

igus[®]



igubal[®] Rod Ends



igubal® Spherical Bearings Rod Ends Overview



**KBRI
KBLI**
Inner Thread
• inch

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K Series



**EBRI
EBLI**
Inner Thread
• inch

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E Series



**KBRM
KBLM**
Inner Thread
• metric
Also available:
Metal sleeve

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K Series



KBRM CL
Inner Thread
• metric

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K Series



**KCRM
KCLM**
Inner Thread
• metric

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K Series



**EBRM
EBLM**
Inner Thread
• metric

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E Series



**EBRM HT
EBLM HT**
Inner Thread
• metric

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E Series



KARI/KALI
Outer Thread
• inches

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K Series



**KARM
KALM**
Outer Thread
• metric
Also available:
Metal sleeve

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K Series



KARM CL
Outer Thread
• metric

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K Series



**EARM
EALM**
Outer Thread
• metric

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E Series



**EARM HT
EALM HT**
Outer Thread
• metric

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E Series



**PKRM
PKLM**
Accessory
Adapter Bolt

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K Series



**WGRM
WGLM**
Accessory
Ball & Socket Joint
Elbow

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**WGRM-LC
WGLM-LC**
Accessory

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**AGRM
AGLM**
Accessory
Ball & Socket Joint
Axial

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**AGRM-LC
AGLM-LC**
Accessory

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Typical industries and applications

- Industrial
- Machine building
- Industrial
- Packaging etc.



Bicycles



Textile industry



Packaging industry



Offshore industry



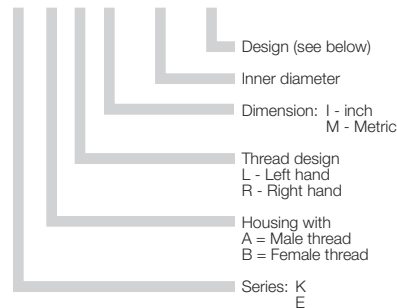
Product Range

- Standard Styles:
Dimensional Series E
Dimensional Series K
- Type A - with outer threads
- Type B - with inner threads
- For shaft diameters:
Inch sizes from 3/16 - 1 in.
Metric sizes from 2 - 30 mm

Part Number Structure

Part Number Structure

K B R I - 10 - MH



Design codes:

- CL = 2nd generation - only K series offering ability to change spherical ball material
- F = fine thread pitch
- HT = high temperature
- MH = with metal sleeve
- J = with spherical ball made from iglide® J
- J4 = with spherical ball made from iglide® J4
- R = with spherical ball made from iglide® R
- X = with spherical ball made from iglide® X
- EK = with stainless steel ball

The example given is the number for a rod end bearing of the dimensional series K with metric inner-right threading. The inner diameter of the spherical ball is 10 mm. It is a special design with a metal sleeve.

For the most part, the thread diameter of the bolt corresponds to the inner diameter — here it is M10. However, please pay attention to the following tables.

*The E series bearing is slightly thinner and costs less than its K series counterpart.

Usage Guidelines



- If a lightweight option is preferred
- In rotating, oscillating and linear movements
- If vibration dampening is desired
- If quiet operation is desired
- If corrosion resistance is required
- If chemical resistance is required
- If high rigidity is needed



- If temperatures are higher than +194°F
➤ HT version
- If rotation speeds are above 100 fpm
- If the ball is rotating and not the shaft in the ball
- If extreme tensile loads are present
- If dimensions above 1" or 30mm are necessary

The dimensional series K is available in inch dimensions, as well as a special version containing a stainless steel sleeve in the inner race. This allows a significantly higher torque than for the standard plastic race. Please ask us about quantities, availability and pricing.

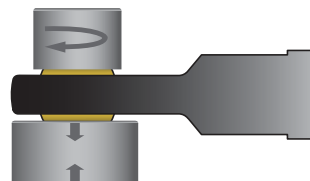
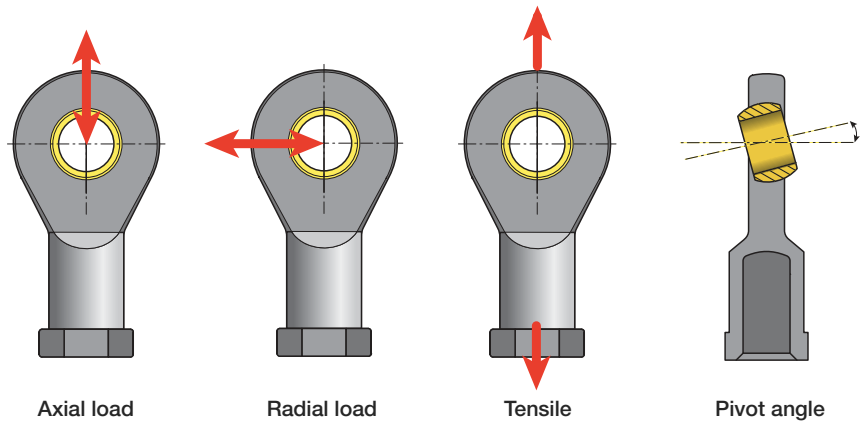


Advantages

- Maintenance-free
- High strength under impact loads
- Very high tensile strength for varying loads
- Compensation for alignment errors
- Compensation for edge loads
- Resistant to dirt, dust and lint
- Resistant to corrosion and chemicals
- High vibration dampening capacity
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional series K and E, dimensions according to standard DIN ISO 12240

Recommended Shaft Tolerances

Inch	Shaft		Metric	Shaft	
	Min.	Max.		Min.	Max.
3/16	0.1888	0.1900	2mm	1.975	2.000
1/4	0.2485	0.2500	3mm	2.975	3.000
5/16	0.3110	0.3125	5mm	4.970	5.000
3/8	0.3735	0.3750	6mm	5.970	6.000
7/16	0.4358	0.4375	8mm	7.964	8.000
1/2	0.4983	0.5000	10mm	9.964	10.000
5/8	0.6235	0.6250	12mm	11.957	12.000
3/4	0.7479	0.7500	16mm	15.957	16.000
1	0.9980	1.0000	20mm	19.948	20.000

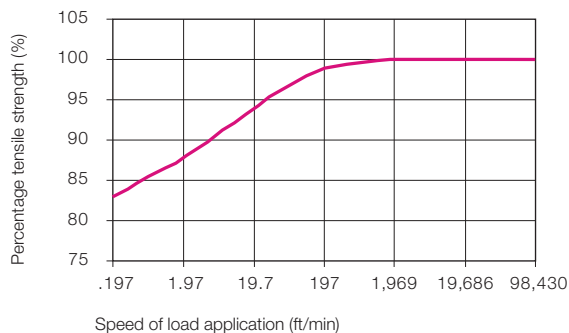


Maximum torque through ball



Loads

igubal® rod end bearings handle high loads at normal room temperatures, have excellent dampening properties and weigh only a fifth of traditional metallic rod end bearings. In applications with high continuous loads and high temperatures, the loading capacity of igubal® rod end bearings should be tested in an experiment that duplicates the application. See page 28.4 for load diagram.



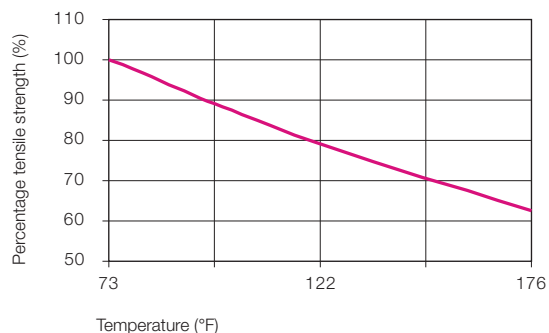
Effect of the speed of load application on the maximum tensile strength of igubal® rod end bearings

Coefficients of Friction and Speed

One important advantage of igubal® spherical bearings is that rapid, rotary movements of a mounted shaft take place directly in the spherical portion. In metallic rod ends, rotary motion takes place between the race and the spherical bearing. High speeds can be achieved with igubal® bearings.

igubal® bearings are used in such a way that the angular movements of the spherical bearings take place at the spherical outer diameter. In contrast, rotations of the shaft are supported directly in the inner diameter of the spherical portion. The advantage, therefore, lies in the plastic vs. steel relationship. Plastic produces lower friction and permits high speeds, even when running dry.

