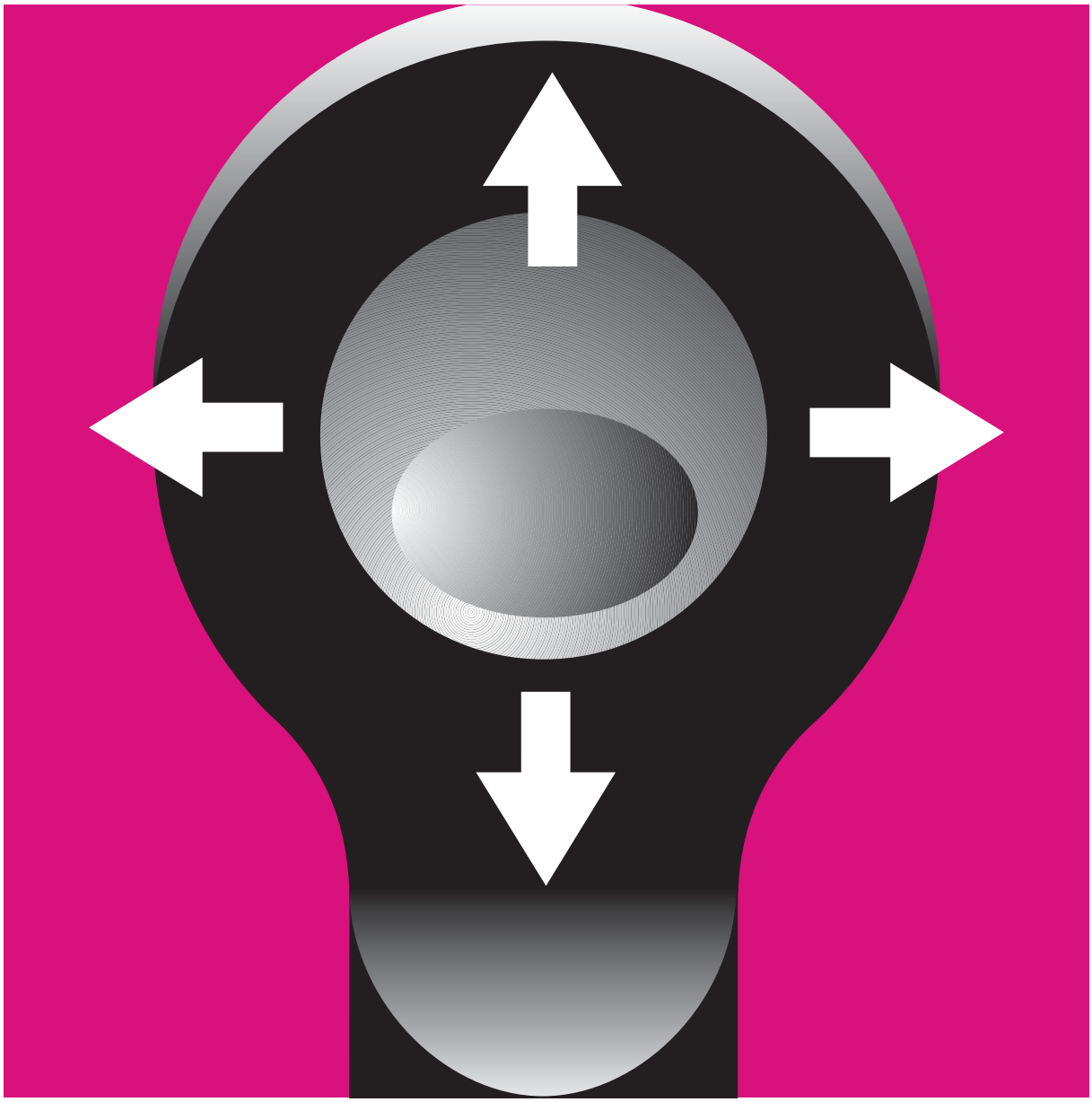

# igubal® Rod End Bearings

- Maintenance-free, self-lubricating
- High strength under impact loads
- High tensile strength
- Compensation for alignment errors
- Compensation for edge loads
- Light weight



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mm

Inch

## Special properties of igubal® Rod End Bearings:

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

## Loads

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

igubal®
Rod End Bearings

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51147 Cologne

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## Coefficients of Friction and Speed

One important advantage of igubal® spherical bearings is that rapid, rotary movements of a mounted shaft take place directly between the shaft and the iglidur® plain spherical bearing. In metallic rod ends, rotary motion takes place between the race and the spherical bearing. High speeds can be achieved with igubal® bearings.
igubal® bearings are used in such a way that the angular movements of the spherical bearings take place at the outside diameter. By contrast, rotations of the shaft are supported directly in the inner diameter of the spherical bearing. The advantage therefore lies in the polymer vs. steel relationship. Polymer produces lower friction and permits high speeds, even when running dry.
The maintenance-free igubal® bearing system is also suitable for linear and oscillating shaft movements.

## Product Range

igubal® rod end bearings are available in the dimensional series K and E for shaft diameters of 2 to 30 mm.

- Form A – with male threads
- Form B – with female threads.

The dimensional series K is available in imperial dimensions, as well as a special version containing a stainless steel sleeve in the inner race. This allows a significantly higher torque than for the standard polymer race. Please contact us or visit our website for information on quantities, availability and pricing.

## Tolerances

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

**Picture 51.1: igubal® rod end bearings in a confectionery decorating machine**

**Picture 51.2: igubal® rod end bearings in the a bicycle rear suspension**

**Picture 51.3: igubal® rod end bearings in the closing mechanism of an outdoor security gate**





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## igubal® Rod End Bearings with Female Thread

**KBRM/KBLM**
Dimensional
Series K
Standard design
Page 51.6

**KBRM/KBLM**
Dimensional Series K
Standard design with
metal sleeve (MH)
Page 51.6

**KBRM CL**
Dimensional
Series K
2nd generation
Page 51.10

**KCRM**
Dimensional
Series K
Page 51.11

**EBRM/EBLM**
Dimensional
Series E
Page 51.14

**EBRM HT/EBLM HT**
Dimensional
Series E
High Temperature
Page 51.17

**KBRI/KBLI**
Dimensional Series K
Standard design with
imperial dimensions
Page 51.18

**EBRI/EBLI**
Dimensional Series E
Standard design with
imperial dimensions
Page 51.22

## igubal® Rod End Bearings with Male Thread

**KARM/KALM**
Series K
Standard design
Page 51.8

**KARM/KALM**
Series K
Standard design
with metal sleeve (MH)
Page 51.8

**KARM CL**
Series K
2nd generation
Page 51.11

**EARM/EALM**
Series E
Page 51.12

**EARM HT/ EALM HT**
Series E
High Temperature
Page 51.16

**KARI/KALI**
Dimensional Series K
Standard design with
imperial dimensions
Page 51.20

## igubal® Accessories for Rod End Bearings

**Adapter bolt**
Page 51.24

**Clevis joint**
with clevis pin
and circlip
Page 52.4

**Clevis joint**
with spring-loaded
pins
Page 52.7

**WGRM**
Ball and Socket
Joint (ellbow)
Page 51.25

**WGRM-LC MS**
Low-cost Ball and
Socket Joint (ellbow)
Page 51.26

**AGRM**
Ball and Socket
Joint (axial)
Page 51.27

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## Structure for Part Numbers for igubal® Rod End Bearings

The part numbers of igubal® rod end bearings are built up using the following system:

**K B R M - 10 - M H**

**Series**
K = **Series** K
E = **Series** E

**Housing with**
A = Male thread
B = Female thread
C = Female thread

**Thread design**
L = Standard left hand
R = Standard right hand

**Dimensional Standard**
M = Metric
I = Imperial

**Nominal inside diameter**

**Design**
CL = 2nd generation
F = fine thread pitch
HT = high temperature
J = with spherical bearing made from iglidur® J
J4 = with spherical bearing made from iglidur® J4
MH = with metal sleeve inner diameter series K: +0,15 mm
R = with spherical bearing made from iglidur® R
X = with spherical bearing made from iglidur® X

The example given is the number for a rod end bearing of the dimensional series K with metric female right hand thread. The inner diameter of the spherical ball is 10 mm. It is a special design with a metal insert sleeve. In most cases, the thread size corresponds to the inner diameter – here it is M10. However, there are some exceptions, so please pay attention to the following tables.

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/igubal**



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Data in mm

**Structure – part no.**

**K B ... M-02**

- Dimension
- Metric
- Thread
  - L = L.-hand thread
  - R = R.-hand thread
- Housing (female thread)
- Material

**Standard design**

**Design with metal sleeve (MH)**

## igubal® – Rod End Bearings:

- Maintenance-free, self-lubricating
- High strength under impact loads
- Very high tensile strength for varying loads
- Compensation for alignment errors
- Compensation for edge loads
- Resistant to dirt, dust and lint
- Resistant to corrosion and chemicals
- High vibration dampening capacity
- Suitable for rotating, oscillating and linear movements
- Very low weight
- Dimensional series K according to standard DIN ISO 12240
- Available with a metal sleeve to take a higher torque

