HIWIN®

BALLSCREW BEARINGS

www.hiwin.tw

Product Features /

- Excellent axial rigidity.
- Excellent tolerance control offers customers flexible combinations of bearing arrangements, to meet the specific request of customers.
- Provide universal combinations, customer can install bearings directly.
- HIWIN provide total solution service, bearings can be ordered with HIWIN ballscrews.

Product Specification /

30 BSB 62 WW P4

- 30: Bearing I.D., two digit designation (unit: mm)
- BSB: Bearing Type, BSB stands for the angular contact ball bearings designed specifically for supporting ballscrews.
- 62: Bearing O.D., two digit designation (unit: mm)
- WW: Dust proof type*
- P4: Accuracy class

*Dust proof type: blank is without dust cap (open type), WW is with dust cap of contact type, UU is with dust cap of non-contact type.

Standard BSB dimensional tolerances /

Unit: μm

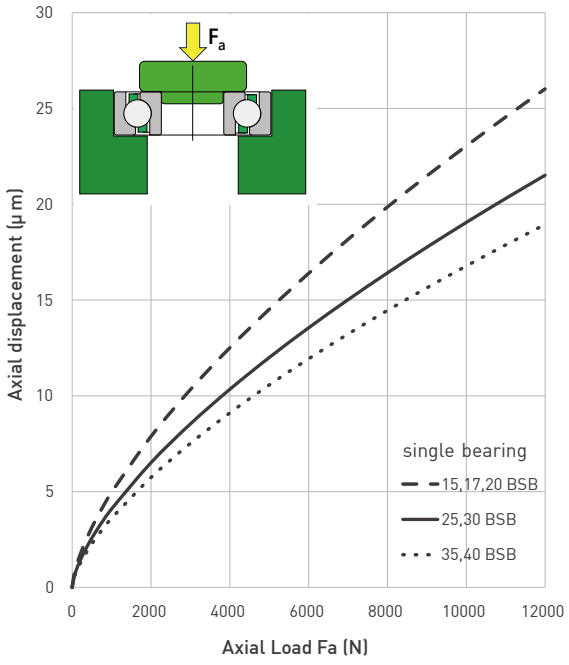
Nominal Bearing I.D. or O.D. (mm)		Inside diameter deviations		Outside diameter deviations		Deviations of width		Outer or inner ring axial run out
		$\triangle_{dmp}$		$\triangle_{Dmp}$		$\triangle_{Dmp}$		V_{CS}, V_{BS}
Over	Include	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Max
10	18	0	-4	-	-	0	-80	2.5
18	30	0	-5	-	-	0	-120	2.5
30	50	0	-6	0	-6	0	-120	2.5
50	80	0	-7	0	-7	0	-150	2.5
80	120	0	-8	0	-8	0	-200	2.5

Standard shaft diameter and bearing bore dimensional tolerance /

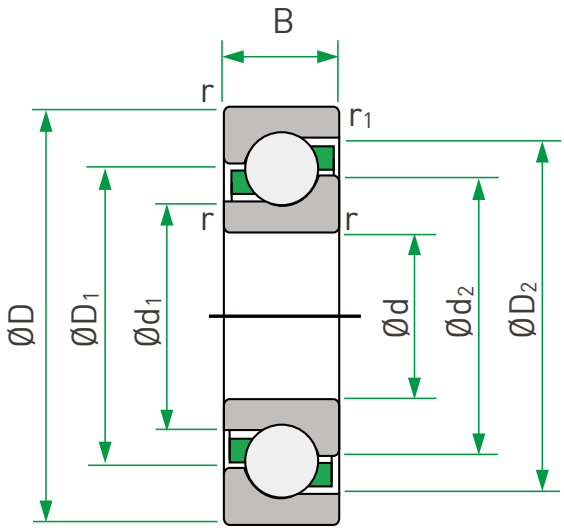
Unit: μm

Shaft dia./ Bearing bore dimension (mm)		Tolerance of shaft dia.		Tolerance of bearing bore	
		h5		H6	
Over	Include	Upper Limit	Lower Limit	Upper Limit	Lower Limit
10	18	0	-8	-	-
18	30	0	-9	-	-
30	50	0	-11	+16	0
50	80	0	-13	+19	0
80	120	0	-15	+22	0

