

igubal[®] ■■■

Polymer spherical bearings



■■■ plastics

igubal® bearing elements | Application examples

Improve technology ... Reduce cost.

For years the igus® motto has been “plastics for longer life®”. By this we mean the production of innovative plastic products which reduce maintenance, achieve technical improvements, while reducing costs and increasing service life, everything delivered immediately from stock. Our references show igubal® is proven to work in a wide variety of applications.

Stadium paneling

igus® spherical bearings of dimension K series are used in the main bearing assembly of every individual slat due to their freedom from maintenance, corrosion resistance and atmospheric resistance. Since these slats can be swiveled, this allows the air flow inside the stadium to be regulated. (LIMELIGHT BV, the Netherlands)





Research institute

Mirror adjustment of the telescope is performed virtually free of backlash with igubal® flange bearings. Magnetic influences can be avoided.



Special-purpose vehicle

Resistant to dirt and maintenance free: The rugged clevises and spherical bearings offer superior performance on the special-purpose municipal vehicles.



Packaging machine

Long service life and, at the same time, food-safe design have been implemented in this application with igubal® rod ends.



Caravan step

Rugged, resistant to dirt and vibration-dampening igubal® rod ends withstand the loads even in worst-case conditions.



Textile industry

Concentric errors and jolts are compensated by means of spherical clevises in the support of the thread guide unit more efficiently than the alternative metal product.



Chocolate decorating system

Decoration without grease by using maintenance free igubal® rod ends turn all the sweets into sheer enjoyment.

igubal® bearing elements | Product overview

igubal® rod end bearings with female thread



Classic design
Inch
KBRI / KBLI
▶ Page 850



Classic design
Metric
KBRM / KBLM
▶ Page 852



Integrated lock nut for easy assembly
KBRM-CL / KBLM-CL
▶ Page 854



Interchangeable spherical ball material
KCRM / KCLM
▶ Page 856

igubal® rod end bearings with male thread - inch / metric



Classic design
Inch
KARI / KALI
▶ Page 862



Classic design
Metric
KARM / KALM
▶ Page 864



Higher forces
KARM-CL / KALM-CL
▶ Page 866



Space-saving, interchangeable spherical ball material
EARM / EALM
▶ Page 868

igubal® angled and in-line ball and socket joints



Angled ball and socket joints
WGRM / WGLM
▶ Page 874



Angled ball and socket joints, low-cost
WGRM-LC / WGLM-LC
▶ Page 875



Easy assembly and disassembly:
WGRM-DE / WGLM-DE
▶ Page 876



In-line ball and socket joint
AGRM / AGLM
▶ Page 877

igubal® clevis joint single components and combinations



Clevis joint, high rigidity
Inch
GERI / GELI
▶ Page 884



Clevis joint, high rigidity
Metric
GERM / GELM
▶ Page 886



Clevis joint with male thread
GARM
▶ Page 888



Clevis joint combination
GARMK
▶ Page 889

igubal® clevis joint single components and combinations



Clevis joints with spring-loaded fixing clip
GERMFE / GELMFE
▶ Page 894



Spring-loaded fixing clips
GEFM
▶ Page 895



Clevis pins and circlips
GBI / GBM - GSR
▶ Page 896



Space-saving,
interchangeable ball material
EBRI / EBLI
▶ Page 858



Space-saving,
interchangeable ball material
EBRM / EBLM
▶ Page 860

High temperature rod ends

Rod ends for food contact



For temperatures
up to +392°F
EBRM-HT / EBLM-HT
▶ Page 870



For temperatures
up to +392°F
EARM-HT / EALM-HT
▶ Page 871



Suitable for food contact
EBRM-FC
▶ Page 872



Suitable for food contact
KCRM-FC
▶ Page 873



In-line ball and
socket joints, low-cost
AGRM-LC / AGLM-LC
▶ Page 878



Clevis joints with clevis pin
and circlip - Inch
GERIK / GELIK
▶ Page 890



Clevis joints with clevis pin
and circlip - Metric
GERMK / GELMK
▶ Page 891



Clevis joints with spring-
loaded fixing clip
GERMF / GELMF
▶ Page 892



Clevis joint combination
GERMKE / GELMKE
▶ Page 893

igubal® for food contact - FDA and EU10/2011 compliant

igubal® detectable



Clevis joint, detectable
GERM-FC
▶ Page 897



Spring loaded fixing clips
detectable,
GEFM-FC
▶ Page 898



Clevis combination,
detectable
GERMF-FC
▶ Page 899



▶ Page 991

igubal® bearing elements | Product overview

igubal® pillow blocks - standard design



Compensation of misalignment errors
KSTI

► Page 906



Compensation of misalignment errors
KSTM

► Page 907



Easy assembly/disassembly split housing and ball
KSTM-GT

► Page 908



Easy to fit
ESTM

► Page 909

igubal® pillow block - low-cost design



Pillow block bearings with cost-effective metal housing
PP-JEM-SP

► Page 914



Easy to fit

EFOI

► Page 922



Easy to fit

EFOM

► Page 924

... for high temperatures up to 392°F



For temperatures up to 392°F
EFOM-HT

► Page 933



For temperatures up to 392°F
EFSM-HT

► Page 934



Suitable for food contact
EFOM-FC

► Page 935



With cost-effective metal housing
PFL-JEM-SP

► Page 936

... for food contact

... low-cost design

igubal® spherical bearings



Easy to fit, cost-effective
KGLM-LC

► Page 948



Space-saving
EGLM

EGLM

► Page 949



Cost-effective, selectable ball materials
EGLM-LC

► Page 950

igubal® double joints and coupling joints



Durable plastic
EGZM

► Page 956



Selectable materials, individual dimensions
KDGM

► Page 957



Selectable materials, individual dimensions
WDGM

► Page 958



Removable, selectable materials
WDGM-DE

► Page 959



For quick assembly

ESTM-GT-...-GT

► Page 910



Split housings with parallel hole

ESTM-GT

► Page 911



Extremely light, compact design

ESTM-SL

► Page 912



Split pillow block bearings for square profiles

ESQM

► Page 913

... for supporting the center or ends of shafts



For high radial loads

EFSI / EFSM

► Page 926



Universal and quick assembly, female thread

GFSM-IG

► Page 930



Universal and quick assembly, female thread

GFSM-AG

► Page 931



High static load, split housing

KFMSM-GT

► Page 932

igubal® spherical bearings



Standard, easy to fit

Inch
KGLI

► Page 944



Standard, easy to fit

Metric
KGLM

► Page 945



For extremely narrow installation space, Inch

KGLI-SL

► Page 946



For extremely narrow installation space, Metric

KGLM-SL

► Page 947

igubal® clip bearings



Simply snap into sheet metal

ECLM

► Page 951



For high axial and radial loads

ECLM-HD

► Page 952



Tolerance compensation, selectable ball materials

EGFM-T

► Page 953



Clip into sheet metal, can be assembled on both sides

ZLCM

► Page 954

igubal® spherical thrust bearings



Crimped coupling joints with clevis joints

GDGM-05-V

► Page 960



Resistant to edge loads

SAM

► Page 964

igubal® bearing elements | Product overview

igubal® spherical balls - various material options



Standard, low coefficient of friction, Inch
WKI / WEI

► Page 970



Standard, low coefficient of friction, Metric
WKM / WEM

► Page 971



Cost-effective, good wear resistance, Inch
REI

► Page 972



Cost-effective, good wear resistance, Metric
RKM / REM

► Page 973

igubal® spherical balls - various material options



Cost-effective and low total moisture absorption
J4KM / J4EM

► Page 978



For underwater applications
UWEM

► Page 979



Clearance-free, preloaded
J4VEM

► Page 980



Detectable
RN248KM / RN248EM

► Page 981

igubal® accessories



Fixing collars with threaded pin
SRM

► Page 986



Ball studs, female thread
GZRM-IG

► Page 987



Ball studs, male thread
GZR

► Page 988



Adapter screws with circlips
PKRM / PKLM

► Page 989



For temperatures
up to 482°F
XKM / XEM

► Page 974



Low moisture absorption
Excellent wear resistance
JKM / JEM

► Page 975



Low moisture absorption,
Large dimensions
JKM

► Page 976



Low moisture absorption,
split
JKM-GT / JEM-GT

► Page 977

igubal® spherical balls - slim ...

... cost-effective



For metal bearing housings
UC series - iglide® J
JEM

► Page 982



For metal bearing housings
UC series - iglide® A180
A180EM

► Page 982



For metal bearing housings
UC series - iglide® A350
A350EM

► Page 982



Cost-effective alternative to
machined options
JEM-SP

► Page 983

igubal® detectable



Adapter for pillow block
bearings, E series
AD-01-ESTM

► Page 990



Rod end bearings

KBRM-CL-DT/EBRM-DT

► Page 994



Clevis joints and spring
loaded fixing clip
GERM-DT/GEFM-DT

► Page 999



Detectable spherical ball

RN248KM/RN248EM

► Page 981

igubal® bearing elements | Advantages

Self-aligning maintenance-free spherical bearings made from high-performance polymers

igubal® is a system of self-aligning bearing elements completely made from plastic. igubal® puts a complete system of self-aligning bearings – rod end bearings, clevis joints, fixed flange bearings, spherical bearings and pillow block bearings – at the developer's fingertips.

Self-aligning bearings are easy to fit, adapt to all angular deviations and replace special housings in many cases.

With igubal®, the user can take advantage of all the benefits of high performance polymers. They can be used in dry operation and have excellent vibration dampening properties. They are resistant to dirt, can operate in liquids and even in chemicals and are completely resistant to corrosion.

The weight of the igubal® parts is approximately 80% lighter than comparable steel parts. Additional savings are cost-savings at the time of purchasing and during operation. igubal® bearings are also extremely cost-effective due to the elimination of maintenance and installation costs.

The installation space can also be reduced due to their small dimensions. igubal® self-aligning spherical bearings are made from a polymer housing for high strengths and a spherical ball made from maintenance-free self-lubricating high-performance polymers allowing low wear and long service life.

The benefits of igubal®

- Extremely cost-effective
- Maintenance-free
- Self-lubricating
- Resistant to dust and dirt
- Corrosion-free
- Can be used in liquid media
- Vibration-dampening
- Spherical ball set in housings with very low clearance
- No ingress of dirt
- Lightweight
- Temperature resistance up to +392°F, depending on the material



Picture 01: igus® test lab: More than 13,000 tribological tests (friction and wear) each year in 300 test rigs in the industry's largest laboratory (40,900ft²). View inside igubal® test rigs.

igubal® bearing elements | Advantages

igubal® spherical balls

In standard spherical bearings, the spherical ball is made of iglide® W300 material, which is known for its low coefficient of friction in dry operation and extremely low tendency to stickslip. This is especially important for low loads and very slow movements.

► More information about iglide® W300, **page 211**

Taking advantage of its long experience in polymers and based on several tests, igus® decided in the last years to respond more precisely to the different applications and customer requests by developing spherical balls in other materials.

Further to the standard material iglide® W300, spherical balls are now available in seven other materials presenting particular advantages:

- iglide® X for high temperatures
- iglide® J for low moisture absorption
- iglide® J4 for low moisture absorption at lower costs
- iglide® R as a low-cost alternative
- iglide® UW for underwater applications
- iglide® RN248 as detectable material
- iglide® J4V as pre-loaded spherical ball

► Spherical balls, **page 965**

Do not hesitate to ask for technical support concerning the choice of the material.

igubal® housing

There are three housing materials available, each of them offering particular properties:

- Standard housings made from igumid G, an extremely shock-resistant, long-fiber reinforced polymer. Temperatures from -22°F to $+176^{\circ}\text{F}$.
- High temperature housings are made from iguton G. This material has a high chemical resistance and is suitable for temperatures from -40°F to $+392^{\circ}\text{F}$.
- Detectable housings made from RN246 material. Temperatures from -22°F to $+176^{\circ}\text{F}$.
- Housings made from igumid FC material suitable for food contact. This material is FDA and EU10/2011-compliant and suitable for temperatures from -22°F to $+212^{\circ}\text{F}$.

► Material properties, **page 1785**

Application areas

igubal® bearing elements can be used without problems even in harsh environments. In moist or wet environments, the bearings are corrosion-resistant, and resistant to weak acids and alkalines. The application temperatures range is from -22°F to $+392^{\circ}\text{F}$. Resistance to dirt and dust is outstanding. Seals are not necessary, even in extremely contaminated conditions. This is true for fine dust as well as coarse dirt.

Detectable

Made from the special materials RN248 for the spherical ball and RN246 for the housing, the parts of metal detectable igubal® polymer bearings can be verified as foreign particles with all common parameters used in the metal detection technology and thus ensure safe food.

- igubal® detectable bearings, **from page 991**
- Material properties, **page 1785**

Loads

The load capacity of the maintenance-free igubal® bearing element parts is very high at normal ambient temperatures. igubal® bearings absorb high forces and weigh only one fifth of traditional, metal bearing housings. The excellent dampening properties are based on the fact that the polymer material of the two part bearing can absorb vibrations differently than steel.

However, plastic specific properties, such as dependence on temperature and behavior under long-term stress, must be taken into consideration when using igubal® bearings. The load capacity of the rod end should therefore be checked in a practical test, particularly if it will be used under continuous high loads and at elevated temperatures.

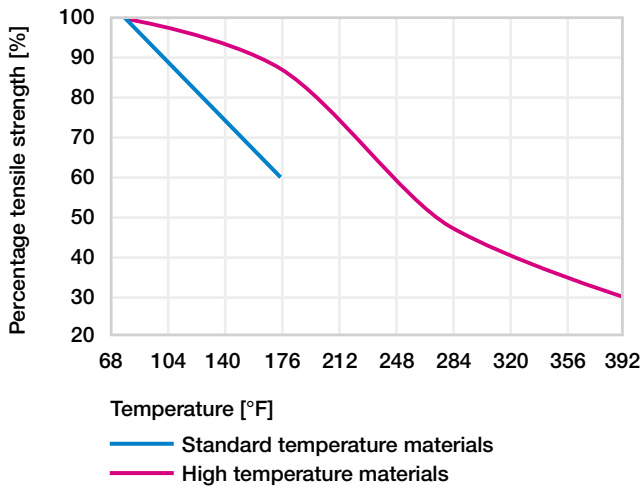


Diagram 01: Trends indicate the effect of temperature on the max. tensile strength of igubal® rod end bearings.

Coefficient of sliding 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, made of iglide® W300. The advantage therefore lies in the plastic vs. steel relationship which permits high speeds, even in dry operation. Taking the radial loads into account, maximum surface speeds up to 0.5m/s rotating can be attained.

By contrast, rotations of the shaft are supported directly in the inner diameter of the spherical portion. The maintenance-free igubal® bearing elements also permit linear movements of the shaft.

Application temperatures

igubal® standard bearing elements can be used in temperatures from -22°F to +176°F. The high temperatures versions can be used at continuous temperatures up to +392°F. Diagram 01 trends indicate the effect of temperature on the maximum tensile strength of igubal® rod end bearings.

igubal®	Application temperature	
	Standard	HT version
Minimum	-22°F	-40°F
Max. long-term	+176°F	+392°F
Maximum, short-term	+248°F	+464°F

Table 01: Temperature limits of igubal® bearing elements

Thread type	Pitch [mm]
M2	0.40
M3	0.50
M4	0.70
M5	0.80
M6	1.00
M8	1.25
M10	1.50
M10 F	1.25
M12	1.75
M12 F	1.25
M14	2.00
M16	2.00
M16 F	1.50
M18	1.50
M20	1.50
M20 M20	2.50
M22	1.50
M24	2.00
M27	2.00
M30	2.00

Table 02: Thread pitches of igubal® rod ends and clevis joints

Chemical resistance of igubal® bearing elements

The spherical balls made from iglide® W300 and the housing made from igumid G are resistant to weak alkalines, weak acids and fuels, as well as all types of lubricants. The HT versions can be used for applications with a higher chemical demand. The moisture absorption of igubal® spherical bearings is approximately 1.3% weight in standard climatic conditions. The saturation limit in water is 6.5%. This must be taken into evaluation for applications. If a lower moisture absorption is essential, a look on to the different materials is helpful.

► Chemical table, page 1762

Medium	Resistance	
	Standard	HT version
Alcohols	+ up to 0	+
Hydrocarbons	+	+
Greases, oils without additives	+	+
Fuels	+	+
Diluted acids	0 to –	+ up to 0
Strong acids	–	+ to –
Diluted alkalines	+	+
Strong alkalines	0	+

Table 03: Chemical resistance of igubal® bearing elements
 + resistant 0 conditionally resistant – not resistant
 All data given at room temperature [+68°F]

Radiation resistance

Self-aligning igubal® bearings are resistant to radiation up to an intensity of $3 \cdot 10^2$ Gy.

UV resistance

The corrosion resistance of igubal® bearings gives them special value for outside applications.

igubal® bearings are permanently resistant to UV radiation. A small change in color (dark coloration) of the spherical ball due to UV radiation does not affect the mechanical, electrical or thermal properties.

Tolerances

igubal® spherical bearings can be used with different tolerances according to each application. They are designed with a large bearing clearance in the standard product, which enables a secure operation even under high peripheral speeds. The hole of the spherical ball is produced to a standard tolerance range E10. Shafts should also meet recommended tolerances h6 and h9. The tolerances are provided in the table below. Please contact us in case you require lower or other bearing tolerances.

Basic size [mm]	Tolerance	
	Plug gauge falls	Plug gauge sticks
up to 3	x.01	x.05
> 3 to 6	x.02	x.07
> 6 to 10	x.02	x.08
> 10 to 18	x.03	x.10
> 18 to 30	x.04	x.12
> 30 to 50	x.05	x.15

Table 04: Tolerances of inner diameter (spherical balls)

Check the inner diameter



Inadequate test equipment; plug gauge too short



Wrong test equipment; caliper



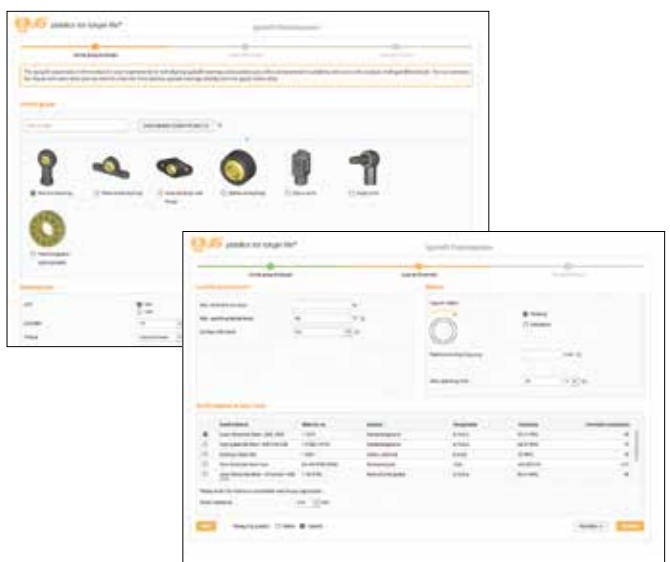
Tolerance test with plug gauge

Service life calculation

The igubal® expert allows to check the suitability of igubal® bearings for every application. You can choose from different igubal® bearings and specific load (radial, axial or static, cyclic and dynamic).

The expert system will calculate from these input data:

- The bearing wear
- The theoretical service life



igubal® expert system
 ► www.igus.com/igubal-expert



igubal® product finder
 ► www.igus.com/igubal-finder

Notes

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.



igubal[®] rod end bearings

Maintenance-free dry operation

Robust

Durable

Compensation of misalignment errors

Resistant to edge loads

Lightweight



igubal[®] rod ends | Advantages

igubal[®] rod ends can also be used in rough environments. They are corrosion-resistant in humid environments and resistant to weak acids and media. Depending on the version (HT) the operating temperature is from -40°F to $+392^{\circ}\text{F}$. Rod ends are also resistant to dirt and dust, they are also available as detectable version and food contact materials in certain sizes.



When to use it?

- 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
- If they should be detectable



When not to use it?

- When temperatures are higher than $+176^{\circ}\text{F}$
 - ▶ HT version, **Page 870-871**
- When rotation speeds higher than 98 fpm are required
- When really high tensile and axial forces occur
- With a hydraulic cylinder
- When dimensions above 30mm are required



Available from stock

Detailed information about delivery time online.



Price breaks online

No minimum order value. No minimum order quantity



Max. + 392°F

Min. -40°F

(depending on material: standard from -22°F to $+176^{\circ}\text{F}$; HT from -40°F to $+392^{\circ}\text{F}$)



18 types

Ø 2–30mm



Online product finder

▶ www.igus.com/igubal-finder

igubal® rod ends | Application examples



Typical sectors of industry and application areas

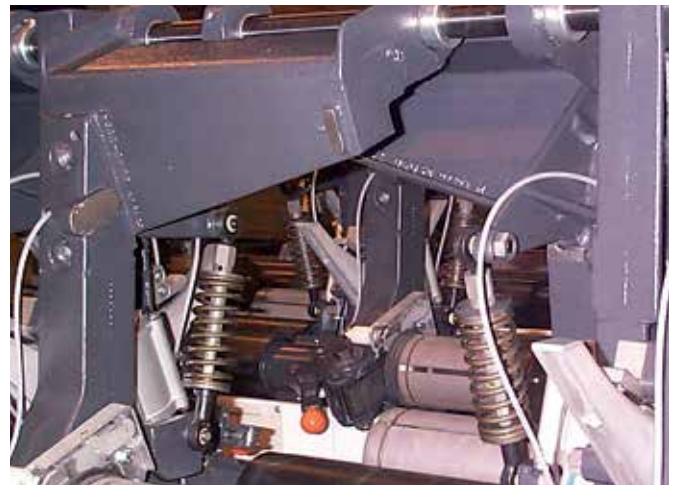
- Bicycle manufacturing
- Plant design
- Packaging
- Offshore
- Agriculture
- Automotive

Improve technology and reduce costs – 110 exciting examples online

► www.igus.com/igubal-applications



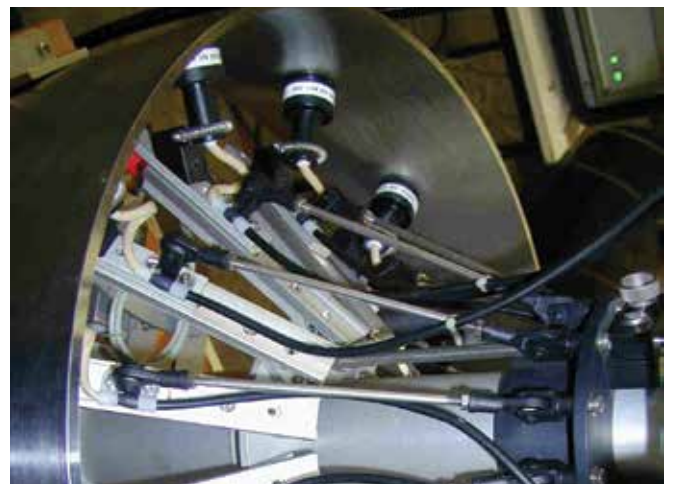
► www.igus.com/bicycle



► www.igus.com/textile



► www.igus.com/packaging



► www.igus.com/offshore

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

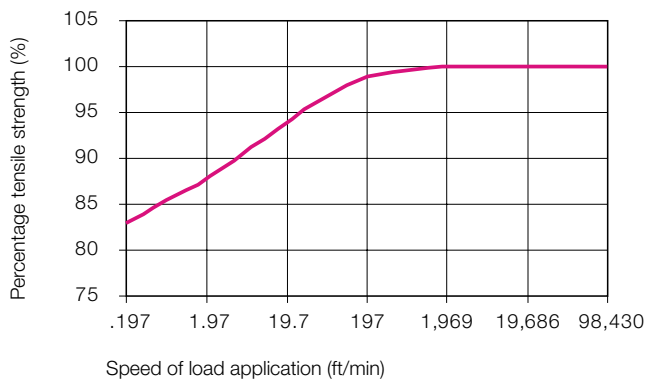
Stainless steel sleeve

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.

Please ask us about quantities, availability and pricing.

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.

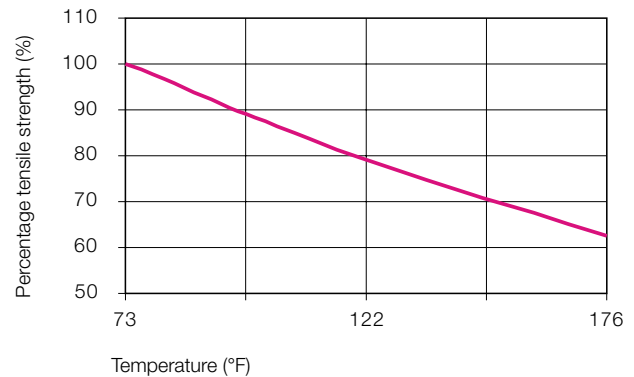


Effect of the speed of load application on the maximum tensile strength of igubal® rod end bearings

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 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

Temperatures

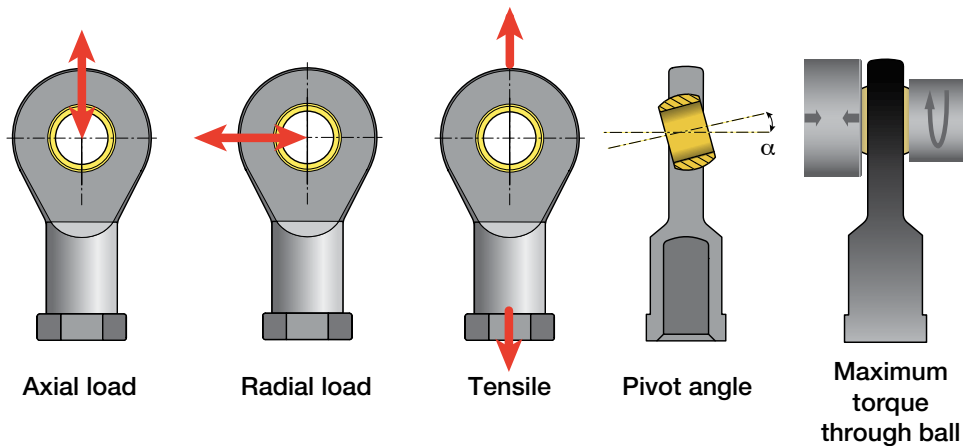
The igubal® rod ends can be used in temperatures from -22 °F up to +176 °F. igubal® rod ends made of HT-Material are suitable for temperatures from -40 °F up to +392 °F (E series, types A and B).

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 E10. Shafts should also meet recommended tolerances h6 and h9. All values and tolerances according to ISO 2768-m. Please contact us with any questions regarding tolerances.

► Tolerance Table, Page 58



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

igubal® rod ends | Product overview

igubal® rod end bearings with female thread - inch / metric



Classic design
Inch
KBRI / KBLI
▶ Page 850



Classic design
KBRM / KBLM
▶ Page 852



Integrated lock nut for easy assembly
KBRM-CL / KBLM-CL
▶ Page 854



Selectable spherical ball material
KCRM / KCLM
▶ Page 856

igubal® rod end bearings with male thread - inch / metric



Classic design
Inch
KARI / KALI
▶ Page 862



Classic design
KARM / KALM
▶ Page 864



Higher forces
KARM-CL / KALM-CL
▶ Page 866



Space-saving, selectable spherical ball material
EARM / EALM
▶ Page 868

igubal® angled and in-line ball and socket joints



Angled ball and socket joints
WGRM / WGLM
▶ Page 874



Angled ball and socket joints, low-cost
WGRM-LC / WGLM-LC
▶ Page 875



Easy assembly and disassembly:
WGRM-DE / WGLM-DE
▶ Page 876



In-line ball and socket joint
AGRM / AGLM
▶ Page 877



Space-saving, selectable spherical ball material

EBRI / EBLI

► Page 858



Space-saving, selectable spherical ball material

EBRM / EBLM

► Page 860

High temperature rod ends



For temperatures up to +392°F

EBRM-HT / EBLM-HT

► Page 870



For temperatures up to +392°F

EARM-HT / EALM-HT

► Page 871



Suitable for food contact

EBRM-FC

► Page 872



Suitable for food contact

KCRM-FC

► Page 873



In-line ball and socket joints, low-cost

AGRM-LC / AGLM-LC

► Page 878

igubal® rod ends | Product Range

Rod ends with female thread: KBRI and KBLI



- Maintenance free, self-lubricating
 - High strength under impact loads
 - Very high tensile strength for varying loads
 - Compensation of misalignment errors
 - Compensation of edge loads
 - Resistant to dirt, dust and lint
 - Resistant to corrosion and chemicals
 - High vibration-dampening
 - Suitable for rotating, oscillating and linear movements
 - Lightweight
 - Dimensional K series according to standard DIN ISO 12240
 - Available with a metal sleeve for a higher torque
 - Adapter screw with circlip available
- ▶ Accessories, **Page 989**



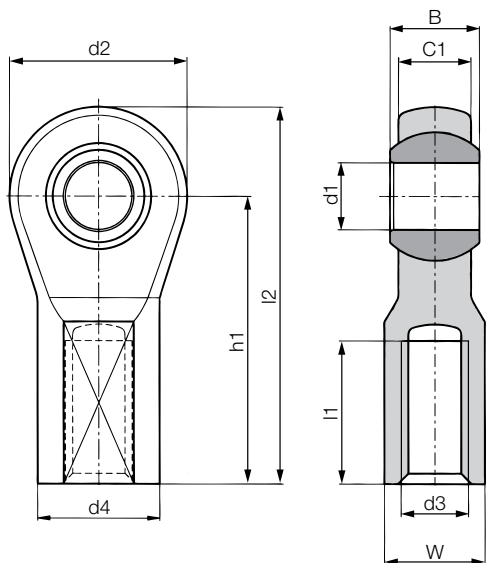
Service life calculation online

▶ www.igus.com/igubal-expert

Dimensions [inch]

Part No.	d1	d2	d3	d4	C1	B	h1	l1	l2	W	Max. pivot angle
	[E10]										
KB□I-03	0.1875	0.625	10-32	0.406	0.246	0.312	1.062	0.500	1.374	0.312	25°
KB□I-04	0.2500	0.750	1/4-28	0.469	0.272	0.365	1.312	0.687	1.687	0.375	25°
KB□I-05	0.3125	0.875	5/16-24	0.500	0.340	0.437	1.375	0.687	1.813	0.437	25°
KB□I-06	0.3750	1.000	3/8-24	0.687	0.394	0.500	1.625	0.812	2.125	0.562	22°
KB□I-07	0.4375	1.125	7/16-20	0.750	0.456	0.562	1.812	0.937	2.374	0.625	22°
KB□I-08	0.5000	1.312	1/2-20	0.875	0.487	0.625	2.125	1.062	2.781	0.750	22°
KB□I-10	0.6250	1.500	5/8-18	1.000	0.545	0.750	2.500	1.375	3.250	0.875	22°
KB□I-12	0.7500	1.750	3/4-16	1.125	0.676	0.875	2.875	1.562	3.750	1.000	22°
KB□I-16	1.0000	2.750	1-12	1.625	1.000	1.375	4.125	2.125	5.500	1.500 ⁽⁸⁾	20°

▶ Tolerance Table, **Page 58**



 Order key

Type	Size	Options
K B <input type="checkbox"/> I - 08		
Dimensional K series		
Housing (female thread)		
Thread		
Inch		
	Inner-Ø [inch] Based on 1/16"	
		Thread L = Left-hand thread R = Right-hand thread



Material:

Housing: igumid G ► Page 1782

Standard spherical ball: iglide® W300 ► Page 211

Technical data

Part No.	Max. static Tensile Strength		Max. Radial Load		Min. Thread Depth	Max. Torque Strength Inner thread	Max. torque strength through ball	Weight
	Short term	Long term	Short term	Long term				
	[lbs]	[lbs]	[lbs]	[lbs]				
KB <input type="checkbox"/> I-03	203	102	67	34	0.350	1.48	2.21	3.3
KB <input type="checkbox"/> I-04	248	124	90	45	0.480	3.69	2.95	5.1
KB <input type="checkbox"/> I-05	383	192	112	56	0.480	4.43	7.38	7.1
KB <input type="checkbox"/> I-06	450	225	225	112	0.568	5.16	11.06	12.6
KB <input type="checkbox"/> I-07	518	259	270	135	0.655	13.28	18.44	16.1
KB <input type="checkbox"/> I-08	585	293	337	169	0.743	16.96	25.81	26.5
KB <input type="checkbox"/> I-10	1103	551	382	191	0.962	22.13	36.88	38.7
KB <input type="checkbox"/> I-12	1260	630	517	259	1.093	29.50	51.63	54.4
KB <input type="checkbox"/> I-16	1349	674	584	293	1.488	33.93	62.69	197.5

igubal® rod ends | Product Range

Rod ends with female thread: KBRM and KBLM



Standard design



Stainless steel sleeve
version (MH)

- Maintenance free, self-lubricating
 - High strength under impact loads
 - Very high tensile strength for varying loads
 - Compensation of misalignment errors
 - Compensation of edge loads
 - Resistant to dirt, dust and lint
 - Resistant to corrosion and chemicals
 - High vibration-dampening
 - Suitable for rotating, oscillating and linear movements
 - Lightweight
 - Dimensional K series according to standard DIN ISO 12240
 - Available with a metal sleeve for a higher torque
 - Adapter screw with circlip available
- ▶ Accessories, **Page 989**

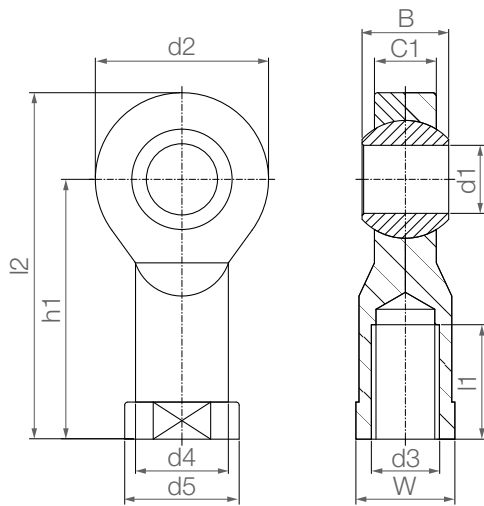


Service life calculation online
▶ www.igus.com/igubal-expert

Dimensions [mm]

Part No.	d1	d2	d3	d4	d5	C1	B		h1	l1	l2	W	Max. pivot angle
							without stainless steel sleeve	with stainless steel sleeve					
	E10												
								+0.2					
KB□M-02	2	9	M2	4.0	4.6	3.0	4	–	12.5	6	17	SW4	30°
KB□M-03	3	13	M3	6.5	8.0	4.5	6	6.2	18.5	8	25	SW6	30°
KB□M-05-M4	5	18	M4	9.0	12.0	6.0	8	8.2	27	10	36	SW9	30°
KB□M-05	5	18	M5	9.0	12.0	6.0	8	8.2	27	10	36	SW9	30°
KB□M-06	6	20	M6	10.0	13.0	7.0	9	9.2	30	12	40	SW11	29°
KB□M-08	8	24	M8	13.0	16.0	9.0	12	12.2	36	16	48	SW14	25°
KB□M-10	10	30	M10	15.0	19.0	10.5	14	14.2	43	20	58	SW17	25°
KB□M-10-F	10	30	M10 x 1.25	15.0	19.0	10.5	14	14.2	43	20	58	SW17	25°
KB□M-12 ¹²⁹⁾	12	34	M12	–	–	12.0	16	16.2	50	25	67	SW17	25°
KB□M-12-F	12	34	M12 x 1.25	18.0	22.0	12.0	16	16.2	50	22	67	SW19	25°
KB□M-14	14	38	M14	20.0	25.0	13.5	19	19.2	57	25	76	SW22	25°
KB□M-16	16	42	M16	22.0	27.0	15.0	21	21.2	64	28	85	SW22	23°
KB□M-16-F	16	42	M16 x 1.5	22.0	27.0	15.0	21	21.2	64	28	85	SW22	23°
KB□M-18	18	46	M18 x 1.5	25.0	31.0	16.5	23	23.2	71	32	94	SW27	23°
KB□M-20	20	50	M20 x 1.5	28.0	34.0	18.0	25	25.2	77	33	102	SW30	23°
KB□M-20-M20	20	50	M20 x 2.5	28.0	34.0	18.0	25	25.2	77	33	102	SW30	23°
KB□M-22	22	56	M22 x 1.5	30.0	37.0	20.0	28	–	84	37	112	SW32	22°
KB□M-25	25	60	M24 x 2.0	32.0	41.0	22.0	31	–	94	42	124	SW36	22°
KB□M-30	30	70	M30 x 2.0	37.0	50.0	25.0	37	–	110	50	145	SW41	22°
KB□M-30-M27x2	30	70	M27 x 2.0	37.0	50.0	25.0	37	–	110	50	145	SW41	22°

¹²⁹⁾ Integrated lock nut. Drawing as for KCRM, page 857



Order key

Type	Size	Options
K	B	□
M	- 02	- MH
K series	Housing (female thread)	Thread
	Thread	Metric
	Inner Ø	
		Thread L = Left-hand thread R = Right-hand thread
		Add-on: MH = With stainless steel sleeve



Material:

Housing: **igumid G** ▶ Page 1782

Standard spherical ball: **iglide® W300** ▶ Page 211

Technical data

Part No.	Max. static tensile strain		Max. static axial load		Min. thread depth	Max. torque strength	Max. torque strength through ball		Weight
	Short-term	Long-term	Short-term	Long-term			without stainless steel sleeve	with stainless steel sleeve	
	[lbs]	[lbs]	[lbs]	[lbs]	Thread	Female thread	[ft•lbs]	[ft•lbs]	[g]
KB□M-02	44	22	11	6	4	0.22	0.74	–	0.4
KB□M-03	179	89	22	11	5	0.37	1.48	2.95	2.7
KB□M-05-M4	224	112	56	28	7	0.55	3.69	8.85	3.5
KB□M-05	224	112	56	28	7	0.74	3.69	8.85	3.4
KB□M-06	314	157	89	44	8	1.11	7.38	11.06	4.7
KB□M-08	472	236	157	78	11	3.69	8.85	29.50	8.6
KB□M-10	696	348	179	89	13	11.06	14.75	36.88	14.6
KB□M-10-F	696	348	179	89	13	4.43	14.75	36.88	14.6
KB□M-12 ⁽²⁹⁾	809	404	202	101	15	14.75	22.13	51.63	22.0
KB□M-12-F	809	404	202	101	15	11.06	22.13	51.63	22.0
KB□M-14	899	449	224	112	17	18.44	25.81	55.32	30.9
KB□M-16	944	472	292	146	19	22.13	29.50	81.13	39.6
KB□M-16-F	944	472	292	146	19	20.28	29.50	81.13	39.6
KB□M-18	1034	517	359	179	21	33.19	33.19	110.63	55.0
KB□M-20	1213	606	472	236	22	44.25	40.57	147.51	73.5
KB□M-20-M20	1213	606	472	236	22	44.25	40.57	147.51	73.5
KB□M-22	1573	786	494	247	25	55.32	44.25	–	94.8
KB□M-25	1910	955	517	258	28	88.51	44.25	–	119.8
KB□M-30	2360	1180	562	281	34	99.57	44.25	–	177.0
KB□M-30-M27x2	2360	1180	562	281	34	99.57	44.25	–	189.6

Rod ends can be ordered in metric dimensions with stainless steel sleeve with the addition of MH after the part numbers listed here. Example: KRBM-10 MH (Inner Ø: 10mm).

igubal® rod ends | Product Range

Rod ends, female thread; 2nd generation: KBRM CL and KBLM CL



- Available with stainless steel sleeve for higher torque strength
- Dimensional K series according to DIN ISO 12240
- Adapter screw with circlip available
 - ▶ Accessories, **Page 989**



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



Service life calculation online
▶ www.igus.com/igubal-expert

Dimensions [mm]

Part No.	d1	d2	d3	W	B		C1	h3	h1	h2	l1	l2	m	Max. pivot angle
					without stainless steel sleeve	with stainless steel sleeve								
	E10					+0.2								
KB□M-06-CL	6	20	M6	SW10	9	9.2	7	40	36.5	30	20	46.5	5.7	40°
KB□M-08-CL	8	24	M8	SW13	12	12.2	9	48	44.3	36	25	56.3	7.5	35°
KB□M-10-CL	10	30	M10	SW15	14	14.2	10.5	58	52.2	43	30	67.2	8.4	35°

Rod ends can be ordered in metric dimensions with stainless steel sleeve with the addition of **MH** after the part numbers listed here.

Example: KBRM-10 CL **MH** (Inner Ø: 10mm).

For another spherical bearing material than iglide® W300, please add "J" to the part number, for example. Example: KBRM-10 CL **J**.

Alternative spherical ball materials ▶ Page 965



RKM:
Low-cost



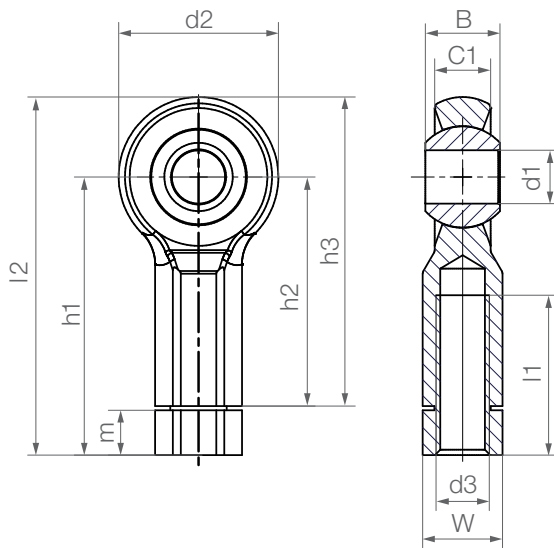
JKM: Low moisture absorption



WKM-MH:
Standard spherical ball with stainless steel sleeve



J4KM:
Low-cost and low moisture absorption



Order key

Type	Size	Version	Option
K	B	□	M - 06 - CL - MH
K series	Housing (female thread)	Thread	Metric
		Inner Ø	2nd generation
			Options: Thread L = Left-hand thread R = Right-hand thread Add-on: MH = With stainless steel sleeve



Material:

Housing: igumid G ► Page 1782

Standard spherical ball: iglide® W300 ► Page 211

Other spherical ball materials upon request ► Page 965

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread	Max. torque strength	Max. torque strength through ball		Weight [g]
	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]	depth Thread [mm]	Female thread [ft•lbs]	without stainless steel sleeve [ft•lbs]	with stainless steel sleeve [ft•lbs]	
KB□M-06-CL	315	158	90	45	8	1.106	7.38	11.06	4.5
KB□M-08-CL	473	236	158	79	11	7.376	8.85	29.50	8.6
KB□M-10-CL	698	349	180	90	13	11.060	14.75	36.88	14.1

igubal® rod ends | Product Range

Rod ends with female thread: KCRM and KCLM



- Smooth design no dirt traps
- Spherical ball is clipped in
- Choice of iglide® spherical ball materials
- Compensation of misalignment errors
- Lightweight
- Absolute corrosion resistance
- Available with stainless steel sleeve for higher torque strength
- Dimensional K series according to DIN ISO 12240
- Adapter screw with circlip available
 - ▶ Accessories, **Page 989**



Service life calculation online
▶ www.igus.com/igubal-expert

Dimensions [mm]

Part No.	d1 E10	d2	d3	W	B		C1	h1	l1	l2	Max. pivot angle
					without stainless steel sleeve	with stainless steel sleeve +0.2					
KC□M-05	5	18	M5	SW9	8	8.2	6.0	27	12.0	36	43°
KC□M-06	6	20	M6	SW10	9	9.2	7.0	30	13.5	40	40°
KC□M-08	8	24	M8	SW13	12	12.2	9.0	36	17.0	48	35°
KC□M-10	10	30	M10	SW15	14	14.2	10.5	43	22.0	58	35°
KC□M-10-F	10	30	M10 x 1.25	SW15	14	14.2	10.5	43	22.0	58	35°
KC□M-12	12	34	M12	SW17	16	16.2	12.0	50	25.0	67	35°
KC□M-12-F	12	34	M12 x 1.25	SW17	16	16.2	12.0	50	25.0	67	35°
KC□M-16	16	42	M16	SW20	21	21.2	15.0	64	30.0	85	35°
KC□M-16-F	16	42	M16 x 1.5	SW20	21	21.2	15.0	64	30.0	85	35°
KC□M-20	20	50	M20 x 1.5	SW24	25	25.2	18.0	77	35.0	102	35°
KC□M-20-M20	20	50	M20 x 2.5	SW24	25	25.2	18.0	77	35.0	102	35°

Rod ends can be ordered in metric dimensions **with stainless steel sleeve** with the addition of **MH** after the part numbers listed here.
Example: KCRM-10 **MH** (Inner Ø: 10mm).

