Single-row radial ball bearings

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Single-row radial ball bearings

Definition and capabilities

The single-row radial ball bearing is the most widely used type of bearings.

Definition

Cages for single-row ball bearings

The standard cage is in pressed steel or brass. Other cage types can be used: synthetic material, phenolic resin, machined brass.

Capabilities

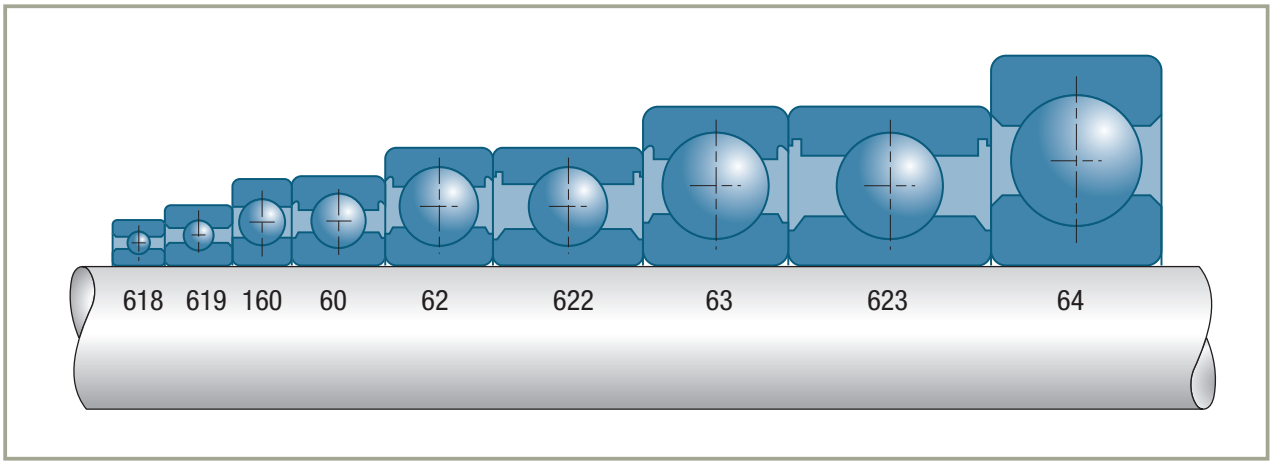
Loads and speeds

Designed to:
- withstand radial loads
- withstand axial loads in both directions
- accept high speeds of rotation

Misalignment

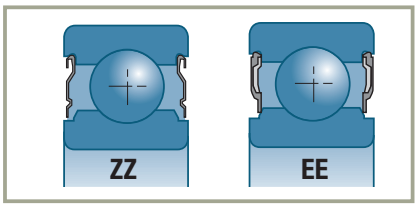
These bearings accept misalignment of between 0.10° and 0.23° depending on the residual clearance of the bearing after fitting, the bearing series and the magnitude of loads. Where misalignment is high, it is recommended to use a bearing with a synthetic material cage, as these cages display greater flexibility and good wear resistance.

Series



Variations

Standard protection and sealing



These bearings can be equipped with:
- shields (suffix ZZ)
- seals (suffix EE)

A given bearing can have a combination of types of protection and sealing, for example an E seal and a Z shield (suffix EZ).

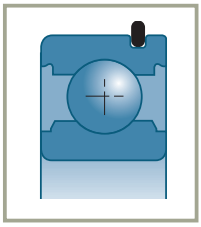
Bearing featuring
- one or two seals or two shields are supplied pre-lubricated with general-purpose grease
- unilateral protection by a single Z shield are not supplied pre-lubricated

Special sealing and protection

SNR proposes a range of seals for various applications:
- high speed of rotation and temperature
- reinforced sealing
- filter function for contaminated oil applications
- speed-sensing function

SNR can study jointly with the user special seals for mass production applications.

Groove for snap ring



Bearings are supplied with or without a snap ring.

Tolerances and clearances

Tolerances

Manufactured within the normal tolerance classes.

Single-row ball bearings can be supplied on request in tolerance classes ISO 6 and 5 for all or specific characteristics (e.g. bore or radial run-out in tolerance class 6).

Internal radial clearance

All standard production bearings are in the normal clearance group N. The other groups can be supplied on request.

For single-row radial ball bearings with a tapered bore, SNR ROULEMENTS has adopted group 3 (C3) as the standard

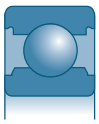
clearance to allow for a greater reduction in clearance resulting from fitting on a tapered seat.

The radial clearance leads to an axial clearance; a simple formula can be used to calculate the approximate size of the theoretical axial clearance J_a as a function of the operating radial clearance J_r.

$$J_a = (J_r (D-d) / 20)^{1/2}$$

Single-row radial ball bearings *(continued)*

Series 60-62-63-64-160-618-619-622-623-42-43



Bore diameter	Group 2		Group N		Group 3		Group 4		Group 5	
d (mm)	min	max	min	max	min	max	min	max	min	max
2.5 <d≤ 6	0	7	2	13	8	23	–	–	–	–
6 <d≤ 10	0	7	2	13	8	23	14	29	20	37
10 <d≤ 18	0	9	3	18	11	25	18	33	25	45
18 <d≤ 24	0	10	5	20	13	28	20	36	28	48
24 <d≤ 30	1	11	5	20	13	28	23	41	30	53
30 <d≤ 40	1	11	6	20	15	33	28	46	40	64
40 <d≤ 50	1	11	6	23	18	36	30	51	45	73
50 <d≤ 65	1	15	8	28	23	43	38	61	55	90
65 <d≤ 80	1	15	10	30	25	51	46	71	65	105
80 <d≤ 100	1	18	12	36	30	58	53	84	75	120
100 <d≤ 120	2	20	15	41	36	66	61	97	90	140
120 <d≤ 140	2	23	18	48	41	81	71	114	105	160
140 <d≤ 160	2	23	18	53	46	91	81	130	120	180
160 <d≤ 180	2	25	20	61	53	102	91	147	135	200
180 <d≤ 200	2	30	25	71	63	117	107	163	150	230
200 <d≤ 225	2	35	25	85	75	140	125	195	175	265
225 <d≤ 250	2	40	30	95	85	160	145	225	205	300
250 <d≤ 280	2	45	35	105	90	170	155	245	225	340
280 <d≤ 315	2	55	40	115	100	190	175	270	245	370
315 <d≤ 355	3	60	45	125	110	210	195	300	275	410
355 <d≤ 400	3	70	55	145	130	240	225	340	315	460
400 <d≤ 450	3	80	60	170	150	270	250	380	350	510
450 <d≤ 500	3	90	70	190	170	300	280	420	390	570
500 <d≤ 560	10	100	80	210	190	330	310	470	440	630
560 <d≤ 630	10	110	90	230	210	360	340	520	490	690
630 <d≤ 710	20	130	110	260	240	400	380	570	540	760
710 <d≤ 800	20	140	120	290	270	450	430	630	600	840

Value in µm

Design criteria

Bearing life

Residual radial clearance

Bearings operating under heavy axial loads

The performance of bearings operating under heavy axial loads can be improved by increasing the radial clearance in order to create a contact angle in operation. The axial load Fa must not exceed a mean value of 0.5 C0.

