

Angular Contact Ball Bearings

Angular contact ball bearings can accommodate combined radial load and axial load, or only axial load from one direction, running with a relative high rotation speed. In most situations angular contact bearings are assembled in pairs.

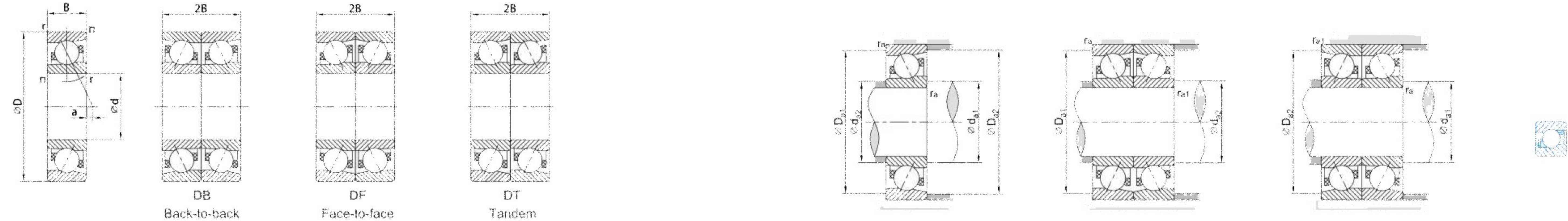


Contact angles of 15°, 25°, 30°, 40° are available for angular contact ball bearings. Bearing with bigger contact angle can accommodate bigger axial load. While bearing with smaller contact angle are good for applications with high rotation speed.

Angular contact bearings are available with pressed steel cage, Fiberglass reinforced nylon PA66 cage, one-piece machined cage with material of brass or bakelite.

Angular Contact Ball Bearings

d: 10 ~ 17 mm

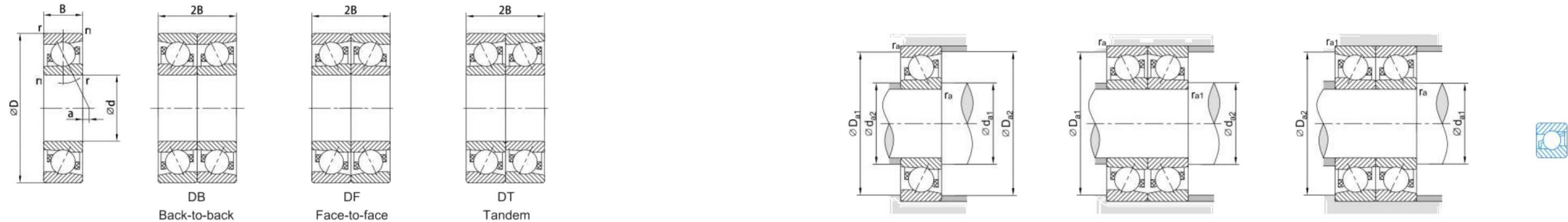


Principal Dimensions (mm)					Load Centerline (mm)	Bearing Designations				Basic Load Ratings (N) Dynamic Cr			Basic Load Ratings (N) Static Cor		Limiting Speed (rpm)				Abutment And Fillet Dimensions (mm)						Weight (kg) Single
d	D	B	r (min)	r ₁ (min)		Single	Back-to-back DB	Face-to-face DF	Tandem DT	Single	Duplex		Single	Paired	Single	Duplex	Single	Duplex	d _{a1} (min)	d _{a2} (min)	D _{a1} (max)	D _{a2} (max)	r _a (max)	r _{a1} (max)	
10	26	8	0.3	0.15	1.2	7000A	7000ADB	7000ADF	7000ADT	5000	8150		2340	4650	23000	19000	31000	26000	12	12	24	25	0.3	0.15	0.022
	26	8	0.3	0.15	-1.9	7000C	7000CDB	7000CDF	7000CDT	5350	8700		2500	5000	44000	35000	61000	49000	12	12	24	25	0.3	0.15	0.022
	30	9	0.6	0.3	1.3	7200A	7200ADB	7200ADF	7200ADT	5400	8800		2710	5400	22000	18000	30000	24000	15	12	25	27.4	0.6	0.3	0.034
	30	9	0.6	0.3	3.9	7200B	7200BDB	7200BDF	7200BDT	5150	8350		2570	5150	19000	16000	28000	22000	15	12	25	27.4	0.6	0.3	0.034
	30	9	0.6	0.3	-2.2	7200C	7300CDB	7200CDF	7200CDT	6950	11300		3300	6650	40000	32000	55000	44000	15	15	25	27.4	0.6	0.3	0.034
	35	11	0.6	0.3	1.0	7300A	7300ADB	7300ADF	7300ADT	9300	15100		4300	8600	20000	16000	26000	21000	15	12	30	32.4	0.6	0.3	0.055
	35	11	0.6	0.3	3.9	7300B	7300BDB	7200BDF	7200BDT	8950	14500		4150	8250	18000	14000	24000	19000	15	12	30	32.4	0.6	0.3	0.055
12	35	11	0.6	0.3	-2.8	7300C	7300CDB	7300CDF	7300CDT	9850	16000		4600	9250	36000	29000	49000	39000	15	15	30	32.4	0.6	0.3	0.055
	28	8	0.3	0.15	1.7	7001A	7001ADB	7001ADF	7001ADT	5050	8800		2710	5700	22000	18000	29000	23000	14	14	26	27	0.3	0.15	0.024
	28	8	0.3	0.15	-1.7	7001C	7001CDB	7001CDF	7001CDT	5800	9450		2910	5800	40000	32000	55000	44000	14	14	26	27	0.3	0.15	0.024
	32	10	0.6	0.3	1.4	7201A	7201ADB	7201ADF	7201ADT	7600	12400		3960	7950	20000	16000	27000	22000	17	14	27	29.4	0.6	0.3	0.040
	32	10	0.6	0.3	4.2	7201B	7201BDB	7201BDF	7201BDT	7200	11700		3800	7550	17000	15000	24000	20000	17	14	27	29.4	0.6	0.3	0.040
	32	10	0.6	0.3	-2.5	7201C	7201CDB	7201CDF	7201CDT	7950	13000		3900	7750	36000	29000	50000	40000	17	17	27	29.4	0.6	0.3	0.040
	37	12	1	0.6	1.1	7301A	7301ADB	7301ADF	7301ADT	11200	18200		5250	10500	18000	15000	24000	20000	18	15	31	33.4	1	0.6	0.063
15	37	12	1	0.6	4.3	7301B	7301BDB	7301BDF	7301BDT	10800	17500		5050	10100	16000	13000	22000	18000	18	15	31	33.4	1	0.6	0.063
	37	12	1	0.6	-3.1	7301C	7301CDB	7301CDF	7301CDT	10800	17500		4900	9800	33000	26000	45000	36000	18	18	31	33.4	1	0.6	0.063
	32	9	0.3	0.15	2.3	7002A	7002ADB	7002ADF	7002ADT	6150	9950		3400	6850	18000	15000	24000	20000	17	17	30	31	0.3	0.15	0.035
	32	9	0.3	0.15	-1.8	7002C	7002CDB	7002CDF	7002CDT	6650	10800		3700	7450	34000	27000	47000	38000	17	17	30	31	0.3	0.15	0.035
	35	11	0.6	0.3	1.7	7202A	7202ADB	7202ADF	7202ADT	9050	14700		4700	9400	17000	14000	23000	19000	20	17	30	32.4	0.6	0.3	0.048
	35	11	0.6	0.3	5.0	7202B	7202BDB	7202BDF	7202BDT	8600	14000		4500	8950	16000	12000	21000	17000	20	17	30	32.4	0.6	0.3	0.048
	35	11	0.6	0.3	-2.6	7202C	7202CDB	7202CDF	7202CDT	8700	14200		4550	9150	32000	26000	44000	35000	20	20	30	32.4	0.6	0.3	0.048
17	42	13	1	0.6	1.7	7302A	7302ADB	7302ADF	7302ADT	13600	22000		7100	14200	16000	13000	21000	17000	21	18	36	38.4	1	0.6	0.085
	42	13	1	0.6	5.5	7302B	7302BDB	7302BDF	7302BDT	12800	21000		6750	13500	14000	11000	19000	16000	21	18	36	38.4	1	0.6	0.085
	42	13	1	0.6	-3.1	7302C	7302CDB	7302CDF	7302CDT	13300	21700		6850	13700	28000	22000	39000	31000	21	21	36	38.4	1	0.6	0.085
	35	10	0.3	0.15	2.5	7003A	7003ADB	7003ADF	7003ADT	6400	10400		3800	7650	17000	13000	22000	18000	19	19	33	34	0.3	0.15	0.045
	35	10	0.3	0.15	-2.0	7003C	7003CDB	7003CDF	7003CDT	7000	11400		4150	8300	31000	25000	42000	34000	19	19	33	34	0.3	0.15	0.045
	40	12	0.6	0.3	2.2	7203A	7203ADB	7203ADF	7203ADT	11900	19400		6600	13200	16000	13000	21000	17000	22	19	35	37.4	0.6	0.3	0.070
	40	12	0.6	0.3	6.0	7203B	7203BDB	7203BDF	7203BDT	11300	18400		6300	12600	14000	11000	19000	15000	22	19	35	37.4	0.6	0.3	0.070
17	40	12	0.6	0.3	-2.7	7203C	7203CDB	7203CDF	7203CDT	10900	17800		5900	11800	28000	22000	39000	31000	22	22	35	37.4	0.6	0.3	0.070
	47	14	1	0.6	2.2	7303A	7303ADB	7203ADF	7203ADT	15900	25900		8650	17300	14000	11000	19000	15000	23	21	41	43.4	1	0.6	0.120
	47	14	1	0.6	6.4	7303B	7303BDB	7203BDF	7203BDT	15200	24700		8250	16500	13000	10000	17000	14000	23	21	41	43.4	1	0.6	0.120
17	47	14	1	0.6	-3.2	7303C	7303CDB	7303CDF	7303CDT	15900	25800		8350	16700	25000	20000	34000	27000	23	23	41	43.4	1	0.6	0.120

Suffix A: contact angle of 30°; Suffix C: contact angle of 15°; Suffix B: contact angle of 40°
Contact angle of 25° with suffix AC is also within LY range. Please contact LY for inquiry or order.

Angular Contact Ball Bearings

d: 20 ~ 35 mm

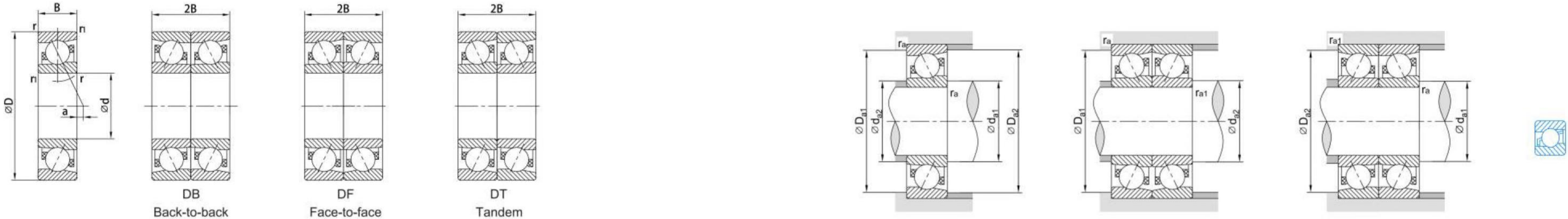


Principal Dimensions (mm)					Load Centerline (mm)	Bearing Designations				Basic Load Ratings (N) Dynamic Cr			Basic Load Ratings (N) Static Cor		Limiting Speed (rpm)				Abutment And Fillet Dimensions (mm)						Weight (kg)	
d	D	B	r (min)	r ₁ (min)		Single	Back-to-back DB	Face-to-face DF	Tandem DT	Single	Duplex		Single	Paired	Grease		Oil		d _{a1} (min)	d _{a2} (min)	D _{a1} (max)	D _{a2} (max)	r _a (max)	r _{a1} (max)		
20	42	12	12	0.6	0.3	2.9	7004A	7004ADB	7004ADF	7004ADT	10300	16700		6050	12100	15000	12000	20000	16000	24	24	38	40	0.6	0.3	0.079
	42	12	12	0.6	0.3	-2.4	7004C	7004CDB	7004CDF	7004CDT	11200	18200		6600	13200	26000	21000	35000	28000	24	24	38	40	0.6	0.3	0.079
	47	14	14	1	0.6	2.7	7204A	7204ADB	7204ADF	7204ADT	14500	23500		8300	16600	13000	10000	18000	14000	26	23	41	43.4	1	0.6	0.110
	47	14	14	1	0.6	7.1	7204B	7204BDB	7204BDF	7204BDT	13700	22300		7850	15700	11000	9500	16000	13000	26	23	41	43.4	1	0.6	0.110
	47	14	14	1	0.6	-3.1	7204C	7204CDB	7204CDF	7204CDT	14700	23800		8150	16300	24000	19000	33000	26000	26	26	41	43.4	1	0.6	0.110
	52	15	15	1.1	0.6	2.9	7304A	7304ADB	7304ADF	7304ADT	18700	30500		10400	20800	13000	10000	17000	13000	27	25	45	47	1	0.6	0.150
	52	15	15	1.1	0.6	7.6	7304B	7304BDB	7304BDF	7304BDT	17800	28900		9900	19800	10000	9000	15000	12000	27	25	45	47	1	0.6	0.150
	52	15	15	1.1	0.6	-3.2	7304C	7304CDB	7304CDF	7304CDT	18600	30000		10000	20000	22000	18000	31000	25000	27	27	45	47	1	0.6	0.150
25	47	12	12	0.6	0.3	4.4	7005A	7005ADB	7005ADF	7005ADT	11300	18400		7400	14800	13000	10000	17000	13000	29	29	43	45	0.6	0.3	0.091
	47	12	12	0.6	0.3	-1.8	7005C	7005CDB	7005CDF	7005CDT	12900	21000		8650	17300	22000	18000	31000	25000	29	29	43	45	0.6	0.3	0.091
	52	15	15	1	0.6	3.6	7205A	7205ADB	7205ADF	7205ADT	16200	26300		10200	20500	12000	9500	15000	12000	31	28	46	48.4	1	0.6	0.135
	52	15	15	1	0.6	8.9	7205B	7205BDB	7205BDF	7205BDT	15300	24800		9700	19400	9500	8000	14000	11000	31	28	46	48.4	1	0.6	0.135
	52	15	15	1	0.6	-3.1	7205C	7205CDB	7205CDF	7205CDT	16700	27100		10300	20700	21000	17000	29000	23000	31	31	46	48.4	1	0.6	0.135
	62	17	17	1.1	0.6	4.1	7305A	7305ADB	7305ADF	7305ADT	26400	43000		15800	31500	10000	8500	14000	11000	32	30	55	57	1	0.6	0.245
	62	17	17	1.1	0.6	9.8	7305B	7305BDB	7305BDF	7305BDT	25100	40500		15100	30000	8500	7300	12000	10000	32	30	55	57	1	0.6	0.245
	62	17	17	1.1	0.6	-3.4	7305C	7305CDB	7305CDF	7305CDT	26600	43000		15500	31000	18000	14000	25000	20000	32	32	55	57	1	0.6	0.245
30	55	13	13	1	0.6	5.8	7006A	7006ADB	7006ADF	7006ADT	14500	23600		10100	20300	12000	8500	14000	11000	35	35	50	52	1	0.6	0.135
	55	13	13	1	0.6	-1.6	7006C	7006CDB	7006CDF	7006CDT	16000	25900		11100	24000	19000	15000	26000	21000	35	35	50	52	1	0.6	0.135
	62	16	16	1	0.6	5.3	7206A	7206ADB	7206ADF	7206ADT	22500	36500		14800	29600	10000	8000	13000	10000	36	33	56	58.4	1	0.6	0.210
	62	16	16	1	0.6	11.3	7206B	7206BDB	7206BDF	7206BDT	21200	34500		13900	27900	8500	7000	12000	9500	36	33	56	58.4	1	0.6	0.210
	62	16	16	1	0.6	-2.7	7206C	7206CDB	7206CDF	7206CDT	23200	37500		14900	29700	18000	14000	24000	19500	36	36	56	58.4	1	0.6	0.210
	72	19	19	1.1	0.6	5.2	7306A	7306ADB	7306ADF	7306ADT	33500	54500		22400	44500	9000	7000	12000	9500	37	35	65	67	1	0.6	0.360
	72	19	19	1.1	0.6	11.9	7306B	7306BDB	7306BDF	7306BDT	32000	52000		21000	42000	7500	6100	10000	8500	37	35	65	67	1	0.6	0.360
	72	19	19	1.1	0.6	-3.6	7306C	7306CDB	7306CDF	7306CDT	32500	52500		20400	40500	16000	13000	22000	18000	37	37	65	67	1	0.6	0.360
35	62	14	14	1	0.6	7	7007A	7007ADB	7007ADF	7007ADT	17500	28500		12600	25200	9500	7500	13000	10000	40	40	57	59	1	0.6	0.170
	62	14	14	1	0.6	-1.4	7007C	7007CDB	7007CDF	7007CDT	19300	31000		13700	27500	16000	13000	23000	18000	40	40	57	59	1	0.6	0.170
	72	17	17	1.1	0.6	6.9	7207A	7207ADB	7207ADF	7207ADT	29700	48000		20000	40000	8500	7000	11000	9500	42	40	65	67	1	0.6	0.295
	72	17	17	1.1	0.6	14.1	7207B	7207BDB	7207BDF	7207BDT	28000	45500		19000	38000	7500	6000	10000	8000	42	40	65	67	1	0.6	0.295
	72	17	17	1.1	0.6	-2.8	7207C	7207CDB	7207CDF	7207CDT	30500	49500		20100	40000	15000	12000	21000	17000	42	42	65	67	1	0.6	0.295
	80	21	21	1.5	1	6.1	7307A	7307ADB	7307ADF	7307ADT	40000	65000		26300	52500	8000	6300	10000	8500	44	40	71	74.6	1.5	1	0.475
	80	21	21	1.5	1	13.7	7307B	7307BDB	7307BDF	7307BDT	37500	61500		24900	49500	7000	5500	9500	7500	44	40	71	74.6	1.5	1	0.475
	80	21	21	1.5	1	-3.9	7307C	7307CDB	7307CDF	7307CDT	40500	66000		26000	52000	14000	11000	19000	15000	44	44	71	74.6	1.5	1	0.475

