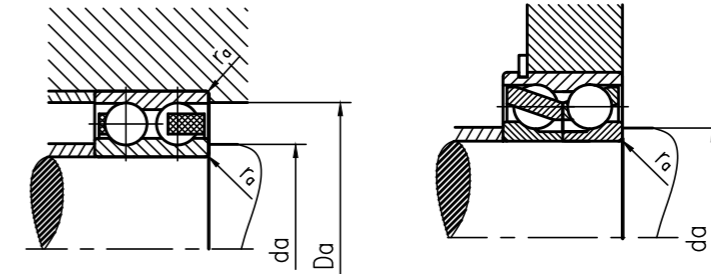
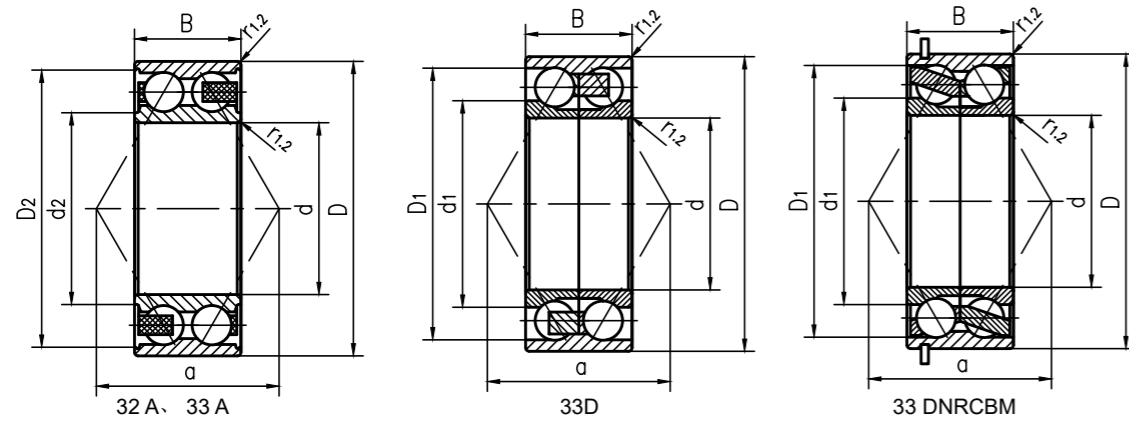


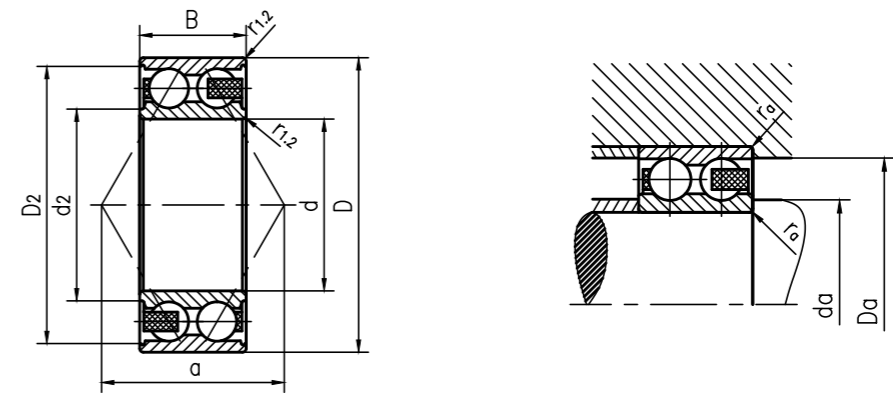
Double Row angular contact ball bearings



