

IBC Double row 60° angular contact precision ball screw support bearings



Ball screws used in machine tools help to feed work pieces and machine parts quickly, efficiently and accurately. IBC's BSD and BSDF rolling bearing series have been specially designed for the support of ball screws in O-arrangement.

A double row 60° ball screw support bearing enables the user to mount the ball screw spindle with high precision (P4), high load carrying capacity, low friction and great stiffness. The bearing is easy to install and requires little maintenance, thereby providing cost-effective use. The bottom line is that the user is able to benefit from an optimised overall machine tool system.

The double row ball screw support bearing is available in a standard execution and a heavy series. The heavy series has the same shaft diameter but a larger cross section than the standard series, enabling larger load ratings to be achieved. Because they come with a contact angle of 60°, both series are able to absorb high axial and low radial forces. The rolling bearing rings are synchronised in such a way as to achieve a defined preload by preloading the rings with a precision locknut.

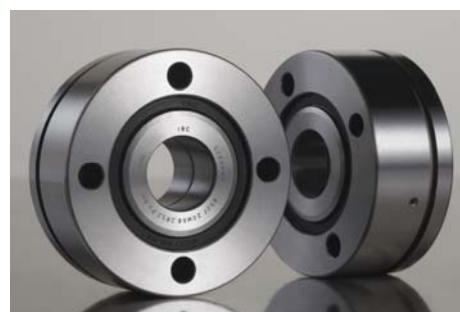
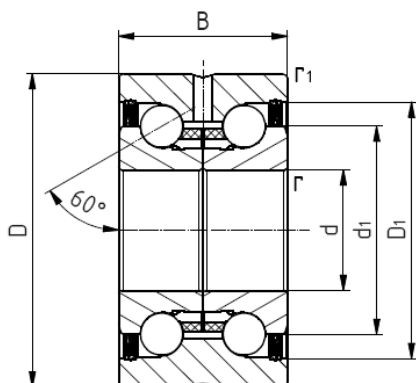


A double row 60° ball screw support bearing suitable for flange mounting (BSDF) is available, as is a type that is not suited for flange mounting (BSD). In the case of the BSDF ball screw support bearing, through holes in the outer ring enable you to flange mount the bearing directly to the adjacent construction or into a radial positioning boring. This will save time, because you will be able to dispense with the adjustment procedure.

The outer ring has been fitted with a circumferential extraction groove in order to make disassembly from the positioning boring easier. Re-lubrication can be carried out with ease via threaded connections with detachable threaded pins, even though in most cases the amount of grease initially provided will last for the entire service life of the bearing. As a standard, both bearing series come ready-lubricated with high-performance grease. In addition, all variants come fitted with a 2RSZ sealing that has a great sealing effect and a small frictional torque.



BSD Production series



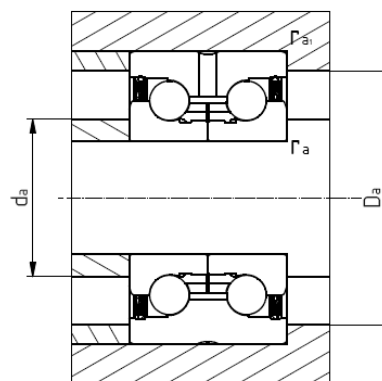
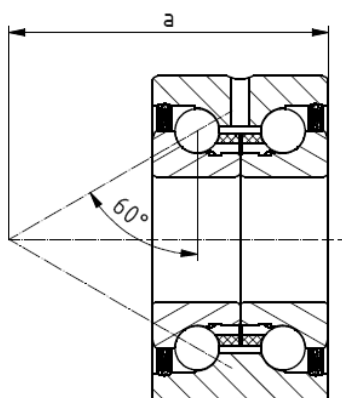
Basic dimensions			Basic designation		Load ratings		Limiting speed	Bearing frictional torque	Stiffness (axial)	Resistance against tilt	Mass moment of inertia	Runout	Locknuts and preload		
			dyn.	stat.									Series	Tightening torque of locking devices	Bearing preload
d	D	B	C _a	C _{oa}	n _G	M _R	S _a	S _{AK}	M _J					M _s	F _v
mm			N		1/min	Nm	N/μm	Nm/mrad	kg*cm ²	μm				Nm	N