The maintenance-free igubal® bearing system is also suited for linear and oscillating shaft movements.



Effect of the temperature on the maximum tensile strength of igubal® rod end bearings

Tolerances

igubal® rod end bearings can be used at different tolerances depending on the individual application. As a standard program, they are designed with a large amount of bearing clearance, which permits secure operation even at high rotational speeds. The bore of the inner race is produced within a standard tolerance range. Shafts should also meet recommended tolerances. Please contact us with any questions regarding tolerances.

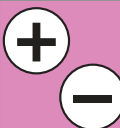
► Tolerance Table, Page 1.14



igubal® rod end bearings in the closing mechanism of an outdoor security gate

Thread Name	Pitch (mm)
M 2	0.40
M 3	0.50
M 4	0.70
M 5	0.80
M 6	1.00
M 8	1.25
M 10	1.50
M 10 F	1.25
M 12	1.75
M 12 F	1.25
M 14	2.00
M 16	2.00
M 16 F	1.50
M 18	1.50
M 20	2.50
M 20 M 20	1.50
M 22	1.50
M 24	2.00
M 27	2.00
M 30	2.00

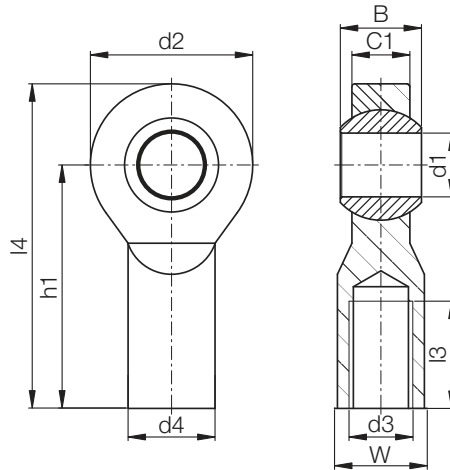
Thread pitches of the igubal® rod end bearings





igubal® Spherical Bearings Rod Ends - inch - KBRI / KBLI

igubal® Rod Ends



Material:
Housing - igumid G
Ball - iglide® L280
See Section 40 for ball material information

Dimensions (inch)

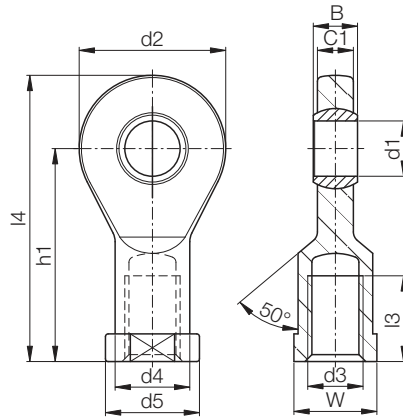
Part No. Right thread	Part No. Left thread	d1 (E10)	d2	d3	d4	C1	B	h1	L3	L4	W
KBRI-03	KBLI-03	.1900	.625	10-32	.406	.246	.312	1.062	.500	1.374	.312
KBRI-04	KBLI-04	.2500	.750	1/4-28	.469	.272	.365	1.312	.687	1.687	.375
KBRI-05	KBLI-05	.3125	.875	5/16-24	.500	.340	.437	1.375	.687	1.813	.437
KBRI-06	KBLI-06	.3750	1.000	3/8-24	.687	.394	.500	1.625	.812	2.125	.562
KBRI-07	KBLI-07	.4375	1.125	7/16-20	.750	.456	.562	1.812	.937	2.374	.625
KBRI-08	KBLI-08	.5000	1.312	1/2-20	.875	.487	.625	2.125	1.062	2.781	.750
KBRI-10	KBLI-10	.6250	1.500	5/8-18	1.000	.545	.750	2.500	1.375	3.250	.875
KBRI-12	KBLI-12	.7500	1.750	3/4-16	1.125	.676	.875	2.875	1.562	3.750	1.000
KBRI-16	KBLI-16	1.0000	2.750	1-12	1.625	1.000	1.375	4.125	2.125	5.500	1.500

Load Data

Part No. Right thread	Part No. Left thread	Maximum static Tensile Strength		Maximum Radial Load		Minimum Thread Depth (inch)	Maximum Torque Thread Strength ft lbs • force
		Short-term (lbs)	Long-term (lbs)	Short-term (lbs)	Long-term (lbs)		
KBRI-03	KBLI-03	203	102	67	34	.350	1.47
KBRI-04	KBLI-04	248	124	90	45	.480	3.68
KBRI-05	KBLI-05	383	192	112	56	.480	4.42
KBRI-06	KBLI-06	450	225	225	112	.568	5.16
KBRI-07	KBLI-07	518	259	270	135	.655	13.27
KBRI-08	KBLI-08	585	293	337	169	.743	16.96
KBRI-10	KBLI-10	1103	551	382	191	.962	22.12
KBRI-12	KBLI-12	1260	630	517	259	1.093	29.50
KBRI-16	KBLI-16	1349	674	584	293	1.488	33.92

Right thread	Left thread	Maximum Angle of Pivot	Weight (g)
KBRI-03	KBLI-03	25°	3.3
KBRI-04	KBLI-04	25°	5.1
KBRI-05	KBLI-05	25°	7.1
KBRI-06	KBLI-06	22°	12.6
KBRI-07	KBLI-07	22°	16.1
KBRI-08	KBLI-08	22°	26.5
KBRI-10	KBLI-10	22°	38.7
KBRI-12	KBLI-12	22°	54.4
KBRI-16	KBLI-16	20°	197.5

igubal® Spherical Bearings Rod Ends - inch - EBRI / EBLI



Material:

Housing - igumid G
Ball - iglide® L280

Also available:
iglide® R, iglide® J and iglide® J4
See Section 40 for ball material information

igubal® Rod Ends

Dimensions (inch)

Part No. Right thread	Part No. Left thread	d1 (E10)	d2	d3	d4	d5	C1	B	h1	l3	l4	W	Max. Angle of Pivot
EBRI-03	EBLI-03	0.1900	0.748	10-32	0.3543	0.4331	0.1732	0.1900	1.1811	0.4724	1.5551	0.35	30°
EBRI-04	EBLI-04	0.2500	0.827	1/4-28	0.4331	0.5118	0.1732	0.2500	1.1811	0.4724	1.5945	0.43	25°
EBRI-05	EBLI-05	0.3125	0.945	5/16-24	0.5118	0.6299	0.2362	0.3125	1.4173	0.6299	1.8898	0.55	22°
EBRI-06	EBLI-06	0.3750	1.142	3/8-24	0.5906	0.7480	0.2756	0.3750	1.6929	0.7087	2.2638	0.67	22°
EBRI-07	EBLI-07	0.4375	1.339	7/16-20	0.7087	0.8661	0.3150	0.4063	1.9685	0.7874	2.6378	0.75	18°
EBRI-08	EBLI-08	0.5000	1.339	1/2-20	0.7087	0.8661	0.3150	0.4063	1.9685	0.7874	2.6378	0.75	18°
EBRI-10	EBLI-10	0.6250	1.693	5/8-18	0.8270	1.0230	0.4134	0.5000	2.5394	1.0433	3.3858	0.87	16°
EBRI-12	EBLI-12	0.7500	2.087	3/4-16	1.0630	1.3386	0.5118	0.6250	3.0315	1.2205	4.0748	1.18	14°

