DAIBEST DBX01

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As this is a pre-lubricating bearing ensure it is filled with lubricant before installation. Then the material will supply a small amount of lubricant at predetermined intervals to allow the bearing to withstand long term operation. The bearing has a structure where bronze in a spherical powdered form is sintered on to the steel backing. Polyacetal resin is then impregnated into the surface.

Features

1.Operation is quiet, free from squeaking or knocking.
2.Low friction characteristic prevents damage to the shaft (mating surface).
3.The bearing surface remains virtually wear-free with minimum amount of lubricant (grease or oil).
4.Low starting friction permits very smooth rotation at start up and at low speed under high load conditions. Sliding surfaces are also seizure free.
5.Shaft misalignment tolerance is excellent.
6.The bearing can withstand impact loads.
7.Excellent load-carrying performance is maintained even under oscillating and fretting conditions.

Characteristics

1.Load Carrying Capability

The capability varies depending on the load properties and lubrication conditions. The maximum load that DBX01 can carry is shown in Table 1.

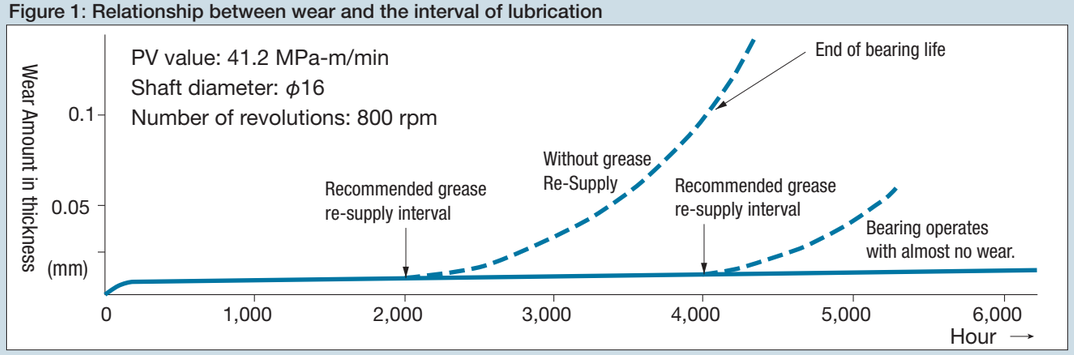
Table 1: Allowable Load(U)

Load	Motion Condition	Lubrication	U MPa
1.Static Load	Slight or very slow movement	Grease or Oil	137.0
2.Static Load	Continuous Rotation	Grease or Oil (Boundary lubrication)	68.6
3.Static Load or Dynamic Load	Continuous Rotation	Oil (Fluid Lubrication)	44.1
4.Static Load	Oscillating Rotation	Grease or Oil	*
5.Dynamic Load	Continuous Rotation	Grease or Oil (Boundary lubrication)	*
*These values vary according to the frequency of the cycle. The representative values are shown on the right.		10^5 cycles or less 10^7 cycles 10^8 cycles or more	137.0 19.6 4.9

2.Relation betweenWear and the interval of lubrication

Oil is supplied to DBX01 bearings at assembly. The amount of wear after running in is very small . Furthermore, wear is kept to a minimum until the lubricant is exhausted (Figure 1).

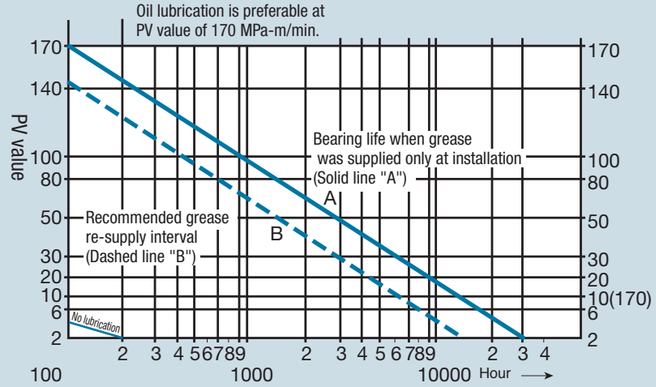
Figure 1: Relationship between wear and the interval of lubrication



3.PV Value and Bearing performance

The performance of bearing is influenced by the PV value and the operating conditions.
The PV value is the product of Specific Load (MPa) and sliding speed (m/min). The solid line "A" in Figure 2 shows the bearing life when grease was supplied only at installation, and the dashed line "B" shows the recommended grease re-supply interval.
When the PV value exceeds 170 MPa-m/min, successive oil lubrication is desired.

Figure 2: Lubrication Diagram of DBX01 Bearing



Relation between bearing life and grease re-supply interval

4. Conditions of use

To calculate service life and lubrication interval accurately, it is necessary to take such factors as speed, type of load, and ambient temperature as well as the condition of the housing and roughness of the mating surfaces into consideration, which requires that figures obtained from Fig. 2 must be multiplied by coefficients of usage q, t, and s, found in Tables 2, 3, and 4, respectively.

