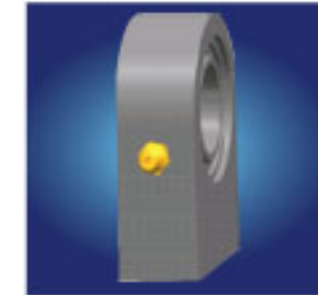
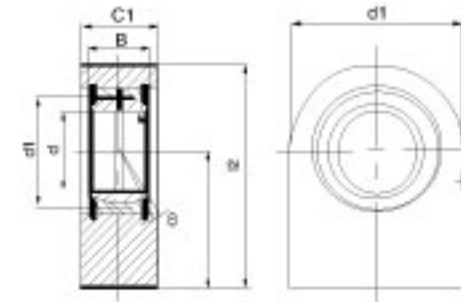
Bearing No.	Boundary Dimensions (mm)										Load Ratings (KN)		Mass (kg) Approx	Old Number
	M	d1	d2	b1	b2	L1	L2	d3	α°	Dynamic (Cr)	Static (Cor)			
POSA 6	M6 x 1	6	20	9	6.75	30	22	10	13	4.3	4.4	0.021	SA6T/K	
POSA 8	M8 x 1.25	8	24	12	9	36	25	11.7	13	7.2	8	0.034	SA8T/K	
POSA 10	M10 x 1.5	10	28	14	10.5	43	29	13.5	13	10	12.9	0.058	SA10T/K	
POSA 12	M12 x 1.75	12	32	16	12	50	33	15	13	13.4	17	0.092	SA12T/K	
POSA 14	M14 x 2	14	36	19	13.5	57	36	16.5	13	17	24	0.153	SA14T/K	
POSA 16	M16 x 2	16	42	21	15	64	40	19.5	13	21.6	28.5	0.205	SA16T/K	
POSA 18	M18 x 1.2	18	46	23	16.5	71	44	21.5	13	26	42.5	0.28	SA18T/K	
POSA 20	M20 x 1.5	20	50	25	18	77	47	23	13	31.5	42.5	0.37	SA20T/K	
POSA 22	M22 x 1.5	22	54	28	20	84	51	25	13	38	57	0.475	SA22T/K	
POSA 25	M25 x 2	25	60	31	22	94	57	28	13	47.5	68	0.65	SA25T/K	
POSA 30	M30 x 2	30	70	37	25	110	66	32.5	13	64	88	1.07	SA30T/K	

Note: when the thread is left-hand, mark it by: POSA(L)(SAL...T/K)

SPHERICAL PLAIN BEARINGS

Hydraulic Cylinder

GF.DO

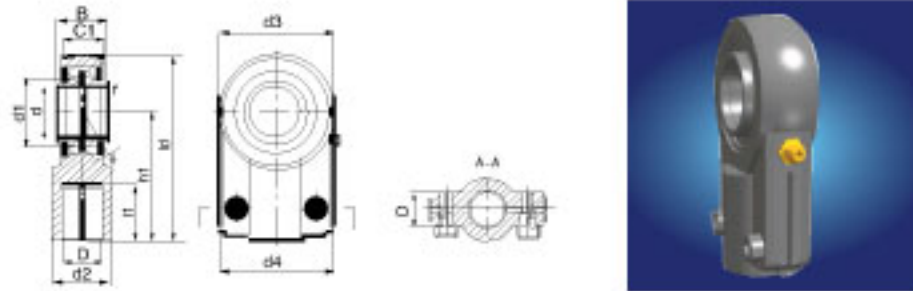


Bearing No.	Boundary Dimensions (mm)									Load Ratings (KN)		Mass (kg) Approx
	d	B	dK	C1 (max)	d2 (max)	h	L2 (max)	rs (min)	α°	Dynamic (Cr)	Static (Cor)	
GF20DO	20	16	29	19	50	38	63	0.3	9	30	55	0.35
GF25DO	25	20	35.5	23	55	45	72.5	0.6	7	48	58	0.53
GF30DO	30	22	40.7	28	65	51	83.5	0.6	6	62	98	0.87
GF35DO	35	25	47	30	83	61	102.5	0.6	6	79	164	1.5
GF40DO	40	28	53	35	100	69	119	0.6	7	99	260	2.4
GF45DO	45	32	60	40	110	77	132	0.6	7	127	329	3.4
GF50DO	50	35	66	40	123	88	149.5	0.6	6	156	376	4.4
GF60DO	60	44	80	50	140	100	170	1	6	245	490	7.1
GF70DO	70	49	92	55	164	115	197	1	6	313	636	10
GF80DO	80	55	105	60	180	141	231	1	6	400	705	15