Load Data

Part No. Right thread	Part No. Left thread	Max. static Tensile Strength		Max. Cross Force		Min. Thread Depth (inch)	Max. Torque Strength Outer thread (ft•lbs)	Max. Torque Strength Through Ball (ft•lbs)	Weight (g)
		Short-term (lbs)	Long-term (lbs)	Short-term (lbs)	Long-term (lbs)				
EBRI-03	EBLI-03	292	146	34	17	.315	1.48	1.5	3.1
EBRI-04	EBLI-04	337	168	45	22	.315	3.68	1.8	3.8
EBRI-05	EBLI-05	449	224	101	51	.433	4.42	5.2	6.9
EBRI-06	EBLI-06	517	258	112	56	.512	5.17	10.3	11.5
EBRI-07	EBLI-07	741	370	124	62	.551	13.28	18.4	17.6
EBRI-08	EBLI-08	741	370	124	62	.551	16.96	18.4	18.1
EBRI-10	EBLI-10	1124	539	191	96	.709	22.00	22.1	31.9
EBRI-12	EBLI-12	1618	809	405	202	.866	30.00	29.5	61.5

For another spherical bearing material please add J, R or J4 to the part number; e.g. EBRI-08R

► Tolerance Table, Page 1.14





Standard Design

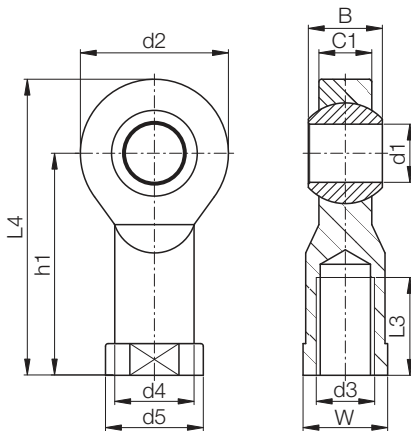


Design with Metal Sleeve (MH)

Material:

Housing - igumid G
Ball - iglide® L280, with metal sleeve

See Section 40 for ball material information



Dimensions (mm)

Right thread	Left thread	d1 E10	d2	d3	d4	d5	C1	B	h1	L3	L4	W
KBRM-02	KBLM-02	2	9	M02	4.0	4.6	3.0	4	12.5	6	17	SW04
KBRM-03	KBLM-03	3	13	M03	6.5	8.0	4.5	6	18.5	8	25	SW07
KBRM-05 M4	KBLM-05 M4	5	18	M04	9.0	12.0	6.0	8	27	10	36	SW09
KBRM-05	KBLM-05	5	18	M05	9.0	12.0	6.0	8	27	10	36	SW09
KBRM-06	KBLM-06	6	20	M06	10.0	13.0	7.0	9	30	12	40	SW11
KBRM-08	KBLM-08	8	24	M08	13.0	16.0	9.0	12	36	16	48	SW14
KBRM-10	KBLM-10	10	30	M10	15.0	19.0	10.5	14	43	20	58	SW17
KBRM-10 F	KBLM-10 F	10	30	M10x1.25	15.0	19.0	10.5	14	43	20	58	SW17
KBRM-12	KBLM-12	12	34	M12	18.0	22.0	12.0	16	50	22	67	SW19
KBRM-12 F	KBLM-12 F	12	34	M12x1.25	18.0	22.0	12.0	16	50	22	67	SW19
KBRM-14	KBLM-14	14	38	M14	20.0	25.0	13.5	19	57	25	76	SW22
KBRM-16	KBLM-16	16	42	M16	22.0	27.0	15.0	21	64	28	85	SW22
KBRM-16 F	KBLM-16 F	16	42	M16x1.5	22.0	27.0	15.0	21	64	28	85	SW22
KBRM-18	KBLM-18	18	46	M18x1.5	25.0	31.0	16.5	23	71	32	94	SW27
KBRM-20	KBLM-20	20	50	M20x2.5	28.0	34.0	18.0	25	77	33	102	SW30
KBRM-20 M20	KBLM-20 M20	20	50	M20x1.5	28.0	34.0	18.0	25	77	33	102	SW30
KBRM-22	KBLM-22	22	56	M22x1.5	30.0	37.0	20.0	28	84	37	112	SW32
KBRM-25	KBLM-25	25	60	M24x2.0	32.0	41.0	22.0	31	94	42	124	SW36
KBRM-30	KBLM-30	30	70	M30x2.0	37.0	50.0	25.0	37	110	51	145	SW41

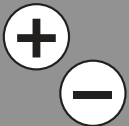
Rod end bearings can be ordered in metric dimensions with metal sleeve with the addition of MH after the part numbers listed here
Example: KBRM-10 MH



Load Data

Part No. Right thread	Part No. Left thread	Max. static Tensile Strength		Max. Radial Load		Min. Thread Depth (mm)	Max. Torque Strength Inner thread (ft•lbs)	Max. Torque Strength	
		Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)			Standard (ft•lbs)	MH (ft•lbs)
KBRM-02	KBLM-02	134	67	13	6	4	.22	.74	1.5
KBRM-03	KBLM-03	179	89	22	11	5	.37	1.5	3.0
KBRM-05 M4	KBLM-05 M4	224	112	56	28	7	.55	3.7	8.9
KBRM-05	KBLM-05	224	112	56	28	7	.74	3.7	8.9
KBRM-06	KBLM-06	314	157	89	44	8	1.10	7.4	11.1
KBRM-08	KBLM-08	472	236	157	78	11	7.4	8.9	29.5
KBRM-10	KBLM-10	696	348	179	89	13	11.1	14.8	36.9
KBRM-10 F	KBLM-10 F	696	348	179	89	13	4.4	14.8	36.9
KBRM-12	KBLM-12	809	404	202	101	15	14.8	22.1	51.6
KBRM-12 F	KBLM-12 F	809	404	202	101	15	11.1	22.1	51.6
KBRM-14	KBLM-14	899	449	224	112	17	18.4	25.8	55.3
KBRM-16	KBLM-16	944	472	292	146	19	22.1	29.5	81.1
KBRM-16 F	KBLM-16 F	944	472	292	146	19	20.3	29.5	81.1
KBRM-18	KBLM-18	1034	517	359	179	21	33.2	33.2	110.6
KBRM-20	KBLM-20	1213	606	472	236	22	59.0	40.6	147.5
KBRM-20 M20	KBLM-20 M20	1213	606	472	236	22	44.3	40.6	147.5
KBRM-22	KBLM-22	1573	786	494	247	25	55.3	44.3	166.0
KBRM-25	KBLM-25	1910	955	517	258	28	88.5	44.3	191.8
KBRM-30	KBLM-30	2360	1180	562	281	34	99.5	44.3	221.3

Part No. Right thread	Part No. Left thread	Maximum Angle of Pivot	Weight (g)
KBRM-02	KBLM-02	30°	0.4
KBRM-03	KBLM-03	30°	2.7
KBRM-05 M4	KBLM-05 M4	30°	3.5
KBRM-05	KBLM-05	30°	3.4
KBRM-06	KBLM-06	29°	4.7
KBRM-08	KBLM-08	25°	8.6
KBRM-10	KBLM-10	25°	14.6
KBRM-10 F	KBLM-10 F	25°	14.6
KBRM-12	KBLM-12	25°	22.0
KBRM-12 F	KBLM-12 F	25°	22.0
KBRM-14	KBLM-14	23°	30.9
KBRM-16	KBLM-16	23°	39.6
KBRM-16 F	KBLM-16 F	23°	39.6
KBRM-18	KBLM-18	23°	55.0
KBRM-20	KBLM-20	23°	73.5
KBRM-20 M20	KBLM-20 M20	23°	73.5
KBRM-22	KBLM-22	22°	94.8
KBRM-25	KBLM-25	22°	119.8
KBRM-30	KBLM-30	22°	177.0



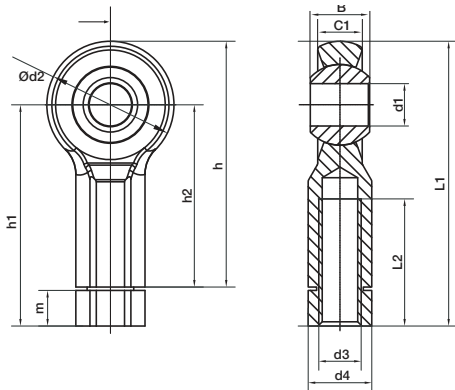


igubal® Spherical Bearings Rod Ends - mm - KBRM CL

igubal® Rod Ends



Material:
Housing - igumid G
Ball - iglide® L280
Also available:
iglide® J, iglide® J4, iglide® R,
with metal sleeve
**See Section 40 for ball
material information**



Simple assembly due to the hexagonal body and the integrated lock nut.

