

SLIDE SUPPORT BEARINGS · SPECIAL SLIDING BEARINGS



SLIDING BEARING
COMPONENTS

SLIDING BEARINGS

FOR INDUSTRY PLANT CONSTRUCTION
FOR ENGINE CONSTRUCTION



**LHG-GleitlagerKomponenten®
GmbH & Co. KG**

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LHG is certified according to DIN EN ISO 9001 and DIN EN ISO 14001!



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LHG-GleitlagerKomponenten® GmbH & Co. KG

Sliding bearing components

LHG has built up a stellar reputation from more than 40 years of expert knowledge in sliding bearing technology. The company deals exclusively with the distribution and production of pre-finished sliding bearings and sliding bearing components. Since 1970, CEO Ludwig Hallauer has been dealing with sliding bearing products and has been working together with reputable manufacturers. In 1982, he founded a company focused on the distribution and production of metal, plastic and specific sliding bearing products and components.

LHG prides itself on its high quality service, taking the time and effort to understand and fulfil each customer's needs.



Focused on offering fair and competitive prices, together with high quality service and packaged with pragmatic solutions;

LHG understands that these qualities are exactly what any customer demands from a qualified supplier. As such, as our customers' expectations rise ...

LHG is ready and able to meet such expectations.

Based on exacting standards of product quality and a strong reliability in service and high quality performance, LHG is an acknowledged business partner of many well-known companies; including engine, vehicle, steel and industry plant construction companies of both national and international manufacturers.

LHG is certified according to DIN EN ISO 9001 und DIN EN ISO 14001.

LHG has the competence to offer optimal solutions for individual bearing problems.

LHG is dedicated to meet demanding industry standards, by consistently updating its current delivery and production programme with the newest products and technology available in the sliding bearing market.

LHG can also deliver specific designs and unique materials at short notice.

LHG as a company starts where simple norms often end.

With our partner company, GLT-GleitLagerTechnik® GmbH, we are able to deliver all pre-finished industry standard sliding bearings for all components of the machine building industry.

And just as the sliding bearing enables a machine to spin for us, our business spins around our clients and customers.

Choose LHG and benefit from our quality and expert knowledge towards the ultimate success of your products!

A handwritten signature in black ink, which appears to read 'Ludwig Hallauer'.

Ludwig Hallauer
Chief Executive Officer

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SLIDING BEARINGS FOR ENGINE CONSTRUCTION



Technical information for sliding bearings for engine construction

»Sliding bearing« identifies a bearing in which a movable component, generally a shaft, a shaft extension or a guide rail, slides on top of the surface - the »slide« - of a stationary bushing, a bearing seat or a sliding strip.

Sliding bearings are to support or to guide the parts movably opposed to each other as well as to absorb and transfer the occurring forces. The sliding movement takes place between the bearing box and the supported component.

In relation to radially-moved bearings, the running smoothness of the sliding partners is ensured by the bearing free play between shaft and bearing box.

In relation to axially-moved bearings, the bearing free play is determined by two axial areas assigned to each other by a mutually shared shaft. The sum of the opposed sliding area and distances determines the bearing free play.

State-of-the-art constructions place ever bigger demands on common sliding materials. Many customers expect a maintenance-free bearing, even if operating conditions are complicated.

Furthermore, constantly rising pressure to maintain low production costs demands an enduring availability of our products, so as to ensure the allowance of the continuous use of the engines and plants deployed, as such, any compromise on the reliability of our products is unacceptable.

In this regard, perfect solutions are possible in particular with sliding bearings which are fail-safe and reliable over a long period of time.

MECHANICAL PROPERTIES

Advantages

As a result of the differing modes of utilizing sliding bearings, even the most complex aims can be achieved.

Due to their material and the damping effect of the hydrofoil, some sliding bearings are relatively insensitive to impacts, vibrations and shocks.

Sliding bearings run silently, are robust, and are to a great extent corrosion resistant and further, rarely need additional sealing.

Bushings are also available in split versions, which serve their requisite purpose in certain constructions. The price level of sliding bearings is generally lower than that of anti-friction ones.

Disadvantages

For a few types of sliding bearings, a heavy starting torque is inevitable.

Maintenance-bound sliding bearings require constant and sufficient maintenance and lubricant supply. The degree of the effectiveness of sliding bearings is generally lower than that of anti-friction bearings.

Pv - value

The pv-value has a substantial impact on the length of use.

The pv-value is the product of specific bearing load (p) and speed (v).

The length of use decreases with rising pv-value.

Friction

The friction-value depends on the following impacts:

- Choice of material matching
- Surface roughness of counter surface
- Specific bearing load
- Sliding speed
- Bearing temperature
- Type of lubrication

Factors to determine length of use

- Specific bearing load
- Sliding speed
- Pv - value
- Material and surface finish of sliding partners
- Load zone allocation
- Operation period
- Temperature
- Lubrication
- Operating conditions (e.g. contamination)

Preferred use

- For low rotational frequency
- For pivoting and axial motion
- For shock loading and dirt strain
- For all-purpose applications, for agricultural engines, construction machinery and vehicle construction.
- For high- or low-temperature environments and for special corrosion resistance.

Delivery condition

Principally, we deliver our sliding bearings in pre-finished condition. As to a few types of bearings, specifications suitable for post-machining are possible. Ask us!

Storage

Bronzed, stainless steel and plastic sliding bearings are corrosion resistant. Steel and compound sliding bearings should be stored in dry rooms at low air humidity and should be taken out of package only immediately before mounting.

Mounting

Basically, sliding bearings should be moulded with the help of a mandrel.

To simplify the mounting of a sliding bearing, a bevel of 15° - 30° at the housing is essential. Flanged bushings should be provided with an additional bevel so as to make sure the flange bears completely and planar on the housing's surface.

To ensure proper mounting of the bolt, the shaft extensions must be bevelled and chamfered.

While assembling the bearing, sharp angles can cause damage to the sliding surface and degrade the operation of the bearing.

Technical information for sliding bearings for engine construction

Bonding

Metallic or plastic bushings, thrust washers, strips or special parts can not only be armed by bolting together, pinning or soldering but also by bonding. Especially plastic bearings are often additionally protected by bonding into the housing. This is often employed if plastic bushings are exposed to high variations in temperature.

Lubrication

To choose the ideal lubricant, it is advisable to talk to an adequate manufacturer.

LUBRICATIONS

Oil-lubrications

Oil-lubrication is preferable for high rotational frequency and strains, but also applicable for low rotation speed.

The type of lubrication oil depends on the particular application.

Grease lubrication

Grease lubrication is to be applied in case of low rotational frequency, pendulousness and impact loading, or if float friction is not within reach.

High-class sliding bearing fat should be used exclusively. Lubrications with solid additives exceeding a proportion of 2 % are not recommendable, as they are likely to cause wastage ahead of time.

By no means grease may be used for lubrication of plastic bearings, which contains Molybdänsulfid (e.g. molicote grease).

Dry-film lubricant

Solid bronzed bushings with solid-lubricant pockets in their sliding surface are as well maintenance-free.

Full-plastic sliding bearings increasingly come to use in environments requiring high-class dry bearings and are often a better solution than bronze- or steel sliding bearings. Limits of application of dry bearings are usually set by specific heat conductivity and heat strain.

Special plastics are available for those applications.

Important information

The specification of the bearing material for the particular application was made to the best of our knowledge. The choice is based upon fundamental mathematical and experience values, which however cannot cover all factors influencing the application in real. For this reason testes (under operation conditions or in the real application itself) are necessary in order to guarantee the suitability of the material.

COM-KU®/D



FIBRE REINFORCED PLASTIC COMPOSITE SLIDING BEARING,
MAINTENANCE-FREE

COM-KU®/D sliding bearing



Types

KDZ
Cylindrical bushing

KDB
Flanged bushing

KDA
Thrust washer

KDS
Strips

TECHNICAL DATA

Description	Fibre reinforced plastic composite sliding bearing, heavy duty. Maintenance-free
Properties	Good sliding properties, suitable for high load capacity (as well as impact load and edge pressing), very good at low sliding speeds, good chemical resistance, long length of life, suitable for reparation of lubricated bushings, good damping features. Maintenance-free
Material *	Fibre reinforced plastic compound

MATERIAL PROPERTIES **

Version		D400	D401	D402	D403	D406
Compressive Strength	[N/mm ²]	350	325	350	350	300
Shear Strength	[N/mm ²]	100	95	105	105	95
Compressive Mod. of Elasticity	[N/mm ²]	1700	2000	1600	1600	1600
Density	(10 ³ kg/m ³)	1,35	1,25	1,35	1,35	1,35
Friction Value	[μ]	0,04 - 0,10	0,05 - 0,12	0,04 - 0,10	0,05 - 0,10	0,04 - 0,08
Temperature	[°C]	-200 till +150	-200 till +130	-200 till +150	-200 till +150	-200 till +150
Advised Working Temp.	[°C]	80	80	100	100	100
Water Absorbition	(% 20° C in 24h)	0,15	0,15	0,3	0,3	0,3
Colour		Grey	Blue	Yellow	Red	Yellow / Grey

TOLERANCE DETAILS

Housing Bushing inner - Ø after mounting	H7 Depends on diameter. Please note, that fitting tolerances have to be "plastic-tailored" considering the larger expansion coefficient compared to metal sliding bearings. Therefore bigger fitting tolerances occur (to be advised by LHG).
Shaft tolerance	Depends on application
Shaft material	Steel >200HB dressed to size, surface roughness < R _z 4

MOUNTING ADVISE

Housing Shaft Force fitting mandrel	Mounting bevel, min. 1,5 mm x 15-45° Mounting bevel, 5 mm x 15°, edges rounded The application of an adequate force fitting mandrel is advisable.
Maintenance	No maintenance necessary. COM-KU®/D is a self lubricating and maintenance-free plastic sliding bearing.

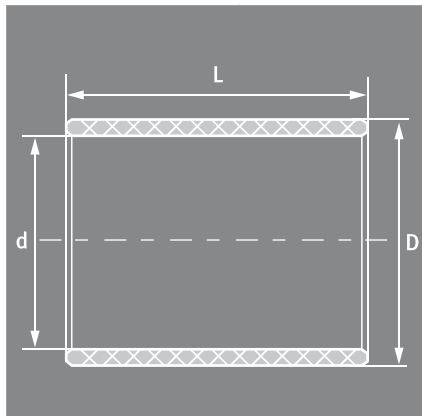
Cylindrical and flanged bushings are standard fabrication. All special designs are available at short notice!

* On request further materials are available for higher demands, e.g. for higher temperature ranges.

** The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

KDZ = Cylindrical bushing

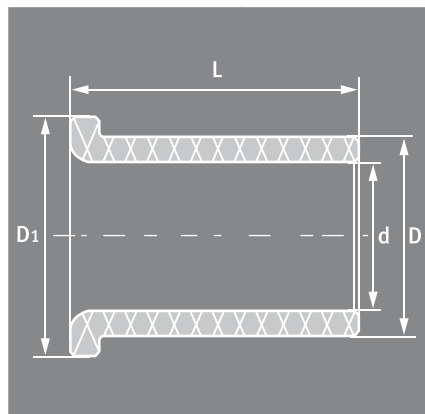
List of our standard dimensions in mm.



LHG description	d / D x L	LHG description	d / D x L
KDZ401-202715	20/27x15	KDZ401-485860	48/58x60
KDZ401-202720	20/27x20	KDZ401-506040	50/60x40
KDZ401-202730	20/27x30	KDZ401-506050	50/60x50
KDZ401-222915	22/29x15	KDZ401-506060	50/60x60
KDZ401-222920	22/29x20	KDZ401-556540	55/65x40
KDZ401-222930	22/29x30	KDZ401-556550	55/65x50
KDZ401-253220	25/32x20	KDZ401-556570	55/65x70
KDZ401-253230	25/32x30	KDZ401-607540	60/75x40
KDZ401-253240	25/32x40	KDZ401-607560	60/75x60
KDZ401-283620	28/36x20	KDZ401-607580	60/75x80
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KDZ401-324040	32/40x40	KDZ401-759070	75/90x70
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		KDZ401-200230200	200/230x200
		KDZ401-200230250	200/230x250
		KDZ401-210240180	210/240x180
		KDZ401-210240200	210/240x200
		KDZ401-210240250	210/240x250
		KDZ401-220250180	220/250x180
		KDZ401-220250200	220/250x200
		KDZ401-220250250	220/250x250
		KDZ401-230260200	230/260x200
		KDZ401-230260250	230/260x250
		KDZ401-230260300	230/260x300
		KDZ401-240270200	240/270x200
		KDZ401-240270250	240/270x250
		KDZ401-240270300	240/270x300
		KDZ401-250280200	250/280x200
		KDZ401-250280250	250/280x250
		KDZ401-250280300	250/280x300

KDB = Flanged bushing

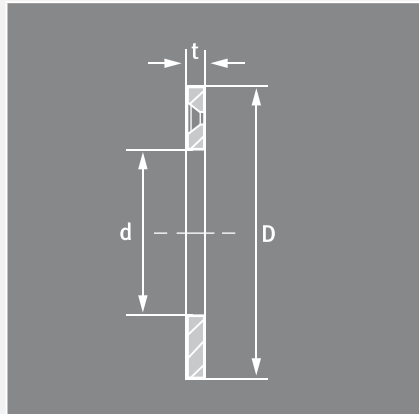
List of our standard dimensions in mm.



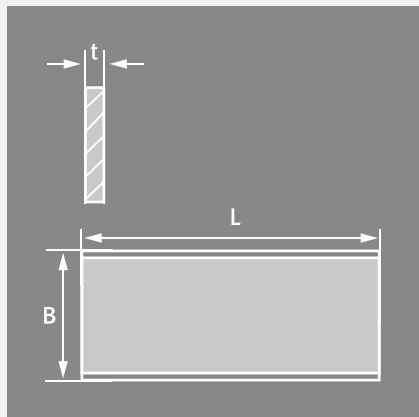
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		KDB401-250280200	250/280/300x200
		KDB401-250280250	250/280/300x250
		KDB401-250280300	250/280/300x300

All sizes and measurements are produced to customers specification.

KDA = Thrust washer



KDS = Strips & Plates



COM-KU®/X



COMPOUND PLASTIC SLIDING BEARING, WEAR RESISTANT
MAINTENANCE-FREE

COM-KU®/X sliding bearing



Types	KXZ Cylindrical bushing	KXB Flanged bushing	KXA Thrust washer	KXS Strips
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TECHNICAL DATA

Description	Thermoplastic plastic sliding bearing, out of high-value plastic-compound, maintenance-free, excellent sliding properties, elastic and high load. Maintenance-free
Properties	Quality plastic-alloy with good tribological properties, particularly at dry running condition. Maintenance-free
Material *	Compound - plastic

MATERIAL PROPERTIES **

Specific load capacity static	≤ 75	[N/mm ²] dep. on temperature and length of strain
Specific load capacity dynamic	≤ 25	[N/mm ²] dep. on temperature and sliding speed
Sliding speed	< 1,7	[m/s]
Friction value	0,08 - 0,18	[μ]
Temperature strain	-150 - +70	[C°] short run +90 C°
Max. Pv - value	3,5	[N/mm ² x m/s] dep. on environmental conditions
Moisture absorption	0,3	[% at 20°C in 24h]

TOLERANCE DETAILS

Housing	H5
Bushing inner - Ø after mounting	D8
Shaft tolerance	Specified by the customer
Shaft material	Steel >200HB dressed to size, surface roughness < R _z 4

MOUNTING ADVISE

Housing	Mounting bevel, min. 1,5 mm x 15-45°
Shaft	Mounting bevel, 5 mm x 15°, edges rounded
Force fitting mandrel	The application of an adequate force fitting mandrel ist advisable.
Maintenance	None. COM-KU®/X is a self lubricating and maintenance-free plastic sliding bearing.

Cylindrical and flanged bushings are standard fabrication. All special designs are available at short notice!

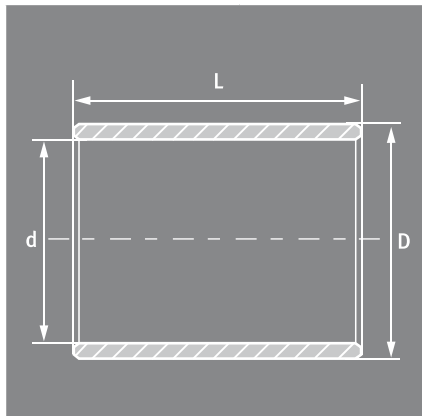
* On request further materials are available for higher demands, e.g. suitable for use in food industry or higher temperature ranges.

** The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

Custom sizes are produced in a short term

KXZ = Cylindrical bushing

List of our standard dimensions in mm.



LHG description	d x D x L	LHG description	d x D x L
KXZ407-061206	6/16x6	KXZ407-253240	25/32x40
KXZ407-061210	6/12x10	KXZ407-273220	27/32x20
KXZ407-081406	8/14x6	KXZ407-273230	27/32x30
KXZ407-081410	8/14x10	KXZ407-273240	27/32x40
KXZ407-101606	10/16x6	KXZ407-273420	27/34x20
KXZ407-01610	10/16x10	KXZ407-273430	27/34x30
KXZ407-121810	12/18x10	KXZ407-273440	27/34x40
KXZ407-121815	12/18x15	KXZ407-283420	28/34x20
KXZ407-121820	12/18x20	KXZ407-283430	28/34x30
KXZ407-142010	14/20x10	KXZ407-283440	28/34x40
KXZ407-142015	14/20x15	KXZ407-283620	28/36x20
KXZ407-142020	14/20x20	KXZ407-283630	28/36x30
KXZ407-152110	15/21x10	KXZ407-283640	28/36x40
KXZ407-152115	15/21x15	KXZ407-303620	30/36x20
KXZ407-152120	15/21x20	KXZ407-303630	30/36x30
KXZ407-162212	16/22x12	KXZ407-303640	30/36x40
KXZ407-162215	16/22x15	KXZ407-303820	30/38x20
KXZ407-162220	16/22x20	KXZ407-303830	30/38x30
KXZ407-182412	18/24x12	KXZ407-303840	30/38x40
KXZ407-182420	18/24x20	KXZ407-323820	32/38x20
KXZ407-182430	18/24x30	KXZ407-323830	32/38x30
KXZ407-202615	20/26x15	KXZ407-323840	32/38x40
KXZ407-202620	20/26x20	KXZ407-324020	32/40x20
KXZ407-202630	20/26x30	KXZ407-324030	32/40x30
KXZ407-222815	22/28x15	KXZ407-324040	32/40x40
KXZ407-222820	22/28x20	KXZ407-334020	33/40x20
KXZ407-222830	22/28x30	KXZ407-334030	33/40x30
KXZ407-243015	24/30x15	KXZ407-334040	33/40x40
KXZ407-243020	24/30x20	KXZ407-334220	33/42x20
KXZ407-243030	24/30x30	KXZ407-334230	33/42x30
KXZ407-253020	25/30x20	KXZ407-334240	33/42x40
KXZ407-253030	25/30x30	KXZ407-354130	35/41x30
KXZ407-253040	25/30x40	KXZ407-354140	34/41x40
KXZ407-253220	25/32x20	KXZ407-354150	35/41x50
KXZ407-253230	25/32x30	KXZ407-354530	35/45x30
		KXZ407-354540	35/45x40
		KXZ407-354550	35/45x50
		KXZ407-364230	36/42x30
		KXZ407-364240	36/42x40
		KXZ407-364250	36/42x50
		KXZ407-364630	36/46x30
		KXZ407-364640	36/46x40
		KXZ407-364650	36/46x50
		KXZ407-384530	38/45x30
		KXZ407-384540	38/45x40
		KXZ407-384550	38/45x50
		KXZ407-384830	38/48x30
		KXZ407-384840	38/48x40
		KXZ407-384850	38/48x50
		KXZ407-404830	40/48x30
		KXZ407-404840	40/48x40
		KXZ407-404860	40/48x60
		KXZ407-405030	40/50x30
		KXZ407-405040	40/50x40
		KXZ407-405060	40/50x60
		KXZ407-425030	42/50x30
		KXZ407-425040	42/50x40
		KXZ407-425050	42/50x50
		KXZ407-425230	42/52x30
		KXZ407-425240	42/52x40
		KXZ407-425250	42/52x50
		KXZ407-455330	45/53x30
		KXZ407-455340	45/53x40
		KXZ407-455360	45/53x60
		KXZ407-455530	45/55x30
		KXZ407-455540	45/55x40
		KXZ407-455560	45/55x60
		KXZ407-485640	48/56x40
		KXZ407-485650	48/56x50
		KXZ407-485660	48/56x60
		KXZ407-485840	48/58x40
		KXZ407-485850	48/58x50
		KXZ407-485860	48/58x60
		KXZ407-505840	50/58x40
		KXZ407-505850	50/58x50
		KXZ407-505860	50/58x60
		KXZ407-506040	50/60x40
		KXZ407-506050	50/60x50
		KXZ407-506060	50/60x60
		KXZ407-556340	55/63x40
		KXZ407-556350	55/63x50
		KXZ407-556370	55/63x70
		KXZ407-556540	55/65x40
		KXZ407-556550	55/65x50
		KXZ407-556570	55/65x70
		KXZ407-607040	60/70x40
		KXZ407-607060	60/70x60
		KXZ407-607080	60/70x80
		KXZ407-607540	60/75x40
		KXZ407-607560	60/75x60
		KXZ407-607580	60/75x80
		KXZ407-657550	65/75x50

KXZ = Cylindrical bushing

List of our standard dimensions in mm.

LHG description	d x D x L	LHG description	d x D x L	LHG description	d x D x L
KXZ407-657560	65/75x60	KXZ407-100120120	100/120x120	KXZ407-170195180	170/195x180
KXZ407-657580	65/75x80	KXZ407-10512080	105/120x80	KXZ407-170195200	170/195x200
KXZ407-658050	65/80x50	KXZ407-105120100	105/120x100	KXZ407-180200150	180/200x150
KXZ407-658060	65/80x60	KXZ407-105120120	105/120x120	KXZ407-180200180	180/200x180
KXZ407-658080	65/80x80	KXZ407-10512580	105/125x80	KXZ407-180200250	180/200x250
KXZ407-708050	70/80x50	KXZ407-105125100	105/125x100	KXZ407-180210150	180/210x150
KXZ407-708070	70/80x70	KXZ407-105125120	105/125x120	KXZ407-180210180	180/210x180
KXZ407-708090	70/80x90	KXZ407-11012580	110/125x80	KXZ407-180210250	180/210x250
KXZ407-708550	70/85x50	KXZ407-110125100	110/125x100	KXZ407-190210150	190/210x150
KXZ407-708570	70/85x70	KXZ407-110125120	110/125x120	KXZ407-190210180	190/210x180
KXZ407-708590	70/85x90	KXZ407-11013080	110/130x80	KXZ407-190210250	190/210x250
KXZ407-758550	75/85x50	KXZ407-110130100	110/130x100	KXZ407-190220150	190/220x150
KXZ407-758570	75/85x70	KXZ407-110130120	110/130x120	KXZ407-190220180	190/220x180
KXZ407-758590	75/85x90	KXZ407-120130100	120/130x100	KXZ407-190220250	190/220x250
KXZ407-759050	75/90x50	KXZ407-120135120	120/135x120	KXZ407-200220180	200/220x180
KXZ407-759070	75/90x70	KXZ407-120135150	120/135x150	KXZ407-200220200	200/220x200
KXZ407-759090	75/90x90	KXZ407-120140100	120/140x100	KXZ407-200220250	200/220x250
KXZ407-809060	80/90x60	KXZ407-120140120	120/140x120	KXZ407-200230180	200/230x180
KXZ407-809080	80/90x80	KXZ407-120140150	120/140x150	KXZ407-200230200	200/230x200
KXZ407-8090100	80/90x100	KXZ407-130145100	130/145x100	KXZ407-200230250	200/230x250
KXZ407-809560	80/95x60	KXZ407-130145120	130/145x120		
KXZ407-809580	80/95x80	KXZ407-130145150	130/145x150		
KXZ407-8095100	80/95x100	KXZ407-130150120	130/150x120		
KXZ407-859560	85/95x60	KXZ407-130150150	130/150x150		
KXZ407-859580	85/95x80	KXZ407-140155100	140/155x100		
KXZ407-8595100	85/95x100	KXZ407-140155150	140/155x150		
KXZ407-8510060	85/100x60	KXZ407-140155180	140/155x180		
KXZ407-8510080	85/100x80	KXZ407-140160100	140/160x100		
KXZ407-85100100	85/100x100	KXZ407-140160150	140/160x150		
KXZ407-9010560	90/105x60	KXZ407-140160180	140/160x180		
KXZ407-9010580	90/105x80	KXZ407-150165120	150/165x120		
KXZ407-90105100	90/105x100	KXZ407-150165150	150/165x150		
KXZ407-9011060	90/110x60	KXZ407-150165180	150/165x180		
KXZ407-9011080	90/110x80	KXZ407-150170120	150/170x120		
KXZ407-90110120	90/110x120	KXZ407-150170150	150/170x150		
KXZ407-9511060	95/110x60	KXZ407-150170180	150/170x180		
KXZ407-95110100	95/110x100	KXZ407-160180120	160/180x120		
KXZ407-95110120	95/110x120	KXZ407-160180150	160/180x150		
KXZ407-9511560	95/115x60	KXZ407-160180180	160/180x180		
KXZ407-95115100	95/115x100	KXZ407-160185120	160/185x120		
KXZ407-95115120	95/115x120	KXZ407-160185150	160/185x150		
KXZ407-10011580	100/115x80	KXZ407-160185180	160/185x180		
KXZ407-100115100	100/115x100	KXZ407-170190120	170/190x120		
KXZ407-100115120	100/115x120	KXZ407-170190180	170/190x180		
KXZ407-10012080	100/120x80	KXZ407-170190200	170/190x200		
KXZ407-100120100	100/120x100	KXZ407-170195120	170/195x120		

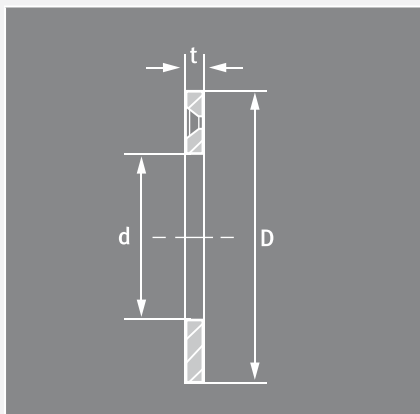
List of our standard dimensions in mm.



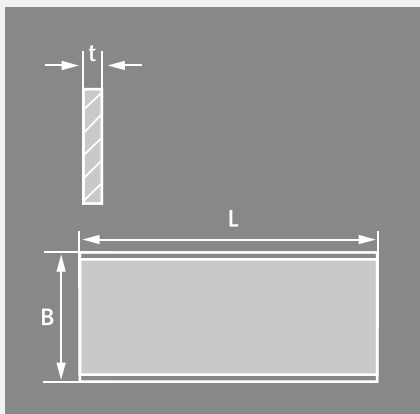
LHG-GleitlagerKomponenten® GmbH & Co. KG • Stahlgruberring 26 • D-81829 Munich • Tel +49 (0)89-4614951-0 • Fax +49 (0)89-4614951-65 • info@lhg-gleitkomp.de

All sizes and measurements are produced to customers specification.

KXA = Thrust washer



KXS = Strips & Plates



COM-KU®/S



DIE CASTING COMPOUND PLASTIC SLIDING BEARING,
MAINTENANCE-FREE AND LOW-MAINTENANCE

COM-KU®/S sliding bearing



Types

KSZ
Cylindrical bushing

KSB
Flanged bushing

TECHNICAL DATA

Description	Cost effective thermoplastic plastic sliding bearing in great measurement diversity available. Maintenance-free
Properties	Dry sliding bearing of good value, suitable for simple applications and axial movements. Maintenance-free
Material *	Compound plastic produced by injection-molding

MATERIAL PROPERTIES **

Specific load capacity static	≤ 70	[N/mm ²] dep. on temperature and length of strain
Specific load capacity dynamic	≤ 40	[N/mm ²] dep. on temperature and sliding speed
Sliding speed	< 1,0	[m/s]
Friction value	0,08 - 0,20	[μ]
Temperature strain	-50 - +100	[C°]
Max. Pv - value	0,6	[N/mm ² x m/s] dep. on environmental conditions
Moisture absorption	0,1	[% at 20°C in 24h]

TOLERANCE DETAILS

Housing	H7
Bushing inner - Ø after mounting	E10
Shaft tolerance	h - tolerance (h9 recommended)
Shaft material	Steel >200HB dressed to size, surface roughness < R _z 4

MOUNTING ADVICE

Housing	Mounting bevel, min. 1,5 mm x 15-45°
Shaft	Mounting bevel, 5 mm x 15°, edges rounded
Force fitting mandrel	The application of an adequate force fitting mandrel is advisable.
Maintenance	None. COM-KU®/S is a self lubricating and maintenance-free plastic sliding bearing.

Cylindrical and flanged bushings are standard fabrication. All special designs are available at short notice!

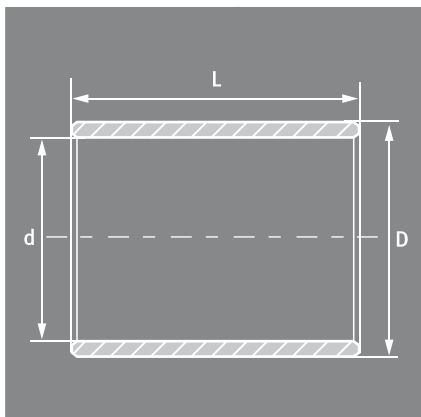
* On request further materials are available for higher demands, e.g. for higher temperature ranges.

** The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

Custom sizes are produced in a short term

KSZ = Cylindrical bushing

List of our standard dimensions in mm.



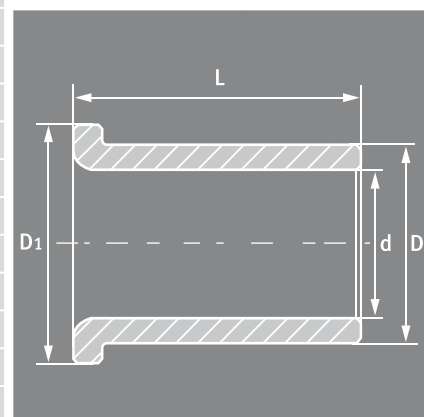
LHG description	d / D x L	LHG description	d / D x L
KSZ409-01,50302	1,5/3x2	KSZ409-080912	8/9x12
KSZ409-020303	2/3,5x3	KSZ409-081005	8/10x5
KSZ409-02,50405	2,5/4,5x5	KSZ409-081006	8/10x6
KSZ409-030403	3/4,5x3	KSZ409-081008	8/10x8
KSZ409-030405	3/4,5x5	KSZ409-081010	8/10x10
KSZ409-030406	3/4,5x6	KSZ409-081012	8/10x12
KSZ409-040504	4/5,5x4	KSZ409-081013	8/10x13
KSZ409-040506	4/5,5x6	KSZ409-081015	8/10x15
KSZ409-04,50608	4,5/6x8	KSZ409-081016	8/10x16
KSZ409-040705,5	4/7x5,5	KSZ409-081020	8/10x20
KSZ409-050605	5/6x5	KSZ409-081022	8/10x22
KSZ409-050607	5/6x7	KSZ409-091106	9/11x6
KSZ409-050705	5/7x5	KSZ409-101106	10/11x6
KSZ409-050708	5/7x8	KSZ409-101110	10/11x10
KSZ409-050710	5/7x10	KSZ409-101125	10/11x25
KSZ409-060706	6/7x6	KSZ409-101130	10/11x30
KSZ409-060717,5	6/7x17,5	KSZ409-101204	10/12x4
KSZ409-060804	6/8x4	KSZ409-101204,5	10/12x4,5
KSZ409-060805	6/8x5	KSZ409-101205	10/12x5
KSZ409-060805,5	6/8x5,5	KSZ409-101206	10/12x6
KSZ409-060806	6/8x6	KSZ409-101207	10/12x7
KSZ409-060808	6/8x8	KSZ409-101208	10/12x8
KSZ409-060809,5	6/8x9,5	KSZ409-101209	10/12x9
KSZ409-060810	6/8x10	KSZ409-101210	10/12x10
KSZ409-060801,5	6/8x1,5	KSZ409-101212	10/12x12
KSZ409-060802,5	6/8x2,5	KSZ409-101214	10/12x14
KSZ409-070810	7/8x10	KSZ409-101215	10/12x15
KSZ409-070819	7/8x19	KSZ409-101217	10/12x17
KSZ409-070908	7/9x8	KSZ409-101220	10/12x20
KSZ409-070909	7/9x9	KSZ409-121312	12/13x12
KSZ409-070910	7/9x10	KSZ409-121315	12/13x15
KSZ409-070912	7/9x12	KSZ409-121404	12/14x4
KSZ409-080905	8/9x5	KSZ409-121405	12/14x5
KSZ409-080906	8/9x6	KSZ409-121406	12/14x6
KSZ409-080908	8/9x8	KSZ409-121408	12/14x8
		KSZ409-121410	12/14x10
		KSZ409-121412	12/14x12
		KSZ409-121414	12/14x14
		KSZ409-121415	12/14x15
		KSZ409-121420	12/14x20
		KSZ409-121425	12/14x25
		KSZ409-121506	12/15x6
		KSZ409-121522	12/15x22
		KSZ409-121610	12/16x10
		KSZ409-121620	12/16x20
		KSZ409-131507	13/15x7
		KSZ409-131507,5	13/15x7,5
		KSZ409-131510	13/15x10
		KSZ409-131515	13/15x15
		KSZ409-131520	13/15x20
		KSZ409-131525	13/15x25
		KSZ409-141603	14/16x3
		KSZ409-141606	14/16x6
		KSZ409-141608	14/16x8
		KSZ409-141610	14/16x10
		KSZ409-141612	14/16x12
		KSZ409-141615	14/16x15
		KSZ409-141620	14/16x20
		KSZ409-141625	14/16x25
		KSZ409-151615	15/16x15
		KSZ409-151704	15/17x4
		KSZ409-151710	15/17x10
		KSZ409-151712	15/17x12
		KSZ409-151715	15/17x15
		KSZ409-151720	15/17x20
		KSZ409-151725	15/17x25
		KSZ409-161805,5	16/18x5,5
		KSZ409-161808	16/18x8
		KSZ409-161810	16/18x10
		KSZ409-161812	16/18x12
		KSZ409-161813,5	16/18x13,5
		KSZ409-161815	16/18x15
		KSZ409-161820	16/18x20
		KSZ409-161825	16/18x25
		KSZ409-161830	16/18x30
		KSZ409-161850	16/18x50
		KSZ409-182010	18/20x10
		KSZ409-182012	18/20x12
		KSZ409-182015	18/20x15
		KSZ409-182020	18/20x20
		KSZ409-182025	18/20x25
		KSZ409-182045	18/20x45
		KSZ409-192206	19/22x6
		KSZ409-192228	19/22x28
		KSZ409-192235	19/22x35
		KSZ409-202120	20/21x20
		KSZ409-202203	20/22x3
		KSZ409-202208	20/22x8
		KSZ409-202210,5	20/22x10,5
		KSZ409-202215	20/22x15
		KSZ409-202220	20/22x20
		KSZ409-202222	20/22x22

KSZ = Cylindrical bushing

List of our standard dimensions in mm.

LHG description	d / D x L	LHG description	d / D x L	LHG description	d / D x L
KSZ409-202230	20/22x30	KSZ409-303435	30/34x35	KSZ409-758040	75/80x40
KSZ409-202310	20/23x10	KSZ409-303440	30/34x40	KSZ409-758060	75/80x60
KSZ409-202315	20/23x15	KSZ409-303452,5	30/34x52,5	KSZ409-808560	80/85x60
KSZ409-202320	20/23x20	KSZ409-323620	32/36x20	KSZ409-8085100	80/85x100
KSZ409-202323	20/23x23	KSZ409-323630	32/36x30	KSZ409-8590100	85/90x100
KSZ409-202324	20/23x24	KSZ409-323640	32/36x40	KSZ409-9095100	90/95x100
KSZ409-202325	20/23x25	KSZ409-353914	35/39x14	KSZ409-95100100	95/100x100
KSZ409-202330	20/23x30	KSZ409-353920	35/39x20	KSZ409-10010530	100/105x30
KSZ409-222410	22/24x10	KSZ409-353925	35/39x25	KSZ409-10010540	100/105x40
KSZ409-222415	22/24x15	KSZ409-353930	35/39x30	KSZ409-100105100	100/105x100
KSZ409-222417	22/24x17	KSZ409-353940	35/39x40	KSZ409-110115100	110/115x100
KSZ409-222420	22/24x20	KSZ409-353950	35/39x50	KSZ409-120125100	120/125x100
KSZ409-222430	22/24x30	KSZ409-364020	36/40x20	KSZ409-125130100	125/130x100
KSZ409-222515	22/25x15	KSZ409-374120	37/41x20	KSZ409-130135100	130/135x100
KSZ409-222520	22/25x20	KSZ409-404410	40/44x10	KSZ409-13514080	135/140x80
KSZ409-222525	22/25x25	KSZ409-404416,5	40/44x16,5	KSZ409-140145100	140/145x100
KSZ409-222530	22/25x30	KSZ409-404420	40/44x20	KSZ409-150155100	150/155x100
KSZ409-242706	24/27x6	KSZ409-404430	40/44x30		
KSZ409-242715	24/27x15	KSZ409-404440	40/44x40		
KSZ409-242720	24/27x20	KSZ409-404450	40/44x50		
KSZ409-242725	24/27x25	KSZ409-424640	42/46x40		
KSZ409-242730	24/27x30	KSZ409-455022	45/50x22		
KSZ409-252625	25/26x25	KSZ409-455023,5	45/50x23,5		
KSZ409-252815	25/28x15	KSZ409-455030	45/50x30		
KSZ409-252820	25/28x20	KSZ409-455038	45/50x38		
KSZ409-252824	25/28x24	KSZ409-455040	45/50x40		
KSZ409-252825	25/28x25	KSZ409-455050	45/50x50		
KSZ409-252830	25/28x30	KSZ409-505520	50/55x20		
KSZ409-252835	25/28x35	KSZ409-505525	50/55x25		
KSZ409-252850	25/28x50	KSZ409-505530	50/55x30		
KSZ409-263016	26/30x16	KSZ409-505540	50/55x40		
KSZ409-273005	27/30x5	KSZ409-505550	50/55x50		
KSZ409-283210,5	28/32x10,5	KSZ409-525720	52/57x20		
KSZ409-283212	28/32x12	KSZ409-556020	55/60x20		
KSZ409-283215	28/32x15	KSZ409-556040	55/60x40		
KSZ409-283220	28/32x20	KSZ409-556050	55/60x50		
KSZ409-283223	28/32x23	KSZ409-556060	55/60x60		
KSZ409-283225	28/32x25	KSZ409-606530	60/65x30		
KSZ409-283230	28/32x30	KSZ409-606540	60/65x40		
KSZ409-303112	30/31x12	KSZ409-606550	60/65x50		
KSZ409-303130	30/31x30	KSZ409-606560	60/65x60		
KSZ409-303415	30/34x15	KSZ409-626735	62/67x35		
KSZ409-303420	30/34x20	KSZ409-657030	65/70x30		
KSZ409-303424	30/34x24	KSZ409-657050	65/70x50		
KSZ409-303425	30/34x25	KSZ409-707560	70/75x60		
KSZ409-303430	30/34x30	KSZ409-727776	72/77x76		

KSB = Flanged bushing



LHG description	d / D / D ₁ x L
KSB409-030402	3/4,5/7,5x2
KSB409-030403	3/4,5/7,5x3
KSB409-030405	3/4,5/7,5x5
KSB409-040503	4/5,5/9,5x3
KSB409-040504	4/5,5/9,5x4
KSB409-040506	4/5,5/9,5x6
KSB409-040504	4/5/9,5x4
KSB409-040506	4/5/9,5x6
KSB409-050603,5	5/6/10x3,5
KSB409-050604	5/6/10x4
KSB409-050605	5/6/10x5
KSB409-050606	5/6/10x6

KSB = Flanged bushing

List of our standard dimensions in mm.

LHG description	d / D / D ₁ x L	LHG description	d / D / D ₁ x L	LHG description	d / D / D ₁ x L
KSB409-050615	5/6/10x15	KSB409-121412	12/14/20x12	KSB409-283010	28/30/36x10
KSB409-050703,5	5/7/11x3,5	KSB409-121415	12/14/20x15	KSB409-283036	28/30/35x36
KSB409-050704	5/7/11x4	KSB409-121417	12/14/20x17	KSB409-303120	30/31/36x20
KSB409-050705	5/7/11x5	KSB409-121420	12/14/20x20	KSB409-303130	30/31/35x30
KSB409-050730	5/7/11x30	KSB409-121424	12/14/20x24	KSB409-303204	30/32/37x4
KSB409-060704,5	6/7/11x4,5	KSB409-131506	13/15/22x6	KSB409-303212	30/32/37x12
KSB409-060706	6/7/11x6	KSB409-141603	14/16/22x3	KSB409-303217,5	30/32/37x17,5
KSB409-060710	6/7/11x10	KSB409-141604	14/16/22x4	KSB409-303222	30/32/37x22
KSB409-060804	6/8/12x4	KSB409-141606	14/16/22x6	KSB409-303409	30/34/42x9
KSB409-060805	6/8/12x5	KSB409-141608	14/16/22x8	KSB409-303416	30/34/42x16
KSB409-060806	6/8/12x6	KSB409-141610	14/16/22x10	KSB409-303420	30/34/42x20
KSB409-060807	6/8/12x7	KSB409-141612	14/16/22x12	KSB409-303426	30/34/42x26
KSB409-060808	6/8/12x8	KSB409-141617	14/16/22x17	KSB409-303437	30/34/42x37
KSB409-060810	6/8/12x10	KSB409-141621	14/16/22x21	KSB409-323616	32/36/40x16
KSB409-060835	6/8/12x35	KSB409-151602	15/16/20x2	KSB409-323626	32/36/40x26
KSB409-070803	7/8/12x3	KSB409-151602,5	15/16/20x2,5	KSB409-353907	35/39/47x7
KSB409-070808	7/8/12x8	KSB409-151603	15/16/20x3	KSB409-353916	35/39/47x16
KSB409-070906	7/9/15x6	KSB409-151615	15/16/20x15	KSB409-353926	35/39/47x26
KSB409-070910	7/9/15x10	KSB409-151704	15/17/23x4	KSB409-353936	35/39/47x36
KSB409-070912	7/9/15x12	KSB409-15174,5	15/17/23x4,5	KSB409-384222	38/42/54x22
KSB409-080903	8/9/15x3	KSB409-151705	15/17/23x5	KSB409-404407	40/44/52x7
KSB409-080905,5	8/9/13x5,5	KSB409-151709	15/17/23x9	KSB409-404414	40/44/52x14
KSB409-080908	8/9/13x8	KSB409-151712	15/17/23x12	KSB409-404430	40/44/52x30
KSB409-080912	8/9/13x12	KSB409-151717	15/17/23x17	KSB409-404420	40/44/52x20
KSB409-081003	8/10/15x3	KSB409-151720	15/17/23x20	KSB409-404440	40/44/52x40
KSB409-081004	8/10/15x4	KSB409-161804	16/18/24x4	KSB409-404450	40/44/52x50
KSB409-081005,5	8/10/15x5,5	KSB409-161806	16/18/24x6	KSB409-424619	42/46/53x19
KSB409-081006,5	8/10/15x6,5	KSB409-161809	16/18/24x9	KSB409-455025	45/50/58x25
KSB409-081007,5	8/10/15x7,5	KSB409-161812	16/18/24x12	KSB409-455030	45/50/58x30
KSB409-081009,5	8/10/15x9,5	KSB409-161817	16/18/24x17	KSB409-455050	45/50/58x50
KSB409-081010	8/10/15x10	KSB409-161821	16/18/24x21	KSB409-505507	50/55/63x7
KSB409-081015	8/10/15x15	KSB409-171909	17/19/25x9	KSB409-505510	50/55/63x10
KSB409-081025	8/10/15x25	KSB409-171925	17/19/25x25	KSB409-505525	50/55/63x25
KSB409-081030	8/10/15x30	KSB409-182004	18/20/26x4	KSB409-505540	50/55/63x40
KSB409-091017,5	9/10/15x17,5	KSB409-182006	18/20/26x6	KSB409-505550	50/55/63x50
KSB409-091006,5	9/10/15x6,5	KSB409-182009	18/20/26x9	KSB409-606522	60/65/73x22
KSB409-101110	10/11/15x10	KSB409-182011	18/20/26x11	KSB409-606530	60/65/73x30
KSB409-101203,5	10/12/18x3,5	KSB409-182012	18/20/26x12	KSB409-606550	60/65/73x50
KSB409-101204	10/12/18x4	KSB409-182017	18/20/26x17	KSB409-657050	65/70/78x50
KSB409-101205	10/12/18x5	KSB409-182022	18/20/26x22	KSB409-707550	70/75/83x50
KSB409-101206	10/12/18x6	KSB409-182030	18/20/26x30	KSB409-758050	75/80/88x50
KSB409-101207	10/12/18x7	KSB409-182028	18/20/26x28	KSB409-8085100	80/85/93x100
KSB409-101209	10/12/18x9	KSB409-182032	18/20/26x32	KSB409-8590100	85/90/98x100
KSB409-101210	10/12/18x10	KSB409-202120	20/21/25x20	KSB409-9095100	90/95/103x100
KSB409-101212	10/12/18x12	KSB409-202307	20/23/30x7	KSB409-95100100	95/100/108x100
KSB409-101215	10/12/18x15	KSB409-202311	20/23/30x11,5	KSB409-100105100	100/105/113x100
KSB409-101217	10/12/18x17	KSB409-202316	20/23/30x16,5	KSB409-10010542,5	100/105/113x42,5
KSB409-121303	12/13/17x3	KSB409-202321	20/23/30x21,5	KSB409-110115100	110/115/123x100
KSB409-121312	12/13/17x12	KSB409-242707	24/27/32x7	KSB409-120125100	120/125/133x100
KSB409-121403	12/14/20x3	KSB409-242710	24/27/32x10	KSB409-125130100	125/130/138x100
KSB409-121406	12/14/20x6	KSB409-252625	25/26/30x25	KSB409-130135100	130/135/143x100
KSB409-121407	12/14/20x7	KSB409-252748	25/27/32x48	KSB409-140145100	140/145/153x100
KSB409-121409	12/14/20x9	KSB409-252811,5	25/28/35x11,5	KSB409-15015540	150/155/163x40
KSB409-121410	12/14/20x10	KSB409-252816,5	25/28/35x16,5	KSB409-150155100	150/155/163x100
KSB409-121411	12/14/20x11	KSB409-252821,5	25/28/35x21,5		

Notes

[illegible]

GAP-MET®/M



SELF-LUBRICATING BRONZE SLIDING BEARING,
MAINTENANCE-FREE

GAP-MET®/M sliding bearing



Types	GAZ/M Cylindrical bushing	GAB/M Flanged bushing	GAA/M Thrust washer	GAS/M Strips
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TECHNICAL DATA

Description	Self-lubricating sliding bearing. High-compressed with evenly applied solid lubricant. Manufactured employing sintering technique. Maintenance-free
Properties	High-load capacity and stability, for all slow movements, unsusceptible to dirt, no moisture absorption, good chemical resistance, good respectively very good temperature resistance, can be reworked mechanically. Maintenance-free
Material* Support material Sliding layer**	Bronze with smoothly dispersed graphite incorporated in the matrix CuSn / CuSnPb alloys**; running-in: Graphite film (optional)

MATERIAL PROPERTIES ***

Specific load capacity static	≤ 250	[N/mm²]
Specific load capacity dynamic	≤ 130	[N/mm²]
Sliding speed	< 0,5	[m/s] dry
Friction value	0,10 - 0,20	[μ]
Temperature strain	-50 - +350	[°C] up to +650 °C
Max. Pv - value	1,5	[N/mm² x m/s] dry

TOLERANCE DETAILS

Housing Bushing inner - Ø after mounting Shaft tolerance	H7 To customers specification (D8 / H8 / H9) To be specified by customer (d7 / e7 / f7 / h7)
Shaft material	Hardened steel > 180HB, surface roughness ≤ Rz 4

MOUNTING ADVISE

Housing Shaft Force fitting mandrel	Mounting bevel, min. 1,5 mm x 15-45° Mounting bevel, 5 mm x 15°, edges rounded The application of an adequate force fitting mandrel is advisable. Grease lubrication of the outer surface may be necessary when mounting.
Maintenance	GAP-MET®/M is a maintenance-free sliding bearing. Though, oil or grease lubrication is applicable.

