igubal® Mounted Spherical Bearings

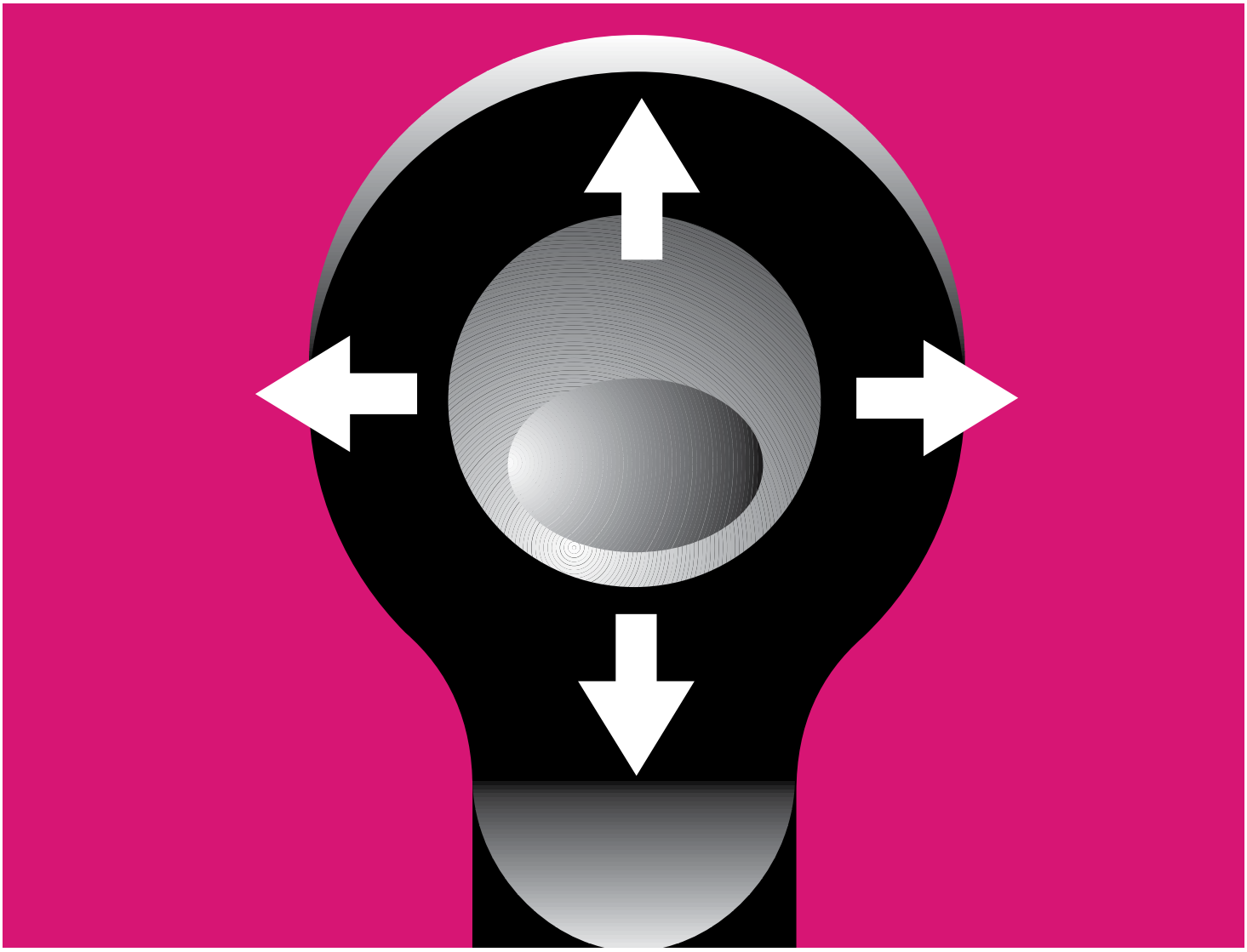
igus® igubal® mounted spherical bearings are made with high quality engineered polymers. They are lubrication-free and maintenance-free. These bearings are lighter and more economical than traditional mounted spherical bearings.