Suffix A: contact angle of 30°C; Suffix C: contact angle of 15°C; Suffix B: contact angle of 40°C
Contact angle of 25°C with suffix AC is also within LY range. Please contact LY for inquiry or order.

Angular Contact Ball Bearings

d: 40 ~ 55 mm

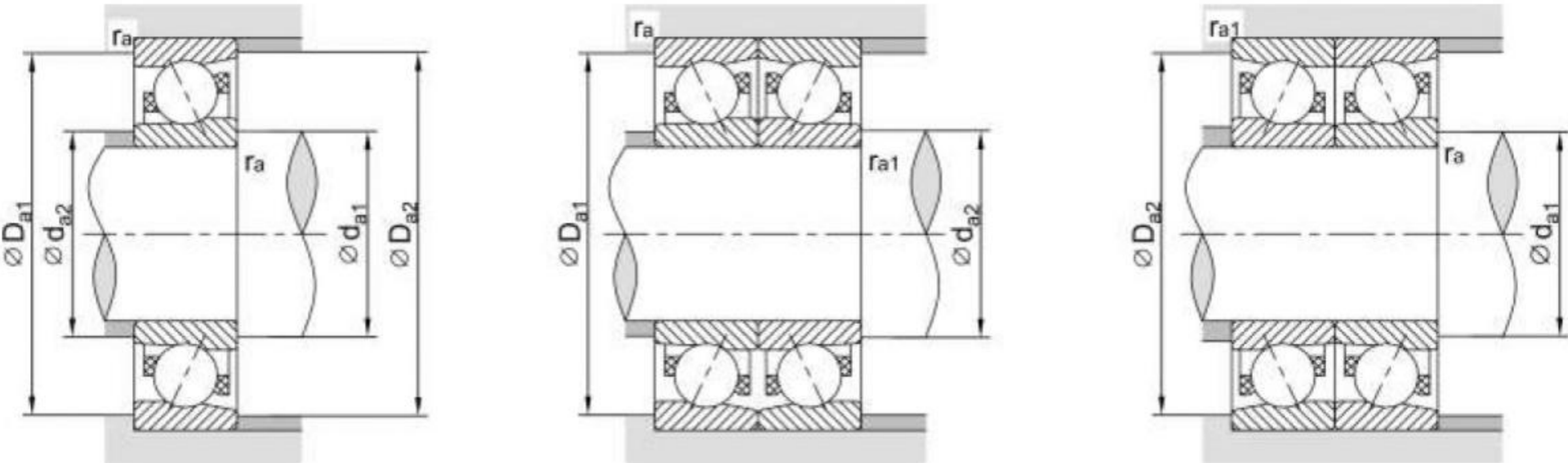
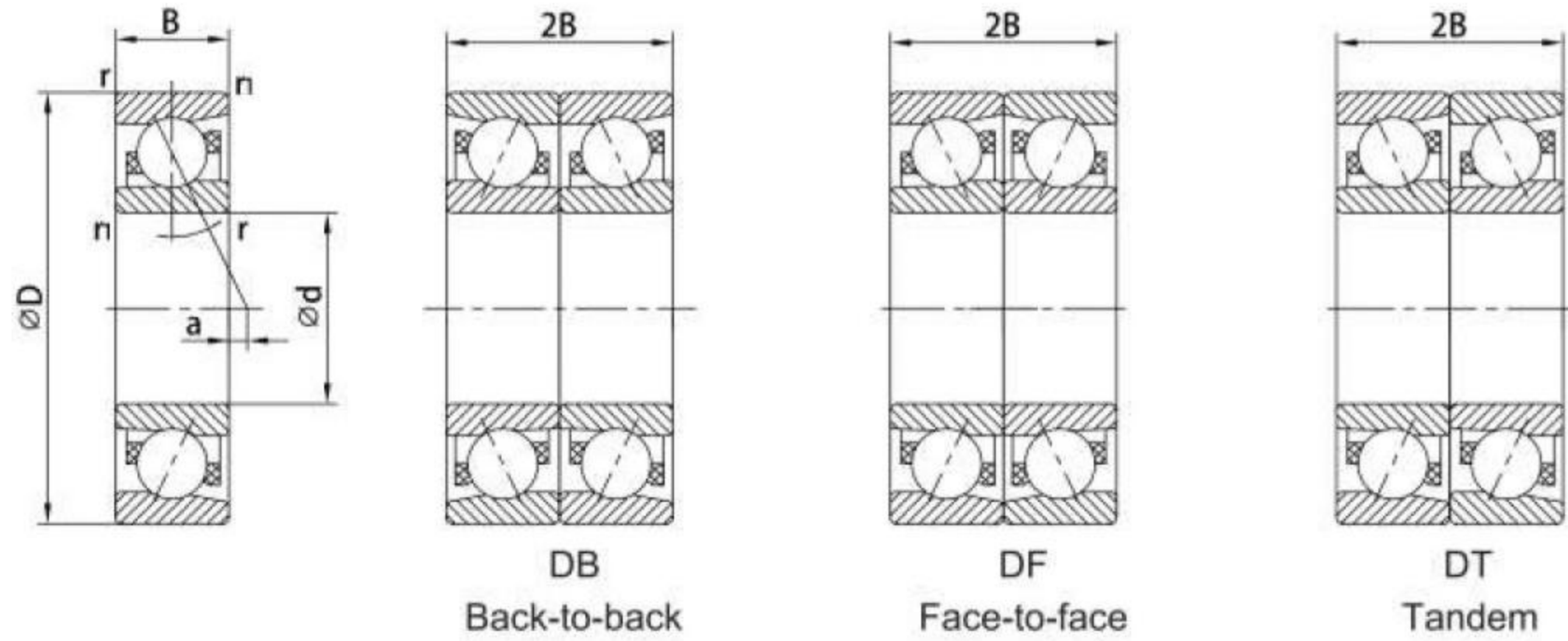


Principal Dimensions (mm)					Load Centerline (mm)	Bearing Designations				Basic Load Ratings (N) Dynamic Cr			Basic Load Ratings (N) Static Cor	Limiting Speed (rpm)				Abutment And Fillet Dimensions (mm)						Weight (kg) Single		
d	D	B	r (min)	r ₁ (min)		Single	Back-to-back DB	Face-to-face DF	Tandem DT	Single	Duplex			Single	Paired	Grease		Oil		d _{a1} (min)	d _{a2} (min)	D _{a1} (max)	D _{a2} (max)		r _a (max)	r _{a1} (max)
																Single	Duplex	Single	Duplex							
40	68	15	1	0.6	8.2	7008A	7008ADB	7008ADF	7008ADT	18800	30500		14500	29000	8500	6600	11000	9000	45	45	63	65	1	0.6	0.210	
	68	15	1	0.6	-1.3	7008C	7008CDB	7008CDF	7008CDT	20700	33500		16000	32000	15000	12000	20000	16000	45	45	63	65	1	0.6	0.210	
	80	18	1.1	0.6	8.3	7208A	7208ADB	7208ADF	7208ADT	35000	57500		25200	50500	7500	6000	10000	8000	47	45	73	75	1	0.6	0.380	
	80	18	1.1	0.6	16.2	7208B	7208BDB	7208BDF	7208BDT	33000	54000		23700	47500	6700	5300	9200	7200	47	45	73	75	1	0.6	0.380	
	80	18	1.1	0.6	-2.1	7208C	7208CDB	7208CDF	7208CDT	36500	59500		25400	50500	13000	10000	18000	14000	47	47	73	75	1	0.6	0.380	
	90	23	1.5	1	7.3	7308A	7308ADB	7308ADF	7308ADT	49000	79000		33000	66000	7000	5500	9200	7500	49	45	81	84.6	1.5	1	0.655	
	90	23	1.5	1	15.8	7308B	7308BDB	7308BDF	7308BDT	46000	75000		31000	62500	6300	5000	8500	6700	49	45	81	84.6	1.5	1	0.655	
	90	23	1.5	1	-4.0	7308C	7308CDB	7308CDF	7308CDT	49500	80500		32500	65500	12000	9600	17000	13000	49	49	81	84.6	1.5	1	0.655	
45	75	16	1	0.6	9.3	7009A	7009ADB	7009ADF	7009ADT	22200	36000		17600	35000	7500	6000	10000	8000	50	50	70	72	1	0.6	0.265	
	75	16	1	0.6	-1.1	7009C	7009CDB	7009CDF	7009CDT	24600	40000		19400	39000	13000	10000	18000	14000	50	50	70	72	1	0.6	0.265	
	85	19	1.1	0.6	9.3	7209A	7209ADB	7209ADF	7209ADT	39500	64500		28800	57500	7000	5500	9200	7500	52	50	78	80	1	0.6	0.430	
	85	19	1.1	0.6	17.8	7209B	7209BDB	7209BDF	7209BDT	37000	60500		27100	54000	6300	5000	8500	6700	52	50	78	80	1	0.6	0.430	
	85	19	1.1	0.6	-2.0	7209C	7209CDB	7209CDF	7209CDT	41000	66500		29000	58000	12000	9600	17000	13000	52	52	78	80	1	0.6	0.430	
	100	25	1.5	1	8.4	7309A	7309ADB	7309ADF	7309ADT	63500	103000		43500	87000	6300	5000	8500	6700	54	50	91	94.6	1.5	1	0.875	
	100	25	1.5	1	18.0	7309B	7309BDB	7309BDF	7309BDT	60000	97500		41500	82500	5600	4500	7500	6000	54	50	91	94.6	1.5	1	0.875	
	100	25	1.5	1	-4.1	7309C	7309CDB	7309CDF	7309CDT	63500	10300		43500	87000	11000	8800	15000	12000	54	54	91	94.6	1.5	1	0.875	
50	80	16	1	0.6	10.8	7010A	7010ADB	7010ADF	7010ADT	23600	38500		20000	40000	7000	5500	9200	7500	55	55	75	77	1	0.6	0.285	
	80	16	1	0.6	-0.5	7010C	7010CDB	7010CDF	7010CDT	26200	42500		22000	44000	12000	9600	17000	13000	55	55	75	77	1	0.6	0.285	
	90	20	1.1	0.6	10.2	7210A	7210ADB	7210ADF	7210ADT	41000	67000		31500	63000	6300	5300	8500	6700	57	55	83	85	1	0.6	0.485	
	90	20	1.1	0.6	19.4	7210B	7210BDB	7210BDF	7210BDT	38500	63000		29600	59000	5600	4500	7500	6000	57	55	83	85	1	0.6	0.485	
	90	20	1.1	0.6	-1.9	7210C	7210CDB	7210CDF	7210CDT	43000	70000		32000	63500	11000	8800	16000	13000	57	57	83	85	1	0.6	0.485	
	110	27	2	1	9.6	7310A	7310ADB	7310ADF	7310ADT	74000	121000		52000	104000	5600	4500	7500	6000	60	56	100	104	2	1	1.14	
	110	27	2	1	20.1	7310B	7310BDB	7310BDF	7310BDT	70500	114000		49500	98500	5000	4000	6700	5300	60	56	100	104	2	1	1.14	
	110	27	2	1	-4.3	7310C	7310CDB	7310CDF	7310CDT	75500	122000		51000	102000	10000	8000	14000	11000	60	60	100	104	2	1	1.14	
55	90	18	1.1	0.6	11.9	7011A	7011ADB	7011ADF	7011ADT	31000	50500		26200	52500	6300	5000	8500	6700	61	61	84	86	1	0.6	0.420	
	90	18	1.1	0.6	-0.6	7011C	7011CDB	7011CDF	7011CDT	34500	56000		28800	57500	11000	8800	15000	12000	61	61	84	86	1	0.6	0.420	
	100	21	1.5	1	11.9	7211A	7211ADB	7211ADF	7211ADT	51000	83000		39500	79000	6000	4500	7500	6300	64	60	91	94.6	1.5	1	0.635	
	100	21	1.5	1	22.1	7211B	7211BDB	7211BDF	7211BDT	48000	78000		37500	74500	5300	4000	7000	5500	64	60	91	94.6	1.5	1	0.635	
	100	21	1.5	1	-1.6	7211C	7211CDB	7211CDF	7211CDT	53000	86500		40000	80000	10000	8000	14000	11000	64	64	91	94.6	1.5	1	0.635	
	120	29	2	1	10.8	7311A	7311ADB	7311ADF	7311ADT	85500	139000		61500	123000	5000	4000	7000	5500	65	61	110	114	2	1	1.45	
	120	29	2	1	22.3	7311B	7311BDB	7311BDF	7311BDT	81000	132000		58000	116000	4500	3500	6200	5000	65	61	110	114	2	1	1.45	
	120	29	2	1	-4.4	7311C	7311CDB	7311CDF	7311CDT	87000	142000		60000	121000	9100	7300	13000	10000	65	65	110	114	2	1	1.45	

Suffix A: contact angle of 30°C; Suffix C: contact angle of 15°C; Suffix B: contact angle of 40°C
Contact angle of 25°C with suffix AC is also within LY range. Please contact LY for inquiry or order.

