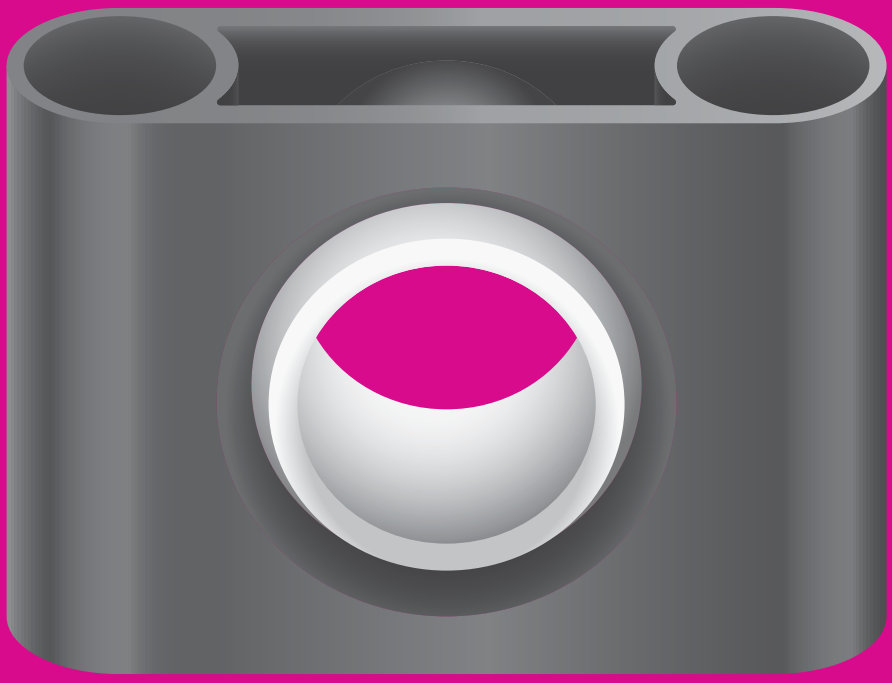


igubal® pillow block bearings

Maintenance-free dry operation

Robust

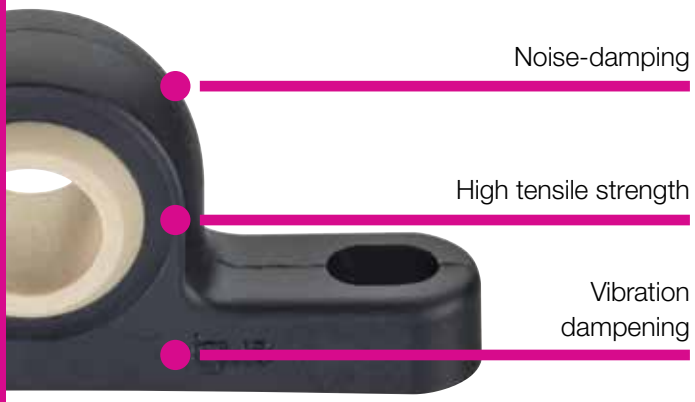
Durable

Media-resistant

High radial loads

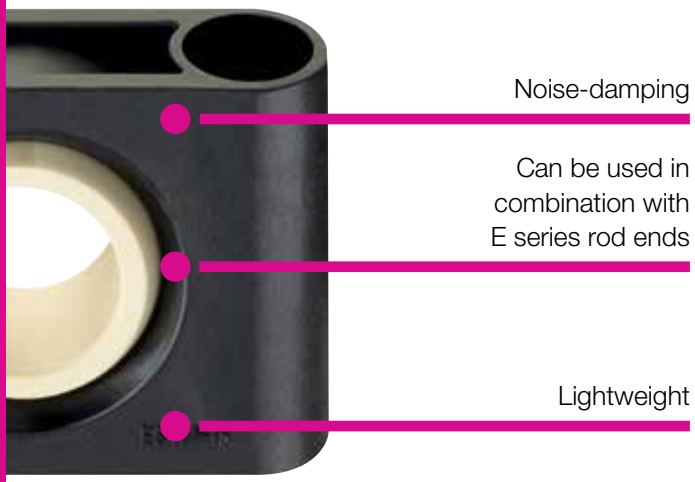
igubal® pillow block bearings | Advantages

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



When to use it?