Features

- Five popular mounting configurations
- Four popular shaft sizes
- Maintenance-free
- Excellent wear resistance
- L280 polymer type bearing material

CE

igus® igubal® Mounted Spherical Bearings								
Item Photo	Part Number	Style	Size I.D. (inch)	Thread/ Housing Type	Qty. per Package	Weight (lb)	Price	Drawing Link
	A-KBRI-04	K Series, Female Thread, Rod End	1/4	1/4-28 UNF female	4	0.06	$16.00	PDF
	A-KBRI-08		1/2	1/2-20 UNF female	2	0.12	$24.00	PDF
	A-KBRI-12		3/4	3/4-16 UNF female	1	0.14	$18.50	PDF
	A-KBRI-16		1	1-12 UNF female	1	0.46	$22.50	PDF
	A-KARI-04	K Series, Male Thread, Rod End	1/4	1/4-28 UNF male	4	0.04	$15.50	PDF
	A-KARI-08		1/2	1/2-20 UNF male	2	0.10	$15.50	PDF
	A-KARI-12		3/4	3/4-16 UNF male	1	0.10	$12.50	PDF
	A-KARI-16		1	1-12 UNF male	1	0.34	$20.00	PDF
	A-KSTI-04	K Series, Pillow Block	1/4	Pillow block	4	0.02	$12.00	PDF
	A-KSTI-08		1/2		2	0.07	$16.00	PDF
	A-KSTI-12		3/4		1	0.09	$10.00	PDF
	A-KSTI-16		1		1	0.20	$16.50	PDF
	A-EFOI-04	E Series, 2-Bolt Flange	1/4	2-bolt flange	4	0.03	$15.50	PDF
	A-EFOI-08		1/2		2	0.05	$16.00	PDF
	A-EFOI-12		3/4		1	0.09	$14.50	PDF
	A-EFOI-16		1		1	0.14	$18.00	PDF
	A-EFSI-04	E Series, 4-Bolt Flange	1/4	4-bolt flange	4	0.04	$22.50	PDF
	A-EFSI-08		1/2		2	0.04	$17.00	PDF
	A-EFSI-12		3/4		1	0.12	$13.50	PDF
	A-EFSI-16		1		1	0.17	$16.00	PDF



igubal® Rod Ends

- Self-lubricating, maintenance-free
- High strength under impact loads
- High tensile strength
- Compensation of misalignment
- Compensation of edge loads
- Very low weight

igubal® Rod Ends

igubal® rod ends can also be used in rough environments. They are corrosion-resistant in humid environments and resistant to weak acids and bases. The operation temperature is from –40°F up to +176°C. Rod ends are also resistant to dirt and dust.

Maintenance free, dry-running

High strength under impact loads

High tensile strength

Best Applications

- If you want to save weight
- For rotating, oscillating and linear movements
- If high-frequency oscillations/vibrations occur
- If silent operation is required
- If you need an electrically insulating part
- If corrosion resistance is required
- In combination with pneumatic cylinders and gas struts
- If chemical resistance is required
- If high rigidity is required

Not For Use In Applications

- If temperatures are higher than +176 °F
- If rotation speeds higher than 98.4 fpm (0.5 m/s) are required
- If really high tensile and shear loads occur
- With a hydraulic cylinder
- If dimensions above 1 inch or 30 mm are required

Compensation of misalignment

Compensation of edge loads

Lightweight

max. +392°F
min. –40°F

Ø 1/4 to 1 inch
more sizes available from igus

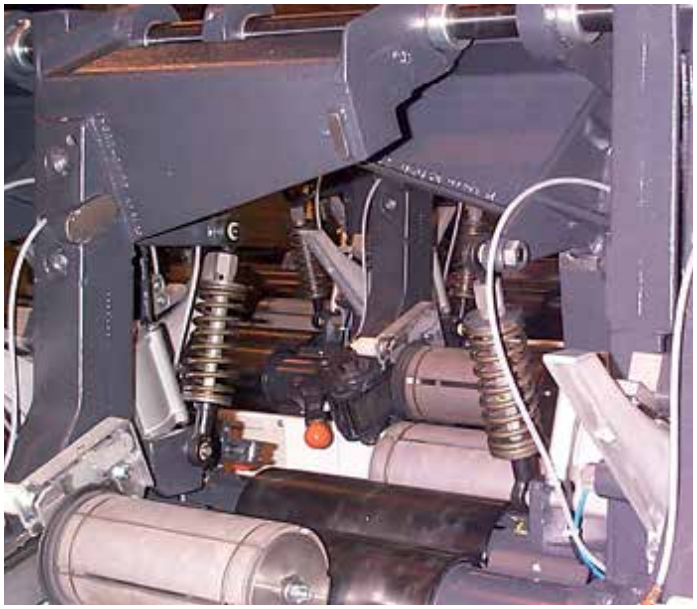
Ø 2 to 30 mm
metric sizes available from igus