For another spherical bearing material than iglide® W300, please add **"J"** to the part number, for example. Example: KCRM-05 **J**.

Alternative spherical ball materials ▶ Page 965



RKM:
Low-cost



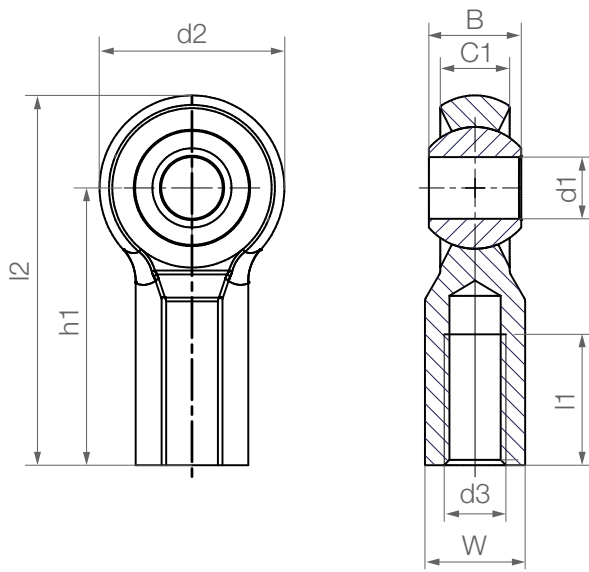
JKM: Low
moisture
absorption



WKM-MH:
Standard spherical ball
with stainless steel sleeve



J4KM:
Low-cost and low
moisture absorption



Order key

Type	Size	Options
K	C	□
M	-06	-MH
K series	Housing (female thread)	Thread
	Thread	Metric
	Inner Ø	
		Thread L = Left-hand thread R = Right-hand thread
		Add-on: MH = With stainless steel sleeve



Material:

Housing: igumid G ► Page 1782

Standard spherical ball: iglide® W300 ► Page 211

Other spherical ball materials upon request ► Page 965

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread depth	Max. torque strength	Max. torque strength through ball		Weight		
	Short-term	Long-term	Short-term	Long-term			Thread	Female thread		without stainless steel sleeve	with stainless steel sleeve
										[ft•lbs]	[ft•lbs]
KC□M-05	270	135	40	20	5.16	0.74	3.69	8.85	4.0		
KC□M-06	315	156	67	34	5.90	0.55	7.38	11.06	4.2		
KC□M-08	472	236	112	56	8.11	1.48	8.85	29.50	7.6		
KC□M-10	697	337	180	90	9.59	2.21	14.75	36.88	12.8		
KC□M-10-F	697	76	40	20	9.59	2.21	14.75	36.88	12.8		
KC□M-12	800	400	169	84	11.06	11.06	22.13	51.63	19.0		
KC□M-12-F	800	400	169	84	11.06	11.06	22.13	51.63	19.0		
KC□M-16	854	427	180	90	14.01	11.06	29.50	81.13	34.0		
KC□M-16-F	854	427	180	90	14.01	11.06	29.50	81.13	34.0		
KC□M-20	1,023	511	90	45	16.23	14.75	40.57	147.51	55.0		
KC□M-20-M20	1,023	511	90	45	16.23	14.75	40.57	147.51	55.0		

igubal® rod ends | Product Range

Rod ends with female thread: EBRI and EBLI



- Maintenance-free dry operation
- Robust
- Durable in varying loads
- Compensation of misalignment errors
- Resistant to edge loads
- Resistant to dirt, dust and lint
- Resistant to corrosion and chemicals
- Vibration-dampening
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional E series according to DIN ISO 12240



Service life calculation online

► www.igus.com/igubal-expert

Dimensions [mm]

Part No.	d1	d2	d3	d4	d5	C1	B	h1	l1	l2	W	Max. pivot angle
	E10							E10				
EB □ I-03	0.1900	0.748	10–32	0.3543	0.4331	0.1732	0.1900	1.1811	0.4724	1.5551	0.35	30°
EB □ I-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°
EB □ I-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°
EB □ I-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°
EB □ I-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°
EB □ I-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°
EB □ I-10 ¹⁷⁾	0.6250	1.693	5/8–18	–	–	0.4134	0.5000	2.5394	1.0433	3.3858	0.87	16°
EB □ I-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°

¹⁷⁾ EBRI-10/EBLI-10 special form with hexagonal foot

Alternative spherical ball materials ► Page 965



RKM:
Low-cost



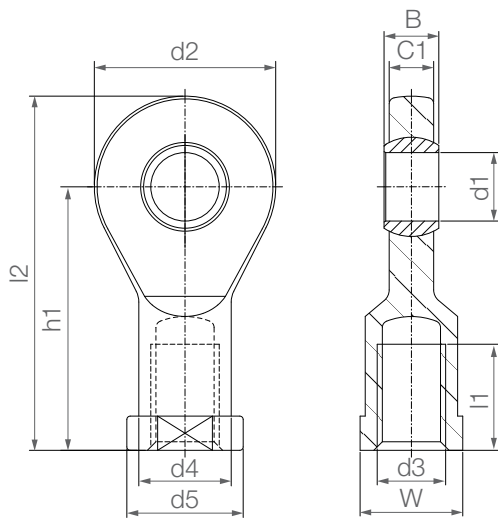
JKM: Low
moisture
absorption



WKM-MH:
Standard spherical ball
with stainless steel sleeve



J4KM:
Low-cost and low
moisture absorption



Order key

Type	Size	Options
E B □ I - 08		
Dimensional E series		Thread L = Left-hand thread R = Right-hand thread
Housing (female thread)		
Thread		
Inch		
	Inner-Ø [inch] Based on 1/16"	



Material:

Housing - igumid G ▶ Page 1782

Spherical ball - iglide® W300 ▶ Page 211

Technical data

Part No.	Max. static tensile strain		Max. axial force		Min. thread depth Thread [inch]	Max. torque strength Female thread [ft•lbs]	Max. tightening torque through ball [ft•lbs]	Weight [g]
	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]				
EB □ I-03	292	146	34	17	0.315	1.48	1.48	3.1
EB □ I-04	337	168	45	22	0.315	3.69	1.84	3.8
EB □ I-05	449	224	101	51	0.433	4.43	5.16	6.9
EB □ I-06	517	258	112	56	0.512	5.16	10.33	11.5
EB □ I-07	741	370	124	62	0.551	13.28	18.44	17.6
EB □ I-08	741	370	124	62	0.551	16.96	18.44	18.1
EB □ I-10	1124	539	191	96	0.709	22.13	23.60	31.9
EB □ I-12	1618	809	405	202	0.866	29.50	29.50	61.5

igubal® rod ends | Product Range

Rod ends with female thread: EBRM and EBLM



- Maintenance-free dry operation
- Robust
- Durable in varying loads
- Compensation of misalignment errors
- Resistant to edge loads
- Resistant to dirt, dust and lint
- Resistant to corrosion and chemicals
- Vibration-dampening
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional E series according to DIN ISO 12240
- For temperatures up to +392°F we recommend **EBRM-HT** and **EBLM-HT** ► Page 870
- Detectable version ► Page 995



Service life calculation online
► www.igus.com/igubal-expert

Dimensions [mm]

Part No.	d1	d2	d3	d4	d5	C1	B	h1	l1	l2	W	Max. pivot angle
EB <input type="checkbox"/> M-04 ¹⁷⁾	4	15	M4	–	–	3.5	5	22.5	9.5	30.0	SW8	33°
EB <input type="checkbox"/> M-05	5	19	M5	9.0	11	4.4	6	30	12.0	39.5	SW9	33°
EB <input type="checkbox"/> M-06	6	21	M6	11.0	13	4.4	6	30	12.0	40.5	SW11	27°
EB <input type="checkbox"/> M-08	8	24	M8	13.0	16	6.0	8	36	14.0	48.0	SW14	24°
EB <input type="checkbox"/> M-10	10	29	M10	15.0	19	7.0	9	43	18.0	57.5	SW17	24°
EB <input type="checkbox"/> M-10-F	10	29	M10 x 1.25	15.0	19	7.0	9	43	18.0	57.5	SW17	24°
EB <input type="checkbox"/> M-12	12	34	M12	18.0	22	8.0	10	50	20.0	67.0	SW19	21°
EB <input type="checkbox"/> M-12-F	12	34	M12 x 1.25	18.0	22	8.0	10	50	20.0	67.0	SW19	21°
EB <input type="checkbox"/> M-15	15	40	M14	21.0	26	10.0	12	61	26.0	81.0	SW22	21°
EB <input type="checkbox"/> M-16 ¹⁷⁾	16	43	M16	–	–	10.5	13	64.5	26.5	86.0	SW22	21°
EB <input type="checkbox"/> M-16-F ¹⁷⁾	16	43	M16 x 1.5	–	–	10.5	13	64.5	26.5	86.0	SW22	21°
EB <input type="checkbox"/> M-17	17	46	M16	24.0	30	11.0	14	67	27.0	90.0	SW27	18°
EB <input type="checkbox"/> M-17-F	17	46	M16 x 1.5	24.0	30	11.0	14	67	27.0	90.0	SW27	18°
EB <input type="checkbox"/> M-20	20	53	M20 x 1.5	27.0	34	13.0	16	77	31.0	103.5	SW30	16°
EB <input type="checkbox"/> M-20-M20	20	53	M20 x 2.5	27.0	34	13.0	16	77	31.0	103.5	SW30	16°
EB <input type="checkbox"/> M-25	25	64	M24 x 2.0	34.0	41	17.0	20	94	38.0	126.5	SW36	16°
EB <input type="checkbox"/> M-30	30	73	M30 x 2.0	41.0	48	19.0	22	110	47.0	146.5	SW41	13°

¹⁷⁾ Special design with hexagonal foot

For another spherical bearing material than iglide® W300, please add "J" to the part number, for example. Example: EBRM-05 J.

Alternative spherical ball materials ► Page 965



J4VEM:
Clearance-free,
preloaded



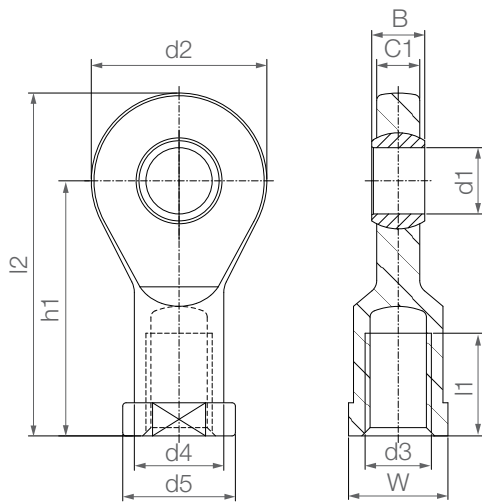
JEM: Low
moisture
absorption



REM:
Low-cost



J4EM:
Low-cost and low
moisture absorption



Order key

Type	Size	Options
E	B	□
M - 04		
E series	Housing (female thread)	Thread
	Thread	Metric
	Inner Ø	
		Thread
		L = Left-hand thread
		R = Right-hand thread



Material:

Housing: igumid G ► Page 1782

Standard spherical ball: iglide® W300 ► Page 211

Other spherical ball materials upon request ► Page 965

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread depth	Max. torque strength	Max. torque strength through ball	Weight
	Short-term	Long-term	Short-term	Long-term	Thread	Female thread		
	[lbs]	[lbs]	[lbs]	[lbs]	[mm]	[ft•lbs]	[ft•lbs]	
EB□M-04	180	90	22	11	7	0.30	1.48	1.8
EB□M-05	292	146	34	17	8	0.37	1.48	3.2
EB□M-06	337	168	45	22	8	1.11	1.84	4.0
EB□M-08	449	224	101	51	11	3.69	5.16	6.9
EB□M-10	517	258	112	56	13	11.06	10.33	11.2
EB□M-10-F	517	258	112	56	13	4.43	10.33	11.2
EB□M-12	741	370	124	62	14	14.75	18.44	17.1
EB□M-12-F	741	370	124	62	14	11.06	18.44	17.1
EB□M-15	1079	539	180	90	18	18.44	22.13	28.9
EB□M-16	1124	562	191	95	18	14.75	23.60	32.6
EB□M-16-F	1124	562	191	95	18	11.06	23.60	32.6
EB□M-17	1191	595	247	124	19	22.13	25.81	42.4
EB□M-17-F	1191	595	247	124	19	20.28	25.81	42.4
EB□M-20	1618	809	405	202	22	44.25	29.50	65.8
EB□M-20-M20	1618	809	405	202	22	44.25	29.50	65.8
EB□M-25	2248	1124	584	292	27	84.82	40.57	125.9
EB□M-30	2360	1180	674	337	33	95.88	51.63	184.1

igubal® rod ends | Product Range

Rod ends with male thread: KARI and KALI



- Maintenance-free dry operation
- Robust
- Durable in varying loads
- Compensation of misalignment errors
- Resistant to edge loads
- Resistant to dirt, dust and lint
- Resistant to corrosion and chemicals
- Vibration-dampening
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional K series according to DIN ISO 12240
- Available with stainless steel sleeve for higher torque strength
- Adapter screw with circlip available
 - ▶ Accessories, **Page 989**

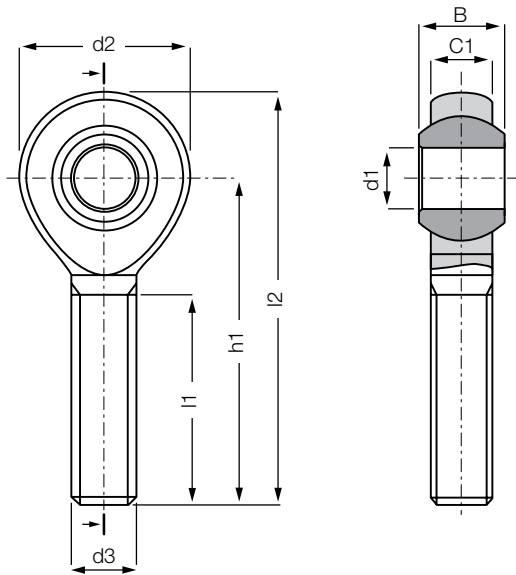


Service life calculation online

▶ www.igus.com/igubal-expert

Dimensions [inch]

Part No.	d1 [E10]	d2	d3	C1	B	h	L1	L2	Max. pivot angle
KA□I-03	0.1875	0.625	10-32	0.234	0.312	1.250	0.750	1.563	25°
KA□I-04	0.2500	0.750	1/4-28	0.250	0.365	1.562	1.000	1.937	25°
KA□I-05	0.3125	0.875	5/16-24	0.312	0.437	1.875	1.250	2.313	25°
KA□I-06	0.3750	1.000	3/8-24	0.359	0.500	1.938	1.250	2.438	22°
KA□I-07	0.4375	1.125	7/16-20	0.406	0.562	2.125	1.375	2.688	22°
KA□I-08	0.5000	1.312	1/2-20	0.453	0.625	2.428	1.500	3.094	22°
KA□I-10	0.6250	1.500	5/8-18	0.484	0.750	2.625	1.625	3.375	22°
KA□I-12	0.7500	1.750	3/4-16	0.593	0.875	2.875	1.750	3.750	22°
KA□I-16	1.0000	2.750	1-16	1.000	1.375	4.125	2.350	5.500	20°



Order key

Type Size Options

K A **I - 08**

Dimensional K series

Housing (male thread)

Thread

Inch

Inner-Ø [inch]
Based on 1/16"

Thread

L = Left-hand thread
R = Right-hand thread



Material:

Housing: igumid G ► Page 1782

Standard spherical ball: iglide® W300 ► Page 211

Technical data

Part No.	Max. static Tensile Strength		Max. Radial Load		Min. Thread Depth	Max. Torque Strength Outer thread	Max. Torque Strength through ball	Weight
	Short term	Long term	Short term	Long term				
	[lbs]	[lbs]	[lbs]	[lbs]	(inch)	[ft•lbs]	[ft•lbs]	[g]
KA <input type="checkbox"/> I-03	87.67	44.96	15.74	7.87	0.525	0.37	2.21	2.1
KA <input type="checkbox"/> I-04	202.32	101.16	22.48	11.24	0.700	0.74	2.95	3.5
KA <input type="checkbox"/> I-05	247.28	123.64	33.72	16.86	0.875	1.48	7.38	6.0
KA <input type="checkbox"/> I-06	337.20	168.60	78.68	39.34	0.875	2.21	11.06	8.8
KA <input type="checkbox"/> I-07	449.60	224.80	89.92	44.96	0.962	4.43	18.44	12.4
KA <input type="checkbox"/> I-08	562.00	281.00	101.16	50.58	1.050	6.64	25.81	18.5
KA <input type="checkbox"/> I-10	786.80	393.40	134.88	67.44	1.137	8.85	36.88	27.6
KA <input type="checkbox"/> I-12	876.72	438.36	224.80	112.40	1.226	18.44	51.63	42.8
KA <input type="checkbox"/> I-16	989.12	494.56	292.24	146.12	1.488	33.19	62.69	143.3

igubal® rod ends | Product Range

Rod ends with male thread: KARM and KALM



Standard design



Stainless steel sleeve
version (MH)

- Maintenance-free dry operation
- Robust
- Durable in varying loads
- Compensation of misalignment errors
- Resistant to edge loads
- Resistant to dirt, dust and lint
- Resistant to corrosion and chemicals
- Vibration-dampening
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional K series according to DIN ISO 12240
- Available with stainless steel sleeve for higher torque strength
- Adapter screw with circlip available
 - ▶ Accessories, **Page 989**

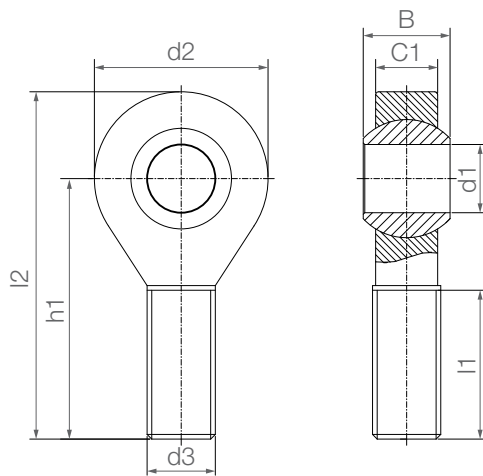


Service life calculation online
▶ www.igus.com/igubal-expert

Dimensions [mm]

Part No.	d1	d2	d3	C1	B		h1	l1	l2	Max. pivot angle
					without stainless steel sleeve	with stainless steel sleeve +0.2				
KA□M-05	5	18	M5	6.0	8	8.2	33	19	42	30°
KA□M-06	6	20	M6	7.0	9	9.2	36	21	46	29°
KA□M-08	8	24	M8	9.0	12	12.2	42	25	55	25°
KA□M-10	10	30	M10	10.5	14	14.2	48	28	63	25°
KA□M-10-F	10	30	M10 x 1.25	10.5	14	14.2	48	28	63	25°
KA□M-12	12	34	M12	12.0	16	16.2	54	32	71	25°
KA□M-12-F	12	34	M12 x 1.25	12.0	16	16.2	54	32	71	25°
KA□M-14	14	38	M14	13.5	19	19.2	61	36	79	25°
KA□M-16	16	42	M16	15.0	21	21.2	66	37	88	23°
KA□M-16-F	16	42	M16 x 1.5	15.0	21	21.2	66	37	88	23°
KA□M-18	18	46	M18 x 1.5	16.5	23	23.2	72	41	96	23°
KA□M-20	20	50	M20 x 1.5	18.0	25	25.2	78	45	104	23°
KA□M-20-M20	20	50	M20 x 2.5	18.0	25	25.2	78	45	104	23°
KA□M-22	22	56	M22 x 1.5	20.0	28	–	84	48	112	22°
KA□M-25	25	61	M24 x 2.0	22.0	31	–	95	55	126	22°
KA□M-30	30	71	M30 x 2.0	25.0	37	–	112	66	147	22°

Rod ends can be ordered in metric dimensions **with stainless steel sleeve** with the addition of **MH** after the part numbers listed here.
Example: KARM-10 **MH** (Inner Ø: 10mm).



Order key

Type	Size [mm]	Options
K A □ M -	05	-MH
K series	Housing (male thread)	Thread
	Thread	Metric
	Inner Ø	
		Thread L = Left-hand thread R = Right-hand thread
		Add-on: MH = With stainless steel sleeve



Material:

Housing: igumid G ► Page 1782

Standard spherical ball: iglide® W300 ► Page 211

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread depth	Max. torque strength	Max. torque strength through ball		Weight
	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]	Thread [mm]	Male thread [ft•lbs]	Without stainless steel sleeve [ft•lbs]	With stainless steel sleeve [ft•lbs]	[g]
KA □ M-05	180	90	18	9	13	0.30	3.69	8.85	2.7
KA □ M-06	225	112	22	11	15	0.37	7.38	11.06	3.9
KA □ M-08	382	191	45	22	18	1.48	8.85	29.50	7.1
KA □ M-10	562	281	67	33	20	3.69	14.75	36.88	12.5
KA □ M-10-F	562	281	67	33	20	2.21	14.75	36.88	12.5
KA □ M-12	607	303	89	45	22	4.43	22.13	51.63	18.0
KA □ M-12-F	607	303	89	45	22	4.43	22.13	51.63	18.0
KA □ M-14	764	382	157	78	25	8.85	25.81	55.32	25.0
KA □ M-16	876	438	179	89	26	12.54	29.50	81.13	34.0
KA □ M-16-F	876	438	179	89	26	12.54	29.50	81.13	34.0
KA □ M-18	944	472	224	112	29	14.75	33.19	110.63	45.9
KA □ M-20	1348	674	292	146	32	18.44	40.57	147.51	58.0
KA □ M-20-M20	1348	674	292	146	32	18.44	40.57	147.51	58.0
KA □ M-22	1618	809	337	168	34	18.44	44.25	–	86.2
KA □ M-25	1686	843	427	213	39	33.19	47.94	–	99.1
KA □ M-30	1978	989	517	258	46	62.69	51.63	–	160.4

igubal® rod ends | Product Range

Rod ends with male thread: KARM-CL and KALM-CL



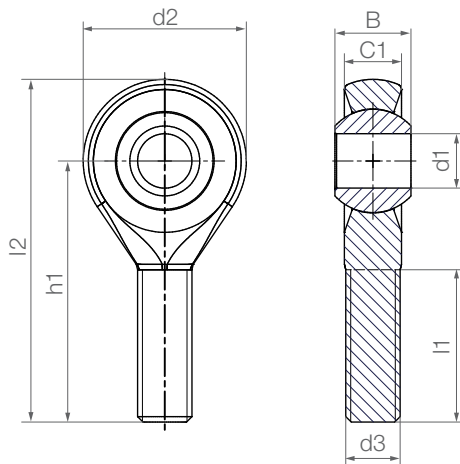
- Smooth design no dirt traps
- Compensation of misalignment errors
- Lightweight
- Absolute corrosion resistance
- Available with stainless steel sleeve for higher torque strength
- Dimensional K series according to DIN ISO 12240
- Adapter screw with circlip available
 - ▶ Accessories, **Page 989**

Dimensions [mm]

Part No.	d1 E10	d2	d3	C1	B		h1	l1	l2	Max. pivot angle
					without stainless steel sleeve	with stainless steel sleeve +0.2				
KA□M-06-CL	6	20	M6	7.0	9	9.2	36	21	46	40°
KA□M-08-CL	8	24	M8	9.0	12	12.2	42	25	55	35°
KA□M-10-CL	10	30	M10	10.5	14	14.2	48	28	63	35°
KA□M-12-CL	12	34	M12	12.0	16	16.2	54	32	71	35°

Rod ends can be ordered in metric dimensions with stainless steel sleeve with the addition of **MH** after the part numbers listed here.
Example: KARM-10 CL **MH** (Inner Ø: 10mm).

For another spherical bearing material than iglide® W300, please add "J" to the part number, for example. Example: KARM-10 CL **J**.



Order key

Type	Size	Version
K	A	M - 06 - CL - MH
K series	Housing (male thread)	Thread
	Thread	Metric
	Inner Ø	2nd generation
		Thread L = Left-hand thread R = Right-hand thread
		Add-on: MH = With stainless steel sleeve



Material:

Housing: **igumid G** ▶ Page 1782

Standard spherical ball: **iglide® W300** ▶ Page 211

Other spherical ball materials upon request ▶ Page 965

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread depth	Max. torque strength	Max. torque strength through ball		Weight		
	Short-term	Long-term	Short-term	Long-term			Thread	Male thread		without stainless steel sleeve	with stainless steel sleeve
										[ft•lbs]	[ft•lbs]
KA □ M-06-CL	225	113	22	11	15	.37	7.37	11.06	3.5		
KA □ M-08-CL	382	191	45	22	18	1.48	8.85	29.50	6.2		
KA □ M-10-CL	562	281	68	34	20	3.69	14.75	36.88	11.2		
KA □ M-12-CL	607	304	90	45	22	4.43	22.13	51.63	15.6		

igubal® rod ends | Product Range

Rod ends with male thread: EARM and EALM



- Maintenance-free dry operation
- Robust
- Durable in varying loads
- Compensation of misalignment errors
- Resistant to edge loads
- Resistant to dirt, dust and lint
- Resistant to corrosion and chemicals
- Vibration-dampening
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional E series according to DIN ISO 12240
- For temperatures up to +392°F we recommend **EARM-HT** and **EALM-HT** ► Page 871



Service life calculation online
► www.igus.com/igubal-expert

Dimensions [mm]

Part No.	d1 E10	d2	d3	C1	B	h1	l1	l2	Max. pivot angle
EA□M-05	5	19	M5	4.4	6	36.0	20	45.5	33°
EA□M-06	6	21	M6	4.4	6	36.0	20	46.5	27°
EA□M-08	8	24	M8	6.0	8	41.0	24	53.0	24°
EA□M-10	10	29	M10	7.0	9	47.5	27	62.0	24°
EA□M-10-F	10	29	M10 x 1.25	7.0	9	47.5	27	62.0	24°
EA□M-12	12	34	M12	8.0	10	54.0	29	71.0	21°
EA□M-12-F	12	34	M12 x 1.25	8.0	10	54.0	29	71.0	21°
EA□M-15	15	40	M14	10.0	12	63.0	34	83.0	21°
EA□M-17	17	46	M16	11.0	14	69.0	37	92.0	18°
EA□M-17-F	17	46	M16 x 1.5	11.0	14	69.0	37	92.0	18°
EA□M-20	20	53	M20 x 1.5	13.0	16	80.0	43	106.5	16°
EA□M-20-M20	20	53	M20 x 2.5	13.0	16	80.0	43	106.5	16°
EA□M-25	25	64	M24 x 2.0	17.0	20	97.0	53	129.0	16°
EA□M-30	30	73	M30 x 2.0	19.0	22	113.0	65	149.5	13°

For another spherical bearing material than iglide® W300, please add "J" to the part number, for example. Example: EARM-05 J.

Alternative spherical ball materials ► Page 965



J4VEM:
Clearance-free,
preloaded



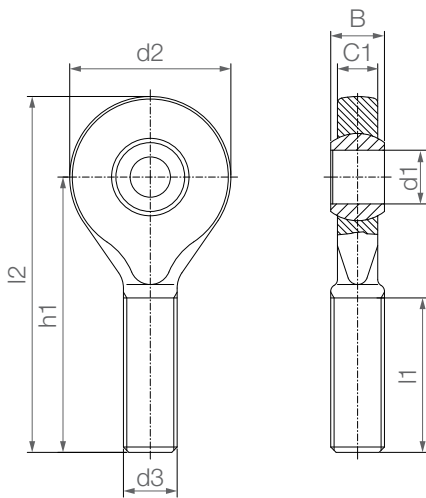
JEM: Low
moisture
absorption



REM:
Low-cost



J4EM:
Low-cost and low
moisture absorption



Order key

Type	Size	Options
E	A	□
M - 05		
E series	Housing (male thread)	Thread
	Thread	Metric
	Inner Ø	
		Thread L = Left-hand thread R = Right-hand thread



Material:

Housing: igumid G ► Page 1782

Standard spherical ball: iglide® W300 ► Page 211

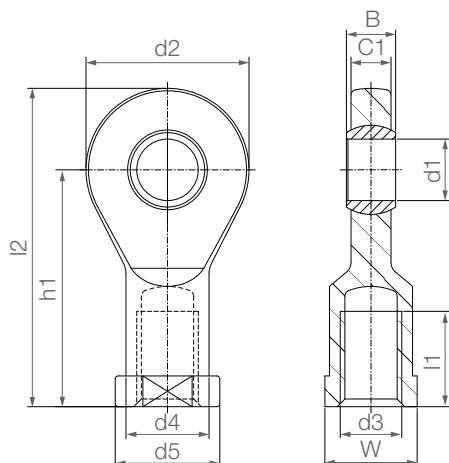
Other spherical ball materials upon request ► Page 965

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread depth	Max. torque strength	Max. torque strength through ball	Weight [g]
	Short-term	Long-term	Short-term	Long-term	Thread	Male thread		
	[lbs]	[lbs]	[lbs]	[lbs]	[mm]	[ft•lbs]	[ft•lbs]	
EA□M-05	123	61	11	5	14	0.30	1.48	2.2
EA□M-06	191	95	18	9	14	0.37	1.84	2.7
EA□M-08	359	179	33	16	17	1.48	5.16	5.1
EA□M-10	584	292	56	28	19	3.69	10.33	8.4
EA□M-10-F	584	292	56	28	19	2.21	10.33	8.4
EA□M-12	674	337	67	33	20	4.43	18.44	14.3
EA□M-12-F	674	337	67	33	20	4.43	18.44	14.3
EA□M-15	1011	505	89	45	24	9.22	22.13	21.1
EA□M-17	1124	562	112	56	26	12.91	25.81	30.2
EA□M-17-F	1124	562	112	56	26	15.49	25.81	30.2
EA□M-20	1461	730	134	67	30	18.44	29.50	57.3
EA□M-20-M20	1461	730	134	67	30	18.44	29.50	57.3
EA□M-25	1910	955	179	89	37	33.19	40.57	94.8
EA□M-30	2248	1124	224	112	46	62.69	51.63	156.4

igubal® rod ends | Product Range

High temperature rod ends with female thread: EBRM-HT and EBLM-HT



Order key

Type Size Version

E B □ M - 05 - HT

- E series
- Housing (female thread)
- Thread
- Metric
- Inner Ø
- High temperature

Options:

Thread

L = Left-hand thread

R = Right-hand thread

- Applicable up to +392°F
- Robust
- Durable in varying loads
- Compensation of misalignment and edge loads
- Resistant to corrosion and chemicals
(chemical table ► **Page 1762**)
- For underwater applications
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional E series according to DIN ISO 12240



Material:

Housing: iguton G ► **Page 1782**

Standard spherical ball: iglide® X ► **Page 339**

Dimensions [mm]

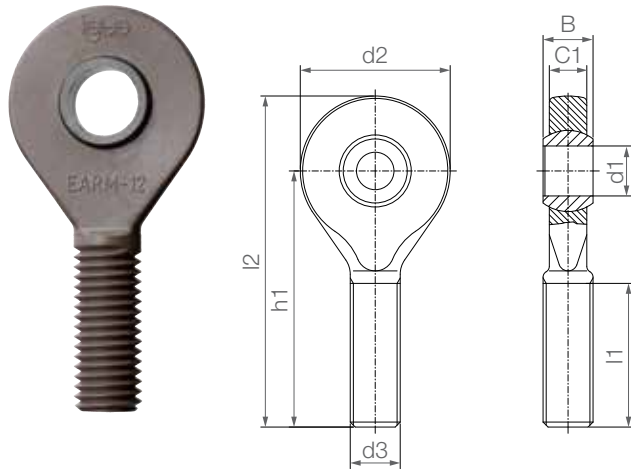
Part No.	d1	d2	d3	d4	d5	C1	B	h1	l1	l2	W	Max. pivot angle
	E10											
EB □ M-05-HT	5	19	M5	9.0	11	4.4	6	30	12	39.5	SW9	33°
EB □ M-06-HT	6	21	M6	11.0	13	4.4	6	30	12	40.5	SW11	27°
EB □ M-08-HT	8	24	M8	13.0	16	6.0	8	36	16	48.0	SW14	24°
EB □ M-10-HT	10	29	M10	15.0	19	7.0	9	43	18	57.5	SW17	24°
EB □ M-12-HT	12	34	M12	18.0	22	8.0	10	50	20	67.0	SW19	21°

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread depth Thread	Max. torque strength Female thread	Max. torque strength through ball	Weight
	Short-term	Long-term	Short-term	Long-term				
	[lbs]	[lbs]	[lbs]	[lbs]				
EB □ M-05-HT	140	70	31	15	14	0.30	1.48	3.8
EB □ M-06-HT	187	93	38	19	14	0.37	1.84	5.0
EB □ M-08-HT	296	147	39	20	17	1.48	5.16	8.5
EB □ M-10-HT	330	165	56	28	19	3.69	10.33	13.7
EB □ M-12-HT	359	179	62	31	20	4.43	18.44	21.4

Other dimensions available upon request

High temperature rod ends with male thread: EARM-HT and EALM-HT



- Applicable up to +392°F
- Robust
- Durable in varying loads
- Compensation of misalignment and edge loads
- Resistant to corrosion and chemicals
(chemical table ► [Page 1762](#))
- For underwater applications
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional E series according to DIN ISO 12240



Order key

Type	Size	Version
E	A	M - 05 - HT
E series	Housing (male thread)	Thread
	Thread	Metric
	Inner Ø	High temperature

Options:
Thread
L = Left-hand thread
R = Right-hand thread



Material:

Housing: [iguton G ► Page 1782](#)

Standard spherical ball: [iglide® X ► Page 339](#)

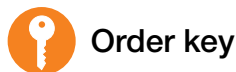
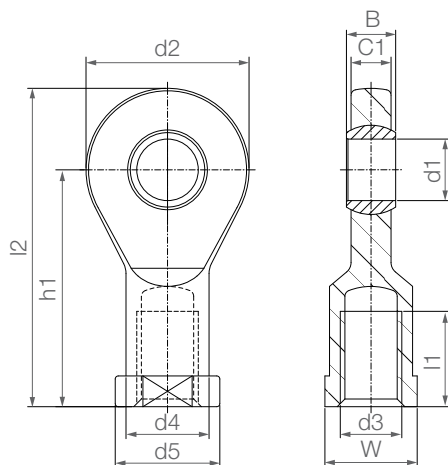
Dimensions [mm]

Part No.	d1	d2	d3	C1	B	h1	l1	l2	Max. pivot angle
	E10								
EA□M-05-HT	5	19	M5	4.4	6	36.0	20	45.5	33°
EA□M-06-HT	6	21	M6	4.4	6	36.0	20	46.5	27°
EA□M-08-HT	8	24	M8	6.0	8	41.0	24	53.0	24°
EA□M-10-HT	10	29	M10	7.0	9	47.5	27	62.0	24°
EA□M-12-HT	12	34	M12	8.0	10	54.0	29	71.0	21°

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread depth	Max. torque strength	Max. torque strength through ball	Weight
	Short-term	Long-term	Short-term	Long-term	Thread	Male thread		
						[lbs]	[lbs]	
	[lbs]	[lbs]	[lbs]	[lbs]	[mm]	[ft•lbs]	[ft•lbs]	[g]
EA□M-05-HT	85	42	4.4	2.2	14	0.30	1.48	2.8
EA□M-06-HT	134	67	6.7	3.3	14	0.37	1.84	3.4
EA□M-08-HT	209	104	10.7	5.3	17	1.48	5.16	6.1
EA□M-10-HT	252	126	12.8	6.2	19	3.69	10.33	10.2
EA□M-12-HT	269	134	14.6	7.4	20	4.43	18.44	15.7

Other dimensions available upon request



Order key

Type	Size	Version
E B R M - 06 - FC		
E series	Housing (female thread)	Thread
	Metric	Inner Ø
		Suitable for food contact

- Made from FDA and EU10/2011-compliant materials
- Self-lubricating and maintenance-free
- Optically and magnetically detectable
- In industry standard blue
- Corrosion and media-resistant
- Vibration-dampening
- Cost-effective



Material:

Housing: igumid FC ▶ Page 1783

Standard spherical ball: iglide® FC180 ▶ Page 1780

Dimensions [mm]

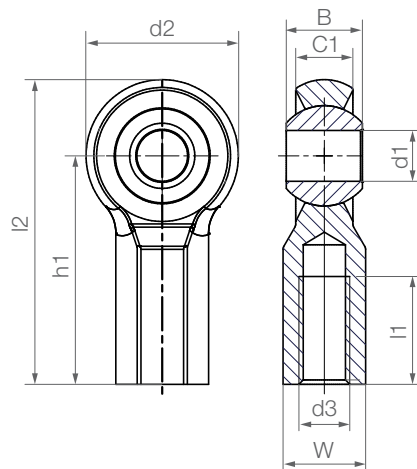
Part No.	d1	d2	d3	d4	d5	C1	B	h1	l1	l2	W	Max. pivot angle
	E10											
EBRM-06-FC	6	21	M6	11.0	13	4.4	6	30	12	40.5	SW11	27°
EBRM-08-FC	8	24	M8	13.0	16	6.0	8	36	14	48.0	SW14	24°
EBRM-10-FC	10	29	M10	15.0	19	7.0	9	43	18	57.5	SW17	24°
EBRM-10-FC-F	10	29	M10 x 1.25	15.0	19	7.0	9	43	18	57.5	SW17	24°
EBRM-12-FC	12	34	M12	18.0	22	8.0	10	50	20	67.0	SW19	21°

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread depth	Max. torque strength	Max. torque strength through ball	Weight [g]
	Short-term	Long-term	Short-term	Long-term	Thread [mm]	Female thread [ft•lbs]	[ft•lbs]	
	[lbs]	[lbs]	[lbs]	[lbs]				
EBRM-06-FC	292	146	67	33	8.0	1.11	1.48	4.0
EBRM-08-FC	427	213	112	56	11.0	3.69	2.95	7.0
EBRM-10-FC	499	247	112	56	13.0	7.38	4.43	11.4
EBRM-10-FC-F	499	247	112	56	13.0	7.38	4.43	11.4
EBRM-12-FC	674	337	179	89	14.0	11.06	4.43	17.4

igubal® rod ends | Product Range

Rod ends with female thread, suitable for food contact: KCRM-FC



Order key

Type	Size	Version
K C R M - 06 - FC		
K series	Housing (female thread)	Thread
	Metric	Inner Ø
		Suitable for food contact

- Made from FDA and EU10/2011-compliant materials
- Self-lubricating and maintenance-free
- Optically and magnetically detectable
- In industry standard blue
- Corrosion and media-resistant
- Vibration-dampening
- Cost-effective



Material:
Housing: igumid FC ► Page 1783
Standard spherical ball: iglide® FC180 ► Page 1780

Dimensions [mm]

Part No.	d1	d2	d3	C1	B	h1	l1	l2	W	Max. pivot angle
	E10				Without stainless steel sleeve					
KCRM-06-FC	6	20	M6	7.0	9.0	30	13.5	40.0	SW10	40°

Technical data

Part No.	Max. static tensile strain		Max. static axial force	Min. thread depth	Max. torque strength	Max. torque strength through ball	Weight [g]
	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Thread [mm]	Male thread [ft•lbs]	[ft•lbs]	
KCRM-06-FC	292	146	89	8.0	0.74	1.48	4.3

Left-hand thread and other dimensions available upon request

igubal® angled ball and socket joints | Product Range

Angled ball and socket joints: WGRM and WGLM



- Connection for rotating and pivoting movements
 - Lightweight
 - Easy and quick assembly
 - Vibration-dampening
 - Resistance to dust and dirt
 - Ball studs made of plastic, galvanized steel and stainless steel¹⁹⁾
- Accessories, **Page 985**



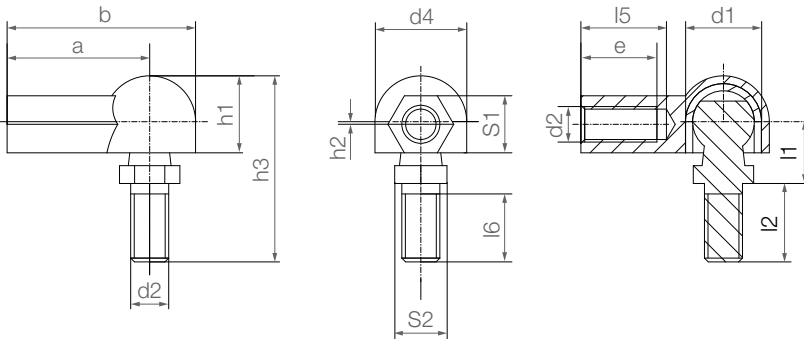
Service life calculation online
► www.igus.com/igubal-expert



Order key

Type	Size	Options
WG □ M -	05	- MS
Angled ball and socket joint	Thread (housing)	Metric
	Thread size M...	

