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 work, achieve technical improvements, at the same time as reducing costs and increasing service life, everything delivered immediately from stock. Our references from the practice show the proven employment from igubal® spherical bearings in a wide variety of applications.

Stadium panelling

igubal® spherical bearings of dimensional 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 swivelled, this allows the air flow inside the stadium to be regulated. (LIMELIGHT BV, the Netherlands)

Astrophysics

Mirror adjustment of the telescope is performed virtually free of backlash with igubal® rod ends. Magnetic influences can be avoided.
(Max-Planck institute for physics and astrophysics, Germany)

Special-purpose vehicle

Resistant to dirt and maintenance-free: the robust rod ends and spherical bearings never give in on the special-purpose municipal vehicles.
(Multicar Spezialfahrzeuge GmbH, Germany)

Packaging machine

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

Caravan step

Tough, resistant to dirt and vibration-dampening igubal® rod ends withstand the loads even in worst case conditions. (Hymer AG, Germany)

Textile industry

Concentricity errors and jolts are compensated by means of igubal® spherical rod end bearings in the support of the thread guide unit more efficiently than the alternative metal product. (Sahm GmbH & Co. KG, Germany)

Chocolate decoration system

Decorations without lubricants by using the maintenance-free igubal® rod ends make any sweet most relishable.
(Wolf Spezialmaschinen GmbH, Germany)

igubal® bearing elements | Product overview

igubal® rod end bearings with female thread

Classic design

KBRM/KBLM

▶ Page 746

Integrated lock nut for easy assembly:

KBRM-CL/KBLM-CL

▶ Page 748

Selectable spherical ball material

KCRM/KCLM

▶ Page 750

Space-saving, selectable spherical ball material

EBRM/EBLM

▶ Page 756

igubal® rod end bearings with female thread

For temperatures up to +200°C

EBRM-HT/EBLM-HT

▶ Page 760

New

Suitable for food contact

EBRM-FC/KCRM-FC

▶ Page 762

igubal® rod end bearings with male thread

Classic design

KARM/KALM

▶ Page 752

Higher forces

KARM-CL/KALM-CL

▶ Page 754

igubal® rod end bearings with male thread

Space-saving, selectable spherical ball material

EARM/EALM

▶ Page 758

For temperatures up to +200°C

EARM-HT/EALM-HT

▶ Page 761

igubal® angled and in-line ball ...

Angled ball and socket joints

WGRM/WGLM

▶ Page 764

Angled ball and socket joints, low-cost

WGRM-LC/WGLM-LC

▶ Page 765

... and socket joints

Easy assembly and disassembly:

WGRM-DE/WGLM-DE

▶ Page 766

In-line ball and socket joint

AGRM/AGLM

▶ Page 767

In-line ball and socket joints, low-cost

AGRM-LC/AGLM-LC

▶ Page 768

igubal® clevis joint combinations

Clevis joints with clevis pin and circlip

GERMK/GELMK

▶ Page 778

Clevis joints with spring-loaded fixing clip

GERMF/GELMF

▶ Page 779

igubal® clevis joints combinations ...

Clevis joint combination

GERMKE/GELMKE

▶ Page 780

Clevis joints with spring-loaded fixing clip

GERMFE/GELMFE

▶ Page 781

... and single components

Clevis joints, high rigidity

GERM/GELM

▶ Page 774

Spring-loaded fixing clips

GEFM

▶ Page 782

Clevis pins and circlips

GBM/GSR

▶ Page 783

New

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

GERMF-FC ▶ Page 784

igubal® pillow block bearings – standard design

Compensation of misalignments errors

KSTM

▶ Page 792

igubal® pillow block bearings ...

Easy to disassemble, split housing and ball

KSTM-GT

▶ Page 794

Easy to fit

ESTM

▶ Page 795

... for high radial loads

For quick assembly and low total moisture absorption

ESTM-GT-GT

▶ Page 796

Split housings with parallel hole

ESTM-GT

▶ Page 797

Extremely light, compact design

ESTM-SL

▶ Page 798

New

Split pillow block bearings for square profiles

ESQM

▶ Page 799

igubal® pillow block bearings – low-cost design

New

Pillow block bearings with cost-effective metallic housing

PP-JEM-SP

▶ Page 800

igubal® fixed flange bearings ...

Easy to fit

EFOM

▶ Page 806

For high radial loads

EFSM

▶ Page 808

... for supporting the centre or ends of shafts

Universal and quick assembly, female thread

GFSM-IG

▶ Page 810

Universal and quick assembly, male thread

GFSM-AG

▶ Page 811

High static load, split housing

KFSM-GT

▶ Page 812

For temperatures up to +200°C

EFSM-HT

▶ Page 813

igubal® bearing elements | Product overview

igubal® fixed flange bearings for supporting the centre or ends of shafts

For temperatures up to +200°C
EFOM-HT
▶ Page 814

New

Suitable for food contact
EFOM-FC
▶ Page 815

New

With cost-effective metallic housing
PFL-JEM-SP
▶ Page 815

igubal® spherical bearings

Standard, easy to fit
KGLM
▶ Page 822

inch

Easy to fit, cost-effective
KGLM-LC
▶ Page 823

For extremely narrow installation space
KGLM-SL
▶ Page 824

Space-saving
EGLM
▶ Page 825

igubal® spherical bearings

Cost-effective, selectable spherical ball material
EGLM-LC
▶ Page 826

igubal® clip bearings

Simply snap into sheet metal
ECLM
▶ Page 827

For high axial and radial loads
ECLM-HD
▶ Page 828

Tolerance compensation, selectable spherical ball material
EGFM-T
▶ Page 829

Clip into sheet metal, can be assembled on both sides
ZCLM
▶ Page 830

igubal® double joints – ...

Robust plastic
EGZM
▶ Page 831

Selectable materials, individual dimensions
WDGM
▶ Page 833

igubal® double joints and coupling joints

Removable, selectable materials
WDGM-DE
▶ Page 834

Selectable materials, individual dimensions
KDGM
▶ Page 832

New

Crimped coupling joints with clevis joints
GDGM-05-V
▶ Page 835

igubal® spherical thrust bearings

Resistant to edge loads
SAM
▶ Page 840

igubal® spherical balls – ...

Standard, low coefficient of friction
WKM/WEM
▶ Page 845

inch

Cost-effective, good wear resistance
RKM/REM
▶ Page 846

igubal® spherical balls – different material options

For temperatures up to +250°C
XKM/XEM
▶ Page 847

Low moisture absorption
JKM/JEM
▶ Page 848

Cost-effective and low total moisture absorption
J4KM/J4EM
▶ Page 851

For underwater applications
UWEM
▶ Page 852

igubal® spherical balls – different material options

Clearance-free, pre-loaded
J4VEM
▶ Page 853

Detectable
RN248KM/RN248EM
▶ Page 854

Interchangeable spherical balls for metallic bearing housings
JEM/A180EM/A350EM
▶ Page 855

Cost-effective alternative to machined options
JEM-SP
▶ Page 856

igubal® accessories

New

Fixing collars with threaded pin
SRM
▶ Page 858

Ball studs, female thread
GZRM-IG
▶ JEM-SP 859

Ball studs, male thread
GZRM-AG
▶ Page 860

Adapter screws with circlip
PKRM/PKLM
▶ Page 861

igubal® detectable

Adapter for pillow block bearings, dimensional E series
AD-01-ESTM
▶ Page 862

Rod end bearings
KBRM-CL-DT/EBRM-DT
▶ Page 866

Clevis joints and spring-loaded fixing clip
GERM-DT/GEFM-DT
▶ Page 868

Spherical balls
RN248KM/RN248EM
▶ Page 854

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
- Lubrication-free
- 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 +200°C, 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 (3,800m²). View inside igubal® test rigs.

igubal® spherical bearings | Advantages

igubal® spherical balls

In standard spherical bearings, the spherical ball is made of iglidur® 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 iglidur® W300, **page 171**

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 iglidur® W300, spherical balls are now available in seven other materials presenting particular advantages:

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

▶ Spherical balls, **page 841**

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-fibre reinforced polymer. Temperatures from –30°C to +80°C
- High temperature housings are made from iguton G. This material has a high chemical resistance and is suitable for temperatures from –40°C to +200°C.
- Detectable housings made from RN246 material. Temperatures from –30°C to +80°C
- Housings made from igumid FC material suitable for food contact. This material is FDA and EU10/2011-compliant and suitable for temperatures from –30°C to +100°C

▶ Material properties, **page 1654**

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 –30°C to +200°C. 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 863**
▶ Material properties, **page 1657**

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 behaviour 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.

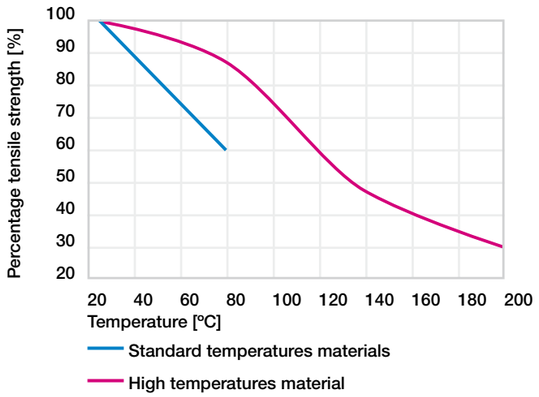


Diagram 01: Trends indicate the effect of temperature on the max. tensile strength of igubal® rod end bearings.

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 iglidur® 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 –30°C to +80°C. The high temperatures versions can be used at continuous temperatures up to +200°C. 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	–30°C	–40°C
Max. long-term	+80°C	+200°C
Maximum, short-term	+120°C	+240°C

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 iglidur® 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 1636**

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 [+20°C]

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 colour (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

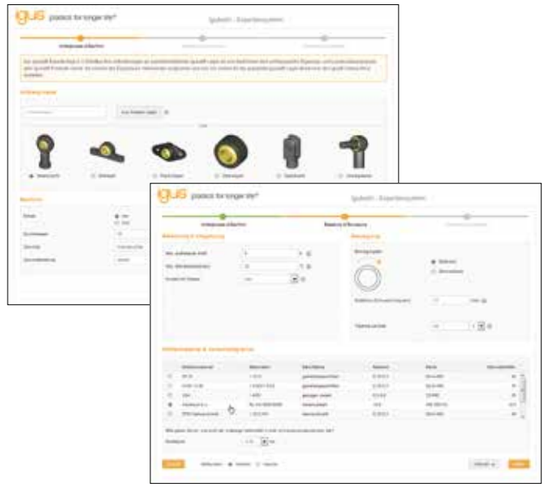
Tolerance test with plug gauge

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.eu/igubal-expert

igubal® product finder
▶ www.igus.eu/igubal-finder

My sketches

igubal® rod end bearings

- Maintenance-free dry operation
- Robust
- Durable
- Compensation of misalignment errors
- Resistant to edge loads
- Lightweight

igubal® rod ends

igubal® rod ends can also be used in rough environments. They are corrosion-resistant in humid environments and resistant to weak acids and media. Depending on the version (HT) the operation temperature is from –40°C to +200°C. Rod ends are also resistant to dirt and dust, they are also available as detectable version.

Maintenance-free dry operation

Robust

Durable

Compensation of misalignment errors

Resistant to edge loads

Lightweight

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 +80°C
  ▶ HT version, page 760–761
- When rotation speeds higher than 0.5m/s are required
- When really high tensile and axial forces occur
- With a hydraulic cylinder
- When dimensions above 30mm are required

Max. + 200°C
Min. –40°C
(depending on material: standard from –30°C to +80°C; HT from –40°C to +200°C)

18 types
Ø 2–30mm

Imperial dimensions available
▶ From page 1606

Online product finder
▶ www.igus.eu/igubal-finder

Available from stock
Detailed information about delivery time online.

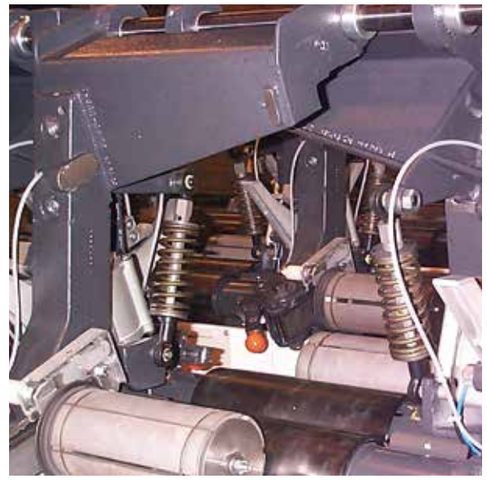
Price breaks online
No minimum order value. No minimum order quantity

igubal® rod ends | Application examples

Typical sectors of industry and application areas
● Bicycle manufacturing ● Plant design
● Packaging ● Offshore etc.

Improve technology and reduce costs – 110 exciting examples online
▶ www.igus.eu/igubal-applications

▶ www.igus.eu/special-bikes



▶ www.igus.eu/textile

▶ www.igus.eu/packaging

▶ www.igus.eu/offshore

igubal® rod ends | Technical data

Advantages

- 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 and E series, according to standard DIN ISO 12240
- Available with stainless steel sleeve for higher tightening torque

Product range

igubal® rod ends are available in the dimensional K and E series for shaft diameters of 2 to 30mm according to standard DIN ISO 12240

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

Stainless steel sleeve

The dimensional K and partially E series are available in imperial dimensions, as well as a special version containing a stainless steel sleeve in the spherical ball. This allows a significantly higher tightening torque than for the standard polymer race. Please ask us for more dimensions.

Loads

igubal® rod ends handle high loads at ambient temperatures, have excellent dampening properties and weigh only a fifth of traditional metallic bearing housings. In applications with high continuous loads and high temperatures, the load capacity of igubal® rod ends should be tested in an experiment that simulates the application.

▶ **www.igus.eu/igubal-finder**

Coefficient of sliding friction and speed

Rotary movements of a mounted shaft take place directly in the spherical portion, made from iglidur® W300. The advantage therefore lies in the polymer vs. steel relationship. Polymer produces lower friction and 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.

The maintenance-free igubal® rod end bearings permit linear and oscillating movements of the shaft.

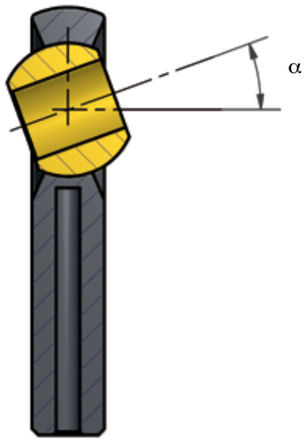
Temperatures

The igubal® rod ends can be used in temperatures from –30°C up to +80°C. The igubal® rod ends made from HT material are suitable for temperatures up to +200°C (E series, female and male threads).

Tolerances

igubal® rod ends can be used at different tolerances depending on the individual application. They are designed with a large 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. All values and tolerances according to ISO 2768-m. Please contact us in case you require lower or other bearing tolerances.

Pivot angle



igubal® rod ends | Product overview

igubal® rod end bearings with female thread

Classic design

K series

▶ **From page 746**

Easy assembly

K series

▶ **Page 748**

Selectable spherical ball material

K series

▶ **Page 750**

Space-saving

E series

▶ **Page 756**

For temperatures up to +200°C

E series

▶ **Page 760**

New

Suitable for food contact

E series

▶ **Page 762**

igubal® rod end bearings with male thread

Classic design, imperial dimensions

K series

▶ **Page1608**

Space-saving, imperial dimensions

E series

▶ **Page 1606**

Classic design

K series

▶ **From page 752**

Higher forces

K series

▶ **Page 754**

Space-saving

E series

▶ **From page 758**

For temperatures up to +200°C

E series

▶ **Page 761**

Classic design, imperial dimensions

K series

▶ **From page 1607**

igubal® angled and in-line ball and socket joints

Angled ball and socket joints

▶ **Page 764**

Angled ball and socket joints, low-cost

▶ **Page 765**

Easy assembly and disassembly

▶ **Page 766**

In-line ball and socket joints

▶ **Page 767**

In-line ball and socket joints, low-cost

▶ **Page 768**

igubal® accessories for rod ends

Clevis joints with clevis pin and circlip

E series

▶ **Page 778**

Clevis joints with spring-loaded fixing clip

E series

▶ **Page 779**

Detectable rod ends and clevis joints

▶ **From page 863**

igubal® rod ends | Product range

Rod ends with female thread: KBRM and KBLM

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 tightening torque
- Adapter screw with circlip available

▶ Accessories, **page 861**

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

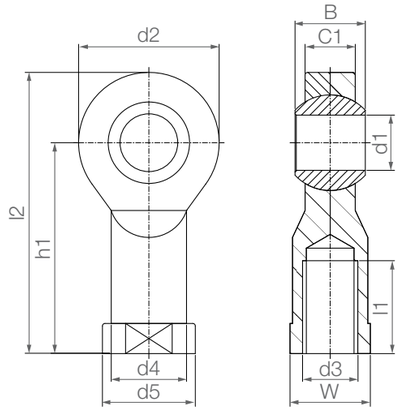
Technical data

Part No.	Max. static tensile strain		Max. static axial load		Min. thread depth	Max. tightening torque	Max. tightening torque through ball		Weight
	Short-term	Long-term	Short-term	Long-term	Thread	Female thread	without stainless steel sleeve	with stainless steel sleeve	
	[N]	[N]	[N]	[N]	[mm]	[Nm]	[Nm]	[Nm]	[g]
KB□M-02	200	100	50	25	4	0.30	1	–	0.4
KB□M-03	800	400	100	50	5	0.50	2	4	2.7
KB□M-05 M4	1,000	500	250	125	7	0.75	5	12	3.5
KB□M-05	1,000	500	250	125	7	1.00	5	12	3.4
KB□M-06	1,400	700	400	200	8	1.50	10	15	4.7
KB□M-08	2,100	1,050	700	350	11	5.00	12	40	8.6
KB□M-10	3,100	1,550	800	400	13	15.00	20	50	14.6
KB□M-10 F	3,100	1,550	800	400	13	6.00	20	50	14.6
KB□M-12[129)]	3,600	1,800	900	450	15	20.00	30	70	22.0
KB□M-12 F	3,600	1,800	900	450	15	15.00	30	70	22.0
KB□M-14	4,000	2,000	1,000	500	17	25.00	35	75	30.9
KB□M-16	4,200	2,100	1,300	650	19	30.00	40	110	39.6
KB□M-16 F	4,200	2,100	1,300	650	19	27.50	40	110	39.6
KB□M-18	4,600	2,300	1,600	800	21	45.00	45	150	55.0
KB□M-20	5,400	2,700	2,100	1,050	22	60.00	55	200	73.5
KB□M-20 M20	5,400	2,700	2,100	1,050	22	60.00	55	200	73.5
KB□M-22	7,000	3,500	2,200	1,100	25	75.00	60	–	94.8
KB□M-25	8,500	4,250	2,300	1,150	28	120.00	60	–	119.8
KB□M-30	10,500	5,250	2,500	1,250	34	135.00	60	–	177.0
KB□M-30 M27x2	10,500	5,250	2,500	1,250	34	135.00	60	–	189.6

[129)] **Integrated lock nut. Drawing as for KCRM, page 751**

igubal® rod ends | Product range

Rod ends with female thread: KBRM and KBLM



Order key

Type				Size [mm]	Options
K	B	□	M-	02	MH
K series	Housing (female 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 1654**
Spherical ball: **iglidur® W300 ▶ Page 171**

Imperial dimensions available
▶ Page 1608

Dimensions [mm]

Part No.	d1	d2	d3	d4	d5	C1	B		h1	l1	l2	W	Max. pivot angle
	E10						without stainless steel sleeve	with stainless steel sleeve					
								+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	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°

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 tightening torque
- Dimensional K series according to DIN ISO 12240
- Adapter screw with circlip available
  ▶ Accessories, **page 861**

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

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

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread	Max. tightening torque	Max. tightening torque through ball		Weight
	Short-term [N]	Long-term [N]	Short-term [N]	Long-term [N]	depth Thread [mm]	Female thread [Nm]	without stainless steel sleeve [Nm]	with stainless steel sleeve [Nm]	[g]
KB□M-06 CL	1,400	700	300	150	8	0.75	10	15	4.5
KB□M-08 CL	2,100	1,050	500	250	11	2	12	40	8.6
KB□M-10 CL	3,100	1,550	800	400	13	3	20	50	14.1

Alternative spherical ball materials ▶ Page 841

RKM: Low-cost

JKM: Low moisture absorption

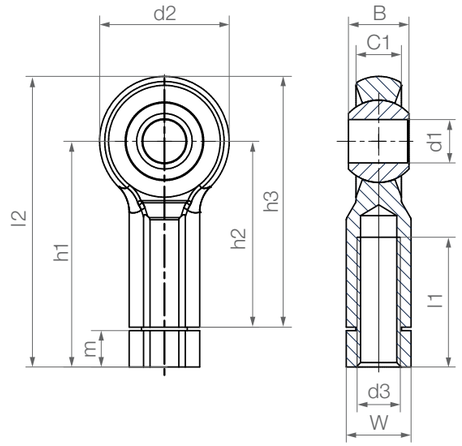
WKM-MH: Standard spherical ball with stainless steel sleeve

J4KM: Low-cost and low moisture absorption

igubal®
rod ends

igubal® rod ends | Product range

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



Order key

Type				Size [mm]	Version	
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 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**
Other spherical ball materials upon request
▶ **Page 841**

Dimensions [mm]

Part No.	d1	d2	d3	W	B		C1	h3	h1	h2	l1	l2	m	Max. pivot angle
	E10				without stainless steel sleeve	with stainless steel sleeve +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 iglidur® W300, please add "**J**" to the part number, for example. Example: KBRM-10 CL **J**.

Rod ends with female thread: KCRM and KCLM

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

▶ Accessories, **page 861**

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

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Min. thread depth	Max. tigh-tening torque	Max. tightening torque through ball		Weight
	Short-term	Long-term	Short-term	Long-term	Thread	Female thread	without stainless steel sleeve	with stainless steel sleeve	
	[N]	[N]	[N]	[N]	[Nm]	[Nm]	[Nm]	[Nm]	[g]
KC□M-05	1,200	600	180	90	7	1.00	5	12	4.0
KC□M-06	1,400	700	300	150	8	0.75	10	15	4.2
KC□M-08	2,100	1,050	500	250	11	2.00	12	40	7.6
KC□M-10	3,100	1,550	800	400	13	3.00	20	50	12.8
KC□M-10-F	3,100	1,550	800	400	13	3.00	20	50	12.8
KC□M-12	3,560	1,780	750	375	15	15.0	30	70	19.0
KC□M-12-F	3,560	1,780	750	375	15	15.0	30	70	19.0
KC□M-16	3,800	1,900	800	400	19	15.0	40	110	34.0
KC□M-16-F	3,800	1,900	800	400	19	15.0	40	110	34.0
KC□M-20	4,550	2,275	400	200	22	20.0	55	200	55.0
KC□M-20-M20	4,550	2,275	400	200	22	20.0	55	200	55.0

Alternative spherical ball materials ▶ Page 841

RKM: Low-cost

JKM: Low moisture absorption

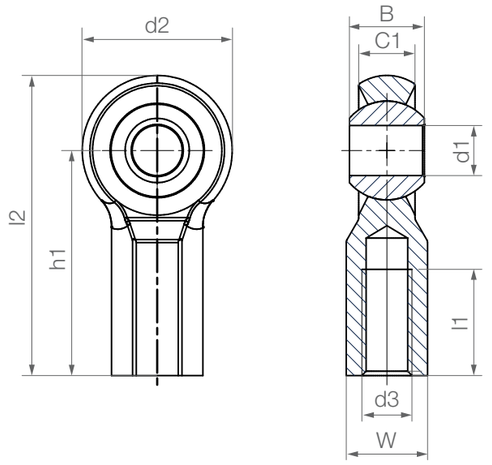
WKM-MH: Standard spherical ball with stainless steel sleeve

J4KM: Low-cost and low moisture absorption

igubal® rod ends

igubal® rod ends | Product range

Rod ends with female thread: KCRM and KCLM



Order key

Type				Size [mm]	Options
K	C	□	M-	06	MH
K series	Housing (female 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 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**
Other spherical ball materials upon request
▶ **Page 841**

Dimensions [mm]

Part No.	d1	d2	d3	W	B		C1	h1	l1	l2	Max. pivot angle
	E10				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 iglidur® W300, please add "**J**" to the part number, for example. Example: KCRM-05 **J**.

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 tightening torque
- Adapter screw with circlip available

▶ Accessories, **page 861**

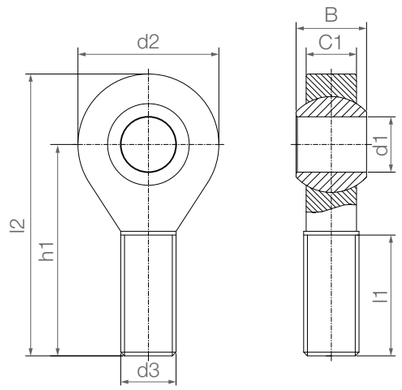
Service life calculation online
▶ www.igus.eu/igubal-expert

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	Male thread	Without stainless steel sleeve	With stainless steel sleeve	
	[N]	[N]	[N]	[N]	[mm]	[Nm]	[Nm]	[Nm]	[g]
KA□M-05	800	400	80	40	13	0.4	5	12	2.7
KA□M-06	1,000	500	100	50	15	0.5	10	15	3.9
KA□M-08	1,700	850	200	100	18	2.0	12	40	7.1
KA□M-10	2,500	1,250	300	150	20	5.0	20	50	12.5
KA□M-10 F	2,500	1,250	300	150	20	3.0	20	50	12.5
KA□M-12	2,700	1,350	400	200	22	6.0	30	70	18.0
KA□M-12 F	2,700	1,350	400	200	22	6.0	30	70	18.0
KA□M-14	3,400	1,700	700	350	25	12.0	35	75	25.0
KA□M-16	3,900	1,950	800	400	26	17.0	40	110	34.0
KA□M-16 F	3,900	1,950	800	400	26	17.0	40	110	34.0
KA□M-18	4,200	2,100	1,000	500	29	20.0	45	150	45.9
KA□M-20	6,000	3,000	1,300	650	32	25.0	55	200	58.0
KA□M-20 M20	6,000	3,000	1,300	650	32	25.0	55	200	58.0
KA□M-22	7,200	3,600	1,500	750	34	25.0	60	–	86.2
KA□M-25	7,500	3,750	1,900	950	39	45.0	65	–	99.1
KA□M-30	8,800	4,400	2,300	1,150	46	85.0	70	–	160.4

igubal® rod ends | Product range

Rod ends with male thread: KARM and KALM



Order key

Type					Size [mm]	Options
K	A	□	M	-	05	MH
K series	Housing (male 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 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**

Imperial dimensions available
▶ Page 1607

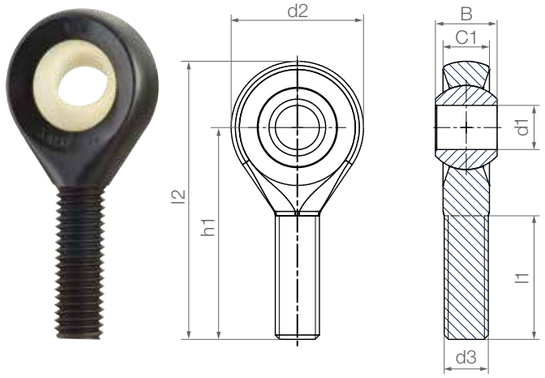
Dimensions [mm]

Part No.	d1	d2	d3	C1	B		h1	l1	l2	Max. pivot angle
	E10				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).**

igubal® rod ends | Product range

Rod ends, male thread; 2nd generation: KARM CL



- Smooth design no dirt traps
- Compensation of misalignment errors
- Lightweight
- Absolute corrosion resistance
- Available with stainless steel sleeve for higher tightening torque
- Dimensional K series according to DIN ISO 12240
- Adapter screw with circlip available
  ▶ Accessories, **page 861**

Order key

Type				Size [mm]	Version	
K	A	□	M-	06	CL	MH
K series	Housing (male 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 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**
Other spherical ball materials upon request
▶ **Page 841**

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	Male thread	without stainless steel sleeve	with stainless steel sleeve	
	[N]	[N]	[N]	[N]	[mm]	[Nm]	[Nm]	[Nm]	[g]
KA□M-06 CL	1,000	500	100	50	15	0.5	10	15	3.5
KA□M-08 CL	1,700	850	200	100	18	2.0	12	40	6.2
KA□M-10 CL	2,500	1,250	300	150	20	5.0	20	50	11.2
KA□M-12 CL	2,700	1,350	400	200	22	6.0	30	70	15.6

Dimensions [mm]

Part No.	d1	d2	d3	C1	B		h1	l1	l2	Max. pivot angle
	E10				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 iglidur® W300, please add "**J**" to the part number, for example. Example: KARM-10 CL **J**.