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: iglidur® W300
▶ Chapter 5

## Load Data

**igubal® – Rod End Bearings KBRM / KBLM**

| Part Number | | Max. static tensile strength | | Max. radial load | | Minimum thread depth | Max. torque strength inside thread | Max. torque through Ball | |
|---|---|---|---|---|---|---|---|---|---|
| | | Short term | Long term | Short term | Long term | | | Standard | MH |
| R.-hand thread | L.-hand thread | [N] | [N] | [N] | [N] | [mm] | [Nm] | [Nm] | [Nm] |
| KBRM-02 | KBLM-02 | 200 | 100 | 50 | 25 | 4 | 0,3 | 1 | – |
| KBRM-03 | KBLM-03 | 800 | 400 | 100 | 50 | 5 | 0,5 | 2 | 4 |
| KBRM-05 M4 | KBLM-05 M4 | 1000 | 500 | 250 | 125 | 7 | 0,75 | 5 | 12 |
| KBRM-05 | KBLM-05 | 1000 | 500 | 250 | 125 | 7 | 1,0 | 5 | 12 |
| KBRM-06 | KBLM-06 | 1400 | 700 | 400 | 200 | 8 | 1,5 | 10 | 15 |
| KBRM-08 | KBLM-08 | 2100 | 1050 | 700 | 350 | 11 | 5,0 | 12 | 40 |
| KBRM-10 | KBLM-10 | 3100 | 1550 | 800 | 400 | 13 | 15,0 | 20 | 50 |
| KBRM-10 F | KBLM-10 F | 3100 | 1550 | 800 | 400 | 13 | 6,0 | 20 | 50 |
| KBRM-12 | KBLM-12 | 3600 | 1800 | 900 | 450 | 15 | 20,0 | 30 | 70 |
| KBRM-12 F | KBLM-12 F | 3600 | 1800 | 900 | 450 | 15 | 15,0 | 30 | 70 |
| KBRM-14 | KBLM-14 | 4000 | 2000 | 1000 | 500 | 17 | 25,0 | 35 | 75 |
| KBRM-16 | KBLM-16 | 4200 | 2100 | 1300 | 650 | 19 | 30,0 | 40 | 110 |
| KBRM-16 F | KBLM-16 F | 4200 | 2100 | 1300 | 650 | 19 | 27,5 | 40 | 110 |
| KBRM-18 | KBLM-18 | 4600 | 2300 | 1600 | 800 | 21 | 45,0 | 45 | 150 |
| KBRM-20 | KBLM-20 | 5400 | 2700 | 2100 | 1050 | 22 | 60,0 | 55 | 200 |
| KBRM-20 M20 | KBLM-20 M20 | 5400 | 2700 | 2100 | 1050 | 22 | 60,0 | 55 | 200 |
| KBRM-22 | KBLM-22 | 7000 | 3500 | 2200 | 1100 | 25 | 75,0 | 60 | – |
| KBRM-25 | KBLM-25 | 8500 | 4250 | 2300 | 1150 | 28 | 120,0 | 60 | – |
| KBRM-30 | KBLM-30 | 10500 | 5250 | 2500 | 1250 | 34 | 135,0 | 60 | – |
| KBRM-30 M27x2 | KBLM-30 M27x2 | 10500 | 5250 | 2500 | 1250 | 34 | 135,0 | 60 | – |

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/kbrm**



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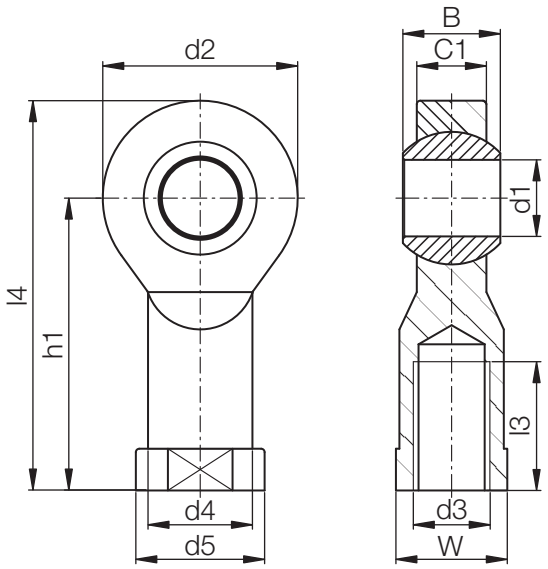


## Dimensions [mm]

**igubal® – Rod End Bearings KBRM / KBLM**

| Part Number | | d1 E10 | d2 | d3 | d4 | d5 | C1 | B | h1 | l3 | l4 | W | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R.-hand thread | L.-hand thread | | | | | | | | | | | | |
| **KBRM-02** | **KBLM-02** | 2 | 9 | M02 | 4,0 | 4,6 | 3,0 | 4 | 12,5 | 6 | 17 | SW04 | 30° |
| **KBRM-03** | **KBLM-03** | 3 | 13 | M03 | 6,5 | 8,0 | 4,5 | 6 | 18,5 | 8 | 25 | SW06 | 30° |
| **KBRM-05 M4** | **KBLM-05 M4** | 5 | 18 | M04 | 9,0 | 12,0 | 6,0 | 8 | 27 | 10 | 36 | SW09 | 30° |
| **KBRM-05** | **KBLM-05** | 5 | 18 | M05 | 9,0 | 12,0 | 6,0 | 8 | 27 | 10 | 36 | SW09 | 30° |
| **KBRM-06** | **KBLM-06** | 6 | 20 | M06 | 10,0 | 13,0 | 7,0 | 9 | 30 | 12 | 40 | SW11 | 29° |
| **KBRM-08** | **KBLM-08** | 8 | 24 | M08 | 13,0 | 16,0 | 9,0 | 12 | 36 | 16 | 48 | SW14 | 25° |
| **KBRM-10** | **KBLM-10** | 10 | 30 | M10 | 15,0 | 19,0 | 10,5 | 14 | 43 | 20 | 58 | SW17 | 25° |
| **KBRM-10 F** | **KBLM-10 F** | 10 | 30 | M10 x 1,25 | 15,0 | 19,0 | 10,5 | 14 | 43 | 20 | 58 | SW17 | 25° |
| **KBRM-12** | **KBLM-12** | 12 | 34 | M12 | 18,0 | 22,0 | 12,0 | 16 | 50 | 22 | 67 | SW19 | 25° |
| **KBRM-12 F** | **KBLM-12 F** | 12 | 34 | M12 x 1,25 | 18,0 | 22,0 | 12,0 | 16 | 50 | 22 | 67 | SW19 | 25° |
| **KBRM-14** | **KBLM-14** | 14 | 38 | M14 | 20,0 | 25,0 | 13,5 | 19 | 57 | 25 | 76 | SW22 | 25° |
| **KBRM-16** | **KBLM-16** | 16 | 42 | M16 | 22,0 | 27,0 | 15,0 | 21 | 64 | 28 | 85 | SW22 | 23° |
| **KBRM-16 F** | **KBLM-16 F** | 16 | 42 | M16 x 1,5 | 22,0 | 27,0 | 15,0 | 21 | 64 | 28 | 85 | SW22 | 23° |
| **KBRM-18** | **KBLM-18** | 18 | 46 | M18 x 1,5 | 25,0 | 31,0 | 16,5 | 23 | 71 | 32 | 94 | SW27 | 23° |
| **KBRM-20** | **KBLM-20** | 20 | 50 | M20 x 1,5 | 28,0 | 34,0 | 18,0 | 25 | 77 | 33 | 102 | SW30 | 23° |
| **KBRM-20 M20** | **KBLM-20 M20** | 20 | 50 | M20 x 2,5 | 28,0 | 34,0 | 18,0 | 25 | 77 | 33 | 102 | SW30 | 23° |
| **KBRM-22** | **KBLM-22** | 22 | 56 | M22 x 1,5 | 30,0 | 37,0 | 20,0 | 28 | 84 | 37 | 112 | SW32 | 22° |
| **KBRM-25** | **KBLM-25** | 25 | 60 | M24 x 2,0 | 32,0 | 41,0 | 22,0 | 31 | 94 | 42 | 124 | SW36 | 22° |
| **KBRM-30** | **KBLM-30** | 30 | 70 | M30 x 2,0 | 37,0 | 50,0 | 25,0 | 37 | 110 | 51 | 145 | SW41 | 22° |
| **KBRM-30 M27x2** | **KBLM-30 M27x2** | 30 | 70 | M27 x 2,0 | 37,0 | 50,0 | 25,0 | 37 | 110 | 51 | 145 | SW41 | 22° |

Rod end bearings can be ordered in metric dimensions **with metal insert** with the addition of **MH** after the part numbers listed here, for example: KBRM-10 **MH** (inner diameter: +0,15 mm).

**Available from stock**

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/kbrm**



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Data in mm

**Structure – part no.**

**K A … M-05**

- Dimension
- Metric
- Thread
  - L = L.-hand thread
  - R = R.-hand thread
- Housing (male thread)
- Material

**Standard design**

**Design with metal sleeve (MH)**

## igubal® – Rod End Bearings:

- Maintenance-free, self-lubricating
- High strength under impact loads
- Very high tensile strength for varying loads
- Compensation for alignment errors
- Compensation for edge loads
- Resistant to dirt, dust and lint
- Resistant to corrosion and chemicals
- High vibration dampening capacity
- Suitable for rotating, oscillating, and linear movements
- Light weight
- Dimensional series K according to standard DIN ISO 12240
- Available with metal sleeve to take a higher torque

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: iglidur® W300
▶ Chapter 5

## Load Data

**igubal® – Rod End Bearings KARM / KALM**

| Part Number | | Max. static tensile strength | | Max. radial load | | Min. thread depth | Max. torque strength outside Thread | Max. torque through ball | |
|---|---|---|---|---|---|---|---|---|---|
| | | Short term | Long term | Short term | Long term | | | Standard | MH |
| R.-hand thread | L.-hand thread | [N] | [N] | [N] | [N] | [mm] | [Nm] | [Nm] | [Nm] |
| KARM-05 | KALM-05 | 800 | 400 | 80 | 40 | 13 | 0,4 | 5 | 12 |
| KARM-06 | KALM-06 | 1000 | 500 | 100 | 50 | 15 | 0,5 | 10 | 15 |
| KARM-08 | KALM-08 | 1700 | 850 | 200 | 100 | 18 | 2,0 | 12 | 40 |
| KARM-10 | KALM-10 | 2500 | 1250 | 300 | 150 | 20 | 5,0 | 20 | 50 |
| KARM-10 F | KALM-10 F | 2500 | 1250 | 300 | 150 | 20 | 3,0 | 20 | 50 |
| KARM-12 | KALM-12 | 2700 | 1350 | 400 | 200 | 22 | 6,0 | 30 | 70 |
| KARM-12 F | KALM-12 F | 2700 | 1350 | 400 | 200 | 22 | 6,0 | 30 | 70 |
| KARM-14 | KALM-14 | 3400 | 1700 | 700 | 350 | 25 | 12,0 | 35 | 75 |
| KARM-16 | KALM-16 | 3900 | 1950 | 800 | 400 | 26 | 17,0 | 40 | 110 |
| KARM-16 F | KALM-16 F | 3900 | 1950 | 800 | 400 | 26 | 17,0 | 40 | 110 |
| KARM-18 | KALM-18 | 4200 | 2100 | 1000 | 500 | 29 | 20,0 | 45 | 150 |
| KARM-20 | KALM-20 | 6000 | 3000 | 1300 | 650 | 32 | 25,0 | 55 | 200 |
| KARM-20 M20 | KALM-20 M20 | 6000 | 3000 | 1300 | 650 | 32 | 25,0 | 55 | 200 |
| KARM-22 | KALM-22 | 7200 | 3600 | 1500 | 750 | 34 | 25,0 | 60 | – |
| KARM-25 | KALM-25 | 7500 | 3750 | 1900 | 950 | 39 | 45,0 | 65 | – |
| KARM-30 | KALM-30 | 8800 | 4400 | 2300 | 1150 | 46 | 85,0 | 70 | – |