Options:
Thread (housing)
 L = Left-hand thread
 R = Right-hand thread
Ball stud¹⁹⁾
 Blank = Made of plastic
 MS = Made of galvanized steel
 ES = Made of stainless steel²⁸⁾



Material:
Housing: igumid G ► **Page 1782**
Spherical cap: iglide® W300 ► **Page 211**

Dimensions [mm]

Part No.	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 ±1.0	S1	S2	Max. pivot angle
WG □ M-05	8	M5	12.8	9	10.2	14	8.2	10.8	0.65	25.6	22	28.4	11	SW8	SW7	25°
WG □ M-06	10	M6	14.8	11	12.5	16	10.5	12.3	0.70	30.9	25	32.4	13	SW9	SW8	25°
WG □ M-08	13	M8	19.3	13	16.5	18	13.5	16.2	1.15	38.8	30	39.7	16	SW12	SW11	25°
WG □ M-10	16	M10	24.0	16	20.0	20	16.0	20.0	1.15	47.0	35	47.0	18	SW14	SW13	25°

Technical data

Part No.	Max. static tensile force		Max. static compressive strength		Max. axial tensile force		Max. axial tensile force steel stud (Housing axis)		Weight [g]
	(Ball stud axis)		(Ball stud axis)		(Housing axis)				
	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	
	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	
WG □ M-05	7	3	45	22	22	11	135	67	2.6
WG □ M-06	8	4	67	34	31	16	180	90	3.8
WG □ M-08	56	28	112	56	45	22	337	169	8.0
WG □ M-10	56	28	202	101	90	45	427	214	13.7

¹⁹⁾ Ball stud with right-hand thread; left-hand thread upon request

²⁸⁾ Stainless steel ball stud upon request

igubal® angled ball and socket joints | Product Range

Angled ball and socket joint (low-cost): WGRM LC and WGLM LC



- Housing with ball stud
- Lightweight
- Maintenance-free
- Ball studs made of plastic, galvanized steel and stainless steel¹⁹⁾

► Accessories, [Page 985](#)



Service life calculation online
► www.igus.com/igubal-expert



Order key

Type	Size	Version	Options
WG □ M - 05 - LC - MS			
Angled ball and socket joint	Thread (housing) Metric	Thread size M...	Low-cost

Options:
Thread (housing)
 L = Left-hand thread
 R = Right-hand thread
Ball stud¹⁹⁾
 Blank = Made of plastic
 MS = Made of galvanized steel
 ES = Made of stainless steel²⁸⁾



Material:
Housing: igumid G ► [Page 1782](#)

Dimensions [mm] – technical drawing ► [Page 874](#)

Part No.	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 ±1.0	S1	S2	Max. pivot angle
WG □ M-04 LC-MS ²⁰⁾	6	M4	10.6	8.5	8.0	12.5	6.8	9.0	0.20	21.8	18	23.3	10.5	SW7	SW7	20°
WG □ M-05 LC	8	M5	12.8	9.0	10.2	14.0	8.2	10.8	0.65	25.6	22	28.4	11.0	SW8	SW7	25°
WG □ M-06 LC	10	M6	14.8	11.0	12.5	16.0	10.5	12.3	0.70	30.9	25	32.4	13.0	SW9	SW8	25°
WG □ M-08 LC	13	M8	19.3	13.0	16.5	18.0	13.5	16.2	1.15	38.8	30	39.7	16.0	SW12	SW11	25°
WG □ M-10 LC	16	M10	24.0	16.0	20.0	20.0	16.0	20.0	1.15	47.0	35	47.0	18.0	SW14	SW13	25°

Technical data

Part No.	Max. static tensile force		Max. static compressive strength		Max. axial tensile force		Max. axial tensile force steel stud		Weight [g]
	(Ball stud axis)		(Ball stud axis)		(Housing axis)		(Housing axis)		
	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]	
WG □ M-04 LC-MS ²⁰⁾	22	11	33	16	–	–	112	56	2.4
WG □ M-05 LC	7	3	45	22	22	11	135	67	2.6
WG □ M-06 LC	8	4	67	34	31	16	180	90	4.0
WG □ M-08 LC	56	28	112	56	45	22	337	169	8.2
WG □ M-10 LC	56	28	202	101	90	45	427	214	13.8

¹⁹⁾ Ball stud with right-hand thread; left-hand thread upon request

²⁰⁾ Only available with galvanized steel stud

²⁸⁾ Stainless steel ball stud upon request



- Cost-effective ball joint
- Lightweight
- Absolute corrosion resistance
- Easy assembly and disassembly
- High holding strength when assembled (260N)
- Ball studs made of plastic, galvanized steel and stainless steel¹⁹⁾

► Accessories, Page 985



Order key

Type	Size	Version	Options
------	------	---------	---------

WG □ M - 05 - DE - MS

Angled ball and socket joint	Thread (housing)	Metric	Thread size M...	Disassembly
------------------------------	------------------	--------	------------------	-------------

Options:

Thread (housing)

- L = Left-hand thread
- R = Right-hand thread

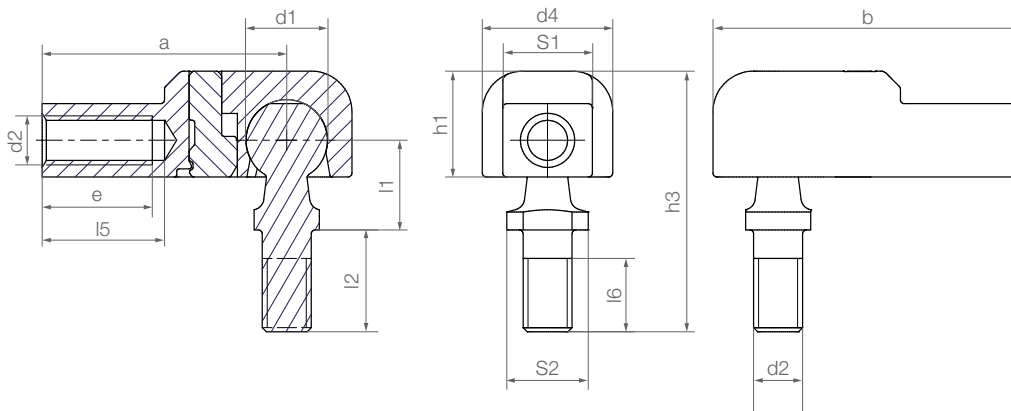
Ball stud¹⁹⁾

- Blank = Made of plastic
- MS = Made of galvanized steel
- ES = Made of stainless steel²⁰⁾



Material:

Housing: igumid G ► Page 1782



Dimensions [mm]

Part No.	l6	h1	h3	S1	S2	a	b	e	Pivot angle	
									Recom.	Max.
WG □ M-05-DE	8.2	±0.4	±0.5	SW9	SW7	±0.3	±0.5	±1.0	18°	25°
WG □ M-06-DE	10.5	±0.4	±0.5	SW11	SW8	±0.3	±0.5	±1.0	18°	25°

Technical data and dimensions [mm]

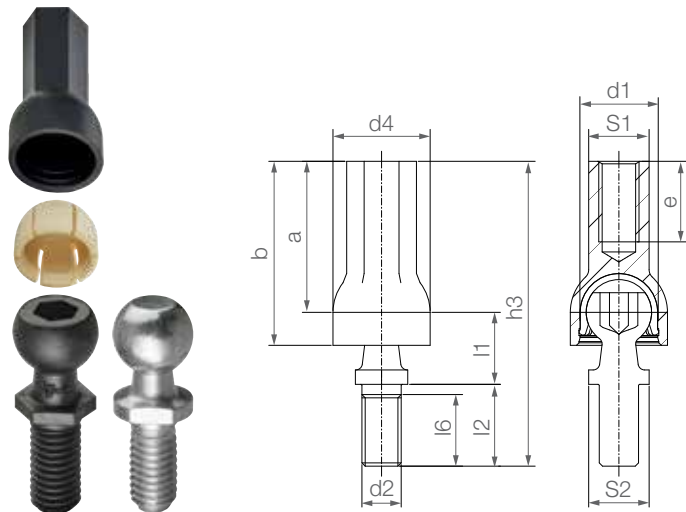
Part No.	Assembly force	Disassembly force	d1	d2	d4	l1	l2	l5	Weight
WG □ M-05-DE	7.9	44.9	8	M5	12.8	9	10.2	13.0	3.4
WG □ M-06-DE	11.2	61.8	10	M6	16.0	11	12.5	14.5	5.5

¹⁹⁾ Ball stud with right-hand thread; left-hand thread upon request

²⁰⁾ Stainless steel ball stud upon request

igubal® in-line ball and socket joints | Product Range

In-line ball and socket joints: AGRM and AGLM



Order key

Type Size Options

AG **M - 08 - MS**

In-line ball and socket joint

Thread (housing)

Metric

Thread size M...

Options:

Thread (housing)

L = Left-hand thread

R = Right-hand thread

Ball stud¹⁹⁾

Blank = Made of plastic

MS = Made of galvanized steel

ES = Made of stainless steel²⁸⁾

Material:

Housing: igumid G ► Page 1782

Spherical cap: iglide® W300 ► Page 2121

- For all mechanical combinations
 - Very easy to assemble
 - Maintenance-free, predictable service life
 - Resistant to corrosion and chemicals
 - Vibration-dampening
 - Ball studs made of plastic, galvanized steel and stainless steel¹⁹⁾
- Accessories, Page 985

Dimensions [mm]

Part No.	d1	d2	d4	l1	l2	l6	h3	S1	S2	a	b	e	Pivot angle	
	±0.1		±0.5	±0.2	±0.3	Min.	±0.5			±0.3	±0.5	Min.	Recom.	Max.
AG <input type="checkbox"/> M-08	13	M8	19.3	13	16.5	13.5	59	SW12	SW11	29.5	36.5	16	18°	25°

Technical data

Part No.	Max. static axial tensile force		Max. static axial compressive strength		Max. assembly force	Weight
	Short-term	Long-term	Short-term	Long-term		
	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[g]
AG <input type="checkbox"/> M-08	56	28	225	112	25	7.8

¹⁹⁾ Ball stud with right-hand thread; left-hand thread upon request

²⁸⁾ Stainless steel ball stud upon request

igubal® in-line ball and socket joints | Product Range

In-line ball and socket joints (low-cost): AGRM LC and AGLM LC



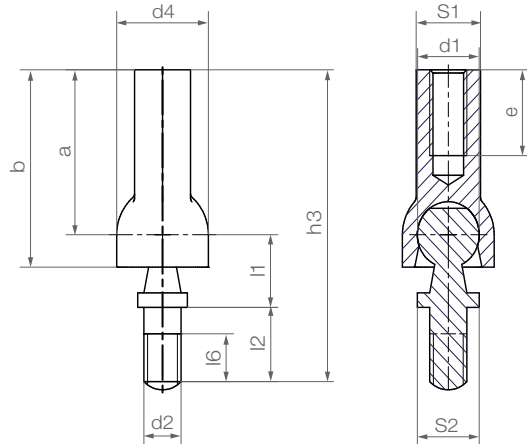
- Housing with ball stud
 - Lightweight
 - Maintenance-free
 - Ball studs made of plastic, galvanized steel and stainless steel¹⁹⁾
- ▶ Accessories, **Page 985**



Order key

Type	Size	Version	Options
AG □ M -	06	- LC -	MS
In-line ball and socket joint	Thread (housing)	Metric	Inner Ø
			Low-cost

Options:
 Thread (housing)
 L = Left-hand thread
 R = Right-hand thread
 Ball stud¹⁹⁾
 Blank = Made of plastic
 MS = Made of galvanized steel
 ES = Made of stainless steel²⁸⁾



Material:
 Housing: igumid G ▶ **Page 1782**

Dimensions [mm]

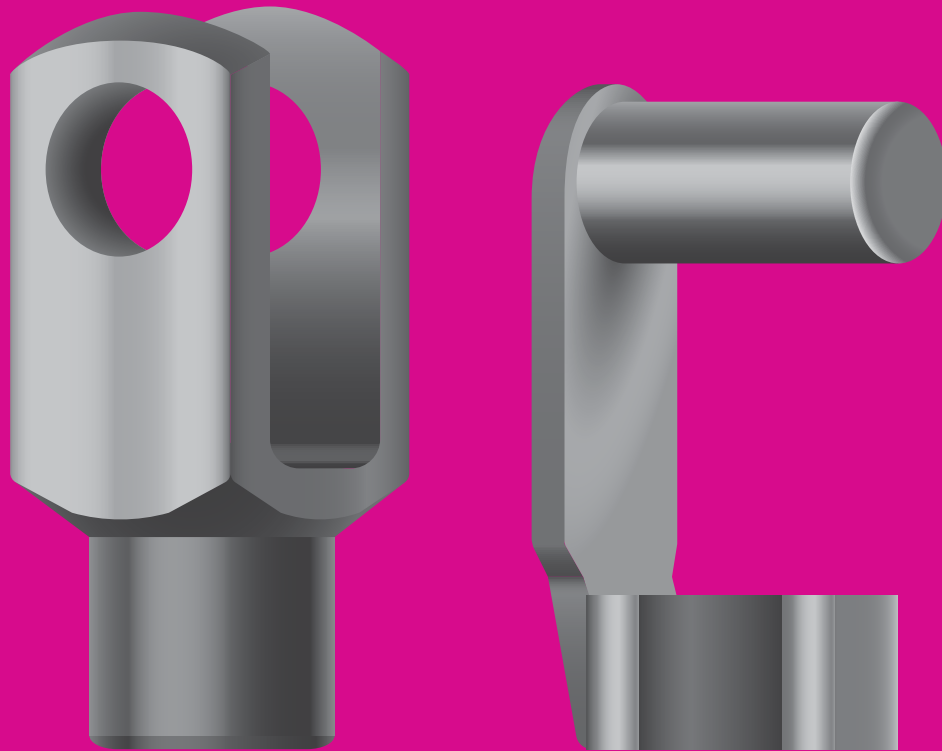
Part No.	d1 ±0.1	d2	d4 ±0.5	l1 ±0.2	l2 ±0.3	l6 Min.	h3 ±0.5	S1	S2	a ±0.3	b ±0.5	e Min.	Max. pivot angle	
													Recom.	Max.
AG □ M-06-LC	10	M6	14.8	11	11.25	7.25	47.25	SW9	SW10	25	29.9	13	18°	25°
AG □ M-08-LC	13	M8	19.3	13	16.5	13.5	57.5	SW12	SW11	29.5	35.0	16	18°	25°

Technical data

Part No.	max. static tensile strain		Max. static compressive force (with steel stud)		Max. static compressive force (with plastic stud)		Max. assembly force [lbs]	Weight [g]
	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]		
AG □ M-06-LC	22	11	449	224	179	89	71	10.8
AG □ M-08-LC	33	16	629	314	314	157	96	23.1

¹⁹⁾ Ball stud with right-hand thread; left-hand thread upon request

²⁸⁾ Stainless steel ball stud upon request



igubal[®] clevis joint bearings

High tensile force

Vibration-dampening

Noise-dampening

Can be combined with E series rod end

Lightweight



igubal® clevis joints | Advantages

igubal® clevis joints are all made of igumid G to DIN 71752, which can be used in combination with E series rod ends. Available components are clevis joint, clevis pin and clip or as an alternative, spring-loaded pin.



When to use it?

- If high rigidity is required
- If corrosion resistance is required
- If no lubrication is to be used
- When lightweight options are required
- If maintenance free, dry-running operation is required
- If simple assembly is required
- In combination with pneumatic cylinders and gas struts



When not to use it?

- If temperatures are higher than +248 °F
- If diameters above 1/2 inch or 20 mm are required



max. +248°F
min. -22°F



Ø 3/16 to 1/2 inch



4 types
Ø 4 to 20 mm



Available from stock

Detailed information about delivery time online.



Price breaks online

No minimum order.

igubal® clevis joints | Application examples



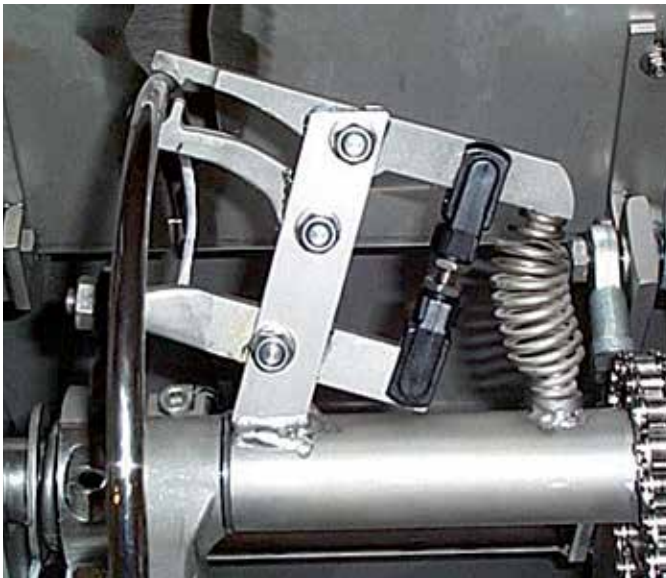
Typical sectors of industry and application areas

- Food industry
- Packaging
- Heavy Duty
- Automotive
- Renewable energy
- Automation etc.

Improve technology and reduce costs –

Over 100 application examples online

► www.igus.com/igubal-applications



Food industry



Packaging industry



Traffic equipment



Pneumatic cylinder

igubal® clevis joints | Product overview

General information

igubal® clevis joints are made of igumid G according to DIN 71752. The clevis joints are available in a variety of configurations. igubal® clevis joints can be used in difficult circumstances without any problems. The clevis joints are corrosion resistant in moist or wet environments and the sliding bearings are resistant to weak acids and alkalis. The operating temperatures range from -22°F to +248°F. igubal® clevis joints are made out of a high-wear resistant material which requires no external lubrication.

Advantages

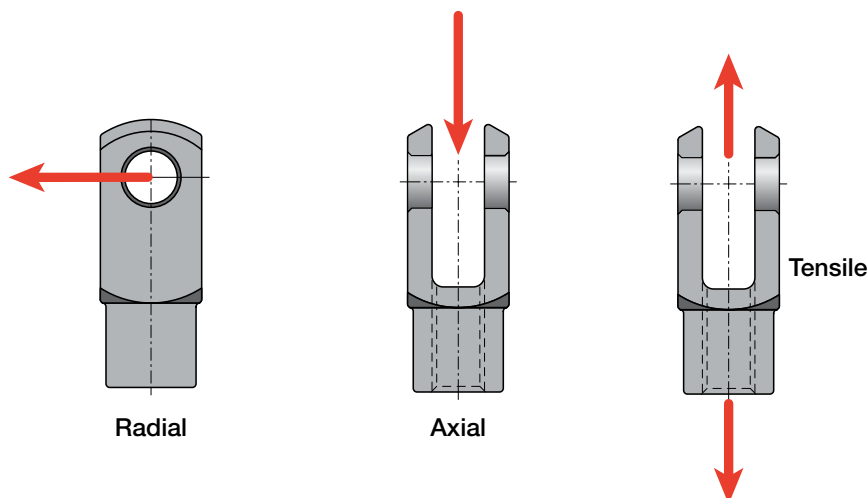
- Maintenance-free
- Self-lubricating
- High strength under impact loads
- Compensation for misalignment
- Compensation for edge loads
- Chemically resistant
- Vibration dampening
- Suitable for rotating, oscillating and linear movements
- High radial loads
- Can be used in liquid media
- Space-saving design
- Easy installation
- Predictable lifetime

Loads

The load-bearing capacity of the maintenance-free, polymer clevis joints is very high at normal ambient temperatures. They absorb high forces, possess very good vibration dampening properties and yet weigh only a fifth of conventional metallic bearing housings. However, plastic specific properties, such as dependence on temperature and behavior under long term stressing, must be taken into consideration when using the clevis joints. The load-bearing capacity of the clevis joints in individual cases should therefore be checked in a practical test, particularly if they are to be used under continuously high loads and at elevated temperatures.

Chemical resistance

igubal® clevis joints are resistant to weak alkalis and weak acids, as well as to fuels and all types of lubricants. Please contact us if you have any questions about the resistance of our igubal® bearings.



igubal® clevis joints | Product overview

igubal® – Clevis joint and accessories



Clevis joint, high rigidity: Clevis joint with male thread E series

inch	metric	
GERI	GERM	GARM
GELI	GELM	

▶ Page 884 ▶ Page 884 ▶ Page 888



Clevis joint combination

GARMK

▶ Page 889



Clevis joints with clevis pin and circlip

inch	metric
GERIK	GERMK
GELIK	GELMK

▶ Page 890 ▶ Page 891



Clevis joints with spring-loaded fixing clip

GERMF
GELMF

▶ Page 892



Combination, easy to fit

GERMKE
GELMKE

▶ Page 893



Combination, easy to fit

GERMFE
GELMFE

▶ Page 894



Spring-loaded fixing clip

GEFM

▶ Page 895



Clevis pin and circlip

GBI / GBM
GSR

▶ Page 896

igubal® for food contact



Clevis joints, detectable, FDA and EU10/2011-compliant

GERM-FC

▶ Page 897



Spring-loaded pin, detectable, FDA and REU10/2011-compliant

GEFM-FC

▶ Page 898



Clevis joints with spring-loaded pin, detectable; FDA and EU10/2011-compliant

GERMF-FC

▶ Page 899



Detectable clevis joints and rod end bearings

▶ Page 991

igubal® clevis joints | Product Range

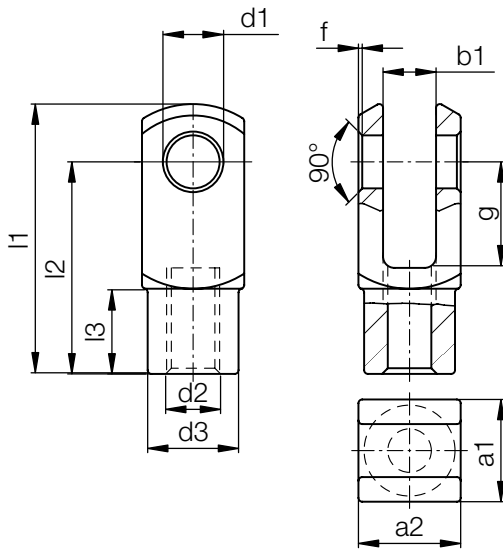
GERI and GELI - Clevis joint - inch



- Lightweight
- High strength under impact loads
- Corrosion resistance
- High tensile strength
- Can be used in combination with E series rod ends
- Vibration-dampening
- Noise-damping
- Available in right- (GERI) and left-hand-thread (GELI)

Dimensions [inch]

Part No.	d1	g	a1	a2	b1	d2	d3	f	l1	l2	l3
	H9	h11		+0.3 -0.16		Thread- Tolerance 6H	+0.3 -0.3	+0.3 -0.3	+0.5 -0.5	+0.3 -0.3	+0.2 -0.2
GE□I-03	0.1875	0.394	0.394	0.394	0.197	10-32	0.354	.02	1.024	0.787	0.295
GE□I-04	0.2500	0.472	0.472	0.472	0.236	1/4-28	0.394	.02	1.205	0.945	0.354
GE□I-05	0.3125	0.630	0.630	0.630	0.315	5/16-24	0.551	.02	1.638	1.260	0.472
GE□I-06	0.3750	0.787	0.787	0.787	0.394	3/8-24	0.709	.02	2.020	1.575	0.591
GE□I-07	0.4375	0.945	0.945	0.945	0.472	7/16-20	0.787	.02	2.413	1.890	0.709
GE□I-08	0.5000	1.102	1.063	1.063	0.551	1/2-20	0.945	.02	2.807	2.205	0.886



Order key

Type	Size	Options
G	E	I - 08
Clevis joint	Dimensional E series	Thread L = Left-hand thread R = Right-hand thread
	Thread	Add-on: LS = Longer shank
	Inch	
	Inner-Ø [inch] Based on 1/16"	

i Material:
igumid G ► Page 1782

Technical data

Part No.	Max. static tensile strength		Weight [g]
	Short term [lbs]	Long term [lbs]	
GE□I-03	225	112	1.6
GE□I-04	270	135	2.9
GE□I-05	607	303	6.1
GE□I-06	1056	528	13.0
GE□I-07	1281	640	16.5
GE□I-08	719	360	20.8

igubal® clevis joints | Product Range

GERM and GELM - Clevis joint - mm



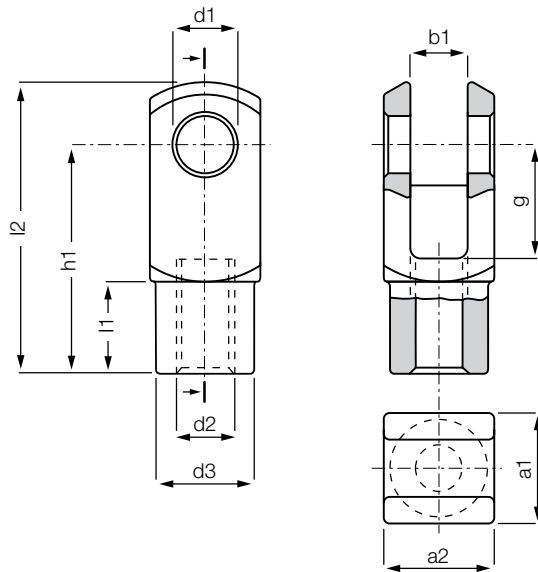
- Lightweight
- High strength under impact loads
- Corrosion resistance
- High tensile strength
- Can be used in combination with E series rod ends
- Vibration-dampening
- Noise-dampening
- Available in right- (GERM) and left-hand-thread (GELM)

Dimensions [inch]

Part No.	d1 H9	g h11	a1	a2 +0.3 -0.16	b1	d2 Thread- Tolerance 6H	d3 +0.3 -0.3	l2 +0.5 -0.5	h1 +0.3 -0.3	l1 +0.2 -0.
GE□ M-04-M3.5	4	8	8	8	4	M3.5	8.0	21.0	16.0	6.0
GE□ M-04	4	8	8	8	4	M04	8.0	21.0	16.0	6.0
GE□ M-05-DIN-M4	5	10	10	10	5	M04	9.0	24.5	20.0	7.5
GE□ M-05-DIN-M5	5	10	10	10	5	M05	9.0	24.5	20.0	7.5
GE□ M-05	5	12	12	12	6	M05	10.0	31.0	24.0	9.0
GE□ M-05-DIN-M5-LS ²²⁾	5	20	10	10	5	M05	9.0	36.0	30.0	7.5
GE□ M-06	6	12	12	12	6	M06	10.0	31.0	24.0	9.0
GE□ M-06-LS ²²⁾	6	24	12	12	6	M06	10.0	43.0	36.0	9.0
GE□ M-08	8	16	16	16	8	M08	14.0	42.0	32.0	12.0
GE□ M-10	10	20	20	20	10	M10	18.0	52.0	40.0	15.0
GE□ M-10-F	10	20	20	20	10	M10 x 1.25	18.0	51.3	40.0	15.0
GE□ M-12	12	24	24	24	12	M12	20.0	61.3	48.0	18.0
GE□ M-12-F	12	24	24	24	12	M12 x 1.25	20.0	61.3	48.0	18.0
GE□ M-14	14	28	27	27	14	M14	24.0	71.3	56.0	22.5
GE□ M-14-F	14	28	27	27	14	M14 x 1.5	24.0	71.3	56.0	22.5
GE□ M-15	15	28	27	27	14	M14	24.0	71.3	56.0	22.5
GE□ M-16	16	32	32	32	16	M16	26.0	81.9	64.0	24.0
GE□ M-16-F	16	32	32	32	16	M16 x 1.5	26.0	81.9	64.0	24.0
GE□ M-17	17	32	32	32	16	M16	26.0	83.0	64.0	24.0
GE□ M-17-F	17	32	32	32	16	M16 x 1.5	26.0	83.0	64.0	24.0
GE□ M-20	20	40	40	40	20	M20 x 1.5	34.0	105.0	80.0	30.0
GE□ M-20-M20	20	40	40	40	20	M20 x 2.5	34.0	105.0	80.0	30.0

²²⁾ LS = longer shank

Tolerance Table, ► Page 58



Order key

Type	Size	Options
G	E	M - 08
Clevis joint	Dimensional E series	Thread L = Left-hand thread R = Right-hand thread
	Thread	Add-on: LS = Longer shank
	Metric	
	Inner Ø	

i Material:
igumid G ► Page 1782

Technical data

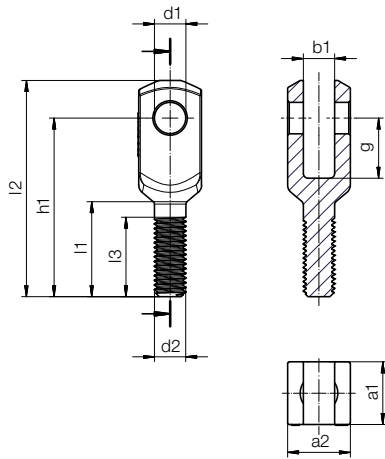
Part No.	Max. static tensile strength		Max. static radial load		Max. torque strength [ft•lbs]	Weight [g]
	Short term	Long term	Short term	Long term		
	[lbs]	[lbs]	[lbs]	[lbs]		
GE□M-04-M3.5	146	73	56	28	0.3	0.9
GE□M-04	179	90	56	28	0.3	0.9
GE□M-05-DIN-M4	225	112	56	28	0.3	1.5
GE□M-05-DIN-M5	225	112	56	28	0.4	1.5
GE□M-05	270	135	56	28	0.4	2.7
GE□M-05-DIN-M5-LS ²²⁾	225	112	29	15	0.4	2.3
GE□M-06	315	157	67	34	1.1	2.5
GE□M-06-LS ²²⁾	315	157	29	15	1.1	3.6
GE□M-08	607	303	146	73	3.7	6.3
GE□M-10	1057	528	180	90	11.1	13.2
GE□M-10-F	1057	528	180	90	4.4	13.2
GE□M-12	1281	640	202	101	14.8	20.2
GE□M-12-F	1281	640	202	101	11.1	20.2
GE□M-14	1484	741	225	112	18.4	29.9
GE□M-14-F	1484	742	225	112	14.8	29.9
GE□M-15	719	360	225	112	18.4	30
GE□M-16	1686	843	270	135	22.1	49.9
GE□M-16-F	1686	843	270	135	20.3	49.9
GE□M-17	809	405	270	135	22.1	50
GE□M-17-F	809	405	270	135	20.3	50
GE□M-20	2136	1068	674	337	44.3	105
GE□M-20-M20	2136	1068	674	337	59.0	105

²²⁾ LS = longer shank

Tolerance Table, ► Page 58

igubal® clevis joints | Product Range

Clevis joints with male thread: GARM-10



- Available from stock in thread size M10 (M8 and M12 in preparation)
- For direct connection to, for example, igubal® rod end bearings
- Lightweight
- Self-lubricating and maintenance-free
- Absolute corrosion resistance
- Available for right-hand thread (left-hand thread upon request)



Order key

Type	Size
G A R M - 10	
Clevis joint	
Male thread	
Thread	
Metric	
Inner Ø	



Material:
igumid G ► Page 1782



Service life calculation online
► www.igus.com/igubal-expert

Dimensions [mm]

Part No.	d1	g	a1	a2	b1	d2	l2	l3	h1	l1
	+0.1	h11	+0.3	+0.3	B13		±0.5	±0.3	±0.3	±0.2
			-0.16	-0.16						
GARM-10	10	19	20	20	10	M10	69	25	57	30.3

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Max. tightening torque	Weight
	Short-term	Long-term	Short-term	Long-term		
	[lbs]	[lbs]	[lbs]	[lbs]	[ft•lbs]	[g]
GARM-10	674	337	45	22	3.7	12.5

igubal® clevis joints | Product Range

Clevis joint combination: GARMK-10



Can be combined with:

- Safety bolt GBM-10 and circlip GSR-10 - part number GARMK-10
- As clevis joint combination with rod end bearing EARM-10 - part number GARMKE-10
- All igubal® parts with female thread M10



Order key

Type	Size
G A R M K - 10	
Clevis joint	
male thread	
Thread	
Metric	
With clevis pin and circlip	
Inner Ø	



Material:
igumid G ► Page 1782



Service life calculation online
► www.igus.com/igubal-expert

Technical data

Part No.	max. static tensile strain		Max. static axial force		Weight [g]
	Short-term	Long-term	Short-term	Long-term	
	[lbs]	[lbs]	[lbs]	[lbs]	
GARMK-10	674	337	45	22	10.2

Clevis joints with spring-loaded fixing clip in combination with E series rod ends, EARM ► Page 868

igubal® clevis joints | Product Range

GERIK and GELIK - Clevis joint with pin and circlip - inch



- Lightweight
- Corrosion resistance
- High tensile strength
- Can be used in combination with E series rod ends



Order key

Type	Size	Options
G E <input type="checkbox"/> I K - 04		
Clevis joint	Dimensional E series	Thread
	Thread	
	Inch	
	Clevis pin and circlip	
	Inner-Ø [inch] Based on 1/16"	
		Thread L = Left-hand thread R = Right-hand thread
		Add-on: LS = Longer shank



Material:
igumid G ▶ Page 1782

Technical data

Part No.	Max. static Tensile Strength		Weight [g]
	Short term [lbs]	Long term [lbs]	
GE <input type="checkbox"/> IK-03	180	90	2.0
GE <input type="checkbox"/> IK-04	202	101	3.5
GE <input type="checkbox"/> IK-05	472	236	7.7
GE <input type="checkbox"/> IK-06	674	404	16.0
GE <input type="checkbox"/> IK-07	787	393	21.4
GE <input type="checkbox"/> IK-08	629	315	26.3

Tolerance Table, ▶ Page 58



Single components: clevis pin GBM and Circlip GSR
▶ Page 896

igubal® clevis joints | Product Range

GERMK and GELMK - Clevis joint with pin and circlip - mm



- Lightweight
- Corrosion resistance
- High tensile strength
- Can be used in combination with E series rod ends

Order key

Type	Size	Options
G E M K - 04		
Clevis joint	Dimensional E series	Thread
Metric	Clevis pin and circlip	Inner Ø
		Thread L = Left-hand thread R = Right-hand thread
		Add-on: LS = Longer shank



Material:
igumid G ► Page 1782

Technical data

Part No.	Max. static Tensile Strength		Max. static Radial Load		Weight [g]
	Short term [lbs]	Long term [lbs]	Short term [lbs]	Long term [lbs]	
GE MK-04-M3.5	112	56	56	28	1.3
GE MK-04	112	56	56	28	1.3
GE MK-05-DIN-M4	180	90	56	28	2.1
GE MK-05-DIN-M5	180	90	56	28	2.1
GE MK-05	202	101	56	28	3.3
GE MK-05-DIN-M5-LS ²²⁾	180	90	29	15	2.9
GE MK-06	292	146	67	33	3.3
GE MK-06-LS ²²⁾	292	146	29	15	4.4
GE MK-08	472	236	146	73	7.9
GE MK-10	674	337	180	90	16.4
GE MK-10-F	674	337	180	90	16.4
GE MK-12	787	393	202	101	25.3
GE MK-12-F	787	393	202	101	25.3
GE MK-14	1371	685	224	112	31.2
GE MK-15	629	315	224	112	38.9
GE MK-16	1573	786	270	135	60.8
GE MK-16-F	1573	786	270	135	60.8
GE MK-17	809	405	270	135	62.3
GE MK-17-F	809	405	270	135	62.3
GE MK-20	2023	1012	674	337	125.2
GE MK-20-M20	2023	1012	674	337	125.2

²²⁾ LS = longer shank

Tolerance Table, ► Page 58



Single components: clevis pin GBM and Circlip GSR
► Page 896

igubal® clevis joints | Product Range

GERMF AND GELMF - Clevis joint with spring loaded pin



- Single piece design
- Easy to assemble
- Easy assembly also in hard to reach locations
- Can be used in combination with E series rod ends
- Corrosion-resistant and lightweight

Order key

Type	Size	Options
G E <input type="checkbox"/> M F - 04		
Clevis joint	Dimensional E series	Thread
	Thread	Metric
	Spring loaded pin	Inner Ø

Thread
L = Left-hand thread
R = Right-hand thread

Add-on:
LS = Longer shank

Material:
igumid G ► Page 1782

Technical data

Part No.	Max. static tensile strength		Max. static radial load		Weight [g]
	Short term	Long term	Short term	Long term	
	[lbs]	[lbs]	[lbs]	[lbs]	
GE <input type="checkbox"/> MF-04-M3.5	112	56	56	28	1.3
GE <input type="checkbox"/> MF-04	112	56	56	28	1.3
GE <input type="checkbox"/> MF-05 DIN-M4	180	90	56	28	2.3
GE <input type="checkbox"/> MF-05 DIN-M5	180	90	56	28	2.3
GE <input type="checkbox"/> MF-05 DIN-M5-LS ²²⁾	180	90	56	28	2.3
GE <input type="checkbox"/> MF-05	202	101	56	28	3.8
GE <input type="checkbox"/> MF-06	292	146	67	34	3.9
GE <input type="checkbox"/> MF-06-LS ²²⁾	292	146	29	15	3.9
GE <input type="checkbox"/> MF-08	472	236	146	73	9.1
GE <input type="checkbox"/> MF-10	674	337	180	90	18.2
GE <input type="checkbox"/> MF-10-F	674	337	180	90	18.2
GE <input type="checkbox"/> MF-12	787	393	202	101	28.6
GE <input type="checkbox"/> MF-12-F	787	393	202	101	28.6
GE <input type="checkbox"/> MF-16	1574	787	270	135	61.8
GE <input type="checkbox"/> MF-16-F	1574	787	270	135	61.8

²²⁾ LS = longer shank

igubal® clevis joints | Product Range

GERMKE and GELMKE - Clevis joint with rod end and spring loaded pin



- Lightweight
- Corrosion resistance
- High tensile strength
- Can be used in combination with E series rod ends

Order key

Type	Size	Options
G E □ M KE - 04		
Clevis joint	Dimensional E series	Thread L = Left-hand thread R = Right-hand thread
Thread	Metric	Add-on: LS = Longer shank
Clevis pin, circlip and rod end	Inner Ø	

Material:
igumid G ► Page 1782


Technical data

Part No.	Max. static tensile strength		Max. static radial load		Weight
	Short term	Long term	Short term	Long term	[g]
	[lbs]	[lbs]	[lbs]	[lbs]	
GE□MKE-05	202	101	34	17	6.4
GE□MKE-06	292	146	45	22	7.3
GE□MKE-08	450	225	101	51	14.6
GE□MKE-10	517	259	112	56	27.1
GE□MKE-10-F	517	259	112	56	27.1
GE□MKE-12	742	371	124	62	42.7
GE□MKE-12-F	742	371	124	62	42.7
GE□MKE-15	630	315	180	90	68.4
GE□MKE-16	1124	562	191	96	86.9
GE□MKE-16-F	1124	562	191	96	86.9
GE□MKE-17	809	405	247	124	98.3
GE□MKE-17-F	809	405	247	124	98.3
GE□MKE-20	1619	809	405	202	175.2
GE□MKE-20 M20	1619	809	405	202	175.2


igubal® clevis joints | Product Range

GERMFE and GELMFE - Clevis joint with rod end and spring loaded pin



 Order key

Type	Size	Options
G E □ M FE - 05		
Clevis joint	Dimensional E series	Thread
	Metric	Spring loaded pin and rod end
	Inner Ø	
		Thread L = Left-hand thread R = Right-hand thread
		Add-on: LS = Longer shank

 Material:
igumid G ► Page 1782

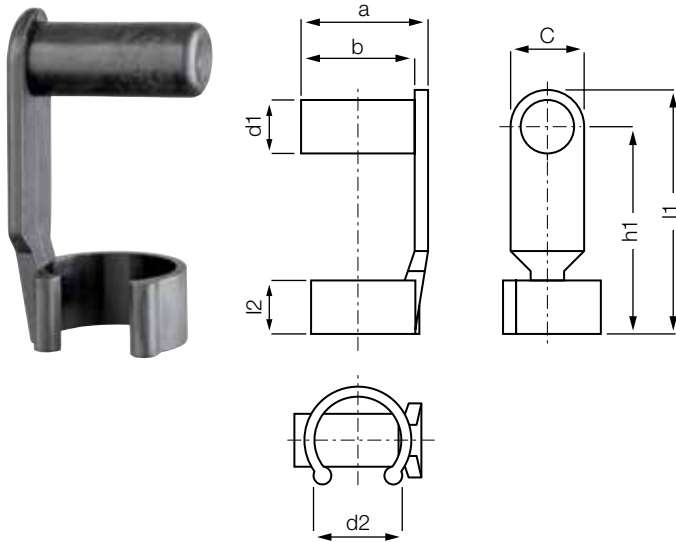
Technical data

Part No.	Max. static tensile strength		Max. static radial load		Weight [g]
	Short term	Long term	Short term	Long term	
	[lbs]	[lbs]	[lbs]	[lbs]	
GE□MFE-05	202	101	34	17	7.0
GE□MFE-06	292	146	45	22	7.9
GE□MFE-08	450	225	101	51	15.9
GE□MFE-10	517	259	112	56	29.2
GE□MFE-10-F	517	259	112	56	29.2
GE□MFE-12	742	371	124	62	46.0
GE□MFE-12-F	742	371	124	62	46.0
GE□MFE-16	1124	562	191	96	94.4
GE□MFE-16-F	1124	562	191	96	94.4

Clevis joints with spring-loaded fixing clip can be used in combination with E series rod ends EBRM and EARM ► Page 860 / 868

igubal® clevis joints | Product Range

GEFM - Spring loaded pin



Material:
igumid G ► Page 1782

Dimensions [mm]

Part No.	d1 h11	d2	a	b	C	l1 ±0.5	h1	l2	Weight [g]
GEFM-04	4	8	9.5	10.5	8	19	15	4.5	0.5
GEFM-05-DIN	5	9	12	13.5	8	23	19	5.5	0.8
GEFM-05-DIN-M5-LS ²²⁾	5	9	12	13.5	8	33	29	5.5	1.0
GEFM-05	5	10	14	15.5	8	27	23	6.5	1.1
GEFM-06-LS ²²⁾	6	10	14	15.5	8	39	35	6.5	1.0
GEFM-06	6	10	14	15.5	8	27	23	6.5	1.2
GEFM-08	8	14	19	21.0	11	35.5	30	8.0	2.8
GEFM-10	10	18	23	25.5	14	45	38	10.0	5.0
GEFM-12	12	20	28	31.0	16	53	45	12.0	8.3
GEFM-16	16	26	36	40.0	22	73	62	16.0	18.3

²²⁾ LS = longer shank

igubal® clevis joints | Product Range

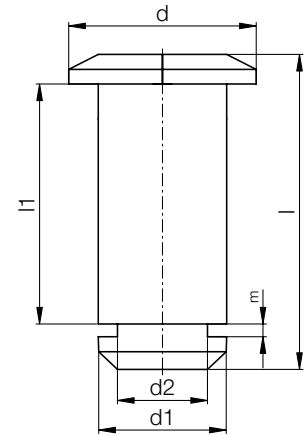
GBI and GBM - Clevis pin inch and mm



Material:
igumid G ► Page 1782

Dimensions (inch)

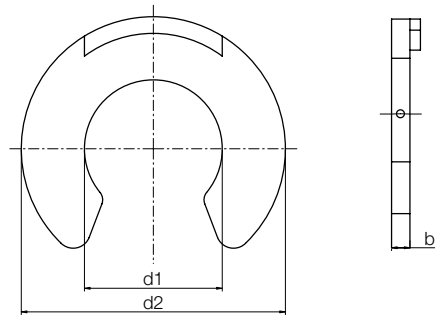
Part Number	d1	d2	d	l	l1	m	Clip	Weight
GBI-03	0.1875	0.1260	0.3125	0.55	0.3975	0.0472	GSR-04	0.4
GBI-04	0.2500	0.1969	0.3750	0.65	0.4764	0.0512	GSR-08	0.5
GBI-05	0.3125	0.1969	0.4375	0.85	0.6339	0.0512	GSR-08	1.5
GBI-06	0.3750	0.2756	0.5000	1.05	0.7953	0.0591	GSR-10	2.8
GBI-07	0.4375	0.3543	0.6250	1.25	0.9528	0.0669	GSR-12	4.6
GBI-08	0.5000	0.3543	0.7500	1.40	1.0709	0.0669	GSR-12	5.2



Dimensions (mm)

Part Number	d1	d2	d	l	l1	m	Clip	Weight
GBM-04	4	3.2	7	12.50	8	1.05	GSR-04	0.3
GBM-05	5	4.0	8	16.50	12	1.15	GSR-06	0.5
GBM-05-DIN	5	4.0	8	14.50	10	1.15	GSR-06	0.5
GBM-06	6	4.0	9	16.50	12	1.15	GSR-06	0.7
GBM-08	8	5.0	12	21.50	16	1.15	GSR-08	1.5
GBM-10	10	7.0	15	27.00	20	1.35	GSR-10	3.0
GBM-12	12	9.0	18	31.50	24	1.50	GSR-12	4.8
GBM-14	14	12.0	22	36.00	27	1.70	GSR-16	5.7
GBM-15	15	12.0	23	36.00	27	1.70	GSR-16	8.3
GBM-16	16	12.0	24	42.00	32	1.70	GSR-16	10.4
GBM-17	17	12.0	25	42.00	32	1.70	GSR-16	12.3
GBM-20	20	15.0	30	51.00	40	2.00	GSR-20	19.2

GSR - Circlip - mm

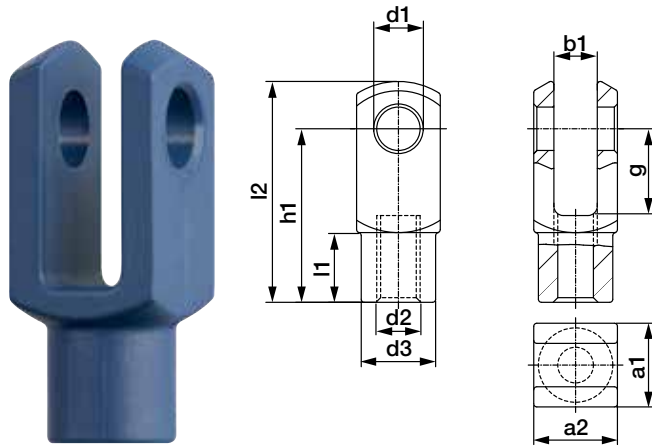


Dimensions (mm)

Part Number	d1	d2	b	Weight
GSR-04	3.20	7.0	1.00	0.05
GSR-06	4.00	9.0	1.10	0.06
GSR-08	5.00	11.0	1.10	0.12
GSR-10	7.00	14.0	1.30	0.16
GSR-12	9.00	18.5	1.40	0.31
GSR-16	12.00	23.0	1.60	0.58
GSR-20	15.00	28.0	1.90	0.96

igubal® clevis joints | Product Range

Clevis joints, detectable, FDA and EU10/2011-compliant: GERM-FC



Order key

Type	Size	Version	Options
G E R M - 04 - FC			
Clevis joint	Dimensional E series	Thread	Metric
		Inner Ø	Suitable for food contact

Thread
L = Left-hand thread
R = Right-hand thread

- Self-lubricating and maintenance-free
- Optically and magnetically detectable
- Compliant with Regulation (EU) No. 10/2011 and FDA guidelines
- Corrosion and media-resistant
- Vibration-dampening
- Cost-effective



Material:
igumid FC ► Page 1783

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Max. torque strength [Nm]	Weight [g]
	Short-term	Long-term	Short-term	Long-term		
	[lbs]	[lbs]	[lbs]	[lbs]		
GERM-04-FC	134	67	44	22	1.0	0.8
GERM-05-DIN-M5-FC	179	89	56	28	1.5	1.5
GERM-06-FC	314	157	56	28	1.5	2.5
GERM-08-FC	517	258	146	73	5.0	6.4
GERM-10-FC	899	449	179	89	10.0	13.2
GERM-10-FC-F	899	449	179	89	10.0	13.2
GERM-12-FC	1124	562	202	101	15.0	20.7
GERM-12-FC-F	1124	562	202	101	15.0	20.7

Dimensions [mm]

