

Sealed type

Inner bore <i>d</i> mm	Bearing numbers				Principal dimensions			Basic load ratings		Limiting speeds grease rpm	Mass kg(s).
	<i>D</i>	<i>B</i>	<i>r</i> 's min ¹⁾	<i>C_r</i>	<i>C_{0r}</i>	grease rpm	kg(s).				
10	3200 B 2Z JP	3200 B 2Z TVH	3200 B 2RS JP	3200 B 2RS TVH	30	14.3	0.6	6950	3800	16000	0.045
12	3201 B 2Z JP	3201 B 2Z TVH	3201 B 2RS JP	3201 B 2RS TVH	32	15.9	0.6	9150	5050	15000	0.050
15	3202 B 2Z JP	3202 B 2Z TVH	3202 B 2RS JP	3202 B 2RS TVH	35	15.9	0.6	10000	6050	12000	0.068
17	3203 B 2Z JP	3203 B 2Z TVH	3203 B 2RS JP	3203 B 2RS TVH	40	17.5	0.6	12800	7900	10000	0.090
20	3204 B 2Z JP	3204 B 2Z TVH	3204 B 2RS JP	3204 B 2RS TVH	47	20.6	1.0	19000	12100	9000	0.140
25	3205 B 2Z JP	3205 B 2Z TVH	3205 B 2RS JP	3205 B 2RS TVH	52	20.6	1.0	20600	14300	8000	0.160
30	3206 B 2Z JP	3206 B 2Z TVH	3206 B 2RS JP	3206 B 2RS TVH	62	23.8	1.0	28600	20400	7000	0.260
35	3207 B 2Z JP	3207 B 2Z TVH	3207 B 2RS JP	3207 B 2RS TVH	72	27.0	1.1	38000	27800	6000	0.400
40	3208 B 2Z JP	3208 B 2Z TVH	3208 B 2RS JP	3208 B 2RS TVH	80	30.2	1.1	42500	32500	5600	0.530
45	3209 B 2Z JP	3209 B 2Z TVH	3209 B 2RS JP	3209 B 2RS TVH	85	30.2	1.1	48000	37000	5000	0.570
50	3210 B 2Z JP	3210 B 2Z TVH	3210 B 2RS JP	3210 B 2RS TVH	90	30.2	1.1	51000	42000	5000	0.670
55	3211 B 2Z JP	3211 B 2Z TVH	3211 B 2RS JP	3211 B 2RS TVH	100	33.3	1.5	63000	53000	4000	0.960
60	3212 B 2Z JP	3212 B 2Z TVH	3212 B 2RS JP	3212 B 2RS TVH	110	36.5	1.5	71500	58500	3800	1.360
65	3213 B 2Z JP	3213 B 2Z TVH	3213 B 2RS JP	3213 B 2RS TVH	120	38.1	1.5	83500	72500	3400	1.660
70	3214 B 2Z JP	3214 B 2Z TVH	3214 B 2RS JP	3214 B 2RS TVH	125	39.7	1.5	90500	79500	3200	1.820
75	3215 B 2Z JP	3215 B 2Z TVH	3215 B 2RS JP	3215 B 2RS TVH	130	41.3	1.5	90000	80500	3200	1.910
80	3216 B 2Z JP	3216 B 2Z TVH	3216 B 2RS JP	3216 B 2RS TVH	140	44.4	2.0	106000	95500	2800	2.480

Note: 1) These values are the allowable minimum dimensions of the chamfer dimension *r*.

Technical supplement

Cages

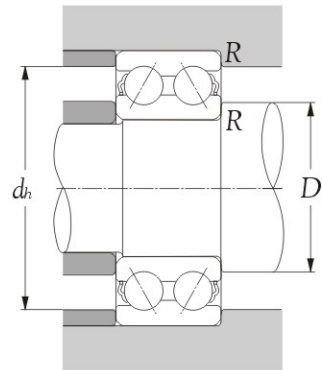
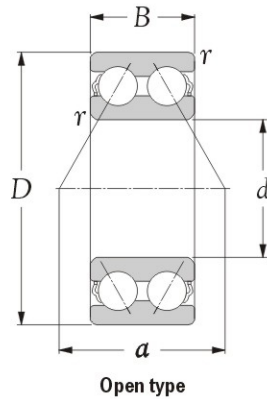
Steel - JP
 Polymid - TVH
 Brass - X

Precision

Normal
(ISO)