Type		Main dimensions			Dimensions						Shoulder and chamfer dimensions		
Bearings with metal cage	Polyamide cage	d	D	B	d ₁	d ₂	D ₁	D ₂	r _{1,2} Min.	α	d _a Min.	d _a Max.	r _a Max.
		mm			mm						mm		
-	3200ATN9	10	30	14	-	15.8	-	25	0.6	16	14.4	25.6	0.6
-	3201ATN9	12	32	15.9	-	17.2	-	27.7	0.6	19	16.4	27.6	0.6
-	3202ATN9	15	35	15.9	-	20.2	-	30.7	0.6	21	19.4	30.6	0.6
-	3302ATN9	15	42	19	-	23.7	-	35.7	1	24	20.6	36.4	1
-	3203ATN9	17	40	17.5	-	23.3	-	35	0.6	23	21.4	35.6	0.6
-	3303ATN9	17	47	22.2	-	25.7	-	40.2	1	28	22.6	41.4	1
3204A	3204ATN9	20	47	20.6	-	27.7	-	40.9	1	28	25.6	41.4	1
3304A	3304ATN9	20	52	22.2	-	29.9	-	44	1.1	30	27	45	1
3205A	3205ATN9	25	52	20.6	-	32.7	-	45.9	1	30	31	46	1
3305A	3305ATN9	25	62	25.4	-	35.7	-	53.4	1.1	36	32	55	1
3206A	3206ATN9	30	62	23.8	-	38.7	-	55.2	1	36	36	56	1
3306A	3306ATN9	30	72	30.2	-	39.8	-	64.1	1.1	42	37	65	1
3207A	3207ATN9	35	72	27	-	45.4	-	63.9	1.1	42	42	65	1
3307A	3307ATN9	35	80	34.9	-	44.6	-	70.5	1.5	47	44	71	1.5
3307DJ1	-	35	80	34.9	52.8	-	69	-	1.5	76	44	71	1.5
3208A	3208ATN9	40	80	30.2	-	47.8	-	72.1	1.1	46	47	73	1
3308DNRCBM	-	40	90	36.5	61.1	-	77.5	-	1.5	71	49	-	1.5
3308A	3308ATN9	40	90	36.5	-	50.8	-	80.5	1.5	53	49	81	1.5
3308DMA	-	40	90	36.5	59.4	-	77.8	-	1.5	84	49	81	1.5
3308DTN9	-	40	90	36.5	59.4	-	77.8	-	1.5	84	49	81	1.5
3209A	3209ATN9	45	85	30.2	-	52.8	-	77.1	1.1	46	52	78	1
3309DNRCBM	-	45	100	39.7	67.9	-	86.6	-	1.5	79	54	-	1.5
3309A	3309ATN9	45	100	39.7	-	55.6	-	90	1.5	58	54	91	1.5
3309DMA	-	45	100	39.7	70	-	86.4	-	1.5	93	54	91	1.5
3210A	3210ATN9	50	90	30.2	-	57.8	-	82.1	1.1	52	57	83	1
3310DNRCBM	-	50	110	44.4	74.6	-	96.4	-	2	102	61	-	2
3310A	3310ATN9	50	110	44.4	-	62	-	99.5	2	65	61	99	2
3310DMA	-	50	110	44.4	76.5	-	94.2	-	2	102	61	99	2
3211A	3211ATN9	55	100	33.3	-	63.2	-	92.3	1.5	57	63	91	1.5
3311DNRCBM	-	55	120	49.2	81.5	-	106	-	2	97	66	-	2
3311DMA	-	55	120	49.2	81.4	-	105	-	2	114	66	109	2
3311A	3311ATN9	55	120	49.2	-	68.4	-	110	2	72	66	109	2
3212A	3212ATN9	60	110	36.5	74.4	-	96.2	-	1.5	63	69	101	1.5
3312A	-	60	130	54	84.2	-	110	-	2.1	78	72	118	2
3213A	-	65	120	38.1	84.9	-	103	-	1.5	71	74	111	1.5
3313DNRCBM	-	65	140	58.7	95	-	125	-	2.1	114	77	-	2
3313A	-	65	140	58.7	89.8	-	116	-	2.1	84	77	128	2
3214A	-	70	125	39.7	88.5	-	108	-	1.5	74	79	116	1.5
3314A	-	70	150	63.5	96.5	-	125	-	2.1	89	82	138	2
3215A	-	75	130	41.3	92	-	112	-	1.5	77	84	121	1.5
3315A	-	75	160	68.3	103	-	135	-	2.1	97	87	148	2