Angular Contact Ball Bearings

d: 60 ~ 75 mm

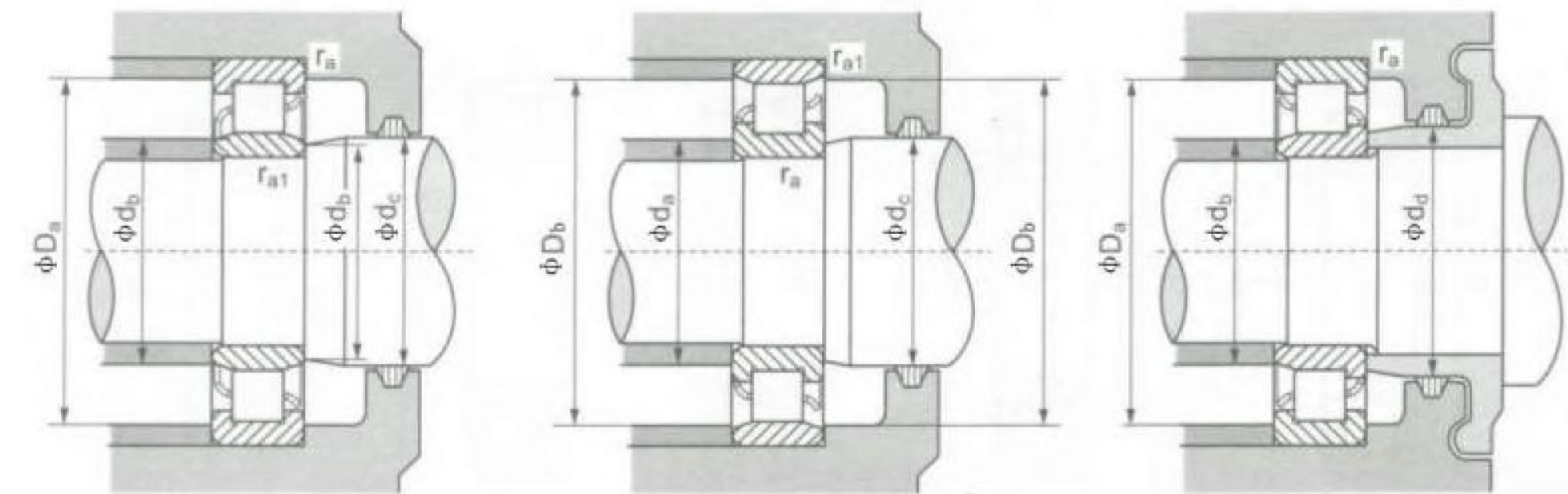


Principal Dimensions (mm)					Load Centerline (mm)	Bearing Designations				Basic Load Ratings (N)	
d	D	B	r (min)	r ₁ (min)		Single	Back-to-back DB	Face-to-face DF	Tandem DT	Single	Duplex
60	95	18	1.1	0.6	13.4	7012A	7012ADB	7012ADF	7012ADT	32000	51500
	95	18	1.1	0.6	-0.1	7012C	7012CDB	7012CDF	7012CDT	35500	57500
	110	22	1.5	1	13.5	7212A	7212ADB	7212ADF	7212ADT	62000	100000
	110	22	1.5	1	24.7	7212B	7212BDB	7212BDF	7212BDT	58000	94000
	110	22	1.5	1	-1.2	7212C	7212CDB	7212CDF	7212CDT	64500	105000
	130	31	2.1	1.1	11.9	7312A	7312ADB	7312ADF	7312ADT	98000	159000
	130	31	2.1	1.1	24.4	7312B	7312BDB	7312BDF	7312BDT	92500	151000
	130	31	2.1	1.1	-4.5	7312C	7312CDB	7312CDF	7312CDT	99500	162000
65	100	18	1.1	0.6	14.8	7013A	7013ADB	7013ADF	7013ADT	33500	54500
	100	18	1.1	0.6	0.5	7013C	7013CDB	7013CDF	7013CDT	37500	60500
	120	23	1.5	1	15.2	7213A	7213ADB	7213ADF	7213ADT	70000	114000
	120	23	1.5	1	27.4	7213B	7213BDB	7213BDF	7213BDT	66000	107000
	120	23	1.5	1	-0.8	7213C	7213CDB	7213CDF	7213CDT	73500	120000
	140	33	2.1	1.1	13.1	7313A	7313ADB	7313ADF	7313ADT	111000	180000
	140	33	2.1	1.1	26.6	7313B	7313BDB	7313BDF	7313BDT	105000	170000
	140	33	2.1	1.1	-4.7	7313C	7313CDB	7313CDF	7313CDT	113000	183000
70	110	20	1.1	0.6	16.0	7014A	7014ADB	7014ADF	7014ADT	42500	69000
	110	20	1.1	0.6	0.4	7014C	7014CDB	7014CDF	7014CDT	47000	76500
	125	24	1.5	1	16.1	7214A	7214ADB	7214ADF	7214ADT	76500	124000
	125	24	1.5	1	29.0	7214B	7214BDB	7214BDF	7214BDT	71500	116000
	125	24	1.5	1	-0.7	7214C	7214CDB	7214CDF	7214CDT	80000	130000
	150	35	2.1	1.1	14.3	7314A	7314ADB	7314ADF	7314ADT	125000	203000
	150	35	2.1	1.1	28.7	7314B	7314BDB	7314BDF	7314BDT	118000	191000
	150	35	2.1	1.1	-4.8	7314C	7314CDB	7314CDF	7314CDT	127000	206000
75	115	20	1.1	0.6	17.4	7015A	7015ADB	7015ADF	7015ADT	43500	70500
	115	20	1.1	0.6	1.0	7015C	7015CDB	7015CDF	7015CDT	48500	78500
	130	25	1.5	1	17.1	7215A	7215ADB	7215ADF	7215ADT	79000	129000
	130	25	1.5	1	30.6	7215B	7215BDB	7215BDF	7215BDT	74000	120000
	130	25	1.5	1	-0.7	7215C	7215CDB	7215CDF	7215CDT	83500	135000
	160	37	2.1	1.1	15.4	7315A	7315ADB	7315ADF	7315ADT	136000	221000
	160	37	2.1	1.1	30.9	7315B	7315BDB	7315BDF	7315BDT	128000	208000
	160	37	2.1	1.1	-4.9	7315C	7315CDB	7315CDF	7315CDT	138000	225000

Suffix A: contact angle of 30°; Suffix C: contact angle of 15°; Suffix B: contact angle of 40°
Contact angle of 25° with suffix AC is also within LY range. Please contact LY for inquiry or order.

Basic Load Ratings (N) Static Cor		Limiting Speed (rpm)				Abutment And Fillet Dimensions (mm)						Weight (kg)
		Grease		Oil								
Single	Paired	Single	Duplex	Single	Duplex	d _{a1} (min)	d _{a2} (min)	D _{a1} (max)	D _{a2} (max)	r _a (max)	r _{a1} (max)	Single
28000	56000	6000	4500	7600	6200	66	66	89	91	1	0.6	0.450
30500	61500	10000	8000	14000	11000	66	66	89	91	1	0.6	0.450
48500	97500	5300	4300	7100	5600	69	65	101	104.6	1.5	1	0.820
46000	92000	4800	3800	6300	5000	69	65	101	104.6	1.5	1	0.820
49500	98500	9400	7500	13000	10000	69	69	101	104.6	1.5	1	0.820
71500	148000	4800	3800	6300	5000	72	67	118	123	2	1	1.81
67500	135000	4300	3400	5500	4500	72	67	118	123	2	1	1.81
70000	140000	8400	6700	12000	9600	72	72	118	123	2	1	1.81
31000	62500	5600	4300	7100	6000	71	71	94	96	1	0.6	0.470
34500	69000	9700	7800	13000	10000	71	71	94	96	1	0.6	0.470
57800	116000	4900	3900	6500	5300	74	70	111	114.6	1.5	1	1.02
54500	109000	4300	3400	5600	4600	74	70	111	114.6	1.5	1	1.02
59000	118000	8600	6900	12000	9600	74	74	111	114.6	1.5	1	1.02
82000	165000	4400	3600	5800	4700	77	72	128	133	2	1	2.22
77500	155000	4000	3200	5300	4200	77	72	128	133	2	1	2.22
81000	162000	7800	6200	11000	8800	77	77	128	133	2	1	2.22
39500	78500	5000	4000	6600	5300	76	76	104	106	1	0.6	0.660
43000	86500	8900	7100	12000	9600	76	76	104	106	1	0.6	0.660
63500	127000	4500	3800	6300	5000	79	75	116	119.6	1.5	1	1.12
59500	120000	4300	3200	5600	4500	79	75	116	119.6	1.5	1	1.12
65000	130000	8200	6600	11000	8800	79	79	116	119.6	1.5	1	1.12
94000	188000	4000	3200	5300	4300	82	77	138	143	2	1	2.70
88500	177000	3600	2900	4800	3900	82	77	138	143	2	1	2.70
92500	185000	7300	5800	10000	8000	82	82	138	143	2	1	2.70
41500	83000	4800	3800	6300	5000	81	81	109	111	1	0.6	0.695
46000	92000	8400	6700	12000	9600	81	81	109	111	1	0.6	0.695
68500	137000	4300	3400	5800	4700	84	80	121	124.6	1.5	1	1.23
64000	128000	4000	3200	5300	4300	84	80	121	124.6	1.5	1	1.23
70000	141000	7800	6200	11000	8800	84	84	121	124.6	1.5	1	1.23
106000	212000	3800	3000	5000	4000	87	82	148	153	2	1	3.15
100000	200000	3400	2700	4500	3600	87	82	148	153	2	1	3.15
104000	209000	6800	5400	9400	7500	87	87	148	153	2	1	3.15

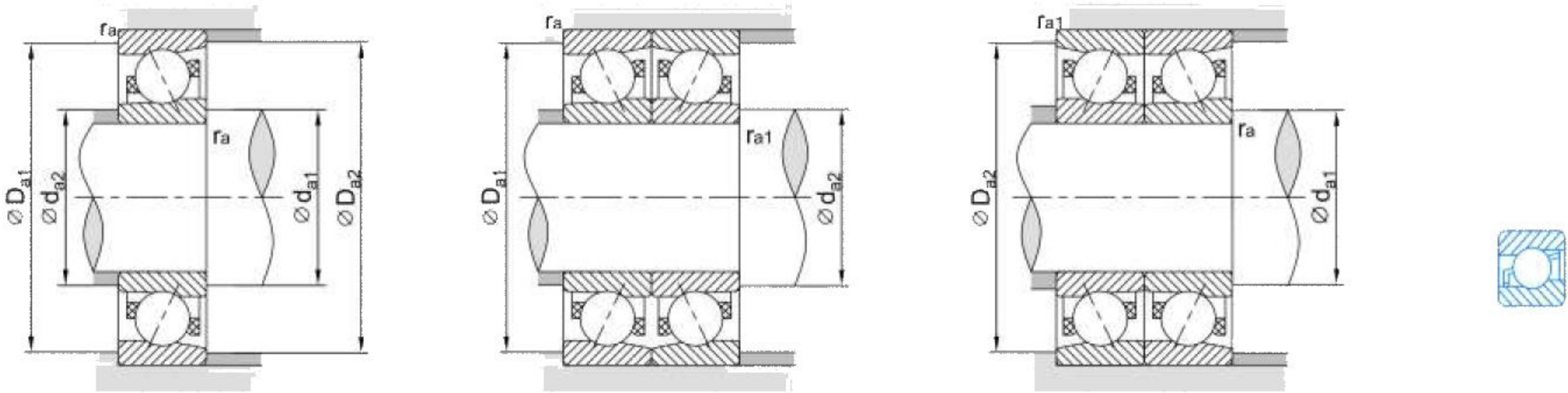
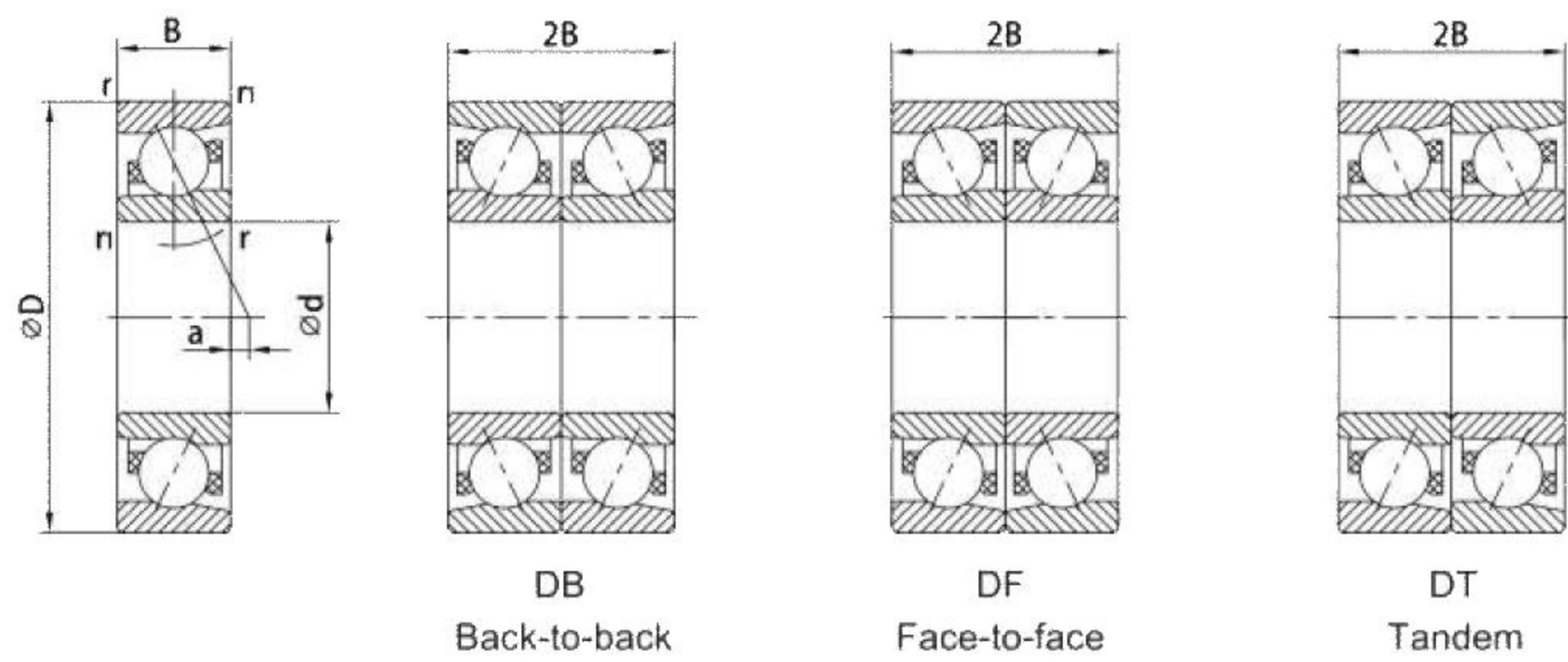
d : 95 ~ 120 mm