This type of operation has to be studied according to the loading conditions and dimensions of the bearings. Consult with SNR.

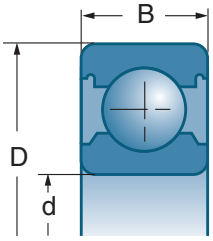
Unit made up by two side-by-side bearings

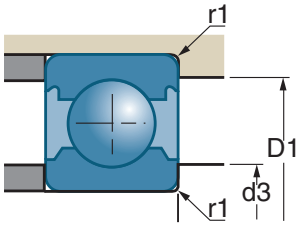
Each pair of bearings is calculated like a single bearing.

Suffixes and prefixes

A	Increased capacity
C3	Radial clearance of the group ISO 3
C4	Radial clearance of the group ISO 4
D..	Special grease
E - EE	Sealing by nitrile seal
E3 -EE3	Sealing by high temperature seal
F...	Special function
G14 - G15	Polyamide cage
2RS	Two-side sealing for thin section ball bearings
2Z	Two-side protection for thin section ball bearings
Z -ZZ	Protection by metal shields
Y	Brass cage

Single-row radial ball bearings *(continued)*



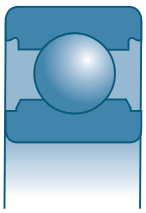


d	10VDX420	D	B	C	C_0		
mm	References	mm	mm	10^3N	10^3N	rpm*	rpm*
3	623	10	4	0.64	0.23	70000	80000
4	624 634	13 16	5 5	1.30 1.88	0.49 0.68	54000 45000	63000 53000
5	625 635	16 19	5 6	1.88 2.46	0.68 1.05	47000 34000	55000 40000
6	626	19	6	2.46	1.05	35000	41000
7	607 627	19 22	6 7	2.46 3.30	1.05 1.36	37000 32000	46000 37000
8	608	22	7	3.30	1.36	34000	42000
9	609 629	24 26	7 8	3.65 4.60	1.64 1.97	30000 26000	37000 30000
10	61800 61900 6000 6200 6300	19 22 26 30 35	5 6 8 9 11	1.83 2.70 4.60 6.00 7.60	0.92 1.27 1.97 2.65 3.45	34000 31000 27000 23000 19000	42000 38000 34000 27000 24000
12	61801 61901 6001 6201 6301	21 24 28 32 37	5 6 8 10 12	1.92 2.90 5.10 6.80 9.70	1.04 1.46 2.37 3.05 4.20	30000 27000 25000 21000 18000	37000 34000 32000 25000 23000
15	61802 61902 16002 6002 6202 6302	24 28 32 32 35 42	5 7 8 9 11 13	2.08 4.35 5.60 5.60 7.70 11.40	1.26 2.25 2.85 2.85 3.75 5.40	25000 23000 22000 21000 19000 15000	31000 28000 26000 26000 22000 19000
17	61803 61903 16003 6003	26 30 35 35	5 7 8 10	2.23 4.60 6.00 6.00	1.46 2.55 3.25 3.25	23000 21000 20000 19000	28000 26000 24000 24000

* These are the speed limits according to the SNR concept (see pages 85 to 87).

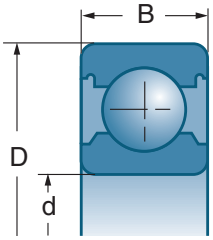
Characteristics

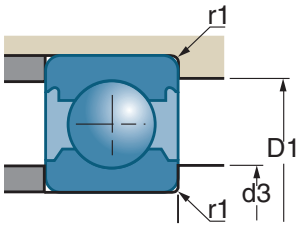
Open bearing



References	d3 min mm	D1 max mm	r1 max mm	kg
623	5.0	8.0	0.10	0.002
624 634	5.5 6.0	11.5 14.0	0.20 0.30	0.003 0.005
625 635	7.0 7.0	14.0 17.0	0.30 0.30	0.007 0.010
626	8.0	17.0	0.30	0.009
607 627	9.0 9.0	17.0 20.0	0.30 0.30	0.008 0.012
608	10.0	20.0	0.30	0.012
609 629	11.0 12.9	22.0 22.1	0.30 0.30	0.015 0.020
61800 61900 6000 6200 6300	12.0 12.0 12.0 14.0 14.0	17.0 20.0 24.0 26.0 31.0	0.30 0.30 0.30 0.60 0.60	0.005 0.013 0.019 0.033 0.055
61801 61901 6001 6201 6301	14.0 14.0 14.0 16.0 17.9	19.0 22.0 26.0 28.0 31.5	0.30 0.30 0.30 0.60 1.00	0.006 0.014 0.022 0.038 0.060
61802 61902 16002 6002 6202 6302	17.0 17.0 17.0 17.0 19.0 21.0	22.0 26.0 30.0 30.0 31.2 36.3	0.30 0.30 0.30 0.30 0.60 1.00	0.007 0.015 0.026 0.030 0.044 0.083
61803 61903 16003 6003	19.0 19.0 19.0 19.0	24.0 28.0 33.0 33.0	0.30 0.30 0.30 0.30	0.008 0.016 0.032 0.039

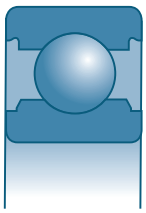
Single-row radial ball bearings *(continued)*





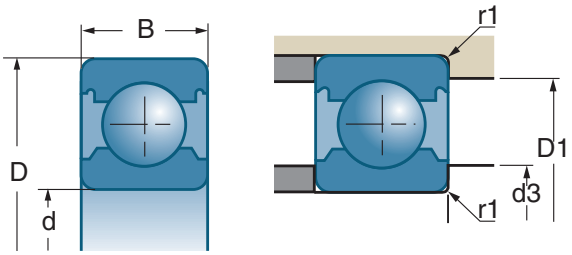
d	10VDX420	D	B	C	C_0		
mm	References	mm	mm	10^3N	10^3N	rpm*	rpm*
17	6203	40	12	9.60	4.80	16000	19000
	6303	47	14	13.60	6.60	14000	17000
	6403	62	17	22.70	10.80	12000	14000
20	61804	32	7	2.95	1.87	19500	23500
	61904	37	9	6.40	3.70	17500	20500
	16004	42	8	6.80	4.10	17000	20000
	6004	42	12	9.40	5.00	16000	20000
	6204	47	14	12.80	6.70	13000	16000
	6304	52	15	15.90	7.90	12000	15000
	6404	72	19	29.50	15.50	9600	12000
25	61805	37	7	4.30	2.95	17000	20000
	61905	42	9	7.00	4.55	15000	18000
	16005	47	8	10.10	5.90	14000	17000
	6005	47	12	10.10	5.90	13000	17000
	6205	52	15	14.00	7.90	12000	14000
	6305	62	17	22.40	11.50	10000	13000
	6405	80	21	36.00	19.30	8600	11000
30	61806	42	7	4.55	3.40	14500	17500
	61906	47	9	7.20	4.35	13500	16000
	16006	55	9	11.20	7.40	11000	14000
	6006	55	13	13.20	8.30	11000	14000
	6206	62	16	19.50	11.30	10000	12000
	6306	72	19	28.00	15.80	8900	10000
	6406	90	23	43.50	23.80	7600	9300
35	61807	47	7	4.75	3.80	13000	15500
	61907	55	10	9.60	5.90	11500	14000
	16007	62	9	12.10	8.80	10000	12000
	6007	62	14	16.00	10.30	10000	12000
	6207	72	17	25.50	15.30	8900	10000
	6307	80	21	33.50	19.20	8000	9800
	6407	100	25	55.00	31.00	6800	8300
40	61808	52	7	4.90	4.15	11500	14000
	61908	62	12	12.20	7.70	10000	12000
	16008	68	9	13.20	10.30	9800	11000
	6008	68	15	16.80	11.50	9200	11000
	6208	80	18	29.00	17.90	7800	9100
	6308	90	23	40.50	23.90	7000	8200
	6408	110	27	63.00	36.50	6200	7600

* These are the speed limits according to the SNR concept (see pages 85 to 87).



