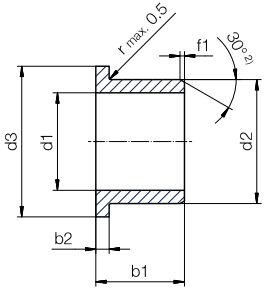
# iglidur® H1 | Product range

## Flange bearing (Form F)




[2] Thickness < 1 mm: chamfer = 20°

Chamfer in relation to the d1

| d1 [mm]: | Ø 1–6 | Ø 6–12 | Ø 12–30 | Ø > 30 |
|---|---|---|---|---|
| f [mm]: | 0.3 | 0.5 | 0.8 | 1.2 |

### Order key

| Type | Dimensions [mm] | | | | | |
|---|---|---|---|---|---|---|
| H1 | F | M | -03 | 04 | -05 | |
| | | | iglidur® material | Inner-Ø d1 | Outer-Ø d2 | Length b1 |
| | | Form F | | | | |
| | Metric | | | | | |

Dimensions according to ISO 3547-1 and special dimensions

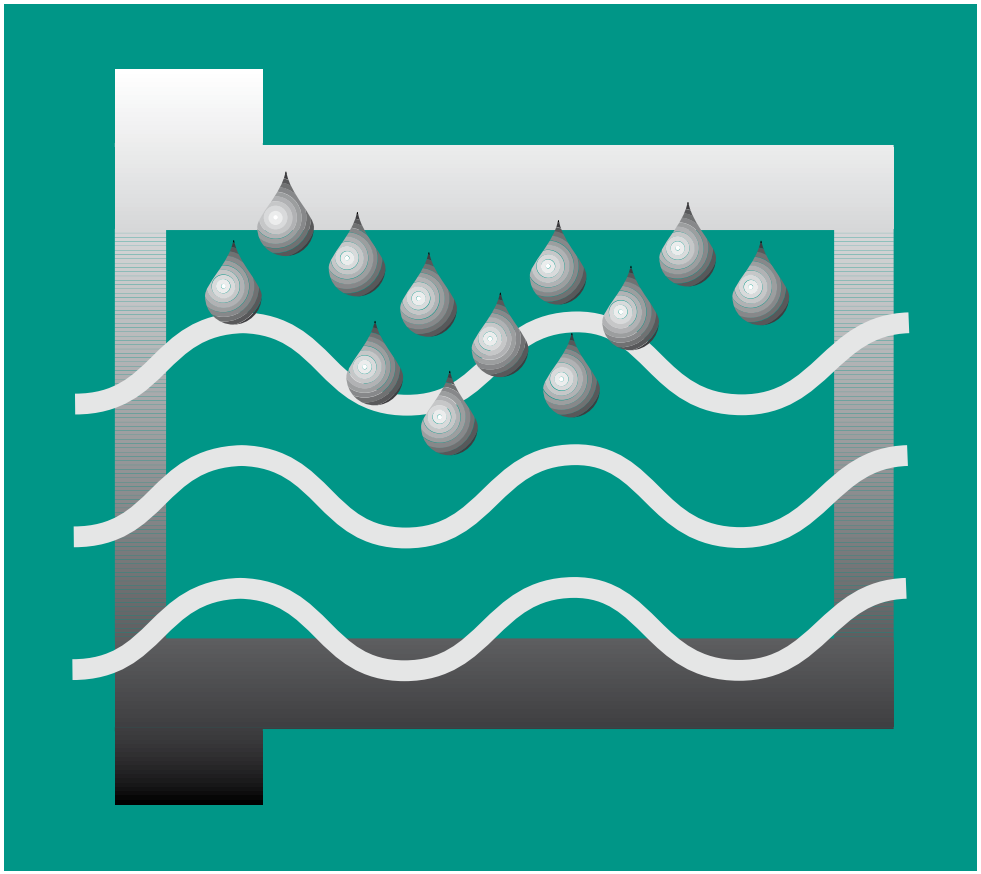
Imperial dimensions available
▶ From page 1430