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



When not to use it?

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

Available from stock
Detailed information about delivery time online.

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

Max. +176°F
Min. –22°F

6 types
Ø 5–150mm

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

igubal® pillow block bearings | Application examples

Typical sectors of industry and application areas

- Plant design
- Machine building
- Packaging
- Agricultural equipment

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

Stone processing

Solar technology

Paper industry

Machine tools

igubal® pillow block bearings | Technical data

General information

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

Advantages

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

Chemical resistance

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

Tolerances

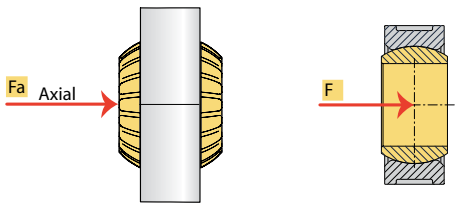
Maintenance-free igubal® pillow block bearings are designed with inside diameter tolerance of E10. The shaft should be made to tolerance class h6 to h9. These recommended tolerances allow for changes in the bearing due to temperature and moisture absorption.
Tolerance table ▶ **Page 58**

Mounting

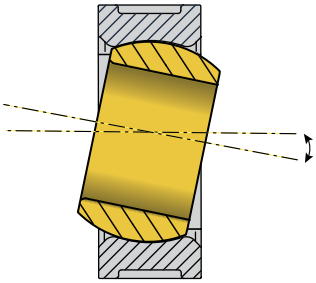
igubal® pillow block bearings are designed for mounting with 2 bolts. Precision mounting of the bearing is not necessary, since the spherical ball compensates for misalignment.

Loads

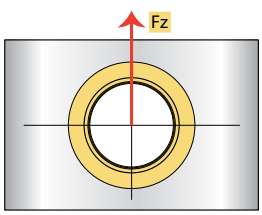
The load capacity of the maintenance-free igubal® bearing elements is very high at normal ambient temperatures. igubal® bearings absorb high forces and weigh only 1/5 of traditional, metal bearing housings. The excellent dampening properties are based on the fact that the polymer material of the two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



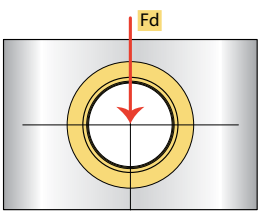
Axial Strength



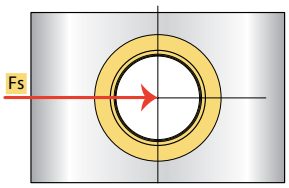
Pivot angle



Radial tensile strength (upward)



Radial compressive strength (downward)



Lateral strength (radial)