The single bearing rigidity chart in theory /



Bearing specification table /



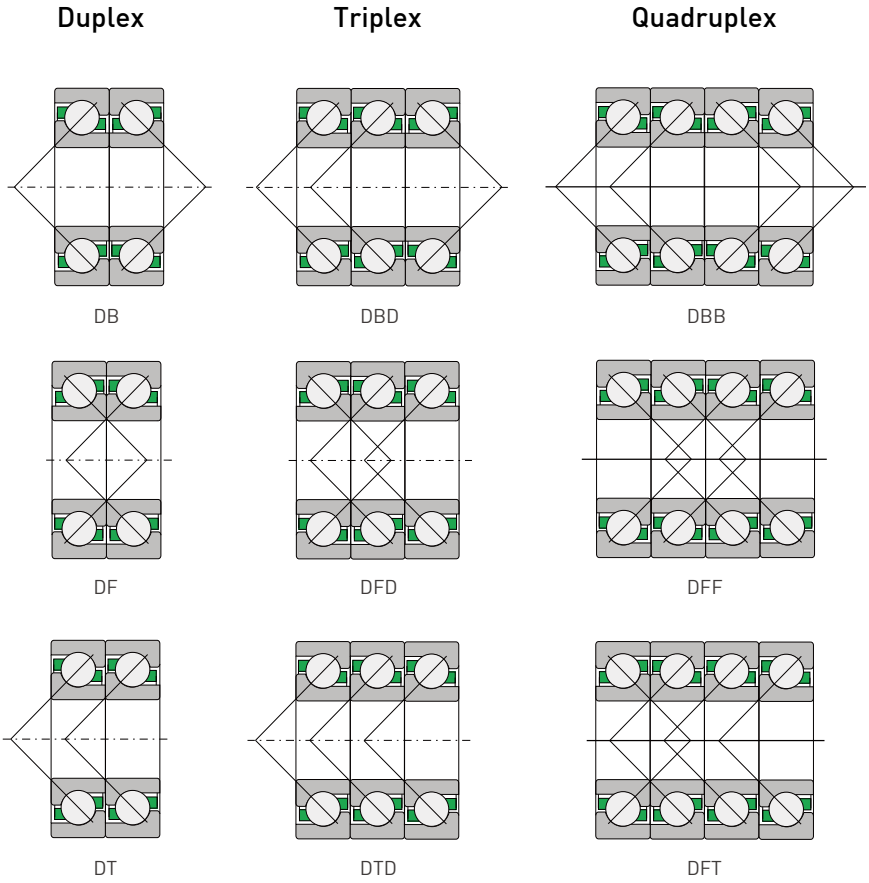
Specification			Main dimensions (mm)				
Open type	with dust cap (contact type)	with dust cap (non-contact type)	d	D	B	r(min)	r_1(min)
15 BSB 47	15 BSB 47 WW	15 BSB 47 UU	15	47	15	1	0.6
17 BSB 47	17 BSB 47 WW	17 BSB 47 UU	17	47	15	1	0.6
20 BSB 47	20 BSB 47 WW	20 BSB 47 UU	20	47	15	1	0.6
25 BSB 62	25 BSB 62 WW	25 BSB 62 UU	25	62	15	1	0.6
30 BSB 62	30 BSB 62 WW	30 BSB 62 UU	30	62	15	1	0.6
35 BSB 72	35 BSB 72 WW	35 BSB 72 UU	35	72	15	1	0.6
40 BSB 72	40 BSB 72 WW	40 BSB 72 UU	40	72	15	1	0.6

	Basic dynamic load rating (Note1)	Max axial load (Note2)	Shaft diameter (mm)	Allowable speed (rpm)	Other dimensions (mm)			
	Ca (kN)	C_0a (kN)			d_1	d_2	D_1	D_2
	21.9	26.6	Ø20	6000	27.3	34	34.2	39.6
	21.9	26.6	Ø25~Ø28	6000	27.3	34	34.2	39.6
	21.9	26.6	Ø25~Ø28	6000	27.3	34	34.2	39.6
	29.2	43	Ø30~Ø36	4300	39.6	47.2	47	53.3
	29.2	43	Ø40	4300	39.6	47.2	47	53.3
	31.5	52	Ø45	3600	49.3	57.1	56.9	63.2
	31.5	52	Ø50	3600	49.3	57.1	56.9	63.2

Note: 1.With regard to the axial load capacity of multiplex arrangements, please refer to the basic dynamic load rating in the "Bearing performance" table.