Grease

Shell
Alvania S2

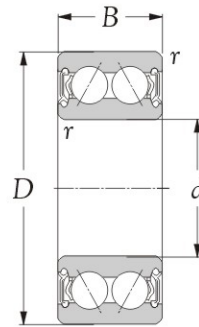


Inner bore <i>d</i> mm	Bearing numbers	Principal dimensions			Basic load ratings		Limiting speeds		Abutment and fillet dimensions				Mass kg(s).
		<i>D</i>	<i>B</i> mm	<i>r</i> min ¹⁾	<i>C_r</i>	<i>C_{or}</i>	grease rpm	oil rpm	<i>D_s</i> min	<i>d_h</i> max	<i>R</i> max	<i>a</i>	
10	3300 B JP 3300 B TVH	35	19.0	1.0	11700	7000	18000	24000	16.0	30.0	0.6	20.6	0.050
12	3301 B JP 3301 B TVH	37	19.0	1.0	11700	7000	17000	22000	18.0	32.0	0.6	21.3	0.058
15	3302 B JP 3302 B TVH	42	19.0	1.0	17200	10100	9900	13000	21.0	36.0	1.0	26.0	0.132
17	3303 B JP 3303 B TVH	47	22.2	1.0	20400	12100	9000	12000	23.0	41.0	1.0	28.5	0.181
20	3304 B JP 3304 B TVH	52	22.2	1.1	20600	12700	8000	11000	27.0	45.0	1.0	30.5	0.217
25	3305 B JP 3305 B TVH	62	25.4	1.1	30500	20500	6700	8900	32.0	55.0	1.0	36.5	0.362
30	3306 B JP 3306 B TVH	72	30.2	1.1	39500	27500	5700	7600	37.0	65.0	1.0	43.0	0.553
35	3307 B JP 3307 B TVH	80	34.9	1.5	49500	35000	5000	6600	43.5	71.5	1.5	48.5	0.766
40	3308 B JP 3308 B TVH	90	36.5	1.5	60500	44000	4400	5900	48.5	81.5	1.5	53.5	1.010
45	3309 B JP 3309 B TVH	100	39.7	1.5	72500	54000	4000	5300	53.5	91.5	1.5	60.0	1.340
50	3310 B JP 3310 B TVH	110	44.4	2.0	85500	64500	3600	4800	60.0	100.0	2.0	65.5	1.810
55	3311 B JP 3311 B TVH	120	49.2	2.0	106000	82000	3300	4400	65.0	110.0	2.0	73.0	2.320
60	3312 B JP 3312 B TVH	130	54.0	2.1	122000	95500	3000	4000	72.0	118.0	2.0	79.5	3.050
65	3313 B JP 3313 B TVH	140	58.7	2.1	138000	109000	2800	3700	77.0	128.0	2.0	84.5	3.960
70	3314 B JP 3314 B TVH	150	63.5	2.1	155000	125000	2600	3500	82.0	138.0	2.0	93.0	4.740
75	3315 B JP 3315 B TVH	160	68.3	2.1	168000	141000	2400	3200	87.0	148.0	2.0	98.0	5.650
80	3316 B JP 3316 B TVH	170	68.3	2.1	182000	156000	2400	3400	92.0	158.0	2.0	112.0	6.950

Note: 1) These values are the allowable minimum dimensions of the chamfer dimension *r*.