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/karm**



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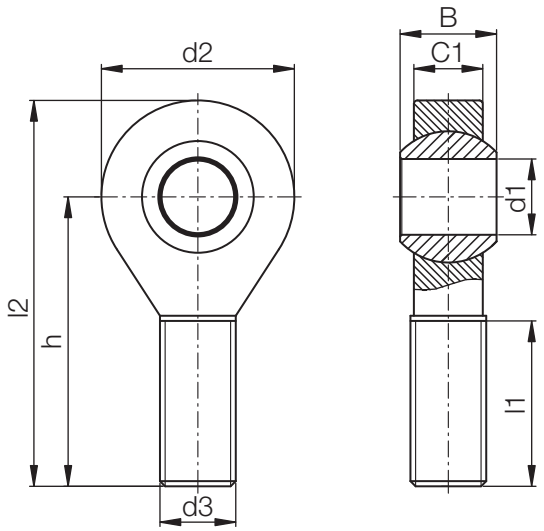


## Dimensions [mm]

**igubal® – Rod End Bearings KARM / KALM**

| Part Number | | d1 E10 | d2 | d3 | C1 | B | h | l1 | l2 | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|---|
| R.-hand thread | L.-hand thread | | | | | | | | | |
| **KARM-05** | **KALM-05** | 5 | 18 | M05 | 6,0 | 8,0 | 33 | 19 | 42 | 30° |
| **KARM-06** | **KALM-06** | 6 | 20 | M06 | 7,0 | 9,0 | 36 | 21 | 46 | 29° |
| **KARM-08** | **KALM-08** | 8 | 24 | M08 | 9,0 | 12,0 | 42 | 25 | 55 | 25° |
| **KARM-10** | **KALM-10** | 10 | 30 | M10 | 10,5 | 14,0 | 48 | 28 | 63 | 25° |
| **KARM-10 F** | **KALM-10 F** | 10 | 30 | M10 x 1,25 | 10,5 | 14,0 | 48 | 28 | 63 | 25° |
| **KARM-12** | **KALM-12** | 12 | 34 | M12 | 12,0 | 16,0 | 54 | 32 | 71 | 25° |
| **KARM-12 F** | **KALM-12 F** | 12 | 34 | M12 x 1,25 | 12,0 | 16,0 | 54 | 32 | 71 | 25° |
| **KARM-14** | **KALM-14** | 14 | 38 | M14 | 13,5 | 19,0 | 61 | 36 | 79 | 25° |
| **KARM-16** | **KALM-16** | 16 | 42 | M16 | 15,0 | 21,0 | 66 | 37 | 88 | 23° |
| **KARM-16 F** | **KALM-16 F** | 16 | 42 | M16 x 1,5 | 15,0 | 21,0 | 66 | 37 | 88 | 23° |
| **KARM-18** | **KALM-18** | 18 | 46 | M18 x 1,5 | 16,5 | 23,0 | 72 | 41 | 96 | 23° |
| **KARM-20** | **KALM-20** | 20 | 50 | M20 x 1,5 | 18,0 | 25,0 | 78 | 45 | 104 | 23° |
| **KARM-20 M20** | **KALM-20 M20** | 20 | 50 | M20 x 2,5 | 18,0 | 25,0 | 78 | 45 | 104 | 23° |
| **KARM-22** | **KALM-22** | 22 | 56 | M22 x 1,5 | 20,0 | 28,0 | 84 | 48 | 112 | 22° |
| **KARM-25** | **KALM-25** | 25 | 61 | M24 x 2,0 | 22,0 | 31,0 | 95 | 55 | 126 | 22° |
| **KARM-30** | **KALM-30** | 30 | 71 | M30 x 2,0 | 25,0 | 37,0 | 112 | 66 | 147 | 22° |

Rod end bearings can be ordered in metric dimensions **with metal insert** with the addition of **MH** after the part numbers listed here, for example: KBRM-10 **MH** (inner diameter: +0,15 mm).

**Available for delivery**





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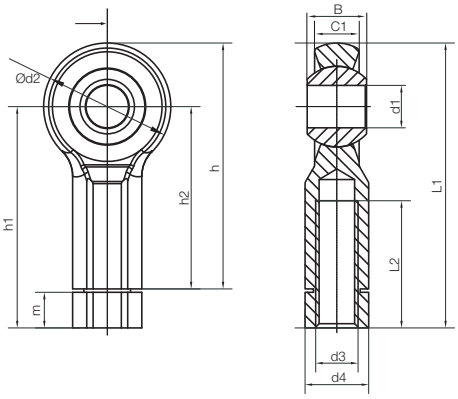



Data in mm

**Structure – part no**

**K B R M-10 CL**

- 2nd Generation
- Dimension
- Metric
- Right-hand-thread
- Housing (female thread)
- Material

**Housing**
**(Female thread)**

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

## Special properties

- Smooth design has no dirt traps
- Compensation for alignment errors
- Light weight
- Excellent corrosion resistance
- Design with metal sleeve for higher torque strength available
- Left-hand thread version KBLM in preparation
- Standard spherical bearing: iglidur® W300

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: variable
▶ Page 57.3

## Load Data

**igubal® – Rod End Bearings KBRM CL**

| Part Number | Maximum static tensile strength | | Maximum radial load | | Minimum thread depth | Max. torque strength outside thread | Max. torque though Ball | |
|---|---|---|---|---|---|---|---|---|
| | short-term | long-term | short-term | long-term | | | standard | MH |
| | [N] | [N] | [N] | [N] | [mm] | [Nm] | [Nm] | [Nm] |
| **KBRM-06 CL** | 1400 | 700 | 300 | 150 | 8 | 0,75 | 10 | 15 |
| **KBRM-08 CL** | 2100 | 1050 | 500 | 250 | 11 | 2,0 | 12 | 40 |
| **KBRM-10 CL** | 3100 | 1550 | 800 | 400 | 13 | 3,0 | 20 | 50 |

## Dimensions [mm]

**igubal® – Rod End Bearings KBRM CL**

| Part Number | d1 E10 | d2 | d3 | d4 | B | C1 | h | h1 | h2 | L2 | L1 | m | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **KBRM-06 CL** | 6 | 20 | M06 | SW10 | 9 | 7 | 40 | 36,5 | 30 | 20 | 46,5 | 5,7 | 40° |
| **KBRM-08 CL** | 8 | 24 | M08 | SW13 | 12 | 9 | 48 | 44,3 | 36 | 25 | 56,3 | 7,5 | 35° |
| **KBRM-10 CL** | 10 | 30 | M10 | SW15 | 14 | 10,5 | 58 | 52,2 | 43 | 30 | 67,2 | 8,4 | 35° |

For rod end bearings with metal insert please add **MH** to the part number, e.g. KRBM-10 CL **MH**.
For another spherical bearing material please add **J**, **R** or **X** to the part number, e.g. KBRM-10 CL **J**.

## Spherical bearing material to choose ▶ Page 57.3

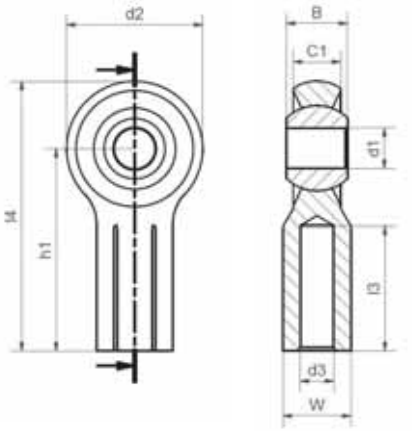
RKM:
Low Cost

XKM: High temperatures

JKM: Low moisture absorption

standard spherical bearing with metal sleeve

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/kbrm-cl**




Data in mm

**Structure – part no.**

**K C … M-06**

- Dimension
- Metric
- Thread
  - L = L.-hand thread
  - R = R.-hand thread
- Housing (female thread)
- Material

**Housing**
**(Female thread)**

## Special properties

- Smooth design has no dirt traps
- Spherical ball is clipped in
- Choice of iglidur® ball materials
- Compensation for alignment errors
- Light weight
- Universal corrosion-resistance
- Standard spherical bearing: iglidur® W300

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: variable
▶ Page 57.3

## Load Data

**igubal® – Rod End Bearings KCRM / KCLM**

| Part Number | | Max. static tensile strength | | Max. radial load | | Max. torque strength inside thread |
|---|---|---|---|---|---|---|
| | | Short term | Long term | Short term | Long term | |
| R.-hand thread | L.-hand thread | [N] | [N] | [N] | [N] | [Nm] |
| KCRM-06 | KCLM-06 | 1400 | 700 | 300 | 150 | 0,75 |
| KCRM-08 | KCLM-08 | 2100 | 1050 | 500 | 250 | 2,0 |
| KCRM-10 | KCLM-10 | 3100 | 1550 | 800 | 400 | 3,0 |

## Dimensions [mm]

**igubal® – Rod End Bearings KCRM / KCLM**

| Part Number | | d1 E10 | d2 | d3 | W | B | C1 | h1 | l3 | l4 | max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|---|---|
| R.-hand thread | L.-hand thread | | | | | | | | | | |
| KCRM-06 | KCLM-06 | 6 | 20 | M06 | SW10 | 9,0 | 7 | 30 | 13,5 | 40 | 40° |
| KCRM-08 | KCLM-08 | 8 | 24 | M08 | SW13 | 12,0 | 9 | 36 | 17 | 48 | 35° |
| KCRM-10 | KCLM-10 | 10 | 30 | M10 | SW15 | 14,0 | 10,5 | 43 | 22 | 58 | 35° |

Rod end bearings can be ordered in metric dimensions **with metal insert** with the addition of **MH** after the part numbers listed here, for example: KBRM-10 **MH.**

**Available from stock**

## Spherical bearing material to choose ▶ Page 57.3

RKM:
Low Cost

XKM: High temperatures

JKM: Low moisture absorption

standard spherical bearing with metal sleeve

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/kcrm**



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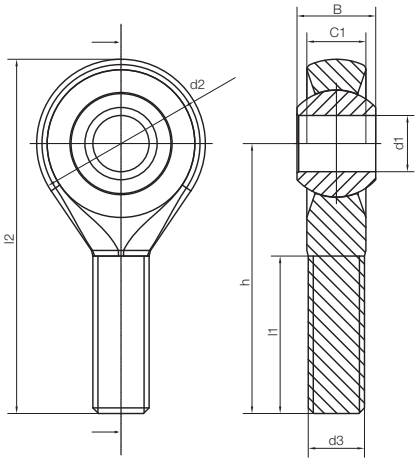
(male thread)