My sketches

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 +200°C we recommend EBRM-HT and EBLM-HT ▶ **Page 760**
- Detectable version ▶ **Page 867**

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

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		
	[N]	[N]	[N]	[N]	[mm]	[Nm]	[Nm]	[g]
EB□M-04	800	400	100	50	7	0.4	2.0	1.8
EB□M-05	1,300	650	150	75	8	0.5	2.0	3.2
EB□M-06	1,500	750	200	100	8	1.5	2.5	4.0
EB□M-08	2,000	1,000	450	225	11	5.0	7.0	6.9
EB□M-10	2,300	1,150	500	250	13	15.0	14.0	11.2
EB□M-10 F	2,300	1,150	500	250	13	6.0	14.0	11.2
EB□M-12	3,300	1,650	550	275	14	20.0	25.0	17.1
EB□M-12 F	3,300	1,650	550	275	14	15.0	25.0	17.1
EB□M-15	4,800	2,400	800	400	18	25.0	30.0	28.9
EB□M-16	5,000	2,500	850	425	18	20.0	32.0	32.6
EB□M-16 F	5,000	2,500	850	425	18	15.0	32.0	32.6
EB□M-17	5,300	2,650	1,100	550	19	30.0	35.0	42.4
EB□M-17 F	5,300	2,650	1,100	550	19	27.5	35.0	42.4
EB□M-20	7,200	3,600	1,800	900	22	60.0	40.0	65.8
EB□M-20 M20	7,200	3,600	1,800	900	22	60.0	40.0	65.8
EB□M-25	10,000	5,000	2,600	1,300	27	115.0	55.0	125.9
EB□M-30	10,500	5,250	3,000	1,500	33	130.0	70.0	184.1

Alternative spherical ball materials ▶ Page 841

J4VEM: Clearance-free, pre-loaded

JEM: Low moisture absorption

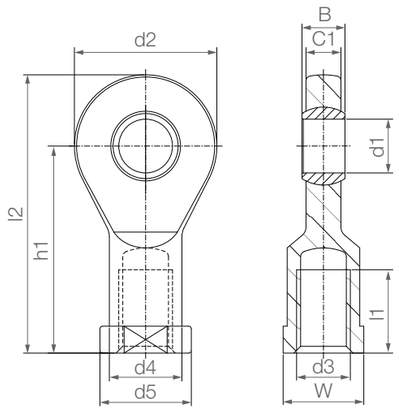
REM: Low-cost

J4EM: Low-cost and low moisture absorption

igubal® rod ends

igubal® rod ends | Product range

Rod ends with female thread: EBRM and EBLM



Order key

Type				Size [mm]	Options
E	B	□	M-	04	

E series	Housing (female thread)	Thread	Metric	Inner Ø

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

Material:
Housing: **igumid G ▶ Page 1654**
Spherical ball: **iglidur® W300 ▶ Page 171**
Other spherical ball materials upon request
▶ Page 841

Dimensions [mm]

Part No.	d1	d2	d3	d4	d5	C1	B	h1	l1	l2	W	Max. pivot angle
	E10											
EB□M-04[17]	4	15	M4	–	–	3.5	5	22.5	9.5	30.0	SW8	33°
EB□M-05	5	19	M5	9.0	11	4.4	6	30	12.0	39.5	SW9	33°
EB□M-06	6	21	M6	11.0	13	4.4	6	30	12.0	40.5	SW11	27°
EB□M-08	8	24	M8	13.0	16	6.0	8	36	14.0	48.0	SW14	24°
EB□M-10	10	29	M10	15.0	19	7.0	9	43	18.0	57.5	SW17	24°
EB□M-10 F	10	29	M10 x 1.25	15.0	19	7.0	9	43	18.0	57.5	SW17	24°
EB□M-12	12	34	M12	18.0	22	8.0	10	50	20.0	67.0	SW19	21°
EB□M-12 F	12	34	M12 x 1.25	18.0	22	8.0	10	50	20.0	67.0	SW19	21°
EB□M-15	15	40	M14	21.0	26	10.0	12	61	26.0	81.0	SW22	21°
EB□M-16[17]	16	43	M16	–	–	10.5	13	64.5	26.5	86.0	SW22	21°
EB□M-16 F[17]	16	43	M16 x 1.5	–	–	10.5	13	64.5	26.5	86.0	SW22	21°
EB□M-17	17	46	M16	24.0	30	11.0	14	67	27.0	90.0	SW27	18°
EB□M-17 F	17	46	M16 x 1.5	24.0	30	11.0	14	67	27.0	90.0	SW27	18°
EB□M-20	20	53	M20 x 1.5	27.0	34	13.0	16	77	31.0	103.5	SW30	16°
EB□M-20 M20	20	53	M20 x 2.5	27.0	34	13.0	16	77	31.0	103.5	SW30	16°
EB□M-25	25	64	M24 x 2.0	34.0	41	17.0	20	94	38.0	126.5	SW36	16°
EB□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 iglidur® W300, please add "**J**" to the part number, for example. Example: EBRM-05 **J**.

Imperial dimensions available
▶ Page 1606

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 +200°C we recommend EARM-HT and EALM-HT ▶ **Page 761**

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

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	Male thread		
	[N]	[N]	[N]	[N]	[mm]	[Nm]	[Nm]	[g]
EA□M-05	550	275	50	25	14	0.4	2.0	2.2
EA□M-06	850	425	80	40	14	0.5	2.5	2.7
EA□M-08	1,600	800	160	80	17	2.0	7.0	5.1
EA□M-10	2,600	1,300	250	125	19	5.0	14.0	8.4
EA□M-10 F	2,600	1,300	250	125	19	3.0	14.0	8.4
EA□M-12	3,100	1,550	300	150	20	6.0	25.0	14.3
EA□M-12 F	3,100	1,550	300	150	20	6.0	25.0	14.3
EA□M-15	3,400	1,700	600	300	24	12.5	30.0	21.1
EA□M-17	3,600	1,800	900	450	26	17.5	35.0	30.2
EA□M-17 F	3,600	1,800	900	450	26	21.0	35.0	30.2
EA□M-20	6,800	3,400	1,700	850	30	25.0	40.0	57.3
EA□M-20 M20	6,800	3,400	1,700	850	30	25.0	40.0	57.3
EA□M-25	7,000	3,500	1,000	500	37	45.0	55.0	94.8
EA□M-30	7,000	3,500	2,000	1,000	46	85.0	70.0	156.4

Alternative spherical ball materials ▶ Page 841

J4VEM: Clearance-free, pre-loaded

JEM: Low moisture absorption

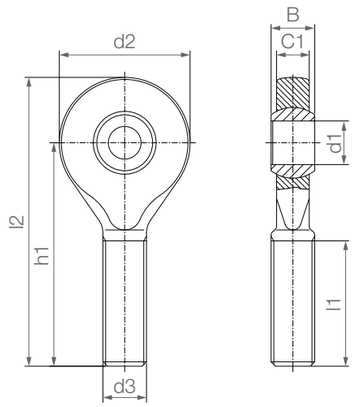
REM: Low-cost

J4EM: Low-cost and low moisture absorption

igubal® rod ends

igubal® rod ends | Product range

Rod ends with male thread: EARM and EALM



Order key

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

Material:
Housing: **igumid G** ▶ **Page 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**
Other spherical ball materials upon request
▶ **Page 841**

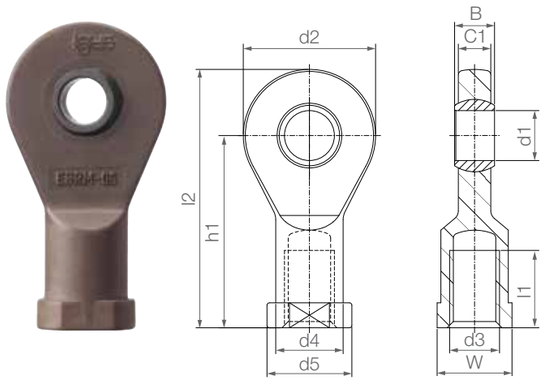
Dimensions [mm]

Part No.	d1	d2	d3	C1	B	h1	l1	l2	Max. pivot angle
	E10								
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 iglidur® W300, please add "**J**" to the part number, for example. Example: EARM-05 **J**.

igubal® rod ends | Product range

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



- Applicable up to +200°C
- Robust
- Durable in varying loads
- Compensation of misalignment and edge loads
- Resistant to corrosion and chemicals (chemical table ▶ **Page 1636**)
- For underwater applications
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional E series according to DIN ISO 12240

Order key

Type				Size [mm]	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

Material:

Housing: **iguton G** ▶ **Page 1655**

Spherical ball: **iglidur® X** ▶ **Page 279**

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		
	[N]	[N]	[N]	[N]	[mm]	[Nm]	[Nm]	[g]
EB□M-05-HT	625	313	140	70	14	0.4	2.0	3.8
EB□M-06-HT	832	416	172	86	14	0.5	2.5	5.0
EB□M-08-HT	1,317	658	175	88	17	2.0	7.0	8.5
EB□M-10-HT	1,470	735	253	126	19	5.0	14.0	13.7
EB□M-12-HT	1,600	800	279	139	20	6.0	25.0	21.4

Dimensions [mm]

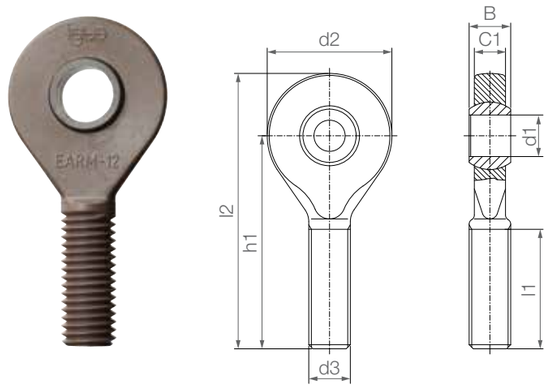
Part No.	d1 E10	d2	d3	d4	d5	C1	B	h1	l1	l2	W	Max. pivot angle
EB□M-05-HT	5	19	M5	9.0	11	4.4	6	30	12	39.5	SW9	33°
EB□M-06-HT	6	21	M6	11.0	13	4.4	6	30	12	40.5	SW11	27°
EB□M-08-HT	8	24	M8	13.0	16	6.0	8	36	16	48.0	SW14	24°
EB□M-10-HT	10	29	M10	15.0	19	7.0	9	43	18	57.5	SW17	24°
EB□M-12-HT	12	34	M12	18.0	22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

Other dimensions available upon request

igubal® rod ends

igubal® rod ends | Product range

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



- Applicable up to +200°C
- Robust
- Durable in varying loads
- Compensation of misalignment and edge loads
- Resistant to corrosion and chemicals (chemical table ▶ **Page 1636**)
- For underwater applications
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional E series according to DIN ISO 12240

Order key

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

Options:

Thread

L = Left-hand thread

R = Right-hand thread

Material:

Housing: **iguton G** ▶ **Page 1655**

Spherical ball: **iglidur® X** ▶ **Page 279**

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	Male thread		
	[N]	[N]	[N]	[N]	[mm]	[Nm]	[Nm]	[g]
EA□M-05-HT	380	190	20	10	14	0.4	2.0	2.8
EA□M-06-HT	600	300	30	15	14	0.5	2.5	3.4
EA□M-08-HT	931	465	48	24	17	2.0	7.0	6.1
EA□M-10-HT	1,125	563	57	28	19	5.0	14.0	10.2
EA□M-12-HT	1,200	600	65	33	20	6.0	25.0	15.7

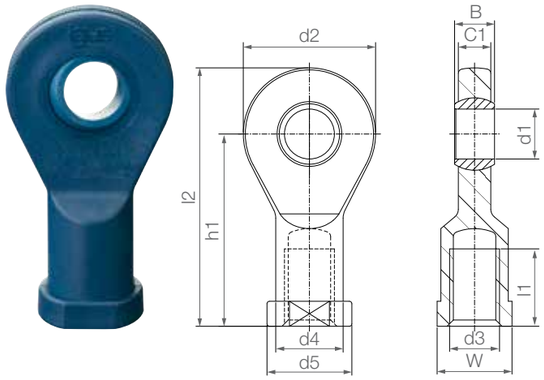
Dimensions [mm]

Part No.	d1 E10	d2	d3	C1	B	h1	l1	l2	Max. pivot angle
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°

Other dimensions available upon request

igubal® rod ends | Product range New

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



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

Order key

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

Material:
Housing: **igumid FC** ▶ **Page1655**
Spherical ball: **iglidur® FC180** ▶ **Page 1652**

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		
		[N]	[N]	[N]	[N]	[mm]	[Nm]	[Nm]	[g]
EBRM-06-FC	New	1,300	650	300	150	8.0	1.5	2.0	4.0
EBRM-08-FC	New	1,900	950	500	250	11.0	5.0	4.0	7.0
EBRM-10-FC	New	2,220	1,100	500	250	13.0	10.0	6.0	11.4
EBRM-10-FC-F	New	2,220	1,100	500	250	13.0	10.0	6.0	11.4
EBRM-12-FC	New	3,000	1,500	800	400	14.0	15.0	6.0	17.4

Dimensions [mm]

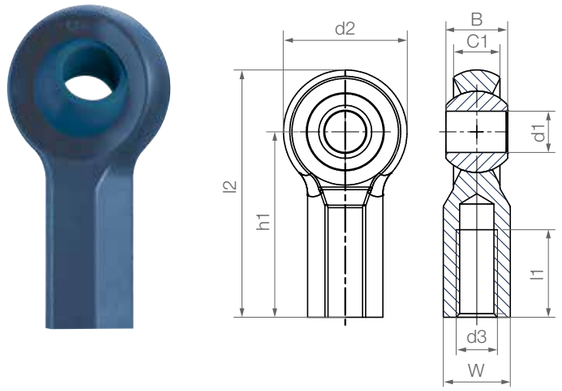
Part No.		d1	d2	d3	d4	d5	C1	B	h1	l1	l2	W	Max. pivot angle
		E10											
EBRM-06-FC	New	6	21	M6	11.0	13	4.4	6	30	12	40.5	SW11	27°
EBRM-08-FC	New	8	24	M8	13.0	16	6.0	8	36	14	48.0	SW14	24°
EBRM-10-FC	New	10	29	M10	15.0	19	7.0	9	43	18	57.5	SW17	24°
EBRM-10-FC-F	New	10	29	M10 x 1.25	15.0	19	7.0	9	43	18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

Left-hand thread and other dimensions available upon request

igubal®
rod ends

igubal® rod ends | Product range New

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



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

Order key

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

Material:
Housing: **igumid FC** ▶ **Page1655**
Spherical ball: **iglidur® FC180** ▶ **Page 1652**

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	Thread	Male thread		
		[N]	[N]	[N]	[mm]	[Nm]	[Nm]	[g]
KCRM-06-FC	New	1,300	650	400	8.0	1.0	2.0	4.3

Dimensions [mm]

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

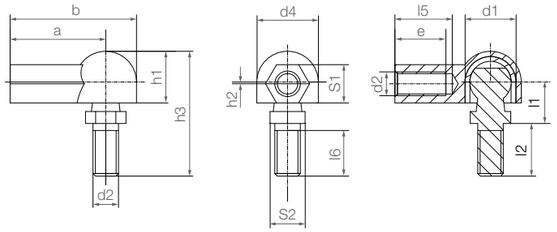
Left-hand thread and other dimensions available upon request

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, galvanised steel and stainless steel[19)]

▶ Accessories, **page 857**



Order key

Type	Size [mm]
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 stud[19)]
Blank = Made of plastic
MS = Made of galvanised steel
ES = Made of stainless steel[28)]

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

Material:
Housing: **igumid G** ▶ **Page 1654**
Spherical cap: **iglidur® W300** ▶ **Page 171**

Technical data

Part No.	Max. static tensile force (Ball stud axis)		Max. static compressive strength (Ball stud axis)		Max. axial tensile force (Housing axis)		Max. axial tensile force steel stud (Housing axis)		Weight
	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[g]
WG☐M-05	30	15	200	100	100	50	600	300	2.6
WG☐M-06	35	17.5	300	150	140	70	800	400	3.8
WG☐M-08	250	125	500	250	200	100	1,500	750	8.0
WG☐M-10	250	125	900	450	400	200	1,900	950	13.7

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°

[19)] Ball stud with right-hand thread; left-hand thread upon request
[28)] Stainless steel ball stud upon request

igubal® angled ball and socket joint

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, galvanised steel and stainless steel[19)]

▶ Accessories, **page 857**

Order key

Type	Size [mm]	Version
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 stud[19)]
Blank = Made of plastic
MS = Made of galvanised steel
ES = Made of stainless steel[28)]

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

Material:
Housing: **igumid G** ▶ **Page 1654**

Technical data

Part No.	Max. static tensile force (Ball stud axis)		Max. static compressive strength (Ball stud axis)		Max. axial tensile force (Housing axis)		Max. axial tensile force steel stud (Housing axis)		Weight
	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[g]
WG☐M-04 LC-MS[20)]	100	50	150	75	–	–	500	250	2.4
WG☐M-05 LC	30	15	200	100	100	50	600	300	2.6
WG☐M-06 LC	35	17.5	300	150	140	70	800	400	4.0
WG☐M-08 LC	250	125	500	250	200	100	1,500	750	8.2
WG☐M-10 LC	250	125	900	450	400	200	1,900	950	13.8

Dimensions [mm] – technical drawing ▶ Page 764

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°

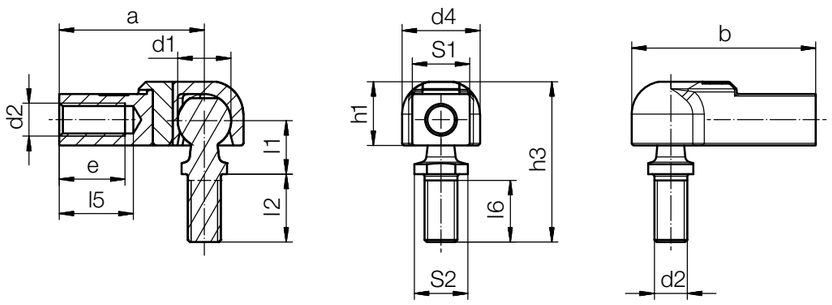
[19)] Ball stud with right-hand thread; left-hand thread upon request
[20)] Only available with galvanised steel stud
[28)] Stainless steel ball stud upon request

igubal® angled ball and socket joints | Product range

Ball joint, removable: WGRM-DE and WGLM-DE

- Cost-effective ball joint
- Lightweight
- Absolute corrosion resistance
- Easy assembly and disassembly
- High holding strength when assembled (260N)
- Ball studs made of plastic, galvanised steel and stainless steel[19] ▶ Accessories, **page 857**

Material:
Housing: **igumid G** ▶ **Page 1654**



Order key

Type	Size [mm]	Version
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 stud[19]
Blank = Made of plastic
MS = Made of galvanised steel
ES = Made of stainless steel[28]

Technical data and dimensions [mm]

Part No.	Assembly force	Disassembly force	d1	d2	d4	l1	l2	l5	Weight
	[N]	[N]	±0.1		±0.5	±0.2	±0.5	Min.	[g]
WG☐M-05-DE	35	200	8.0	M5	12.8	9	10.2	13.0	3.4
WG☐M-06-DE	50	275	10.0	M6	16.0	11	12.5	14.5	5.5

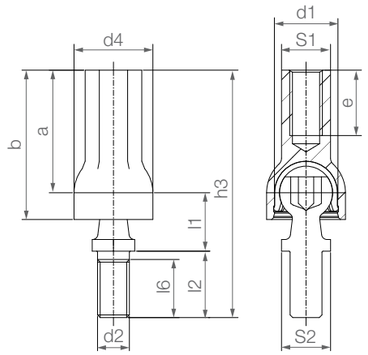
Dimensions [mm]

Part No.	l6	h1	h3	S1	S2	a	b	e	Pivot angle	
	Min.	±0.4	±0.5			±0.3	±0.5	±1.0	Recom.	Max.
WG☐M-05-DE	8.2	10.8	25.6	SW9	SW7	25.0	31.4	11	18°	25°
WG☐M-06-DE	10.5	13.0	32.0	SW11	SW8	30.0	38.0	12	18°	25°

[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: AGRM and AGLM



Order key

Type	Size [mm]
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 stud[19]
Blank = Made of plastic
MS = Made of galvanised steel
ES = Made of stainless steel[28]

Material:
Housing: **igumid G** ▶ **Page 1654**
Spherical cap: **iglidur® W300** ▶ **Page 171**

- 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, galvanised steel and stainless steel[19] ▶ Accessories, **page 857**

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		
	[N]	[N]	[N]	[N]	[N]	[g]
AG☐M-08	250	125	1,000	500	110	7.8

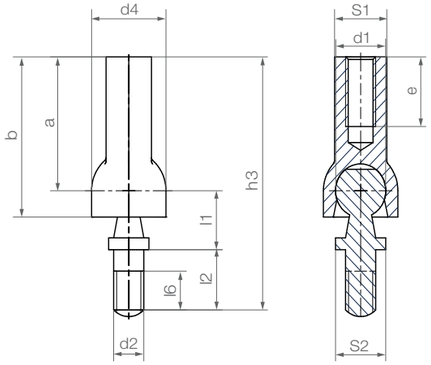
Dimensions [mm]

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☐M-08	13.0	M8	19.3	13	16.5	13.5	59	SW12	SW11	29.5	36.5	16	18°	25°

[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



Order key

Type	Size [mm]	Version
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 stud[19)]
Blank = Made of plastic
MS = Made of galvanised steel
ES = Made of stainless steel[28)]

Material:
Housing: **igumid G** ▶ **Page 1654**

- Housing with ball stud
- Lightweight
- Maintenance-free
- Ball studs made of plastic, galvanised steel and stainless steel[19)] ▶ Accessories, **page 857**

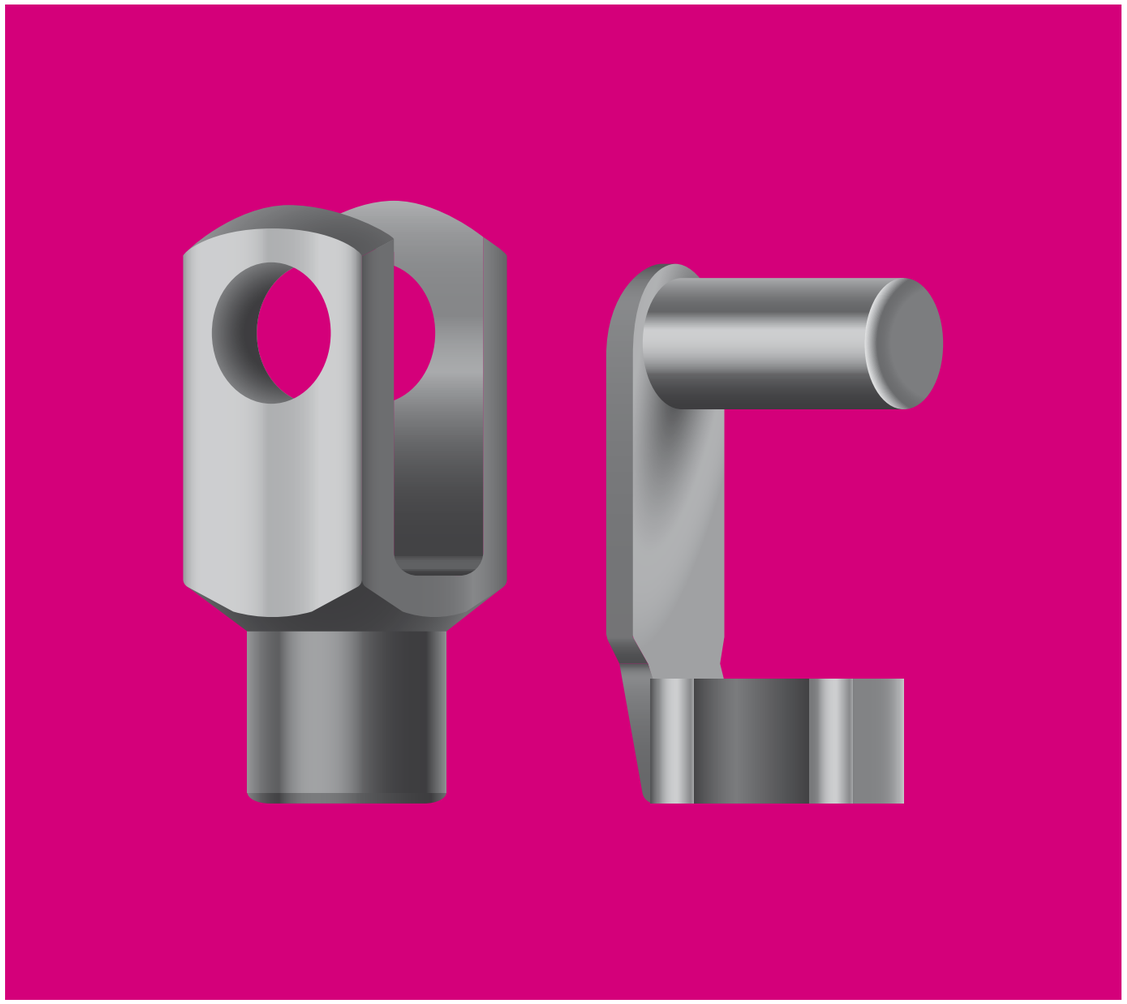
Technical data

Part No.	max. static tensile strain		Max. static compressive force (with steel stud)		Max. static compressive force (with plastic stud)		Max. assembly force	Weight
	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term		
	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[g]
AG□M-06-LC	100	50	2,000	1,000	800	400	320	10.8
AG□M-08-LC New	150	75	2,800	1,400	1,400	700	430	23.1

Dimensions [mm]

Part No.	d1	d2	d4	l1	l2	l6	h3	S1	S2	a	b	e	Max. pivot angle	
	±0.1		±0.5	±0.2	±0.3	Min.	±0.5			±0.3	±0.5	Min.	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 New	13	M8	19.3	13	16.5	13.5	57.5	SW12	SW11	29.5	35.0	16	18°	25°

[19)] Ball stud with right-hand thread; left-hand thread upon request
[28)] Stainless steel ball stud upon request



igubal® clevis joints

- High tensile force
- Vibration-dampening
- Noise-dampening
- Can be combined with E series rod end
- Lightweight

igubal® clevis joints

igubal® clevis joints are all made from solid plastic igumid G to DIN 71752, which can be combined with E series rod ends. Available components are clevis joint, clevis pin and circlip or as an alternative, spring-loaded fixing clip. Detectable version available.