Technical supplement

	Cages	Precision	Grease
Steel -	JP	Normal (ISO)	Nil
Polymid -	TVH		
Brass -	X		




Sealed type

Inner bore <i>d</i> mm	Bearing numbers				Principal dimensions			Basic load ratings		Limiting speeds grease rpm	Mass kg(s).
					<i>D</i>	<i>B</i> mm	<i>r</i> 's min ¹⁾	<i>C_r</i>	<i>C_{0r}</i> N		
10	3300 B 2Z JP	3300 B 2Z TVH	3300 B 2RS JP	3300 B 2RS TVH	35	19.0	1.0	11700	7000	18000	0.050
12	3301 B 2Z JP	3301 B 2Z TVH	3301 B 2RS JP	3301 B 2RS TVH	37	19.0	1.0	11700	7000	17000	0.058
15	3302 B 2Z JP	3302 B 2Z TVH	3302 B 2RS JP	3302 B 2RS TVH	42	19.0	1.0	17200	10100	9900	0.132
17	3303 B 2Z JP	3303 B 2Z TVH	3303 B 2RS JP	3303 B 2RS TVH	47	22.2	1.0	20400	12100	9000	0.181
20	3304 B 2Z JP	3304 B 2Z TVH	3304 B 2RS JP	3304 B 2RS TVH	52	22.2	1.1	20600	12700	8500	0.200
25	3305 B 2Z JP	3305 B 2Z TVH	3305 B 2RS JP	3305 B 2RS TVH	62	25.4	1.1	30500	20500	7500	0.320
30	3306 B 2Z JP	3306 B 2Z TVH	3306 B 2RS JP	3306 B 2RS TVH	72	30.2	1.1	39500	27500	6300	0.480
35	3307 B 2Z JP	3307 B 2Z TVH	3307 B 2RS JP	3307 B 2RS TVH	80	34.9	1.5	49500	35000	5000	0.766
40	3308 B 2Z JP	3308 B 2Z TVH	3308 B 2RS JP	3308 B 2RS TVH	90	36.5	1.5	60500	44000	4700	1.010
45	3309 B 2Z JP	3309 B 2Z TVH	3309 B 2RS JP	3309 B 2RS TVH	100	39.7	1.5	72500	54000	4500	1.150
50	3310 B 2Z JP	3310 B 2Z TVH	3310 B 2RS JP	3310 B 2RS TVH	110	44.4	1.5	85500	64500	4500	1.950
55	3311 B 2Z JP	3311 B 2Z TVH	3311 B 2RS JP	3311 B 2RS TVH	120	49.2	1.5	106000	82000	4000	2.350
60	3312 B 2Z JP	3312 B 2Z TVH	3312 B 2RS JP	3312 B 2RS TVH	130	54.0	2.1	122000	95500	2720	3.250
65	3313 B 2Z JP	3313 B 2Z TVH	3313 B 2RS JP	3313 B 2RS TVH	140	58.7	2.1	138000	109000	2560	4.100
70	3314 B 2Z JP	3314 B 2Z TVH	3314 B 2RS JP	3314 B 2RS TVH	150	63.5	2.1	155000	125000	2240	5.050
75	3315 B 2Z JP	3315 B 2Z TVH	3315 B 2RS JP	3315 B 2RS TVH	160	68.3	2.1	168000	141000	2080	6.150
80	3316 B 2Z JP	3316 B 2Z TVH	3316 B 2RS JP	3316 B 2RS TVH	170	68.3	2.1	182000	156000	1920	6.950

Note: 1) These values are the allowable minimum dimensions of the chamfer dimension *r*.

Technical supplement



Cages

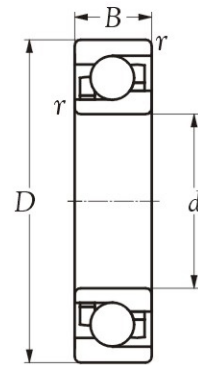
Steel - JP
 Polymid - TVH
 Brass - X

Precision

Normal
(ISO)

Grease

Shell
Alvania S2



Inner bore <i>d</i> mm	Bearing numbers	Principal dimensions			Basic load ratings		Limiting speeds		Abutment and fillet dimensions			Mass kg(s).
		<i>D</i>	<i>B</i> mm	$r_s \text{ min}^{1)}$	C_r	C_{or} N	grease rpm	oil	D_s <i>min</i>	d_h <i>max</i> mm	R <i>max</i>	
10	7200 B JP 7200 B TVH	30	9	0.6	5300	2600	22600	32000	14.2	25.8	0.6	0.033
12	7201 B JP 7201 B TVH	32	10	0.6	7400	3550	21100	28000	16.2	27.8	0.6	0.035
15	7202 B JP 7202 B TVH	35	11	0.6	8400	4450	19100	24000	19.2	30.8	0.6	0.044
17	7203 B JP 7203 B TVH	40	12	0.6	10500	5700	17100	20000	21.2	35.8	0.6	0.067
20	7204 B JP 7204 B TVH	47	14	1.0	14000	7800	15400	18000	25.6	41.4	1.0	0.103
25	7205 B JP 7205 B TVH	52	15	1.0	15300	9000	13700	16000	30.6	46.4	1.0	0.127
30	7206 B JP 7206 B TVH	62	16	1.0	21700	14100	11200	13000	35.6	56.4	1.0	0.197
35	7207 B JP 7207 B TVH	72	17	1.1	28000	19000	9600	11000	42.0	65.0	1.0	0.282
40	7208 B JP 7208 B TVH	80	18	1.1	34000	23500	8600	9500	47.0	73.0	1.0	0.372
45	7209 B JP 7209 B TVH	85	19	1.1	37500	27000	8000	8500	52.0	78.0	1.0	0.405
50	7210 B JP 7210 B TVH	90	20	1.1	39000	28500	7600	8000	57.0	83.0	1.0	0.456
55	7211 B JP 7211 B TVH	100	21	1.5	49000	38500	6800	7000	64.0	91.0	1.5	0.645
60	7212 B JP 7212 B TVH	110	22	1.5	59000	45000	6200	6300	69.0	101.0	1.5	0.777
65	7213 B JP 7213 B TVH	120	23	1.5	67000	55000	5700	6000	74.0	111.0	1.5	1.000
70	7214 B JP 7214 B TVH	125	24	1.5	74000	62000	5400	5600	79.0	116.0	1.5	1.080
75	7215 B JP 7215 B TVH	130	25	1.5	73000	62000	5300	5300	84.0	121.0	1.5	1.160
80	7216 B JP 7216 B TVH	140	26	2.0	85000	72000	4650	4950	91.0	129.0	2.0	1.530
85	7217 B JP 7217 B TVH	150	28	2.0	97000	86000	4750	4500	96.0	139.0	2.0	1.820
90	7218 B JP 7218 B TVH	160	30	2.0	114000	98000	4550	4300	101.0	149.0	2.0	2.210
95	7219 B JP 7219 B TVH	170	32	2.1	123000	106000	4450	4000	107.0	158.0	2.1	2.640
100	7220 B JP 7220 B TVH	180	34	2.1	142000	124000	4250	3800	112.0	168.0	2.1	3.170