Cylindrical and flanged bushings are standard fabrication. All special designs are available at short notice!

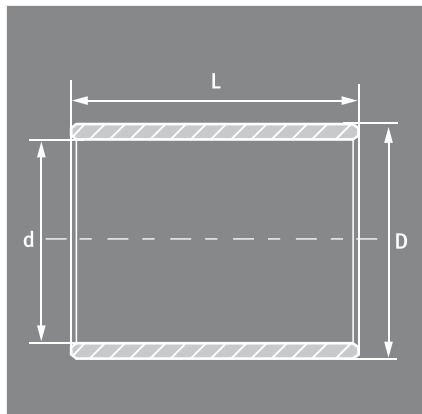
* On request further materials are available for higher demands, e.g. for higher temperature ranges.

** Also with cleaning grooves available!

*** The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

GAZ/M = Cylindrical bushing

List of our standard dimensions in mm.



LHG description	d / D x L
GAZ/M125-203515	20/35/15
GAZ/M125-203520	20/35/20
GAZ/M125-203530	20/35/30
GAZ/M125-204015	20/40/15
GAZ/M125-204020	20/40/20
GAZ/M125-204030	20/40/30
GAZ/M125-253515	25/35/15
GAZ/M125-253520	25/35/20
GAZ/M125-253530	25/35/30
GAZ/M125-253540	25/35/40
GAZ/M125-254520	25/45/20
GAZ/M125-254530	25/45/30
GAZ/M125-254540	25/45/40
GAZ/M125-304030	30/40/30
GAZ/M125-304040	30/40/40
GAZ/M125-304050	30/40/50
GAZ/M125-304060	30/40/60
GAZ/M125-354530	35/45/30
GAZ/M125-354540	35/45/40
GAZ/M125-354550	35/45/50
GAZ/M125-354560	35/45/60
GAZ/M125-405040	40/50/40
GAZ/M125-405045	40/50/45
GAZ/M125-405050	40/50/50
GAZ/M125-405055	40/50/55
GAZ/M125-405060	40/50/60
GAZ/M125-405065	40/50/65
GAZ/M125-455540	45/55/40
GAZ/M125-455545	45/55/45
GAZ/M125-455550	45/55/50
GAZ/M125-455555	45/55/55
GAZ/M125-455560	45/55/60
GAZ/M125-455565	45/55/65
GAZ/M125-456030	45/60/30
GAZ/M125-456040	45/60/40

LHG description	d / D x L
GAZ/M125-456050	45/60/50
GAZ/M125-456060	45/60/60
GAZ/M125-456070	45/60/70
GAZ/M125-506030	50/60/30
GAZ/M125-506040	50/60/40
GAZ/M125-506050	50/60/50
GAZ/M125-506060	50/60/60
GAZ/M125-506070	50/60/70
GAZ/M125-556540	55/65/40
GAZ/M125-556550	55/65/50
GAZ/M125-556560	55/65/60
GAZ/M125-556570	55/65/70
GAZ/M125-607040	60/70/40
GAZ/M125-607050	60/70/50
GAZ/M125-607060	60/70/60
GAZ/M125-607070	60/70/70
GAZ/M125-608040	60/80/40
GAZ/M125-608050	60/80/50
GAZ/M125-608060	60/80/60
GAZ/M125-608070	60/80/70
GAZ/M125-657540	65/75/40
GAZ/M125-657550	65/75/50
GAZ/M125-657560	65/75/60
GAZ/M125-657570	65/75/70
GAZ/M125-658040	65/80/40
GAZ/M125-658050	65/80/50
GAZ/M125-658060	65/80/60
GAZ/M125-658070	65/80/70
GAZ/M125-658540	65/85/40
GAZ/M125-658550	65/85/50
GAZ/M125-658560	65/85/60
GAZ/M125-658570	65/85/70
GAZ/M125-759040	75/90/40
GAZ/M125-759050	75/90/50
GAZ/M125-759060	75/90/60
GAZ/M125-759070	75/90/70
GAZ/M125-759540	75/95/40
GAZ/M125-759550	75/95/50
GAZ/M125-759560	75/95/60
GAZ/M125-759570	75/95/70
GAZ/M125-809050	80/90/50
GAZ/M125-809060	80/90/60
GAZ/M125-809070	80/90/70
GAZ/M125-809080	80/90/80
GAZ/M125-809550	80/95/50
GAZ/M125-809560	80/95/60

LHG description	d / D x L
GAZ/M125-809570	80/95/70
GAZ/M125-809580	80/95/80
GAZ/M125-8010050	80/100/50
GAZ/M125-8010060	80/100/60
GAZ/M125-8010070	80/100/70
GAZ/M125-8010080	80/100/80
GAZ/M125-8010550	80/105/50
GAZ/M125-8010560	80/105/60
GAZ/M125-8010570	80/105/70
GAZ/M125-8010580	80/105/80
GAZ/M125-8011050	80/110/50
GAZ/M125-8011060	80/110/60
GAZ/M125-8011070	80/110/70
GAZ/M125-8011080	80/110/80
GAZ/M125-8510050	85/100/50
GAZ/M125-8510060	85/100/60
GAZ/M125-8510070	85/100/70
GAZ/M125-8510080	85/100/80
GAZ/M125-8510550	85/105/50
GAZ/M125-8510560	85/105/60
GAZ/M125-8510570	85/105/70
GAZ/M125-8510580	85/105/80
GAZ/M125-8511050	85/110/50
GAZ/M125-8511060	85/110/60
GAZ/M125-8511070	85/110/70

GAZ/M = Cylindrical bushing

GAV/M = Rod

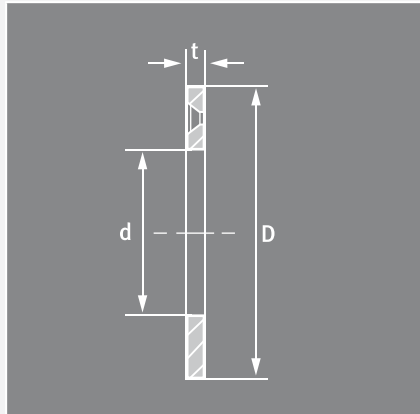
List of our standard dimensions in mm.

LHG description	d / D x L	LHG description	d / D x L	LHG description	d x L
GAZ/M125-8511080	85/110/80	GAZ/M125-9512590	95/125/90	GAV/M125-3020	30x20
GAZ/M125-8511550	85/115/50	GAZ/M125-9513060	95/130/60	GAV/M125-3545	35x45
GAZ/M125-8511560	85/115/60	GAZ/M125-9513070	95/130/70	GAV/M125-4060	40x60
GAZ/M125-8511570	85/115/70	GAZ/M125-9513080	95/130/80	GAV/M125-5070	50x70
GAZ/M125-8511580	85/115/80	GAZ/M125-9513090	95/130/90	GAV/M125-6065	60x65
GAZ/M125-8512050	85/120/50	GAZ/M125-10012060	100/120/60	GAV/M125-7070	70x70
GAZ/M125-8512060	85/120/60	GAZ/M125-10012070	100/120/70		
GAZ/M125-8512070	85/120/70	GAZ/M125-10012080	100/120/80		
GAZ/M125-8512080	85/120/80	GAZ/M125-10012090	100/120/90		
GAZ/M125-9011060	90/110/60	GAZ/M125-10012560	100/125/60		
GAZ/M125-9011070	90/110/70	GAZ/M125-10012570	100/125/70		
GAZ/M125-9011080	90/110/80	GAZ/M125-10012580	100/125/80		
GAZ/M125-9011090	90/110/90	GAZ/M125-10012590	100/125/90		
GAZ/M125-9011560	90/115/60	GAZ/M125-10013060	100/130/60		
GAZ/M125-9011570	90/115/70	GAZ/M125-10013070	100/130/70		
GAZ/M125-9011580	90/115/80	GAZ/M125-10013080	100/130/80		
GAZ/M125-9011590	90/115/90	GAZ/M125-10013090	100/130/90		
GAZ/M125-9012060	90/120/60	GAZ/M125-10013560	100/135/60		
GAZ/M125-9012070	90/120/70	GAZ/M125-10013570	100/135/70		
GAZ/M125-9012080	90/120/80	GAZ/M125-10013580	100/135/80		
GAZ/M125-9012090	90/120/90	GAZ/M125-10013590	100/135/90		
GAZ/M125-9510560	95/105/60				
GAZ/M125-9510570	95/105/70				
GAZ/M125-9510580	95/105/80				
GAZ/M125-9510590	95/105/90				
GAZ/M125-9511060	95/110/60				
GAZ/M125-9511070	95/110/70				
GAZ/M125-9511080	95/110/80				
GAZ/M125-9511090	95/110/90				
GAZ/M125-9511560	95/115/60				
GAZ/M125-9511570	95/115/70				
GAZ/M125-9511580	95/115/80				
GAZ/M125-9511590	95/115/90				
GAZ/M125-9512060	95/120/60				
GAZ/M125-9512070	95/120/70				
GAZ/M125-9512080	95/120/80				
GAZ/M125-9512090	95/120/90				
GAZ/M125-9512560	95/125/60				
GAZ/M125-9512570	95/125/70				
GAZ/M125-9512580	95/125/80				

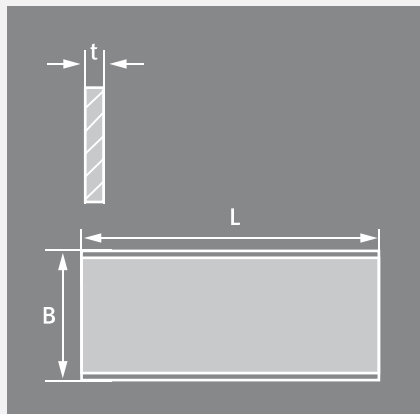
Special sizes or flanged bushings beyond the above measurement list can be manufactured at short notice!

All sizes and measurements are produced to customers specification.

GAA/M = Thrust washer



GAS/M = Strips & Plates



GAP-MET®/S



WRAPPED COMPOSITE SLIDING BEARING,
STEEL/GRAPHITE BRONZE, MAINTENANCE-FREE

GAP-MET®/S sliding bearing



Types

GAZ/S
Cylindrical bushing

GAA/S
Thrust washer

GAS/S
Strips

TECHNICAL DATA

Description	Wrapped composite steel/graphite bronze sliding bearing. Slots or drills are available in different constructions. Maintenance-free
Properties	High load capacity and stability, suitable for all slow movements and contaminated environments, no moisture absorption, good chemical resistance. Maintenance-free
Material* Support material Sliding layer**	Steel (also as Bronze GAP-MET®/B or Niro GAP-MET®/N available) CuSn alloys; running-in: Graphite film (optional)

MATERIAL PROPERTIES ***

Specific load capacity static	≤ 260	[N/mm²]
Specific load capacity dynamic	≤ 80	[N/mm²]
Sliding speed	< 0,5	[m/s]
Friction value	0,10 - 0,20	[μ] dry
Temperature strain	-150 - +280	[C°]
Max. Pv - value	1,0	[N/mm² x m/s] dry

TOLERANCE DETAILS

Housing Bushing inner - Ø after mounting Shaft tolerance	H7 H8 / H9 d7 / e7
Shaft material	Stahl hardened > 180HB, Surface roughness ≤ Rz 4

MOUNTING ADVISE

Housing Shaft Force fitting mandrel	Mounting bevel, min. 1,5 mm x 15-45° Mounting bevel, 5 mm x 15°, Kanten gerundet The application of an adequate force fitting mandrel is advisable. Grease lubrication of the outer surface may be necessary when mounting.
Maintenance	GAP-MET®/S is a maintenance-free sliding bearing. Though, oil or grease lubrication is applicable.

Grooves or bores / holes in various versions available! Cylindrical bushings and stripes are standard lines.

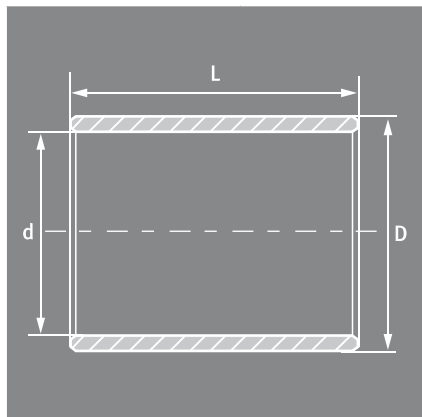
* On request further materials are available for higher demands, e.g. for higher temperature ranges.

** Also with cleaning grooves available!

*** The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

GAZ/S = Cylindrical bushing

List of our standard dimensions in mm.



LHG description	d / D x L
-----------------	-----------

GAZ/S867-1010	10/12x10
GAZ/S867-1015	10/12x15
GAZ/S867-1210	12/14x10
GAZ/S867-1215	12/14x15
GAZ/S867-1410	14/16x10
GAZ/S867-1415	14/16x15
GAZ/S867-1420	14/16x20
GAZ/S867-1510	15/17x10
GAZ/S867-1515	15/17x15
GAZ/S867-1520	15/17x20
GAZ/S867-1610	16/18x10
GAZ/S867-1615	16/18x15
GAZ/S867-1620	16/18x20
GAZ/S867-1810	18/20x10
GAZ/S867-1815	18/20x15
GAZ/S867-1820	18/20x20
GAZ/S867-1825	18/20x25
GAZ/S867-2010	20/23x10
GAZ/S867-2015	20/23x15
GAZ/S867-2020	20/23x20
GAZ/S867-2025	20/23x25
GAZ/S867-2030	20/23x30
GAZ/S867-2215	22/25x15
GAZ/S867-2220	22/25x20
GAZ/S867-2225	22/25x25
GAZ/S867-2230	22/25x30
GAZ/S867-2415	24/27x15
GAZ/S867-2420	24/27x20
GAZ/S867-2425	24/27x25
GAZ/S867-2430	24/27x30
GAZ/S867-2515	25/28x15
GAZ/S867-2520	25/28x20
GAZ/S867-2525	25/28x25
GAZ/S867-2530	25/28x30
GAZ/S867-2815	28/32x15

LHG description	d / D x L
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GAZ/S867-2820	28/32x20
GAZ/S867-2825	28/32x25
GAZ/S867-2830	28/32x30
GAZ/S867-2840	28/32x40
GAZ/S867-3015	30/34x15
GAZ/S867-3020	30/34x20
GAZ/S867-3025	30/34x25
GAZ/S867-3030	30/34x30
GAZ/S867-3040	30/34x40
GAZ/S867-3220	32/36x20
GAZ/S867-3225	32/36x25
GAZ/S867-3230	32/36x30
GAZ/S867-3240	32/36x40
GAZ/S867-3520	35/39x20
GAZ/S867-3525	35/39x25
GAZ/S867-3530	35/39x30
GAZ/S867-3540	35/39x40
GAZ/S867-3550	35/39x50
GAZ/S867-3620	36/40x20
GAZ/S867-3625	36/40x25
GAZ/S867-3630	36/40x30
GAZ/S867-3640	36/40x40
GAZ/S867-3650	36/40x50
GAZ/S867-3820	38/42x20
GAZ/S867-3825	38/42x25
GAZ/S867-3830	38/42x30
GAZ/S867-3840	38/42x40
GAZ/S867-3850	38/42x50
GAZ/S867-4020	40/44x20
GAZ/S867-4025	40/44x25
GAZ/S867-4030	40/44x30
GAZ/S867-4040	40/44x40
GAZ/S867-4050	40/44x50
GAZ/S867-4060	40/44x60
GAZ/S867-4225	42/46x25
GAZ/S867-4230	42/46x30
GAZ/S867-4240	42/46x40
GAZ/S867-4250	42/46x50
GAZ/S867-4260	42/46x60
GAZ/S867-4525	45/50x25
GAZ/S867-4530	45/50x30
GAZ/S867-4540	45/50x40
GAZ/S867-4550	45/50x50
GAZ/S867-4560	45/50x60
GAZ/S867-5025	50/55x25
GAZ/S867-5030	50/55x30

LHG description	d / D x L
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GAZ/S867-5040	50/55x40
GAZ/S867-5050	50/55x50
GAZ/S867-5060	50/55x60
GAZ/S867-5070	50/55x70
GAZ/S867-5530	55/60x30
GAZ/S867-5540	55/60x40
GAZ/S867-5550	55/60x50
GAZ/S867-5560	55/60x60
GAZ/S867-5570	55/60x70
GAZ/S867-6030	60/65x30
GAZ/S867-6040	60/65x40
GAZ/S867-6050	60/65x50
GAZ/S867-6060	60/65x60
GAZ/S867-6070	60/65x70
GAZ/S867-6080	60/65x80
GAZ/S867-6540	65/70x40
GAZ/S867-6550	65/70x50
GAZ/S867-6560	65/70x60
GAZ/S867-6570	65/70x70
GAZ/S867-6580	65/70x80
GAZ/S867-7040	70/75x40
GAZ/S867-7050	70/75x50
GAZ/S867-7060	70/75x60
GAZ/S867-7070	70/75x70
GAZ/S867-7080	70/75x80
GAZ/S867-7540	75/81x40
GAZ/S867-7550	75/81x50
GAZ/S867-7560	75/81x60
GAZ/S867-7570	75/81x70
GAZ/S867-7580	75/81x80
GAZ/S867-75100	75/81x100
GAZ/S867-8040	80/86x40
GAZ/S867-8050	80/86x50
GAZ/S867-8060	80/86x60
GAZ/S867-8070	80/86x70
GAZ/S867-8080	80/86x80
GAZ/S867-80100	80/86x100
GAZ/S867-8550	85/91x50
GAZ/S867-8560	85/91x60
GAZ/S867-8570	85/91x70
GAZ/S867-8580	85/91x80
GAZ/S867-85100	85/91x100
GAZ/S867-85120	85/91x120
GAZ/S867-9050	90/96x50
GAZ/S867-9060	90/96x60
GAZ/S867-9070	90/96x70

GAZ/S = Cylindrical bushing

List of our standard dimensions in mm.

LHG description	d / D x L	LHG description	d / D x L	LHG description	d / D x L
GAZ/S867-9080	90/96x80	GAZ/S867-12580	125/131x80	GAZ/S867-150180	150/156x180
GAZ/S867-90100	90/96x100	GAZ/S867-125100	125/131x100	GAZ/S867-150200	150/156x200
GAZ/S867-90120	90/96x120	GAZ/S867-125120	125/131x120	GAZ/S867-16080	160/166x80
GAZ/S867-9560	95/101x60	GAZ/S867-125140	125/131x140	GAZ/S867-160100	160/166x100
GAZ/S867-9570	95/101x70	GAZ/S867-125150	125/131x150	GAZ/S867-160120	160/166x120
GAZ/S867-9580	95/101x80	GAZ/S867-125160	125/131x160	GAZ/S867-160140	160/166x140
GAZ/S867-95100	95/101x100	GAZ/S867-125180	125/131x180	GAZ/S867-160150	160/166x150
GAZ/S867-95120	95/101x120	GAZ/S867-13070	130/136x70	GAZ/S867-160160	160/166x160
GAZ/S867-10050	100/106x50	GAZ/S867-13080	130/136x80	GAZ/S867-160180	160/166x180
GAZ/S867-10060	100/106x60	GAZ/S867-130100	130/136x100	GAZ/S867-160200	160/166x200
GAZ/S867-10070	100/106x70	GAZ/S867-130120	130/136x120	GAZ/S867-180100	180/186x100
GAZ/S867-10080	100/106x80	GAZ/S867-130140	130/136x140	GAZ/S867-180120	180/186x120
GAZ/S867-100100	100/106x100	GAZ/S867-130150	130/136x150	GAZ/S867-180140	180/186x140
GAZ/S867-100120	100/106x120	GAZ/S867-130160	130/136x160	GAZ/S867-180150	180/186x150
GAZ/S867-100140	100/106x140	GAZ/S867-130180	130/136x180	GAZ/S867-180160	180/186x160
GAZ/S867-10560	105/111x60	GAZ/S867-13570	135/141x70	GAZ/S867-180180	180/186x180
GAZ/S867-10570	105/111x70	GAZ/S867-13580	135/141x80	GAZ/S867-180200	180/186x200
GAZ/S867-10580	105/111x80	GAZ/S867-135100	135/141x100	GAZ/S867-200100	200/206x100
GAZ/S867-105100	105/111x100	GAZ/S867-135120	135/141x120	GAZ/S867-200120	200/206x120
GAZ/S867-105120	105/111x120	GAZ/S867-135140	135/141x140	GAZ/S867-200140	200/206x140
GAZ/S867-105140	105/111x140	GAZ/S867-135150	135/141x150	GAZ/S867-200150	200/206x150
GAZ/S867-105150	105/111x150	GAZ/S867-135160	135/141x160	GAZ/S867-200160	200/206x160
GAZ/S867-11060	110/116x60	GAZ/S867-135180	135/141x180	GAZ/S867-200180	200/206x180
GAZ/S867-11070	110/116x70	GAZ/S867-14070	140/146x70	GAZ/S867-200200	200/206x200
GAZ/S867-11080	110/116x80	GAZ/S867-14080	140/146x80	GAZ/S867-220100	220/226x100
GAZ/S867-110100	110/116x100	GAZ/S867-140100	140/146x100	GAZ/S867-220120	220/226x120
GAZ/S867-110120	110/116x120	GAZ/S867-140120	140/146x120	GAZ/S867-220140	220/226x140
GAZ/S867-110140	110/116x140	GAZ/S867-140140	140/146x140	GAZ/S867-220150	220/226x150
GAZ/S867-110150	110/116x150	GAZ/S867-140150	140/146x150	GAZ/S867-220160	220/226x160
GAZ/S867-11560	115/121x60	GAZ/S867-140160	140/146x160	GAZ/S867-220180	220/226x180
GAZ/S867-11570	115/121x70	GAZ/S867-140180	140/146x180	GAZ/S867-220200	220/226x200
GAZ/S867-11580	115/121x80	GAZ/S867-140200	140/146x200	GAZ/S867-240120	240/246x120
GAZ/S867-115100	115/121x100	GAZ/S867-14580	145/151x80	GAZ/S867-240140	240/246x140
GAZ/S867-115120	115/121x120	GAZ/S867-145100	145/151x100	GAZ/S867-240150	240/246x150
GAZ/S867-115140	115/121x140	GAZ/S867-145120	145/151x120	GAZ/S867-240160	240/246x160
GAZ/S867-115150	115/121x150	GAZ/S867-145140	145/151x140	GAZ/S867-240180	240/246x180
GAZ/S867-115160	115/121x160	GAZ/S867-145150	145/151x150	GAZ/S867-240200	240/246x200
GAZ/S867-12060	120/126x60	GAZ/S867-145160	145/151x160	GAZ/S867-260120	260/270x120
GAZ/S867-12070	120/126x70	GAZ/S867-145180	145/151x180	GAZ/S867-260140	260/270x140
GAZ/S867-12080	120/126x80	GAZ/S867-145200	145/151x200	GAZ/S867-260150	260/270x150
GAZ/S867-120100	120/126x100	GAZ/S867-15080	150/156x80	GAZ/S867-260160	260/270x160
GAZ/S867-120120	120/126x120	GAZ/S867-150100	150/156x100	GAZ/S867-260180	260/270x180
GAZ/S867-120140	120/126x140	GAZ/S867-150120	150/156x120	GAZ/S867-260200	260/270x200
GAZ/S867-120150	120/126x150	GAZ/S867-150140	150/156x140	GAZ/S867-280140	280/290x140
GAZ/S867-120160	120/126x160	GAZ/S867-150150	150/156x150	GAZ/S867-280150	280/290x150
GAZ/S867-12570	125/131x70	GAZ/S867-150160	150/156x160	GAZ/S867-280160	280/290x160

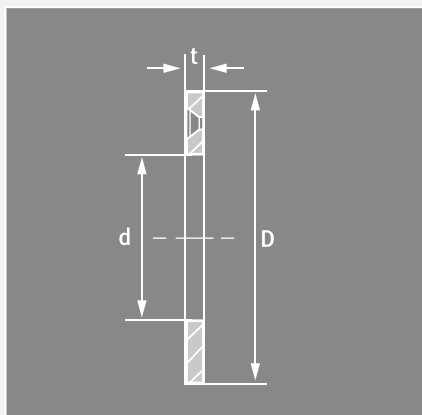
GAZ/S = Cylindrical bushing

List of our standard dimensions in mm.

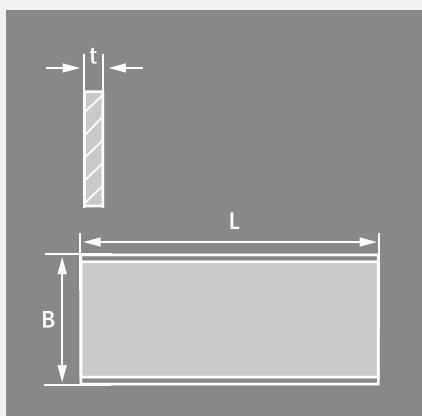
LHG Bezeichnung	d / D x L
GAZ/S867-280180	280/290x180
GAZ/S867-280200	280/290x200
GAZ/S867-300150	300/310x150
GAZ/S867-300160	300/310x160
GAZ/S867-300180	300/310x180
GAZ/S867-300200	300/310x200
GAZ/S867-320160	320/330x160
GAZ/S867-320180	320/330x180
GAZ/S867-320200	320/330x200
GAZ/S867-340180	340/350x180
GAZ/S867-340200	340/350x200
GAZ/S867-350180	350/360x180
GAZ/S867-350200	350/360x200
GAZ/S867-360180	360/370x180
GAZ/S867-360200	360/370x200
GAZ/S867-380200	380/390x200
GAZ/S867-400200	400/410x200
GAZ/S867-420200	420/430x200
GAZ/S867-440200	440/450x200
GAZ/S867-460200	460/470x200
GAZ/S867-480200	480/490x200
GAZ/S867-500200	500/510x200
GAZ/S867-520200	520/530x200
GAZ/S867-540200	540/550x200
GAZ/S867-560200	560/570x200
GAZ/S867-580200	580/590x200
GAZ/S867-600200	600/610x200

All sizes and measurements are produced to customers specification.

GAA/S = Thrust washer



GAS/S = Strips & Plates



FER-MET®



WRAPPED SPRING STEEL BEARING,
INNER AND OUTER TENSION BUSHING,
HEAVY-MAINTENANCE

FER-MET® sliding bearing



Types

FMZ
Cylindrical bushing

TECHNICAL DATA

Description	Wrapped bushing made from spring steel, inner and outer tension bushing. Maintenance-bound
Properties	Extremely high load capacity, very wear-resistant, also suitable for heavy operational demands with impact load.
Materials	Spring steel 55Si7, alternatively C67 or similar. Hardness 48 +/- 2 [HRC]

MATERIAL PROPERTIES

Form	Type	
E		Without bevel at inner diameter
F		With bevel at inner diameter
	G	Straight slot
	P	Arrowheaded slot
	S	Slant slot

TOLERANCE DETAILS

Housing - Ø Bushing inner after mounting Shaft tolerance	H8 According to DIN 1498/1499 Specified by the customer
Shaft material	Hardened steel, C45 recommended, > 8-10 HRC harder than the material of bushing

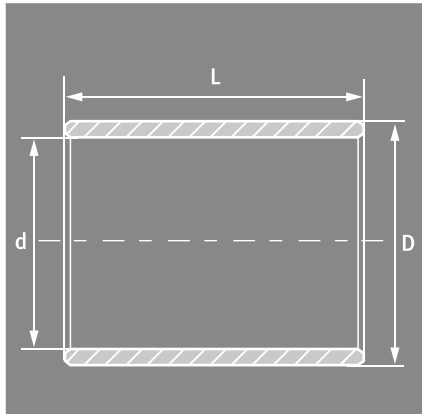
MOUNTING ADVISE

Housing Shaft Force fitting mandrel	Mounting bevel, min. 1,5 mm x 15-45° Mounting bevel, 5 mm x 15°, edges rounded The application of an adequate force fitting mandrel is advisable. Grease lubrication of the outer surface may be necessary when mounting.
Maintenance	Sufficient lubrication is necessary!

FER-MET® is available only as cylindrical bushing! All special designs are available at short notice!
Additional lubrication slots or lubrication drills on demand!

FMZ = Cylindrical bushing

List of our standard dimensions in mm.



LHG description	d / D x L	LHG description	d / D x L
FMZ209-162020	16/20x20	FMZ209-303820	30/38x20
FMZ209-162215	16/22x15	FMZ209-303825	30/38x25
FMZ209-162220	16/22x20	FMZ209-303835	30/38x35
FMZ209-182415	18/24x15	FMZ209-303850	30/38x50
FMZ209-182420	18/24x20	FMZ209-304020	30/40x20
FMZ209-182430	18/24x30	FMZ209-304025	30/40x25
FMZ209-202410	20/24x10	FMZ209-304035	30/40x35
FMZ209-202420	20/24x20	FMZ209-304050	30/40x50
FMZ209-202615	20/26x15	FMZ209-324020	32/40x20
FMZ209-202620	20/26x20	FMZ209-324025	32/40x25
FMZ209-202630	20/26x30	FMZ209-324035	32/40x35
FMZ209-202815	20/28x15	FMZ209-324050	32/40x50
FMZ209-202820	20/28x20	FMZ209-364520	36/45x20
FMZ209-202830	20/28x30	FMZ209-364525	36/45x25
FMZ209-222815	22/28x15	FMZ209-364535	36/45x35
FMZ209-222820	22/28x20	FMZ209-364550	36/45x50
FMZ209-222830	22/28x30	FMZ209-405020	40/50x20
FMZ209-252820	25/28x20	FMZ209-405040	40/50x40
FMZ209-253020	25/30x20	FMZ209-405060	40/50x60
FMZ209-253215	25/32x15	FMZ209-405080	40/50x80
FMZ209-253220	25/32x20	FMZ209-455520	45/55x20
FMZ209-253230	25/32x30	FMZ209-455540	45/55x40
FMZ209-253240	25/32x40	FMZ209-455560	45/55x60
FMZ209-253515	25/35x15	FMZ209-455580	45/55x80
FMZ209-253520	25/35x20	FMZ209-506025	50/60x25
FMZ209-253530	25/35x30	FMZ209-506050	50/60x50
FMZ209-253540	25/35x40	FMZ209-506070	50/60x70
FMZ209-253420	25/34x20	FMZ209-5060100	50/60x100
FMZ209-283515	28/35x15	FMZ209-556525	55/65x25
FMZ209-283520	28/35x20	FMZ209-556550	55/65x50
FMZ209-283530	28/35x30	FMZ209-556580	55/65x80
FMZ209-283540	28/35x40	FMZ209-5565100	55/65x100
FMZ209-303520	30/35x20	FMZ209-607025	60/70x25
FMZ209-303525	30/35x25	FMZ209-607050	60/70x50
FMZ209-303530	30/35x30	FMZ209-607070	60/70x70
		FMZ209-6070100	60/70x100
		FMZ209-657525	65/75x25
		FMZ209-657550	65/75x50
		FMZ209-657570	65/75x70
		FMZ209-6575100	65/75x100
		FMZ209-658025	65/80x25
		FMZ209-658050	65/80x50
		FMZ209-658070	65/80x70
		FMZ209-6580100	65/80x100
		FMZ209-708020	70/80x20
		FMZ209-708025	70/80x25
		FMZ209-708045	70/80x45
		FMZ209-708525	70/85x25
		FMZ209-708550	70/85x50
		FMZ209-708570	70/85x70
		FMZ209-7085100	70/85x100
		FMZ209-759025	75/90x25
		FMZ209-759050	75/90x50
		FMZ209-759070	75/90x70
		FMZ209-7590100	75/90x100
		FMZ209-809540	80/95x40
		FMZ209-809560	80/95x60
		FMZ209-8095100	80/95x100
		FMZ209-8095120	80/95x120
		FMZ209-8510040	85/100x40
		FMZ209-8510060	85/100x60
		FMZ209-85100100	85/100x100
		FMZ209-85100120	85/100x120
		FMZ209-9010545	90/105x45
		FMZ209-9010560	90/105x60
		FMZ209-90105100	90/105x100
		FMZ209-90105120	90/105x120
		FMZ209-9511045	95/110x45
		FMZ209-9511060	95/110x60
		FMZ209-95110100	95/110x100
		FMZ209-95110120	95/110x120
		FMZ209-10011545	100/115x45
		FMZ209-10011560	100/115x60
		FMZ209-100115100	100/115x100
		FMZ209-100115120	100/115x120
		FMZ209-10512050	105/120x50
		FMZ209-10512080	105/120x80
		FMZ209-105120100	105/120x100
		FMZ209-105120140	105/120x140
		FMZ209-11012550	110/125x50
		FMZ209-11012580	110/125x80
		FMZ209-110125100	110/125x100

FER-MAS®



SOLID, HARDENED, DRESSED TO SIZE STEEL SLIDING BEARING,
MAINTENANCE-BOUND



FER-MAS® sliding bearing

Types

FSZ
Cylindrical bushing

TECHNICAL DATA

Description	Solid, hardened, dressed to size steel sliding bearing. Maintenance-bound
Properties	Suitable for highest operational demands, unsusceptible, good length of life. Narrow tolerances possible.
Materials	20MnV6 hardened and dressed to size, alternatively 100 Cr6 or GCr15 hardened and dressed to size

MATERIAL PROPERTIES *

Specific load capacity static	≤ 250	[N/mm ²]
Specific load capacity dynamic	≤ 150	[N/mm ²]
Sliding speed	< 0,6	[m/s]
Friction value	0,05 - 0,25	[μ]
Temperature strain	-100 - +250	[°C]
Max. Pv - value	1,2	[N/mm ² x m/s]
Hardness	58 - 62	[HRC]

TOLERANCE DETAILS

Housing – Ø	H7
Shaft tolerance	Specified by the customer
Shaft material	Hardened steel (C45 recommended)

MOUNTING ADVISE

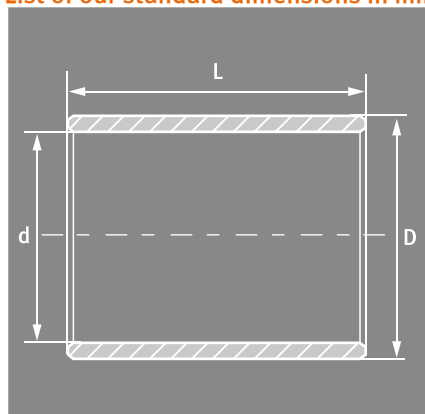
Housing	Mounting bevel, min. 1,5 mm x 15-45°
Shaft	Mounting bevel, 5 mm x 15°, edges rounded
Force fitting mandrel	The application of an adequate force fitting mandrel is advisable. Grease lubrication of the outer surface may be necessary when mounting.
Maintenance	Sufficient lubrication is necessary!

All special designs are available at short notice! Additional lubrication slots or lubrication drills on demand!

* The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

FSZ = Cylindrical bushing

List of our standard dimensions in mm.



LHG description	d / D x L
FSZ201-203020	20/30x20
FSZ201-203025	20/30x25
FSZ201-203030	20/30x30
FSZ201-203035	20/30x35
FSZ201-203040	20/30x40
FSZ201-203045	20/30x45
FSZ201-203050	20/30x50
FSZ201-203055	20/30x55
FSZ201-203060	20/30x60
FSZ201-203065	20/30x65
FSZ201-253530	25/35x30
FSZ201-253535	25/35x35
FSZ201-253540	25/35x40
FSZ201-253545	25/35x45
FSZ201-253550	25/35x50
FSZ201-253555	25/35x55
FSZ201-253560	25/35x60
FSZ201-253565	25/35x65
FSZ201-253570	25/35x70
FSZ201-253575	25/35x75
FSZ201-253580	25/35x80
FSZ201-253585	25/35x85
FSZ201-253590	25/35x90
FSZ201-253595	25/35x95
FSZ201-2535100	25/35x100
FSZ201-303830	30/38x30
FSZ201-303835	30/38x35
FSZ201-303840	30/38x40
FSZ201-303845	30/38x45
FSZ201-303850	30/38x50
FSZ201-303860	30/38x60
FSZ201-303865	30/38x65
FSZ201-303870	30/38x70
FSZ201-303880	30/38x80
FSZ201-304030	30/40x30

LHG description	d / D x L
FSZ201-304035	30/40x35
FSZ201-304040	30/40x40
FSZ201-304045	30/40x45
FSZ201-304050	30/40x50
FSZ201-304055	30/40x55
FSZ201-304060	30/40x60
FSZ201-304065	30/40x65
FSZ201-304070	30/40x70
FSZ201-304075	30/40x75
FSZ201-304080	30/40x80
FSZ201-304085	30/40x85
FSZ201-304090	30/40x90
FSZ201-304095	30/40x95
FSZ201-3040100	30/40x100
FSZ201-354530	35/45x30
FSZ201-354535	35/45x35
FSZ201-354540	35/45x40
FSZ201-354545	35/45x45
FSZ201-354550	35/45x50
FSZ201-354555	35/45x55
FSZ201-354560	35/45x60
FSZ201-354565	35/45x65
FSZ201-354570	35/45x70
FSZ201-354575	35/45x75
FSZ201-354580	35/45x80
FSZ201-354585	35/45x85
FSZ201-354590	35/45x90
FSZ201-354595	35/45x95
FSZ201-3545100	35/45x100
FSZ201-405030	40/50x30
FSZ201-405035	40/50x35
FSZ201-405040	40/50x40
FSZ201-405045	40/50x45
FSZ201-405050	40/50x50
FSZ201-405055	40/50x55
FSZ201-405060	40/50x60
FSZ201-405065	40/50x65
FSZ201-405070	40/50x70
FSZ201-405075	40/50x75
FSZ201-405080	40/50x80
FSZ201-405085	40/50x85
FSZ201-405090	40/50x90
FSZ201-405095	40/50x95
FSZ201-4050100	40/50x100
FSZ201-455530	45/55x30
FSZ201-455535	45/55x35

LHG description	d / D x L
FSZ201-455540	45/55x40
FSZ201-455545	45/55x45
FSZ201-455550	45/55x50
FSZ201-455555	45/55x55
FSZ201-455560	45/55x60
FSZ201-455565	45/55x65
FSZ201-455570	45/55x70
FSZ201-455575	45/55x75
FSZ201-455580	45/55x80
FSZ201-455585	45/55x85
FSZ201-455590	45/55x90
FSZ201-455595	45/55x95
FSZ201-4555100	45/55x100
FSZ201-506030	50/60x30
FSZ201-506035	50/60x35
FSZ201-506040	50/60x40
FSZ201-506045	50/60x45
FSZ201-506050	50/60x50
FSZ201-506055	50/60x55
FSZ201-506060	50/60x60
FSZ201-506065	50/60x65
FSZ201-506070	50/60x70
FSZ201-506075	50/60x75
FSZ201-506080	50/60x80
FSZ201-506085	50/60x85
FSZ201-506090	50/60x90
FSZ201-506095	50/60x95
FSZ201-5060100	50/60x100
FSZ201-556535	55/65x35
FSZ201-556540	55/65x40
FSZ201-556545	55/65x45
FSZ201-556550	55/65x50
FSZ201-556555	55/65x55
FSZ201-556560	55/65x60
FSZ201-556565	55/65x65
FSZ201-556570	55/65x70
FSZ201-556575	55/65x75
FSZ201-556580	55/65x80
FSZ201-556590	55/65x90
FSZ201-607035	60/70x35
FSZ201-607040	60/70x40
FSZ201-607045	60/70x45
FSZ201-607050	60/70x50
FSZ201-607055	60/70x55
FSZ201-607060	60/70x60
FSZ201-607065	60/70x65

FSZ = Cylindrical bushing

List of our standard dimensions in mm.