### Dimensions [mm]

| d1 | d1- Tolerance[3] | d2 | d3 d13 | b1 h13 | b2 –0.14 | Part No. |
|---|---|---|---|---|---|---|
| 3.0 | +0.006 +0.046 | 4.5 | 7.5 | 5.0 | 0.75 | H1FM-0304-05 |
| 5.0 | | 7.0 | 11.0 | 5.0 | 1.0 | H1FM-0507-05 |
| 6.0 | | 8.0 | 12.0 | 4.0 | 1.0 | H1FM-0608-04 |
| 6.0 | +0.010 +0.058 | 8.0 | 12.0 | 6.0 | 1.0 | H1FM-0608-06 |
| 6.0 | | 8.0 | 12.0 | 8.0 | 1.0 | H1FM-0608-08 |
| 6.0 | | 8.0 | 12.0 | 10.0 | 1.0 | H1FM-0608-10 |
| 8.0 | | 10.0 | 15.0 | 5.5 | 1.0 | H1FM-0810-05 |
| 8.0 | | 10.0 | 15.0 | 6.5 | 1.0 | H1FM-0810-065 |
| 8.0 | | 10.0 | 15.0 | 7.5 | 1.0 | H1FM-0810-07 |
| 8.0 | | 10.0 | 15.0 | 9.5 | 1.0 | H1FM-0810-09 |
| 8.0 | +0.013 | 10.0 | 15.0 | 10.0 | 1.0 | H1FM-0810-10 |
| 10.0 | +0.071 | 12.0 | 18.0 | 7.0 | 1.0 | H1FM-1012-07 |
| 10.0 | | 12.0 | 18.0 | 9.0 | 1.0 | H1FM-1012-09 |
| 10.0 | | 12.0 | 18.0 | 10.0 | 1.0 | H1FM-1012-10 |
| 10.0 | | 12.0 | 18.0 | 12.0 | 1.0 | H1FM-1012-12 |
| 10.0 | | 12.0 | 18.0 | 17.0 | 1.0 | H1FM-1012-17 |
| 12.0 | | 14.0 | 20.0 | 7.0 | 1.0 | H1FM-1214-07 |
| 12.0 | | 14.0 | 20.0 | 9.0 | 1.0 | H1FM-1214-09 |
| 12.0 | | 14.0 | 20.0 | 12.0 | 1.0 | H1FM-1214-12 |
| 12.0 | +0.016 +0.086 | 14.0 | 20.0 | 17.0 | 1.0 | H1FM-1214-17 |
| 12.0 | | 14.0 | 20.0 | 20.0 | 1.0 | H1FM-1214-20 |
| 14.0 | | 16.0 | 22.0 | 12.0 | 1.0 | H1FM-1416-12 |
| 14.0 | | 16.0 | 22.0 | 17.0 | 1.0 | H1FM-1416-17 |
| 15.0 | | 17.0 | 23.0 | 9.0 | 1.0 | H1FM-1517-09 |
| 15.0 | | 17.0 | 23.0 | 12.0 | 1.0 | H1FM-1517-12 |
| 15.0 | | 17.0 | 23.0 | 17.0 | 1.0 | H1FM-1517-17 |
| 16.0 | | 18.0 | 24.0 | 12.0 | 1.0 | H1FM-1618-12 |
| 16.0 | +0.016 +0.086 | 18.0 | 24.0 | 17.0 | 1.0 | H1FM-1618-17 |
| 16.0 | | 18.0 | 24.0 | 25.0 | 1.0 | H1FM-1618-25 |
| 18.0 | | 20.0 | 26.0 | 12.0 | 1.0 | H1FM-1820-12 |
| 18.0 | | 20.0 | 26.0 | 17.0 | 1.0 | H1FM-1820-17 |
| 18.0 | | 20.0 | 26.0 | 22.0 | 1.0 | H1FM-1820-22 |
| 20.0 | | 23.0 | 30.0 | 11.5 | 1.5 | H1FM-2023-11 |
| 20.0 | | 23.0 | 30.0 | 16.5 | 1.5 | H1FM-2023-16 |
| 20.0 | | 23.0 | 30.0 | 21.5 | 1.5 | H1FM-2023-21 |
| 20.0 | | 23.0 | 30.0 | 30.0 | 1.5 | H1FM-2023-30 |
| 25.0 | +0.020 +0.104 | 28.0 | 35.0 | 11.5 | 1.5 | H1FM-2528-11 |
| 25.0 | | 28.0 | 35.0 | 16.5 | 1.5 | H1FM-2528-16 |
| 25.0 | | 28.0 | 35.0 | 21.0 | 1.5 | H1FM-2528-21 |
| 30.0 | | 34.0 | 42.0 | 16.0 | 2.0 | H1FM-3034-16 |
| 30.0 | | 34.0 | 42.0 | 26.0 | 2.0 | H1FM-3034-26 |
| 35.0 | | 39.0 | 47.0 | 16.0 | 2.0 | H1FM-3539-16 |
| 35.0 | | 39.0 | 47.0 | 26.0 | 2.0 | H1FM-3539-26 |
| 40.0 | +0.025 +0.125 | 44.0 | 52.0 | 30.0 | 2.0 | H1FM-4044-30 |
| 40.0 | | 44.0 | 52.0 | 40.0 | 2.0 | H1FM-4044-40 |
| 45.0 | | 50.0 | 58.0 | 50.0 | 2.0 | H1FM-4550-50 |