SPHERICAL PLAIN BEARINGS

Hydraulic Cylinger

GK..CK

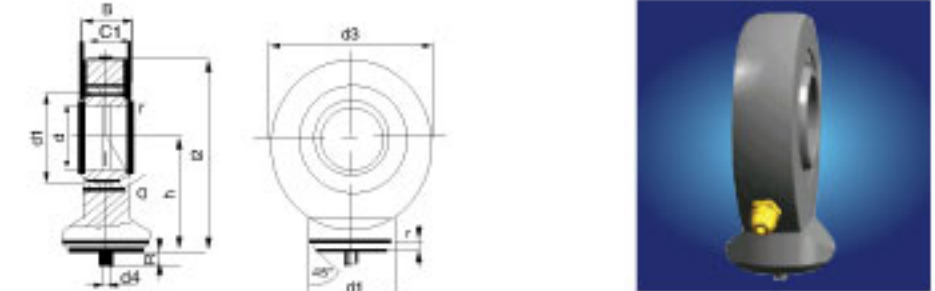


Bearing No.	Boundary Dimensions (mm)											Load Ratings (KN)	
	d	B	dK	C1 (max)	d2 (max)	h1	G 6H	L3 (min)	L4 (max)	d4 (max)	d6 (max)	Dynamic (Cr)	Static (Cor)
GK12CK	12	12	18	10.5	32	38	M12 x 1.25	17	54	16	32	10	15
GK16CK	16	16	23	13	40	44	M14 x 1.5	19	64	21	40	17	24
GK20CK	20	20	29	17	47	52	M16 x 1.5	23	75.5	25	47	30	36
GK25CK	25	25	35.5	21	58	65	M20 x 1.5	29	94	30	54	48	57
GK32CK	32	32	43	27	70	80	M27 x 2	37	115	38	66	65	81
GK40CK	40	40	53	32	89	97	M33 x 2	46	141.5	47	80	99	156
GK50CK	50	50	66	40	108	120	M42 x 2	57	174	58	96	156	250
GK63CK	63	63	83	52	132	140	M48 x 2	64	206	70	114	253	343
GK80CK	80	80	105	66	168	180	M64 x 3	86	264	90	148	400	560
GK100CK	100	100	130	84	210	210	M80 x 3	96	315	110	178	607	960

SPHERICAL PLAIN BEARINGS

Hydraulic Cylinger

GK..DO

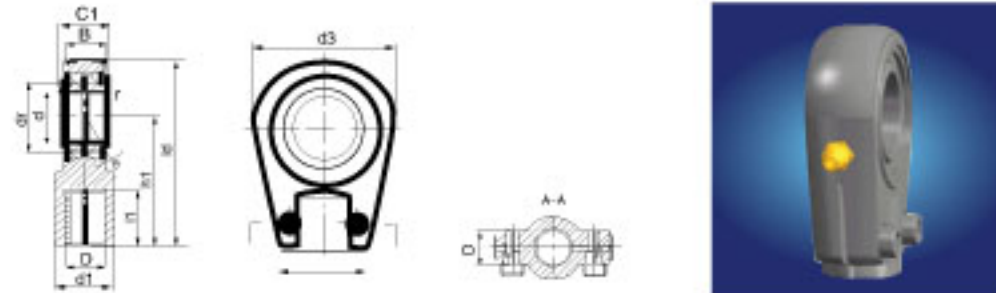


Bearing No.	Boundary Dimensions (mm)											Load Ratings (KN)	
	d	B	dK	C1 (max)	d2 (max)	h	L2 (max)	d5 (max)	d6	e	α°	Dynamic (Cr)	Static (Cor)
GK10DO	10	9	16	7	29	24	38.5	15	3	2	12	8.1	15
GK12DO	12	10	18	8	34	27	44	17.5	3	2	10	10	20
GK15DO	15	12	22	10	40	31	51	21	4	2.5	8	16	24
GK17DO	17	14	25	11	46	35	58	24	4	2.5	10	21	31
GK20DO	20	16	29	13	53	38	64.5	27.5	4	2.5	9	30	42
GK25DO	25	20	35.5	17	64	45	77	33.5	4	3	7	48	66
GK30DO	30	22	40.7	19	73	51	87.5	40	4	3	6	62	87
GK35DO	35	25	47	21	82	61	102	47	4	3	6	79	99
GK40DO	40	28	53	23	92	69	115	52	4	4	7	99	122
GK45DO	45	32	60	27	102	77	128	58	6	5	7	127	160
GK50DO	50	35	66	30	112	88	144	62	6	5	6	156	193
GK60DO	60	44	80	38	135	100	167.5	70	6	5	6	245	294
GK70DO	70	49	92	42	160	115	195	80	6	6	6	313	406
GK80DO	80	55	105	47	180	141	231	95	6	6	6	400	494