LHG description	d / D x L	LHG description	d / D x L
FSZ201-607070	60/70x70	FSZ201-809095	80/90x95
FSZ201-607080	60/70x80	FSZ201-8090100	80/90x100
FSZ201-607090	60/70x90	FSZ201-859540	85/95x40
FSZ201-6070100	60/70x100	FSZ201-859545	85/95x45
FSZ201-657535	65/75x35	FSZ201-859550	85/95x50
FSZ201-657540	65/75x40	FSZ201-859555	85/95x55
FSZ201-657545	65/75x45	FSZ201-859560	85/95x60
FSZ201-657550	65/75x50	FSZ201-859570	85/95x70
FSZ201-657555	65/75x55	FSZ201-859580	85/95x80
FSZ201-657560	65/75x60	FSZ201-859590	85/95x90
FSZ201-657565	65/75x65	FSZ201-8595100	85/95x100
FSZ201-657570	65/75x70	FSZ201-9010040	90/100x40
FSZ201-657580	65/75x80	FSZ201-9010045	90/100x45
FSZ201-657590	65/75x90	FSZ201-9010050	90/100x50
FSZ201-6575100	65/75x100	FSZ201-9010055	90/100x55
FSZ201-708035	70/80x35	FSZ201-9010060	90/100x60
FSZ201-708040	70/80x40	FSZ201-9010070	90/100x70
FSZ201-708045	70/80x45	FSZ201-9010080	90/100x80
FSZ201-708050	70/80x50	FSZ201-9010090	90/100x90
FSZ201-708055	70/80x55	FSZ201-90100100	90/100x100
FSZ201-708060	70/80x60		
FSZ201-708065	70/80x65		
FSZ201-708070	70/80x70		
FSZ201-708080	70/80x80		
FSZ201-708090	70/80x90		
FSZ201-7080100	70/80x100		
FSZ201-758535	75/85x35		
FSZ201-758540	75/85x40		
FSZ201-758545	75/85x45		
FSZ201-758550	75/85x50		
FSZ201-758555	75/85x55		
FSZ201-758560	75/85x60		
FSZ201-758565	75/85x65		
FSZ201-758570	75/85x70		
FSZ201-758580	75/85x80		
FSZ201-758590	75/85x90		
FSZ201-7585100	75/85x100		
FSZ201-809040	80/90x40		
FSZ201-809045	80/90x45		
FSZ201-809050	80/90x50		
FSZ201-809055	80/90x55		
FSZ201-809060	80/90x60		
FSZ201-809065	80/90x65		
FSZ201-809070	80/90x70		
FSZ201-809080	80/90x80		
FSZ201-809090	80/90x90		

FER-SINT®



MAINTENANCE-FREE STEEL SLIDING BEARING
WITH SPECIAL-BRONZE-LAYER

FER-SINT® sliding bearing



Types

FTZ
Cylindrical bushing

FTB
Flanged bushing

TECHNICAL DATA

Description	Solid, dressed to size steel sliding bearing with special-bronze-layer at inner diameter. Maintenance-free
Properties	Suitable for impact- and vibration-applications, good embedding ability of dirt particles, good length of life, very good for linear motions, maintenance-free, narrow tolerances possible. Maintenance-free
Material	Standard material: St 44 / special-bronze; (CK 45 / special-bronze)

MATERIAL PROPERTIES *

Specific load capacity static	≤ 75	[N/mm²]	
Specific load capacity dynamic	≤ 25	[N/mm²]	
Sliding speed	< 1,2	[m/s]	
Friction value	0,04 - 0,15	[μ]	
Temperature strain	-40 - +250	[C°]	
Max. Pv - value	1,6	[N/mm² x m/s]	lubricated: ≤ 2,4

TOLERANCE DETAILS

Housing – Ø	H7
Shaft tolerance	f7
Shaft material	Hardened steel

MOUNTING ADVISE

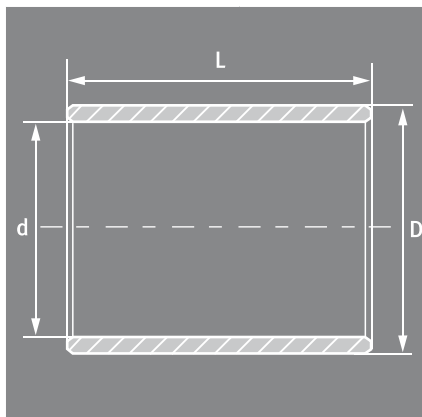
Housing	Mounting bevel, min. 1,5 mm x 15-45°
Shaft	Mounting bevel, 5 mm x 15°, edges rounded
Force fitting mandrel	The application of an adequate force fitting mandrel is advisable. Grease lubrication of the outer surface may be necessary when mounting.
Maintenance	Sufficient lubrication is not necessary. FER-SINT® is a self-lubricating and maintenance-free sliding bearing.

No stock of this bearing type, all sizes will be produced order related. Special dimensions on request.

* The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

FTZ = Cylindrical bushing

List of our standard dimensions in mm.



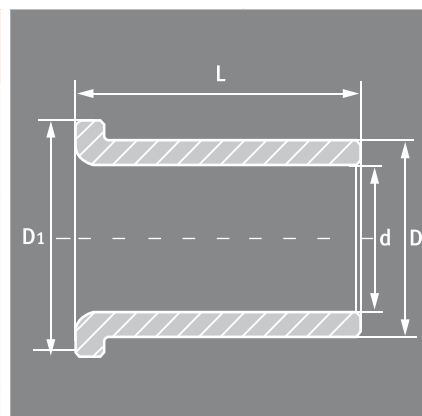
LHG description	d / D x L	LHG description	d / D x L
FTZ852-303812	30/38x12	FTZ852-354550	35/45x50
FTZ852-303815	30/38x15	FTZ852-354560	35/45x60
FTZ852-303820	30/38x20	FTZ852-384840	38/48x40
FTZ852-303825	30/38x25	FTZ852-405015	40/50x15
FTZ852-303830	30/38x30	FTZ852-405020	40/50x20
FTZ852-303835	30/38x35	FTZ852-405025	40/50x25
FTZ852-303840	30/38x40	FTZ852-405030	40/50x30
FTZ852-303850	30/38x50	FTZ852-405035	40/50x35
FTZ852-303860	30/38x60	FTZ852-405040	40/50x40
FTZ852-304012	30/40x12	FTZ852-405050	40/50x50
FTZ852-304015	30/40x15	FTZ852-405060	40/50x60
FTZ852-304020	30/40x20	FTZ852-405070	40/50x70
FTZ852-304025	30/40x25	FTZ852-405080	40/50x80
FTZ852-304030	30/40x30	FTZ852-405515	40/55x15
FTZ852-304035	30/40x35	FTZ852-405530	40/55x30
FTZ852-304040	30/40x40	FTZ852-405535	40/55x35
FTZ852-304050	30/40x50	FTZ852-405540	40/55x40
FTZ852-304060	30/40x60	FTZ852-405550	40/55x50
FTZ852-314030	31,5/40x30	FTZ852-405560	40/55x60
FTZ852-314040	31,5/40x40	FTZ852-455530	45/55x30
FTZ852-324220	32/42x20	FTZ852-455535	45/55x35
FTZ852-324230	32/42x30	FTZ852-455540	45/55x40
FTZ852-324240	32/42x40	FTZ852-455550	45/55x50
FTZ852-354420	35/44x20	FTZ852-455560	45/55x60
FTZ852-354425	35/44x25	FTZ852-455630	45/56x30
FTZ852-354430	35/44x30	FTZ852-455635	45/56x35
FTZ852-354435	35/44x35	FTZ852-455640	45/56x40
FTZ852-354440	35/44x40	FTZ852-455650	45/56x50
FTZ852-354450	35/44x50	FTZ852-455660	45/56x60
FTZ852-354460	35/44x60	FTZ852-456030	45/60x30
FTZ852-354520	35/45x20	FTZ852-456035	45/60x35
FTZ852-354525	35/45x25	FTZ852-456040	45/60x40
FTZ852-354530	35/45x30	FTZ852-456050	45/60x50
FTZ852-354535	35/45x35	FTZ852-456060	45/60x60
FTZ852-354540	35/45x40	FTZ852-456070	45/60x70
		FTZ852-456080	45/60x80
		FTZ852-506020	50/60x20
		FTZ852-506030	50/60x30
		FTZ852-506035	50/60x35
		FTZ852-506040	50/60x40
		FTZ852-506050	50/60x50
		FTZ852-506060	50/60x60
		FTZ852-506070	50/60x70
		FTZ852-506080	50/60x80
		FTZ852-506230	50/62x30
		FTZ852-506235	50/62x35
		FTZ852-506240	50/62x40
		FTZ852-506250	50/62x50
		FTZ852-506260	50/62x60
		FTZ852-506270	50/62x70
		FTZ852-506530	50/65x30
		FTZ852-506540	50/65x40
		FTZ852-506550	50/65x50
		FTZ852-506560	50/65x60
		FTZ852-506570	50/65x70
		FTZ852-506580	50/65x80
		FTZ852-5065100	50/65x100
		FTZ852-557030	55/70x30
		FTZ852-557035	55/70x35
		FTZ852-557040	55/70x40
		FTZ852-557050	55/70x50
		FTZ852-557060	55/70x60
		FTZ852-557070	55/70x70
		FTZ852-607430	60/74x30
		FTZ852-607435	60/74x35
		FTZ852-607440	60/74x40
		FTZ852-607450	60/74x50
		FTZ852-607460	60/74x60
		FTZ852-607470	60/74x70
		FTZ852-607480	60/74x80
		FTZ852-607530	60/75x30
		FTZ852-607535	60/75x35
		FTZ852-607540	60/75x40
		FTZ852-607550	60/75x50
		FTZ852-607560	60/75x60
		FTZ852-607570	60/75x70
		FTZ852-607580	60/75x80
		FTZ852-6075100	60/75x100
		FTZ852-637560	63/75x60
		FTZ852-637570	63/75x70
		FTZ852-637580	63/75x80
		FTZ852-658040	65/80x40
		FTZ852-658050	65/80x50
		FTZ852-658060	65/80x60
		FTZ852-658070	65/80x70
		FTZ852-658080	65/80x80
		FTZ852-708530	70/85x30
		FTZ852-708535	70/85x35
		FTZ852-708540	70/85x40
		FTZ852-708550	70/85x50
		FTZ852-708560	70/85x60
		FTZ852-708570	70/85x70

FTZ = Cylindrical bushing

FTB = Flanged bushing

List of our standard dimensions in mm.

LHG description	d / D x L	LHG description	d / D x L
FTZ852-708580	70/85x80	FTZ852-10012060	100/120x60
FTZ852-7085100	70/85x100	FTZ852-10012080	100/120x80
FTZ852-709050	70/90x50	FTZ852-10012090	100/120x90
FTZ852-709060	70/90x60	FTZ852-100120100	100/120x100
FTZ852-709070	70/90x70	FTZ852-100120120	100/120x120
FTZ852-709080	70/90x80	FTZ852-100120140	100/120x140
FTZ852-759050	75/90x50	FTZ852-11013050	110/130x50
FTZ852-759060	75/90x60	FTZ852-11013070	110/130x70
FTZ852-759070	75/90x70	FTZ852-11013080	110/130x80
FTZ852-759080	75/90x80	FTZ852-110130100	110/130x100
FTZ852-7590100	75/90x100	FTZ852-110130120	110/130x120
FTZ852-759560	75/95x60	FTZ852-12014070	120/140x70
FTZ852-759570	75/95x70	FTZ852-12014080	120/140x80
FTZ852-759580	75/95x80	FTZ852-12014090	120/140x90
FTZ852-7595100	75/95x100	FTZ852-120140100	120/140x100
FTZ852-809640	80/96x40	FTZ852-120140120	120/140x120
FTZ852-809650	80/96x50	FTZ852-120140140	120/140x140
FTZ852-809660	80/96x60	FTZ852-125145100	125/145x100
FTZ852-809670	80/96x70	FTZ852-125145120	125/145x120
FTZ852-809680	80/96x80	FTZ852-13015080	130/150x80
FTZ852-8096100	80/96x100	FTZ852-130150100	130/150x100
FTZ852-8096120	80/96x120	FTZ852-130150130	130/150x130
FTZ852-8010040	80/100x40	FTZ852-140160100	140/160x100
FTZ852-8010050	80/100x50	FTZ852-140160140	140/160x140
FTZ852-8010060	80/100x60	FTZ852-15017080	150/170x80
FTZ852-8010070	80/100x70	FTZ852-150170100	150/170x100
FTZ852-8010080	80/100x80	FTZ852-150170150	150/170x150
FTZ852-80100100	80/100x100		
FTZ852-80100120	80/100x120		
FTZ852-80100140	80/100x140		
FTZ852-8510060	85/100x60		
FTZ852-8510080	85/100x80		
FTZ852-9011050	90/110x50		
FTZ852-9011060	90/110x60		
FTZ852-9011070	90/110x70		
FTZ852-9011080	90/110x80		
FTZ852-9011090	90/110x90		
FTZ852-90110100	90/110x100		
FTZ852-90110120	90/110x120		
FTZ852-10012050	100/120x50		



LHG description	d / D / D ₁ - s x L
FTB852-253540	25/35/45x40
FTB852-304050	30/40/50x50
FTB852-405570	40/55/64x70
FTB852-506580	50/65/75x80
FTB852-607580	60/75/85x80
FTB852-658080	65/80/90x80
FTB852-6580120	65/80/90x120
FTB852-80100100	80/100/110x100
FTB852-80100140	80/100/110x140
FTB852-100120100	100/120/130x100
FTB852-100120140	100/120/130x140

FER-MAN®



LOW MAINTENANCE IMPACT-RESISTANCE STEEL SLIDING BEARING
WITH VERY HIGH SURFACE HARDNESS



FER-MAN® sliding bearing

Types

FNZ
Cylindrical bushing

TECHNICAL DATA

Description	Impact-resistance steel sliding bearing with very high surface hardness. Heat and corrosion resistant. Maintenance-low . Also maintenance-free available.
Properties	Applicable for higher loads, for avoiding adhesion, non-seizing, restricted abrasion-resistance, long-life bushing. Typical applications: e.g. replacement of bronze bearings which need to be lubricated intensively for dirt repellence. Very good for applications for minimum or initial lubricated bearing points with mechanical or/ and thermal stress. Reduction in lubrication frequency compared to bronze.
Material	Ferrous metal base material with lubrication grooves and special thermochemical treatment.

MATERIAL PROPERTIES *

Specific load capacity static	≤ 200	[N/mm ²]
Specific load capacity dynamic	≤ 100	[N/mm ²]
Sliding speed	< 0,4	[m/s]
Friction value	0,12 - 0,16	[μ]
Temperature strain	to +400	[C°]
Hardness of the sliding surface	550 - 650	[HV]
Hardness	120 - 180	[HRB]

TOLERANCE DEATAILS

Housing	H7
Shaft tolerance	Specified by the customer (recommended f7)
Shaft material	16 MnCr5 case-hardened or 42 CrMo4V inductive hardened

MOUNTING ADVISE

Housing	Mounting bevel, min. 1,5 mm x 15-45°
Shaft	Mounting bevel, 5 mm x 15°, edges rounded
Force fitting mandrel	The application of an adequate force fitting mandrel is advisable. Grease lubrication of the outer surface may be necessary when mounting.
Maintenance	Initial and periodical lubrication is necessary.

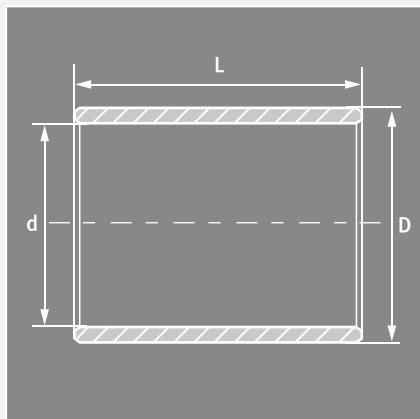
No stock of this bearing type, all sizes will be produced order related. Special dimensions on request.

* The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

Custom sizes are produced in a short term

All sizes and measurements are produced to customer's specification.

FNZ = Cylindrical bushing



Notes

[illegible]

LUB-MET®



BRONZE SLIDING BEARING WITH SOLID LUBRICANT IN SLIDING LAYER,
MAINTENANCE-FREE

LUB-MET® sliding bearing



Types	LMZ Cylindrical bushing	LMB Flanged bushing	LMA Thrust washer	LMS Strips
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TECHNICAL DATA

Description	Solid bronze sliding bearing with solid lubricant in sliding layer, Maintenance-free
Properties	For high operational demands (also impact load), oscillating movements, wear-resistant, unsuceptible to dirt, corrosion resistant, long length of life.
Material*	Standard material CuZn25Al5 / ASTM C86300

MATERIAL PROPERTIES **

Specific load capacity static	≤ 150	[N/mm ²]
Specific load capacity dynamic	≤ 100	[N/mm ²]
Sliding speed	≤ 0,3 - 1,0	[m/s]
Friction value	0,03 - 0,20	[μ] lubricated / dry
Temperature strain	-100 - +300	[C°]
Max. Pv - value	1,5	[N/mm ² x m/s]
Hardness	190 - 220	[HB]
Solid lubricant share	Approx. 25-30	[%]

TOLERANCE DETAILS

Housing – Ø Bushing after mounting Shaft tolerance	H7 Information after consulting. Delivered bushings with tolerances: r6/E7 f7 / h6
Shaft material	The hardness difference to the bearing should be 100HB at least, preferably hardened and dressed to size, surface roughness ≤ Rz 6,3.

MOUNTING ADVISE

Housing – Ø Shaft Force fitting mandrel	Mounting bevel, min. 1,5 mm x 15-45° Mounting bevel, 5 mm x 15°, edges rounded The application of an adequate force fitting mandrel is advisable. Grease lubrication of the outer surface may be necessary when mounting.
Maintenance	LUB-MET® is a maintenance-free sliding bearing, but primary lubrication is necessary! Therefore a none-ageing lithium stiffened grease should be used.

Cylindrical and flanged bushings, thrust washer strips are standard fabrication.
Custom sizes are manufactured in a short term!

* ADDITIONAL METAL ALLOYS	YIELD STRENGHT N/mm ²	TENSILE STRENGHT N/mm ²	HARDNESS/HB 10
CuPb15Sn / ASTM C93900	110	220	65
CuSn7ZnPb2 / ASTM C93200	130	270	75
CuSn12 / ASTM C90800	150	280	95
CuAl10Ni / ASTM C95500	300	700	160

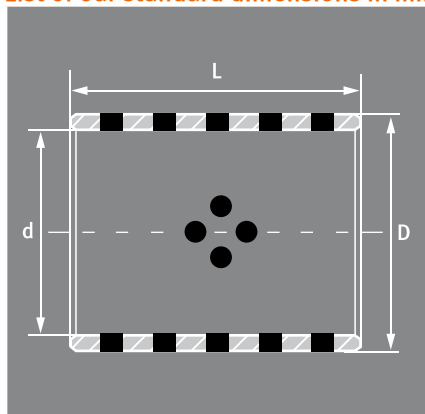
* As a special design additional sliding alloys are available.

** The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

Custom sizes are produced in a short term

LMZ = Cylindrical bushing

List of our standard dimensions in mm.



LHG description	d / D x L
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LMZ806-101408	10/14x8
LMZ806-101410	10/14x10
LMZ806-101412	10/14x12
LMZ806-101415	10/14x15
LMZ806-101420	10/14x20
LMZ806-121808	12/18x8
LMZ806-121810	12/18x10
LMZ806-121812	12/18x12
LMZ806-121815	12/18x15
LMZ806-121816	12/18x16
LMZ806-121819	12/18x19
LMZ806-121820	12/18x20
LMZ806-121825	12/18x25
LMZ806-121830	12/18x30
LMZ806-131910	13/19x10
LMZ806-131912	13/19x12
LMZ806-131915	13/19x15
LMZ806-131920	13/19x20
LMZ806-142010	14/20x10
LMZ806-142012	14/20x12
LMZ806-142015	14/20x15
LMZ806-142020	14/20x20
LMZ806-142025	14/20x25
LMZ806-142030	14/20x30
LMZ806-152110	15/21x10
LMZ806-152112	15/21x12
LMZ806-152115	15/21x15
LMZ806-152120	15/21x20
LMZ806-152125	15/21x25
LMZ806-152130	15/21x30
LMZ806-162210	16/22x10
LMZ806-162212	16/22x12
LMZ806-162215	16/22x15
LMZ806-162216	16/22x16
LMZ806-162219	16/22x19

LHG description	d / D x L
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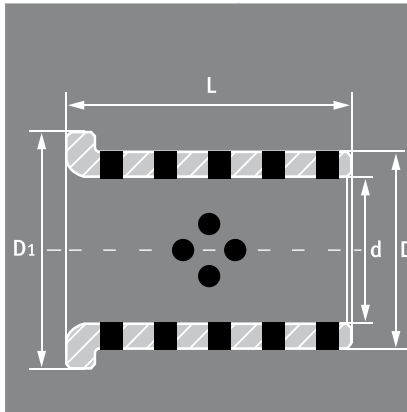
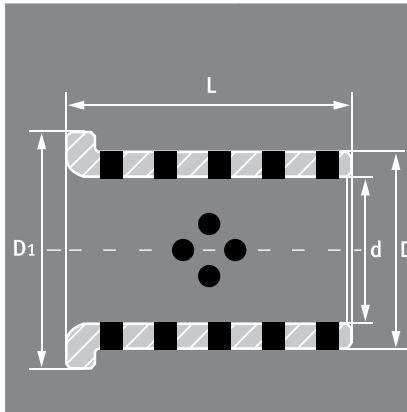
LMZ806-162220	16/22x20
LMZ806-162225	16/22x25
LMZ806-162230	16/22x30
LMZ806-162235	16/22x35
LMZ806-162240	16/22x40
LMZ806-182412	18/24x12
LMZ806-182415	18/24x15
LMZ806-182420	18/24x20
LMZ806-182425	18/24x25
LMZ806-182430	18/24x30
LMZ806-202810	20/28x10
LMZ806-202812	20/28x12
LMZ806-202816	20/28x16
LMZ806-202819	20/28x19
LMZ806-202820	20/28x20
LMZ806-202825	20/28x25
LMZ806-202830	20/28x30
LMZ806-202835	20/28x35
LMZ806-202840	20/28x40
LMZ806-202850	20/28x50
LMZ806-253312	25/33x12
LMZ806-253316	25/33x16
LMZ806-253320	25/33x20
LMZ806-253325	25/33x25
LMZ806-253330	25/33x30
LMZ806-253335	25/33x35
LMZ806-253340	25/33x40
LMZ806-253350	25/33x50
LMZ806-303815	30/38x15
LMZ806-303820	30/38x20
LMZ806-303825	30/38x25
LMZ806-303830	30/38x30
LMZ806-303835	30/38x35
LMZ806-303840	30/38x40
LMZ806-303850	30/38x50
LMZ806-303860	30/38x60
LMZ806-354520	35/45x20
LMZ806-354525	35/45x25
LMZ806-354530	35/45x30
LMZ806-354535	35/45x35
LMZ806-354540	35/45x40
LMZ806-354545	35/45x45
LMZ806-354550	35/45x50
LMZ806-354560	35/45x60
LMZ806-405020	40/50x20
LMZ806-405025	40/50x25

d / D x L	LHG description
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40/50x30	LMZ806-405030
40/50x35	LMZ806-405035
40/50x40	LMZ806-405040
40/50x50	LMZ806-405050
40/50x60	LMZ806-405060
40/50x70	LMZ806-405070
40/50x80	LMZ806-405080
45/55x30	LMZ806-455530
45/55x35	LMZ806-455535
45/55x40	LMZ806-455540
45/55x45	LMZ806-455545
45/55x50	LMZ806-455550
45/55x60	LMZ806-455560
45/55x70	LMZ806-455570
50/60x30	LMZ806-506030
50/60x35	LMZ806-506035
50/60x40	LMZ806-506040
50/60x50	LMZ806-506050
50/60x60	LMZ806-506060
50/60x70	LMZ806-506070
55/70x35	LMZ806-557035
55/70x40	LMZ806-557040
55/70x45	LMZ806-557045
55/70x50	LMZ806-557050
55/70x60	LMZ806-557060
55/70x70	LMZ806-557070
60/75x30	LMZ806-607530
60/75x35	LMZ806-607535
60/75x40	LMZ806-607540
60/75x45	LMZ806-607545
60/75x50	LMZ806-607550
60/75x60	LMZ806-607560
60/75x70	LMZ806-607570
60/75x80	LMZ806-607580
60/75x100	LMZ806-6075100
65/80x50	LMZ806-658050
65/80x60	LMZ806-658060
65/80x70	LMZ806-658070
65/80x80	LMZ806-658080
70/85x35	LMZ806-708535
70/85x40	LMZ806-708540
70/85x45	LMZ806-708545
70/85x50	LMZ806-708550
70/85x60	LMZ806-708560
70/85x70	LMZ806-708570
70/85x80	LMZ806-708580

LMZ = Cylindrical bushing LMB = Flanged bushing

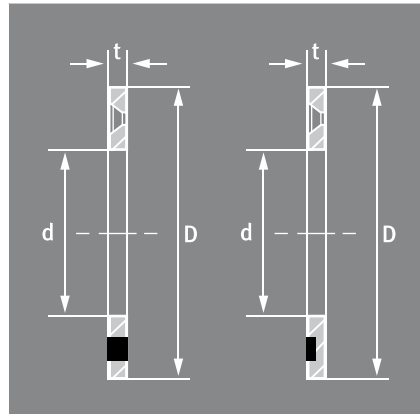
List of our standard dimensions in mm.

LHG description	d / D x L		LHG description	d / D / D ₁ x L
LHG description	d / D x L		LHG description	d / D / D ₁ x L
LMZ806-7085100	70/85x100		LMB806-253525	25/35/45x25
LMZ806-759050	75/90x50		LMB806-253530	25/35/45x30
LMZ806-759060	75/90x60		LMB806-253535	25/35/45x35
LMZ806-759070	75/90x70		LMB806-253540	25/35/45x40
LMZ806-759080	75/90x80		LMB806-253550	25/35/45x50
LMZ806-7590100	75/90x100		LMB806-304020	30/40/50x20
LMZ806-8010040	80/100x40		LMB806-304025	30/40/50x25
LMZ806-8010045	80/100x45		LMB806-304030	30/40/50x30
LMZ806-8010050	80/100x50		LMB806-304035	30/40/50x35
LMZ806-8010060	80/100x60		LMB806-304040	30/40/50x40
LMZ806-8010080	80/100x80		LMB806-304050	30/40/50x50
LMZ806-80100100	80/100x100		LMB806-354520	35/45/60x20
LMZ806-80100140	80/100x140		LMB806-354525	35/45/60x25
LMZ806-9011060	90/110x60		LMB806-354530	35/45/60x30
LMZ806-9011080	90/110x80		LMB806-354535	35/45/60x35
LMZ806-90110100	90/110x100		LMB806-354540	35/45/60x40
LMZ806-90110120	90/110x120		LMB806-354550	35/45/60x50
LMZ806-10012060	100/120x60		LMB806-405020	40/50/65x20
LMZ806-10012070	100/120x70		LMB806-405025	40/50/65x25
LMZ806-10012080	100/120x80		LMB806-405030	40/50/65x30
LMZ806-100120100	100/120x100	LMB806-405035	40/50/65x35	
LMZ806-100120120	100/120x120	LMB806-405040	40/50/65x40	
LMZ806-100120140	100/120x140	LMB806-405050	40/50/65x50	
LMZ806-11013080	110/130x80	LMB806-405060	40/50/65x60	
LMZ806-110130100	110/130x100	LMB806-455530	45/55/70x30	
LMZ806-110130120	110/130x120	LMB806-455540	45/55/70x40	
LMZ806-12014060	120/140x60	LMB806-455550	45/55/70x50	
LMZ806-12014080	120/140x80	LMB806-455560	45/55/70x60	
LMZ806-120140100	120/140x100	LMB806-506030	50/60/75x30	
LMZ806-130150100	130/150x100	LMB806-506035	50/60/75x35	
LMZ806-14016080	140/160x80	LMB806-506040	50/60/75x40	
LMZ806-140160100	140/160x100	LMB806-506050	50/60/75x50	
LMZ806-15017080	150/170x80	LMB806-506060	50/60/75x60	
LMZ806-150170100	150/170x100	LMB806-557040	55/70/80x40	
LMZ806-150170150	150/170x150	LMB806-557060	55/70/80x60	
LMZ806-16018080	160/180x80	LMB806-607540	60/75/90x40	
LMZ806-160180100	160/180x100	LMB806-607560	60/75/90x60	
LMZ806-160180150	160/180x150	LMB806-607570	60/75/90x70	
		LMB806-658040	65/80/95x40	
		LMB806-658060	65/80/95x60	
		LMB806-658080	65/80/95x80	
		LMB806-708550	70/85/105x50	
		LMB806-708580	70/85/105x80	
		LMB806-759060	75/90/110x60	
		LMB806-759080	75/90/110x80	
		LMB806-8010040	80/100/120x40	

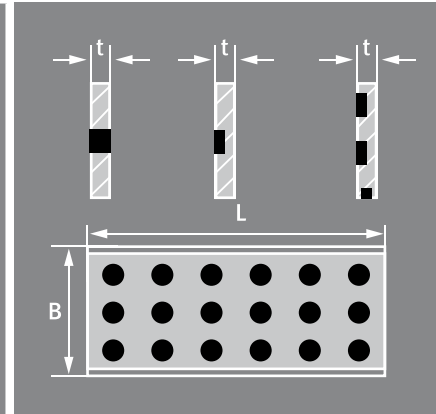
LMB = Flanged bushing
LMA = Thrust washer
LMS = Strips & Plates

List of our standard dimensions in mm.

LHG description	d / D / D ₁ x L
LMB806-8010060	80/100/120x60
LMB806-8010080	80/100/120x80
LMB806-80100100	80/100/120x100
LMB806-9011040	90/110/130x40
LMB806-9011060	90/110/130x60
LMB806-9011080	90/110/130x80
LMB806-90110100	90/110/130x100
LMB806-10012060	100/120/150x60
LMB806-10012080	100/120/150x80
LMB806-100120100	100/120/150x100
LMB806-12014060	120/140/170x60
LMB806-12014080	120/140/170x80



LHG description	d / D / t
LMA806-103003	10,2/30x3
LMA806-124003	12,2/40x3
LMA806-134003	13,3/40x3
LMA806-145003	14,2/50x3
LMA806-155003	15,2/50x3
LMA806-165003	16,2/50x3
LMA806-185003	18,2/50x3
LMA806-205005	20,2/50x5
LMA806-255505	25,2/55x5
LMA806-306005	30,2/60x5
LMA806-357005	35,2/70x5
LMA806-408007	40,2/80x7
LMA806-459007	45,2/90x7
LMA806-5010008	50,3/100x8
LMA806-5511008	55,3/110x8
LMA806-6012008	60,3/120x8
LMA806-6512508	65,3/125x8
LMA806-7013010	70,3/130x10
LMA806-7514010	75,3/140x10
LMA806-8015010	80,3/150x10
LMA806-9017010	90,5/170x10
LMA806-10019010	100,5/190x10
LMA806-12020010	120,5/200x10



LHG description	B x L x t
LMS806-1810010	18x100x10
LMS806-1812510	18x125x10
LMS806-1815010	18x150x10
LMS806-287510	28x75x10
LMS806-2810010	28x100x10
LMS806-2812510	28x125x10
LMS806-2815010	28x150x10
LMS806-3510010	35x100x10
LMS806-3515010	35x150x10
LMS806-3520010	35x200x10
LMS806-3525010	35x250x10
LMS806-3530010	35x300x10
LMS806-3535010	35x350x10
LMS806-387510	38x75x10
LMS806-3810010	38x100x10
LMS806-3812510	38x125x10
LMS806-487510	48x75x10
LMS806-4810010	48x100x10
LMS806-4812510	48x125x10
LMS806-4815010	48x150x10
LMS806-5010010	50x100x10
LMS806-5015010	50x150x10
LMS806-5020010	50x200x10
LMS806-5025010	50x250x10
LMS806-5030010	50x300x10
LMS806-5040010	50x400x10
LMS806-7510010	75x150x10
LMS806-7520010	75x200x10
LMS806-7525010	75x250x10
LMS806-7530010	75x300x10
LMS806-7540010	75x400x10
LMS806-7550010	75x500x10

BRO-MAS®



SOLID TURNED BRONZE SLIDING BEARING,
MAINTENANCE-BOUND

BRO-MAS® sliding bearing



Types	BSZ Cylindrical bushing	BSB Flanged bushing	BSA Thrust washer	BSS Strips
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TECHNICAL DATA

Description	Solid turned bronze sliding bearing. Maintenance-bound DIN 1850 / ISO 4379
Properties	Maintenance-bound sliding bearing, suitable for operation in contaminated environment, good corrosion resistance, unsusceptible to impact load.
Material*	Standard material CuSn12 / ASTM C90800

MATERIAL PROPERTIES **

Specific load capacity static	≤ 150	[N/mm ²]
Specific load capacity dynamic	≤ 60	[N/mm ²]
Sliding speed	< 10	[m/s] depends on lubrication and strain
Temperature strain	-40 - +150	[°C]

TOLERANCE DETAILS

Housing – Ø	According to customer's specification
Bushing after mounting	According to customer's specification
Shaft tolerance	According to customer's specification
Shaft material	Hardened steel, surface roughness < R _z 6,3

MOUNTING ADVISE

Housing – Ø	Mounting bevel, min. 1,5 mm x 15-45°
Shaft	Mounting bevel, 5 mm x 15°, edges rounded
Force fitting mandrel	The application of an adequate force fitting mandrel is advisable. Grease lubrication of the outer surface may be necessary when mounting.
Maintenance	Oil or grease lubrication is necessary. Because of lubrication slots or lubrication drills, lubrication clearances can be reduced to a minimum and lubricant allocation can be improved.

This bearing type is only available as manufacture of new articles, no stocking.
Custom sizes are manufactured in a short term!

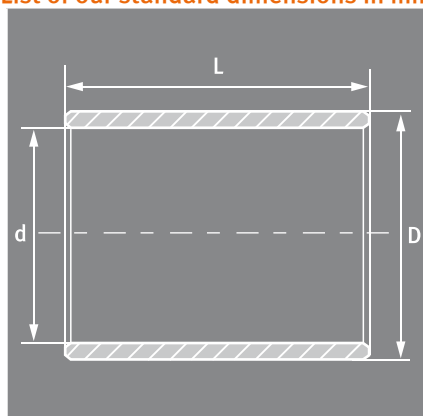
* ADDITIONAL METAL ALLOYS	YIELD STRENGTH N/mm ²	TENSILE STRENGTH N/mm ²	HARDNESS/HB 10
CuPb15Sn / ASTM C93900	110	220	65
CuSn7ZnPb2 / ASTM C93200	130	270	75
CuAl10Ni / ASTM C95500	300	700	160
CuZn25Al5 / ASTM C86300	450	750	190 - 220

* As a special design additional sliding alloys are available.

** The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

BSZ = Cylindrical bushing

List of our standard dimensions in mm.



LHG description	d / D x L	LHG description	d / D x L
BSZ118-101210	10/12x10	BSZ118-182212	18/22x12
BSZ118-101410	10/14x10	BSZ118-182215	18/22x15
BSZ118-101610	10/16x10	BSZ118-182220	18/22x20
BSZ118-121410	12/14x10	BSZ118-182012	18/20x12
BSZ118-121415	12/14x15	BSZ118-182020	18/20x20
BSZ118-121420	12/14x20	BSZ118-182030	18/20x30
BSZ118-121610	12/16x10	BSZ118-182212	18/22x12
BSZ118-121615	12/16x15	BSZ118-182220	18/22x20
BSZ118-121620	12/16x20	BSZ118-182230	18/22x30
BSZ118-121810	12/18x10	BSZ118-182412	18/24x12
BSZ118-121815	12/18x15	BSZ118-182420	18/24x20
BSZ118-121820	12/18x20	BSZ118-182430	18/24x30
BSZ118-141610	14/16x10	BSZ118-202315	20/23x15
BSZ118-141615	14/16x15	BSZ118-202320	20/23x20
BSZ118-141620	14/16x20	BSZ118-202330	20/23x30
BSZ118-141810	14/18x10	BSZ118-202415	20/24x15
BSZ118-141815	14/18x15	BSZ118-202420	20/24x20
BSZ118-141820	14/18x20	BSZ118-202430	20/24x30
BSZ118-142010	14/20x10	BSZ118-202615	20/26x15
BSZ118-142015	14/20x15	BSZ118-202620	20/26x20
BSZ118-142020	14/20x20	BSZ118-202630	20/26x30
BSZ118-151710	15/17x10	BSZ118-222515	22/25x15
BSZ118-151715	15/17x15	BSZ118-222520	22/25x20
BSZ118-151720	15/17x20	BSZ118-222530	22/25x30
BSZ118-151910	15/19x10	BSZ118-222615	22/26x15
BSZ118-151915	15/19x15	BSZ118-222620	22/26x20
BSZ118-151920	15/19x20	BSZ118-222630	22/26x30
BSZ118-152110	15/21x10	BSZ118-222815	22/28x15
BSZ118-152115	15/21x15	BSZ118-222820	22/28x20
BSZ118-152120	15/21x20	BSZ118-222830	22/28x30
BSZ118-161812	16/18x12	BSZ118-252820	25/28x20
BSZ118-161815	16/18x15	BSZ118-252830	25/28x30
BSZ118-161820	16/18x20	BSZ118-252840	25/28x40
BSZ118-162012	16/20x12	BSZ118-253020	25/30x20
BSZ118-162015	16/20x15	BSZ118-253030	25/30x30
		BSZ118-253040	25/30x40
		BSZ118-253220	25/32x20
		BSZ118-253230	25/32x30
		BSZ118-253240	25/32x40
		BSZ118-283220	28/32x20
		BSZ118-283230	28/32x30
		BSZ118-283240	28/32x40
		BSZ118-283420	28/34x20
		BSZ118-283430	28/34x30
		BSZ118-283440	28/34x40
		BSZ118-283620	28/36x20
		BSZ118-283630	28/36x30
		BSZ118-283640	28/36x40
		BSZ118-303420	30/34x20
		BSZ118-303430	30/34x30
		BSZ118-303440	30/34x40
		BSZ118-303620	30/36x20
		BSZ118-303630	30/36x30
		BSZ118-303640	30/36x40
		BSZ118-303820	30/38x20
		BSZ118-303830	30/38x30
		BSZ118-303840	30/38x40
		BSZ118-323620	32/36x20
		BSZ118-323630	32/36x30
		BSZ118-323640	32/36x40
		BSZ118-323820	32/38x20
		BSZ118-323830	32/38x30
		BSZ118-323840	32/38x40
		BSZ118-324020	32/40x20
		BSZ118-324030	32/40x30
		BSZ118-324040	32/40x40
		BSZ118-353930	35/39x30
		BSZ118-353940	35/39x40
		BSZ118-353950	35/39x50
		BSZ118-354130	35/41x30
		BSZ118-354140	35/41x40
		BSZ118-354150	35/41x50
		BSZ118-354530	35/45x30
		BSZ118-354540	35/45x40
		BSZ118-354550	35/45x50
		BSZ118-384230	38/42x30

BSZ = Cylindrical bushing

List of our standard dimensions in mm.

LHG description	d / D x L	LHG description	d / D x L	LHG description	d / D x L
BSZ118-384240	38/42x40	BSZ118-505560	50/55x60	BSZ118-758550	75/85x50
BSZ118-384250	38/42x50	BSZ118-505840	50/58x40	BSZ118-758570	75/85x70
BSZ118-384530	38/45x30	BSZ118-505850	50/58x50	BSZ118-758590	75/85x90
BSZ118-384540	38/45x40	BSZ118-505860	50/58x60	BSZ118-759050	75/90x50
BSZ118-384550	38/45x50	BSZ118-506040	50/60x40	BSZ118-759070	75/90x70
BSZ118-384830	38/48x30	BSZ118-506050	50/60x50	BSZ118-759090	75/90x90
BSZ118-384840	38/48x40	BSZ118-506060	50/60x60	BSZ118-808560	80/85x60
BSZ118-384850	38/48x50	BSZ118-556040	55/60x40	BSZ118-808580	80/85x80
BSZ118-404430	40/44x30	BSZ118-556050	55/60x50	BSZ118-8085100	80/85x100
BSZ118-404440	40/44x40	BSZ118-556070	55/60x70	BSZ118-809060	80/90x60
BSZ118-404460	40/44x60	BSZ118-556340	55/63x40	BSZ118-809080	80/90x80
BSZ118-404830	40/48x30	BSZ118-556350	55/63x50	BSZ118-8090100	80/90x100
BSZ118-404840	40/48x40	BSZ118-556370	55/63x70	BSZ118-809560	80/95x60
BSZ118-404860	40/48x60	BSZ118-556540	55/65x40	BSZ118-809580	80/95x80
BSZ118-405030	40/50x30	BSZ118-556550	55/65x50	BSZ118-8095100	80/95x100
BSZ118-405040	40/50x40	BSZ118-556570	55/65x70	BSZ118-859060	85/90x60
BSZ118-405060	40/50x60	BSZ118-606540	60/65x40	BSZ118-859080	85/90x80
BSZ118-424630	42/46x30	BSZ118-606560	60/65x60	BSZ118-8590100	85/90x100
BSZ118-424640	42/46x40	BSZ118-606580	60/65x80	BSZ118-859560	85/95x60
BSZ118-424660	42/46x60	BSZ118-607040	60/70x40	BSZ118-859580	85/95x80
BSZ118-425030	42/50x30	BSZ118-607060	60/70x60	BSZ118-8595100	85/95x100
BSZ118-425040	42/50x40	BSZ118-607080	60/70x80	BSZ118-8510060	85/100x60
BSZ118-425060	42/50x60	BSZ118-607540	60/75x40	BSZ118-8510080	85/100x80
BSZ118-425230	42/52x30	BSZ118-607560	60/75x60	BSZ118-85100100	85/100x100
BSZ118-425240	42/52x40	BSZ118-607580	60/75x80	BSZ118-9010060	90/100x60
BSZ118-425260	42/52x60	BSZ118-657050	65/70x50	BSZ118-9010080	90/100x80
BSZ118-455030	45/50x30	BSZ118-657060	65/70x60	BSZ118-90100120	90/100x120
BSZ118-455040	45/50x40	BSZ118-657080	65/70x80	BSZ118-9010560	90/105x60
BSZ118-455060	45/50x60	BSZ118-657550	65/75x50	BSZ118-9010580	90/105x80
BSZ118-455330	45/53x30	BSZ118-657560	65/75x60	BSZ118-90105120	90/105x120
BSZ118-455340	45/53x40	BSZ118-657580	65/75x80	BSZ118-9011060	90/110x60
BSZ118-455360	45/53x60	BSZ118-658050	65/80x50	BSZ118-9011080	90/110x80
BSZ118-455530	45/55x30	BSZ118-658060	65/80x60	BSZ118-90110120	90/110x120
BSZ118-455540	45/55x40	BSZ118-658080	65/80x80	BSZ118-9510560	95/105x60
BSZ118-455060	45/55x60	BSZ118-707550	70/75x50	BSZ118-95105100	95/105x100
BSZ118-485340	48/53x40	BSZ118-707570	70/75x70	BSZ118-95105120	95/105x120
BSZ118-485350	48/53x50	BSZ118-707590	70/75x90	BSZ118-9511060	95/110x60
BSZ118-485360	48/53x60	BSZ118-708050	70/80x50	BSZ118-95110100	95/110x100
BSZ118-485640	48/56x40	BSZ118-708070	70/80x70	BSZ118-95110120	95/110x120
BSZ118-485650	48/56x50	BSZ118-708090	70/80x90	BSZ118-9511560	95/115x60
BSZ118-485660	48/56x60	BSZ118-708550	70/85x50	BSZ118-95115100	95/115x100
BSZ118-485840	48/58x40	BSZ118-708570	70/85x70	BSZ118-95115120	95/115x120
BSZ118-485850	48/58x50	BSZ118-708590	70/85x90	BSZ118-10011080	100/110x80
BSZ118-485860	48/58x60	BSZ118-758050	75/80x50	BSZ118-100110100	100/110x100
BSZ118-505540	50/55x40	BSZ118-758070	75/80x70	BSZ118-100110120	100/110x120
BSZ118-505550	50/55x50	BSZ118-758090	75/80x90	BSZ118-10011580	100/115x80

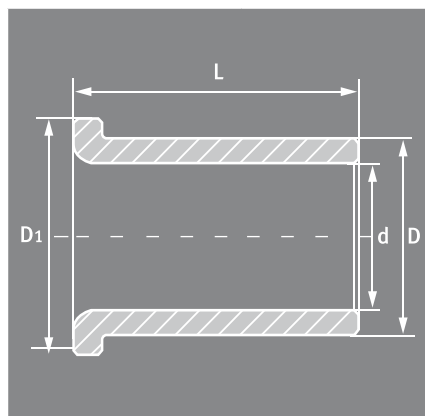
BSZ = Cylindrical bushing

List of our standard dimensions in mm.