[3] After press-fit. Testing methods ▶ Page 57

**Couldn't find your size?**
Do you need another length, other dimensions or tolerances? You need a particular design or alternative for your application? Please call us. igus® listens to your needs and provides you a solution very quickly.

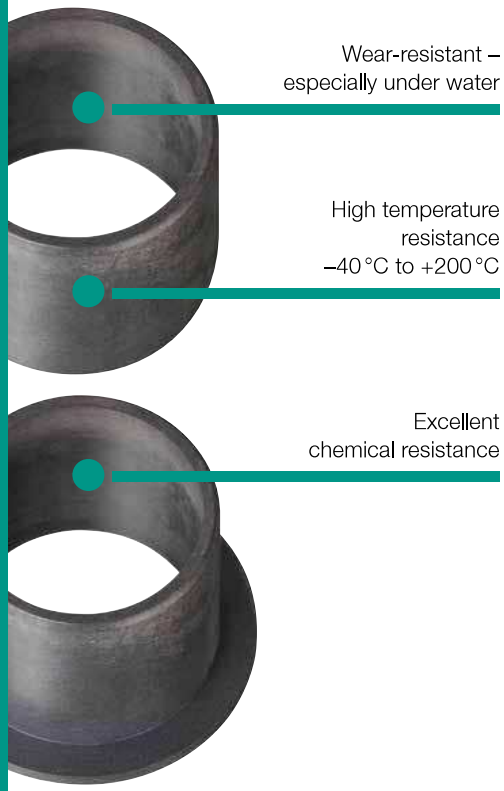


# Extremely long service life under water – iglidur® H370

- Wear-resistant – especially under water
- High temperature resistance –40 °C to +200 °C
- High chemical resistance
- Lubrication and maintenance-free
- Standard range from stock

# iglidur® H370 | Extremely long service life under water

## High media resistance



Wear-resistant – especially under water

High temperature resistance –40 °C to +200 °C

Excellent chemical resistance

iglidur® H370 is the right solution for underwater applications. The bearings absorb extremely high loads, resist to chemicals and can be used at temperatures up to +200 °C.