igubal® pillow block bearings | Product overview

igubal® pillow block bearings – standard design

Compensation of misalignment errors

K series - inch

▶ Page 906

Compensation of misalignment errors

K series - metric

▶ Page 907

igubal® pillow block bearings – space-saving

Easy to disassemble, split housing and ball

K series

▶ Page 908

Easy to fit

E series

▶ Page 909

For quick assembly and low total moisture absorption

E series

▶ Page 910

Split housing with parallel hole

E series

▶ Page 911

Extremely light, compact design

E series

▶ Page 912

Split pillow block bearings for square profiles

E series

▶ Page 913

Pillow block with cost-effective metallic housing

▶ Page 914

Pillow block with cost-effective cast-iron housing

▶ Page 915

igubal® combination with xiros® ball bearings

Low coefficient of friction, fixed version

E series

▶ Page 1068

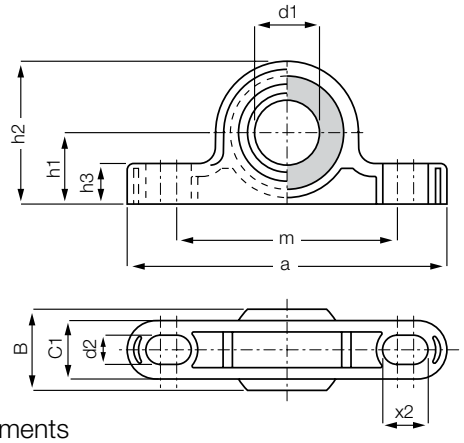
Low coefficient of friction, pivoting version

E series

▶ Page 1069

igubal® pillow block bearings | Product Range

KSTI - Pillow block bearing - inch



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

Order key

Type			Size
K	ST	I	- 05
K series	Pillow block bearing	Metric	Inner Ø

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

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

Dimensions [mm]

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

Technical data

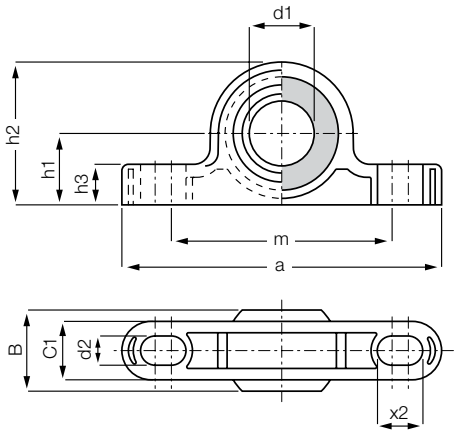
Part No.	Max. static tensile strength		Max. axial static compressive strength	Max. torque for longitudinal holes	Weight
	Short term	Long term			
	[lbs]	[lbs]	[lbs]	[ft lbs]	[g]
KSTI-03	124	62	68	0.44	1.7
KSTI-04	135	67	68	0.44	2.8
KSTI-05	180	90	90	0.59	4.5
KSTI-06	225	112	112	0.96	7.5
KSTI-07	247	124	135	1.84	9.7
KSTI-08	270	135	135	1.84	13.5
KSTI-10	472	236	180	1.84	21.5
KSTI-12	697	348	270	3.32	33.4
KSTI-16	1214	607	360	7.74	85.8

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

igubal® pillow block bearings | Product Range

KSTM - Pillow block bearing - mm

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



Order key

Type			Size
K	ST	M	- 05
K series	Pillow block bearing	Metric	Inner Ø

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

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

Dimensions [mm]

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

Technical data

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

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

igubal® pillow block bearings | Product Range

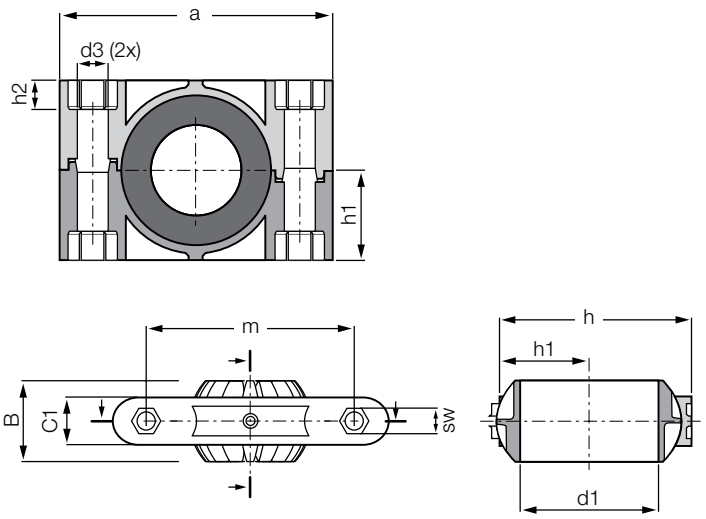
Pillow block bearings with split housing: KSTM-GT