LHG description	d / D x L	LHG description	d / D x L
BSZ118-100115100	100/115x100	BSZ118-160185180	160/185x180
BSZ118-100115120	100/115x120	BSZ118-170190120	170/190x120
BSZ118-10012080	100/120x80	BSZ118-170190180	170/190x180
BSZ118-100120100	100/120x100	BSZ118-170190200	170/190x200
BSZ118-100120120	100/120x120	BSZ118-170195120	170/195x120
BSZ118-10512080	105/120x80	BSZ118-170195180	170/195x180
BSZ118-105120100	105/120x100	BSZ118-170195200	170/195x200
BSZ118-105120120	105/120x120	BSZ118-180200150	180/200x150
BSZ118-10512580	105/125x80	BSZ118-180200180	180/200x180
BSZ118-105125100	105/125x100	BSZ118-180200250	180/200x250
BSZ118-105125120	105/125x120	BSZ118-180210150	180/210x150
BSZ118-11012580	110/125x80	BSZ118-180210180	180/210x180
BSZ118-110125100	110/125x100	BSZ118-180210250	180/210x250
BSZ118-110125120	110/125x120	BSZ118-190210150	190/210x150
BSZ118-11013080	110/130x80	BSZ118-190210180	190/210x180
BSZ118-110130100	110/130x100	BSZ118-190210250	190/210x250
BSZ118-110130120	110/130x120	BSZ118-190220150	190/220x150
BSZ118-120135100	120/135x100	BSZ118-190220180	190/220x180
BSZ118-120135120	120/135x120	BSZ118-190220250	190/220x250
BSZ118-120135150	120/135x150	BSZ118-200220180	200/220x180
BSZ118-120140100	120/140x100	BSZ118-200220200	200/220x200
BSZ118-120140120	120/140x120	BSZ118-200220250	200/220x250
BSZ118-120140150	120/140x150	BSZ118-200230180	200/230x180
BSZ118-130145100	130/145x100	BSZ118-200230200	200/230x200
BSZ118-130145120	130/145x120	BSZ118-200230250	200/230x250
BSZ118-130145150	130/145x150		
BSZ118-130150100	130/150x100		
BSZ118-130150120	130/150x120		
BSZ118-130150150	130/150x150		
BSZ118-140155100	140/155x100		
BSZ118-140155150	140/155x150		
BSZ118-140155180	140/155x180		
BSZ118-140160100	140/160x100		
BSZ118-140160150	140/160x150		
BSZ118-140160180	140/160x180		
BSZ118-150165120	150/165x120		
BSZ118-150165150	150/165x150		
BSZ118-150165180	150/165x180		
BSZ118-150170120	150/170x120		
BSZ118-150170150	150/170x150		
BSZ118-150170180	150/170x180		
BSZ118-160180120	160/180x120		
BSZ118-160180150	160/180x150		
BSZ118-160180180	160/180x180		
BSZ118-160185120	160/185x120		
BSZ118-160185150	160/185x150		

BSB = Flanged bushing

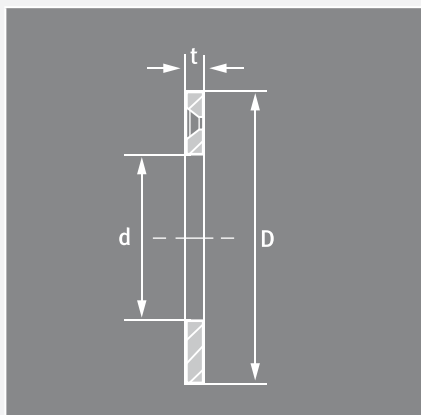
List of our standard dimensions in mm.



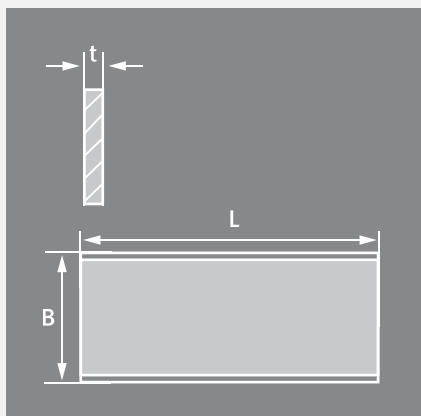
LHG description	d / D / D ₁ - s x L	LHG description	d / D / D ₁ - s x L
BSB118-101610	10/16/20-3x10	BSB118-354530	35/45/50-5x30
BSB118-121810	12/18/22-3x10	BSB118-354540	35/45/50-5x40
BSB118-121815	12/18/22-3x15	BSB118-354550	35/45/50-5x50
BSB118-121820	12/18/22-3x20	BSB118-384830	38/48/54-5x30
BSB118-142010	14/20/25-3x10	BSB118-384840	38/48/54-5x40
BSB118-142015	14/20/25-3x15	BSB118-384850	38/48/54-5x50
BSB118-142020	14/20/25-3x20	BSB118-405030	40/50/58-5x30
BSB118-152110	15/21/27-3x10	BSB118-405040	40/50/58-5x40
BSB118-152115	15/21/27-3x15	BSB118-405060	40/50/58-5x60
BSB118-152120	15/21/27-3x20	BSB118-425230	42/52/60-5x30
BSB118-162212	16/22/28-3x12	BSB118-425240	42/52/60-5x40
BSB118-162215	16/22/28-3x15	BSB118-425260	42/52/60-5x60
BSB118-162220	16/22/28-3x20	BSB118-455530	45/55/63-5x30
BSB118-182412	18/24/30-3x12	BSB118-455540	45/55/63-5x40
BSB118-182420	18/24/30-3x20	BSB118-455560	45/55/63-5x60
BSB118-182430	18/24/30-3x30	BSB118-485840	48/58/66-5x40
BSB118-202615	20/26/32-3x15	BSB118-485850	48/58/66-5x50
BSB118-202620	20/26/32-3x20	BSB118-485860	48/58/66-5x60
BSB118-202630	20/26/32-3x30	BSB118-506040	50/60/68-5x40
BSB118-222815	22/28/34-3x15	BSB118-506050	50/60/68-5x50
BSB118-222820	22/28/34-3x20	BSB118-506060	50/60/68-5x60
BSB118-222830	22/28/34-3x30	BSB118-556540	55/65/73-5x40
BSB118-253220	25/32/38-4x20	BSB118-556550	55/65/73-5x50
BSB118-253230	25/32/38-4x30	BSB118-556570	55/65/73-5x70
BSB118-253240	25/32/38-4x40	BSB118-607540	60/75/83-7,5x40
BSB118-283620	28/36/42-4x20	BSB118-607560	60/75/83-7,5x60
BSB118-283630	28/36/42-4x30	BSB118-607580	60/75/83-7,5x80
BSB118-283640	28/36/42-4x40	BSB118-658050	65/80/88-7,5x50
BSB118-303820	30/38/44-4x20	BSB118-658060	65/80/88-7,5x60
BSB118-303830	30/38/44-4x30	BSB118-658080	65/80/88-7,5x80
BSB118-303840	30/38/44-4x40	BSB118-708550	70/85/95-7,5x50
BSB118-324020	32/40/46-4x20	BSB118-708570	70/85/95-7,5x70
BSB118-324030	32/40/46-4x30	BSB118-708590	70/85/95-7,5x90
BSB118-324040	32/40/46-4x40	BSB118-759050	75/90/100-7,5x50
		BSB118-759070	75/90/100-7,5x70
		BSB118-759090	75/90/100-7,5x90
		BSB118-809560	80/95/105-7,5x60
		BSB118-809580	80/95/105-7,5x80
		BSB118-8095100	80/95/105-7,5x100
		BSB118-8510060	85/100/110-7,5x60
		BSB118-8510080	85/100/110-7,5x80
		BSB118-85100100	85/100/110-7,5x100
		BSB118-9011060	90/110/120-10x60
		BSB118-9011080	90/110/120-10x80
		BSB118-90110120	90/110/120-10x120
		BSB118-9511560	95/115/125-10x60
		BSB118-95115100	95/115/125-10x100
		BSB118-95115120	95/115/125-10x120
		BSB118-10012080	100/120/130-10x80
		BSB118-100120100	100/120/130-10x100
		BSB118-100120120	100/120/130-10x120
		BSB118-10512580	105/125/135-10x80
		BSB118-105125100	105/125/135-10x100
		BSB118-105125120	105/125/135-10x120
		BSB118-11013080	110/130/140-10x80
		BSB118-110130100	110/130/140-10x100
		BSB118-110130120	110/130/140-10x120
		BSB118-120140100	120/140/150-10x100
		BSB118-120140120	120/140/150-10x120
		BSB118-120140150	120/140/150-10x150
		BSB118-130150100	130/150/160-10x100
		BSB118-130150120	130/150/160-10x120
		BSB118-130150150	130/150/160-10x150
		BSB118-140160100	140/160/170-10x100
		BSB118-140160150	140/160/170-10x150
		BSB118-140160180	140/160/170-10x180
		BSB118-150170120	150/170/180-10x120
		BSB118-150170150	150/170/180-10x150
		BSB118-150170180	150/170/180-10x180
		BSB118-160185120	160/185/200-12,5x120
		BSB118-160185150	160/185/200-12,5x150
		BSB118-160185180	160/185/200-12,5x180
		BSB118-170195120	170/195/210-12,5x120
		BSB118-170195180	170/195/210-12,5x180
		BSB118-170195200	170/195/200-12,5x200
		BSB118-180210150	180/210/220-15x150
		BSB118-180210180	180/210/220-15x180
		BSB118-180210250	180/210/220-15x250
		BSB118-190220150	190/220/230-15x150
		BSB118-190220180	190/220/230-15x180
		BSB118-190220250	190/220/230-15x250
		BSB118-200230180	200/230/240-15x180
		BSB118-200230200	200/230/240-15x200
		BSB118-200230250	200/230/240-15x250

All sizes and measurements are produced to customers specification.

BSA = Thrust washer



BSS = Strips & Plates



SWB-MET® 1069

SWB-MET® 1241



HEAT-TREATED BRONZE SLIDING BEARING,
MAINTENANCE-BOUND

SWB-MET® 1069 sliding bearing

made of heavy-duty bronze



Types

SWB/Z
Cylindrical bushing

SWB/B
Flanged bushing

SWB/A
Thrust washer

SWB/S
Strips

TECHNICAL DATA

Description	Heat-treated sliding bearing bronze, for area and shock loading. Great wear resistance, very good emergency running properties. Maintenance-bound
Properties	This heat-treated bronze alloy is very good resistant against high loading pressure and impact loads. The main applications of this material are bearings, guide slide bearings, spindle nut, sliding parts. As a result of the chemical resistance the material can be applied where acids, bases und sea water occur.
Machinability	LHG heavy duty bronze 1069 is very good to process. Carbide tipped tools are not necessary.

MATERIAL PROPERTIES **

	Sand Casting*	Centrifugal Casting*	Unit
Tensile strength R_m	724 (620)	793 (655)	[N/mm ²]
Yield strength $R_{p0.2}$	379 (345)	407 (345)	[N/mm ²]
Elongation A_5	8 (4)	10 (5)	[%]
Brinell hardness	223 (202)	228 (202)	[HB 30]
Rockwell hardness	97 (94)	98 (94)	[HRB]
Compressive strength ultimate σ_{dB}	1069	1069	[N/mm ²]
Density	7,45	7,45	[g / cm ³]

TOLERANCE DETAILS

Housing – Ø	According to customer's specification
Bushing after mounting	According to customer's specification
Shaft tolerance	According to customer's specification
Shaft material	Hardened steel, surface roughness < R_z 6,3

MOUNTING ADVISE

Housing – Ø	Mounting bevel, min. 1,5 mm x 15-45°
Shaft	Mounting bevel, 5 mm x 15°, edges rounded
Force fitting mandrel	The application of an adequate force fitting mandrel is advisable. Grease lubrication of the outer surface may be necessary when mounting.
Maintenance	Oil or grease lubrication is necessary. Because of lubrication slots or lubrication drills, lubrication clearances can be reduced to a minimum and lubricant allocation can be improved.

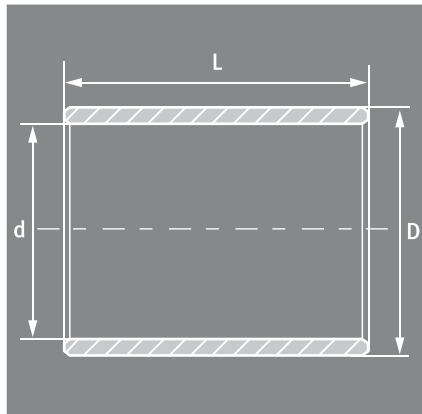
This bearing type is only available as manufacture of new articles, no stocking.
Custom sizes are manufactured in a short term!

* All datas stated above are recommended values. Values stated in brackets are the minimum.

** The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

SWB/Z = Cylindrical bushing

List of our standard dimensions in mm.



LHG description	d / D x L	LHG description	d / D x L
SWB/Z175-101210	10/12x10	SWB/Z175-182212	18/22x12
SWB/Z175-101410	10/14x10	SWB/Z175-182215	18/22x15
SWB/Z175-101610	10/16x10	SWB/Z175-182220	18/22x20
SWB/Z175-121410	12/14x10	SWB/Z175-182012	18/20x12
SWB/Z175-121415	12/14x15	SWB/Z175-182020	18/20x20
SWB/Z175-121420	12/14x20	SWB/Z175-182030	18/20x30
SWB/Z175-121610	12/16x10	SWB/Z175-182212	18/22x12
SWB/Z175-121615	12/16x15	SWB/Z175-182220	18/22x20
SWB/Z175-121620	12/16x20	SWB/Z175-182230	18/22x30
SWB/Z175-121810	12/18x10	SWB/Z175-182412	18/24x12
SWB/Z175-121815	12/18x15	SWB/Z175-182420	18/24x20
SWB/Z175-121820	12/18x20	SWB/Z175-182430	18/24x30
SWB/Z175-141610	14/16x10	SWB/Z175-202315	20/23x15
SWB/Z175-141615	14/16x15	SWB/Z175-202320	20/23x20
SWB/Z175-141620	14/16x20	SWB/Z175-202330	20/23x30
SWB/Z175-141810	14/18x10	SWB/Z175-202415	20/24x15
SWB/Z175-141815	14/18x15	SWB/Z175-202420	20/24x20
SWB/Z175-141820	14/18x20	SWB/Z175-202430	20/24x30
SWB/Z175-142010	14/20x10	SWB/Z175-202615	20/26x15
SWB/Z175-142015	14/20x15	SWB/Z175-202620	20/26x20
SWB/Z175-142020	14/20x20	SWB/Z175-202630	20/26x30
SWB/Z175-151710	15/17x10	SWB/Z175-222515	22/25x15
SWB/Z175-151715	15/17x15	SWB/Z175-222520	22/25x20
SWB/Z175-151720	15/17x20	SWB/Z175-222530	22/25x30
SWB/Z175-151910	15/19x10	SWB/Z175-222615	22/26x15
SWB/Z175-151915	15/19x15	SWB/Z175-222620	22/26x20
SWB/Z175-151920	15/19x20	SWB/Z175-222630	22/26x30
SWB/Z175-152110	15/21x10	SWB/Z175-222815	22/28x15
SWB/Z175-152115	15/21x15	SWB/Z175-222820	22/28x20
SWB/Z175-152120	15/21x20	SWB/Z175-222830	22/28x30
SWB/Z175-161812	16/18x12	SWB/Z175-252820	25/28x20
SWB/Z175-161815	16/18x15	SWB/Z175-252830	25/28x30
SWB/Z175-161820	16/18x20	SWB/Z175-252840	25/28x40
SWB/Z175-162012	16/20x12	SWB/Z175-253020	25/30x20
SWB/Z175-162015	16/20x15	SWB/Z175-253030	25/30x30
		SWB/Z175-253040	25/30x40
		SWB/Z175-253220	25/32x20
		SWB/Z175-253230	25/32x30
		SWB/Z175-253240	25/32x40
		SWB/Z175-283220	28/32x20
		SWB/Z175-283230	28/32x30
		SWB/Z175-283240	28/32x40
		SWB/Z175-283420	28/34x20
		SWB/Z175-283430	28/34x30
		SWB/Z175-283440	28/34x40
		SWB/Z175-283620	28/36x20
		SWB/Z175-283630	28/36x30
		SWB/Z175-283640	28/36x40
		SWB/Z175-303420	30/34x20
		SWB/Z175-303430	30/34x30
		SWB/Z175-303440	30/34x40
		SWB/Z175-303620	30/36x20
		SWB/Z175-303630	30/36x30
		SWB/Z175-303640	30/36x40
		SWB/Z175-303820	30/38x20
		SWB/Z175-303830	30/38x30
		SWB/Z175-303840	30/38x40
		SWB/Z175-323620	32/36x20
		SWB/Z175-323630	32/36x30
		SWB/Z175-323640	32/36x40
		SWB/Z175-323820	32/38x20
		SWB/Z175-323830	32/38x30
		SWB/Z175-323840	32/38x40
		SWB/Z175-324020	32/40x20
		SWB/Z175-324030	32/40x30
		SWB/Z175-324040	32/40x40
		SWB/Z175-353930	35/39x30
		SWB/Z175-353940	35/39x40
		SWB/Z175-353950	35/39x50
		SWB/Z175-354130	35/41x30
		SWB/Z175-354140	35/41x40
		SWB/Z175-354150	35/41x50
		SWB/Z175-354530	35/45x30
		SWB/Z175-354540	35/45x40
		SWB/Z175-354550	35/45x50
		SWB/Z175-384230	38/42x30

SWB/Z = Cylindrical bushing

List of our standard dimensions in mm.

LHG description	d / D x L	LHG description	d / D x L	LHG description	d / D x L
SWB/Z175-384240	38/42x40	SWB/Z175-505560	50/55x60	SWB/Z175-758550	75/85x50
SWB/Z175-384250	38/42x50	SWB/Z175-505840	50/58x40	SWB/Z175-758570	75/85x70
SWB/Z175-384530	38/45x30	SWB/Z175-505850	50/58x50	SWB/Z175-758590	75/85x90
SWB/Z175-384540	38/45x40	SWB/Z175-505860	50/58x60	SWB/Z175-759050	75/90x50
SWB/Z175-384550	38/45x50	SWB/Z175-506040	50/60x40	SWB/Z175-759070	75/90x70
SWB/Z175-384830	38/48x30	SWB/Z175-506050	50/60x50	SWB/Z175-759090	75/90x90
SWB/Z175-384840	38/48x40	SWB/Z175-506060	50/60x60	SWB/Z175-808560	80/85x60
SWB/Z175-384850	38/48x50	SWB/Z175-556040	55/60x40	SWB/Z175-808580	80/85x80
SWB/Z175-404430	40/44x30	SWB/Z175-556050	55/60x50	SWB/Z175-8085100	80/85x100
SWB/Z175-404440	40/44x40	SWB/Z175-556070	55/60x70	SWB/Z175-809060	80/90x60
SWB/Z175-404460	40/44x60	SWB/Z175-556340	55/63x40	SWB/Z175-809080	80/90x80
SWB/Z175-404830	40/48x30	SWB/Z175-556350	55/63x50	SWB/Z175-8090100	80/90x100
SWB/Z175-404840	40/48x40	SWB/Z175-556370	55/63x70	SWB/Z175-809560	80/95x60
SWB/Z175-404860	40/48x60	SWB/Z175-556540	55/65x40	SWB/Z175-809580	80/95x80
SWB/Z175-405030	40/50x30	SWB/Z175-556550	55/65x50	SWB/Z175-8095100	80/95x100
SWB/Z175-405040	40/50x40	SWB/Z175-556570	55/65x70	SWB/Z175-859060	85/90x60
SWB/Z175-405060	40/50x60	SWB/Z175-606540	60/65x40	SWB/Z175-859080	85/90x80
SWB/Z175-424630	42/46x30	SWB/Z175-606560	60/65x60	SWB/Z175-8590100	85/90x100
SWB/Z175-424640	42/46x40	SWB/Z175-606580	60/65x80	SWB/Z175-859560	85/95x60
SWB/Z175-424660	42/46x60	SWB/Z175-607040	60/70x40	SWB/Z175-859580	85/95x80
SWB/Z175-425030	42/50x30	SWB/Z175-607060	60/70x60	SWB/Z175-8595100	85/95x100
SWB/Z175-425040	42/50x40	SWB/Z175-607080	60/70x80	SWB/Z175-8510060	85/100x60
SWB/Z175-425060	42/50x60	SWB/Z175-607540	60/75x40	SWB/Z175-8510080	85/100x80
SWB/Z175-425230	42/52x30	SWB/Z175-607560	60/75x60	SWB/Z175-85100100	85/100x100
SWB/Z175-425240	42/52x40	SWB/Z175-607580	60/75x80	SWB/Z175-9010060	90/100x60
SWB/Z175-425260	42/52x60	SWB/Z175-657050	65/70x50	SWB/Z175-9010080	90/100x80
SWB/Z175-455030	45/50x30	SWB/Z175-657060	65/70x60	SWB/Z175-90100120	90/100x120
SWB/Z175-455040	45/50x40	SWB/Z175-657080	65/70x80	SWB/Z175-9010560	90/105x60
SWB/Z175-455060	45/50x60	SWB/Z175-657550	65/75x50	SWB/Z175-9010580	90/105x80
SWB/Z175-455330	45/53x30	SWB/Z175-657560	65/75x60	SWB/Z175-90105120	90/105x120
SWB/Z175-455340	45/53x40	SWB/Z175-657580	65/75x80	SWB/Z175-9011060	90/110x60
SWB/Z175-455360	45/53x60	SWB/Z175-658050	65/80x50	SWB/Z175-9011080	90/110x80
SWB/Z175-455530	45/55x30	SWB/Z175-658060	65/80x60	SWB/Z175-90110120	90/110x120
SWB/Z175-455540	45/55x40	SWB/Z175-658080	65/80x80	SWB/Z175-9510560	95/105x60
SWB/Z175-455060	45/55x60	SWB/Z175-707550	70/75x50	SWB/Z175-95105100	95/105x100
SWB/Z175-485340	48/53x40	SWB/Z175-707570	70/75x70	SWB/Z175-95105120	95/105x120
SWB/Z175-485350	48/53x50	SWB/Z175-707590	70/75x90	SWB/Z175-9511060	95/110x60
SWB/Z175-485360	48/53x60	SWB/Z175-708050	70/80x50	SWB/Z175-95110100	95/110x100
SWB/Z175-485640	48/56x40	SWB/Z175-708070	70/80x70	SWB/Z175-95110120	95/110x120
SWB/Z175-485650	48/56x50	SWB/Z175-708090	70/80x90	SWB/Z175-9511560	95/115x60
SWB/Z175-485660	48/56x60	SWB/Z175-708550	70/85x50	SWB/Z175-95115100	95/115x100
SWB/Z175-485840	48/58x40	SWB/Z175-708570	70/85x70	SWB/Z175-95115120	95/115x120
SWB/Z175-485850	48/58x50	SWB/Z175-708590	70/85x90	SWB/Z175-10011080	100/110x80
SWB/Z175-485860	48/58x60	SWB/Z175-758050	75/80x50	SWB/Z175-100110100	100/110x100
SWB/Z175-505540	50/55x40	SWB/Z175-758070	75/80x70	SWB/Z175-100110120	100/110x120
SWB/Z175-505550	50/55x50	SWB/Z175-758090	75/80x90	SWB/Z175-10011580	100/115x80

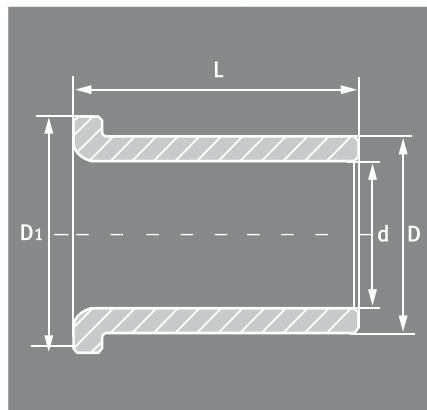
SWB/Z = Cylindrical bushing

List of our standard dimensions in mm.

LHG description	d / D x L	LHG description	d / D x L
SWB/Z175-100115100	100/115x100	SWB/Z175-160185180	160/185x180
SWB/Z175-100115120	100/115x120	SWB/Z175-170190120	170/190x120
SWB/Z175-10012080	100/120x80	SWB/Z175-170190180	170/190x180
SWB/Z175-100120100	100/120x100	SWB/Z175-170190200	170/190x200
SWB/Z175-100120120	100/120x120	SWB/Z175-170195120	170/195x120
SWB/Z175-10512080	105/120x80	SWB/Z175-170195180	170/195x180
SWB/Z175-105120100	105/120x100	SWB/Z175-170195200	170/195x200
SWB/Z175-105120120	105/120x120	SWB/Z175-180200150	180/200x150
SWB/Z175-10512580	105/125x80	SWB/Z175-180200180	180/200x180
SWB/Z175-105125100	105/125x100	SWB/Z175-180200250	180/200x250
SWB/Z175-105125120	105/125x120	SWB/Z175-180210150	180/210x150
SWB/Z175-11012580	110/125x80	SWB/Z175-180210180	180/210x180
SWB/Z175-110125100	110/125x100	SWB/Z175-180210250	180/210x250
SWB/Z175-110125120	110/125x120	SWB/Z175-190210150	190/210x150
SWB/Z175-11013080	110/130x80	SWB/Z175-190210180	190/210x180
SWB/Z175-110130100	110/130x100	SWB/Z175-190210250	190/210x250
SWB/Z175-110130120	110/130x120	SWB/Z175-190220150	190/220x150
SWB/Z175-120135100	120/135x100	SWB/Z175-190220180	190/220x180
SWB/Z175-120135120	120/135x120	SWB/Z175-190220250	190/220x250
SWB/Z175-120135150	120/135x150	SWB/Z175-200220180	200/220x180
SWB/Z175-120140100	120/140x100	SWB/Z175-200220200	200/220x200
SWB/Z175-120140120	120/140x120	SWB/Z175-200220250	200/220x250
SWB/Z175-120140150	120/140x150	SWB/Z175-200230180	200/230x180
SWB/Z175-130145100	130/145x100	SWB/Z175-200230200	200/230x200
SWB/Z175-130145120	130/145x120	SWB/Z175-200230250	200/230x250
SWB/Z175-130145150	130/145x150		
SWB/Z175-130150100	130/150x100		
SWB/Z175-130150120	130/150x120		
SWB/Z175-130150150	130/150x150		
SWB/Z175-140155100	140/155x100		
SWB/Z175-140155150	140/155x150		
SWB/Z175-140155180	140/155x180		
SWB/Z175-140160100	140/160x100		
SWB/Z175-140160150	140/160x150		
SWB/Z175-140160180	140/160x180		
SWB/Z175-150165120	150/165x120		
SWB/Z175-150165150	150/165x150		
SWB/Z175-150165180	150/165x180		
SWB/Z175-150170120	150/170x120		
SWB/Z175-150170150	150/170x150		
SWB/Z175-150170180	150/170x180		
SWB/Z175-160180120	160/180x120		
SWB/Z175-160180150	160/180x150		
SWB/Z175-160180180	160/180x180		
SWB/Z175-160185120	160/185x120		
SWB/Z175-160185150	160/185x150		

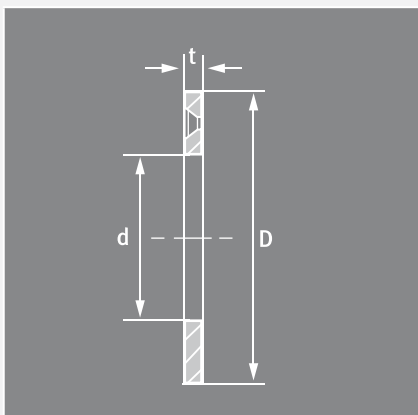
SWB/B = Flanged bushing

List of our standard dimensions in mm.

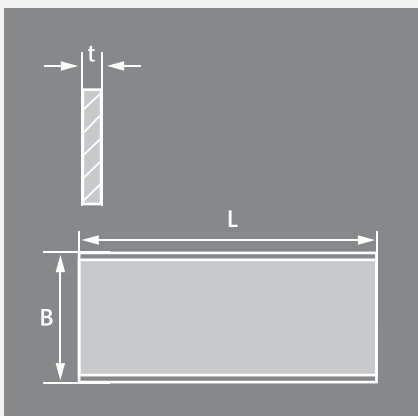
		LHG description	d / D / D ₁ - s x L	LHG description	d / D / D ₁ - s x L
		SWB/B175-354540	35/45/50-5x40	SWB/B175-95115120	95/115/125-10x120
		SWB/B175-354550	35/45/50-5x50	SWB/B175-10012080	100/120/130-10x80
		SWB/B175-384830	38/48/54-5x30	SWB/B175-100120100	100/120/130-10x100
		SWB/B175-384840	38/48/54-5x40	SWB/B175-100120120	100/120/130-10x120
		SWB/B175-384850	38/48/54-5x50	SWB/B175-10512580	105/125/135-10x80
		SWB/B175-405030	40/50/58-5x30	SWB/B175-105125100	105/125/135-10x100
		SWB/B175-405040	40/50/58-5x40	SWB/B175-105125120	105/125/135-10x120
		SWB/B175-405060	40/50/58-5x60	SWB/B175-11013080	110/130/140-10x80
		SWB/B175-425230	42/52/60-5x30	SWB/B175-110130100	110/130/140-10x100
		SWB/B175-425240	42/52/60-5x40	SWB/B175-110130120	110/130/140-10x120
		SWB/B175-425260	42/52/60-5x60	SWB/B175-120140100	120/140/150-10x100
		SWB/B175-455530	45/55/63-5x30	SWB/B175-120140120	120/140/150-10x120
		SWB/B175-455540	45/55/63-5x40	SWB/B175-120140150	120/140/150-10x150
		SWB/B175-455560	45/55/63-5x60	SWB/B175-130150100	130/150/160-10x100
		SWB/B175-485840	48/58/66-5x40	SWB/B175-130150120	130/150/160-10x120
		SWB/B175-485850	48/58/66-5x50	SWB/B175-130150150	130/150/160-10x150
		SWB/B175-485860	48/58/66-5x60	SWB/B175-140160100	140/160/170-10x100
		SWB/B175-506040	50/60/68-5x40	SWB/B175-140160150	140/160/170-10x150
		SWB/B175-506050	50/60/68-5x50	SWB/B175-140160180	140/160/170-10x180
		SWB/B175-506060	50/60/68-5x60	SWB/B175-150170120	150/170/180-10x120
		SWB/B175-556540	55/65/73-5x40	SWB/B175-150170150	150/170/180-10x150
		SWB/B175-556550	55/65/73-5x50	SWB/B175-150170180	150/170/180-10x180
		SWB/B175-556570	55/65/73-5x70	SWB/B175-160185120	160/185/200-12,5x120
		SWB/B175-607540	60/75/83-7,5x40	SWB/B175-160185150	160/185/200-12,5x150
		SWB/B175-607560	60/75/83-7,5x60	SWB/B175-160185180	160/185/200-12,5x180
		SWB/B175-607580	60/75/83-7,5x80	SWB/B175-170195120	170/195/210-12,5x120
		SWB/B175-658050	65/80/88-7,5x50	SWB/B175-170195180	170/195/210-12,5x180
		SWB/B175-658060	65/80/88-7,5x60	SWB/B175-170195200	170/195/200-12,5x200
		SWB/B175-658080	65/80/88-7,5x80	SWB/B175-180210150	180/210/220-15x150
		SWB/B175-708550	70/85/95-7,5x50	SWB/B175-180210180	180/210/220-15x180
		SWB/B175-708570	70/85/95-7,5x70	SWB/B175-180210250	180/210/220-15x250
		SWB/B175-708590	70/85/95-7,5x90	SWB/B175-190220150	190/220/230-15x150
		SWB/B175-759050	75/90/100-7,5x50	SWB/B175-190220180	190/220/230-15x180
		SWB/B175-759070	75/90/100-7,5x70	SWB/B175-190220250	190/220/230-15x250
		SWB/B175-759090	75/90/100-7,5x90	SWB/B175-200230180	200/230/240-15x180
		SWB/B175-809560	80/95/105-7,5x60	SWB/B175-200230200	200/230/240-15x200
		SWB/B175-809580	80/95/105-7,5x80	SWB/B175-200230250	200/230/240-15x250
		SWB/B175-8095100	80/95/105-7,5x100		
		SWB/B175-8510060	85/100/110-7,5x60		
		SWB/B175-8510080	85/100/110-7,5x80		
		SWB/B175-85100100	85/100/110-7,5x100		
		SWB/B175-9011060	90/110/120-10x60		
		SWB/B175-9011080	90/110/120-10x80		
		SWB/B175-90110120	90/110/120-10x120		
		SWB/B175-9511560	95/115/125-10x60		
		SWB/B175-95115100	95/115/125-10x100		

All sizes and measurements are produced to customers specification.

SWB/A = Thrust washer



SWB/S = Strips & Plates



SWB-MET® 1241 sliding bearing

made of heavy-duty bronze



Types

SWB/Z
Cylindrical bushing

SWB/B
Flanged bushing

SWB/A
Thrust washer

SWB/S
Strips

TECHNICAL DATA

Description	Heat-treated sliding bearing bronze, for area and shock loading. Great wear resistance, very good emergency running properties. Bronze sliding material for high load capacities. Excellent resistance to galling. For applications in explosive environment. Maintenance-bound
Properties	This material is characterised by his excellent physical properties and herefore superior to other sliding bronze's. This in his elements accurate controlled material will be used predominant in aircraft, carriage and crane industries as well as slide support bearings and piston bearings. Furthermore the material will be used in pumps, valves, packing boxes, gear parts as well as in machine construction and cupping tools.
Machinability	Tungsten carbide tips are recommendable for cutting the heavy-duty bronze 1241, although for smaller quantities an HSS tooling can be used. Drilling and thread cutting is more difficult than at other smoother LHG heavy-duty alloys, but nevertheless feasible.

MATERIAL PROPERTIES **

	Sand Casting*	Centrifugal Casting*	Unit
Tensile strength R_m	896 (862)	930 (896)	[N/mm ²]
Yield strength $R_{p0,2}$	724 (655)	724 (655)	[N/mm ²]
Elongation A_5	4	6	[%]
Brinell hardness	269 (255)	293 (277)	[HB 30]
Rockwell hardness	27 (25)	30 (28)	[HRC]
Compressive strength ultimate σ_{dB}	1206	1241	[N/mm ²]
Density	7,45	7,45	[g / cm ³]

TOLERANCE DETAILS

Housing – Ø	According to customer's specification
Bushing after mounting	According to customer's specification
Shaft tolerance	According to customer's specification
Shaft material	Hardened steel, surface roughness < R_z 6,3

MOUNTING ADVISE

Housing – Ø	Mounting bevel, min. 1,5 mm x 15-45°
Shaft	Mounting bevel, 5 mm x 15°, edges rounded
Force fitting mandrel	The application of an adequate force fitting mandrel is advisable. Grease lubrication of the outer surface may be necessary when mounting.
Maintenance	Oil or grease lubrication is necessary. Because of lubrication slots or lubrication drills, lubrication clearances can be reduced to a minimum and lubricant allocation can be improved.

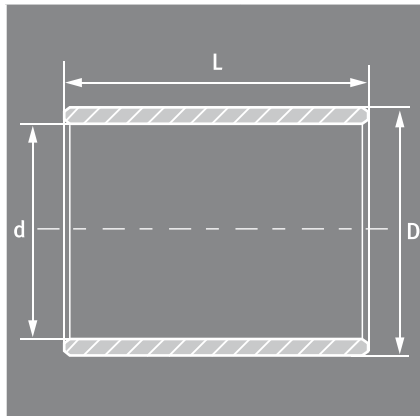
This bearing type is only available as manufacture of new articles, no stocking.
Custom sizes are manufactured in a short term!

* All datas stated above are recommended values. Values stated in brackets are the minimum.

** The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change

SWB/Z = Cylindrical bushing

List of our standard dimensions in mm.



LHG description	d / D x L	LHG description	d / D x L
SWB/Z176-101210	10/12x10	SWB/Z176-162020	16/20x20
SWB/Z176-101410	10/14x10	SWB/Z176-162212	16/22x12
SWB/Z176-101610	10/16x10	SWB/Z176-162215	16/22x15
SWB/Z176-121410	12/14x10	SWB/Z176-162220	16/22x20
SWB/Z176-121415	12/14x15	SWB/Z176-182012	18/20x12
SWB/Z176-121420	12/14x20	SWB/Z176-182020	18/20x20
SWB/Z176-121610	12/16x10	SWB/Z176-182030	18/20x30
SWB/Z176-121615	12/16x15	SWB/Z176-182212	18/22x12
SWB/Z176-121620	12/16x20	SWB/Z176-182220	18/22x20
SWB/Z176-121810	12/18x10	SWB/Z176-182230	18/22x30
SWB/Z176-121815	12/18x15	SWB/Z176-182412	18/24x12
SWB/Z176-121820	12/18x20	SWB/Z176-182420	18/24x20
SWB/Z176-141610	14/16x10	SWB/Z176-182430	18/24x30
SWB/Z176-141615	14/16x15	SWB/Z176-202315	20/23x15
SWB/Z176-141620	14/16x20	SWB/Z176-202320	20/23x20
SWB/Z176-141810	14/18x10	SWB/Z176-202330	20/23x30
SWB/Z176-141815	14/18x15	SWB/Z176-202415	20/24x15
SWB/Z176-141820	14/18x20	SWB/Z176-202420	20/24x20
SWB/Z176-142010	14/20x10	SWB/Z176-202430	20/24x30
SWB/Z176-142015	14/20x15	SWB/Z176-202615	20/26x15
SWB/Z176-142020	14/20x20	SWB/Z176-202620	20/26x20
SWB/Z176-151710	15/17x10	SWB/Z176-202630	20/26x30
SWB/Z176-151715	15/17x15	SWB/Z176-222515	22/25x15
SWB/Z176-151720	15/17x20	SWB/Z176-222520	22/25x20
SWB/Z176-151910	15/19x10	SWB/Z176-222530	22/25x30
SWB/Z176-151915	15/19x15	SWB/Z176-222615	22/26x15
SWB/Z176-151920	15/19x20	SWB/Z176-222620	22/26x20
SWB/Z176-152110	15/21x10	SWB/Z176-222630	22/26x30
SWB/Z176-152115	15/21x15	SWB/Z176-222815	22/28x15
SWB/Z176-152120	15/21x20	SWB/Z176-222820	22/28x20
SWB/Z176-161812	16/18x12	SWB/Z176-222830	22/28x30
SWB/Z176-161815	16/18x15	SWB/Z176-252820	25/28x20
SWB/Z176-161820	16/18x20	SWB/Z176-252830	25/28x30
SWB/Z176-162012	16/20x12	SWB/Z176-252840	25/28x40
SWB/Z176-162015	16/20x15	SWB/Z176-253020	25/30x20
		SWB/Z176-253030	25/30x30
		SWB/Z176-253040	25/30x40
		SWB/Z176-253220	25/32x20
		SWB/Z176-253230	25/32x30
		SWB/Z176-253240	25/32x40
		SWB/Z176-283220	28/32x20
		SWB/Z176-283230	28/32x30
		SWB/Z176-283240	28/32x40
		SWB/Z176-283420	28/34x20
		SWB/Z176-283430	28/34x30
		SWB/Z176-283440	28/34x40
		SWB/Z176-283620	28/36x20
		SWB/Z176-283630	28/36x30
		SWB/Z176-283640	28/36x40
		SWB/Z176-303420	30/34x20
		SWB/Z176-303430	30/34x30
		SWB/Z176-303440	30/34x40
		SWB/Z176-303620	30/36x20
		SWB/Z176-303630	30/36x30
		SWB/Z176-303640	30/36x40
		SWB/Z176-303820	30/38x20
		SWB/Z176-303830	30/38x30
		SWB/Z176-303840	30/38x40
		SWB/Z176-323620	32/36x20
		SWB/Z176-323630	32/36x30
		SWB/Z176-323640	32/36x40
		SWB/Z176-323820	32/38x20
		SWB/Z176-323830	32/38x30
		SWB/Z176-323840	32/38x40
		SWB/Z176-324020	32/40x20
		SWB/Z176-324030	32/40x30
		SWB/Z176-324040	32/40x40
		SWB/Z176-353930	35/39x30
		SWB/Z176-353940	35/39x40
		SWB/Z176-353950	35/39x50
		SWB/Z176-354130	35/41x30
		SWB/Z176-354140	35/41x40
		SWB/Z176-354150	35/41x50
		SWB/Z176-354530	35/45x30
		SWB/Z176-354540	35/45x40
		SWB/Z176-354550	35/45x50
		SWB/Z176-384230	38/42x30

SWB/Z = Cylindrical bushing

List of our standard dimensions in mm.

LHG description	d / D x L	LHG description	d / D x L	LHG description	d / D x L
SWB/Z176-384240	38/42x40	SWB/Z176-505560	50/55x60	SWB/Z176-758550	75/85x50
SWB/Z176-384250	38/42x50	SWB/Z176-505840	50/58x40	SWB/Z176-758570	75/85x70
SWB/Z176-384530	38/45x30	SWB/Z176-505850	50/58x50	SWB/Z176-758590	75/85x90
SWB/Z176-384540	38/45x40	SWB/Z176-505860	50/58x60	SWB/Z176-759050	75/90x50
SWB/Z176-384550	38/45x50	SWB/Z176-506040	50/60x40	SWB/Z176-759070	75/90x70
SWB/Z176-384830	38/48x30	SWB/Z176-506050	50/60x50	SWB/Z176-759090	75/90x90
SWB/Z176-384840	38/48x40	SWB/Z176-506060	50/60x60	SWB/Z176-808560	80/85x60
SWB/Z176-384850	38/48x50	SWB/Z176-556040	55/60x40	SWB/Z176-808580	80/85x80
SWB/Z176-404430	40/44x30	SWB/Z176-556050	55/60x50	SWB/Z176-8085100	80/85x100
SWB/Z176-404440	40/44x40	SWB/Z176-556070	55/60x70	SWB/Z176-809060	80/90x60
SWB/Z176-404460	40/44x60	SWB/Z176-556340	55/63x40	SWB/Z176-809080	80/90x80
SWB/Z176-404830	40/48x30	SWB/Z176-556350	55/63x50	SWB/Z176-8090100	80/90x100
SWB/Z176-404840	40/48x40	SWB/Z176-556370	55/63x70	SWB/Z176-809560	80/95x60
SWB/Z176-404860	40/48x60	SWB/Z176-556540	55/65x40	SWB/Z176-809580	80/95x80
SWB/Z176-405030	40/50x30	SWB/Z176-556550	55/65x50	SWB/Z176-8095100	80/95x100
SWB/Z176-405040	40/50x40	SWB/Z176-556570	55/65x70	SWB/Z176-859060	85/90x60
SWB/Z176-405060	40/50x60	SWB/Z176-606540	60/65x40	SWB/Z176-859080	85/90x80
SWB/Z176-424630	42/46x30	SWB/Z176-606560	60/65x60	SWB/Z176-8590100	85/90x100
SWB/Z176-424640	42/46x40	SWB/Z176-606580	60/65x80	SWB/Z176-859560	85/95x60
SWB/Z176-424660	42/46x60	SWB/Z176-607040	60/70x40	SWB/Z176-859580	85/95x80
SWB/Z176-425030	42/50x30	SWB/Z176-607060	60/70x60	SWB/Z176-8595100	85/95x100
SWB/Z176-425040	42/50x40	SWB/Z176-607080	60/70x80	SWB/Z176-8510060	85/100x60
SWB/Z176-425060	42/50x60	SWB/Z176-607540	60/75x40	SWB/Z176-8510080	85/100x80
SWB/Z176-425230	42/52x30	SWB/Z176-607560	60/75x60	SWB/Z176-85100100	85/100x100
SWB/Z176-425240	42/52x40	SWB/Z176-607580	60/75x80	SWB/Z176-9010060	90/100x60
SWB/Z176-425260	42/52x60	SWB/Z176-657050	65/70x50	SWB/Z176-9010080	90/100x80
SWB/Z176-455030	45/50x30	SWB/Z176-657060	65/70x60	SWB/Z176-90100120	90/100x120
SWB/Z176-455040	45/50x40	SWB/Z176-657080	65/70x80	SWB/Z176-9010560	90/105x60
SWB/Z176-455060	45/50x60	SWB/Z176-657550	65/75x50	SWB/Z176-9010580	90/105x80
SWB/Z176-455330	45/53x30	SWB/Z176-657560	65/75x60	SWB/Z176-90105120	90/105x120
SWB/Z176-455340	45/53x40	SWB/Z176-657580	65/75x80	SWB/Z176-9011060	90/110x60
SWB/Z176-455360	45/53x60	SWB/Z176-658050	65/80x50	SWB/Z176-9011080	90/110x80
SWB/Z176-455530	45/55x30	SWB/Z176-658060	65/80x60	SWB/Z176-90110120	90/110x120
SWB/Z176-455540	45/55x40	SWB/Z176-658080	65/80x80	SWB/Z176-9510560	95/105x60
SWB/Z176-455060	45/55x60	SWB/Z176-707550	70/75x50	SWB/Z176-95105100	95/105x100
SWB/Z176-485340	48/53x40	SWB/Z176-707570	70/75x70	SWB/Z176-95105120	95/105x120
SWB/Z176-485350	48/53x50	SWB/Z176-707590	70/75x90	SWB/Z176-9511060	95/110x60
SWB/Z176-485360	48/53x60	SWB/Z176-708050	70/80x50	SWB/Z176-95110100	95/110x100
SWB/Z176-485640	48/56x40	SWB/Z176-708070	70/80x70	SWB/Z176-95110120	95/110x120
SWB/Z176-485650	48/56x50	SWB/Z176-708090	70/80x90	SWB/Z176-9511560	95/115x60
SWB/Z176-485660	48/56x60	SWB/Z176-708550	70/85x50	SWB/Z176-95115100	95/115x100
SWB/Z176-485840	48/58x40	SWB/Z176-708570	70/85x70	SWB/Z176-95115120	95/115x120
SWB/Z176-485850	48/58x50	SWB/Z176-708590	70/85x90	SWB/Z176-10011080	100/110x80
SWB/Z176-485860	48/58x60	SWB/Z176-758050	75/80x50	SWB/Z176-100110100	100/110x100
SWB/Z176-505540	50/55x40	SWB/Z176-758070	75/80x70	SWB/Z176-100110120	100/110x120
SWB/Z176-505550	50/55x50	SWB/Z176-758090	75/80x90	SWB/Z176-10011580	100/115x80

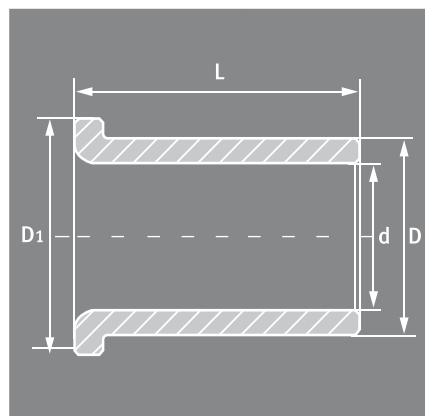
SWB/Z = Cylindrical bushing

List of our standard dimensions in mm.