Table 2: Coefficient of usage q for grease lubrication per speed and bearing performance at an ambient temperature of 25°C

Speed in m/min	24 or less	24 – 45	45 – 90	90 or more
Maximum allowable PV value MPa·m/min	170.0	170.0	170.0	62.0
DBX01 Bushing Static loading, vertical (Lubricant flows into the loaded region.)	2.0	2.0	1.5	0.8
DBX01 Bushing Static loading, other than vertical (Lubricant flows out of the loaded region.)	1.0	1.0	0.8	0.4
DBX01 Bushing rotational loading	3.0	3.0	2.0	1.2
DBX01 Thrust washer	1.0	0.5	0.1	–

Table 3: Coefficient of usage t for the effect of temperature per operating temperature range

Condition of the housing	Type of grease	Ambient temperature of axle in °C			
		20 – 40	50	75	100
Ordinary heat dissipation properties	Silicone-based	1.0	0.7	0.4	0.2
	Lithium-based	1.0	0.6	0.3	0.1
Light-weight stamped-metal housing with poor heat dissipation properties or segmented housing	Silicone-based	0.5	0.35	0.2	0.1
	Lithium-based	0.4	0.25	0.1	
Non-metal housing with poor heat dissipation properties	Silicone-based	0.3	0.2	Not recommended.	
	Lithium-based	0.2	0.1		

Table 4: Coefficient of usage s for the effect of mating surface roughness.

Mating surface roughness	Coefficient of usage s
0 – 2.5μm Rmx	1.00
2.5 – 3.9μm Rmx	0.25
3.9 – 5.5μm Rmx	0.10
5.5 – 7.8μm Rmx	0.05

DXB DBX01 Bushing (Bushing Inner Diameter: 10 to 100 mm)

Designation of Part Number

DX B ○○ ○○
- ○○ — Bushing Length
- ○○ — Bushing Nominal I.D.
- B — Bushing
- DX — Product Symbol

DXB 1010

Please specify by part number.

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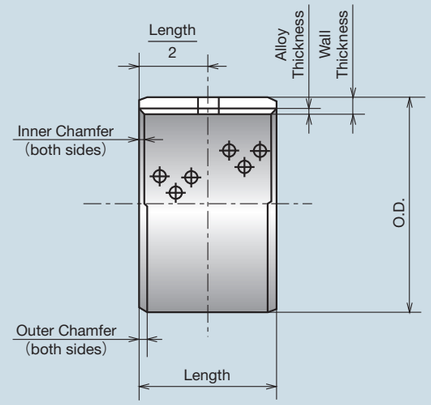

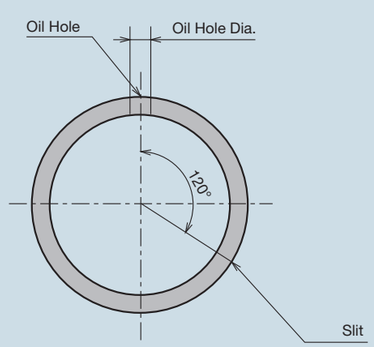

(Unit: mm)