Dimensions (mm)

Part No.	d1 (E10)	d2	d3	d4	B	C1	h	h1	h2	L2	L1	Max. pivot angle
KBRM-06 CL	6	20	M06	SW10	9	7	40	5,7	30	20	46.5	40°
KBRM-08 CL	8	24	M08	SW13	12	9	48	7,5	36	25	56.3	35°
KBRM-10 CL	10	30	M10	SW15	14	10.5	58	52.2	43	30	67.2	35°

► Tolerance Table, Page 1.14

Load Data

Part No.	Maximum static tensile strength		Maximum radial load		Minimum thread depth (mm)	Max. torque strength outer thread (ft•lbs)	Max. torque through Ball		Weight (g)
	Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)			standard (ft•lbs)	MH (ft•lbs)	
KBRM-06 CL	315	158	90	45	8	1.106	7.376	11.060	4.5
KBRM-08 CL	473	236	158	79	11	7.376	8.851	29.500	8.6
KBRM-10 CL	698	349	180	90	13	11.060	14.750	36.880	14.1

For rod end bearings with metal sleeve please add **MH** to the part number, e.g. KBRM-10 CL **MH**.

For another spherical bearing material please add **J, J4, or R** to the part number, e.g. KBRM-10 CL **J**.



Special properties

- Available with metal sleeve for higher torque strength

Material:

Housing - igumid G

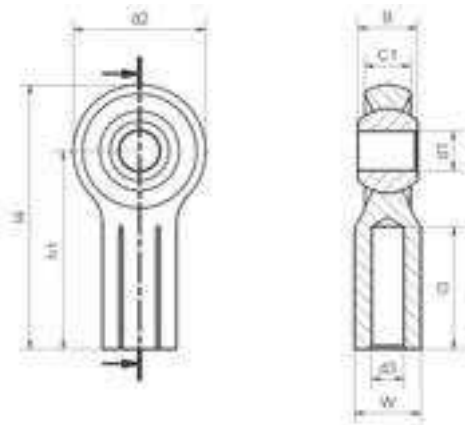
Ball - iglide® L280

Also available:

iglide® J, iglide® J4, iglide® R,
with metal sleeve

**See Section 40 for ball
material information**

igubal® Rod Ends



Dimensions (mm)

Part No. Right thread	Part No. Left thread	d1 (E10)	d2	d3	W	B	C1	h1	L3	L4	Max. pivot angle
KCRM-06	KCLM-06	6	20	M06	SW10	9	7	30	13.5	40	40°
KCRM-08	KCLM-08	8	24	M08	SW13	12	9	36	17	48	35°
KCRM-10	KCLM-10	10	30	M10	SW15	14	10,5	43	22	58	35°

► Tolerance Table, Page 1.14

Load Data

Part No. Right thread	Part No. Left thread	Maximum static tensile strength		Maximum Static radial load		Max. torque strength	Max. torque through Ball		Weight (g)
		Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)	Inner thread (ft•lbs)	Standard (ft•lbs)	MH (ft•lbs)	
KCRM-06	KCLM-06	315	156	67	34	.55	7.376	11.060	4.2
KCRM-08	KCLM-08	472	236	112	56	1.48	8.851	29.500	7.6
KBRM-10	KCLM-10	697	337	180	90	2.2	14.750	36.880	12.8

For rod end bearings with metal sleeve please add **MH** to the part number, e.g. KCRM-10 **MH**.

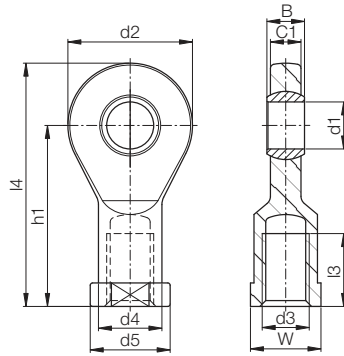
For another spherical bearing material please add **J, J4, or R** to the part number, e.g. KBRM-10 **CL J**.





igubal® Spherical Bearings Rod Ends - mm - EBRM / EBLM

igubal® Rod Ends



Material:

Housing - igumid G

Ball - iglide® L280

Also available :

iglide® R, iglide® J and iglide® J4

See Section 40 for ball material information

Dimensions (mm)

Part No. Right thread	Part No. Left thread	d1 (E10)	d2	d3	d4	d5	C1	B	h1	l3	l4	W	Max. Angle of Pivot
EBRM-04	EBLM-04	4	15	M04	8.0	9.2	3.5	5	22.5	9.5	30.0	SW08	33°
EBRM-05	EBLM-05	5	19	M05	9.0	11	4.4	6	30	12	39.5	SW09	33°
EBRM-06	EBLM-06	6	21	M06	11.0	13	4.4	6	30	12	40.5	SW11	27°
EBRM-08	EBLM-08	8	24	M08	13.0	16	6.0	8	36	16	48.0	SW14	24°
EBRM-10	EBLM-10	10	29	M10	15.0	19	7.0	9	43	18	57.5	SW17	24°
EBRM-10 F	EBLM-10 F	10	29	M10x1.25	15.0	19	7.0	9	43	18	57.5	SW17	24°
EBRM-12	EBLM-12	12	34	M12	18.0	22	8.0	10	50	20	67.0	SW19	21°
EBRM-12 F	EBLM-12 F	12	34	M12x1.25	18.0	22	8.0	10	50	20	67.0	SW19	21°
EBRM-15	EBLM-15	15	40	M14	21.0	26	10.0	12	61	26	81.0	SW22	21°
EBRM-17	EBLM-17	17	46	M16	24.0	30	11.0	14	67	27	90.0	SW27	21°
EBRM-17 F	EBLM-17 F	17	46	M16x1.5	24.0	30	11.0	14	67	27	90.0	SW27	18°
EBRM-20	EBLM-20	20	53	M20x1.5	27.0	34	13.0	16	77	31	103.5	SW30	16°
EBRM-20 M20	EBLM-20 M20	20	53	M20x2.5	27.0	34	13.0	16	77	31	103.5	SW30	16°
EBRM-25	EBLM-25	25	64	M24x2.0	34.0	41	17.0	20	94	38	126.5	SW36	16°
EBRM-30	EBLM-30	30	73	M30x2.0	41.0	48	19.0	22	110	47	146.5	SW41	13°