### When to use it?

- For underwater use
- When it is dependent on high temperature resistance
- When high mechanical loading and wear resistance is required
- When good resistance to chemicals is required

### When not to use it?

- When mechanical reaming of the wall surface is necessary
  ▶ iglidur® M250, page 95
- When high wear resistance in temperatures is required
  ▶ iglidur® H1, page 297
- For use in dirty surroundings
  ▶ iglidur® Z, page 255
- When a cost-effective, large-volume solution is required
  ▶ iglidur® H2, page 329

### Typical application areas

- Offshore
- Marine engineering
- Fluid technology
- Packaging
- Plant construction

**Available from stock**
Detailed information about delivery time online.

**Block pricing online**
No minimum order value. From batch size 1.

**Max. +200 °C**
**Min. –40 °C**

**Ø 3–75 mm**
More dimensions upon request

**Imperial dimensions available**
**▶ From page 1391**

**Online product finder**
**▶ www.igus.eu/iglidur-finder**





# iglidur® H370 | Technical data

## Material properties

| General properties | Unit | iglidur® H370 | Testing method |
|---|---|---|---|
| Density | g/cm³ | 1.66 | |
| Colour | | grey | |
| Max. moisture absorption at +23 °C/50 % r.h. | % weight | 0.1 | DIN 53495 |
| Max. water absorption | % weight | 0.1 | |
| Coefficient of sliding friction, dynamic, against steel | µ | 0.07–0.17 | |
| pv value, max. (dry) | MPa · m/s | 0.74 | |
| **Mechanical properties** | | | |
| Flexural modulus | MPa | 11,100 | DIN 53457 |
| Flexural strength at +20 °C | MPa | 135 | DIN 53452 |
| Compressive strength | MPa | 79 | |
| Max. recommended surface pressure (+20 °C) | MPa | 75 | |
| Shore-D hardness | | 82 | DIN 53505 |
| **Physical and thermal properties** | | | |
| Max. long-term application temperature | °C | +200 | |
| Max. short-term application temperature | °C | +240 | |
| Min. long-term application temperature | °C | –40 | |
| Heat conductivity | W/m · K | 0.5 | ASTM C 177 |
| Coefficient of thermal expansion (at +23 °C) | $K^{-1} \cdot 10^{-5}$ | 5 | DIN 53752 |
| **Electrical properties**[5] | | | |
| Specific contact resistance | Ωcm | $< 10^5$ | DIN IEC 93 |
| Surface resistance | Ω | $< 10^5$ | DIN 53482 |

**Table 01: Material properties table**

[5] The good conductivity of this plastic material under certain circumstances can favour the generation of corrosion on the metallic contact components.

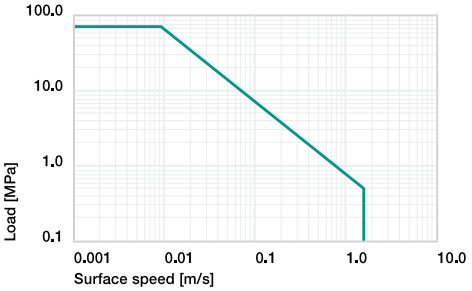



**Diagram 01: Permissible pv values for iglidur® H370 bearings with a wall thickness of 1 mm dry running against a steel shaft, at +20 °C, mounted in a steel housing**

### Moisture absorption

The moisture absorption of iglidur® H370 plain bearings is below 0.1 % weight in standard climatic conditions. The saturation limit in water is also below 0.1 % weight. For this reason, iglidur® H370 plain bearings are often used for underwater applications.

**▶ Diagram, www.igus.eu/h370-moisture**

### Vacuum

In vacuum, the moisture content is released as vapour. Due to its low moisture absorption, use in a vacuum is possible.

### Radiation resistance

iglidur® H370 withstands neutron and gamma particle radiation. Plain bearings made from iglidur® H370 are resistant up to a radiation intensity of $2 \cdot 10^2$ Gy.

