HLDB SLIDING BEARING

Jiashan Honglida Sliding Bearing Co.,Ltd.



www.hldbearings.com

Introduction

Jiashan Honglida Sliding Bearing Co.,Ltd. established in 2003, is a professional manufacturer dedicates in researching and producing self-lubricating bearings. After years of work, we have successfully developed various kinds of bearings, including self-lubricating multilayer composite bushing(HLDB-10), steel bronze powder with POM marginal bearings(HLDB-20), bimetal bushing(HLDB-800), wrapped bronze bushes and washers(HLDB-090/092), metallic self-lubricating bearings(HLDB-JDB), steel bushings(HLDB-200), etc. HLDB bushings can be used wherever there is rotation or linear motion between mechanical parts where lubrication is not allowed or external lubricating accessibility is limited.

HLDB have the excellent ability to source customers with the wide range of slide bearing products. HLDB products were exported mostly to Europe and America. Our customers are widely ranged from all over the world. HLDB possesses a professional team in R&D technique; a careful, experienced team in production and an effective, strict system in management. We implement strictly to the latest standards of the international organization for standardization (ISO) throughout the entire production process. For years, HLDB enjoy an excellent reputation in the field of self-lubricating applications.

'No best, but better.' We persevere in everlasting improvement and doing our best to meet your expectations on products and service, together for a better future hand by hand!


Certificate of Registration

nqa

This is to certify that the Quality Management System of

Jiashan Hongrunda Precision Machinery Co., Ltd.

Unified Social Credit Code: 91330421MA2B82Y57K
Operation Address: (North of 1st Floor, 2nd Floor, East of 3rd Floor, 4th Floor) No. 18, Yucao North Road, Ganyao Town, Jiashan County, Jiaxing City, Zhejiang Province, China
Registered Address: 2nd Floor, No. 18, Yucao North Road, Ganyao Town, Jiashan County, Jiaxing City, Zhejiang Province, China

applicable to

Manufacturing of sliding bearing bushings

has been assessed and registered by NQA against the provisions of

ISO 9001:2015

This registration is subject to the company maintaining a quality management system, to the above standard, which will be monitored by NQA.
Certified Clients shall accept regular surveillance assessments, the validity of certificates shall be maintained for the positive result of audit.
The information of this certificate can be checked on CNCA's website (www.cnca.gov.cn)
SNQA's website: www.snqa.com.cn

Managing Director

Certificate Number: 130944

Issue Date: 03 March 2022
Valid Until: 22 February 2025
EAC Code: 18

UKAS MANAGEMENT SYSTEMS 0015

IAF

The use of the UKAS Accreditation Mark indicates accreditation in respect of those activities covered by the accreditation certificate number 015 held by NQA.
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Shanghai NQA Certification Co., Ltd. Address: Room 2201, 958 Lujiazui Ring Road, China (Shanghai) Pilot Free Trade Zone.


Certificate of Registration

nqa

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applicable to

Manufacturing of sliding bearing bushings

has been assessed and registered by
NQA, Warwick House, Houghton Hall Park, Houghton Regis, Dunstable LU5 5ZX, Bedfordshire, England

against the provisions of

IATF 16949:2016

(Clause 8.3 product design of IATF 16949 : 2016 is justifiably excluded)

This registration is subject to the company maintaining a quality management system, to the above standard, which will be monitored by NQA

Managing Director

NQA Certificate No: 130424
IATF Certificate No: 0444310
Date: 23 February 2022
Valid Until: 22 February 2025
Version: 1

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JIASHAN HONGLIDA SLIDING BEARING



Self-lubricating Bearings

HLDB-10

Self-lubricating Bearings



HLDB-20

Marginal Self-lubricating Bearings



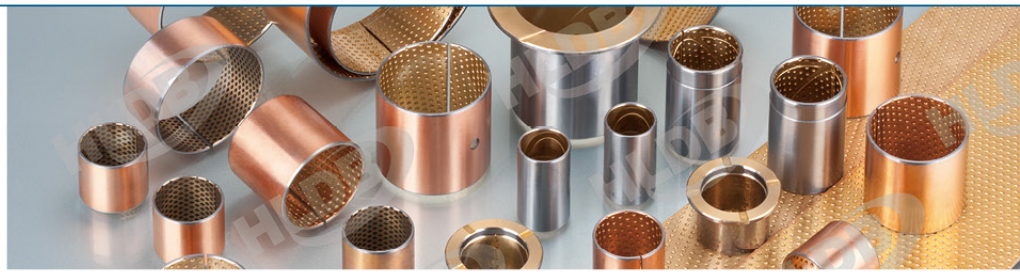
HLDB-090&092

Bronze Wrapped Bearings



HLDB-800

Bimetal Bearings

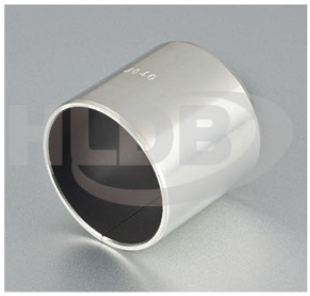


HLDB-JDB

Solid Lubricant Embedded Bearings



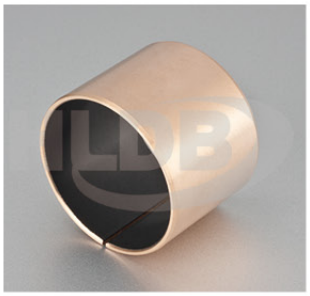
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HLDB-10

Carbon Steel Self-lubricating Bushes

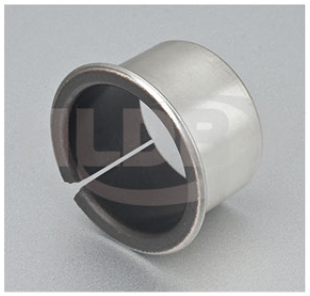
P-02、04、05



HLDB-1B

Pb-Free Bronze Self-lubricating Bushes

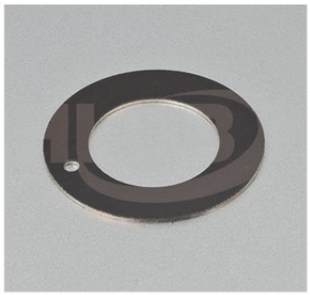
P-03



HLDB-10F

Carbon Steel Self-lubricating Flange Bushes

P-06



HLDB-1WC

Compound Thrust Washer

P-07



HLDB-2Y

Carbon Steel Marginal Pb-Free Self lubricating Bushes

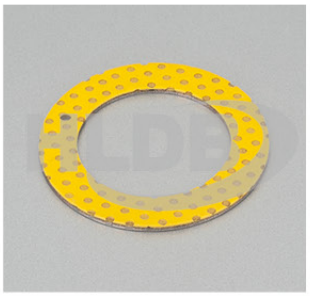
P-09、11



HLDB-2S

Carbon Steel Marginal Pb-Free Self lubricating Bushes

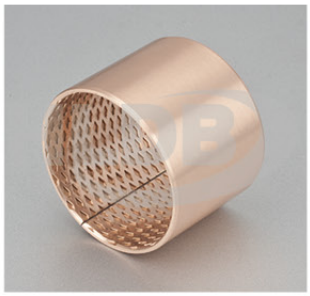
P-10、12



HLDB-2WC

Compound Thrust Washer

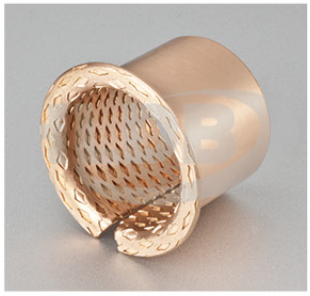
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HLDB-090

Bronze Wrapped Bushes

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HLDB-090F

Bronze Wrapped Flange Bushes

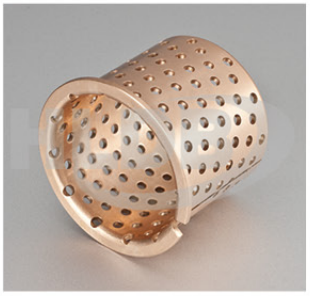
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HLDB-092

Bronze Wrapped Bushes

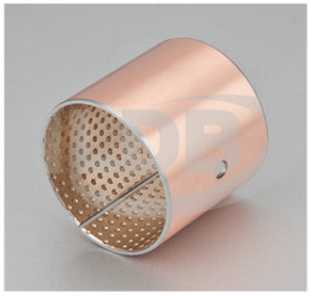
P-15、16、21、22



HLDB-092F

Bronze Wrapped Flange Bushes

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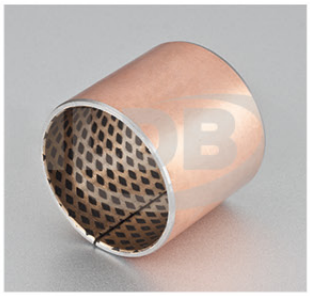


HLDB-800

Bimetal Bushes

P-25、26、28、29

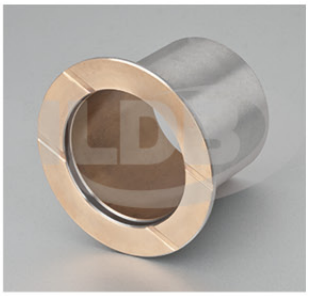
Contents



HLDB-08G

Bimetal bushes with Graphite

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HLDB-800F

Bimetal Flange Bushes

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HLDB-JDB

Soild Bearing with Graphite

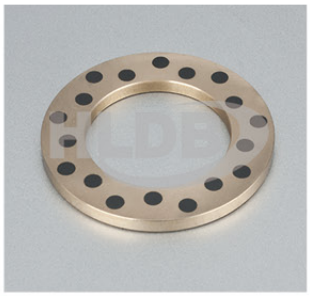
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HLDB-JFB

Soild Bearing with Graphite

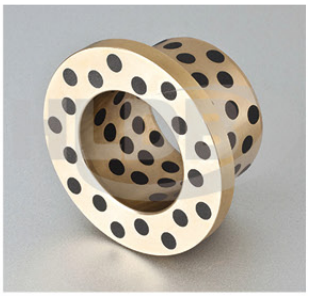
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HLDB-JTW

Solid Thrust Washer

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HLDB-JDBB

Solid Flange Bearing with Graphite

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DIN-9834

Solid Guide Bearing with Graphite

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HLDB-JOSG

Solid Guide Bearing with Graphite

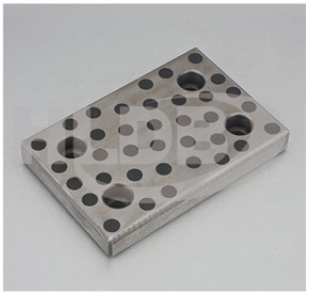
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HLDB-JPBW

Solid Guide Bearing with Graphite

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HLDB-JESW

Wear Plate

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HLDB-JUWP

Wear Plate

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HLDB-JSP

Wear Plate

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HLDB-10
Self-lubricating Bearings

HLDB-10 Carbon Steel Self-lubricating Bushes

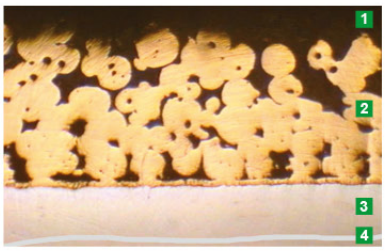
HLDB-10 carbon steel self-lubricating bearings, used high quality low-carbon steel plate as base, sintered porous bronze as its interlayer and the compound of PTFE as its surface. It offers the property of good self-lubrication, low wear, low friction, good sliding characteristics, low noise.



Application Feature

1. Working under oilless or minim oil state, maintenance free or just need a little maintenance.
2. Resist Abrasion, low coefficient of friction long operating life.
3. Operating in -195℃～+280℃.
4. Good mending, low-noise, non-pollution.
5. Thin-walled structure, light in weight, which can reduce the machine to small size.
6. Forming a transferred film during operation to protect shaft and trouble free.
7. Low demand to the shaft even no surface hardness treatment, which lower the cost of the mating components.
8. No absorption to water/oil, small coefficient of Thermal emption, good thermal conductivity and size stability.
9. The back of the steel strip can be plated with various metals, anti-corrosion. The products have been used in sliding components of different machines, such as auto machines, piston pump, gear pump, textile machine, auto-sides machine, Injection Machine, sports Machine office equipment etc.

Material Structure



1.PTFE with mixture 0.01~0.03mm

2.Porous bronze 0.2~0.3mm

3.Steel backing 0.7~2.3mm

4.Tin-plating 0.005mm or copper plating 0.008mm

Standard Size:

Sleeve Bearing P04, Flange Bearing P06, Thrust washer P07, Strip P07.

Non-Standard Size:

Sleeve Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

Technical Data

Max.load	Static	250N/mm^2
	Very low speed	140N/mm^2
	Roatating oscillating	60N/mm^2
Max. PV (dry running)	Short-term operation	3.6N/mm^2·m/s
	Continuous operation	1.8N/mm^2·m/s
Temp. limit		-195℃~+280℃
Friction coefficient		0.05~0.20 μ
Max. speed	Dry running	2m/s
	Hydrodynamic operation	>2m/s
Thermal conductivity		42 W(m·k)$^{-1}$
Coefficient of thermal expansion		11 × 10^{-6}·K^{-1}

HLDB-1B Bronze Pb-free Self-lubricating Bushes

HLDB-1B is one of high safty factory, and particularly appropriate for high temperature environment where no oil is effcient and where the machine must be under successive long period working condition.

This is widely used in steel metallurgy industry such as bushes for roller grooves of successive casting machines. cement grouting pumps and screw converyers for cement. It can also be composed in steel housing or fabricated into Flanged bushes which can move both in radial and in axial directions.

It can be applied in bridge bearing plate because of thicker inner surface layer to arrive 130N/mm^2.



Application Feature

1.PTFE and lipophilic Friber can protect the shaft,while the machine in operation.

2.Bronze have good thermal conductivity, it'll divert heat while the machine operating.

3.It can be applied in the machine, working long time, which examine and repair is incapable, because the bronze can lubricate itself.

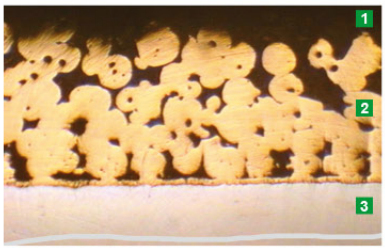
4.It is used in the feeble acid and alkali condition because of good anti-corrosion of bronze backing.

5.Good load capacity.

6.It is widely used in steel metallurgy industry, such as bushes for foller grooves of successive casting machines, cement grouting pumps and scrow conveyers of machine.

7.It can be composed in steel housing, or fabricated into flanged bushes which result in function for montion both on flange and I.D.

Material Structure



1.PTFE with Fiber 0.01~0.03mm

2.Porous bronze 0.2~0.3mm

3.Bronze backing 0.7~2.3mm

Standard Size:

Sleeve Bearing P04, Flange Bearing P06, Thrust washer P07, Strip P07.

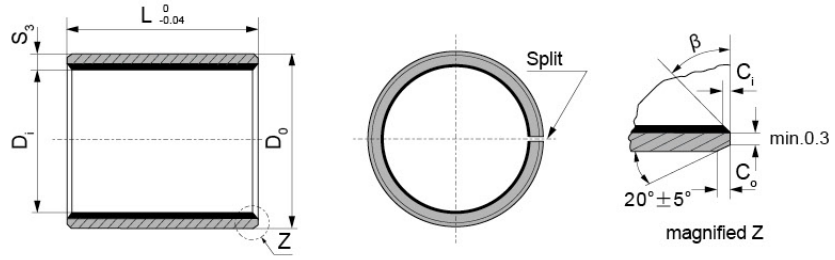
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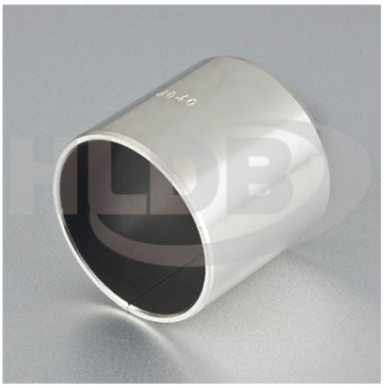
Sleeve Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

Technical Data

Max.load	Static	250N/mm^2
	Very low speed	140N/mm^2
	Roatating oscillating	60N/mm^2
Max. PV (dry running)	Short-term operation	3.6N/mm^2·m/s
	Continuous operation	1.8N/mm^2·m/s
Temp. limit		-195℃~+280℃
Friction coefficient		0.03~0.20 μ
Max. speed	Dry running	2m/s
	Hydrodynamic operation	>2m/s
Thermal conductivity		60 W(m·k)$^{-1}$
Coefficient of thermal expansion		18 × 10^{-6}·K^{-1}

HLDB-10 Sleeve Bushing Specification & Tolerance





ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5 ± 0.3	0.25 ± 0.2	30° ± 5°
1.00	0.6 ± 0.3	0.30 ± 0.2	30° ± 5°
1.50	0.7 ± 0.3	0.50 ± 0.3	30° ± 5°

S_3	C_o	C_i	β
2.00	1.2 ± 0.4	0.50 ± 0.3	30° ± 5°
2.50	1.8 ± 0.6	0.60 ± 0.3	45° ± 5°