Part No.	d1	g	a1	a2	b1	d2	d3	l2	h1	l1
			+0.3	+0.3						
			-0.16	-0.16						
GERM-04-FC	4	8.0	8.0	8.0	4.1	M4	8	21.0	16.0	6.0
GERM-05-DIN-M5-FC	5	10.0	9.9	9.9	5.3	M5	9	24.5	20.0	7.5
GERM-06-FC	6	12.0	12.0	12.0	6.2	M6	10	31.0	24.0	9.0
GERM-08-FC	8	15.9	15.8	15.8	8.2	M8	14	42.0	32.0	12.0
GERM-10-FC	10	19.5	19.9	19.9	9.5	M10	18	51.3	39.5	14.8
GERM-10-FC-F	10	19.5	19.9	19.9	9.5	M10x1.25	18	51.3	39.5	14.8
GERM-12-FC	12	24.0	23.7	23.7	12.2	M12	20	61.3	48.0	18.0
GERM-12-FC-F	12	23.5	23.7	23.7	12.2	M12x1.25	20	61.3	48.0	18.0

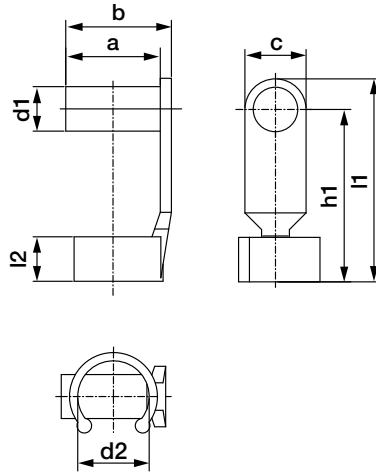
Left-hand thread and other dimensions available upon request

igubal® clevis joints | Product Range

Spring-loaded fixing clips, detectable - GEFM-FC
FDA and EU10/2011-compliant



- Self-lubricating and maintenance-free
- Optically and magnetically detectable
- Compliant with Regulation (EU) No. 10/2011 and FDA guidelines
- Corrosion and media-resistant
- Vibration-dampening
- Cost-effective



Order key

Type	Size	Version
G	E	F
M	04	FC
Clevis joint	Dimensional E series	Spring loaded fixing clip
		Metric
		Inner Ø
		Suitable for food contact



Material:
igumid FC ► Page 1783

Dimensions [mm]

Part No.	d1	d2	a	b	C	l1 ±0.5	h1	l2	Weight [g]
GEFM-04-FC	4	8.0	9.5	10.5	8	19	15	4.5	0.5
GEFM-05-DIN-M5-FC	5	9.0	12.0	13.5	8	23	19	5.5	0.8
GEFM-06-FC	6	9.8	14.0	15.5	8	27	23	6.5	1.2
GEFM-08-FC	8	14.0	19.0	21.0	11	36	30	8.0	2.7
GEFM-10-FC	10	17.5	23.0	25.5	14	45	38	10.5	5.1
GEFM-12-FC	12	20.2	27.5	30.5	16	53	45	12.0	8.3

igubal® clevis joints | Product Range

Clevis joints with spring-loaded fixing clips, detectable - GERMF-FC
FDA and EU10/2011-compliant GERMF-FC



- Self-lubricating and maintenance-free
- Optically and magnetically detectable
- Compliant with Regulation (EU) No. 10/2011 and FDA guidelines
- Corrosion and media-resistant
- Vibration-dampening
- Cost-effective



Order key

Type	Size	Version
G E R M F - 04 - FC		
Clevis joint	Dimensional E series	Spring loaded fixing clip
Thread	Metric	Inner Ø
Suitable for food contact		



Material:
igumid FC ▶ Page 1783

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Weight [g]
	Short-term	Long-term	Short-term	Long-term	
	[lbs]	[lbs]	[lbs]	[lbs]	
GERMF-04-FC	89	44	44	22	1.3
GERMF-05-DIN-M5-FC	157	78	56	28	2.3
GERMF-06-FC	269	134	56	28	3.7
GERMF-08-FC	449	224	146	73	9.1
GERMF-10-FC	674	337	179	89	18.3
GERMF-10-FC-F	674	337	179	89	18.3
GERMF-12-FC	674	337	202	101	29.0
GERMF-12-FC-F	674	337	202	101	29.0

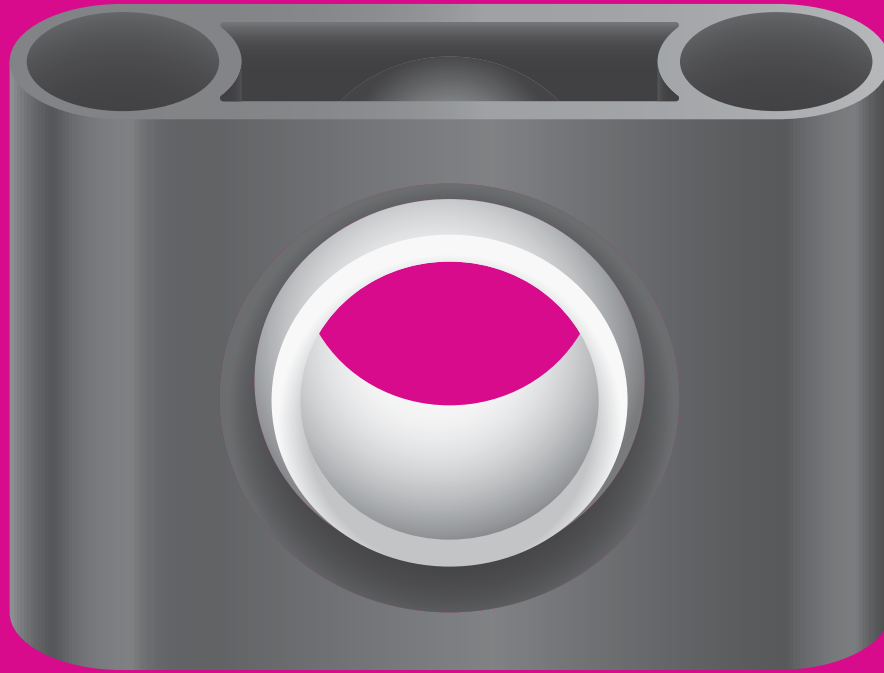
Dimensions [mm]

Part No.	d1	g	a1	a2	b1	d2	d3	l2	h1	l1
			+0.3	+0.3						
			-0.16	-0.16						
GERMF-04-FC	4	8.0	8.0	8.0	4.1	M4	8	21.0	16.0	6.0
GERMF-05-DIN-M5-FC	5	10.0	9.9	9.9	5.3	M5	9	24.5	20.0	7.5
GERMF-06-FC	6	12.0	12.0	12.0	6.2	M6	10	31.0	24.0	9.0
GERMF-08-FC	8	15.9	15.8	15.8	8.2	M8	14	42.0	32.0	12.0
GERMF-10-FC	10	19.5	19.9	19.9	9.5	M10	18	51.3	39.5	14.8
GERMF-10-FC-F	10	19.5	19.9	19.9	9.5	M10x1.25	18	51.3	39.5	14.8
GERMF-12-FC	12	24.0	23.7	23.7	12.2	M12	20	61.3	48.0	18.0
GERMF-12-FC-F	12	23.5	23.7	23.7	12.2	M12x1.25	20	61.3	48.0	18.0

Left-hand thread upon request

Notes

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.



igubal[®] pillow block bearings

Maintenance-free dry operation

Robust

Durable

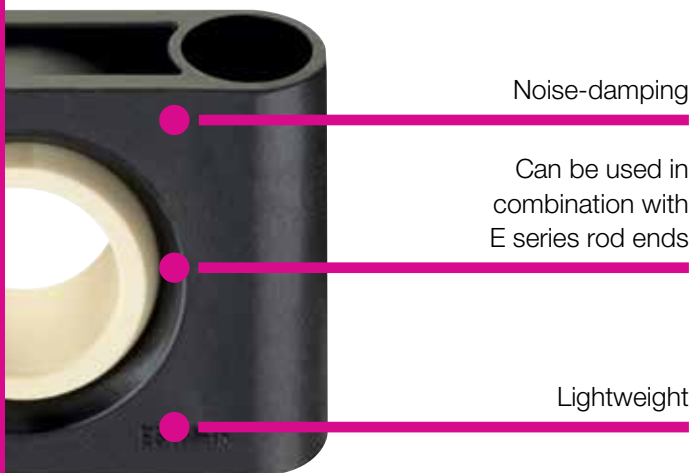
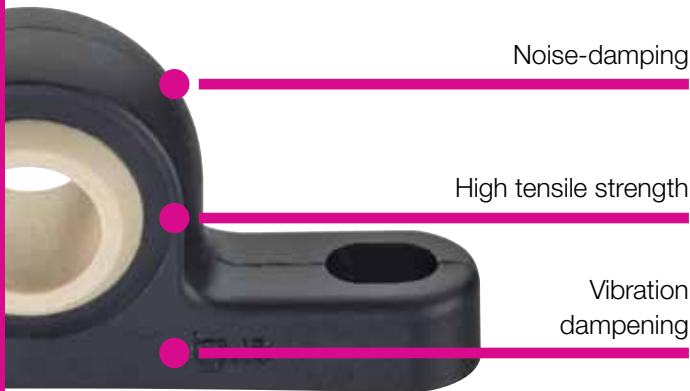
Media-resistant

High radial loads



igubal® pillow block bearings | Advantages

The igubal® pillow block bearings consist of a housing with a bearing insert. igubal® pillow block bearings are especially easy to install, able to compensate for misalignment and prevent edge loads.



When to use it?

- If chemical resistance is required
- If a cost-effective option is requested
- If you need dirt-resistant bearings
- To account for misalignment
- If you need split components



When not to use it?

- If temperatures are higher than +176 °F
- If an integrated fixing collar is required
- If diameters above 1 inch or 50 mm are needed
- If rotation speeds higher than 98 fpm (0.5 m/s) are required



Available from stock

Detailed information about delivery time online.



Price breaks online

No minimum order value. No minimum order quantity



Max. +176°F

Min. -22°F



6 types

Ø 5–150mm



Online product finder

► www.igus.com/igubal-finder

igubal® pillow block bearings | Application examples



Typical sectors of industry and application areas

- Plant design
- Machine building
- Packaging
- Agricultural equipment

Improve technology and reduce costs –
110 exciting examples online

► www.igus.com/igubal-applications



Stone processing



Solar technology



Paper industry



Machine tools

General information

igubal® pillow blocks are made of igumid G according to DIN 71752. The pillow blocks are available in a variety of configurations. igubal® pillow blocks can be used in difficult circumstances without any problems. The pillow blocks are corrosion resistant in moist or wet environments and the sliding bearings are resistant to weak acids and alkalis. The operating temperatures range from -22°F to +176°F. igubal® pillow blocks are made out of a highly-wear resistant material which requires no external lubrication.

Advantages

- Maintenance-free, self-lubricating
- High rigidity
- High strength under impact loads
- Compensation for misalignment
- Compensation for edge loads
- Corrosion-free
- Chemically resistant
- Vibration dampening
- Suitable for rotating, oscillating and linear movements
- Lightweight
- High radial loads
- Can be used in liquid media
- Space-saving design
- Easy to install
- Predictable lifetime

Loads

The load capacity of the maintenance-free igubal® bearing elements is very high at normal ambient temperatures. igubal® bearings absorb high forces and weigh only 1/5 of traditional, metal bearing housings. The excellent dampening properties are based on the fact that the polymer material of the two part bearing can absorb vibrations differently than steel. However, plastic specific properties, such as dependence on temperature and behavior under long-term stress, must be taken into consideration when using igubal® bearings. The load capacity of the pillow block should therefore be checked in a practical test, particularly if it will be used under continuous high loads and at elevated temperatures.

Chemical resistance

The ability to pivot allows igubal® pillow block bearings to compensate for misalignment and possible shaft deflection. Applications where these effects cannot be prevented are suited for igubal pillow block bearings.

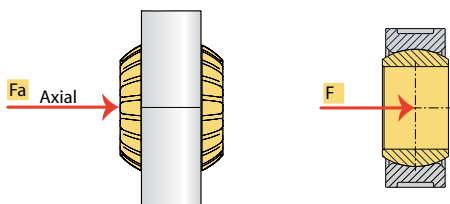
Tolerances

Maintenance-free igubal® pillow block bearings are designed with inside diameter tolerance of E10. The shaft should be made to tolerance class h6 to h9. These recommended tolerances allow for changes in the bearing due to temperature and moisture absorption.

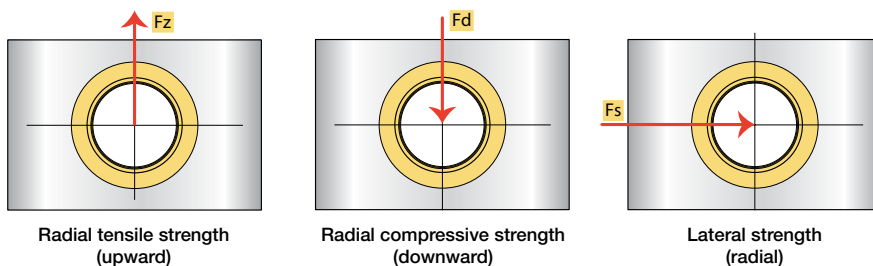
Tolerance table ► **Page 58**

Mounting

igubal® pillow block bearings are designed for mounting with 2 bolts. Precision mounting of the bearing is not necessary, since the spherical ball compensates for misalignment.



Axial Strength

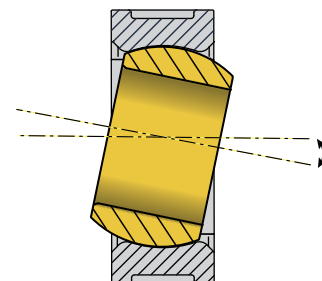


Radial tensile strength (upward)

Radial compressive strength (downward)

Lateral strength (radial)

Pivot angle



igubal® pillow block bearings | Product overview

igubal® pillow block bearings – standard design



Compensation of misalignment errors

K series - inch

► Page 906



Compensation of misalignment errors

K series - metric

► Page 907

igubal® pillow block bearings – space-saving



Easy to disassemble, split housing and ball

K series

► Page 908



Easy to fit

E series

► Page 909



For quick assembly and low total moisture absorption

E series

► Page 910



Split housing with parallel hole

E series

► Page 911



Extremely light, compact design

E series

► Page 912



Split pillow block bearings for square profiles

E series

► Page 913



Pillow block with cost-effective metallic housing

► Page 914



Pillow block with cost-effective cast-iron housing

► Page 915

igubal® combination with xiros® ball bearings



Low coefficient of friction, fixed version

E series

► Page 1068



Low coefficient of friction, pivoting version

E series

► Page 1069

igubal® pillow block bearings | Product Range

KSTI - Pillow block bearing - inch

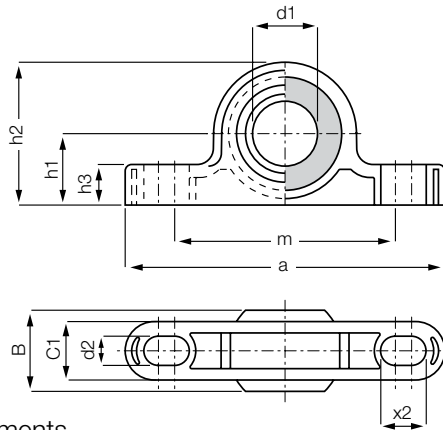


Order key

Type K ST I - 05 Size

K ST I - 05

K series	Pillow block bearing	Metric	Inner Ø
----------	----------------------	--------	---------



- Maintenance free, dry-running
- High rigidity
- High strength under impact loads
- Compensation of misalignment and edge loads
- Corrosion- and chemical-resistant
- High vibration-dampening
- Suitable for rotating, oscillating and linear movements
- Lightweight



Service life calculation online
► www.igus.com/igubal-expert



Material:
Housing: igumid G ► Page 1782
Spherical ball: iglide® W300 ► Page 211

Dimensions [mm]

Part No.	d1 [E10]	B	C1	h1	h2	m	a	h3	d2	X2	Max. pivot angle
KSTI-03	.1875	.312	.234	.290	.566	1.00	1.40	.165	.137	.200	25°
KSTI-04	.2500	.375	.250	.390	.705	1.25	1.75	.205	.137	.250	25°
KSTI-05	.3125	.437	.312	.430	.824	1.35	1.95	.236	.150	.280	25°
KSTI-06	.3750	.500	.359	.550	1.022	1.80	2.40	.376	.180	.300	22°
KSTI-07	.4375	.562	.406	.570	1.082	1.85	2.50	.315	.205	.330	22°
KSTI-08	.5000	.625	.453	.600	1.191	2.00	2.80	.354	.205	.380	22°
KSTI-10	.6250	.750	.484	.700	1.409	2.30	3.35	.413	.205	.470	22°
KSTI-12	.7500	.875	.593	.860	1.687	2.70	3.75	.472	.270	.530	22°
KSTI-16	1.000	1.375	1.005	1.10	2.163	3.50	5.00	.630	.520	.680	20°

Technical data

Part No.	Max. static tensile strength		Max. axial static compressive strength [lbs]	Max. torque for longitudinal holes [ft lbs]	Weight [g]
	Short term [lbs]	Long term [lbs]			
	KSTI-03	124			
KSTI-04	135	67	68	0.44	2.8
KSTI-05	180	90	90	0.59	4.5
KSTI-06	225	112	112	0.96	7.5
KSTI-07	247	124	135	1.84	9.7
KSTI-08	270	135	135	1.84	13.5
KSTI-10	472	236	180	1.84	21.5
KSTI-12	697	348	270	3.32	33.4
KSTI-16	1214	607	360	7.74	85.8

The maximum torques for longitudinal holes correspond to the permissible torque of the fixing screws (fixing category 5.8).

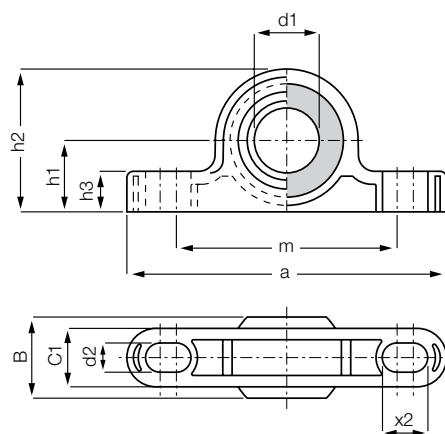
igubal® pillow block bearings | Product Range

KSTM - Pillow block bearing - mm

igubal®
pillow block
bearings



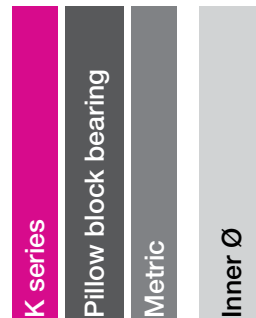
- Maintenance free, dry-running
- High rigidity
- High strength under impact loads
- Compensation of misalignment and edge loads
- Corrosion- and chemical-resistant
- High vibration-dampening
- Suitable for rotating, oscillating and linear movements
- Lightweight



Order key

Type Size

K ST M - 05



Service life calculation online

► www.igus.com/igubal-expert



Material:

Housing: igumid G ► Page 1782

Spherical ball: iglide® W300 ► Page 211

Dimensions [mm]

Part No.	d1 [E10]	B	C1	h1	h2	m	a	h3	d2	X2	Max. pivot angle
KSTM-05	5	8	6.0	7	14	25	34	4	3.3	4.6	30°
KSTM-06	6	9	7.0	10	18	33	43	5.5	4.5	6	29°
KSTM-08	8	12	9.0	10	20	33	47	6	4.5	7	25°
KSTM-10	10	14	10.5	14	26	46	62	7.5	5.5	8	25°
KSTM-12	12	16	12.0	14	28	46	65	8.5	5.5	9	25°
KSTM-14	14	19	13.5	18	34	60	82	9.5	6.6	11	23°
KSTM-16	16	21	15.0	18	36	60	86	10.5	6.6	12	23°
KSTM-18	18	23	16.5	22	42	68	93	11.5	9.0	13	23°
KSTM-20	20	25	18.0	22	44	68	98	13	9.0	14	23°
KSTM-22	22	28	20.0	24	48	74	108	14	9.0	16	22°
KSTM-25	25	31	22.0	27	54	86	124	16	9.0	17	22°
KSTM-30	30	37	25.0	32	64	96	139	17	11.0	20	22°

Technical data

Part No.	Max. static tensile strength		Max. axial static compressive strength	Max. torque for longitudinal holes	Weight
	Short term	Long term			
	[lbs]	[lbs]			
KSTM-05	157	78	67	0.44	1.7
KSTM-06	247	123	67	0.96	2.9
KSTM-08	292	146	89	0.96	4.6
KSTM-10	337	168	112	1.84	8.6
KSTM-12	494	247	134	1.84	11.8
KSTM-14	539	269	134	3.32	18.4
KSTM-16	674	337	224	3.32	23.7
KSTM-18	786	393	269	7.74	32.2
KSTM-20	1056	528	292	7.74	40.0
KSTM-22	1371	685	314	7.74	54.0
KSTM-25	1483	741	359	7.74	75.3
KSTM-30	1820	910	472	15.86	116.8

The maximum torques for longitudinal holes correspond to the permissible torque of the fixing screws (fixing category 5.8).

igubal® pillow block bearings | Product Range

Pillow block bearings with split housing: KSTM-GT

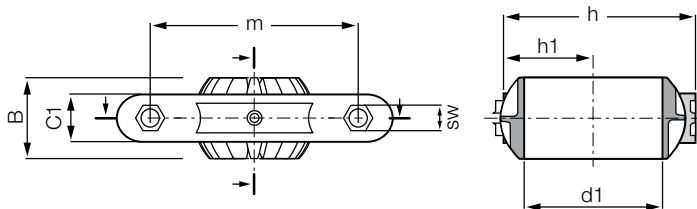
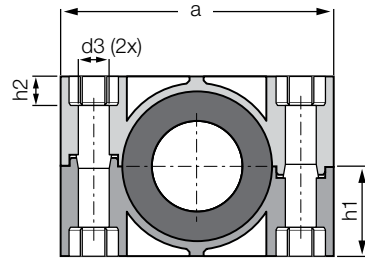


- Easy installation with no shaft removal necessary
- Maintenance free, dry-running
- For high static loads
- Space- and weight-saving design
- Mounting: M12
- High rigidity and fatigue strength
- Predictable lifetime
- Dimensional K series according to standard DIN ISO 12240



Order key

Type	Size	Version
K	ST	M-GT - 40 - GT
Dimensional K series	Pillow block bearing	Metric
	Split pillow block	Inner-Ø [mm]
		Split ball option



Material:

Housing: RN33 ► Page 1785

Spherical ball: iglide® J ► Page 193

Dimensions [mm]

Part No.	d1	d3	h	h1	h2	SW	a	m	C1	B	Max. pivot angle
	[E10]										
KSTM-GT35 ²³⁾	35.0	13.5	79.0	39.5	12.6	19.0	120.5	91.0	29.5	48.5	24°
KSTM-GT40	40.0	13.5	79.0	39.5	12.6	19.0	120.5	91.0	29.5	48.5	24°
KSTM-GT40-GT ²⁴⁾	40.0	13.5	79.0	39.5	12.6	19.0	120.5	91.0	29.5	48.5	24°
KSTM-GT45 ²³⁾	45.0	13.5	100.0	50.0	12.6	19.0	149.0	114.0	35.0	60.0	24°
KSTM-GT50	50.0	13.5	100.0	50.0	12.6	19.0	149.0	114.0	35.0	60.0	24°
KSTM-GT50-GT ²⁴⁾	50.0	13.5	100.0	50.0	12.6	19.0	149.0	114.0	35.0	60.0	24°

Technical data

Part No.	Max. radial tensile strength		Max. axial tensile strength		Max. torque		Weight
					through ball	fixing holes	
	Short term	Long term	Short term	Long term			
	[lbs]	[lbs]	[lbs]	[lbs]	[ft lbs]	[ft lbs]	[g]
KSTM-GT35 ²³⁾	2,473	1,236	562	281	3.69	11.06	250
KSTM-GT40	2,473	1,236	562	281	3.69	11.06	235
KSTM-GT40-GT ²⁴⁾	2,473	1,236	562	281	3.69	11.06	235
KSTM-GT45 ²³⁾	3,372	1,686	674	337	3.69	14.75	405
KSTM-GT50	3,372	1,686	674	337	3.69	14.75	389
KSTM-GT50-GT ²⁴⁾	3,372	1,686	674	337	3.69	14.75	389

*Inside diameter achieved with plain iglide® J bearing pressed into ID of spherical ball

**Spherical balls are also available with split design

igubal® pillow block bearings | Product Range

Pillow block bearings: ESTM

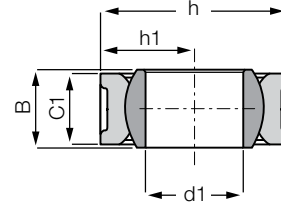
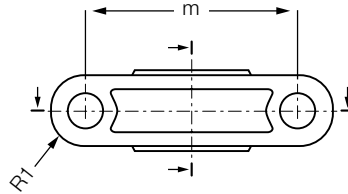
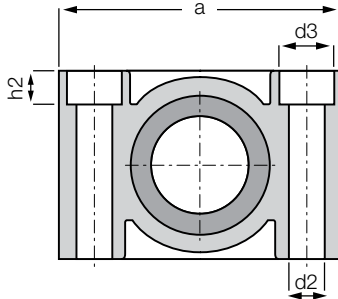


- High radial loads
- Can be used in liquid media
- Space-saving design, easy to fit
- Predictable lifetime
- Maintenance free, self-lubricating
- Dimensional E series acc. to standard DIN ISO 12240
- Adapter available



Order key

Type	Size
E	ST M - 05
Dimensional E series	Pillow block bearing
	Metric
	Inner-Ø [mm]



Material:

Housing: igumid G ▶ Page 1782

Spherical ball: iglide® W300 ▶ Page 211

Dimensions [mm]

Part No.	d1 [E10]	d2	d3	h	h1	h2	a	m	C1	B	R1	Max. pivot angle
ESTM-08	8.0	4.5	–	19	9.5	–	31.0	22.0	9.0	8.0	4.5	22°
ESTM-10	10.0	5.5	–	22	11	–	36.0	26.0	10.0	9.0	5.0	22°
ESTM-12	12.0	5.5	–	26	13	–	38.0	28.0	10.0	10.0	5.0	22°
ESTM-16	16.0	6.6	10.6	34.0	17.0	6.4	50.0	37.0	13.0	13.0	6.5	22°
ESTM-20	20.0	9.0	14.0	40.0	20.0	8.6	62.0	46.0	16.0	16.0	8.0	22°
ESTM-25	25.0	9.0	14.0	48.0	24.0	8.6	72.0	54.0	18.0	20.0	9.0	20°
ESTM-30	30.0	11.0	17.0	56.0	28.0	10.6	86.0	64.0	22.0	22.0	11.0	20°

Technical data

Part No.	Max. static radial tensile strength		Max. static radial compressive strength		Max. axial strength		Max. torque fixing holes [ft lbs]	Weight [g]
	Short term	Long term	Short term	Long term	Short term	Long term		
	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]		
ESTM-08	560	280	965	480	135	65	0.96	5.0
ESTM-10	765	380	1190	595	155	80	1.84	7.1
ESTM-12	1010	505	1460	730	165	85	1.84	9.0
ESTM-16	1505	750	1910	955	250	125	3.32	17.5
ESTM-20	1910	955	2470	1290	315	155	3.32	27.4
ESTM-25	3035	1515	4150	2080	515	255	7.74	50.8
ESTM-30 ²⁵⁾	2250	1125	3710	1855	560	280	7.74	79.7

* Due to the different manufacturing method, the load values of the ESTM-30 are lower than ESTM-25
Tolerance Table, ▶ Page 58

Alternative spherical ball materials ▶ Page 965



J4VEM:
Clearance-free,
preloaded



JEM: Low
moisture
absorption



REM:
Low-cost



J4EM:
Low-cost and low
moisture absorption

igubal® pillow block bearings | Product Range

ESTM-GT...-GT - Pillow block bearing with split housing and split ball

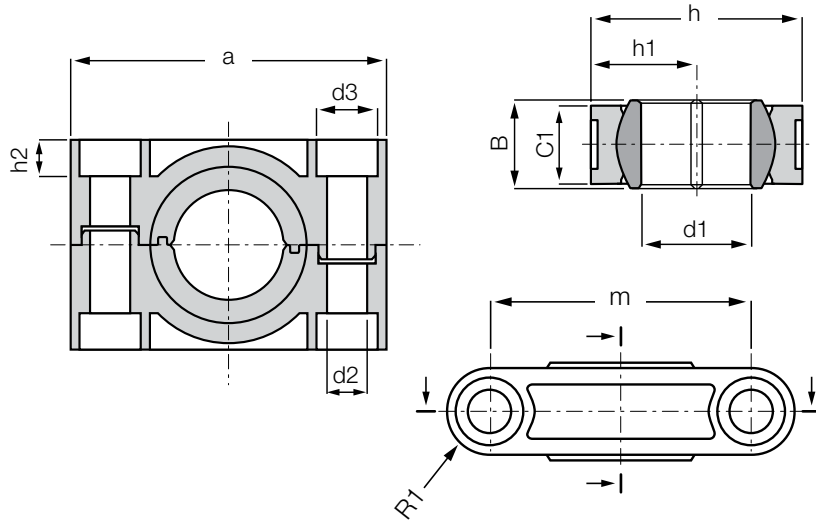


- Save time during assembly
- Low installation space and lightweight
- High rigidity and fatigue strength
- Spherical ball material iglide® J for low moisture absorption
- Ideal for outdoor use
- Dimensional E series according to standard DIN ISO 12240
- Adapter available



Order key

Type	Size	Version
E	ST M-GT - 40 - GT	
Dimensional E series	Pillow block bearing	Metric
	Split pillow block	Inner-Ø [mm]
		Split ball option



Material:

Housing: RN33 ► Page 1785

Spherical ball: iglide® J ► Page 193

Dimensions [mm]

Part No.	d1	d2	d3	h	h1	h2	a	m	C1	B	R1	Max. pivot angle
	[E10]											
ESTM-GT16-GT	16.0	6.6	10.6	34.0	17.0	6.4	50.0	37.0	13.0	13.0	6.5	22°
ESTM-GT20-GT	20.0	9.0	14.0	40.0	20.0	8.6	62.0	46.0	16.0	16.0	8.0	22°
ESTM-GT25-GT	25.0	9.0	14.0	48.0	24.0	8.6	72.0	54.0	18.0	20.0	9.0	22°
ESTM-GT30-GT	30.0	11.0	17.0	56.0	28.0	10.6	86.0	64.0	22.0	22.0	11.0	22°

Technical data

Part No.	max. static radial load		max. static radial compressive force		Weight [g]
	Short term	Long term	Short term	Long term	
	[lbs]	[lbs]	[lbs]	[lbs]	
ESTM-GT16-GT	562	281	900	450	18
ESTM-GT20-GT	787	393	1349	674	28
ESTM-GT25-GT	1124	562	1575	787	52
ESTM-GT30-GT	1237	618	2250	1124	84

igubal® pillow block bearings | Product Range

ESTM-GT - Pillow block bearing with parallel bore

igubal®
pillow block
bearings



- Easy to assemble/disassemble
- Ideal for outdoor applications
- High loads
- Dimensional E series according to standard DIN ISO 12240



Order key

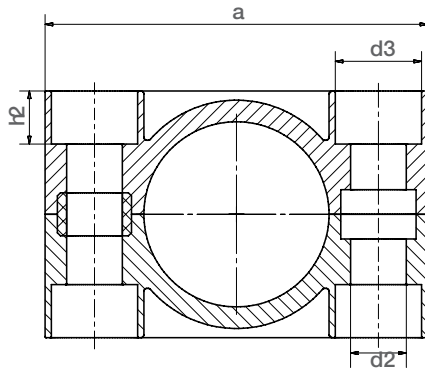
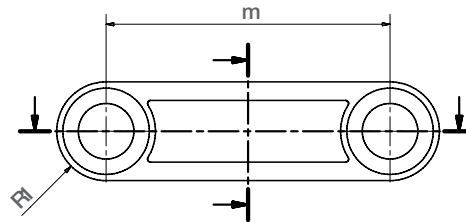
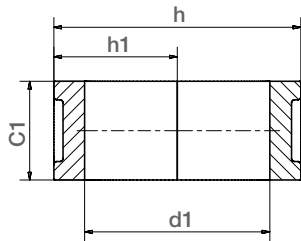
Type	Size	Version
------	------	---------

E **ST M-GT - 16 - 25**

Dimensional E series	Pillow block bearing	Metric	Split pillow block	Dimension	Inner-Ø [mm]
----------------------	----------------------	--------	--------------------	-----------	--------------



Material:
igumid G ► Page 1782



Dimensions [mm]

Part No.	d1 [E10]	d2	d3	h	h1	h2	a	m	C1	R1	Weight [g]
ESTM-GT16-25	25.0	6.6	10.6	34.0	14.0	6.4	50.0	37.0	13.0	6.5	12.6
ESTM-GT20-30	30.0	9.0	14.0	40.0	20.0	8.6	62.0	46.0	16.0	8.0	21.1
ESTM-GT25-35	35.0	9.0	14.0	48.0	24.0	8.6	72.0	54.0	20.0	9.0	39.9
ESTM-GT30-40	40.0	11.0	17.0	56.0	28.0	10.6	86.0	64.0	22.0	11.0	66.5



- Lightweight
- Space saving
- Low-cost
- Predictable lifetime
- Self-lubricating and maintenance-free
- With M3 thread, e.g. ESTM-10-SL-M3
- For self tapping screw with outer diameter 3.5 mm
- Dimensional E series according to standard DIN ISO 12240



Order key

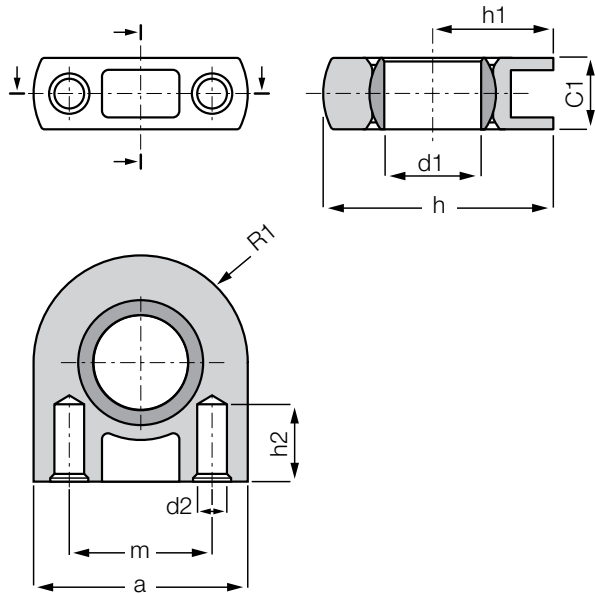
Type	Size	Version
E	ST M - 05 - SL	
Dimensional E series	Pillow block bearing	Metric
	Inner-Ø [mm]	Slimline



Material:

Housing: igumid G ► Page 1782

Spherical ball: iglide® J ► Page 193



Dimensions [mm]

Part No.	d1 [E10]	d2	h	h1	h2	a	m	C1	R1	Max. pivot angle
ESTM-05-SL	5.0	2.5	18.0	10.0	6.5	16.0	10.0	6.0	8.0	17°
ESTM-06-SL	6.0	2.5	18.0	10.0	6.5	16.0	10.0	6.0	8.0	17°
ESTM-08-SL	8.0	2.5	19.0	10.0	6.5	18.0	12.0	6.0	9.0	17°
ESTM-10-SL	10.0	2.5	20.0	10.0	6.5	20.0	14.0	6.0	10.0	17°

Technical data

Part No.	Max. radial tensile strength		Max. radial compressive strength		Max. lateral strength		Max. axial strength		Weight [g]
	Short term	Long term	Short term	Long term	Short term	Long term	Short term	Long term	
	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	
ESTM-05-SL	337	169	315	157	202	101	34	17	1.6
ESTM-06-SL	337	169	315	157	202	101	34	17	1.7
ESTM-08-SL	360	180	315	157	214	107	22	11	1.7
ESTM-10-SL	360	180	315	157	214	107	22	11	1.9

igubal® pillow block bearings | Product Range

Split pillow block bearings for square profiles: ESQM

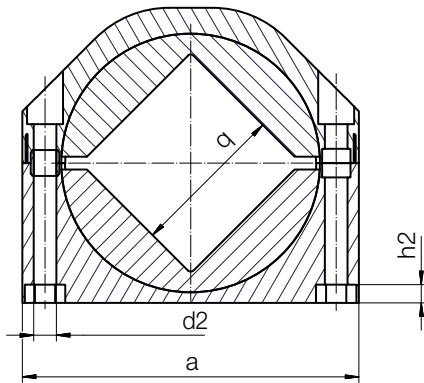
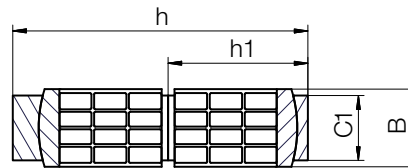
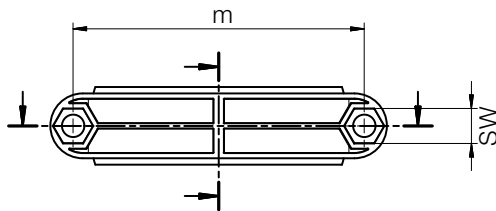


- Profile 100 x 100mm, 110 x 110mm or 120 x 120mm
- Split version of housing and spherical balls
- Easy assembly and disassembly
- High loads
- Lightweight
- Compensation of misalignment errors
- Mounting: M16 screw
- Recommended tightening torque: 50Nm



Order key

Type	Size
E SQ M-110	
E series	
Pillow block bearing for square profiles	
Metric	
Edge length	



Material:

Housing: igumid G ▶ Page 1782

Spherical ball: iglide® J4 ▶ Page 1780

Dimensions [mm]

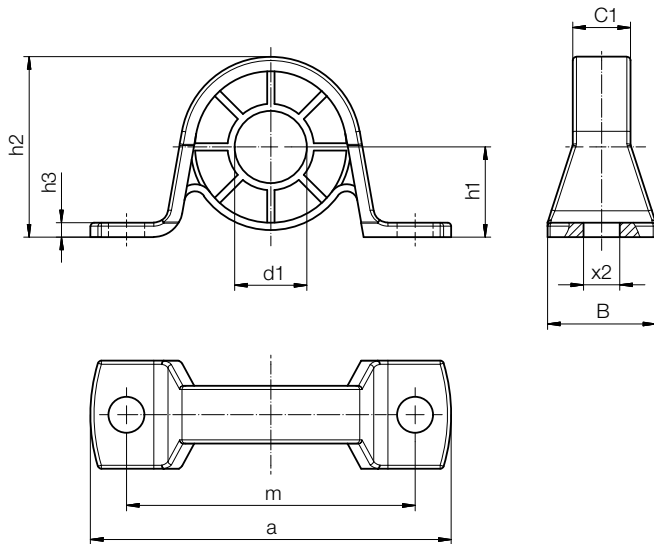
Part No.	q +1	SW	d2	h	h1	h2	a	m	B	C1	Weight [g]
ESQM-100	100.5	24	17.5	228	108	13.6	260	225	60	50	1,295
ESQM-110	110.5	24	17.5	228	108	13.6	260	225	60	50	1,255
ESQM-120	120.0	24	17.5	228	108	13.6	260	225	60	50	1,210
ESQM-140	140.0	24	17.5	266	130	15.0	307	269	60	50	1,672
ESQM-150	150.0	24	17.5	266	130	15.0	307	268	60	50	1,620

igubal® pillow block bearings | Product Range

Pillow block bearings with cost-effective metallic housing: PP-JEM-SP



- Self-lubricating and maintenance-free
- Cost-effective
- Resistant to dirt
- Cost-effective spherical ball material iglide® J4 available (order example: PP204-J4EM-20-14-SP)



Order key

Type	Size	Version
PP204- J E M- 20 - 14 - SP		
Pillow block bearing	Spherical ball material	Dimensional series
	Metric	Spherical ball inner Ø
		Spherical ball width
		Injection molding



Material:
Housing: Galvanized steel
 (stainless steel upon request)
Spherical ball: iglide® J ▶ Page 193
 (alternative iglide® J4) ▶ Page 1780



Dimensions [mm]

Part No.	d1	h1	h2	h3	a	m	C1	B	x2
	E10								
PP204-JEM-20-14-SP	20	25.4	50.5	3	98	76	22.0	32	9.5
PP205-JEM-25-15-SP	25	28.6	56.6	4	108	86	24.0	32	11.5
PP206-JEM-30-16-SP	30	33.3	66.3	4	117	95	26.5	38	11.5

Can be combined with SRM fixing collars, ▶ Page 986

Technical data

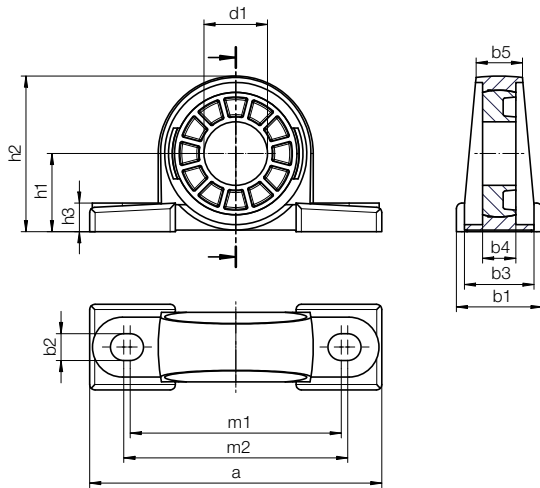
Part No.	Max. static radial tensile strain		Max. static axial compressive force		Weight [g]
	Short-term	Long-term	Short-term	Long-term	
	[lbs]	[lbs]	[lbs]	[lbs]	
PP204-JEM-20-14-SP	674.0	337.0	224.5	112.40	121
PP205-JEM-25-15-SP	1124.0	562.0	404.5	202.32	154
PP206-JEM-30-16-SP	1348.5	674.0	404.5	202.32	206

igubal® pillow block bearings | Product Range

Pillow block bearings with cast iron housing: JEM-SP



- UC204 to UC206, UC208 and UC210
- Self-lubricating and maintenance-free
- Cost-effective
- Resistant to dirt
- High loads



Dimensions [mm]

Part No.	d1	b1	b2	b3	b4	b5	a	h1	h2	h3	m1	m2
P204-JEM-20-17-SP	20	38	13	30.9	17	22.7	127	33.3	65	14	89	101
P205-JEM-25-17-SP	25	38	13	30.9	17	23.2	140	36.5	71	15	99	111
P205-JEM-30-19-SP	30	48	17	39.0	19	25.2	165	42.9	83	17	117	125
P208-JEM-40-21-SP	40	54	17	43.9	21	29.2	184	49.2	98	18	133	141
P210-JEM-50-24-SP	50	60	20	48.8	24	31.2	206	57.2	114	21	154	164

Can be combined with SRM fixing collars, ► Page 986

Technical data

Part No.	max. static radial compressive force	Max. static axial pressure load
	[lbs]	[lbs]
P204-JEM-20-17-SP	1,798	899
P205-JEM-25-17-SP	2,023	787
P205-JEM-30-19-SP	3,035	1,124
P208-JEM-40-21-SP	4,721	1,349
P210-JEM-50-24-SP	5,620	1,236

Order key

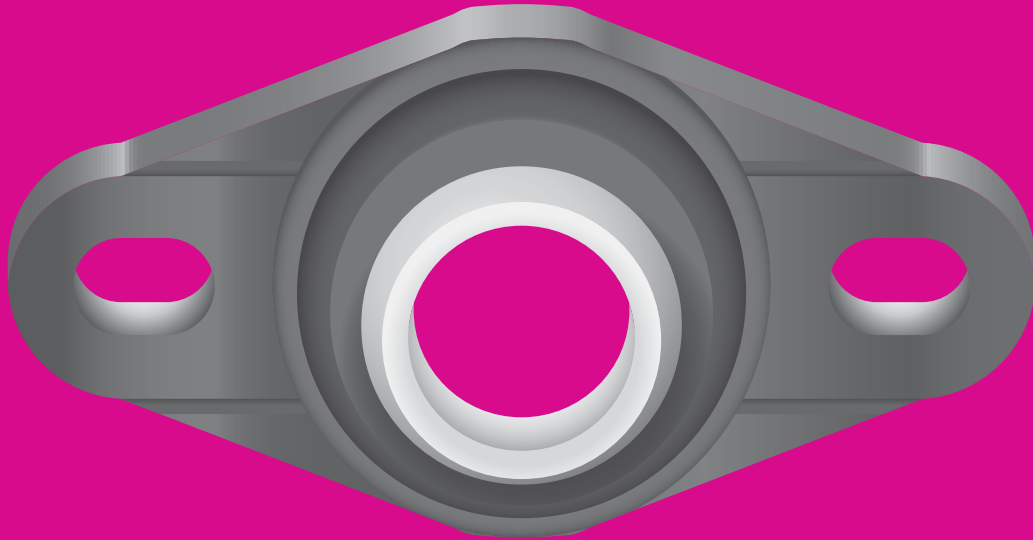
Type	Size	Version
P204 - J E M - 20 - 17 - SP		
Pillow block bearing	Spherical ball material	Dimensional series
	Metric	Spherical ball inner Ø
		Spherical ball width
		Injection molding

i Material:
Housing: Cast iron, coated
Spherical ball: iglide® J ► Page 193



Notes

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.



igubal[®] fixed flange bearings

Maintenance-free dry operation

Robust

Durable

Compensation for misalignment errors

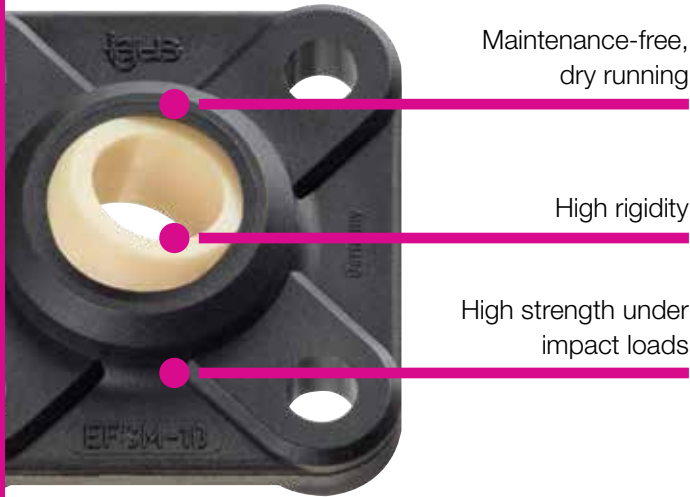
Resistant to edge loads

Lightweight



igubal[®] fixed flange bearings | Advantages

igubal[®] fixed flange bearings have been developed for supporting the center or ends of shafts. Like all standard igubal[®] products, these bearings consist of an igumid G housing and an iglide[®] W300 spherical ball. For temperatures up to +392°F please select the HT version. igubal[®] fixed flange bearings are made to the dimensional E series and are offered with two or four mounting holes.