High tensile force

Vibration-dampening

Noise-dampening

Can be combined with E series rod end

Lightweight

When to use it?
- If high rigidity is required
- If corrosion resistance is required
- If no lubrication is to be used
- If you want to save weight
- If maintenance-free, dry operation is required
- If simple assembly is required
- In combination with pneumatic cylinders and gas struts

When not to use it?
- When temperatures are higher than +200°C
- When diameters above 20mm are required

Available from stock
Detailed information about delivery time online.

Price breaks online
No minimum order value. No minimum order quantity

Max. +80°C
Min. –30°C

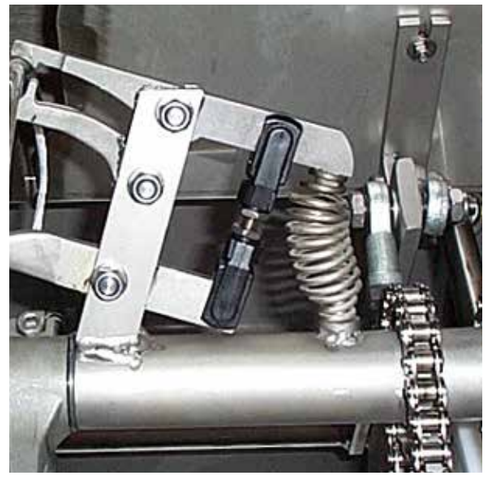
4 types
Ø 4 – 20mm

Online product finder
▶ www.igus.eu/igubal-finder

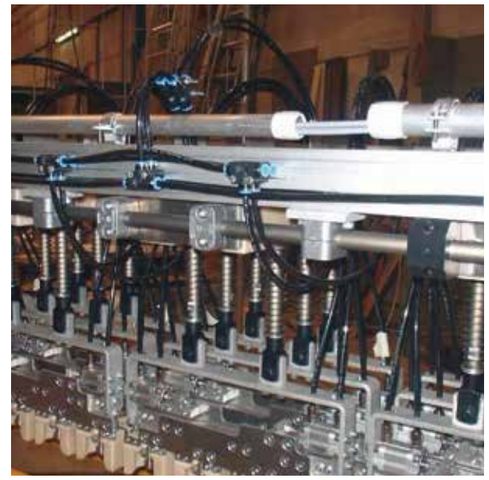
igubal® clevis joints | Application examples

Typical sectors of industry and application areas
- Food industry ● Packaging
- Heavy Duty ● Automotive
- Renewable energy ● Automation etc.

Improve technology and reduce costs – 110 exciting examples online
▶ www.igus.eu/igubal-applications



▶ www.igus.eu/food



▶ www.igus.eu/packaging

▶ www.igus.eu/traffic

Pneumatic cylinder

igubal® clevis joints | Product overview

igubal® – Clevis joint combinations

Clevis joints with clevis pin and circlip
E series
▶ Page 778

Clevis joints with spring-loaded fixing clip
E series
▶ Page 779

Combination, easy to fit
E series
▶ Page 780

Combination, easy to fit
E series
▶ Page 781

igubal® component parts

Clevis joint, high rigidity:
E series
▶ From page 774

New

Clevis joint with male thread
E series
▶ From page 776

Clevis joint combination
▶ Page 777

Spring-loaded fixing clip
▶ Page 782

Clevis pin and circlip
GBM – Clevis pin
GSR – Circlip
▶ Page 783

New

Clevis joints, detectable, FDA and EU10/2011-compliant
E series
▶ Page 784

New

Spring-loaded pin, detectable, FDA and REU10/2011-compliant
E series
▶Page 785

New

Clevis joints with spring-loaded pin, detectable; FDA and EU10/2011-compliant
E series
▶ Page 786

Detectable clevis joints and rod end bearings
▶ From page 863

My sketches

igubal® clevis joints | Product range

Clevis joints: GERM and GELM

- Lightweight
- Robust
- Absolute corrosion resistance
- High tensile force
- Can be combined with E series rod end
- Vibration-dampening
- Noise-dampening
- Available with left- (GELM) and right-hand-thread (GERM)

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

Technical data

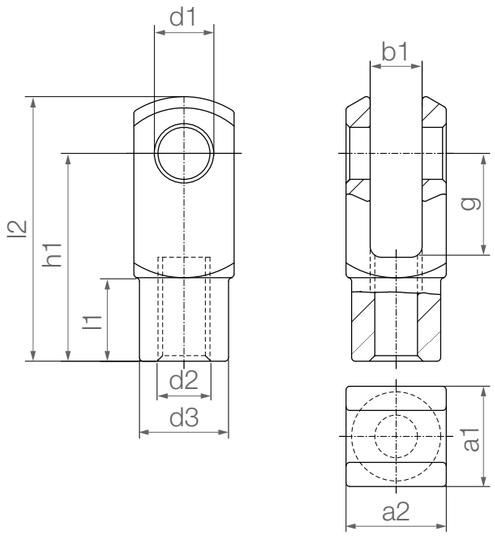
Part No.	max. static tensile strain		Max. static axial force		Max. tightening torque	Weight
	Short-term	Long-term	Short-term	Long-term		
	[N]	[N]	[N]	[N]	[Nm]	[g]
GE□M-04 M3.5	650	325	250	125	0.4	0.9
GE□M-04	650	325	250	125	0.4	0.9
GE□M-05 DIN M4	1,000	500	250	125	0.4	1.5
GE□M-05 DIN M5	1,000	500	250	125	0.5	1.5
GE□M-05	1,200	600	250	125	0.5	2.7
GE□M-05 DIN M5 LS[22)]	1,000	500	130	65	0.5	2.3
GE□M-06	1,400	700	300	150	1.5	2.5
GE□M-06 LS[22)]	1,400	700	130	65	1.5	3.6
GE□M-08	2,700	1,350	650	325	5.0	6.3
GE□M-10	4,700	2,350	800	400	15.0	13.2
GE□M-10 F	4,700	2,350	800	400	6.0	13.2
GE□M-12	5,700	2,850	900	450	20.0	20.2
GE□M-12 F	5,700	2,850	900	450	15.0	20.2
GE□M-14	6,600	3,300	1,000	500	25.0	29.9
GE□M-14 F	6,600	3,300	1,000	500	20.0	29.9
GE□M-15	3,200	1,600	1,000	500	25.0	30.0
GE□M-16	7,500	3,750	1,200	600	30.0	49.9
GE□M-16 F	7,500	3,750	1,200	600	27.5	49.9
GE□M-17	3,600	1,800	1,200	600	30.0	50.0
GE□M-17 F	3,600	1,800	1,200	600	27.5	50.0
GE□M-20	9,500	4,750	3,000	1,500	60.0	105.0
GE□M-20 M20	9,500	4,750	3,000	1,500	80.0	105.0

[22)] **LS = longer shank**

igubal® clevis joints

igubal® clevis joints | Product range

Clevis joints: GERM and GELM



Order key

Type				Size [mm]	Options
G	E	□	M-	04	LS
Clevis joint	E series	Thread	Metric	Inner Ø	

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

Add-on:
LS = Longer shank

Material:
igumid G ▶ Page 1654

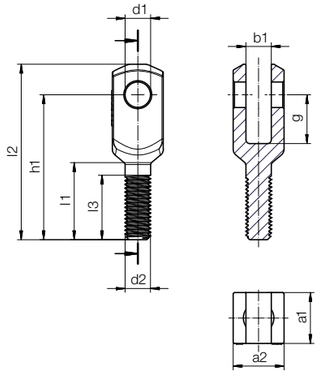
Dimensions [mm]

Part No.	d1	g	a1	a2	b1	d2	d3	l2	h1	l1
	+0.1	h11	+0.3 –0.16	+0.3 –0.16	B13		±0.3	±0.5	±0.3	±0.2
GE□M-04 M3.5	4	8	8	8	4	M3.5	8	21.0	16	6.0
GE□M-04	4	8	8	8	4	M4	8	21.0	16	6.0
GE□M-05 DIN M4	5	10	10	10	5	M4	9	24.5	20	7.5
GE□M-05 DIN M5	5	10	10	10	5	M5	9	24.5	20	7.5
GE□M-05	5	12	12	12	6	M5	10	31.0	24	9.0
GE□M-05 DIN M5 LS[22)]	5	20	10	10	5	M5	9	36.0	30	7.5
GE□M-06	6	12	12	12	6	M6	10	31.0	24	9.0
GE□M-06 LS[22)]	6	24	12	12	6	M6	10	43.0	36	9.0
GE□M-08	8	16	16	16	8	M8	14	42.0	32	12.0
GE□M-10	10	20	20	20	10	M10	18	52.0	40	15.0
GE□M-10 F	10	20	20	20	10	M10 x 1.25	18	51.3	40	15.0
GE□M-12	12	24	24	24	12	M12	20	61.3	48	18.0
GE□M-12 F	12	24	24	24	12	M12 x 1.25	20	61.3	48	18.0
GE□M-14	14	28	27	27	14	M14	24	71.3	56	22.5
GE□M-14 F	14	28	27	27	14	M14 x 1.5	24	71.3	56	22.5
GE□M-15	15	28	27	27	14	M14	24	71.3	56	22.5
GE□M-16	16	32	32	32	16	M16	26	81.9	64	24.0
GE□M-16 F	16	32	32	32	16	M16 x 1.5	26	81.9	64	24.0
GE□M-17	17	32	32	32	16	M16	26	83.0	64	24.0
GE□M-17 F	17	32	32	32	16	M16 x 1.5	26	83.0	64	24.0
GE□M-20	20	40	40	40	20	M20 x 1.5	34	105.0	80	30.0
GE□M-20 M20	20	40	40	40	20	M20 x 2.5	34	105.0	80	30.0

[22)] **LS = longer shank**

igubal® clevis joints | Product range New

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
- Lubrication and maintenance-free
- Absolute corrosion resistance
- Available for right-hand thread (left-hand thread upon request)

Order key

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

Material:
igumid G ▶ Page 1654

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

Technical data

Part No.		Max. static tensile strain		Max. static axial force		Max. tightening torque	Weight
		Short-term	Long-term	Short-term	Long-term		
		[N]	[N]	[N]	[N]	[Nm]	[g]
GARM-10	New	3,000	1,500	200	100	5.0	12.5

Dimensions [mm]

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

igubal® clevis joints

igubal® clevis joints | Product range New

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

Material:
igumid G ▶ Page 1654

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

Technical data

Part No.		max. static tensile strain		Max. static axial force		Weight
		Short-term	Long-term	Short-term	Long-term	
		[N]	[N]	[N]	[N]	[g]
GARMK-10	New	3,000	1,500	200	100	10.2

Clevis joints with spring-loaded fixing clip in combination with E series rod ends, EARM ▶ Page 758

igubal® clevis joints | Product range

Clevis joints with clevis pin and circlip: GERMK and GELMK

- Lightweight
- Absolute corrosion resistance
- High tensile force
- Can be combined with E series rod end

Order key

Type					Size [mm]	Options
G	E	□	M	K -	04	LS
Clevis joint	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 1654

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

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Weight
	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[g]
GE□MK-04 M3.5	500	250	250	125	1.3
GE□MK-04	500	250	250	125	1.3
GE□MK-05 DIN M4	800	400	250	125	2.1
GE□MK-05 DIN M5	800	400	250	125	2.1
GE□MK-05	900	450	250	125	3.3
GE□MK-05 DIN M5 LS[22)]	800	400	130	65	2.9
GE□MK-06	1,300	650	300	150	3.3
GE□MK-06 LS[22)]	1,300	650	130	65	4.4
GE□MK-08	2,100	1,050	650	325	7.9
GE□MK-10	3,000	1,500	800	400	16.4
GE□MK-10 F	3,000	1,500	800	400	16.4
GE□MK-12	3,500	1,750	900	450	25.3
GE□MK-12 F	3,500	1,750	900	450	25.3
GE□MK-14	6,100	3,050	1,000	500	31.2
GE□MK-15	2,800	1,400	1,000	500	38.9
GE□MK-16	7,000	3,500	1,200	600	60.8
GE□MK-16 F	7,000	3,500	1,200	600	60.8
GE□MK-17	3,600	1,800	1,200	600	62.3
GE□MK-17 F	3,600	1,800	1,200	600	62.3
GE□MK-20	9,000	4,500	3,000	1,500	125.2
GE□MK-20 M20	9,000	4,500	3,000	1,500	125.2

[22)] LS = longer shank

Single components: clevis pin GBM and circlip GSR
▶ Page 783

igubal® clevis joints

igubal® clevis joints | Product range

Clevis joints with spring-loaded fixing clip: GERMF and GELMF

- One-piece design
- Easy assembly/disassembly
- Easy assembly also for use in hard to reach locations
- Can be combined with E series rod end
- Corrosion-resistant and lightweight

Order key

Type					Size [mm]	Options
G	E	□	M	F -	04	LS
Clevis joint	E series	Thread	Metric	Spring-loaded fixing clip	Inner Ø	

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

Add-on:
LS = Longer shank

Material:
igumid G ▶ Page 1654

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

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Weight
	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[g]
GE□MF-04 M3.5	500	250	250	125	1.3
GE□MF-04	500	250	250	125	1.3
GE□MF-05 DIN M4	800	400	250	125	2.3
GE□MF-05 DIN M5	800	400	250	125	2.3
GE□MF-05 DIN M5 LS[22)]	800	400	130	65	2.3
GE□MF-05	900	450	250	125	3.8
GE□MF-06	1,300	650	300	150	3.9
GE□MF-06 LS[22)]	1,300	650	130	65	3.9
GE□MF-08	2,100	1,050	650	325	9.1
GE□MF-10	3,000	1,500	800	400	18.2
GE□MF-10 F	3,000	1,500	800	400	18.2
GE□MF-12	3,500	1,750	900	450	28.6
GE□MF-12 F	3,500	1,750	900	450	28.6
GE□MF-16	7,000	3,500	1,200	600	61.8
GE□MF-16 F	7,000	3,500	1,200	600	61.8

[22)] LS = longer shank

Single components: Spring-loaded fixing clip GEFM
▶ Page 782

igubal® clevis joints | Product range

Clevis joint combination: GERMKE and GELMKE

- Lightweight
- Absolute corrosion resistance
- High tensile force
- Can be combined with E series rod end

Order key

Type						Size [mm]	Options
G	E	□	M	KE	-	05	
Clevis joint	E series	Thread	Metric	With clevis pin, circlip and rod end		Inner Ø	

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

Material:
igumid G ▶ Page 1654

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

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Weight
	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[g]
GE□MKE-05	900	450	150	75	6.4
GE□MKE-06	1,300	650	200	100	7.3
GE□MKE-08	2,000	1,000	450	225	14.6
GE□MKE-10	2,300	1,150	500	250	27.1
GE□MKE-10 F	2,300	1,150	500	250	27.1
GE□MKE-12	3,300	1,650	550	275	42.7
GE□MKE-12 F	3,300	1,650	550	275	42.7
GE□MKE-15	2,800	1,400	800	400	68.4
GE□MKE-16	5,000	2,500	850	425	86.9
GE□MKE-16 F	5,000	2,500	850	425	86.9
GE□MKE-17	3,600	1,800	1,100	550	98.3
GE□MKE-17 F	3,600	1,800	1,100	550	98.3
GE□MKE-20	7,200	3,600	1,800	900	175.2
GE□MKE-20 M20	7,200	3,600	1,800	900	175.2

Clevis joints with spring-loaded fixing clip in combination with E series rod ends, EBRM and EARM ▶ Page 756–759

igubal® clevis joints

igubal® clevis joints | Product range

Clevis joint combination: GERMFE and GELMFE

Order key

Type						Size [mm]	Options
G	E	□	M	FE	-	05	
Clevis joint	E series	Thread	Metric	With spring-loaded fixing clip and rod end		Inner Ø	

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

Material:
igumid G ▶ Page 1654

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

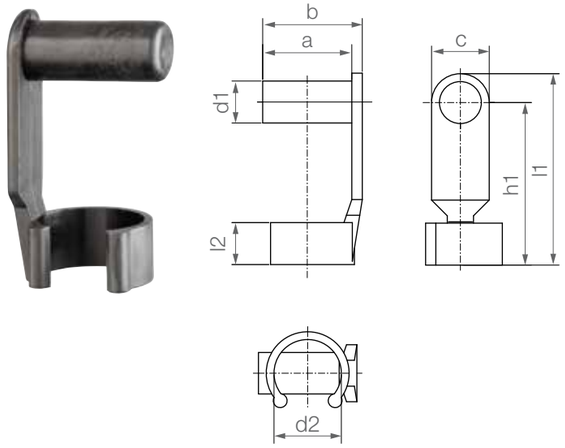
Technical data

Part No.	max. static tensile strain		Max. static axial force		Weight
	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[g]
GE□MFE-05	900	450	150	75	7.0
GE□MFE-06	1,300	650	200	100	7.9
GE□MFE-08	2,000	1,000	450	225	15.9
GE□MFE-10	2,300	1,150	500	250	29.2
GE□MFE-10 F	2,300	1,150	500	250	29.2
GE□MFE-12	3,300	1,650	550	275	46.0
GE□MFE-12 F	3,300	1,650	550	275	46.0
GE□MFE-16	5,000	2,500	850	425	94.4
GE□MFE-16 F	5,000	2,500	850	425	94.4

Clevis joints with spring-loaded fixing clip in combination with E series rod ends, EBRM and EARM ▶ Page 756–759

igubal® clevis joints | Product range

Spring-loaded fixing clips: GEFM



Material:
igumid G ▶ Page 1654

Dimensions [mm]

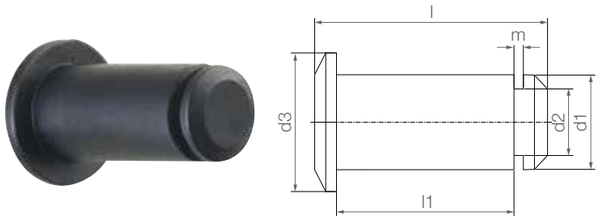
Part No.	d1	d2	a	b	C	l1 ±0.5	h1	l2	Weight [g]
GEFM-04	4	8	9.5	10.5	8	19.0	15	4.5	0.5
GEFM-05 DIN	5	9	12.0	13.5	8	23.0	19	5.5	0.8
GEFM-05 DIN M5 LS[22)]	5	9	12.0	13.5	8	33.0	29	5.5	1.0
GEFM-05	5	10	14.0	15.5	8	27.0	23	6.5	1.1
GEFM-06 LS[22)]	6	10	14.0	15.5	8	39.0	35	6.5	1.0
GEFM-06	6	10	14.0	15.5	8	27.0	23	6.5	1.2
GEFM-08	8	14	19.0	21.0	11	35.5	30	8.0	2.8
GEFM-10	10	18	23.0	25.5	14	45.0	38	10.0	5.0
GEFM-12	12	20	28.0	31.0	16	53.0	45	12.0	8.3
GEFM-16	16	26	36.0	40.0	22	73.0	62	16.0	18.3

[22)] LS = longer shank

igubal® clevis joints

igubal® clevis joints | Product range

Clevis pins: GBM

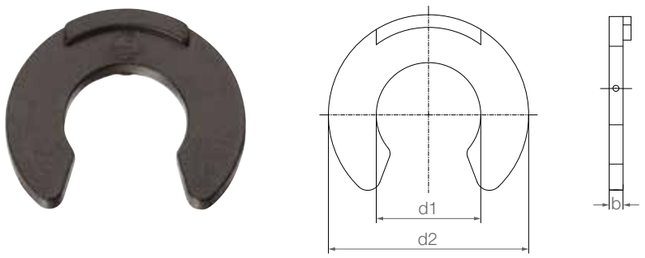


Material:
igumid G ▶ Page 1654

Dimensions [mm]

Part No.	d1	d2	d3	l	l1	m	Clip	Weight [g]
GBM-04	4	3.2	7	12.5	8	1.05	GSR-04	0.3
GBM-05	5	4.0	8	16.5	12	1.15	GSR-06	0.5
GBM-05 DIN	5	4.0	8	14.5	10	1.15	GSR-06	0.5
GBM-06	6	4.0	9	16.5	12	1.15	GSR-06	0.7
GBM-08	8	5.0	12	21.5	16	1.15	GSR-08	1.5
GBM-10	10	7.0	15	27.0	20	1.35	GSR-10	3.0
GBM-12	12	9.0	18	31.5	24	1.50	GSR-12	4.8
GBM-14	14	12.0	22	36.0	27	1.70	GSR-16	5.7
GBM-15	15	12.0	23	36.0	27	1.70	GSR-16	8.3
GBM-16	16	12.0	24	42.0	32	1.70	GSR-16	10.4
GBM-17	17	12.0	25	42.0	32	1.70	GSR-16	12.3
GBM-20	20	15.0	30	51.0	40	2.00	GSR-20	19.2

Circlips: GSR



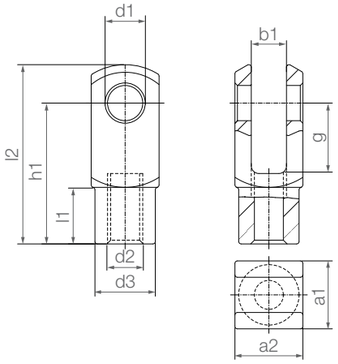
Material:
POM ▶ Page 1656

Dimensions [mm]

Part No.	d1	d2	b	Weight [g]
GSR-04	3.2	7.0	1.0	0.05
GSR-06	4.0	9.0	1.1	0.06
GSR-08	5.0	11.0	1.1	0.12
GSR-10	7.0	14.0	1.3	0.16
GSR-12	9.0	18.5	1.4	0.31
GSR-16	12.0	23.0	1.6	0.58
GSR-20	15.0	28.0	1.9	0.96

igubal® clevis joints | Product range New

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



Order key

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

- Lubrication 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 ▶ Page1655

Technical data

Part No.		Max. static tensile strain		Max. static axial force		Max. tightening torque	Weight
		Short-term	Long-term	Short-term	Long-term		
		[N]	[N]	[N]	[N]	[Nm]	[g]
GERM-04-FC	New	600	300	200	100	1.0	0.8
GERM-05-DIN-M5-FC	New	800	400	250	125	1.5	1.5
GERM-06-FC	New	1,400	700	250	125	1.5	2.5
GERM-08-FC	New	2,300	1,150	650	325	5.0	6.4
GERM-10-FC	New	4,000	2,000	800	400	10.0	13.2
GERM-10-FC-F	New	4,000	2,000	800	400	10.0	13.2
GERM-12-FC	New	5,000	2,500	900	450	15.0	20.7
GERM-12-FC-F	New	5,000	2,500	900	450	15.0	20.7

Dimensions [mm]

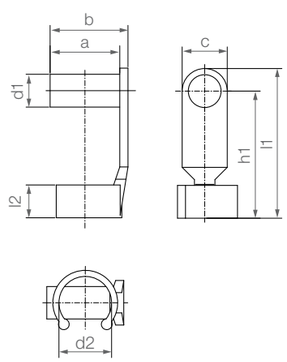
Part No.		d1	g	a1 +0.3 −0.16	a2 +0.3 −0.16	b1	d2	d3 ±0.3	l2 ±0.5	h1 ±0.3	l1 ±0.2
GERM-04-FC	New	4	8.0	8.0	8.0	4.1	M4	8	21.0	16.0	6.0
GERM-05-DIN-M5-FC	New	5	10.0	9.9	9.9	5.3	M5	9	24.5	20.0	7.5
GERM-06-FC	New	6	12.0	12.0	12.0	6.2	M6	10	31.0	24.0	9.0
GERM-08-FC	New	8	15.9	15.8	15.8	8.2	M8	14	42.0	32.0	12.0
GERM-10-FC	New	10	19.5	19.9	19.9	9.5	M10	18	51.3	39.5	14.8
GERM-10-FC-F	New	10	19.5	19.9	19.9	9.5	M10 x 1.25	18	51.3	39.5	14.8
GERM-12-FC	New	12	24.0	23.7	23.7	12.2	M12	20	61.3	48.0	18.0
GERM-12-FC-F	New	12	23.5	23.7	23.7	12.2	M12 x 1.25	20	61.3	48.0	18.0

Left-hand thread and other dimensions available upon request

igubal® clevis joints

igubal® clevis joints | Product range New

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



Order key

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

- Lubrication 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

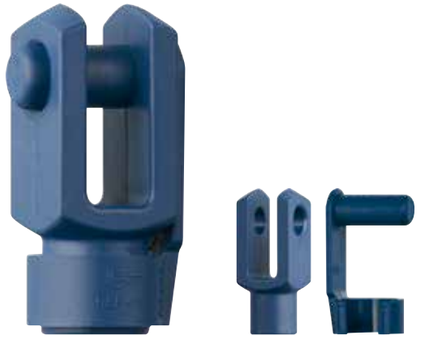
Material:
igumid FC ▶ Page1655

Dimensions [mm]

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

igubal® clevis joints | Product range New

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



Order key

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

- Lubrication 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 ▶ Page1655

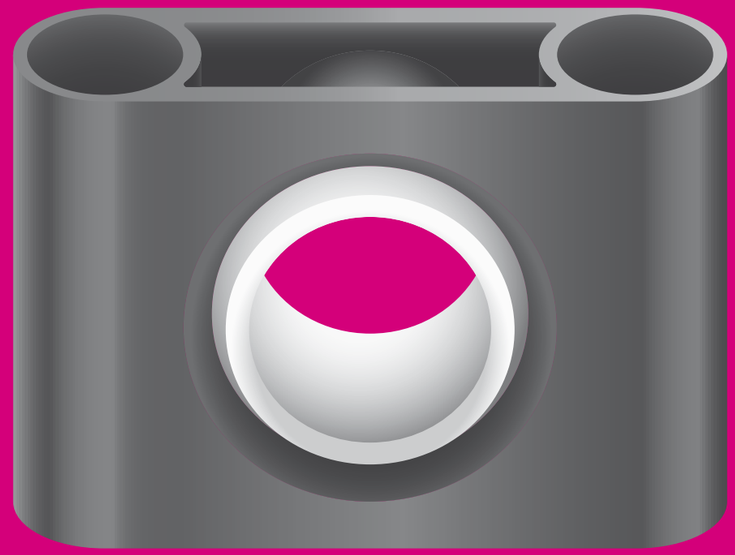
Technical data

Part No.		Max. static tensile strain		Max. static axial force		Weight
		Short-term	Long-term	Short-term	Long-term	
		[N]	[N]	[N]	[N]	[g]
GERMF-04-FC	New	400	200	200	100	1.3
GERMF-05-DIN-M5-FC	New	700	350	250	125	2.3
GERMF-06-FC	New	1,200	600	250	125	3.7
GERMF-08-FC	New	2,000	1,000	650	325	9.1
GERMF-10-FC	New	3,000	1,500	800	400	18.3
GERMF-10-FC-F	New	3,000	1,500	800	400	18.3
GERMF-12-FC	New	3,000	1,500	900	450	29.0
GERMF-12-FC-F	New	3,000	1,500	900	450	29.0

Dimensions [mm]

Part No.		d1	g	a1 +0.3 −0.16	a2 +0.3 −0.16	b1	d2	d3 ±0.3	l2 ±0.5	h1 ±0.3	l1 ±0.2
GERMF-04-FC	New	4	8.0	8.0	8.0	4.1	M4	8	21.0	16.0	6.0
GERMF-05-DIN-M5-FC	New	5	10.0	9.9	9.9	5.3	M5	9	24.5	20.0	7.5
GERMF-06-FC	New	6	12.0	12.0	12.0	6.2	M6	10	31.0	24.0	9.0
GERMF-08-FC	New	8	15.9	15.8	15.8	8.2	M8	14	42.0	32.0	12.0
GERMF-10-FC	New	10	19.5	19.9	19.9	9.5	M10	18	51.3	39.5	14.8
GERMF-10-FC-F	New	10	19.5	19.9	19.9	9.5	M10 x 1.25	18	51.3	39.5	14.8
GERMF-12-FC	New	12	24.0	23.7	23.7	12.2	M12	20	61.3	48.0	18.0
GERMF-12-FC-F	New	12	23.5	23.7	23.7	12.2	M12 x 1.25	20	61.3	48.0	18.0

Left-hand thread upon request



igubal® pillow block bearings

- Maintenance-free dry operation
- Robust
- Durable
- Media-resistant
- High radial loads

igubal® pillow block bearings

igubal® pillow block bearings are bearing units especially easy to install and which are able to compensate alignment errors and prevent edge pressure.