LHG description	d / D x L	LHG description	d / D x L
SWB/Z176-100115100	100/115x100	SWB/Z176-160185180	160/185x180
SWB/Z176-100115120	100/115x120	SWB/Z176-170190120	170/190x120
SWB/Z176-10012080	100/120x80	SWB/Z176-170190180	170/190x180
SWB/Z176-100120100	100/120x100	SWB/Z176-170190200	170/190x200
SWB/Z176-100120120	100/120x120	SWB/Z176-170195120	170/195x120
SWB/Z176-10512080	105/120x80	SWB/Z176-170195180	170/195x180
SWB/Z176-105120100	105/120x100	SWB/Z176-170195200	170/195x200
SWB/Z176-105120120	105/120x120	SWB/Z176-180200150	180/200x150
SWB/Z176-10512580	105/125x80	SWB/Z176-180200180	180/200x180
SWB/Z176-105125100	105/125x100	SWB/Z176-180200250	180/200x250
SWB/Z176-105125120	105/125x120	SWB/Z176-180210150	180/210x150
SWB/Z176-11012580	110/125x80	SWB/Z176-180210180	180/210x180
SWB/Z176-110125100	110/125x100	SWB/Z176-180210250	180/210x250
SWB/Z176-110125120	110/125x120	SWB/Z176-190210150	190/210x150
SWB/Z176-11013080	110/130x80	SWB/Z176-190210180	190/210x180
SWB/Z176-110130100	110/130x100	SWB/Z176-190210250	190/210x250
SWB/Z176-110130120	110/130x120	SWB/Z176-190220150	190/220x150
SWB/Z176-120135100	120/135x100	SWB/Z176-190220180	190/220x180
SWB/Z176-120135120	120/135x120	SWB/Z176-190220250	190/220x250
SWB/Z176-120135150	120/135x150	SWB/Z176-200220180	200/220x180
SWB/Z176-120140100	120/140x100	SWB/Z176-200220200	200/220x200
SWB/Z176-120140120	120/140x120	SWB/Z176-200220250	200/220x250
SWB/Z176-120140150	120/140x150	SWB/Z176-200230180	200/230x180
SWB/Z176-130145100	130/145x100	SWB/Z176-200230200	200/230x200
SWB/Z176-130145120	130/145x120	SWB/Z176-200230250	200/230x250
SWB/Z176-130145150	130/145x150		
SWB/Z176-130150100	130/150x100		
SWB/Z176-130150120	130/150x120		
SWB/Z176-130150150	130/150x150		
SWB/Z176-140155100	140/155x100		
SWB/Z176-140155150	140/155x150		
SWB/Z176-140155180	140/155x180		
SWB/Z176-140160100	140/160x100		
SWB/Z176-140160150	140/160x150		
SWB/Z176-140160180	140/160x180		
SWB/Z176-150165120	150/165x120		
SWB/Z176-150165150	150/165x150		
SWB/Z176-150165180	150/165x180		
SWB/Z176-150170120	150/170x120		
SWB/Z176-150170150	150/170x150		
SWB/Z176-150170180	150/170x180		
SWB/Z176-160180120	160/180x120		
SWB/Z176-160180150	160/180x150		
SWB/Z176-160180180	160/180x180		
SWB/Z176-160185120	160/185x120		
SWB/Z176-160185150	160/185x150		

SWB/B = Flanged bushing

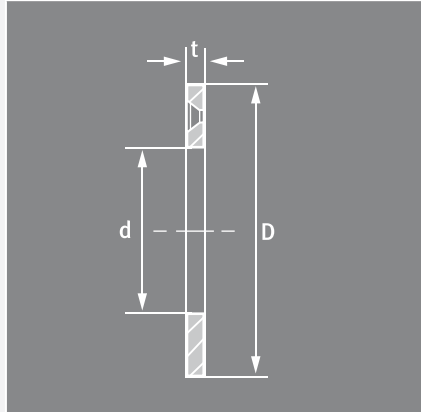
List shows standard dimensions in mm



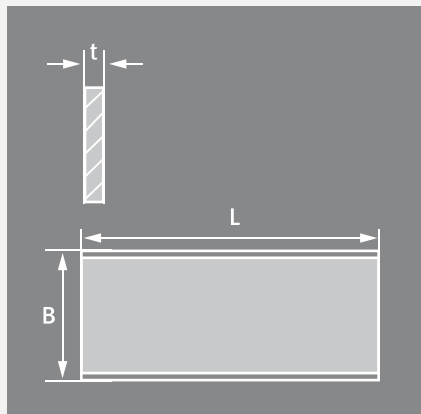
LHG description	d / D / D ₁ - s x L	LHG description	d / D / D ₁ - s x L
SWB/B176-101610	10/16/20-3x10	SWB/B176-354540	35/45/50-5x40
SWB/B176-121810	12/18/22-3x10	SWB/B176-354550	35/45/50-5x50
SWB/B176-121815	12/18/22-3x15	SWB/B176-384830	38/48/54-5x30
SWB/B176-121820	12/18/22-3x20	SWB/B176-384840	38/48/54-5x40
SWB/B176-142010	14/20/25-3x10	SWB/B176-384850	38/48/54-5x50
SWB/B176-142015	14/20/25-3x15	SWB/B176-405030	40/50/58-5x30
SWB/B176-142020	14/20/25-3x20	SWB/B176-405040	40/50/58-5x40
SWB/B176-152110	15/21/27-3x10	SWB/B176-405060	40/50/58-5x60
SWB/B176-152115	15/21/27-3x15	SWB/B176-425230	42/52/60-5x30
SWB/B176-152120	15/21/27-3x20	SWB/B176-425240	42/52/60-5x40
SWB/B176-162212	16/22/28-3x12	SWB/B176-425260	42/52/60-5x60
SWB/B176-162215	16/22/28-3x15	SWB/B176-455530	45/55/63-5x30
SWB/B176-162220	16/22/28-3x20	SWB/B176-455540	45/55/63-5x40
SWB/B176-182412	18/24/30-3x12	SWB/B176-455560	45/55/63-5x60
SWB/B176-182420	18/24/30-3x20	SWB/B176-485840	48/58/66-5x40
SWB/B176-182430	18/24/30-3x30	SWB/B176-485850	48/58/66-5x50
SWB/B176-202615	20/26/32-3x15	SWB/B176-485860	48/58/66-5x60
SWB/B176-202620	20/26/32-3x20	SWB/B176-506040	50/60/68-5x40
SWB/B176-202630	20/26/32-3x30	SWB/B176-506050	50/60/68-5x50
SWB/B176-222815	22/28/34-3x15	SWB/B176-506060	50/60/68-5x60
SWB/B176-222820	22/28/34-3x20	SWB/B176-556540	55/65/73-5x40
SWB/B176-222830	22/28/34-3x30	SWB/B176-556550	55/65/73-5x50
SWB/B176-253220	25/32/38-4x20	SWB/B176-556570	55/65/73-5x70
SWB/B176-253230	25/32/38-4x30	SWB/B176-607540	60/75/83-7,5x40
SWB/B176-253240	25/32/38-4x40	SWB/B176-607560	60/75/83-7,5x60
SWB/B176-283620	28/36/42-4x20	SWB/B176-607580	60/75/83-7,5x80
SWB/B176-283630	28/36/42-4x30	SWB/B176-658050	65/80/88-7,5x50
SWB/B176-283640	28/36/42-4x40	SWB/B176-658060	65/80/88-7,5x60
SWB/B176-303820	30/38/44-4x20	SWB/B176-658080	65/80/88-7,5x80
SWB/B176-303830	30/38/44-4x30	SWB/B176-708550	70/85/95-7,5x50
SWB/B176-303840	30/38/44-4x40	SWB/B176-708570	70/85/95-7,5x70
SWB/B176-324020	32/40/46-4x20	SWB/B176-708590	70/85/95-7,5x90
SWB/B176-324030	32/40/46-4x30	SWB/B176-759050	75/90/100-7,5x50
SWB/B176-324040	32/40/46-4x40	SWB/B176-759070	75/90/100-7,5x70
SWB/B176-354530	35/45/50-5x30	SWB/B176-759090	75/90/100-7,5x90
		SWB/B176-809560	80/95/105-7,5x60
		SWB/B176-809580	80/95/105-7,5x80
		SWB/B176-8095100	80/95/105-7,5x100
		SWB/B176-8510060	85/100/110-7,5x60
		SWB/B176-8510080	85/100/110-7,5x80
		SWB/B176-85100100	85/100/110-7,5x100
		SWB/B176-9011060	90/110/120-10x60
		SWB/B176-9011080	90/110/120-10x80
		SWB/B176-90110120	90/110/120-10x120
		SWB/B176-9511560	95/115/125-10x60
		SWB/B176-95115100	95/115/125-10x100
		SWB/B176-95115120	95/115/125-10x120
		SWB/B176-10012080	100/120/130-10x80
		SWB/B176-100120100	100/120/130-10x100
		SWB/B176-100120120	100/120/130-10x120
		SWB/B176-10512580	105/125/135-10x80
		SWB/B176-105125100	105/125/135-10x100
		SWB/B176-105125120	105/125/135-10x120
		SWB/B176-11013080	110/130/140-10x80
		SWB/B176-110130100	110/130/140-10x100
		SWB/B176-110130120	110/130/140-10x120
		SWB/B176-120140100	120/140/150-10x100
		SWB/B176-120140120	120/140/150-10x120
		SWB/B176-120140150	120/140/150-10x150
		SWB/B176-130150100	130/150/160-10x100
		SWB/B176-130150120	130/150/160-10x120
		SWB/B176-130150150	130/150/160-10x150
		SWB/B176-140160100	140/160/170-10x100
		SWB/B176-140160150	140/160/170-10x150
		SWB/B176-140160180	140/160/170-10x180
		SWB/B176-150170120	150/170/180-10x120
		SWB/B176-150170150	150/170/180-10x150
		SWB/B176-150170180	150/170/180-10x180
		SWB/B176-160185120	160/185/200-12,5x120
		SWB/B176-160185150	160/185/200-12,5x150
		SWB/B176-160185180	160/185/200-12,5x180
		SWB/B176-170195120	170/195/210-12,5x120
		SWB/B176-170195180	170/195/210-12,5x180
		SWB/B176-170195200	170/195/200-12,5x200
		SWB/B176-180210150	180/210/220-15x150
		SWB/B176-180210180	180/210/220-15x180
		SWB/B176-180210250	180/210/220-15x250
		SWB/B176-190220150	190/220/230-15x150
		SWB/B176-190220180	190/220/230-15x180
		SWB/B176-190220250	190/220/230-15x250
		SWB/B176-200230180	200/230/240-15x180
		SWB/B176-200230200	200/230/240-15x200
		SWB/B176-200230250	200/230/240-15x250

All sizes and measurements are produced
to customers specification

SWB/A = Thrust washer



SWB/S = Strips & Plates



[illegible]

TEX-MAS®



SOLID TURNED SLIDING BEARING WITH PTFE-FABRIC-LAYER,
MAINTENANCE-FREE

TEX-MAS® sliding bearings



Types

TMZ
Cylindrical bushings

TMB
Flanged bushings

TMA
Thrust washer

TMS
Strips

TECHNICAL DATAS

Description	Solid turned sliding bearing with PTFE-fabric-layer. Maintenance-free!
Properties	Very good sliding performance and wear resistance suitable for oscillation and circular motion, good for impact loads, no moisture expansion, no stick-slip effect, no friction corrosion. They are used in following applications: papermachines, butterfly valves, steel construction for hydraulic and turbines engineering, lifting devices, transport conveyor.
Material *	Bronze (optional steel or stainless steel)* / PTFE-fabric

MATERIAL PROPERTIES**

Specific load capacity static	≤ 420	[N/mm ²] depending from supporting shell
Specific load capacity dynamic	≤ 180	[N/mm ²] depending from supporting shell
Sliding speed	< 0,16	[m/s]
Friction value	0,03 - 0,07	[μ]
Temperature strain	-50 - +150	[C°]

TOLERANCE DETAILS

Housing – Ø	H7
Bushing after mounting	H8
Shaft tolerance	Depending from the application
Shaft material	Hardened steel, chrome-plates materials 45-50 HRC, surface finish <Rt 1,6-3,2

MOUNTING ADVISE

Housing Shaft Force fitting mandrel	Mounting bevel, min. 1,5 mm x 15-45° Mounting bevel, 5 mm x 15°, edges rounded The application of an adequate force fitting mandrel is advisable.
Maintenance	TEX-MAS® is a maintenance-free sliding bearing.

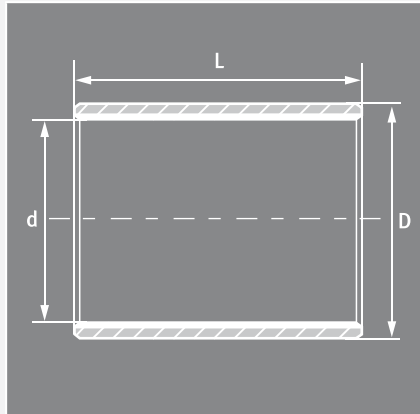
Cylindrical and flanged bushings are standard lines. All special designs are available at short time!

* On request further materials are available for higher demands, e.g. for higher temperature ranges.

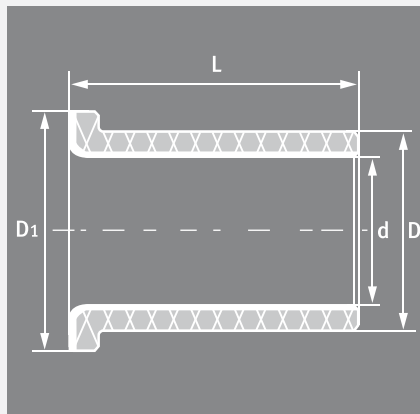
** The above stated material properties are valid for optimal operating conditions. Through changes of the application conditions e.g. higher sliding speed or strain, these values are subject to change.

All sizes and measurements are produced
to customers specification

TMZ = Cylindrical bushings

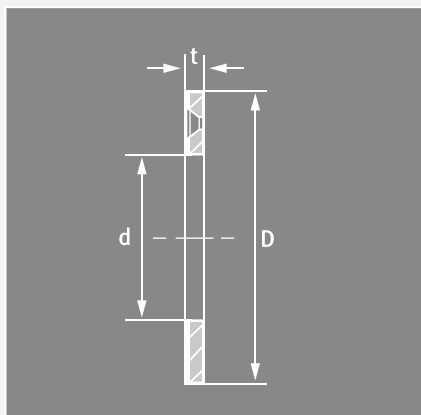


TMB = Flanged bushings

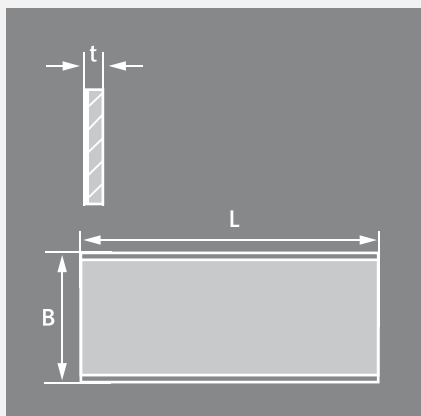


All sizes and measurements are produced
to customers specification

TMA = Thrust washer



TMS = Strips & Plates



SEMI-FINISHED PRODUCTS



NON-FERROUS MATERIALS FOR SLIDING BEARINGS

Semi-finished products in sliding bearing materials



TECHNICAL DATA

Properties	Materials stated in the following charts are recommended as good to very good sliding materials.
------------	--

MATERIAL

	SLIDING BEARING-ALLOY	YIELD STRENGTH N/mm ²	TENSILE STRENGTH/mm ²	HARDNESS HB 10
	CuSn7ZnPb2	130	270	75
	CuSn12	150	280	95
	CuZn34Al2	260	620	150
	CuZn40Al2	270	590	150
	CuSn8	300	450	120
	CuAl10Ni	300	700	160
	CuZn25Al5	450	750	190 - 220

Delivery programme	 Round material  Pipes  Square material  Flat material
--------------------	--

Measurements	All common standard constructions as well as special constructions are possible!
--------------	--

Shaft material	The hardness difference between bronzed bushing and shaft should be at least 100 HB. Ideal sliding conditions are often reached by hardened and grinded shafts.
----------------	---

Maintenance	All materials are maintenance-bound.
-------------	--------------------------------------

Delivery period	Delivery period: At short notice from stock. Special designs: 4 - 6 weeks!
-----------------	---

All special designs and special alloys are available at short notice!

SPECIAL SPHERICAL PLAIN BEARING



STAINLESS STEEL WITH COM-KU®/D
SLIDING LAYER, MAINTENANCE-FREE

Special spherical plain bearing

with COM-KU®/D sliding layer, maintenance-free

INFORMATION:

- Stainless steel outer and inner ring, with COM-KU®/D sliding layer.
- Maintenance-free, no lubrication necessary
- High load capacity - due to thin plastic intermediate layer.
- Compatible with all DIN - spherical plain bearings
- Applicable in water, as COM-KU®/D doesn't swell and the metal parts are produced from rust-free stainless steel.
- Suitable at best for movements which occur only in long intervals.
- The non-ageing sliding layer prevents adhesion of the parts and guarantees therefore a faultless and long-term functionality of the bearing.
- Application at e.g. valve, barrage assets, ball valves, guide vane bearings, dampers, etc.
- Large measurements are produced in parted models, inner diameter > 500 mm possible, see data sheet.
- Many special designs are possible beyond standard measurements.
- Through application of different plastic mixtures it is possible, to produce the special spherical plain bearings to the requested specifications.

All COM-KU®/D type spherical plain bearings are maintenance-free.

Standard production according to DIN (ND series or HD series)

Special measurements and designs are produced at short notice!

The bearings are produced in two standard designs, according to ISO 6124 (ND series) and ISO 6124/3 (HD series).

These spherical plain bearings are featured by sliding layers from special plastic COM-KU®/D.

This is a **maintenance-free, compound plastic material**, which in respect of wear, friction coefficient and capacity load, is among our best sliding materials.

The specific characteristic of this sliding bearing-plastic is based on the fact that even under high loads, largely no plastic deformation appears. Thereby this material finds its specific application at continuously high load.

Spherical plain bearings are produced predominantly in stainless steel in the bearing areas. But the use of different materials is possible.

As the plastic COM-KU®/D absorbs almost no humidity nor shows any swell behaviour, it can be applied without specific constrictions or additional sealing in most of the liquid mediums in connection with stainless steel.

Only at very abrasive mediums is sealing of the bearing suggestive or necessary to prevent early wear.

As COM-KU®/D plastics are produced without phenolic resin, or similar hazardous materials these spherical plain bearings can be used for applications which have specific requirements concerning environmental compatibility.

This sliding material causes no threat to health and environment!

Tolerances

Inner ring measurements (d) in mm

from mm	to mm	d max μ	d min μ
bis	30	0	-8
30	50	0	-10
50	80	0	-15
80	120	0	-20
120	180	0	-25
180	250	0	-30
250	315	0	-35
315	400	0	-40
400	500	0	-45
500	630	0	-50
630	800	0	-75
800	1000	0	-100

Outer ring measurements (D) in mm

from mm	to mm	d max μ	d min μ
-	30	0	-9
30	50	0	-11
50	80	0	-13
80	120	0	-15
120	150	0	-18
150	180	0	-25
180	250	0	-30
250	315	0	-35
315	400	0	-40
400	500	0	-45
500	630	0	-50
630	800	0	-75
800	1000	0	-100
1000	1250	0	-125
1250	1600	0	-160

Inner ring width (B) in mm

from mm	to mm	d max μ	d min μ
bis	50	0	-120
50	80	0	-150
80	120	0	-200
120	180	0	-250
180	250	0	-300
250	315	0	-350
315	400	0	-400
400	500	0	-450
500	630	0	-500
630	800	0	-750
800	1000	0	-1250

Outer ring width (b) in mm

from mm	to mm	d max μ	d min μ
bis	50	0	-240
50	80	0	-300
80	120	0	-400
120	180	0	-500
180	250	0	-600
250	315	0	-700
315	400	0	-800
400	500	0	-900
500	630	0	-1000
630	800	0	-1100
800	1000	0	-1200
1000	1250	0	-1300
1250	1600	0	-2000

Please find the tolerances for

Inner ring diameter (d)

Outer ring diameter (D)

Inner ring width (B)

Outer ring width (b)

in the chart above

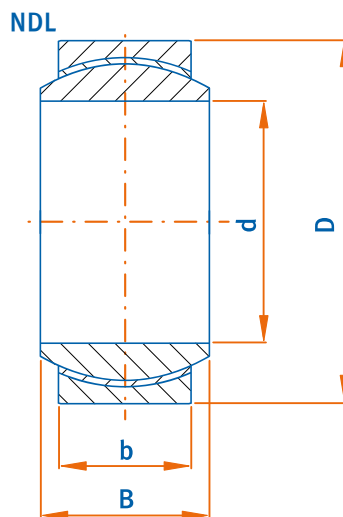
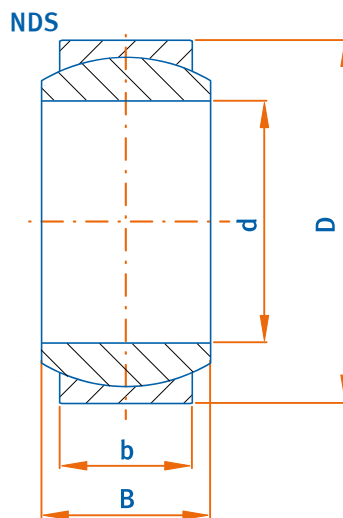
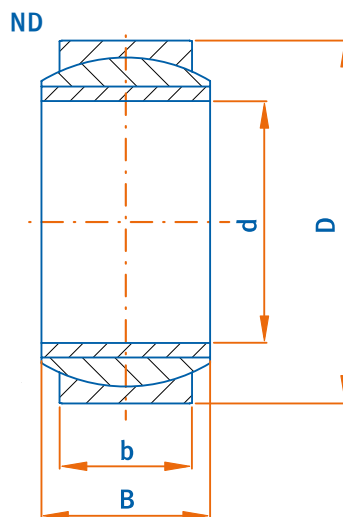
Measurements and load ratings of ND series

	Typ	D	b	B	C ₀	C
	mm	mm	mm	mm	KN	KN
For ND and NDS	30	47	18	22	202	115
	35	55	20	25	265	151
	40	62	22	28	329	187
	45	68	25	32	411	234
	50	75	28	35	510	290
	60	90	36	44	784	446
	70	105	40	49	1027	585
	80	120	45	55	1316	749
	90	130	50	60	1625	925
	100	150	55	70	2002	1140
	110	160	55	70	2181	1241
	120	180	70	85	3003	1709
	140	210	70	90	3549	2020
	160	230	80	105	4524	2575
	180	260	80	105	5096	2901
	200	290	100	130	7150	4070
For NDL	220	320	100	135	8568	4877
	240	340	100	140	9240	5260
	260	370	110	150	11205	6379
	280	400	120	155	12958	7376
	300	430	120	155	13923	7925
	320	440	135	160	16179	9209
	340	460	135	160	17084	9725
	360	480	135	160	17987	10239
	380	520	160	190	22479	12796
	400	540	160	190	23554	13408
	420	560	160	190	24626	14018
	440	600	185	218	30062	17112
	460	620	185	218	31305	17820
	480	650	195	230	34582	19685
	500	670	195	230	35889	20429
	530	710	205	243	39946	22738
	560	750	215	258	44219	25171
	600	800	230	272	50340	28655
	630	850	260	300	59934	34116
	670	900	260	308	63859	36350
	710	950	275	325	71450	40671
	750	1000	280	335	76604	43605
	800	1060	300	335	86755	49384
	850	1120	310	365	96001	54647
	900	1180	320	375	104798	59654
	950	1250	340	400	117789	67049
	1000	1320	370	438	134992	76842

C = dynamic load rating

C₀ = static load rating

The measurements and load ratings of the ND series of our COM-KU®/D special spherical plain bearings can be seen in this chart.



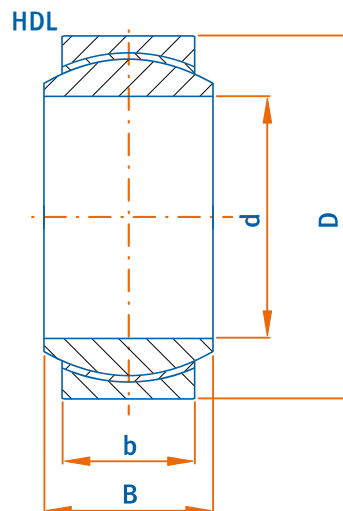
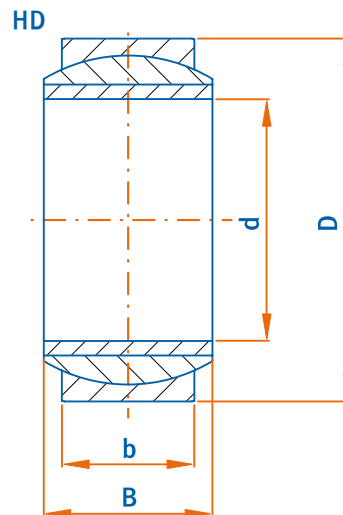
Measurements and load ratings of HD series

Typ	D	b	B	C ₀	C
mm	mm	mm	mm	KN	KN
100	150	67	71	2751	1566
110	160	74	78	3249	1849
120	180	80	85	3831	2181
140	210	95	100	5247	2987
160	230	109	115	6831	3888
180	260	122	128	8565	4875
200	290	134	140	10430	5937
220	320	148	155	12724	7243
240	340	162	170	14961	8516
260	370	175	185	17541	9985
280	400	190	200	20505	11672
300	430	200	212	23221	13218
320	460	218	230	27076	15412
340	480	230	243	29915	17029
360	520	243	258	33866	19277
380	540	258	272	37757	21492
400	580	265	280	41028	23354
420	600	280	300	45306	25790
440	630	300	315	50910	28980
460	650	308	325	53980	30727
480	680	320	340	59091	33636
500	710	335	355	64436	36679
530	750	355	375	71837	40892
560	800	380	400	81315	46287
600	850	400	425	91862	52291
630	900	425	450	103749	59057
670	950	450	475	116358	66234
710	1000	475	500	129354	73633
750	1060	500	530	145156	82627
800	1120	530	565	163509	93074
850	1220	565	600	190273	108309
900	1250	600	635	206347	117459
950	1360	635	670	234105	133260
1000	1450	670	710	263591	150044

C = dynamic load rating

C₀ = static load rating

The measurements and load ratings of the HD series of our COM-KU®/D special spherical plain bearings can be seen in this chart.



Sliding bearings for

Engine construction

- 4 Technical information**
- 7 COM-KU®/D sliding bearing**
Maintenance-free - fibre reinforced plastic composite sliding bearing
- 13 COM-KU®/X sliding bearing**
Maintenance-free - special full-plastic sliding bearing, high load capacity
- 19 COM-KU®/S sliding bearing**
Plastic compound sliding bearing
- 25 GAP-MET®/M sliding bearing**
Maintenance-free - self-lubricating bronze sliding bearing, produced by means of sintering technique, incorporated solid lubricant
- 31 GAP-MET®/S sliding bearing**
Maintenance-free - wrapped composite sliding bearing steel/graphite bronze
- 37 FER-MET® sliding bearing**
Wrapped steel bearing (inner/outer tension bushing) made according to DIN 1498/1499 specifications
- 41 FER-MAS® sliding bearing**
Solid, hardened, dressed to size steel sliding bearing, heavy-maintenance
- 45 FER-SINT® sliding bearing**
Solid, dressed to size steel sliding bearing with special-bronze-layer at inner diameter, maintenance-free
- 49 FER-MAN® sliding bearing**
Impact-resistance steel sliding bearings with very high surface hardness. Heat and corrosion resistant.
- 53 LUB-MET® sliding bearing**
Solid bronze sliding bearing solid lubricant pockets in sliding layer, maintenance-free
- 59 BRO-MAS® sliding bearing**
Solid turned bronze sliding bearing DIN 1850 / ISO 4379, heavy-maintenance
- 67 SWB-MET® 1069 sliding bearing**
Heat-treated bronze sliding bearing for area and shock loading, heavy-maintenance
- 74 SWB-MET® 1241 sliding bearing**
Bronze sliding material for high load capacities and excellent resistance to galling, heavy-maintenance
- 81 TEX-MAS® sliding bearing**
Solid turned sliding bearing with maintenance-free PTFE-fabric-layer, maintenance-free
- 85 Semi finished products**
The stated materials are recommended as good to very good sliding bearing materials.
- 87 Special spherical plain bearings**
Stainless steel with COM-KU®/D sliding layer, maintenance-free

Sliding bearings for

Industry plant construction

- 94** General description of support bearings
- 95** Delivery programme
- Spherical slide support bearing**
- 98** Spherical slide support bearing without top plate
- 100** Free spherical slide support bearing with top plate
- 102** Free high-temperature spherical slide support bearing
- 104** Guided spherical slide support bearing
- 106** Guided high-temperature spherical slide support bearing
- 108** Guided spherical slide support bearing with lift up protection
- 110** Mounting instructions for LHG - spherical slide support bearings
- Flat slide support bearing**
- 112** Free flat slide support bearing
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- 116** Guided flat slide support bearing
- 118** Guided high-temperature flat slide support bearing
- Special flat slide support bearing**
- 120** Guided special flat slide support bearing
- 122** Guided high-temperature special flat slide support bearing
- 124** Mounting instructions for LHG - flat slide support bearing
- 126 Fixed bearing**
- 128** Mounting instructions for LHG - »Fix« - Fixed bearing
- Maintenance-free sliding plates for welding**
- 130** Maintenance-free sliding plates for welding - »Round«
- 132** Maintenance-free sliding plates for welding - »Squared«
- 134** Mounting instructions for LHG - sliding plates for welding

MISCELLANEOUS

Enquiry form

- 135** Plant construction sliding bearings
- 136** Engine construction sliding bearings
- 138** General terms and conditions
- 140** [Select list – All products in view](#)

Sliding bearings for industry plant construction



General description of support bearings

LHG pre-finished and maintenance-free slide support bearings as free-floating bearings and fixed bearings

Pipelines, flues, boilers, heat exchangers, gas filters and such are subject to [thermodynamic expansion](#) resulting from changes of temperature. And in the case of simple steel/steel bearings, a considerable build-up of these forces can occur. The expanding and contracting forces caused by this action as mentioned above, results in the high friction impact sustained by the sliding partners and leads to the significant impairment of the supporting construction at the fixed points. It can even lead to the warping of the components and cause material cracks.

For a simple, cost effective and failure safe construction solution, it is strongly advised to use [LHG pre-finished slide support and fixed bearings](#).

Due to LHG's products excellent sliding properties and the load carrying capacity of slide support bearings (as mentioned above) these problems can be avoided if LHG bearings are used. Being PTFE coated sliding plates, they prevent the »stick-slip« effect. And the results desired can be produced at a cost effective price and with little effort.

THE FOLLOWING PROPERTIES CHARACTERISE THE LHG SLIDE SUPPORT BEARINGS:

Optimal sliding partners (stainless steel / PTFE)	Maintenance-free and none-ageing
High load capacity at low overall height	Maximum load up to 2500 kN (standard), ≤ 10000 kN on customers' requirement.
Low friction coefficient	Approx. 0,05 - 0,10
Prevention of edge loading	At spherical slide support bearing types
Applications at high temperatures	Standard: -150°C - +250°C, high-temperature -150°C to +500°C
Corrosion protection	Galvanic zinc-plated or rust protection coating (also possible in stainless steel)
Optimal operational safety	Usage of best materials
Well thought-out conception	Cost effective, with a long life span

All types of LHG - slide support bearings are provided with a PTFE coated bronze sliding plate.

In connection with a stainless steel counter surface 1.4301 / 1.4401 (surface roughness < 2µm), the sliding plate specifically guarantees minimal dry-sliding friction consequence, without »stick-slip« effect and is accompanied by the highest load capacity.

Delivery programme

LHG - SPHERICAL SLIDE SUPPORT BEARINGS

are designed for heavy demand and are provided with the best possible application features.

The self-aligning, constant parallelism of the sliding surface prevents edge loading and a constant low friction value can be retained. Production costs are minimal and the level of operational safety is high due to excellent sliding properties and the small dimension of the bearing support.

The standard sizes of LHG - spherical slide support bearings are designed for capacity loads up to the following:

kN 500

kN 1000

kN 2500

The standard make, with or without top plate is designed for temperature ranges of
-150° - + 250 °C .

Special designs such as **high-temperature bearings up to + 500°C** are deliverable as well as **high load bearings** up to **kN ≤ 10000**.

We deliver pre-finished fixed bearings, **LHG type »Fix«** for all in terms of overall size and overall applicable height.

LHG - FLAT SLIDE SUPPORT BEARINGS -

are designed for simple requirements and are a compact and **cost effective** sliding bearing solution. The standard sizes of LHG - flat slide support bearings are designed for capacity loads up to the following:

kN 500

kN 1000

kN 2500

The **standard make**, with or without top plate is provided for temperature ranges of
-150° - + 250 °C.

Special designs such as
high-temperature bearings up to + 500°C are deliverable, as well as, high load bearings up to **kN ≤ 10000**.

The installation height is identical with the respective spherical slide support bearing.

We deliver pre-finished fixed bearing, **LHG type »Fix«** for all overall sizes in the respective applicable overall height.

Delivery programme

LHG - BEARING PLATES FOR WELDING

These sliding plates are designed for simple bearings. The PTFE-coated steel plates offer maximal bearing capacity (up to **kN 3000**) and numerous applications, due to their high load capacity.

Round bearing plates	D t LHG-Type: R812 - 100 / 10 LHG-Type: R812 - 150 / 10 LHG-Type: R812 - 200 / 10
Squared bearing plates	L B t LHG-Type: E812 - 100 x 100 x 10 LHG-Type: E812 - 150 x 100 x 10 LHG-Type: E812 - 200 x 100 x 10 LHG-Type: E812 - 200 x 200 x 10 LHG-Type: E812 - 300 x 100 x 10 LHG-Type: E812 - 300 x 200 x 10
Material	Steel, St37, One-sided PTFE-coated
Mounting	LHG - bearing sliding plates can be mounted quickly and easily through selective welding. They are also available as a special design screw-on application.

LHG - SPECIAL DESIGNS

Apart from our standard delivery programme we are able to produce **LHG - supporting bearings** and **LHG - bearing sliding plates** in different shapes, sizes, strengths and load values.

On our customers' requirement, the production is also possible of **special materials** such as stainless steel for applications in the food or chemical industry as well as specific medical industry applications.

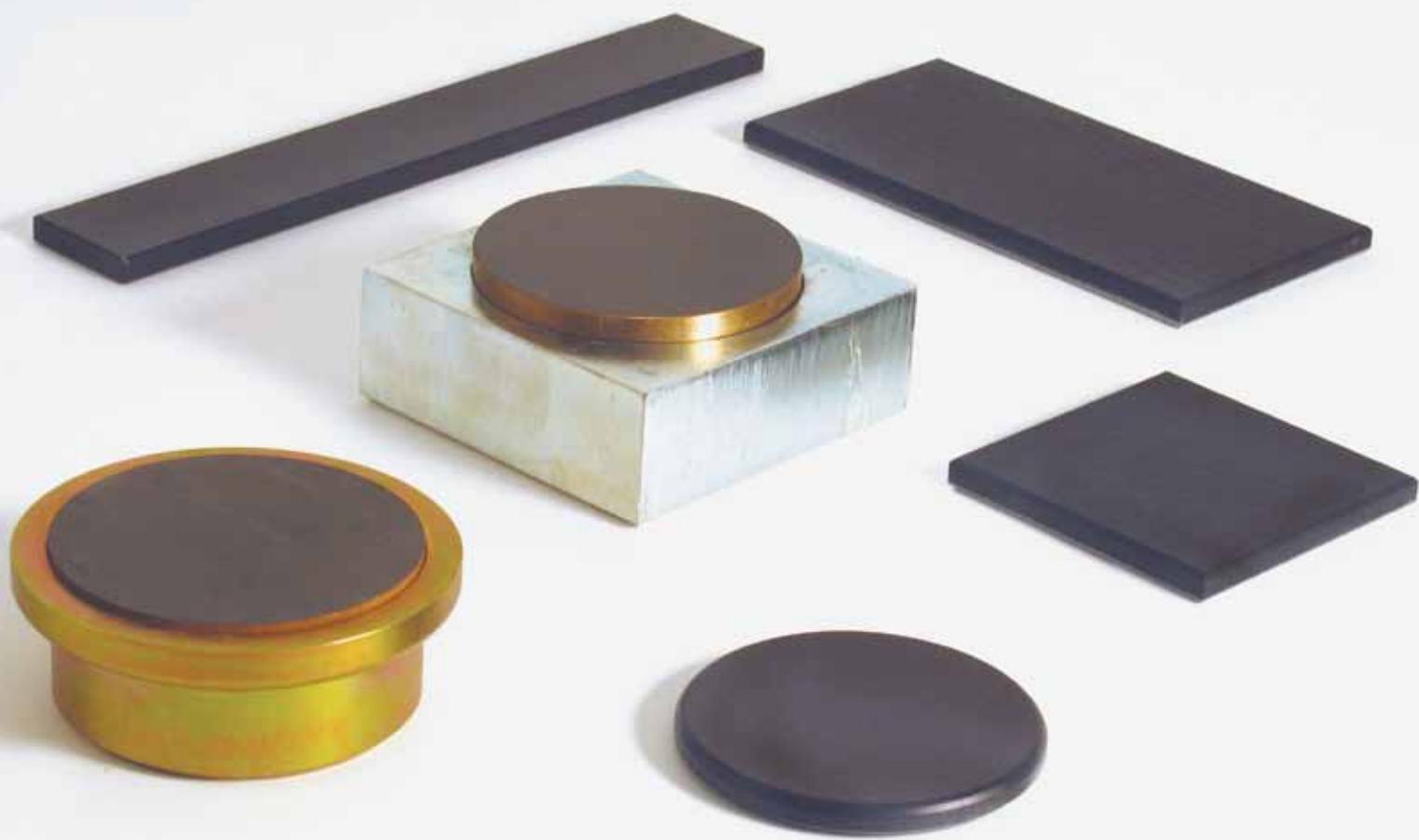
D: Diameter

t: Height

L: Length

B: Width

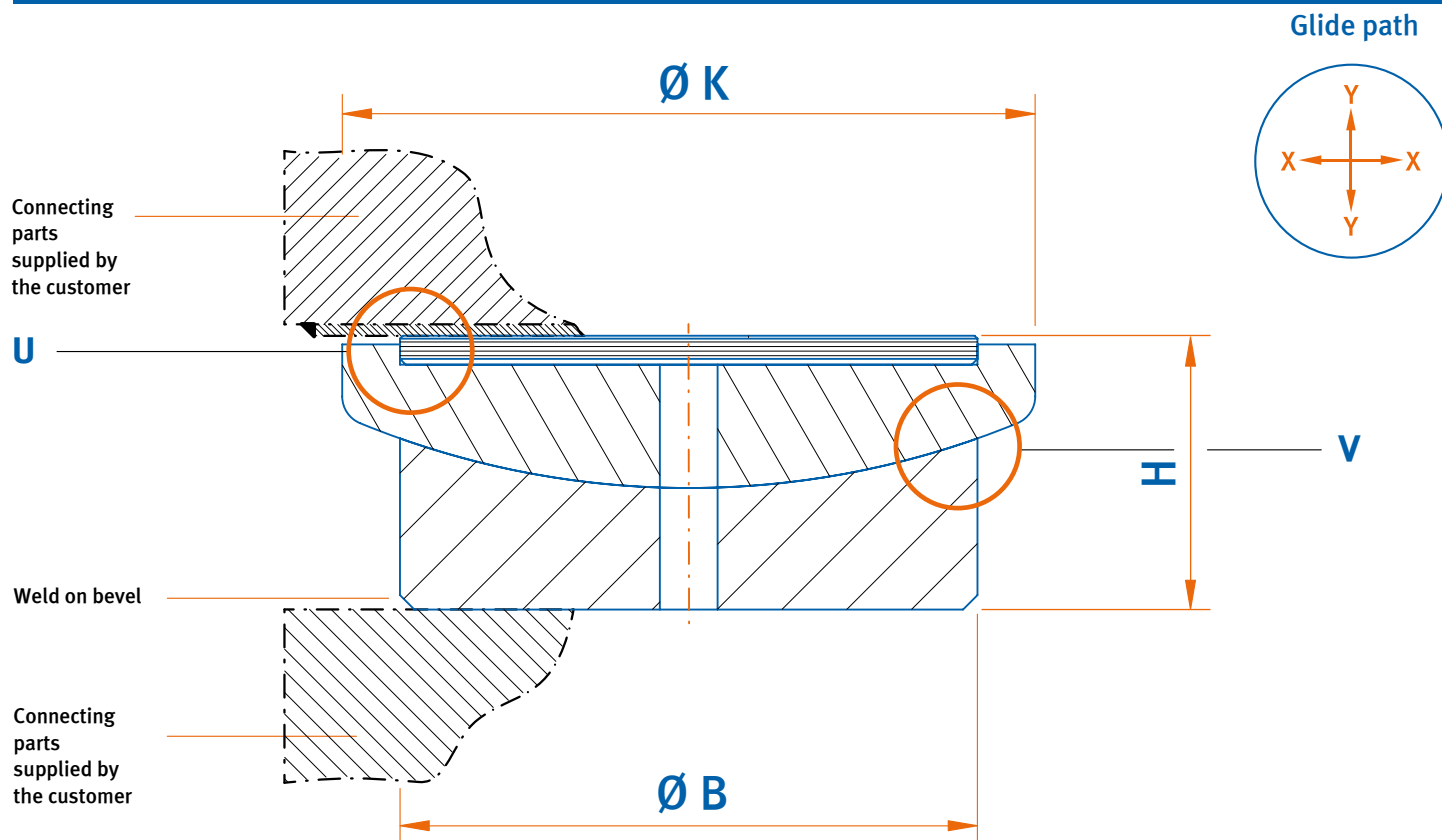
Supporting bearings and bearing plates for industry plant construction



Spherical slide support bearing without top plate

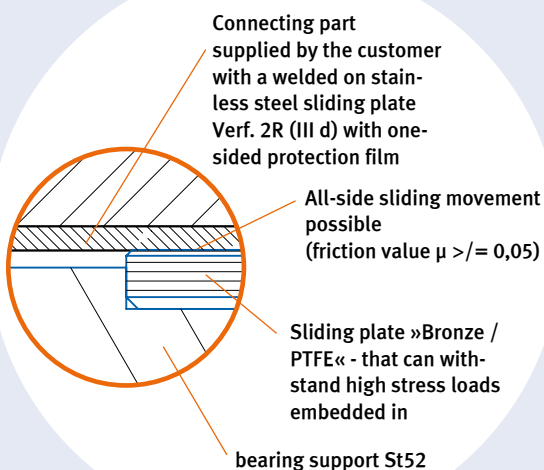
Types	T-500-NK max. 500 kN	T-1000-NK max. 1000 kN	T-2500-NK max. 2500 kN
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Any special design is available on request

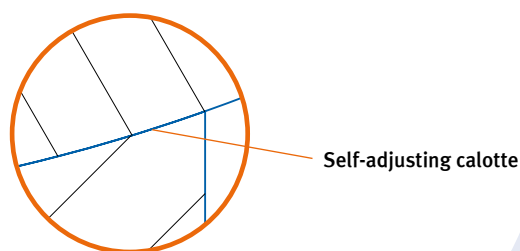


For mounting instructions please refer to **Page 110**

DETAIL »U«



DETAIL »V«



All steel parts are galvanic zinc-plated or with rust protection coating.