Type	Polyamide cage	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
			Dynamic	Static	P _u			K _r
			C	C ₀		r/min	-	
-	-	kg	kN					
-	3200ATN9	0.051	7.65	4.32	0.18	26130	24120	0.06
-	3201ATN9	0.058	10.15	5.63	0.24	24120	22110	0.06
-	3202ATN9	0.066	11.26	6.83	0.29	22110	18090	0.06
-	3302ATN9	0.13	15.18	9.35	0.4	18090	16080	0.07
-	3203ATN9	0.096	14.37	8.84	0.37	19095	16080	0.06
-	3303ATN9	0.18	21.71	12.76	0.54	17085	14070	0.07
3204A	3204ATN9	0.16	20.5	12.96	0.55	16080	14070	0.06
3304A	3304ATN9	0.22	23.72	14.67	0.62	15075	13065	0.07
3205A	3205ATN9	0.18	21.71	14.37	0.6	14070	12060	0.06
3305A	3305ATN9	0.35	32	20.4	0.865	12060	11055	0.07
3206A	3206ATN9	0.29	30.15	20.5	0.87	11055	10050	0.06
3306A	3306ATN9	0.52	42.71	30.15	1.28	10050	9045	0.07
3207A	3207ATN9	0.44	40.2	28.14	1.19	10050	9045	0.06
3307A	3307ATN9	0.74	52.26	35.68	1.51	9547.5	8542.5	0.07
3307DJ1	-	0.79	52.96	41.71	1.77	9045	8040	0.095
3208A	3208ATN9	0.57	48.24	36.68	1.57	9045	8040	0.06
3308DNRCBM	-	1.2	49.65	41.71	1.77	8040	7035	0.095
3308A	3308ATN9	0.93	64.32	44.22	1.87	8040	7537.5	0.07
3308DMA	-	1.05	69.24	57.29	2.46	8040	7035	0.095
3308DTN9	-	1.05	69.24	57.29	2.46	8040	7035	0.095
3209A	3209ATN9	0.63	51.26	39.2	1.64	8542.5	7537.5	0.06
3309DNRCBM	-	1.5	62.11	52.26	2.21	7537.5	6331.5	0.095
3309A	3309ATN9	1.25	75.38	53.27	2.25	7537.5	6733.5	0.07
3309DMA	-	1.65	79.7	69.85	3.02	7537.5	6331.5	0.095
3210A	3210ATN9	0.65	51.26	42.71	1.81	8040	7035	0.06
3310DNRCBM	-	1.95	82.31	69.85	3.02	6733.5	5628	0.095
3310A	3310ATN9	1.7	90.45	64.32	2.76	6733.5	6030	0.07
3310DMA	-	2.2	94.07	85.43	3.62	6733.5	5628	0.095
3211A	3211ATN9	0.91	60.3	47.74	2.01	6331.5	6331.5	0.06
3311DNRCBM	-	2.55	96.08	83.42	3.57	5025	5326.5	0.095
3311DMA	-	2.8	111.56	100.5	4.32	4824	5025	0.095
3311A	3311ATN9	2.65	112.56	81.91	3.47	5326.5	5326.5	0.07
3212A	3212ATN9	1.2	73.87	58.79	2.51	6331.5	5628	0.06
3312A	-	2.8	127.64	95.48	4.07	5628	5025	0.07
3213A	-	1.75	81	73.87	3.12	5628	4824	0.06
3313DNRCBM	-	4	138.69	122.61	5.13	5326.5	4522.5	0.095
3313A	-	4.1	146.73	110.55	4.57	5326.5	4522.5	0.07
3214A	-	1.9	88.84	80.4	3.42	5628	4522.5	0.06
3314A	-	5.05	163.82	125.63	5.03	5025	4321.5	0.07
3215A	-	2.1	96.08	88.44	3.77	5326.5	4522.5	0.06
3315A	-	5.55	176.88	140.7	5.53	4522.5	4020	0.07