Maintenance-free dry operation

Robust

Durable

Maintenance and lubrication-free

Media-resistant

High radial loads

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?

- When temperatures are higher than +80°C
- When an integrated fixing collar is required
- When diameters above 50mm are required
- When rotation speeds higher than 0.5m/s are required

Available from stock
Detailed information about delivery time online.

Price breaks online
No minimum order value. No minimum order quantity

Max. +80°C
Min. –30°C

6 types
Ø 5–150mm

Imperial dimensions available
▶ Page 1609

Online product finder
▶ www.igus.eu/igubal-finder

igubal® pillow block bearings | Application examples

Typical sectors of industry and application areas

- Plant design
- Machine building
- Packaging etc.

Improve technology and reduce costs – 110 exciting examples online
▶ www.igus.eu/igubal-applications

Stone processing

▶ www.igus.eu/solar

Paper industry

▶ www.igus.eu/packaging

igubal® pillow block bearings | Technical data

Advantages

- Maintenance-free dry operation
- Robust
- Durable in varying loads
- Compensation of misalignment errors
- Resistant to edge loads
- Corrosion-free
- Chemical resistance
- Vibration-dampening
- Suitable for rotating, oscillating and linear movements
- Lightweight
- High radial loads
- Media-resistant
- Space-saving
- Easy to fit
- Predictable service life
- Maintenance and lubrication-free

Product range

igubal® pillow block bearings are available in the dimensional K and E series for shaft diameters from 5 to 150mm. The dimensional K series is available in imperial dimensions. Please ask us for other dimensions.

Application areas

igubal® pillow block bearings ideally compensate for shaft misalignments, tilts and bends through their spherical adjustability. Applications in which these effects cannot be prevented are suitable for igubal® pillow block bearings.

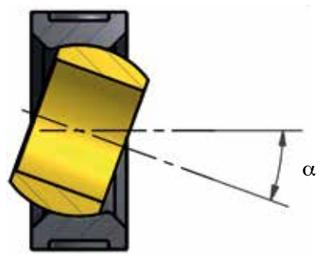
Tolerances

Maintenance-free igubal® pillow block bearings are designed with an inner diameter tolerance of E10. The shaft tolerance should be included between h6 and h9. These recommended tolerances allow for changes in the bearing due to temperature. All values and tolerances according to ISO 2768-m.

Assembly

igubal® pillow block bearings are designed for mounting with two bolts. An exact orientation of the bearing housing is not necessary, since the spherical bearing compensates for alignment errors. Special adjusting rings can be used to fix the shaft.

Pivot angle



igubal® pillow block bearings | Product overview

igubal® pillow block bearings – standard design

Compensation of misalignment errors
K series
▶ Page 792

Compensation of misalignment errors, imperial dimensions
K series
▶ Page 1515

igubal® pillow block bearings – space-saving

Easy to disassemble, split housing and ball
K series
▶ Page 794

Easy to fit
E series
▶ Page 795

For quick assembly and low total moisture absorption
E series
▶ Page 796

Split housing with parallel hole
E series
▶ Page 797

Extremely light, compact design
E series
▶ Page 798

New

Split pillow block bearings for square profiles
E series
▶ Page 799

New

Pillow block with cost-effective metallic housing
▶ Page 800

igubal® combination with xiros® ball bearings

Low coefficient of friction, fixed version
E series
▶ Page 934

Low coefficient of friction, pivoting version
E series
▶ Page 935

igubal® pillow block bearings | Product range

Pillow block bearings: KSTM

- Maintenance-free dry operation
- Robust
- Durable in varying loads
- Compensation of misalignment and edge loads
- Resistant to corrosion and chemicals
- Vibration-dampening
- Suitable for rotating, oscillating and linear movements
- Lightweight

Imperial dimensions available
▶ **Page 1609**

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

Technical data

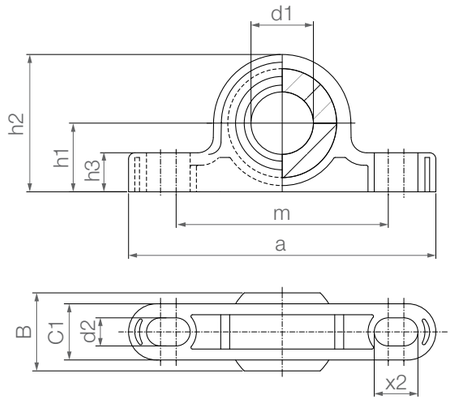
Part No.	Max. static tensile strain		Max. axial static compressive force	Max. tightening torque for longitudinal holes[144)]	Weight
	Short-term	Long-term			
	[N]	[N]	[N]	[Nm]	[g]
KSTM-05	700	350	300	0.6	1.7
KSTM-06	1,100	550	300	1.3	2.9
KSTM-08	1,300	650	400	1.3	4.6
KSTM-10	1,500	750	500	2.5	8.6
KSTM-12	2,200	1,100	600	2.5	11.8
KSTM-14	2,400	1,200	600	4.5	18.4
KSTM-16	3,000	1,500	1,800	4.5	23.7
KSTM-18	3,500	1,750	1,200	10.5	32.2
KSTM-20	4,700	2,350	1,300	10.5	40.0
KSTM-22	6,100	3,050	1,400	10.5	54.0
KSTM-25	6,600	3,300	1,600	10.5	75.3
KSTM-30	8,100	4,050	2,100	21.5	116.8

144) To achieve the max. tightening torque, we recommend the use of washers.

igubal® pillow block bearings

igubal® pillow block bearings | Product range

Pillow block bearings: KSTM



Order key

Type	Size [mm]
K ST M	-05

K series | Pillow block bearing | Metric | Inner Ø

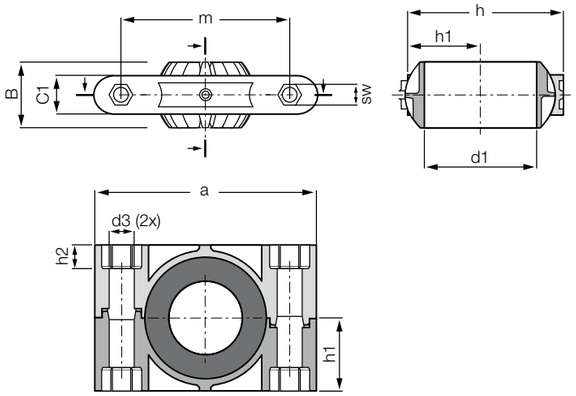
Material:
Housing: **igumid G** ▶ **Page 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**

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	4.0	3.3	4.6	30°
KSTM-06	6	9	7.0	10	18	33	43	5.5	4.5	6.0	29°
KSTM-08	8	12	9.0	10	20	33	47	6.0	4.5	7.0	25°
KSTM-10	10	14	10.5	14	26	46	62	7.5	5.5	8.0	25°
KSTM-12	12	16	12.0	14	28	46	65	8.5	5.5	9.0	25°
KSTM-14	14	19	13.5	18	34	60	82	9.5	6.6	11.0	23°
KSTM-16	16	21	15.0	18	36	60	86	10.5	6.6	12.0	23°
KSTM-18	18	23	16.5	22	42	68	93	11.5	9.0	13.0	23°
KSTM-20	20	25	18.0	22	44	68	98	13.0	9.0	14.0	23°
KSTM-22	22	28	20.0	24	48	74	108	14.0	9.0	16.0	22°
KSTM-25	25	31	22.0	27	54	86	124	16.0	9.0	17.0	22°
KSTM-30	30	37	25.0	32	64	96	139	17.0	11.0	20.0	22°

igubal® pillow block bearings | Product range

Pillow block bearings with split housing: KSTM-GT



- Fitting is easy and does not require shaft removal
- Maintenance-free, dry operation
- For high static loads
- Mounting: M12

Order key

Type	Size [mm]	Version
K ST M - GT	40	- GT

K series	Pillow block bearing	Metric	Split housing	Inner Ø	Split ball

Material:
Housing: **RN33** ▶ **Page 1657**
Spherical ball: **iglidur® J** ▶ **Page 159**

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

- Low installation space and lightweight
- High stiffness and durability
- Predictable service life
- Dimensional K series according to DIN ISO 12240

Technical data

Part No.	Max. radial tensile/ compressive strength		Max. axial tensile/ compressive strength		Max. tightening torque through ball	Max. tightening torque fixing holes	Weight
	Short-term	Long-term	Short-term	Long-term			
	[N]	[N]	[N]	[N]	[Nm]	[Nm]	[g]
KSTM-GT35[23]	11,000	5,500	2,500	1,250	5	15	250.3
KSTM-GT40	11,000	5,500	2,500	1,250	5	15	235.0
KSTM-GT40-GT[24]	11,000	5,500	2,500	1,250	5	15	235.0
KSTM-GT45[23]	15,000	7,500	3,000	1,500	5	20	405.2
KSTM-GT50	15,000	7,500	3,000	1,500	5	20	389.2
KSTM-GT50-GT[24]	15,000	7,500	3,000	1,500	5	20	389.2

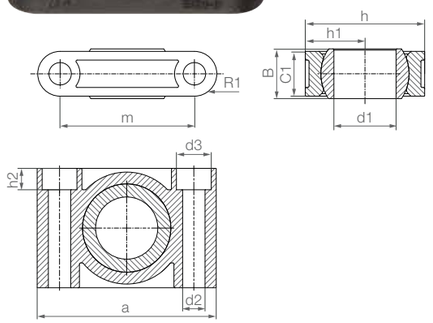
Dimensions [mm]

Part No.	d1 E10	d3	h	h1	h2	SW	a	m	C1	B	Max. pivot angle
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°

[23] Diameter reduced by plain bearing; [24] Split housing and split ball

igubal® pillow block bearings | Product range

Pillow block bearings: ESTM



- High radial loads
- Media-resistant
- Space-saving design, easy to fit
- Predictable service life
- Maintenance and lubrication-free

Order key

Type	Size [mm]
E ST M - 08	

E series	Pillow block bearing	Metric	Inner Ø

Material:
Housing: **igumid G** ▶ **Page 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**
Combination with xiros® ball bearings
▶ **From page 934**

- Dimensional E series according to DIN ISO 12240
- Adapter available ▶ Accessories, **page 862**

Technical data

Part No.	Max. radial tensile force		Max. radial compressive strength		Max. axial strength		Max. tightening torque fixing holes	Weight
	Short-term [N]	Long-term [N]	Short-term [N]	Long-term [N]	Short-term [N]	Long-term [N]	[Nm]	[g]
ESTM-08	2,500	1,250	4,300	2,150	600	300	1.3	5.0
ESTM-10	3,400	1,700	5,300	2,650	700	350	2.5	7.1
ESTM-12	4,500	2,250	6,500	3,250	750	375	2.5	9.0
ESTM-16	6,700	3,350	8,500	4,250	1,100	550	4.5	17.5
ESTM-20	8,500	4,250	11,000	5,750	1,400	700	4.5	27.4
ESTM-25	13,500	6,750	18,500	9,250	2,300	1,150	10.5	50.8
ESTM-30[25]	10,000	5,000	16,500	8,250	2,500	1,250	10.5	79.7

[25] Lower values loads due to different manufacturing method

Dimensions [mm]

Part No.	d1, E10	d2	d3	h	h1	h2	a	m	C1	B	R1	Max. pivot angle
ESTM-08	8	4.5	–	19	9.5	–	31	22	9	8	4.5	22°
ESTM-10	10	5.5	–	22	11.0	–	36	26	10	9	5.0	22°
ESTM-12	12	5.5	–	26	13.0	–	38	28	10	10	5.0	22°
ESTM-16	16	6.6	10.6	34	17.0	6.4	50	37	13	13	6.5	22°
ESTM-20	20	9.0	14.0	40	20.0	8.6	62	46	16	16	8.0	22°
ESTM-25	25	9.0	14.0	48	24.0	8.6	72	54	18	20	9.0	20°
ESTM-30	30	11.0	17.0	56	28.0	10.6	86	64	22	22	11.0	20°

Alternative spherical ball materials ▶ Page 841

J4VEM: Clearance-free, pre-loaded

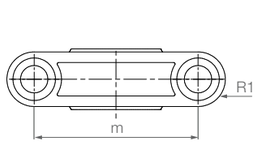
JEM: Low moisture absorption

REM: Low-cost

J4EM: Low-cost and low moisture absorption

igubal® pillow block bearings | Product range

Pillow block bearings with split housing and split ball: ESTM-GT...-GT



Order key

Type				Size [mm]	Version
E	ST	M	-GT	16	- GT
E series	Pillow block bearing	Metric	Split housing	Inner Ø	Split ball

Material:
Housing: **RN33** ▶ **Page 1657**
Spherical ball: **iglidur® J** ▶ **Page 159**

- Save time during assembly and disassembly
- Low installation space and lightweight
- High stiffness and durability
- Spherical ball material iglidur® J for low moisture absorption
- Ideal for outdoor use
- Dimensional E series according to DIN ISO 12240
- Adapter available ▶ Accessories, **page 862**

Technical data

Part No.	max. static radial tensile strain		Max. static radial compressive force		Max. tightening torque fixing holes	Weight
	Short-term	Long-term	Short-term	Long-term		
	[N]	[N]	[N]	[N]		[g]
ESTM-GT16-GT	2,500	1,250	8,500	4,250	4.5	18
ESTM-GT20-GT	5,000	2,500	11,000	5,750	4.5	28
ESTM-GT25-GT	5,000	2,500	18,500	9,250	10.5	52
ESTM-GT30-GT	5,000	2,500	16,500	8,250	10.5	84

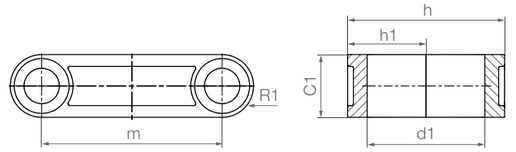
Dimensions [mm]

Part No.	d1	d2	d3	h	h1	h2	a	m	C1	B	R1	Max. pivot angle
	E10											
ESTM-GT16-GT	16	6.6	10.6	34	17	6.4	50	37	13	13	6.5	22°
ESTM-GT20-GT	20	9.0	14.0	40	20	8.6	62	46	16	16	8.0	22°
ESTM-GT25-GT	25	9.0	14.0	48	24	8.6	72	54	18	20	9.0	22°
ESTM-GT30-GT	30	11.0	17.0	56	28	10.6	86	64	22	22	11.0	22°

igubal® pillow block bearings

igubal® pillow block bearings | Product range

Split housings with parallel holes: ESTM-GT



Order key

Type				Size	Version [mm]
E	ST	M	-GT	16	-25
E series	Pillow block bearing	Metric	Split housing	Dimension	Inner Ø

Material:
igumid G ▶ **Page 1654**

- Easy to assemble and disassemble
- Ideal for outside applications
- High loads
- Dimensional E series according to DIN ISO 12240
- Adapter available ▶ Accessories, **page 862**

Technical data

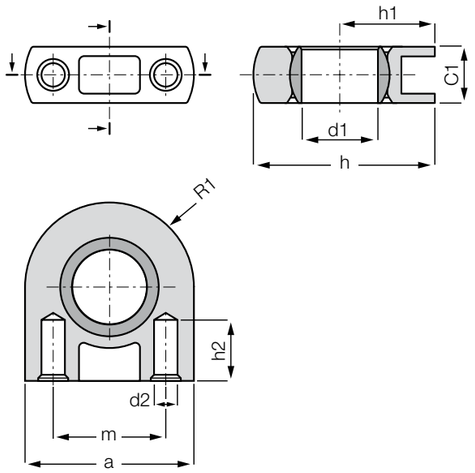
Part No.	max. static radial tensile strain		Max. static radial compressive force		Max. tightening torque fixing holes	Weight
	Short-term	Long-term	Short-term	Long-term		
	[N]	[N]	[N]	[N]		[g]
ESTM-GT16-25	3,600	1,800	7,000	3,500	4.5	12.6
ESTM-GT20-30	4,800	2,400	9,000	4,500	4.5	21.1
ESTM-GT25-35	8,500	4,250	15,000	7,500	10.5	39.9
ESTM-GT30-40	9,500	4,750	18,500	9,250	10.5	66.5

Dimensions [mm]

Part No.	d1	d2	d3	h	h1	h2	a	m	C1	R1
	E10									
ESTM-GT16-25	25	6.6	10.6	34	14	6.4	50	37	13	6.5
ESTM-GT20-30	30	9.0	14.0	40	20	8.6	62	46	16	8.0
ESTM-GT25-35	35	9.0	14.0	48	24	8.6	72	54	18	9.0
ESTM-GT30-40	40	11.0	17.0	56	28	10.6	86	64	22	11.0

igubal® pillow block bearings | Product range

Pillow block bearings Slim Line: ESTM SL



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

Order key

Type	Size [mm]	Version
E ST M -	05	- SL - M3
E series	Pillow block bearing	Metric	Inner Ø	Slim Line

Material:
Housing: **igumid G ▶ Page 1654**
Spherical ball: **iglidur® J ▶ Page 159**

- Extremely light
- Extremely space-saving
- Cost-effective
- Predictable service life
- Maintenance and lubrication-free
- With M3 thread, e. g. ESTM-10-SL-M3
- For self tapping screw with outer diameter 3.5mm
- Dimensional E series according to DIN ISO 12240

Technical data

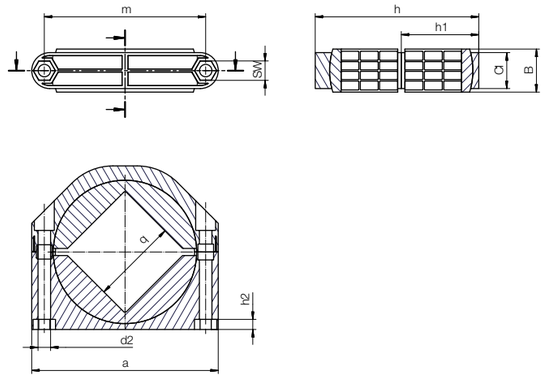
Part No.	Max. radial tensile force		Max. radial compressive strength		Max. lateral strength		Max. axial strength		Weight
	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[g]
ESTM-05-SL-M3	1,500	750	1,400	700	900	450	150	75	1.6
ESTM-06-SL-M3	1,500	750	1,400	700	900	450	150	75	1.7
ESTM-08-SL-M3	1,600	800	1,400	700	950	475	100	50	1.7
ESTM-10-SL-M3	1,600	800	1,400	700	1,000	500	100	50	1.9

Dimensions [mm]

Part No.	d1 E10	d2	h	h1	h2	a	m	C1	R1	Max. pivot angle
ESTM-05-SL-M3	5	2.5	18	10	6.5	16	10	6	8	17°
ESTM-06-SL-M3	6	2.5	18	10	6.5	16	10	6	8	17°
ESTM-08-SL-M3	8	2.5	19	10	6.5	18	12	6	9	17°
ESTM-10-SL-M3	10	2.5	20	10	6.5	20	14	6	10	17°

igubal® pillow block bearings | Product range

Split pillow block bearings for square profiles: ESQM



Order key

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

Material:
Housing: **igumid G ▶ Page 1654**
Spherical ball: **iglidur® J4 ▶ Page 1652**

- 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

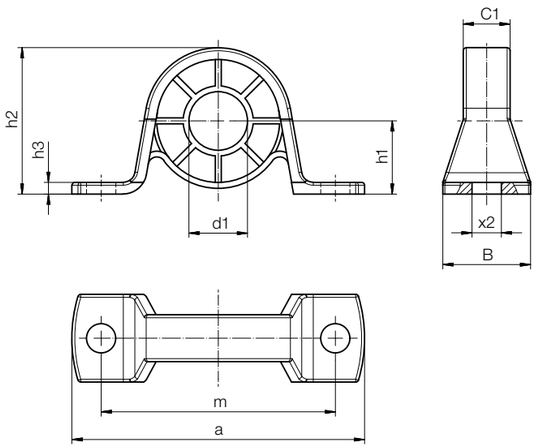
Dimensions [mm]

Part No.		q +1	SW	d2	h	h1	h2	a	m	B	C1	Weight [g]
ESQM-100	New	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

igubal® pillow block bearings | Product range New

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

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



Order key

Type	Size [mm]	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 moulding

Material:
Housing: Galvanised steel
(stainless steel upon request)
Spherical ball: iglidur® J
(alternative iglidur® J4)

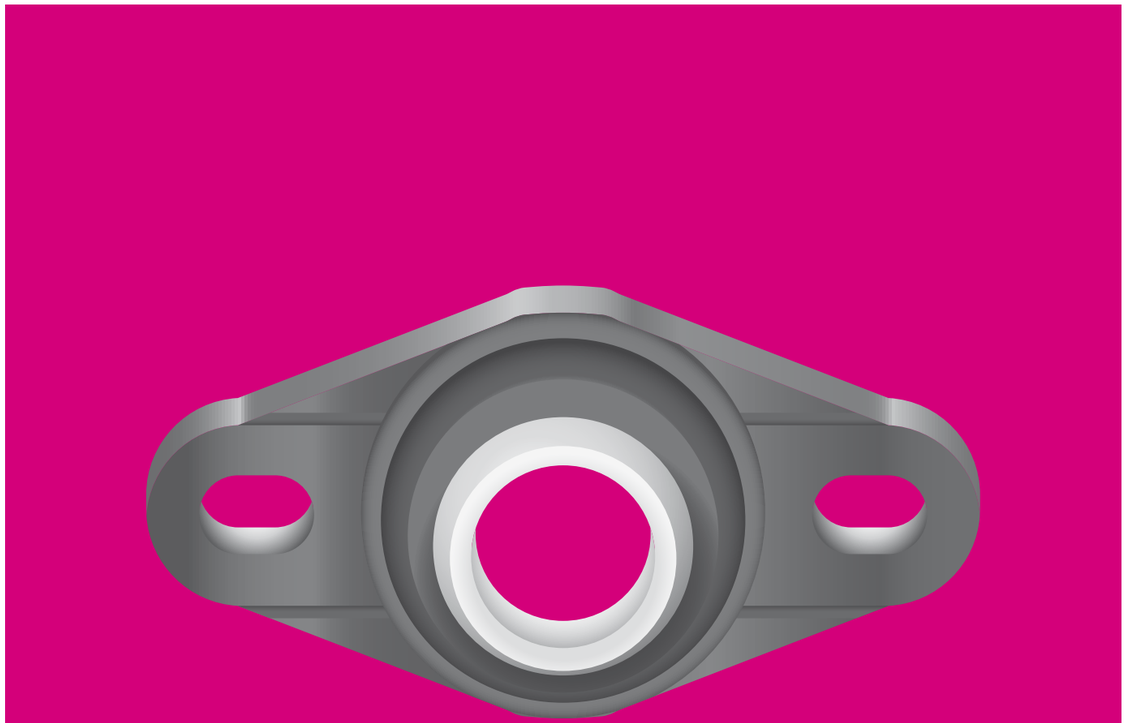
Technical data

Part No.		max. static radial tensile strain		Max. static axial compressive force		Weight
		Short-term	Long-term	Short-term	Long-term	
		[N]	[N]	[N]	[N]	[g]
PP204-JEM-20-14-SP	New	3,000	1,500	1,000	500	121.0
PP205-JEM-25-15-SP	New	5,000	2,500	1,800	900	154.0
PP206-JEM-30-16-SP	New	6,000	3,000	1,800	900	206.0

Dimensions [mm]

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

Can be combined with SRM fixing collars, page 858

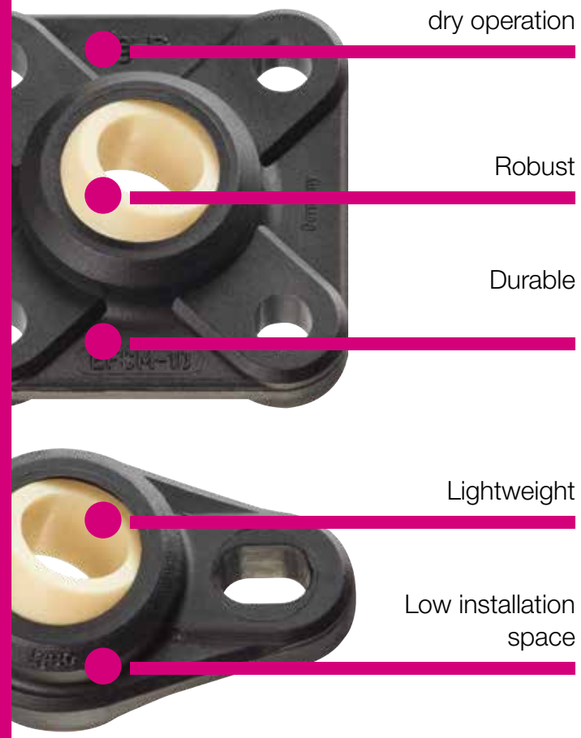


igubal® fixed flange bearings

- Maintenance-free dry operation
- Robust
- Durable
- Compensation of misalignment errors
- Resistant to edge loads
- Lightweight

igubal® fixed flange bearings

igubal® fixed flange bearings have been developed for supporting the centre or ends of shafts. Like all standard igubal® products, these bearings consist of an igumid G housing and an iglidur® W300 spherical ball. For temperatures up to +200°C please select the HT version (High Temperature). igubal® fixed flange bearings are made to the dimensional E series and are offered with two or four mounting holes.



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
- If temperatures higher than +200°C are required

When not to use it?
- When temperatures are higher than +200°C
  ▶ HT version, page 814-813
- When an integrated fixing collar is required
- When dimensions above 50mm are required
- When rotation speeds higher than 0.5m/s are required

Available from stock
Detailed information about delivery time online.