Principal Dimensions (mm)							Bearing Designations					Basic Load Ratings (N)			Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)											Weight (kg)
d	D	B	Ew	Fw	r (min)	r1 (min)	NU	NJ	NUP	N	NF	Dynamic Cr	Static Cor		Grease	Oil	d _a (min)	d _b (min) (max)		d _c (min)	d _d (min)	D _a (max)	D _b (max) (min)		r _a (max)	r _{a1} (max)		
95	170	43	-	113.5	2.1	2.1	NU 2219	NJ	NUP	-	-	230000	298000		3400	4000	-	107	111	116	123	158	-	-	2	2	3.85	
	170	43	-	112.5	2.1	2.1	NU 2219 E	NJ	NUP	-	-	286000	370000		3200	4000	-	107	111	116	123	158	-	-	2	2	4.23	
	200	45	173.5	121.5	3	3	NU 319	NJ	NUP	N	NF	258000	289000		3000	3600	109	109	119	124	134	186	186	178	2.5	2.5	6.23	
	200	45	-	121.5	3	3	NU 319 E	NJ	NUP	-	-	335000	385000		2400	3000	-	109	119	124	134	186	-	-	2.5	2.5	6.92	
	200	67	-	121.5	3	3	NU 2319	NJ	NUP	-	-	370000	460000		2600	3200	-	109	119	124	134	186	-	-	2.5	2.5	9.39	
	200	67	-	121.5	3	3	NU 2319 E	NJ	NUP	-	-	460000	585000		2400	3000	-	109	119	124	134	186	-	-	2.5	2.5	10.3	
	240	55	201.5	133.5	4	4	NU 419	NJ	NUP	N	NF	400000	445000		2600	3200	113	113	132	136	149	222	222	204	3	3	14.0	
100	150	24	137	113	1.5	1.1	NU 1020	-	-	N	-	87000	116000		4300	5300	108	107	111	116	-	141.5	143.5	137.5	1.5	1	1.48	
	180	34	160	120	2.1	2.1	NU 220	NJ	NUP	N	NF	183000	217000		3400	4300	112	112	117	122	130	168	168	164	2	2	3.30	
	180	34	-	119	2.1	2.1	NU 220 E	NJ	NUP	-	-	250000	305000		3200	3800	-	112	117	122	130	168	-	-	2	2	3.73	
	180	46	-	120	2.1	2.1	NU 2220	NJ	NUP	-	-	257000	335000		3200	3800	-	112	117	122	130	168	-	-	2	2	4.67	
	180	46	-	119	2.1	2.1	NU 2220 E	NJ	NUP	-	-	335000	445000		3200	3800	-	112	117	122	130	168	-	-	2	2	5.13	
	215	47	185.5	129.5	3	3	NU 320	NJ	NUP	N	NF	300000	335000		2800	3400	114	114	125	132	143	201	201	190	2.5	2.5	7.70	
	215	47	-	127.5	3	3	NU 320 E	NJ	NUP	-	-	380000	425000		2200	2800	-	114	125	132	143	201	-	-	2.5	2.5	8.45	
	215	73	-	129.5	3	3	NU 2320	NJ	NUP	-	-	435000	545000		2400	3000	-	114	125	132	143	201	-	-	2.5	2.5	11.9	
	215	73	-	127.5	3	3	NU 2320 E	NJ	NUP	-	-	570000	715000		2200	2800	-	114	125	132	143	201	-	-	2.5	2.5	12.9	
	250	58	211	139	4	4	NU 420	NJ	NUP	N	NF	445000	500000		2400	3000	118	118	137	141	156	232	232	213	3	3	14.4	
105	160	26	145.5	119.5	2	1.1	NU 1021	-	-	N	-	101000	149000		4000	4800	114	112	118	122	-	150	153.5	146.5	2	1	1.88	
	190	36	168.8	126.8	2.1	2.1	NU 221	NJ	NUP	N	NF	202000	241000		3200	3800	117	117	124	129	137	178	178	173	2	2	4.03	
	225	49	195	135	3	3	NU 321	NJ	NUP	N	NF	340000	385000		2600	3200	119	119	132	137	149	211	211	199	2.5	2.5	8.73	
	260	60	220.5	144.5	4	4	NU 421	NJ	NUP	N	NF	495000	555000		2400	2800	123	123	143	147	162	242	242	223	3	3	19.5	
110	170	28	155	125	2	1.1	NU 1022	-	-	N	-	127000	166000		3800	4500	119	117	124	128	-	160	163.5	156	2	1	2.34	
	200	38	178.5	132.5	2.1	2.1	NU 222	NJ	NUP	N	NF	240000	290000		3000	3600	122	122	130	135	144	188	188	182	2	2	4.64	
	200	38	-	132.5	2.1	2.1	NU 222 E	NJ	NUP	-	-	293000	365000		2600	3200	-	122	130	135	144	188	-	-	2	2	5.17	
	200	53	-	132.5	2.1	2.1	NU 2222	NJ	NUP	-	-	320000	440000		2800	3400	-	122	130	135	144	188	-	-	2	2	6.93	
	200	53	-	132.5	2.1	2.1	NU 2222 E	NJ	NUP	-	-	385000	515000		2600	3200	-	122	130	135	144	188	-	-	2	2	7.32	
	240	50	207	143	3	3	NU 322	NJ	NUP	N	NF	380000	435000		2400	3000	124	124	140	145	158	226	226	211	2.5	2.5	10.4	
	240	50	-	143	3	3	NU 322 E	NJ	NUP	-	-	450000	525000		2200	2800	-	124	140	145	158	226	-	-	2.5	2.5	11.1	
	240	80	-	143	3	3	NU 2322	NJ	NUP	-	-	570000	730000		2000	2600	-	124	140	145	158	226	-	-	2.5	2.5	18.8	
	240	80	-	143	3	3	NU 2322 E	NJ	NUP	-	-	670000	880000		2000	2600	-	124	140	145	158	226	-	-	2.5	2.5	18.5	
	280	65	235	155	4	4	NU 422	NJ	NUP	N	NF	545000	620000		2000	2600	128	128	153	157	173	262	262	237	3	3	20.5	
120	180	28	165	135	2	1.1	NU 1024	-	-	N	-	131000	191000		3400	4000	129	127	134	138	-	170	173.5	166	2	1	2.51	
	215	40	191.5	143.5	2.1	2.1	NU 224	NJ	NUP	N	NF	260000	320000		2800	3400	132	132	141	146	156	203	203	196	2	2	5.61	
	215	40	-	143.5	2.1	2.1	NU 224 E	NJ	NUP	-	-	335000	420000		2400	3000	-	132	141	146	156	203	-	-	2	2	6.25	
	215	58	-	143.5	2.1	2.1	NU 2224	NJ	NUP	-	-	365000	490000		2600	3200	-	132	141	146	156	203	-	-	2	2	8.56	
	215	58	-	143.5	2.1	2.1	NU 2224 E	NJ	NUP	-	-	450000	620000		2400	3000	-	132	141	146	156	203	-	-	2	2	9.35	
	260	55	226	154	3	3	NU 324	NJ	NUP	N	NF	445000	510000		2200	2800	134	134	151	156	171	246	246	230	2.5	2.5	15.4	
	260	55	-	154	3	3	NU 324 E	NJ	NUP	-	-	525000	610000		1900	2400	-	134	151	156	171	246	-	-	2.5	2.5	15.2	

Angular Contact Ball Bearings

d: 100 ~ 120 mm

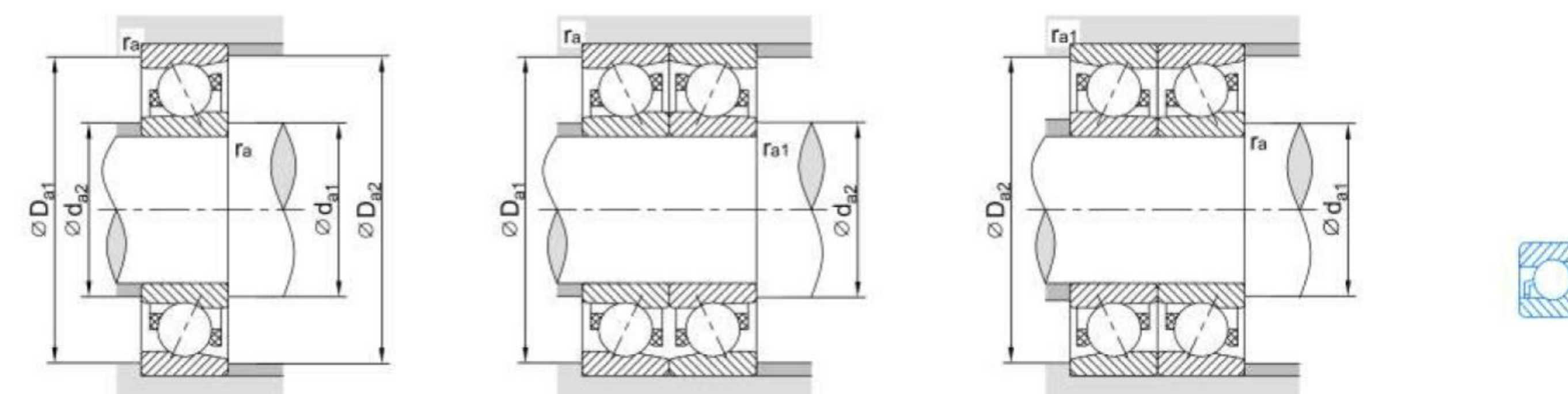
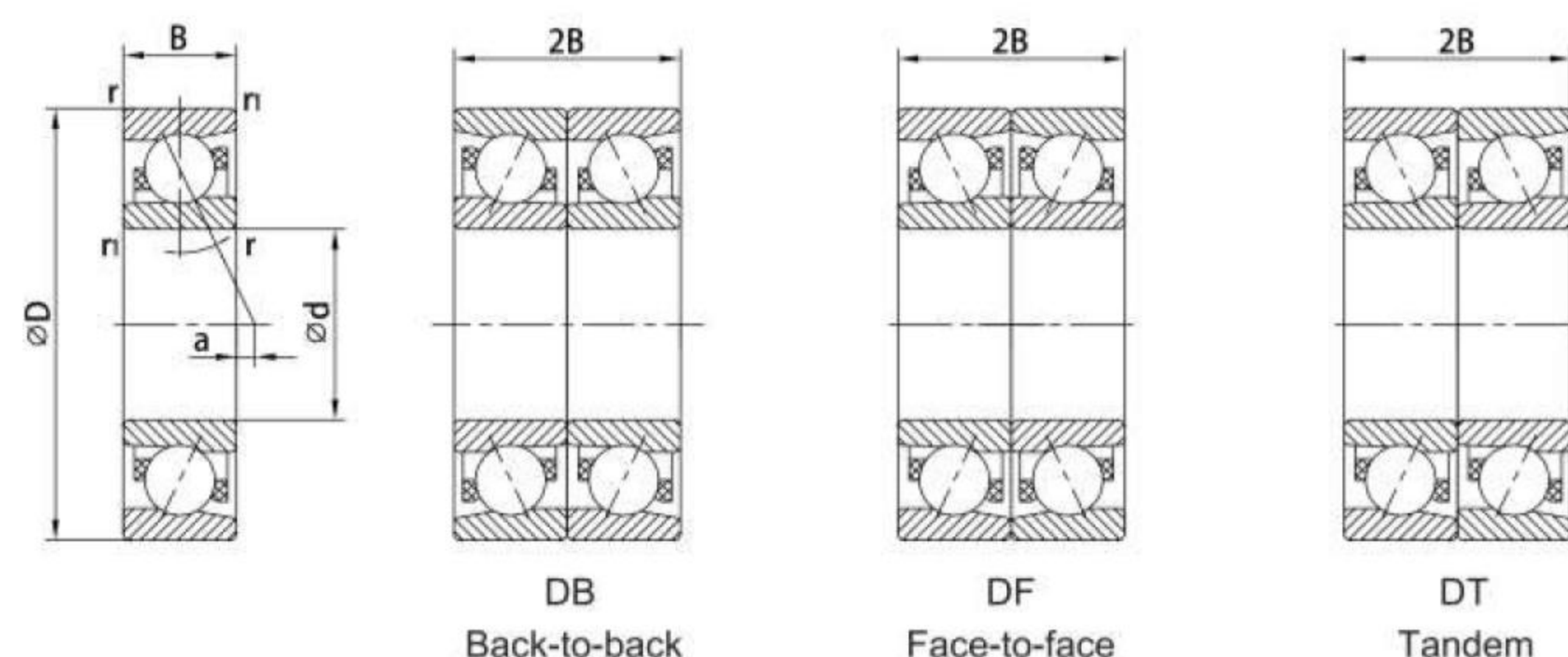


