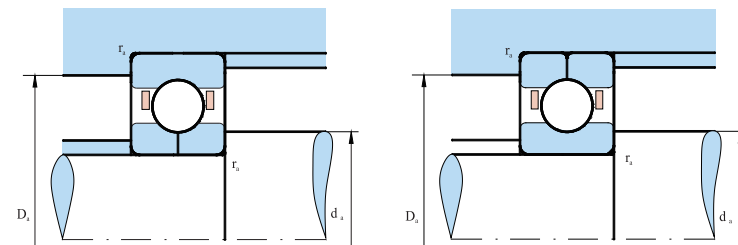
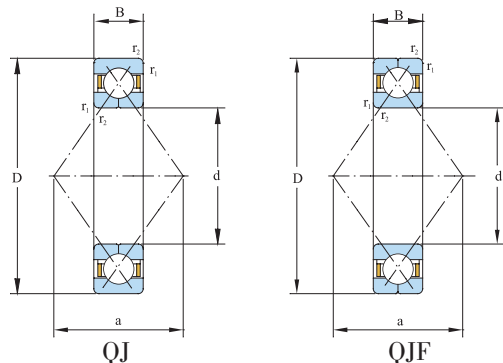


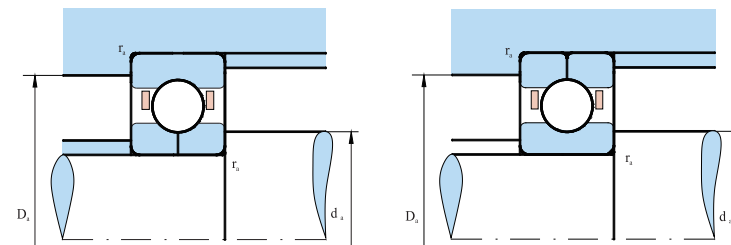
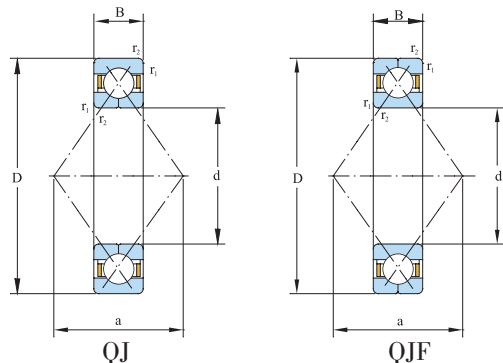
Four-point contact ball bearings



Designations	Boundary dimensions				Basic load ratings	
	d	D	B	$r_{1,2} \text{ min}$	Cr	Cor
	mm				kN	
QJ203	17	40	12	0.6	15.9	10.6
QJ303		47	14	1	23.4	15
QJ304	20	52	15	1.1	29.6	20
QJ205	25	52	15	1	25.1	20
QJ305		62	17	1.1	41.5	24.5
QJ206	30	62	16	1	35.1	28.5
QJ306		72	19	1.1	49.4	39
QJ207	35	72	17	1.1	46.2	39
QJ307		80	21	1.5	59.2	46.5
QJ307N2Q1	40	80	21	1.5	59.2	46.5
QJ208		80	18	1.1	52.7	45
QJ308	45	90	23	1.5	71.5	58.5
QJ209		85	19	1.1	58.5	51
QJ309	50	100	25	1.5	93.6	76.5
QJ210		90	20	1.1	61.8	56
QJ310	55	110	27	2	110	91.5
QJ211		100	21	1.5	79.3	76.5
QJ311	60	120	29	2	127	108
QJ212		110	22	1.5	92.3	86.5
QJ312	65	130	31	2.1	146	125
QJ213		120	23	1.5	104	104
QJ313	70	140	33	2.1	165	146
QJ313Q1		140	33	2.1	118	132
QJ313N2Q1	75	140	33	2.1	118	132
QJ214		125	24	1.5	114	114
QJ214N2Q1	80	125	24	1.5	114	114
QJ314		150	35	2.1	186	166
QJ215	80	130	25	1.5	177	122
QJ315N2		160	37	2.1	199	186
QJ315N2/C9	80	160	37	2.1	199	186
QJ216		140	26	2	138	146
QJ216N2		140	26	2	106	146