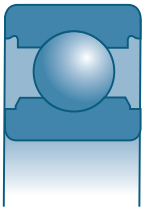
References	d3 min mm	D1 max mm	r1 max mm	kg
6203	21.0	36.0	0.60	0.067
6303	23.0	41.0	1.00	0.113
6403	25.0	54.0	1.10	0.272
61804	22.2	29.8	0.30	0.018
61904	22.2	34.8	0.30	0.036
16004	22.0	40.0	0.30	0.050
6004	24.0	38.0	0.60	0.068
6204	26.0	41.3	1.00	0.108
6304	27.0	45.0	1.10	0.140
6404	28.0	64.0	1.10	0.408
61805	27.2	34.8	0.30	0.022
61905	27.2	39.8	0.30	0.042
16005	27.0	45.0	0.30	0.056
6005	29.0	43.0	0.60	0.083
6205	31.0	46.5	1.00	0.128
6305	32.0	55.0	1.10	0.183
6405	35.0	70.0	1.50	0.534
61806	32.2	39.8	0.30	0.026
61906	32.3	44.8	0.30	0.048
16006	32.0	53.0	0.30	0.082
6006	37.5	50.0	1.00	0.111
6206	36.0	56.0	1.00	0.199
6306	37.0	65.0	1.10	0.346
6406	40.0	80.0	1.50	0.734
61807	37.2	44.8	0.30	0.029
61907	38.6	51.4	0.60	0.074
16007	37.0	60.0	0.30	0.105
6007	40.0	57.0	1.00	0.153
6207	42.0	65.0	1.10	0.285
6307	44.0	71.0	1.50	0.446
6407	45.0	90.0	1.50	0.962
61808	42.2	49.8	0.30	0.035
61908	43.6	58.4	0.60	0.110
16008	42.0	66.0	0.30	0.120
6008	45.0	63.0	1.00	0.192
6208	47.0	73.0	1.10	0.364
6308	49.0	81.0	1.50	0.612
6408	52.0	98.0	2.00	1.216

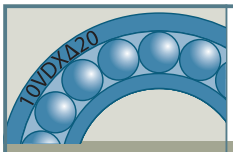
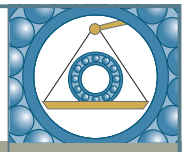
Single-row radial ball bearings *(continued)*



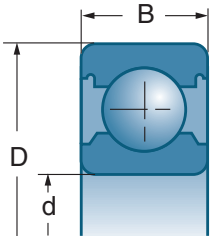
d	10VDX420	D	B	C	C_0		
mm	References	mm	mm	10^3N	10^3N	rpm*	rpm*
45	61809	58	7	6.60	5.90	9600	11000
	61909	68	12	14.10	10.90	9100	11000
	16009	75	10	15.90	11.90	9600	11000
	6009	75	16	21.00	15.20	8300	10000
	6209	85	19	31.50	20.70	7100	8300
	6309	100	25	53.00	31.50	6400	7900
	6409	120	29	77.00	45.00	5600	6900
50	61810	65	7	6.80	6.30	8600	10000
	61910	72	12	13.40	9.60	7900	9500
	16010	80	10	16.10	13.10	8100	9600
	6010	80	16	22.00	16.20	7600	9500
	6210	90	20	35.00	23.20	6800	8200
	6310	110	27	62.00	38.00	5600	6900
	6410	130	31	87.00	52.00	5200	6300
55	61811	72	9	9.10	8.50	7700	9600
	61911	80	13	16.60	14.10	7700	9200
	16011	90	11	19.40	16.20	7300	8600
	6011	90	18	30.50	22.00	6800	8500
	6211	100	21	43.50	29.00	6100	7400
	6311	120	29	71.00	44.50	5300	6500
	6411	140	33	100.00	62.00	4800	5800
60	61812	78	10	11.80	11.10	7100	8800
	61912	85	13	16.40	14.20	7200	8600
	16012	95	11	20.00	17.50	6800	8100
	6012	95	18	29.50	23.20	6400	8000
	6212	110	22	52.00	36.00	5500	6600
	6312	130	31	82.00	52.00	4800	5900
	6412	150	35	104.00	68.00	4200	5100
65	61813	85	10	12.30	12.00	6600	8100
	61913	90	13	17.40	16.00	6800	8100
	16013	100	11	21.70	18.90	6400	7600
	6013	100	18	30.50	25.00	6100	7500
	6213	120	23	57.00	40.00	5100	6200
	6313	140	33	93.00	60.00	4500	5500
	6413	160	37	113.00	77.00	4100	5000

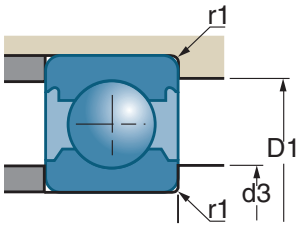
* These are the speed limits according to the SNR concept (see pages 85 to 87).



	d3 min	D1 max	r1 max	
References	mm	mm	mm	kg
61809	47.6	55.4	0.30	0.039
61909	49.2	63.8	0.60	0.130
16009	49.0	71.0	0.60	0.167
6009	50.0	70.0	1.00	0.243
6209	52.0	78.0	1.10	0.416
6309	54.0	91.0	1.50	0.825
6409	57.0	108.0	2.00	1.526
61810	52.6	62.4	0.30	0.052
61910	54.2	67.8	0.60	0.130
16010	54.0	76.0	0.60	0.181
6010	55.0	75.0	1.00	0.250
6210	57.0	83.0	1.10	0.453
6310	61.0	99.0	2.00	1.070
6410	64.0	116.0	2.10	1.880
61811	57.6	69.4	0.30	0.084
61911	60.4	74.6	1.00	0.180
16011	59.0	86.0	0.60	0.266
6011	61.0	84.0	1.10	0.362
6211	64.0	91.0	1.50	0.603
6311	66.0	109.0	2.00	1.347
6411	69.0	126.0	2.10	2.302
61812	62.6	75.4	0.30	0.105
61912	65.4	79.6	1.00	0.190
16012	64.0	91.0	0.60	0.283
6012	66.0	89.0	1.10	0.411
6212	69.0	101.0	1.50	0.785
6312	73.0	117.0	2.10	1.680
6412	74.0	136.0	2.10	2.870
61813	69.2	80.8	0.60	0.130
61913	70.4	84.6	1.00	0.200
16013	69.0	96.0	0.60	0.300
6013	71.0	94.0	1.10	0.444
6213	74.0	111.0	1.50	0.991
6313	78.0	127.0	2.10	2.077
6413	79.0	146.0	2.10	3.420