SPHERICAL PLAIN BEARINGS

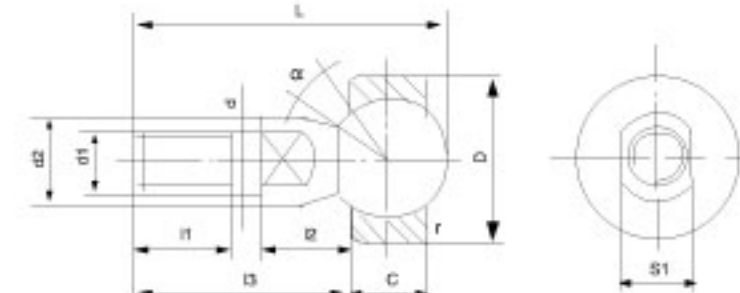
Hydraulic Cylinder

GK..NK



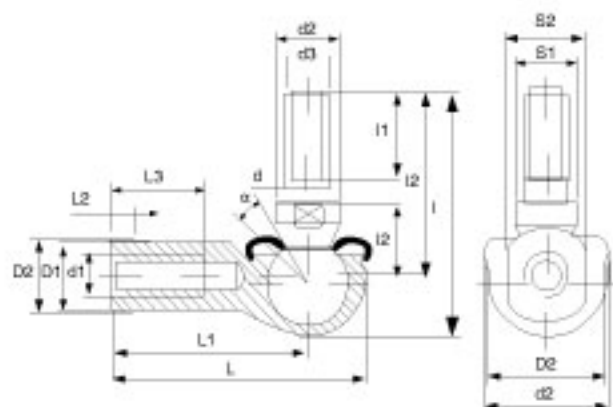
Bearing No.	Boundary Dimensions (mm)												
	d	B	dK	C1 (max)	d2 (max)	h1	G 6H	L3 (min)	L4 (max)	d4 (max)	d6 (max)	rs (min)	$\alpha^\circ \approx$
GK20NK	20	16	29	19	56	50	M16 x 1.5	17	78	25	36	0.3	9
GK25NK	25	20	35.5	23	56	50	M16 x 1.5	17	78	25	36	0.6	7
GK30NK	30	22	40.7	28	64	60	M22 x 1.5	23	92	32	40	0.6	6
GK35NK	35	25	47	30	78	70	M28 x 1.5	29	109	40	50	0.6	6
GK40NK	40	28	53	35	94	85	M35 x 1.5	36	132	49	60	0.6	7
GK50NK	50	35	66	40	116	105	M45 x 1.5	46	163	61	72	0.6	6
GK60NK	60	44	80	50	130	130	M58 x 1.5	59	195	75	90	1	6
GK70NK	70	49	92	55	154	150	M65 x 1.5	66	227	86	100	1	6
GK80NK	80	55	105	60	176	170	M80 x 2	81	258	102	125	1	6
GK100NK	100	70	130	70	230	235	M110 x 2	111	350	138	166	1	7

