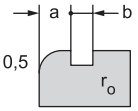
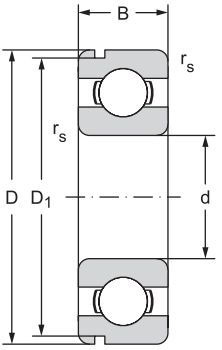
Single row ball bearings with groove for snap ring on outer race d = 12 to 120 mm

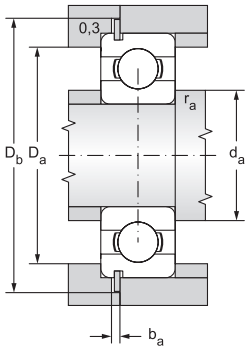
d = 12 to 45 mm





12.1.3

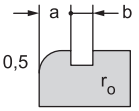
Main dimensions								Basic load rating		Fatique load limit
								Dynamic	Static	
d	D	B	r_s	D_1	a	b	r_0	C_r	C_{or}	P_u
			min	max	max	min	max			
mm								kN		kN
12	32	10	0,66	30,15	2,06	1,35	0,4	6,905	3,100	0,141
	32	14	0,66	30,15	2,06	1,35	0,4	6,905	3,100	0,141
15	35	11	0,60	33,17	2,06	1,35	0,4	7,718	3,745	0,170
	35	14	0,60	33,17	2,06	1,35	0,4	7,718	3,745	0,170
17	40	12	0,60	38,10	2,06	1,35	0,4	9,534	4,734	0,215
	40	16	0,60	38,10	2,06	1,35	0,4	9,534	4,734	0,215
	47	14	1,00	44,60	2,46	1,35	0,4	13,565	6,563	0,298
20	42	12	0,60	39,75	2,06	1,35	0,4	9,371	4,972	0,226
	47	14	1,00	44,60	2,46	1,35	0,4	12,774	6,553	0,298
	52	15	1,10	49,73	2,46	1,35	0,4	15,866	7,811	0,355
	52	21	1,10	49,73	2,46	1,35	0,4	15,866	7,811	0,355
25	47	12	0,60	44,60	2,06	1,35	0,4	10,070	5,806	0,264
	52	15	1,00	49,73	2,46	1,35	0,4	14,029	7,940	0,361
	52	18	1,00	49,73	2,46	1,35	0,4	14,029	7,940	0,361
	62	17	1,10	59,61	3,28	1,90	0,6	21,123	10,806	0,491
	62	24	1,10	59,61	3,28	1,90	0,6	21,123	10,806	0,491
	80	21	1,50	76,81	3,28	1,90	0,6	36,000	19,200	0,873
30	55	13	1,00	52,60	2,08	1,90	0,4	13,243	8,253	0,375
	62	16	2,00	59,61	3,28	1,90	0,6	19,443	11,186	0,508
	62	20	2,00	59,61	3,28	1,90	0,6	19,443	11,186	0,508
	72	19	1,10	68,81	3,28	1,90	0,6	29,701	15,678	0,713
	90	23	1,50	86,79	3,28	2,70	0,6	43,000	23,700	1,077
35	62	14	1,00	59,61	2,06	1,90	0,6	15,956	10,328	0,469
	72	17	1,10	68,81	3,28	1,90	0,6	25,663	15,277	0,694
	80	21	1,50	78,81	3,28	1,90	0,6	33,367	19,230	0,874
	100	25	1,50	96,80	3,28	2,70	0,6	55,200	31,000	1,409
40	68	15	1,00	64,82	2,49	1,90	0,6	16,824	11,493	0,522
	80	18	1,10	76,81	3,28	1,90	0,6	32,633	19,887	0,904
	90	23	1,50	86,79	3,28	2,70	0,6	40,760	24,017	1,092
	110	27	2,00	106,81	3,28	2,70	0,6	63,100	36,200	1,645
45	75	16	1,00	71,83	2,49	1,90	0,6	21,100	15,300	0,695
	85	19	1,10	81,81	3,28	1,90	0,6	32,687	20,325	0,924
	100	25	1,50	96,80	3,28	2,70	0,6	52,804	31,715	1,442
	120	29	2,00	115,21	4,06	3,10	0,6	76,500	44,700	2,032