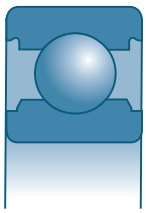
Single-row radial ball bearings *(continued)*

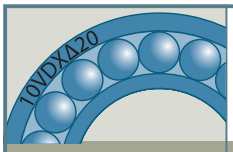
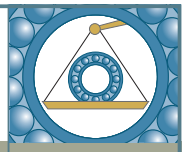




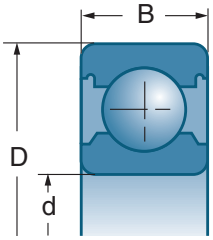
d	10VDX420	D	B	C	C_0		
mm	References	mm	mm	10^3N	10^3N	rpm*	rpm*
70	61814	90	10	12.40	12.40	6100	7600
	61914	100	16	23.70	18.30	6100	7300
	16014	110	13	28.00	25.00	5800	7000
	6014	110	20	38.00	31.00	5500	6800
	6214	125	24	62.00	44.00	4900	5800
	6314	150	35	104.00	68.00	4200	5100
	6414	180	42	143.00	103.00	3700	4500
75	61815	95	10	12.90	13.30	5800	7100
	61915	105	16	24.40	22.50	5800	7000
	16015	115	13	28.50	27.00	5500	6600
	6015	115	20	39.50	33.50	5200	6500
	6215	130	25	67.00	48.00	4600	5600
	6315	160	37	113.00	77.00	3900	4800
80	61816	100	10	13.00	13.80	5500	6700
	61916	110	16	25.00	23.90	5500	6600
	16016	125	14	32.00	31.00	5100	6000
	6016	125	22	47.50	39.50	4800	6000
	6216	140	26	73.00	53.00	4300	5200
	6316	170	39	123.00	86.00	3700	4500
	6416	200	48	163.00	125.00	3300	4000
85	61817	110	13	19.30	19.80	5000	6200
	16017	130	14	34.00	33.50	4900	5800
	6017	130	22	49.50	43.00	4600	5700
	6217	150	28	84.00	62.00	4000	4800
	6317	180	41	133.00	97.00	3500	4300
90	61818	115	13	19.50	20.50	4800	5900
	16018	140	16	41.50	39.50	4600	5400
	6018	140	24	58.00	49.50	4300	5300
	6218	160	30	96.00	71.00	3800	4600
	6318	190	43	143.00	107.00	3300	4000
95	61819	120	13	19.80	21.30	4600	5600
	6019	145	24	60.00	54.00	4000	5000
	6219	170	32	109.00	82.00	3600	4300
	6319	200	45	144.00	113.00	3100	3800

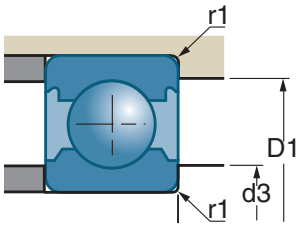
* These are the speed limits according to the SNR concept (see pages 85 to 87).



	d3 min	D1 max	r1 max	
References	mm	mm	mm	kg
61814	74.2	85.8	0.60	0.140
61914	75.4	94.6	1.00	0.360
16014	74.0	106.0	0.60	0.438
6014	76.0	104.0	1.10	0.610
6214	79.0	116.0	1.50	1.055
6314	83.0	137.0	2.10	2.580
6414	86.0	164.0	3.00	5.090
61815	79.2	90.8	0.60	0.150
61915	80.4	99.6	1.00	0.360
16015	79.0	111.0	0.60	0.463
6015	81.0	109.0	1.10	0.640
6215	84.0	121.0	1.50	1.190
6315	88.0	147.0	2.10	3.031
61816	84.2	95.2	0.60	0.155
61916	85.4	104.6	1.00	0.380
16016	84.0	121.0	0.60	0.609
6016	86.0	119.0	1.10	0.870
6216	91.0	129.0	2.00	1.420
6316	93.0	157.0	2.10	3.605
6416	96.0	184.0	3.00	8.070
61817	90.4	104.6	1.00	0.270
16017	89.0	126.0	0.60	0.666
6017	91.0	124.0	1.10	0.900
6217	96.0	139.0	2.00	1.820
6317	99.0	166.0	3.00	4.210
61818	95.4	109.6	1.00	0.280
16018	95.0	135.0	1.00	0.866
6018	98.0	132.0	1.50	1.175
6218	101.0	149.0	2.00	2.180
6318	104.0	176.0	3.00	5.020
61819	100.4	114.6	1.00	0.295
6019	103.0	137.0	1.50	1.220
6219	108.0	157.0	2.10	2.800
6319	109.0	186.0	3.00	6.140

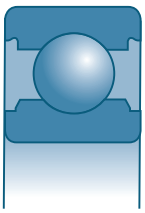
Single-row radial ball bearings *(continued)*

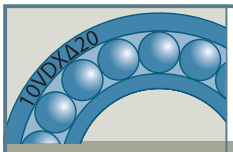
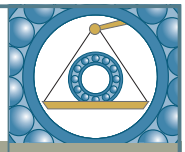




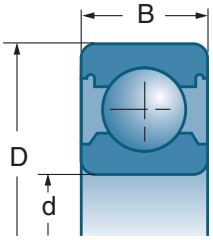
d	10VDX420	D	B	C	C_0		
mm	References	mm	mm	10^3N	10^3N	rpm*	rpm*
100	61820	125	13	20.10	22.00	4400	5400
	16020	150	16	44.00	44.50	4200	5000
	6020	150	24	60.00	54.00	4000	4900
	6220	180	34	122.00	93.00	3400	4100
	6320	215	47	164.00	135.00	2900	3600
105	61821	130	13	20.80	23.60	4200	5100
	6021	160	26	72.00	66.00	3700	4600
	6221	190	36	133.00	104.00	3200	3900
110	61822	140	16	28.00	30.50	3900	4800
	16022	170	19	57.00	57.00	3700	4500
	6022	170	28	82.00	73.00	3500	4400
	6222	200	38	144.00	117.00	3100	3700
	6322	240	50	189.00	165.00	2600	3200
120	61824	150	16	29.00	33.00	3600	4500
	16024	180	19	61.00	64.00	3500	4200
	6024	180	28	85.00	79.00	3300	4100
	6224	215	40	145.00	123.00	2800	3400
	6324	260	55	212.00	190.00	2400	3000
130	61826	165	18	38.00	43.00	3600	4400
	16026	200	22	79.00	82.00	3200	3800
	6026	200	33	106.00	101.00	3000	3700
	6226	230	40	167.00	146.00	2600	3000
	6326	280	58	229.00	214.00	2200	2700
140	61828	175	18	39.00	46.00	3400	4100
	16028	210	22	81.00	87.00	3000	3600
	6028	210	33	109.00	107.00	2800	3500
	6228	250	42	177.00	165.00	2400	5400
	6328	300	62	255.00	246.00	2100	2600
150	61830	190	20	51.00	60.00	3100	3800
	6030	225	35	123.00	124.00	2600	3300
	6230	270	45	176.00	168.00	2200	2700
	6330	320	65	280.00	290.00	1900	2400
160	61832	200	20	52.00	62.00	3000	3600
	16032	240	25	102.00	113.00	2600	3100

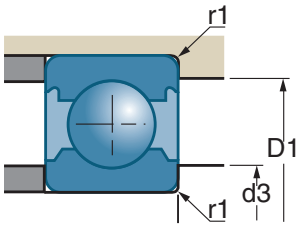
* These are the speed limits according to the SNR concept (see pages 85 to 87).