Principal Dimensions (mm)					Load Centerline (mm)	Bearing Designations				Basic Load Ratings (N) Dynamic Cr			Basic Load Ratings (N) Static Cor		Limiting Speed (rpm)				Abutment And Fillet Dimensions (mm)						Weight (kg) Single
d	D	B	r (min)	r ₁ (min)		Single	Back-to-back DB	Face-to-face DF	Tandem DT	Single	Duplex		Single	Paired	Grease		Oil		d _a (min)	d _{a2} (min)	D _{a1} (max)	D _{a2} (max)	r _a (max)	r _{a1} (max)	
100	150	24	1.5	1	24.1	7020A	7020ADB	7020ADF	7020ADT	68500	111000		70500	141000	3600	2800	4800	3800	107	107	143	145.6	1.5	1	1.37
	150	24	1.5	1	23.4	7020C	7020CDB	7020CDF	7020CDT	76000	123000		77500	156000	6400	5100	8800	7000	107	107	143	145.6	1.5	1	1.37
	180	34	2.1	1.1	23.4	7220A	7220ADB	7220ADF	7220ADT	144000	234000		126000	251000	3200	2400	4200	3400	112	112	168	173	2	1	3.32
	180	34	2.1	1.1	41.8	7220B	7220BDB	7220BDF	7220BDT	135000	219000		118000	237000	2800	2200	3700	3000	112	112	168	173	2	1	3.32
	180	34	2.1	1.1	-0.8	7220C	7220CDB	7220CDF	7220CDT	150000	244000		128000	255000	5700	4600	7900	6300	112	112	168	173	2	1	3.32
	215	47	3	1.1	22.0	7320A	7320ADB	7320ADF	7320ADT	207000	335000		190000	380000	2800	2200	3800	3000	114	107	201	208	2.5	1	8.18
	215	47	3	1.1	42.7	7320B	7320BDB	7320BDF	7320BDT	196000	320000		180000	360000	2400	2000	3300	2800	114	107	201	208	2.5	1	8.18
	215	47	3	1.1	-5.3	7320C	7320CDB	7320CDF	7320CDT	211000	340000		197000	385000	5100	4100	7000	5600	114	114	201	208	2.5	1	8.18
105	160	26	2	1	25.2	7021A	7021ADB	7021ADF	7021ADT	80000	130000		81500	163000	3300	2600	4400	3500	113	113	152	155	2	1	1.73
	160	26	2	1	2.3	7021C	7021CDB	7021CDF	7021CDT	97000	158000		97500	195000	6000	4800	8300	6600	113	113	152	155	2	1	1.73
	190	36	2.1	1.1	24.6	7221A	7221ADB	7221ADF	7221ADT	157000	254000		141000	283000	3000	2400	4000	3200	117	112	178	183	2	1	3.93
	190	36	2.1	1.1	44.0	7221B	7221BDB	7221BDF	7221BDT	147000	239000		135000	267000	2700	2100	3600	2900	117	112	178	183	2	1	3.93
	190	36	2.1	1.1	-0.9	7221C	7221CDB	7221CDF	7221CDT	163000	265000		144000	287000	5400	4300	7500	6000	117	117	178	183	2	1	3.93
	225	49	3	1.1	23.1	7321A	7321ADB	7321ADF	7321ADT	219000	355000		206000	410000	2700	2100	3600	2800	119	112	211	218	2.5	1	9.34
	225	49	3	1.1	44.8	7321B	7321BDB	7321BDF	7321BDT	208000	335000		196000	390000	2400	1900	3200	2600	119	112	211	218	2.5	1	9.34
	225	49	3	1.1	-5.3	7321C	7321CDB	7321CDF	7321CDT	224000	365000		212000	425000	4800	3800	6700	5400	119	119	211	218	2.5	1	9.34
110	170	28	2	1	26.2	7022A	7022ADB	7022ADF	7022ADT	92000	149000		92500	185000	3200	2500	4300	3300	118	118	162	165	2	1	2.14
	170	28	2	1	2.2	7022C	7022CDB	7022CDF	7022CDT	107000	173000		104000	209000	5700	4600	7900	6300	118	118	162	165	2	1	2.14
	200	38	2.1	1.1	25.7	7222A	7222ADB	7222ADF	7222ADT	170000	276000		158000	315000	2800	2200	3800	3000	122	117	188	193	2	1	4.62
	200	38	2.1	1.1	46.1	7222B	7222BDB	7222BDF	7222BDT	159000	259000		149000	298000	2600	2000	3400	2800	122	117	188	193	2	1	4.62
	200	38	2.1	1.1	-1.0	7222C	7222CDB	7222CDF	7222CDT	171000	277000		157000	315000	5200	4200	7100	5700	122	122	188	193	2	1	4.62
	240	50	3	1.1	25.5	7322A	7322ADB	7322ADF	7322ADT	244000	395000		239000	480000	2600	2000	3400	2700	124	117	226	233	2.5	1	11.0
	240	50	3	1.1	48.5	7322B	7322BDB	7322BDF	7322BDT	231000	375000		227000	455000	2200	1800	3000	2400	124	117	226	233	2.5	1	11.0
	240	50	3	1.1	-4.7	7322C	7322CDB	7322CDF	7322CDT	237000	385000		227000	455000	4600	3700	6300	5000	124	124	226	233	2.5	1	11.0
120	180	28	2	1	29.3	7024A	7024ADB	7024ADF	7024ADT	96500	157000		103000	206000	2900	2300	3800	3000	128	128	172	175	2	1	2.27
	180	28	2	1	3.3	7024C	7024CDB	7024CDF	7024CDT	109000	178000		112000	223000	5300	4200	7300	5800	128	128	172	175	2	1	2.27
	215	40	2.1	1.1	28.4	7224A	7224ADB	7224ADF	7224ADT	182000	295000		180000	360000	2600	2100	3400	2700	132	127	203	208	2	1	6.05
	215	40	2.1	1.1	50.3	7224B	7224BDB	7224BDF	7224BDT	170000	277000		169000	335000	2300	1900	3100	2500	132	127	203	208	2	1	6.05
	215	40	2.1	1.1	-0.6	7224C	7224CDB	7224CDF	7224CDT	185000	300000		176000	350000	4800	3800	6600	5300	132	132	203	208	2	1	6.05
	260	55	3	1.1	27.3	7324A	7324ADB	7324ADF	7324ADT	260000	420000		169000	540000	2200	1800	3000	2400	134	127	246	253	2.5	1	14.2
	260	55	3	1.1	52.2	7324B	7324BDB	7324BDF	7324BDT	245000	400000		253000	505000	2100	1700	2800	2200	134	127	246	253	2.5	1	14.2

Suffix A: contact angle of 30°; Suffix C: contact angle of 15°; Suffix B: contact angle of 40°
Contact angle of 25° with suffix AC is also within LY range. Please contact LY for inquiry or order.

Angular Contact Ball Bearings

d: 130 ~ 160 mm

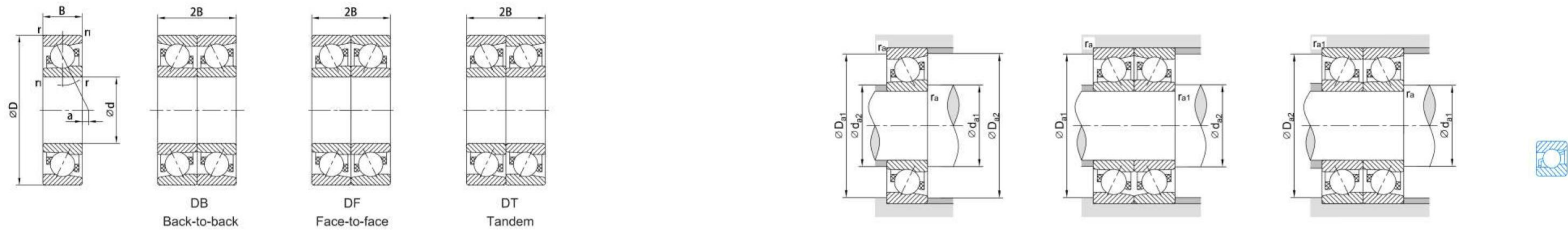


Principal Dimensions (mm)					Load Centerline (mm)	Bearing Designations				Basic Load Ratings (N)			Basic Load Ratings (N)		Limiting Speed (rpm)				Abutment And Fillet Dimensions (mm)						Weight (kg)
													Static Cor		Grease		Oil								
d	D	B	r (min)	r ₁ (min)		Single	Back-to-back DB	Face-to-face DF	Tandem DT	Single	Duplex		Single	Paired	Single	Duplex	Single	Duplex	d _{a1} (min)	d _{a2} (min)	D _{a1} (max)	D _{a2} (max)	r _a (max)	r _{a1} (max)	Single
130	200	33	2	1	31.1	7026A	7026ADB	7026ADF	7026ADT	117000	190000		125000	250000	2600	2200	3600	2700	138	138	192	195	2	1	3.43
	200	33	2	1	2.5	7026C	7026CDB	7026CDF	7026CDT	130000	211000		138000	276000	4800	3800	6700	5400	138	138	192	195	2	1	3.43
	230	40	3	1.1	32	7226A	7226ADB	7226ADF	7226ADT	196000	320000		198000	395000	2400	1900	3100	2500	144	137	216	223	2.5	1	6.88
	230	40	3	1.1	55.5	7226B	7226BDB	7226BDF	7226BDT	184000	298000		185000	370000	2100	1700	2800	2300	144	137	216	223	2.5	1	6.88
	230	40	3	1.1	0.9	7226C	7226CDB	7226CDF	7226CDT	214000	350000		216000	430000	4400	3500	6100	4900	144	144	216	223	2.5	1	6.88
	280	58	4	1.5	30.2	7326A	7326ADB	7326ADF	7326ADT	300000	490000		330000	660000	2200	1700	2900	2200	148	139	262	271	3	1.5	17.4
	280	58	4	1.5	57.0	7326B	7326BDB	7326BDF	7326BDT	284000	460000		310000	620000	1900	1500	2600	2000	148	139	262	271	3	1.5	17.4
140	210	33	2	1	34	7028A	7028ADB	7028ADF	7028ADT	120000	194000		133000	265000	2400	1900	3300	2600	148	148	202	205	2	1	3.63
	210	33	2	1	3.7	7028C	7028CDB	7028CDF	7028CDT	133000	216000		146000	292000	4600	3700	6300	5000	148	148	202	205	2	1	3.63
	250	42	3	1.1	35.3	7228A	7228ADB	7228ADF	7228ADT	211000	345000		228000	525000	2200	1800	3000	2400	154	147	236	243	2.5	1	8.78
	250	42	3	1.1	60.8	7228B	7228BDB	7228BDF	7228BDT	197000	320000		214000	425000	2000	1600	2600	2200	154	147	236	243	2.5	1	8.78
	250	42	3	1.1	1.3	7228C	7228CDB	7228CDF	7228CDT	223000	360000		235000	470000	4100	3300	5600	4500	154	154	236	243	2.5	1	8.78
	300	62	4	1.5	32.5	7328A	7328ADB	7328ADF	7328ADT	300000	490000		335000	670000	2000	1600	2600	2000	158	149	282	291	3	1.5	21.5
	300	62	4	1.5	61.3	7328B	7328BDB	7328BDF	7328BDT	284000	460000		315000	635000	1700	1400	2400	1900	158	149	282	291	3	1.5	21.5
150	225	35	2.1	1.1	36.6	7030A	7030ADB	7030ADF	7030ADT	137000	222000		154000	305000	2300	1800	3000	2400	159	159	282	219	2	1	4.42
	225	35	2.1	1.1	4.1	7030C	7030CDB	7030CDF	7030CDT	152000	247000		169000	340000	4300	3400	5900	4700	159	159	216	219	2	1	4.42
	270	45	3	1.1	38.1	7230A	7230ADB	7230ADF	7230ADT	249000	405000		280000	560000	2000	1600	2800	2200	164	157	256	263	2.5	1	11.0
	270	45	3	1.1	65.6	7230B	7230BDB	7230BDF	7230BDT	223000	360000		246000	490000	1800	1500	2800	2000	164	157	256	263	2.5	1	11.0
	270	45	3	1.1	1.5	7230C	7230CDB	7230CDF	7230CDT	261000	425000		287000	575000	3800	3000	5200	4200	164	164	256	263	2.5	1	11.0
	320	65	4	1.5	35.3	7330A	7330ADB	7330ADF	7330ADT	330000	535000		380000	765000	1700	1400	2400	1800	168	159	302	311	3	1.5	25.1
	320	65	4	1.5	66.1	7330B	7330BDB	7330BDF	7330BDT	310000	505000		360000	725000	1500	1300	2200	1600	168	159	302	311	3	1.5	25.1
160	240	38	2.1	1.1	38.7	7032A	7032ADB	7032ADF	7032ADT	155000	252000		176000	350000	2100	1700	2800	2300	169	169	231	234	2	1	5.44
	240	38	2.1	1.1	4.1	7032C	7032CDB	7032CDF	7032CDT	172000	280000		194000	390000	4000	3200	5500	4400	169	169	231	234	2	1	5.44
	290	48	3	1.1	41.0	7232A	7232ADB	7232ADF	7232ADT	263000	425000		305000	615000	1900	1500	2600	2000	174	167	276	283	2.5	1	13.7
	290	48	3	1.1	70.4	7232B	7232BDB	7232BDF	7232BDT	246000	400000		287000	575000	1700	1400	2200	1800	174	167	276	283	2.5	1	13.7
	290	48	3	1.1	2.4	7232C	7232CDB	7232CDF	7232CDT	288000	470000		335000	670000	3600	2900	4900	3900	174	167	276	283	2.5	1	13.7
	340	68	4	1.5	38.2	7332A	7332ADB	7332ADF	7332ADT	345000	565000		420000	845000	1700	1400	2200	1800	178	169	322	331	3	1.5	30.2
	340	68	4	1.5	70.9	7332B	7332BDB	7332BDF	7332BDT	325000	530000		395000	795000	1500	1200	2000	1600	178	169	322	331	3	1.5	30.2

Suffix A: contact angle of 30°; Suffix C: contact angle of 15°; Suffix B: contact angle of 40°
Contact angle of 25° with suffix AC is also within LY range. Please contact LY for inquiry or order.

Angular Contact Ball Bearings

d: 170 ~ 200 mm

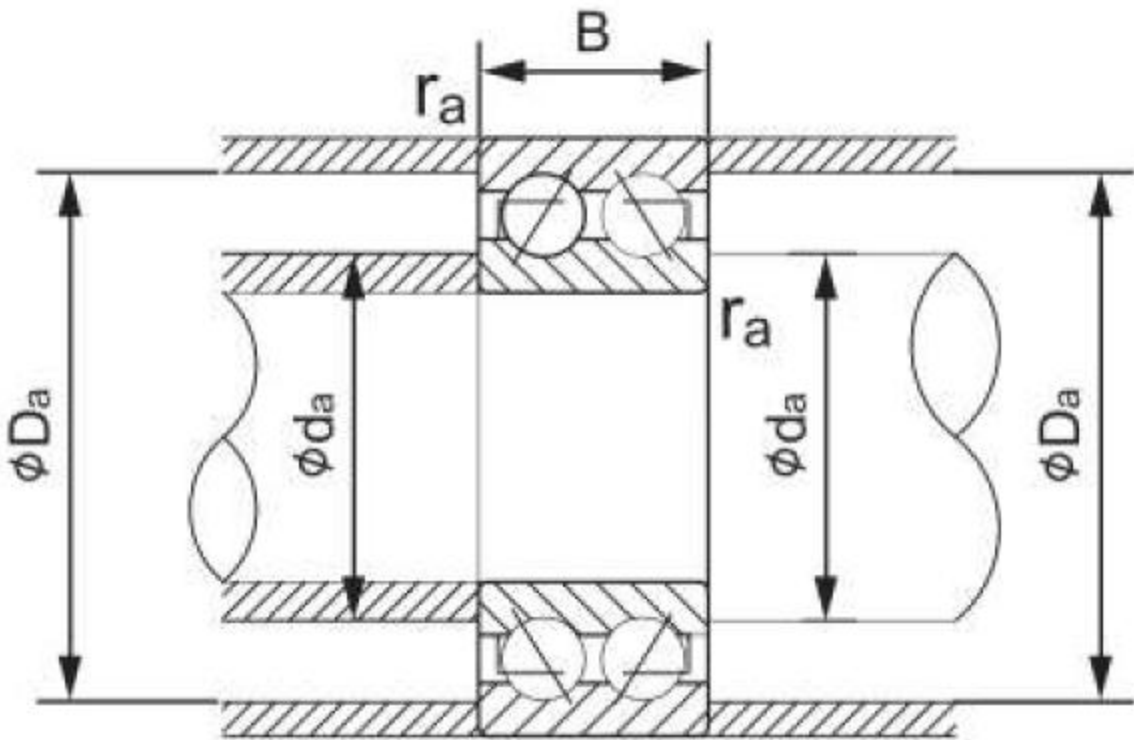
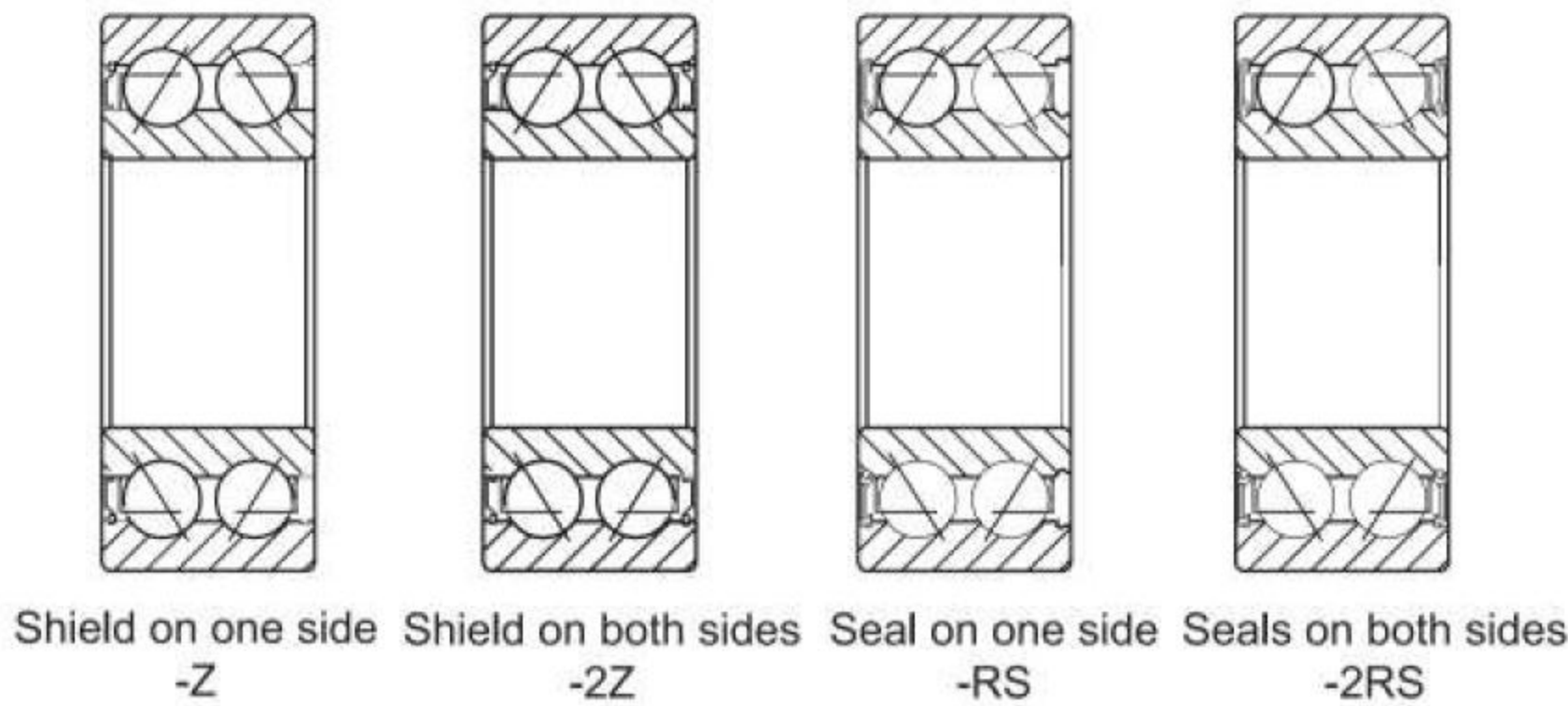
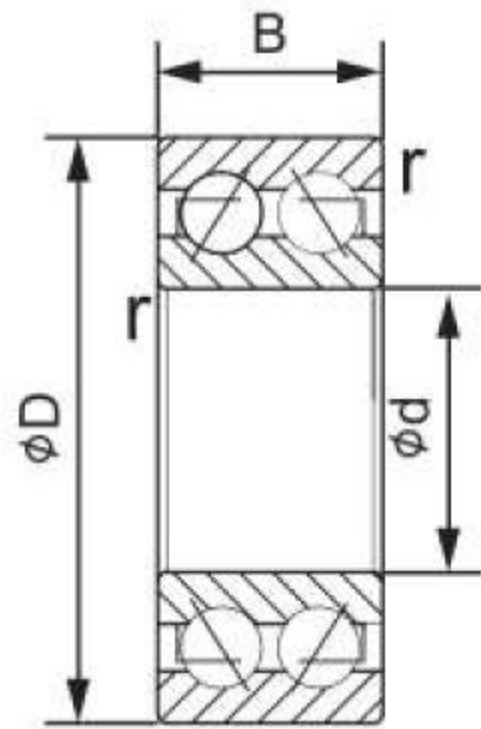