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

Order key

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

Material:
Housing: RN33 ▶ Page 1785
Spherical ball: iglide® J ▶ Page 193



Dimensions [mm]

Part No.	d1 [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°

Technical data

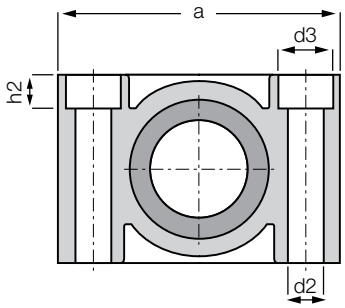
Part No.	Max. radial tensile strength		Max. axial tensile strength		Max. torque		Weight
					through ball	fixing holes	
	Short term	Long term	Short term	Long term			
	[lbs]	[lbs]	[lbs]	[lbs]	[ft lbs]	[ft lbs]	[g]
KSTM-GT35[23)]	2,473	1,236	562	281	3.69	11.06	250
KSTM-GT40	2,473	1,236	562	281	3.69	11.06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

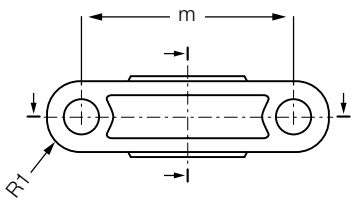
*Inside diameter achieved with plain iglide® J bearing pressed into ID of spherical ball
**Spherical balls are also available with split design

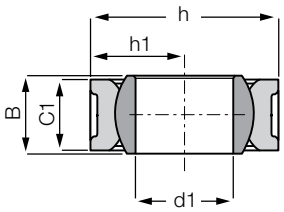
igubal® pillow block bearings | Product Range

Pillow block bearings: ESTM

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







Order key

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

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

Dimensions [mm]

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

Technical data

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

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

Alternative spherical ball materials ▶ Page 965

J4VEM: Clearance-free, preloaded

JEM: Low moisture absorption

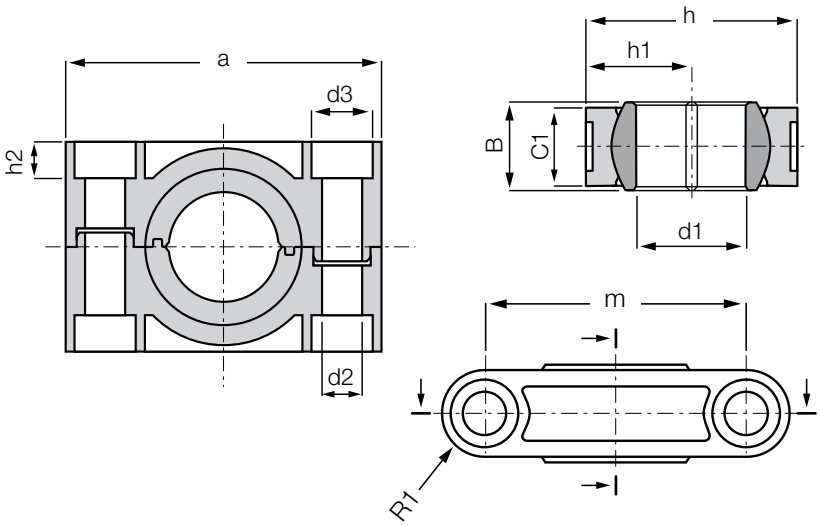
REM: Low-cost

J4EM: Low-cost and low moisture absorption

igubal® pillow block bearings | Product Range

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

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



Order key

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

Material:
Housing: RN33 ▶ Page 1785
Spherical ball: iglide® J ▶ Page 193

Dimensions [mm]