Unit: mm

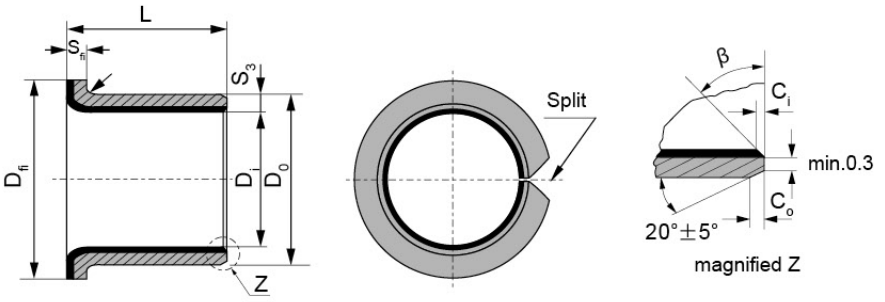
(f7) Shaft D_s	(H7) Housing D_H	(OD) Tolerance D_O	(ID) After fixed $D_{i,a}$	Clearance D_D	Wall thickness S_3	L 0 -0.40 (d≤Φ28 L-0.30; d>Φ30 L-0.40)									
						6	8	10	12	15	20	25	30	40	50
6 -0.010 -0.022	8 +0.015	8 +0.055 +0.025	6.055 5.990	0.077 0.000	1.005 0.980	0606	0608	0610							
8 -0.013 -0.028	10 +0.015	10 +0.055 +0.025	8.055 7.990	0.083 0.003		0806	0808	0810	0812	0815					
10 -0.013 -0.028	12 +0.018	12 +0.065 +0.030	10.058 9.990	0.086 0.003		1006	1008	1010	1012	1015	1020				
12 -0.016 -0.034	14 +0.018	14 +0.065 +0.030	12.058 11.990	0.092 0.006		1206	1208	1210	1212	1215	1220	1225			
13 -0.016 -0.034	15 +0.018	15 +0.065 +0.030	13.058 12.990					1310	1312	1315	1320	1325			
14 -0.016 -0.034	16 +0.018	16 +0.065 +0.030	14.058 13.990					1410	1412	1415	1420	1425			
15 -0.016 -0.034	17 +0.018	17 +0.065 +0.030	15.058 14.990					1510	1512	1515	1520	1525			
16 -0.016 -0.034	18 +0.018	18 +0.065 +0.030	16.058 15.990					1610	1612	1615	1620	1625			
17 -0.016 -0.034	19 +0.021	19 +0.075 +0.035	17.061 16.990	0.095 0.006				1710	1712	1715	1720	1725			
18 -0.016 -0.034	20 +0.021	20 +0.075 +0.035	18.061 17.990					1810	1812	1815	1820	1825			
20 -0.020 -0.041	23 +0.021	23 +0.075 +0.035	20.071 19.990	0.112 0.010	1.505 1.475			2010	2012	2015	2020	2025	2030		
22 -0.020 -0.041	25 +0.021	25 +0.075 +0.035	22.071 21.990					2210	2212	2215	2220	2225	2230		
24 -0.020 -0.041	27 +0.021	27 +0.075 +0.035	24.071 23.990					2410	2412	2415	2420	2425	2430		
25 -0.020 -0.041	28 +0.021	28 +0.075 +0.035	25.071 24.990					2510	2512	2515	2520	2525	2530	2540	2550
28 -0.020 -0.041	32 +0.025	32 +0.085 +0.045	28.085 27.990	0.126 0.010	2.005 1.970				2812	2815	2820	2825	2830	2840	2850
30 -0.020 -0.041	34 +0.025	34 +0.085 +0.045	30.085 29.990						3012	3015	3020	3025	3030	3040	3050
32 -0.025 -0.050	36 +0.025	36 +0.085 +0.045	32.085 31.990	0.135 0.015					3212	3215	3220	3225	3230	3240	3250
35 -0.025 -0.050	39 +0.025	39 +0.085 +0.045	35.085 34.990						3512	3515	3520	3525	3530	3540	3550
38 -0.025 -0.050	42 +0.025	42 +0.085 +0.045	38.085 37.990						3812	3815	3820	3825	3830	3840	3850
40 -0.025 -0.050	44 +0.025	44 +0.085 +0.045	40.085 39.990						4012	4015	4020	4025	4030	4040	4050

HLDB-10 Sleeve Bushing Specification & Tolerance

Unit: mm

Shaft D_s	Housing D_H	(OD) Tolerance D_O	(ID) After fixed $D_{I,a}$	Clearance D_D	Wall thickness S_3	L $^{0}_{-0.40}$									
						20	25	30	40	50	60	70	80	100	115
45 $^{-0.050}_{-0.025}$	50 $^{+0.025}$	50 $^{+0.085}_{+0.045}$	45.105 44.990	0.155 0.015	2.505 2.460	4520	4525	4530	4540	4550					
50 $^{-0.050}_{-0.025}$	55 $^{+0.030}$	55 $^{+0.100}_{+0.055}$	50.110 49.990	0.160 0.015		5020	5025	5030	5040	5050	5060				
55 $^{-0.060}_{-0.030}$	60 $^{+0.030}$	60 $^{+0.100}_{+0.055}$	55.110 54.990	0.170 0.020				5530	5540	5550	5560				
60 $^{-0.060}_{-0.030}$	65 $^{+0.030}$	65 $^{+0.100}_{+0.055}$	60.110 59.990					6030	6040	6050	6060	6070			
65 $^{-0.060}_{-0.030}$	70 $^{+0.030}$	70 $^{+0.100}_{+0.055}$	65.110 64.990					6530	6540	6550	6560	6570			
70 $^{-0.060}_{-0.030}$	75 $^{+0.030}$	75 $^{+0.100}_{+0.055}$	70.110 69.990					7030	7040	7050	7060	7070	7080		
75 $^{-0.060}_{-0.030}$	80 $^{+0.030}$	80 $^{+0.100}_{+0.055}$	75.110 74.990					7530	7540	7550	7560	7570	7580		
80 $_{-0.045}$	85 $^{+0.035}$	85 $^{+0.120}_{+0.070}$	80.155 80.020	0.201 0.020	2.490 2.440				8040	8050	8060	8070	8080	80100	
85 $_{-0.054}$	90 $^{+0.035}$	90 $^{+0.120}_{+0.070}$	85.155 85.020	0.209 0.020					8540	8550	8560	8570	8580	85100	
90 $_{-0.054}$	95 $^{+0.035}$	95 $^{+0.120}_{+0.070}$	90.155 90.020						9040	9050	9060	9070	9080	90100	
95 $_{-0.054}$	100 $^{+0.035}$	100 $^{+0.120}_{+0.070}$	95.155 95.020							9550	9560	9570	9580	95100	
100 $_{-0.054}$	105 $^{+0.035}$	105 $^{+0.120}_{+0.070}$	100.155 100.020							10050	10060	10070	10080	100100	100115
105 $_{-0.054}$	110 $^{+0.035}$	110 $^{+0.120}_{+0.070}$	105.155 105.020								10560	10570	10580	105100	105115
110 $_{-0.054}$	115 $^{+0.035}$	115 $^{+0.120}_{+0.070}$	110.115 110.020								11060	11070	11080	110100	110115
120 $_{-0.054}$	125 $^{+0.040}$	125 $^{+0.170}_{+0.100}$	120.210 120.070	0.264 0.070	2.465 2.415						12060	12070	12080	120100	120115
125 $_{-0.063}$	130 $^{+0.040}$	130 $^{+0.170}_{+0.100}$	125.210 125.070	0.273 0.070							12560	12570	12580	125100	125115
130 $_{-0.063}$	135 $^{+0.040}$	135 $^{+0.170}_{+0.100}$	130.210 130.070								13060	13070	13080	130100	130115
140 $_{-0.063}$	145 $^{+0.040}$	145 $^{+0.170}_{+0.100}$	140.210 140.070								14060	14070	14080	140100	140115
150 $_{-0.063}$	155 $^{+0.040}$	155 $^{+0.170}_{+0.100}$	150.210 150.070								15060	15070	15080	150100	150115
160 $_{-0.063}$	165 $^{+0.040}$	165 $^{+0.170}_{+0.100}$	160.210 160.070								16060	16070	16080	160100	160115
180 $_{-0.063}$	185 $^{+0.046}$	185 $^{+0.210}_{+0.130}$	180.216 180.070	0.279 0.070	2.465 2.415						18060	18070	18080	180100	
190 $_{-0.072}$	195 $^{+0.046}$	195 $^{+0.210}_{+0.130}$	190.216 190.070	0.288 0.070							19060	19070	19080	190100	
200 $_{-0.072}$	205 $^{+0.046}$	205 $^{+0.210}_{+0.130}$	200.016 200.070								20060	20070	20080	200100	
220 $_{-0.072}$	225 $^{+0.046}$	225 $^{+0.210}_{+0.130}$	220.216 220.070								22060	22070	22080	220100	
250 $_{-0.072}$	255 $^{+0.052}$	255 $^{+0.260}_{+0.170}$	250.222 250.070	0.294 0.070	2.465 2.415								25080	250100	
260 $_{-0.081}$	265 $^{+0.052}$	265 $^{+0.260}_{+0.170}$	260.222 260.070	0.303 0.070									26080	260100	
280 $_{-0.081}$	285 $^{+0.052}$	285 $^{+0.260}_{+0.170}$	280.222 280.070										28080	280100	
300 $_{-0.081}$	305 $^{+0.052}$	305 $^{+0.260}_{+0.170}$	300.222 300.070										30080	300100	

HLDB-10F Flange Bushing Specifiction & Tolerance



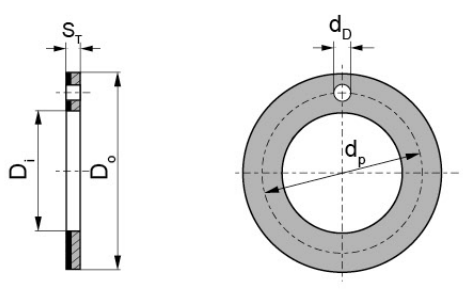


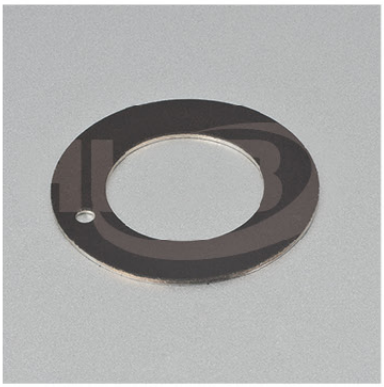
S_3	1.0	1.5	2.0	2.5
r	$1^{-0.5}$	1 ± 0.5	1.5 ± 0.5	2 ± 0.5

Unit: mm

(f7) Shaft D_s	(H7) Housing D_H	(OD) Tolerance D_O	(ID) After fixed $D_{i,a}$	Clearance C_O	Designation	Wall thickness S_3	Dimension				
							D_i	D_o	D_{fi} ± 0.5	L ± 0.25	S_{fi}-0.2
6 -0.013 -0.028	8 +0.015	8 +0.055 +0.025	6.055 5.990	0.077 0.000	HLDB-10F06040	1.005 0.980	6	8	12	4	1
					HLDB-10F06070					7	
8 -0.013 -0.028	10 +0.015	10 +0.055 +0.025	8.055 7.990	0.083 0.003	HLDB-10F08055		8	10	15	5.5	
					HLDB-10F08075					7.5	
10 -0.016 -0.034	12 +0.018	12 +0.055 +0.025	10.058 9.990	0.086 0.003	HLDB-10F10070		10	12	18	7	
					HLDB-10F10090					9	
					HLDB-10F10120					12	
12 -0.016 -0.034	14 +0.018	14 +0.065 +0.030	12.058 11.990	0.092 0.006	HLDB-10F12070		12	14	20	7	
					HLDB-10F12090					9	
					HLDB-10F12120					12	
14 -0.016 -0.034	16 +0.018	16 +0.065 +0.030	14.058 13.990		HLDB-10F14120		14	16	22	12	
					HLDB-10F14170					17	
15 -0.016 -0.034	17 +0.018	17 +0.065 +0.030	15.058 14.990		HLDB-10F15090		15	17	23	9	
					HLDB-10F15120					12	
					HLDB-10F15170					17	
16 -0.016 -0.034	18 +0.018	18 +0.065 +0.030	16.058 15.990		HLDB-10F16120		16	18	24	12	
					HLDB-10F16170					17	
18 -0.016 -0.034	20 +0.021	20 +0.075 +0.035	18.061 17.990	0.095 0.006	HLDB-10F18120		18	20	26	12	
					HLDB-10F18170					17	
					HLDB-10F18200					20	
20 -0.020 -0.041	23 +0.021	23 +0.075 +0.035	20.071 19.990	0.112 0.010	HLDB-10F20115	1.505 1.475	20	23	30	11.5	1.5
					HLDB-10F20165					16.5	
					HLDB-10F20215					21.5	
22 -0.020 -0.041	25 +0.021	25 +0.075 +0.035	22.071 21.990		HLDB-10F22150		22	25	32	15	
					HLDB-10F22200					20	
25 -0.020 -0.041	28 +0.021	28 +0.075 +0.035	25.071 24.990		HLDB-10F25115		25	28	35	11.5	
					HLDB-10F25165					16.5	
					HLDB-10F25215					21.5	
30 -0.025 -0.050	34 +0.025	34 +0.075 +0.035	30.085 29.990	0.126 0.010	HLDB-10F30160	2.005 1.970	30	34	42	16	2
					HLDB-10F30260					26	
35 -0.025 -0.050	39 +0.025	39 +0.085 +0.045	35.085 34.990	0.135 0.015	HLDB-10F35160		35	39	47	16	
					HLDB-10F35260					26	
40 -0.025 -0.050	44 +0.025	44 +0.085 +0.045	40.085 39.990		HLDB-10F40260		40	44	53	26	
					HLDB-10F40400					40	

HLDB-1WC Thrust Washer Specification & Tolerance

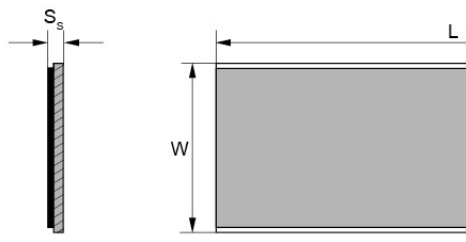




Unit: mm

Shaft D_s	Standard No.	Washer size				Assemble size		H_d+0.12
		D_i+0.25	D_o-0.25	S_T-0.05	$d_p \pm 0.125$	d_D $^{+0.4}_{+0.1}$	$H_a \pm 0.2$	
8	W10	10	20	1.5	15	1.5	1	20
10	W12	12	24		18			24
12	W14	14	26		20	2		26
14	W16	16	30		23			30
16	W18	18	32		25			32
18	W20	20	36		28	3		36
20	W22	22	38		30			38
22	W24	24	42		33			42
24	W26	26	44		35			44
26	W28	28	48		38	4		48
30	W32	32	54		43			54
36	W38	38	62		50			62
40	W42	42	66		54			66
46	W48	48	74	2	61		1.5	74
50	W52	52	78		65			78
60	W62	62	90		76			90

HLDB-1SP Strip Specification & Tolerance





Unit: mm

Standard No.	L ± 1	W ± 1	Wall thickness S_s-0.05
SP	500	150	1.0
SP	500	150	1.5
SP	500	150	2.0
SP	500	150	2.5



HLDB-20
Marginal Self-lubricating Bearings

HLDB-2Y Marginal Pb-free Self-lubricating Bushes

HLDB-2Y has the same structure and functional performance with HLDB-20. It can work for certain long time without oil in the condition of prelubricated with lubrication indents. Widely applied in metallurgy machinery, Mining machinery, water conservancy machinery, automobile, building machinery, agriculture machinery, rolling steel industry etc.



Application Feature

1.Good load capacity and anti-wear.

2.It is used in high load capacities and low speed with rotational, oscillating or frequent stop-start motion.

3.It can work for a long time without oil in the condition of boundary lubrication, under oil or grease lubrication interval, the working-life will be longer.

4.It is machinable for the thicker of POM.

5.The bushes can be applied in auto chassis, forging machine, metallurgical, civil engineering, power station, strip rolling industries etc.

6.HLDB-2Y is widely used in the machine where Lead is unacceptable.

Material Structure



1.POM with fiber 0.3~0.5mm

2.Porous bronze 0.2~0.3mm

3.Steel backing 0.4~2.2mm

4.Plated coating: Tin plating 0.005mm or Copper plating 0.008mm

Technical Data

Max.load	Static	250N/mm^2
	Very low speed	140N/mm^2
	Roatating oscillating	70N/mm^2
Max. PV (dry running)		3N/mm^2·m/s
Temp. limit		-40℃~+110℃
Friction coefficient		0.05~0.20 μ
Max. speed	Grease Lubrication	2m/s
	Oil continued to	>2m/s
Thermal conductivity		50W(m·k)$^{-1}$
Coefficient of thermal expansion		11 × 10^{-6}·K^{-1}
Initial pre-lubrication at assembly is strongly recommended		

Standard Size:

Sleeve Bearing P11, Thrust washer P13, Strip P13.

Non-Standard Size:

Sleeve Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

HLDB-2S Marginal Pb-free Self-lubricating Bushes

HLDB-2S Marginal Pb-free self-lubricating bearing based on low carbon steel backing, sintered porous bronze as its interlayer, surface rolled by acetal resin and polymer material constaining oleophylicity fiber and perform well on low friction factor, well wear performance and oil free condition lubrication. It has been widely applied to winding engines, printing and dyeing machinery, coal-cutters, punch, winch truck, traveling crane etc.



Application Feature

1.Good load capacity and anti-wear.

2.It is used in high load capacities and low speed with rotational,oscillating or frequent stop-start motion.

3.It can work long time without oil in the condition of boundary lubrication,under oil or grease lubrication interval, the work is longer.

4.It is machinable for the thicker of POM.