► Tolerance Table, Page 1.14

Load Data

Part No. Right thread	Part No. Left thread	Max. static Tensile Strength		Max. Radial Load		Min. Thread Depth (mm)	Max. Torque Strength Inner thread (ft•lbs)	Max. Torque Strength Through Ball (ft•lbs)	Weight (g)
		Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)				
EBRM-04	EBLM-04	180	90	22	11	7	.3	1.5	1.8
EBRM-05	EBLM-05	292	146	34	17	8	.4	1.5	3.2
EBRM-06	EBLM-06	337	168	45	22	8	1.1	1.8	4.0
EBRM-08	EBLM-08	449	224	101	51	11	3.7	5.2	6.9
EBRM-10	EBLM-10	517	258	112	56	13	11.1	10.3	11.2
EBRM-10 F	EBLM-10 F	517	258	112	56	13	4.4	10.3	11.2
EBRM-12	EBLM-12	741	370	124	62	14	14.8	18.4	17.1
EBRM-12 F	EBLM-12 F	741	370	124	62	14	11.1	18.4	17.1
EBRM-15	EBLM-15	1079	539	180	90	18	18.4	22.1	28.9
EBRM-17	EBLM-17	1191	595	247	124	19	22.1	25.8	42.4
EBRM-17 F	EBLM-17 F	1191	595	247	124	19	20.3	25.8	42.4
EBRM-20	EBLM-20	1618	809	405	202	22	44.3	29.5	65.8
EBRM-20 M20	EBLM-20 M20	1618	809	405	202	22	59.0	29.5	65.8
EBRM-25	EBLM-25	2248	1124	584	292	27	84.8	40.6	125.9
EBRM-30	EBLM-30	2360	1180	674	337	33	95.9	51.6	184.1

igubal® Spherical Bearings Rod Ends - mm - EBRM HT / EBLM HT

The EBRMHT / EBLM HT version is for those applications with higher temperature requirements



Special properties

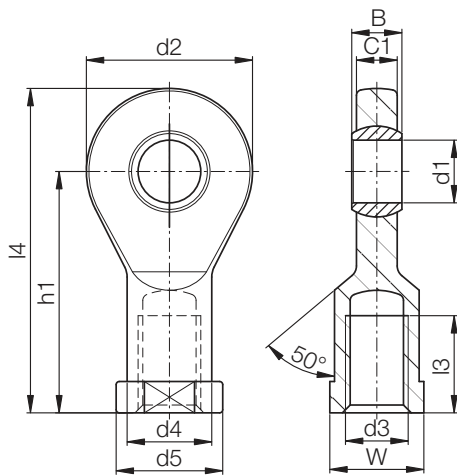
- For temperatures up to 392 °F
- Dimensional series K according to standard DIN ISO 12240

Material:

Housing - iguton G
Ball - iglide® T500

See Section 40 for ball material information

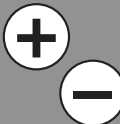
igubal® Rod Ends



Dimensions (mm)

Part No.	Part No.	d1 (E10)	d2	d3	d4	d5	C1	B	h1	l3	l4	W	Max. angle of pivot	Weight (g)
EBRM-05 HT	EBLM-05 HT	5	19	M05	9.0	11	4.4	6	30	12	39.5	SW09	33°	3.8
EBRM-06 HT	EBLM-06 HT	6	21	M06	11.0	13	4.4	6	30	12	40.5	SW11	27°	5.0
EBRM-08 HT	EBLM-08 HT	8	24	M08	13.0	16	6.0	8	36	16	48.0	SW14	24°	8.5
EBRM-10 HT	EBLM-10 HT	10	29	M10	15.0	19	7.0	9	43	18	57.5	SW17	24°	13.7
EBRM-12 HT	EBLM-12 HT	12	34	M12	18.0	22	8.0	10	50	20	67.0	SW19	21°	21.4

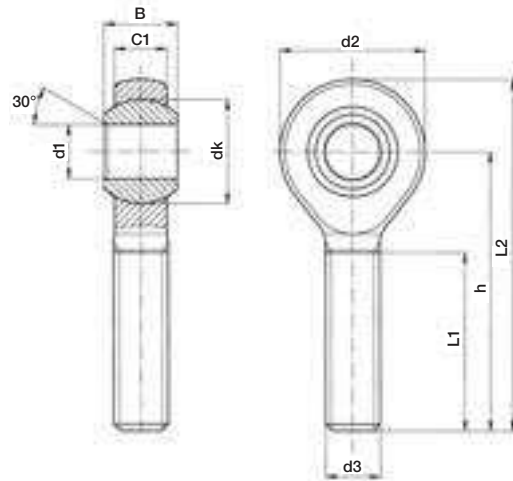
► Tolerance Table, Page 1.14





igubal® Spherical Bearings Rod Ends - inch - KARI / KALI

igubal® Rod Ends



Material:
Housing - igumid G
Ball - iglide® L280
See Section 40 for ball material information

Dimensions (inch)

Part No. Right thread	Part No. Left thread	d1 (E10)	d2	d3	C1	B	h	L1	L2	Max. Pivot angle	Weight (g)
KARI-03	KALI-03	.1900	.625	10-32	.234	.312	1.250	.750	1.563	25°	2.1
KARI-04	KALI-04	.2500	.750	1/4-28	.250	.365	1.562	1.000	1.937	25°	3.5
KARI-05	KALI-05	.3125	.875	5/16-24	.312	.437	1.875	1.250	2.313	25°	6.0
KARI-06	KALI-06	.3750	1.000	3/8-24	.359	.500	1.938	1.250	2.438	22°	8.8
KARI-07	KALI-07	.4375	1.125	7/16-20	.406	.562	2.125	1.375	2.688	22°	12.4
KARI-08	KALI-08	.5000	1.312	1/2-20	.453	.625	2.428	1.500	3.094	22°	18.5
KARI-10	KALI-10	.6250	1.500	5/8-18	.484	.750	2.625	1.625	3.375	22°	27.6
KARI-12	KALI-12	.7500	1.750	3/4-16	.593	.875	2.875	1.750	3.750	22°	42.8

► Tolerance Table, Page 1.14

Load Data

Part No. Right thread	Part No. Left thread	Maximum static Tensile Strength		Maximum Radial Load		Minimum Thread Depth (inch)	Maximum torque Strength Outer thread (ft•lbs)	Maximum Torque through ball (ft•lbs)
		Short-term (lbs)	Long-term (lbs)	Short-term (lbs)	Long-term (lbs)			
KARI-03	KALI-03	87	45	15	7	.525	.36	.37
KARI-04	KALI-04	202	101	22	11	.700	.73	.74
KARI-05	KALI-05	247	123	33	16	.875	1.47	1.48
KARI-06	KALI-06	337	168	78	39	.875	2.21	2.21
KARI-07	KALI-07	449	224	89	45	.962	4.42	4.43
KARI-08	KALI-08	562	281	101	50	1.050	6.63	6.64
KARI-10	KALI-10	786	393	134	67	1.137	8.85	8.85
KARI-12	KALI-12	876	438	224	112	1.226	18.43	18.44

igubal® Spherical Bearings Rod Ends - mm - KARM / KALM

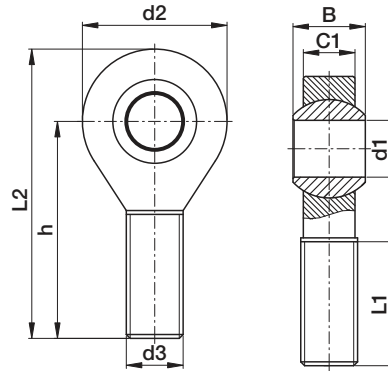


Standard Design



Design with Metal Sleeve (MH)

Rod end bearings can be ordered in metric dimensions with metal sleeve with the addition of MH after the part numbers listed here, i.e. for example: KARM-10 MH Available for delivery



Dimensions (mm)