Maintenance-free,
dry running

High rigidity

High strength under
impact loads



Lightweight

Low installation
space



When to use it?

- If chemical resistance is required
- If a cost-effective option is requested
- If you need dirt-resistant bearings
- To adjust misalignment
- If you need split components



When not to use it?

- If temperatures are higher than +392°F
 - ▶ HT version, **Page 933**
- If an integrated fixing collar is required
- If diameters above 1 inch or 50 mm are required
- If rotation speeds higher than 98 fpm (0.5 m/s) are required



Available from stock

Detailed information about delivery time online.



Price breaks online

No minimum order value.
No minimum order quantity



Max. + 392°F

Min. -40°F

(depending on material: standard from -22°F to +176°F; HT from -40°F to +392°F)



5 types

Inch sizes: Ø 3/8 to 1 inch

Metric sizes: Ø 4–50mm



Online product finder

▶ www.igus.com/igubal-finder

igubal® fixed flange bearings | Application examples



Typical sectors of industry and application areas

- Plant design
- Automation
- Agricultural machines
- Machine building
- Food industry etc.

Improve technology and reduce costs – 110 exciting examples online

► www.igus.com/igubal-applications



Conveyor technologies



Solar industry



Rotary sorter



Food industry

igubal® fixed flange bearings | Technical data

General Properties

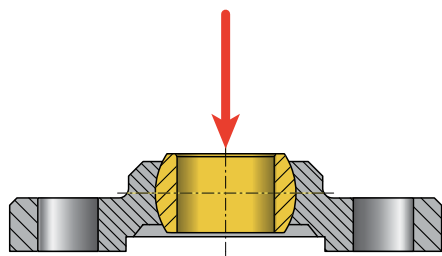
igubal® Flange bearings have been developed for the support of shaft ends or for shafts lead-through. Like all igubal® products, these bearings consist of an igumid G housing and an iglide® W300 spherical ball (with other options available). igubal® Flange bearings are made to the dimensional E series and are offered with two or four mounting holes.

Areas of Application

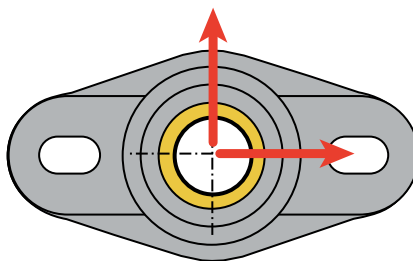
Since igubal® flange bearings are made for maintenance-free use, they are especially suited for applications in which access to the bearing is limited, in moist or wet environments or cleanroom environments. Thus, igubal® flange bearings are also found in electric toothbrushes, awnings, conveyor technology, bakery machines and agriculture to name a few.

Installation

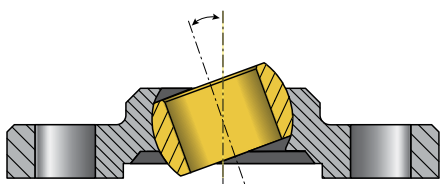
igubal® flange bearings are designed for mounting with 2 or 4 bolts, depending on the design. The 2-hole types are provided with elongated holes, which allow a problem-free adjustment. An exact positioning of the bearing housing is not necessary, since the spherical ball compensates for misalignment.



Static axial load



Static radial load



Pivot Angle

igubal® fixed flange bearings | Product overview

igubal® fixed flange bearings – for temperatures up to 176°F



Easy to install
E series, inch
EFOI

► Page 922



Easy to install
E series, metric
EFOM

► Page 924



For higher radial load
E series, inch
EFSI

► Page 926



For higher radial load
E series,, metric
EFSM

► Page 927



Universal, quick assembly
Female thread
GFSM-IG

► Page 930



Universal, quick assembly
Male thread
GFSM-AG

► Page 931



High static load, split housing
K series
KFSM-GT

► Page 932

igubal® For temperatures up to 392°F

For food contact



Easy to install
High temperature
E series
EFOM-HT

► Page 933



For higher radial loads
High temperature
E series
EFSM-HT

► Page 934



For contact with food

► Page 935

igubal® cost-effective flange bearings

igubal® with xiros® ball bearings



Cost-effective metallic housing

► Page 936



Cost-effective cast-iron housing

► Page 937



Cost-effective cast-iron housing

► Page 938



Low coefficient of friction, pivoting version - E series

► Page 1070

igubal® fixed flange bearings | Product Range

Fixed flange bearings with 2 mounting holes: EFOI



- iglide® W300 highly wear resistant spherical ball
- Easy to install
- Compensation of misalignment errors
- Corrosion-resistance
- Lightweight
- Maintenance-free, self-lubricating

Dimensions [mm]

Part No.	d1 [E10]	dB	H	L	J Hole pitch	A1 Height of housing	Ag Total height	N Bore diameter d x 1
EFOI-03	0.1875	0.551	1.331	0.630	0.945	0.177	0.312	0.126 x 0.197
EFOI-04	0.2500	0.551	1.331	0.630	0.945	0.177	0.342	0.126 x 0.197
EFOI-05	0.3125	0.709	1.740	0.866	1.220	0.217	0.412	0.169 x 0.256
EFOI-06	0.3750	0.866	2.047	1.024	1.417	0.256	0.483	0.210 x 0.315
EFOI-07	0.4375	0.984	2.232	1.220	1.614	0.276	0.518	0.210 x 0.315
EFOI-08	0.5000	0.984	2.232	1.220	1.614	0.276	0.518	0.210 x 0.315
EFOI-10	0.6250	1.260	2.858	1.496	2.087	0.394	0.683	0.212 x 0.315
EFOI-12	0.7500	1.575	3.504	1.850	2.559	0.433	0.785	0.331 x 0.492
EFOI-16	1.0000	1.909	3.976	2.303	2.953	0.551	0.966	0.331 x 0.492

Alternative spherical ball materials ► Page 965



J4VEM:
Clearance-free,
preloaded



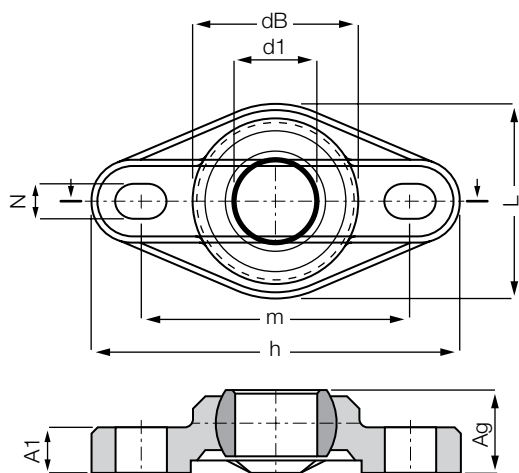
JEM: Low
moisture
absorption



REM:
Low-cost



J4EM:
Low-cost and low
moisture absorption



Order key

Type	Size
E F O I - 04	
Dimensional E series	
Flange bearing	
2 holes	
Inch	
Inner-Ø [inch]	Based on 1/16"

Material:
Housing: igumid G ► Page 1782
Spherical ball: iglide® W300 ► Page 211

Technical data

Part No.	Maximum static axial load		Maximum static radial load		Maximum static torque holes [ft•lbs]	Maximum pivot angle	Weight [g]
	Short term [lbs]	Long term [lbs]	Short term [lbs]	Long term [ft•lbs]			
EFOI-03	56	28	168	84	0.44	33°	2.3
EFOI-04	56	28	180	90	0.96	27°	2.0
EFOI-05	156	78	248	124	1.84	24°	4.0
EFOI-06	192	96	450	225	1.84	24°	6.5
EFOI-07	248	124	494	247	1.84	21°	7.5
EFOI-08	248	124	494	247	3.32	21°	12.0
EFOI-10	314	157	630	315	3.32	24°	17.2
EFOI-12	404	202	1236	618	3.32	17°	33.7
EFOI-16	674	337	1348	674	7.74	14°	59.0

Tolerance Table, ► Page 58

igubal® fixed flange bearings | Product Range

Fixed flange bearings with 2 mounting holes: EFOM



- iglide® W300 highly wear resistant spherical ball
- Easy to install
- Compensation of misalignment errors
- Corrosion-resistance
- Lightweight
- Maintenance-free, self-lubricating

Dimensions [mm]

Part No.	d1 [E10]	dB	H	L	J Hole pitch	A1 Height of housing	Ag Total height	N Bore diameter d x 1
EFOM-04	4	14.0	33.8	16.0	24.0	4.5	8.0	3.2 x 5.0
EFOM-05	5	14.0	33.8	16.0	24.0	4.5	8.5	3.2 x 5.0
EFOM-06	6	14.0	33.8	16.0	24.0	4.5	8.5	3.2 x 5.5
EFOM-08	8	18.0	44.2	22.0	31.0	5.5	10.5	4.3 x 6.5
EFOM-10	10	22.0	52.0	26.0	36.0	6.5	12.0	5.3 x 8.0
EFOM-12	12	25.0	56.7	31.0	41.0	7.0	13.0	5.3 x 8.0
EFOM-15	15	30.0	68.6	36.0	50.0	8.5	15.5	6.4 x 10.0
EFOM-16	16	32.0	72.6	38.0	53.0	10.0	17.5	6.4 x 10.1
EFOM-17	17	35.0	74.6	41.0	55.0	10.0	18.0	6.4 x 10.2
EFOM-20	20	40.0	89.0	47.0	65.0	11.0	20.0	8.4 x 12.5
EFOM-25	25	48.5	101.0	58.5	75.0	14.0	25.0	8.4 x 12.6
EFOM-30	30	55.0	118.0	65.0	87.5	15.0	26.0	10.5 x 16.0

Alternative spherical ball materials ► Page 965



J4VEM:
Clearance-free,
preloaded



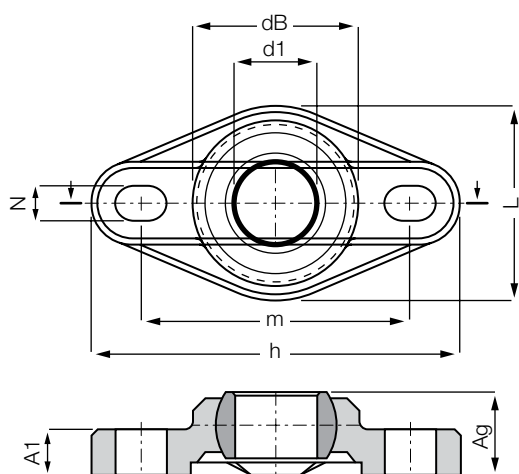
JEM: Low
moisture
absorption



REM:
Low-cost



J4EM:
Low-cost and low
moisture absorption



Order key

Type	Size
E F O M - 04	
Dimensional E series	
Flange bearing	
2 holes	
Metric	
	Inner-Ø [mm]

Material:
Housing: igumid G ► Page 1782
Spherical ball: iglide® W300 ► Page 211

Technical data

Part No.	Maximum static axial load		Maximum static radial load		Maximum static torque Holes [ft•lbs]	Maximum pivot angle	Weight [g]
	Short term [lbs]	Long term [lbs]	Short term [lbs]	Long term [ft•lbs]			
EFOM-04	90	45	168	84	0.44	28°	1.9
EFOM-05	90	45	168	84	0.44	29°	2.3
EFOM-06	112	56	180	90	0.44	25°	1.8
EFOM-08	158	78	247	124	0.96	25°	4.1
EFOM-10	191	96	450	225	1.84	25°	6.8
EFOM-12	247	124	495	247	1.84	21°	8.9
EFOM-15	292	146	540	270	3.32	20°	15.0
EFOM-16	315	158	629	315	3.32	27°	17.7
EFOM-17	405	202	719	360	3.32	21°	24.9
EFOM-20	405	202	1236	618	7.74	19°	32.8
EFOM-25	674	337	1348	674	7.74	15°	58.5
EFOM-30	687	393	1461	730	15.86	14°	78.9

Tolerance Table, ► Page 58

igubal® fixed flange bearings | Product Range

Fixed flange bearings with 4 mounting holes: EFSI



- Spherical ball made from wear-resistant iglide® W300
- Easy assembly
- Compensation of alignment errors
- Corrosion-resistant
- Lightweight
- Maintenance free, dry-running

Dimensions [mm]

Part No.	d1 [E10]	dB	L	J Hole pitch	A1 Height of housing	Ag Total height	N Bore diameter d x 1
EFSI-03	0.1875	0.551	0.984	0.669	0.177	0.311	0.126
EFSI-04	0.2500	0.551	0.984	0.669	0.177	0.343	0.126
EFSI-05	0.3125	0.709	1.299	0.866	0.217	0.413	0.169
EFSI-06	0.3750	0.866	1.496	1.024	0.256	0.484	0.209
EFSI-07	0.4375	0.984	1.575	1.102	0.276	0.520	0.209
EFSI-08	0.5000	0.984	1.575	1.102	0.276	0.520	0.209
EFSI-10	0.6250	1.260	2.047	1.417	0.354	0.654	0.252
EFSI-12	0.7500	1.575	2.559	1.772	0.433	0.787	0.331
EFSI-16	1.0000	1.909	2.913	2.047	0.551	0.965	0.331

Alternative spherical ball materials ► Page 965



J4VEM:
Clearance-free,
preloaded



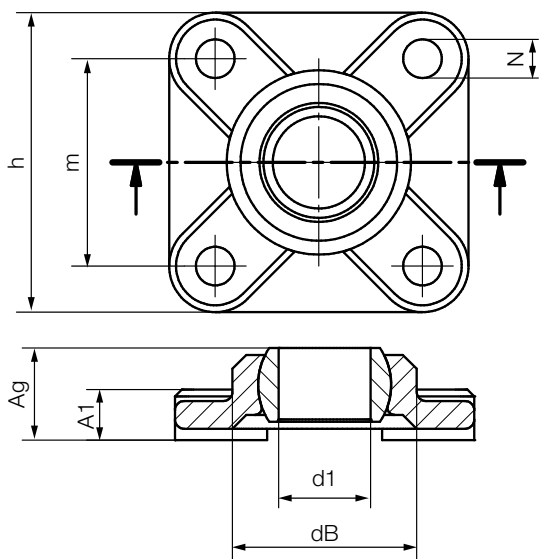
JEM: Low
moisture
absorption



REM:
Low-cost



J4EM:
Low-cost and low
moisture absorption



Order key

Type	Size
E F S I - 04	
Dimensional E series	
Flange bearing	
4 Holes	
Inch	
Inner-Ø [inch]	
Based on 1/16"	

Material:
Housing: igumid G ► Page 1782
Spherical ball: iglide® W300 ► Page 211

Technical data

Part No.	Maximum static axial load		Maximum static radial load		Maximum static torque Holes [ft•lbs]	Maximum pivot angle	Weight [g]
	Short term [lbs]	Long term [lbs]	Short term [lbs]	Long term [ft•lbs]			
EFSI-03	50	25	224	112	0.44	33°	2.3
EFSI-04	56	28	224	112	0.96	27°	2.0
EFSI-05	90	45	314	157	1.84	24°	4.0
EFSI-06	112	56	448	224	1.84	24°	6.5
EFSI-07	134	67	562	281	1.84	21°	7.5
EFSI-08	134	67	562	281	3.32	21°	12.0
EFSI-10	282	141	720	360	3.32	24°	17.2
EFSI-12	428	214	900	450	3.32	17°	31.5
EFSI-16	584	292	1258	629	7.74	14°	77.0

Tolerance Table, ► Page 58

igubal® fixed flange bearings | Product Range

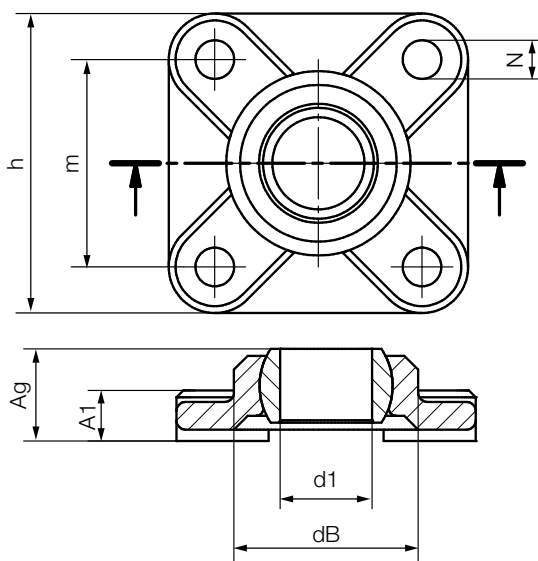
Fixed flange bearings with 4 mounting holes: EFSM



- Spherical ball made from wear-resistant iglide® W300
- Easy assembly
- Compensation of alignment errors
- Corrosion-resistant
- Lightweight
- Maintenance free, dry-running

Dimensions [mm]

Part No.	d1 [E10]	dB	L	J Hole pitch	A1 Height of housing	Ag Total height	N Bore diameter d x 1
EFSM-04	4	14.0	25.0	17.0	4.5	8.5	3.2
EFSM-05	5	14.0	25.0	17.0	4.5	8.5	3.2
EFSM-06	6	14.0	25.0	17.0	4.5	8.5	3.2
EFSM-08	8	18.0	33.0	22.0	5.5	10.5	4.3
EFSM-10	10	22.0	38.0	26.0	6.5	12.0	5.3
EFSM-12	12	25.0	40.0	28.0	7.0	13.0	5.3
EFSM-15	15	30.0	49.0	34.0	8.5	15.5	6.4
EFSM-16	16	32.5	52.0	36.0	9.0	16.5	6.4
EFSM-17	17	35.0	54.0	38.0	10.0	18.0	6.4
EFSM-20	20	40.0	65.0	45.0	11.0	20.0	8.4
EFSM-25	25	48.5	74.0	52.0	14.0	25.0	8.4
EFSM-30	30	55.0	85.0	60.0	15.0	26.0	10.5



Order key

Type	Size
E F S M - 04	
Dimensional E series	
Flange bearing	
4 Holes	
Metric	
Inner-Ø [mm]	

Material:
Housing: igumid G ► Page 1782
Spherical ball: iglide® W300 ► Page 211

Technical data

Part No.	Maximum static axial load		Maximum static radial load		Maximum static torque	Maximum pivot angle	Weight
	Short term	Long term	Short term	Long term	Holes		
	[lbs]	[lbs]	[lbs]	[ft•lbs]	[ft•lbs]		[g]
EFSM-04	45	22	225	112	0.44	27°	2.0
EFSM-05	67	34	225	12	0.44	24°	4.0
EFSM-06	67	34	225	112	0.44	24°	6.5
EFSM-08	101	51	315	158	0.96	21°	12.0
EFSM-10	158	78	450	225	1.84	24°	17.2
EFSM-12	191	96	562	281	1.84	17°	31.5
EFSM-15	247	124	674	337	3.32	20°	20.2
EFSM-16	304	152	719	360	3.32	14°	59.0
EFSM-17	360	180	764	382	3.32	21°	27.9
EFSM-20	450	225	900	450	7.74	19°	45.0
EFSM-25	540	270	1259	629	7.74	15°	76.0
EFSM-30	629	315	1348	674	15.86	14°	100.7

Tolerance Table, ► Page 58

igubal® fixed flange bearings | Product Range

Complete housing with ball stud, female thread: GFSM-...-IG



- Maintenance-free and corrosion-resistant
- Easy connection – easy assembly
- Compensation of misalignments

Order key

Type	Size	Version	Options
GF	S M - 06 - IG - ES		
Flange mounted	4 Holes	Metric	Inner-Ø [mm]
			Female thread
	Options:		
	Ball stud material		
Blank = galvanized steel			
ES = stainless steel ²⁸⁾			

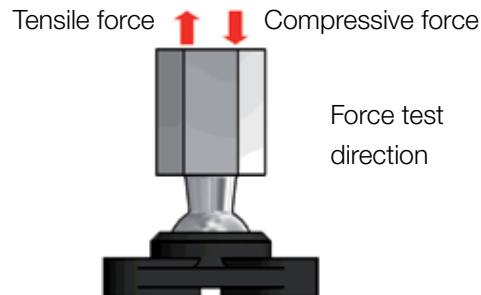
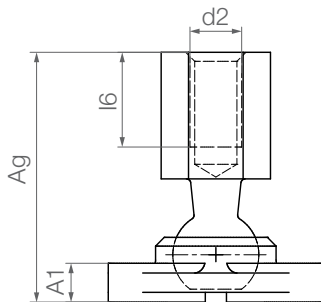
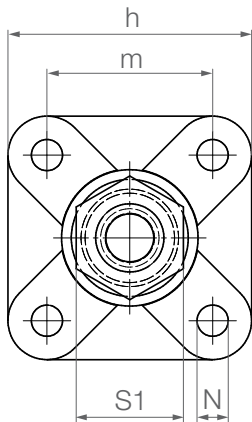


Material:

Housing: igumid G ► Page 1782

Ball stud: galvanized or stainless steel²⁸⁾ options

► Accessories, page 988



Dimensions [mm]

Part No.	d2 [E10]	m	h	Ag	A1	l6	N	S1
GFSM-06-IG	M6	17.0	25.0	29.0	4.5	11.0	3.2	SW11
GFSM-08-IG	M8	22.0	33.0	36.0	5.5	12.0	4.3	SW14
GFSM-10-IG	M10	26.0	38.0	43.5	6.5	16.0	5.3	SW17

Technical data

Part No.	Max. axial tensile force		Max. axial compressive force		Max. pivot angle	Weight [g]
	Short term	Long term	Short term	Long term		
	[lbs]	[lbs]	[lbs]	[lbs]		
GFSM-06-IG	33.7	16.9	78.7	39.3	32°	16.4
GFSM-08-IG	56.2	28.1	168.6	84.3	34°	34.0
GFSM-10-IG	31.5	15.7	269.8	134.9	40°	61.1

²⁸⁾ Stainless steel ball stud on request

igubal® fixed flange bearings | Product Range

Complete housing with ball stud, male thread: GFSM-...-AG

igubal®
fixed flange
bearings



- Maintenance-free and corrosion-resistant
- Easy connection – easy assembly
- Compensation of misalignments

Order key

Type	Size	Version	Options
------	------	---------	---------

GF S M - 06 - AG - ES

Flange mounted	4 Holes	Metric	Inner-Ø [mm]	Male thread
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Options:

Ball stud material

Blank = galvanized steel

ES = stainless steel²⁸⁾

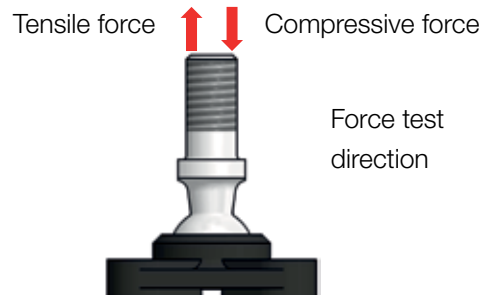
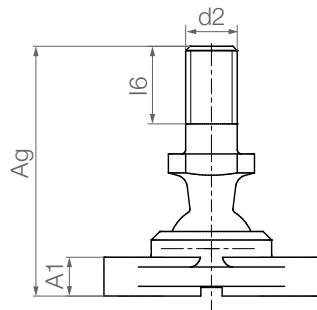
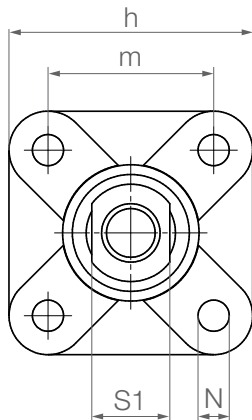


Material:

Housing: igumid G ▶ Page 1782

Ball stud: galvanized and stainless steel²⁸⁾

▶ Accessories, page 988



Dimensions [mm]

Part No.	d2 [E10]	m	h	Ag	A1	l6	N	S1
GFSM-06-AG	M6	17.0	25.0	29.0	4.5	10.5	3.2	SW8
GFSM-08-AG	M8	22.0	33.0	36.0	5.5	13.5	4.3	SW11
GFSM-10-AG	M10	26.0	38.0	43.5	6.5	16.0	5.3	SW13

Technical data

Part No.	Max. axial tensile force		Max. axial compressive force		Max. pivot angle	Weight [g]
	Short term [lbs]	Long term [lbs]	Short term [lbs]	Long term [lbs]		
GFSM-06-AG	33.7	16.9	78.7	39.3	32°	10.6
GFSM-08-AG	56.2	28.1	168.6	84.3	34°	23.1
GFSM-10-AG	31.5	15.7	269.8	134.9	40°	41.2

²⁸⁾ Stainless steel ball stud on request

igubal® fixed flange bearings | Product Range

Fixed flange bearings with 4 mounting holes and split housing: KFSM GT

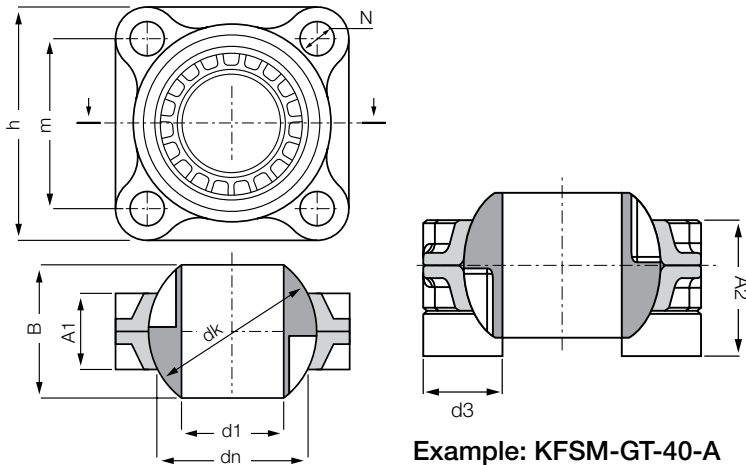


- Preassembled
- Option with plug-in feet
- Resistant to dirt
- Lightweight
- Low installation space
- For high static loads
- High tensile strength and fatigue strength
- Predictable lifetime
- Maintenance free, dry-running
- Mounting: with plug-in feet M10
without plug-in feet M12



Order key

Type	Size	Option
K F S M - GT	35 -	A
Dimensional K series		
Flange bearing	4 Holes	Metric
Split housing	Inner-Ø [mm]	With spacer feet



Example: KFSM-GT-40-A



Material:

Housing: RN33 ► Page 1785

Spherical ball: iglide® J ► Page 193

Dimensions [mm]

Part No.	d1 [E10]	dn	d3	dk Hole pitch	A1 Height of housing	A2 Total height	B	m	h	N Bore diameter d x 1
KFSM-GT35 -A ²³⁾	35.0	59.0	26.0	66.0	30.0	45.0	48.5	66.0	92.0	13.5
KFSM-GT40 -A	40.0	59.0	26.0	66.0	30.0	45.0	48.5	66.0	92.0	13.5
KFSM-GT45 -A ²³⁾	45.0	72.0	26.0	82.0	40.0	60.0	60.0	78.0	104.0	13.5
KFSM-GT50 -A	50.0	72.0	26.0	82.0	40.0	60.0	60.0	78.0	104.0	13.5

For KFSM with spacer feet, please add an "A" to the part no. Example: KFSM-GT50-A.

²³⁾ Diameter given by iglide® J bore reducer

Tolerance Table, ► Page 58

Technical data

Part No.	Maximum static radial load		Maximum static axial load		Max. pivot angle	Weight [g]
	Short term [lbs]	Long term [lbs]	Short term [lbs]	Long term [ft•lbs]		
KFSM-GT35 -A ²³⁾	1125	562	1012	505	24°	183.5
KFSM-GT40 -A	1125	562	1012	505	24°	161.6
KFSM-GT45 -A ²³⁾	1348	674	1125	562	24°	294.6
KFSM-GT50 -A	1348	674	1125	562	24°	260.1

Max. tightening torque for fixing: 30 Nm

igubal® fixed flange bearings | Product Range

igubal®
fixed flange
bearings

High-temperature fixed flange bearings with 2 mounting holes: EFOM-HT

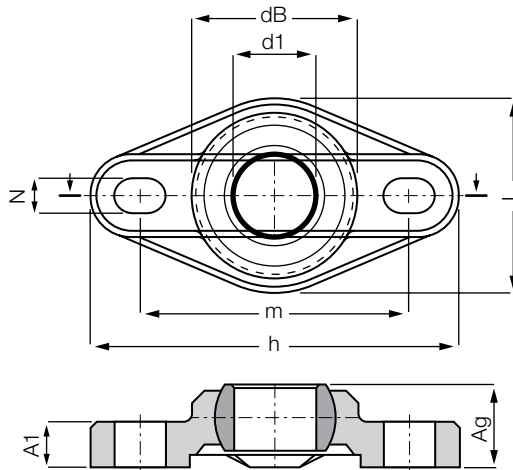


- For high temperatures up to +392 °F
 - Easy assembly
 - Compensation for alignment errors
 - Corrosion-resistance
 - Lightweight
 - Underwater use
 - Chemical resistant
- Chemical table ▶ Page 1762**



Order key

Type	Version
E F O M - 06 - HT	
Dimensional E series	Flange bearing
	2 holes
	Metric
	Inner-Ø [mm]
	High temperature



Material:

Housing: iguton G ▶ Page 1783

Spherical ball: iglide® X ▶ Page 339

Dimensions [mm]

Part No.	d1 [E10]	dB	H Length	L Width	m Hole pitch	A1 Height of plate	Ag Total height	N Bore diameter d x 1
EFOM-05-HT	5	14.0	33.8	16.0	24.0	4.5	8.5	3.2 x 5.0
EFOM-06-HT	6	14.0	33.8	16.0	24.0	4.5	8.5	3.2 x 5.5
EFOM-08-HT	8	18.0	44.2	22.0	31.0	5.5	10.5	4.3 x 6.5
EFOM-10-HT	10	22.0	52.0	26.0	36.0	6.5	12.0	5.3 x 8.0
EFOM-12-HT	12	25.0	56.7	31.0	41.0	7.0	13.0	5.3 x 8.0

Tolerance Table, ▶ Page 58

Technical data

Part No.	Maximum static axial load		Maximum static radial load		Maximum static torque	Maximum pivot angle	Weight
	Short term [lbs]	Long term [lbs]	Short term [lbs]	Long term [lbs]	Holes [ft•lbs]		[g]
EFOM-05-HT	61.8	31.0	103.4	51.7	.44	29°	2.5
EFOM-06-HT	67.4	33.7	137.4	68.6	.44	27°	2.3
EFOM-08-HT	144.8	72.4	210.0	105.0	.96	24°	5.0
EFOM-10-HT	171.7	85.9	224.8	112.4	1.84	24°	8.3
EFOM-12-HT	196.5	98.2	290.0	145.0	1.84	21°	10.7

igubal® fixed flange bearings | Product Range

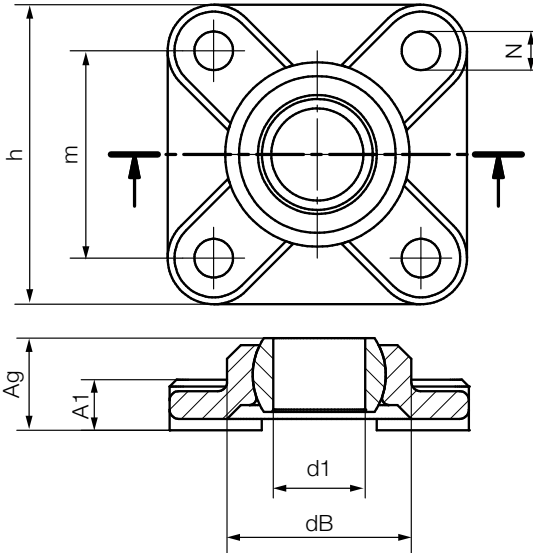
High-temperature fixed flange bearings with 4 mounting holes: EFSM-HT



- For high temperatures up to +392 °F
 - Easy assembly
 - Compensation for alignment errors
 - Corrosion-resistance
 - Lightweight
 - Underwater use
 - Chemical resistant
- Chemical table ► Page 1762**



Type	Version
E F S M - 05 - HT	
Dimensional E series	
Flange bearing	
4 holes	
Metric	
Inner-Ø [mm]	
High temperature	



- i** **Material:**
Housing: iguton G ► Page 1783
Spherical ball: iglide® X ► Page 339

Dimensions [mm]

Part No.	d1 [E10]	dB	H Length	m Hole pitch	A1 Height of plate	Ag Total height	N Bore diameter d x 1
EFSM-05-HT	5	14.0	25.0	17.0	4.5	8.5	3.2
EFSM-06-HT	6	14.0	25.0	17.0	4.5	8.5	3.2
EFSM-08-HT	8	18.0	33.0	22.0	5.5	10.5	4.3
EFSM-10-HT	10	22.0	38.0	26.0	6.5	12.0	5.3
EFSM-12-HT	12	25.0	40.0	28.0	7.0	13.0	5.3

Tolerance Table, ► Page 58

Technical data

Part No.	Maximum static axial load		Maximum static radial load		Maximum static torque	Maximum pivot angle	Weight [g]
	Short term [lbs]	Long term [lbs]	Short term [lbs]	Long term [lbs]	Holes [ft•lbs]		
EFSM-05-HT	61.8	31.0	98.9	49.5	.44	29°	3.5
EFSM-06-HT	76.2	38.2	117.6	58.9	.44	25°	3.3
EFSM-08-HT	92.6	46.3	160.3	80.0	.96	25°	7.1
EFSM-10-HT	194.2	97.1	270.2	135.1	1.84	25°	11.2
EFSM-12-HT	230.2	115.1	302.8	151.5	1.84	21°	13.3

igubal® fixed flange bearings | Product Range

Fixed flange bearings for contact with food: EFOM-FC



- Made from FDA and EU10/2011-compliant materials
- Self-lubricating and maintenance-free
- Optically and magnetically detectable
- In industry standard blue
- Corrosion and media-resistant
- Vibration-dampening
- Cost-effective



Order key

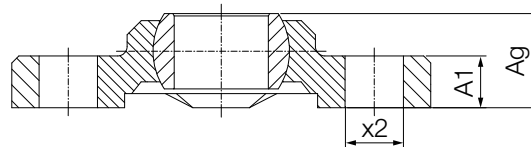
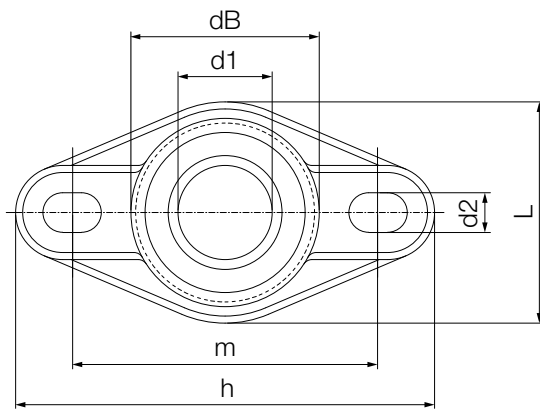
Type	Size	Version
E	F O M - 20 - FC	
E series	Fixed flange bearings	2 holes
	Metric	Inner Ø [mm]
		Suitable for food contact



Material:

Housing: igumid FC ▶ Page 1783

Spherical ball: iglide® FC180 ▶ Page 1780



Dimensions [mm]

Part No.	d1	dB	h	L	m	A1	Ag	d2	x2	Max. pivot angle
	E10		Length	Width	Hole pitch ±0.1	Height of plate	Total height	Elongated hole		
EFOM-20-FC	20	40	89	47	65	11	20	8.4	12.5	19°

Technical data

Part No.	Max. permissible axial load		Max. permissible radial load		Max. tightening torque	Weight [g]
	Short-term	Long-term	Short-term	Holes		
	[lbs]	[lbs]	[lbs]	[ft•lbs]		
EFOM-20-FC	337.20	168.60	1236.40	7.37	35.5	

Other dimensions available upon request

igubal® fixed flange bearings | Product Range

Fixed flange bearings with cost-effective metallic housing: PFL-JEM-SP



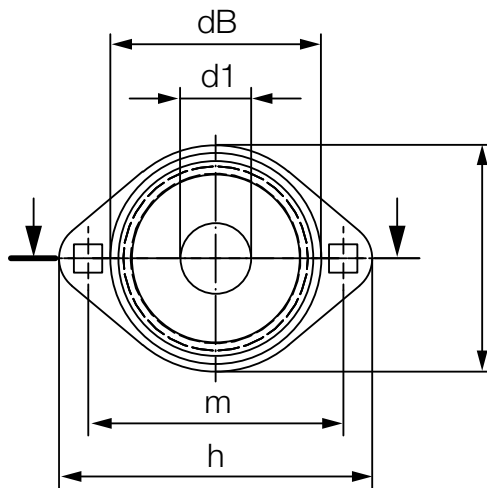
Order key

Type	Size	Version
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PFL204 - J E M - 20 - 14 - SP

Fixed flange bearing	Spherical ball material	Series	Metric	Spherical ball inner Ø	Spherical ball width	Injection molding
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- Cost-effective spherical ball material iglide® J4 available (order example: PFL204-J4EM-20-14-SP)
- Self-lubricating and maintenance-free
- Cost-effective
- Resistant to dirt



Material:

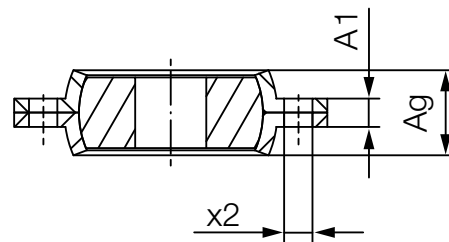
Housing:

Galvanized steel

(stainless steel upon request)

Spherical ball: iglide® J ▶ Page 193

(alternative iglide® J4) ▶ Page 1780



Dimensions [mm]

Part No.	d1	h	L	m	a1	Ag	x2
	E10				+0.1		
PFL204-JEM-20-14-SP	20	90	67	71.5	M6	16	9
PFL205-JEM-25-15-SP	25	95	71	76.0	M8	18	9
PFL206-JEM-30-16-SP	30	113	82	90.5	M8	19	11

Technical data

Part No.	Max. permissible axial load		Max. permissible radial load		Weight [g]
	Short-term	Long-term	Short-term	Long-term	
	[lbs]	[lbs]	[lbs]	[lbs]	
PFL204-JEM-20-14-SP	449.60	224.80	899.20	449.60	121.0
PFL205-JEM-25-15-SP	449.60	224.80	1124.00	562.00	144.0
PFL206-JEM-30-16-SP	449.60	224.80	1573.60	786.80	216.0

Can be combined with SRM fixing collars, ▶ Page 986

igubal® fixed flange bearings | Product Range

Fixed flange bearings with cast-iron housing, two-bolt: FL-JEM-SP

igubal®
fixed flange
bearings



- UC204 to UC206, UC208 and UC210
- Self-lubricating and maintenance-free
- Cost-effective
- Resistant to dirt
- High loads



Order key

Type Size Version

FL204 - J E M - 20 - 17 - SP

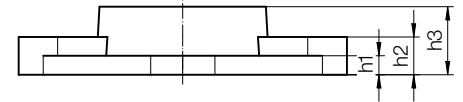
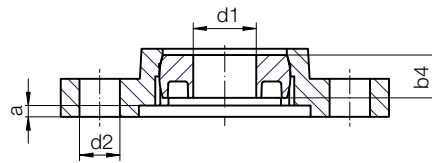
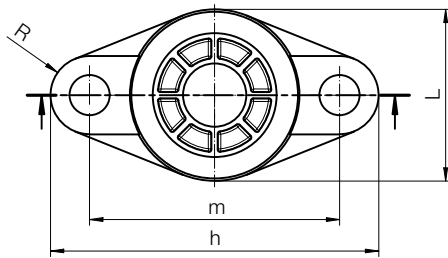
Fixed flange bearing	Spherical ball material	Series	Metric	Spherical ball inner Ø	Spherical ball width	Injection molding
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Material:

Housing: Cast-iron, coated

Spherical ball: iglide® J ► Page 193



Dimensions [mm]

Part No.	d1	m	d2	L	h	h1	h2	h3	R	a	b4
	E10										
	+0.1mm										
FL204-JEM-20-17-SP	20	90	12	60	113	6	12	25.5	11.5	3.6	17
FL205-JEM-25-17-SP	25	99	16	68	130	7.5	15	25.5	15.5	4.5	17
FL206-JEM-30-19-SP	30	117	16	80	148	7	14	31	15.5	4.2	19
FL208-JEM-40-21-SP	40	144	16	100	175	8	16	36	15.5	5	21
FL210-JEM-50-24-SP	50	157	19	115	197	9	18	40	20.0	5	24

Technical data

Part No.	Max. permissible axial load	Max. permissible radial load
	[lbs]	[lbs]
FL204-JEM-20-17-SP	899	1798
FL205-JEM-25-17-SP	786	2023
FL206-JEM-30-19-SP	1124	3034
FL208-JEM-40-21-SP	1348	4720
FL210-JEM-50-24-SP	1236	5620

Can be combined with SRM fixing collars, ► Page 986

igubal® fixed flange bearings | Product Range

Fixed flange bearings with cast-iron housing, four-bolt: F-JEM-SP



- UC204 to UC206, UC208 and UC210
- Self-lubricating and maintenance-free
- Cost-effective
- Resistant to dirt
- High loads



Order key

Type Size Version

F204 - J E M - 20 - 17 - SP

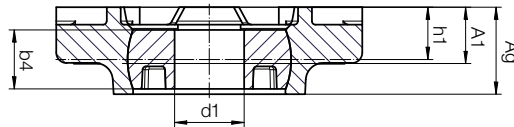
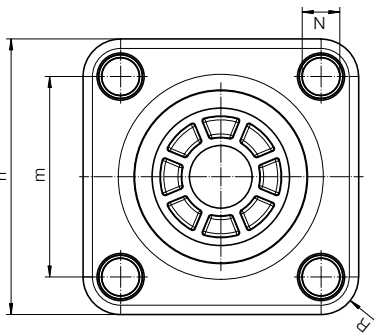
Fixed flange bearing	Spherical ball material	Series	Metric	Spherical ball inner Ø	Spherical ball width	Injection molding
----------------------	-------------------------	--------	--------	------------------------	----------------------	-------------------



Material:

Housing: Cast-iron, coated

Spherical ball: iglide® J ▶ Page 193



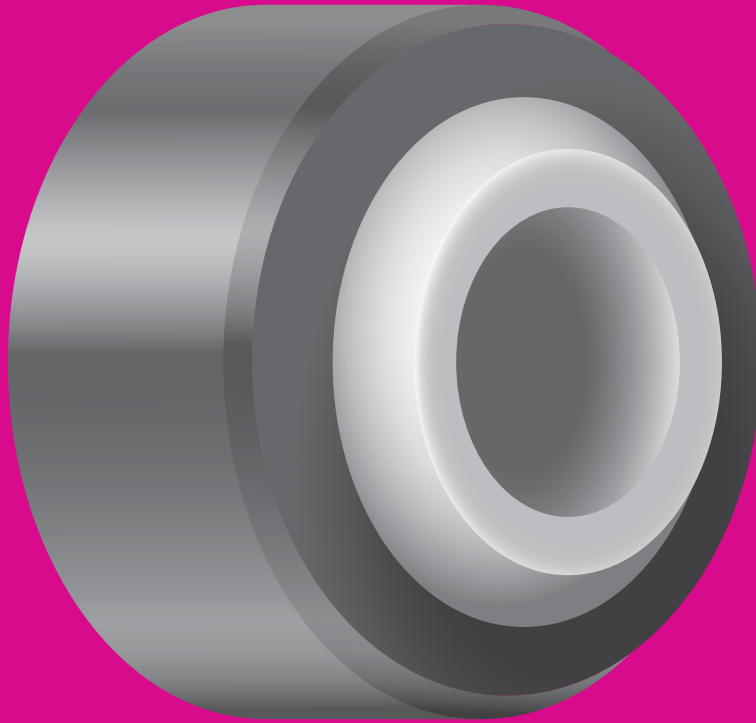
Dimensions [mm]

Part No.	d1	h	a	m	A1	Ag	N	b4	h1	R
F204-JEM-20-17-SP	20	86	3.6	64	12	25.5	12	17	9.6	11
F205-JEM-25-17-SP	25	95	4.2	70	14	27	12	17	11.2	12.5
F206-JEM-30-19-SP	30	108	4.2	83	14	31	12	19	11.2	12.5
F208-JEM-40-21-SP	40	130	4.8	102	16	36	16	21	12.8	14
F210-JEM-50-24-SP	50	143	5.4	111	18	40	16	24	14.4	16

Technical data

Part No.	Max. permissible axial load	Max. permissible radial load
	[lbs]	[lbs]
F204-JEM-20-17-SP	899	1798
F205-JEM-25-17-SP	786	2023
F206-JEM-30-19-SP	1124	3034
F208-JEM-40-21-SP	1348	4720
F210-JEM-50-24-SP	1236	5620

Can be combined with SRM fixing collars, ▶ Page 986



igubal[®] spherical bearings

Easy to assemble

Cost-effective

Resistant to chemicals

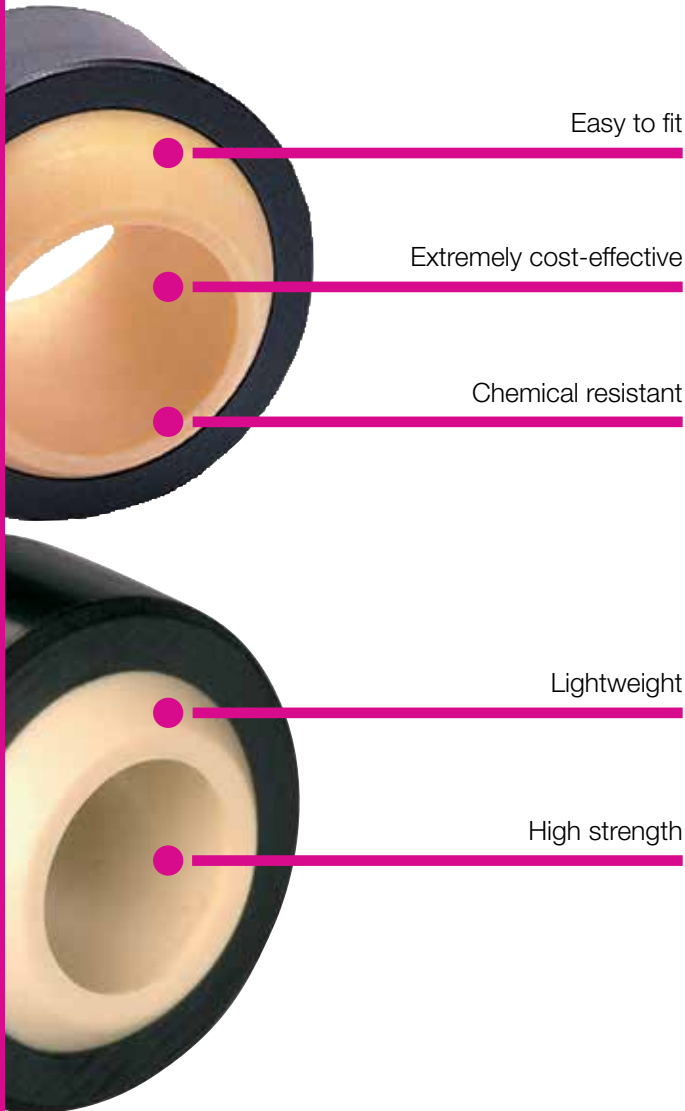
Lightweight

Robust



igubal® spherical bearings | Advantages

The use of spherical bearings is usually associated with heavy materials, difficult installation, and high costs. Most of the time, maintenance is still necessary long-term, and the bearings are only corrosion-resistant in special designs. igubal® spherical bearings put an end to all of these disadvantages: they are easy to fit, cost-effective, lightweight and robust.