5.The bushes can be applied in auto chassis,forging machine, metallurgical, civil engineering, power station, strip rolling industries etc.

6.HLDB-2S is widely used in the machine where Lead is unacceptable.

Material Structure



1.POM with fiber 0.3~0.5mm

2.Porous bronze 0.2~0.3mm

3.Steel backing 0.4~2.2mm

4.Plated coating: Tin plating 0.005mm or Copper plating 0.008mm

Technical Data

Max.load	Static	250N/mm^2
	Very low speed	140N/mm^2
	Roatating oscillating	70N/mm^2
Max. PV (dry running)		3N/mm^2·m/s
Temp. limit		-40℃~+110℃
Friction coefficient		0.05~0.20 μ
Max. speed	Grease Lubrication	2m/s
	Oil continued to	>2m/s
Thermal conductivity		50W(m·k)$^{-1}$
Coefficient of thermal expansion		11 × 10^{-6}·K^{-1}
Initial pre-lubrication at assembly is strongly recommended		

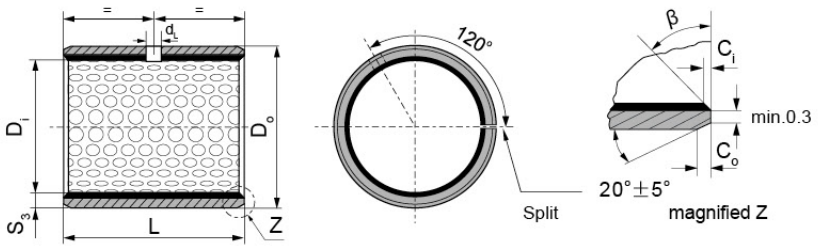
Standard Size:

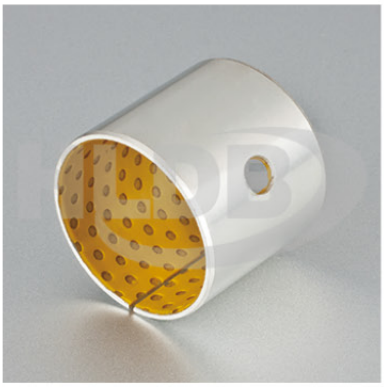
Sleeve Bearing P11, Thrust washer P13, Strip P13.

Non-Standard Size:

Sleeve Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

HLDB-20 Sleeve Bushing Specification & Tolerance





ID and OD chamfers

S_3	C_o	C_i	β
1.0	0.6 ± 0.3	0.30 ± 0.2	30° ± 5°
1.5	0.7 ± 0.3	0.50 ± 0.2	30° ± 5°

S_3	C_o	C_i	β
2.00	1.2 ± 0.4	0.50 ± 0.3	30° ± 5°
2.50	1.8 ± 0.6	0.80 ± 0.3	45° ± 5°

Unit: mm

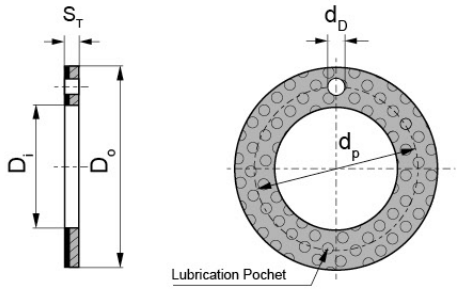
Shaft D_s h8	Housing H7 D_H	(OD) Tolerance D_O	(ID) After fixed $D_{i,a}$	Clearance D_D	Wall thickness S_3	Oil hole d_L	L $^{0}_{-0.40}$									
							10	15	20	25	30	35	40	45	50	60
10 $_{-0.022}$	12 $^{+0.018}$	12 $^{+0.065}_{+0.030}$	10.108 10.040	0.130 0.040	0.980 0.955	4	1010	1015	1020							
12 $_{-0.027}$	14 $^{+0.018}$	14 $^{+0.065}_{+0.030}$	12.108 12.040	0.135 0.040			1210	1215	1220							
14 $_{-0.027}$	16 $^{+0.018}$	16 $^{+0.065}_{+0.030}$	14.108 14.040					1415	1420							
15 $_{-0.027}$	17 $^{+0.018}$	17 $^{+0.065}_{+0.030}$	15.108 15.040					1515	1520	1525						
16 $_{-0.027}$	18 $^{+0.018}$	18 $^{+0.065}_{+0.030}$	16.108 16.040					1615	1620	1625						
18 $_{-0.027}$	20 $^{+0.021}$	20 $^{+0.075}_{+0.035}$	18.111 18.040	0.138 0.040				1815	1820	1825						
20 $_{-0.033}$	23 $^{+0.021}$	23 $^{+0.075}_{+0.035}$	20.131 20.050	0.164 0.050	1.475 1.445			2015	2020	2025	2030					
22 $_{-0.033}$	25 $^{+0.021}$	25 $^{+0.075}_{+0.035}$	22.131 22.050					2215	2220	2225	2230					
25 $_{-0.033}$	28 $^{+0.021}$	28 $^{+0.075}_{+0.035}$	25.131 25.050			6		2515	2520	2525	2530					
28 $_{-0.033}$	32 $^{+0.025}$	32 $^{+0.085}_{+0.045}$	28.155 28.060	0.188 0.060	1.970 1.935				2820	2825	2830					
30 $_{-0.033}$	34 $^{+0.025}$	34 $^{+0.085}_{+0.045}$	30.155 30.060						3020	3025	3030	3035	3040			
35 $_{-0.039}$	39 $^{+0.025}$	39 $^{+0.085}_{+0.045}$	35.155 35.060	0.194 0.060					3520	3525	3530	3535	3540			
40 $_{-0.039}$	44 $^{+0.025}$	44 $^{+0.085}_{+0.045}$	40.155 40.060			8			4020	4025	4030	4035	4040	4045	4050	
45 $_{-0.039}$	50 $^{+0.025}$	50 $^{+0.085}_{+0.045}$	45.195 45.080	0.234 0.080	2.460 2.415				4520	4525	4530	4535	4540	4545	4550	
50 $_{-0.039}$	55 $^{+0.030}$	55 $^{+0.100}_{+0.055}$	50.200 50.080	0.239 0.080							5030	5035	5040	5045	5050	5060
55 $_{-0.046}$	60 $^{+0.030}$	60 $^{+0.100}_{+0.055}$	55.200 55.080	0.246 0.080							5530	5535	5540	5545	5550	5560
60 $_{-0.046}$	65 $^{+0.030}$	65 $^{+0.100}_{+0.055}$	60.200 60.080								6030	6035	6040	6045	6050	6060

HLDB-20 Sleeve Bushing Specification & Tolerance

Unit: mm

Shaft D_s h8	Housing H7 D_H	(OD) Tolerance D_O	(ID) After fixed $D_{i,a}$	Clearance D_D	Wall thickness S_3	Oil hole d_L	L $^{0}_{-0.40}$								
							40	50	60	80	90	95	100	110	120
65 -0.046	70 +0.030	70 +0.100 +0.055	65.200 65.080	0.246 0.080	2.460 2.415	8	6540	6550	6560						
70 -0.046	75 +0.030	75 +0.100 +0.055	70.200 70.080				7040	7050	7060	7080					
75 -0.046	80 +0.030	80 +0.100 +0.055	75.200 75.080				7540	7550	7560	7580					
80 -0.046	85 +0.035	85 +0.120 +0.070	80.265 80.100	0.313 0.100	2.450 2.385	9.5	8040	8050	8060	8080					
85 -0.054	90 +0.035	90 +0.120 +0.070	85.265 85.100	0.321 0.100			8540	8550	8560	8580					
90 -0.054	95 +0.035	95 +0.120 +0.070	90.265 90.100				9040	9050	9060	9080	9090				
100 -0.054	105 +0.035	105 +0.120 +0.070	100.265 100.100					10050	10060	10080	10090	10095			
105 -0.054	110 +0.035	110 +0.120 +0.070	105.265 105.100					10550	10560	10580	10590	10595	105100	105110	
110 -0.054	115 +0.035	115 +0.120 +0.070	110.265 110.110					11050	11060	11080	11090	11095	110100	110110	
120 -0.054	125 +0.040	125 +0.170 +0.100	120.270 120.110	0.324 0.100				12050	12060	12080	12090	12095	120100	120110	
125 -0.063	130 +0.040	130 +0.170 +0.100	125.270 125.110					12550	12560	12580	12590	12595	125100	125110	
130 -0.063	135 +0.040	135 +0.170 +0.100	130.270 130.110					13050	13060	13080	13090	13095	130100	130110	
140 -0.063	145 +0.040	145 +0.170 +0.100	140.270 140.110					14050	14060	14080	14090	14095	140100	140110	
150 -0.063	155 +0.040	155 +0.170 +0.100	150.270 150.110					15050	15060	15080	15090	15095	150100	150110	
160 -0.063	165 +0.040	165 +0.170 +0.100	160.270 160.110			9.5		16050	16060	16080	16090	16095	160100	160110	
170 -0.063	175 +0.040	175 +0.170 +0.100	170.270 170.110					17050	17060	17080	17090	17095	170100	170110	
180 -0.063	185 +0.046	185 +0.210 +0.130	180.276 180.110	0.339 0.110				18050	18060	18080	18090	18095	180100	180110	
190 -0.072	195 +0.046	195 +0.210 +0.130	190.276 190.110					19050	19060	19080	19090	19095	190100	190110	190120
200 -0.072	205 +0.046	205 +0.210 +0.130	200.276 200.110					20050	20060	20080	20090	20095	200100	200110	200120
220 -0.072	225 +0.046	225 +0.210 +0.130	220.276 220.110			9.5		22050	22060	22080	22090	22095	220100	220110	220120
240 -0.072	245 +0.046	245 +0.210 +0.130	240.276 240.110					24050	24060	24080	24090	24095	240100	240110	240120
250 -0.072	255 +0.052	255 +0.260 +0.170	250.282 250.110	0.354 0.110				25050	25060	25080	25090	25095	250100	250110	250120
260 -0.081	265 +0.052	265 +0.260 +0.170	260.282 260.110					26050	26060	26080	26090	26095	260100	260110	260120
280 -0.081	285 +0.052	285 +0.260 +0.170	280.282 280.110					28050	28060	28080	28090	28095	280100	280110	280120
300 -0.081	305 +0.052	305 +0.260 +0.170	300.282 300.110					30050	30060	30080	30090	30095	300100	300110	300120

HLDB-2WC Thrust Washer Specification & Tolerance

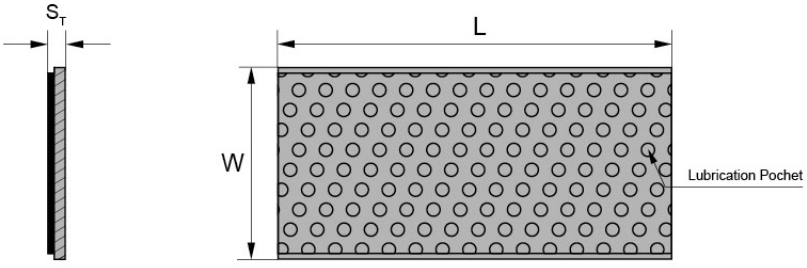




Unit: mm

Shaft D_S	Standard No.	Washer size				Assemble size		
		D_i+0.25	D_o-0.25	S_T -0.05	$d_p \pm 0.125$	d_D $^{+0.4}_{+0.1}$	$H_a \pm 0.2$	H_d+0.12
8	W10	10	20	1.5	15	1.5	1	20
10	W12	12	24		18			24
12	W14	14	26		20	2		26
14	W16	16	30		23			30
16	W18	18	32		25			32
18	W20	20	36		28	3		36
20	W22	22	38		30			38
22	W24	24	42		33			42
24	W26	26	44		35			44
26	W28	28	48		38	4		48
30	W32	32	54		43			54
36	W38	38	62		50			62
40	W42	42	66		54			66
46	W48	48	74	2	61		1.5	74
50	W52	52	78		65			78
60	W62	62	90		76			90

HLDB-2SP Strip Standard Metric Size





Unit: mm

Standard No.	L ± 1	W ± 1	Wall thickness S_s -0.05
P	500	150	1.0
P	500	150	1.5
P	500	150	2.0
P	500	150	2.5



HLDB-090&092 Bronze Wrapped Bearings

HLDB-090&092 Bronze Wrapped Bushes

HLDB-090&092 serie bronze rolled bushing is our new generation bushing based upon steel-bronze lead double metal bushings. This product is widely applied overseas. With the increase of our country's bring-in of foreign machineries, designers requirement on new abrasive materials and bushings are accordingly increasing. Therefore, our products have a wide application scope and practical value in machinery production.

The major feature of HLDB-090&092 serie bushing is their thin-wall structure, which doesn't take up too large assembly space. Specially formulated high-density bronze alloy bands are used for the building of the bushing, which compared with traditional bushings, is featured in the high density, no shrinkage blowholes, high load sustainability and anti-wearing and anti-fatigue. The production of the bushing is by means of advanced fixture and molds, able to make oil holes, hole dents and grooves on the frication surfaces of the bands to suit various engineering applications, making it possible for the bushing to store large amount of lubricating grease when working. Therefore, the lubrication interval is prolonged and the service hours are effectively lengthened.

HLDB-090&092 serie bearings are widely used in applications such as agricultural machineries, construction machineries, engineering machineries and automobile industry.



Standard Size:

Sleeve Bearing P18, Flange Bearing P19.

Non-Standard Size:

Sleeve Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.



Standard Size:

Sleeve Bearing P23, Flange Bearing P25.

Non-Standard Size:

Sleeve Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

Product Benefits

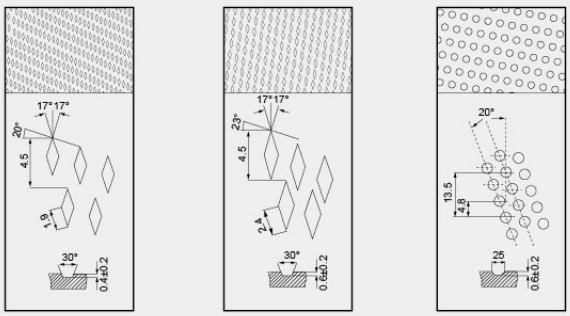
1. Saving large amount of bronze material and save the working hours normally spent for lathing the bronze bushing.
2. Compared with lathed bushings and roller bearings, it is light in weight and more cost-effective.
3. Various holes and dents can be made on the frication surface for grease storage, prolonging the lubrication interval to 5 times as long as required by the bronze bushing.
4. Extremely high load sustainability, especially suitable for coarse abrasion surfaces.

HLDB-090&092 Bronze Wrapped Bushes

Material Structure

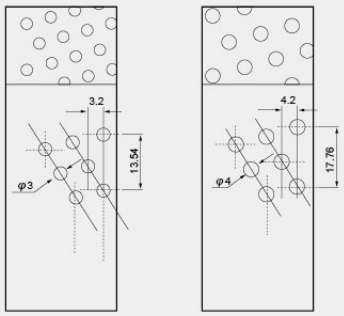
High-density bronze is rolled into shape or oil bags and oil holes specially integrated into the inner surface to reduce the wearing and prolong the service hours. Besides, it has excellent anti-corrosion functions.

HLDB-090



Inside the bush of the shaft Rhomb oil holes r≤φ22 | Inside the bush of the shaft Rhomb oil holes r>φ22 | Forming a circle

HLDB-092



Inside Dia r≤φ25 | Inside Dia r>φ25

Application scope

This serie of bearing is widely applied to agricultural, construction and engineering machineries, etc.

Categories of oil holes (As per to DIW1494/ISO3457)。

Chemical Composition

Material: CuSn8P	Cu	Sn	P

Physical Property

Type	Density	Heat Emission and Expansion	Heat Conducting	Hardness	Compression strength	Extensile
HLDB090&092	8.8g/cm^3	$18.5\times10^{-6}\times K^1$	58W(m·k)	90~150HB	470N/mm^2	40%

Standard tolerance for bushes (As per to DIW W91/1503547)

Standard Dia.	O.D.Size	Housing Bore	I.D.Size	Axle
10~18	+0.065 +0.030	+0.018 0	+0.046 0	- 0.016 - 0.043
18~30	+0.075 +0.035	+0.021 0	+0.052 0	- 0.020 - 0.020
30~50	+0.085 +0.045	+0.025 0	+0.062 0	- 0.025 - 0.064
50~80	+0.100 +0.055	+0.030 0	+0.074 0	- 0.030 - 0.076
80~120	+0.120 +0.070	+0.035 0	+0.087 0	- 0.036 - 0.090
120~180	+0.170 +0.100	+0.400 0	+0.100 0	- 0.043 - 0.106
180~250	+0.210 +0.130	+0.046 0	+0.115 0	- 0.050 - 0.122
250~315	+0.260 +0.170	+0.052 0	+0.130 0	- 0.056 - 0.137

HLDB-09G Bronze wrapped Bushes with Graphite

The same produce process and application with HLDB-090, except overlay the solid lubricants into the diamond shaped lubrication indents on the bearing surface, which will offer good friction at the start and process works and keep good condition even no oil giving at short time. So it can be used in construction machines, gears, automotive clutch pads etc.



Technical Data

Max.load	Static	120N/mm^2
	Dynamic	40N/mm^2
Max. PV (dry running)		2.8N/mm^2·m/s
Temp. limit		-100℃~+200℃
Friction coefficient		0.05~0.25 μ
Max. speed	Grease Lubrication	2.5m/s
Thermal conductivity		58W(m·k)$^{-1}$
Coefficient of thermal expansion		18.5×10^{-6}·K^{-1}
Hardness		HB>110
Tensile strength		450N/mm^2
Elongation		40%

Standard Size:

Sleeve Bearing P18, Flange Bearing P20.