Limiting speeds		Acting range a	Abutment and fillet dimensions			Mass
Grease	Oil		$d_a \text{ min}$	$D_a \text{ max}$	$r_a \text{ max}$	
r/min		mm	mm			kg
14000	19000	20	22	35	0.6	0.082
12000	17000	22	23	41	1	0.14
10000	15000	25	27	45	1	0.18
9500	14000	27	31	46	1	0.16
9500	14000	31	32	56	1	0.276
8500	12000	32	36	56	1	0.24
7500	10000	36	37	65	1	0.42
7500	10000	37	42	65	1	0.35
7000	9500	40	44	71	1.5	0.57
7100	9500	40.3	44	71	1.5	0.69
6700	9000	42	47	73	1	0.45
6300	8500	46	49	81	1.5	0.78
6300	8500	46	52	78	1	0.52
5600	7500	51	54	91	1.5	1.05
5600	7500	49	57	83	1	0.59
5000	6700	56	60	100	2	1.35
5300	7000	54	64	91	1.5	0.77
4500	6000	61	65	110	2	1.75
4800	6300	60	69	101	1.5	0.99
4300	5600	67	72	118	2	2.15
4300	5600	65	74	111	1.5	1.2
4000	5300	72	77	128	2	2.7
3800	5300	71.8	77	128	2	2.32
3800	5300	71.8	77	128	2	2.32
4300	5600	68	79	116	1.5	1.3
4000	5600	68	79	116	1.5	1.29
3600	4800	77	82	138	2	3.15
4000	5300	72	84	121	1.5	1.45
3400	4500	82	87	148	2	3.9
3400	4500	82.3	87	148	2	3.83
3600	4800	77	90	130	2	2.02
3600	4800	77	90	130	2	1.85

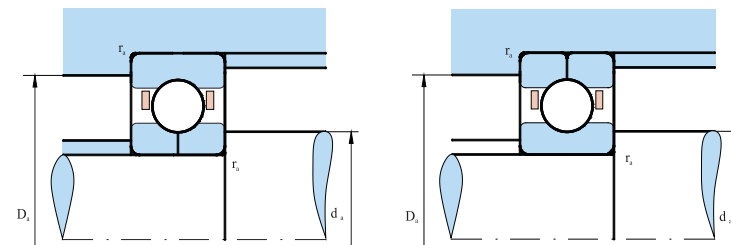
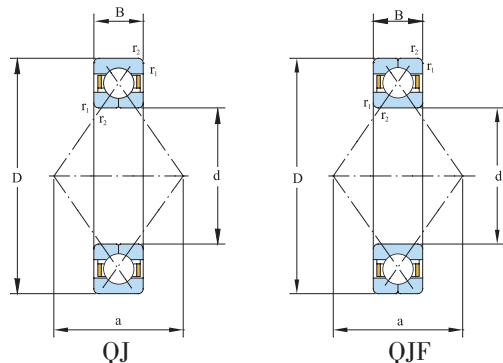
Four-point contact ball bearings



Designations	Boundary dimensions				Basic load ratings	
	d	D	B	$r_{1,2} \text{ min}$	Cr	Cor
	mm				kN	
QJ316N2	80	170	39	2.1	216	208
QJ217	85	150	28	2	148	160
QJ317N2		180	41	3	234	236
QJ218N2	90	160	30	2	174	186
QJ318N2		190	43	3	265	285
QJ318N2Q1		190	43	3	265	285
QJ219N2	95	170	32	2.1	199	212
QJ319N2		200	45	3	286	315
QJF1020	100	150	24	1.5	79	128
QJ220N2Q1		180	34	2.1	225	240
QJ220N2		180	34	2.1	225	240
QJ220N2Q1		180	34	2.1	225	240
QJ320N2		215	47	3	307	340
QJ1022M	110	170	28	2	113	186
QJF222		200	38	2.1	194	284
QJ222		200	38	2.1	265	305
QJ222N2		200	38	2.1	265	305
QJ222N2Q1		200	38	2.1	265	305
QJ322		240	50	3	364	430
QJ322N2		240	50	3	364	430
QJ322N2Q1		240	50	3	364	430
QJ224N2		215	40	2.1	286	340
QJ224N2Q1		215	40	2.1	286	340
QJ324	120	260	55	3	390	490
QJ324Q1		260	55	3	390	490
QJ324N2		260	55	3	390	490
QJ226N2	130	230	40	3	296	365
QJ226N2Q1		230	40	3	296	365
QJF326		280	58	4	423	560
QJ326N2		280	58	4	423	560
QJF1028	140	210	33	2	206	273
QJF228		250	42	3	325	440