Data in mm

**Structure – part no**

**K A R M-10 CL**

- 2nd Generation
- Dimension
- Metric
- Right-hand-thread
- Housing (male thread)
- Material

## Special properties

- Smooth design has no dirt traps
- Compensation for alignment errors
- Light weight
- Excellent corrosion resistance
- Design with metal isleeve for higher torque strength available
- Left-hand thread version KALM in preparation
- Standard spherical bearing: iglidur® W300

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: variable
▶ Page 57.3

## Load Data

**igubal® – Rod End Bearings KARM CL standard with spherical bearing made from iglidur® W300**

| Part Number | Maximum static tensile strength | | Maximum radial load | | Minimum thread depth | Max. torque strength outside thread | Max. torque though Ball | |
|---|---|---|---|---|---|---|---|---|
| | short-term [N] | long-term [N] | short-term [N] | long-term [N] | [mm] | [Nm] | standard [Nm] | MH [Nm] |
| **KARM-06 CL** | 1000 | 500 | 100 | 50 | 15 | 0,5 | 10 | 15 |
| **KARM-08 CL** | 1700 | 850 | 200 | 100 | 18 | 2,0 | 12 | 40 |
| **KARM-10 CL** | 2500 | 1250 | 300 | 150 | 20 | 5,0 | 20 | 50 |
| **KARM-12 CL** | 2700 | 1350 | 400 | 200 | 22 | 6,0 | 30 | 70 |

## Dimensions [mm]

**igubal® – Rod End Bearings KARM CL**

| Part Number | d1 E10 | d2 | d3 | C1 | B | h | l1 | l2 | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|
| **KARM-06 CL** | 6 | 20 | M06 | 7,0 | 9,0 | 36 | 21 | 46 | 40° |
| **KARM-08 CL** | 8 | 24 | M08 | 9,0 | 12,0 | 42 | 25 | 55 | 35° |
| **KARM-10 CL** | 10 | 30 | M10 | 10,5 | 14,0 | 48 | 28 | 63 | 35° |
| **KARM-12 CL** | 12 | 34 | M12 | 12,0 | 16,0 | 54 | 32 | 71 | 35° |

For rod end bearings with metal insert please add **MH** to the part number, e.g. KABM-10 CL **MH**.
For another spherical bearing material please add **J**, **R** or **X** to the part number, e.g. KARM-10 CL **J**.

## Spherical bearing material to choose ▶ Page 57.3

RKM: Low Cost

XKM: High temperatures

JKM: Low moisture absorption

standard spherical bearing with metal sleeve

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/karm-cl**



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# My Sketches



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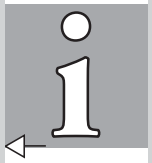

Data in mm

**Structure – part no.**

**E A ... M-05**

- Dimension
- Metric
- Thread
  - L = L.-hand thread
  - R = R.-hand thread
- Housing (male thread)
- Material

## igubal® – Rod End Bearings:

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

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: iglidur® W300
▶ Chapter 5
Other materials available upon request

## Load Data

**igubal® – Rod End Bearings EARM / EALM**

| Part Number | | Max. static tensile strength | | Max. radial load | | Min. thread depth | Max. torque strength outside Thread | Max. torque through Ball |
|---|---|---|---|---|---|---|---|---|
| | | Short term | Long term | Short term | Long term | | | |
| R.-hand thread | L.-hand thread | [N] | [N] | [N] | [N] | [mm] | [Nm] | [Nm] |
| EARM-05 | EALM-05 | 550 | 275 | 50 | 25 | 14 | 0,4 | 2,0 |
| EARM-06 | EALM-06 | 850 | 425 | 80 | 40 | 14 | 0,5 | 2,5 |
| EARM-08 | EALM-08 | 1600 | 800 | 160 | 80 | 17 | 2,0 | 7,0 |
| EARM-10 | EALM-10 | 2600 | 1300 | 250 | 125 | 19 | 5,0 | 14,0 |
| EARM-10 F | EALM-10 F | 2600 | 1300 | 250 | 125 | 19 | 3,0 | 14,0 |
| EARM-12 | EALM-12 | 3100 | 1550 | 300 | 150 | 20 | 6,0 | 25,0 |
| EARM-12 F | EALM-12 F | 3100 | 1550 | 300 | 150 | 20 | 6,0 | 25,0 |
| EARM-15 | EALM-15 | 3400 | 1700 | 600 | 300 | 24 | 12,5 | 30,0 |
| EARM-17 | EALM-17 | 3600 | 1800 | 900 | 450 | 26 | 17,5 | 35,0 |
| EARM-17 F | EALM-17 F | 3600 | 1800 | 900 | 450 | 26 | 21,0 | 35,0 |
| EARM-20 | EALM-20 | 6800 | 3400 | 1700 | 850 | 30 | 25,0 | 40,0 |
| EARM-20 M20 | EALM-20 M20 | 6800 | 3400 | 1700 | 850 | 30 | 25,0 | 40,0 |
| EARM-25 | EALM-25 | 7000 | 3500 | 1000 | 500 | 37 | 45,0 | 55,0 |
| EARM-30 | EALM-30 | 7000 | 3500 | 2000 | 1000 | 46 | 85,0 | 70,0 |

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/earm**



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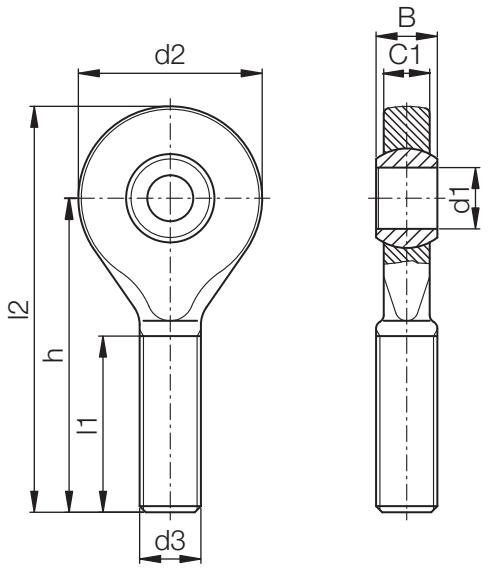


## Dimensions [mm]

**igubal® – Rod End Bearings EARM / EALM**

| Part Number | | d1 E10 | d2 | d3 | C1 | B | h | l1 | l2 | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|---|
| R. hand-thread | L. hand-thread | | | | | | | | | |
| **EARM-05** | **EALM-05** | 5 | 19 | M05 | 4,4 | 6 | 36 | 20 | 45,5 | 33° |
| **EARM-06** | **EALM-06** | 6 | 21 | M06 | 4,4 | 6 | 36 | 20 | 46,5 | 27° |
| **EARM-08** | **EALM-08** | 8 | 24 | M08 | 6,0 | 8 | 41 | 24 | 53,0 | 24° |
| **EARM-10** | **EALM-10** | 10 | 29 | M10 | 7,0 | 9 | 47,5 | 27 | 62,0 | 24° |
| **EARM-10 F** | **EALM-10 F** | 10 | 29 | M10 x 1,25 | 7,0 | 9 | 47,5 | 27 | 62,0 | 24° |
| **EARM-12** | **EALM-12** | 12 | 34 | M12 | 8,0 | 10 | 54 | 29 | 71,0 | 21° |
| **EARM-12 F** | **EALM-12 F** | 12 | 34 | M12 x 1,25 | 8,0 | 10 | 54 | 29 | 71,0 | 21° |
| **EARM-15** | **EALM-15** | 15 | 40 | M14 | 10,0 | 12 | 63 | 34 | 83,0 | 21° |
| **EARM-17** | **EALM-17** | 17 | 46 | M16 | 11,0 | 14 | 69 | 37 | 92,0 | 18° |
| **EARM-17 F** | **EALM-17 F** | 17 | 46 | M16 x 1,5 | 11,0 | 14 | 69 | 37 | 92,0 | 18° |
| **EARM-20** | **EALM-20** | 20 | 53 | M20 x 1,5 | 13,0 | 16 | 80 | 43 | 106,5 | 16° |
| **EARM-20 M20** | **EALM-20 M20** | 20 | 53 | M20 x 2,5 | 13,0 | 16 | 80 | 43 | 106,5 | 16° |
| **EARM-25** | **EALM-25** | 25 | 64 | M24 x 2,0 | 17,0 | 20 | 97 | 53 | 129,0 | 16° |
| **EARM-30** | **EALM-30** | 30 | 73 | M30 x 2,0 | 19,0 | 22 | 113 | 65 | 149,5 | 13° |

**Available from stock**

## Spherical bearing material to choose ► Page 57.3


J4VEM: clearance-free


JEM: Low moisture absorption


REM: Low Cost

**Lifetime calculation, CAD files and much more support ► www.igus.de/en/earm**



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EBRM V with metal inlay

Data in mm

**Structure – part no.**

**E B … M-04 V**

- Reinforcement
- Dimension
- Metric
- Thread
  - L = L.-hand thread
  - R = R.-hand thread
- Housing (female thread)
- Material

## igubal® – Rod End Bearings:

- Maintenance-free, self-lubricating
- High strength under impact loads
- Very high tensile strength for varying loads
- Compensation for alignment errors
- Compensation for edge loads
- Resistant to dirt, dust and lint
- Resistant to corrosion and chemicals
- High vibration dampening capacity
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional series E according to standard DIN ISO 12240
- 50 % higher tensile force possible due to metal inlay (only dimension 16, more dimensions on request)

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: iglidur® W300
▶ Chapter 5
More Spherical bearing materials on request
▶ Page 57.3