Technical data

LOAD CAPACITY MAX. kN	BEARING TYPE	K mm Ø	B mm Ø	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500	T-500-NK	120	100	48	Must be defined according to construction specifications	Must be defined according to construction specifications
1000	T-1000-NK	170	150	48	Must be defined according to construction specifications	Must be defined according to construction specifications
2500	T-2500-NK	220	200	58	Must be defined according to construction specifications	Must be defined according to construction specifications

Bending in the area of top and base plate shall not occur.

PROPERTIES

Constructed as a **floating bearing**, self-adjusting calotte bearing with a heavy load carrying PTFE - coated sliding plate, maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL QUALITY

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12µm), or corrosion protection coating.

BASE PLATE

One-sided concave embedding.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer.

Additional centred drills or threads serve as a mounting assistance.

BEARING SUPPORT / CALOTTE

Spherical base with an embedded PTFE/bronze sliding plate in the opposing topside.

Additional centred drills or threads serve as a form of mounting assistance.

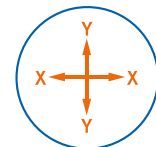
SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

Friction value: approximately 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIIId)

SLIDING DIRECTION

An all-sided floating bearing.



GLIDE PATH

Is defined by the size of the collaborating top plate with weld on stainless steel sliding plate.

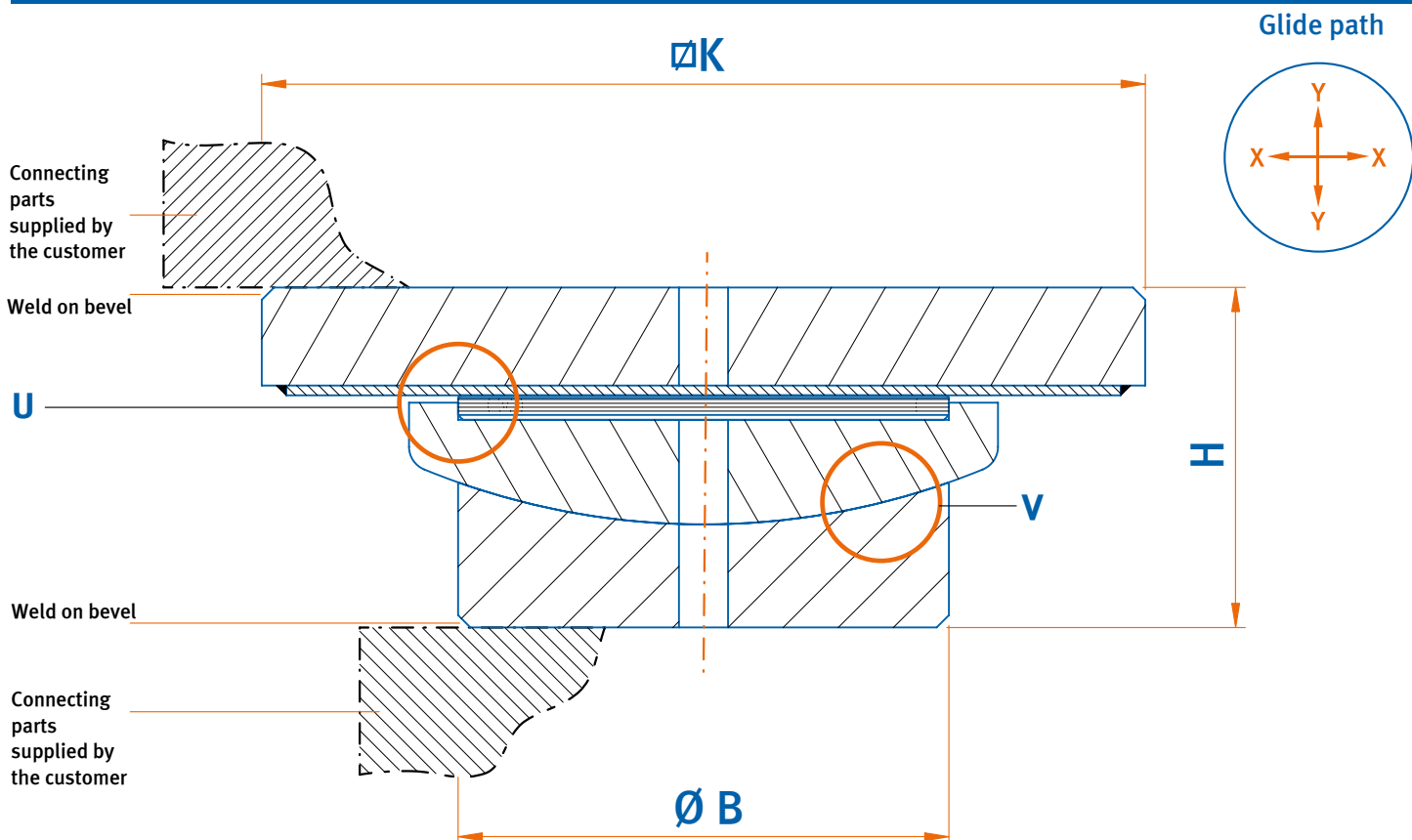
CHARACTERISTICS

- Maintenance-free with great durability due to the PTFE - sliding layer
- Low friction coefficient, no »stick-slip« effect
- Self-adjusting sliding layer as a result of the spherical base bearing, no edge loading
- High capacity load (stat. approx. 250 N/mm²), for comparison: solid PTFE - sliding plate approx. 10 N/mm².
- Suitable for the temperature range of ≤ +250°C
- Very compact construction, small measurements (see chart)
- Corrosion resistant
- Simple mounting due to an overall small dimension
- Optimal operational safety

Free spherical slide support bearing with top plate

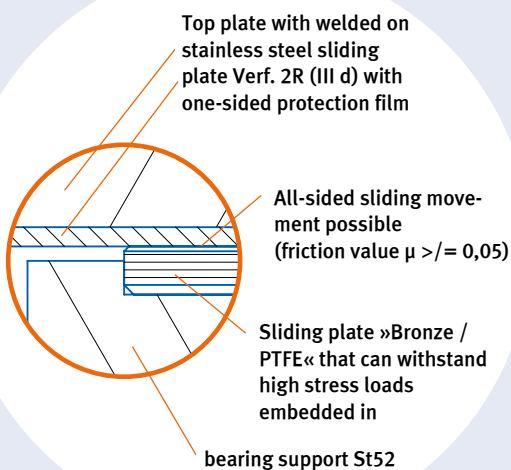
Types	T-500-FK max. 500 kN	T-1000-FK max. 1000 kN	T-2500-FK max. 2500 kN
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Any special design is available on request

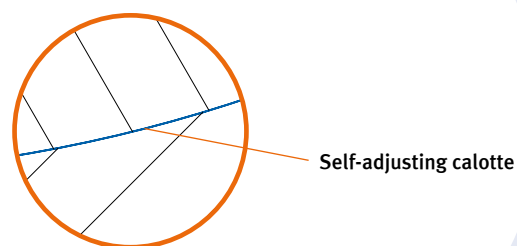


For mounting instructions please refer to **Page 110**

DETAIL »U«



DETAIL »V«



All steel parts are galvanic zinc-plated or with rust protection coating.

Technical data

LOAD CAPACITY MAX. kN	BEARING TYPE	K mm □	B mm ∅	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500	T-500-FK	180	100	70	35	35
1000	T-1000-FK	240	150	75	40	40
2500	T-2500-FK	310	200	95	50	50

Bending in the area of top and base plate shall not occur.

PROPERTIES

Floating bearing - self-adjusting calotte bearing with top plate and a PTFE - coated sliding plate, which is capable of bearing heavy loads and is designed to be maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL QUALITY

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12µ), or corrosion protection coating.

BASE PLATE

One-sided concave embedding.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer. Additional centred drills or threads serve as a mounting assistance.

BEARING SUPPORT / CALOTTE

Spherical base with an embedded PTFE/bronze sliding plate in the opposing topside.

Additional centred drills or threads serve as a form of mounting assistance.

SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

Friction value: approximately 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIIId)

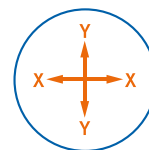
TOP PLATE

Steel plate with welded on stainless steel sliding plate, Verf. 2R (IIIId), with protection film.

Additional centred drills or threads serve as a form of mounting assistance.

SLIDING DIRECTION

An all-sided floating bearing



GLIDE PATH

See chart

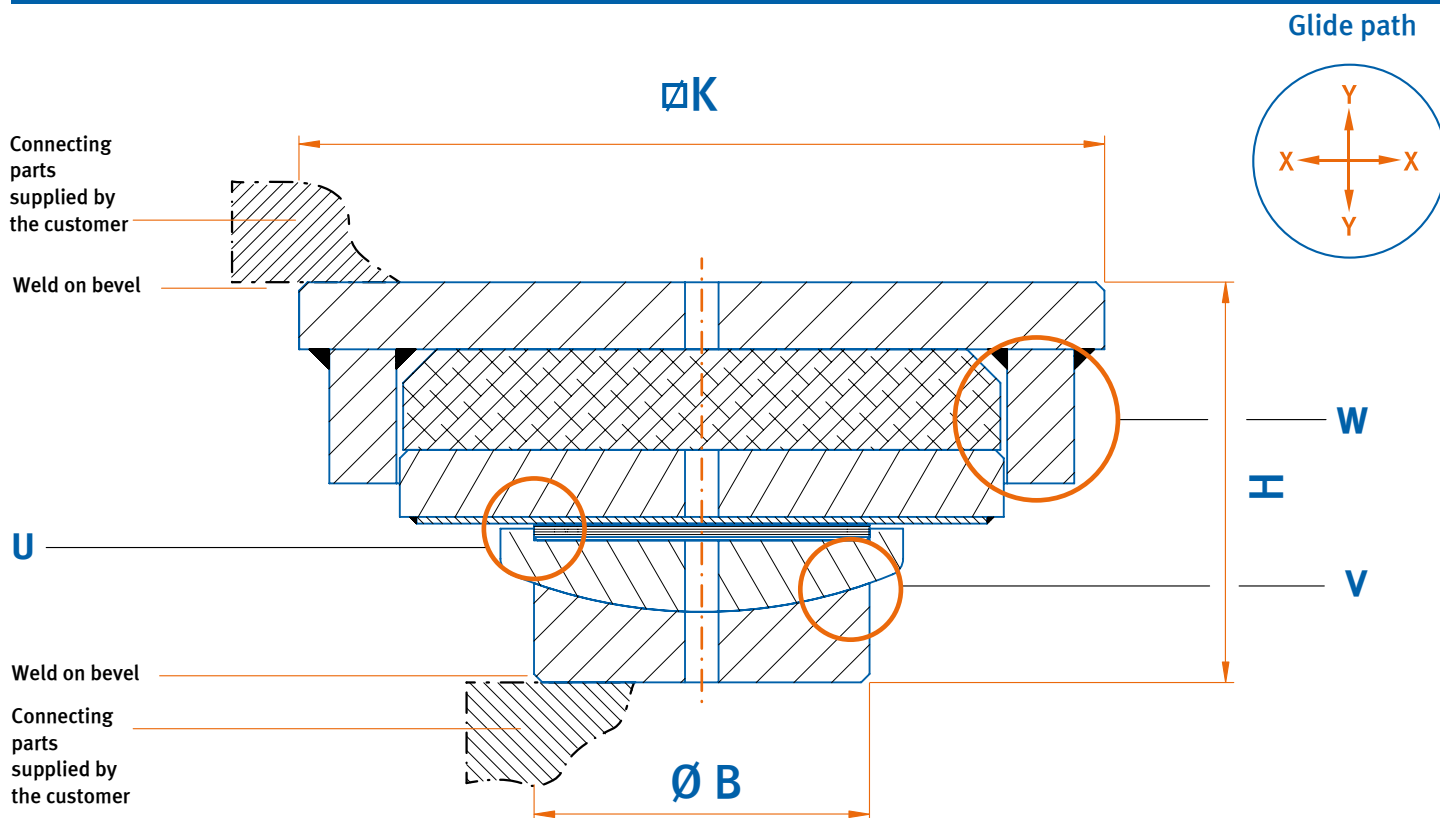
CHARACTERISTICS

- Maintenance-free with great durability due to the PTFE – sliding layer.
- Self-adjusting sliding layer as a result of the spherical base bearing, no edge loading
- Very compact construction, small measurements (see chart)
- High capacity load (stat. approx. 250 N/mm²), for comparison: solid PTFE - sliding plate approx. 10 N/mm².
- Corrosion resistant
- Simple mounting due to an overall small dimension
- Optimal operational safety
- Suitable for the temperature range of ≤ +250°C
- Low friction coefficient, no »stick-slip« effect.

Free high-temperature spherical slide support bearing

Types	T-500-FK/HT max. 500 kN	T-1000-FK/HT max. 1000 kN	T-2500-FK/HT max. 2500 kN
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Any special design is available on request

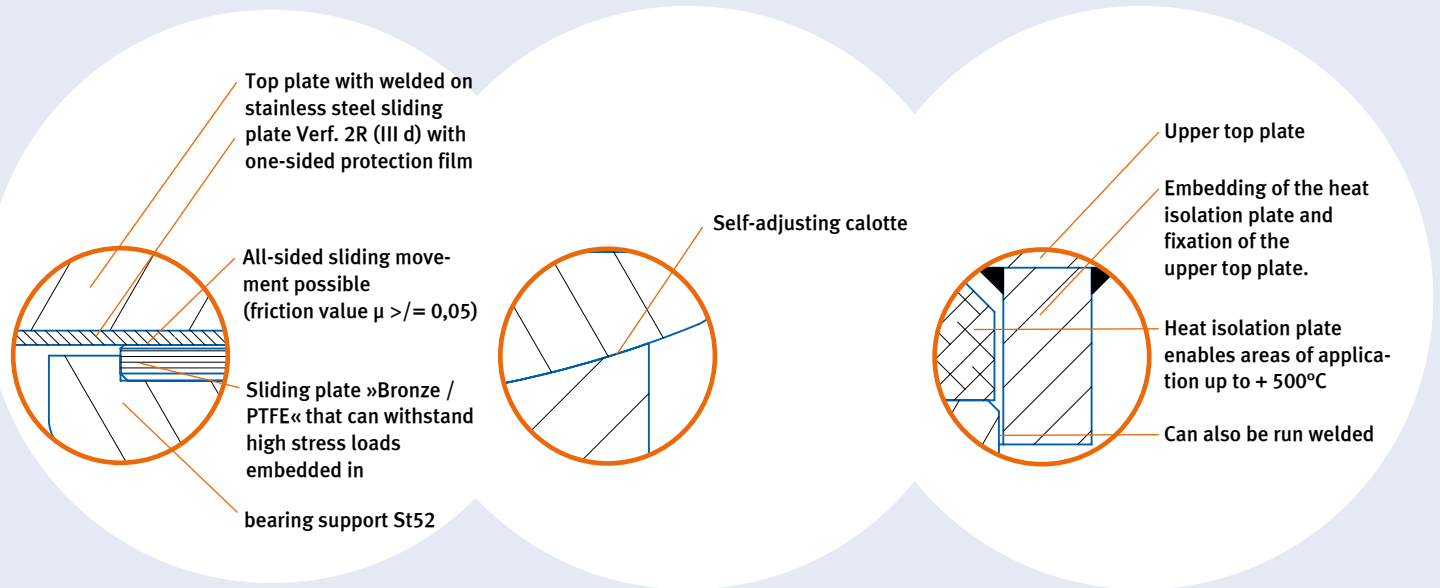


For mounting instructions please refer to **Page 110**

DETAIL »U«

DETAIL »V«

DETAIL »W«



All steel parts are galvanic zinc-plated or with rust protection coating.

LOAD CAPACITY MAX. kN	BEARING TYPE	K mm □	B mm ∅	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500	T-500-FK/HT	240	100	120	35	35
1000	T-1000-FK/HT	300	150	125	40	40
2500	T-2500-FK/HT	390	200	155	50	50

Bending in the area of top and base plate shall not occur.

PROPERTIES

Free floating bearing suitable for high temperatures - self-adjusting calotte bearing, with high capacity load PTFE-coated sliding plate, maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL QUALITY

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12µ), or corrosion protection coating.

BASE PLATE

One-sided concave embedding.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer. Additional centred drills or threads serve as a mounting assistance.

BEARING SUPPORT / CALOTTE

Spherical base with an embedded PTFE/bronze sliding plate in the opposing topside.

Additional centred drills or threads serve as a form of mounting assistance.

SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

Friction value: approximately 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIIId)

LOWER TOP PLATE

Steel plate with welded on stainless steel sliding plate, Verf. 2R (IIIId), with protection film.

Additional centred drills or threads serve as a form

of mounting assistance.

UPPER TOP PLATE

Steel plate with cleat surrounding for embedding of the heat isolation plate.

Additional centred drills or threads serve as a form of mounting assistance.

HEAT ISOLATION PLATE

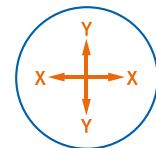
High pressure-resistant and insulating material, which prevents overheating of the PTFE-sliding layer and therefore enables temperature ranges of up to +500°C.

SLIDING DIRECTION

An all-sided floating bearing

GLIDE PATH

See chart



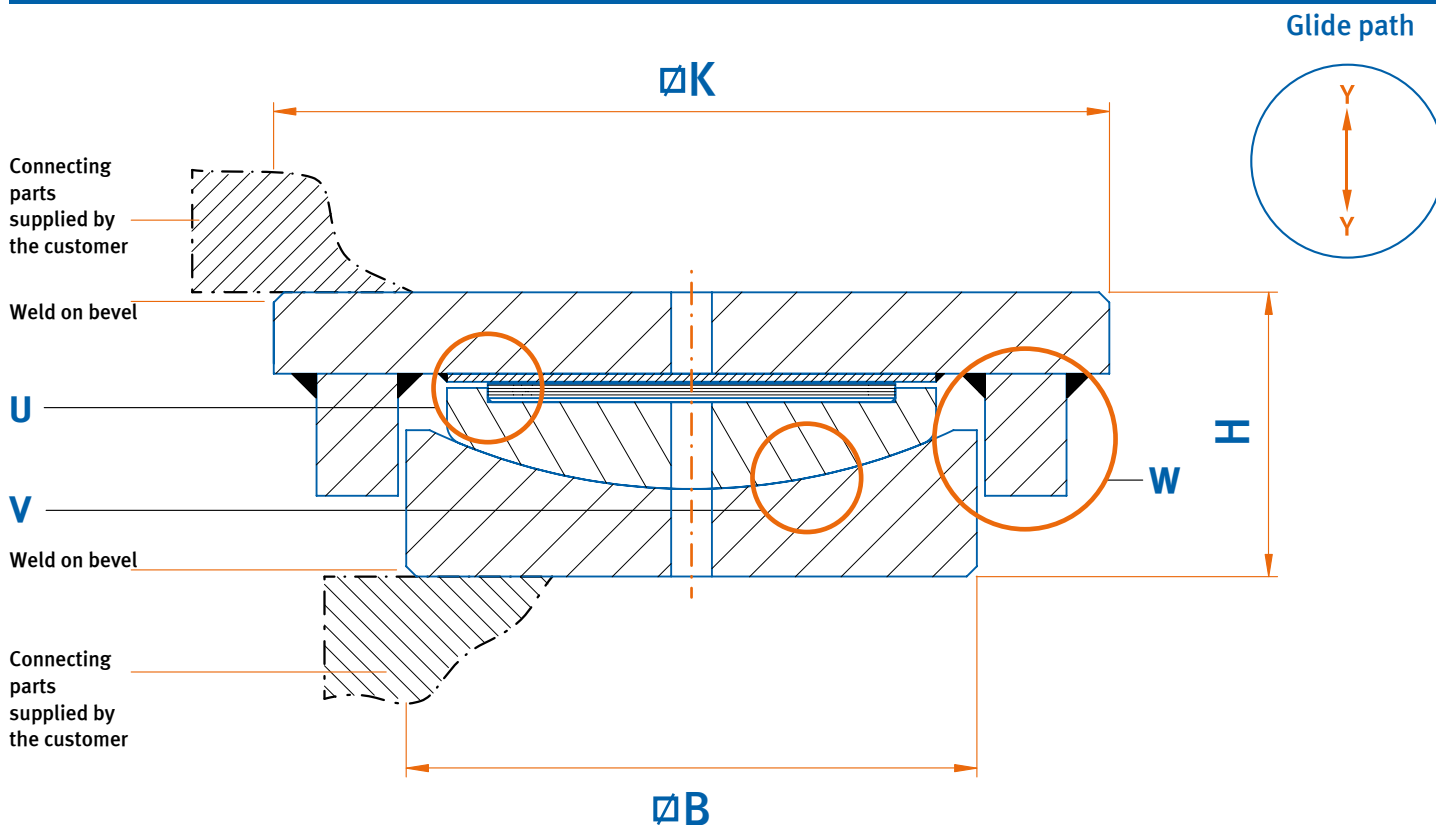
CHARACTERISTICS

- Suitable for high temperature ranges, $\leq 500^{\circ}\text{C}$
- Maintenance-free with great durability due to the PTFE – sliding layer.
- Self-adjusting sliding layer as a result of the spherical base bearing, no edge loading
- Very compact construction, small measurements (see chart)
- High capacity load (stat. approx. 250 N/mm²), for comparison: solid PTFE - sliding plate approx. 10 N/mm².
- Simple mounting due to an overall small dimension
- Low friction coefficient, no »stick-slip« effect.
- Corrosion resistant
- Optimal operational safety

Guided spherical slide support bearing

Types	T-500/150-GK max. 500 kN	T-1000/250-GK max. 1000 kN	T-2500/500-GK max. 2500 kN
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Any special design is available on request

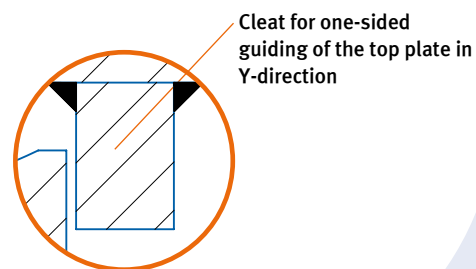
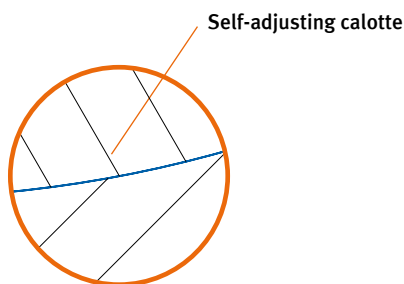
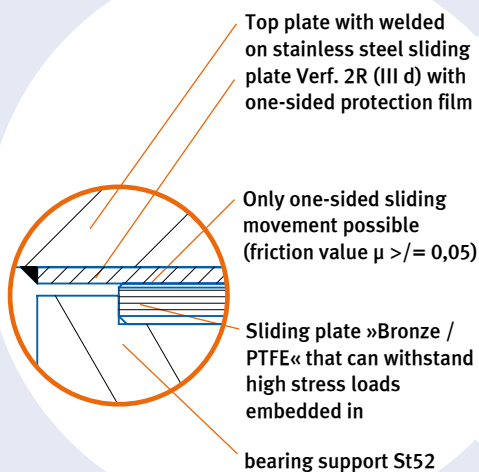


For mounting instructions please refer to **Page 110**

DETAIL »U«

DETAIL »V«

DETAIL »W«



All steel parts are galvanic zinc-plated or with rust protection coating.

Technical data

LOAD CAPACITY VERTICAL/HORIZONTAL kN	BEARING TYPE	K mm □	B mm □	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500/150	T-500/150-GK	205	140	70	—	35
1000/250	T-1000/250-GK	285	190	75	—	40
2500/500	T-2500/500-GK	345	240	95	—	50

Bending in the area of top and base plate shall not occur.

PROPERTIES

Guided bearing - self-adjusting calotte bearing, with high capacity load PTFE-coated sliding plate, maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12 µ), or corrosion protection coating.

BASE PLATE

One-sided concave embedding.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer.

Additional centred drills or threads serve as a mounting assistance.

BEARING SUPPORT / CALOTTE

Spherical base with an embedded PTFE/bronze sliding plate in the opposing topside.

Additional centred drills or threads serve as a form of mounting assistance.

GLIDE PATH

See chart

SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

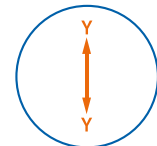
Friction value: approximately 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIIId)

TOP PLATE

Steel plate with cleat guide and welded on stainless steel sliding plate, Verf. 2R (IIIId), with protection film. Additional centred drills or threads serve as a form of mounting assistance.

SLIDING DIRECTION

An guided bearing, one-sided



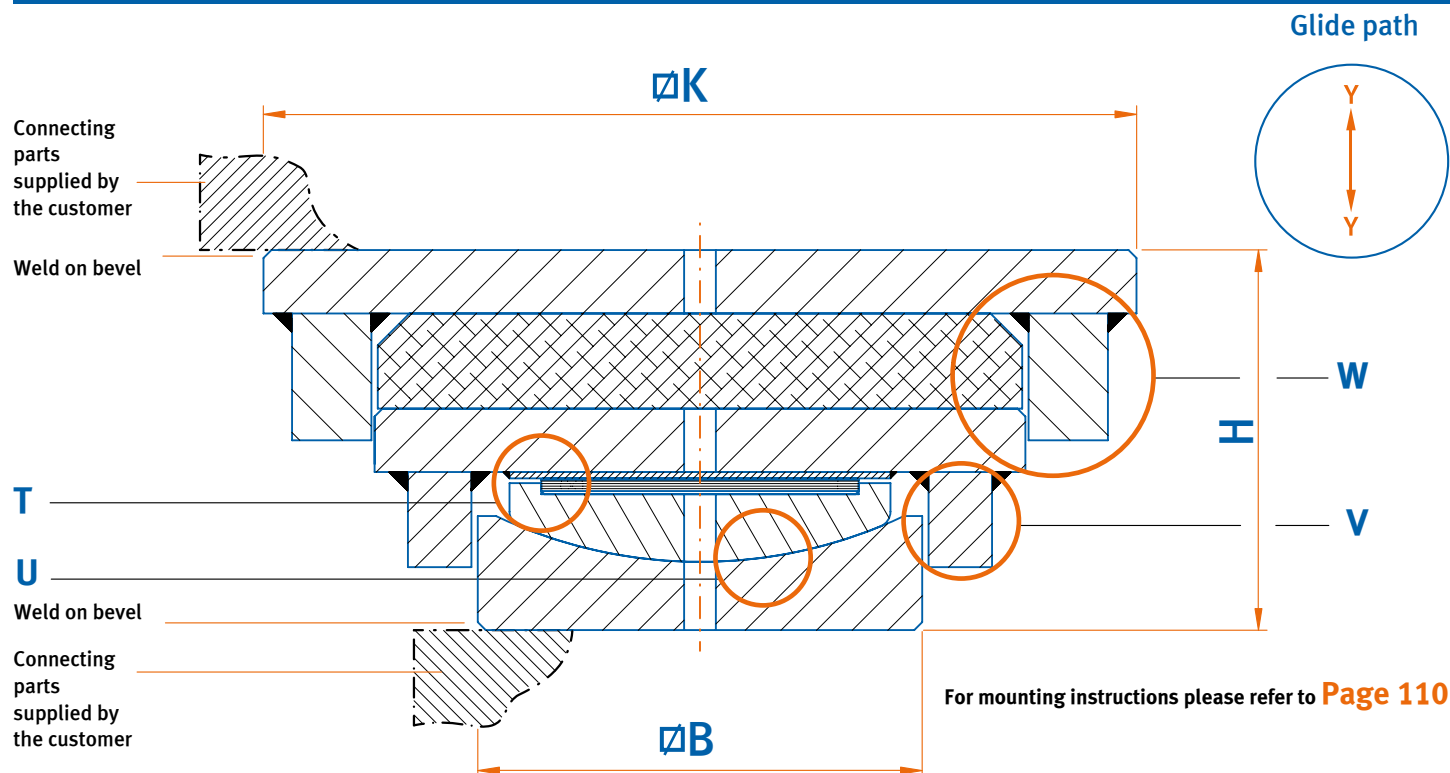
CHARACTERISTICS

- Suitable to absorb high sliding loads.
- Maintenance-free with great durability due to the PTFE - sliding layer.
- Self-adjusting sliding layer as a result of the spherical base bearing, no edge loading
- Very compact construction, small measurements (see chart)
- High capacity load (stat. approx. 250 N/mm²), for comparison: solid PTFE - sliding plate approx. 10 N/mm².
- Low friction coefficient, no »stick-slip« effect.
- Simple mounting due to an overall small dimension
- Suitable for the temperature range of ≤ +250°C
- Corrosion resistant
- Optimal operational safety

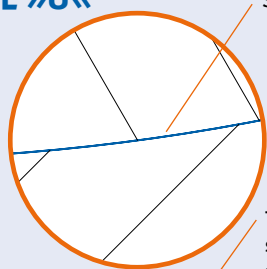
Guided high-temperature spherical slide support bearing

Types	T-500/150-GK/HT max. 500 kN	T-1000/250-GK/HT max. 1000 kN	T-2500/500-GK/HT max. 2500 kN
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Any special design is available on request



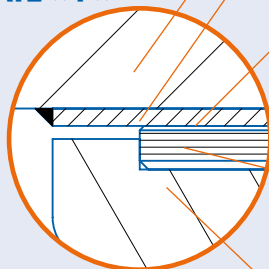
DETAIL »U«



Self-adjusting calotte

Top plate with welded on stainless steel sliding plate Verf. 2R (III d) with one-sided protection film

DETAIL »T«

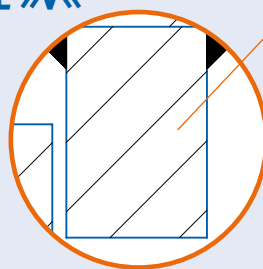


Only one-sided sliding movement possible (friction value $\mu \geq 0,05$)

Sliding plate »Bronze / PTFE« that can withstand high stress loads embedded in

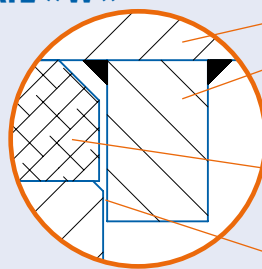
bearing support St52

DETAIL »V«



Cleat for one-sided guiding of the top plate in Y-direction

DETAIL »W«



Upper top plate

Embedding of the heat isolation plate and fixation of the upper top plate.

Heat isolation plate enables areas of application up to + 500°C

Can also be run welded

All steel parts are galvanic zinc-plated or with rust protection coating.

Technical data

LOAD CAPACITY VERTICAL/HORIZONTAL kN	BEARING TYPE	K mm	B mm	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500/150	T-500/150-GK/HT	275	140	120	—	35
1000/250	T-1000/250-GK/HT	365	190	125	—	40
2500/500	T-2500/500-GK/HT	445	240	155	—	50

Bending in the area of top and base plate shall not occur.

PROPERTIES

Guided bearing for high temperatures - self-adjusting calotte bearing, with high load PTFE-coated sliding plate, maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL QUALITY

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12 µ), or corrosion protection coating.

BASE PLATE

One-sided concave embedding.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer.

Additional centred drills or threads serve as a mounting assistance.

BEARING SUPPORT / CALOTTE

Spherical base with an embedded PTFE/bronze sliding plate in the opposing topside.

Additional centred drills or threads serve as a form of mounting assistance.

SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

Friction value: approximately 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIIId).

LOWER TOP PLATE

Steel plate with cleat guide and weld-on stainless steel sliding plate, Verf. 2R (IIIId), with protection film.

Additional centred drills or threads serve as a form of mounting assistance.

UPPER TOP PLATE

Steel plate with cleat surrounding for embedding of the heat isolation plate.

Additional centred drills or threads serve as a form of mounting assistance.

HEAT ISOLATION PLATE

High pressure-resistant and insulating material, which prevents overheating of the PTFE-sliding layer and therefore enables temperature ranges of up to +500°C.

SLIDING DIRECTION

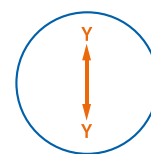
Guided bearing

GLIDE PATH

See chart

CHARACTERISTICS

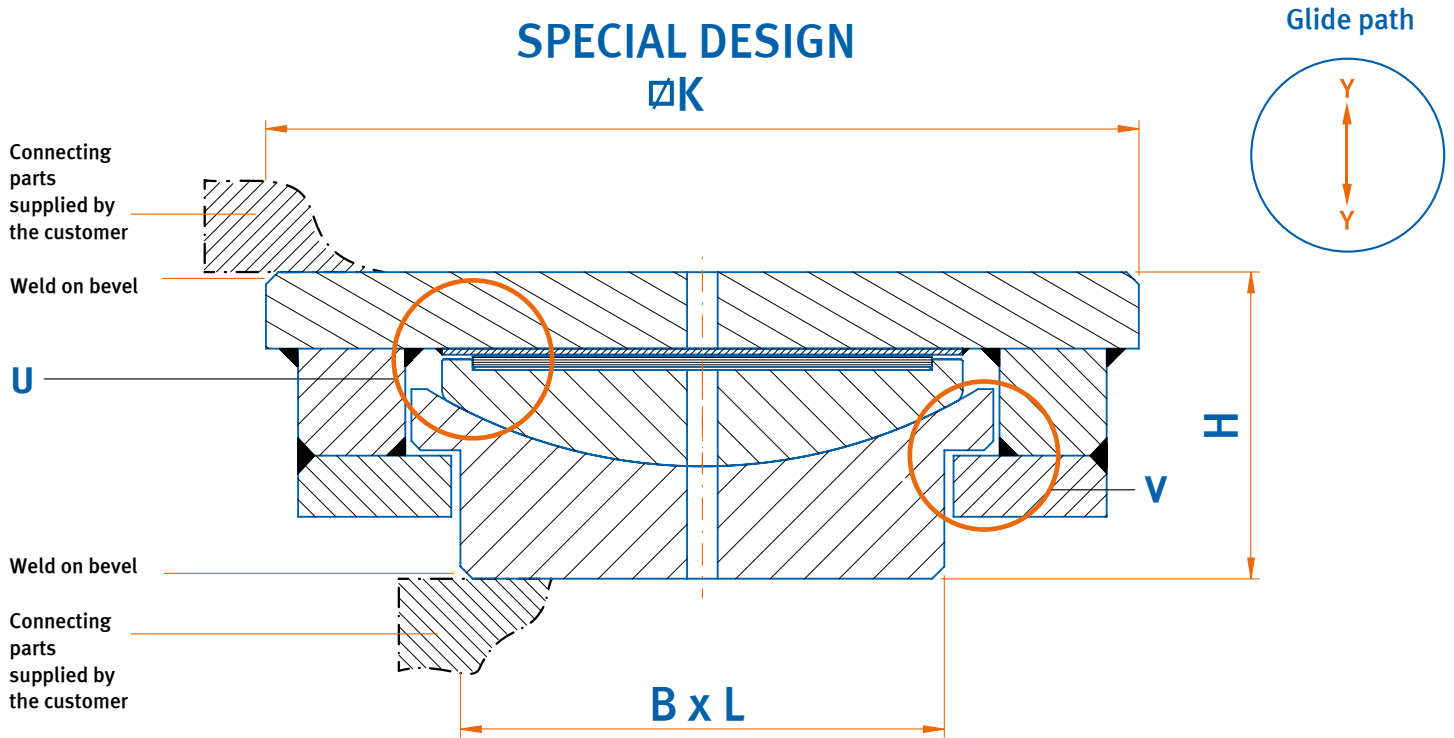
- Suitable for high temperature ranges, ≤ 500°C
- Suitable to absorb high sliding loads.
- Maintenance-free with great durability due to the PTFE - sliding layer.
- Simple mounting due to an overall small dimension
- Self-adjusting sliding layer as a result of the spherical base bearing, no edge loading
- High capacity load (stat. approx. 250 N/mm²), for comparison: solid PTFE - sliding plate approx. 10 N/mm².
- Very compact construction, small measurements (see chart)
- Low friction coefficient, no »stick-slip« effect.
- Corrosion resistant
- Optimal operational safety



Guided spherical slide support bearing - with lift up protection

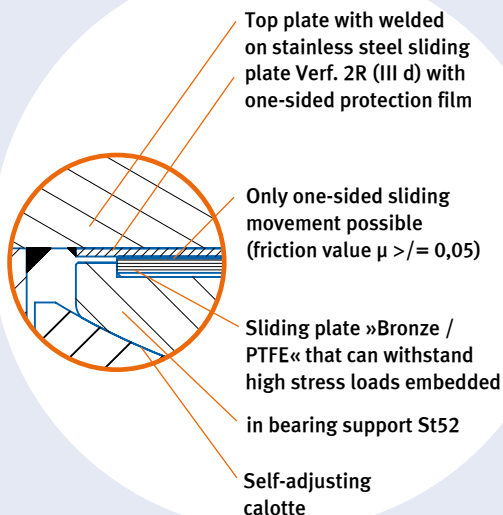
Types	T-1000/250-GK/AS max. 1000 kN	T-2500/500-GK/AS max. 2500 kN
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Any special design is available on request

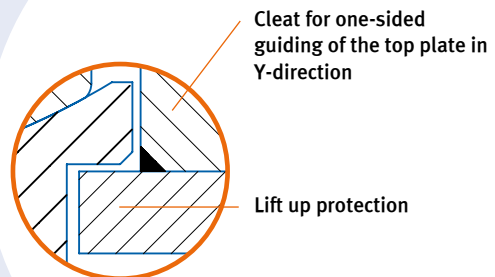


For mounting instructions please refer to **Page 110**

DETAIL »U«



DETAIL »V«



All steel parts are galvanic zinc-plated or with rust protection coating.

Technical data

LOAD CAPACITY VERTICAL/HORIZONTAL kN	BEARING TYPE	K mm 	B x L mm	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
1000/250	T-1000/250-GK/AS	285	158 x 190	100	—	40
2500/500	T-2500/500-GK/AS	345	208 x 240	120	—	50

Bending in the area of top and base plate shall not occur.

PROPERTIES

Guided bearing with lift up protection - self-adjusting calotte bearing, with high load PTFE-coated sliding plate, maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12 µ), or corrosion protection coating.

BASE PLATE

One sided concave embedding.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer.

Additional centred drills or threads serve as a mounting assistance.

BEARING SUPPORT / CALOTTE

Spherical base with an embedded PTFE/bronze sliding plate in the opposing topside.

Additional centred drills or threads serve as a form of mounting assistance.

SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

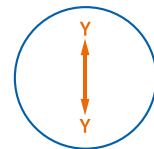
Friction value: approx. 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIId).

TOP PLATE

Steel plate with lift up protected cleat guide and welded on stainless steel sliding plate, Verf. 2R (IIId), with protection film. Additional centred drills or threads serve as a form of mounting assistance.

SLIDING DIRECTION

A guided bearing, one-sided



GLIDE PATH

See chart

CHARACTERISTICS

- Suitable to absorb high sliding load.
- Effective lift up protection
- Maintenance-free with great durability due to the PTFE - sliding layer.
- Very compact construction, small measurements (see chart)
- Self-adjusting sliding layer as a result of the spherical base bearing. No edge loading.
- High capacity load (stat. approx. 250 N/mm²), for comparison: solid PTFE - sliding plate approx. 10 N/mm².
- Low friction coefficient, no »stick-slip« effect.
- Simple mounting due to an overall small dimension
- Corrosion resistant
- Suitable for the temperature range of ≤ +250°C
- Optimal operational safety

Mounting instructions for LHG - spherical slide support bearings

1 The base plate must be welded to the collaborating lower construction of the respective LHG - supporting bearing.

2 If required the zinc-coating must be removed from the designated welding bevels to enable clean welding.
To reconstruct the broad corrosion protection all welded joints must be provided with anti-rust coating, zinc spray or similar.

3 During welding the spherical carrying area must be covered.

4 The top plate (and respectively the upper top plate of the high temperature bearings) must be welded to the upper construction with consideration taken of the sliding direction.

5 The glide path of LHG - standard supporting bearings is already defined by the size of the top plate with the stainless steel sliding plate.

The glide path for the LHG bearing types T-500-NK, T-1000-NK and T-2500-NK has to be designated by the opposing construction. This glide path is appointed by the size of the stainless steel sliding plate, which is welded to the upper construction as counter surface.

6 Despite the existing protection film covering on the stainless steel sheet, this area has to be covered to avoid contamination caused by the welding process.

7 Insert the spherical base bearing into the base plate.

8 Insert the PTFE-bronze-sliding plate into the designated embedding.

9 Remove the protection film at the top plate from the stainless steel sliding plate.

9.1 LHG high temperature bearings: Apply the lower top plate loosely onto the PTFE/bronze sliding plate.

9.2 Either the heat protection plate must be positioned centred onto the lower top plate or it must be fixed in the upper top plate to avoid displacement and/or dislodgement.

9.3 Apply the upper top plate with the heat isolation plate onto the bearing.
Apply the upper construction slowly onto the overall bearing and weld fix.

10 Apply the top plate slowly to the bearing.

RECOMMENDATIONS FOR WELDING ELECTRODES:

For base- and top plates
(ST52-3 # 1.0570 # SJ355)J2G3)

DIN EN 499(1995-01)

Alternative for DIN 913: E 382 RB 12

For stainless steel sliding plate on
St52 (1.4301 / 1.4401):

DIN8556, E2313 or E299 or

E 188Mn6; $\varnothing$ 2 - 2,5 mm or

DIN X2CrNiMo N22353,

E 1.4462 or E 1.4370, shielding gas, $\varnothing$ 1 mm

E 1.4462 or E 1.4370, shielding gas, $\varnothing$ 1 mm

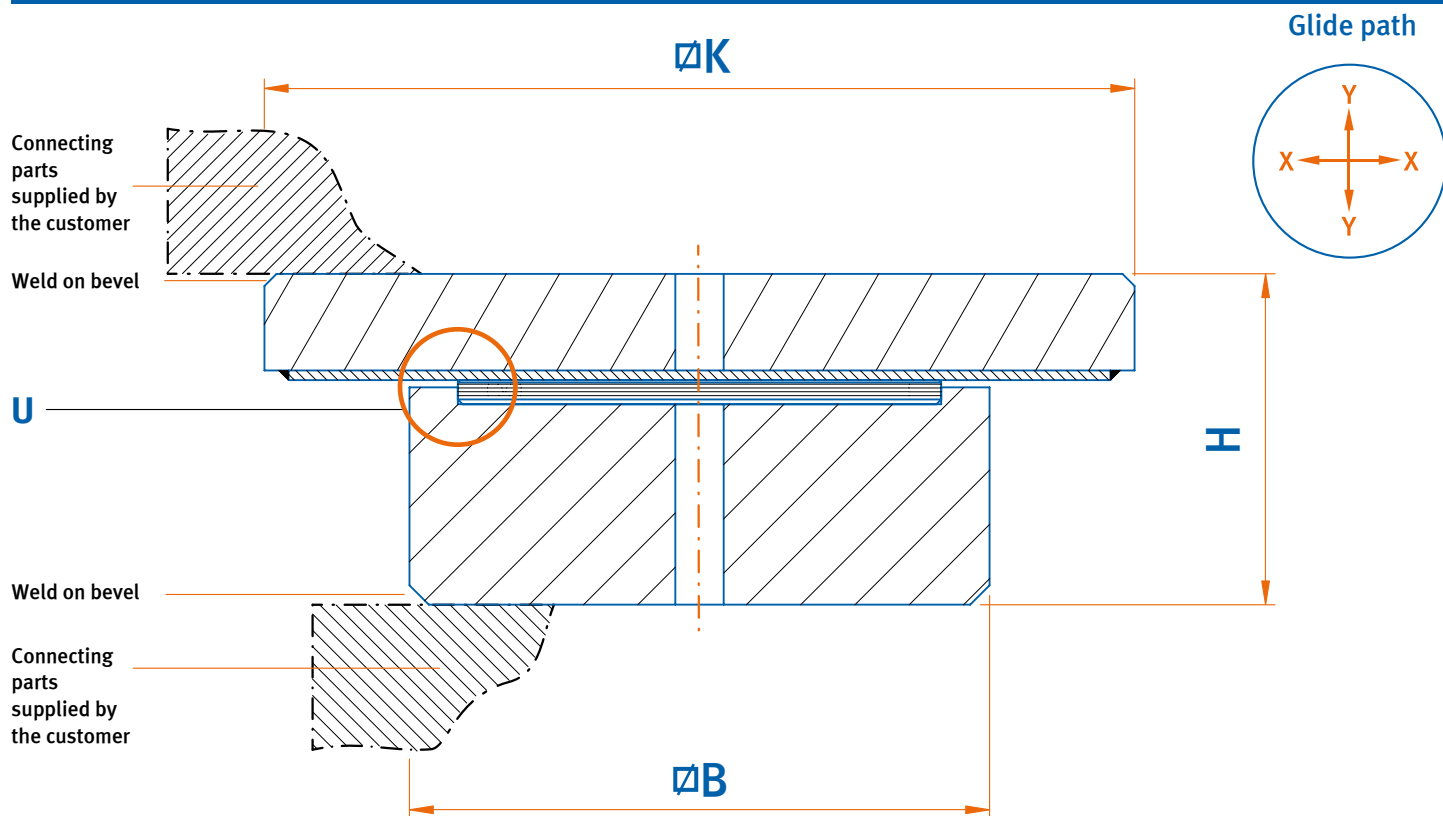
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[illegible]

Free flat slide support bearing

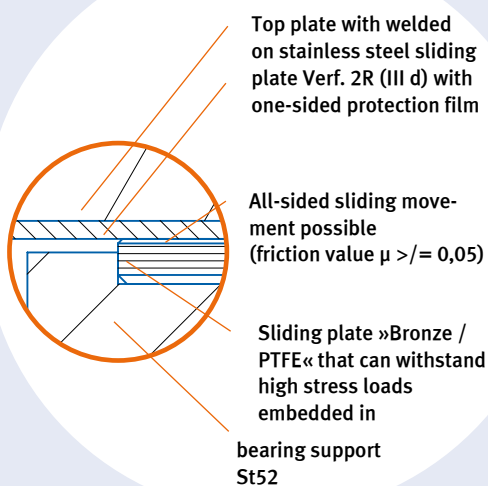
Types	T-500-FF max. 500 kN	T-1000-FF max. 1000 kN	T-2500-FF max. 2500 kN
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Any special design is available on request



For mounting instructions please refer to **Page 124**

DETAIL »U«



All steel parts are galvanic zinc-plated or with rust protection coating.