Principal Dimensions (mm)					Load Centerline (mm)	Bearing Designations				Basic Load Ratings (N) Dynamic Cr			Basic Load Ratings (N) Static Cor		Limiting Speed (rpm)				Abutment And Fillet Dimensions (mm)						Weight (kg) Single
d	D	B	r (min)	r ₁ (min)		Single	Back-to-back DB	Face-to-face DF	Tandem DT	Single	Duplex		Single	Paired	Grease		Oil		d _a (min)	d _a (min)	D _a (max)	D _a (max)	r _a (max)	r _a (max)	
															Single	Duplex	Single	Duplex							
170	260	42	2.1	1.1	41.1	7034A	7034ADB	7034ADF	7034ADT	179000	291000		210000	420000	2000	1600	2600	2100	179	179	251	254	2	1	7.87
	260	42	2.1	1.1	3.8	7034C	7034CDB	7034CDF	7034CDT	206000	335000		236000	470000	3700	3000	5100	4100	179	179	251	254	2	1	7.87
	310	52	4	1.5	43.3	7234A	7234ADB	7234ADF	7234ADT	272000	440000		330000	660000	1800	1400	2400	1900	188	179	292	301	3	1.5	17.4
	310	52	4	1.5	74.7	7234B	7234BDB	7234BDF	7234BDT	254000	410000		310000	620000	1600	1300	2200	1700	188	179	292	301	3	1.5	17.4
	310	52	4	1.5	2.2	7234C	7234CDB	7234CDF	7234CDT	299000	485000		360000	725000	3300	2600	4600	3700	188	179	292	301	3	1.5	17.4
	360	72	4	1.5	40.5	7334A	7334ADB	7334ADF	7334ADT	390000	630000		485000	970000	1600	1300	2200	1700	188	179	342	351	3	1.5	35.7
	360	72	4	1.5	75.2	7334B	7334BDB	7334BDF	7334BDT	365000	595000		460000	915000	1400	1100	2000	1600	188	179	342	351	3	1.5	35.7
180	280	46	2.1	1.1	43.4	7036A	7036ADB	7036ADF	7036ADT	207000	335000		252000	505000	1900	1500	2500	2000	189	189	271	274	2	1	9.98
	280	46	2.1	1.1	3.5	7036C	7036CDB	7036CDF	7036CDT	235000	385000		290000	580000	3500	2800	4800	3800	189	189	271	274	2	1	9.98
	320	52	4	1.5	46.2	7236A	7236ADB	7236ADF	7236ADT	281000	455000		350000	705000	1700	1300	2200	1800	198	189	302	311	3	1.5	19.8
	320	52	4	1.5	48.9	7236B	7236BDB	7236BDF	7236BDT	262000	425000		330000	60000	1500	1200	2000	1700	198	189	302	311	3	1.5	19.9
	320	52	4	1.5	3.3	7236C	7236CDB	7236CDF	7236CDT	310000	500000		385000	775000	3200	2600	4400	3500	198	189	302	311	3	1.5	19.9
	380	75	4	1.5	43.3	7336A	7336ADB	7336ADF	7336ADT	410000	665000		535000	1070000	1400	1200	2000	1600	198	189	362	371	3	1.5	41.3
	380	75	4	1.5	80.0	7336B	7336BDB	7336BDF	7336BDT	385000	625000		505000	1010000	1300	1100	1900	1500	198	189	362	371	3	1.5	41.3
190	290	46	2.1	1.1	46.3	7038A	7038ADB	7038ADF	7038ADT	218000	355000		277000	555000	1800	1400	2300	1900	199	199	281	284	2	1	10.7
	290	46	2.1	1.1	4.7	7038C	7038CDB	7038CDF	7038CDT	248000	405000		310000	615000	3300	2600	4600	3700	199	199	281	284	2	1	10.7
	340	55	4	1.5	49.0	7238A	7238ADB	7238ADF	7238ADT	315000	510000		410000	825000	1600	1300	2200	1700	208	199	322	331	3	1.5	21.5
	340	55	4	1.5	83.7	7238B	7238BDB	7238BDF	7238BDT	294000	475000		385000	770000	1400	1100	2000	1600	208	199	322	331	3	1.5	21.5
	400	78	5	2	46.1	7338A	7338ADB	7338ADF	7338ADT	445000	725000		610000	1220000	1400	1100	1900	1500	212	200	378	390	4	2	47.6
	400	78	5	2	84.8	7338B	7338BDB	7338BDF	7338BDT	420000	680000		575000	1150000	1300	1000	1800	1400	212	200	378	390	4	2	47.6
200	310	51	2.1	1.1	48.1	7040A	7040ADB	7040ADF	7040ADT	226000	365000		277000	565000	1700	1300	2200	1800	209	209	301	304	2	1	13.8
	310	51	2.1	1.1	3.9	7040C	7040CDB	7040CDF	7040CDT	274000	445000		360000	715000	3100	2500	4300	3400	209	209	301	304	2	1	13.8
	360	58	4	1.5	51.8	7240A	7240ADB	7240ADF	7240ADT	335000	550000		450000	900000	1500	1200	2000	1600	218	209	342	351	3	1.5	25.5
	360	58	4	1.5	88.5	7240B	7240BDB	7240BDF	7240BDT	315000	510000		420000	840000	1300	1000	1900	1500	218	209	342	351	3	1.5	25.5
	420	80	5	2	49.5	7340A	7340ADB	7340ADF	7340ADT	475000	770000		655000	1310000	1300	1100	1800	1400	222	210	398	410	4	2	53.7
	420	80	5	2	90.1	7340B	7340BDB	7340BDF	7340BDT	445000	725000		620000	1240000	1200	1000	1700	1300	222	210	398	410	4	2	53.7

Suffix A: contact angle of 30°C; Suffix C: contact angle of 15°C; Suffix B: contact angle of 40°C
Contact angle of 25°C with suffix AC is also within LY range. Please contact LY for inquiry or order.

Double-Row Angular Contact Ball Bearings

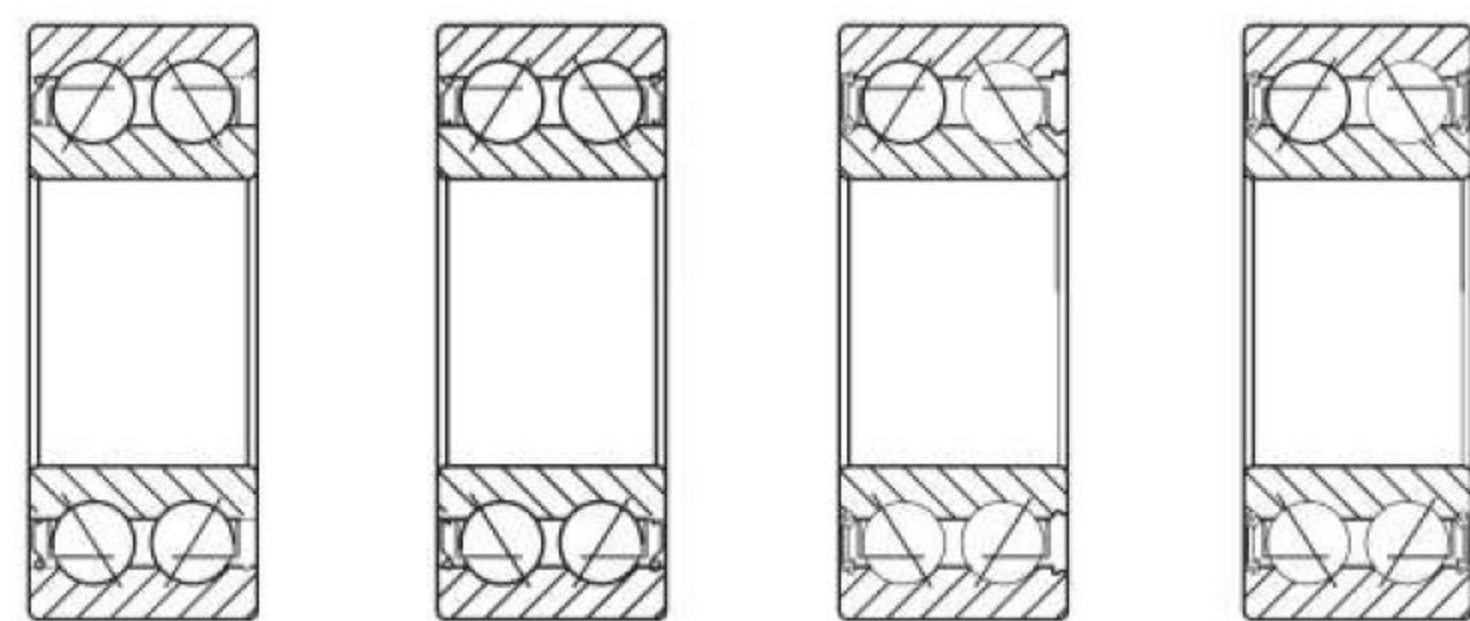
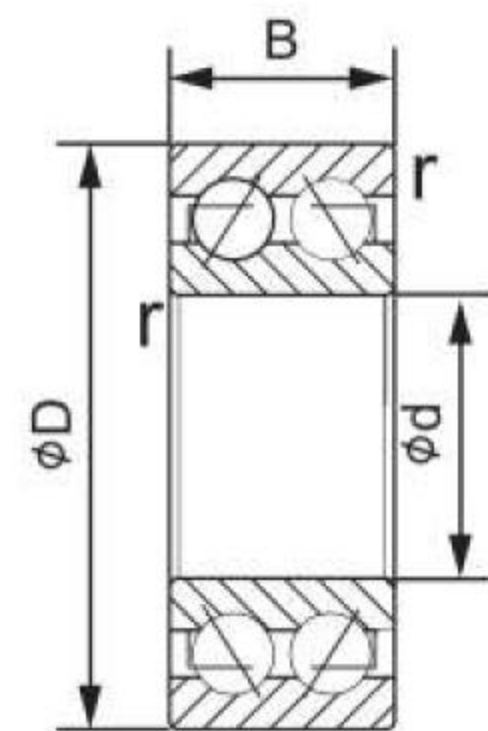
d: 10 ~ 50 mm