## Load Data

**igubal® – Rod End Bearings EBRM / EBLM**

| Part Number | | Max. static tensile strength | | Max. radial load | | Min. thread depth | Max. torque inside thread | Max. torque through ball |
|---|---|---|---|---|---|---|---|---|
| | | Short term | Long term | Short term | Long term | | | |
| R.-hand thread | L.-hand thread | [N] | [N] | [N] | [N] | [mm] | [Nm] | [Nm] |
| **EBRM-04** | **EBLM-04** | 800 | 400 | 100 | 50 | 7 | 0,4 | 2,0 |
| **EBRM-05** | **EBLM-05** | 1300 | 650 | 150 | 75 | 8 | 0,5 | 2,0 |
| **EBRM-06** | **EBLM-06** | 1500 | 750 | 200 | 100 | 8 | 1,5 | 2,5 |
| **EBRM-08** | **EBLM-08** | 2000 | 1000 | 450 | 225 | 11 | 5,0 | 7,0 |
| **EBRM-10** | **EBLM-10** | 2300 | 1150 | 500 | 250 | 13 | 15,0 | 14,0 |
| **EBRM-10 F** | **EBLM-10 F** | 2300 | 1150 | 500 | 250 | 13 | 6,0 | 14,0 |
| **EBRM-12** | **EBLM-12** | 3300 | 1650 | 550 | 275 | 14 | 20,0 | 25,0 |
| **EBRM-12 F** | **EBLM-12 F** | 3300 | 1650 | 550 | 275 | 14 | 15,0 | 25,0 |
| **EBRM-15** | **EBLM-15** | 4800 | 2400 | 800 | 400 | 18 | 25,0 | 30,0 |
| **EBRM-16** | **EBLM-16** | 5000 | 2500 | 850 | 425 | 18 | 20,0 | 32,0 |
| **EBRM-16 F** | **EBLM-16 F** | 5000 | 2500 | 850 | 425 | 18 | 15,0 | 32,0 |
| **EBRM-17** | **EBLM-17** | 5300 | 2650 | 1100 | 550 | 19 | 30,0 | 35,0 |
| **EBRM-17 F** | **EBLM-17 F** | 5300 | 2650 | 1100 | 550 | 19 | 27,5 | 35,0 |
| **EBRM-20** | **EBLM-20** | 7200 | 3600 | 1800 | 900 | 22 | 60,0 | 40,0 |
| **EBRM-20 M20** | **EBLM-20 M20** | 7200 | 3600 | 1800 | 900 | 22 | 60,0 | 40,0 |
| **EBRM-25** | **EBLM-25** | 10000 | 5000 | 2600 | 1300 | 27 | 115,0 | 55,0 |
| **EBRM-30** | **EBLM-30** | 10500 | 5250 | 3000 | 1500 | 33 | 130,0 | 70,0 |

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/ebrm**



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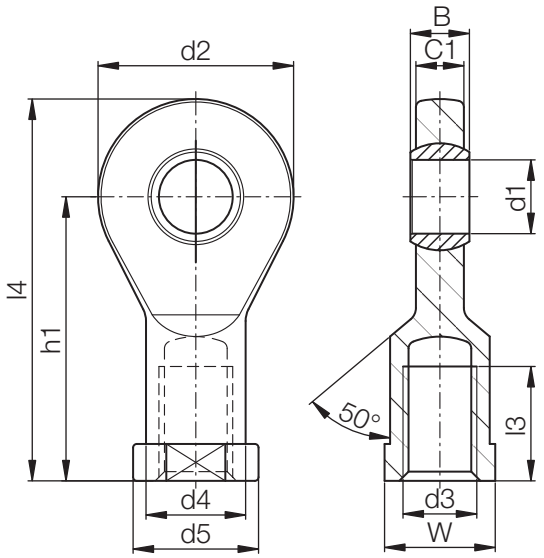


## Dimensions [mm]

**igubal® – Rod End Bearings EBRM / EBLM**

| Part Number | | d1 E10 | d2 | d3 | d4 | d5 | C1 | B | h1 | l3 | l4 | W | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R.-hand thread | L.-hand thread | | | | | | | | | | | | |
| **EBRM-04** | **EBLM-04** | 4 | 15 | M04 | – | – | 3,5 | 5 | 22,5 | 9,5 | 30,0 | SW08 | 33° |
| **EBRM-05** | **EBLM-05** | 5 | 19 | M05 | 9,0 | 11 | 4,4 | 6 | 30 | 12 | 39,5 | SW09 | 33° |
| **EBRM-06** | **EBLM-06** | 6 | 21 | M06 | 11,0 | 13 | 4,4 | 6 | 30 | 12 | 40,5 | SW11 | 27° |
| **EBRM-08** | **EBLM-08** | 8 | 24 | M08 | 13,0 | 16 | 6,0 | 8 | 36 | 16 | 48,0 | SW14 | 24° |
| **EBRM-10** | **EBLM-10** | 10 | 29 | M10 | 15,0 | 19 | 7,0 | 9 | 43 | 18 | 57,5 | SW17 | 24° |
| **EBRM-10 F** | **EBLM-10 F** | 10 | 29 | M10 x 1,25 | 15,0 | 19 | 7,0 | 9 | 43 | 18 | 57,5 | SW17 | 24° |
| **EBRM-12** | **EBLM-12** | 12 | 34 | M12 | 18,0 | 22 | 8,0 | 10 | 50 | 20 | 67,0 | SW19 | 21° |
| **EBRM-12 F** | **EBLM-12 F** | 12 | 34 | M12 x 1,25 | 18,0 | 22 | 8,0 | 10 | 50 | 20 | 67,0 | SW19 | 21° |
| **EBRM-15** | **EBLM-15** | 15 | 40 | M14 | 21,0 | 26 | 10,0 | 12 | 61 | 26 | 81,0 | SW22 | 21° |
| **EBRM-16** | **EBLM-16** | 16 | 43 | M16 | – | – | 10,5 | 13 | 64,5 | 26,5 | 86,0 | SW22 | 21° |
| **EBRM-16 F** | **EBLM-16 F** | 16 | 43 | M16 x 1,5 | – | – | 10,5 | 13 | 64,5 | 26,5 | 86,0 | SW22 | 21° |
| **EBRM-16 V** | | 16 | 43 | M16 | – | – | 10,5 | 13 | 64,5 | 26,5 | 86,0 | SW22 | 21° |
| **EBRM-17** | **EBLM-17** | 17 | 46 | M16 | 24,0 | 30 | 11,0 | 14 | 67 | 27 | 90,0 | SW27 | 18° |
| **EBRM-17 F** | **EBLM-17 F** | 17 | 46 | M16 x 1,5 | 24,0 | 30 | 11,0 | 14 | 67 | 27 | 90,0 | SW27 | 18° |
| **EBRM-20** | **EBLM-20** | 20 | 53 | M20 x 1,5 | 27,0 | 34 | 13,0 | 16 | 77 | 31 | 103,5 | SW30 | 16° |
| **EBRM-20 M20** | **EBLM-20 M20** | 20 | 53 | M20 x 2,5 | 27,0 | 34 | 13,0 | 16 | 77 | 31 | 103,5 | SW30 | 16° |
| **EBRM-25** | **EBLM-25** | 25 | 64 | M24 x 2,0 | 34,0 | 41 | 17,0 | 20 | 94 | 38 | 126,5 | SW36 | 16° |
| **EBRM-30** | **EBLM-30** | 30 | 73 | M30 x 2,0 | 41,0 | 48 | 19,0 | 22 | 110 | 47 | 146,5 | SW41 | 13° |

**Available from stock**

## Spherical bearing material to choose ► Page 57.3

J4VEM: clearance-free

JEM: Low moisture absorption

REM: Low Cost

**Lifetime calculation, CAD files and much more support ► www.igus.de/en/ebrm**



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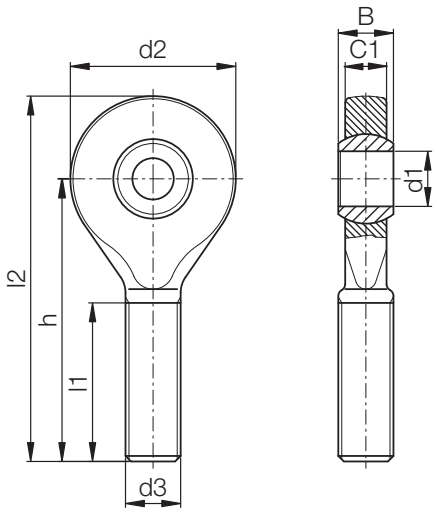
mm

Inch

# igubal® EA..M HT | **Rod End Bearings** | mm




Data in mm

**Structure – part no.**

**E A … M-06 HT**

- High Temperature
- Dimension
- Metric
- Thread
  - L = L.-hand thread
  - R = R.-hand thread
- Housing (male thread)
- Material

## igubal® – Rod End Bearings:

- for temperatures up to 200 °C
- Maintenance-free, self-lubricating
- High strength under impact loads
- Very high tensile strength for varying loads
- Compensation for alignment errors
- Compensation for edge loads
- Resistant to dirt, dust and lint
- Resistant to chemicals
- under water use
- High vibration dampening capacity
- Suitable for rotating, oscillating and linear movements
- Lightweight

**Material**

Housing: iguton G
▶ Page 70.6
Spherical Bearing: iglidur® X
▶ Chapter 6

## Dimensions [mm]

**igubal® – Rod End Bearings EARM HT/EALM HT**

| Part Number R.-hand thread | Part Number L.-hand thread | d1 E10 | d2 | d3 | C1 | B | h1 | l1 | l2 | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|---|
| EARM-06 HT | EALM-06 HT | 6 | 21 | M06 | 4,4 | 6 | 36 | 20 | 46,5 | 27° |
| EARM-08 HT | EALM-08 HT | 8 | 24 | M08 | 6,0 | 8 | 41 | 24 | 53,0 | 24° |
| EARM-10 HT | EALM-10 HT | 10 | 29 | M10 | 7,0 | 9 | 47,5 | 27 | 62,0 | 24° |
| EARM-12 HT | EALM-12 HT | 12 | 34 | M12 | 8,0 | 10 | 54 | 29 | 71,0 | 21° |

**Available from stock**





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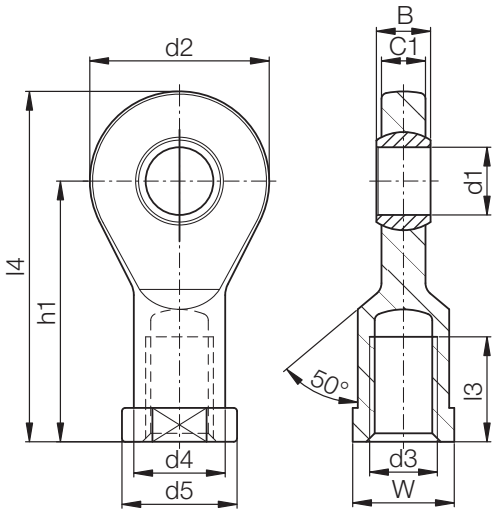
# igubal® EB..M HT | **Rod End Bearings** | mm


Data in mm

**Structure – part no.**

**E B … M-06 HT**

- High Temperature
- Dimension
- Metric
- Thread
  L = Left-hand
  R = Right-hand
- Housing
  (female thread)
- Material