Technical data

LOAD CAPACITY MAX. kN	BEARING TYPE	K mm	B mm	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500	T-500-FF	180	120	70	35	35
1000	T-1000-FF	240	170	75	40	40
2500	T-2500-FF	310	220	95	50	50

Bending in the area of top and base plate shall not occur.

PROPERTIES

Floating bearing - compact flat sliding bearing, with high load PTFE-coated sliding plate, maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12 µ), or corrosion protection coating.

BASE PLATE

One sided embedding for sliding plate.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer.

Additional centred drills or threads serve as a mounting assistance.

SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

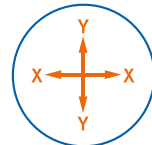
Friction value: approximately 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIIId).

TOP PLATE

Steel plate with welded on stainless steel sliding plate, Verf. 2R (IIIId), with protection film. Additional centred drills or threads serve as a form of mounting assistance.

SLIDING DIRECTION

An all-sided floating bearing



GLIDE PATH

See chart

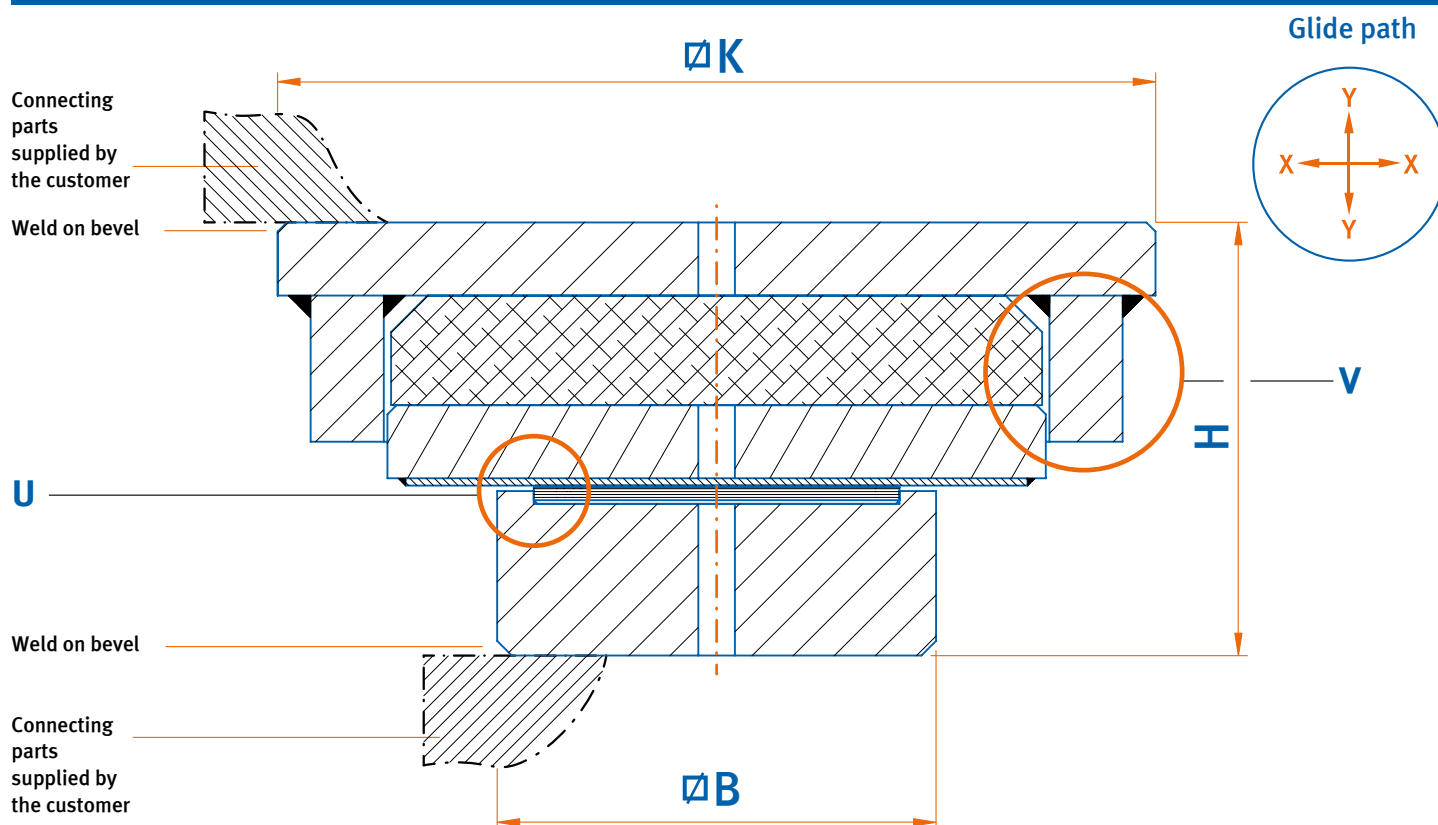
CHARACTERISTICS

- Compact and low cost sliding bearing for simple demands.
- Maintenance-free with great durability due to the PTFE – sliding layer.
- Very compact construction, small measurements (see chart)
- High capacity load (stat. approx. 250 N/mm²), for comparison: solid PTFE - sliding plate approx. 10 N/mm².
- Suitable for the temperature range of ≤ +250°C
- Simple mounting due to an overall small dimension
- Corrosion resistant
- Low friction coefficient, no »stick-slip« effect.
- Optimal operational safety

Free high-temperature flat slide support bearing

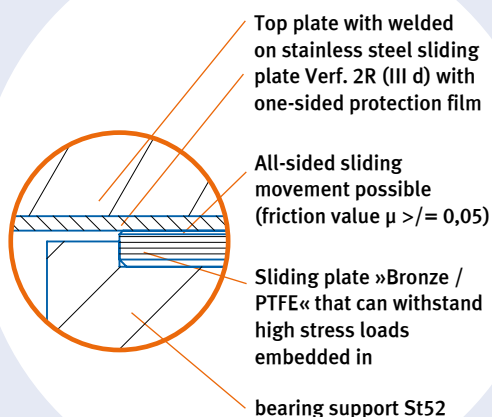
Types	T-500-FF/HT max. 500 kN	T-1000-FF/HT max. 1000 kN	T-2500-FF/HT max. 2500 kN
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Any special design is available on request

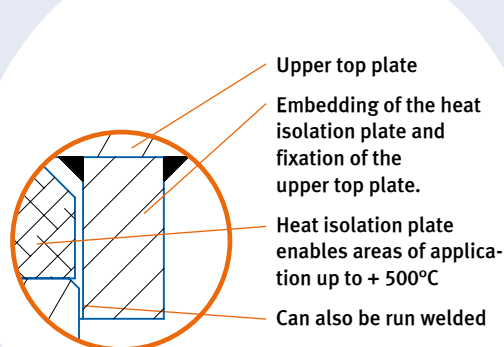


For mounting instructions please refer to **Page 124**

DETAIL »U«



DETAIL »V«



All steel parts are galvanic zinc-plated or with rust protection coating.

LOAD CAPACITY MAX. kN	BEARING TYPE	K mm	B mm	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500	T-500-FF/HT	240	120	120	35	35
1000	T-1000-FF/HT	300	170	125	40	40
2500	T-2500-FF/HT	390	220	155	50	50

Bending in the area of top and base plate shall not occur.

PROPERTIES

Floating bearing for high temperatures in the form of a compact flat construction, with high load PTFE-coated sliding plate, maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12 µ), or corrosion protection coating.

BASE PLATE

One-sided embedding for sliding plate.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer.

Additional centred drills or threads serve as a mounting assistance.

SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

Friction value: approx. 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIIId).

LOWER TOP PLATE

Steel plate with welded on stainless steel sliding plate, Verf. 2R (IIIId), with protection film.

Additional centred drills or threads serve as a mounting assistance.

UPPER TOP PLATE

Steel plate with cleat surrounding for embedding of the heat isolation plate.

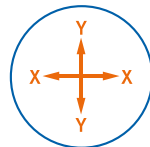
Additional centred drills or threads serve as a form of mounting assistance.

HEAT ISOLATION PLATE

High pressure-resistant and insulating material, which prevents overheating of the PTFE-sliding layer and therefore enables temperature ranges of up to +500°C.

SLIDING DIRECTION

An all-sided floating bearing



GLIDE PATH

See chart

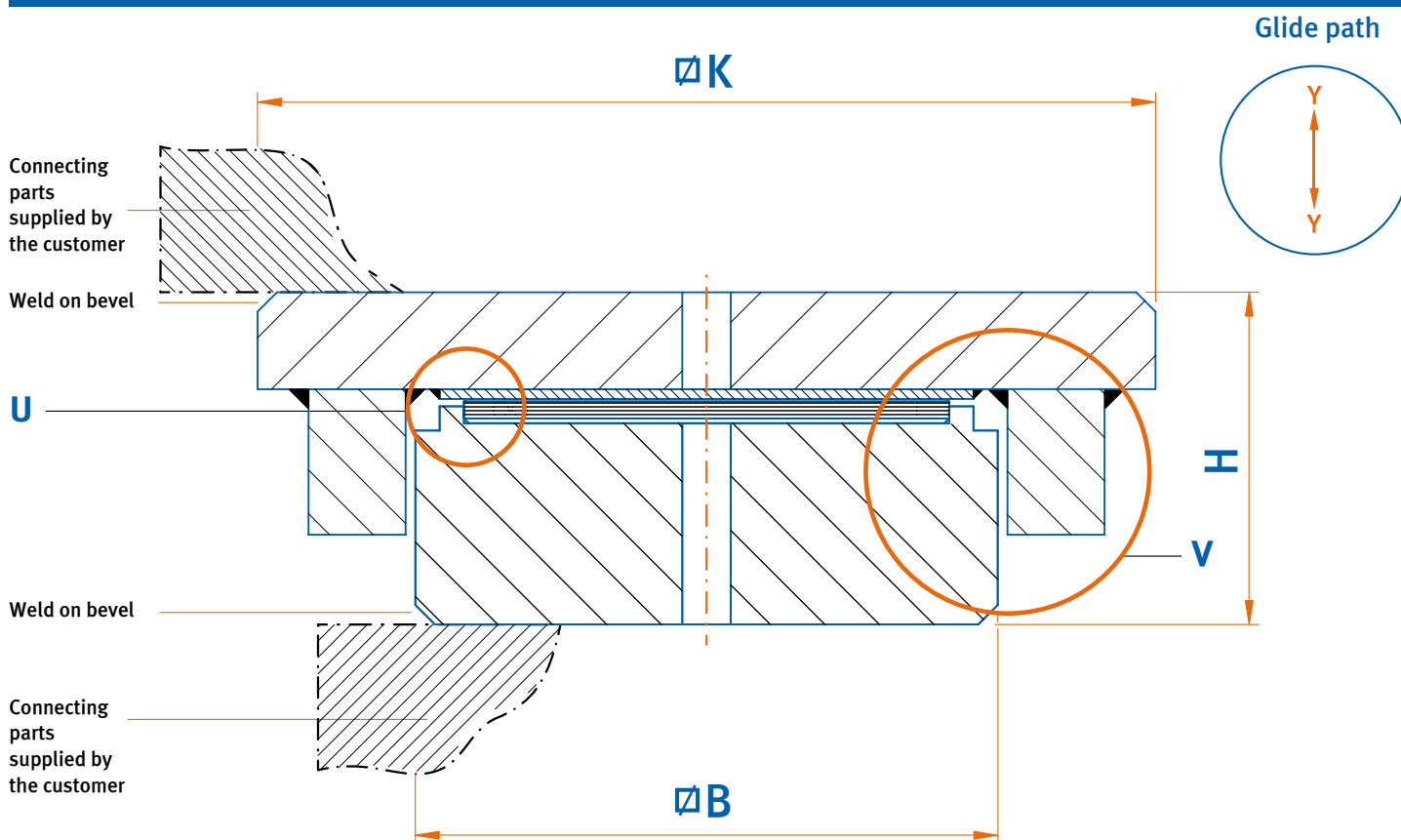
CHARACTERISTICS

- Suitable for high temperature ranges, ≤500°C
- Solid and low cost sliding bearing for simple demands.
- Maintenance-free with great durability due to the PTFE - sliding layer.
- Simple mounting due to an overall small dimension
- High capacity load (stat. approx. 250 N/mm²), for comparison: solid PTFE - sliding plate approx. 10 N/mm².
- Very compact construction, small measurements (see chart)
- Corrosion resistant
- Low friction coefficient, no »stick-slip« effect.
- Optimal operational safety

Guided flat slide support bearing

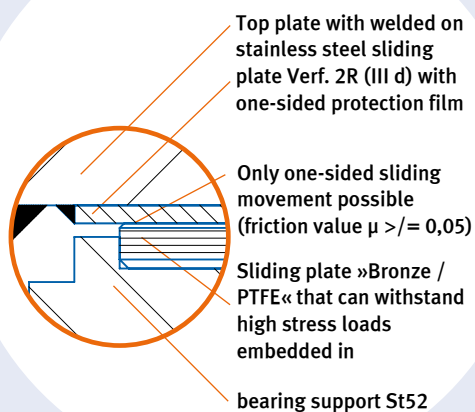
Types	T-500/150-GF max. 500 kN	T-1000/250-GF max. 1000 kN	T-2500/500-GF max. 2500 kN
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Any special design is available on request

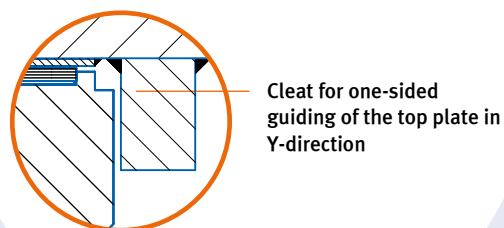


For mounting instructions please refer to **Page 124**

DETAIL »U«



DETAIL »V«



All steel parts are galvanic zinc-plated or with rust protection coating.

Technical data

LOAD CAPACITY VERTICAL/HORIZONTAL kN	BEARING TYPE	K mm □	B mm □	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500/150	T-500/150-GF	185	120	70	—	35
1000/250	T-1000/250-GF	265	170	75	—	40
2500/500	T-2500/500-GF	325	220	95	—	50

Bending in the area of top and base plate shall not occur.

PROPERTIES

Guided bearing - as an compact flat sliding bearing, with high load PTFE-coated sliding plate, maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12 µ), or corrosion protection coating.

BASE PLATE

One-sided embedding for sliding plate.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer.

Additional centred drills or threads serve as a mounting assistance.

SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

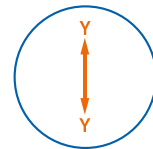
Friction value: approx. 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIId).

TOP PLATE

Steel plate with cleat guide and welded on stainless steel sliding plate, Verf. 2R (IIId), with protection film. Additional centred drills or threads serve as a form of mounting assistance.

SLIDING DIRECTION

One-sided guiding bearing



GLIDE PATH

See chart

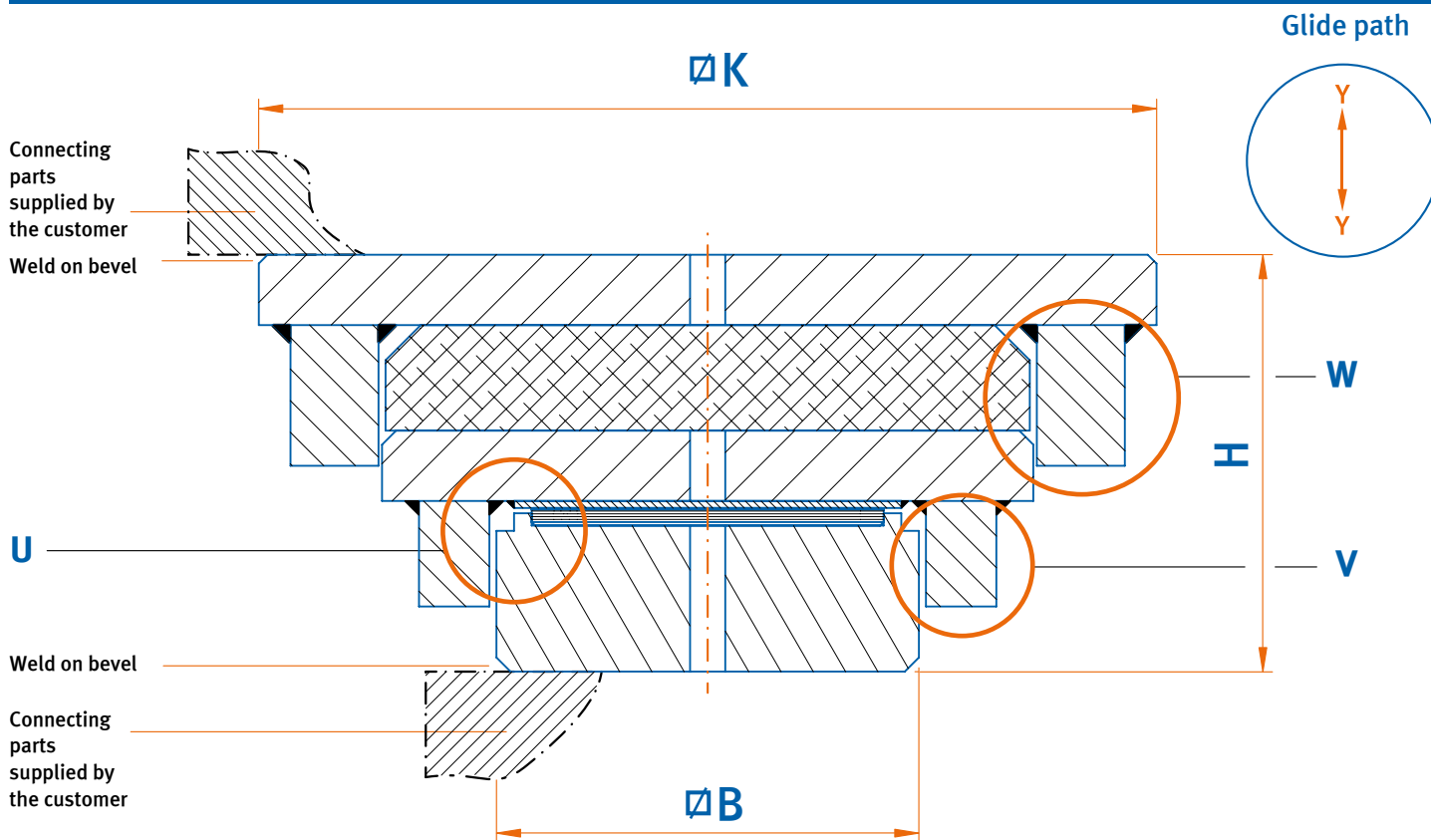
CHARACTERISTICS

- Suitable to absorb high sliding loads.
- Maintenance-free with great durability due to the PTFE - sliding layer.
- Simple mounting due to an overall small dimension
- High capacity load (stat. approx. 250 N/mm²), for comparison: solid PTFE - sliding plate approx. 10 N/mm².
- Suitable for the temperature range of ≤ +250°C
- Very compact construction, small measurements (see chart)
- Corrosion resistant
- Low friction coefficient, no »stick-slip« effect.
- Optimal operational safety

Guided high-temperature flat slide support bearing

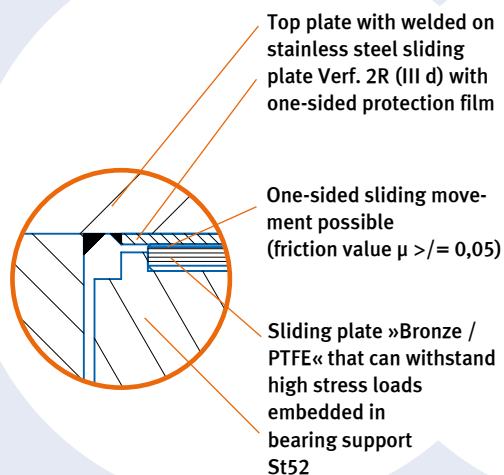
Types	T-500/150-GF/HT max. 500 kN	T-1000/250-GF/HT max. 1000 kN	T-2500/500-GF/HT max. 2500 kN
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Any special design is available on request

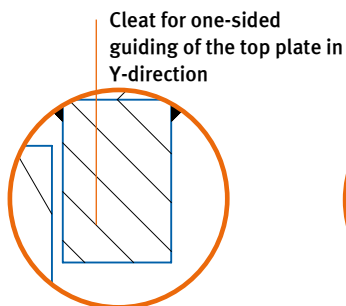


For mounting instructions please refer to **Page 124**

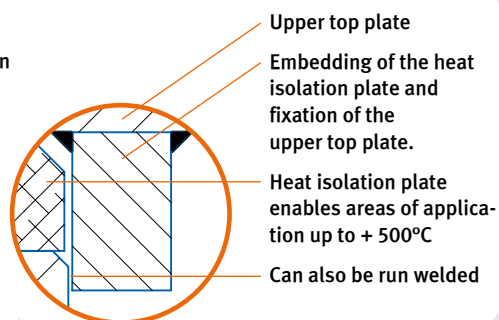
DETAIL »U«



DETAIL »V«



DETAIL »W«



All steel parts are galvanic zinc-plated or with rust protection coating.

Technical data

LOAD CAPACITY VERTICAL/HORIZONTAL kN	BEARING TYPE	K mm	B mm	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500/150	T-500/150-GF/HT	255	120	120	—	35
1000/250	T-1000/250-GF/HT	345	170	125	—	40
2500/500	T-2500/500-GF/HT	425	220	155	—	50

Bending in the area of top and base plate shall not occur.

PROPERTIES

Guided bearing for high temperatures, as compact flat sliding bearing, with high load PTFE-coated sliding plate, maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12 µ), or corrosion protection coating.

BASE PLATE

One sided embedding for sliding plate.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer. Additional centred drills or threads serve as a mounting assistance.

SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

Friction value: approximately 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIIId).

LOWER TOP PLATE

Steel plate with cleat guide and welded on stainless steel sliding plate, Verf. 2R (IIIId), with protection film.

Additional centred drills or threads serve as a mounting assistance.

UPPER TOP PLATE

Steel plate with cleat surrounding for embedding of the heat isolation plate.

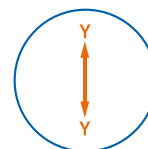
Additional centred drills or threads serve as a form of mounting assistance.

HEAT ISOLATION PLATE

High pressure-resistant and insulating material, which prevents overheating of the PTFE-sliding layer and therefore enables temperature ranges of up to +500°C.

SLIDING DIRECTION

A guided bearing - one-sided



GLIDE PATH

See chart

CHARACTERISTICS

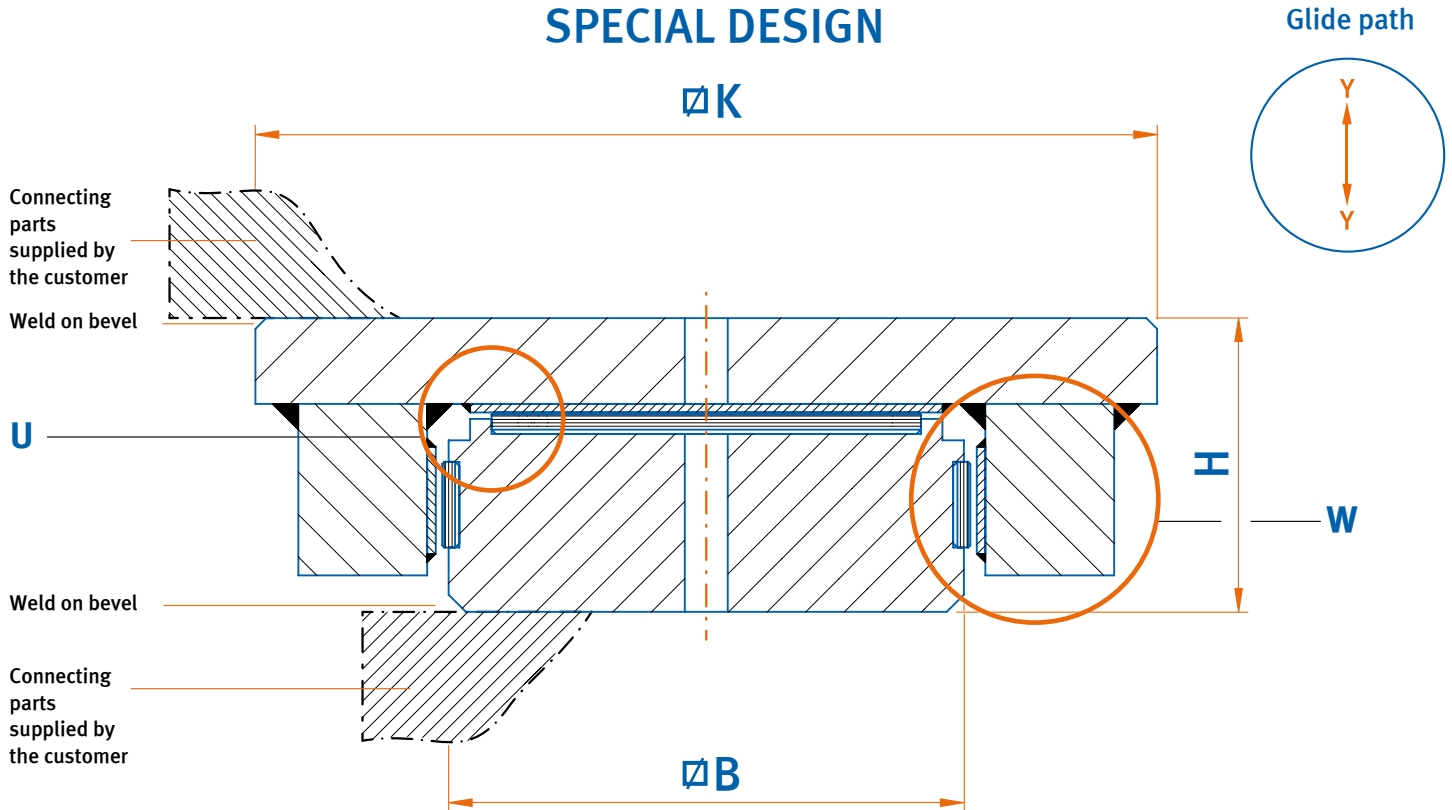
- Suitable for high temperature ranges, ≤500°C
- Suitable to absorb high sliding loads.
- Very compact construction, small measurements (see chart)
- Maintenance-free with great durability due to the PTFE – sliding layer.
- High capacity load (stat. approx. 250 N/mm²), for comparison: solid PTFE - sliding plate approx. 10 N/mm².
- Very compact construction, small measurements (see chart)
- Corrosion resistant
- Low friction coefficient, no »stick-slip« effect.
- Optimal operational safety

Guided special flat slide support bearing

Types	T-500/150-GFs max. 500 kN	T-1000/250-GFs max. 1000 kN	T-2500/500-GFs max. 2500 kN
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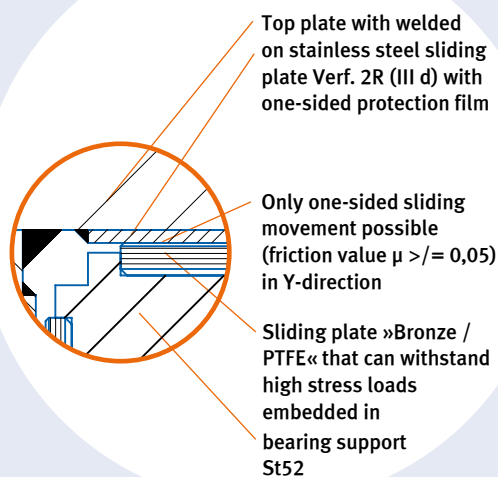
Any special design is available on request

SPECIAL DESIGN

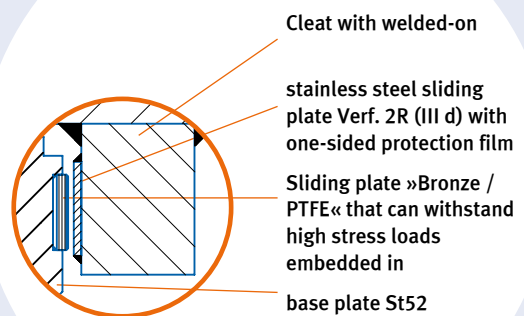


For mounting instructions please refer to **Page 124**

DETAIL »U«



DETAIL »W«



All steel parts are galvanic zinc-plated or with rust protection coating.

Technical data

LOAD CAPACITY VERTICAL/HORIZONTAL kN	BEARING TYPE	K mm	B mm	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500/150	T-500/150-GFs	210	120	70	—	35
1000/250	T-1000/250-GFs	260	170	75	—	40
2500/500	T-2500/500-GFs	330	220	95	—	50

Bending in the area of top and base plate shall not occur.

PROPERTIES

Guided bearing - as a compact flat sliding bearing, with high load PTFE-coated sliding plate and PTFE-sliding surface in the cleat guide, maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12 µ), or corrosion protection coating.

BASE PLATE

One-sided embedding for sliding plate.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer.

Embedded, side PTFE-guide slide bearing.

Additional centred drills or threads serve as a mounting assistance.

SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

Friction value: approx. 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIIId).

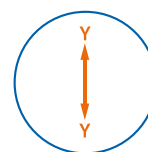
TOP PLATE

Steel plate with welded on stainless steel sliding plate. Another welded on stainless steel sliding plate, Verf. 2R (IIIId) in the cleat guide, with protection film.

Additional centred drills or threads serve as a form of mounting assistance.

SLIDING DIRECTION

Guided bearing - one-sided



GLIDE PATH

See chart

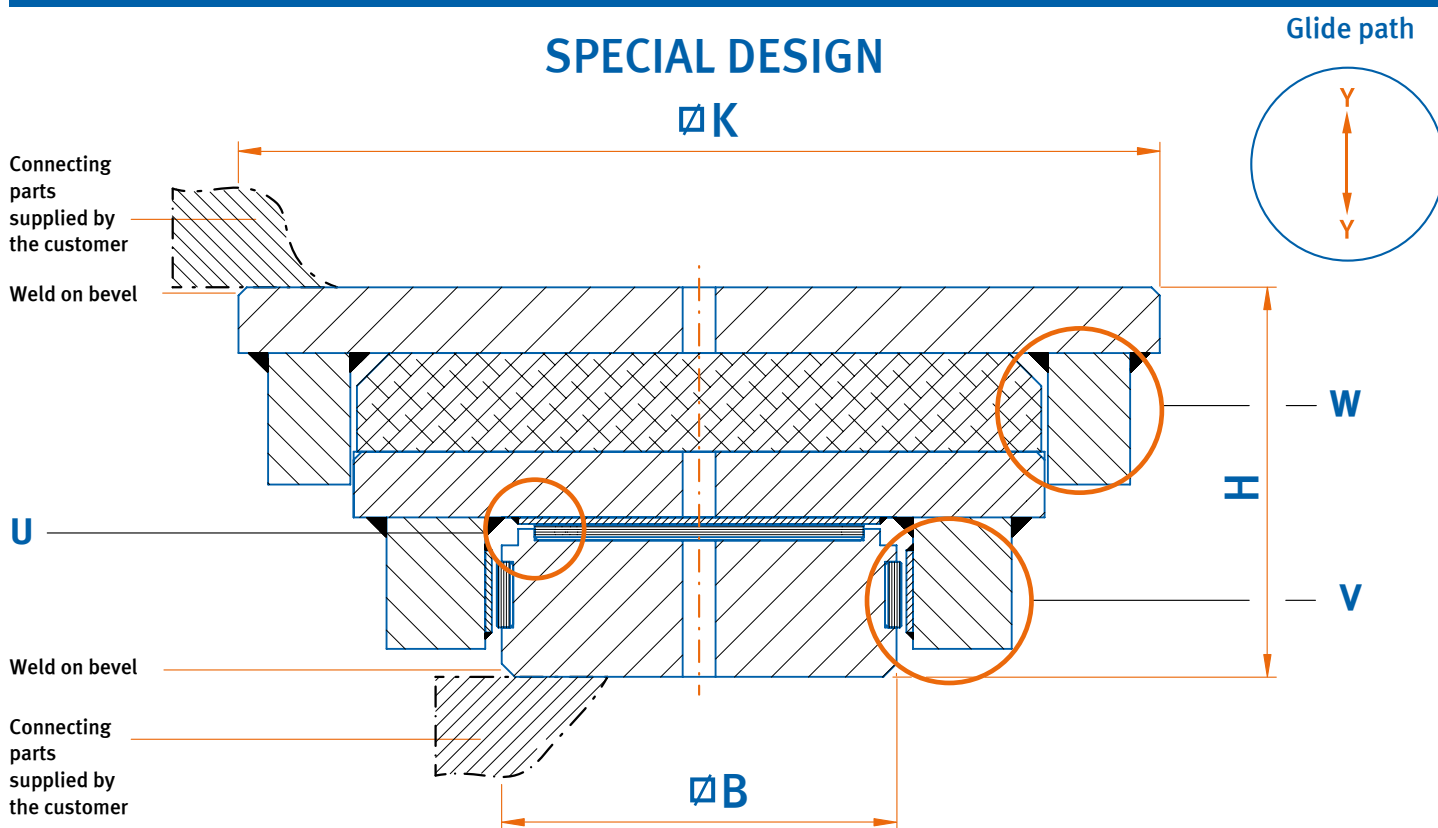
CHARACTERISTICS

- Suitable to absorb high sliding loads.
- Optimal friction values, no »stick-slip« effect
- Maintenance-free with great durability due to the PTFE - sliding layer.
- Simple mounting due to an overall small dimension
- High capacity load (stat. approx. 250 N/mm²), for comparison: solid PTFE - sliding plate approx. 10 N/mm².
- Temperature range up to max. +250°C
- Very solid construction, small measurements (see chart)
- Corrosion resistant
- PTFE-coated sliding surface in the cleat guide.
- Optimal operational safety

Guided high-temperature special flat slide support bearing

Types	T-500/150-GFs/HT max. 500 kN	T-1000/250-GFs/HT max. 1000 kN	T-2500/500-GFs/HT max. 2500 kN
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Any special design is available on request

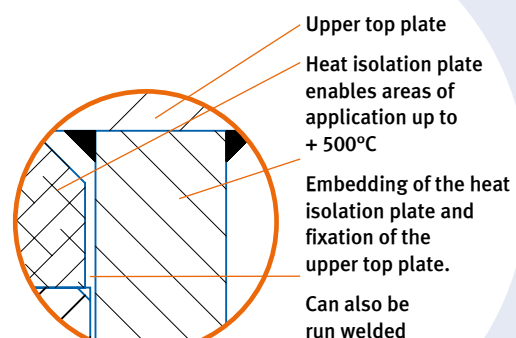
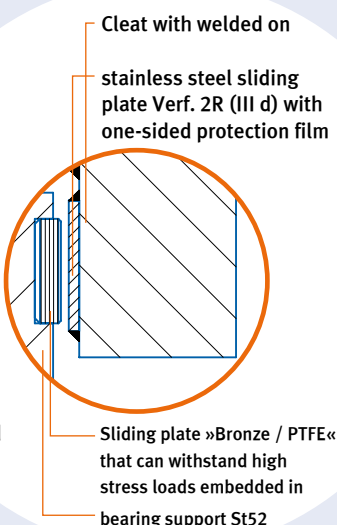
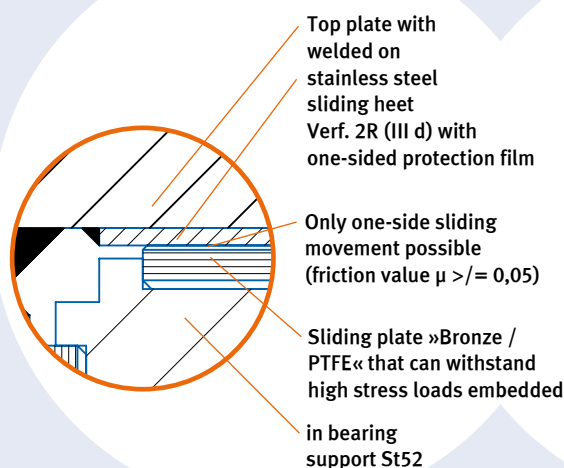


For mounting instructions please refer to **Page 124**

DETAIL »U«

DETAIL »V«

DETAIL »W«



All steel parts are galvanic zinc-plated or with rust protection coating.

Technical data

LOAD CAPACITY VERTICAL/HORIZONTAL kN	BEARING TYPE	K mm	B mm	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500/150	T-500/150-GFs/HT	280	120	120	—	35
1000/250	T-1000/250-GFs/HT	340	170	125	—	40
2500/500	T-2500/500-GFs/HT	430	220	155	—	50

Bending in the area of top and base plate shall not occur.

PROPERTIES

Guided bearing for high temperatures, as a compact flat sliding bearing, with high load PTFE-coated sliding plate and PTFE-sliding surface in the cleat guide, maintenance-free.

MOUNTING

To weld on, as a special design also available as a screw-on application.

MATERIAL

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12 µ), or corrosion protection coating.

BASE PLATE

One-sided embedding for sliding plate.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer.

Embedded, side PTFE-guide slide bearing.

Additional centred drills or threads serve as a form of mounting assistance.

SLIDING PLATE

Bronze plate with high stress load PTFE-sliding layer embedded in bearing support.

Friction value: approximately 0,05 - 0,10, on a stainless steel sliding plate, Verf. 2R (IIIId).

LOWER TOP PLATE

Steel plate with welded on stainless steel sliding plate. Another weld on stainless steel sliding plate, Verf. 2R (IIIId) in the cleat guide, with protection film. Additional centred drills or threads serve as a

form of mounting assistance.

UPPER TOP PLATE

Steel plate with cleat surrounding for embedding of the heat isolation plate.

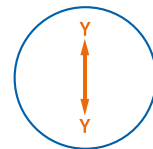
Additional centred drills or threads serve as a form of mounting assistance.

HEAT ISOLATION PLATE

High pressure-resistant and insulating material, which prevents overheating of the PTFE-sliding layer and therefore enables temperature ranges of up to +500°C.

SLIDING DIRECTION

Guided bearing - one-sided



GLIDE PATH

See chart

CHARACTERISTICS

- Suitable for high temperature ranges, $\leq 500^{\circ}\text{C}$
- Suitable to absorb high sliding loads.
- Simple mounting due to an overall small dimension
- Low friction coefficient, no »stick-slip« effect.
- Maintenance-free with great durability due to the PTFE - sliding layer.
- High capacity load (stat. approx. 250 N/mm^2), for comparison: solid PTFE - sliding plate approx. 10 N/mm^2 .
- Very compact construction, small measurements (see chart)
- Corrosion resistant
- PTFE-coated sliding surface in the cleat guide
- Optimal operational safety

Mounting instructions for LHG - flat slide support bearing

- 1 The base plate must be welded to the collaborating lower construction of the respective LHG - supporting bearing.
- 2 If required the zinc-coating must be removed from the designated welding bevels to enable clean welding.
To reconstruct the broad corrosion protection all welded joints must be provided with anti-rust coating, zinc spray or similar.
- 3 During welding the carrying area for the PTFE-sliding plate must be covered!
- 4 The top plate (and respectively the upper top plate of the high temperature bearings) must be welded to the upper construction with consideration taken of the sliding direction.
- 5 The glide path of LHG - standard supporting bearing is already designated by the size of the top plate with the stainless steel sliding plate. The exact glide path can be seen in the documents.
- 6 Despite the existing protection film on the stainless steel sheet, this area has to be additionally covered to avoid contamination caused by the welding process.
- 7 Remove the protection film at the top plate from the stainless steel sliding plate.
- 8 Insert the PTFE/bronze sliding plate into the provided embedding of the base plate.
- 9 Apply the top plate slowly to the bearing.

- 9.1 LHG high temperature bearings: Apply the lower top plate loosely onto the PTFE/bronze sliding plate.
- 9.2 Either the heat protection plate must be positioned centred onto the lower top plate or it must be fixed in the upper top plate to avoid displacement and/or dislodgement.
- 9.3 Apply the upper top plate with the heat isolation plate onto the bearing.
Apply the upper construction slowly onto the overall bearing and weld fix.
- 10 Apply the top plate slowly to the bearing.