Part No.	Part No.	d1	d2	d3	C1	B	h	L1	L2	Max. Pivot angle	Min. Thread Depth
Right thread	Left thread	(E10)									(mm)
KARM-05	KALM-05	5	18	M05	6.0	8.0	33	19	42	30°	13
KARM-06	KALM-06	6	20	M06	7.0	9.0	36	21	46	29°	15
KARM-08	KALM-08	8	24	M08	9.0	12.0	42	25	55	25°	18
KARM-10	KALM-10	10	30	M10	10.5	14.0	48	28	63	25°	20
KARM-10 F	KALM-10 F	10	30	M10 x 1.25	10.5	14.0	48	28	63	25°	20
KARM-12	KALM-12	12	34	M12	12.0	16.0	54	32	71	25°	22
KARM-12 F	KALM-12 F	12	34	M12 x 1.25	12.0	16.0	54	32	71	25°	22
KARM-14	KALM-14	14	38	M14	13.5	19.0	61	36	79	25°	25
KARM-16	KALM-16	16	42	M16	15.0	21.0	66	37	88	23°	26
KARM-16 F	KALM-16 F	16	42	M16 x 1.5	15.0	21.0	66	37	88	23°	26
KARM-18	KALM-18	18	46	M18 x 1.5	16.5	23.0	72	41	96	23°	29
KARM-20	KALM-20	20	50	M20 x 2.5	18.0	25.0	78	45	104	23°	32
KARM-20 M20	KALM-20 M20	20	50	M20 x 1.5	18.0	25.0	78	45	104	23°	32
KARM-22	KALM-22	22	56	M22 x 1.5	20.0	28.0	84	48	112	22°	34
KARM-25	KALM-25	25	60	M24 x 2.0	22.0	31.0	94	55	125	22°	39
KARM-30	KALM-30	30	70	M30 x 2.0	25.0	37.0	110	66	147	22°	46

► Tolerance Table, Page 1.14

Load Data

Part No.	Part No.	Max. Static Tensile Strength		Max. Radial Load		Max. Torque Strength	Max. Torque Strength		Shaft	
		Short-term (lbs)	Long-term (lbs)	Short-term (lbs)	Long-term (lbs)		Inner threading (ft•lbs)	Standard (ft•lbs)	MH (ft•lbs)	Min.
KARM-05	KALM-05	180	90	18	9	.3	3.7	8.8	4.970	5.000
KARM-06	KALM-06	225	112	22	11	.4	7.4	11.1	5.970	6.000
KARM-08	KALM-08	382	191	45	22	1.5	8.9	29.5	7.964	8.000
KARM-10	KALM-10	562	281	67	33	3.7	14.8	36.9	9.964	10.000
KARM-10 F	KALM-10 F	562	281	67	33	2.2	14.8	36.9	9.964	10.000
KARM-12	KALM-12	607	303	89	45	4.4	22.1	51.6	11.957	12.000
KARM-12 F	KALM-12 F	607	303	89	45	4.4	22.1	51.6	11.957	12.000
KARM-14	KALM-14	764	382	157	78	8.9	25.8	55.3	13.957	14.000
KARM-16	KALM-16	876	438	179	89	12.5	29.5	81.1	15.957	16.000
KARM-16 F	KALM-16 F	876	438	179	89	12.5	29.5	81.1	15.957	16.000
KARM-18	KALM-18	944	472	224	112	14.8	33.2	110.6	17.957	18.000
KARM-20	KALM-20	1348	674	292	146	18.4	40.6	147.5	19.948	20.000
KARM-20 M20	KALM-20 M20	1348	674	292	146	18.4	40.6	147.5	19.948	20.000
KARM-22	KALM-22	1618	809	337	168	18.4	44.3	166.0	21.948	22.000
KARM-25	KALM-25	1686	843	427	213	33.2	47.9	191.8	24.948	25.000
KARM-30	KALM-30	1978	989	517	258	62.7	51.6	221.3	29.948	30.000

For rod end bearings with metal sleeve please add **MH** to the part number, e.g. KARM-10 **MH**.

igubal® Rod Ends





igubal® Spherical Bearings Rod Ends - mm - KARM CL

igubal® Rod Ends



Special properties

- Available with metal sleeve for higher torque strength
- Left-hand thread version KALM in preparation

Material:

Housing - igumid G

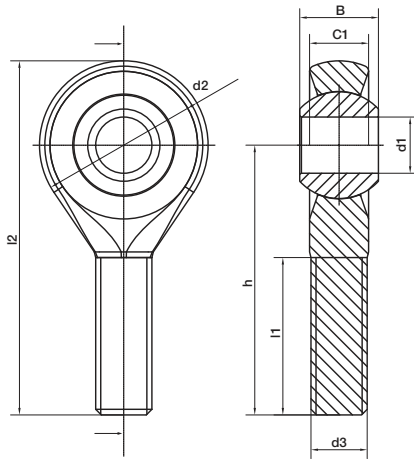
Ball - iglide® L280

Also available :

iglide® R, iglide® J and iglide® J4

or with metal sleeve

See Section 40 for ball material information



Dimensions (mm)

Part No.	d1 (E10)	d2	d3	C1	B	h	l1	l2	Max. pivot angle	Weight (g)
KARM-06 CL	6	20	M06	7.0	9.0	36	21	46	40°	3.5
KARM-08 CL	8	24	M08	9.0	12.0	42	25	55	35°	6.2
KARM-10 CL	10	30	M10	10.5	14.0	48	28	63	35°	11.2
KARM-12 CL	12	34	M12	12.0	16.0	54	32	71	35°	15.6

► Tolerance Table, Page 1.14

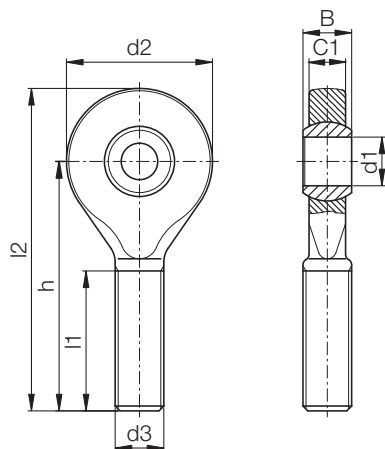
Load Data

Part No.	Maximum static tensile strength		Maximum radial load		Minimum thread depth (mm)	Max. torque strength Outer thread (ft•lbs)	Max. torque though Ball	
	Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)			Standard (ft•lbs)	MH (ft•lbs)
KARM-06 CL	225	113	22	11	15	.37	7.37	11.06
KARM-08 CL	382	191	45	22	18	1.48	8.85	29.50
KARM-10 CL	562	281	68	34	20	3.69	14.75	36.88
KARM-12 CL	607	304	90	45	22	4.43	22.13	51.63

For rod end bearings with metal sleeve please add **MH** to the part number, e.g. KABM-10 CL **MH**.

For another spherical bearing material please add **J**, or **R** to the part number, e.g. KARM-10 CL **J**.

igubal® Spherical Bearings Rod Ends - mm - EARM / EALM



Material:

Housing - igumid G

Ball - iglide® L280

Also available :

iglide® R, iglide® J and iglide® J4

See Section 40 for ball material information

igubal® Rod Ends

Dimensions (mm)

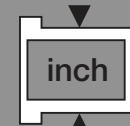
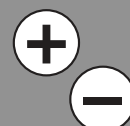
Part No. Right thread	Part No. Left thread	d1 (E10)	d2	d3	C1	B	h	l1	l2	Max. Pivot angle	Weight (g)
EARM-05	EALM-05	5	19	M05	4.4	6	36	20	45.5	33°	2.2
EARM-06	EALM-06	6	21	M06	4.4	6	36	20	46.5	27°	2.5
EARM-08	EALM-08	8	24	M08	6.0	8	41	24	53.0	24°	7.0
EARM-10	EALM-10	10	29	M10	7.0	9	47.5	27	62.0	24°	14.0
EARM-10 F	EALM-10 F	10	29	M10 x 1.25	7.0	9	47.5	27	62.0	24°	14.0
EARM-12	EALM-12	12	34	M12	8.0	10	54	29	71.0	21°	25.0
EARM-12 F	EALM-12 F	12	34	M12 x 1.25	8.0	10	54	29	71.0	21°	25.0
EARM-15	EALM-15	15	40	M14	10.0	12	63	34	83.0	21°	30.0
EARM-17	EALM-17	17	46	M16	11.0	14	69	37	92.0	21°	35.0
EARM-17 F	EALM-17 F	17	46	M16 x 1.5	11.0	14	69	37	92.0	18°	35.0
EARM-20	EALM-20	20	53	M20 x 1.5	13.0	16	80	43	106.5	16°	40.0
EARM-20 M20	EALM-20 M20	20	53	M20 x 2.5	13.0	16	80	43	106.5	16°	40.0
EARM-25	EALM-25	25	64	M24 x 2.0	17.0	20	97	53	129.0	16°	55.0
EARM-30	EALM-30	30	73	M30 x 2.0	19.0	22	113	65	149.5	13°	70.0