Price breaks online
No minimum order value. No minimum order quantity

Max. + 200°C
Min. –40°C
(depending on material: standard from –30°C to +80°C; HT from –40°C to +200°C)

5 types
Ø 4 – 50mm

Online product finder
▶ www.igus.eu/igubal-finder

igubal®
fixed flange
bearings

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.eu/igubal-applications

Material handling

▶ www.igus.eu/agriculture

▶ www.igus.eu/rotary-sorter

▶ www.igus.eu/food

igubal® fixed flange bearings | Technical data

Application areas

Since igubal® fixed flange bearings are made for maintenance-free dry operation, they are especially suitable for applications in which access to the bearing is limited, in wet environments or cleanroom environments. igubal® fixed flange bearings are also found in electric brushes, awnings, conveyor technology, and bakery machines.

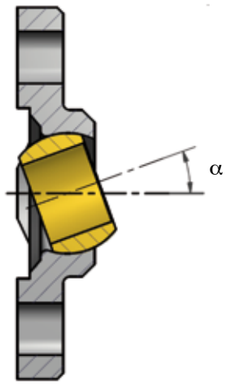
Tolerances

Maintenance-free igubal® fixed flange bearings are designed with an E10 tolerance of the inner diameter. The shaft tolerance should be included between h6 and h9. These recommended tolerances allow for changes in the bearing due to temperature. All values and tolerances according to ISO 2768-m. Please contact us in case you require lower or other bearing tolerances.

Assembly

igubal® fixed flange bearings are designed for mounting with two or four bolts, depending on the design. The 2-hole types are provided with elongated holes, which allow easy and flexible installation. An exact positioning of the bearing housing is not necessary, since the fixed flange bearing compensates for alignment errors. Special adjusting rings can be used to fix the shaft.

Pivot angle



igubal® fixed flange bearings | Product overview

igubal® fixed flange bearings – for temperatures up to +80°C

Easy to fit

E series

▶ From page 806

For higher radial load

E series

▶ From page 808

Universal and quick assembly

Female thread

▶ Page 810

Universal and quick assembly

male thread

▶ Page 811

High static load, split housing

K series

▶ Page 812

igubal® fixed flange bearings – for temperatures up to +200°C

For higher radial load

E series

▶ Page 813

Easy to fit

E series

▶ Page 814

igubal® fixed flange bearings for food contact

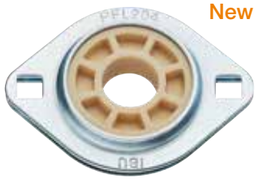
New

Dimensional E series

▶ Page 814

igubal® fixed flange bearings with cost-effective metallic housing

New



Easy replacement of the spherical ball

▶ Page 814

igubal® combination with xiros® ball bearings

Low coefficient of friction, pivoting version

E series

▶ Page 936

Low coefficient of friction, pivoting version

E series

▶ Page 937

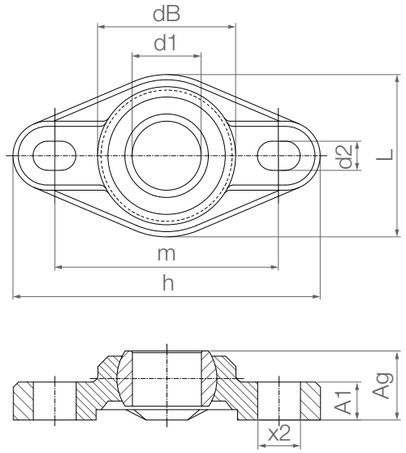
igubal® fixed flange bearings | Product range

igubal® fixed flange bearings

Fixed flange bearings with 2 mounting holes: EFOM

- iglidur® W300 extremely wear-resistant spherical ball
- Easy to fit
- Compensation of misalignment errors
- Absolute corrosion resistance
- Lightweight
- Maintenance-free dry operation

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



Order key

Type	Size [mm]
E F O M	-04

E series	Fixed flange bearing	2 holes	Metric	Inner Ø

Material:
Housing: **igumid G ▶ Page 1654**
Spherical ball: **iglidur® W300 ▶ Page 171**
Combination with xiros® ball bearings **▶ Page 937**

Technical data

Part No.	Max. permissible axial load		Max. permissible radial load		Max. tightening torque	Weight
	Short-term	Long-term	Short-term	Long-term	Holes	
	[N]	[N]	[N]	[N]	[Nm]	[g]
EFOM-04	400	200	750	375	0.6	1.9
EFOM-05	400	200	750	375	0.6	2.3
EFOM-06	500	250	800	400	0.6	1.8
EFOM-08	700	350	1,100	550	1.3	4.1
EFOM-10	850	425	2,000	1,000	2.5	6.8
EFOM-12	1,100	550	2,200	1,100	2.5	8.9
EFOM-15	1,300	650	2,400	1,200	4.5	15.0
EFOM-16	1,400	700	2,800	1,400	4.5	17.7
EFOM-17	1,800	900	3,200	1,600	4.5	24.9
EFOM-20	1,800	900	5,500	2,750	10.5	32.8
EFOM-25	3,000	1,500	6,000	3,000	10.5	58.5
EFOM-30	3,500	1,750	6,500	3,250	21.5	78.9

Dimensions [mm]

Part No.	d1	dB	h	L	m	A1	Ag	d2	x2	Max. pivot angle
	E10		Length	Width	Hole pitch	Height of plate	Total height	Elongated hole		
					±0.1	+1.0				
EFOM-04	4	14.0	33.8	16.0	24.0	4.5	8.0	3.2	5.0	28°
EFOM-05	5	14.0	33.8	16.0	24.0	4.5	8.5	3.2	5.0	29°
EFOM-06	6	14.0	33.8	16.0	24.0	4.5	8.5	3.2	5.0	25°
EFOM-08	8	18.0	44.2	22.0	31.0	5.5	10.5	4.3	6.5	25°
EFOM-10	10	22.2	52.0	26.0	36.0	6.5	12.0	5.3	8.0	25°
EFOM-12	12	25.0	56.7	31.0	41.0	7.0	13.0	5.3	8.0	21°
EFOM-15	15	29.8	68.6	36.0	50.0	8.5	15.5	6.4	10.0	20°
EFOM-16	16	32.0	72.6	38.0	53.0	10.0	17.5	6.4	10.1	27°
EFOM-17	17	34.8	74.6	41.0	55.0	10.0	18.0	6.4	10.2	21°
EFOM-20	20	40.0	89.0	47.0	65.0	11.0	20.0	8.4	12.5	19°
EFOM-25	25	48.5	101.0	58.5	75.0	14.0	25.0	8.4	12.6	15°
EFOM-30	30	55.0	118.0	65.0	87.5	15.0	26.0	10.5	16.0	14°

Standard **tolerances:**
from 0.5 to 6mm: ±0.1mm
from 6 to 30mm: ±0.2mm
from 30 to 120mm: ±0.3mm

Alternative spherical ball materials ▶ Page 841

J4VEM:
Clearance-free, pre-loaded

JEM:
low moisture absorption

REM:
Low-cost

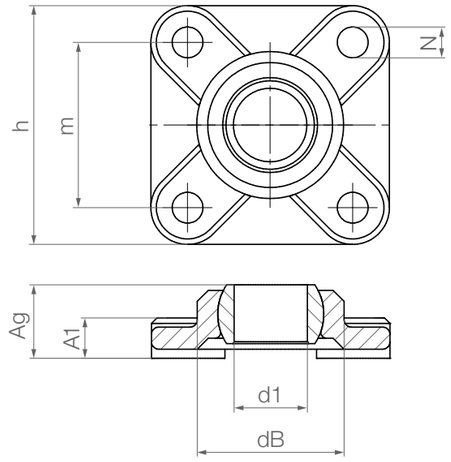
J4EM:
Low-cost and low moisture absorption

igubal® fixed flange bearings | Product range

Fixed flange bearings with 4 mounting holes: EFSM

- iglidur® W300 extremely wear-resistant spherical ball
- Easy to fit
- Compensation of misalignment errors
- Absolute corrosion resistance
- Lightweight
- Maintenance-free dry operation

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



Order key

Type				Size [mm]
E	F	S	M	-04
E series	Fixed flange bearing	4 holes	Metric	Inner Ø

Material:
Housing: **igumid G ▶ Page 1654**
Spherical ball: **iglidur® W300 ▶ Page 171**
Combination with xiros® ball bearings **▶ Page 936**

Technical data

Part No.	Max. permissible axial load		Max. permissible radial load		Max. tightening torque	Weight
	Short-term	Long-term	Short-term	Long-term	Holes	
	[N]	[N]	[N]	[N]	[Nm]	[g]
EFSM-04	200	100	1,000	500	0.6	2.6
EFSM-05	300	150	1,000	500	0.6	2.7
EFSM-06	300	150	1,000	500	0.6	2.8
EFSM-08	450	225	1,400	700	1.3	5.9
EFSM-10	700	350	2,000	1,000	2.5	9.1
EFSM-12	850	425	2,500	1,250	2.5	11.0
EFSM-15	1,100	550	3,000	1,500	4.5	20.2
EFSM-16	1,350	675	3,200	1,600	4.5	23.3
EFSM-17	1,600	800	3,400	1,700	4.5	27.9
EFSM-20	2,000	1,000	4,000	2,000	10.5	45.0
EFSM-25	2,400	1,200	5,600	2,800	10.5	76.0
EFSM-30	2,800	1,400	6,000	3,000	21.5	100.7

Dimensions [mm]

Part No.	d1	dB	h	m	A1	Ag	N	Max. pivot angle
	E10		Width	Hole pitch	Height of plate	Total height	Hole Ø	
				±0.1				
EFSM-04	4	14.0	25	17	4.5	8.5	3.2	28°
EFSM-05	5	14.0	25	17	4.5	8.5	3.2	29°
EFSM-06	6	14.0	25	17	4.5	8.5	3.2	25°
EFSM-08	8	18.0	33	22	5.5	10.5	4.3	25°
EFSM-10	10	21.9	38	26	6.5	12.0	5.3	25°
EFSM-12	12	25.0	40	28	7.0	13.0	5.3	21°
EFSM-15	15	30.0	49	34	8.5	15.5	6.4	20°
EFSM-16	16	32.0	52	36	9.0	16.5	6.4	27°
EFSM-17	17	35.0	54	38	10.0	18.0	6.4	21°
EFSM-20	20	40.0	65	45	11.0	20.0	8.4	19°
EFSM-25	25	48.5	74	52	14.0	25.0	8.4	15°
EFSM-30	30	54.5	85	60	15.0	26.0	10.5	14°

Standard **tolerances:**
from 0.5 to 6mm: ±0.1mm
from 6 to 30mm: ±0.2mm
from 30 to 120mm: ±0.3mm

Alternative spherical ball materials ▶ Page 841


J4VEM: Clearance-free, pre-loaded


JEM: low moisture absorption

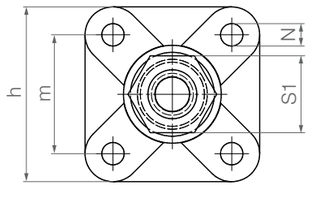

REM: Low-cost

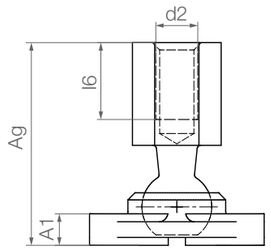

J4EM: Low-cost and low moisture absorption

igubal® fixed flange bearings | Product range

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

- Maintenance and corrosion-free
- Easy connection – easy assembly
- Compensation of misalignment errors





Order key

Type	Size [mm]	Version
GF S M -	06	- IG ES
Flange mounted, 4 holes, Metric	Inner Ø	Female thread

Options:

Ball stud

Blank = Made of galvanised steel

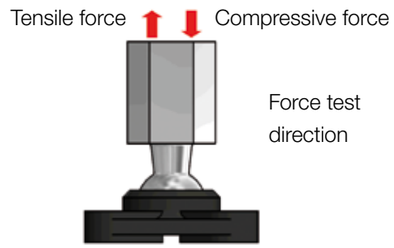
ES = Made of stainless steel[28)]

Material:

Housing: **igumid G** ▶ **Page 1654**

Ball stud: galvanised and stainless steel[28)]

▶ Accessories, **page 859**



Technical data

Part No.	Max. static tensile strain		Max. static compressive force		Weight
	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[g]
GFSM-06-IG	150	75	350	175	16.4
GFSM-08-IG	250	125	750	375	34.0
GFSM-10-IG	140	70	1,200	600	61.1

Dimensions [mm]

Part No.	d2	m	h	Ag	A1	l6	N	S1	Max. pivot angle
GFSM-06-IG	M6	17	25	29.0	4.5	11	3.2	SW11	32°
GFSM-08-IG	M8	22	33	36.0	5.5	12	4.3	SW14	40°
GFSM-10-IG	M10	26	38	43.5	6.5	16	5.3	SW17	34°

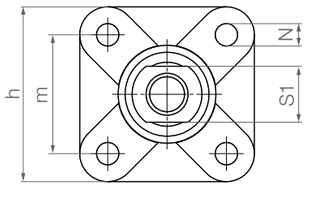
[28)] Stainless steel ball stud upon request

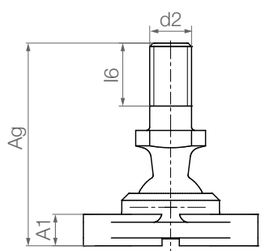
igubal® fixed flange bearings

igubal® fixed flange bearings | Product range

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

- Maintenance and corrosion-free
- Easy connection – easy assembly
- Compensation of misalignment errors





Order key

Type	Size [mm]	Version
GF S M -	06	- AG ES
Flange mounted, 4 holes, Metric	Inner Ø	male thread

Options:

Ball stud[19)]

Blank = Made of galvanised steel

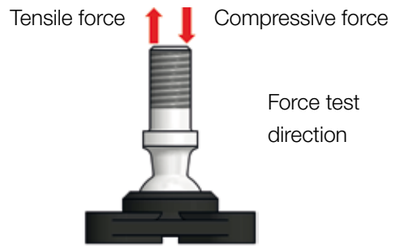
PZ = Made of plastic

ES = Made of stainless steel[28)]

Material:

Housing: **igumid G** ▶ **Page 1654**

Ball studs: plastic, galvanised steel and stainless steel[28)] ▶ Accessories, **page 860**



Technical data

Part No.	Max. static tensile strain		Max. static compressive force		Weight
	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[g]
GFSM-06-AG	150	75	350	175	10.6
GFSM-08-AG	250	125	750	375	23.1
GFSM-10-AG	140	70	1,200	600	41.2

Dimensions [mm]

Part No.	d2	m	h	Ag	A1	l6	N	S1	Max. pivot angle
GFSM-06-AG	M6	17	25	29.0	4.5	10.5	3.2	SW8	32°
GFSM-08-AG	M8	22	33	36.0	5.5	13.5	4.3	SW11	34°
GFSM-10-AG	M10	26	38	43.5	6.5	16.0	5.3	SW13	34°

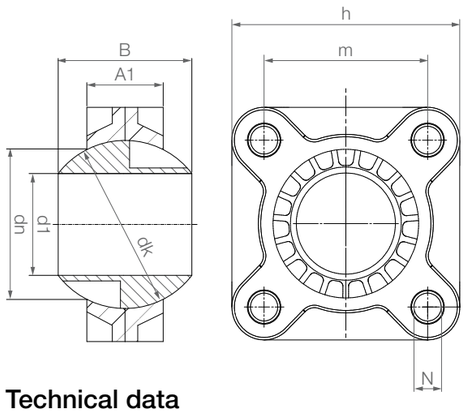
[19)] Ball stud with right-hand thread; left-hand thread upon request

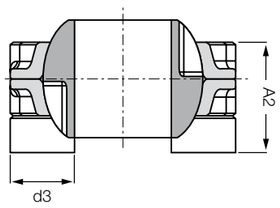
[28)] Stainless steel ball stud upon request

igubal® fixed flange bearings | Product range

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

- Pre-assembled
- Option with push-in feet
- Resistant to dirt
- Lightweight
- Low installation space
- For high static loads
- High stiffness and durability
- Predictable service life
- Maintenance-free dry operation
- Mounting: with push-in feet M10, without push-in feet M12





Example: KFSM-GT-40-A

Order key

Type					Size [mm]		Options
K	F	S	M	-GT	35	-	A
K series	Fixed flange bearing	4 holes	Metric	Split housing	Inner Ø		With push-in feet

Material:
Housing: **RN33** ▶ **Page 1657**
Spherical ball: **iglidur® J** ▶ **Page 159**

Technical data

Part No.	Max. static radial load		Max. static axial load		Weight
	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[g]
KFSM-GT35-A[23)]	5,000	2,500	4,500	2,250	183.5
KFSM-GT40-A	5,000	2,500	4,500	2,250	161.6
KFSM-GT45-A[23)]	6,000	3,000	5,000	2,500	294.6
KFSM-GT50-A	6,000	3,000	5,000	2,500	260.1

Max. tightening torque for fixing: 30Nm

Dimensions [mm]

Part No.	d1	dn	d3	dk	A1	A2	B	m	h	N	Max. pivot angle
	E10										
KFSM-GT35-A[23)]	35.0	59.0	26.0	66.0	30.0	45.0	48.5	66.0	92.0	13.5	24°
KFSM-GT40-A	40.0	59.0	26.0	66.0	30.0	45.0	48.5	66.0	92.0	13.5	24°
KFSM-GT45-A[23)]	45.0	72.0	26.0	82.0	40.0	60.0	60.0	78.0	104.0	13.5	24°
KFSM-GT50-A	50.0	72.0	26.0	82.0	40.0	60.0	60.0	78.0	104.0	13.5	24°

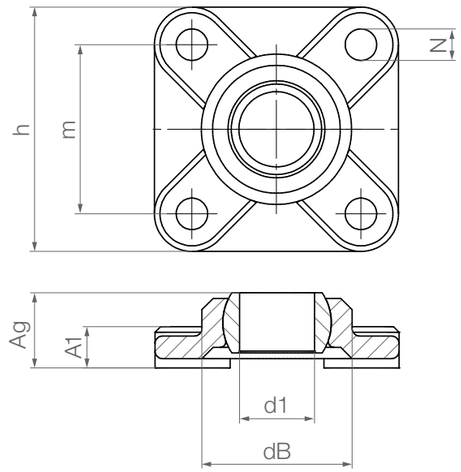
For KFSM with distance pieces, please add an "A" to the Part No. Example: KFSM-GT-50-A

[23)] **Diameter given by iglidur® J bore reducer**

igubal® fixed flange bearings

igubal® fixed flange bearings | Product range

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



Order key

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

Material:
Housing: **iguton G** ▶ **Page 1655**
Spherical ball: **iglidur® X** ▶ **Page 279**

- Applicable up to +200°C
- Easy to fit
- Compensation of misalignment errors
- Absolute corrosion resistance
- Lightweight
- Chemical-resistant (chemical table ▶ **Page 1636**)
- For underwater applications

Technical data

Part No.	Max. permissible axial load		Max. permissible radial load		Max. tightening torque	Weight
	Short-term	Long-term	Short-term	Long-term	Holes	
	[N]	[N]	[N]	[N]	[Nm]	[g]
EFSM-05-HT	275	138	440	220	0.6	3.5
EFSM-06-HT	339	170	523	262	0.6	3.3
EFSM-08-HT	412	206	713	356	1.3	7.1
EFSM-10-HT	864	432	1,202	601	2.5	11.2
EFSM-12-HT	1,024	512	1,347	674	2.5	13.3

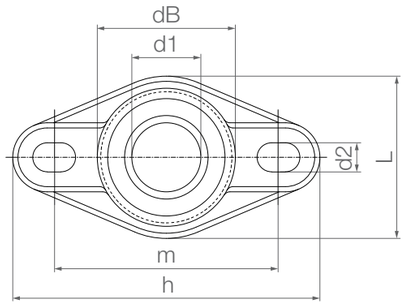
Dimensions [mm]

Part No.	d1	dB	h	m	A1	Ag	N	Max. pivot angle
	E10		Width	Hole pitch ±0.1	Height of plate	Total height	Hole d	
EFSM-05-HT	5	14	25	17	4.5	8.5	3.2	29°
EFSM-06-HT	6	14	25	17	4.5	8.5	3.2	25°
EFSM-08-HT	8	18	33	22	5.5	10.5	4.3	25°
EFSM-10-HT	10	22	38	26	6.5	12.0	5.3	25°
EFSM-12-HT	12	25	40	28	7.0	13.0	5.3	21°

Other dimensions available upon request

igubal® fixed flange bearings | Product range

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



Order key

Type	Size [mm]	Version
E F O M -	06	- HT
E series, Fixed flange bearing, 2 holes, Metric	Inner Ø [mm]	High temperature

Material:
Housing: **iguton G ▶ Page 1655**
Spherical ball: **iglidur® X ▶ Page 279**

- Applicable up to +200°C
- Easy to fit
- Compensation of misalignment errors
- Absolute corrosion resistance
- Lightweight
- Chemical-resistant (chemical table ▶ **Page 1636**)
- For underwater applications

Technical data

Part No.	Max. permissible axial load		Max. permissible radial load		Max. tightening torque	Weight
	Short-term	Long-term	Short-term	Long-term	Holes	
	[N]	[N]	[N]	[N]	[Nm]	[g]
EFOM-05-HT	275	138	460	230	0.6	2.5
EFOM-06-HT	300	150	611	305	0.6	2.3
EFOM-08-HT	644	322	934	467	1.3	5.0
EFOM-10-HT	764	382	1,000	500	2.5	8.3
EFOM-12-HT	874	437	1,290	645	2.5	10.7

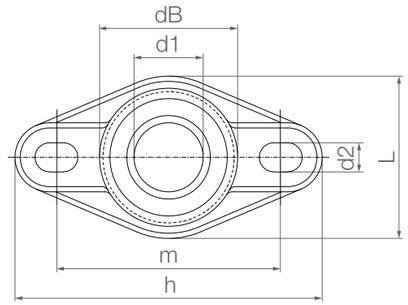
Dimensions [mm]

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-05-HT	5	14	33.8	16	24	4.5	8.5	3.2	5.0	29°
EFOM-06-HT	6	14	33.8	16	24	4.5	8.5	3.2	5.5	27°
EFOM-08-HT	8	18	44.2	22	31	5.5	10.5	4.3	6.5	24°
EFOM-10-HT	10	22	52.0	26	36	6.5	12.0	5.3	8.0	24°
EFOM-12-HT	12	25	56.7	31	41	7.0	13.0	5.3	8.0	21°

Other dimensions available upon request

igubal® fixed flange bearings | Product range New

Fixed flange bearings for contact with food: EFOM-FC



Order key

Type	Size [mm]	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 ▶ Page1655**
Spherical ball: **iglidur® FC180 ▶ Page 1652**

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

Technical data

Part No.		Max. permissible axial load		Max. permissible radial load	Max. tightening torque	Weight
		Short-term	Long-term	Short-term	Holes	
		[N]	[N]	[N]	[Nm]	[g]
EFOM-20-FC	New	1,500	750	5,500	10.0	35.5

Dimensions [mm]

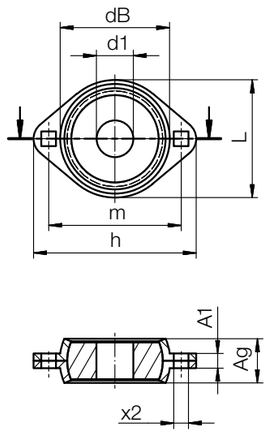
Part No.		d1	dB	h	L	m	A1	Ag	d2	x2	Max. pivot angle
		E10		Length	Width	Hole pitch ±0.1	Height of plate	Total height	Elongated hole		
EFOM-20-FC	New	20	40	89	47	65	11	20	8.4	12.5	19°

Other dimensions available upon request

igubal® fixed flange bearings | Product range New

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

- Cost-effective spherical ball material iglidur® J4 available (order example: PFL204-J4EM-20-14-SP)
- Lubrication and maintenance-free
- Cost-effective
- Resistant to dirt



Order key

Type	Size [mm]					Version
PFL204	- J	E	M	- 20	- 14	- SP
Fixed flange bearing	Spherical ball material	Series	Metric	Spherical ball inner Ø	Spherical ball width	Injection moulding

Material:
Housing: Galvanised steel
(stainless steel upon request)
Spherical ball: iglidur® J
(alternative iglidur® J4)

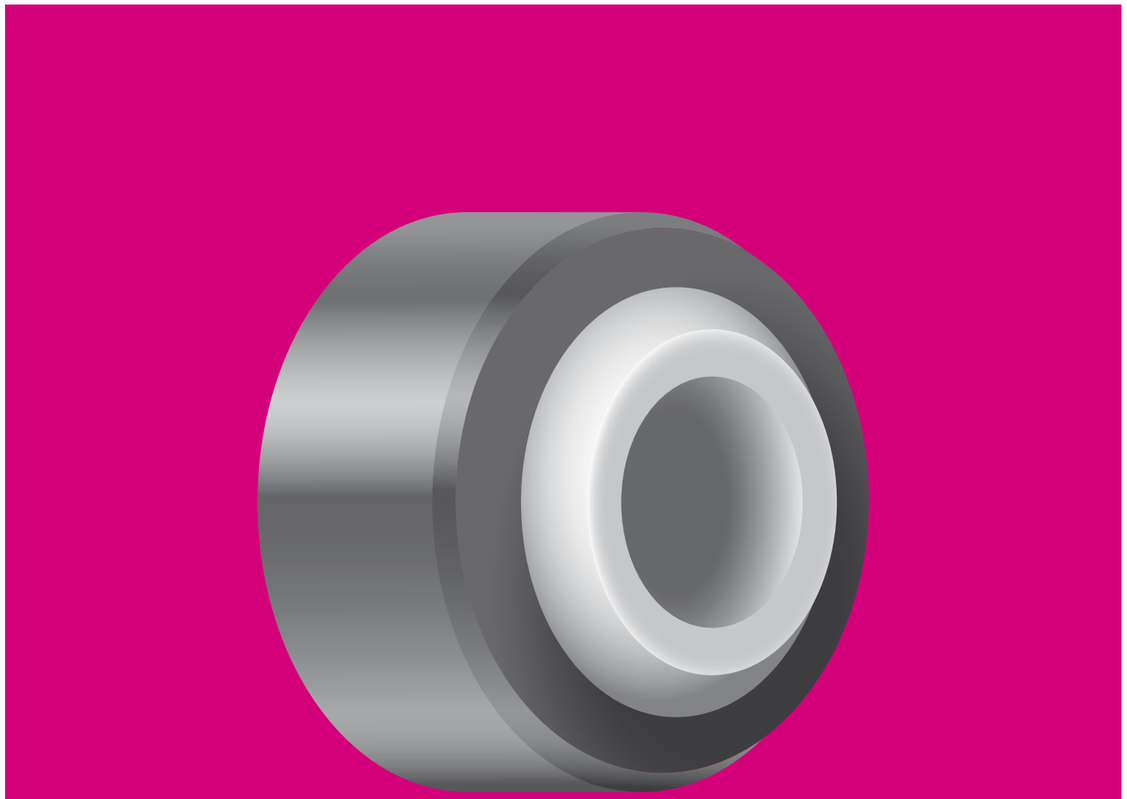
Technical data

Part No.		Max. permissible axial load		Max. permissible radial load		Weight
		Short-term	Long-term	Short-term	Long-term	
		[N]	[N]	[N]	[N]	[g]
PFL204-JEM-20-14-SP	New	2,000	1,000	4,000	2,000	121.0
PFL205-JEM-25-15-SP	New	2,000	1,000	5,000	2,500	144.0
PFL206-JEM-30-16-SP	New	2,000	1,000	7,000	3,500	216.0

Dimensions [mm]

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

Can be combined with SRM fixing collars, page 858



igubal® spherical bearings

Easy to fit

Cost-effective

Resistance to chemicals

Lightweight

Robust

igubal® spherical bearings

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.