When to use it?

- For high axial and radial loads
- When an easy installation is required
- In case of reduced installation place
- If chemical resistance is required
- If a cost-effective option is requested
- If you need dirt-resistant bearings
- To adjust misalignment



When not to use it?

- If temperatures are higher than +176 °F
- If diameters above 1 inch or 30 mm are required
- If rotation speeds higher than 98 fpm (0.5 m/s) are required



Available from stock

Detailed information about delivery time online.



Price breaks online

No minimum order value.
No minimum order quantity



Max. + 176°F

Min. -22°F



13 types

Inch sizes: Ø 3/8 to

Metric sizes: Ø 4–50mm



Online product finder

▶ www.igus.com/igubal-finder

igubal® spherical bearings | Application examples



Typical sectors of industry and application areas

- Food industry
- Railway technology
- Automotive
- Plant design etc.

Improve technology and reduce costs –
Over 100 application examples online
► www.igus.com/igubal-applications



Food industry



Railway technology



Automotive industry



Hose-skiving

igubal® Pivoting Bearings

The use of pivoting bearings is usually associated with heavier traditional metal bearings, difficult installation, and high costs. Most of the time, maintenance is still necessary over the long term, and the bearings are only corrosion-resistant in special designs. Often roller bearings or plain bearings malfunction prematurely due to high edge loads, or bearings must be readjusted, reamed, or retrofit in order to compensate for misalignment.

igubal® pivoting bearings put an end to all of these disadvantages and open up many new possibilities for your engineering design.

Area of Application

Ease of installation makes diverse applications possible for igubal® pivoting bearings. They can be used anywhere the self-adjusting feature offers design advantages or helps to simplify assembly.

Tolerances

Maintenance-free igubal® pivoting bearings are meant to be oversized before being pressfit. After proper installation into a recommended housing bore, the inner diameter adjusts to meet our specified tolerances. Please adhere to the catalog specifications for housing bore and recommended shaft sizes. This will help to ensure optimal performance of iglide plain bearings. Please contact an iglide® technical expert for support.

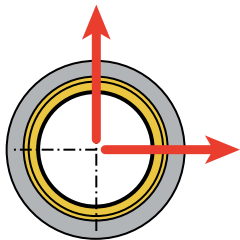
► Tolerance Table, **Page 58**

Installation

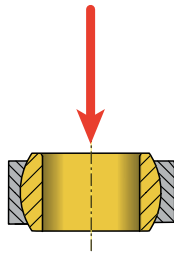
igubal® pivoting bearings are pressfit into a recommended housing bore and axially secured. An exact orientation of the bearing housing is not necessary, since the pivoting bearing compensates for misalignment.

Dimensions

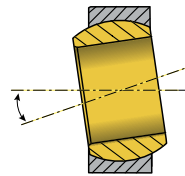
igubal® spherical bearings are manufactured according to DIN ISO 12240 dimensional K series and E series. The product range provides dimensions from 0.1875 to 1.0" and 2 to 30mm. Please contact us if you need other dimensions.



Compressive Strength
Radial



Compressive Strength
Axial



Pivot Angle

igubal® spherical bearings | Product overview

igubal® spherical bearings – for temperatures up to 176°F



Standard, easy to fit - inch
K series
KGLI
▶ Page 944



Standard, easy to fit - metric
K series
KGLM
▶ Page 945



For extremely narrow installation space - inch
K series
KGLI-SL
▶ Page 946



For extremely narrow installation space - metric
K series
KGLM-SL
▶ Page 947



Easy to fit, low-cost, ball material options
K series
KGLM-LC
▶ Page 948



For small space requirement
E series
EGLM
▶ Page 949



Cost-effective, ball material options
E series
EGLM-LC
▶ Page 950

igubal® self-aligning clip bearings



Easy to install
High temperature
E series
ECLM
▶ Page 951



For higher radial loads
High temperature
E series
ECLM-HD
▶ Page 952



For tolerance compensation, ball material options
E series
EGFM-T
▶ Page 953



Clip into sheet metal, can be assembled on both sides
ZLCM
▶ Page 954

igubal® double joints and coupling joints



Solid polymer, selectable ball material
EGZM
▶ Page 956



Selectable materials, individual dimensions and alignment
KDGM
▶ Page 957



Selectable materials, individual dimensions and alignment
WDGM
▶ Page 958



Removable, selectable materials, individual dimensions and alignment
WDGM-DE
▶ Page 959



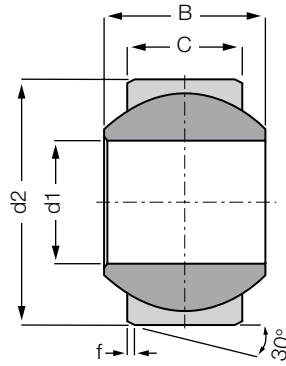
Crimped coupling joints with clevis joints
GDGM
▶ Page 960

igubal® spherical bearings | Product Range

KGLI - Pressfit spherical bearings, inch



- Compensation of misalignment and edge loads
- Corrosion-resistant
- Quiet operation
- High vibration-dampening capacity
- Suitable for rotating, oscillating and linear movements



Order key

Type K Size GL I - 03

K GL I - 03

Dimensional K series	Pressfit spherical bearing	Inch	Inner-Ø [inch] Based on 1/16"
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Material:

Housing: igumid G ▶ Page 1782

Spherical ball: iglide® W300 ▶ Page 211

Dimensions [inch]

Part No.	d1 [E10]	d2	B	C	f	Max. pivot angle	Weight [g]
KGLI-03	0.1875	0.5625	0.312	0.218	0.3	34°	1.2
KGLI-04	0.2500	0.6562	0.375	0.250	0.3	30°	1.7
KGLI-05	0.3125	0.7500	0.437	0.281	0.3	29°	2.6
KGLI-06	0.3750	0.8125	0.500	0.312	0.5	25°	3.3
KGLI-07	0.4375	0.9375	0.562	0.343	0.5	25°	4.9
KGLI-08	0.5000	1.0625	0.625	0.390	0.5	25°	7.1
KGLI-10	0.6250	1.1875	0.750	0.500	0.5	23°	10.2
KGLI-12	0.7500	1.4375	0.875	0.593	0.5	23°	17.5
KGLI-16	1.0000	2.1250	1.375	1.005	0.5	23°	62.0

Technical data

Part No.	Maximum Static Compressive Strength		Maximum Torque for the assembly [ft•lbs]	Housing Bore		Shaft Size	
	radial [lbs]	axial [lbs]		Min	Max.	Min.	Max.
	KGLI-03	225	34	3.7	0.5625	0.5630	0.1888
KGLI-04	337	56	7.4	0.6562	0.6568	0.2485	0.2500
KGLI-05	450	79	8.9	0.7500	0.7509	0.3110	0.3125
KGLI-06	629	90	14.8	0.8125	0.8134	0.3735	0.3750
KGLI-07	843	101	22.1	0.9375	0.9382	0.4358	0.4375
KGLI-08	955	112	25.8	1.0625	1.0632	0.4983	0.5000
KGLI-10	1191	169	29.5	1.1875	1.1882	0.6233	0.6250
KGLI-12	1911	191	40.6	1.4375	1.4383	0.7479	0.7500
KGLI-16	3057	562	48.0	2.1250	2.1258	0.9988	1.0000

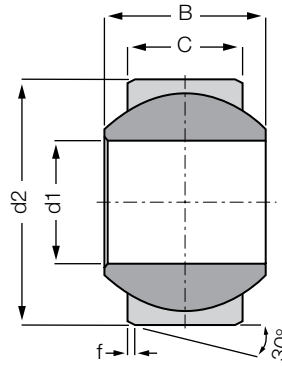
²⁹⁾ The maximum static axial load is determined in a remote location hole

igubal® spherical bearings | Product Range

KGLM - Pressfit spherical bearings, metric



- Compensation of misalignment and edge loads
- Corrosion-resistant
- Quiet operation
- High vibration-dampening capacity
- Suitable for rotating, oscillating and linear movements



Order key

Type **K GL M - 03** Size

K GL M - 03

Dimensional K series
Pressfit spherical bearing
Metric
Inner-Ø [inch]
Based on 1/16"



Material:

Housing: igumid G ▶ Page 1782

Spherical ball: iglide® W300 ▶ Page 211

Dimensions [mm]

Part No.	d1 [E10]	d2	B	C	f	Max. pivot angle	Weight [g]
KGLM-02	2	8	4	3.0	0.8	32°	0.1
KGLM-03	3	10	6	4.5	0.8	32°	0.5
KGLM-05	5	13	8	6.0	0.8	30°	1.0
KGLM-06	6	16	9	6.5	0.8	29°	1.6
KGLM-08	8	19	12	9.0	0.8	25°	2.9
KGLM-10	10	22	14	10.5	0.8	25°	4.4
KGLM-12	12	26	16	12.0	0.8	25°	7.0
KGLM-14	14	28	19	13.5	0.8	23°	9.1
KGLM-16	16	32	21	15.0	0.8	23°	12.8
KGLM-18	18	35	23	16.5	0.8	23°	16.6
KGLM-20	20	40	25	18.0	0.8	23°	24.4
KGLM-22	22	42	28	20.0	0.8	22°	28.5
KGLM-25	25	47	31	22.0	0.8	22°	39.3
KGLM-30	30	55	37	25.0	1.0	22°	62.6

Technical data

Part No.	Maximum Static Compressive Strength		Maximum Torque through the ball [ft•lbs]	Housing Bore H7		Shaft Size h7	
	radial	axial		Min	Max.	Min.	Max.
	[lbs]	[lbs]					
KGLM-02	67	13	0.7	8.000	8.015	1.990	2.000
KGLM-03	124	45	1.5	10.000	10.015	2.990	3.000
KGLM-05	292	112	3.7	13.000	13.018	4.980	5.000
KGLM-06	405	146	7.4	16.000	16.018	5.980	6.000
KGLM-08	607	270	8.9	19.000	19.021	7.985	8.000
KGLM-10	899	315	14.8	22.000	22.021	9.985	10.000
KGLM-12	1214	337	22.1	26.000	26.021	11.982	12.000
KGLM-14	1349	562	25.8	28.000	28.025	13.982	14.000
KGLM-16	1798	674	29.5	32.000	32.025	15.982	16.000
KGLM-18	2023	899	33.2	35.000	35.025	17.982	18.000
KGLM-20	2248	1124	40.6	40.000	40.025	19.979	20.000
KGLM-22	2630	1461	44.3	42.000	42.025	21.979	22.000
KGLM-25	3057	1686	47.9	47.000	47.025	24.979	25.000
KGLM-30	4496	2023	51.6	55.000	55.030	29.979	30.000

²⁹⁾ The maximum static axial load is determined in a remote location hole

▶Tolerance Table, Page 58



igubal® spherical bearings | Product Range

KGLI SL - Slimline, Pressfit spherical bearing, inch



- Very small installation space
- Wall thickness 50% thinner than KGLM
- Angle compensation up to 5°
- Lightweight
- Dimensions according to DIN 1850

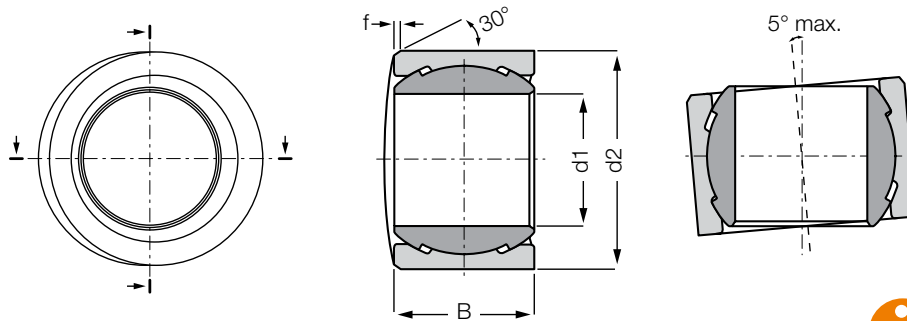


Order key

Type Size Version

K **GL** **I** - **03** - **SL**

Dimensional K series	Pressfit spherical bearing	Inch	Inner-Ø [mm]	Slimline
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Material:

Housing: igumid G ▶ Page 1782

Spherical ball: iglide® R ▶ Page 303

Dimensions [inch]

Part No.	d1 [E10]	d2	B	f	Max. pivot angle	Weight [g]
KGLI-03-SL	0.1875	0.3750	0.1875	0.0200	5°	0.69
KGLI-04-SL	0.2500	0.5000	0.2500	0.0200	5°	0.75
KGLI-05-SL	0.3125	0.5000	0.3125	0.0200	5°	1.0
KGLI-06-SL	0.3750	0.6250	0.3750	0.0200	5°	1.3
KGLI-08-SL	0.5000	0.8125	0.5000	0.2000	5°	2.5

Technical data

Part No.	Maximum radial compressive strength		Maximum Axial compressive strength		Housing Bore		Shaft Size	
	Short term	Long term	Short term	Long term	Min	Max.	Min.	Max.
	[lbs]	[lbs]	[ft•lbs]					
KGLI-03-SL	225	112	34	17	0.3750	0.3756	0.1888	0.1900
KGLI-04-SL	337	168	56	28	0.5000	0.5007	0.2485	0.2500
KGLI-05-SL	450	225	79	39	0.5000	0.5007	0.3110	0.3125
KGLI-06-SL	630	315	112	56	0.6250	0.6257	0.3735	0.3750
KGLI-08-SL	955	478	135	67	0.8125	0.8133	0.4983	0.5000

igubal® spherical bearings | Product Range

KGLM SL - Slimline, Pressfit spherical bearing, metric



- Very small installation space
- Wall thickness 50% thinner than KGLM
- Angle compensation up to 5°
- Lightweight
- Dimensions according to DIN 1850

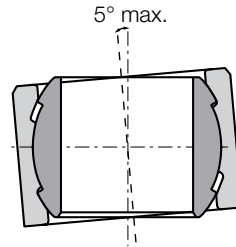
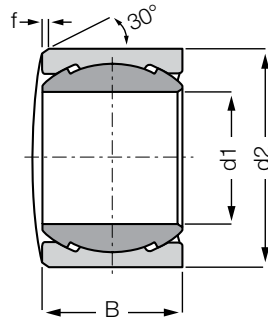
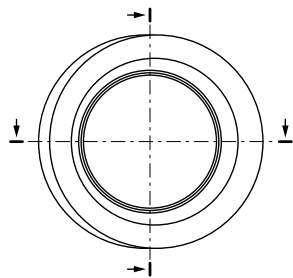


Order key

Type Size Version

K **GL** **M** - **03** - **SL**

Dimensional K series	Pressfit spherical bearing	Metric	Inner-Ø [mm]	Slimline
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Material:

Housing: igumid G ▶ Page 1782

Spherical ball: iglide® W300 ▶ Page 211

Dimensions [mm]

Part No.	d1 [E10]	d2	B	f	Max. pivot angle	Weight [g]
KGLM-08-SL	8	14	9.0	0.5	5°	1.1
KGLM-10-SL	10	16	10.5	0.5	5°	1.5
KGLM-12-SL	12	18	12.0	0.5	5°	2.0
KGLM-16-SL	16	22	15.0	0.5	5°	3.1

Technical data

Part No.	Maximum radial compressive strength		Maximum Axial compressive strength	
	Short term	Long term	Short term	Long term
	[lbs]	[lbs]	[ft•lbs]	
KGLM-08-SL	807	101	304	51
KGLM-10-SL	899	169	450	84
KGLM-12-SL	1012	169	506	84
KGLM-16-SL	1461	112	731	56



- Variety of ball materials
- Easy to install
- Low-cost
- Split housing

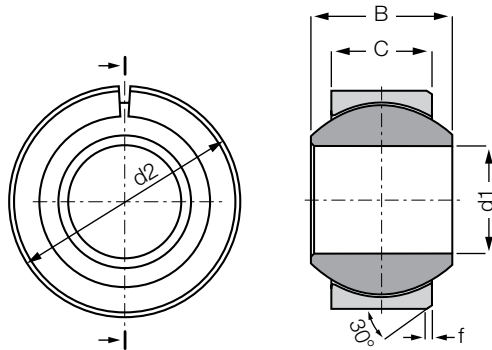


Order key

Type Size Version

K **GL** **M** - **05** - **LC**

Dimensional K series	Pressfit spherical bearing	Metric	Inner-Ø [mm]	Low-cost
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Material:

Housing: igumid G ▶ Page 1782

Standard spherical ball: iglide® W300 ▶ Page 211

Other ball stud materials on request ▶ Page 965

Dimensions [mm]

Part No.	d1 [E10]	d2 ³⁰⁾	B	C	f	Max. pivot angle	Weight [g]
KGLM-05-LC	5	13	8	6.0	0.8	30°	1.0
KGLM-10-LC	10	22	14	10.5	0.8	25°	4.3
KGLM-12-LC	12	26	16	12.0	0.8	25°	6.9
KGLM-16-LC	16	32	21	15.0	0.8	23°	12.7
KGLM-18-LC	18	35	23	16.5	0.8	23°	16.6
KGLM-20-LC	20	40	25	18.0	0.8	23°	23.6
KGLM-25-LC	25	47	31	22.0	0.8	22°	38.9
KGLM-30-LC	30	55	37	25.0	1.0	22°	61.0

Technical data

Part No.	Maximum radial Compressive Strength		Maximum axial ²⁹⁾ Compressive Strength	
	Short term	Long term	Short term	Long term
	[lbs]	[lbs]	Min	Max.
KGLM-05-LC	292	–	112	–
KGLM-10-LC	899	450	315	157
KGLM-12-LC	1214	607	337	169
KGLM-16-LC	1798	899	674	337
KGLM-20-LC	2248	1124	1124	562
KGLM-25-LC	3057	1529	1686	843
KGLM-30-LC	4496	2248	2023	1012

²⁹⁾ The maximum static axial load is determined in a remote location hole

³⁰⁾ Pressfit

igubal® spherical bearings | Product Range

EGLM - Pressfit spherical bearings



- Compensation of misalignment errors and edge loads
- Corrosion-resistant
- High dampening qualities
- Excellent vibration dampening
- Suitable for rotating, oscillating and linear movements

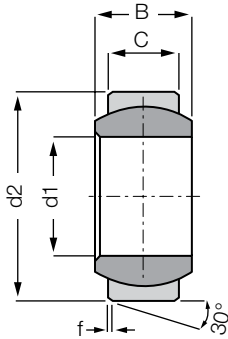


Order key

Type E Size GL M - 04

E **GL** **M** - **04**

Dimensional E series	Flange bearing	Metric	Inner-Ø [mm]
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Material:

Housing: igumid G ▶ Page 1782

Spherical ball:

Spherical balls with 04–30mm diameters made of iglide® W300 ▶ Page 211

Spherical balls with 40mm and 80mm diameter made of iglide® J ▶ Page 193

Other spherical ball materials upon request (Ø 04–12mm and 40mm)

► Dimensions [mm] and Technical data

Part No.	Max. static compressive strength		Maximum torque through ball [ft•lbs]	d1 [E10]	d2	B	C	f	Max. pivot angle	Weight [g]
	radial	axial ²⁹⁾								
	[lbs]	[lbs]								
EGLM-04	135	11	1.5	4	12	5	3.0	0.5	37°	0.4
EGLM-05	213	22	1.5	5	14	6	4.0	0.5	33°	0.8
EGLM-06	236	28	1.8	6	14	6	4.0	0.5	27°	0.9
EGLM-08	303	39	5.2	8	16	8	5.0	0.5	24°	1.2
EGLM-10	449	67	10.3	10	19	9	6.0	0.5	24°	1.9
EGLM-12	505	101	18.4	12	22	10	7.0	0.5	21°	2.8
EGLM-15	775	112	22.1	15	26	12	9.0	0.5	21°	6.9
EGLM-16	876	135	23.6	16	28	13	9.5	0.5	21°	9.0
EGLM-17	921	157	25.8	17	30	14	10.0	1.0	21°	10.6
EGLM-20	1202	269	29.5	20	35	16	12.0	1.0	18°	16.3
EGLM-25	1843	393	40.6	25	42	20	16.0	1.0	16°	29.0
EGLM-30	2472	562	51.6	30	47	22	18.0	1.0	13°	37.4
EGLM-40	5058	562	59.0	40	62	28	22.0	1.0	13°	57.0
EGLM-80	5620	2540	–	80	120	55	45.0	2.0	18°	400.0

► Tolerance Table, Page 58

For housing bores (H7)

For shaft sizes (h7)

²⁹⁾ The maximum static axial load is determined in a remote location hole

igubal® spherical bearings | Product Range

EGLM - Pressfit spherical bearings, low-cost



- Easy to install
- Low-cost
- Chemical- and corrosion-resistant
- Very tough
- Compensation of misalignment errors

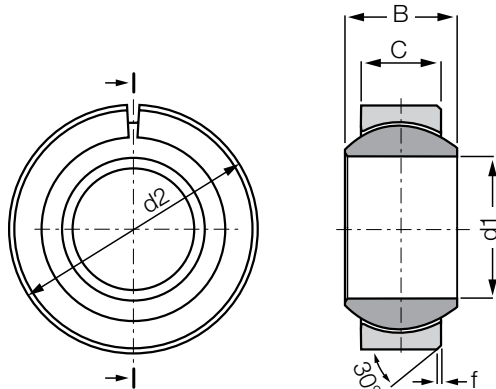


Order key

Type Size Version

E **GL** **M** - **05** - **LC**

Dimensional E series	Pressfit spherical bearing	Metric	Inner-Ø [mm]	Low-cost
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Material:

Housing: igumid G ▶ Page 1782

Standard spherical ball: iglide® W300 ▶ Page 211

Other ball stud materials on request ▶ Page 965

Dimensions [mm] and Technical data

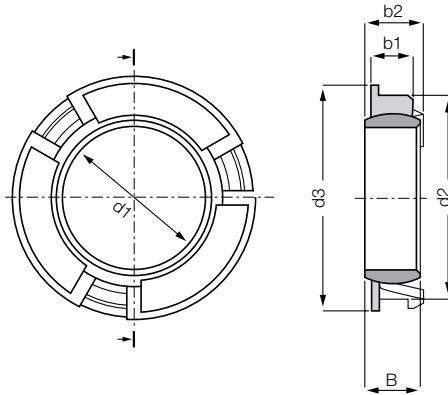
Part No.	Max. static compressive strength		Maximum torque through ball [ft•lbs]	d1 [E10]	d2	B	C	f	Max. pivot angle	Weight [g]
	radial	axial ⁽²⁹⁾								
	[lbs]	[lbs]								
EGLM-15-LC	1236	225	22	15	26	12	9.0	0.5	21°	4.5
EGLM-16-LC	1349	259	24	16	28	13	9.5	0.5	21°	6
EGLM-20-LC	2023	315	30	20	35	16	12	1.0	18°	11
EGLM-25-LC	3147	652	41	25	42	20	16	1.0	16°	20
EGLM-30-LC	3822	899	52	30	47	22	18	1.0	13°	26

igubal® spherical bearings | Product Range

ECLM - Self-aligning Clip bearings



- Easy installation by simply snapping into sheet metal
- No additional axial fastening necessary
- Extremely small installation space: space-saving, thin-walled design



Order key

Type Size Version

E **CL** **M** - **05** - **02**

Dimensional E series	Self-aligning clip bearing	Metric	Inner-Ø [mm]	Sheet thickness
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Material:

Housing: igumid G ► Page 1782

Spherical ball: iglide® J ► Page 193

Dimensions [mm]

Part No.	d1	B	d2	d3	Sheet metal thickness	b1	b2	Max. pivot angle
	[E10]		±0.2		y	±0.1		
ECLM-05-02	5	6.0	12	13	2.0	3.9	6.0	25°
ECLM-06-02	6	6.0	12	13	2.0	3.9	6.0	18°
ECLM-08-02	8	6.0	14	15	2.0	3.9	6.0	16°
ECLM-10-03	10	6.0	16	17	3.0	4.5	6.7	12°
ECLM-12-03	12	6.0	18	19	3.0	4.5	6.7	12°
ECLM-16-03	16	6.0	22	24	3.0	4.5	6.7	12°

Technical data

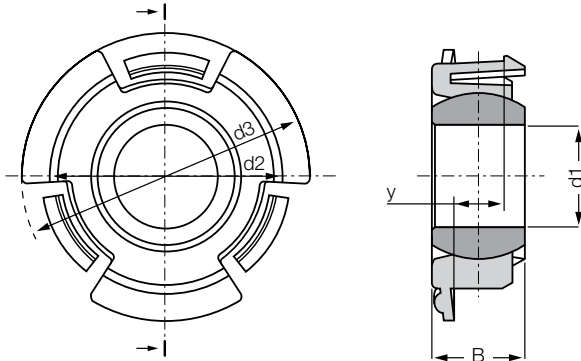
Part No.	Max. radial compressive strength		Max. axial compressive strength		Weight
	Short term	Long term	Short term	Long term	
	[lbs]	[lbs]	[lbs]	[lbs]	
ECLM-05-02	157	79	6	3	0.5
ECLM-06-02	157	79	6	3	0.5
ECLM-08-02	225	112	6	3	0.5
ECLM-10-03	315	157	7	2	0.8
ECLM-12-03	405	202	8	2	0.8
ECLM-16-03	629	315	10	5	1.1

igubal® spherical bearings | Product Range

ECLM-HD - Self-aligning clip bearing, heavy duty



- High axial and radial loads
- Adjustment of axial and radial clearance by preloading
- Easily clips into sheet metal
- No additional axial fastening necessary
- For sheet thickness 4 to 8 mm



Order key

Type	Size	Version
E	CL M - 08 - 04 - HD	
Dimensional E series	Self-aligning clip bearing	Metric
	Inner-Ø [mm]	Sheet thickness
		Heavy Duty



Material:

Housing: igumid G ▶ Page 1782
Standard spherical ball: iglide® W300
Other ball stud materials on request
▶ Page 965

Dimensions [mm]

Part No.	d1 [E10]	B	d2 ±0.15	d3	Y ±0.1	Max. pivot angle
ECLM-08-04-HD	8	8.0	18.0	25	4.0	28°
ECLM-10-05-HD	10	9.0	22.0	28	5.0	24°
ECLM-12-06-HD	12	10.0	24.0	32	6.0	24°
ECLM-20-08-HD	20	16.0	36.0	44	8.0	21°

Technical data

Part No.	Max. radial compressive strength		Max. axial compressive strength		Weight [g]
	Short term [lbs]	Long term [lbs]	Short term [lbs]	Long term [lbs]	
ECLM-08-04-HD	393	28	197	13	2.0
ECLM-10-05-HD	565	34	281	17	3.1
ECLM-12-06-HD	787	39	393	19	3.8
ECLM-20-08-HD	1349	74	674	37	12.0

Alternative spherical ball materials ▶ Page 965



J4VEM:
Clearance-free,
preloaded



JEM: Low
moisture
absorption



REM:
Low-cost



J4EM:
Low-cost and low
moisture absorption

igubal® spherical bearings | Product Range

EGFM-T - Self-aligning clip bearing, tolerance compensation



- Maintenance free, dry-running
- Easy to fit
- Max. tolerance compensation ± 0.2 mm

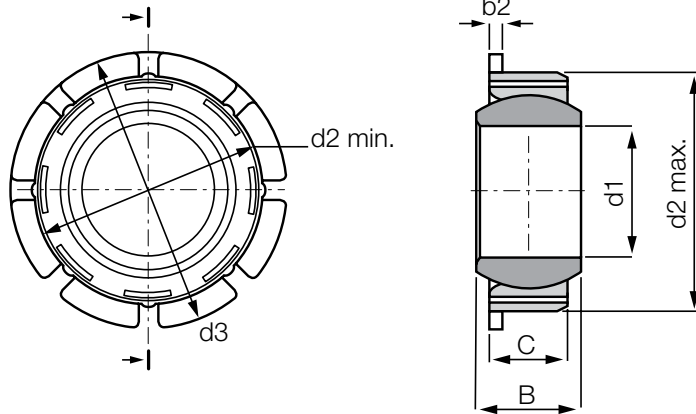


Order key

Type Size Version

E **GF** **M** - **08** - **T**

Dimensional E series	Self-aligning bearing with flange	Metric	Inner-Ø [mm]	Tolerance compensation
----------------------	-----------------------------------	--------	--------------	------------------------



Material:

Housing: igumid G ► Page 1782
Standard spherical ball: iglide® W300
Other ball stud materials on request
► Page 965

Dimensions [mm]

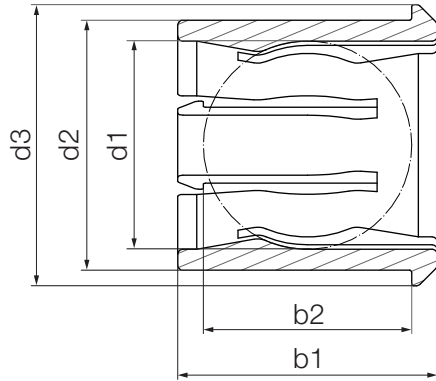
Part Number	Max. radial compressive strength		Max. axial compressive strength		Weight [g]
	Short term	Long term	Short term	Long term	
	[lbs]	[lbs]	[lbs]	[lbs]	
EGFM-08-T-SL ³¹⁾	250	124	34	17	0.9
EGFM-10-T	427	214	50	25	2.4
EGFM-12-T	560	280	61	30	3.0
EGFM-16-T	1350	675	135	67	6.6
EGFM-20-T	2020	1012	180	90	11.1
EGFM-25-T	3147	1574	630	315	19.0
EGFM-30-T	3822	1910	675	337	24.0

Technical data

Part No.	d1	d2	d2	d3	C	B	b2	Housing		Max. pivot angle
		min.	max.					min.	max.	
EGFM-08-T-SL ³¹⁾	8 (H10)	15.8	16.5	18	5.0	6	1.1	15.8	16.2	11°
EGFM-10-T	10	20.8	21.6	26	6.0	9	1.0	20.8	21.2	24°
EGFM-12-T	12	22.8	23.6	28	7.0	10	1.0	22.8	23.2	21°
EGFM-16-T	16	29.8	30.6	35	9.5	13	1.5	29.8	30.2	21°
EGFM-20-T	20	34.8	35.6	42	12.0	16	2.0	34.8	35.2	18°
EGFM-25-T	25	41.8	42.6	50	16.0	20	2.0	41.8	42.2	16°
EGFM-30-T	30	46.8	47.6	55	18.0	22	2.0	46.8	47.2	13°

³¹⁾ Spherical ball made from iglide® J

ZCLM - Ball stud clip bearing



Order key

Type	Size [mm]	Options
------	-----------	---------

Z CL M - 06 - 10 - MS

Can be assembled on both sides

Clip bearings

Metric

Ball stud M6

Metal sheet thickness

Ball stud¹⁹⁾
MS = Made of galvanized steel
ES = Made of stainless steel²⁸⁾
Blank = without ball stud

- Connection for rotating and pivoting movements
- Easy and quick assembly
- Absolute corrosion resistance
- Self-lubricating and maintenance-free
- Lightweight
- Resistance to chemicals
- Ball studs made from galvanized steel or stainless steel²⁸⁾

► Accessories, Page 987



Material:

Clip bearing: iglide® J ► Page 196

Dimensions [mm]

Part No.	d1	d2	d3	b1	b2	Weight [g]
ZCLM-06-10-MS	10	12	13.5	12.5	10	0.6

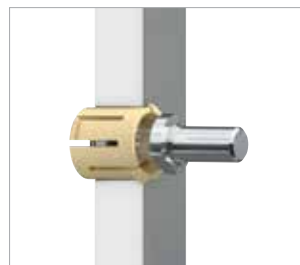
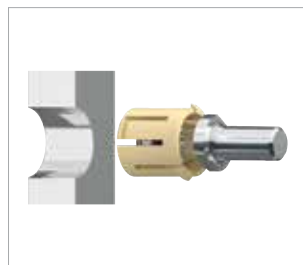
¹⁹⁾ Ball stud with right-hand thread; left-hand thread upon request

²⁸⁾ Stainless steel ball stud upon request

More dimensions upon request



Assembly:



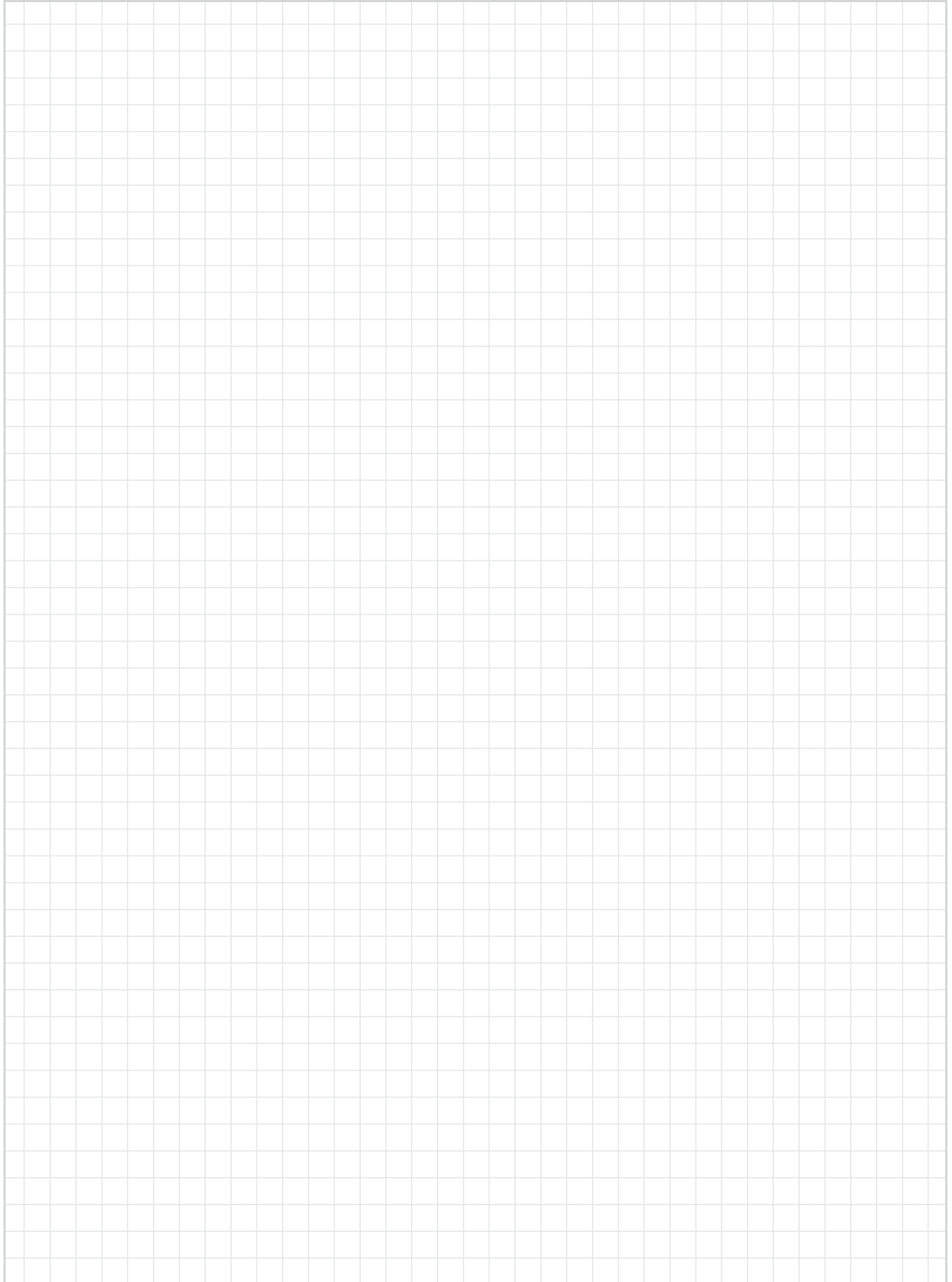
Can be combined with accessories ► Page 987



GZRM-IG:

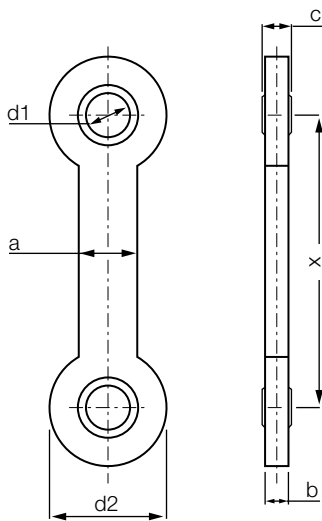
954 Lifetime calculation, configuration and more ► www.igus.com/igubal-pressfit

Notes



igubal® spherical bearings | Product Range

EGZM - Double joint



- Maintenance free, self-lubricating
- Mechanical joining link between 2 components
- Compensation of misalignment errors
- Corrosion-resistant
- Double joint turned 90° available on request



Order key

Type	Size [mm]
E	GZ M - 04 - 25
Dimensional E series	
Double joint	
Metric	
Inner-Ø [mm]	
Pitch X	



Material:

Housing: igumid G ► Page 1782

Standard spherical ball: iglide® W300 ► Page 211

Other ball stud materials on request ► Page 965

Dimensions [mm] and Technical data

Part No.	d1 [E10]	d2	x	a	b	c	Maximum radial static tensile strength		Maximum axial static tensile strength		Weight [g]
							Short term	Long term	Short term	Long term	
							[lbs]	[lbs]	[lbs]	[lbs]	
EGZM-04-25	4	20	25	10	4	5	247	124	292	146	3.5
EGZM-04-50	4	20	50	10	4	5	247	124	169	84	4.8
EGZM-04-75	4	20	75	10	4	5	247	124	112	56	6.1
EGZM-05-25	5	20	25	10	4	6	247	124	292	146	2.2
EGZM-05-50	5	20	50	10	4	6	247	124	169	84	4.9
EGZM-05-75	5	20	75	10	4	6	247	124	112	56	6.3
EGZM-06-25	6	20	25	10	4	6	247	124	292	146	3.4
EGZM-06-50	6	20	50	10	4	6	247	124	169	84	4.8
EGZM-06-75	6	20	75	10	4	6	247	124	112	56	3.4
EGZM-08-60	8	30	60	15	7	8	674	337	787	393	15.2
EGZM-08-100	8	30	100	15	7	8	674	337	427	214	19.5
EGZM-10-60	10	30	60	15	7	9	562	281	787	393	15.3
EGZM-10-85	10	30	85	15	7	9	562	281	517	259	18.1
EGZM-10-100	10	30	100	15	7	9	562	281	427	214	19.4
EGZM-12-60	12	30	60	15	7	10	450	225	787	393	14.7
EGZM-12-100	12	30	100	15	7	10	450	225	427	214	18.8

Alternative spherical ball materials ► Page 965



J4VEM:
Clearance-free,
preloaded



JEM: Low
moisture
absorption



REM:
Low-cost



J4EM:
Low-cost and low
moisture absorption

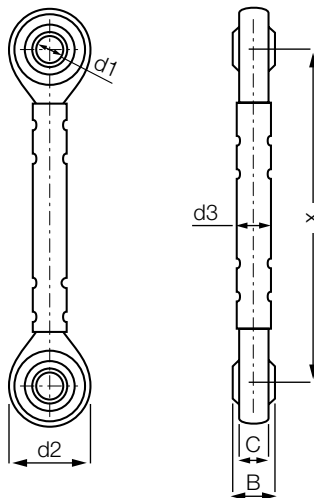
igubal® spherical bearings | Product Range

KDGM - Variable Double joint



Version A

Version B



Order key

Type	Size [mm]	Options
K	DG M	-06 - A - SR - J
Dimensional K series	Double joint	Metric
	Inner-Ø [mm]	Pitch X
	Tube material option	Spherical ball material options