► Tolerance Table, Page 1.14

Load Data

Part No. Right thread	Part No. Left thread	Max. static Tensile Strength		Max. Radial Load		Min. Thread Depth (mm)	Max. Torque Strength Outer thread (ft•lbs)	Max. Torque through Ball (ft•lbs)
		Short-term (lbs)	Long-term (lbs)	Short-term (lbs)	Long-term (lbs)			
EARM-05	EALM-05	123	61	11	5	14	.3	1.5
EARM-06	EALM-06	191	95	18	9	14	.4	1.8
EARM-08	EALM-08	359	179	33	16	17	1.5	5.2
EARM-10	EALM-10	584	292	56	28	19	3.7	10.3
EARM-10 F	EALM-10 F	584	292	56	28	19	2.2	10.3
EARM-12	EALM-12	674	337	67	33	20	4.4	18.4
EARM-12 F	EALM-12 F	674	337	67	33	20	4.4	18.4
EARM-15	EALM-15	1011	505	89	45	24	9.2	22.1
EARM-17	EALM-17	1124	562	112	56	26	12.9	25.8
EARM-17 F	EALM-17 F	1124	562	112	56	26	15.5	25.8
EARM-20	EALM-20	1461	730	134	67	30	22.1	29.5
EARM-20 M20	EALM-20 M20	1461	730	134	67	30	18.4	29.5
EARM-25	EALM-25	1910	955	179	89	37	33.2	40.6
EARM-30	EALM-30	2248	1124	224	112	46	62.7	51.6

For another spherical bearing material please add **J**, or **R** to the part number, e.g. EARM-10 **J**.





igubal® Spherical Bearings Rod Ends - mm - EARM HT / EALM HT

The EARMHT / EALM HT version is for those applications with higher temperature requirements

igubal® Rod Ends



Special properties

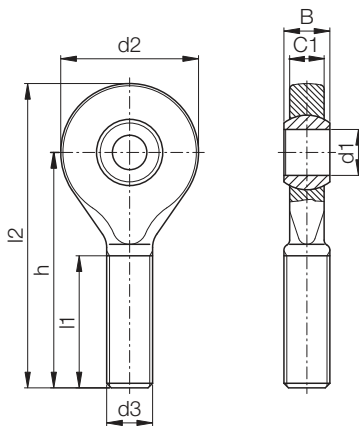
- For temperatures up to 392 °F

Material:

Housing - iguton G

Ball - iglide® T500

See Section 40 for ball material information



Dimensions (mm)

Part No. Right thread	Part No. Left thread	d1 (E10)	d2	d3	C1	B	h	l1	l2	Max. pivot angle	Weight (g)
EARM-05 HT	EALM-05 HT	5	19	M05	4.4	6	36	20	45.5	33°	2.8
EARM-06 HT	EALM-06 HT	6	21	M06	4.4	6	36	20	46.5	27°	3.4
EARM-08 HT	EALM-08 HT	8	24	M08	6.0	8	41	24	53.0	24°	6.1
EARM-10 HT	EALM-10 HT	10	29	M10	7.0	9	47.5	27	62.0	24°	10.2
EARM-12 HT	EALM-12 HT	12	34	M12	8.0	10	54	29	71.0	21°	15.7

► Tolerance Table, Page 1.14

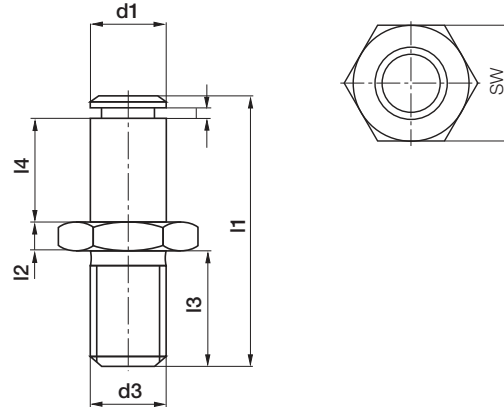
igubal® Spherical Bearings Rod End Accessories Adjusting Bolt - mm - PKRM / PKLM



Special properties

- Combined with rod end bearings of the dimensional series K
- Available in left and right threads

Material: igumid G



Dimensions (mm)

Part No.	Part No.	d1	d3	l1	l2	l3	l4	SW	Weight
Right thread	Left thread	h11 (mm)	Connection thread	Total Length (mm)	Nut Width (mm)	Thread Length (mm)	Length Adjusting Bolt (mm)	Width across Flats	(g)
PKRM-05	PKLM-05	5	M05	25.0	2.7	11.3	8.5	SW 8	0.7
PKRM-06	PKLM-06	6	M06	28.0	3.2	12.8	9.5	SW 10	1.2
PKRM-08	PKLM-08	8	M08	32.0	4.0	12.5	12.5	SW 13	2.6
PKRM-10	PKLM-10	10	M10	37.5	5.0	14.5	14.5	SW 16	4.0
PKRM-12	PKLM-12	12	M12	42.0	6.0	15.5	16.5	SW 18	7.5
PKRM-14	PKLM-14	14	M14	47.0	7.0	15.5	19.5	SW 21	11.4
PKRM-16	PKLM-16	16	M16	52.0	8.0	16.5	22.0	SW 24	16.9
PKRM-18	PKLM-18	18	M18 x 1.5	59.0	9.0	20.5	24.0	SW 27	16.9
PKRM-20	PKLM-20	20	M20 x 1.5	67.0	10.0	25.0	26.0	SW 30	34.4

► Tolerance Table, Page 1.14

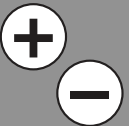
Load Data

Part No.	Part No.	Max. Static Tensile Strength		Max. Static Radial Load	
		Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)
PKRM-05	PKLM-05	22	11	45	22
PKRM-06	PKLM-06	33	17	56	28
PKRM-08	PKLM-08	56	28	90	45
PKRM-10	PKLM-10	112	56	135	67
PKRM-12	PKLM-12	157	79	202	101
PKRM-14	PKLM-14	179	90	247	124
PKRM-16	PKLM-16	202	101	314	157
PKRM-18	PKLM-18	179	90	382	191
PKRM-20	PKLM-20	112	56	494	247

Available for delivery
Imperial sizes available. Minimum quantities may be required.

► Tolerance Table, Page 1.14

igubal® Rod Ends





**igubal® Spherical Bearings
Rod End Accessories WGRM / WGLM
Ball & Socket Joint - Elbow**

igubal® Rod Ends

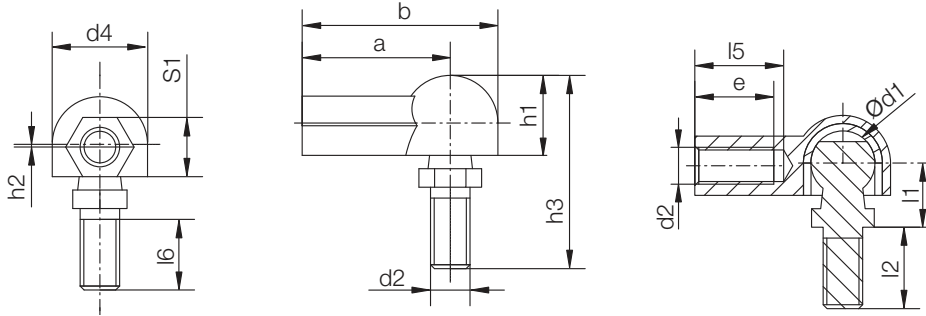


Special properties

- Connection for rotating and oscillating movement
- Easy and fast mounting

Material:

Housing - igumid G
Cap - iglide® L280



Dimensions (mm)