Bushing I.D.	Recommended Dimension Mating Part		Bushing Dimensions			Part Number & Bushing Length Tolerance $^{0}_{-0.4}$												Bushing I.D.
	Houshing I.D.	Shaft Dia.	O.D.	Wall Thickness	Oil Hole Dia.	10	15	20	25	30		40	50	60	80	90	95	
10	ϕ13H7 $^{+0.018}_{0}$	ϕ10h7 $^{0}_{-0.015}$	ϕ13 $^{+0.060}_{+0.030}$	1.5$^{(-0.026)}_{(-0.058)}$	ϕ4	**1010**	**1015**	**1020**										10
12	ϕ15H7 $^{+0.018}_{0}$	ϕ12h7 $^{0}_{-0.018}$	ϕ15 $^{+0.063}_{+0.033}$	1.5$^{(-0.026)}_{(-0.058)}$	ϕ4		**1215**	**1220**										12
14	ϕ17H7 $^{+0.018}_{0}$	ϕ14h7 $^{0}_{-0.018}$	ϕ17 $^{+0.073}_{+0.038}$	1.5$^{(-0.026)}_{(-0.058)}$	ϕ4		**1415**	**1420**										14
15	ϕ18H7 $^{+0.018}_{0}$	ϕ15h7 $^{0}_{-0.018}$	ϕ18 $^{+0.073}_{+0.038}$	1.5$^{(-0.026)}_{(-0.058)}$	ϕ4		**1515**		**1525**									15
16	ϕ19H7 $^{+0.021}_{0}$	ϕ16h7 $^{0}_{-0.018}$	ϕ19 $^{+0.081}_{+0.046}$	1.5$^{(-0.026)}_{(-0.058)}$	ϕ4		**1615**	**1620**	**1625**									16
18	ϕ21H7 $^{+0.021}_{0}$	ϕ18h7 $^{0}_{-0.018}$	ϕ21 $^{+0.081}_{+0.046}$	1.5$^{(-0.026)}_{(-0.058)}$	ϕ4		**1815**	**1820**	**1825**									18
20	ϕ23H7 $^{+0.021}_{0}$	ϕ20h7 $^{0}_{-0.021}$	ϕ23 $^{+0.081}_{+0.046}$	1.5$^{(-0.026)}_{(-0.058)}$	ϕ4		**2015**		**2025**	**2030**								20
22	ϕ25H7 $^{+0.021}_{0}$	ϕ22h7 $^{0}_{-0.021}$	ϕ25 $^{+0.086}_{+0.051}$	1.5$^{(-0.026)}_{(-0.058)}$	ϕ6		**2215**	**2220**	**2225**									22
24	ϕ27H7 $^{+0.021}_{0}$	ϕ24h7 $^{0}_{-0.021}$	ϕ27 $^{+0.086}_{+0.051}$	1.5$^{(-0.026)}_{(-0.058)}$	ϕ6		**2415**	**2420**	**2425**	**2430**								24
25	ϕ28H7 $^{+0.021}_{0}$	ϕ25h7 $^{0}_{-0.021}$	ϕ28 $^{+0.093}_{+0.056}$	1.5$^{(-0.026)}_{(-0.058)}$	ϕ6		**2515**		**2525**	**2530**								25
30	ϕ34H7 $^{+0.025}_{0}$	ϕ30h7 $^{0}_{-0.021}$	ϕ34 $^{+0.115}_{+0.075}$	2.0$^{(-0.032)}_{(-0.068)}$	ϕ6			**3020**		**3030**		**3040**						30
35	ϕ39H7 $^{+0.025}_{0}$	ϕ35h7 $^{0}_{-0.025}$	ϕ39 $^{+0.115}_{+0.075}$	2.0$^{(-0.032)}_{(-0.068)}$	ϕ6			**3520**		**3530**			**3550**					35
40	ϕ44H7 $^{+0.025}_{0}$	ϕ40h7 $^{0}_{-0.025}$	ϕ44 $^{+0.115}_{+0.075}$	2.0$^{(-0.032)}_{(-0.068)}$	ϕ8			**4020**		**4030**			**4050**					40
45	ϕ50H7 $^{+0.025}_{0}$	ϕ45h7 $^{0}_{-0.025}$	ϕ50 $^{+0.115}_{+0.075}$	2.5$^{(-0.040)}_{(-0.086)}$	ϕ8					**4530**			**4550**					45
50	ϕ55H7 $^{+0.030}_{0}$	ϕ50h7 $^{0}_{-0.025}$	ϕ55 $^{+0.145}_{+0.095}$	2.5$^{(-0.040)}_{(-0.086)}$	ϕ8							**5040**		**5060**				50
55	ϕ60H7 $^{+0.030}_{0}$	ϕ55h7 $^{0}_{-0.030}$	ϕ60 $^{+0.145}_{+0.095}$	2.5$^{(-0.040)}_{(-0.086)}$	ϕ8							**5540**		**5560**				55
60	ϕ65H7 $^{+0.030}_{0}$	ϕ60h7 $^{0}_{-0.030}$	ϕ65 $^{+0.145}_{+0.095}$	2.5$^{(-0.040)}_{(-0.086)}$	ϕ8							**6040**		**6060**				60
65	ϕ70H7 $^{+0.030}_{0}$	ϕ65h7 $^{0}_{-0.030}$	ϕ70 $^{+0.145}_{+0.095}$	2.5$^{(-0.050)}_{(-0.116)}$	ϕ8							**6540**		**6560**				65
70	ϕ75H7 $^{+0.030}_{0}$	ϕ70h7 $^{0}_{-0.030}$	ϕ75 $^{+0.145}_{+0.095}$	2.5$^{(-0.050)}_{(-0.116)}$	ϕ8							**7040**			**7080**			70
75	ϕ80H7 $^{+0.030}_{0}$	ϕ75h7 $^{0}_{-0.030}$	ϕ80 $^{+0.160}_{+0.095}$	2.5$^{(-0.050)}_{(-0.116)}$	ϕ9.5							**7540**			**7580**			75
80	ϕ85H7 $^{+0.035}_{0}$	ϕ80h7 $^{0}_{-0.030}$	ϕ85 $^{+0.165}_{+0.100}$	2.5$^{(-0.050)}_{(-0.116)}$	ϕ9.5							**8040**			**8080**			80
85	ϕ90H7 $^{+0.035}_{0}$	ϕ85h7 $^{0}_{-0.035}$	ϕ90 $^{+0.165}_{+0.100}$	2.5$^{(-0.050)}_{(-0.116)}$	ϕ9.5							**8540**			**8580**			85
90	ϕ95H7 $^{+0.035}_{0}$	ϕ90h7 $^{0}_{-0.035}$	ϕ95 $^{+0.165}_{+0.100}$	2.5$^{(-0.050)}_{(-0.116)}$	ϕ9.5							**9040**				**9090**		90
100	ϕ105H7 $^{+0.035}_{0}$	ϕ100h7 $^{0}_{-0.035}$	ϕ105 $^{+0.180}_{+0.115}$	2.5$^{(-0.050)}_{(-0.116)}$	ϕ9.5												**10095**	100