Non-Standard Size:

Sleeve Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

Tolerance

Recommend housing tolerance H7 and the shaft as f7.

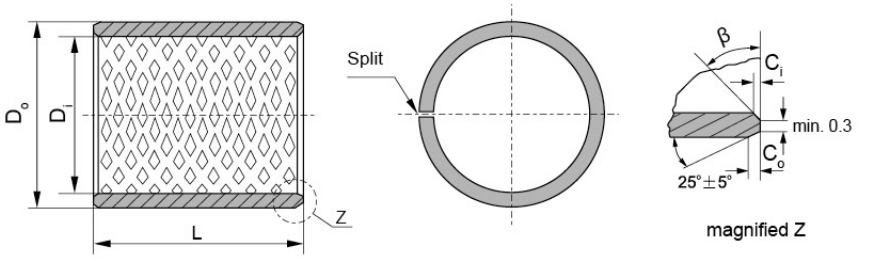
HLDB-091 Warpped Bronze Bearing

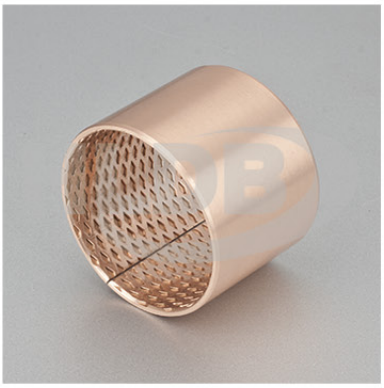
Performance Index	Data
Density Y	8.4 g/cm^3
Compression Strength	440N/mm^2
Coefficient of Heat Conduction	71W/m·K
Coefficient of Linear Expansion	19.2×10^{-6}/K
Hardness	80~110HB
Elongation	30%
Alloy Material	CuZn31Si



It is based on high density bronze material of special formula. The alloy surface is rolled to oil grooves or hole according to customer require. It has good load capacity and wear-resistant. The product is applied to construction machinery and machine tool etc.

HLDB-090 Bronze Sleeve Bushing Specification & Tolerance





ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5 ± 0.3	0.25 ± 0.2	35° ± 5°
1.00	0.6 ± 0.3	0.30 ± 0.2	35° ± 5°
1.50	0.7 ± 0.3	0.50 ± 0.3	35° ± 5°

S_3	C_o	C_i	β
2.00	1.2 ± 0.4	0.50 ± 0.3	35° ± 5°
2.50	1.8 ± 0.6	0.60 ± 0.3	45° ± 5°

Unit: mm

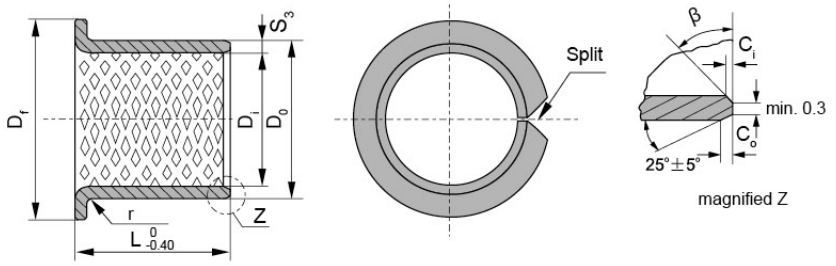
D_i ϕ d	D_O ϕ D	$L\ ^{0}_{-0.40}$												
		10	15	20	25	30	35	40	50	60	70	80	90	100
10	12	1010	1015	1020										
12	14	1210	1215	1220										
14	16	1410	1415	1420	1425									
15	17	1510	1515	1520	1525									
16	18	1610	1615	1620	1625									
18	20	1810	1815	1820	1825									
20	23	2010	2015	2020	2025									
22	25	2210	2215	2220	2225	2230								
24	27		2415	2420	2425	2430								
25	28		2515	2520	2525	2530								
28	31		2815	2820	2825	2830								
30	34		3015	3020	3025	3030	3035	3040						
32	36		3215	3220	3225	3230	3235	3240						
35	39		3515	3520	3525	3530	3535	3540						
40	44			4020	4025	4030	4035	4040	4050					
45	50			4520	4525	4530	4535	4540	4550					
50	55			5020	5025	5030	5035	5040	5050	5060				
55	60			5520	5525	5530	5535	5540	5550	5560				
60	65				6025	6030	6035	6040	6050	6060	6070			
65	70					6530	6535	6540	6550	6560	6570			
70	75					7030	7035	7040	7050	7060	7070	7080		
75	80					7530	7535	7540	7550	7560	7570	7580		
80	85					8030	8035	8040	8050	8060	8070	8080		
85	90					8530	8535	8540	8550	8560	8570	8580	8590	
90	95					9030	9035	9040	9050	9060	9070	9080	9090	
95	100							9540	9550	9560	9570	9580	9590	95100

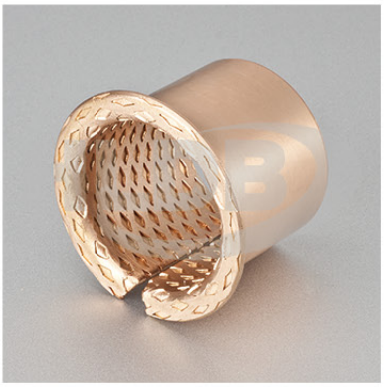
HLDB-090 Bronze Sleeve Bushing Specification & Tolerance

Unit: mm

D_i ϕ d	D_O ϕ D	L $^{0}_{-0.40}$									
		25	30	35	40	50	60	70	80	90	100
100	105					10050	10060	10070	10080	10090	100100
105	110					10550	10560	10570	10580	10590	105100
110	115					11050	11060	11070	11080	11090	110100
115	120					11550	11560	11570	11580	11590	115100
120	125						12060	12070	12080	12090	120100
125	130						12560	12570	12580	12590	125100
130	135						13060	13070	13080	13090	130100
135	140						13560	13570	13580	13590	135100
140	145						14060	14070	14080	14090	140100
145	150						14560	14570	14580	14590	145100
150	155						15060	15070	15080	15090	150100
155	160						15560	15570	15580	15590	155100
160	165						16060	16070	16080	16090	160100
165	170						16560	16570	16580	16590	165100
170	175						17060	17070	17080	17090	170100
175	180						17560	17570	17580	17590	175100
180	185						18060	18070	18080	18090	180100
185	190						18560	18570	18580	18590	185100
190	195						19060	19070	19080	19090	190100
195	200						19560	19570	19580	19590	195100
200	205						20060	20070	20080	20090	200100
205	210						20560	20570	20580	20590	205100
215	220						21560	21570	21580	21590	215100
225	230						22560	22570	22580	22590	225100
230	235						23060	23070	23080	23090	230100
240	245						24060	24070	24080	24090	240100
250	255						25060	25070	25080	25090	250100
260	265						26060	26070	26080	26090	260100
270	275						27060	27070	27080	27090	270100
280	285						28060	28070	28080	28090	280100
290	295						29060	29070	29080	29090	290100
300	305						30060	30070	30080	30090	300100

HLDB-090F Bronze Flange Bushing Specification & Tolerance



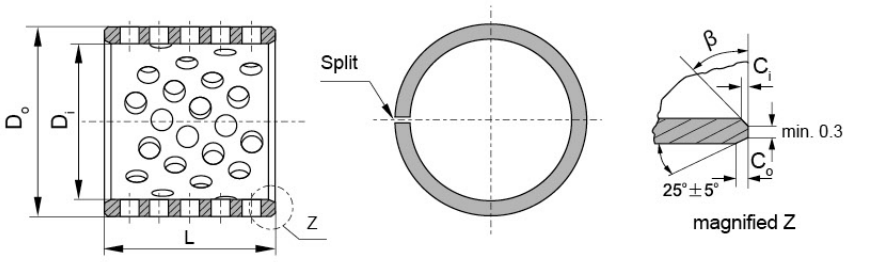


S_3	1.0	1.5	2.0	2.5
r	$1^{-0.5}$	1 ± 0.5	1.5 ± 0.5	2 ± 0.5

Unit: mm

D_i ϕ d	D_O ϕ D	D_{fl}	$L^{0}_{-0.40}$										
			15	20	25	30	35	40	50	60	70	80	90
25	28	35	25150	25200	25250								
30	34	45		30200	30250	30300							
35	39	50		35200	35250	35300	35350						
40	44	55			40250	40300	40350	40400					
45	50	60				45300	45350	45400	45500				
50	55	65				50300	50350	50400	50500				
55	60	70				55300	55350	55400	55500				
60	65	75				60300	60350	60400	60500	60600			
65	70	80				65300	65350	65400	65500	65600			
70	75	85					70350	70400	70500	70600	70700		
75	80	90					75350	75400	75500	75600	75700		
80	85	100					80350	80400	80500	80600	80700	80800	
90	95	110							90500	90600	90700	90800	90900
100	105	120							100500	100600	100700	100800	100900
110	115	130							110500	110600	110700	110800	110900
120	125	140							120500	120600	120700	120800	120900
130	135	155								130600	130700	130800	130900
140	145	165								140600	140700	140800	140900
150	155	180								150600	150700	150800	150900
160	165	190								160600	160700	160800	160900
170	175	200								170600	170700	170800	170900
180	185	215								180600	180700	180800	180900
190	195	225								190600	190700	190800	190900
200	205	235								200600	200700	200800	200900
225	230	260								225600	225700	225800	225900
250	255	290								250600	250700	250800	250900
265	270	305								265600	265700	265800	265900
285	290	325								285600	285700	285800	285900
300	305	340								300600	300700	300800	300900

HLDB-092 Bronze Sleeve Bushing Specification & Tolerance





ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5 ± 0.3	0.25 ± 0.2	35° ± 5°
1.00	0.6 ± 0.3	0.30 ± 0.2	35° ± 5°
1.50	0.7 ± 0.3	0.50 ± 0.3	35° ± 5°

S_3	C_o	C_i	β
2.00	1.2 ± 0.4	0.50 ± 0.3	35° ± 5°
2.50	1.8 ± 0.6	0.60 ± 0.3	45° ± 5°

Unit: mm

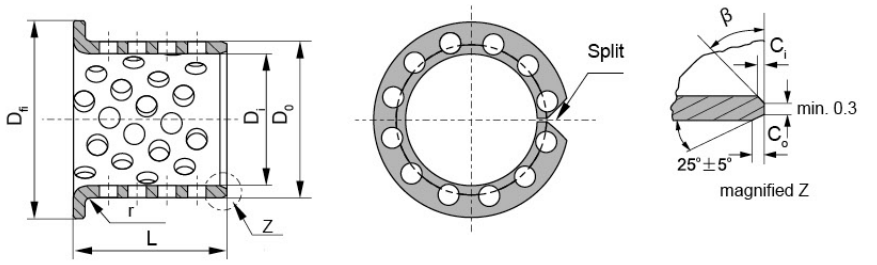
D_i ϕ d	D_O ϕ D	L $^{0}_{-0.40}$												
		10	15	20	25	30	35	40	50	60	70	80	90	100
10	12	1010	1015	1020										
12	14	1210	1215	1220										
14	16	1410	1415	1420	1425									
15	17	1510	1515	1520	1525									
16	18	1610	1615	1620	1625									
18	20	1810	1815	1820	1825									
20	23	2010	2015	2020	2025									
22	25	2210	2215	2220	2225	2230								
24	27		2415	2420	2425	2430								
25	28		2515	2520	2525	2530								
28	31		2815	2820	2825	2830								
30	34		3015	3020	3025	3030	3035	3040						
32	36		3215	3220	3225	3230	3235	3240						
35	39		3515	3520	3525	3530	3535	3540						
40	44			4020	4025	4030	4035	4040	4050					
45	50			4520	4525	4530	4535	4540	4550					
50	55			5020	5025	5030	5035	5040	5050	5060				
55	60			5520	5525	5530	5535	5540	5550	5560				
60	65				6025	6030	6035	6040	6050	6060	6070			
65	70					6530	6535	6540	6550	6560	6570			
70	75					7030	7035	7040	7050	7060	7070	7080		
75	80					7530	7535	7540	7550	7560	7570	7580		
80	85					8030	8035	8040	8050	8060	8070	8080		
85	90					8530	8535	8540	8550	8560	8570	8580	8590	
90	95					9030	9035	9040	9050	9060	9070	9080	9090	
95	100							9540	9550	9560	9570	9580	9590	95100

HLDB-092 Bronze Sleeve Bushing Specification & Tolerance

Unit: mm

D_i ϕ d	D_O ϕ D	L $^{0}_{-0.40}$									
		25	30	35	40	50	60	70	80	90	100
100	105					10050	10060	10070	10080	10090	100100
105	110					10550	10560	10570	10580	10590	105100
110	115					11050	11060	11070	11080	11090	110100
115	120					11550	11560	11570	11580	11590	115100
120	125						12060	12070	12080	12090	120100
125	130						12560	12570	12580	12590	125100
130	135						13060	13070	13080	13090	130100
135	140						13560	13570	13580	13590	135100
140	145						14060	14070	14080	14090	140100
145	150						14560	14570	14580	14590	145100
150	155						15060	15070	15080	15090	150100
155	160						15560	15570	15580	15590	155100
160	165						16060	16070	16080	16090	160100
165	170						16560	16570	16580	16590	165100
170	175						17060	17070	17080	17090	170100
175	180						17560	17570	17580	17590	175100
180	185						18060	18070	18080	18090	180100
185	190						18560	18570	18580	18590	185100
190	195						19060	19070	19080	19090	190100
195	200						19560	19570	19580	19590	195100
200	205						20060	20070	20080	20090	200100
205	210						20560	20570	20580	20590	205100
215	220						21560	21570	21580	21590	215100
225	230						22560	22570	22580	22590	225100
230	235						23060	23070	23080	23090	230100
240	245						24060	24070	24080	24090	240100
250	255						25060	25070	25080	25090	250100
260	265						26060	26070	26080	26090	260100
270	275						27060	27070	27080	27090	270100
280	285						28060	28070	28080	28090	280100
290	295						29060	29070	29080	29090	290100
300	305						30060	30070	30080	30090	300100

HLDB-092F Bronze Flange Bushing Specification & Tolerance





S_3	1.0	1.5	2.0	2.5
r	$1^{-0.5}$	1±0.5	1.5±0.5	2±0.5

Unit: mm

D_i ϕd	D_O ϕD	D_{fl}	$L\ ^{0}_{-0.40}$										
			15	20	25	30	35	40	50	60	70	80	90
25	28	35	25150	25200	25250								
30	34	45		30200	30250	30300							
35	39	50		35200	35250	35300	35350						
40	44	55			40250	40300	40350	40400					
45	50	60				45300	45350	45400	45500				
50	55	65				50300	50350	50400	50500				
55	60	70				55300	55350	55400	55500				
60	65	75				60300	60350	60400	60500	60600			
65	70	80				65300	65350	65400	65500	65600			
70	75	85					70350	70400	70500	70600	70700		
75	80	90					75350	75400	75500	75600	75700		
80	85	95					80350	80400	80500	80600	80700	80800	
90	95	110							90500	90600	90700	90800	90900
100	105	120							100500	100600	100700	100800	100900
110	115	130							110500	110600	110700	110800	110900
120	125	140							120500	120600	120700	120800	120900
130	135	165								130600	130700	130800	130900
140	145	165								140600	140700	140800	140900
150	155	180								150600	150700	150800	150900
160	165	190								160600	160700	160800	160900
170	175	200								170600	170700	170800	170900
180	185	215								180600	180700	180800	180900
190	195	225								190600	190700	190800	190900
200	205	235								200600	200700	200800	200900
225	230	260								225600	225700	225800	225900
250	255	290								250600	250700	250800	250900
265	270	305								265600	265700	265800	265900
285	290	325								285600	285700	285800	285900
300	305	340								300600	300700	300800	300900



HLDB-800
Bimetal Bearings

HLDB-800 Bimetal Bushes

HLDB-800 Bimetal bearings used high quality low-carbon steel plate as base, sintered porous bronze as its surface, suitable for rotatory oscillating, reciprocating movements on the conditions of high load.low speed, low friction, well wear resistance, long lifetime and better prevent from holding-on.The bronze layer surface can be machined with various of grooves, oil pockets in terms of different work condition. The product is widely used in mining machinery, automobile, building machinery, agriculture equipment, rolling steel industry etc.



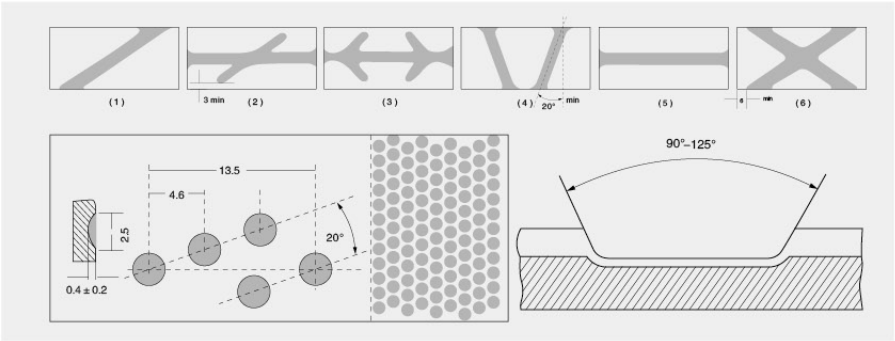
Standard Size:

Sleeve Bearing P28, Flange Bearing P30.