Easy to fit

Cost-effective

Resistance to chemicals

Lightweight

Robust

When to use it?

- For high axial and radial loads
- When an easy installation is required
- In case of reduced installation space
- 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?

- When temperatures are higher than +80°C
- For dimensions above 30mm
- When rotation speeds higher than 0.5m/s are required

Available from stock
Detailed information about delivery time online.

Price breaks online
No minimum order value. No minimum order quantity

Max. +80°C
Min. –30°C

13 types
Ø 2–40mm

Imperial dimensions available
▶ From page 1610

Online product finder
▶ www.igus.eu/igubal-finder

Typical sectors of industry and application areas
● Food industry ● Railway technology
● Automotive ● Plant design etc.

Improve technology and reduce costs – 110 exciting examples online
▶ www.igus.eu/igubal-applications

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▶ www.igus.eu/hose-skiving

igubal® spherical bearings | Technical data

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. Often roller bearings or plain bearings malfunction prematurely due to high edge loads, or because they need to be readjusted, reamed, or refitted in order to compensate for alignment errors.
igubal® spherical bearings put an end to all of these disadvantages and open up many new possibilities for your engineering design:

- Easy to fit
- Extremely cost-effective
- Lightweight
- Robust

Application areas

Ease of installation makes many applications possible for igubal® spherical bearings. They can be used anywhere. The self-aligning feature offers design advantages and helps to simplify assembly.

Tolerances

Maintenance-free igubal® spherical bearings are designed with an inner diameter tolerance of E10. The shaft tolerance should be included between h6 and h9. These recommended tolerances allow for changes in the bearing due to temperature.

Assembly

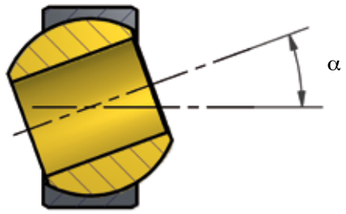
igubal® spherical bearings are press-fitted into a recommended H7 housing bore and axially secured. An exact orientation of the bearing housing is not necessary, since the spherical bearing compensates for alignment errors.

Dimensions

igubal® spherical bearings are manufactured according to DIN ISO 12240 for dimensional K and E series. The product range provides standard dimensions from 2 to 40mm. The dimensional K series is available in imperial dimensions. Please contact us if you need other dimensions.

Pivot angle

Pivot angle



igubal® spherical bearings | Product overview

igubal® spherical bearings

Easy to fit, cost-effective, selectable spherical ball material

K series
▶ Page 823

Standard, easy to fit

K series
▶ Page 822

For extremely narrow installation space

K series
▶ Page 824

Standard, easy to fit, imperial dimensions

K series
▶ Page 1610

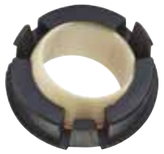
igubal® self-aligning clip bearings

Space-saving

E series
▶ Page 825

Cost-effective, selectable spherical ball material

Dimensional E series
▶ Page 826



Simply snap into sheet metal

Dimensional E series
▶ Page 827

For high axial and radial loads, selectable spherical ball material

Dimensional E series
▶ Page 828

igubal® self-aligning clip bearings

For tolerance compensation, selectable spherical ball material

Dimensional E series
▶ Page 829

Clip into sheet metal, can be assembled on both sides

▶ Page 830

igubal® double joints and coupling joints

Robust plastic, selectable spherical ball material

Dimensional E series
▶ Page 831

Selectable materials, individual dimensions and alignment

▶ Page 833

igubal® double joints and coupling joints

Removable, selectable materials, individual dimensions and alignment

▶ Page 834

Selectable materials, individual dimensions and alignment

▶ Page 832

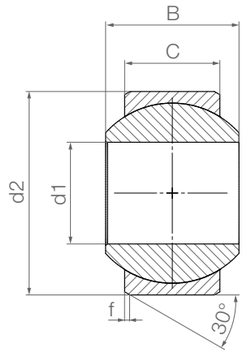
New

Crimped coupling joints with clevis joints

▶ Page 835

igubal® spherical bearings | Product range

Spherical bearings: KGLM



- Compensation of misalignment and edge loads
- Corrosion-free
- Vibration-dampening
- Excellent vibration dampening
- Suitable for rotating, oscillating and axial movements

Order key

Type	Size [mm]
K GL M	-02
K series	Spherical bearing / Metric / Inner Ø

Material:
Housing: **igumid G** ▶ **Page 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**

Imperial dimensions available
▶ **Page 1610**

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

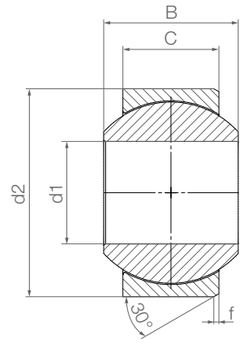
Technical data and dimensions [mm]

Part No.	Max. static load on the housing radial [N]	Max. static load on the housing axial[29] [N]	Max. tightening torque through ball [Nm]	d1 E10	d2	B	C	f	Weight [g]	Max. pivot angle
KGLM-02	300	60	1	2	8	4	3.0	0.8	0.1	32°
KGLM-03	550	200	2	3	10	6	4.5	0.8	0.5	32°
KGLM-05	1,300	500	5	5	13	8	6.0	0.8	1.0	30°
KGLM-06	1,800	650	10	6	16	9	6.5	0.8	1.6	29°
KGLM-08	2,700	1,200	12	8	19	12	9.0	0.8	2.9	25°
KGLM-10	4,000	1,400	20	10	22	14	10.5	0.8	4.4	25°
KGLM-12	5,400	1,500	30	12	26	16	12.0	0.8	7.0	25°
KGLM-14	6,000	2,500	35	14	28	19	13.5	0.8	9.1	23°
KGLM-16	8,000	3,000	40	16	32	21	15.0	0.8	12.8	23°
KGLM-18	9,000	4,000	45	18	35	23	16.5	0.8	16.6	23°
KGLM-20	10,000	5,000	55	20	40	25	18.0	0.8	24.4	23°
KGLM-22	11,700	6,500	60	22	42	28	20.0	0.8	28.5	22°
KGLM-25	13,600	7,500	65	25	47	31	22.0	0.8	39.3	22°
KGLM-30	20,000	9,000	70	30	55	37	25.0	1.0	62.6	22°

[29] The maximum static axial load is determined when fitted into a blind housing

igubal® spherical bearings | Product range

Spherical bearings: KGLM low-cost



- Variety of ball materials
- Easy to fit
- Cost-effective
- Split housing

Order key

Type	Size [mm]	Version
K GL M	- 05	- LC
K series	Spherical bearing / Metric	Inner Ø	Low-cost

Material:
Housing: **igumid G** ▶ **Page 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**
Other spherical ball materials upon request
▶ **Page 841**

Technical data

Part No.	Max. static load on the housing radial [N]	Max. static load on the housing axial[29] [N]	Max. tightening torque through ball [Nm]	Weight [g]
KGLM-05 LC	1,300	500	5	1.0
KGLM-08 LC	2,700	1,200	12	2.9
KGLM-10 LC	4,000	1,400	20	4.3
KGLM-12 LC	5,400	1,500	30	6.9
KGLM-14 LC	6,000	2,500	35	9.0
KGLM-16 LC	8,000	3,000	40	12.7
KGLM-18 LC	9,000	4,000	45	16.6
KGLM-20 LC	10,000	5,000	55	23.6
KGLM-25 LC	13,600	7,500	65	38.9
KGLM-30 LC	20,000	9,000	70	61.0

[29] The maximum static axial load is determined when fitted into a blind housing

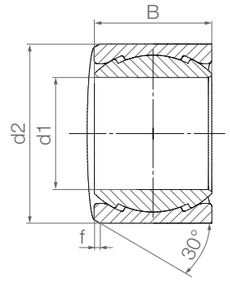
Dimensions [mm]

Part No.	d1 E10	d2[30]	B	C	f	Max. pivot angle
KGLM-05 LC	5	13	8	6.0	0.8	30°
KGLM-08 LC	8	19	12	9.0	0.8	29°
KGLM-10 LC	10	22	14	10.5	0.8	25°
KGLM-12 LC	12	26	16	12.0	0.8	25°
KGLM-14 LC	14	28	19	13.5	0.8	23°
KGLM-16 LC	16	32	21	15.0	0.8	23°
KGLM-18 LC	18	35	23	16.5	0.8	23°
KGLM-20 LC	20	40	25	18.0	0.8	23°
KGLM-25 LC	25	47	31	22.0	0.8	22°
KGLM-30 LC	30	55	37	25.0	1.0	22°

[30] In press-fitted condition

igubal® spherical bearings | Product range

Spherical bearings: KGLM Slim Line



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

Order key

Type			Size [mm]	Version
K	GL	M -	08	SL
K series	Spherical bearing	Metric	Inner Ø	Slim Line

Material:
Housing: **igumid G ▶ Page1654**
Spherical ball: **iglidur® W300 ▶ Page 171**

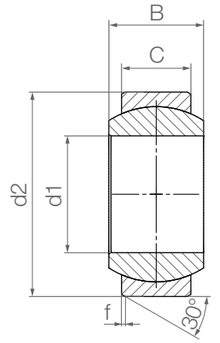
Service life calculation online
▶ www.igus.eu/igubal-expert

Technical data and dimensions [mm]

Part No.	Max. static load (short-term)		Max. static load (long-term)		d1 E10	d2	B	f	Weight	Max. pivot angle
	radial [N]	axial [N]	radial [N]	axial [N]					[g]	
KGLM-08 SL	2,700	450	1,350	225	8	14	9.0	0.5	1.1	5°
KGLM-10 SL	4,000	750	2,000	375	10	16	10.5	0.5	1.5	5°
KGLM-12 SL	4,500	750	2,250	375	12	18	12.0	0.5	2.0	5°
KGLM-16 SL	6,500	500	3,250	250	16	22	15.0	0.5	3.1	5°

igubal® spherical bearings | Product range

Spherical bearings: EGLM



- Compensation of misalignment and edge loads
- Corrosion-free
- Vibration-dampening
- Excellent vibration dampening
- Suitable for rotating, oscillating and linear movements

Order key

Type			Size [mm]
E	GL	M -	04
Dimensional E series	Spherical bearing	Metric	Inner Ø

Material:
Housing: **igumid G ▶ Page 1654**
Spherical ball:
Spherical balls with 04 – 30mm diameters made of **iglidur® W300 ▶ Page 171**
Spherical balls with 40mm and 80mm diameter made of **iglidur® J ▶ Page 159**
Other spherical ball materials upon request (Ø 04 – 12mm and 40mm)

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

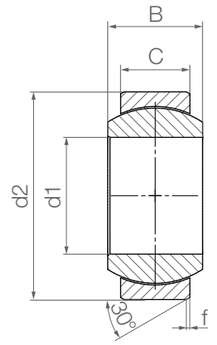
Technical data and dimensions [mm]

Part No.	Max. static load on the housing		Max. tightening torque through ball	d1 E10	d2	B	C	f	Weight	Max. pivot angle
	radial [N]	axial[29] [N]	[Nm]						[g]	
EGLM-04	600	50	1.0	4	12	5	3.0	0.5	0.4	37°
EGLM-05	1,000	130	2.0	5	14	6	4.0	0.5	0.8	33°
EGLM-06	1,200	150	2.5	6	14	6	4.0	0.5	0.9	27°
EGLM-08	1,800	175	7.0	8	16	8	5.0	0.5	1.2	24°
EGLM-10	2,500	400	14.0	10	19	9	6.0	0.5	1.9	24°
EGLM-12	3,800	650	25.0	12	22	10	7.0	0.5	2.8	21°
EGLM-15	5,500	1,000	30.0	15	26	12	9.0	0.5	6.9	21°
EGLM-16	6,000	1,150	32.0	16	28	13	9.5	0.5	9.0	21°
EGLM-17	6,300	1,200	35.0	17	30	14	10.0	1.0	10.6	21°
EGLM-20	9,000	1,400	40.0	20	35	16	12.0	1.0	16.3	18°
EGLM-25	14,000	2,900	55.0	25	42	20	16.0	1.0	29.0	16°
EGLM-30	17,000	4,000	70.0	30	47	22	18.0	1.0	37.4	13°
EGLM-40-J	22,500	2,500	80.0	40	62	28	22.0	1.0	57.0	15°
EGLM-80-J New	50,000	11,300	–	80	120	55	45	2.0	400.0	18°

[29] The maximum static axial load is determined when fitted into a blind housing

igubal® spherical bearings | Product range

Spherical bearings: EGLM Low-cost



Order key

Type	Size [mm]	Version
E GL M -	15	- LC

- Dimensional E series
- Spherical bearing
- Metric
- Inner Ø
- Low-cost

- Easy to fit
- Cost-effective
- Chemical- and corrosion-resistant
- Robust
- Compensation of misalignment errors

Material:
Housing: **igumid G** ▶ **Page 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**
Other spherical ball materials upon request
▶ **Page 841**

Online service life calculation
▶ **www.igus.eu/igubal-expert**

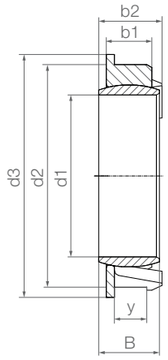
Technical data and dimensions [mm]

Part No.	Max. static load on the housing		Max. tightening torque through ball	d1 E10	d2	B	C	f	Weight	Max. pivot angle
	radial [N]	axial[29] [N]	[Nm]						[g]	
EGLM-15-LC	5,500	1,000	30	15	26	12	9.0	0.5	4.5	21°
EGLM-16-LC	6,000	1,150	32	16	28	13	9.5	0.5	6.0	21°
EGLM-20-LC	9,000	1,400	40	20	35	16	12.0	1.0	11.0	18°
EGLM-25-LC	14,000	2,900	55	25	42	20	16.0	1.0	20.0	16°
EGLM-30-LC	17,000	4,000	70	30	47	22	18.0	1.0	26.0	13°

[29] The maximum static axial load is determined when fitted into a blind housing

igubal® clip bearings | Product range

Clip bearings: ECLM



Order key

Type	Size [mm]
E CL M -	05-02

- Dimensional E series
- Clip bearing
- Metric
- Inner Ø
- Metal sheet thickness

- Very easy installation by clipping into sheet metal
- No additional locating spigot necessary
- Extremely small installation space: space-saving, thin-walled design

Material:
Housing: **igumid G** ▶ **Page 1654**
Spherical ball: **iglidur® J** ▶ **Page 159**

Online service life calculation
▶ **www.igus.eu/igubal-expert**

Technical data

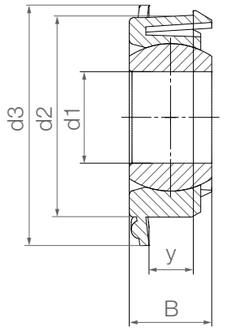
Part No.	Max. static compressive force (short-term)		Max. static compressive force (long-term)		Weight
	radial [N]	axial [N]	radial [N]	axial [N]	[g]
ECLM-05-02	700	25	350	12.5	0.5
ECLM-06-02	700	25	350	12.5	0.5
ECLM-08-02	1,000	25	500	12.5	0.5
ECLM-10-03	1,400	30	700	15.0	0.8
ECLM-12-03	1,800	35	900	17.5	0.8
ECLM-16-03	2,800	40	1,400	20.0	1.1

Dimensions [mm]

Part No.	d1 E10	B	d2 ±0.2	d3	y Sheet metal thickness	b1 ±0.1	b2	Max. pivot angle
ECLM-05-02	5	6	12	13	2	3.9	6.0	25°
ECLM-06-02	6	6	12	13	2	3.9	6.0	18°
ECLM-08-02	8	6	14	15	2	3.9	6.0	16°
ECLM-10-03	10	6	16	17	3	4.5	6.7	12°
ECLM-12-03	12	6	18	19	3	4.5	6.7	12°
ECLM-16-03	16	6	22	24	3	4.5	6.7	12°

igubal® clip bearings | Product range

Clip bearings: ECLM-HD



Order key

Type	Size [mm]	Version
E CL M -	08 -	04 - HD

- E series
- Clip bearing
- metric
- Inner Ø d1
- Metal sheet thickness
- Heavy duty

- High axial and radial loads
- Adjustment of axial and radial clearance by pre-loading
- Very easy installation by clipping into sheet metal
- No additional locating spigot necessary
- For plate thickness 4–8mm

Material:
Housing: **igumid G** ▶ **Page 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**
Other spherical ball materials upon request
▶ **Page 841**

Technical data

Part No.	Max. static compressive force (short-term)		Max. static compressive force (long-term)		Weight
	radial	axial	radial	axial	
	[N]	[N]	[N]	[N]	[g]
ECLM-08-04-HD	1,750	125	875	60	2.0
ECLM-10-05-HD	2,500	150	1,250	75	3.1
ECLM-12-06-HD	3,500	175	1,750	85	3.8
ECLM-16-08-HD	4,500	250	2,250	125	7.0
ECLM-20-08-HD	6,000	330	3,000	165	12.0

Dimensions [mm]

Part No.	d1	B	d2	d3	y	Max. pivot angle
	E10		±0.15		±0.1	
ECLM-08-04-HD	8	8	18	25	4	28°
ECLM-10-05-HD	10	9	22	28	5	24°
ECLM-12-06-HD	12	10	24	32	6	24°
ECLM-16-08-HD	16	13	30	38	8	22°
ECLM-20-08-HD	20	16	36	44	8	21°

Alternative spherical ball materials ▶ Page 841

REM:
Low-cost

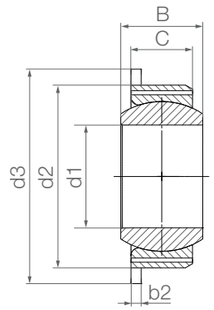
JEM:
low moisture absorption

J4EM:
low-cost and low moisture absorption

J4VEM:
clearance-free pre-loaded spherical ball

igubal® clip bearings | Product range

Clip bearings: EGFM-...T



Order key

Type	Size [mm]	Version
E GF M -	08	T

- E series
- Clip bearing with flange
- metric
- Inner Ø d1
- Tolerance compensation

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

Material:
Housing: **igumid G** ▶ **Page 1654**
Spherical ball: **iglidur® W300** ▶ **Page 171**
Other spherical ball materials upon request
▶ **Page 841**

Technical data

Part No.	Max. stat. compressive force (short-term)		Max. stat. compressive force (long-term)		Weight
	radial	axial	radial	axial	
	[N]	[N]	[N]	[N]	[g]
EGFM-08 T SL[31]	1,100	150	550	75	0.9
EGFM-10 T	1,900	220	950	110	2.4
EGFM-12 T	2,500	270	1,250	135	3.0
EGFM-16 T	6,000	600	3,000	300	6.6
EGFM-20 T	9,000	800	4,500	400	11.1
EGFM-25 T	14,000	2,800	7,000	1,400	19.0
EGFM-30 T	17,000	3,000	8,500	1,500	24.0

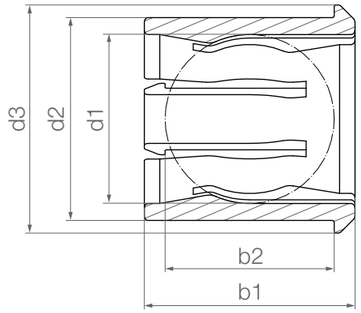
Dimensions [mm]

Part No.	d1	d2		d3	C	B	b2	Housing		Max. pivot angle
	E10	Min.	Max.					Min.	Max.	
EGFM-08 T SL[31]	8	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 of iglidur® J, H10 tolerance

igubal® clip bearings | Product range

Ball stud clip bearings: ZCLM



- Connection for rotating and pivoting movements
- Easy and quick assembly
- Absolute corrosion resistance
- Lubrication and maintenance-free
- Lightweight
- Resistance to chemicals
- Ball studs made from galvanised steel and stainless steel[28)]

▶ Accessories, **page 859**

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 stud[19)]
MS =
Made of galvanised steel
ES =
Made of stainless steel[28)]
Blank =
without ball stud

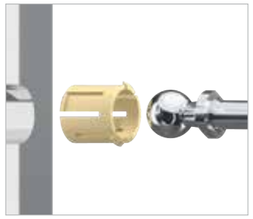
Material:
Clip bearing: **iglidur® J ▶ Page 159**

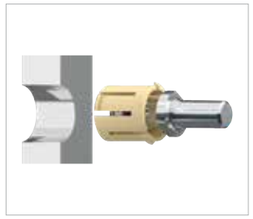
Dimensions [mm]

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:





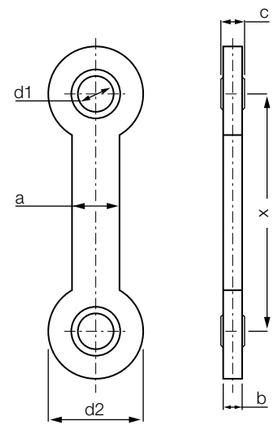
Assembly film
▶ www.igus.eu/zclm-film

Can be combined with accessories ▶ Page 859

GZRM-IG

igubal® double joints | Product range

Double joints: EGZM



- Maintenance-free dry operation
- Mechanical joining link between two components
- Compensation of misalignment errors
- Corrosion-resistant
- Double joint turned 90° available upon request

Order key

Type	Size [mm]
E GZ M	04 - 25

E series | Double joints | metric | Inner Ø d1 | Pitch X

Material:
Housing: **igumid G ▶ Page1654**
Spherical ball: **iglidur® W300 ▶ Page 171**
Other spherical ball materials upon request
▶ Page 841

Technical data and dimensions [mm]

Part No.	Max. static load (short-term) Tensile force [N]	Max. static load (short-term) Compressive force [N]	Max. static load (long-term) Tensile force [N]	Max. static load (long-term) Compressive force [N]	d1 E10	d2	X	b	a	c	Weight [g]	Max. pivot angle
EGZM-04-25	1,100	1,300	550	650	4	20	25	4	10	5	3.5	32°
EGZM-04-50	1,100	750	550	375	4	20	50	4	10	5	4.8	32°
EGZM-04-75	1,100	500	550	250	4	20	75	4	10	5	6.1	32°
EGZM-05-25	1,100	1,300	550	650	5	20	25	4	10	6	2.2	37°
EGZM-05-50	1,100	750	550	375	5	20	50	4	10	6	4.9	37°
EGZM-05-75	1,100	500	550	250	5	20	75	4	10	6	6.3	37°
EGZM-06-25	1,100	1,300	550	650	6	20	25	4	10	6	3.4	30°
EGZM-06-50	1,100	750	550	375	6	20	50	4	10	6	4.8	30°
EGZM-06-75	1,100	500	550	250	6	20	75	4	10	6	6.0	30°
EGZM-08-60	3,000	3,500	1,500	1,750	8	30	60	7	15	8	15.2	20°
EGZM-08-100	3,000	1,900	1,500	950	8	30	100	7	15	8	19.5	20°
EGZM-10-60	2,500	3,500	1,250	1,750	10	30	60	7	15	9	15.3	25°
EGZM-10-85	2,500	2,300	1,250	1,150	10	30	85	7	15	9	18.1	25°
EGZM-10-100	2,500	1,900	1,250	950	10	30	100	7	15	9	19.4	25°
EGZM-12-60	2,000	3,500	1,000	1,750	12	30	60	7	15	10	14.7	25°
EGZM-12-100	2,500	1,900	1,000	950	12	30	100	7	15	10	18.8	25°

Alternative spherical ball materials ▶ Page 841

REM:
Low-cost

JEM:
low moisture absorption

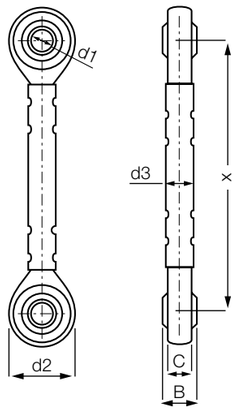
J4EM:
low-cost and low moisture absorption

J4VEM:
clearance-free pre-loaded spherical ball

igubal® double joints | Product range

Variable double joints: KDGM

Version A Version B



Order key

Type			Size [mm]	Options		
K	DG	M -	06	- A	- SR	- J
K series	Double joints	metric	Inner Ø	Ball stud direction (A or B)	Tube material	Spherical ball material

Options:

Tube material
SR = Galvanised steel
ER = Stainless steel (AISI 303)

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

Material:
Housing: **igumid G ▶ Page 1654**
Ball: **variable ▶ Page 841**
Tube: **Galvanised or stainless steel**

- Ball diameters 5, 6, 8, 10 and 12mm
- Individual centre distance
- Individual alignment of the bearing position

Dimensions [mm]

Part No.	d1	d2	d3	X	B	C	Max. pivot angle
	E10			Min.			
KDGM-05-A-SR ☐ [32]	5	20	6	72	9	7.0	45°
KDGM-06-A-SR-J ☐ [32]	6	20	6	72	9	7.0	40°
KDGM-08-A-SR-J ☐ [32]	8	24	8	84	12	9.0	35°
KDGM-10-A-ER-J [145] ☐ [32]	10	30	10	96	14	10.5	35°
KDGM-12-A-SR-J ☐ [32]	12	34	12	108	16	12.0	35°

[32] Please add the required centre distance in mm
[145] Size only available with stainless steel tube (ER)

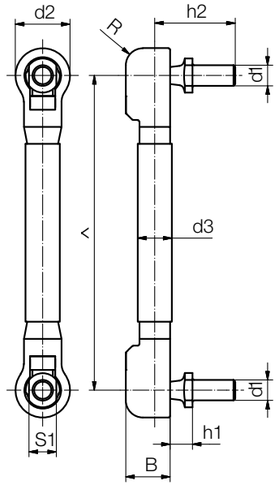
Order example, KDGM-05-A-SR, 100 : Double joint with 5mm inner diameter, version A, tube material made of steel, spherical ball made of iglidur® W300, centre distance 100mm

igubal® coupling joints | Product range

Variable coupling joints: WDGM

Version A Version B Version C Version D

- Socket cup M5, M6, M8 and M10
- Individual centre distance
- Individual alignment of the bearing position



Order key

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

Options:

Tube material
SR = Galvanised steel
ER = Stainless steel (AISI 303)

Ball stud material
SZ = Galvanised steel
EZ = Stainless steel[28]
PZ = igumid G

Material:
Housing: **igumid G ▶ Page 1654**
Ball stud: **Plastic, galvanised or stainless steel[28]**
Tube: **Galvanised 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 ☐ [32]	M5	12.8	8	64	10.8	4.6	19.2	SW8	6.4	23°
WDGM-06-A-ER-SZ [145] ☐ [32]	M6	14.8	10	80	12.3	6.1	23.5	SW9	7.4	25°
WDGM-08-A-SR-SZ ☐ [32]	M8	19.3	12	80	16.2	5.9	29.5	SW12	9.7	24°
WDGM-10-A-SR-SZ ☐ [32]	M10 [33]	19.3	12	80	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 centre distance in mm
[33] Housing's 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, centre distance 100mm

Can be combined with accessories ▶ From page 859:


GZRM-IG


GZRM

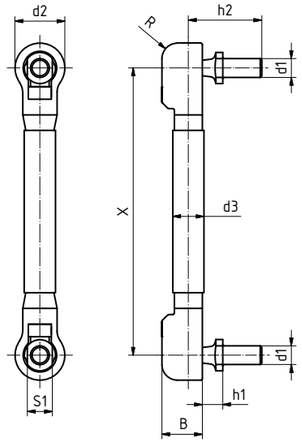

GZRM-MS /GZRM-ES

igubal® double joints | Product range

Variable coupling joints, removable: WDGM-DE

Version A | Version B | Version C | Version D

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



Order key

Type	Size [mm]	Options				
WDGM-	06	- A	-ER	-SZ	-DE	

Angle	Coupling joint	metric	Ball stud thread	Ball stud direction (A, B, C or D)	Tube material	Ball stud material	Disassembly
W	DG	M-	06	A	ER	SZ	DE

Options:

Tube material
ER = Stainless steel (AISI 303)

Ball stud material
SZ = Galvanised steel
EZ = Stainless steel[28)]
PZ = igumid G

Material:
Housing: **igumid G** ▶ **Page 1654**
Ball stud: **Plastic, galvanised or stainless steel[28)]**
Tube: **stainless steel**

Dimensions [mm]

Part No.	d1	d2	d3	X Min.	B	h1	h2	S1 Width across flats	R	Max. pivot angle
WDGM-06-A-ER-SZ-DE ☐ [32)]	M6	16	10	100	13	6.5	23.5	SW8	5	23°

[145)] Size only available with stainless steel tube (ER)
[28)] Stainless steel ball stud upon request
[32)] Please add the required centre 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, centre distance 150mm

Assembly:

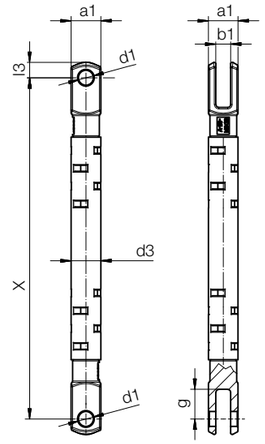
Can be combined with accessories ▶ From page 859:


GZRM-IG | GZRM | GZRM-MS /GZRM-ES

igubal® coupling joints | Product range New

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

- Lubrication 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



Order key

Type	Size [mm]	Options				
G DGM-	05	- V	-ER	- F		

Clevis joint	Coupling joint	metric	Inner Ø	Twistable	Tube material	Accessories
G	DG	M-	05	V	ER	F

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

Material:
Housing: **igumid G** ▶ **Page 1654**
Tube: **Stainless steel (AISI 303)**

Dimensions [mm]

Part No.		d1 +0.1	d3	X Min.	a1 +0.3 –0.16	a2 +0.3 –0.16	b1 +0.3 +0.1	g ±0.3	l3 +0.3	max. static tensile strain Short-term [N]
GDGM-05-V-ER-☐	New	5	10	90	10	10	5	10	5	350

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, centre distance 100mm, included

Can be combined with accessories ▶ From page 859:


GEFM | GBM | GSR

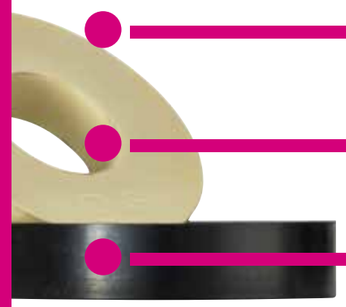
My sketches

igubal® spherical thrust bearings

- Easy to fit
- Compensation of misalignment errors
- Resistant to edge loads
- Very good friction and wear properties

igubal® spherical thrust bearing

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 requested
- 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 +80°C
- 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. +80°C
Min. –30°C

Type 1
Ø 5 – 20mm

Online product finder
▶ www.igus.eu/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 iglidur® 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 is loosely fitted in the socket and is held in place by the shaft that is placed into the bearing.