Double Row angular contact ball bearings



32 A, 33 A

33D

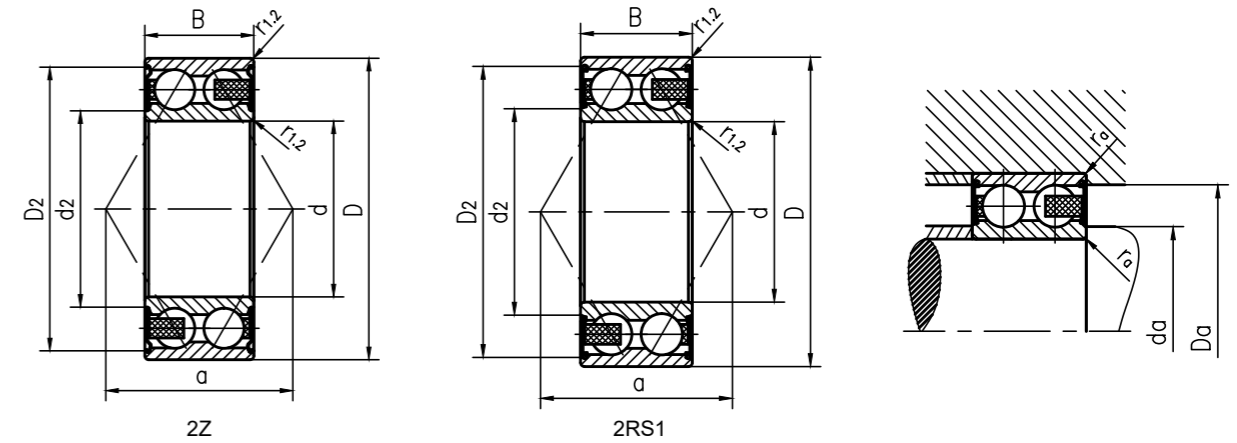
33 DNRCBM

Type		Main dimensions			Dimensions						Shoulder and chamfer dimensions		
Bearings with metal cage	Polyamide cage	d	D	B	$d_1 \approx$	$d_2 \approx$	$D_1 \approx$	$D_2 \approx$	$r_{1,2}$ Min.	α	d_a Min.	d_a Max.	r_a Max.
-	-	80	140	44.4	97.6	-	120	-	2	82	91	129	2
3216A	-	80	170	68.3	109	-	144	-	2.1	101	92	158	2
3316A	-	80	170	68.3	109	-	144	-	2.1	101	92	158	2
3217A	-	85	150	49.2	103	-	136	-	2	88	96	139	2
3317A	-	85	180	73	116	-	153	-	3	107	99	166	2.5
3218A	-	90	160	52.4	111	-	137	-	2	94	101	149	2
3318A	-	90	190	73	123	-	160	-	3	112	104	176	2.5
3219A	-	95	170	55.6	119	-	146	-	2.1	101	107	158	2
3319A	-	95	200	77.8	127	-	176	-	3	127	109	186	2.5
3220A	-	100	180	60.3	126	-	162	-	2.1	107	112	168	2
3320A	-	100	215	82.6	135	-	180	-	3	127	114	201	2.5
3222A	-	110	200	69.8	139	-	174	-	2.1	119	122	188	2
3322A	-	110	240	92.1	152	-	201	-	3	142	124	226	2.5