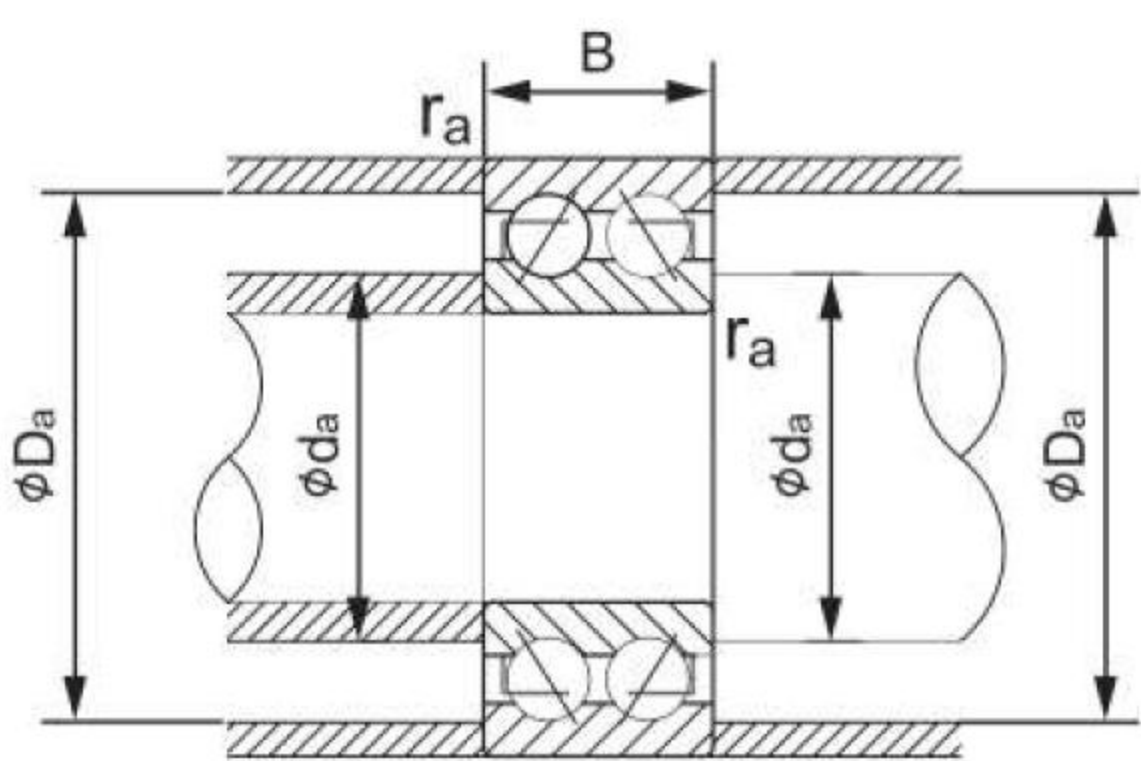
Principal Dimensions (mm)				Bearing Designations					Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions			Weight (kg)	Bearing Designations
d	D	B	r (min)	Open Type	Shield Type	Seal Type			Dynamic Cr	Static Cor	Grease	Oil	d_a (min)	D_a (max)	r_a (max)		
10	30	14.3	0.6	3200	3200-Z	3200-2Z	3200-RS	3200-2RS	7300	4000	18000	24000	15	25	0.6	0.050	3200
	30	14.3	0.6	3200A	3200A-Z	3200A-2Z	3200A-RS	3200A-2RS	6950	3800	16000	22000	15	25	0.6	0.050	3200A
12	32	15.9	0.6	3201	3201-Z	3201-2Z	3201-RS	3201-2RS	10700	5950	16000	22000	17	27	0.6	0.060	3201
	32	15.9	0.6	3201A	3201A-Z	3201A-2Z	3201A-RS	3201A-2RS	10300	5650	15000	20000	17	27	0.6	0.060	3201A
15	35	15.9	0.6	3202	3202-Z	3202-2Z	3202-RS	3202-2RS	11900	7200	14000	19000	20	30	0.6	0.070	3202
	35	15.9	0.6	3202A	3202A-Z	3202A-2Z	3202A-RS	3202A-2RS	11400	6850	12000	17000	20	30	0.6	0.070	3202A
17	40	17.5	0.6	3203	3203-Z	3203-2Z	3203-RS	3203-2RS	15000	9250	12000	17000	22	35	0.6	0.090	3203
	40	17.5	0.6	3203A	3203A-Z	3203A-2Z	3203A-RS	3203A-2RS	14200	8800	11000	15000	22	35	0.6	0.090	3203A
	47	22.2	1	3303	-	-	-	-	23100	12700	10000	14000	23	41	1	0.140	3303
20	47	20.6	1	3204	3204-Z	3204-2Z	3204-RS	3204-2RS	20000	12700	10000	14000	26	41	1	0.120	3204
	47	20.6	1	3204A	3204A-Z	3204A-2Z	3204A-RS	3204A-2RS	19000	12100	9500	13000	26	41	1	0.120	3204A
	52	22.2	1.1	3304	-	-	-	-	21700	13300	9000	11000	27	45	1	0.230	3304
25	52	20.6	1	3205	3205-Z	3205-2Z	3205-RS	3205-2RS	21800	15100	9500	13000	31	46	1	0.190	3205
	52	20.6	1	3205A	3205A-Z	3205A-2Z	3205A-RS	3205A-2RS	20600	14300	8000	11000	31	46	1	0.190	3205A
	62	25.4	1.1	3305	-	-	-	-	32000	21600	7300	10000	32	55	1	0.340	3305
30	62	23.8	1	3206	-	-	-	-	30500	21700	8000	11000	36	56	1	0.290	3206
	62	23.8	1	-	3206-Z	3206-2Z	3206-RS	3206-2RS	25900	18700	8000	-	36	56	1	0.290	3206Z
	62	23.8	1	3206A	-	-	-	-	28600	20500	7000	9500	36	56	1	0.290	3206A
	62	23.8	1	-	3206A-Z	3206A-2Z	3206A-RS	3206A-2RS	24400	17700	7000	-	36	56	1	0.290	3206AZ
	72	30.2	1.1	3306	-	-	-	-	41500	29000	7000	9500	37	65	1	0.510	3306
35	72	27	1.1	3207	-	-	-	-	40000	29500	7000	9500	42	65	1	0.430	3207
	72	27	1.1	-	3207-Z	3207-2Z	3207-RS	3207-2RS	35000	25900	7000	-	42	65	1	0.430	3207Z
	72	27	1.1	3207A	-	-	-	-	38000	27700	6000	8000	42	65	1	0.430	3207A
	72	27	1.1	-	3207A-Z	3207A-2Z	3207A-RS	3207A-2RS	33000	24500	6000	-	42	65	1	0.430	3207AZ
	80	34.9	1.5	3307	-	-	-	-	52000	37000	6300	8500	44	71	1.5	0.790	3307
40	80	30.2	1.1	3208	-	-	-	-	45500	34000	6000	8000	47	73	1	0.570	3208
	80	30.2	1.1	-	3208-Z	3208-2Z	3208-RS	3208-2RS	40000	30500	6000	-	47	73	1	0.570	3208Z
	80	30.2	1.1	3208A	-	-	-	-	42500	32500	5300	7200	47	73	1	0.570	3208A
	80	30.2	1.1	-	3208A-Z	3208A-2Z	3208A-RS	3208A-2RS	37500	28700	5300	-	47	73	1	0.570	3208AZ
	90	36.5	1.5	3308	-	-	-	-	63500	46500	5500	7500	49	81	1.5	1.05	3308
45	85	30.2	1.1	3209	-	-	-	-	51000	39000	5500	7500	52	78	1	0.620	3209
	85	30.2	1.1	-	3209-Z	3209-2Z	3209-RS	3209-2RS	42500	34500	5500	-	52	78	1	0.620	3209Z
	85	30.2	1.1	3209A	-	-	-	-	48000	37000	5000	6700	52	78	1	0.620	3209A
	85	30.2	1.1	-	3209A-Z	3209A-2Z	3209A-RS	3209A-2RS	40000	32500	5000	-	52	78	1	0.620	3209AZ
	100	39.7	1.5	3309	-	-	-	-	76500	56500	5000	6700	54	91	1.5	1.42	3309
50	90	30.2	1.1	3210	-	-	-	-	54500	44500	5000	6700	57	83	1	0.670	3210
	90	30.2	1.1	-	3210-Z	3210-2Z	3210-RS	3210-2RS	45000	39000	5000	-	57	83	1	0.670	3210Z
	90	30.2	1.1	3210A	-	-	-	-	51000	42000	4500	6000	57	83	1	0.670	3210A
	90	30.2	1.1	-	3210A-Z	3210A-2Z	3210A-RS	3210A-2RS	42000	36500	4500	-	57	83	1	0.670	3210AZ
	110	44.4	2	3310	-	-	-	-	90000	68000	4500	6000	60	100	2	1.93	3310

Double-Row Angular Contact Ball Bearings

d: 55 ~ 100 mm



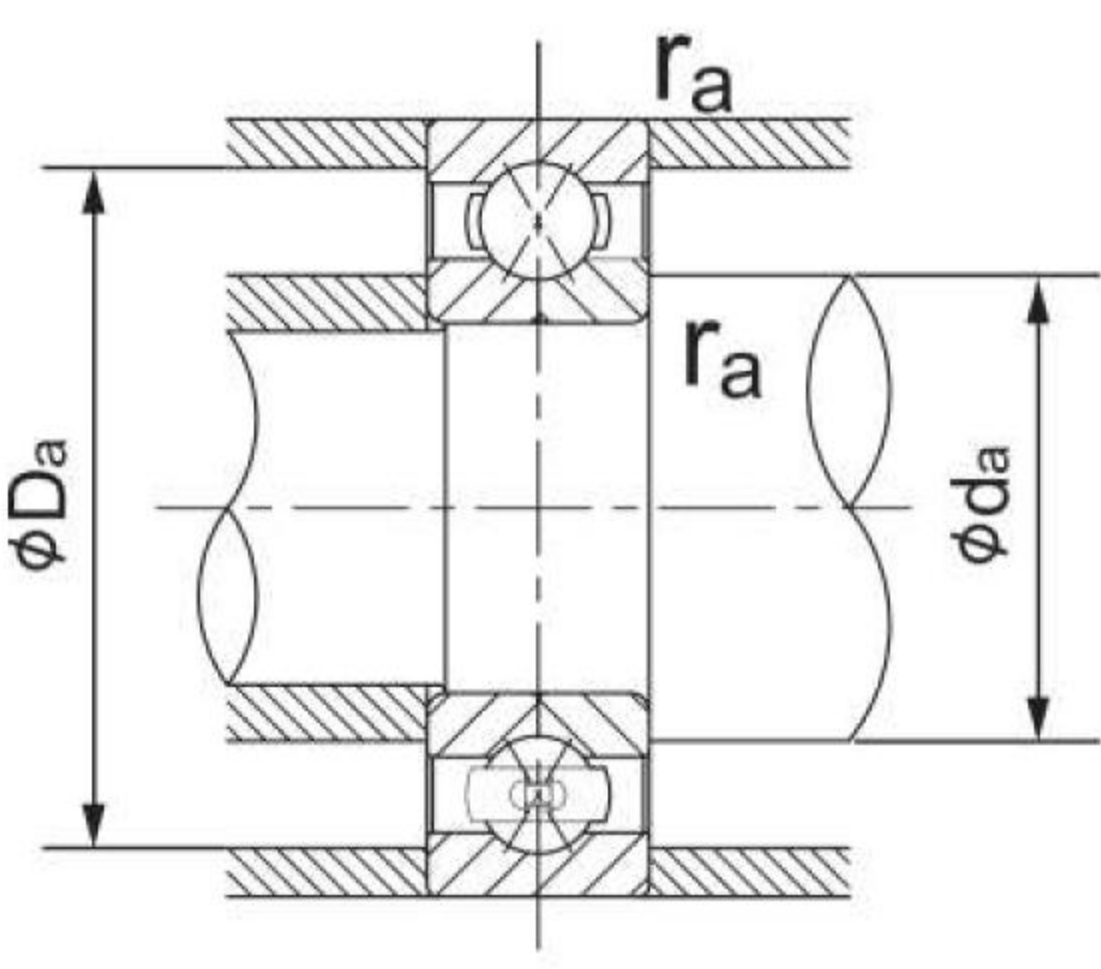
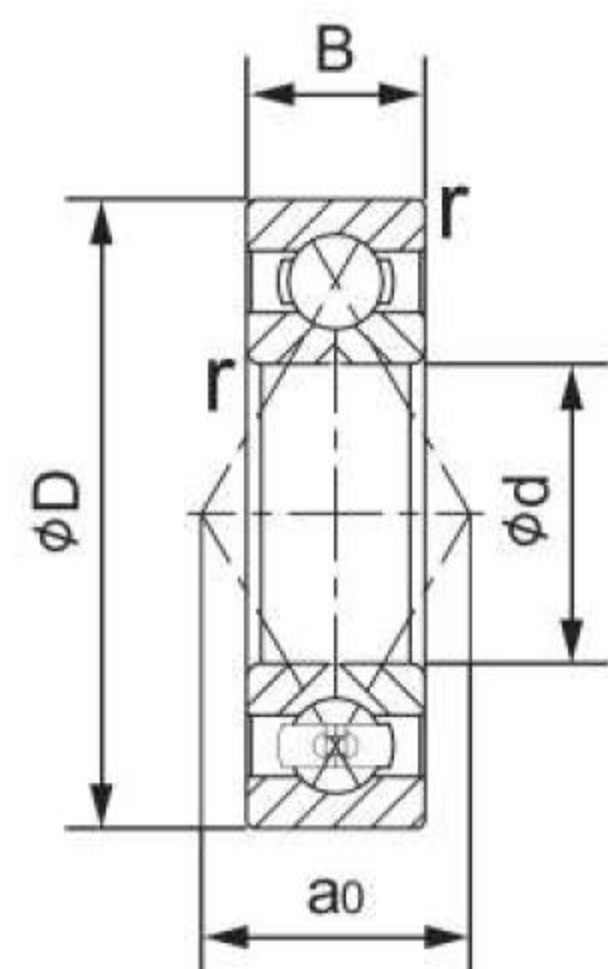
Shield on one side -Z Shield on both sides -2Z Seal on one side -RS Seals on both sides -2RS



Principal Dimensions (mm)				Bearing Designations					Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions			Weight (kg)	Bearing Designations
d	D	B	r (min)	Open Type	Shield Type	Seal Type			Dynamic C _r	Static C _{or}	Grease	Oil	d _a (min)	D _a (max)	r _a (max)		
55	100	33.3	1.5	3211	-	-	-	-	67500	56500	4500	6300	64	91	1.5	0.960	3211
	100	33.3	1.5	-	3211-Z	3211-2Z	3211-RS	3211-2RS	57500	50500	4500	-	64	91	1.5	0.960	3211Z
	100	33.3	1.5	3211A	-	-	-	-	63500	53000	4000	5500	64	91	1.5	0.960	3211A
	100	33.3	1.5	-	3211A-Z	3211A-2Z	3211A-RS	3211A-2RS	54000	47500	4000	-	64	91	1.5	0.960	3211AZ
	120	49.2	2	3311	-	-	-	-	112000	86500	4000	5500	65	110	2	2.30	3311
60	110	36.5	1.5	3212	-	-	-	-	76000	62000	4300	5600	69	101	1.5	1.36	3212
	110	36.5	1.5	-	3212-Z	3212-2Z	3212-RS	3212-2RS	67000	57500	4300	-	69	101	1.5	1.36	3212Z
	110	36.5	1.5	3212A	-	-	-	-	71500	58500	3800	5000	69	101	1.5	1.36	3212A
	110	36.5	1.5	-	3212A-Z	3212A-2Z	3212A-RS	3212A-2RS	63000	54000	3800	-	69	101	1.5	1.36	3212AZ
	130	54	2.1	3312	-	-	-	-	128000	101000	3800	5000	72	118	2	3.16	3312
65	120	38.1	1.5	3213	-	-	-	-	89000	77000	3900	5300	74	111	1.5	1.66	3213
	120	38.1	1.5	-	3213-Z	3213-2Z	3213-RS	3213-2RS	78500	71000	3900	-	74	111	1.5	1.66	3213Z
	120	38.1	1.5	3213A	-	-	-	-	83500	72500	3400	4600	74	111	1.5	1.66	3213A
	120	38.1	1.5	-	3213A-Z	3213A-2Z	3213A-RS	3213A-2RS	73500	66500	3400	-	74	111	1.5	1.66	3213AZ
	140	58.7	2.1	3313	-	-	-	-	145000	115000	3600	4700	77	128	2	3.86	3313
70	125	39.7	1.5	3214	-	-	-	-	96500	84500	3800	5000	79	116	1.5	1.82	3214
	125	39.7	1.5	-	3214-Z	3214-2Z	3214-RS	3214-2RS	86000	79000	3800	-	79	116	1.5	1.82	3214Z
	125	39.7	1.5	3214A	-	-	-	-	90500	79500	3200	4500	79	116	1.5	1.82	3214A
	125	39.7	1.5	-	3214A-Z	3214A-2Z	3214A-RS	3214A-2RS	80500	74000	3200	-	79	116	1.5	1.82	3214AZ
	150	63.5	2.1	3314	-	-	-	-	163000	132000	3200	4300	82	138	2	4.88	3314
75	130	41.3	1.5	3215	-	-	-	-	96000	85500	3400	4700	84	121	1.5	1.91	3215
	130	41.3	1.5	-	3215-Z	3215-2Z	3215-RS	3215-2RS	94000	87000	3400	-	84	121	1.5	1.91	3215Z
	130	41.3	1.5	3215A	-	-	-	-	90000	80500	3200	4300	84	121	1.5	1.91	3215A
	130	41.3	1.5	-	3215A-Z	3215A-2Z	3215A-RS	3215A-2RS	88000	81500	3200	-	84	121	1.5	1.91	3215AZ
	160	68.3	2.1	3315	-	-	-	-	178000	149000	3000	4000	87	148	2	5.51	3315
80	140	44.4	2	3216	-	-	-	-	104000	94000	3500	4600	90	130	2	2.48	3216
	140	44.4	2	3216A	-	-	-	-	97500	88500	2800	4000	90	130	2	2.48	3216A
	170	68.3	2.1	3316	-	-	-	-	192000	167000	2800	4000	92	158	2	6.81	3316
85	150	49.2	2	3217	-	-	-	-	112000	103000	3000	4000	95	140	2	3.40	3217
	150	49.2	2	3217A	-	-	-	-	105000	96500	2600	3800	95	140	2	3.40	3217A
90	160	52.4	2	3218	-	-	-	-	138000	133000	2700	3900	100	150	2	4.28	3218
	160	52.4	2	3218A	-	-	-	-	129000	125000	2500	3500	100	150	2	4.28	3218A
95	170	55.6	2.1	3219	-	-	-	-	149000	139000	2600	3700	107	158	2	5.02	3219
	170	55.6	2.1	3219A	-	-	-	-	139000	131000	2400	3200	107	158	2	5.02	3219A
100	180	60.3	2.1	3220	-	-	-	-	168000	159000	2400	3200	112	168	2	5.78	3220
	180	60.3	2.1	3220A	-	-	-	-	158000	150000	2200	3000	112	168	2	5.78	3220A