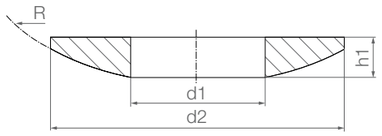
Product range

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

igubal® spherical thrust bearing | Product range

Spherical thrust bearings: SAM

Spherical washer



Housing pad

Order key

Type	Size [mm]
SA M	-05

Type | metric | Inner Ø d1

Material:
Spherical washer: **iglidur® W300** ▶ **Page 171**
Housing pad: **igumid G** ▶ **Page 1654**

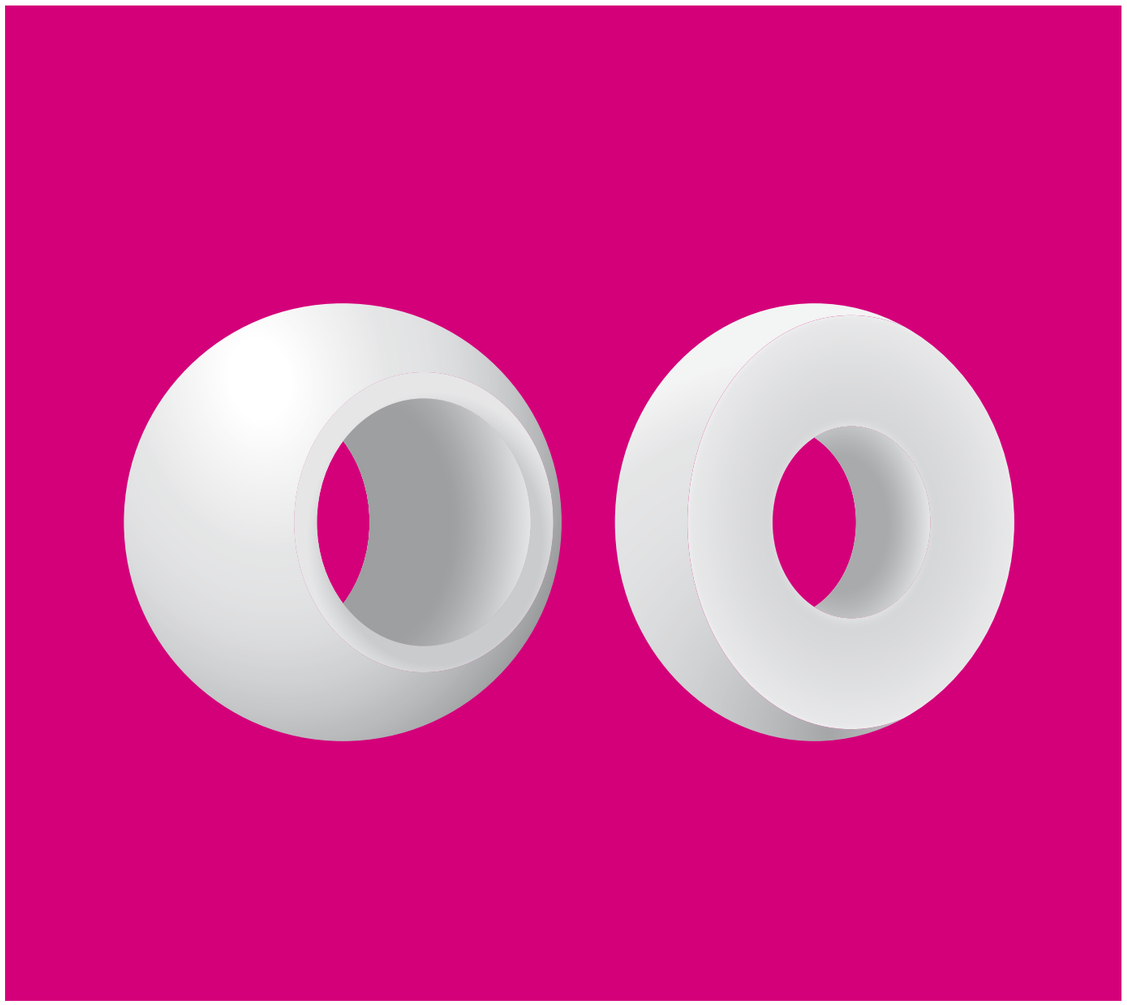
Technical data

Part No.	Max. static axial compressive strength Short-term [N]	Max. static axial compressive strength Long-term [N]	Weight [g]
SAM-05	4,000	2,000	0.9
SAM-06	5,000	2,500	1.1
SAM-08	8,000	4,000	2.2
SAM-10	10,000	5,000	3.4
SAM-12	12,000	6,000	5.9
SAM-16	17,000	8,500	8.5
SAM-20	22,000	11,000	12.8

Dimensions [mm]

Part No.	d1 Spherical washer DIN 2768 medium	d3 Housing pad DIN 2768 medium	d2	h1 Spherical washer	h2 Housing pad	H[34] Overall height	R Radius	Compensation angle
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°

[34] In assembled condition

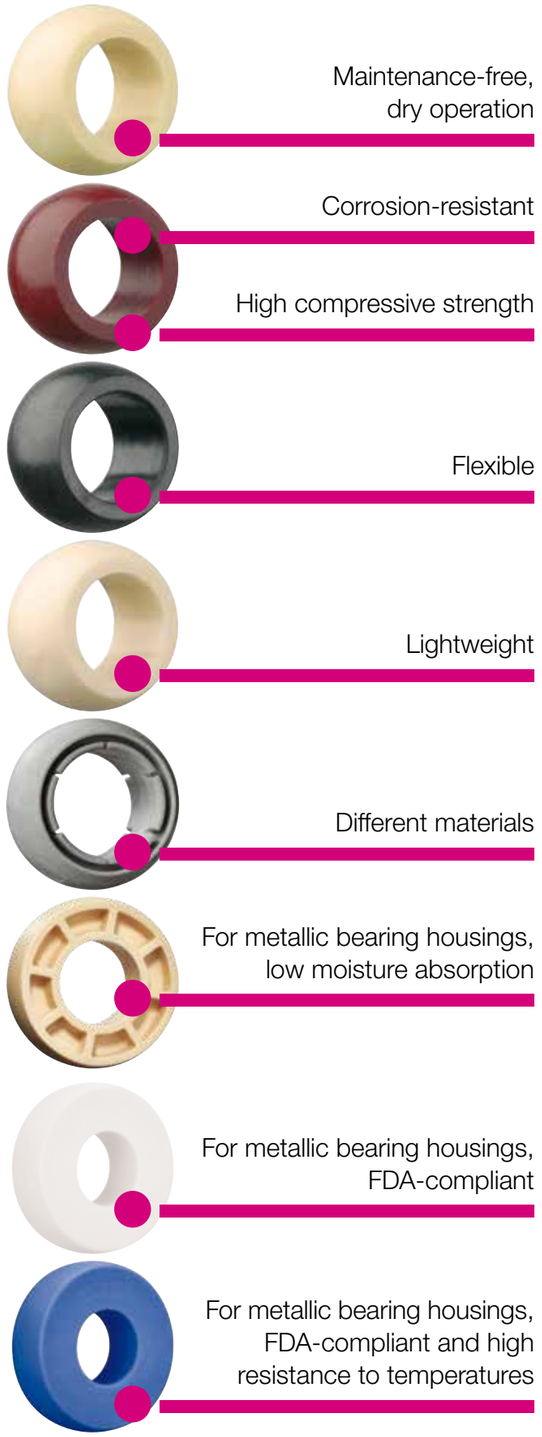


igubal® spherical balls

- Maintenance-free dry operation
- Corrosion-free
- High compressive strength
- Flexible
- Lightweight
- Different materials
- Spherical balls for metallic bearing housings

igubal® spherical balls

Every single iglidur® material has its own special properties, which determines the suitability for your special applications and requirements. We have available spherical balls made from iglidur® 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.



Maintenance-free, dry operation

Corrosion-resistant

High compressive strength

Flexible

Lightweight

Different materials

For metallic bearing housings, low moisture absorption

For metallic bearing housings, FDA-compliant

For metallic bearing housings, FDA-compliant and high resistance to temperatures

When to use it?

- If you need maintenance-free material
- When dimensional E and K series components should be fitted
- If different iglidur® 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 +250°C
- When dimensions above 50mm are required
- When rotation speeds higher than 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 2–50mm

Imperial dimensions available
▶ From page 1610

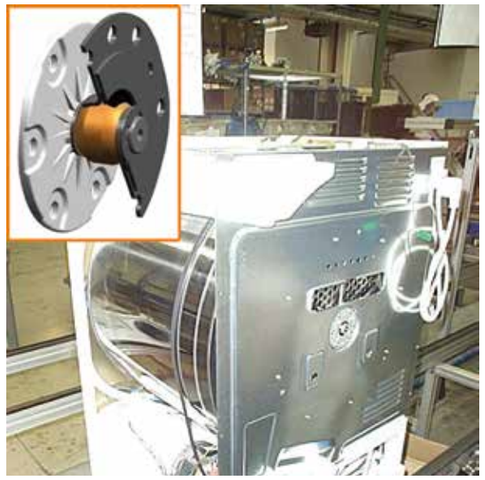
Online product finder
▶ www.igus.eu/igubal-finder

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.eu/igubal-applications



Drum bearing in a tumble dryer

▶ www.igus.eu/food

Carriage in a crane system

▶ www.igus.eu/design

igubal® spherical balls | Product overview

Standard – igubal® spherical balls
iglidur® W300 ▶ Page 171

WKM
K series
metric/imperial
▶ Page 845

WEM
E series
metric/imperial
▶ Page 845

Low-cost – igubal® spherical balls
iglidur® R ▶ Page 247

RKM
K series
metric
▶ Page 846

REM
E series
metric
▶ Page 846

High temperatures – igubal® spherical balls
iglidur® X ▶ Page 279

XKM
K series
metric
▶ Page 847

XEM
E series
metric
▶ Page 847

Low moisture absorption igubal® spherical balls
iglidur® J ▶ Page 159

JKM
K series
metric
▶ Page 848–850

JEM
E series
metric
▶ Page 848

Cost-effective – igubal® spherical balls
iglidur® J4, ▶ Page 1652

J4KM
K series
Metric
▶ Page 851

J4EM
E series
Metric
▶ Page 851

Underwater applications – igubal® spherical balls
iglidur® UW ▶ Page 509

UWEM
E series
Metric
▶ Page 852

Clearance-free, pre-loaded – igubal® spherical balls
iglidur® J4VEM ▶ Page 853

J4VEM
E series
Metric
▶ Page 853

Detectable – igubal® spherical balls
iglidur® RN248 ▶ Page 1657

RN248KM
K series
Metric
▶ Page 854

RN248EM
E series
Metric
▶ Page 854

For metallic bearing housings – igubal® spherical balls
iglidur® J ▶ Page 159

Standard
UC series
Metric
▶ Page 855

iglidur® A180 ▶ Page 401

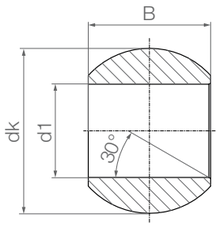
FDA-compliant
UC series
Metric
▶ Page 855

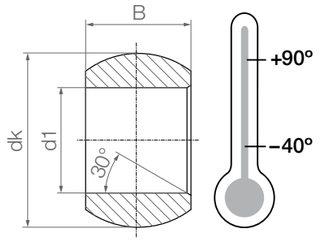
iglidur® A350 ▶ Page 385

FDA-compliant, high temp.
UC series
Metric
▶ Page 855

igubal® spherical balls | Product range

Standard spherical balls: WKM and WEM





Order key

Type	Size [mm]	Options

W ☐ M - 02 - 04

- W = iglidur® W300 spherical balls
- M = Dimensional series: M = Metric
- 02 = Inner Ø d1
- 04 = Width

Series
K = Dimensional K series
E = Dimensional E series

inch Imperial dimensions available ▶ Page 1610

Dimensions [mm]

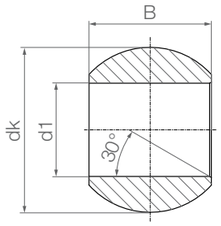
Part No.	d1 E10	dK	B	Weight [g]
WKM-02-04	2	5.10	4	0.1
WKM-03-06	3	8.10	6	0.3
WKM-05-08	5	11.30	8	0.6
WKM-06-09	6	12.80	9	0.9
WKM-08-12	8	16.00	12	1.6
WKM-10-14	10	19.00	14	2.7
WKM-12-16	12	22.10	16	4.0
WKM-14-19	14	25.40	19	6.0
WKM-16-21	16	28.40	21	8.2
WKM-18-23	18	31.50	23	10.8
WKM-20-25	20	35.10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

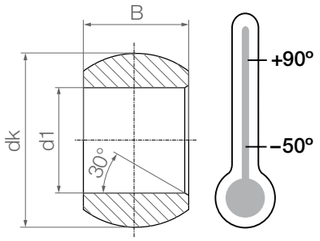
Dimensions [mm]

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

Low-cost spherical balls: RKM and REM





Order key

Type			Size [mm]		Options
R	□	M-08-12			
iglidur® R spherical balls	Dimensional series	Metric	Inner Ø d1 [mm]	Width	

Series
K = Dimensional K series
E = Dimensional E series

Dimensions [mm]

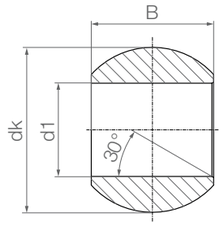
Part No.	d1 E10	dK	B	Weight [g]
RKM-08-12	8	15.90	12	1.8
RKM-10-14	10	19.00	14	2.9

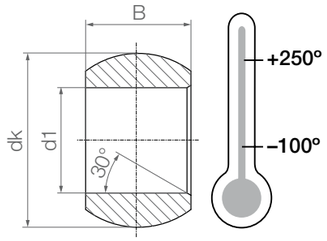
Dimensions [mm]

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	16.10	9	1.3
REM-12-10	12	18.10	10	1.6

igubal® spherical balls | Product range

High temperatures spherical balls: XKM and XEM





Order key

Type			Size [mm]		Options
X	□	M-10-14			
iglidur® X spherical balls	Dimensional series	Metric	Inner Ø d1	Width	

Series
K = Dimensional K series
E = Dimensional E series

Dimensions [mm]

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

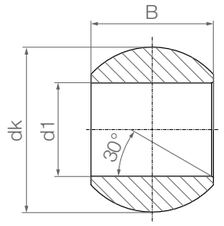
Dimensions [mm]

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	13.30	8	0.8
XEM-10-09	10	16.10	9	1.3
XEM-12-10	12	18.10	10	1.6

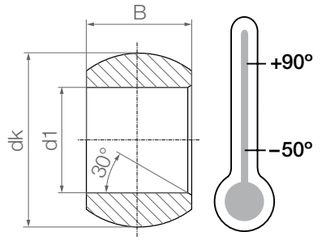
igubal® spherical balls | Product range

Low moisture absorption spherical balls: JKM and JEM

JKM



JEM



Order key

Type				Size [mm]		Options
J	□	M	-	03	- 06	

igubal® J spherical balls	Dimensional series	Metric	Inner Ø d1	Width

Series
K = Dimensional K series
E = Dimensional E series

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-18-23	18	31.50	23	13.2
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

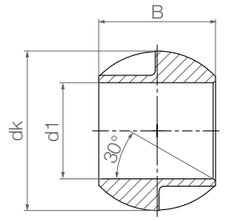
Dimensions [mm]

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
JEM-40-28	40	53.00	28	31.0

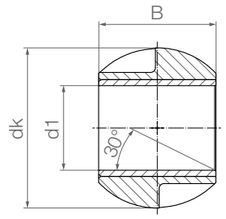
igubal® spherical balls

igubal® spherical balls | Product range

Low moisture absorption spherical balls: JKM



JKM spherical ball with plain bearing



JKM spherical ball without plain bearing

Order key

Type				Size [mm]	
J	K	M	-	35	- 49

igubal® J spherical balls	K series	Metric	Inner Ø d1	Width

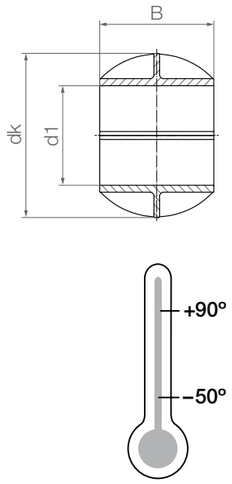
Dimensions [mm]

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

Low moisture absorption split spherical balls: JKM-GT



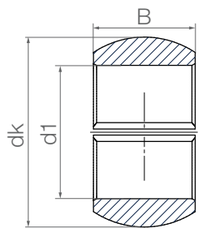
Order key

Type			Version	Size [mm]
J	K	M-	GT	40
iglidur® J spherical balls	K series	Metric	Split ball	Inner Ø d1 [mm]

Dimensions [mm]

Part No.	d1 E10	dK	B	Weight [g]
JKM-GT40	40	66.30	49	54.5
JKM-GT50	50	82.40	60	92.1

Low moisture absorption split spherical balls: JEM-GT



Order key

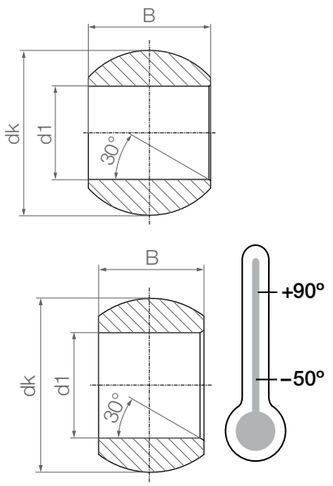
Type			Version	Size [mm]
J	E	M-	GT	16
iglidur® J spherical balls	E series	Metric	Split ball	Inner Ø d1 [mm]

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

Cost-effective spherical balls: J4KM and J4EM



Order key

Type			Size [mm]	Options
J4	□	M-	10-14	
iglidur® J4 spherical balls	Dimensional series	Metric	Inner Ø d1	Width

Series
K = Dimensional K series
E = Dimensional E series

Dimensions [mm]

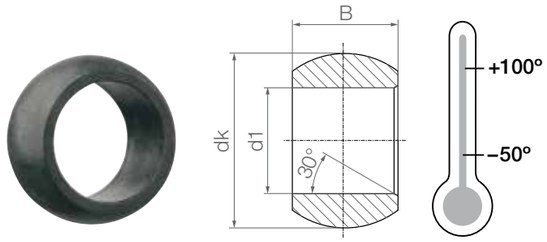
Part No.	d1 E10	dK	B	Weight [g]
J4KM-10-14	10	19.10	14	3.1
J4KM-12-16	12	22.10	16	4.7

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

Spherical balls for underwater applications: UWEM



Order key

Type				Size [mm]	
UW	E	M	-	16	13
iglidur® UW spherical balls	E series	Metric		Inner Ø d1	Width

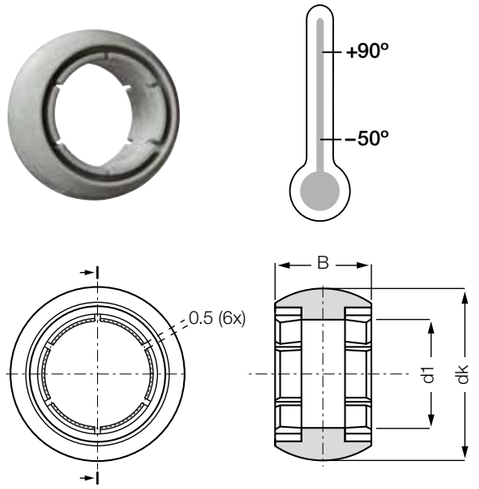
Dimensions [mm]

Part No.	d1 E10	dK	B	Weight [g]
UWEM-10-09	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

igubal® spherical balls | Product range

Clearance-free, pre-loaded spherical balls: J4VEM



Order key

Type					Size [mm]	
J4	V	E	M	-	08	08
iglidur® J4 spherical balls	Pre-loaded	E series	Metric		Inner Ø d1	Width

- Can be combined with all E series housings
- Sizes from 8 to 20mm
- Clearance-free, pre-loaded
- 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

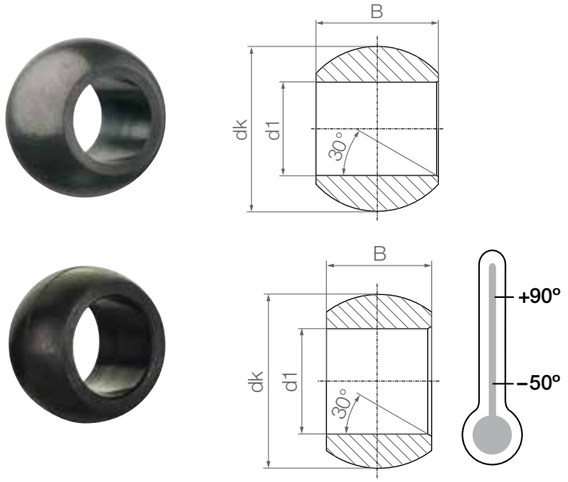
5 sizes available: Ø 8, 10, 12, 16, 20mm

combinable with:

igubal® rod ends	EA(L)RM	▶ **Page 758**	igubal® fixed flange bearings	EFSM	▶ **Page 808**
igubal® rod ends	EB(L)RM	▶ **Page 756**	igubal® clip bearings	EGFM-T	▶ **Page 829**
igubal® pillow block bearings	ESTM	▶ **Page 795**	igubal® spherical bearings	EGLM	▶ **Page 825**
igubal® fixed flange bearings	EFOM	▶ **Page 806**	igubal® double joints	EGZM	▶ **Page 831**

igubal® spherical balls | Product range

Detectable spherical balls: RN248KM and RN248EM



Order key

Type	Size [mm]	Options
RN248 ☐ M - 06 - 09		

- RN248 ☐ M: iglidur® RN248 spherical balls
- M: Dimensional series, Metric
- 06: Inner Ø d1
- 09: Width

Series
K = Dimensional K series
E = Dimensional E series

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

igubal® spherical balls

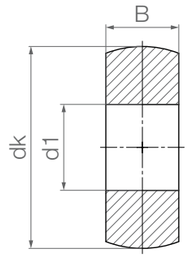
igubal® spherical balls | Product range

Slim spherical balls made of iglidur® materials for various metallic bearing housings


iglidur® J

iglidur® A180


iglidur® A350



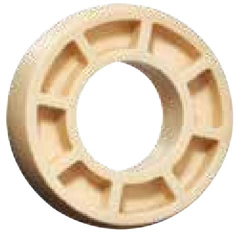
- 3 different spherical ball materials available: iglidur® J, A180 and A350
- Eight dimensions for housing numbers range includes UC203 to UC210
- Maintenance-free, dry operation
- Durable
- Corrosion-free
- Resistant to dirt

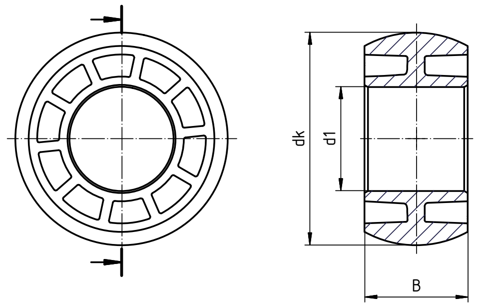
Dimensions [mm]