## igubal® – Rod End Bearings:

- for temperatures up to 200 °C
- Maintenance-free, self-lubricating
- High strength under impact loads
- Very high tensile strength for varying loads
- Compensation for alignment errors
- Compensation for edge loads
- Resistant to dirt, dust and lint
- Resistant to chemicals
- under water use
- High vibration dampening capacity
- Suitable for rotating, oscillating and linear movements
- Lightweight
- Dimensional series K according to standard DIN ISO 12240

**Material**

Housing: iguton G
▶ Page 70.6
Spherical Bearing: iglidur® X
▶ Chapter 6

## Dimensions [mm]

**igubal® – Rod End Bearings EBRM HT/EBLM HT**

| Part Number R.-hand thread | Part Number L.-hand thread | d1 E10 | d2 | d3 | d4 | d5 | C1 | B | h1 | l3 | l4 | W | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EBRM-06 HT** | **EBLM-06 HT** | 6 | 21 | M06 | 11,0 | 13 | 4,4 | 6 | 30 | 12 | 40,5 | SW11 | 27° |
| **EBRM-08 HT** | **EBLM-08 HT** | 8 | 24 | M08 | 13,0 | 16 | 6,0 | 8 | 36 | 16 | 48,0 | SW14 | 24° |
| **EBRM-10 HT** | **EBLM-10 HT** | 10 | 29 | M10 | 15,0 | 19 | 7,0 | 9 | 43 | 18 | 57,5 | SW17 | 24° |
| **EBRM-12 HT** | **EBLM-12 HT** | 12 | 34 | M12 | 18,0 | 22 | 8,0 | 10 | 50 | 20 | 67,0 | SW19 | 21° |

**Available from stock**





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Data in inches

**Structure – part no.**

**K B … I-03**

- Dimension
- Inch
- Thread
  - L = L.-hand thread
  - R = R.-hand thread
- Housing (female thread)
- Material

## igubal® – Rod End Bearings:

- Maintenance-free, self-lubricating
- High strength under impact loads
- Very high tensile strength for varying loads
- Compensation for alignment errors
- Compensation for edge loads
- Resistant to dirt, dust and lint
- Resistant to corrosion and chemicals
- High vibration dampening capacity
- Suitable for rotating, oscillating, and linear movements
- Lightweight

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: iglidur® W300
▶ Chapter 5

## Load Data

**igubal® – Rod End Bearings KBRI / KBLI**

| Part Number | | Max. static tensile stength | | Max. radial load | | Min. thread depth | Max. torque outside thread | Max. torque through ball |
|---|---|---|---|---|---|---|---|---|
| | | Short Term | Long Term | Short Term | Long Term | | | |
| R.-hand thread | L.-hand thread | [N] | [N] | [N] | [N] | [inch] | [Nm] | [Nm] |
| **KBRI-03** | **KBLI-03** | 900 | 450 | 300 | 150 | ,350 | 2 | 3 |
| **KBRI-04** | **KBLI-04** | 1100 | 550 | 400 | 200 | ,480 | 5 | 4 |
| **KBRI-05** | **KBLI-05** | 1700 | 850 | 500 | 250 | ,480 | 6 | 10 |
| **KBRI-06** | **KBLI-06** | 2000 | 1000 | 1000 | 500 | ,568 | 7 | 15 |
| **KBRI-07** | **KBLI-07** | 2300 | 1150 | 1200 | 600 | ,655 | 18 | 25 |
| **KBRI-08** | **KBLI-08** | 2600 | 1300 | 1500 | 750 | ,743 | 23 | 35 |
| **KBRI-10** | **KBLI-10** | 4900 | 2450 | 1700 | 850 | ,962 | 30 | 50 |
| **KBRI-12** | **KBLI-12** | 5600 | 2800 | 2300 | 1150 | 1,093 | 40 | 70 |
| **KBRI-16** | **KBLI-16** | 6000 | 3000 | 2600 | 1300 | 1,488 | 46 | 85 |



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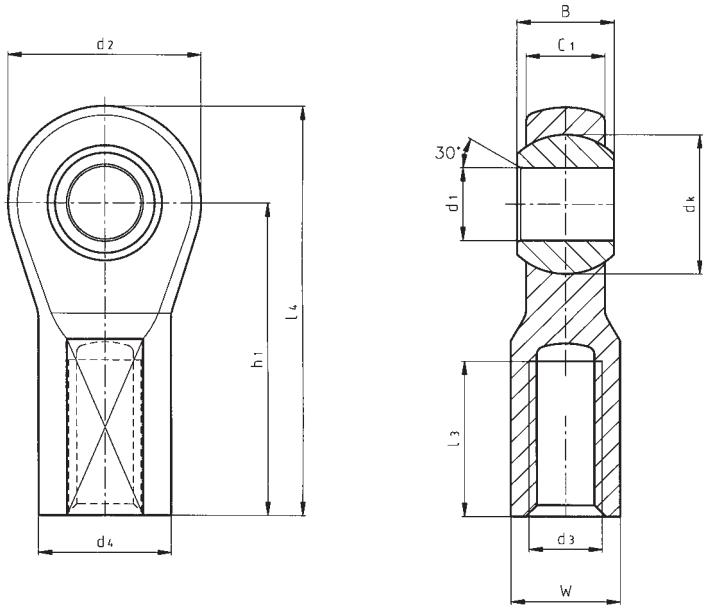


## Dimensions [inch]

**igubal® – Rod End Bearings KBRI / KBLI**

| Part Number | | d1 E10 | d2 | d3 | d4 | C1 | B | h1 | l3 | l4 | W | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R.-hand thread | L.-hand thread | | | | | | | | | | | |
| **KBRI-03** | **KBLI-03** | ,1900 | ,625 | 10-32 | ,406 | ,246 | ,312 | 1,062 | ,500 | 1,374 | ,312 | 25° |
| **KBRI-04** | **KBLI-04** | ,2500 | ,750 | 1/4-28 | ,469 | ,272 | ,365 | 1,312 | ,687 | 1,687 | ,375 | 25° |
| **KBRI-05** | **KBLI-05** | ,3125 | ,875 | 5/16-24 | ,500 | ,340 | ,437 | 1,375 | ,687 | 1,813 | ,437 | 25° |
| **KBRI-06** | **KBLI-06** | ,3750 | 1,000 | 3/8-24 | ,687 | ,394 | ,500 | 1,625 | ,812 | 2,125 | ,562 | 22° |
| **KBRI-07** | **KBLI-07** | ,4375 | 1,125 | 7/16-20 | ,750 | ,456 | ,562 | 1,812 | ,937 | 2,374 | ,625 | 22° |
| **KBRI-08** | **KBLI-08** | ,5000 | 1,312 | 1/2-20 | ,875 | ,487 | ,625 | 2,125 | 1,062 | 2,781 | ,750 | 22° |
| **KBRI-10** | **KBLI-10** | ,6250 | 1,500 | 5/8-18 | 1,000 | ,545 | ,750 | 2,500 | 1,375 | 3,250 | ,875 | 22° |
| **KBRI-12** | **KBLI-12** | ,7500 | 1,750 | 3/4-16 | 1,125 | ,676 | ,875 | 2,875 | 1,562 | 3,750 | 1,000 | 22° |
| **KBRI-16** | **KBLI-16** | 1,0000 | 2,750 | 1-12 | 1,625 | 1,000 | 1,375 | 4,125 | 2,125 | 5,500 | 1,500 | 20° |

Available from stock





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Data in inches

**Structure – part no.**

**K A ... I-03**

- Dimension
- Inch
- Thread
  - L = L.-hand thread
  - R = R.-hand thread
- Housing (male thread)
- Material

## igubal® – Rod End Bearings:

- Maintenance-free, self-lubricating
- High strength under impact loads
- Very high tensile strength for varying loads
- Compensation for alignment errors
- Compensation for edge loads
- Resistant to dirt, dust and lint
- Resistant to corrosion and chemicals
- High vibration dampening capacity
- Suitable for rotating, oscillating, and linear movements
- Lightweight

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: iglidur® W300
▶ Chapter 5

## Load Data

**igubal® – Rod End Bearings KARI / KALI**

| Part Number | | Max. static tensile stength | | Max. radial load | | Min. thread depth | Max. torque outside thread | Max. torque through ball |
|---|---|---|---|---|---|---|---|---|
| | | Short Term | Long Term | Short Term | Long Term | | | |
| R.-hand thread | L.-hand thread | [N] | [N] | [N] | [N] | [inch] | [Nm] | [Nm] |
| **KARI-03** | **KALI-03** | 390 | 200 | 70 | 35 | ,525 | 0,5 | 3 |
| **KARI-04** | **KALI-04** | 900 | 450 | 100 | 50 | ,700 | 1,0 | 4 |
| **KARI-05** | **KALI-05** | 1100 | 550 | 150 | 75 | ,875 | 2,0 | 10 |
| **KARI-06** | **KALI-06** | 1500 | 750 | 350 | 175 | ,875 | 3,0 | 15 |
| **KARI-07** | **KALI-07** | 2000 | 1000 | 400 | 200 | ,962 | 6,0 | 25 |
| **KARI-08** | **KALI-08** | 2500 | 1250 | 450 | 225 | 1,050 | 9,0 | 35 |
| **KARI-10** | **KALI-10** | 3500 | 1750 | 600 | 300 | 1,137 | 12,0 | 50 |
| **KARI-12** | **KALI-12** | 3900 | 1950 | 1000 | 500 | 1,226 | 25,0 | 70 |
| **KARI-16** | **KALI-16** | 4400 | 2200 | 1300 | 650 | 1,488 | 45,0 | 85 |

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/karm**



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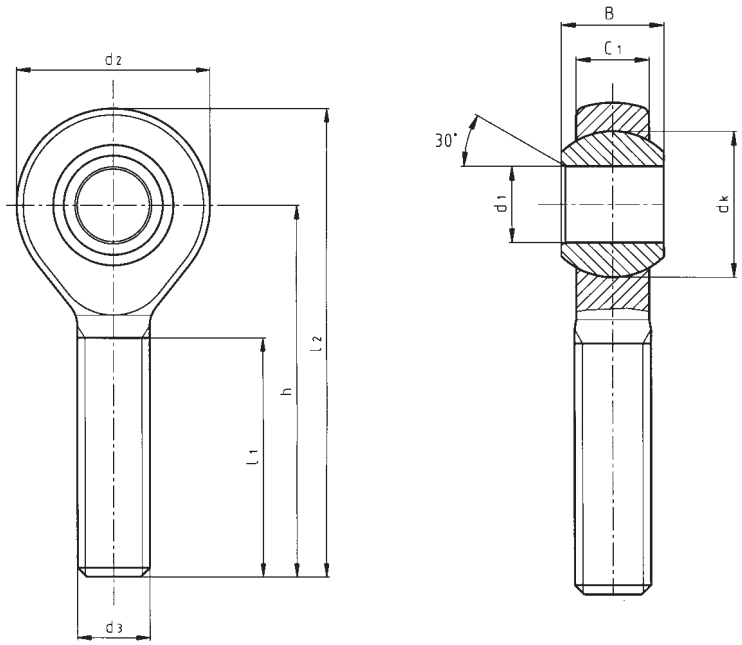