DXT DBX01 Thrust Washer

Designation of Part Number

DX T ○○
- ○○ — Nominal I.D.
- T — Thrust Washer
- DX — Product Symbol

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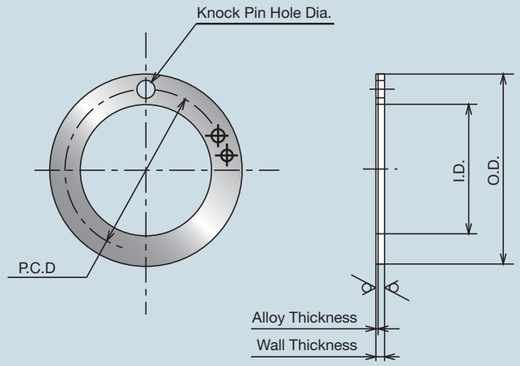
DXT 10

Please specify by part number.

(Unit: mm)

Nominal I.D.	Part Number	I.D.	O.D.	Thickness	Knock Pin Hole Dia.	Knock Pin Hole P.C.D	Housing Recess Depth
10	**DXT10**	12 $^{+0.25}_{0}$	24 $^{0}_{-0.25}$	1.5 $^{-0.08}_{-0.15}$	1.625 $^{+0.25}_{0}$	18 ±0.12	1.1 $^{0}_{-0.25}$
12	**DXT12**	14 $^{+0.25}_{0}$	26 $^{0}_{-0.25}$		2.125 $^{+0.25}_{0}$	20 ±0.12	
14	**DXT14**	16 $^{+0.25}_{0}$	30 $^{0}_{-0.25}$			23 ±0.12	
16	**DXT16**	18 $^{+0.25}_{0}$	32 $^{0}_{-0.25}$			25 ±0.12	
18	**DXT18**	20 $^{+0.25}_{0}$	36 $^{0}_{-0.25}$		3.125 $^{+0.25}_{0}$	28 ±0.12	
20	**DXT20**	22 $^{+0.25}_{0}$	38 $^{0}_{-0.25}$			30 ±0.12	
22	**DXT22**	24 $^{+0.25}_{0}$	42 $^{0}_{-0.25}$			33 ±0.12	
24	**DXT24**	26 $^{+0.25}_{0}$	44 $^{0}_{-0.25}$			35 ±0.12	
25	**DXT25**	28 $^{+0.25}_{0}$	48 $^{0}_{-0.25}$		4.125 $^{+0.25}_{0}$	38 ±0.12	
30	**DXT30**	32 $^{+0.25}_{0}$	54 $^{0}_{-0.25}$			43 ±0.12	
35	**DXT35**	38 $^{+0.25}_{0}$	62 $^{0}_{-0.25}$			50 ±0.12	
40	**DXT40**	42 $^{+0.25}_{0}$	66 $^{0}_{-0.25}$			54 ±0.12	
45	**DXT45**	48 $^{+0.25}_{0}$	74 $^{0}_{-0.25}$	2.5 $^{-0.07}_{-0.15}$		61 ±0.12	1.6 $^{0}_{-0.25}$
50	**DXT50**	52 $^{+0.25}_{0}$	78 $^{0}_{-0.25}$			65 ±0.12	



DXP DBX01 Slide Plate

Designation of Part Number

DX P ○○○
- ○○○ — Thickness Indication Symbol
- P — Slide Plate
- DX — Product Symbol

Pb Free

RoHS

ELV

DXP 150

Please specify by Part number.
This product is produced on order only.

Part Number	Thickness	Width	Length
DXP150	1.5 $^{-0.05}_{-0.15}$	90 $^{+0.2}_{0}$	500 $^{+10.0}_{0}$
DXP200	2.0 $^{-0.05}_{-0.15}$	100 $^{+0.2}_{0}$	
DXP250	2.5 $^{-0.05}_{-0.15}$	100 $^{+0.2}_{0}$	

(Unit: mm)