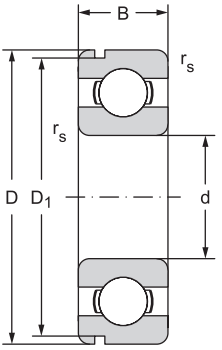


Limiting speed for lubrication with		Bearing designation	Abutment and Fillet Dimensions						Weight	Suitable snap ring
Grease	Oil		d	d_a	D_a	D_b	b_a	r_a	~	
			min	min	max	min	min	max		
min^{-1}			mm						kg	
22000	27000	**6201N**	12	16,0	28,0	39,0	1,4	0,6	0,037	R32
22000	27000	**62201N**		16,0	28,0	39,0	1,4	0,6	0,045	R32
20000	24000	**6202N**	15	19,0	31,0	41,0	1,4	0,6	0,030	R35
20000	24000	**62202N**		19,0	31,0	41,0	1,4	0,6	0,054	R35
18000	21000	**6203N**	17	21,0	36,0	46,0	1,5	0,6	0,073	R40
18000	21000	**62203N**		21,0	36,0	46,0	1,5	0,6	0,083	R40
16000	19000	**6303N**		23,0	41,0	54,0	1,5	1,0	0,12	R47
17000	20000	**6004N**	20	24,0	38,0	47,5	1,5	0,6	0,070	R42
15000	18000	**6204N**		25,0	42,0	54,0	1,5	1,0	0,11	R47
14000	17000	**6304N**		26,0	45,0	59,0	1,5	1,0	0,15	R52
14000	17000	**62304N**		26,0	45,0	59,0	1,5	1,0	0,20	R52
14000	17000	**6005N**	25	28,0	43,0	54,0	1,5	0,6	0,082	R47
12600	15000	**6205N**		30,0	47,0	59,0	1,5	1,0	0,13	R52
12600	15000	**62205N**		30,0	47,0	59,0	1,5	1,0	0,15	R52
11000	13000	**6305N**		31,0	55,0	69,0	2,2	1,0	0,23	R62
11000	13000	**62305N**		31,0	55,0	69,0	2,2	1,0	0,32	R62
9400	11000	**6405N**		34,0	70,0	88,0	2,2	1,5	0,53	R80
12000	14000	**6006N**	30	34,0	50,0	62,0	1,5	1,0	0,12	R55
11000	13000	**6206N**		35,0	57,0	69,0	2,2	1,0	0,20	R62
11000	13000	**62206N**		35,0	57,0	69,0	2,2	1,0	0,24	R62
10000	12000	**6306N**		36,0	65,0	80,0	2,2	1,0	0,33	R72
8400	10000	**6406N**		39,0	80,0	98,0	3,0	1,5	0,73	R90
10600	12600	**6007N**	35	39,5	57,0	69,0	2,2	1,0	0,15	R62
9400	11000	**6207N**		42,0	65,0	80,0	2,2	1,0	0,28	R72
8400	10000	**6307N**		42,0	71,0	88,0	2,2	1,5	0,45	R80
7500	8900	**6407N**		44,0	90,0	108,0	3,0	1,5	0,95	R100
9400	11000	**6008N**	40	44,0	63,0	76,0	2,2	1,0	0,19	R68
8400	10000	**6208N**		47,0	73,0	88,0	2,2	1,0	0,35	R80
7900	9400	**6308N**		47,0	81,0	98,0	3,0	1,5	0,63	R90
6700	7900	**6408N**		50,0	97,0	118,0	3,0	3,0	1,23	R110
8400	10000	**6009N**	45	49,0	70,0	83,0	2,2	1,0	0,24	R75
7900	9400	**6209N**		52,0	78,0	93,0	2,2	1,0	0,40	R85
7100	8400	**6309N**		52,0	91,0	108,0	3,0	1,5	0,83	R100
6000	7100	**6409N**		55,0	107,0	131,0	3,5	2,0	1,54	R120