## Dimensions [inch]

**igubal® – Rod End Bearings KARI / KALI**

| Part Number | | d1 E10 | d2 | d3 | C1 | B | h | l1 | l2 | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|---|
| R.-hand thread | L.-hand thread | | | | | | | | | |
| **KARI-03** | **KALI-03** | ,1900 | ,625 | 10-32 | ,234 | ,312 | 1,250 | ,750 | 1,563 | 25° |
| **KARI-04** | **KALI-04** | ,2500 | ,750 | 1/4-28 | ,250 | ,365 | 1,562 | 1,000 | 1,937 | 25° |
| **KARI-05** | **KALI-05** | ,3125 | ,875 | 5/16-24 | ,312 | ,437 | 1,875 | 1,250 | 2,313 | 25° |
| **KARI-06** | **KALI-06** | ,3750 | 1,000 | 3/8-24 | ,359 | ,500 | 1,938 | 1,250 | 2,438 | 22° |
| **KARI-07** | **KALI-07** | ,4375 | 1,125 | 7/16-20 | ,406 | ,562 | 2,125 | 1,375 | 2,688 | 22° |
| **KARI-08** | **KALI-08** | ,5000 | 1,312 | 1/2-20 | ,453 | ,625 | 2,428 | 1,500 | 2,094 | 22° |
| **KARI-10** | **KALI-10** | ,6250 | 1,500 | 5/8-18 | ,484 | ,750 | 2,625 | 1,625 | 3,375 | 22° |
| **KARI-12** | **KALI-12** | ,7500 | 1,750 | 3/4-16 | ,593 | ,875 | 2,875 | 1,750 | 3,750 | 22° |
| **KARI-16** | **KALI-16** | 1,0000 | 2,750 | 1-12 | 1,000 | 1,375 | 4,125 | 2,350 | 5,500 | 20° |

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Data in inches

**Structure – part no.**

**E B … I-04**

- Dimension
- Inches
- Thread
  - L = L.-hand thread
  - R = R.-hand thread
- Housing (female thread)
- Material

## igubal® – Rod End Bearings:

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

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: iglidur® W300
▶ Chapter 5
More Spherical bearing materials on request
▶ Page 57.3

## Load Data

**igubal® – Rod End Bearings EBRI / EBLI**

| Part Number | | Max. static tensile strength | | Max. radial load | | Min. thread depth | Max. torque inside thread | Max. torque through ball |
|---|---|---|---|---|---|---|---|---|
| | | Short term | Long term | Short term | Long term | | | |
| R.-hand thread | L.-hand thread | [N] | [N] | [N] | [N] | [inches] | [Nm] | [Nm] |
| **EBRI-03** | **EBLI-03** | 1300 | 650 | 150 | 75 | ,315 | 2 | 2,0 |
| **EBRI-04** | **EBLI-04** | 1500 | 750 | 200 | 100 | ,315 | 5 | 2,5 |
| **EBRI-05** | **EBLI-05** | 2000 | 1000 | 450 | 225 | ,433 | 6 | 7,0 |
| **EBRI-06** | **EBLI-06** | 2300 | 1150 | 500 | 250 | ,512 | 7 | 14,0 |
| **EBRI-07** | **EBLI-07** | 3300 | 1650 | 550 | 275 | ,551 | 18 | 25,0 |
| **EBRI-08** | **EBLI-08** | 3300 | 1650 | 550 | 275 | ,551 | 23 | 25,0 |
| **EBRI-10** | **EBLI-10** | 5000 | 2500 | 850 | 425 | ,709 | 30 | 32,0 |
| **EBRI-12** | **EBLI-12** | 7200 | 3600 | 1800 | 900 | ,866 | 40 | 40,0 |



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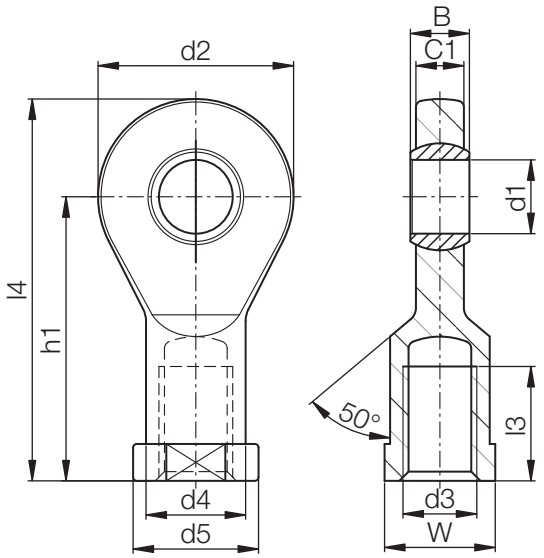



## Dimensions [inch]

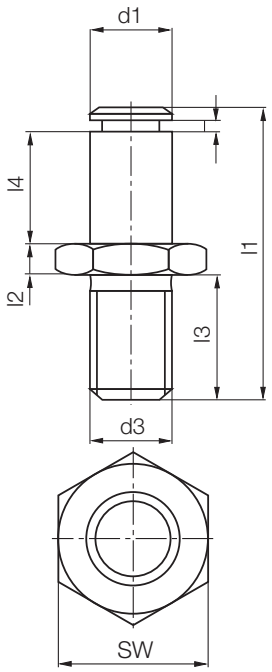
**igubal® – Rod End Bearings EBRI / EBLI**

| Part Number | | d1 E10 | d2 | d3 | d4 | d5 | C1 | B |
|---|---|---|---|---|---|---|---|---|
| R.-hand thread | L.-hand thread | | | | | | | |
| **EBRI-03** | **EBLI-03** | 0,1900 | 0,748 | 10–32 | 0,3543 | 0,4331 | 0,1732 | 0,1900 |
| **EBRI-04** | **EBLI-04** | 0,2500 | 0,827 | 1/4–28 | 0,4331 | 0,5118 | 0,1732 | 0,2500 |
| **EBRI-05** | **EBLI-05** | 0,3125 | 0,945 | 5/16–24 | 0,5118 | 0,6299 | 0,2362 | 0,3125 |
| **EBRI-06** | **EBLI-06** | 0,3750 | 1,142 | 3/8–24 | 0,5906 | 0,7480 | 0,2756 | 0,3750 |
| **EBRI-07** | **EBLI-07** | 0,4375 | 1,339 | 7/16–20 | 0,7087 | 0,8661 | 0,3150 | 0,4063 |
| **EBRI-08** | **EBLI-08** | 0,5000 | 1,339 | 1/2–20 | 0,7087 | 0,8661 | 0,3150 | 0,4063 |
| **EBRI-10*** | **EBLI-10*** | 0,6250 | 1,693 | 5/8–18 | – | – | 0,4134 | 0,5000 |
| **EBRI-12** | **EBLI-12** | 0,7500 | 2,087 | 3/4–16 | 1,0630 | 1,3386 | 0,5118 | 0,6250 |

| Part Number | | h1 | l3 | l4 | l5 | l7 | W | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|
| R.-hand thread | L.-hand thread | | | | | | | |
| **EBRI-03** | **EBLI-03** | 1,1811 | 0,4724 | 1,5551 | 0,1575 | 0,5512 | 0,35 | 30° |
| **EBRI-04** | **EBLI-04** | 1,1811 | 0,4724 | 1,5945 | 0,1969 | 0,5512 | 0,43 | 25° |
| **EBRI-05** | **EBLI-05** | 1,4173 | 0,6299 | 1,8898 | 0,1969 | 0,6299 | 0,55 | 22° |
| **EBRI-06** | **EBLI-06** | 1,6929 | 0,7087 | 2,2638 | 0,2559 | 0,7283 | 0,67 | 22° |
| **EBRI-07** | **EBLI-07** | 1,9685 | 0,7874 | 2,6378 | 0,2559 | 0,8661 | 0,75 | 18° |
| **EBRI-08** | **EBLI-08** | 1,9685 | 0,7874 | 2,6378 | 0,2559 | 0,8661 | 0,75 | 18° |
| **EBRI-10*** | **EBLI-10*** | 2,5394 | 1,0433 | 3,3858 | – | 0,8858 | 0,87 | 16° |
| **EBRI-12** | **EBLI-12** | 3,0315 | 1,2205 | 4,0748 | 0,3937 | 1,2598 | 1,18 | 14° |

Available from stock

* EBRI-10/EBLI-10 special form with hexagonal foot




Data in mm

**Structure – part no.**

**P K ... M-05**

- Dimension
- Metric
- Thread
  - L = L.-hand thread
  - R = R.-hand thread
- Serie
- Design

**Material**

POM

▶ Page 70.8

## igubal® – Adapter Bolts

Solid polymer bolts with a hexagonal head are an accessory to the series K rod ends. The plain shank fits into the inside diameter of the spherical ball and is secured by a circlip.

The igubal® adapter bolts consist of highly shock-resistant, long-fibre reinforced polymer POM.