Part No.	Housing No.	d1 E10	dk	B	Max. static compressive force radial [N]	Max. static compressive force axial [N]
made of iglidur® J, low coefficient of friction (material information ▶ From page 159)						
JEM-17-17	UC203	17	47	17	10,000	7,500
JEM-20-17	UC204	20	47	17	11,500	7,500
JEM-25-17	UC205	25	52	17	14,500	7,500
JEM-30-19	UC206	30	62	19	19,500	9,500
JEM-35-20	UC207	35	72	20	24,000	10,500
JEM-40-21	UC208	40	80	21	29,000	12,000
JEM-45-22	UC209	45	85	22	34,000	13,000
JEM-50-24	UC210	50	90	24	41,500	15,500
made of iglidur® A180, FDA-compliant all-rounder (material information ▶ From page 361)						
A180EM-17-17	UC203	17	47	17	7,500	6,000
A180EM-20-17	UC204	20	47	17	9,000	6,000
A180EM-25-17	UC205	25	52	17	11,500	6,000
A180EM-30-19	UC206	30	62	19	15,500	7,500
A180EM-35-20	UC207	35	72	20	19,000	8,500
A180EM-40-21	UC208	40	80	21	23,000	9,000
A180EM-45-22	UC209	45	85	22	27,000	10,000
A180EM-50-24	UC210	50	90	24	33,000	12,000
made of iglidur® A350, for high temperatures and chemicals (material information ▶ From page 369)						
A350EM-17-17	UC203	17	47	17	17,000	13,000
A350EM-20-17	UC204	20	47	17	20,000	13,000
A350EM-25-17	UC205	25	52	17	25,000	13,000
A350EM-30-19	UC206	30	62	19	34,000	17,000
A350EM-35-20	UC207	35	72	20	41,500	18,500
A350EM-40-21	UC208	40	80	21	50,000	20,000

igubal® spherical balls | Product range

Cost-effective spherical balls for various metallic bearing housings





Order key

Type	Size [mm]	Version
J EM	-17-17	SP

- J: iglidur® material
- EM: iglidur® J spherical balls
- 17: Inner Ø d1
- 17: Width
- SP: Injection moulding

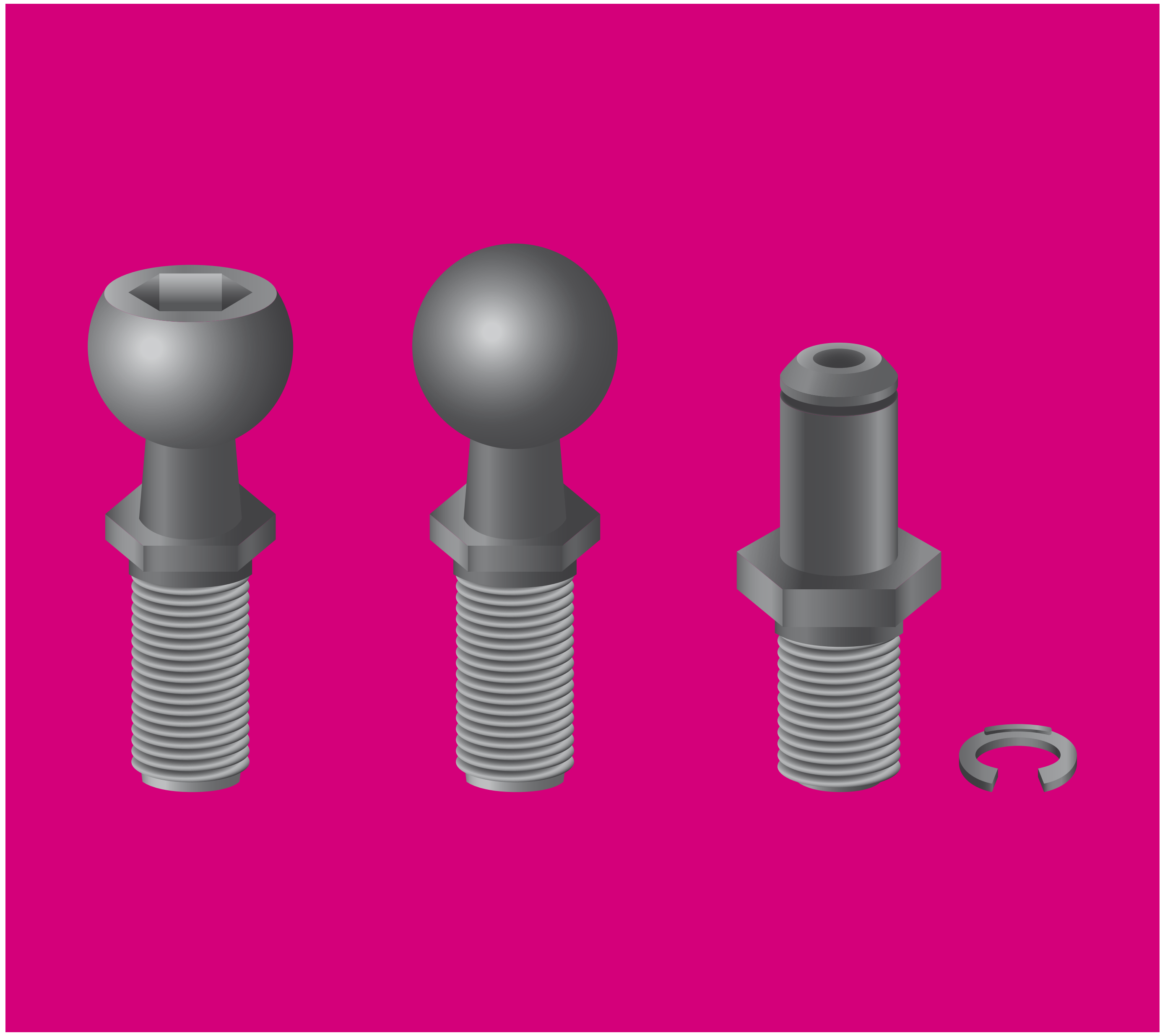
Material:
iglidur® J, low coefficients of friction ▶ **Page 159**
iglidur® J4, Low-cost material ▶ **Page 1652**

- Cost-effective due to injection moulding method
- Eight dimensions for housing numbers range includes UC203 to UC210
- Maintenance-free, dry operation
- Durable
- Resistant to corrosion and chemicals
- Resistant to dirt
- Low moisture absorption

Dimensions [mm]

Part No.	Housing No.	d1 E10	dk	B	Max. static compressive force radial [N]	axial [N]
JEM-17-17-SP	UC203	17	47	17	7,500	4,000
☐EM-20-14-SP New	P204	20	47	14	8,000	4,000
JEM-20-17-SP	UC204	20	47	17	8,000	4,000
☐EM-25-15-SP New	P205	25	52	15	9,000	4,000
JEM-25-17-SP	UC205	25	52	17	9,000	3,500
☐EM-30-16-SP New	P206	30	62	16	13,500	5,000
JEM-30-19-SP	UC206	30	62	19	13,500	5,000
JEM-35-20-SP	UC207	35	72	20	14,500	6,500
JEM-40-21-SP	UC208	40	80	21	21,000	6,000
JEM-45-22-SP	UC209	45	85	22	23,000	5,500
JEM-50-24-SP	UC210	50	90	24	25,000	5,500

Image exemplary



igubal® accessories

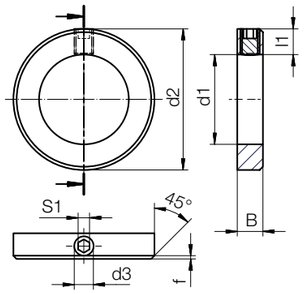
Ball studs made of plastic, galvanised steel and stainless steel

Adapter screw made from plastic

Adapter for E series pillow block bearings

igubal® accessories | Product range New

Fixing collars with threaded pin



Order key

Type	Size [mm]	Version
SR M - S	20	- V

Fixing collar | Metric | without thread | Shaft diameter | Pre-assembled (screw)

Material:
Galvanised steel (stainless steel upon request)

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

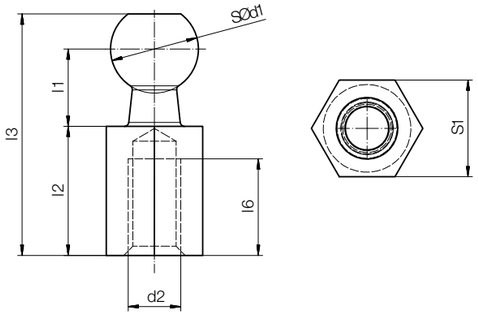
Dimensions [mm]

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

Image exemplary

igubal® accessories | Product range

Ball studs with female thread



Order key

Type	Size [mm]	Version
GZ R M -	05	- IG - ES

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

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

Add-on:
Blank = Galvanised steel
ES = Stainless steel[28)]

Material:
Galvanised and stainless steel (AISI 303)

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

Dimensions [mm]

Part No.	d1 –0,05	d2	l1	l2	l6	l3	S1	Weight [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


GFSM-IG

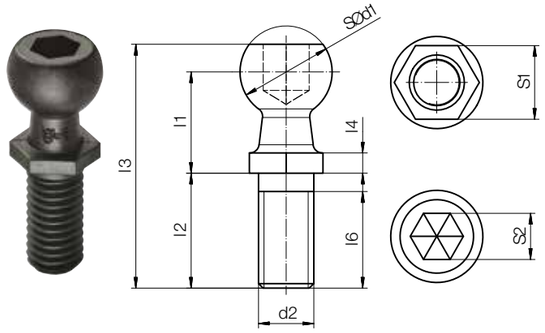

ZCLM-06-10

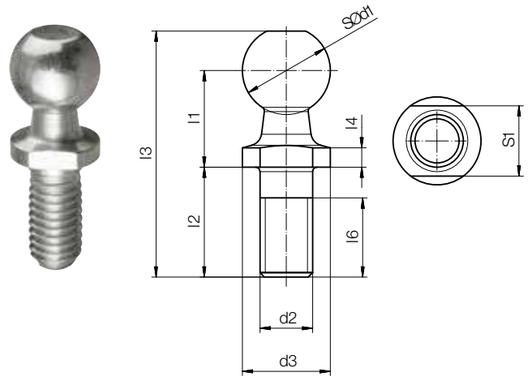

WDGM


WDGM-DE

igubal® accessories | Product range

Ball studs with male thread





Order key

Type	Size [mm]
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 = Galvanised steel
ES = Stainless steel (upon request)

Material:
Plastic: **igumid G** ▶ **Page 1654**
Galvanised 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 galvanised 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:

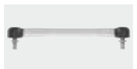

WGR(L)M


WGR(L)M LC


WGR(L)M-DE


GFSM-IG


ZCLM-06-10

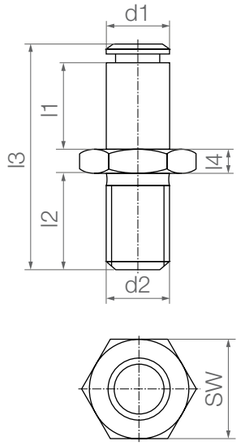

WDGM


WDGM-DE

igubal® accessories

igubal® accessories | Product range

Adapter screws: PKRM and PKLM



Order key

Type	Size [mm]	Options
P K □ M -	05	

Adapter screw | K series | Thread direction | Metric | Thread size M...

Thread
L = Left-hand thread[21]
R = Right-hand thread

Material:
POM ▶ **Page 1654**

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.

- 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		d1	d2	l1	l2	l3	l4	SW	Weight
	Short-term [N]	Long-term [N]	Short-term [N]	Long-term [N]	h11	Thread	Length adjusting bolt	Thread length	Total length	Nut width	Width across flats	[g]
PK□M-05	100	50	200	100	5	M5	8.5	11.3	25.0	2.7	SW8	0.7
PK□M-06	150	75	250	125	6	M6	9.5	12.8	28.0	3.2	SW10	1.2
PK□M-08	250	125	400	200	8	M8	12.5	12.5	32.0	4.0	SW13	2.6
PK□M-10	500	250	600	300	10	M10	14.5	14.5	37.5	5.0	SW16	4.0
PK□M-12	700	350	900	450	12	M12	16.5	15.5	42.0	6.0	SW18	7.5
PK□M-14	800	400	1,100	550	14	M14	19.5	15.5	47.0	7.0	SW21	11.4
PK□M-16	900	450	1,400	700	16	M16	22.0	16.5	52.0	8.0	SW24	16.9
PK□M-18	800	400	1,700	850	18	M18 x 1.5	24.0	20.5	59.0	9.0	SW27	16.9
PK□M-20	500	250	2,200	1,100	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

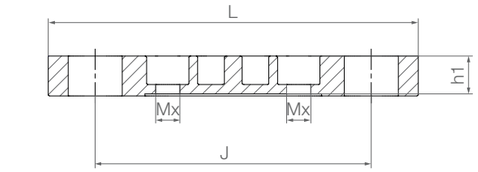

KAR(L)M

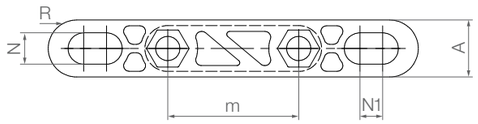

KAR(L)M-CL


KCR(L)M

igubal® accessories | Product range

Adapters for dimensional E series pillow block bearings





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

Order key

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

Technical data

Part No.	Max. radial tensile force [Fz]		Max. radial compressive strength [Fd]		Max. lateral strength [Fs]		Max. axial strength [Fa] (tensile/compressive)		Weight
	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[g]
AD-01-ESTM-20[26]	2,400	1,200	10,000	5,000	3,000	1,500	1,200	600	29.8
AD-01-ESTM-25[27]	2,400	1,200	10,000	5,000	3,000	1,500	1,200	600	74.0
AD-01-ESTM-30[27]	2,400	1,200	10,000	5,000	3,000	1,500	1,200	600	124.0

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

[26] Material: plastic (igumid G)

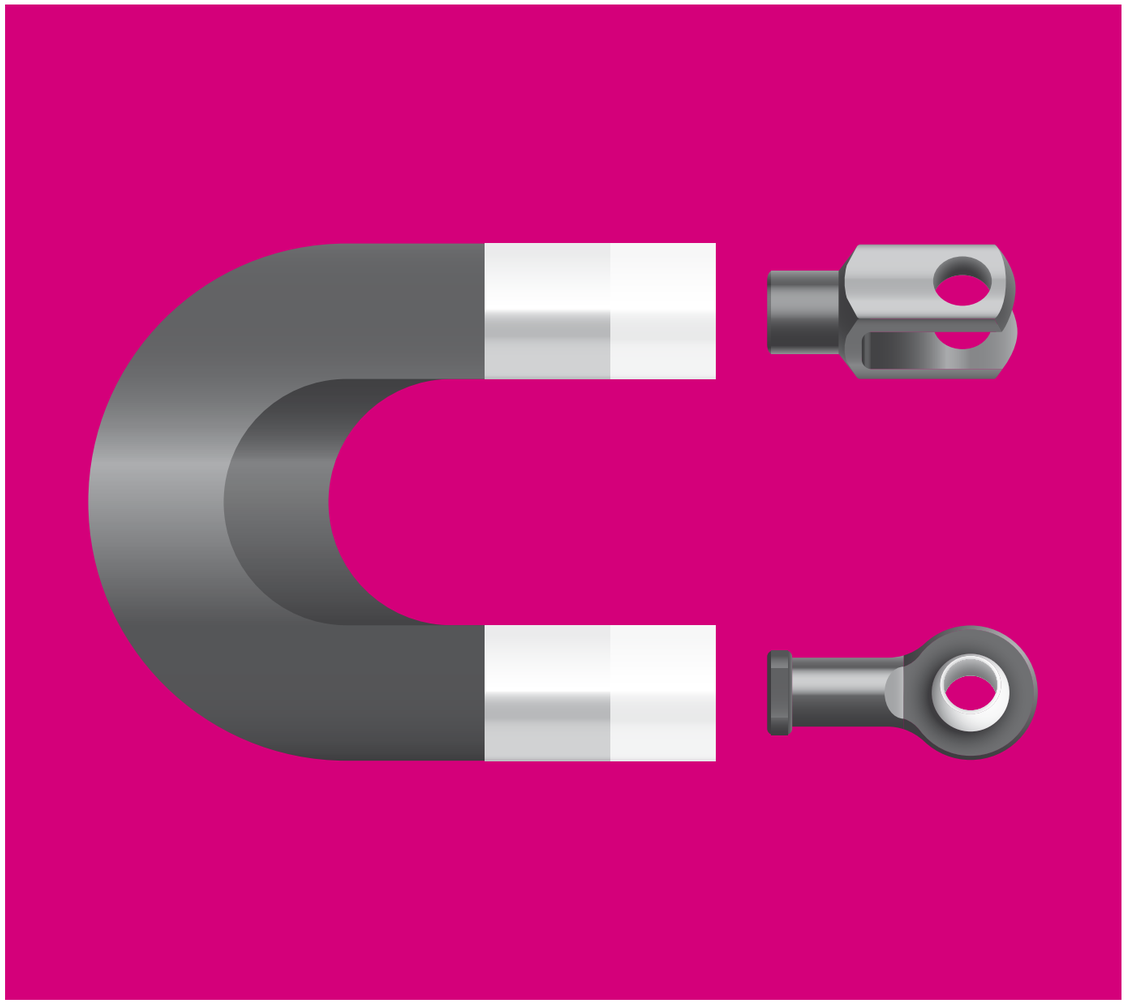
[27] Material: aluminium

Can be combined with:


ESTM


ESTM-GT-GT


ESTM-GT

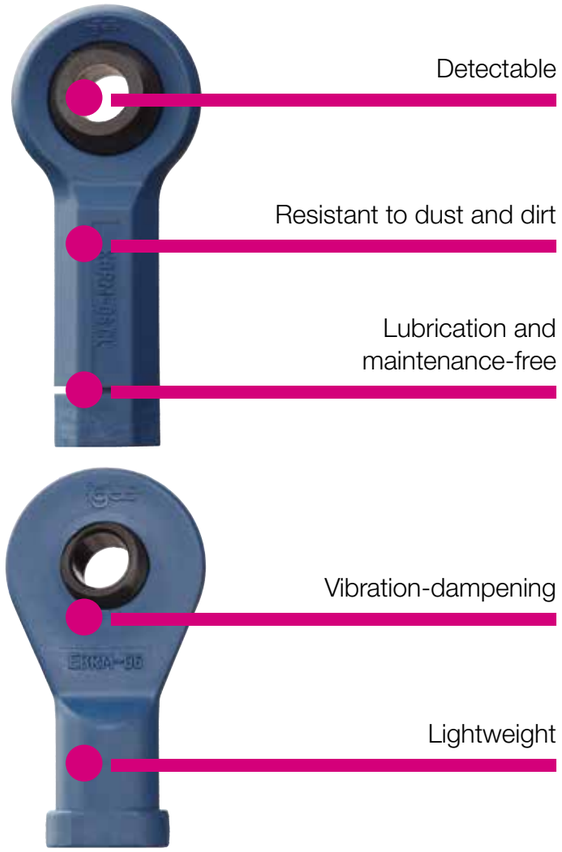


igubal® detectable

- Resistant to dust and dirt
- Lubrication and maintenance-free
- Vibration-dampening
- Lightweight
- Corrosion-free

igubal® detectable

Following 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 should be fitted
- If high compressive strength is required

When not to use it?
- When temperatures are higher than +80°C
- When diameters above 16mm are required
- When rotation speeds higher than 0.5m/s are required

Available from stock
Detailed information about delivery time online.

Price breaks online
No minimum order value. No minimum order quantity

Max. +80°C
Min. –30°C

4 types
Ø 4–16mm

Online product finder
▶ www.igus.eu/igubal-finder

igubal® detectable

Available from stock

Easy assembly
K series
▶ Page 866

Space-saving
E series
▶ Page 867

Clevis joints, high strength
E series
▶ Page 868

Spring-loaded fixing clip
E series
▶ Page 870

Clevis joints with spring-loaded fixing clip
E series
▶ Page 871

Spherical balls
Dimensional K and E series
▶ Page 854

Upon request

Rod ends

Higher forces
▶ Page 754

Space-saving
▶ Page 758

With clipped-on ball
▶ Page 750

Pillow block bearings

Easy to fit
▶ Page 795

Extremely light, compact design
▶ Page 798

Fixed flange bearing

Easy to fit
▶ Page 806

For higher radial load
▶ Page 808

Spherical bearings

Easy to fit, cost-effective
▶ Page 823

For extremely narrow installation space
▶ Page 824

Space-saving
▶ Page 825

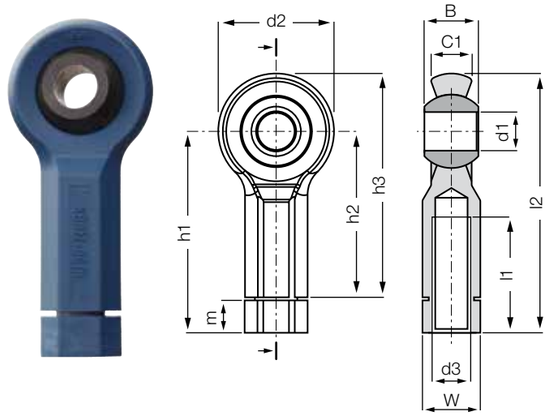
Simply snap into sheet metal
▶ Page 827

For tolerance compensation
▶ Page 829

Robust plastic
▶ Page 831

igubal® detectable | Product range

Rod ends with female thread, detectable: KBRM-CL-DT and KBLM-CL-DT



- Smooth design no dirt traps
- Compensation of misalignment errors
- Lightweight
- Absolute corrosion resistance
- Dimensional K series according to DIN ISO 12240

Order key

Type				Size [mm]	Version	
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

Material:

Housing: **RN246** ▶ **Page 1657**

Spherical ball: **RN248KM** ▶ **Page 854**

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	
	[N]	[N]	[N]	[N]	[mm]	[Nm]	[Nm]	[g]
KB□M-06-CL-DT	980	490	210	105	8	0.8	10	4.5

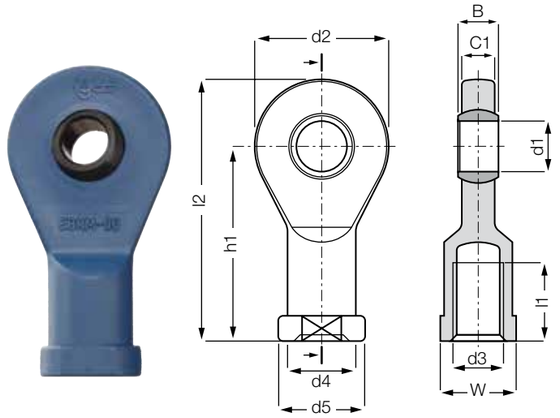
Dimensions [mm]

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

igubal® detectable

igubal® detectable | Product range

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
- Absolute corrosion resistance

Order key

Type				Size [mm]	Version
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

Material:

Housing: **RN246** ▶ **Page 1657**

Spherical ball: **RN248EM** ▶ **Page 854**

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		
	[N]	[N]	[N]	[N]	[mm]	[Nm]	[Nm]	[g]
EB□M-04-DT	560	280	70	35	7	0.4	2.0	1.8
EB□M-05-DT	910	455	105	52	8	0.5	2.0	3.2
EB□M-06-DT	1,050	525	140	70	8	1.5	2.5	4.0
EB□M-08-DT	1,400	700	315	157	11	5.0	7.0	6.9
EB□M-10-DT	1,610	805	350	175	13	15.0	14.0	11.2

Dimensions [mm]

Part No.	d1 E10	d2	d3	d4	d5	C1	B	h1	l1	l2	W	Max. pivot angle
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°

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

- Resistant to dust and dirt
- Maintenance and lubrication-free
- Vibration-dampening
- Lightweight

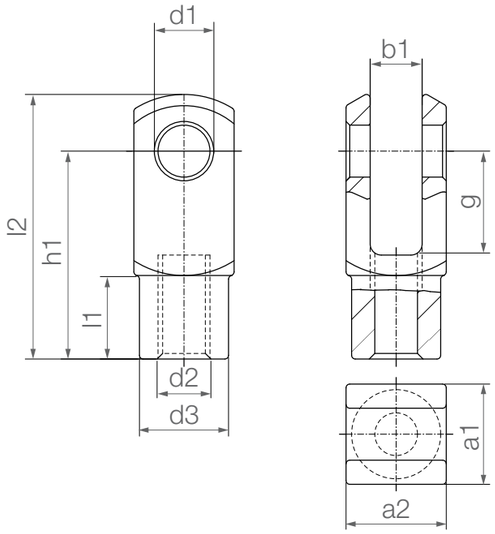
Technical data

Part No.	Max. static tensile strain		Max. static axial force		Weight
	Short-term	Long-term	Short-term	Long-term	
	[N]	[N]	[N]	[N]	[g]
GE□M-04-DT	455	227.5	175	87.5	0.9
GE□M-05-DT	840	420	175	87.5	2.7
GE□M-06-DT	980	490	210	105	2.5
GE□M-08-DT	1,890	945	455	227.5	6.3
GE□M-10-DT	3,290	1,645	560	280	13.2
GE□M-10-DT-F	3,290	1,645	560	280	13.2
GE□M-12-DT	3,990	1,995	630	315	20.2
GE□M-12-DT-F	3,990	1,995	630	315	20.2

igubal® detectable

igubal® detectable | Product range

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



Order key

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

Options:

Thread

L = Left-hand thread

R = Right-hand thread

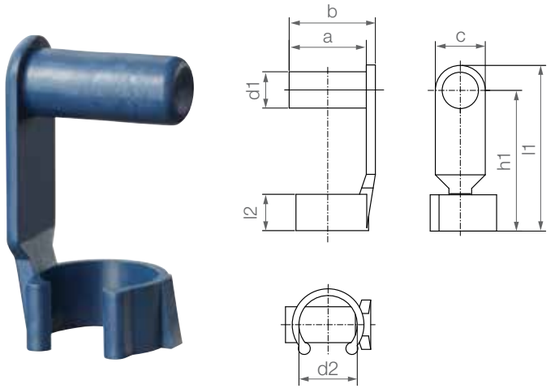
Material:
RN246 ▶ Page 1657

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	M10 x 1.25	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	M12 x 1.25	20	61.3	48	18

igubal® detectable | Product range

Spring-loaded fixing clips, detectable: GEFM-DT



Order key

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

Material:
RN246 ▶ Page 1657

- Resistant to dust and dirt
- Maintenance and lubrication-free
- Vibration-dampening
- Lightweight

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

igubal® detectable | Product range

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

Order key

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

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

Material:
RN246 ▶ Page 1657

- Resistant to dust and dirt
- Maintenance and lubrication-free
- Vibration-dampening
- Lightweight

Technical data

Part No.	Max. static tensile strain		Max. static axial force		Weight
	Short-term [N]	Long-term [N]	Short-term [N]	Long-term [N]	[g]
GE□MF-04-DT	350	175	175	87.5	1.3
GE□MF-05-DT	630	315	175	87.5	3.8
GE□MF-06-DT	910	455	210	105.0	3.9
GE□MF-08-DT	1,470	735	455	227.5	9.1
GE□MF-10-DT	2,100	1,050	560	280.0	18.2
GE□MF-10-DT-F	2,100	1,050	560	280.0	18.2
GE□MF-12-DT	2,450	1,225	630	315.0	28.6
GE□MF-12-DT-F	2,450	1,225	630	315.0	28.6


Individual components: Clevis joint GERM-DT and spring-loaded fixing clip GEFM-DT
▶ Page 868 and 870