### UV resistance

iglidur® H370 plain bearings are resistant to UV radiation.

| Medium | Resistance |
|---|---|
| Alcohol | + |
| Hydrocarbons | + |
| Greases, oils without additives | + |
| Fuels | + |
| Diluted acids | + to 0 |
| Strong acids | + to – |
| Diluted alkalines | + |
| Strong alkalines | + |

**+ resistant 0 conditionally resistant – not resistant**
**All data given at room temperature [+20 °C]**
**Table 02: Chemical resistance**

▶ Chemical table, **page 1478**

# iglidur® H370 | Technical data

iglidur® H370 is an advanced development of the iglidur® H series. The material is characterised by particularly low water absorption and clearly enhanced wear resistance. With regard to the mechanical and thermal characteristic values, iglidur® H370 shows the same features as iglidur® H.

## Mechanical properties

With increasing temperatures, the compressive strength of iglidur® H370 bearings decreases. The diagram 02 shows this inverse relationship. The recommended maximum surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

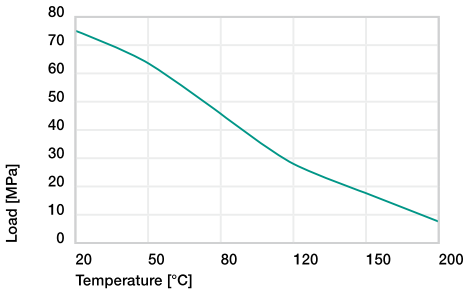



**Diagram 02: Permissible maximum surface pressure of as a function of temperature (75 MPa at +20 °C)**

Diagram 03 shows the elastic deformation of iglidur® H370 bearings at radial load. At the maximum recommended surface pressure of 75 MPa, the deformation at room temperature is about 2.5 %.

▶ Surface pressure, **page 41**

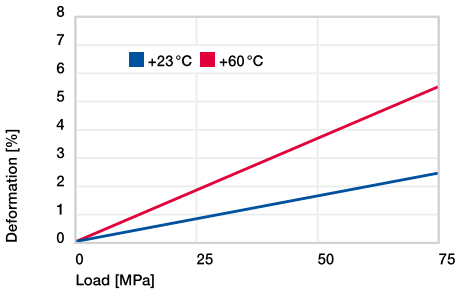



**Diagram 03: Deformation under pressure and temperature**

## Permissible surface speeds

The maximum permitted surface speed is dependent on whether the temperature in the bearing location rises strongly or not. iglidur® H370 is suitable for surface speeds up to 1.2 m/s (rotating) and 4 m/s (linear) respectively. The maximum values stated in table 03 are valid only with minimum pressure loads and are often not attained in practice.

▶ Surface speed, **page 44**

| m/s | Rotating | Oscillating | Linear |
|---|---|---|---|
| Continuous | 1.2 | 0.8 | 4 |
| Short-term | 1.5 | 1.1 | 5 |

**Table 03: Maximum surface speeds**

## Temperatures

With increasing temperatures, the compressive strength of iglidur® H370 bearings decreases. The temperatures prevailing in the bearing system also have an influence on the bearing wear. The wear rises with increasing temperatures. At temperatures over +100 °C an additional securing is required.

▶ Application temperatures, **page 49**
▶ Additional securing, **page 49**

## Friction and wear

The coefficient of friction alters only little, like the wear resistance with increasing load and surface speed (diagrams 04 and 05).

▶ Coefficients of friction and surfaces, **page 47**
▶ Wear resistance, **page 50**