Limiting speeds		Acting range a	Abutment and fillet dimensions			Mass
Grease	Oil		$d_a \text{ min}$	$D_a \text{ max}$	$r_a \text{ max}$	
r/min		mm	mm			kg
3200	4300	88	92	158	2	4.6
3400	4500	83	95	140	2	2.25
3000	4000	93	99	166	2.5	5.45
3200	4300	88	100	150	2	2.75
1800	3800	98	104	176	2.5	6.45
1800	3800	98	104	176	2.5	6.22
3000	4000	93	107	158	2	3350
2600	3600	103	109	186	2.5	7450
3200	4300	87.5	109	141	1.5	1.63
2800	3800	98	112	168	2	3.91
2800	3800	98	112	168	2	4.05
2800	3800	98	112	168	2	3.91
2400	3400	110	114	201	2.5	9.3
2800	3800	98.1	120	160	2	2.68
2600	3400	108.5	122	188	2	2.68
2400	3400	109	122	188	2	5.7
2400	3400	109	122	188	2	5.6
2400	3400	109	122	188	2	5.55
2000	3000	123	124	226	2.5	12.5
2000	3000	123	124	226	2.5	12.5
2000	3000	123	124	226	2.5	12.5
2200	3700	117	132	203	2	6.95
2200	3700	117	132	203	2	6.29
1900	2800	133	134	246	2.5	16.5
1900	2800	133	134	246	2.5	16.25
1900	2800	133	134	246	2.5	16
1900	2800	126	144	216	2.5	7.75
1900	2800	126	144	216	2.5	7.725
1800	2600	144	148	262	3	19.6
1800	2600	144	148	262	3	19.5
2200	3000	122.5	150	200	2	3.35
1800	2600	137	154	236	2.5	9.85

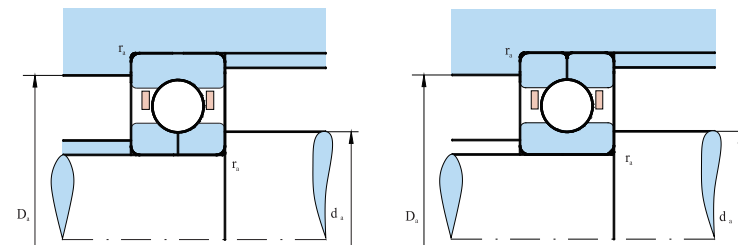
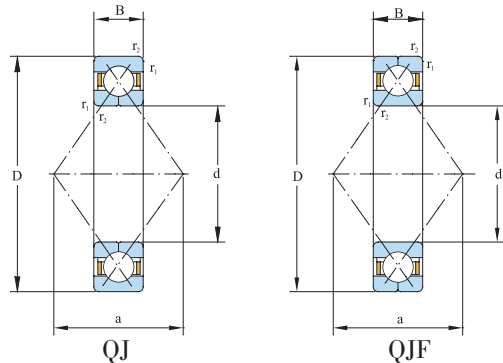
Four-point contact ball bearings



Designations	Boundary dimensions				Basic load ratings	
	d	D	B	$r_{1,2} \text{ min}$	Cr	Cor
	mm				kN	
QJ228N2	140	250	42	3	325	440
QJ328N2		300	62	4	468	640
QJF1030	150	225	35	2.1	169	298
QJ1030		225	35	2.1	169	298
QJF1030J/C9		225	35	2.1	169	298
QJ230N2		270	45	3	338	465
QJ230N2Q1		270	45	3	338	465
QJF330		320	65	4	494	710
QJ330N2		320	65	4	494	710
QJF1032	160	240	38	2.1	184	336
QJ232		290	48	3	390	570
QJ232N2		290	48	3	390	570
QJ232N2Q1		290	48	3	390	570
QJ332N2		340	68	4	585	750
QJF1034	170	260	42	2.1	221	409
QJ1034		260	42	2.1	221	409
QJ1034N2Q1		260	42	2.1	221	409
QJ234		310	52	4	397	600
QJ234N2		310	52	4	397	600
QJ234N2Q1		310	52	4	397	600
QJ334N2		380	75	4	618	965
QJF1036	180	280	46	2.1	246	481
QJ1036		280	46	2.1	246	481
QJF236		320	52	4	436	680
QJ236		320	52	4	436	680
QJ236N2		320	52	4	436	680
QJ336		360	72	4	637	1020
QJ336N2		360	72	4	637	1020
176738U	190	280	55	2.5	230	452
QJF1038		290	46	2.1	244	483
QJ1038N2Q1		290	46	2.1	244	483
QJF238		340	55	4	383	796