Type	Polyamide cage	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
			Dynamic	Static				
Bearings with metal cage		kg	C	C_0	P_u	r/min		K_f
-	-		2.65	106.53	95.48	3.92	5025	4321.5
3216A	-	6.8	193.97	156.78	6.03	4321.5	3819	0.07
3316A	-	3.4	124.62	110.55	4.42	4522.5	3819	0.06
3217A	-	8.3	209.04	176.88	6.58	4020	3618	0.07
3317A	-	4.15	130.65	120.6	4.57	4321.5	3618	0.06
3218A	-	9.25	209.04	180.9	6.43	3819	3417	0.07
3318A	-	5	159.8	146.73	5.43	4020	3417	0.06
3219A	-	11	241.2	217.08	7.54	3618	3216	0.07
3319A	-	6.1	178.89	166.83	6.03	3819	3216	0.06
3220A	-	13.5	256.28	256.28	8.69	3417	2814	0.07
3320A	-	8.8	213.06	213.06	7.24	3417	2814	0.06
3222A	-	19	292.46	306.53	9.85	3015	2613	0.07
3322A	-							

Double Row angular contact ball bearings

Closed double row angular contact ball bearing



Type		Main dimensions			Dimensions				Shoulder and chamfer dimensions			
Dust-covered bearing	Bearings with seals	d	D	B	d ₂ ≈	D ₂ ≈	r _{1,2} Min.	α	d _a Min.	d _a Max.	D _a Max.	r _a Max.
		mm			mm				mm			
-	-	10	30	14	15.8	25	0.6	16	14.4	15.5	25.6	0.6
3200A-2Z	3200A-2RS1	12	32	15.9	17.2	27.7	0.6	19	16.4	17	27.6	0.6
3201A-2Z	3201A-2RS1	15	35	15.9	20.2	30.7	0.6	21	19.4	20	30.6	0.6
3202A-2Z	3202A-2RS1	15	42	19	23.7	35.7	1	24	20.6	23.5	36.4	1
3302A-2Z	3302A-2RS1	17	40	17.5	23.3	35	0.6	23	21.4	23	35.6	0.6
3203A-2Z	3203A-2RS1	17	47	22.2	25.7	40.2	1	28	22.6	25.5	41.4	1
3303A-2Z	3303A-2RS1	20	47	20.6	27.7	40.9	1	28	25.6	27.5	41.4	1
3204A-2Z	3204A-2RS1	20	52	22.2	29.9	44	1.1	30	27	29.5	45	1
3304A-2Z	3304A-2RS1	25	52	20.6	32.7	45.9	1	30	30.6	32.5	46.4	1
3205A-2Z	3205A-2RS1	25	62	25.4	35.7	53.4	1.1	36	32	35.5	55	1
3305A-2Z	3305A-2RS1	30	62	23.8	38.7	55.2	1	36	35.6	38.5	56	1
3206A-2Z	3206A-2RS1	30	72	30.2	39.8	64.1	1.1	42	37	39.5	65	1
3306A-2Z	3306A-2RS1	35	72	27	45.4	63.9	1.1	42	42	45	65	1
3207A-2Z	3207	35	80	34.9	44.6	70.5	1.5	47	44	44.5	71	1.5
3307A-2Z	3307A-2RS1	40	80	30.2	47.8	72.1	1.1	46	47	48	73	1
3208A-2Z	3208A-2RS1	40	90	36.5	50.8	80.5	1.5	53	49	50	81	1.5
3308A-2Z	3308A-2RS1	45	85	30.2	52.8	77.1	1.1	46	52	52	78	1
3209A-2Z	3209A-2RS1	45	100	39.7	55.6	90	1.5	58	54	91	91	1.5
3309A-2Z	3309A-2RS1	50	90	30.2	57.8	82.1	1.1	52	57	57	83	1
3210A-2Z	3210A-2RS1	50	110	44.4	62	99.5	2	65	61	61	99	2
3310A-2Z	3310A-2RS1	55	100	33.3	63.2	92.3	1.5	57	63	63	91	1.5
3211A-2Z	3211A-2RS1	55	120	49.2	68.4	110	2	72	66	68	109	2
3311A-2Z	3311A-2RS1	60	110	36.5	68.8	101	1.5	63	69	68	101	1.5
3212A-2Z	3212A-2RS1	60	130	54	73.4	118	2.1	78	72	73	118	2
3312A-2Z	-	65	120	38.1	77.5	111	1.5	71	74	76	111	1.5
3213A-2Z	3213A-2RS1	65	140	58.7	79.2	128	2.1	84	77	78	128	2
3313A-2Z	-	70	125	39.7	82.5	116	1.5	74	79	82	116	1.5
3214A-2Z	-	70	150	63.5	86.5	137	2.1	89	82	84	138	2
3314A-2Z	-	75	130	41.3	87.5	121	1.5	77	84	84	121	1.5
3215A-2Z	-	75	160	68.3	95.4	147	2.1	97	87	88	148	2
3315A-2Z	-											