Standard series

10	34	20	BSD 10M34.2RSZ.P4.BM		13,400	18,800	11,100	0.060	325	25	0.03	2	MMA 10	-	400
12	42	25	BSD 12M42.2RSZ.P4.BM		16,900	24,700	9,800	0.080	375	50	0.07	2	MMA 12	-	850
15	45	25	BSD 15M45.2RSZ.P4.BM		17,900	28,000	9,100	0.100	400	65	0.10	2	MMA 15	-	1000
17	47	25	BSD 17M47.2RSZ.P4.BM		18,800	31,000	8,500	0.120	450	80	0.13	2	MMA 17	-	1250
20	52	28	BSD 20M52.2RSZ.P4.BM		26,000	47,000	7,000	0.150	650	140	0.27	2	MBA 20	2	2000
25	57	28	BSD 25M57.2RSZ.P4.BM		27,500	55,000	6,100	0.200	750	200	0.49	2	MBA 25	2	2300
30	62	28	BSD 30M62.2RSZ.P4.BM		29,000	64,000	5,500	0.250	850	300	0.73	3	MBA 30	2	2500
35	72	34	BSD 35M72.2RSZ.P4.BM		41,000	89,000	4,900	0.300	900	400	1.50	3	MBA 35	7	2900
40	75	34	BSD 40M75.2RSZ.P4.BM		43,000	101,000	4,200	0.350	1,000	550	2.25	3	MBA 40	7	3000
50	90	34	BSD 50M90.2RSZ.P4.BM		46,500	126,000	3,900	0.450	1,250	1,000	5.25	3	MBC 50	7	3500

Heavy series

30	72	38	BSD 30MS72.2RSZ.P4.BM		59,000	108,000	5,200	0.400	950	400	1.90	3	MBA 30	2	5000
40	90	46	BSD 40MS90.2RSZ.P4.BM		72,000	149,000	4,000	0.650	1,200	750	5.50	3	MBA 40	7	6000
50	110	54	BSD 50MS110.2RSZ.P4.BM		113,000	250,000	3,200	1.300	1,400	1,500	15.20	3	MBC 50	7	7000



Basic dimensions			Basic designation				Dimensions				Weight		Connecting dimensions			
d	D	B					d ₁	D ₁	r	r ₁			d _{amin}	D _{amax}	r _{amax}	r _{amax}
mm							mm				kg		mm			

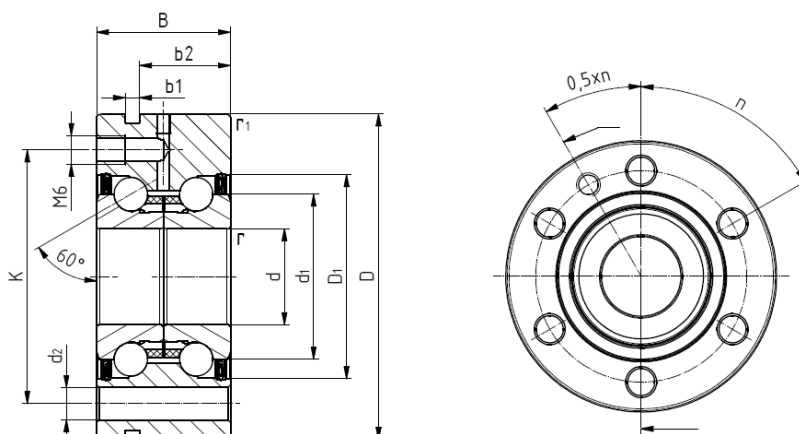
Standard series

10	34	20	BSD 10M34.2RSZ.P4.BM	21	0.3	0.6	0.100	14	28	0.3	0.6
12	42	25	BSD 12M42.2RSZ.P4.BM	25	0.3	0.6	0.200	16	33	0.3	0.6
15	45	25	BSD 15M45.2RSZ.P4.BM	28	0.3	0.6	0.210	20	35	0.3	0.6
17	47	25	BSD 17M47.2RSZ.P4.BM	30	0.3	0.6	0.220	23	37	0.3	0.6
20	52	28	BSD 20M52.2RSZ.P4.BM	34,5	0.3	0.6	0.310	25	43	0.3	0.6
25	57	28	BSD 25M57.2RSZ.P4.BM	40,5	0.3	0.6	0.340	32	48	0.3	0.6
30	62	28	BSD 30M62.2RSZ.P4.BM	45,5	0.3	0.6	0.390	40	53	0.3	0.6
35	72	34	BSD 35M72.2RSZ.P4.BM	52	0.3	0.6	0.510	45	62	0.3	0.6
40	75	34	BSD 40M75.2RSZ.P4.BM	58	0.3	0.6	0.610	50	67	0.3	0.6
50	90	34	BSD 50M90.2RSZ.P4.BM	72	0.3	0.6	0.880	63	82	0.3	0.6

Heavy series

30	72	38	BSD 30MS72.2RSZ.P4.BM	51	0.3	0.6	0.720	47	64	0.3	0.6
40	90	46	BSD 40MS90.2RSZ.P4.BM	65	0.3	0.6	0.950	56	80	0.3	0.6
50	110	54	BSD 50MS110.2RSZ.P4.BM	80	0.6	0.6	2.500	63	98	0.6	0.6

BSDF Production series



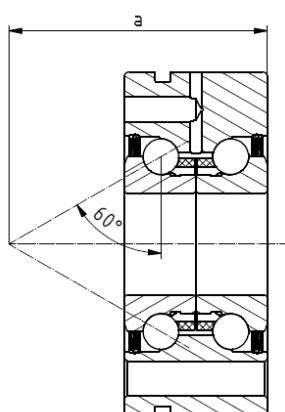
Basic dimensions			Load ratings		Limiting	Bearing	Stiffness	Resistance	Mass	Runout	Locknuts and preload		
			dyn.	stat.	speed	frictional	(axial)	against tilt	moment		Series	Tightening	Bearing
			C_a	C_{0a}	n_G	M_R	S_a	S_{AK}	M_J			torque	preload
						torque			of inertia			of locking	devices
d	D	B										M_s	F_v
mm					1/min	Nm	N/μm	Nm/mrad	kg*cm ²	μm		Nm	N