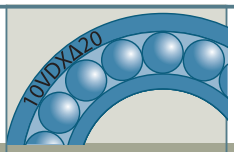


	d3 min	D1 max	r1 max	
References	mm	mm	mm	kg
61820	105.4	119.6	1.00	0.310
16020	105.0	145.0	1.00	0.929
6020	108.0	142.0	1.50	1.260
6220	113.0	167.0	2.10	3.129
6320	114.0	201.0	3.00	7.560
61821	110.4	124.6	1.00	0.330
6021	114.0	151.0	2.00	1.590
6221	118.0	177.0	2.10	3.860
61822			1.00	0.500
16022	115.0	165.0	1.00	1.510
6022	119.0	161.0	2.00	1.490
6222	123.0	187.0	2.10	3.860
6322	124.0	226.0	3.00	10.300
61824	125.4	144.6	1.00	0.550
16024	125.0	175.0	1.00	1.600
6024	129.0	171.0	2.00	2.090
6224	133.0	202.0	2.10	5.600
6324	134.0	246.0	3.00	12.800
61826	137.6	157.4	1.10	0.780
16026	136.0	194.0	1.10	2.410
6026	138.8	191.2	2.00	3.270
6226	144.0	216.0	3.00	6.220
6326	148.0	262.0	4.00	18.200
61828	147.6	167.4	1.10	0.830
16028	146.0	204.0	1.00	2.530
6028	149.0	201.0	2.00	3.570
6228	154.0	236.0	3.00	7.470
6328	157.0	283.0	3.00	22.100
61830	157.6	182.4	1.10	1.350
6030	159.0	216.0	2.10	4.380
6230	164.0	256.0	2.50	10.300
6330	167.0	303.0	3.00	26.600
61832	167.6	192.4	1.10	1.400
16032	167.0	233.0	1.50	3.770

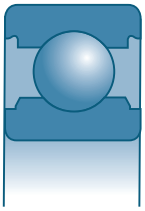
Single-row radial ball bearings *(continued)*

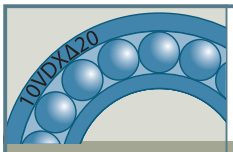
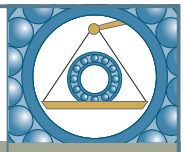




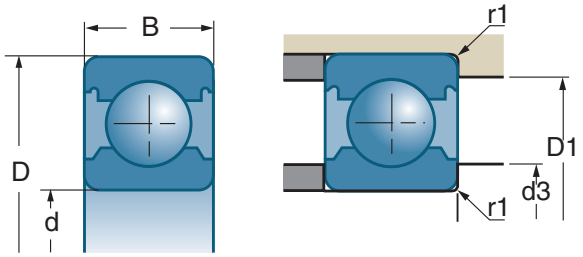
d		D	B				
mm	References	mm	mm	10^3N	10^3N	rpm*	rpm*
160	6032 6232 6332	240 290 340	38 48 68	137.00 199.00 300.00	135.00 203.00 325.00	2500 2100 1800	3000 2500 2200
170	61834 16034 6034 6234	215 260 260 310	22 28 42 52	61.00 123.00 168.00 212.00	73.00 136.00 172.00 224.00	2800 2400 2300 2000	3300 2900 2800 2400
180	61836 16036 6036 6236	225 280 280 320	22 31 46 52	62.00 131.00 188.00 226.00	76.00 146.00 196.00 244.00	2700 2300 2100 1900	3200 2800 2700 2300
190	61838 16038 6038 6238	240 290 290 340	24 31 46 55	69.00 149.00 195.00 255.00	85.00 167.00 213.00 280.00	2500 2200 2000 1800	3000 2600 2500 2100
200	61840 16040 6040 6240	250 310 310 360	24 34 51 58	70.00 175.00 214.00 270.00	88.00 202.00 238.00 310.00	2400 2000 1900 1700	2900 2400 2400 2000
220	61844	270	24	73.00	97.00	2200	2600
240	61848	300	28	92.00	120.00	2000	2400
260	61852	320	28	94.00	128.00	1900	2200
280	61856	350	33	126.00	170.00	1700	2000
300	61860	380	38	148.00	198.00	1600	1900
320	61864	400	38	154.00	213.00	1500	1800
340	61868	420	38	155.00	219.00	1400	1700
360	61872	440	38	160.00	234.00	1350	1600

* These are the speed limits according to the SNR concept (see pages 85 to 87).



	d3 min	D1 max	r1 max	
References	mm	mm	mm	kg
6032	170.0	230.0	2.10	6.120
6232	174.0	276.0	2.50	14.300
6332	177.0	323.0	3.00	31.500
61834	177.6	207.4	1.10	1.600
16034	177.0	253.0	1.50	5.130
6034	180.0	250.0	2.10	8.200
6234	187.0	293.0	3.00	17.700
61836	187.6	217.4	1.10	2.000
16036	189.0	271.0	2.00	6.920
6036	190.0	270.0	2.10	10.700
6236	197.0	303.0	3.00	18.300
61838	199.0	231.0	1.50	2.700
16038	199.0	281.0	2.00	7.090
6038	200.0	280.0	2.10	11.270
6238	207.0	323.0	3.00	22.200
61840	209.0	241.0	1.50	2.700
16040	219.0	301.0	2.00	9.110
6040	210.0	300.0	2.10	14.430
6240	217.0	343.0	3.00	26.500
61844	229.0	261.0	1.50	2.900
61848	251.0	289.0	2.00	4.500
61852	271.0	309.0	2.00	4.800
61856	291.0	339.0	2.00	7.300
61860	314.0	366.0	2.10	10.500
61864	334.0	386.0	2.10	11.000
61868	354.0	406.0	2.10	11.500
61872	374.0	426.0	2.10	12.000

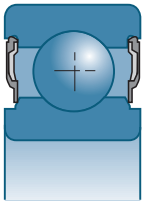
Single-row radial ball bearings *(continued)*