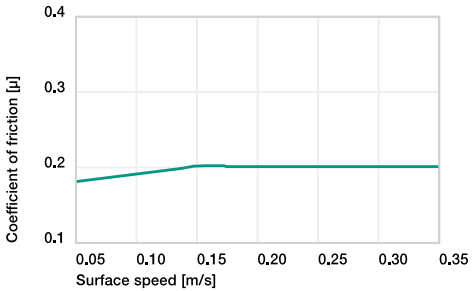



**Diagram 04: Coefficient of friction as a function of the surface speed, p = 0.75 MPa**





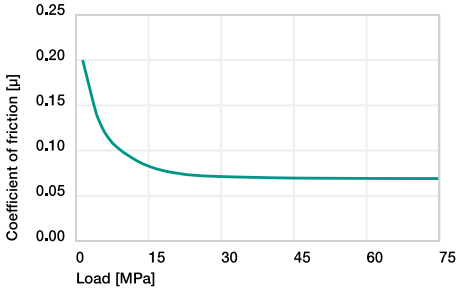



**Diagram 05: Coefficient of friction as a function of the pressure, v = 0.01 m/s**

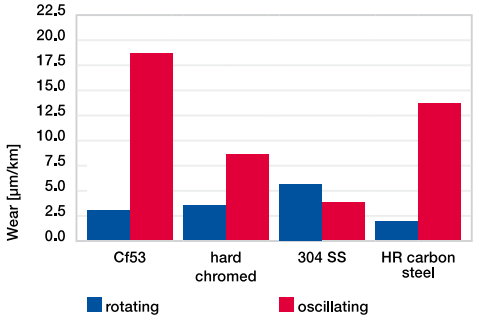



**Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 2 MPa**

## Shaft materials

Diagrams 06 and 07 show the test results of iglidur® H370 bearings running against various shaft materials.
For loads up to 2 MPa in rotating applications, the hard-chromed shaft is the best material for the iglidur® H370 bearings. The high wear values with 304 stainless steel shafts, which due to their extremely smooth surfaces are prone to the stick-slip effect, are striking. Despite same values in the lowest range, the HR carbon steel shaft shows already better values than Cf53 with loads of 2 MPa. On the other hand, the 304 stainless steel shaft shows a clear advantage in pivoting movements.

▶ Shaft materials, **page 52**

| iglidur® H370 | Dry | Greases | Oil | Water |
|---|---|---|---|---|
| C.o.f. µ | 0.07–0.17 | 0.09 | 0.04 | 0.04 |

**Table 04: Coefficient of friction against steel (Ra = 1 µm, 50 HRC)**

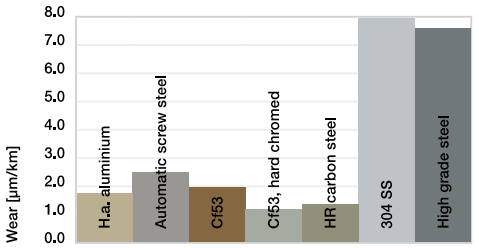



**Diagram 06: Wear, rotating with different shaft materials, p = 1 MPa, v = 0.3 m/s**

## Installation tolerances

iglidur® H370 bearings are standard bearings for shafts with h-tolerance (recommended minimum h9). The bearings are designed for pressfit into a housing machined to a H7 tolerance. After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

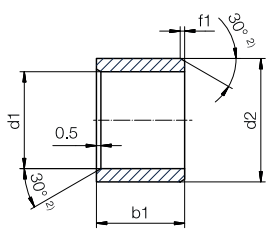
▶ Testing methods, **page 57**

| Diameter d1 [mm] | Shaft h9 [mm] | iglidur® H370 F10 [mm] | Housing H7 [mm] |
|---|---|---|---|
| up to 3 | 0–0.025 | +0.006 +0.046 | 0 +0.010 |
| > 3 to 6 | 0–0.030 | +0.010 +0.058 | 0 +0.012 |
| > 6 to 10 | 0–0.036 | +0.013 +0.071 | 0 +0.015 |
| > 10 to 18 | 0–0.043 | +0.016 +0.086 | 0 +0.018 |
| > 18 to 30 | 0–0.052 | +0.020 +0.104 | 0 +0.021 |
| > 30 to 50 | 0–0.062 | +0.025 +0.125 | 0 +0.025 |
| > 50 to 80 | 0–0.074 | +0.030 +0.150 | 0 +0.030 |

**Table 05: Important tolerances for plain bearings according to ISO 3547-1 after pressfit**

# iglidur® H370 | Product range

## Sleeve bearing (Form S)




[2] Thickness < 1 mm: chamfer = 20°

Chamfer in relation to the d1

| d1 [mm]: | Ø 1–6 | Ø 6–12 | Ø 12–30 | Ø > 30 |
|---|---|---|---|---|
| f [mm]: | 0.3 | 0.5 | 0.8 | 1.2 |