Standard series

12	55	25	BSDF 12M55.2RSZ.P4.BM	16,900	24,700	9.800	0.080	375	50	0.07	2	MMA 12	-	850
15	60	25	BSDF 15M60.2RSZ.P4.BM	17,900	28,000	9.100	0.100	400	65	0.10	2	MMA 15	-	1000
17	62	25	BSDF 17M62.2RSZ.P4.BM	18,800	31,000	8.500	0.120	450	80	0.13	2	MMA 17	-	1250
20	68	28	BSDF 20M68.2RSZ.P4.BM	26,000	47,000	7.000	0.150	650	140	0.27	2	MBA 20	2	2000
25	75	28	BSDF 25M75.2RSZ.P4.BM	27,500	55,000	6.100	0.200	750	200	0.49	2	MBA 25	2	2300
30	80	28	BSDF 30M80.2RSZ.P4.BM	29,000	64,000	5.500	0.250	850	300	0.73	3	MBA 30	2	2500
35	90	34	BSDF 35M90.2RSZ.P4.BM	41,000	89,000	4.900	0.300	900	400	1.50	3	MBA 35	7	2900
40	100	34	BSDF 40M100.2RSZ.P4.BM	43,000	101,000	4.200	0.350	1.000	550	2.25	3	MBA 40	7	3000
50	115	34	BSDF 50M115.2RSZ.P4.BM	46,500	126,000	3.900	0.450	1.250	1.000	5.25	3	MBC 50	7	3500

Heavy series

30	100	38	BSDF 30MS100.2RSZ.P4.BM	59,000	108,000	5,200	0.400	950	400	1.9	3	MBA 30	2	5000
40	115	46	BSDF 40MS115.2RSZ.P4.BM	72,000	149,000	4,000	0.650	1,200	750	5.5	3	MBA 40	7	6000
50	140	54	BSDF 50MS140.2RSZ.P4.BM	113,000	250,000	3,200	1.300	1,400	1,500	15.0	3	MBC 50	7	7000



Basic dimensions			Basic designation	Mounting screws DIN 912-10.9			Dimensions					Weight	Connecting dimensions					
				Screw size	Quantity	Pitch												
d	D	B			n	d ₁	D ₁	r	r ₁	K	d ₂	b ₁	b ₂		d _{amin}	D _{amax}	r _{amax}	r _{amin}
mm						mm								kg	Mm			

Standard series

12	55	25	BSDF 12M55.2RSZ.P4.BM	M6	3	3 x 120°	25	0.3	0.6	42	6,8	3	17	0.370	16	33	0.3	0.6
15	60	25	BSDF 15M60.2RSZ.P4.BM	M6	3	3 x 120°	28	0.3	0.6	46	6,8	3	17	0.430	20	35	0.3	0.6
17	62	25	BSDF 17M62.2RSZ.P4.BM	M6	3	3 x 120°	30	0.3	0.6	48	6,8	3	17	0.450	23	37	0.3	0.6
20	68	28	BSDF 20M68.2RSZ.P4.BM	M6	4	4 x 90°	34.5	0.3	0.6	53	6,8	3	19	0.610	25	43	0.3	0.6
25	75	28	BSDF 25M75.2RSZ.P4.BM	M6	4	4 x 90°	40.5	0.3	0.6	58	6,8	3	19	0.720	32	48	0.3	0.6
30	80	28	BSDF 30M80.2RSZ.P4.BM	M6	6	6 x 60°	45.5	0.3	0.6	63	6,8	3	19	0.780	40	53	0.3	0.6
35	90	34	BSDF 35M90.2RSZ.P4.BM	M8	4	4 x 90°	52	0.3	0.6	75	8,8	3	25	1.130	45	62	0.3	0.6
40	100	34	BSDF 40M100.2RSZ.P4.BM	M8	4	4 x 90°	58	0.3	0.6	80	8,8	3	25	1.460	50	67	0.3	0.6
50	115	34	BSDF 50M115.2RSZ.P4.BM	M8	6	6 x 60°	72	0.3	0.6	94	8,8	3	25	1.860	63	82	0.3	0.6

Heavy series

30	100	38	BSDF 30MS100.2RSZ.P4.BM	M8	8	8 x 45°	51	0.3	0.6	80	8,8	3	30	1.630	47	64	0.3	0.6
40	115	46	BSDF 40MS115.2RSZ.P4.BM	M8	12	12 x 30°	65	0.3	0.6	94	8,8	3	36	2.200	56	80	0.3	0.6
50	140	54	BSDF 50MS140.2RSZ.P4.BM	M10	12	12 x 30°	80	0.3	0.6	113	11	3	45	4.700	63	98	0.3	0.6