Part No.	d1 [E10]	d2	d3	h	h1	h2	a	m	C1	B	R1	Max. pivot angle
ESTM-GT16-GT	16.0	6,6	10.6	34.0	17.0	6.4	50.0	37.0	13.0	13.0	6.5	22°
ESTM-GT20-GT	20.0	9,0	14.0	40.0	20.0	8.6	62.0	46.0	16.0	16.0	8.0	22°
ESTM-GT25-GT	25.0	9,0	14.0	48.0	24.0	8.6	72.0	54.0	18.0	20.0	9.0	22°
ESTM-GT30-GT	30.0	11.0	17.0	56.0	28.0	10.6	86.0	64.0	22.0	22.0	11.0	22°

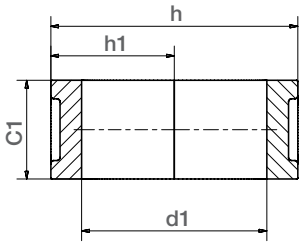
Technical data

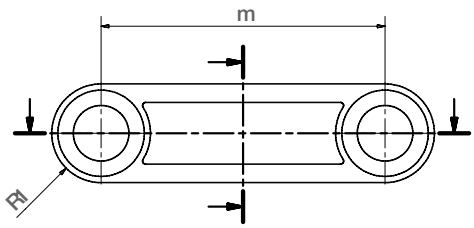
Part No.	max. static radial load		max. static radial compressive force		Weight
	Short term [lbs]	Long term [lbs]	Short term [lbs]	Long term [lbs]	[g]
ESTM-GT16-GT	562	281	900	450	18
ESTM-GT20-GT	787	393	1349	674	28
ESTM-GT25-GT	1124	562	1575	787	52
ESTM-GT30-GT	1237	618	2250	1124	84

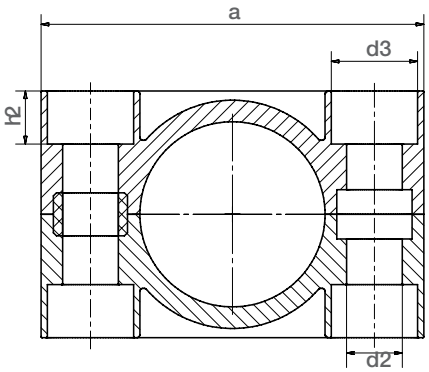
igubal® pillow block bearings | Product Range

ESTM-GT - Pillow block bearing with parallel bore

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







Order key

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

Material:
igumid G ▶ Page 1782

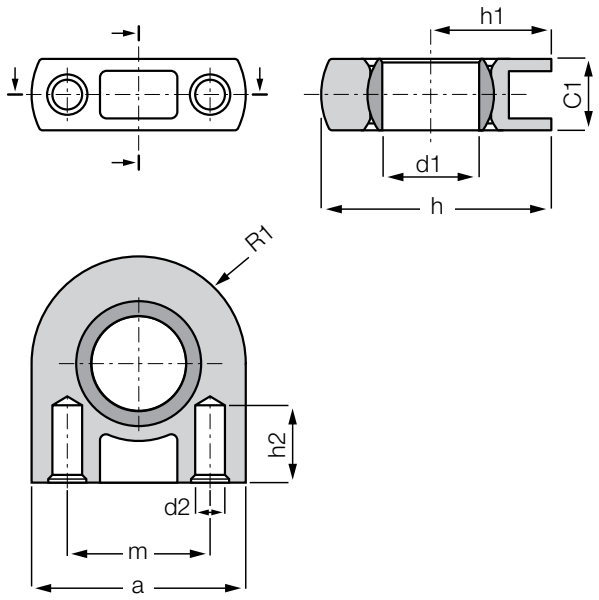
Dimensions [mm]

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

igubal® pillow block bearings | Product Range

Pillow block bearings Slim Line: ESTM SL

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



Order key

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

Material:
Housing: igumid G ▶ Page 1782
Spherical ball: iglide® J ▶ Page 193

Dimensions [mm]