Type		Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
Dust-covered bearing	Bearings with seals		Dynamic	Static				
			C	C ₀	P _u	K _r		
		kg	kN			r/min		
-	-	0.051	7.65	4.32	0.18	24120	17085	0.06
3200A-2Z	3200A-2RS1	0.058	10.15	5.63	0.24	22110	15075	0.06
3201A-2Z	3201A-2RS1	0.066	11.26	6.83	0.29	18090	14070	0.06
3202A-2Z	3202A-2RS1	0.13	15.18	9.35	0.4	16080	12060	0.07
3302A-2Z	3302A-2RS1	0.1	14.37	8.84	0.37	16080	12060	0.06
3203A-2Z	3203A-2RS1	0.18	21.71	12.76	0.54	14070	11055	0.07
3303A-2Z	3303A-2RS1	0.16	20.5	12.96	0.55	14070	10050	0.06
3204A-2Z	3204A-2RS1	0.22	23.72	14.67	0.62	13065	9045	0.07
3304A-2Z	3304A-2RS1	0.18	21.71	14.37	0.6	12060	8542.5	0.06
3205A-2Z	3205A-2RS1	0.35	32.16	20.5	0.87	11055	7537.5	0.07
3305A-2Z	3305A-2RS1	0.29	30.15	20.5	0.87	10050	7537.5	0.06
3206A-2Z	3206A-2RS1	0.52	42.71	30.15	1.28	9045	6331.5	0.07
3306A-2Z	3306A-2RS1	0.44	40.2	28.14	1.19	9045	6331.5	0.06
3207A-2Z	3207	0.74	52.26	35.68	1.51	8542.5	6030	0.07
3307A-2Z	3307A-2RS1	0.57	48.24	36.68	1.57	8040	5628	0.06
3208A-2Z	3208A-2RS1	0.93	64.32	44.22	1.87	7537.5	5025	0.07
3308A-2Z	3308A-2RS1	0.63	51.26	39.2	1.64	7537.5	5326.5	0.06
3209A-2Z	3209A-2RS1	1.25	75.38	53.27	2.25	6733.5	4824	0.07
3309A-2Z	3309A-2RS1	0.65	51.26	42.71	1.81	7035	4824	0.06
3210A-2Z	3210A-2RS1	1.7	90.45	64.32	2.76	6030	4321.5	0.07
3310A-2Z	3310A-2RS1	0.91	60.3	47.74	2.01	6331.5	4522.5	0.06
3211A-2Z	3211A-2RS1	2.65	112.56	81.91	3.47	5326.5	3819	0.07
3311A-2Z	3311A-2RS1	1.2	73.87	58.79	2.51	5628	4020	0.06
3212A-2Z	3212A-2RS1	2.8	127.64	95.48	4.07	5025	-	0.07
3312A-2Z	-	1.75	81	73.87	3.12	4824	3618	0.06
3213A-2Z	3213A-2RS1	4.1	146.73	110.55	4.57	4522.5	-	0.07
3313A-2Z	-	1.9	88.84	80.4	3.42	4522.5	-	0.06
3214A-2Z	-	5.05	163.82	125.63	5.03	4321.5	-	0.07
3314A-2Z	-	2.1	96.08	88.44	3.77	4522.5	-	0.06
3215A-2Z	-	5.6	176.88	140.7	5.53	4020	-	0.07
3315A-2Z	-							