BALL JOINT ROD ENDS



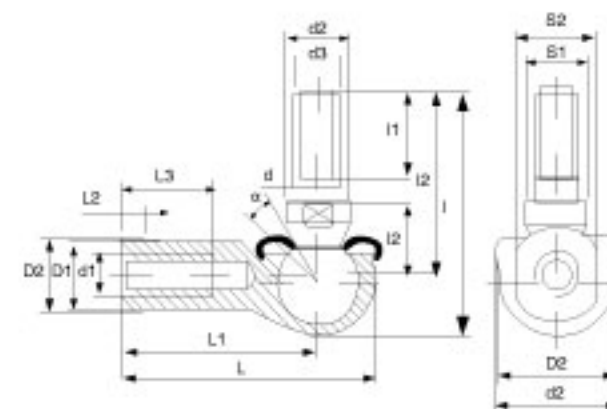
Bearings number	Dimensions mm											Static load ratings kN	$\alpha^\circ \approx$	Weight =kg
	d	d1	d2	l1	l2	l3 max	L max	S1	C	D	rs min			
SOD5	5	M5	9	8	8	19	27.5	7	6	16	0.3	2	25	0.014
SOD6	6	M6	10	11	8.8	23.8	33.5	8	6.75	18	0.3	3.2	25	0.021
SOD8	8	M8	12	12	11.6	28.6	41	10	9	22	0.3	5.7	25	0.042
SOD10	10	M10*1.25	14	15	14.2	34.2	49	11	10.5	26	0.3	9.2	25	0.067
SOD12	12	M12*1.25	17	17	15.1	38.1	55.1	15	12	30	0.5	14	25	0.108
SOD14	14	M14*1.5	19	22	16.8	51.3	70.7	17	13.5	34	0.5	19	20	0.167
SOD16	16	M16*1.5	22	23	18	54.5	76.3	19	15	38	0.5	26	20	0.238

BALL JOINT ROD ENDS



Bearings number	Dimensions mm																Load ratings KN Static load ratings kN	α°	Weight ≈ kg
	d	d1	d2 min	d3 max	l1 min	l2	S1	L max	L1	L2 max	L3 min	D1 max	D2 max	D3 max	S2				
SQZ5-RS	5	M5	9	20	8	11	7	46	24	4	12	9	11	17	9	2.8	15	0.025	
SQZ6-RS	6	M6	10	20	11	12.2	8	55.2	28	5	15	10	13	20	11	3.7	15	0.041	
SQZ8-RS	8	M8	12	24	12	16	10	65	32	5	16	12.5	16	24	14	5.8	15	0.075	
SQZ10-RS	10	M10*1.25	14	30	15	19.5	11	74.5	35	6.5	18	15	19	28	17	8.4	15	0.12	
SQZ12-RS	12	M12*1.25	17	32	17	21	15	84	40	6.5	20	17.5	22	32	19	11	15	0.18	
SQZ14-RS	14	M14*1.5	19	38	22	23.5	17	103	45	8	25	20	25	36	22	15	11	0.27	
SQZ16-RS	16	M16*1.5	22	44	23	25.5	19	112	50	8	27	22	27	40	22	15	11	0.36	
SQZ18-RS	18	M18*1.5	23	45	25	31	20	130.5	58	10	32	25	31	45	27	19	11	0.54	
SQZ20-RS	20	M20*1.5	27	50	25	29	24	133	63	10	38	27.5	34	45	30	19	7.5	0.57	
SQZ22-RS	22	M22*1.5	27	52	26	33	24	145	70	12	43	30	37	50	32	23	7.5	0.76	

BALL JOINT ROD ENDS



Bearings number	Dimensions mm																Load ratings KN Static load ratings kN	α°	Weight ≈ kg	
	d	d1	d2 min	d3 max	l max	l1 min	l2	l3 max	S1	L max	L1	L2 max	L3 min	D1 max	D2 max	D3 max				S2
SQ5-RS	5	M5	9	20	29	8	10	21	7	35	27	4	14	9	11	17	9	2.2	25	0.026
SQ6-RS	6	M6	10	20	35.5	11	11	26	8	40	30	5	14	10	13	20	11	3.5	25	0.039
SQ8-RS	8	M8	12	24	42.5	12	14	31	10	48	36	5	17	12.5	16	24	14	6.6	25	0.068
SQ10-RS	10	M10*1.25	14	30	50.5	15	17	37	11	57	43	6.5	21	15	19	28	17	10	25	0.112
SQ12-RS	12	M12*1.25	17	32	57.5	17	19	42	15	66	50	6.5	25	17.5	22	32	19	16	25	0.164
SQ14-RS	14	M14*1.5	19	38	73.5	22	21.5	56	17	75	57	8	26	20	25	36	22	19	25	0.254
SQ16-RS	16	M16*1.5	22	44	79.5	23	23.5	60	19	84	64	8	32	22	27	40	22	26	20	0.336
SQ18-RS	18	M18*1.5	23	45	90	25	26.5	68	20	93	71	10	34	25	31	45	27	33	20	0.464
SQ20-RS	20	M20*1.5	27	50	90	25	27	68	24	99	77	10	35	27.5	34	45	30	45	20	0.538
SQ22-RS	22	M22*1.5	27	52	95	26	28	70	24	109	84	12	41	30	37	50	32	48	16	0.713