Options:
Tube material
SR = Galvanized steel
ER = Stainless steel (AISI 303)

Spherical ball material
Blank = iglide® W300
J = iglide® J
J4 = iglide® J4
R = iglide® R
EK = Stainless steel (AISI 303)

Material:
Housing: igumid G ► Page 1782
Standard spherical ball: iglide® W300 ► Page 211

- Ball diameters 6, 8, 10 and 12 mm
- Individual center dimensions and lengths
- Individual alignment of the bearing position

Dimensions [mm]

Part No.	d1	d2	d3	X	B	C	Max. pivot angle
	E 10			min.			
KDGM-06-A-SR-J <input type="checkbox"/> ³²⁾	6	20.0	6.0	72.0	9.0	7.0	40°
KDGM-08-A-SR-J <input type="checkbox"/> ³²⁾	8	24.0	8.0	84.0	12.0	9.0	35°
KDGM-10-A-SR-J ¹⁴⁵⁾ <input type="checkbox"/> ³²⁾	10	30.0	10.0	96.0	14.0	10.5	35°
KDGM-12-A-SR-J <input type="checkbox"/> ³²⁾	12	34.0	12.0	108.0	16.0	12.0	35°

³²⁾ Please add the required center distance in mm

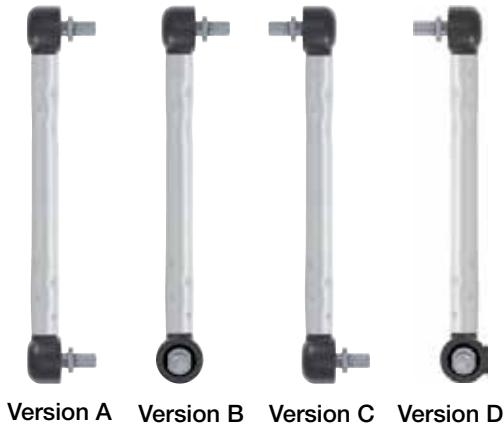
¹⁴⁵⁾ Size only available with stainless steel tube



Order example, KDGM-05-A-SR, 100 : Double joint with 5mm inner diameter, version A, tube material made of steel, spherical ball made of iglide® W300, center distance 100mm

igubal® spherical bearings | Product Range

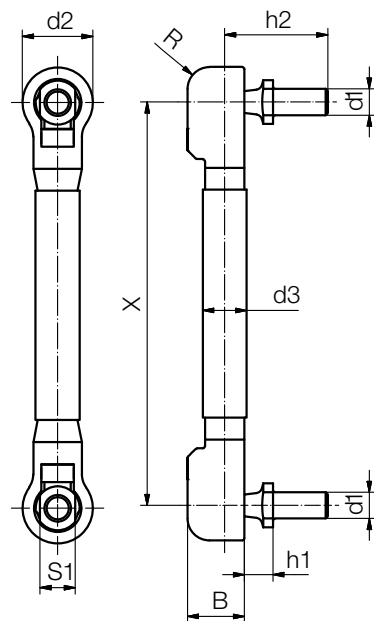
WDGM - Variable coupling joint



Order key

Type	Size [mm]	Options
W	DG M-05-	A -SR-SZ
Angle	Double joint	Metric
	Ball stud thread	Ball stud direction (A, B, C or D)
	Tube material option	Ball stud material option

Options:
Tube material
SR = Galvanized steel
ER = Stainless steel (AISI 303)
Ball stud material
SZ = Galvanized steel
EZ = Stainless steel²⁸⁾
PZ = igumid G



- Socket cup M5, M6, M8 and M10
- Individual center dimensions and lengths
- Individual alignment of the bearing position

i **Material:**
Housing: igumid G ▶ Page 1782
Spherical ball: igumid G, steel or stainless steel

Dimensions [mm]

Part No.	d1	d2	d3	X	B	h1	h2	S1	R	Max. pivot angle
				min.				Width across flats		
WDGM-05-A-SR-SZ <input type="checkbox"/> ³²⁾	M5	12.8	8.0	74.0	10.8	4.6	19.2	SW8	6.4	23°
WDGM-06-A-SR-SZ ¹⁴⁵⁾ <input type="checkbox"/> ³²⁾	M6	14.8	10.0	80.0	12.3	6.1	23.5	SW9	7.4	25°
WDGM-08-A-SR-SZ <input type="checkbox"/> ³²⁾	M8	19.3	12.0	80.0	16.2	5.9	29.5	SW12	9.7	24°
WDGM-10-A-SR-SZ <input type="checkbox"/> ³²⁾	M10 ³³⁾	19.3	12.0	80.0	16.2	7.9	36.0	SW14	9.7	24°

¹⁴⁵⁾ Size only available with stainless steel tube (ER)

²⁸⁾ Stainless steel ball stud upon request

³²⁾ Please add the required center distance in mm

³³⁾ Housing size 8 with a special M10 stud, available only in metal

Order example, WDGM-05-A-SR-SZ, 100: Coupling joint with 5mm ball stud thread, version A, tube material made of steel, ball stud made of steel, center distance 100mm

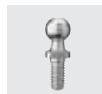
Can be combined with accessories ▶ Page 985



GZRM-IG



GZRM



GZRM-MS / GZRM-ES

igubal® spherical bearings | Product Range

WDGM-DE - Variable coupling joints, removable



Version A Version B Version C Version D



Order key

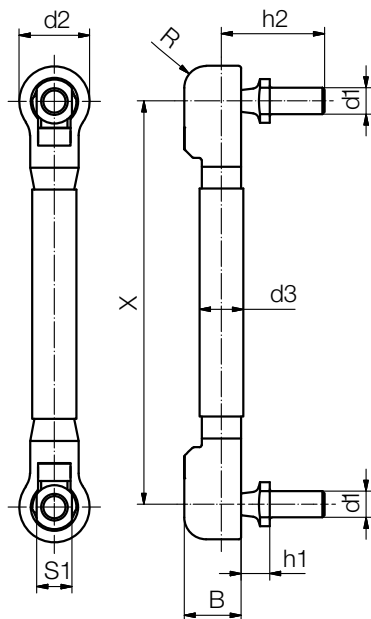
Type	Size [mm]	Options
------	-----------	---------

W DG M-06 - A - ER - SZ - DE

Angle	Double joint	Metric	Ball stud thread	Ball stud direction (A, B, C or D)	Tube material	Ball stud material	Disassembly	Options: Tube material ER = Stainless steel (AISI 303) Ball stud material SZ = Galvanized steel EZ = Stainless steel ²⁸⁾ PZ = igumid G
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Material:
Housing: igumid G ▶ Page 1782



- Socket cup M6
- Individual center distance
- Individual alignment of the bearing position
- Easy assembly and disassembly
- High holding forces when assembled

Assembly:



Dimensions [mm]

Part No.	d1	d2	d3	X	B	h1	h2	S1	R	Max. pivot angle
				Min.				Width across flats		
WDGM-06-A-ER-SZ-DE <input type="text"/> ³²⁾	M6	16	10	100	13	6.5	23.5	SW8	5	23°

²⁸⁾ Stainless steel ball stud upon request

³²⁾ Please add the required center distance in mm



Order example, WDGM-06-A-ER-SZ-DE, 150 : Removable coupling joint with 6mm ball stud thread, version A, tube material made of stainless steel, ball stud made of steel, center distance 150mm

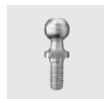
Can be combined with accessories ▶ Page 985



GZRM-IG



GZRM



GZRM-MS /GZRM-ES

igubal® spherical bearings | Product Range

GDGM-05-V - Crimped coupling joint with clevis joints



Order key

Type	Size [mm]	Options
G DG M-	05	- V - ER - F
Clevis joint	Coupling joint	metric
Inner Ø	Twistable	Tube material
Accessories		

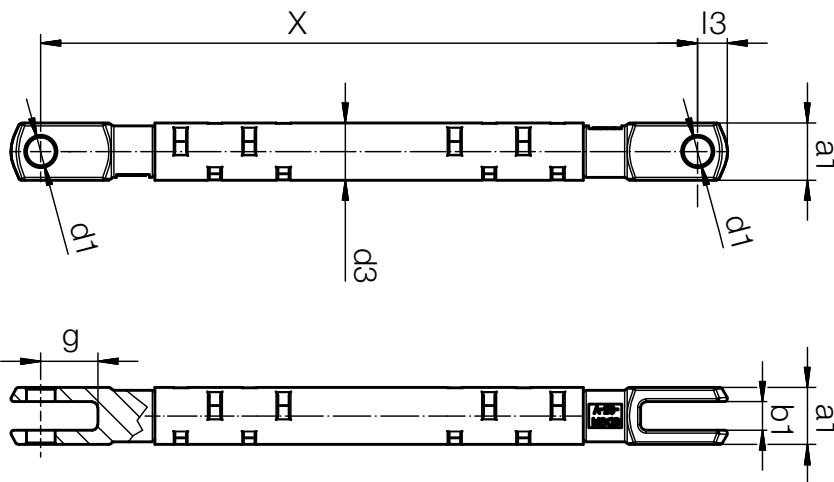
Options:
F = Spring-loaded fixing clip
K = Clevis pin and circlip

- Self-lubricating and maintenance-free
- Diameter 5mm
- Individual alignment of the clevis joint – rotation feature
- Combination with spring-loaded fixing clip or bolt and securing clip possible
- Other installation sizes upon request
- Cost-effective solution for small and medium volumes



Material:

Housing: igumid G ► Page 1782
Tube: Stainless steel (AISI 303)



Dimensions [mm]

Part No.	d1	d3	X	a1	a2	b1	g	l3	max. static tensile strain
	+0.1		Min.	+0.3	+0.3	+0.3	±0.3	+0.3	Short-term
				-0.16	-0.16	+0.1			[[lbs]
GDGM-05-V-ER- <input type="text"/>	5	10	90	10	10	5	10	5	78.68



Order example, GDGM-05-V-ER-F, 100: coupling joint with clevis joints for a pin diameter of 5mm. Adjustable alignment of the bearing points. Stainless steel tube, two spring-loaded fixing clips GEFM-05 DIN, center distance 100mm, included

Can be combined with accessories ► From page 895



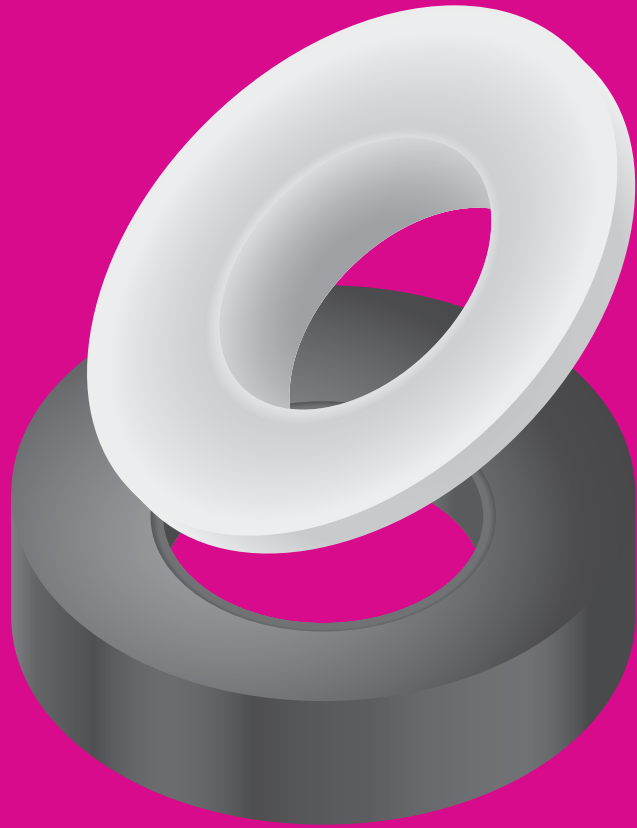
GEFM



GBM



GSR



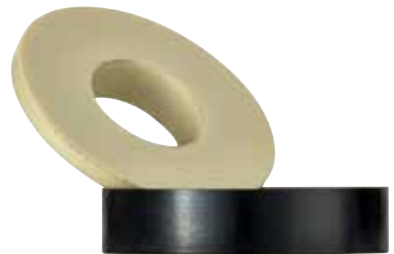
igubal[®] spherical thrust bearings

Easy to fit

Compensation of misalignment errors

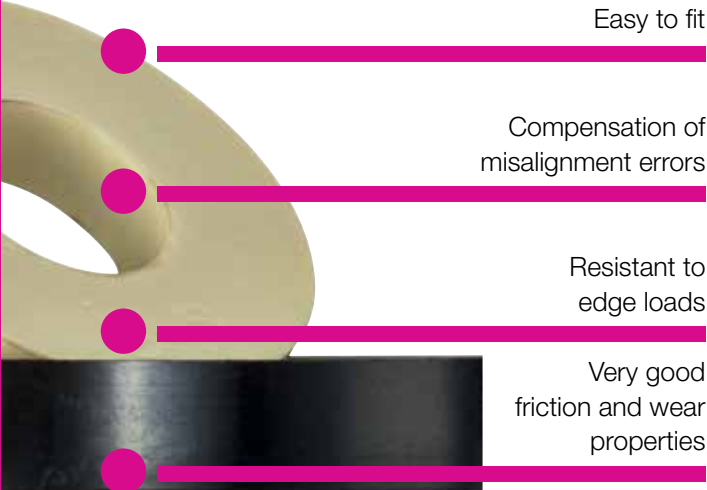
Resistant to edge loads

Excellent friction and wear properties



igubal[®] spherical thrust bearings | Advantages

igubal[®] self-aligning spherical thrust bearings are very easy to fit and help to compensate for alignment errors and prevent edge pressure.



Easy to fit

Compensation of misalignment errors

Resistant to edge loads

Very good friction and wear properties



When to use it?

- If you want to save weight
- If corrosion resistance is required
- If a bearing with a good coefficient of friction is required



When not to use it?

- At very high loads
- When temperatures are higher than +176°F
- When high speeds have to be achieved



Available from stock

Detailed information about delivery time online.



Price breaks online

No minimum order value.
No minimum order quantity



Max. + 176°F

Min. -22°F



Type 1

Ø 5–20mm



Online product finder

► www.igus.com/igubal-finder

igubal® spherical thrust bearings | Technical data

Mechanical properties

igubal® self-aligning spherical thrust bearings are very easy to fit and help to compensate for alignment errors and prevent edge pressure. The housing pad is made of the impact-resistant, thermoplastic composite igumid G. The spherical washer is made of iglide® W300 material. This combination provides exceptionally good friction and wear properties.

Loads

The load capacity of igubal® spherical thrust bearings is very high in standard ambient temperatures. For high continuous loads and high temperatures, the load capacity of the spherical thrust bearings should be tested in an experiment that simulates the application.

Coefficient of sliding friction and speed

Taking into account the radial load, maximum surface speeds up to 0.5m/s rotating are possible.

Assembly

The housing pad is installed so that it is countersunk and secured. The spherical washer fits loosely in the socket and is held in place by the shaft that is placed into the bearing.

Product range

igubal® spherical thrust bearings are available in standard form with diameters from 5 to 20mm. Please contact us if you require other dimensions.

igubal® spherical thrust bearings | Product Range

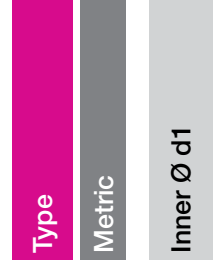
Spherical thrust bearings: SAM



Order key

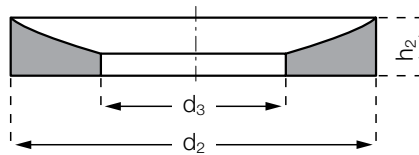
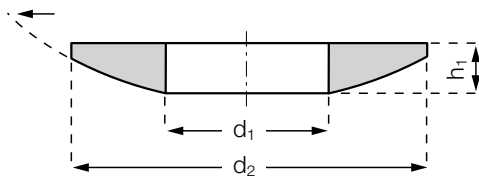
Type Size

SA M - 05



Spherical washer

Housing pad



Material:

Housing pad: igumid G ► Page 1782

Spherical washer: iglide® W300 ► Page 211

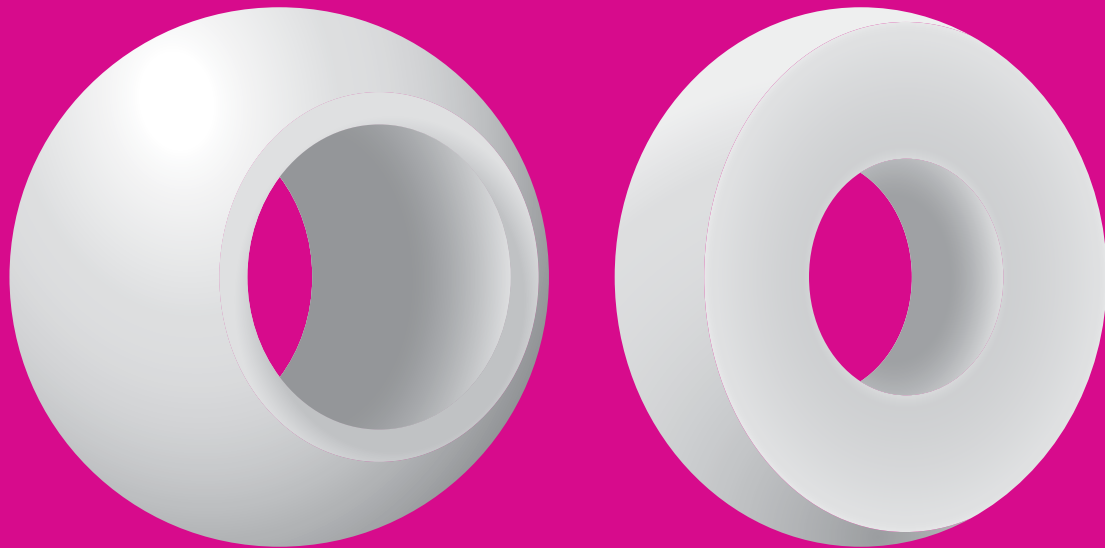
Dimensions [mm]

Part No.	d1	d3	d2	h1	h2	H ³⁴⁾	R	Compensation angle
	Spherical washer DIN 2768 medium	Housing pad DIN 2768 medium		Spherical washer	Housing pad	Overall height	Radius	
SAM-05	5.2	7.0	15	3.0	3.5	4.7	15	3°
SAM-06	6.2	7.5	16	3.0	4.0	5.3	16	3°
SAM-08	8.2	10.0	20	4.0	5.0	6.8	20	2°
SAM-10	10.2	12.0	24	4.5	5.5	7.5	24	2°
SAM-12	12.5	14.5	30	5.0	6.2	8.0	32	2°
SAM-16	16.2	19.0	36	5.5	6.5	8.7	40	2°
SAM-20	20.2	23.0	44	6.0	7.0	8.6	45	2°

Technical data

Part No.	Max. static axial compressive strength		Weight
	Short-term	Long-term	
	[lbs]	[lbs]	[g]
SAM-05	900	450	0.9
SAM-06	1124	562	1.1
SAM-08	1798	899	2.2
SAM-10	2248	1124	3.4
SAM-12	2698	1349	5.9
SAM-16	3821	1910	8.5
SAM-20	4946	2473	12.8

³⁴⁾ In assembled condition



igubal[®] spherical balls

Maintenance-free dry operation

Corrosion-free

High compressive strength

Flexible

Lightweight

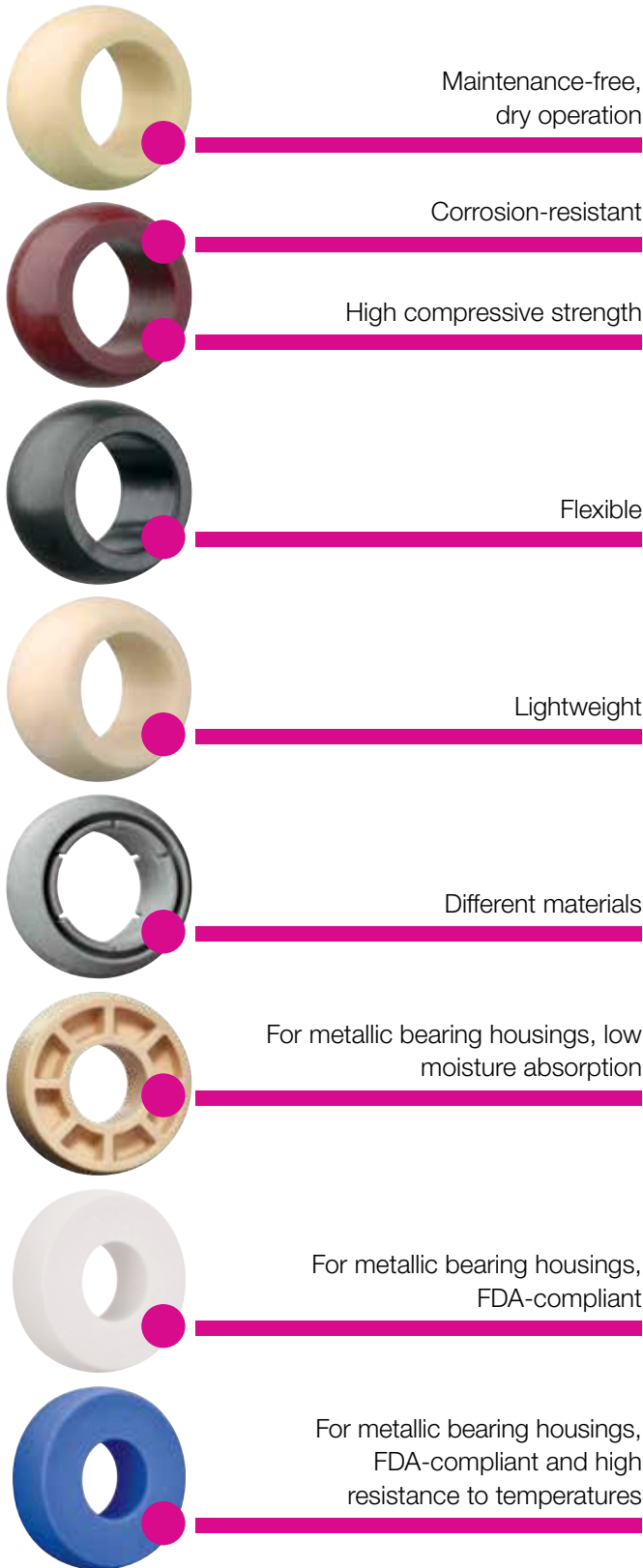
Variety of material options

Spherical balls for metallic bearing housings



igubal® spherical balls | Advantages

Every single iglide® material has its own special properties, which determines the suitability for your special applications and requirements. We have available spherical balls made from iglide® materials W300 (standard), J, J4, R, RN248, UW and X. The spherical balls for metallic bearing housings are available in three materials for housing numbers 203 to 210.



When to use it?

- If you need maintenance-free material
- If different iglide® materials should be tested
- If high compressive strength is required
- If high flexibility is required
- Replacing ball bearings in metallic housings



When not to use it?

- When temperatures are higher than +482 °F
- When dimensions above 50mm are required
- When rotation speeds higher than 98 fpm (0.5m/s) are required

Tolerances

Maintenance-free igubal® spherical balls are designed with a tolerance of the inner diameter of E10. The shaft tolerance should be included between h6 and h9. All values and tolerances according to DIN ISO 2768-m.



Available from stock

Detailed information about delivery time online.



Price breaks online

No minimum order value. No minimum order quantity



Depending on material



8 types
 Ø 3/16 to 1 inch
 Ø 2–50mm



Online product finder

► www.igus.com/igubal-finder

igubal® spherical balls | Application examples

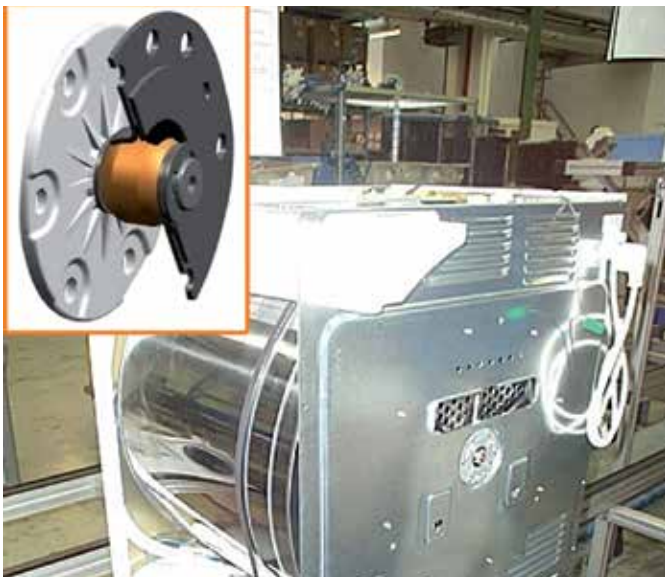


Typical sectors of industry and application areas

- Plant design
- Model building
- Furniture/Industrial design etc.

Improve technology and reduce costs –
110 exciting examples online

► www.igus.com/igubal-applications



Drum bearing in a tumble dryer



Food industry



Carriage in a crane system



Furniture design

igubal® spherical balls | Product overview

Standard - igubal spherical balls
iglide® W300 ▶ Page 211

Low-cost - spherical balls
iglide® R ▶ Page 303



WKI / WEI
Dimensional K/E series
inch

▶ Page 970



WKM / WEM
Dimensional K/E series
metric

▶ Page 971



REI
Dimensional E series
inch / metric

▶ Page 972



RKM/REM
Dimensional K/E series
metric

▶ Page 973

High temperatures – igubal® spherical balls
iglide® X ▶ Page 339

Low moisture absorption – igubal® spherical balls
iglide® J ▶ Page 193



XKM
Dimensional K series
metric

▶ Page 974



XEM
Dimensional E series
metric

▶ Page 974



JKM
Dimensional K series
metric

▶ Page 975



JEM
Dimensional E series
metric

▶ Page 975



JKM / JKM-GT
Large dimensions
metric

▶ Page 976

Cost-effective – igubal® spherical balls
iglide® J4, ▶ Page 1780

Underwater applications – igubal® spherical balls
iglide® UW ▶ Page 613

Pre-loaded – igubal® spherical balls
iglide® J4 ▶ Page 1780



J4KM
Dimensional K series
metric

▶ Page 978



J4EM
Dimensional E series
metric

▶ Page 978



UWEM
Dimensional E series
metric

▶ Page 979



J4VEM
Dimensional E series
metric

▶ Page 980

Detectable – igubal® spherical balls
iglide® RN248 ▶ Page 1785

For metallic bearing housings – igubal® spherical balls

iglide® J
▶ Page 193

iglide® A180
▶ Page 493

iglide® A350
▶ Page 469



RN248KM
Dimensional K series
metric

▶ Page 981



RN248EM
Dimensional E series
metric

▶ Page 981



Standard/Cost effective
Dimensional UC series
metric

▶ Page 982/983



FDA-compliant
Dimensional UC series
metric

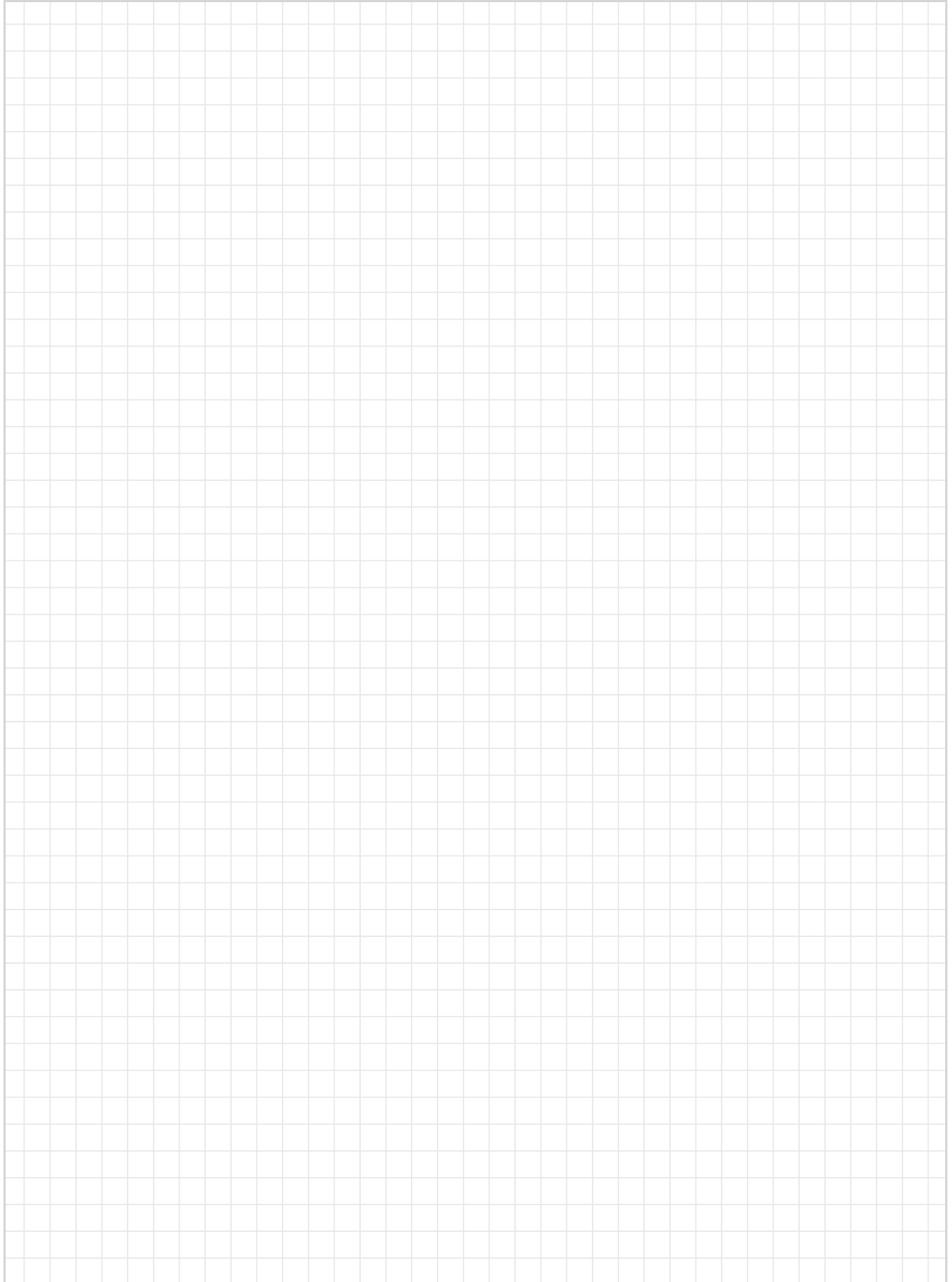
▶ Page 982



FDA-compliant, high temp.
Dimensional UC series
metric

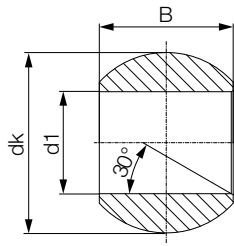
▶ Page 982

Notes

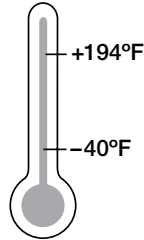
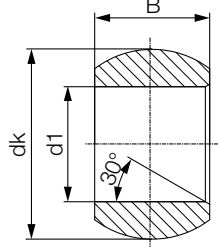


igubal® spherical balls | Product Range

WKI and WEI - Standard igubal® spherical balls - inch



Standard – iglide® W300
extreme wear resistance



Order key

Type	Size
W ... I - 08 - 04	
Spherical ball material iglide® W300	Dimensional series K = K series E = E series
Inch	Inner-Ø [mm]
	Width

Dimensions [inch]

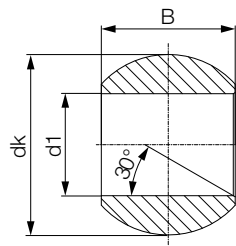
Part No.	d1 [E10]	dK	B	Weight [g]
WKI-03	0.1875	0.444	0.312	0.6
WKI-04	0.2500	0.516	0.375	1.0
WKI-05	0.3125	0.625	0.437	1.7
WKI-06	0.3750	0.718	0.500	2.3
WKI-07	0.4375	0.828	0.562	3.5
WKI-08	0.5000	0.938	0.625	5.0
WKI-10	0.6250	1.125	0.750	8.2
WKI-12	0.7500	1.312	0.875	12.5
WKI-16	1.0000	1.750	1.375	31.7

Dimensions [inch]

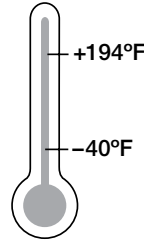
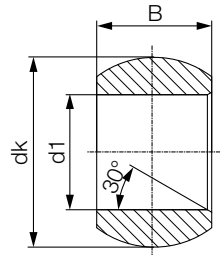
Part No.	d1 [E10]	dK	B	Weight [g]
WEI-03	0.1875	0.402	0.1900	0.3
WEI-04	0.2500	0.402	0.2500	0.3
WEI-05	0.3125	0.520	0.3125	0.7
WEI-06	0.3750	0.630	0.3750	1.3
WEI-07	0.4375	0.709	0.4063	1.6
WEI-08	0.5000	0.709	0.4063	2.6
WEI-10	0.6250	0.945	0.5000	3.1
WEI-12	0.7500	1.138	0.6250	5.9
WEI-16	1.0000	1.398	0.7500	9.2

igubal® spherical balls | Product Range

WKM and WEM - Standard spherical balls - metric



Standard – iglide® W300
extreme wear resistance



Order key

Type	Size
W ... M - 08 - 04	
Spherical ball material iglide® W300	Inner-Ø [mm]
Dimensional series K = K series E = E series	Width
Metric	

Dimensions [mm]

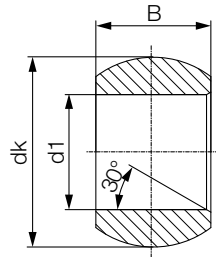
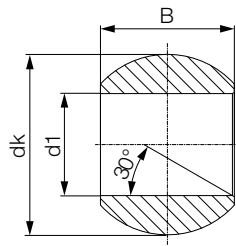
Part No.	d1 [E10]	dK	B	Weight [g]
WKM-02-04	2	5.10	4	0.1
WKM-03-06	3	8.10	6	0.3
WKM-05-08	5	11.30	8	0.6
WKM-06-09	6	12.80	9	0.9
WKM-08-12	8	16.00	12	1.6
WKM-10-14	10	19.00	14	2.7
WKM-12-16	12	22.10	16	4.0
WKM-14-19	14	25.40	19	6.0
WKM-16-21	16	28.40	21	8.2
WKM-18-23	18	31.50	23	10.8
WKM-20-25	20	35.10	25	14.5
WKM-22-28	22	38.30	28	18.7
WKM-25-31	25	42.90	31	26.0
WKM-30-37	30	51.20	37	44.7

Dimensions [mm]

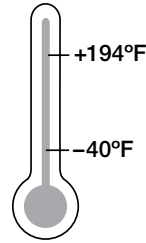
Part No.	d1 [E10]	dK	B	Weight [g]
WEM-04-05	4	8.30	5	0.2
WEM-05-06	5	10.30	6	0.3
WEM-06-06	6	10.30	6	0.4
WEM-08-08	8	13.30	8	0.7
WEM-10-09	10	16.10	9	1.2
WEM-12-10	12	18.10	10	1.5
WEM-15-12	15	22.00	12	2.4
WEM-16-13	16	24.10	13	3.3
WEM-17-14	17	25.10	14	3.7
WEM-20-16	20	29.10	16	5.3
WEM-25-20	25	35.60	20	9.5
WEM-30-22	30	40.90	22	12.1

igubal® spherical balls | Product Range

REI - igubal® spherical balls



iglide® R - low friction values,
low cost, low moisture
absorption



Order key

Type R Size 04

R E I - 04

Spherical ball material
iglide® R

Dimensional E series

Inch

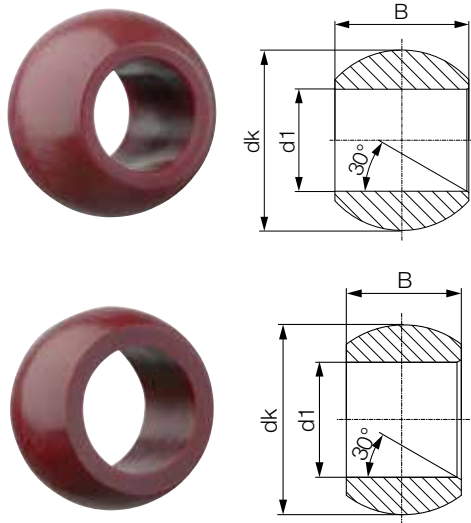
Inner-Ø [mm]

Dimensions [inch]

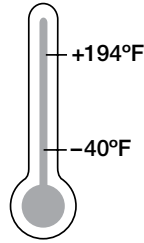
Part No.	d1 [E10]	dK	B	Weight [g]
REI-03	0.1875	0.402	0.1900	0.3
REI-04	0.2500	0.402	0.2500	0.3
REI-05	0.3125	0.520	0.3125	0.7
REI-06	0.3750	0.630	0.3750	1.3
REI-07	0.4275	0.709	0.4063	1.6
REI-08	0.5000	0.709	0.4063	2.6
REI-10	0.6250	0.945	0.5000	3.1
REI-12	0.7500	1.138	0.6250	5.9
REI-16	1.0000	1.398	0.7500	9.2

igubal® spherical balls | Product Range

RKM and REM - igubal® spherical balls



iglide® R - low friction values,
low cost, low moisture
absorption



Order key

Type	Size
R ... M	- 06 - 08
Spherical ball material iglide® R	Dimensional series K = K series E = E series
Metric	Inner-Ø [mm]
	Width

Dimensions [mm]

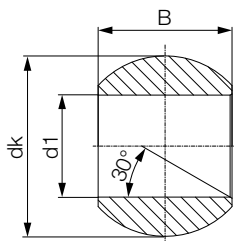
Part No.	d1 [E10]	dK	B	Weight [g]
RKM-10-14	10	19.00	14	2.9

Dimensions [mm]

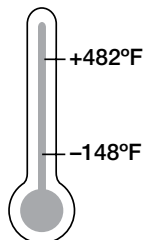
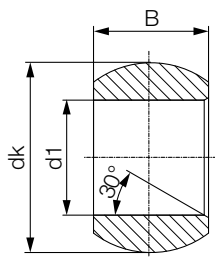
Part No.	d1 [E10]	dK	B	Weight [g]
REM-05-06	5	10.20	6	0.4
REM-06-06	6	10.20	6	0.4
REM-08-08	8	13.20	8	0.8
REM-10-09	10	16.00	9	1.3
REM-12-10	12	18.00	10	1.8

igubal® spherical balls | Product Range

XKM and XEM - igubal® spherical balls



iglide® X - resistant to chemicals, high temperatures



Order key

Type

Size

X ... **M - 06 - 08**

Spherical ball material
iglide® X

Dimensional series

K = K series

E = E series

Metric

Inner-Ø [mm]

Width

Dimensions [mm]

Part No.	d1 [E10]	dK	B	Weight [g]
XKM-10-04	10	19.10	14	2.9

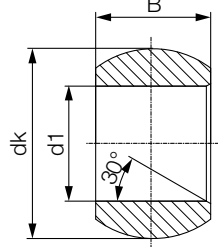
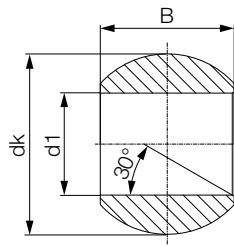
Dimensions [mm]

Part No.	d1 [E10]	dK	B	Weight [g]
XEM-05-06	5	10.30	6	0.4
XEM-06-06	6	10.20	6	0.4
XEM-08-08	8	13.20	8	0.8
XEM-10-09	10	16.00	9	1.3
XEM-12-10	12	18.00	10	1.6

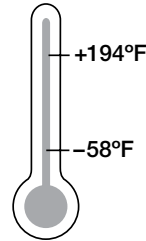
*X is the European material equivalent for iglide® T500.

igubal® spherical balls | Product Range

JKM and JEM - igubal® spherical balls - Low moisture absorption



iglide® J - low moisture absorption, low friction values



Order key

Type	Size
J ... M - 05 - 08	
Spherical ball material iglide® J	Dimensional series K = K series E = E series
Metric	Inner-Ø [mm]
	Width

Dimensions [mm]

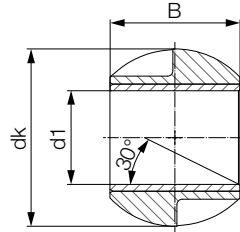
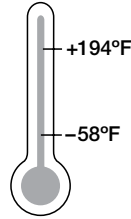
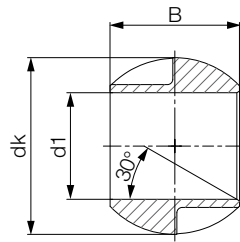
Part No.	d1 [E10]	dK	B	Weight [g]
JKM-03-06	3	8.10	6	0.3
JKM-05-08	5	11.30	8	0.7
JKM-06-09	6	12.80	9	1.0
JKM-08-12	8	15.90	12	1.9
JKM-10-14	10	19.00	14	3.1
JKM-12-16	12	22.10	16	4.7
JKM-16-21	16	28.40	21	9.4
JKM-20-25	20	35.10	25	17.6
JKM-25-31	25	42.80	31	31.6
JKM-30-37	30	51.20	37	53.0

Dimensions [mm]

Part No.	d1 [E10]	dK	B	Weight [g]
JEM-04-05	4	8.30	5	0.3
JEM-05-06	5	10.20	6	0.4
JEM-06-06	6	10.20	6	0.4
JEM-08-08	8	13.30	8	0.8
JEM-10-09	10	16.10	9	1.3
JEM-12-10	12	18.10	10	1.7
JEM-15-12	15	22.00	12	2.9
JEM-16-13	16	24.10	13	3.9
JEM-17-14	17	25.20	14	4.1
JEM-20-16	20	29.10	16	6.4
JEM-25-20	25	35.60	20	11.5
JEM-30-22	30	40.90	22	14.5

igubal® spherical balls | Product Range

JKM - igubal® spherical balls - large dimensions



Order key

Type	Size
J	K M - 35 - 49
Spherical ball material iglide® J	Dimensional K series
	Metric
	Inner-Ø [mm]
	Width

iglide® J - Low moisture absorption

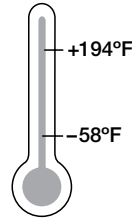
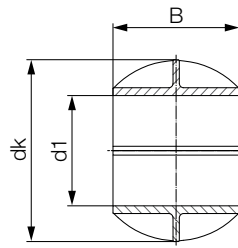
Dimensions [mm]

Part No.	d1 [E10]	dK	B	Weight [g]
JKM-35-49 ³⁵⁾	35	66.30	49	75.5
JKM-40-49	40	66.30	49	54.5
JKM-45-60 ³⁵⁾	45	82.40	60	125.1
JKM-50-60	50	82.40	60	92.1

³⁵⁾ Diameter reduced by means of a plain bearing

igubal® spherical balls | Product Range

JKM-GT and JEM-GT - igubal® spherical balls - split



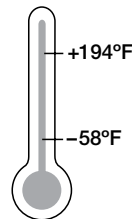
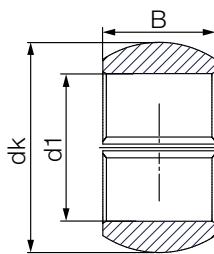
Order key

Type	Size			
J	K	M	- GT - 49	
Spherical ball material iglide® J	Dimensional K series	Metric	Split ball	Inner-Ø [mm]

iglide® J - Low moisture absorption

Dimensions [mm]

Part No.	d1 [E10]	dK	B	Weight [g]
JKM-GT-40	40	66.30	49	54.5
JKM-GT-50	50	82.40	60	92.1



Order key

Type	Size			
J	E	M	- GT - 16	
Spherical ball material iglide® J	Dimensional E series	Metric	Split ball	Inner-Ø [mm]

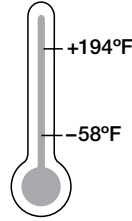
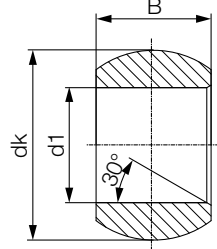
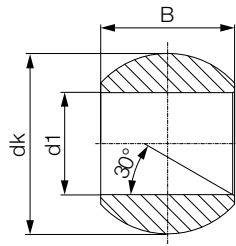
iglide® J - Low moisture absorption

Dimensions [mm]