Four-Point Contact Ball Bearings

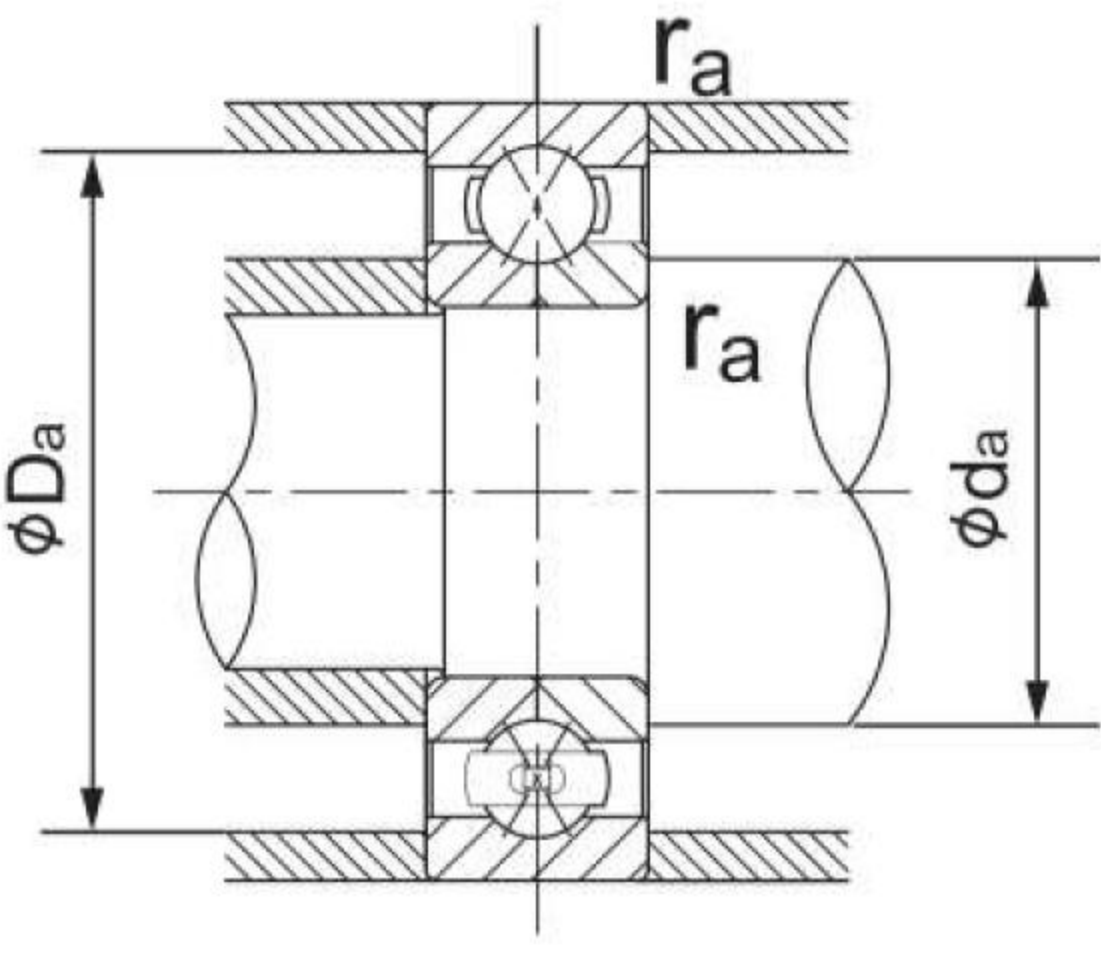
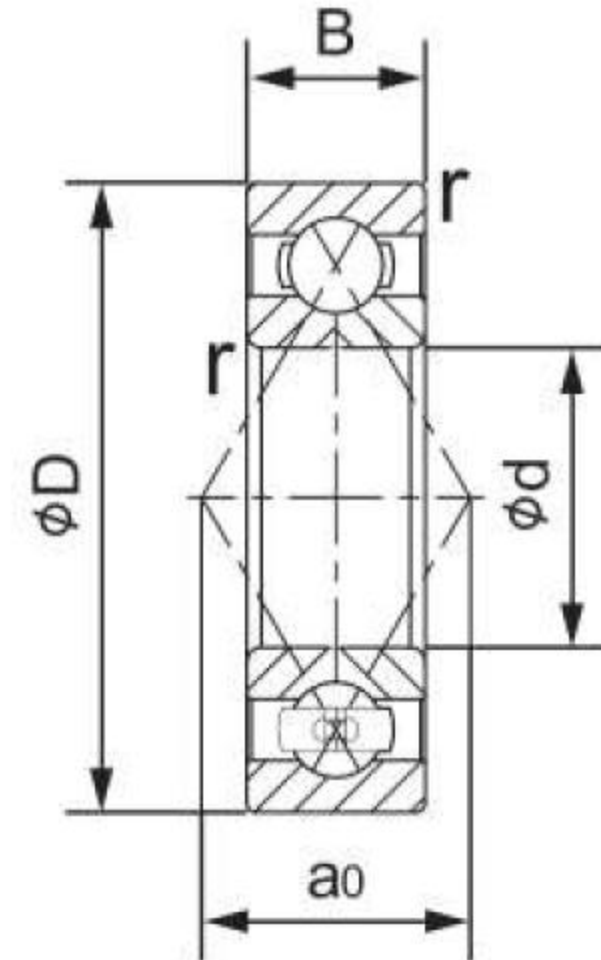
d: 30 ~ 95 mm



Principal Dimensions (mm)				Bearing Designations	Basic Load Ratings (N)			Limiting Speed (rpm)		Load Center (mm) a ₀	Abutment and Fillet Dimensions			Weight (kg)	Bearing Designations
d	D	B	r (min)		Dynamic C _r	Static C _{0r}		Grease	Oil		d _a (min)	D _a (max)	r _a (max)		
30	62	16	1	QJ 206	31000	45000		8500	12000	32.2	36	56	1	0.24	QJ 206
	72	19	1.1	QJ 306	46000	63000		8000	11000	35.7	37	65	1	0.42	QJ 306
35	72	17	1.1	QJ 207	41000	61500		7500	10000	37.5	42	65	1	0.35	QJ 207
	80	21	1.5	QJ 307	55000	80000		7100	9500	40.3	44	71	1.5	0.57	QJ 307
40	80	18	1.1	QJ 208	49000	77500		6700	9000	42.0	47	73	1	0.45	QJ 208
	90	23	1.5	QJ 308	67000	100000		6300	8500	45.5	49	81	1.5	0.78	QJ 308
45	85	19	1.1	QJ 209	55000	88500		6300	8500	45.5	52	78	1	0.52	QJ 209
	100	25	1.5	QJ 309	87500	133000		5600	7500	50.8	54	91	1.5	1.05	QJ 309
50	90	20	1.1	QJ 210	57000	97000		5600	8000	49.0	57	83	1	0.59	QJ 210
	110	27	2	QJ 310	102000	159000		5000	6700	56.0	60	100	2	1.35	QJ 310
55	100	21	1.5	QJ 211	71000	122000		5300	7100	54.3	64	91	1.5	0.77	QJ 211
	120	29	2	QJ 311	118000	187000		4500	6300	61.3	65	110	2	1.75	QJ 311
60	110	22	1.5	QJ 212	85500	150000		4800	6300	59.5	69	101	1.5	0.98	QJ 212
	130	31	2.1	QJ 312	135000	217000		4300	5600	66.5	72	118	2	2.15	QJ 312
65	120	23	1.5	QJ 213	97500	179000		4300	6000	64.8	74	111	1.5	1.2	QJ 213
	140	33	2.1	QJ 313	153000	250000		3800	5300	71.8	77	128	2	2.7	QJ 313
70	125	24	1.5	QJ 214	106000	197000		4000	5600	68.3	79	116	1.5	1.3	QJ 214
	150	35	2.1	QJ 314	172000	285000		3600	5000	77.0	82	138	2	3.18	QJ 314
75	130	25	1.5	QJ 215	110000	212000		3800	5300	71.8	84	121	1.5	1.5	QJ 215
	160	37	2.1	QJ 315	187000	320000		3400	4800	82.3	87	148	2	3.9	QJ 315
80	125	22	1.1	QJ 1016	77000	167000		3800	5300	71.8	87	118	1	1.05	QJ 1016
	140	26	2	QJ 216	124000	236000		3600	5000	77.0	90	130	2	1.85	QJ 216
	170	39	2.1	QJ 316	202000	360000		3200	4300	87.5	92	158	2	4.6	QJ 316
85	130	22	1.1	QJ 1017	79000	176000		3800	5000	75.3	92	123	1	1.1	QJ 1017
	150	28	2	QJ 217	143000	276000		3400	4800	82.3	95	140	2	2.2	QJ 217
	180	41	3	QJ 317	218000	405000		3000	4000	92.8	99	166	2.5	5.34	QJ 317
90	140	24	1.5	QJ 1018	94000	208000		3400	4800	80.5	99	131	1.5	1.45	QJ 1018
	160	30	2	QJ 218	164000	320000		3200	4300	87.5	100	150	2	2.75	QJ 218
	190	43	3	QJ 318	235000	450000		2800	3800	98.0	104	176	2.5	6.4	QJ 318
95	145	24	1.5	QJ 1019	96500	220000		3400	4500	84.0	104	136	1.5	1.5	QJ 1019
	170	32	2.1	QJ 219	177000	340000		3000	4000	92.8	107	158	2	3.35	QJ 219
	200	45	3	QJ 319	251000	495000		2600	3600	103.3	109	186	2.5	7.4	QJ 319

Four-Point Contact Ball Bearings

d: 100 ~ 200 mm



Principal Dimensions (mm)				Bearing Designations	Basic Load Ratings (N)			Limiting Speed (rpm)		Load Center (mm) a _i	Abutment and Fillet Dimensions			Weight (kg)	Bearing Designations
d	D	B	r (min)		Dynamic C _r	Static C _{or}		Grease	Oil		d _a (min)	D _a (max)	r _a (max)		
100	150	24	1.5	QJ 1020	98500	232000		3200	4300	87.5	109	141	1.5	1.6	QJ 1020
	180	34	2.1	QJ 220	199000	390000		2800	3800	98.0	112	168	2	4.0	QJ 220
	215	47	3	QJ 320	300000	640000		2400	3400	110.3	114	201	2.5	9.3	QJ 320
105	160	26	2	QJ 1021	115000	269000		3000	4000	92.8	115	150	2	2.0	QJ 1021
	190	36	2.1	QJ 221	217000	435000		2600	3600	103.3	117	178	2	4.7	QJ 221
	225	49	3	QJ 321	305000	640000		2400	3200	115.5	119	211	2.5	10.5	QJ 321
110	170	28	2	QJ 1022	139000	315000		2800	3800	98.0	120	160	2	2.5	QJ 1022
	200	38	2.1	QJ 222	235000	490000		2600	3400	108.5	122	188	2	5.6	QJ 222
	240	50	3	QJ 322	320000	710000		2200	3000	122.5	124	226	2.5	12.5	QJ 322
120	180	28	2	QJ 1024	147000	350000		2600	3600	105.0	130	170	2	2.65	QJ 1024
	215	40	2.1	QJ 224	265000	585000		2400	3200	117.3	132	203	2	6.9	QJ 224
	260	55	3	QJ 324	360000	835000		2000	2800	133.0	134	246	2.5	15.4	QJ 324
130	200	33	2	QJ 1026	169000	415000		2400	3200	115.5	140	190	2	4.0	QJ 1026
	230	40	3	QJ 226	274000	635000		2200	3000	126.0	144	216	2.5	7.7	QJ 226
	280	58	4	QJ 326	400000	970000		1900	2600	143.5	148	262	3	19	QJ 326
140	210	33	2	QJ 1028	172000	435000		2200	3000	122.5	150	200	2	4.3	QJ 1028
	250	42	3	QJ 228	315000	775000		2000	2800	136.5	154	236	2.5	9.8	QJ 228
	300	62	4	QJ 328	440000	1110000		1700	2400	154.0	158	282	3	24	QJ 328
150	225	35	2.1	QJ 1030	197000	505000		2000	2800	131.3	162	213	2	5.2	QJ 1030
	270	45	3	QJ 230	360000	925000		1800	2600	147.0	164	256	2.5	12	QJ 230
	320	65	4	QJ 330	460000	1230000		1600	2200	164.5	168	302	3	29	QJ 330
160	240	38	2.1	QJ 1032	224000	580000		1900	2600	140.0	172	228	2	6.4	QJ 1032
	290	48	3	QJ 232	380000	1010000		1700	2400	157.5	174	276	2.5	15	QJ 232
	340	68	4	QJ 332	505000	1400000		1500	2000	175.1	178	322	3	31	QJ 332
170	260	42	2.1	QJ 1034	268000	705000		1800	2400	150.5	182	248	2	8.6	QJ 1034
	310	52	4	QJ 234	425000	1180000		1600	2200	168.0	188	292	3	19.5	QJ 234
	360	72	4	QJ 334	565000	1610000		1400	2000	185.6	188	342	3	41	QJ 334
180	280	46	2.1	QJ 1036	299000	830000		1700	2200	161.0	192	268	2	11	QJ 1036
	320	52	4	QJ 236	440000	1270000		1500	2000	175.1	198	302	3	20.5	QJ 236
	380	75	4	QJ 336	595000	1770000		1300	1800	196.1	198	362	3	48	QJ 336
190	290	46	2.1	QJ 1038	325000	925000		1600	2200	168.0	202	278	2	11.5	QJ 1038
	340	55	4	QJ 238	455000	1360000		1400	2000	185.6	208	322	3	23	QJ 238
	400	78	5	QJ 338	655000	1980000		1300	1700	206.6	212	378	4	54.5	QJ 338
200	310	51	2.1	QJ 1040	345000	1020000		1500	2000	178.6	212	298	2	15	QJ 1040
	360	58	4	QJ 240	490000	1480000		1300	1800	196.1	218	342	3	27	QJ 240
	420	80	5	QJ 340	690000	2180000		1200	1600	217.1	222	398	4	61.5	QJ 340