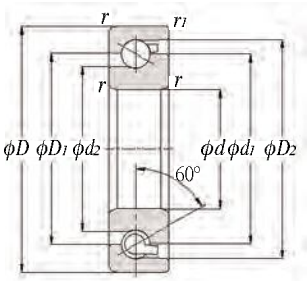
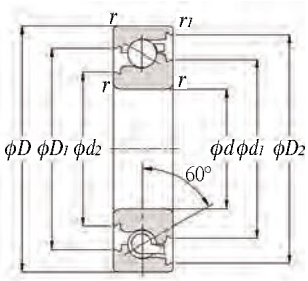
Angular Contact Ball Bearings

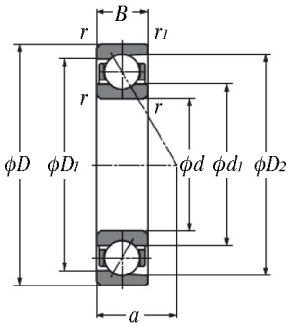
BS Series and special type



Open Type



Seadled Type

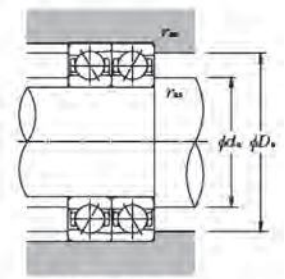


d 8~100mm

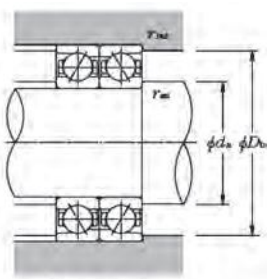
Boundary Dimensions (mm)					Basic Load Ratings				Static Axial Load Capacity		Bearing Numbers Type
d	D	B	$r_{s\,min}$ ①	$r_{1s\,min}$ ①	Dynamic		Static		(KN)	(Kgf)	
					C_r/C_a (KN)	C_r/C_a (Kgf)	C_{or}/C_{oa} (KN)	C_{or}/C_{oa} (Kgf)			
8	22	7	0.3	0.15	3.55	360	1.54	157	1.41	144	5S1-708C
8	22	7	0.3	0.15	3.35	340	1.45	147	1.02	104	5S1-708A
8	22	10.31	0.3	0.15	3.55	360	1.54	157	1.41	144	5S1-SF8AT01C
10	26	8	0.3	0.15	5.00	510	2.33	238	3.10	314	7000A
12	28	8	0.3	0.15	5.05	515	2.46	251	3.25	331	7001A
15	32	9	0.3	0.15	5.80	590	3.15	320	4.00	407	7002A
17	30	8	0.3	0.15	6.25	635	3.40	645	6.76	690	5S1-SF03T01C
20	47	15	1	0.6	24.3	2470	37.5	3850	25.7	2620	BS2047 LLE BS2047
25	62	15	1	0.6	29.2	2980	59.0	6050	40.0	4100	BS2562 LLE BS2562
30	62	15	1	0.6	29.2	2980	59.0	6050	40.0	4100	BS3062 LLE BS2562
35	72	15	1	0.6	31.0	3150	70.0	7150	47.5	4850	BS3572 LLE BS2562
40	72	15	1	0.6	31.0	3150	70.0	7150	47.5	4850	BS4072 LLE BS2562
70	110	20	2.0	0.6	21.6	2200	15.6	1600	30.7	3130	5S1-HSE014AD
100	150	45	1.5	1.0	37.2	3800	54.2	5500	41.2	4200	HTA020A DB

BS and HTA B type are thrust type angular contact ball bearings, therefore their basic load ratings are Ca , Coa accordingly.