igubal® Rod Ends - Application examples

Typical application areas

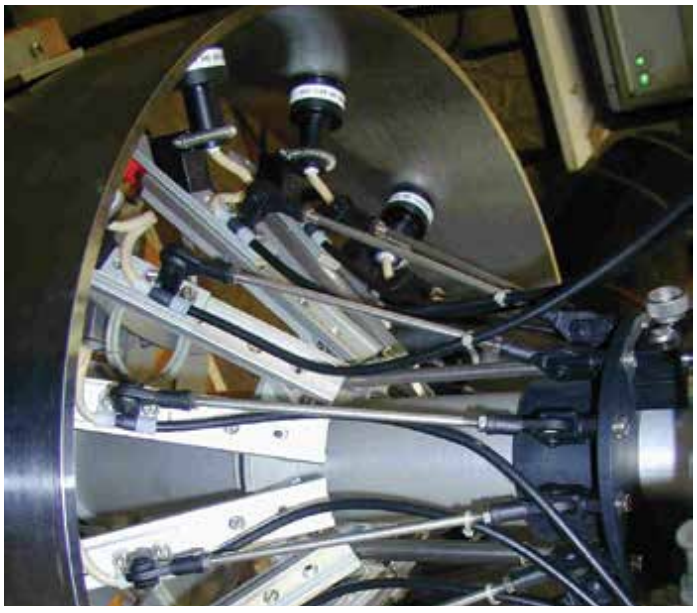
- Agricultural machines
- Machine building
- Sports and leisure
- Automotive
- Mechatronics
- Construction machinery

Specialty bikes



Textile industry

Packaging industry



Offshore industry

igubal® Rod Ends - Technical data

Advantages

- Maintenance-free
- High strength under impact loads
- Very high tensile strength for varying loads
- Compensation for misalignment
- 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 K series and E series, dimensions according to standard DIN ISO 12240

Product range

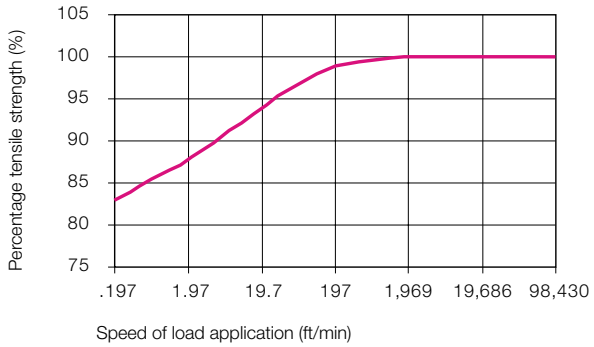
igubal® rod ends are available in the dimensional K series and E series for shaft diameters of 3/16 to 1 inch and 2 to 30 mm.

- Form A – with male thread and
- Form B – with female thread

The dimensional K series and, to a limited extent, E are 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.

Loads

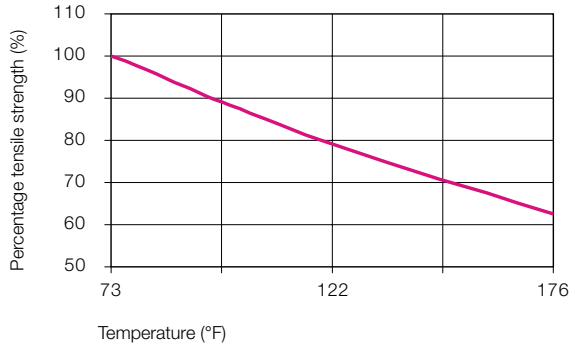
igubal® rod end bearings handle high loads at normal room temperatures, have excellent dampening properties and weigh only a fifth of traditional metallic rod end bearings. In applications with high continuous loads and high temperatures, the loading capacity of igubal® rod end bearings should be tested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



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 ares 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

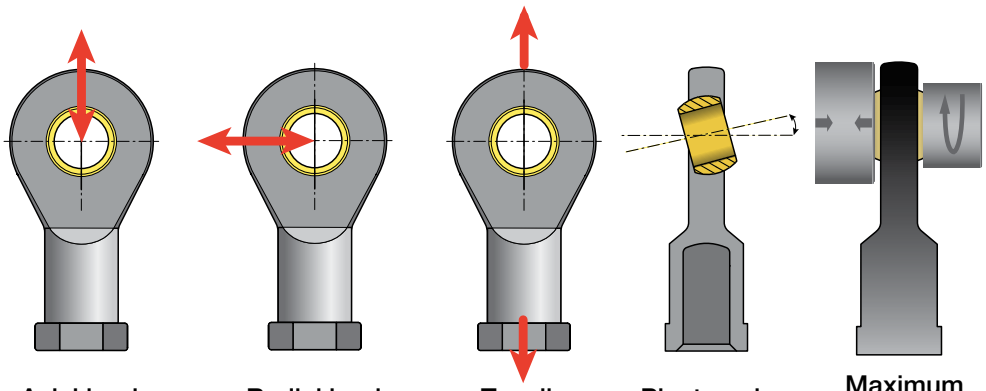
Temperatures

The igubal® rod ends can be used in temperatures from –22 °F up to +176 °F. igubal® rod ends made of HT-Material are suitable for temperatures from -40°F up to +392°F (E series, types A and B).

igubal® Rod Ends - Technical data

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.



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

Thread pitches of the igubal® rod end bearings

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