LINER BALL BEARING



Seal Type	Ball Circuit	Open Type	Ball Circuit	Adjustable type	Ball Circuit	dr	D	L	B	W	D1	h	h1	e
LM4UU	4			LM4UUAJ	4	4	8	12				1		
LM5UU	4			LM5UUAJ	4	5	10	15	10.2	1.1	9.6	1		
LM6UU	4			LM6UUAJ	4	6	12	19	13.5	1.1	11.5	1		
LM8SUU	4			LM8SUUAJ	4	8	15	17	11.5	1.1	14.3	1		
LM8UU	4			LM8UUAJ	4	8	16	24	17.5	1.1	14.3	1		
LM10UU	4			LM10UUAJ	4	10	19	29	22	1.3	18	1	6.8	80o
LM12UU	4			LM12UUAJ	4	12	21	30	23	1.3	20	1.5	8	80o
LM13UU	4			LM13UUAJ	4	13	23	32	23	1.3	22	1.5	9	80o
LM16UU	5	LM16UUOP	4	LM16UUAJ	5	16	28	37	26.5	1.6	27	1.5	11	60o
LM20UU	6	LM20UUOP	4	LM20UUAJ	5	20	32	42	30.5	1.6	30.5	1.5	11	50o
LM25UU	6	LM25UUOP	5	LM25UUAJ	6	25	40	59	41	1.85	38	2	12.5	50o
LM30UU	6	LM30UUOP	5	LM30UUAJ	6	30	45	64	44.5	1.85	43	2.5	15	50o
LM35UU	6	LM35UUOP	5	LM35UUAJ	6	35	52	70	49.5	2.1	49	2.5	17	50o
LM40UU	6	LM40UUOP	5	LM40UUAJ	6	40	60	80	60.5	2.1	57	3	20	50o
LM50UU	6	LM50UUOP	5	LM50UUAJ	6	50	80	100	74	2.6	76.5	3	25	50o
LM60UU	6	LM60UUOP	5	LM60UUAJ	6	60	90	110	81	3.15	86.5	3	30	50o

LINER BALL BEARING

Seal Type	Ball Circuit	Open Type	Ball Circuit	Adjustable type	Ball Circuit	dr	D	L	B	W	D1	h	h1	e
LME5UU	4			LME5UUAJ	4	5	12	22	14.5	1.1	11.5	1		
LME8UU	4			LME8UUAJ	4	8	16	25	16.5	1.1	15.2	1		
LME12UU	4			LME12UUAJ	4	12	22	32	22	1.3	21	1.5	7.5	78o
LME16UU	5	LME16UUOP	4	LME16UUAJ	5	16	26	36	24.9	1.3	24.9	1.5	10	78o
LME20UU	6	LME20UUOP	4	LME20UUAJ	5	20	32	45	31.5	1.6	30.3	2	10	60o
LME25UU	6	LME25UUOP	5	LME25UUAJ	6	25	40	58	44.1	1.85	37.5	2	12.5	60o
LME30UU	6	LME30UUOP	5	LME30UUAJ	6	30	47	68	52.1	1.85	44.5	2	12.5	50o
LME40UU	6	LME40UUOP	5	LME40UUAJ	6	40	62	80	60.6	2.15	59	3	16.8	50o
LME50UU	6	LME50UUOP	5	LME50UUAJ	6	50	75	100	77.6	2.65	72	3	21	50o
LME60UU	6	LME60UUOP	5	LME60UUAJ	6	60	90	125	102	3.15	86.5	3	27.2	54o

Seal Type	Dimensions (mm)			Load Capacity (N)		Mass
	d	D	B	Dyn.	Stat.	g
KH 0622	6	12	22	400	239	7
KH 0824	8	15	24	435	280	12
KH 1026	10	17	26	500	370	14.5
KH 1228	12	19	28	620	510	18.5
KH 1428	14	21	28	620	520	20.5
KH 1630	16	24	30	800	620	27.5
KH 2030	20	28	30	950	790	32.5
KH 2540	25	35	40	1990	1670	66
KH 3050	30	40	50	2800	2700	95
KH 4060	40	52	60	4400	4450	182
KH 5070	50	62	70	5500	6300	252