## The most significant properties

- Lightweight
- Excellent corrosion resistance
- Designed for use with K series rod ends
- High strength under impact loads
- Vibration dampening
- Easy to fit
- Available in left and right hand threads

## Load Data and Dimensions [mm]

**igubal® – Adapter Bolts**

| Part Number | | Max. static tensile strength | | Max. radial load | | d3 [mm] | l1 | l4 | l3 | l2 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Short term | Long term | Short term | Long term | h11 | Width-across | Length adjusting bolt | Thread length | Nut width |
| R.-hand thread | L.-hand thread | [N] | [N] | [N] | [N] | | flats [mm] | [mm] | [mm] | [mm] |
| **PKRM-05** | **PKLM-05** | 100 | 50 | 200 | 100 | 5 | 25,0 | 8,5 | 11,3 | 2,7 |
| **PKRM-06** | **PKLM-06** | 150 | 75 | 250 | 125 | 6 | 28,0 | 9,5 | 12,8 | 3,2 |
| **PKRM-08** | **PKLM-08** | 250 | 125 | 400 | 200 | 8 | 32,0 | 12,5 | 12,5 | 4,0 |
| **PKRM-10** | **PKLM-10** | 500 | 250 | 600 | 300 | 10 | 37,5 | 14,5 | 14,5 | 5,0 |
| **PKRM-12** | **PKLM-12** | 700 | 350 | 900 | 450 | 12 | 42,0 | 16,5 | 15,5 | 6,0 |
| **PKRM-14** | **PKLM-14** | 800 | 400 | 1100 | 550 | 14 | 47,0 | 19,5 | 15,5 | 7,0 |
| **PKRM-16** | **PKLM-16** | 900 | 450 | 1400 | 700 | 16 | 52,0 | 22,0 | 16,5 | 8,0 |
| **PKRM-18** | **PKLM-18** | 800 | 400 | 1700 | 850 | 18 | 59,0 | 24,0 | 20,5 | 9,0 |
| **PKRM-20** | **PKLM-20** | 500 | 250 | 2200 | 1100 | 20 | 67,0 | 26,0 | 25,0 | 10,0 |

**Available from stock**

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/pkrm**



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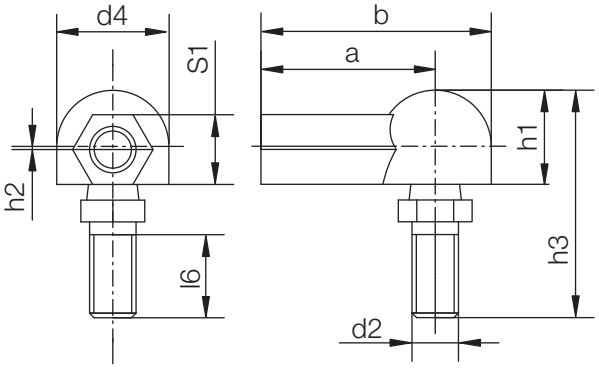


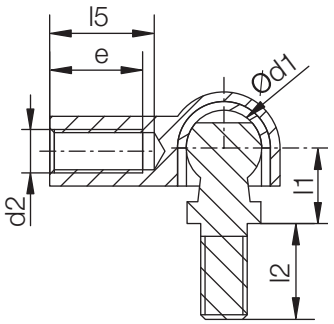


Data in mm

**Structure – part no.**

**WG R M-05**

- Dimension
- Metric
- Right-hand thread
- Ball and socket joint (elbow)

## The most significant properties

- Connection for rotating and swivelling movements
- Light weight and robust
- Easy and quick assembly
- Vibration dampening
- Resistant to dirt and dust

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: iglidur® W300
▶ Chapter 5

## Load Data Short term

| Part Number | Max. axial tensile force [N] (ball stud axis) | Max. axial compressive force [N] (pivoting axis) | Max. axial tensile force [N] (housing axis) | Max. axial tensile force [N] in housing axis with metal ball stud |
|---|---|---|---|---|
| **WGRM-05** | 30 | 200 | 100 | 600 |
| **WGRM-06** | 35 | 300 | 140 | 800 |
| **WGRM-08** | 250 | 500 | 200 | 1500 |
| **WGRM-10** | 250 | 900 | 400 | 1900 |

## Load Data Long term

| Part Number | Max. axial tensile force [N] (ball stud axis) | Max. axial compressive force [N] (pivoting axis) | Max. axial tensile force [N] (housing axis) | Max. axial tensile force [N] in housing axis with metal ball stud |
|---|---|---|---|---|
| **WGRM-05** | 15 | 100 | 50 | 300 |
| **WGRM-06** | 17,5 | 150 | 70 | 400 |
| **WGRM-08** | 125 | 250 | 100 | 750 |
| **WGRM-10** | 125 | 450 | 200 | 950 |

## Dimensions [mm]

| Part Number | d1 +0,1 -0,1 | d2 | d4 +0,5 -0,5 | l1 +0,2 -0,2 | l2 +0,3 -0,3 | l5 | l6 Min. | h3 +0,5 -0,5 | a +0,3 -0,3 | b +0,5 -0,5 | e +0,5 -0,5 | S1 | Max. pivot angle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WGRM-05** | 8,0 | M5 | 12,8 | 9,0 | 10,2 | 14,0 | 8,2 | 25,6 | 22,0 | 28,4 | 11,0 | SW 8 | 25° |
| **WGRM-06** | 10,0 | M6 | 14,8 | 11,0 | 12,5 | 16,0 | 10,5 | 30,9 | 25,0 | 32,4 | 13,0 | SW 9 | 25° |
| **WGRM-08** | 13,0 | M8 | 19,3 | 13,0 | 16,5 | 18,0 | 13,5 | 38,8 | 30,0 | 39,7 | 16,0 | SW12 | 25° |
| **WGRM-10** | 16,0 | M10 | 24,0 | 16,0 | 20,0 | 20,0 | 16,0 | 47,0 | 35,0 | 47,0 | 18,0 | SW14 | 25° |

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Data in mm

**Structure – part no.**

**WG R M-05 LC**

- Low Cost
- Dimension
- Metric
- Right-hand thread
- Ball and socket joint (elbow)

**Dimensions as WGRM, page 51.25**

## Special Properties

- LC (low cost) version is a two piece assembly with either a plastic or metal stud
- Low weight
- Maintenance-free
- Plastic stud for lowest price, metal stud for highest load

**Material**

Housing: igumid G

▶ Page 70.8

## Load Data

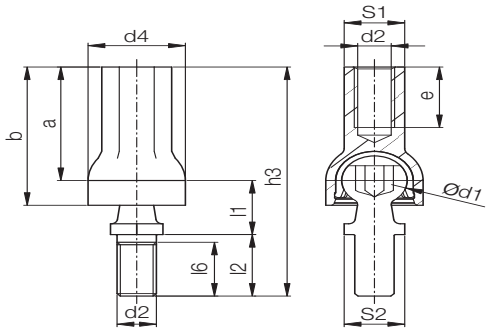
| Part Number * | Max. axial tensile force [N] (ball stud axis) | Max. axial compressive force [N] (pivoting axis) | Max. axial tensile force [N] (housing axis) | Max. axial tensile force [N] in housing axis with metal ball stud |
|---|---|---|---|---|
| **WGRM-05 LC** | 150 (MS 200)* | 200 | 100 | 600 |
| **WGRM-06 LC** | 200 (MS 300)* | 300 | 140 | 800 |
| **WGRM-08 LC** | 350 (MS 400)* | 500 | 200 | 1500 |
| **WGRM-10 LC** | 300 (MS 550)* | 900 | 400 | 1900 |

## Dimensions [mm] – technical drawing, Page 51.19

| Part Number | d1 +0,1 -0,1 | d2 | d4 +0,5 -0,5 | l1 +0,2 -0,2 | l2 +0,3 -0,3 | l5 | l6 min. | h1 +0,4 -0,4 | h2 +0,5 -0,5 | h3 +0,5 -0,5 | S1 | a +0,3 -0,3 | b +0,5 -0,5 | e +0,5 -0,5 | Pivot angle recom. | Pivot angle max. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WGRM-05 LC** | 8,0 | M5 | 12,8 | 9,0 | 10,2 | 14,0 | 8,2 | 10,8 | 0,65 | 25,6 | SW 8 | 22,0 | 28,4 | 11,0 | 18° | 25° |
| **WGRM-06 LC** | 10,0 | M6 | 14,8 | 11,0 | 12,5 | 16,0 | 10,5 | 12,3 | 0,70 | 30,9 | SW 9 | 25,0 | 32,4 | 13,0 | 18° | 25° |
| **WGRM-08 LC** | 13,0 | M8 | 19,3 | 13,0 | 16,5 | 18,0 | 13,5 | 16,2 | 1,15 | 38,8 | SW 12 | 30,0 | 39,7 | 16,0 | 18° | 25° |
| **WGRM-10 LC** | 16,0 | M10 | 24,0 | 16,0 | 20,0 | 20,0 | 16,0 | 20,0 | 1,15 | 47,0 | SW 14 | 35,0 | 47,0 | 18,0 | 18° | 25° |

* **Use suffix MS for metal stud;** for example: WGRM-05 LC **MS**

**Lifetime calculation, CAD files and much more support ▶ www.igus.de/en/wgrm**




Data in mm

**Structure – part no.**

**AG R M-08**

- Dimension
- Metric
- Right-hand thread
- Ball and socket joint (axial in-line)

## Special Properties

- For all mechanical combinations
- Very easy hand assembly
- Maintenance-free and predictable
- Corrosion-free, resistant to chemicals
- Good vibration dampening qualities

**Material**

Housing: igumid G
▶ Page 70.6
Spherical Bearing: iglidur® W300
▶ Chapter 5

## Load Data

| Part Number | Max. static axial tensile force | | Max. static axial compressive force | | Max. assembling force |
|---|---|---|---|---|---|
| | Short term [N] | Long term [N] | Short term [N] | Long term [N] | [N] |
| **AGRM-08** | 250 | 125 | 1000 | 500 | 110 |

## Dimensions [mm]

| Part Number | d1 +0,1 -0,1 | d2 | d4 +0,5 -0,5 | l1 +0,2 -0,2 | l2 +0,3 -0,3 | l6 min. | h3 +0,5 -0,5 | S1 | S2 | a +0,3 -0,3 | b +0,5 -0,5 | e Min. | Pivot angle recom. | Pivot angle max. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AGRM-08** | 13,0 | M8 | 19,3 | 13,0 | 16,5 | 13,5 | 59,0 | SW12 | SW11 | 29,5 | 36,5 | 16,0 | 18° | 25° |





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Conveyor system
The igubal® maintenance-free rod end bearing is used as a connection component between the pneumatic cylinder and adjusting lever. Due to the low weight and vibration-dampening characteristics, it is possible to achieve very short cycle times in this application.
Part number: igubal® rod end bearing KBRM-10 F

Textil machine
Concentricity errors and jolts are compensated by means of spherical clevises in the support of the thread guide unit. The elasticity of the igubal® rod end bearings dampen the micro vibrations far more effectively than the alternative metal product.

Part number: igubal® rod end bearing KBRM-10

Packaging machine
Long service life and, at the same time, food-safe design have been implemented in this application. Both high frequencies and also infrequent actuation cycles have been achieved in this application with igubal® rod end bearings.
Part number: igubal® rod end bearing KBRM-06 and clevis joint GERMK-06, iglidur® bearings, DryLin® linear bearings


Food machine
The rod end bearings in the linkage coupling are resistant to the fruit acid of the processed wine grapes. This linkage adjustment facility also features low maintenance costs as well as low procurement costs!
Part numbers: igubal® rod end bearing KBRM-06MH, KBRM-08MH, iglidur® bearings, DryLin® linear bearings

igubal® Applications

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