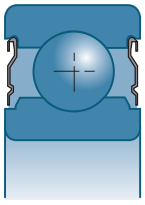


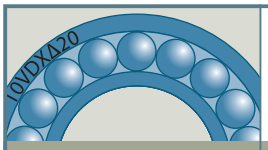
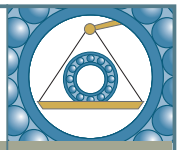
d		D	B	C	C_0		
mm	References	mm	mm	10^3N	10^3N	rpm EE/2RS*	rpm ZZ*
3	623 EE 623 ZZ	10	4	0.64	0.23	47000	70000
4	604 ZZ	12	4	0.71	0.27		60000
	624 EE 624 ZZ	13	5	1.3	0.5	36000	54000
	634 EE 634 ZZ	16	5	1.88	0.68	25000	46000
5	625 EE 625 ZZ	16	5	1.88	0.68	31000	47000
	635 ZZ	19	6	2.46	1.05		34000
6	626 EE 626 ZZ	19	6	2.46	1.05	23000	35000
7	607 EE 607 ZZ	19	6	2.46	1.05	25000	37000
	627 EE 627 ZZ	22	7	3.3	1.36	21000	32000
8	608 EE 608 ZZ	22	7	3.3	1.36	23000	34000
9	609 EE 609 ZZ	24	7	3.65	1.64	20000	30000
	629 EE 629 ZZ	26	8	4.6	1.97	17000	26000
10	61800 EE 61800 ZZ	19	5	1.83	0.92	22000	34000
	61900 EE 61900 ZZ	22	6	2.7	1.27	20000	31000
	6000 EE 6000 ZZ	26	8	4.6	1.97	18000	27000
	63000 EE	26	12	4.6	1.97	18000	
	6200 EE 6200 ZZ	30	9	6	2.65	15000	23000
	62200 EE 62200 ZZ	30	14	6	2.65	15000	18000
	6300 EE 6300 ZZ	35	11	7.6	3.45	13000	20000
	62300 EE	35	17	8.1	3.45	13000	
12	61801 EE 61801 ZZ	21	5	1.92	1.04	20000	30000
	61901 EE 61901 ZZ	24	6	2.9	1.46	18000	27000
	6001 EE 6001 ZZ	28	8	5.1	2.37	16000	25000
	63001 EE	28	12	5.1	2.37	16000	
	6201 EE 6201 ZZ	32	10	6.8	3.05	14000	21000
	62201 EE	32	14	6.9	3.1	14000	
	6301 EE 6301 ZZ	37	12	9.7	4.2	12000	18000
	62301 EE	37	17	9.7	4.2	12000	
15	61802 EE 61802 ZZ	24	5	2.08	1.26	17000	25000
	61902 EE 61902 ZZ	28	7	4.35	2.25	15000	23000
	6002 EE 6002 ZZ	32	9	5.6	2.85	14000	21000
	63002 EE	32	13	5.6	2.85	14000	

* These are the speed limits according to the SNR concept (see pages 85 to 87).

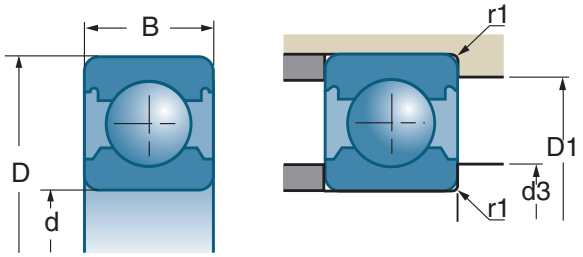
Sealed and shielded bearing





		d3 min	D1 max	r1 max	
References		mm	mm	mm	kg
623 EE	623 ZZ	5.0	8.0	0.10	0.0015
	604 ZZ	5.4	10.6	0.20	0.0021
624 EE	624 ZZ	5.5	11.5	0.20	0.0060
634 EE	634 ZZ	6.0	14.0	0.30	0.0050
625 EE	625 ZZ	7.0	14.0	0.30	0.0070
	635 ZZ	7.0	17.0	0.30	0.0100
626 EE	626 ZZ	8.0	17.0	0.30	0.0090
607 EE	607 ZZ	9.0	17.0	0.30	0.0120
627 EE	627 ZZ	9.0	20.0	0.30	0.0120
608 EE	608 ZZ	10.0	20.0	0.30	0.0120
609 EE	609 ZZ	11.0	22.0	0.30	0.0140
629 EE	629 ZZ	12.9	22.1	0.30	0.0200
61800 EE	61800 ZZ	12.0	17.0	0.30	0.0050
61900 EE	61900 ZZ	12.0	20.0	0.30	0.0130
6000 EE	6000 ZZ	12.0	24.0	0.30	0.0190
63000 EE		12.0	24.0	0.30	0.0280
6200 EE	6200 ZZ	14.0	26.0	0.60	0.0330
62200 EE	62200 ZZ	14.0	26.0	0.60	0.0480
6300 EE	6300 ZZ	14.0	31.0	0.60	0.0550
62300 EE		14.0	31.0	0.60	0.0790
61801 EE	61801 ZZ	14.0	19.0	0.30	0.0060
61901 EE	61901 ZZ	14.0	22.0	0.30	0.0140
6001 EE	6001 ZZ	14.0	26.0	0.30	0.0220
63001 EE		14.0	26.0	0.30	0.0290
6201 EE	6201 ZZ	16.0	28.0	0.60	0.0380
62201 EE		16.0	28.0	0.60	0.0490
6301 EE	6301 ZZ	17.9	31.5	1.00	0.0620
62301 EE		17.9	31.5	1.00	0.0700
61802 EE	61802 ZZ	17.0	22.0	0.30	0.0070
61902 EE	61902 ZZ	17.0	26.0	0.30	0.0150
6002 EE	6002 ZZ	17.0	30.0	0.30	0.0300
63002 EE		17.0	30.0	0.30	0.0440

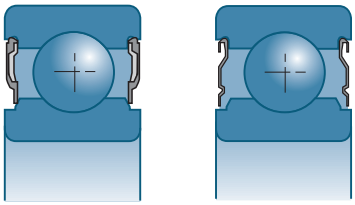
Single-row radial ball bearings *(continued)*



d		D	B	C	C_0		
mm	References	mm	mm	10^3N	10^3N	rpm EE/2RS*	rpm ZZ*
15	6202 EE 6202 ZZ	35	11	7.7	3.75	12000	19000
	62202 EE	35	14	7.7	3.75	12000	
	6302 EE 6302 ZZ	42	13	11.3	5.4	11000	16000
	62302 EE	42	17	11.3	5.4	11000	
17	61803 EE 61803 ZZ	26	5	2.23	1.46	15000	23000
	61903 EE 61903 ZZ	30	7	4.6	2.55	14000	21000
	6003 EE 6003 ZZ	35	10	6	3.25	12000	19000
	63003 EE	35	14	6	3.25	12000	
	6203 EE 6203 ZZ	40	12	9.5	4.75	10000	16000
	62203 EE	40	16	9.5	4.75	11000	
	6303 EE 6303 ZZ	47	14	13.6	6.6	9300	14000
	62303 EE	47	19	13.6	6.6	9400	
20	61804 2RS 61804 2Z	32	7	2.95	1.87	11500	19500
	61904 2RS 61904 2Z	37	9	6.4	3.7	11000	17500
	6004 EE 6004 ZZ	42	12	9.4	5	10000	16000
	63004 EE	42	16	9.4	5	10000	
	6204 EE 6204 ZZ	47	14	12.8	6.6	9300	14000
	62204 EE	47	18	12.8	6.6	9500	
	6304 EE 6304 ZZ	52	15	15.9	7.9	8600	12000
	62304 EE	52	21	15.9	7.9	8600	
25	61805 2RS 61805 2Z	37	7	4.3	2.95	9800	17000
	61905 2RS 61905 2Z	42	9	7	4.55	9800	15000
	6005 EE 6005 ZZ	47	12	10.1	5.8	9300	14000
	63005 EE	47	16	10.1	5.8	9300	
	6205 EE 6205 ZZ	52	15	14	7.9	8100	12000
	62205 EE	52	18	14	7.9	8100	
	6305 EE 6305 ZZ	62	17	23.6	12.1	7100	10000
	62305 EE	62	24	23.6	12.1	7100	
30	61806 2RS 61806 2Z	42	7	4.55	3.4	8400	14500
	61906 2RS 61906 2Z	47	9	7.2	5	8100	13500
	6006 EE 6006 ZZ	55	13	13.2	8.3	7800	11000
	63006 EE	55	19	13.2	8.3	7800	
	6206 EE 6206 ZZ	62	16	19.5	11.3	6800	10000
	62206 EE	62	20	19.5	11.3	6900	
	6306 EE 6306 ZZ	72	19	27	15.2	5800	8900
	62306 EE	72	27	28	15.8	6000	