### Order key

| Type | Dimensions [mm] |
|---|---|
| H370 S M | -0304-03 |

| iglidur® material | Form S | Metric | Inner-Ø d1 | Outer-Ø d2 | Length b1 |
|---|---|---|---|---|---|

Dimensions according to ISO 3547-1 and special dimensions

Imperial dimensions available
▶ From page 1406

### Dimensions [mm]

| d1 | d1- Tolerance[3] | d2 | b1 h13 | Part No. |
|---|---|---|---|---|
| 3.0 | +0.006 +0.046 | 4.5 | 3.0 | H370SM-0304-03 |
| 4.0 | | 5.5 | 4.0 | H370SM-0405-04 |
| 4.0 | | 5.5 | 6.0 | H370SM-0405-06 |
| 4.0 | | 5.5 | 12.0 | H370SM-0405-12 |
| 5.0 | +0.010 +0.058 | 7.0 | 5.0 | H370SM-0507-05 |
| 5.0 | | 7.0 | 10.0 | H370SM-0507-10 |
| 6.0 | | 8.0 | 6.0 | H370SM-0608-06 |
| 6.0 | | 8.0 | 8.0 | H370SM-0608-08 |
| 6.0 | | 8.0 | 10.0 | H370SM-0608-10 |
| 8.0 | | 10.0 | 8.0 | H370SM-0810-08 |
| 8.0 | | 10.0 | 10.0 | H370SM-0810-10 |
| 8.0 | | 10.0 | 12.0 | H370SM-0810-12 |
| 8.0 | | 10.0 | 15.0 | H370SM-0810-15 |
| 10.0 | +0.013 +0.071 | 12.0 | 8.0 | H370SM-1012-08 |
| 10.0 | | 12.0 | 10.0 | H370SM-1012-10 |
| 10.0 | | 12.0 | 12.0 | H370SM-1012-12 |
| 10.0 | | 12.0 | 15.0 | H370SM-1012-15 |
| 10.0 | | 12.0 | 20.0 | H370SM-1012-20 |
| 12.0 | | 14.0 | 10.0 | H370SM-1214-10 |
| 12.0 | | 14.0 | 12.0 | H370SM-1214-12 |
| 12.0 | | 14.0 | 15.0 | H370SM-1214-15 |
| 12.0 | | 14.0 | 20.0 | H370SM-1214-20 |
| 13.0 | +0.016 +0.086 | 15.0 | 10.0 | H370SM-1315-10 |
| 13.0 | | 15.0 | 20.0 | H370SM-1315-20 |
| 14.0 | | 16.0 | 15.0 | H370SM-1416-15 |
| 14.0 | | 16.0 | 20.0 | H370SM-1416-20 |
| 14.0 | | 16.0 | 25.0 | H370SM-1416-25 |
| 15.0 | | 17.0 | 15.0 | H370SM-1517-15 |
| 15.0 | | 17.0 | 20.0 | H370SM-1517-20 |
| 15.0 | | 17.0 | 25.0 | H370SM-1517-25 |
| 16.0 | | 18.0 | 15.0 | H370SM-1618-15 |
| 16.0 | +0.016 +0.086 | 18.0 | 20.0 | H370SM-1618-20 |
| 16.0 | | 18.0 | 25.0 | H370SM-1618-25 |
| 18.0 | | 20.0 | 15.0 | H370SM-1820-15 |
| 18.0 | | 20.0 | 20.0 | H370SM-1820-20 |
| 18.0 | | 20.0 | 25.0 | H370SM-1820-25 |
| 20.0 | | 23.0 | 10.0 | H370SM-2023-10 |
| 20.0 | | 23.0 | 15.0 | H370SM-2023-15 |
| 20.0 | | 23.0 | 20.0 | H370SM-2023-20 |
| 20.0 | | 23.0 | 25.0 | H370SM-2023-25 |
| 20.0 | | 23.0 | 30.0 | H370SM-2023-30 |
| 22.0 | | 25.0 | 15.0 | H370SM-2225-15 |
| 22.0 | | 25.0 | 20.0 | H370SM-2225-20 |
| 22.0 | | 25.0 | 25.0 | H370SM-2225-25 |
| 22.0 | | 25.0 | 30.0 | H370SM-2225-30 |
| 24.0 | +0.020 +0.104 | 27.0 | 15.0 | H370SM-2427-15 |
| 24.0 | | 27.0 | 20.0 | H370SM-2427-20 |
| 24.0 | | 27.0 | 25.0 | H370SM-2427-25 |
| 24.0 | | 27.0 | 30.0 | H370SM-2427-30 |
| 25.0 | | 28.0 | 15.0 | H370SM-2528-15 |
| 25.0 | | 28.0 | 20.0 | H370SM-2528-20 |
| 25.0 | | 28.0 | 25.0 | H370SM-2528-25 |
| 25.0 | | 28.0 | 30.0 | H370SM-2528-30 |
| 28.0 | | 32.0 | 20.0 | H370SM-2832-20 |
| 28.0 | | 32.0 | 25.0 | H370SM-2832-25 |