Note: 1) These values are the allowable minimum dimensions of the chamfer dimension *r*.
 2) Normal production to be "TVH" cages.

Technical supplement

Cages

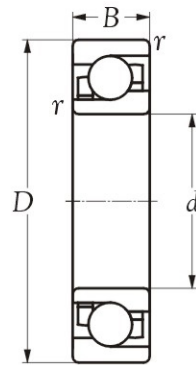
Steel - JP
 Polymid - TVH
 Brass - X

Precision

Normal
(ISO)

Grease

Nil



Inner bore <i>d</i> mm	Bearing numbers	Principal dimensions			Basic load ratings		Limiting speeds		Abutment and fillet dimensions			Mass kg(s).
		<i>D</i>	<i>B</i> mm	$r_s \text{ min}^{1)}$	C_r	C_{or} N	grease rpm	oil	D_s <i>min</i>	d_h <i>max</i> mm	R <i>max</i>	
12	7301 B JP 7301 B TVH	37	12	1.0	11400	5300	16300	24000	17.6	31.4	1.0	0.066
15	7302 B JP 7302 B TVH	42	13	1.0	14200	7200	14200	20000	20.6	36.4	1.0	0.081
17	7303 B JP 7303 B TVH	47	14	1.0	17600	9000	12800	18000	22.6	41.4	1.0	0.110
20	7304 B JP 7304 B TVH	52	15	1.1	20400	11100	11500	17000	27.0	45.0	1.0	0.149
25	7305 B JP 7305 B TVH	62	17	1.1	28000	15800	9800	14000	32.0	55.0	1.0	0.223
30	7306 B JP 7306 B TVH	72	19	1.1	35500	22100	8600	11000	37.0	65.0	1.0	0.341
35	7307 B JP 7307 B TVH	80	21	1.5	43000	27500	7900	9500	44.0	71.0	1.5	0.447
40	7308 B JP 7308 B TVH	90	23	1.5	53000	34500	7100	8500	49.0	81.0	1.5	0.610
45	7309 B JP 7309 B TVH	100	25	1.5	65000	43000	6500	7500	54.0	91.0	1.5	0.878
50	7310 B JP 7310 B TVH	110	27	2.0	75000	50000	6100	7000	61.0	99.0	2.0	1.050
55	7311 B JP 7311 B TVH	120	29	2.0	86000	61000	5600	6300	66.0	109.0	2.0	1.380
60	7312 B JP 7312 B TVH	130	31	2.1	96000	69000	5300	5600	72.0	118.0	2.1	1.740
65	7313 B JP 7313 B TVH	140	33	2.1	110000	82000	5000	5300	77.0	128.0	2.1	2.120
70	7314 B JP 7314 B TVH	150	35	2.1	126000	93000	4750	5000	82.0	138.0	2.1	2.580
75	7315 B JP 7315 B TVH	160	37	2.1	140000	107000	4500	4500	87.0	148.0	2.1	3.100
80	7316 B JP 7316 B TVH	170	39	2.1	155000	124000	4250	4300	92.0	158.0	2.1	3.660
85	7317 B JP 7317 B TVH	180	41	3.0	167000	138000	4100	4000	99.0	166.0	2.5	4.400
90	7318 B JP 7318 B TVH	190	43	3.0	180000	155000	3900	3800	104.0	176.0	2.5	5.000
95	7319 B JP 7319 B TVH	200	45	3.0	189000	167000	3800	3800	109.0	186.0	2.5	5.780
100	7320 B JP 7320 B TVH	215	47	3.0	214000	197000	3550	3600	114.0	201.0	2.5	7.380

Note: 1) These values are the allowable minimum dimensions of the chamfer dimension *r*.
 2) Normal production to be "TVH" cages.

Technical supplement

Cages	Precision	Grease
Steel - JP	Normal (ISO)	Nil
Polymid - TVH		
Brass - X		