Non-Standard Size:

Sleeve Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

Bi-metal self lubricating bearings tank shape



Surface Roughness of Bimetal Bushes:

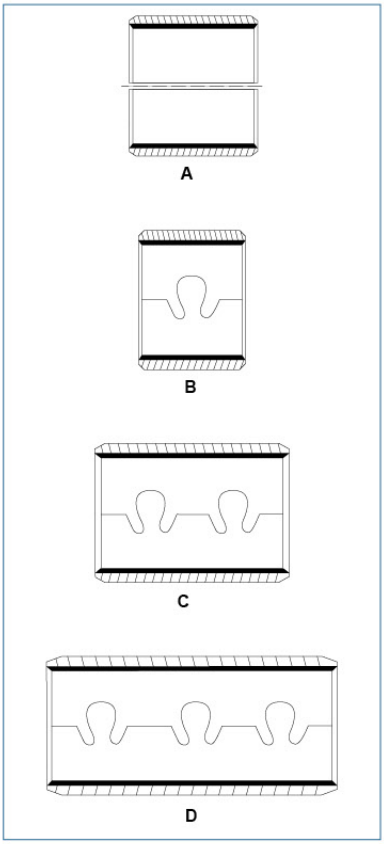
List	Bronze Surface	Bronze Surface
Bronze Surface	R20.8	R26.3
Steel Backing	R21.6	R210
Other Surfaces	R22.5	R2100

According to DIN4768, Part1

Material Characterisitc

Material Trademark	Alloy Composition	Alloy Hardness	International Standard
HLDB-800	CuPb10Sn10	70～100HB	SAE-797. DIN CuPb10Sn. JIS-LBC3. UNS C93700. Clevite F100. Daido L10. D. A. B. D57. Federal Mogul HF2. Glacier SY. Glyco66. Miba2. 1010.Taiho HF2. Kar I Schmiat KS940SSAE-797. DIN CuPb10Sn. JIS-LBC3. UNS C93700. Clevite F100. Daido L10. D. A. B D57. Federal Mogul HF2 Glacier SY. Glyco66. Miba2. 1010. Taiho HF2. Karl Schmiat Ks940s
HLDB-720	CuPb24Sn4	45～70HB	SAE=799. GLYCO 68. JIS-LBC6. DAIDO L23. Claciersx. ACLF250
HLDB-700	CuPb30	30～45HB	SAE-783. GLYCO74. JIS-AJL
HLDB-20	AlSn20Cu	30～40HB	SAE-48. JIS-KJ3
HLDB-930	CuPb6.5P0.1	69～90HB	

Material Characterisitc



HLDB-800 Bimetal Bushes

Technical Data

Performance index \ Type		HLDB-800	HLDB-720	HLDB-700	HLDB-20	HLDB-930
P (N/mm^2) Max Load Capacity		150	130	120	100	150
N/mm^2) Tensile Strength		185	150	200	200	185
V(m/s) Max Sliding Speed (Oil Lubrication)		5	10	15	25	5
μ Friction coefficient		0.05～0.20	0.06～0.16	0.08～0.16	0.08～0.17	0.06～0.16
$N/mm^2 \cdot m/s$ Max PV Value Limit	Grease lubrication	2.8	2.8	2.5	–	2.8
	Oil lubrication	10	10	8	6	-

Application Characteristics

Material Trademark	Using Conditions	Use Occasions
HLDB-800	High resistance to fatigue strenth and load capacity, with high shock resistance good wearing and good corrosion resisitance.	Fit for middle load, high speed, bushes,washer and connecting rod bearing in internal combustion engine used in machinical equipment and high shock bushing.
HLDB-720	Good resistance to fatigue strength and high load capacity,good performance of sliding, liable to be corrupted by lubricationg oil.	middle load middle speed, principle axis of internal combustion engine.
HLDB-700	Good resistance to fatigue strength, load capacity, shock resistance.	Principle axis of internal combustion engine, connecting rod bushing.
HLDB-20	Good performance of anti-seizing, covering eyewinker, soft alloy be plated on working surface.	High speed, middle or low load, principle axis internal combustion engine
HLDB-930	Moderate fatigue strength, and load capacity, good wrrosion resistance good performance of bearing sliding.	High speed, low load, internal combustion engine half bearing, bushing used in compressing and refrigerating machine.

HLDB-08G Bimetal Bushes with Graphite

HLDB-08G is a kind of steel-lead bronze alloys based bearing, which is embedded with particular formulation of solid lubricants. Owing to the high strength, high load capacity and the spirally distributed diamond type of the embedded solid lubricant, the high temperature resistant action as extraordinary exploited. The lubrication area of the bearing surface is being about 25%. This type of bearing is particularly applied in starting motor for automobiles, generators cranes and those machines inmetallurgical industry.



Technical Data

Max.load	Static	150N/mm^2
	Dynamic	40N/mm^2
Max. PV (dry running)		2.8N/mm^2·m/s
Temp. limit		-100℃~+200℃
Friction coefficient		0.06~0.25 μ
Max. speed	Grease Lubrication	1.5m/s
Thermal conductivity		58W(m·k)$^{-1}$
Coefficient of thermal expansion		18×10^{-6}·K^{1}
Hardness		HB110-150
Tensile strength		450N/mm^2
Elongation		40%

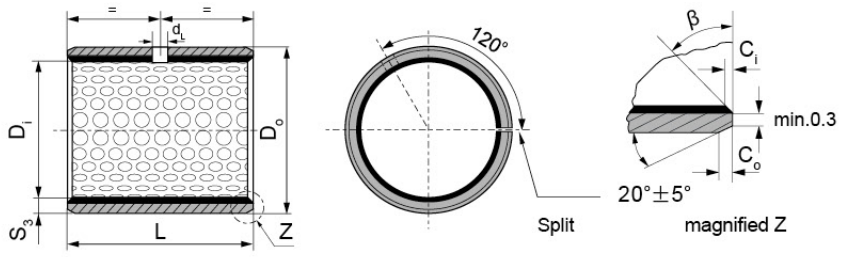
Standard Size:

Sleeve Bearing P29, Flange Bearing P31.

Non-Standard Size:

Sleeve Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

HLDB-800 Bimetal Sleeve Bushing Specification & Tolerance





ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5 ± 0.3	0.25 ± 0.2	35° ± 5°
1.00	0.6 ± 0.3	0.30 ± 0.2	35° ± 5°
1.50	0.7 ± 0.3	0.50 ± 0.3	35° ± 5°

S_3	C_o	C_i	β
2.00	1.2 ± 0.4	0.50 ± 0.3	35° ± 5°
2.50	1.8 ± 0.6	0.60 ± 0.3	45° ± 5°

Unit:mm

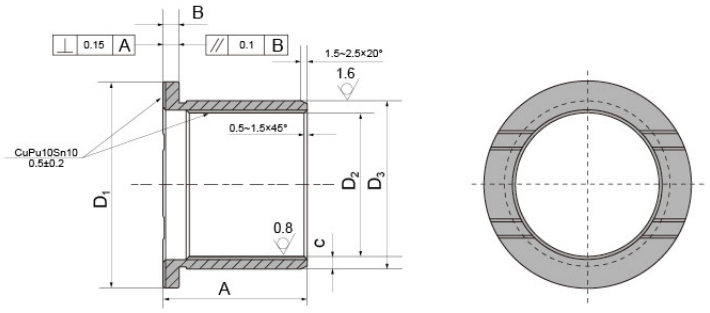
D_i ϕ d	D_O ϕ D	(h8) Shaft D_s	(H7) Housing D_H	Arter fixed $D_{i,a}$	Clearance C_D	Wall thickness S_3	Oil hole d_L	L $^{0}_{-0.40}$						
								10	15	20	25	30	40	50
10	12	$10^{-0.022}$	$12^{+0.018}$	+0.148 +0.010	0.170 0.010	0.995 0.935	4	1010	1015	1020				
12	14	$12^{-0.027}$	$14^{+0.018}$		0.175 0.010			1210	1215	1220				
14	16	$14^{-0.027}$	$16^{+0.018}$					1410	1415	1420				
15	17	$15^{-0.027}$	$17^{+0.018}$					1510	1515	1520				
16	18	$16^{-0.027}$	$18^{+0.018}$					1610	1615	1620				
18	20	$18^{-0.027}$	$20^{+0.021}$	+0.151 +0.010	0.178 0.010			1810	1815	1820	1825			
20	23	$20^{-0.033}$	$23^{+0.021}$	+0.161 +0.020	0.194 0.020	1.490 1.430		2010	2015	2020	2025			
22	25	$22^{-0.033}$	$25^{+0.021}$				6	2210	2215	2220	2225			
24	27	$24^{-0.033}$	$27^{+0.021}$					2410	2415	2420	2425	2430		
25	28	$25^{-0.033}$	$28^{+0.021}$						2515	2520	2525	2530		
26	30	$26^{-0.033}$	$30^{+0.021}$	+0.181 +0.040	0.214 0.040	1.980 1.920			2615	2620	2625	2630		
28	32	$28^{-0.033}$	$32^{+0.025}$	+0.185 +0.040	0.218 0.040				2815	2820	2825	2830	2840	
30	34	$30^{-0.033}$	$34^{+0.025}$						3015	3020	3025	3030	3040	
32	36	$32^{-0.039}$	$36^{+0.025}$						3215	3220	3225	3230	3240	
35	39	$35^{-0.039}$	$39^{+0.025}$		0.224 0.040					3520	3525	3530	3540	3550
38	42	$38^{-0.039}$	$42^{+0.025}$				8			3820	3825	3830	3840	3850
40	44	$40^{-0.039}$	$44^{+0.025}$							4020	4025	4030	4040	4050

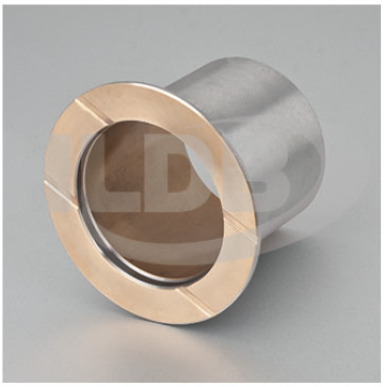
HLDB-800 Bimetal Sleeve Bushing Specification & Tolerance

Unit:mm

D_i ϕ d	D_O ϕ D	(h8) Shaft D_s	(H7) Housing D_H	Arter fixed $D_{i,a}$	Clearance C_D	Wall thickness S_3	Oil hole d_L	$L\ ^{0}_{-0.40}$							
								25	30	40	50	60	80	90	100
45	50	$45\ ^{}_{-0.039}$	$50\ ^{+0.025}$	$^{+0.225}_{+0.080}$	0.264 0.080	2.460 2.400	8	4525	4530	4540	4550				
50	55	$50\ ^{}_{-0.039}$	$55\ ^{+0.030}$	$^{+0.230}_{+0.080}$	0.269 0.080				5030	5040	5050	5060			
55	60	$55\ ^{}_{-0.046}$	$60\ ^{+0.030}$		0.276 0.080				5530	5540	5550	5560			
60	65	$60\ ^{}_{-0.046}$	$65\ ^{+0.030}$						6030	6040	6050	6060			
65	70	$65\ ^{}_{-0.046}$	$70\ ^{+0.030}$						6530	6540	6550	6560			
70	75	$70\ ^{}_{-0.046}$	$75\ ^{+0.030}$						7030	7040	7050	7060	7080		
75	80	$75\ ^{}_{-0.046}$	$80\ ^{+0.030}$				9.5		7530	7540	7550	7560	7580		
80	85	$80\ ^{}_{-0.046}$	$85\ ^{+0.035}$	$^{+0.235}_{+0.080}$	0.281 0.080				8030	8040	8050	8060	8080	8090	
85	90	$85\ ^{}_{-0.054}$	$90\ ^{+0.035}$		0.289 0.080				8530	8540	8550	8560	8580	8590	85100
90	95	$90\ ^{}_{-0.054}$	$95\ ^{+0.035}$							9040	9050	9060	9080	9090	90100
95	100	$95\ ^{}_{-0.054}$	$100\ ^{+0.035}$								9550	9560	9580	9590	95100
100	105	$100\ ^{}_{-0.054}$	$105\ ^{+0.035}$								10050	10060	10080	10090	100100
105	110	$105\ ^{}_{-0.054}$	$110\ ^{+0.035}$								10550	10560	10580	10590	105100
110	115	$110\ ^{}_{-0.054}$	$115\ ^{+0.035}$								11050	11060	11080	11090	110100
115	120	$115\ ^{}_{-0.054}$	$120\ ^{+0.035}$								11550	11560	11580	11590	115100
120	125	$120\ ^{}_{-0.054}$	$125\ ^{+0.040}$	$^{+0.240}_{+0.080}$							12050	12060	12080	12090	120100
125	130	$125\ ^{}_{-0.063}$	$130\ ^{+0.040}$		0.303 0.080							12560	12580	12590	125100
130	135	$130\ ^{}_{-0.063}$	$135\ ^{+0.040}$									13060	13080	13090	130100
135	140	$135\ ^{}_{-0.063}$	$140\ ^{+0.040}$									13560	13580	13590	135100
140	145	$140\ ^{}_{-0.063}$	$145\ ^{+0.040}$									14060	14080	14090	140100
150	155	$150\ ^{}_{-0.063}$	$155\ ^{+0.040}$									15060	15080	15090	150100

HLDB-800 Bimetal Flange Bushing Specification & Tolerance



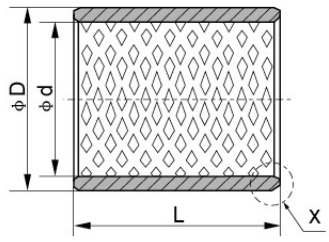


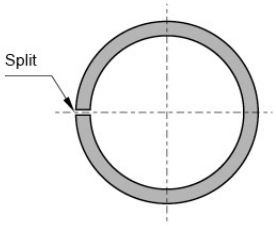
Unit:mm

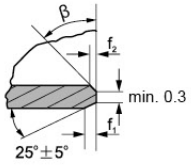
D_1	B	D_3	D_2	A	C
42	3.5	37	30	30	3.5
43	2	34	30	28	2
44	3.5	39	32	35	3.5
47	3.5	39	32	50	3.5
48	2	39	35	37	2
52	3	41	35	35	3
55	3.5	42	35	35	3.5
55	3.5	45	38	35	3.5
55	3.5	45	38	40	3.5
60	3	41	35	42	3
60	3	46	40	62	3
63	3.5	47	40	40	3.5
65	3.5	52	45	40	3.5
68	3.5	54	47	35	3.5
70	3.5	54	47	40	3.5
70	3.5	57	50	48	3.5
72	3.5	57	50	45	3.5
72	3.5	57	50	50	3.5
75	3.5	57	50	50	3.5
77	3	60	54	55	3
83	3.5	66	59	53	3.5
85	3.5	65	58	60	3.5
87	3.5	67	60	53	3.5
87	3.5	67	60	60	3.5

D_1	B	D_3	D_2	A	C
87	3.5	67	60	65	3.5
87	4	68	60	60	4
94	3.5	72	65	60	3.5
87	3.5	72	65	65	3.5
87.5	1.95	69.12	65.22	64.5	2
88	3.5	67	60	60	3.5
88	3.5	72	65	65	3.5
92	3.5	77	70	67	3.5
93	3.5	75	68	60	3.5
94	3.5	77	70	70	3.5
95	3.5	77	70	65	3.5
95	4	78	70	70	4
97	3.48	77.14	70.18	62	3.5
97	3.5	82	75	74	3.5
100	5	85	75	70	5
103	3.525	70.8	63.75	73	3.5
105	3.5	82	75	75	3.5
105	3.5	87	80	70	3.5
107	4	83	75	74	4
115	5	100	90	75	5
128	3.8	92.6	85	103	4
108	3.5	72	65	75	3.5
108	3.5	77	70	98	3.5
108	5	80	70	90	5

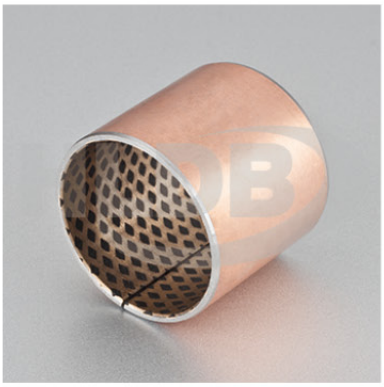
HLDB-08G Solid-lubricant Bushing Specification & Tolerance







magnified X



Unit: mm

d	D	f_1	f_2	L $^{0}_{-0.40}$												
				10	15	20	25	30	35	40	50	60	70	80	90	100
10	12			1010	1015	1020										
12	14			1210	1215	1220										
14	16	0.3	0.5	1410	1415	1420	1425									
15	17			1510	1515	1520	1525									
16	18			1610	1615	1620	1625									
18	20			1810	1815	1820	1825									
20	23			2010	2015	2020	2025									
22	25	0.8	0.4	2210	2215	2220	2225	2230								
24	27				2415	2420	2425	2430								
25	28				2515	2520	2525	2530								
28	32				2815	2820	2825	2830								
30	34				3015	3020	3025	3030	3035	3040						
32	36	1.0	0.6		3215	3220	3225	3230	3235	3240						
35	39				3515	3520	3525	3530	3535	3540						
40	44					4020	4025	4030	4035	4040	4050					
45	50					4520	4525	4530	4535	4540	4550					
50	55					5020	5025	5030	5035	5040	5050	5060				
55	60					5520	5525	5530	5535	5540	5550	5560				
60	65	1.2					6025	6030	6035	6040	6050	6060	6070			
65	70							6530	6535	6540	6550	6560	6570			
70	75							7030	7035	7040	7050	7060	7070	7080		
75	80							7530	7535	7540	7550	7560	7570	7580		
80	85							8030	8035	8040	8050	8060	8070	8080		
85	90									8540	8550	8560	8570	8580	8590	
90	95									9040	9050	9060	9070	9080	9090	
95	100										9550	9560	9570	9580	9590	95100
100	105		0.8								10050	10060	10070	10080	10090	100100
105	110										10550	10560	10570	10580	10590	105100
110	115										11050	11060	11070	11080	11090	110100
115	120										11550	11560	11570	11580	11590	115100
120	125	1.4										12060	12070	12080	12090	120100
125	130											12560	12570	12580	12590	125100
130	135											13060	13070	13080	13090	130100
135	140											13560	13570	13580	13590	135100
140	145											14060	14070	14080	14090	140100
145	150											14560	14570	14580	14590	145100
150	155											15060	15070	15080	15090	150100
155	160											15560	15570	15580	15590	155100
160	165											16060	16070	16080	16090	160100



HLDB-JDB
Solid Lubricant
Embedded Bearings

HLDB-JDB Solid Lubricant Embedded Bearings

Application

HLDB-JDB-10 solid lubricant embedded bushing is a new type made from strong brass and homogeneously embedded with solid lubricant in its body. It breaks through the limit of general bearing whose lubrication depends on oil film. So it is suitable for high temperature, heavy load, anti-corrosion, or where oil is hard to be introduced. It is performance doubles both on hardness and wear-friction. It is now widely applied in successive casting machines, steel rollers in metallography, mineral machine, ships, steam turbine, and injection molding machines for plastics.