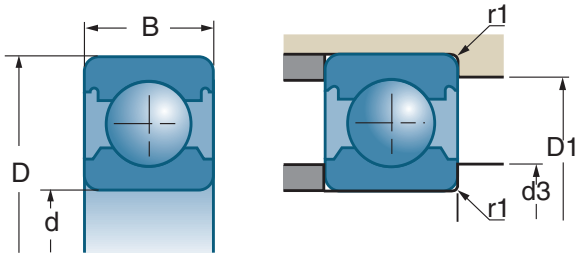
* These are the speed limits according to the SNR concept (see pages 85 to 87).

Sealed and shielded bearing *(continued)*



References		d3 min	D1 max	r1 max	
		mm	mm	mm	kg
6202 EE	6202 ZZ	19.0	31.2	0.60	0.0460
62202 EE		19.0	31.2	0.60	0.0530
6302 EE	6302 ZZ	21.0	36.3	1.00	0.0830
62302 EE		21.0	36.3	1.00	0.1080
61803 EE	61803 ZZ	19.0	24.0	0.30	0.0080
61903 EE	61903 ZZ	19.0	28.0	0.30	0.0160
6003 EE	6003 ZZ	19.0	33.0	0.30	0.0390
63003 EE		19.0	33.0	0.30	0.0550
6203 EE	6203 ZZ	21.0	36.0	0.60	0.0677
62203 EE		21.0	36.0	0.60	0.0820
6303 EE	6303 ZZ	23.0	41.0	1.00	0.1130
62303 EE		23.0	41.0	1.00	0.1460
61804 2RS	61804 2Z	22.2	29.8	0.30	0.0180
61904 2RS	61904 2Z	22.2	34.8	0.30	0.0360
6004 EE	6004 ZZ	24.0	38.0	0.60	0.0680
63004 EE		24.0	38.0	0.60	0.0820
6204 EE	6204 ZZ	26.0	41.3	1.00	0.1000
62204 EE		26.0	41.3	1.00	0.1310
6304 EE	6304 ZZ	27.0	45.0	1.10	0.1470
62304 EE		27.0	45.0	1.10	0.1970
61805 2RS	61805 2Z	27.2	34.8	0.30	0.0220
61905 2RS	61905 2Z	27.2	39.8	0.30	0.0420
6005 EE	6005 ZZ	29.0	43.0	0.60	0.0800
63005 EE		29.0	43.0	0.60	0.1050
6205 EE	6205 ZZ	31.0	46.5	1.00	0.1270
62205 EE		31.0	46.5	1.00	0.1480
6305 EE	6305 ZZ	32.0	55.0	1.10	0.2250
62305 EE		32.0	55.0	1.10	0.3170
61806 2RS	61806 2Z	32.2	39.8	0.30	0.0260
61906 2RS	61906 2Z	32.3	44.8	0.30	0.0480
6006 EE	6006 ZZ	35.0	50.0	1.00	0.1160
63006 EE		35.0	50.0	1.00	0.1660
6206 EE	6206 ZZ	36.0	56.0	1.00	0.1990
62206 EE		36.0	56.0	1.00	0.2360
6306 EE	6306 ZZ	37.0	65.0	1.10	0.3500
62306 EE		37.0	65.0	1.10	0.4730

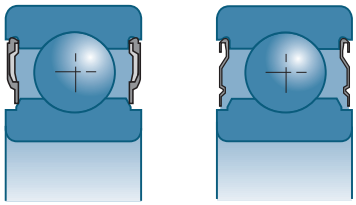
Single-row radial ball bearings *(continued)*



d		D	B	C	C_0		
mm	References	mm	mm	10^3N	10^3N	rpm EE/2RS*	rpm ZZ*
35	61807 2RS 61807 2Z	47	7	4.75	3.8	7300	13000
	61907 2RS	55	10	9.6	5.9	8000	
	6007 EE 6007 ZZ	62	14	16	10.3	6800	10000
	63007 EE	62	20	16	10.3	6800	
	6207 EE 6207 ZZ	72	17	25.5	15.3	5900	8900
	62207 EE	72	23	25.5	15.3	5900	
	6307 EE 6307 ZZ	80	21	33.5	19.2	5300	8000
	62307 EE	80	31	33.5	19.2	5300	
40	61808 2RS 61808 2Z	52	7	4.9	4.15	6500	11500
	6008 EE 6008 ZZ	68	15	16.8	11.5	6100	9200
	63008 EE	68	21	16.8	11.5	6100	
	6208 EE 6208 ZZ	80	18	29.5	18.1	5200	7800
	62208 EE	80	23	29	17.9	5300	
	6308 EE 6308 ZZ	90	23	40.5	23.9	4700	7000
	62308 EE	90	33	40.5	23.9	4800	
45	61809 EE 61809 2ZY	58	7	6.6	5.9	6400	10500
	6009 EE 6009 ZZ	75	16	21	15.2	5500	8300
	6209 EE 6209 ZZ	85	19	32.5	20.5	4900	7300
	62209 EE	85	23	32.5	20.5	4900	
	6309 EE 6309 ZZ	100	25	53	31.5	4200	6200
50	61810 EE 61810 2ZY	65	7	6.8	6.3	5700	9300
	6010 EE 6010 ZZ	80	16	21.8	16.6	5000	7600
	6210 EE 6210 ZZ	90	20	35	23.2	4500	6800
	62210 EE	90	23	35	23.2	4500	
	6310 EE 6310 ZZ	110	27	62	38	3700	5600
55	61811 EE 61811 2ZY	72	9	9.1	8.5	5100	8400
	6011 EE 6011 ZZ	90	18	28.5	21.3	4500	6800
	6211 EE 6211 ZZ	100	21	43.5	29	4100	6100
	6311 EE 6311 ZZ	120	29	71	44.5	3500	5300
60	61812 EE 61812 2ZY	78	10	11.8	11.1	4700	7700
	6012 EE 6012 ZZ	95	18	29.5	23.2	4300	6400
	6212 EE 6212 ZZ	110	22	52	36	3600	5500
	6312 EE 6312 ZZ	130	31	82	52	3200	4800

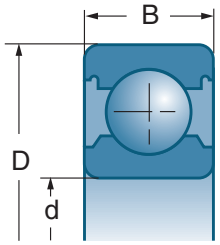
* These are the speed limits according to the SNR concept (see pages 85 to 87).