Part No. Right thread	Part No. Left thread	d1 ±0.1	d2	d4 ±0.5	l1 ±0.2	l2 ±0.3	l5	l6 min.	h1 ±0.4	h2 ±0.5	h3 ±0.5	a ±0.3	b ±0.5	e ±0.5	S1	max. pivot angle
WGRM-05	WGLM-05	8.0	M5	12.8	9.0	10.2	14.0	8.2	10.8	0.65	25.6	22.0	28.4	11.0	SW 8	25°
WGRM-06	WGLM-06	10.0	M6	14.8	11.0	12.5	16.0	10.5	12.3	0.70	30.9	25.0	32.4	13.0	SW 9	25°
WGRM-08	WGLM-08	13.0	M8	19.3	13.0	16.5	18.0	13.5	16.2	1.15	38.8	30.0	39.7	16.0	SW 12	25°
WGRM-10	WGLM-10	16.0	M10	24.0	16.0	20.0	20.0	16.0	20.0	1.15	47.0	35.0	47.0	18.0	SW 14	25°

*MS = metal stud; example: WGRM-05 MS

Load data

Part No. Right thread	Part No. Left thread	max. axial tensile force ball stud axis		max. axial compressive force ball stud axis		max. axial tensile force housing axis		Max. axial tensile force in housing axis with metal ball stud		Weight (g)
		Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)	
WGRM-05	WGLM-05	7	3	45	22	22	11	135	67	2.6
WGRM-06	WGLM-05	8	4	67	34	31	16	180	90	4.0
WGRM-08	WGLM-05	56	28	112	56	45	22	337	169	8.2
WGRM-10	WGLM-05	56	28	202	101	90	45	427	214	13.8

igubal® Spherical Bearings
Rod End Accessories WGRM LC / WGLM LC
Low Cost Ball & Socket Joint - Elbow

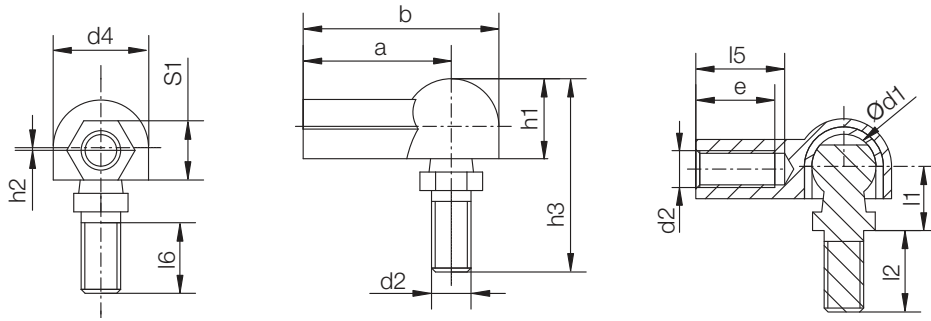


Special properties

- LC (low cost) version is a two piece assembly with a metal pin

Material:

Housing - igumid G



Dimensions (mm)

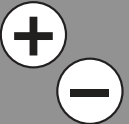
Part No. Right thread	Part No. Left thread	d1 ±0.1	d2	d4 ±0.5	l1 ±0.2	l2 ±0.3	l5	l6 min.	h1 ±0.4	h2 ±0.5	h3 ±0.5	a ±0.3	b ±0.5	e ±0.5	S1	max. pivot angle
WGRM-05 LC	WGLM-05 LC	8.0	M5	12.8	9.0	10.2	14.0	8.2	10.8	0.65	25.6	22.0	28.4	11.0	SW 8	25°
WGRM-06 LC	WGLM-06 LC	10.0	M6	14.8	11.0	12.5	16.0	10.5	12.3	0.70	30.9	25.0	32.4	13.0	SW 9	25°
WGRM-08 LC	WGLM-08 LC	13.0	M8	19.3	13.0	16.5	18.0	13.5	16.2	1.15	38.8	30.0	39.7	16.0	SW 12	25°
WGRM-10 LC	WGLM-10 LC	16.0	M10	24.0	16.0	20.0	20.0	16.0	20.0	1.15	47.0	35.0	47.0	18.0	SW 14	25°

*** MS = metal ball stud For example: WGRM-05 LC MS

Load data

Part No. Right thread	Part No. Left thread	max. axial tensile force ball stud axis		max. axial compressive force ball stud axis		max. axial tensile force housing axis		Max. axial tensile force in housing axis with metal ball stud		Weight (g)
		Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)	Short term (lbs)	Long term (lbs)	
WGRM-05 LC	WGLM-05 LC	7	3	45	22	22	11	135	67	2.6
WGRM-06 LC	WGLM-05 LC	8	4	67	34	31	16	180	90	4.0
WGRM-08 LC	WGLM-05 LC	56	28	112	56	45	22	337	169	8.2
WGRM-10 LC	WGLM-05 LC	56	28	202	101	90	45	427	214	13.8

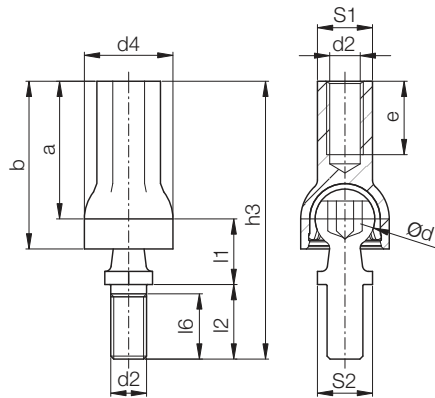
igubal® Rod Ends





Special properties

- For all mechanical combinations
- Very easy assembling by hand
- Proportion from cohesion to assembling force ca. 10:1



Material:
Housing - igumid G
Cap - iglide® L280

Dimensions (mm)

Part No.		d1	d2	d4	l1	l2	l6	h3	a	b	e	S1	S2	pivot angle	
Right thread	Left thread	±0.1		±0.5	±0.2	±0.3		±0.3	±0.5	min.	16.0	SW12	SW11	Recom.	max.
AGRM-08	AGRM-08	13.0	M8	19.3	13.0	16.5	13.5	59.0	29.5	36.5	16.0	SW12	SW11	18°	25°

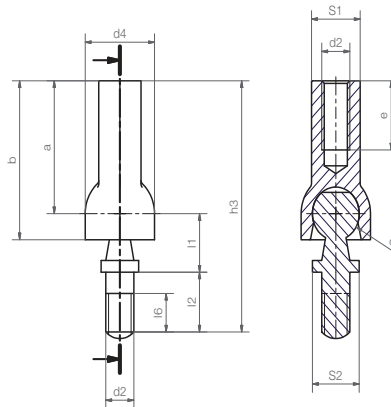
Load data

Part No.		max. static axial tensile strength		max. static axial compressive strength		max. assembling force	Weight
		short term	long term	short term	long term		
Right thread	Left thread	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(g)
AGRM-08	AGLM-08	56	28	225	112	25	7.8



Special properties

- For all mechanical combinations
- Very easy assembling by hand
- Proportion from cohesion to assembling force ca. 10:1



Material:
Housing - igumid G

Dimensions (mm)

Part No.		d1	d2	d4	l1	l2	l6	h3	a	b	e	S1	S2	pivot angle	
Right thread	Left thread	±0.1		±0.5	±0.2	±0.3		±0.3	±0.5	min.	13.0	SW9	10.0	Recom.	max.
AGRM-08 LC	AGRM-08 LC	10.0	M6	14.8	11.0	11.3	7.3	47.3	25.0	29.9	13.0	SW9	10.0	18°	25°

Load data

Part No.		max. static axial tensile strength		max. static axial compressive strength		Weight
		short term	long term	short term	long term	
Right thread	Left thread	(lbs)	(lbs)	(lbs)	(lbs)	(g)
AGRM-08 LC	AGLM-08 LC	22	11	450	225	10.8