Limiting speeds		Acting range a	Abutment and fillet dimensions			Mass
Grease	Oil		$d_a \text{ min}$	$D_a \text{ max}$	$r_a \text{ max}$	
r/min		mm	mm			kg
1800	2600	137	154	236	2.5	9.85
1700	2400	154	158	282	3	24
2000	2800	131.3	162	213	2	5.29
2000	2800	131.3	162	213	2	5.26
2000	2800	131.3	162	213	2	4.37
1700	2400	147	164	256	2.5	12.5
1700	2400	147	164	256	2.5	12.5
1600	2200	165	168	302	3	29.12
1600	2200	165	168	302	3	29
1900	2600	140	172	228	2	6.54
1600	2200	158	174	276	2.5	15.5
1600	2200	158	174	276	2.5	15.45
1600	2200	158	174	276	2.5	15.42
1400	1900	175	178	348	3	30.9
1800	2400	150.5	182	248	2	8.82
1800	2400	150.5	182	248	2	8.23
1800	2400	150.5	182	248	2	8.06
1600	2200	168	188	292	3	19.5
1600	2200	168	188	292	3	19.5
1600	2200	168	188	292	3	19.5
1400	1900	186	188	342	3	41.5
1700	2200	161	192	268	2	10.9
1700	2200	161	192	268	2	10.7
1500	2000	175	198	302	3	20.63
1500	2000	175	198	302	3	20.62
1500	2000	175	198	302	3	20.5
1300	1800	196	198	362	3	47.55
1300	1800	196	198	362	3	47.5
1600	2200	164.5	203	267	2	11.6
1600	2200	168.1	202	278	2	11.4
1600	2200	168.1	202	278	2	11.4
1400	2000	185.6	208	322	3	22.6

Four-point contact ball bearings



Designations	Boundary dimensions				Basic load ratings	
	d	D	B	$r_{1,2} \text{ min}$	Cr	Cor
	mm				kN	
176740U	200	300	58	2.5	249	506
QJF1040		310	51	2.1	299	619
QJ1040		310	51	2.1	299	619
QJF240		360	58	4	507	850
QJ240N2		360	58	4	507	850
QJ340N2		420	80	5	570	1266
QJ1044N2Q1	220	340	56	3	306	653
QJ224N2		400	65	4	553	980
QJ1048N2Q1	240	360	56	3	331	756
QJ1952E	260	360	46	2.1	298	676
QJ1052M		400	65	4	390	910
QJ1056M	280	420	65	4	410	1010
QJF1056		420	65	4	410	1010
QJF1060	300	460	74	4	465	1224
QJF9/560X1	560	780	60	5	530	1840

Limiting speeds		Acting range a	Abutment and fillet dimensions			Mass
Grease	Oil		$d_a \text{ min}$	$D_a \text{ max}$	$r_a \text{ max}$	
r/min		mm	mm			kg
1500	2000	175.1	216	287	2	14.7
1500	2000	178.6	212	298	2	14.7
1500	2000	178.6	212	298	2	14.7
1300	1800	196	218	342	3	28.5
1300	1800	196	218	342	3	28.5
1200	1600	217.1	222	398	4	55.3
1200	1700	196.1	234	326	2.5	17.8
1100	1500	217	238	382	3	39.5
1100	1500	210.1	254	345	2.5	20.9
1000	1400	217.1	272	348	2	15.5
980	1200	231	278	382	3	31.5
960	1000	245.1	262	402	3	34.4
960	1000	245.1	262	402	3	33.5
900	1100	266.1	318	442	3	48.2
600	800	469.1	582	758	4	100