HLDB-JDB-20 suitable for low load position, wear performance worsens greatly when under middle or high load, it can be applied in furnace door linage, furnace, conveyor, tool machines, light industries, etc.

HLDB-JDB-30 suitable for low load position, wear performance worsens when under middle or high load. The mating layer is same as HLDB-JDB-20 so that more cost-saving than HLDB-JDB-2 whereas compression strength increases and weldable. Most suitable for dry position in construction machinery, metallurgical machines, conveyor machines etc.

HLDB-JDB-40 can be used under low speed rotation, middle and high load. Due to its super high hardness, when under high load, it over performs than other JDB type. Not suitable for water. Acid, alkali circumstances. Most suitable for the supporting position of hoisting machine,e,g. Bulldozer supporter, hoister supporter, Crane supporter etc.

HLDB-JDB-50 is a typical material product. It can instead of material of HLDB-JDB-10 when the machanical preformance requirement not very high. It can reduct the cost and meet the operation requiremert. Such as dieguider, plastrc in jection machines ect.







Solid Lubricants

Lubricant	SL1 Graphite	SL4+MoS_2 PTFE+MoS_2+CF
Features	Good wear performance and chemical stability, temperature limit 400℃	Lowest friction coefficient and good water lubrication, temperature limit 300℃
Typical application	Suit for general machines and under atmosphere	Suit for water and seawater lubricant, such as ship

Advantages of Soild Lubricant Embedded Bearings

1、Dry operation.

2、Can be Performed well with high load and low speed.

3、Rreciprocating motion, wagging motion, start and stop frequently are difficulty for keeping oil film. It still may play advantageous of wear-resistance.

4、Excellent chemical resistance and anti-corrosion.

5、Flexible, simple, convenient and abundant designing of standard, can be choosed by standard axes.

HLDB-JDB Solid Lubricant Embedded Bearings

Alloy Material

Type / Corresponding Brands	HLDB-JDB-10	HLDB-JDB-20	HLDB-JDB-30	HLDB-JDB-40	HLDB-JDB-50
GB1776-87 China Brands GB1776-87	ZCuZn25 Al6Fe3Mn3	ZCuSn6 Zn6Pb3	(steel)+ ZCuSn6 Zn6Pb3	GCr15	HT250
International ISO1338	GCuZn25 Al6Fe3Mn3	GCuSn6 Zn6Pb3	(steel)+ CuSn6Zn6Pb3 Fe3Ni5	B1	-
Germany DIN	G-CuZn25 Al5	GB-CuSn5 Zn5Pb5	(steel)+ CuSn6Zn6 Pb3Ni	100Cr6	-
Japan JIS	HBsC4	BC6	BC6	SUJ2	FC250
America ASTM/UNS	C86300	C83600	C83600	52100	Class40
England Standard	HTB2	LG2	LG2	-	-





Technical Data

Type / Performance index	HLDB-JDB-10	HLDB-JDB-20	HLDB-JDB-30	HLDB-JDB-40	HLDB-JDB-50
P (N/mm^2) Max Move Load Capacity	100	60	70	250	60
V (m/s) Max Sliding Speed	(dry) 0.4 (oil) 0.5	2	2	0.1	0.5
(N/mm^2·m/s) Max PV Value Limit	3.8	0.5	0.6	2.5	0.8
ρ (g/cm^3) Density	8.0	8.0	7.6	7.8	7.3
(N/mm^2) Tensile Strength	> 600	> 250	> 500	> 1500	> 250
(%) Elongation	> 10	> 4	> 10	-	-
(HB) Hardness	> 210	> 80	> 80	HRC > 55	> 160
Max Working Temperature	300	350	300	350	400
μ Friction coefficient	Oil Lubrication:0.03			Dry Friction:0.16	

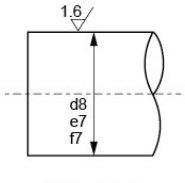
Alloy Chemical Compositions

Chemical elements	HLDB-JDB-10	HLDB-JDB-20	HLDB-JDB-30	HLDB-JDB-40	HLDB-JDB-50
Cu (%)	Rest	Rest	Rest	-	-
Sn (%)	-	6	6	-	-
Zn (%)	25	6	6	-	-
Ni (%)	-	-	-	-	-
Al (%)	6	-	-	-	-
Fe (%)	3	-	-	Rest	Rest
Mn (%)	3	-	-	0.20 ~ 0.40	0.905 ~ 1.3
Cr (%)	-	-	-	1.30 ~ 1.65	-
C (%)	-	-	-	0.95 ~ 1.05	2.5 ~ 4
Si (%)	-	-	-	0.15 ~ 0.35	1.0 ~ 1.3
Pb (%)	-	3	3	-	-

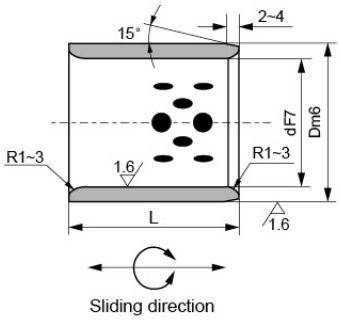




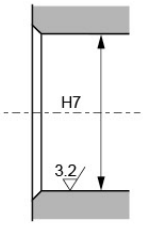
HLDB-JDB Sleeve Bearing Standard Metric Size



Mating Shaft



Sliding direction



Mating Housing



Unit: mm

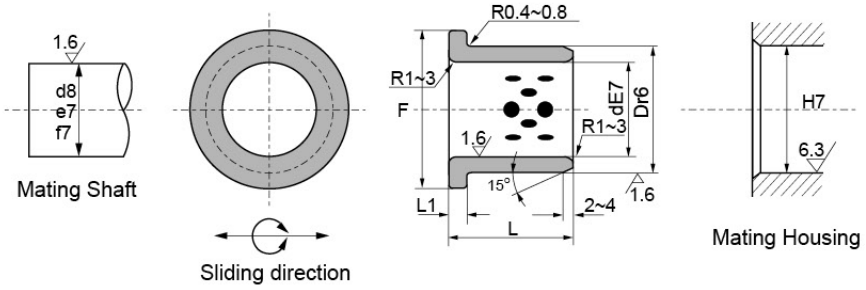
d	D	d F7		D m6		L $^{-0.10}_{-0.30}$													
						8	10	12	15	16	20	25	30	35	40	50	60	70	80
8	12	8	+0.028 +0.013	12	+0.018 +0.007	081208	081210	081212	081215										
10	14	10		14		101408	101410	101412	101415	101416	101420								
12	18	12	+0.034 +0.016	18			121810	121812	121815	121816	121820	121825	121830						
13	19	13		19	+0.021 +0.008		131910	131912	131915	131916	131920	131925	131930						
14	20	14		20			142010	142012	142015	142016	142020	142025	142030						
15	21	15		21			152110	152112	152115	152116	152120	152125	152130	152135					
16	22	16		22			162210	162212	162215	162216	162220	162225	162230	162235	162240				
18	24	18		24			182410	182412	182415	182416	182420	182425	182430	182435	182440				
20	28	20	+0.041 +0.020	28			202810	202812	202815	202816	202820	202825	202830	202835	202840	202850			
22	32	22		32				223212	223215	223216	223220	223225	223230	223235	223240	223250			
25	33	25		33	+0.025 +0.009			253312	253315	253316	253320	253325	253330	253335	253340	253350	253360		
30	38	30		38				303812	303815	303816	303820	303825	303830	303835	303840	303850	303860		
35	45	35	+0.050 +0.025	45							354520	354525	354530	354535	354540	354550	354560	354570	
40	50	40		50							405020	405025	405030	405035	405040	405050	405060	405070	405080
45	55	45		55									455530	455535	455540	455550	455560	455570	455580
50	60	50		60									506030	506035	506040	506050	506060	506070	506080

HLDB-JDB Sleeve Bearing Standard Metric Size

Unit: mm

d	D	d F7		D m6		L -0.10 -0.30											
						30	35	40	50	60	70	80	100	120	130	140	150
50	62	50	+0.050 +0.025	62	+0.030 +0.011	506230	506235	506240	506250	506260	506270						
50	65	50		65		506530	506535	506540	506550	506560	506570	506580	5065100				
55	70	55	+0.060 +0.030	70		557030	557035	557040	557050	557060	557070	557080	5570100				
60	74	60		75		607430	607435	607440	607450	607460	607470	607480	6074100				
60	75	60		75		607530	607535	607540	607550	607560	607570	607580	6075100				
63	75	63		75			637535	637540	637550	637560	637570	637580	6375100				
65	80	65		80			658035	658040	658050	658060	658070	658080	6580100				
70	85	70		85	+0.035 +0.013		708535	708540	708550	708560	708570	708580	7085100				
70	90	70		90			709035	709040	709050	709060	709070	709080	7090100				
75	90	75		90				759040	759050	759060	759070	759080	7590100				
75	95	75		95				759540	759550	759560	759570	759580	7595100	7595120			
80	96	80		96				809640	809650	809660	809670	809680	8096100	8096120	8096130		
80	100	80		100				8010040	8010050	8010060	8010070	8010080	80100100	80100120	80100130	80100140	
90	110	90	+0.071 +0.036	110					9011050	9011060	9011070	9011080	90110100	90110120	90110130	90110140	
100	120	100		120						10012060	10012070	10012080	100120100	100120120	100120130	100120140	
110	130	110		130	+0.040 +0.015							11013080	110130100	110130120	110130130	110130140	
120	140	120		140								12014080	120140100	120140120	120140130	120140140	
125	145	125	+0.083 +0.043	145									125145100	125145120	125145130	125145140	
130	150	130		150									130150100	130150120	130150130	130150140	130150150
140	160	140		160									140160100	140160120	140160130	140160140	140160150
150	170	150		170									150170100	150170120	150170130	150170140	150170150
160	180	160		180									160180100	160180120	160180130	160180140	160180150

HLDB-JFB Flange Bearing Standard Metric Size

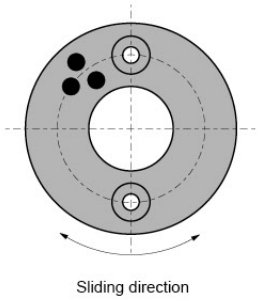


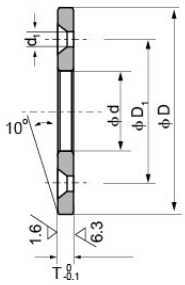


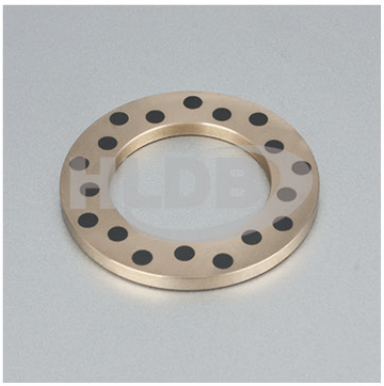
Unit: mm

d	D	d E7		D r6		F	L_1	L $^{-0.10}_{-0.30}$									
								15	20	25	30	35	40	50	60	80	100
10	14	10	+0.040 +0.025	14	+0.034 +0.023	22	2	1015	1020								
12	18	12		18		25		1215	1220								
13	19	13		19		26		1315	1320								
14	20	14	+0.050 +0.032	20		27	3	1415	1420	1425							
15	21	15		21	+0.041 +0.028	28		1515	1520	1525	1530						
16	22	16		22		29		1615	1620	1625	1630						
20	30	20		30		40			2020	2025	2030	2035					
25	35	25	+0.061 +0.040	35		45			2520	2525	2530	2535	2540				
30	40	30		40	+0.050 +0.034	50			3020	3025	3030	3035	3040	3050			
35	45	35		45		60				3525	3530	3535	3540	3550			
40	50	40	+0.075 +0.050	50		65	5				4030	4035	4040	4050			
45	55	45		55		70					4530	4535	4540	4550	4560		
50	60	50		60	+0.060 +0.041	75						5035	5040	5050	5060		
55	65	55		65		80							5540	5550	5560		
60	75	60		75	+0.062 +0.043	90							6040	6050	6060	6080	
70	85	70	+0.090 +0.060	85		105	7.5							7050	7060	7080	
75	90	75		90	+0.073 +0.051	110								7550	7560	7580	75100
80	100	80		100		120									8060	8080	80100
90	110	90		110	+0.076 +0.054	130	10								9060	9080	90100
100	120	100	+0.107 +0.072	120		150									10060	10080	100100
120	140	120		140	+0.088 +0.063	170									12060	12080	120100

HLDB-JTW Thrust Washer Standard Metric Size



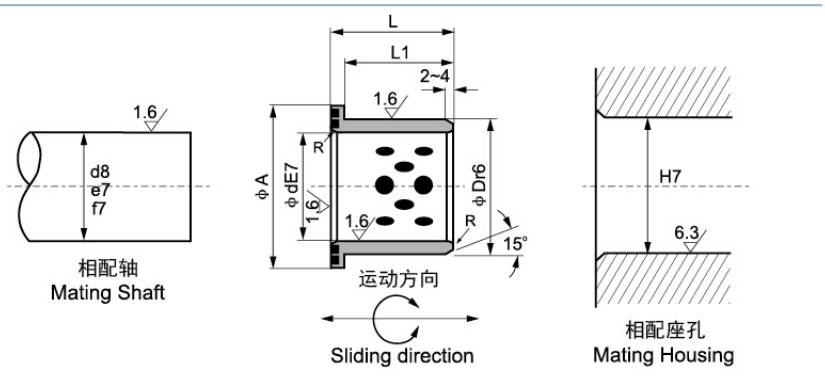




Unit: mm

Standard No.	ϕ d	ϕ D	T 0 -0.10	Bolt Hole			
				ϕ D_1	Crop Bolt	ϕ d_1	Bore Number
HLDB-JTW-10	10.2	30	3	20	M3	3.5	2
HLDB-JTW-12	12.2	40		28			
HLDB-JTW-13	13.2						
HLDB-JTW-14	14.2						
HLDB-JTW-15	15.2	50		35			
HLDB-JTW-16	16.2						
HLDB-JTW-18	18.2						
HLDB-JTW-20	20.2		5		M5	6	
HLDB-JTW-25	25.2	55		40			
HLDB-JTW-30	30.2	60		45			
HLDB-JTW-35	35.2	70		50	M6	7	
HLDB-JTW-40	40.2	80	7	60			
HLDB-JTW-45	45.3	90		70			
HLDB-JTW-50	50.3	100	8	75			4
HLDB-JTW-55	55.3	110		85			
HLDB-JTW-60	60.3	120		90	M8	9	
HLDB-JTW-65	65.3	125		95			
HLDB-JTW-70	70.3	130	10	100			
HLDB-JTW-75	75.3	140		110			
HLDB-JTW-80	80.3	150		120			
HLDB-JTW-90	90.5	170		140	M10	11	
HLDB-JTW-100	100.5	190		160			
HLDB-JTW-120	120.5	200		175			

HLDB-JDBB Flange Bearing Standard Metric Size

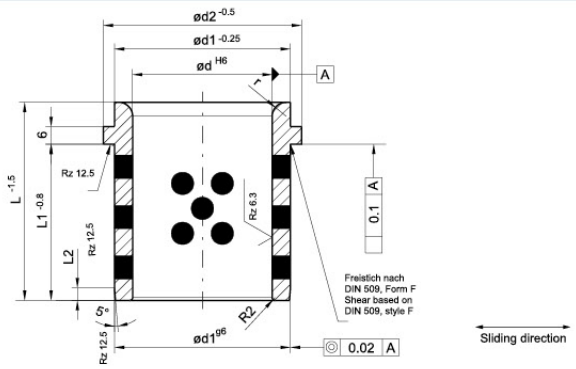




Unit:mm

Standard No.	ϕ d E7		ϕ D r6		ϕ A	L1	L
HLDB-JDBB-12×15	12	+0.050 +0.032	18	+0.034 +0.023	25	11	15
HLDB-JDBB-16×20	16		22	+0.041 +0.028	30	15	20
HLDB-JDBB-20×25	20	+0.061 +0.040	28		36	20	25
HLDB-JDBB-25×30	25		33	+0.050 +0.034	43	25	30
HLDB-JDBB-30×35	30	+0.075 +0.050	38		48	30	35
HLDB-JDBB-40×45	40		50		60	40	45
HLDB-JDBB-50×55	50		62	+0.060 +0.041	75	49	55
HLDB-JDBB-60×65	60	+0.090 +0.060	74	+0.062 +0.043	90	58	65