Single row ball bearings with groove for snap ring on outer race

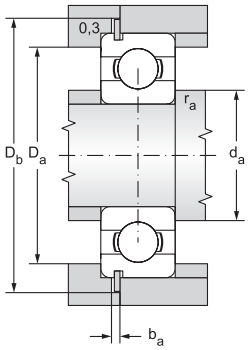
d = 50 to 85 mm





12.1.3

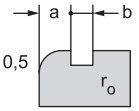
Main dimensions								Basic load rating		Fatique load limit
								Dynamic	Static	
d	D	B	r_s	D_1	a	b	r_0	C_r	C_{or}	P_u
			min	max	max	min	max			
mm								kN		kN
50	80	16	1,00	76,81	2,49	1,90	0,6	21,720	16,650	0,757
	90	20	1,10	86,79	3,28	2,70	0,6	35,066	23,226	1,056
	110	27	2,00	106,81	3,28	2,70	0,6	61,900	37,600	1,709
55	90	18	1,10	86,79	2,87	2,70	0,6	28,200	21,318	0,969
	100	21	1,50	96,80	3,28	2,70	0,6	43,350	29,397	1,336
	120	29	2,00	115,21	4,06	3,10	0,6	71,000	44,700	2,032
	140	33	2,10	135,23	4,90	3,10	0,6	100,000	61,900	2,814
60	95	18	1,10	91,82	2,87	2,70	0,6	29,343	23,256	1,057
	110	22	1,50	106,81	3,82	2,70	0,6	52,486	35,786	1,627
	130	31	2,10	125,22	4,06	3,10	0,6	81,500	52,100	2,368
	150	35	2,10	145,24	4,90	3,10	0,6	110,000	69,400	3,079
65	100	18	1,10	96,80	2,87	2,70	0,6	30,500	25,100	1,141
	120	23	1,50	115,21	4,06	3,10	0,6	57,210	40,011	1,819
	140	33	2,10	135,23	4,90	3,10	0,6	92,600	59,600	2,676
	160	37	2,10	155,22	4,90	3,10	0,6	117,950	78,329	3,357
70	110	20	1,10	106,81	2,87	2,70	0,6	37,960	30,959	1,407
	125	24	1,50	120,22	4,06	3,10	0,6	62,000	43,800	1,991
	150	35	2,10	145,24	4,90	3,10	0,6	104,000	68,100	2,951
	180	42	3,00	173,66	5,69	3,50	0,6	114,000	104,000	4,228
75	115	20	1,10	111,81	2,87	2,70	0,6	39,747	33,170	1,508
	130	25	1,50	125,22	4,06	3,10	0,6	66,170	49,311	2,214
	160	37	2,10	155,22	4,90	3,10	0,6	114,000	76,400	3,204
	190	45	3,00	183,64	5,69	3,50	0,6	152,529	112,922	4,459
80	125	22	1,10	120,22	2,87	3,10	0,6	47,500	39,800	1,787
	140	26	2,00	135,23	4,90	3,10	0,6	72,200	53,100	2,301
	170	39	2,10	163,65	5,69	3,50	0,6	122,850	86,226	3,506
	200	48	3,00	193,65	5,69	3,50	0,6	163,587	124,984	4,801
85	130	22	1,10	125,22	2,87	3,10	0,6	49,794	42,609	1,868
	150	28	2,00	145,24	4,90	3,10	0,6	83,299	63,675	2,670
	180	41	3,00	173,66	5,69	3,50	0,6	132,507	96,069	3,794

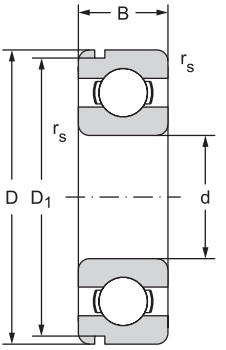


Limiting speed for lubrication with		Bearing designation	Abutment and Fillet Dimensions						Weight	Suitable snap ring
Grease	Oil		d	d_a	D_a	D_b	b_a	r_a	~	
			min	min	max	min	min	max		
min^{-1}			mm						kg	
7900	9400	**6010N**	50	54,0	75,0	88,0	2,2	1,0	0,26	R80
7100	8400	**6210N**		57,0	83,0	98,0	3,0	1,0	0,46	R90
6300	7500	**6310N**		60,0	100,0	118,0	3,0	2,0	1,06	R110
7100	8400	**6011N**	55	60,0	84,0	98,0	3,0	1,0	0,38	R90
6700	7900	**6211N**		62,0	91,0	108,0	3,0	1,5	0,60	R100
5600	6700	**6311N**		65,0	110,0	131,0	3,5	2,0	1,38	R120
5300	6300	**6411N**		68,0	126,0	151,0	3,5	2,0	2,29	R140
6700	7900	**6012N**	60	65,0	88,0	103,0	3,0	1,0	0,41	R95
6000	7100	**6212N**		67,0	101,0	110,0	3,0	1,5	0,77	R110
5300	6300	**6312N**		72,0	118,0	141,0	3,5	2,0	1,72	R130
4700	5600	**6412N**		73,0	136,0	162,0	3,5	2,0	2,76	R150
6300	7500	**6013N**	65	70,0	93,0	108,0	3,0	1,0	0,44	R100
5300	6300	**6213N**		72,0	111,0	131,0	3,5	1,5	1,00	R120
5000	6000	**6313N**		76,0	128,0	148,0	3,5	2,0	2,10	R140
4500	5300	**6413N**		78,0	146,0	172,0	3,5	2,0	3,28	R160
5600	6700	**6014N**	70	75,0	103,0	118,0	3,0	1,0	0,60	R110
5300	6300	**6214N**		77,0	116,0	136,0	3,5	1,5	1,07	R125
4700	5600	**6314N**		81,0	138,0	162,0	3,5	2,0	2,54	R150
4000	4700	**6414N**		85,0	164,0	195,0	4,5	2,5	4,85	R180
5300	6300	**6015N**	75	80,0	108,0	123,0	3,0	1,0	0,64	R115
5000	6000	**6215N**		82,0	121,0	141,0	3,5	1,5	1,18	R130
4200	5000	**6315N**		86,0	148,0	172,0	3,5	2,0	3,06	R160
3800	4500	**6415N**		90,0	174,0	205,0	4,5	2,5	5,74	R190
5000	6000	**6016N**	80	85,0	118,0	136,0	3,5	1,0	0,85	R125
4700	5600	**6216N**		90,0	130,0	151,0	3,5	2,0	1,40	R140
4000	4700	**6316N**		91,0	158,0	185,0	3,5	2,0	3,63	R170
3500	4200	**6416N**		95,0	184,0	215,0	4,5	2,5	6,72	R200
4700	5600	**6017N**	85	91,5	123,5	141,0	3,5	1,0	0,89	R130
4200	5000	**6217N**		95,0	140,0	162,0	3,5	2,0	1,80	R150
3800	4500	**6317N**		98,0	166,0	195,0	4,5	2,5	4,20	R180