[3] After press-fit. Testing methods ▶ Page 57



iglidur® H370 | Product range

H370SM

Sleeve bearing (Form S)

### Dimensions [mm]

| d1 | d1- Tolerance[3] | d2 | b1 h13 | Part No. |
|---|---|---|---|---|
| 28.0 | +0.020 +0.104 | 32.0 | 30.0 | H370SM-2832-30 |
| 30.0 | | 34.0 | 20.0 | H370SM-3034-20 |
| 30.0 | | 34.0 | 25.0 | H370SM-3034-25 |
| 30.0 | | 34.0 | 30.0 | H370SM-3034-30 |
| 30.0 | | 34.0 | 40.0 | H370SM-3034-40 |
| 32.0 | +0.025 +0.125 | 36.0 | 20.0 | H370SM-3236-20 |
| 32.0 | | 36.0 | 30.0 | H370SM-3236-30 |
| 32.0 | | 36.0 | 40.0 | H370SM-3236-40 |
| 35.0 | | 39.0 | 20.0 | H370SM-3539-20 |
| 35.0 | | 39.0 | 30.0 | H370SM-3539-30 |
| 35.0 | | 39.0 | 40.0 | H370SM-3539-40 |
| 35.0 | | 39.0 | 50.0 | H370SM-3539-50 |
| 40.0 | | 44.0 | 20.0 | H370SM-4044-20 |
| 40.0 | | 44.0 | 30.0 | H370SM-4044-30 |
| 40.0 | +0.025 +0.125 | 44.0 | 40.0 | H370SM-4044-40 |
| 40.0 | | 44.0 | 50.0 | H370SM-4044-50 |
| 45.0 | | 50.0 | 20.0 | H370SM-4550-20 |
| 45.0 | | 50.0 | 30.0 | H370SM-4550-30 |
| 45.0 | | 50.0 | 40.0 | H370SM-4550-40 |
| 45.0 | | 50.0 | 50.0 | H370SM-4550-50 |
| 50.0 | | 55.0 | 20.0 | H370SM-5055-20 |
| 50.0 | +0.000 +0.100 | 55.0 | 30.0 | H370SM-5055-30 |
| 50.0 | | 55.0 | 40.0 | H370SM-5055-40 |
| 50.0 | | 55.0 | 50.0 | H370SM-5055-50 |
| 50.0 | | 55.0 | 60.0 | H370SM-5055-60 |
| 55.0 | +0.030 +0.150 | 60.0 | 26.0 | H370SM-5560-26 |
| 60.0 | | 65.0 | 60.0 | H370SM-6065-60 |
| 75.0 | | 80.0 | 60.0 | H370SM-7580-60 |

[3] After press-fit. Testing methods ▶ Page 57

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