DIN9834 Guide Bearing Standard Metric Size

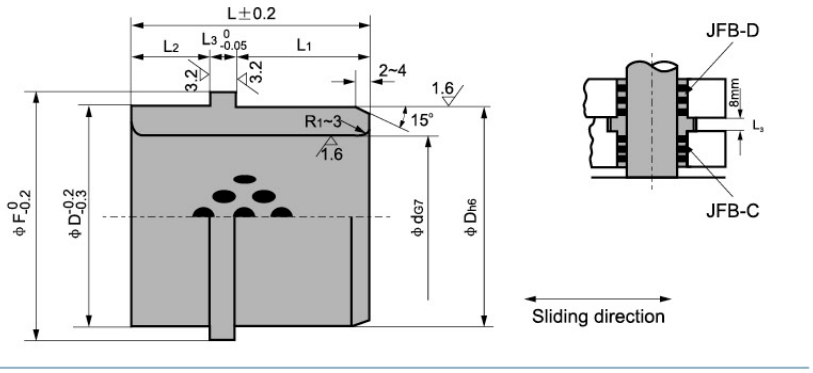




Unit:mm

Standard No.	d	L	d1	d2	L1	L2	L3	r
DIN9834-789	25	32	32	40	22	6,3	4	3
DIN9834-799	25	40	32	40	30		4	3
DIN9834-797	25	40	32	40	32		4	3
DIN9834-796	24	40	32	40	32		4	3
DIN9834-800	32	50	40	50	40		4	3
DIN9834-801	40	63	50	63	50		5	3
DIN9834-802	50	71	63	71	56		6,3	5
DIN9834-803	63	80	80	90	63	10	8	6
DIN9834-804	80	100	100	112	80		10	8
DIN9834-808	100	125	125	140	100		12,5	10
DIN9834-805	100	125	125	140	106		12,5	10
DIN9834-806	125	160	160	180	132		16	12
DIN9834-807	160	200	200	220	170		16	18

HLDB-JOSG Guide Ejector Bearing Standard Metric Size



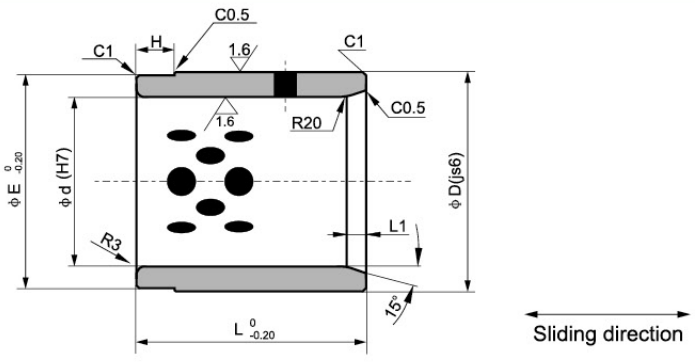


Unit:mm

Standard No.	φ d G7		φ D h6		φ F	L	L_1	L_2	L_3
HLDB-JOSG-10×24	10	+0.020 +0.005	16	0 -0.011	21	24	10	10	4
HLDB-JOSG-10×28						28	14		
HLDB-JOSG-12×26	12	+0.024 +0.006	18			26	12		
HLDB-JOSG-12×28						28	14		
HLDB-JOSG-13×26	13		22	0 -0.013	25	26	12		
HLDB-JOSG-13×28						28	14		
HLDB-JOSG-13×33						33	18		
HLDB-JOSG-13×38						38	24		
HLDB-JOSG-16×26	16		25		30	26	12		
HLDB-JOSG-16×28						28	14		
HLDB-JOSG-16×33						33	19		
HLDB-JOSG-16×38						38	24		
HLDB-JOSG-20×26	20	+0.028 +0.007	30		35	26	12		
HLDB-JOSG-20×28						28	14		
HLDB-JOSG-20×33						33	19		
HLDB-JOSG-20×38						38	24		
HLDB-JOSG-25×26	25		35	0 -0.016	40	26	12		
HLDB-JOSG-25×28						28	14		
HLDB-JOSG-25×33						33	19		
HLDB-JOSG-25×38						38	24		
HLDB-JOSG-30×33	30		40		45	33	14	15	
HLDB-JOSG-30×38						38	19		
HLDB-JOSG-30×43						43	24		

Standard No.	φ d G7		φ D h6		φ F	L	L_1	L_2	L_3
HLDB-JOSG-32×38	32	+0.034 +0.009	42	0 -0.016	47	38	19	15	4
HLDB-JOSG-32×43						43	24		
HLDB-JOSG-32×48						48	29		
HLDB-JOSG-35×38	35		46	0 -0.019	50	38	19		
HLDB-JOSG-35×43						43	24		
HLDB-JOSG-35×48						48	29		
HLDB-JOSG-40×48	40		52		57	48	24	20	
HLDB-JOSG-40×53						53	29		
HLDB-JOSG-50×48	50		62		67	48	24		
HLDB-JOSG-50×53						53	29		
HLDB-JOSG-30×37	30	+0.028 +0.007	42	0 -0.016	47	37	14	15	8
HLDB-JOSG-30×42						42	19		
HLDB-JOSG-30×47						47	24		
HLDB-JOSG-30×52						52	29		
HLDB-JOSG-40×53	40	+0.034 +0.009	55	0 -0.019	60	53	20	25	
HLDB-JOSG-40×57						57	24		
HLDB-JOSG-40×60			50	0 -0.016	55	60	32	20	
HLDB-JOSG-40×67			55	0 -0.019	60	67	29	30	
HLDB-JOSG-40×70			50		55	70	42	20	
HLDB-JOSG-50×67	50		62		67	67	29	30	
HLDB-JOSG-50×87						87	39	40	
HLDB-JOSG-60×67	60	+0.040 +0.010	74		82	67	29	30	
HLDB-JOSG-60×87						87	39	40	

HLDB-JPBW Guide Bearing Standard Metric Size

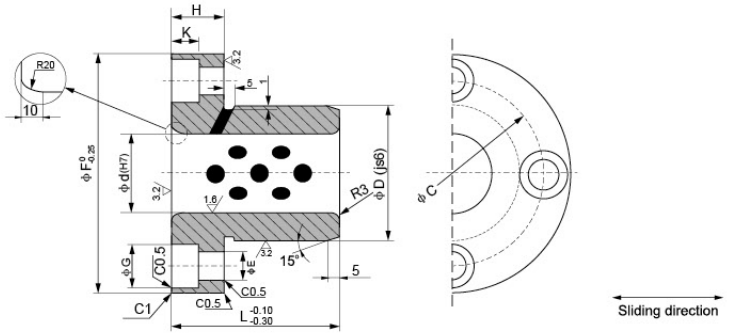




Unit:mm

Standard No.	Specification	ΦD (js6)	Φd (H7)	L	ΦE	H	L1
HLDB-JPBW-30	50×30×50	50	30	50	49	10	5
HLDB-JPBW-40	60×40×60	60	40	60	59	10	
HLDB-JPBW-50	70×50×75	70	50	75	69	15	
HLDB-JPBW-60	80×60×90	80	60	90	79	20	10
HLDB-JPBW-80	100×80×120	100	80	120	99	25	
HLDB-JPBW-100	120×100×150	120	100	150	119	25	
HLDB-JPBW-120	140×120×180	140	120	180	139	25	
HLDB-JPBW-30	50×30×50	50	30	50	49	10	5
HLDB-JPBW-40	60×40×60	60	40	60	59	10	
HLDB-JPBW-50	70×50×75	70	50	75	69	15	
HLDB-JPBW-60	80×60×90	80	60	90	79	20	10
HLDB-JPBW-80	100×80×120	100	80	120	99	25	
HLDB-JPBW-100	120×100×150	120	100	150	119	25	
HLDB-JPBW-120	140×120×180	140	120	180	139	25	

HLDB-HGB Flange Guide Bearing Standard Metric Size

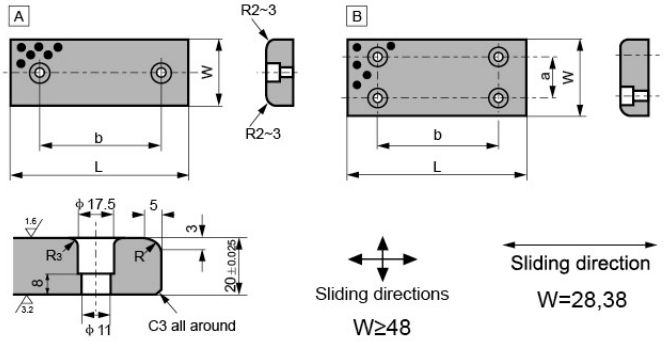




Unit: mm

NO.	Code	Spcification	ΦF	ΦD (js6)	Φd (H7)	H	L	ΦC	ΦE	ΦG	K
1	30	90×50×30×50	90	50	30	20	50	70	11	17.5	10.8
2	40	100×60×40×65	100	60	40	20	65	80	11	17.5	10.8
3	50	125×75×50×80	125	75	50	20	80	100	11	17.5	10.8
4	60	135×85×60×100	135	85	60	20	100	110	11	17.5	10.8
5	80	170×110×80×130	170	110	80	25	130	140	14	20	13
6	100	190×130×100×160	190	130	100	25	160	160	14	20	13

HLDB-JESW Wear Plate Standard Metric Size

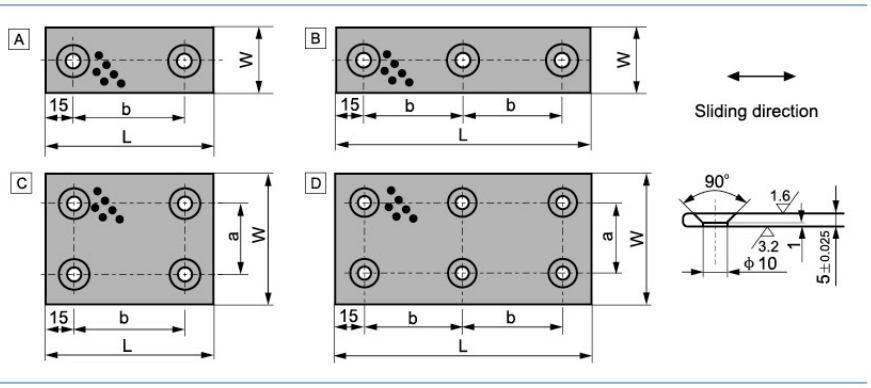




Unit: mm

Standard No.	W	L	a	b	Sketch
HLDB-JESW-28×75	28	75	-	45	A
HLDB-JESW-28×100		100		50	
HLDB-JESW-28×150		150		100	
HLDB-JESW-38×75	38	75	-	45	
HLDB-JESW-38×100		100		50	
HLDB-JESW-38×150		150		100	
HLDB-JESW-48×75	48	75	- -	45	
HLDB-JESW-48×100		100		50	
HLDB-JESW-48×125		125		75	
HLDB-JESW-48×150		150		100	
HLDB-JESW-48×200		200		150	
HLDB-JESW-58×75	58	75	-	45	
HLDB-JESW-58×100		100		50	
HLDB-JESW-58×150		150		100	
HLDB-JESW-75×75	75	75	-	25	
HLDB-JESW-75×100		100		50	
HLDB-JESW-75×125		125		75	
HLDB-JESW-75×150		150		100	
HLDB-JESW-75×200		200		150	
HLDB-JESW-100×100	100	100	50	50	B
HLDB-JESW-100×125		125		75	
HLDB-JESW-100×150		150		100	
HLDB-JESW-100×200		200		150	
HLDB-JESW-100×250		250		200	
HLDB-JESW-100×300		300		200	
HLDB-JESW-125×125	125	125	50	75	
HLDB-JESW-125×150		150		100	
HLDB-JESW-125×200		200		150	
HLDB-JESW-125×250		250		200	
HLDB-JESW-125×300		300		200	
HLDB-JESW-125×350		350		200	
HLDB-JESW-150×150	150	150	100	100	
HLDB-JESW-150×200		200		150	
HLDB-JESW-150×250		250		200	

HLDB-JUWP Wear Plates Standard Metric Size

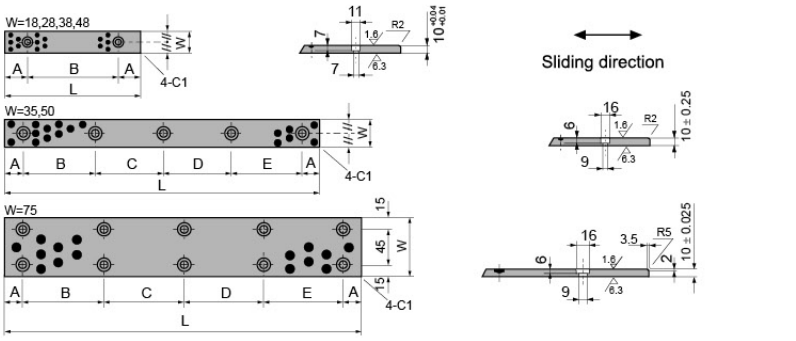




Unit:mm

Standard No.	W	L	a	b	Sketch
HLDB-JUWP-18×50	18	50	-	20	A
HLDB-JUWP-18×75		75		45	
HLDB-JUWP-18×100		100		70	
HLDB-JUWP-18×150		150		60	B
HLDB-JUWP-28×50	28	50	-	20	A
HLDB-JUWP-28×75		75		45	
HLDB-JUWP-28×100		100		70	
HLDB-JUWP-28×150		150		60	B
HLDB-JUWP-38×50	38	50	-	20	A
HLDB-JUWP-38×75		75		45	
HLDB-JUWP-38×100		100		70	
HLDB-JUWP-38×150		150		60	B
HLDB-JUWP-48×75	48	75	-	45	A
HLDB-JUWP-48×100		100		70	
HLDB-JUWP-48×125		125		95	
HLDB-JUWP-48×150		150		60	B
HLDB-JUWP-75×75	75	75	45	45	C
HLDB-JUWP-75×100		100		70	
HLDB-JUWP-75×125		125		95	
HLDB-JUWP-75×150		150		60	D
HLDB-JUWP-100×100	100	100	70	70	C
HLDB-JUWP-100×125		125		95	
HLDB-JUWP-100×150		150		60	D

HLDB-JSP Wear Plates Standard Metric Size

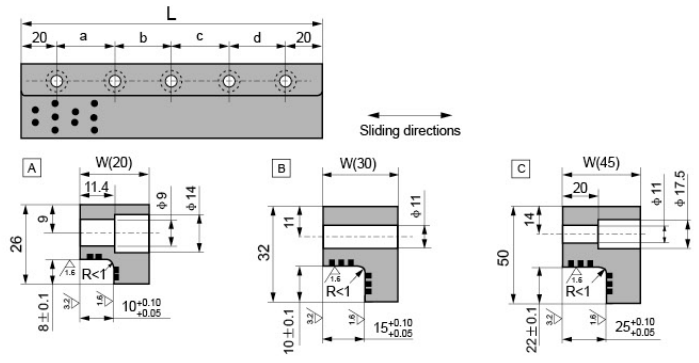




Unit: mm

Standard No.	W	L	A	B	C	D	E	Flat Head Screw Size	Q'ty of holes
HLDB-JSP-1875	18	75	15	45				M6	2
HLDB-JSP-18100		100	25	50					
HLDB-JSP-18125		125		75					
HLDB-JSP-18150		150		100					
HLDB-JSP-2875	28	75	15	45					
HLDB-JSP-28100		100	25	50					
HLDB-JSP-28125		125		75					
HLDB-JSP-28150		150		100					
HLDB-JSP-35100	35	100	20	60				M8	3
HLDB-JSP-35150		150		55	55				4
HLDB-JSP-35200		200		55	50	55			4
HLDB-JSP-35250		250		70	70	70			5
HLDB-JSP-35300		300		65	65	65	65		5
HLDB-JSP-35350		350		80	75	75	80		
HLDB-JSP-3875	38	75	15	45				M6	2
HLDB-JSP-38100		100	25	50					
HLDB-JSP-38125		125		75					
HLDB-JSP-38150		150		100					
HLDB-JSP-4875	48	75	15	45					
HLDB-JSP-48100		100	25	50					
HLDB-JSP-48125		125		75					
HLDB-JSP-48150		150		100					
HLDB-JSP-50100	50	100	20	60				M8	3
HLDB-JSP-50150		150		55	55				4
HLDB-JSP-50200		200		55	50	55			4
HLDB-JSP-50250		250		70	70	70			5
HLDB-JSP-50300		300		65	65	65	65		5
HLDB-JSP-50400		400		90	90	90	90		4
HLDB-JSP-75150	75	150		110					6
HLDB-JSP-75200		200		80	80				6
HLDB-JSP-75250		250		105	105				8
HLDB-JSP-75300		300		85	90	85			8
HLDB-JSP-75400		400		120	120	120			10
HLDB-JSP-75500		500		115	115	115	115		

HLDB-JSL Wear Plate Standard Metric Size





Unit: mm

Standard No.	W	L	Bolt Hole						Sketch
			a	b	c	d	Size	Q'ty	
HLD-JSL-20×100	20	100	60	——	——	——	M8	2	A
HLD-JSL-20×150		150	55	55	——	——		3	
HLD-JSL-20×200		200	55	50	55	——		4	
HLD-JSL-30×100	30	100	60	——	——	——	M10	2	B
HLD-JSL-30×150		150	55	55	——	——		3	
HLD-JSL-30×200		200	55	50	55	——		4	
HLD-JSL-30×250		250	70	70	70	——		4	
HLD-JSL-45×200	45	200	55	50	55	——		4	C
HLD-JSL-45×250		250	70	70	70	——		4	
HLD-JSL-45×300		300	65	65	65	65		5	
HLD-JSL-45×350		350	80	75	75	80		5	

Wrapped Bushing Dimensional Inspection

Rolled products in the manufacturing process determine the existence of open joints, making products in the free state not habe a good whole circle shape, while sleeve diameter and the seat for the interference fit between the holes, sleeve adapted to maximize Block hole shape can not be directly measured in the free state the inner/outside diameter of the product only can be by a special measuring instrument; In ISO3547 standards measured Part 2 of the rolled products made clear tolerance test requirements, including :

Test Method A: Huff regulatory test outside diameter;

Test method B: use stop-pass gauge to test the outside diameter;

Test method C: use stop-pass gauge to test the inside diameter;

Test method D: Measure the outer diameter of large scale product and use wall-thickness test to replace test method C. (Wall-thickness test and test method C can not be used at the same time.)