Single row ball bearings with groove for snap ring on outer race

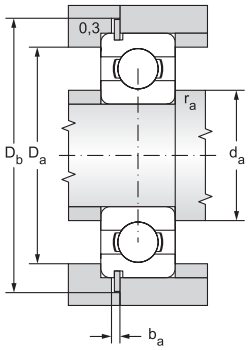
d = 90 to 120 mm





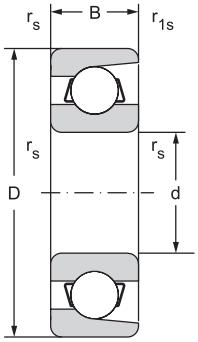
Main dimensions								Basic load rating		Fatique load limit
								Dynamic	Static	
d	D	B	r_s	D_1	a	b	r_0	C_r	C_{or}	P_u
			min	max	max	min	max			
mm								kN		kN
90	140	24	1,50	135,23	3,71	3,10	0,6	58,400	49,200	2,085
	160	30	2,00	155,22	4,90	3,10	0,6	96,200	70,800	2,878
95	200	45	3,00	193,65	5,69	3,50	0,6	152,444	117,366	4,393
100	150	24	1,50	145,24	3,71	3,10	0,6	60,096	54,244	2,205
105	190	36	2,10	183,64	5,96	3,50	0,6	132,297	104,833	3,924
120	180	28	2,00	173,66	3,71	3,50	0,6	85,000	79,400	2,947

12.1.3



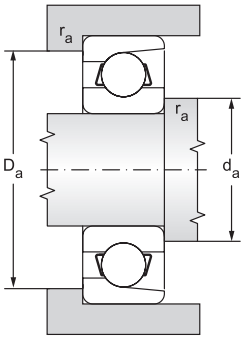
Limiting speed for lubrication with		Bearing designation	Abutment and Fillet Dimensions						Weight	Suitable snap ring
Grease	Oil		d	d_a	D_a	D_b	b_a	r_a	~	
			min	min	max	min	min	max		
min^{-1}			mm						kg	
4500	5300	**6018N**	90	96,0	132,0	151,0	3,5	1,5	1,17	R140
4000	4700	**6218N**		100,0	150,0	172,0	3,5	2,0	2,16	R160
3300	4000	**6319N**	95	109,0	186,0	215,0	4,5	2,5	5,72	R200
4200	5000	**6020N**	100	106,0	142,0	162,0	3,5	1,5	1,27	R150
3300	4000	**6221N**	105	117,0	178,0	205,0	4,5	2,0	3,74	R190
3300	4000	**6024N**	120	188,0	171,0	195,0	4,5	2,0	2,10	R180

Separable single row ball bearings d = 10 to 20 mm



12.1.4

Main dimensions					Basic load rating		Fatique load limit
					Dynamic	Static	
d	D	B	r_s	r_{1s}	C_r	C_{or}	P_u
			min	min			
mm					kN		kN
10	28	8	0,3	0,15	6,448	2,914	0,13
12	32	7	0,3	0,15	6,363	3,369	0,15
15	35	8	0,3	0,15	8,395	4,584	0,21
	35	8	0,3	0,15	8,395	4,584	0,21
17	44	11	0,6	0,30	10,713	6,077	0,28
	44	11	0,6	0,30	14,723	8,066	0,37
20	47	12	1,0	0,60	15,876	9,149	0,42



Limiting speed for lubrication with		Bearing designation	Abutment and Fillet Dimensions				Weight
Grease	Oil		d	d_a	D_a	r_a	~
				min	max	max	
min^{-1}			mm				kg
25000	31000	**E10Y**	10	12,0	25,5	0,3	0,022
22000	28000	**E12TNG**	12	14,0	29,0	0,3	0,029
20000	24000	**E15**	15	17,2	31,8	0,3	0,034
20000	24000	**E15Y**		17,2	31,8	0,3	0,034
16000	19000	**E17**	17	22,0	39,0	0,6	0,079
14000	17000	**B017**		22,0	39,0	0,6	0,075
14000	17000	**E20**	20	26,0	42,0	1,0	0,089