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

Technical data

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

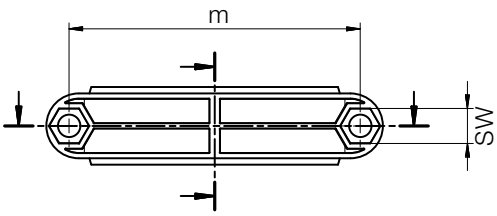
igubal® pillow block bearings | Product Range

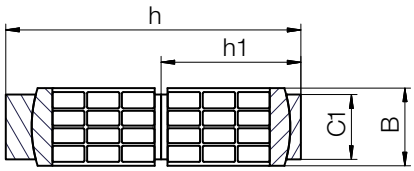
Split pillow block bearings for square profiles: ESQM

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

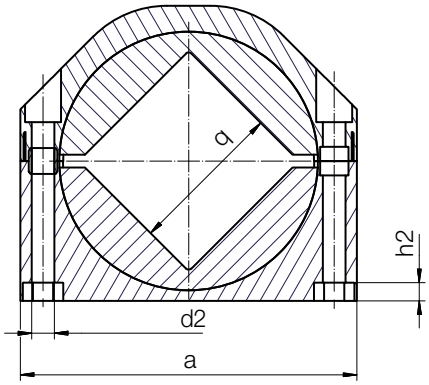
Order key

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





Material:
Housing: igumid G ▶ Page 1782
Spherical ball: iglide® J4 ▶ Page 1780



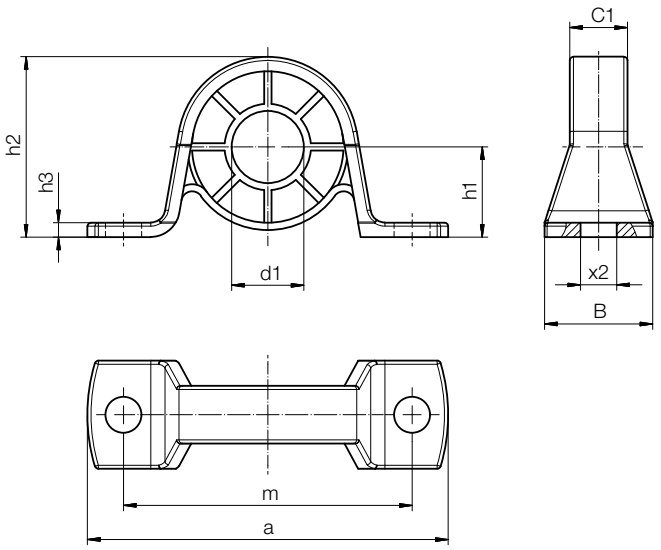
Dimensions [mm]

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

igubal® pillow block bearings | Product Range

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

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



Order key

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

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

Dimensions [mm]

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

Can be combined with SRM fixing collars, ▶ Page 986

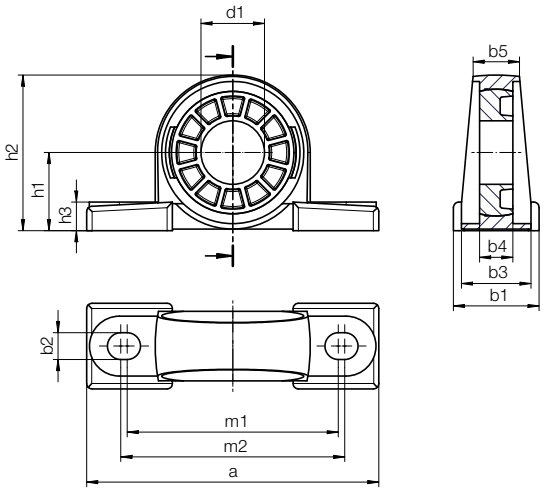
Technical data

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

igubal® pillow block bearings | Product Range

Pillow block bearings with cast iron housing: JEM-SP

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



Order key

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

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

Dimensions [mm]

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

Can be combined with SRM fixing collars, ▶ Page 986

Technical data

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

Notes