External diameter test methods

Test A of ISO 3547 Part 2

Check the outside diameter of a wrapped bush using measuring equipment as shown to the right, with a checking block consisting of upper and lower halves and setting plugs, at a determined checking load of Fch, during the test the outside diameter of the bush is made smaller by the elastic reduction, however it is not a permanent deformation. The bushes outside diameter can be calculated from the difference in the value of z (⊿Z)

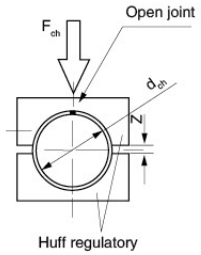
Test B of ISO 3547 Part 2

The test is carried out with two ring gauggs, a Go gauge and a No Go gauge whose diameter Shall be chosen empirically from with Table 6 of ISO3547-1:1999 and agreed upon. It shall be possible to press the bushes into the GO gauge and then push them through with hand pressure (maximum force 250N). On the other hand with the same force, it shall not be possible for them to go into and through the NO GO gauge (See ISO 12307-1)

Test D (ISO 3547-2)

The test is carried out by means of a precision measuring tape.

Test A of ISO



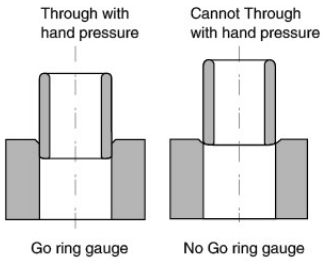
Checking block and setting mandrel d_{ch}=_____mm

Torce test F_{ch}=_____N

Limiting value $\triangle_z$=____and____mm

OD tolerance D_o=____to____mm

B Test B of ISO

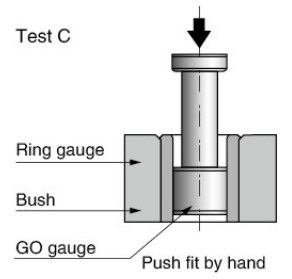


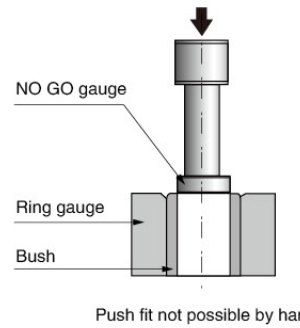
Wrapped Bushing Dimensional Inspection

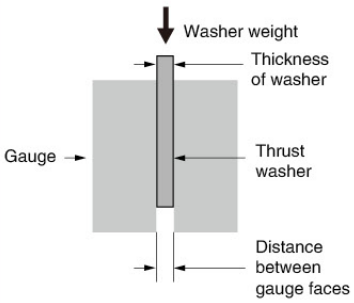
Internal diameter test methods

Test C (ISO3547-2: Test C)

To check the inside diameter, the bush is to be pressed into a ring gauge, whose nominal diameter corresponds to the dimension specified in ISO3547-1:1999. The inside diameter shall be measured with a 3-point measuring instrument or checked with a GO and NO GO plug gauge. The GO plug gauge shall be inserted by a minimum effort; the NO GO plug gauge shall not be inserted by manual pressure(maximum force 250N). In order to enable the manufacturer and the customer to compare results of this test it should be agreed whether results should be obtained by measuring or by gauging.







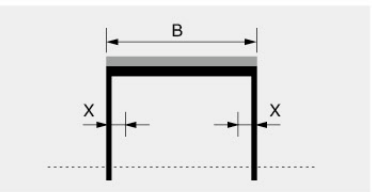
Thrust washer test method

Beside the thickness, the flatness of washer is also important for washer and grinding parts' usage age. We use very helpful test in which the washer falls through the gap between two plain parallel plates of a gauge under its dead weight. The plates must be big enough to cover the whole washer.

Wall Thickness test method

The wall thickness is measured at once,two or three positions axially according to the bearing dimensions.The wall thickness and the inside diameter shall not be specified together on the same drawing.

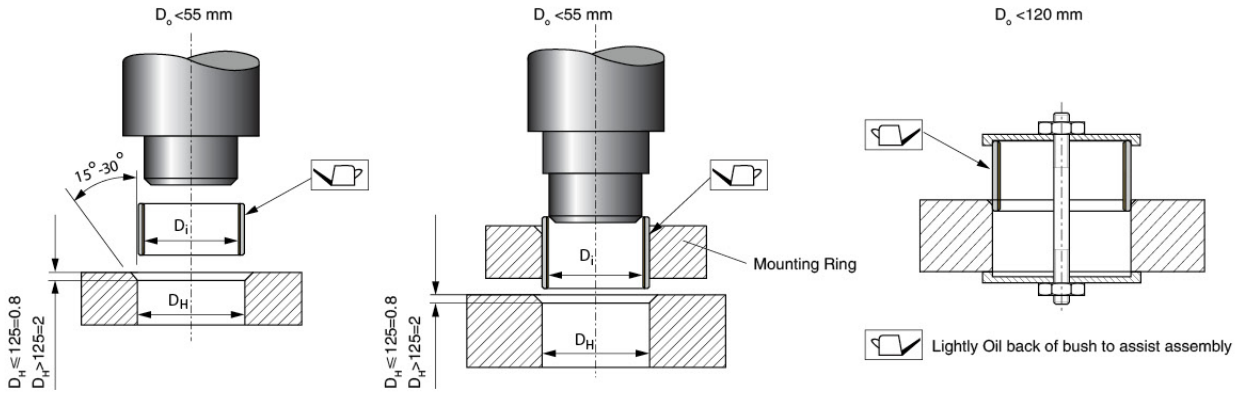
B[mm]	X[mm]	measurement position
B≤15	B/2	1
15＜B≤50	4	2
50＜B≤90	6 and B/2	3
B＞90	8 and B/2	3



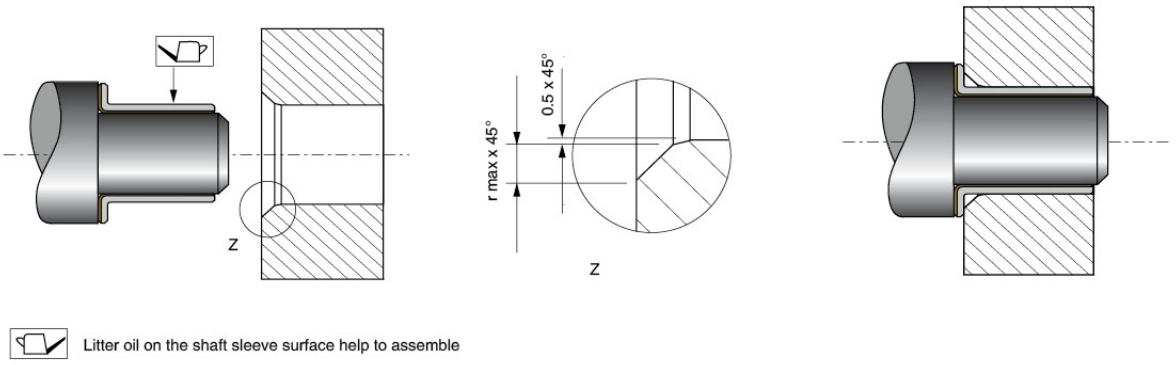
Measurement position

Wrapped Bushing Installation

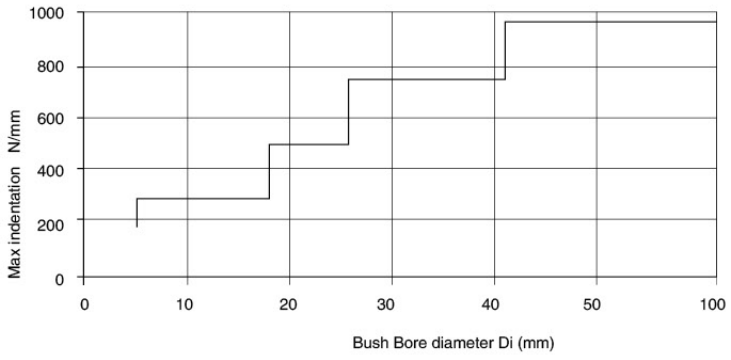
Straight set of installation



Flange set of installation



Indentation Calculation

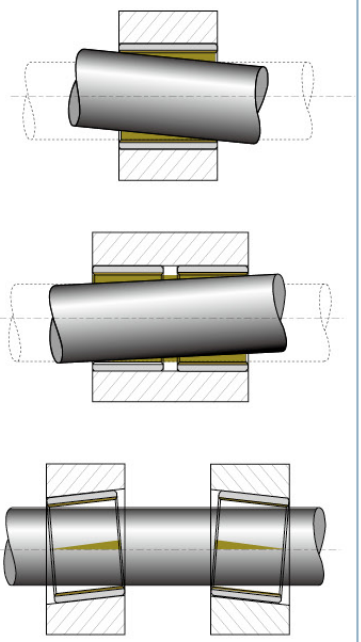


Wrapped Bushing Installation

Concentricity

Degree of precision coaxial bearing the normal use for a very important requirement sleeve length in one or two degrees of the different axes and in the flange or thrust washer diameter of the different degree of control shaft within 0.02mm.

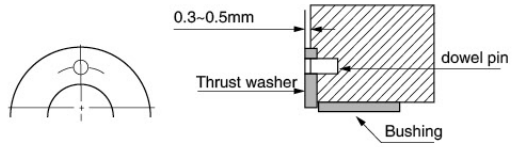
Concentricity requirements



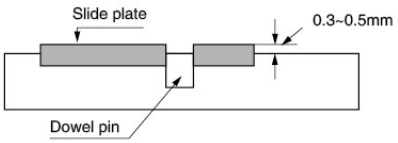
Thrust washers and sliding plates installation

It is reconmmended to install the thrust washers and sliding plates with the hollow indented housing.To avoid the moving of such parts,a Dowel pins is recommended to be installed.

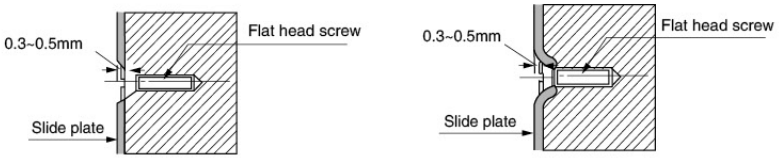
1. Dowel pin application (thrust waher)

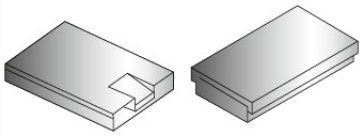


2. Dowel pin used on slide plate



3. Flat head screw application





Other fixation methods

When the pin is not available, you can use laser welding, adhesives and brazing (temperature < 320 ℃) method to be fixed; while do in this way, temperature used must not higher then the bearing material itself can be standed, the cleeve face should be prevent from contacting with adhesives.

Wrapped Bushing Installation

Processing and installation considerations of PTFE-based bearing

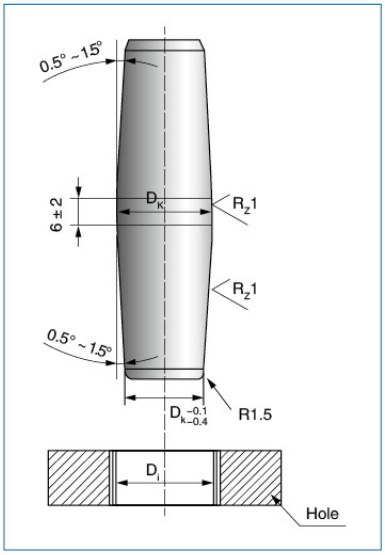
PTFE-based bearings are generally finished parts, assembled in the hole without the hinge, and other processing, if the bore size of the recommended process, the rolling type bearings with bore roundness can meet the requirements;

If the client can accept a significant reduction of dry friction, extruding the inner holes on the PTFE-based bearing after the compression to achieve higher accuracy, we strongly recommend the extrusion mandrel surface treatment (depth of 0.6mm, HRC＞55) and polished to Rz1;

When the bearing's specific pressure is small and required to run a smooth swing, you can increase the working space, when used at high temperatures, it is increased by 100 ℃, the proposed reduction of shaft diameter 0.008mm;

If the material of bearing is bronze, aluminum or zinc alloy, it is recommended to reduce the bearing hole to increase the amount of interference bearing assembly; to ensure the bearing rigidity, The base of bearing's diameter is usually 1.5 times to the bearing's diameter, thin-walled bore with pressure to consider when installed and used in the process of the deformation;

PTFE bearings need processing, in order to avoid the generation of burrs from the PTFE side of the proposed processing or drilling in the drilling process should have sufficient support sleeve has been to ensure that no pressure leads to deformation of the borehole; processing methods strip can cut, water jet cutting, laser cutting and other methods.



Bore D_i	Extrusion Mandrel D_k	Life
D_i	—	100%
D_i +0.02	D_i +0.06	80%
D_i+0.03	D_i+0.08	60%
D_i+0.04	D_i+0.10	30%

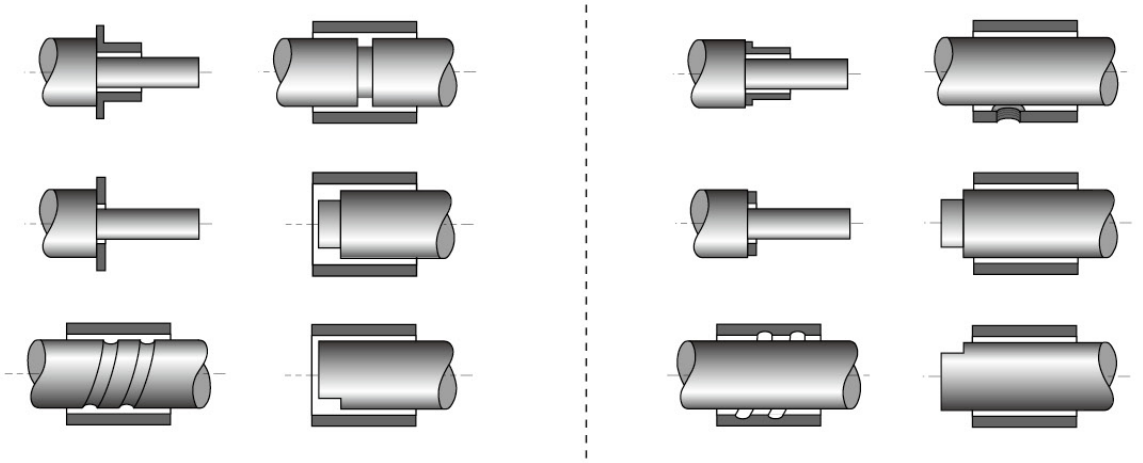
Wrapped Bushing Installation

The shaft

Grinding pieces of material, surface hardness, surface roughness and surface treatments have a great impact on the life of bearing, in general, we recommend that the hardness of the shaft HRC＞50, surface roughness below Ra0.4; We suggest using stainless steel, hard chrome plating in the wet or corrosive place.

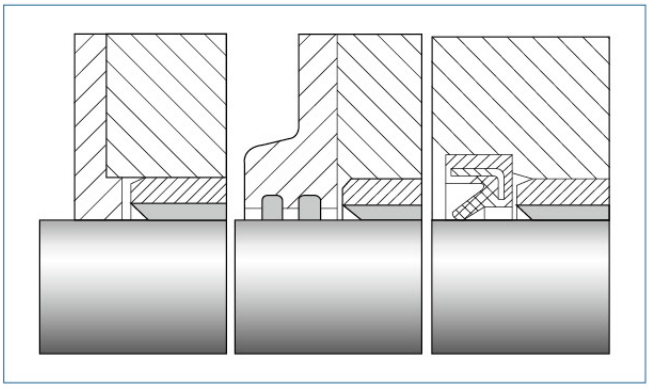
Incorrect design

Correct design



Seal

If increased levels of contamination occur or the bearing is used in an aggressive environment, the bearing section should be protected from dust and containment. The normal solution is to re-design the surrounding structure so that the contamination cannot reach the bearing section. If the contamination is critical, a collar of grease or a shaft seal is recommended.



The information contanined in the catalogue is for reference only. All data and values presented are theoretical and intended to be offered strictly as a guideline for your reference and verification. We have no legal responsibility or obligation for the use of the products or information presented.

As the technical information mentioned in the catalogue is limited, when more detail information is requiried for new design of application, it is recommended that the HLDB General catalogue is referral.

All the final authority belong to us.



HLDB®

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