RECOMMENDATIONS FOR WELDING ELECTRODES:

For base- and top plates

(ST52-3 # 1.0570 # SJ355J2G3)

DIN EN 499(1995-01)

Alternative for DIN 913: E 382 RB 12

For stainless steel sliding plate on

St52 (1.4301 / 1.4401):

DIN8556, E2313 or

E299 or E 188Mn6; $\varnothing$ 2 - 2,5 mm or

DIN X2CrNiMo N22353, E 1.4462 or E 1.4370,
shielding gas, $\varnothing$ 1 mm

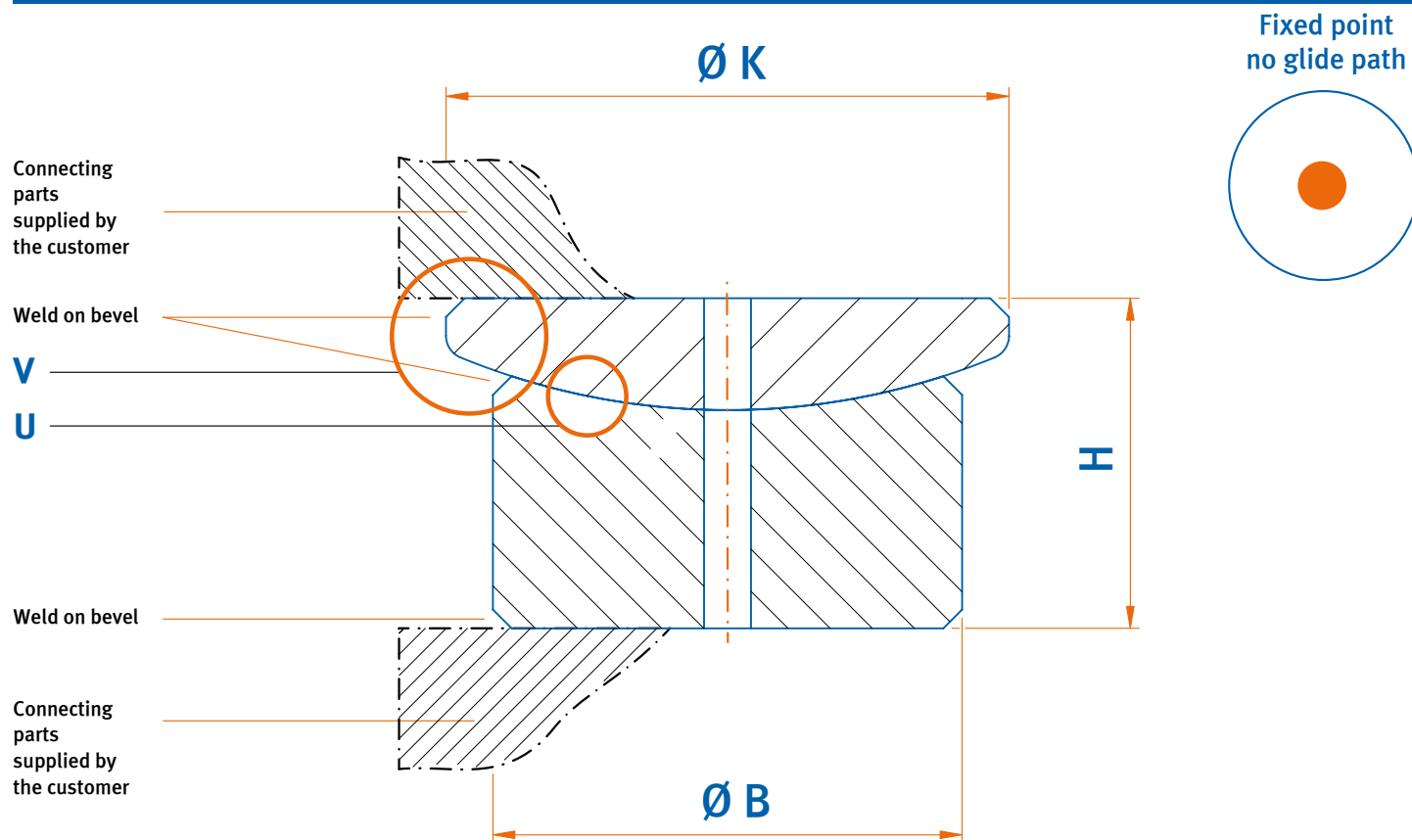
Notes

[illegible]

Fixed bearing

Types	Fix 500-K max. 500 kN	Fix 1000-K max. 1000 kN	Fix 2500-K max. 2500 kN
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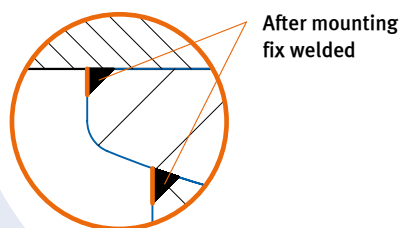
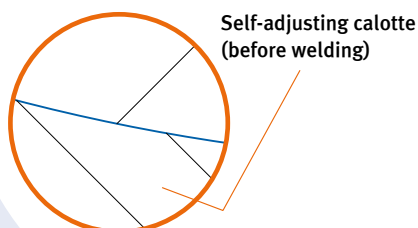
Any special design is available on request



For mounting instructions please refer to **Page 128**

DETAIL »U«

DETAIL »V«



All steel parts are galvanic zinc-plated or with rust protection coating.

Technical data

LOAD CAPACITY kN	BEARING TYPE	K mm	B mm	H mm	GLIDE PATH in mm	
					X-direction	Y-direction
500	FIX-500-K	120	100	70	—	—
1000	FIX-1000-K	170	150	75	—	—
2500	FIX-2500-K	220	200	95	—	—

PROPERTIES

Fix bearing, pre-finished, self-aligning fixed bearing (calotte). Available in all our overall heights.

MOUNTING CONSTRUCTION

For welding

MATERIAL

Steel, St52-3 (1.0570) (SJ355J2G3)

CORROSION PROTECTION

Galvanic zinc-plated (8 - 12 µ), or corrosion protection coating.

BASE PLATE

One-sided concave embedding, with welding bevel.

The lower side is furnished with a 3x45° welding bevel, which simplifies the welding to the lower construction layer.

Additional centred drills or threads serve as a mounting assistance.

BEARING SUPPORT / CALOTTE

Spherical base with an opposing welding bevel that simplifies the welding to the upper construction supplied by the customer.

Additional centred drills or threads serve as a form of mounting assistance.

MOUNTING

All bearing components should be fix welded after pre-assembly and applied to the upper construction.

CHARACTERISTICS

- Pre-finished fix bearing
- Overall heights suitable for all LHG - sliding bearing types.
- Self-aligning due to spherical base bearing
- Suitable for the temperature range of $\leq +500^{\circ}\text{C}$
- Minor overall size with high loading capacity
- Simple mounting
- Optimal operational safety

Mounting instructions for LHG - »Fix«-Fixed bearing

- 1 The base plate must be welded to the collaborating lower construction of the respective LHG - supporting bearing.
- 2 If required the zinc-coating must be removed from the designated welding bevels to enable clean welding.
To reconstruct the broad corrosion protection all welded joints must be provided with anti-rust coating, zinc spray or similar.
- 3 Spherical bearing support (calotte) must be applied into the base plate.
- 4 Slowly apply the upper construction onto the bearing. (alignment errors will be absorbed by the calotte)
- 5 Weld on the top side of the calotte to the upper construction.
- 6 Fix welding of the calotte lower side with the base plate.
- 7 Only after welding on the spherical bearing support with the base plate and the upper construction will the bearing be usable as a fixed bearing (fixed point).

RECOMMENDATIONS FOR WELDING ELECTRODES:

For base- and top plates

(ST52-3 # 1.0570 # SJ355J2G3)

DIN EN 499(1995-01)

Alternative for DIN 913: E 382 RB 12

For stainless steel sliding plate on

St52 (1.4301 / 1.4401):

DIN8556, E2313 or

E299 or E 188Mn6;

ø 2 - 2,5 mm or

DIN X2CrNiMo N22353, E 1.4462 or E 1.4370,
shielding gas, ø 1 mm

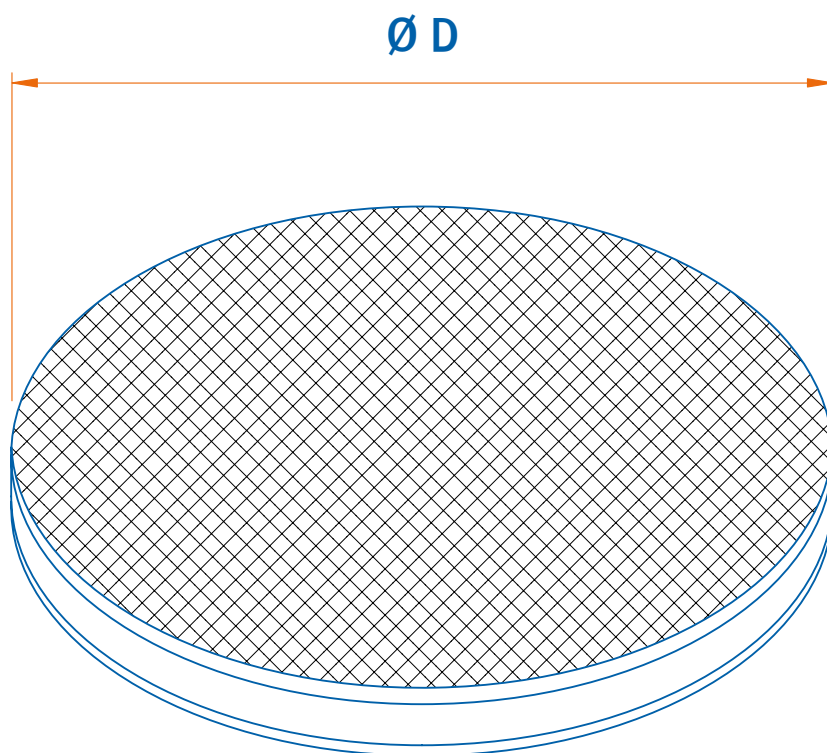
[illegible]

Maintenance-free sliding plate for welding - »Round«

Types	R812-100/10 max. 500 kN	R812-150/10 max. 1000 kN	R812-200/10 max. 2500 kN
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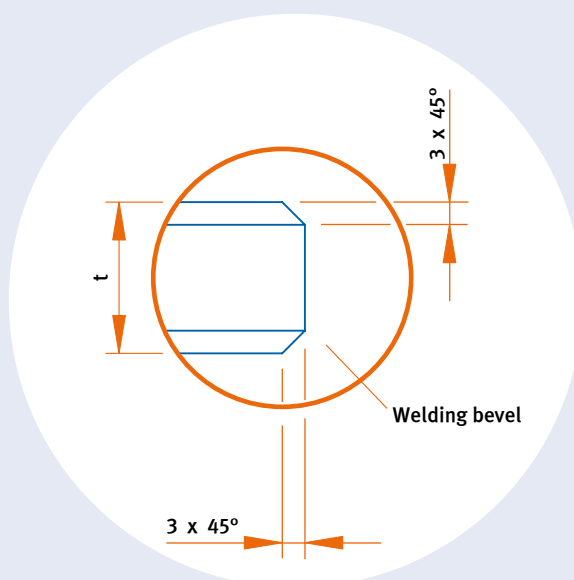
Any special design is available on request

Glide path



For mounting instructions please refer to **Page 134**

DETAIL »BEVEL«



Technical data

LOAD CAPACITY kN	PLATE TYPE	D mm Ø	t mm	GLIDE PATH in mm	
				X-direction	Y-direction
500	R812-100/10	100	10	Must be defined according to construction specifications	Must be defined according to construction specifications
1000	R812-150/10	150	10	Must be defined according to construction specifications	Must be defined according to construction specifications
2500	R812-200/10	200	10	Must be defined according to construction specifications	Must be defined according to construction specifications

Special sizes and special shapes are available on customers' requirement.

PROPERTIES

Round sliding plate, with high load PTFE-coated sliding plate, maintenance-free.

MOUNTING

For welding (only tack welding). As special design also available as a screw-on application.

MATERIAL

Steel, St37, with one-sided PTFE-coating, (Special materials are also available).

COUNTER SURFACE

Stainless steel sheet (2,0 mm) <Rz4 Verf. 2R (IIIId), (will be produced on customers' requirement).

FRICTION COEFFICIENT

Approx. 0,05 - 0,10 on stainless steel sliding plate, Verf. 2R (IIIId).

CAPACITY LOAD

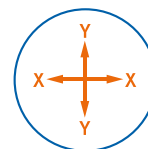
Static max. approx. 250 N/mm².

TEMPERATURE RANGE

-70°C - +250°C

SLIDING DIRECTION

An all-sided floating bearing.



GLIDE PATH

Is defined by the size of the collaborating top plate with weld on stainless steel sliding plate.

LHG - SPECIAL DESIGNS

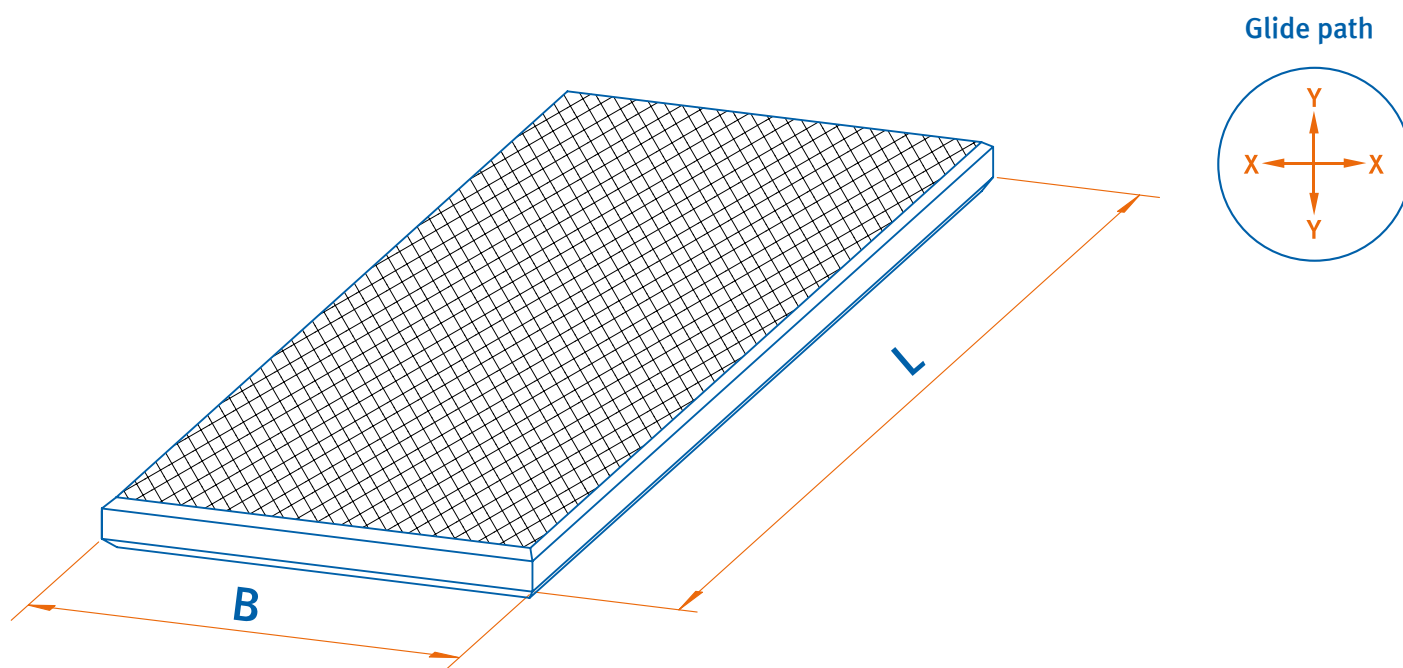
We are able to produce LHG - sliding plates in different sizes, shapes, strengths and load standards apart from our standard delivery programme.

It is possible to produce circular base plates in special materials on customers' requirement e.g. applications for food and chemical industry and medical technology.

Maintenance-free sliding plate for welding - »Squared«

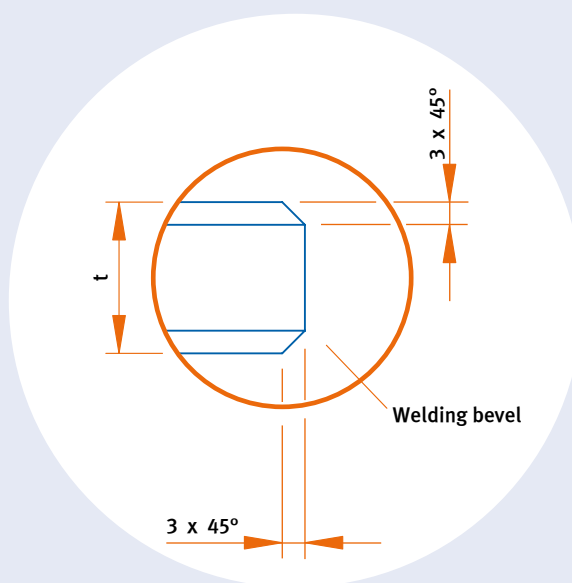
Types	E812-100x100x10 max. 500 kN	E812-150x100x10 max. 750 kN	E812-200x100x10 max. 1000 kN
	E812-300x100x10 max. 1500 kN	E812-200x200x10 max. 2000 kN	E812-300x200x10 max. 3000 kN

Any special design is available on request



For mounting instructions please refer to **Page 134**

DETAIL »BEVEL«



Technical data

LOAD CAPACITY kN	PLATE TYPE	L mm	B mm	t mm	GLIDE PATH in mm	
					X-direction	Y-direction
500	E812-100 x 100 x 10	100	100	10	Must be defined according to construction specifications	Must be defined according to construction specifications
750	E812-150 x 100 x 10	150	100	10	Must be defined according to construction specifications	Must be defined according to construction specifications
1000	E812-200 x 100 x 10	200	100	10	Must be defined according to construction specifications	Must be defined according to construction specifications
1500	E812-300 x 100 x 10	300	100	10	Must be defined according to construction specifications	Must be defined according to construction specifications
2000	E812-200 x 200 x 10	200	200	10	Must be defined according to construction specifications	Must be defined according to construction specifications
3000	E812-300 x 200 x 10	300	200	10	Must be defined according to construction specifications	Must be defined according to construction specifications

Special sizes and special shapes are available on customers' requirement.

PROPERTIES

Squared sliding plate, with high load PTFE-coated sliding plate, maintenance-free.

MOUNTING

For welding (only tack welding). As special design also available as a screw-on application.

MATERIAL

Steel, St37, with one-sided PTFE-coating, (Special materials are also available).

COUNTER SURFACE

Stainless steel sheet (2,0 mm) <Rz4 Verf. 2R (IIIId), (will be produced on customers' requirement).

FRICTION COEFFICIENT

Approx. 0,05 - 0,10 on stainless steel sliding plate, Verf. 2R (IIIId).

CAPACITY LOAD

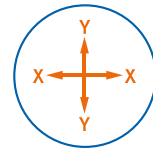
Static max. approx. 250 N/mm².

TEMPERATURE RANGE

-70°C - +250°C

SLIDING DIRECTION

An all-sided floating bearing.



GLIDE PATH

is defined by the size of the collaborating top plate with weld on stainless steel sliding plate.

LHG - SPECIAL DESIGNS

We are able to produce LHG - sliding plates in different sizes, shapes, strengths and load standards apart from our standard delivery programme.

It is possible to produce circular base plate in special materials on customers' requirement e.g. applications for food and chemistry industry and medical technology.

Mounting instructions for LHG - bearing plates for welding

MATERIAL

Steel, St37k (material number 10037) /
abbreviation S235JR.

RECOMMENDATIONS FOR WELDING ELECTRODES:

All common electrodes for construction steels
can be used as welding electrode.

- 1 The LHG sliding plate must be welded onto the lower construction, PTFE-coated side facing up!
- 2 8 mm tack welds are sufficient.
A long weld seam is not advisable, as the PTFE-sliding layer could be damaged by overheating at the corners.
- 3 During welding the PTFE layer must be covered!
- 4 As a counter surface, a 2mm strong stainless steel sliding plate (material number 1.4301 or 1.4401) has to be affixed to the upper construction. The surface must be smooth, fine-ground K260 or blank Verf.2R (IIId).
- 5 The size of the sliding plate depends on the possible glide path (x and y).
- 6 Single tack welds are sufficient to affix the stainless steel sliding plate, favourable at the corners.
- 7 It is very important to cover the PTFE-sliding surface during welding!

Questionnaire: Sliding bearings for industry plant construction

Company

Address

Contact person

ZIP code, city

Your telephone number

Your fax number

Slide support bearing as floating bearing designed for all-sided floating

Quantity	quantities
Load capacity / vertical	kN
Glide path / y-direction	mm
Glide path / x- direction	mm
Applicaton temperature	°C

Slide support bearing as guided bearing designed for one-side guided

Quantity	quantities
Load capacity / vertical	kN
Load capacity / horizontal	kN
Lifting force	kN
Application temperature	°C
Glide path/ y-direction	mm

Fixed bearing designed for self-aligning

Quantity	quantities
Load capacity/ vertical	kN
Bearing height	mm

Bearing plate for welding round / squared

Quantity	quantities
Load capacity / vertical	kN
Glide path / y-direction	mm
Glide path / x-direction	mm
Application temperature	°C
Custom-made size	mm
Stainless steel sheet size	mm

Desired mounting

For welding	☐
For screw-on	☐

Other required characteristics
Questions / Indications

Questionnaire: Sliding bearings for engine construction

Company

Address

Contact person

ZIP code, city

Your telephone number

Your fax number

BEARING DIAMETERS

Inner diameter	mm
Outer diameter	mm
Bearing width	mm
Flange diameter	mm
Flange thickness	mm

MOVEMENTS AND LOADS

Radial bearing	☐
Thrust force static	N
Thrust force dynamic	N
Thrust bearing	☐
Axial load static	N
Axial load dynamic	N

ROTATIONAL SPEED

Rotation speed (shaft)	U/min
Oscillation movement	°
Frequency	Hz
Duty cycle	

RESISTANCE AGAINST CHEMICALS

☐ No	☐ Yes
Should be resistant against:	

CONNECTING ITEMS

Housing and tolerance *	mm
Housing material	
Shaft diameter and tol. *	
Roughn, height of shaft R_A	μm
Hardness of Shaft	HB

TEMPERATURE AND CONTAMINATION

Constant Temperature	°C
Max. Temperature	°C
Contamination	☐ None ☐ Moderate ☐ Heavy

TYPE OF LOAD

☐ Static	☐ Dynamic
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REQUIRED CHARACTERISTICS

☐ Maintenance-free	☐ Lubricated
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APPLICATION

Annual material	
Current material	

* Standard H7

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AGB der LHG

1. **Allgemeines**
 - a) Die nachstehenden Bedingungen gelten für alle unsere Angebote und Leistungen, auch wenn im Einzelfall nicht besonders zum Ausdruck gebracht wird, dass diese gelten sollen und auch, wenn diese, unsere Bedingungen in den AGB des Bestellers ausgeschlossen werden.
 - b) Soweit aus irgendwelchen Gründen eine dieser Bedingungen nichtig sein sollte, bleibt hiervon der Vertrag in seiner Gültigkeit und allen übrigen Bedingungen und Verbindlichkeiten unberührt.
 - c) Die Vertragspartner verpflichten sich einer Regelung zuzustimmen, durch die der Sinn und Zweck der nichtig gewordenen Bedingungen am Besten erreicht wird.
 - d) Jede Vereinbarung bedarf zu ihrer Wirksamkeit der Schriftform.
 - e) Soweit dieser Schriftverkehr EDV - systemgebunden ohne Unterschrift erfolgt, genügt dies den Erfordernissen.
 - f) Es steht uns frei, die AGB jederzeit zu ändern. In diesem Fall werden wir unsere Geschäftspartner darüber informieren.
2. **Angebote und Bestellungen**
 - a) Unsere Angebote sind in jedem Fall freibleibend. Die uns und unseren Vertretern erteilten Aufträge gelten erst dann von uns als angenommen, wenn wir diese schriftlich bestätigen. Unsere Auftragsbestätigungen gelten vom Besteller als akzeptiert, wenn uns nicht binnen drei Tagen nach Versand der AB, dieser schriftlich Gegenteiliges erklärt, oder/und die von uns gelieferte Ware entgegengenommen wird.
 - b) Die in Preislisten, Prospekten, Angeboten oder ähnlichen Veröffentlichungen enthaltenen Abbildungen und Angaben, insbesondere Gewichts- und Maßangaben, sowie sonstige technische Daten und Normen beschreiben lediglich den Vertragsgegenstand und stellen keine Eigenschaftszusicherung von Seiten LHG dar. Technisch bedingte oder unvermeidbare Abweichungen sind vorbehalten.
3. **Preisstellung**
 - a) Unsere Preise gelten ab Werk, zuzüglich Verpackung, sowie Mehrwertsteuer in der jeweils zum Zeitpunkt der Auslieferung gültigen Höhe.
 - b) Alle nach Auftragsbestätigung durch Bundes-, Landes- oder EU-Gesetze neu einzuführenden öffentlichen Abgaben, sowie Erhöhung von Transporttarifen, Energiekosten, Roh- und Vormaterialpreisen, als auch Lohn- und Gehaltserhöhungen, die direkt oder indirekt die Ware verteuern, führen zur Preisanpassung der Ware. Sofern kein Festpreis von uns bestätigt wurde, verrechnen wir also den zum am Tag der Auslieferung gültigen Preis.
 - c) Ein gewährter Rabatt gilt nur im Falle von pünktlicher und vollständiger Bezahlung der Ware, sowie der Abnahme der gesamten vereinbarten Menge.
 - d) Als Mindestbestellmenge ist ein Wert von € 50,- festgelegt. Bei Bestellungen unter diesem Wert wird die Differenz als Bearbeitungsgebühr ausgewiesen.
4. **Lieferzeiten**
 - a) Lieferfristen und Termine beginnen mit unserer Auftragsbestätigung.
 - b) Lieferungen vor Ablauf des Liefertermins und Teillieferungen sind zulässig
 - c) Als Liefertermin gilt der Tag des Meldens der Versandbereitschaft, andernfalls der Tag der Versendung.
 - d) Nach Ablauf der Lieferfrist tritt ohne Erklärung eine Nachfrist von der Dauer der Lieferfrist, längstens jedoch von acht Wochen in Kraft.
 - e) Die Lieferzeit verlängert sich um jenen Zeitraum, um den sich unsere Lieferung oder Leistung aufgrund von uns nicht zu vertretenden Umständen verzögert. Diese können Betriebsablaufstörungen, Streiks, oder sonstige unvorhersehbare Hindernisse und Ereignisse sein, die bei uns oder unseren Unterlieferanten auftreten. Gültig ist dies auch dann, wenn wir uns zum Zeitpunkt des Eintretens dieser Ereignisse bereits in Verzug befinden.
 - f) Wird die Lieferung aus solchen Gründen unmöglich, so entfällt unter Ausschluss von Schadenersatzansprüchen unsere Lieferpflicht. Weist der Besteller nach, dass die nachträgliche Erfüllung für ihn ohne Interesse ist, kann er unter Ausschluss weitergehender Ansprüche vom Vertrag zurücktreten.
 - g) Schadenersatzansprüche des Bestellers, wegen verspäteter oder unterbliebener Lieferung, sind grundsätzlich ausgeschlossen.
5. **Lieferverträge**
 - a) Für alle Lieferverträge sind Teillieferungen zulässig.
 - b) An schriftliche Lieferverträge sind grundsätzlich Gesamtmengen, Losgrößen, Laufzeit und Abnahmetermine gebunden.
Wird die Gesamtmenge oder die Abruflosgröße innerhalb der Laufzeit unterschritten, sind gewährte Preisnachlässe gegenstandslos.
Wird die Gesamtmenge innerhalb der Laufzeit überschritten, erfüllen wir diese zu den gültigen Tagespreisen.
Werden Abruflosgrößen überschritten, sind wir nicht verpflichtet, die Differenz zum vereinbarten Termin zu liefern.
 - c) Bei Sonderanfertigungen kann der Umfang des Auftrages um ca. 15% über- oder unterschritten werden, was hiermit als vereinbart und damit als gültig gilt.
Werden Sonderanfertigungen infolge von vom Kunden zu vertretenden Umständen nicht abgenommen, muss der Kunde – nach Setzen einer 14-tägigen Nachfrist – jedenfalls die Zahlung der Ware leisten, so, als wäre die Übernahme erfolgt. Eine Lagerhaltung bei Nichtabnahme ist kostenpflichtig, anderweitig wird die Ware entsorgt.
 - d) Abrufaufträge berechnen sich zur Materialdisposition, Fertigung und Lagerhaltung. Die Abrufe sind uns so rechtzeitig anzuzeigen, dass der Liefertermin zu realisieren ist.
 - e) Grundsätzlich wird vereinbart, dass pro angefangener Woche der verzögerten Abnahme, Lagerspesen in der Höhe von 1%, höchstens jedoch 15% vom Wert der Ware, vom Kunden zu tragen ist.
 - f) Werden vor Lieferung Umstände bekannt, die eine Einhaltung der Vereinbarung durch den Kunden fraglich erscheinen lassen, sind wir zur Verweigerung unserer Vorleistungspflicht und zum Rücktritt vom Vertrag berechtigt.
6. **Lohnaufträge**
 - a) Sollte sich bei der Fertigung herausstellen, dass das angelieferte Vormaterial zur Bearbeitung ungeeignet ist, gehen die entstanden Kosten zu Lasten des Auftraggebers. Schadenersatzansprüche entstehen beiden Seiten keine.
 - b) Es wird darauf hingewiesen, dass je nach Schwierigkeit der Fertigung, ein Ausschuss von bis zu 15% möglich und zulässig ist.
7. **Werkzeuge und Vorrichtungen**
 - a) Werden solche im Auftrag des Bestellers von uns beschafft, stellen wir die Kosten hierfür in Rechnung. Werkzeug- und Vorrichtungskosten sind stets netto bei Erhalt der Rechnung sofort zu zahlen. Werden nicht die vollen Kosten in Rechnung gestellt, trägt der Besteller in dem Moment die restlichen Kosten, in dem der Vertrag in Bezug auf Stückzahlen und Abnahmetermine nicht eingehalten wird.
 - b) Werden von uns anteilige Kosten in Rechnung gestellt, bleibt das Produkt jedenfalls in unserem Eigentum.
 - c) Werden Schutzrechte Dritter durch die vom Besteller zur Verfügung gestellten Unterlagen, Modelle oder Einrichtungen verletzt, hält dieser uns schad- und klaglos.
 - d) Werden von uns Unterlagen, Modelle oder Einrichtungen für die Fertigung eines kundenspezifischen Teiles zur Verfügung gestellt, dürfen diese oder deren Know-how nicht an Dritte weitergegeben werden und müssen jederzeit für uns verfügbar sein.
8. **Verpackung**
 - a) Wir verpacken die Ware nach unserem Ermessen, auf Kosten des Bestellers, auf handelsübliche Weise in Holzkisten, Pappkartons oder Einwegverpackung, zum Selbstkostenpreis und nehmen diese Verpackung nicht zurück.
 - b) Erfolgt die Verpackung in Colli, Frachtboxen oder werkseigenen Behältern, ist der Empfänger zur schnellstmöglichen, spesenfreien Rückführung des Leergebindes verpflichtet.
9. **Versand**
 - a) Der Versand geschieht ausschließlich auf Rechnung und Gefahr des Bestellers. Die Wahl der Versandart bleibt uns überlassen. Eine Versicherung der Sendung kann nur auf schriftlichen Wunsch und auf Kosten des Bestellers erfolgen.
 - b) Vereinbarte frachtfreie Lieferungen beziehen sich nur auf Normalsendungen. Sondersendungen mit Post oder Expressdiensten sind vom Kunden selbst zu bezahlen.
10. **Zahlungsbedingungen**
 - a) Unsere Rechnungen verstehen sich zahlbar – soweit nicht anders vereinbart – sofort netto ohne weiteren Abzug oder nach Vereinbarung, frei unserer Zahlstelle in Euro.
 - b) Neukunden haben bei Erstauftrag bis 150 EUR Warenwert Vorkasse zu leisten.
 - c) Mindestrechnungsbetrag und Mindestauftragsmenge werden jeweils angepasst.
 - d) Zahlungsverzug tritt jeweils 10 Tage nach dem eingeräumten Zahlungsziel ein.
 - e) Werkzeuge und Vorrichtungen sind netto, sofort bei Rechnungserhalt, zu bezahlen. Aufträge für daraus entstehende Produkte werden erst nach Rechnungsausgleich für diese Werkzeuge und Vorrichtungen gültig.
 - f) Ein Zurückhalten oder Aufrechnen mit Gegenansprüchen jeglicher Art ist in keinem Fall gestattet.
 - g) Bei Zahlungsverzug sind wir berechtigt, vom ersten Tag des Verzuges, Zinsen in der Höhe von 3% über dem durchschnittlichen Bundesbankdiskont der letzten drei Monate, dem Besteller in Rechnung zu stellen.
 - h) Werden diese Zahlungsbedingungen nicht eingehalten oder Tatsachen bekannt, die begründete Zweifel an der Kreditwürdigkeit des Bestellers entstehen lassen, werden alle unsere Forderungen ohne Rücksicht auf möglicherweise hereingenommene Valuta sofort fällig.
Das gleiche gilt für angefallene Kosten, Leistungen und für in Arbeit befindliche, sowie fertig gestellte, aber noch nicht gelieferte Waren. In diesen Fällen sind wir berechtigt, nur noch gegen Vorauszahlung, Nachnahme oder Sicherheitsleistung zu liefern. Es steht uns auch frei, nach dem Setzen einer Nachfrist von 10 Tagen, vom Vertrag zurückzutreten und Schadenersatz wegen Nichterfüllung zu verlangen.
 - i) Sämtliche Kosten und Spesen, insbesondere bei Wechsel- und Scheckeinzahlungen, gehen zu Lasten des Zahlers. Dies gilt ebenfalls für aus Verzug entstehende Eintreibungs-, Rechtsanwalts- und Gerichtskosten.
 - j) Weiter wird vereinbart, dass für den Fall des Bekanntwerdens von Unsicherheiten betreffend der Vermögenslage des Bestellers der Kaufpreis sofort fällig wird.

11. **Gefahrenübergang**
a) Der Gefahrenübergang an der bestellten Ware erfolgt mit Übergabe an den Transportbeauftragten, spätestens jedoch mit Verlassen unseres Lagers. Verzögerungen, die der Besteller zu vertreten hat, führen automatisch zu einem Gefahrenübergang auf den Besteller mit unserer Versandbereitschaftsanzeige.
b) Der Kunde ist für die Wahrung von Ersatzansprüchen gegenüber dem Transporteur selbst verantwortlich.
12. **Vorkaufsrecht**
Es wird vereinbart, dass wir für den Fall von Klagen, der Insolvenz, Gesamtvollstreckung, Liquidation, des Konkurses, Wechselprotestes oder Ausgleichsverfahrens, sowie der Schließung des Betriebes oder der Fertigung oder ähnlichem, das Vorkaufsrecht für die vorhandenen Bestände unserer Erzeugnisse haben.
13. **Weiterverkauf**
Ein Weiterverkauf unserer Produkte, in wie von uns angeliefertem losen oder unverbautem Zustand, ist nicht gestattet.
Ausgenommen sind nur die von uns autorisierten Handelsunternehmen.
14. **Haftung und Schadenersatz**
Unsere Haftung beschränkt sich auf Vorsatz und grobe Fahrlässigkeit des Inhabers oder leitender Angestellter, sowie auf schuldhafte Verletzung wesentlicher Vertragspunkte. Ebenso gilt dies für die Verletzung von Schutzrechten.
15. **Gewährleistung, Mängelanzeige**
a) Wir leisten Gewähr für einwandfreie Herstellung der von uns gelieferten Teile, nach Maßgabe der geltenden Normen. Entscheidend für den vertraglich vereinbarten Zustand der Ware ist der Zeitpunkt der Gefahrübergabe.
b) Offensichtliche Mängel sind gegenüber der Firma LHG innerhalb von drei Tagen ab Lieferung schriftlich zu rügen.
Verdeckte Mängel sind nach Bekanntwerden innerhalb einer Woche – längstens jedoch innerhalb eines Zeitraums von einem Jahr ab Lieferung – schriftlich zu rügen.
Die Ansprüche gegen die Firma LHG wegen eines Mangels gelieferter Waren verjähren in einem Jahr ab Lieferung.
c) Bei vereinbarter Abnahme gemäß Punkt 17 ist die Mängelrüge ausgeschlossen, wenn bei Abnahme diese Mängel hätten festgestellt werden können.
d) Uns ist Gelegenheit zu geben, den gerügten Mangel an Ort und Stelle zu überprüfen. Es darf ohne unsere Zustimmung an der bemängelten Ware keine wie auch immer geartete Veränderung vorgenommen werden, andernfalls erlischt jedenfalls jeglicher Gewährleistungsanspruch.
e) Ist die Rüge gerechtfertigt und zeitgerecht eingetroffen, obliegt uns die Wahl zwischen Mangelbeseitigung, Ersatz oder Rücknahme. In diesen Fällen bleibt der Kunde kostenfrei. Die Kosten für Ein- bzw. Ausbau der bemängelten Ware oder Bearbeitungskosten an der bemängelten Ware werden dem Besteller nicht erstattet. Die Rücklieferung zum Feststellen eines eventuellen Mangels hat für uns kostenfrei zu erfolgen.
f) Sind wir mit der Beseitigung oder dem Ersatz in Verzug, ist uns eine Nachfrist von zehn Arbeitstagen von Seiten des Bestellers zu setzen. Verstreicht auch diese, hat der Besteller das Recht auf Wandlung oder Minderung. Weitergehende Ansprüche, insbesondere aus Mangelfolgeschäden, sind ausgeschlossen.
g) Mit den gleichen Beschränkungen haften wir auch für das Fehlen zugesicherter Eigenschaften. Mit Schadenersatz haften wir nur, soweit die Zusage den Zweck verfolgt, den Besteller gegen den eingetretenen Schaden abzusichern.
h) Prüft der Besteller unsere Muster und bestellt aufgrund dieser Musterabnahme, haften wir nur dafür, dass die Lieferung dem abgenommenen Muster entspricht.
i) Gewährleistung setzt des weiteren voraus, dass der gerügte Mangel von unserem Lieferanten geprüft und anerkannt wird. In diesem Fall treten wir den uns jeweils gewährten Gewährleistungsanspruch an unseren Kunden ab.
j) Eine Mangelbehebung oder Ersatz verlängert die Gewährleistungsfrist nicht.
k) Für Teile, die innerhalb der Gewährleistungsfrist normale Abnutzungs- oder Gebrauchsspuren aufweisen, besonders wenn diese durch Verschmutzung oder Rost hervorgerufen sind, wird keine Gewährleistung übernommen.
l) Schadenersatzansprüche wegen verspäteter oder unterbliebener Lieferung sind ebenso ausgeschlossen, wie in Fällen von mengenmäßiger Über- oder Unterlieferung.
16. **Eigentumsvorbehalt**
a) Wir behalten uns das Eigentum an der gelieferten Ware bis zur Erfüllung sämtlicher uns gegen den Besteller aus der Geschäftsverbindung zustehender Ansprüche vor. Das gilt auch dann, wenn der Besteller vereinzelte Lieferungen bezahlt hat.
Aus einer Be- oder Verarbeitung unserer Ware folgt weder eine Verpflichtung, noch ein Eigentumsverlust für uns.
b) Der Besteller ermächtigt uns schon jetzt, im Falle der Geltendmachung des Eigentumsvorbehaltes, seinen Betrieb zu betreten und die von uns gelieferte Ware als Sicherheitsleistung abzuholen.
c) Verbindet der Besteller unsere Vorbehaltsware mit anderen Waren, so entsteht uns an der neuen Sache Miteigentum, im Verhältnis unseres Rechnungswertes, zu dem aller verbundenen Waren. Die neue Sache gilt insoweit als Vorbehaltsware im Sinne dieser Bedingung. Dabei ist nicht entscheidend, welche Sache als Hauptsache anzusehen ist.
d) Der Besteller ist nur berechtigt, die Vorbehaltsware im ordnungsgemäßen Geschäftsverkehr zu veräußern. Unsere Ware darf weder sicherungsübereignet, noch verpfändet werden.
e) Der Besteller tritt uns schon jetzt alle Forderungen ab, die ihm aus dem Weiterverkauf gegen seinen Abnehmer erwachsen, bleibt jedoch widerruflich zur Einziehung ermächtigt. Auf Verlangen hat der Besteller seine Abnehmer und die Höhe der Verpflichtung zu nennen. Die Einzugsermächtigung erlischt automatisch bei Zahlungsverzug.
f) Die Geltendmachung des Eigentumsvorbehaltes gilt nicht als Rücktritt vom Vertrag.
g) Bei bekannt werden von unter Punkt 10 aufgezählten Verhältnissen, sind wir berechtigt, die sofortige Herausgabe der von uns gelieferten Ware zu verlangen.
17. **Prüfverfahren und Abnahme**
a) Sind auf Wunsch des Bestellers Prüfungen von uns durchzuführen, so sind uns Art und Umfang spätestens bei Bestellung mitzuteilen. Die Kosten dafür gehen zu Lasten des Bestellers. Für eine daraus resultierende Lieferverspätung übernehmen wir keine Haftung.
b) Stellt eine Prüfung Anforderungen in dem Maße, dass diese nur im Herstellerwerk durchgeführt werden kann, so ist der Besteller verpflichtet, die Abnahme innerhalb von zehn Tagen ab Bereitschaftsanzeige auf eigene Kosten durchzuführen. Ist dies nicht der Fall, gilt die Ware als abgenommen und kommt zur Versendung, wodurch sie zahlungspflichtig wird.
18. **Geschäftsverkehr Ausland**
Für den gesamten geschäftlichen Schrift- und Dokumentenverkehr in einer fremden Sprache ist die deutsche Übersetzung maßgebend.
19. **Datenschutz**
Der Besteller ist damit einverstanden, dass alle Daten aus dem geschäftlichen Schriftverkehr, zur Be- und Verarbeitung der Ware, bei uns gespeichert und soweit erforderlich an Dritte übermittelt werden.
20. **Erfüllungsort und Gerichtsstand**
Erfüllungsort für Zahlungen und alle sonstigen Verpflichtungen ist der Ort unseres Firmensitzes.
Gerichtsstand für vertragliche Rechtsstreitigkeiten ist Ebersberg oder München; nach unserer Wahl aber auch am Sitz des Bestellers.
Es gilt für alle Geschäftstätigkeiten ausschließlich deutsches Recht.

LHG-GleitlagerKomponenten® GmbH & Co. KG

D-81829 München

Februar 2011

Selective list - all products at a glance

	COM-KU®/D	COM-KU®/X	COM-KU®/S	GAP-MET®/M	GAP-MET®/S	FER-MET®
This article is on page ...	7	13	19	25	31	37
Maintenance-free	...	...	...	...	...	o
Contaminated environment	..	..	o	..	..	...
Corrosion resistance	...	...	...	...	o	..
High load capacity	...	...	..	...	...	...
Impact / oscillating load	...	...	..	..	..	...
Spec. load cap. [N/mm²] stat.	300 – 350	≤ 75	≤ 70	≤ 250	≤ 260	350
Spec. load cap. [N/mm²] dyn.	95 – 105	≤ 25	≤ 40	≤ 130	≤ 80	200
Max. sliding speed [m/s]	< 2,0	< 1,7	< 1,0	< 0,5	< 0,5	≤ 1,0
Friction value [μ]	0,04 – 0,12	0,08 – 0,18	0,08 – 0,20	0,10 – 0,20	0,10 – 0,20	> 0,5
Temperature range [°C]	-200 – +150	-150 – +70	-50 – +100	-150 – +350*	-150 – +280	-200 – +350
Pv-Value [N/mm² x m/s]	0,4 – 2,0	3,5	0,6	1,5	1,0	1,2
Housing tolerance	H7	H5	H7	H7	H7	H8
Shaft tolerance	To customers specification	To customers specification	h-Tolerance recommended h9	To customers spec. d7 / e7 / f7 / h7	d7 / e7	c11
Application	Maschine and plant construction Construction machines Agricultural engines, Gear manufacturing Stress and impact load	Maschine and plant construction Construction machines Agricultural engines, Gear manufacturing Stress and impact load	Maschine and plant construction Valves Agricultural engines Materials handling equipment	Steel- and Steelwater constructions Tire molds Beverage machines Blower Steel mill plants	Hydro-electric power plants Power stations Plastic machines	Maschine and plant construction Construction machines Agricultural engines Crane construction Vehicle construction

* Up to +650°C ** Minimum Value *** Maintenance-free available

FER-MAS®	FER-SINT®	FER-MAN®	LUB-MET®	BRO-MAS®	SWB-MET® 1069	SWB-MET® 1241	TEX-MAS®				
41	45	49	53	59	67	74	81				
o	•••	•***	•••	o	•	•	•••				
••	•••	••	••	••	•••	•••	•				
••	•	•••	•••	•••	•••	•••	•••				
•••	•	•••	•••	•••	••••	••••	•••				
•••	•••	•••	•••	•••	•••	•••	••				
≤ 250	≤ 75	≤ 200	≤ 150	≤ 150	≤ 1069 Compr. strength	≤ 1241 Compr. strength	≤ 420				
≤ 150	≤ 25	≤ 100	≤ 100	≤ 60	Lubrication dependent	Lubrication dependent	≤ 180				
< 0,6	< 1,2	< 0,4	≤ 0,3 – 1,0	< 10	< 3,0	< 2,0	< 0,16				
0,05 – 0,25	0,04 – 0,15	0,12 – 0,16	0,03 – 0,20	0,09 – 0,15	~ 0,18	~ 0,23	0,03 – 0,07				
-100 – +250	-40 – +250	bis +400	-100 – +300	-40 – +150	-200 – +400	-200 – +450	-50 – +150				
1,2	1,6	depending on the Applikation	1,5	2,8	-	-	depending on the Applikation				
H7	H7	H7	To customers specification	To customers specification	To customers specification	To customers specification	To customers specification				
To customers specification	f7	To customers specification	f7 / h6	To customers specification	To customers specification	To customers specification	To customers specification				
Maschine and plant construction Construction machines Agricultural engines Stress and impact load	Maschine and plant construction Construction machines Agricultural engines Crane construction Vehicle construction	Maschine and plant construction Construction machines Agricultural engines Stress and impact load Crane construction Vehicle construction	Maschine and plant construction Construction machines Agricultural engines Railway construction	Maschine and plant construction Construction machines Agricultural engines Crane construction Vehicle construction	Härte228 (202**) [HB 30] Maschine and plant construction Construction machines Agricultural engines	Hardness 293 (277**) [HB 30] Maschine and plant construction Construction machines Agricultural engines	Steel-water and turbine construction Elevators Lifting systems Transport and conveyor belts Paper machines Throttle				

WE ARE LOOKING FORWARD TO HEAR FROM YOU!

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