Part No.	d1 E10	dK	B	Weight [g]
JEM-GT16	16	23.7	13	3.7
JEM-GT20	20	28.9	16	6.1
JEM-GT25	25	35.6	20	10.9
JEM-GT30	30	40.8	22	14.6

igubal® spherical balls | Product Range

J4KM and J4EM - igubal® spherical balls - cost-effective



Order key

Type	Size
J4 ... M - 08 - 08	
Spherical ball material iglide® J4	Dimensional series K = K series E = E series
Metric	Inner-Ø [mm]
	Width

iglide® J4 - low moisture absorption, low friction values

Dimensions [mm]

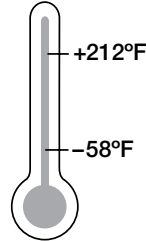
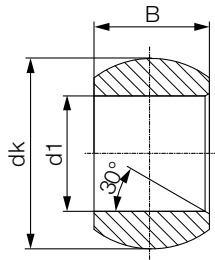
Part No.	d1 [E10]	dK	B	Weight [g]
J4KM-10-14	10	19.10	14	3.1
J4KM-10-16	10	22.10	16	3.1

Dimensions [mm]

Part No.	d1 [E10]	dK	B	Weight [g]
J4EM-04-05	4	8.25	5	0.3
J4EM-05-06	5	10.20	6	0.4
J4EM-06-06	6	10.20	6	0.4
J4EM-08-08	8	13.30	8	0.8
J4EM-10-09	10	16.00	9	1.3
J4EM-12-10	12	18.00	10	1.7
J4EM-15-12	15	22.00	12	2.9
J4EM-16-13	16	24.00	13	3.9
J4EM-17-14	17	25.10	14	4.1
J4EM-20-16	20	28.90	16	6.4
J4EM-25-20	25	35.50	20	11.5
J4EM-30-22	30	40.90	22	14.5

igubal® spherical balls | Product Range

UWEM - igubal® spherical balls - for underwater applications



Order key

Type	Size			
UW	E	M	- 08 - 08	
Spherical ball material iglide® UW	Dimensional series E = E series	Metric	Inner-Ø [mm]	Width

iglide® UW - For underwater use

Dimensions [mm]

Part No.	d1 [E10]	dK	B	Weight [g]
UWEM-1009	10	16.10	9	1.4
UWEM-16-13	16	23.80	13	4.0
UWEM-20-16	20	28.80	16	6.5
UWEM-25-20	25	35.30	20	11.6
UWEM-30-22	30	40.50	22	15.2

igubal® spherical balls | Product Range

J4VEM - igubal® spherical balls - pre-tensioned

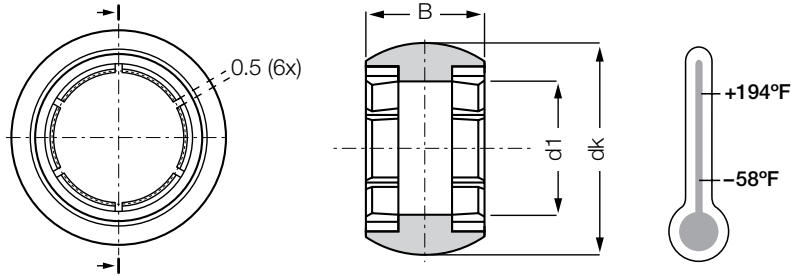


Order key

Type	Size				
J4	V	E	M	- 08	- 08
Spherical ball material iglide® J4	Preloaded	Dimensional E series	Metric	Inner-Ø [mm]	Width



iglide® J4 - low moisture absorption,
low friction values



- Can be combined with all E series housings
- Sizes 8 to 20 mm
- Preloaded
- Totally clearance free in unloaded state

Dimensions [mm]

Part No.	d1 [E10]	dK	B	Weight [g]
J4VEM-08-08	8	13.20	8	0.7
J4VEM-10-09	10	16.10	9	1.2
J4VEM-12-10	12	18.10	10	1.5
J4VEM-16-13	16	24.10	13	3.7
J4VEM-20-16	20	29.10	16	6.2

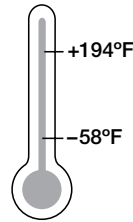
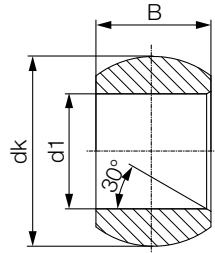
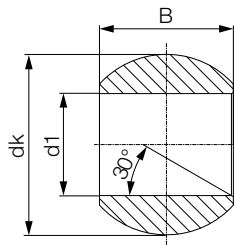
5 Sizes available: Ø 8, 10, 12, 16, 20 mm

Can be combined with:

igubal® rod ends	EBRM/EBLM	► Page 860
igubal® rod ends	EARM/EALM	► Page 868
igubal® pillow block bearing	ESTM	► Page 909
igubal® flange bearing	EFOM	► Page 924
igubal® flange bearing	EFSM	► Page 927
igubal® pressfit bearing	EGLM	► Page 949
igubal® pressfit bearing	EGFM-T	► Page 953
igubal® double joint	EGZM	► Page 956

igubal® spherical balls | Product Range

RN248KM and RN248EM - igubal® spherical balls - Detectable



Order key

Type	Size [mm]	Options
RN248 ... M - 06 - 09		
igubal® RN248 spherical balls	Dimensional series	Series
	Metric	K = Dimensional K series
	Inner Ø d1	E = Dimensional E series
	Width	

Dimensions [mm]

Part No.	d1 E10	dK	B	Weight [g]
RN248KM-06-09	6	12.80	9	1

Dimensions [mm]

Part No.	d1 E10	dK	B	Weight [g]
RN248EM-05-06	5	10.30	6	0.4
RN248EM-06-06	6	10.20	6	0.4
RN248EM-08-08	8	13.20	8	0.8
RN248EM-10-09	10	16.10	9	1.3
RN248EM-12-10	12	18.10	10	1.6

igubal® spherical balls | Product Range

Slim spherical balls for various metallic UC type bearing housings



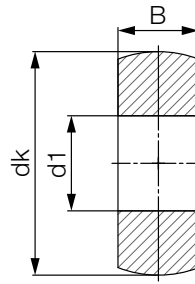
iglide® J



iglide® A180



iglide® A350



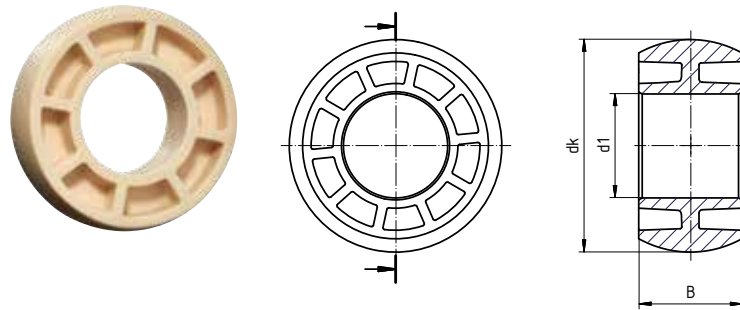
- 3 different spherical ball materials available: iglide® J, A180 and A350
- Eight dimensions for housing numbers from 203 to 210
- Maintenance-free, dry operation
- Durable
- Corrosion-free
- Resistant to dirt

Dimensions [mm]

Part No.	Housing No.	d1 E10	dk	B	Max. static compressive force	
					radial [kN]	axial [kN]
made of iglide® J, low coefficient of friction (material information ► From page 193)						
JEM-17-17	UC203	17	47	17	10.0	7.5
JEM-20-17	UC204	20	47	17	11.5	7.5
JEM-25-17	UC205	25	52	17	14.5	7.5
JEM-30-19	UC206	30	62	19	19.5	9.5
JEM-35-20	UC207	35	72	20	24.0	10.5
JEM-40-21	UC208	40	80	21	29.0	12.0
JEM-45-22	UC209	45	85	22	34.0	13.0
JEM-50-24	UC210	50	90	24	41.5	15.5
made of iglide® A180, FDA-compliant all-rounder (material information ► From page 493)						
A180EM-17-17	UC203	17	47	17	7.5	6.0
A180EM-20-17	UC204	20	47	17	9.0	6.0
A180EM-25-17	UC205	25	52	17	11.5	6.0
A180EM-30-19	UC206	30	62	19	15.5	7.5
A180EM-35-20	UC207	35	72	20	19.0	8.5
A180EM-40-21	UC208	40	80	21	23.0	9.0
A180EM-45-22	UC209	45	85	22	27.0	10.0
A180EM-50-24	UC210	50	90	24	33.0	12.0
made of iglide® A350, for high temperatures and chemicals (material information ► From page 469)						
A350EM-17-17	UC203	17	47	17	17.0	13.0
A350EM-20-17	UC204	20	47	17	20.0	13.0
A350EM-25-17	UC205	25	52	17	25.0	13.0
A350EM-30-19	UC206	30	62	19	34.0	17.0
A350EM-35-20	UC207	35	72	20	41.5	18.5
A350EM-40-21	UC208	40	80	21	50.0	20.0

igubal® spherical balls | Product Range

Cost-effective spherical balls for various metallic UC type bearing housings



Order key

Type Size Version

J EM-17-17-SP

iglide® material	iglide® spherical balls	Inner Ø d1	Width	Injection molding
------------------	-------------------------	------------	-------	-------------------

- Cost-effective due to injection molding method
- Eight dimensions for housing numbers from 203 to 210
- Maintenance-free, dry operation
- Durable
- Resistant to corrosion and chemicals
- Resistant to dirt
- Low moisture absorption

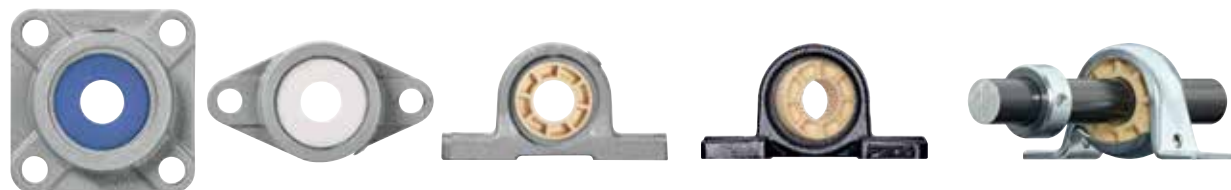


Material:

iglide® J, low coefficients of friction ► Page 193
iglide® J4, Low-cost material ► Page 1780

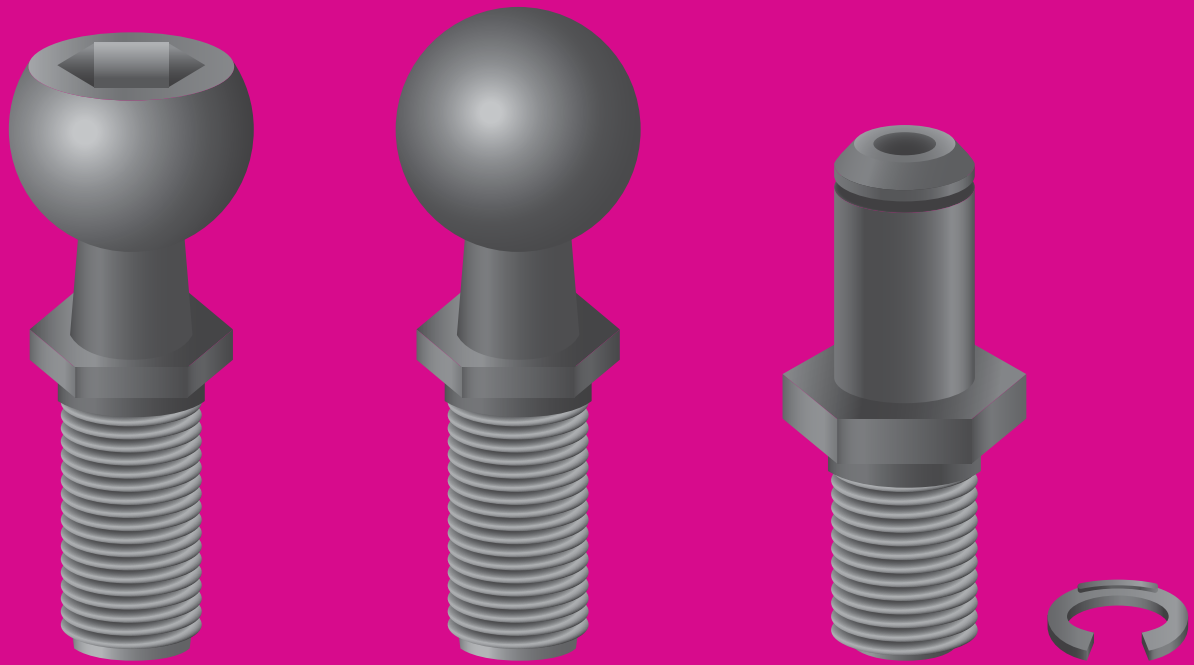
Dimensions [mm]

Part No.	Housing No.	d1	dk	B	Max. static compressive force	
		E10			radial [lbs]	axial [lbs]
JEM-17-17-SP	UC203	17	47	17	1686.0	899.0
□EM-20-14-SP	P204	20	47	14	1798.0	899.0
JEM-20-17-SP	UC204	20	47	17	1798.0	899.0
□EM-25-15-SP	P205	25	52	15	2023.0	899.0
JEM-25-17-SP	UC205	25	52	17	2023.0	786.5
□EM-30-16-SP	P206	30	62	16	3034.5	1124.0
JEM-30-19-SP	UC206	30	62	19	3034.5	1124.0
JEM-35-20-SP	UC207	35	72	20	3259.5	1461.0
JEM-40-21-SP	UC208	40	80	21	4720.5	1348.5
JEM-45-22-SP	UC209	45	85	22	5170.0	1236.0
JEM-50-24-SP	UC210	50	90	24	5620.0	1236.0



Notes

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.



igubal® accessories

Ball studs made of plastic, galvanized steel and stainless steel

Adapter screw made of plastic

Adapter for E series pillow block bearings



Fixing collar with threaded pin

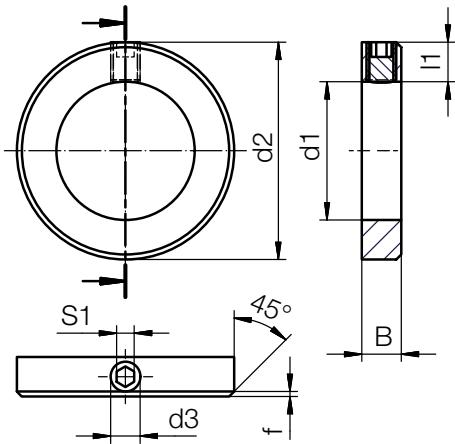


- Easy to fit
- DIN 705 (lightweight series)
- Incl. DIN 914 threaded pin (Allen key)



Order key

Type	Size	Version
SR M - S	20 -	V
Fixing collar	Metric	without thread
	Shaft diameter	Pre-assembled (screw)



Material:

Galvanized steel (stainless steel upon request)

Dimensions [mm]

Part No.	d1	d2	B	f	d3	l1	S1	Weight [g]
SRM-S20-V	20	32	14	1.4	M6	6	SW3	53.0
SRM-S25-V	25	40	16	1.6	M8	8	SW4	95.6
SRM-S30-V	30	45	16	1.6	M8	8	SW4	111.0
SRM-S35-V	35	56	16	1.8	M8	10	SW4	187.0



Ball studs with female thread



- Easy to fit
- DIN connection size
- Corrosion-free



Order key

Type	Size	Version	Options
------	------	---------	---------

GZ R M - 05 - IG - ES

Threaded pin	Thread direction	Metric	Thread size M...	Female thread
--------------	------------------	--------	------------------	---------------

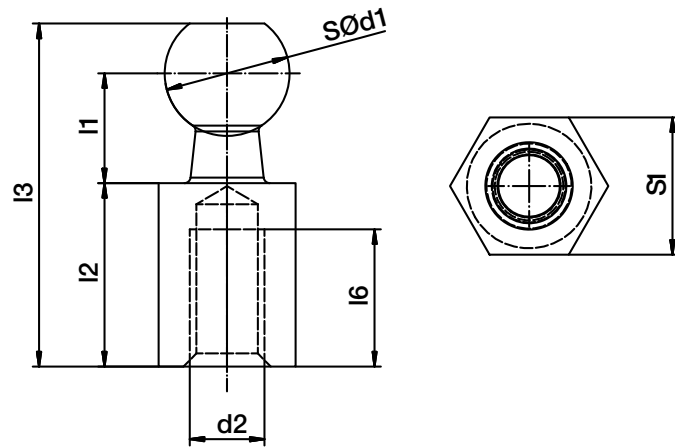
Options:

Thread direction

- R = Right-hand thread
- L = Left-hand thread (upon request)

Add-on:

- Blank = Galvanized steel
- ES = Stainless steel²⁸⁾



Material:

Galvanized and stainless steel (AISI 303)

Dimensions [mm]

Part No.	d1	d2	l1	l2	l6	l3	S1	Weight
	-0.05							[g]
GZRM-05-IG	8	M5	7.0	12.2	9	22.7	SW10	10
GZRM-06-IG	10	M6	8.8	14.7	11	27.5	SW11	15
GZRM-08-IG	13	M8	10.8	18.7	12	35.2	SW14	30
GZRM-10-IG	16	M10	13.3	22.7	16	43.0	SW17	55

²⁸⁾ Stainless steel ball stud upon request

Can be combined with:



WGR(L)M



WGR(L)M LC



WGR(L)M-DE



GFMSM-IG



ZCLM-06-10

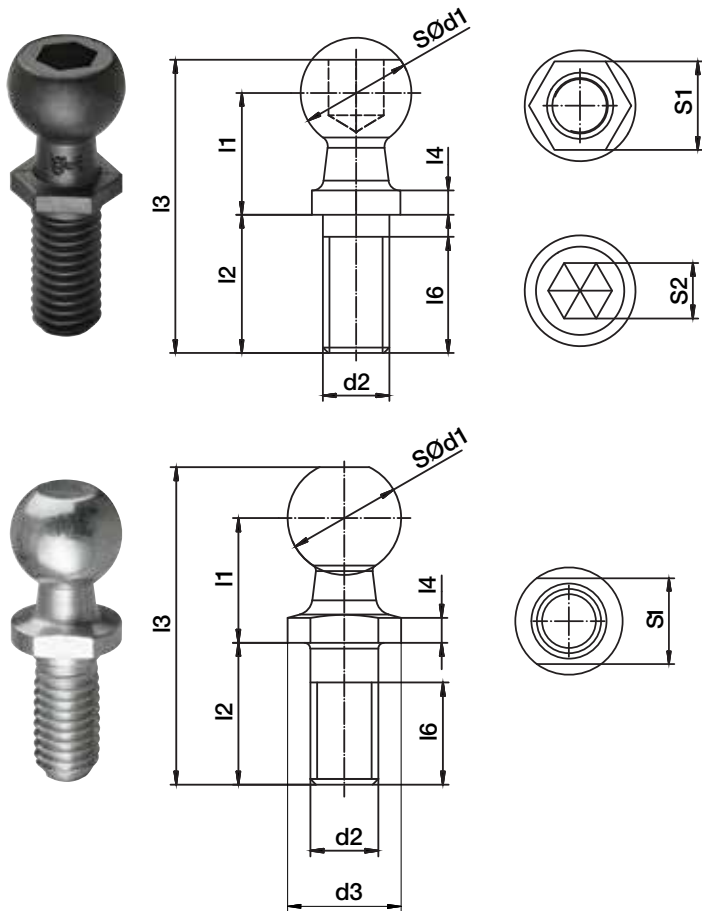


WDGM



WDGM-DE

Ball studs with male thread



Order key

Type	Size	Options
------	------	---------

GZ R M - 05 - MS

Threaded pin	Thread direction	Metric	Thread size M...
--------------	------------------	--------	------------------

Options:

Thread

- R = Right-hand thread
- L = Left-hand thread (upon request)

Add-on:

- Blank = Plastic
- MS = Galvanized steel
- ES = Stainless steel (upon request)



Material:

Plastic: igumid G ► Page 1782
Galvanized and stainless steel (AISI 303)

- Easy to fit
- DIN connection size
- Corrosion-free

Dimensions [mm] – ball studs made from plastic

Part No.	d1 ±0.1	d2	l1	l2	l3	l4 ±0.2	l6	S1	S2	Weight [g]
GZRM-05	8	M5	9	10.2	21.7	2.0	8.2	SW7	4	1
GZRM-06	10	M6	11	12.5	26.5	2.2	10.5	SW8	5	1
GZRM-08	13	M8	13	16.5	33.5	2.4	13.5	SW11	6	3
GZRM-10	16	M10	16	20.0	40.5	2.7	16.0	SW13	8	6

Dimensions [mm] – ball studs made of galvanized and stainless steel

Part No.	d1 h9	d2	d3 h14	l1 ±0.3	l2 ±0.3	l3 ±0.3	l4 ±0.4	l6 Min.	S1 h14	Weight [g]
GZRM-05-MS ¹¹⁵⁾	8	M5	8	9	10.2	22.7	2.0	6.2	SW7	4.5
GZRM-06-MS ¹¹⁵⁾	10	M6	10	11	12.5	28.0	2.2	8.5	SW8	8.5
GZRM-08-MS ¹¹⁵⁾	13	M8	13	13	16.5	35.0	2.4	11.2	SW11	17.7
GZRM-10-MS ¹¹⁵⁾	16	M10	16	16	20.0	43.0	2.7	12.7	SW13	35.1

¹¹⁵⁾ For the stainless steel version please replace the suffix MS by ES

Can be combined with:



WGR(L)M

WGR(L)M LC

WGR(L)M-DE

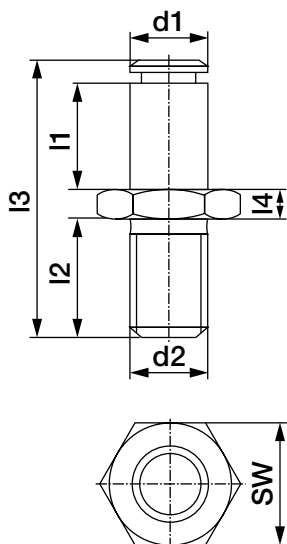
GFSM-IG

ZCLM-06-10

WDGM

WDGM-DE

PKRM and PKLM - adapter screws



Order key

Type	Size	Options
P K □ M - 05		
Adapter screw	K series	Thread
	Thread direction	L = Left-hand thread ²¹⁾
	Metric	R = Right-hand thread
	Thread size M...	

Solid plastic adapter screws with corresponding circlips are used as accessories for dimensional K series rod ends. In contrast to other "black" components of stock igubal® parts, the igubal® adapter screws consist of the **material POM**. This component effectively transforms a standard K series rod end into an angled ball and socket joint.

Material: POM ▶ Page 1784

- Lightweight
- Absolute corrosion resistance
- Can be combined with K series rod end
- Vibration-dampening
- Easy to fit
- Left-hand thread upon request

Technical data and dimensions [mm]

Part No.	Max. static tensile strain		Max. static radial load		Thread	Length adjusting bolt	Thread length	Total length	Nut width	Width across flats	Weight [g]	
	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]								
PK □ M-05	22.48	11.24	44.96	22.48	5	M5	8.5	11.3	25.0	2.7	SW8	0.7
PK □ M-06	33.72	16.86	56.20	28.10	6	M6	9.5	12.8	28.0	3.2	SW10	1.2
PK □ M-08	56.20	28.10	89.92	44.96	8	M8	12.5	12.5	32.0	4.0	SW13	2.6
PK □ M-10	112.40	56.20	134.88	67.44	10	M10	14.5	14.5	37.5	5.0	SW16	4.0
PK □ M-12	157.36	78.68	202.32	101.16	12	M12	16.5	15.5	42.0	6.0	SW18	7.5
PK □ M-14	179.84	89.92	247.28	123.64	14	M14	19.5	15.5	47.0	7.0	SW21	11.4
PK □ M-16	202.32	101.16	314.72	157.36	16	M16	22.0	16.5	52.0	8.0	SW24	16.9
PK □ M-18	179.84	89.92	382.16	191.08	18	M18 x 1.5	24.0	20.5	59.0	9.0	SW27	16.9
PK □ M-20	112.40	56.20	494.56	247.28	20	M20 x 1.5	26.0	25.0	67.0	10.0	SW30	34.4

²¹⁾ Delivery time: 4–6 weeks

Can be combined with:



KBR(L)M



KBR(L)M-CL



KAR(L)M



KAR(L)M-CL



KCR(L)M

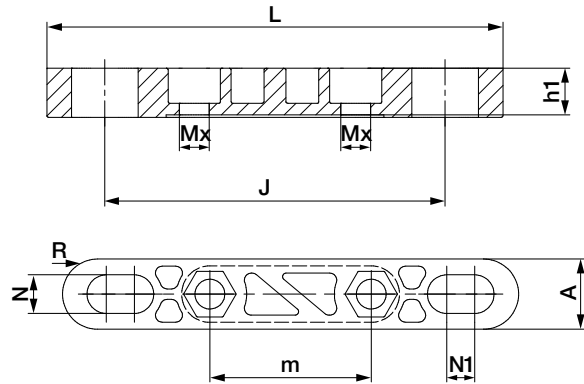
igubal® accessories | Product Range

Adapters for dimensional E series pillow block bearings

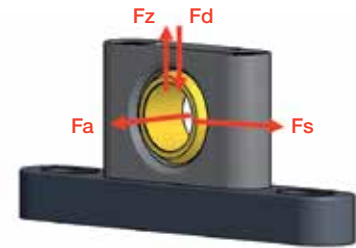


Order key

Type	Size
AD-01 - E ST M - 20	
Adapter	E series
	Pillow block bearings
	Metric
	Inner Ø



- Same dimensions as metallic pillow block bearings
- For pillow block bearings of dimensional E series (ESTM, ESTM-GT)
- Chemical and corrosion-resistant
- Fits directly
- Space-saving
- Lightweight
- Same screws as traditional metallic versions



Dimensions [mm]

Part No.	for ESTM-...	L	A	R	J	h1	N	N1	m	Mx
AD-01-ESTM-20 ²⁶⁾	ESTM-20	130	20	10.0	97	13.3	11	8	46	M8
AD-01-ESTM-25 ²⁷⁾	ESTM-25	130	20	10.0	102	12.5	11	9	54	M8
AD-01-ESTM-30 ²⁷⁾	ESTM-30	158	25	12.5	118	14.9	14	10	64	M10

Technical data

Part No.	Max. radial tensile force [Fz]		Max. radial compressive strength [Fd]		Max. lateral strength [Fs]		Max. axial strength [Fa]		Weight [lbs]
							(tensile/compressive)		
	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]	Short-term [lbs]	Long-term [lbs]	
AD-01-ESTM-20 ²⁶⁾	337.20	269.76	134.88	1124.00	75.80	60.64	30.32	134.88	29.8
AD-01-ESTM-25 ²⁷⁾	337.20	269.76	134.88	1124.00	75.80	60.64	30.32	134.88	74.0
AD-01-ESTM-30 ²⁷⁾	337.20	269.76	134.88	1124.00	75.80	60.64	30.32	134.88	124.0

²⁶⁾ Material: plastic (igumid G)

²⁷⁾ Material: aluminum

Can be combined with:



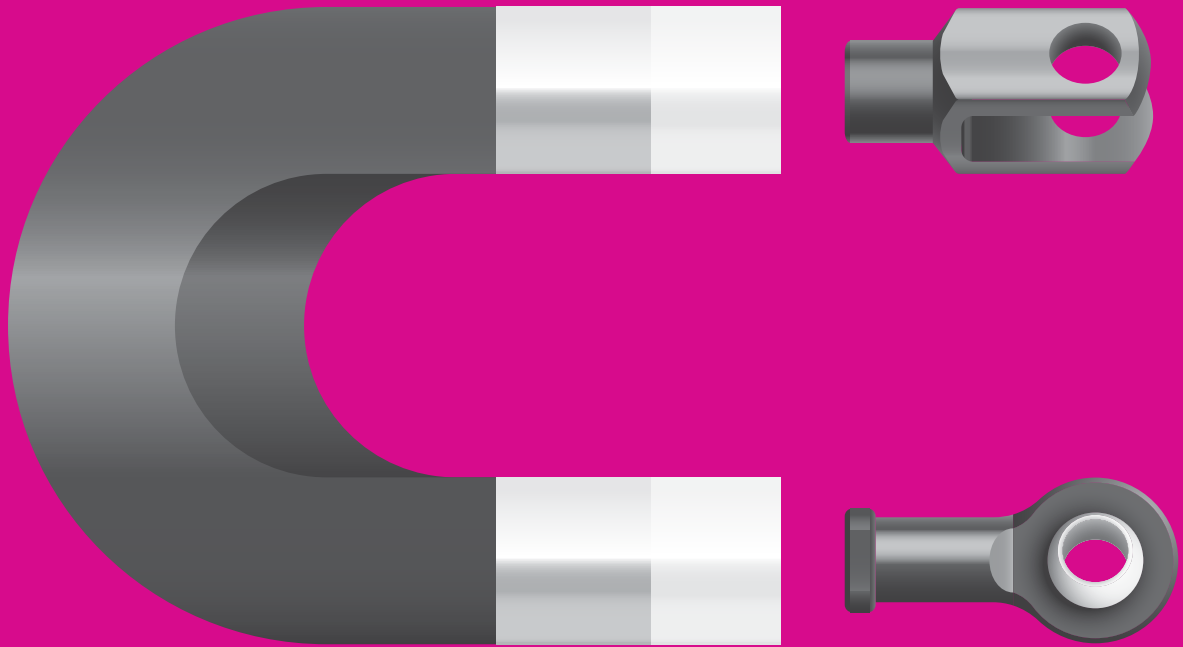
ESTM



ESTM-GT-GT



ESTM-GT



igubal[®] detectable

Resistant to dust and dirt

Self-lubricating and maintenance-free

Vibration dampening

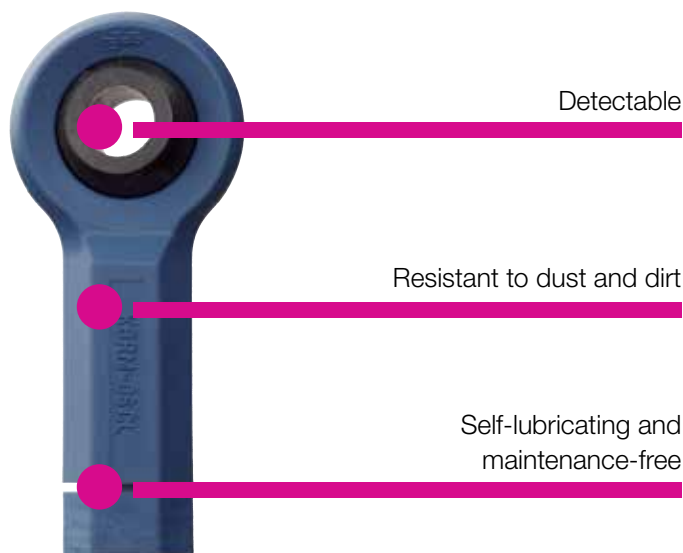
Lightweight

Corrosion-free



igubal[®] detectable | Advantages

Detectable igubal[®] bearings can be found quickly in case of accidental damage of the system through metal detectable material. Even the smallest fragment can be found by metal detectors.



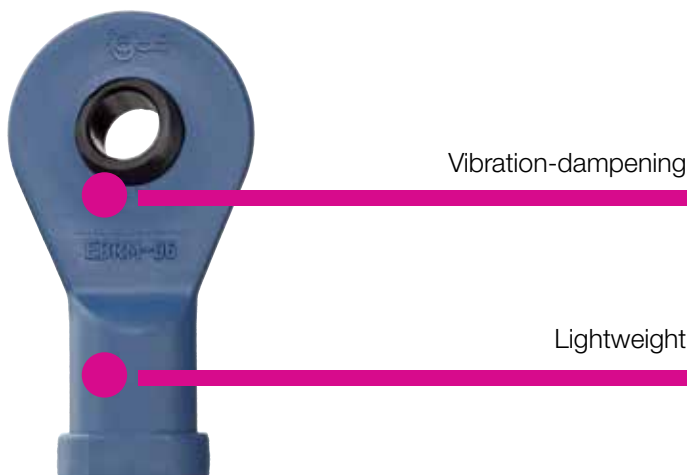
When to use it?

- When particles should be detectable
- If you need maintenance-free material
- When dimensional E and K series components are being used
- If high compressive strength is required



When not to use it?

- When temperatures are higher than +176°F
- When diameters above 16mm are required
- When rotation speeds higher than 98fpm are required



Available from stock

Detailed information about delivery time online.



Price breaks online

No minimum order value.
No minimum order quantity



Max. +176°F

Min. -22°F



4 types

Ø 4–16mm



Online product finder

► www.igus.com/igubal-finder



igubal® detectable | Application examples

igubal® rod end bearings with female thread - inch / metric



Easy assembly

K series
▶ Page 994



Space-saving

E series
▶ Page 995



Clevis joints, high strength

E series
▶ Page 996



Spring-loaded fixing clip

E series
▶ Page 998



Clevis joints with spring-loaded fixing clip

E series
▶ Page 999



Spherical balls

Dimensional K and E series
▶ Page 981

Upon request - Contact igus® for more information



With clipped-on ball

▶ Page 856



Higher forces

▶ Page 864



Space-saving

▶ Page 868



Easy to fit

▶ Page 909



Extremely light, compact design

▶ Page 912

Fixed flange bearing



Easy to fit

▶ Page 924



For higher radial load

▶ Page 927

Spherical bearings



For extremely narrow installation space

▶ Page 947



Easy to fit, cost-effective

▶ Page 948



Space-saving

▶ Page 949



Simply snap into sheet metal

▶ Page 951



For tolerance compensation

▶ Page 953



Robust plastic

▶ Page 956

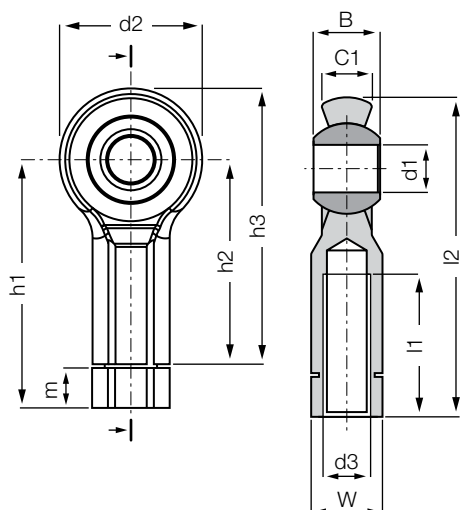


- Smooth design no dirt traps
- Compensation of misalignment errors
- Lightweight
- Corrosion resistant
- Dimensional K series according to DIN ISO 12240

Order key

Type	Size	Version	Options
K	B	□	M-06-CL-DT
K series	Housing (female thread)	Thread	Metric
	Inner Ø	2nd generation	Detectable

Options:
Thread
L = Left-hand thread
R = Right-hand thread



i Material:
Housing: RN246 ▶ Page 1785
Spherical ball: RN248KM ▶ Page 981

Dimensions [mm]

Part No.	d1	d2	d3	W	B	C1	h3	h1	h2	l1	l2	m	Max. pivot angle
	E10												
KB□M-06-CL-DT	6	20	M6	SW10	9	7	40	36.5	30	20	46.5	5.7	40°

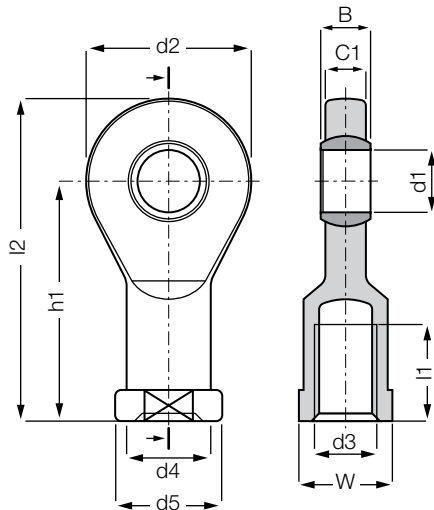
Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread depth	Max. tightening torque	Max. tightening torque through ball	Weight
	Short-term	Long-term	Short-term	Long-term	Thread	Female thread	Standard without stainless steel sleeve	
	[lbs]	[lbs]	[lbs]	[lbs]	[mm]	[ft•lbs]	[ft•lbs]	
KB□M-06-CL-DT	220	110	47	23	8	0.59	7.38	4.5

Rod ends with female thread, detectable: EBRM-DT and EBLM-DT



- Smooth design no dirt traps
- Spherical ball is clipped in
- Compensation of misalignment errors
- Lightweight
- Corrosion resistant



Order key

Type	Size	Version	Options
E B □ M - 04 - DT			
E series	Housing (female thread)	Thread	Metric
		Inner Ø	Detectable

Options:
Thread
L = Left-hand thread
R = Right-hand thread

i Material:
Housing: RN246 ▶ Page 1785
Spherical ball: RN248EM ▶ Page 981

Dimensions [mm]

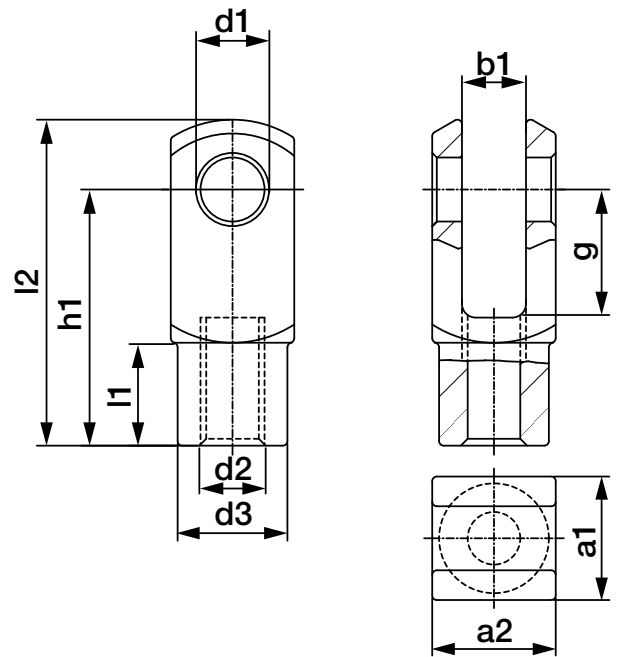
Part No.	d1	d2	d3	d4	d5	C1	B	h1	l1	l2	W	Max. pivot angle
	E10											
EB □ M-04-DT	4	15	M4	-	-	3.5	5	22.5	9.5	30.0	SW8	33°
EB □ M-05-DT	5	19	M5	9.0	11	4.4	6	30.0	12	39.5	SW9	33°
EB □ M-06-DT	6	21	M6	11.0	13	4.4	6	30.0	8	40.5	SW11	27°
EB □ M-08-DT	8	24	M8	13.0	16	6.0	8	36.0	14	48.0	SW14	24°
EB □ M-10-DT	10	29	M10	15.0	19	7.0	9	43.0	18	57.5	SW17	24°

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread depth	Max. tightening torque	Max. tightening torque through ball	Weight
	Short-term	Long-term	Short-term	Long-term				
	[lbs]	[lbs]	[lbs]	[lbs]	Thread [mm]	Female thread [ft•lbs]	[ft•lbs]	[g]
EB □ M-04-DT	125	62	15	7	7	0.30	1.48	1.8
EB □ M-05-DT	204	102	23	11	8	0.37	1.48	3.2
EB □ M-06-DT	236	118	31	15	8	1.11	1.84	4.0
EB □ M-08-DT	314	157	70	35	11	3.69	5.16	6.9
EB □ M-10-DT	361	180	78	39	13	11.06	10.33	11.2



- Resistant to dust and dirt
- Self-lubricating and maintenance-free
- Vibration-dampening
- Lightweight



Dimensions [mm]

Part No.	d1	g	a1	a2	b1	d2	d3	l2	h1	l1
	H9	h11	+0.3 -0.16	+0.3 -0.16	B13	Thread tolerance 6H	±0.3	±0.5	±0.3	±0.2
GE□M-04-DT	4	8	8	8	4	M4	8	21.0	16	6
GE□M-05-DT	5	12	12	12	6	M5	10	30.6	24	9
GE□M-06-DT	6	12	12	12	6	M6	10	30.6	24	9
GE□M-08-DT	8	16	16	16	8	M8	14	41.6	32	12
GE□M-10-DT	10	20	20	20	10	M10	18	51.3	40	15
GE□M-10-DT-F	10	20	20	20	10	M10x1.25	18	51.3	40	15
GE□M-12-DT	12	24	24	24	12	M12	20	61.3	48	18
GE□M-12-DT-F	12	24	24	24	12	M12x1.25	20	61.3	48	18

igubal® detectable | Product Range

GERM-DT and GELM-DT - Clevis joints, detectable

Order key

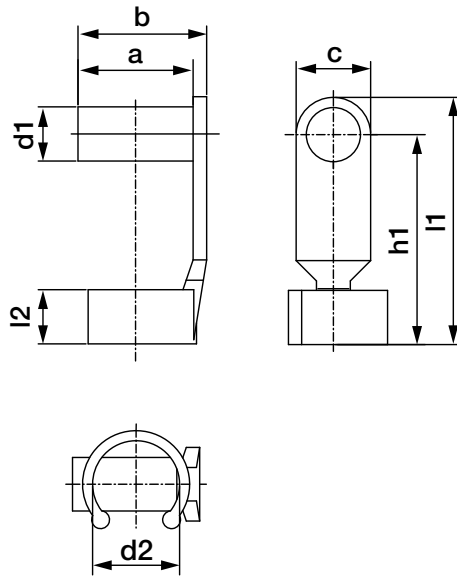
Type	Size	Version	Options
G E □ M - 04 - DT			
Clevis joint	E series	Thread	Metric
		Inner Ø	Detectable

Options:
Thread
L = Left-hand thread
R = Right-hand thread

 **Material:**
RN246 ► Page 1785

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Weight [g]
	Short-term	Long-term	Short-term	Long-term	
	[lbs]	[lbs]	[lbs]	[lbs]	
GE □ M-04-DT	102	51	39	19	0.9
GE □ M-05-DT	188	94	39	19	2.7
GE □ M-06-DT	220	110	47	23	2.5
GE □ M-08-DT	424	212	102	51	6.3
GE □ M-10-DT	739	369	125	62	13.2
GE □ M-10-DT-F	739	369	125	62	13.2
GE □ M-12-DT	896	448	141	70	20.2
GE □ M-12-DT-F	896	448	141	70	20.2



- Resistant to dust and dirt
- Self-lubricating and maintenance-free
- Vibration-dampening
- Lightweight



Order key

Type	Size	Version
G E F M - 04 - DT		
Clevis joint	E series	Spring-loaded fixing clip
		Metric
	Inner Ø	Detectable



Material:

RN246 ▶ Page 1785

Dimensions [mm]

Part No.	d1	d2	a	b	c	l1 ±0.5	h1	l2	Weight [g]
GEFM-04-DT	4	8	9.5	10.5	8	19.0	15	4.5	0.5
GEFM-05-DT	5	10	14.0	15.5	8	27.0	23	6.5	1.1
GEFM-06-DT	6	10	14.0	15.5	8	27.0	23	6.5	1.2
GEFM-08-DT	8	14	19.0	21.0	11	35.5	30	8.0	2.8
GEFM-10-DT	10	18	23.0	25.5	14	45.0	38	10.0	5.0
GEFM-12-DT	12	20	28.0	31.0	16	53.0	45	12.0	8.3

GERMF-DT and GELMF-DT - Clevis joints, spring-loaded fixing clips, detectable



Order key

Type	Size	Version
G E □ M F - 04 - DT		
Clevis joint	E series	Thread
	Thread	Metric
	Spring-loaded fixing clip	
	Inner Ø	
		Detectable

Options:
Thread
L = Left-hand thread
R = Right-hand thread

- Resistant to dust and dirt
- Self-lubricating and maintenance-free
- Vibration-dampening
- Lightweight

i Material:
RN246 ▶ Page 1785

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Weight [g]
	Short-term	Long-term	Short-term	Long-term	
	[lbs]	[lbs]	[lbs]	[lbs]	
GE□MF-04-DT	78	39	39	19	1.3
GE□MF-05-DT	141	70	39	19	3.8
GE□MF-06-DT	204	102	47	23	3.9
GE□MF-08-DT	330	165	102	51	9.1
GE□MF-10-DT	472	236	125	62	18.2
GE□MF-10-DT-F	472	236	125	62	18.2
GE□MF-12-DT	550	275	141	70	28.6
GE□MF-12-DT-F	550	275	141	70	28.6



Individual components: Clevis joint GERM-DT and spring-loaded fixing clip GEFM-DT
▶ Page 996 and 998