① Minimal allowable dimension for chamfer dimension r or r_1



Face-to-face
(DF)



Back-to-back
(DB)

Dynamic equivalent radial load

$P_r = XF_r + YF_a$

$\frac{i \cdot f_0 \cdot F_a}{C_{or}}$	e	Single row / Tandem				Back-to-back / Face-to-face			
		$F_a/F_r \leqq e$		$F_a/F_r > e$		$F_a/F_r \leqq e$		$F_a/F_r > e$	
		X	Y	X	Y	X	Y	X	Y
0.178	0.38				1.47		1.65		2.39
0.357	0.4				1.4		1.57		2.28
0.714	0.43				1.3		1.46		2.11
1.07	0.46				1.23		1.38		2
1.43	0.47	1	0	0.44	1.19	1	1.34	0.72	1.93
2.14	0.5				1.12		1.26		1.82
3.57	0.55				1.02		1.14		1.66
5.35	0.56				1		1.12		1.63
7.14	0.56				1		1.12		1.63

Static equivalent radial load

$P_{or} = X_o F_r + Y_o F_a$

Single row / Tandem		Back-to-back / Face-to-face	
X_o	Y_o	X_o	Y_o
0.5	0.46	1	0.92

When $P_{or} < F_r$ with single-row or tandem arrangement, $P_{or} = F_r$.

Dynamic equivalent axial load $P_a = XF_r + YF_a$

Number of rows in bearing arrangement		2		3			4			
Number of rows subjected to axial load		1	2	1	2	3	1	2	3	4
$F_a/F_r \leqq 2.17$	X	1.90	—	1.43	2.32	—	1.17	1.90	2.52	—
	Y	0.55	—	0.76	0.35	—	0.88	0.55	0.26	—
$F_a/F_r > 2.17$	X	0.92	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	1

Static equivalent axial load

$P_{oa} = F_a + 3.98F_r$

Load Center (mm)	Limiting Speeds n_L (min^{-1})		Reference Dimensions				Abutment and Dimensions (mm)					Space Capacity (cm^3)	Weight (kg)
a	Grease	Oil	d_1	d_2	D_1	D_2	d_a min	D_a max	D_b max	r_{as} max	r_{las} max	Open (Approx)	Open (Approx)
5.5	92400	140400	12.8	—	17.5	19.1	10.5	19.5	—	0.3	—	0.8	0.012
7.8	60000	80400	12.8	—	17.5	19.1	10.5	19.5	—	0.3	—	0.8	0.012
7.2	92400	140400	12.8	—	17.5	19.2	10.5	19.5	—	0.3	—	0.8	0.015
9.2	48200	65700	15.5	—	20.3	22.7	12.5	23.5	24.8	0.3	0.15	0.9	0.019
10.0	26000	35000	18.1	—	22.9	25.4	14.5	25.5	26.8	0.3	0.15	0.9	0.025
11.3	36600	31000	21.1	—	25.9	28.4	17.5	29.5	30.8	0.3	0.15	1.2	0.035
7.0	38000	51000	21.1	—	25.9	28.4	19.5	27.5	28.8	0.3	0.15	1.2	0.025
36.5	10300	13700	30.6 33.4	24.2 27.1	35.9 33.7	42.5 40.2	25.5	41.5	42.5	1.0	0.6	3.3	0.135
49.2	7200	9600	45.0 47.9	38.7 41.6	50.4 48.2	57.3 55.2	30.5	56.5	57.5	1.0	0.6	4.6	0.21
49.2	7200	9600	45.0 47.9	38.7 41.6	50.4 48.2	57.3 55.2	35.5	56.5	57.5	1.0	0.6	4.6	0.18
53.8	6500	8600	53.0 55.8	46.7 49.5	58.5 56.3	65.0 63.2	40.5	66.5	67.5	1.0	0.6	5.4	0.31
56.0	6500	8600	53.0 55.8	46.7 49.5	58.5 56.3	65.0 63.2	45.5	66.5	67.5	1.0	0.6	5.4	0.257
31.3	17500	27000	84.8	83	95.2	99.1	77	103	105	2.0	0.6	22.4	0.56
63.7	5300	6600	118.2	114.2	131.6	137.9	108.5	141.5	144.5	1.5	1.0	81.58	2.62