2.When it is in application of multiplex arrangements, the value in this table will be multipled accordingly.

Assembly arrangement /



Bearing performance according to assembly arrangement /

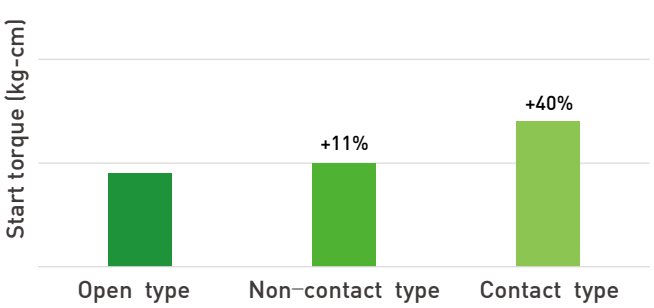
Spec.	Bearing assembly type									Basic dynamic load rating (kN)		
	Duplex DF, DB			Triplex DFD, DBD			Quadruplex DFF, DBB			supported by 1 row	supported by 2 rows	supported by 3 rows
	Preload (kN)	Stiffness (kN/μm)	Start torque (N.cm)	Preload (kN)	Stiffness (kN/μm)	Start torque (N.cm)	Preload (kN)	Stiffness (kN/μm)	Start torque (N.cm)	Single, DF, DB	DT, DBD, DFD, DBB, DFF	DTD, DFT, DBT
15 BSB 47	2.1	0.75	14	2.9	1.1	20	4.3	1.4	29	21.9	35.5	47.5
17 BSB 47	2.1	0.75	14	2.9	1.1	20	4.3	1.4	29	21.9	35.5	47.5
20 BSB 47	2.1	0.75	14	2.9	1.1	20	4.3	1.4	29	21.9	35.5	47.5
25 BSB 62	3.3	1.0	24	4.5	1.5	33	6.6	2.0	49	29.2	47.5	63
30 BSB 62	3.3	1.0	24	4.5	1.5	33	6.6	2.0	49	29.2	47.5	63
35 BSB 72	3.9	1.2	28	5.3	1.8	37	7.8	2.4	55	31.5	51.5	68.5
40 BSB 72	3.9	1.2	28	5.3	1.8	37	7.8	2.4	55	31.5	51.5	68.5

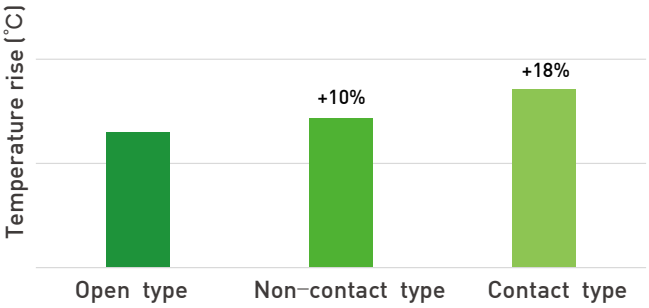
Dynamic equivalent load /

$$Pa=XFr+YFa$$

Assembly row		Duplex		Triplex			Quadruplex		
Assembly arrangement		DB/ DF	DT	DBD/ DFD		DTD	DFT	DFF	DFT
Load carrying row(s) e=2.17		1 row	2 rows	1 row	2 rows	3 rows	1 row	2 rows	3 rows
$Fa/Fr \leqq e$	X	1.9	-	1.43	2.33	-	1.17	2.33	2.53
	Y	0.54	-	0.77	0.35	-	0.89	0.35	0.26
$Fa/Fr > e$	X	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	Y	1	1	1	1	1	1	1	1

The comparison of different types of seals /





*Tested bearings:30 BSB 62, DF design, RPM 1800min^{-1}

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