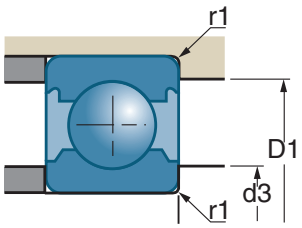
Sealed and shielded bearing *(continued)*



References	d3 min	D1 max	r1 max	
	mm	mm	mm	kg
61807 2RS 61807 2Z	37.2	44.8	0.30	0.0290
61907 2RS	38.6	51.4	0.60	0.0740
6007 EE 6007 ZZ	40.0	57.0	1.00	0.1330
63007 EE	40.0	57.0	1.00	0.2140
6207 EE 6207 ZZ	42.0	65.0	1.10	0.2850
62207 EE	42.0	65.0	1.10	0.3750
6307 EE 6307 ZZ	44.0	71.0	1.50	0.4460
62307 EE	44.0	71.0	1.50	0.6580
61808 2RS 61808 2Z	42.2	49.8	0.30	0.0350
6008 EE 6008 ZZ	45.0	63.0	1.00	0.1920
63008 EE	45.0	63.0	1.00	0.2620
6208 EE 6208 ZZ	47.0	73.0	1.10	0.3670
62208 EE	47.0	73.0	1.10	0.4600
6308 EE 6308 ZZ	49.0	81.0	1.50	0.6120
62308 EE	49.0	81.0	1.50	0.8740
61809 EE 61809 2ZY	47.6	55.4	0.30	0.0390
6009 EE 6009 ZZ	50.0	70.0	1.00	0.2480
6209 EE 6209 ZZ	52.0	78.0	1.10	0.4040
62209 EE	52.0	78.0	1.10	0.4810
6309 EE 6309 ZZ	54.0	91.0	1.50	0.8250
61810 EE 61810 2ZY	52.6	62.4	0.30	0.0520
6010 EE 6010 ZZ	55.0	75.0	1.00	0.2654
6210 EE 6210 ZZ	57.0	83.0	1.10	0.4530
62210 EE	57.0	83.0	1.10	0.5140
6310 EE 6310 ZZ	61.0	99.0	2.00	1.0700
61811 EE 61811 2ZY	57.6	69.4	0.30	0.0840
6011 EE 6011 ZZ	61.0	84.0	1.10	0.3880
6211 EE 6211 ZZ	64.0	91.0	1.50	0.6030
6311 EE 6311 ZZ	66.0	109.0	2.00	1.3800
61812 EE 61812 2ZY	62.6	75.4	0.30	0.1050
6012 EE 6012 ZZ	66.0	89.0	1.10	0.4114
6212 EE 6212 ZZ	69.0	101.0	1.50	0.7850
6312 EE 6312 ZZ	73.0	117.0	2.10	1.7200

Single-row radial ball bearings *(continued)*

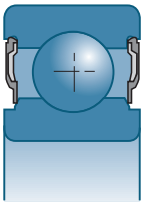


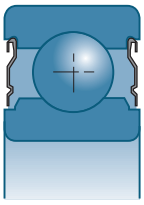


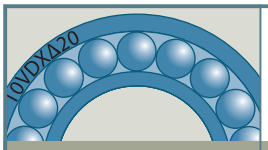
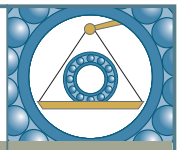
d		D	B	C	C_0		
mm	References	mm	mm	10^3N	10^3N	rpm EE/2RS*	rpm ZZ*
65	61813 EE 61813 2ZY	85	10	12.3	12	4400	7100
	6013 EE 6013 ZZ	100	18	30.5	25	4000	6100
	6213 EE 6213 ZZ	120	23	57	40	3400	5100
	6313 EE 6313 ZZ	140	33	93	60	3000	4500
70	61814 EE 61814 2ZY	90	10	12.4	12.4	4100	6700
	6014 EE 6014 ZZ	110	20	38	31	3700	5500
	6214 EE 6214 ZZ	125	24	62	44	3200	4900
	6314 EE 6314 ZZ	150	35	104	68	2800	4200
75	61815 EE 61815 2ZY	95	10	12.9	13.3	3800	6300
	6015 EE 6015 ZZ	115	20	39.5	33.5	3500	5200
	6215 EE 6215 ZZ	130	25	67	48	3100	4600
	6315 EE 6315 ZZ	160	37	113	77	2600	3900
80	61816 EE 61816 2ZY	100	10	13	13.8	3600	6000
	6016 EE 6016 ZZ	125	22	47.5	39.5	3200	4800
	6216 EE 6216 ZZ	140	26	73	53	2900	4300
	6316 EE 6316 ZZ	170	39	123	86	2400	3700
85	61817 EE 61817 2ZY	110	13	19.3	19.8	3300	5500
	6017 EE 6017 ZZ	130	22	49.5	43	3100	4600
	6217 EE 6217 ZZ	150	28	84	62	2700	4000
	6317 EE 6317 ZZ	180	41	133	97	2300	3500
90	61818 EE 61818 2ZY	115	13	19.5	20.5	3200	5200
	6018 EE 6018 ZZ	140	24	58	49.5	2800	4300
	6218 EE 6218 ZZ	160	30	96	71	2500	3800
	6318 EE 6318 ZZ	190	43	143	107	2200	3300
95	61819 EE 61819 2ZY	120	13	19.8	21.3	3000	5000
	6019 EE 6019 ZZ	145	24	60	54	2700	4000
	6219 EE 6219 ZZ	170	32	109	82	2400	3600
	6319 ZZ	170	32	109	82		3100
100	61820 EE 61820 2ZY	125	13	20.1	22	2900	4800
	6020 EE 6020 ZZ	150	24	60	54	2600	4000
	6220 EE 6220 ZZ	180	34	122	93	2300	3400
	6320 ZZ	180	34	122	93		2900

* These are the speed limits according to the SNR concept (see pages 85 to 87).

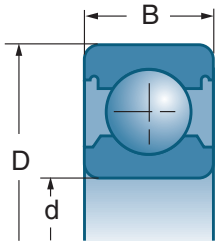
Sealed and shielded bearing *(continued)*

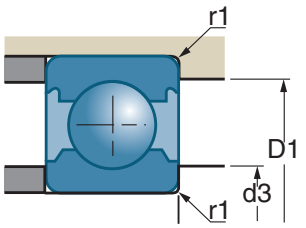


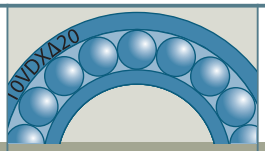
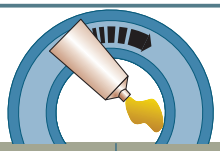


	d3 min	D1 max	r1 max	
References	mm	mm	mm	kg
61813 EE 61813 2ZY	69.2	80.8	0.60	0.1300
6013 EE 6013 ZZ	71.0	94.0	1.10	0.4540
6213 EE 6213 ZZ	74.0	111.0	1.50	0.9910
6313 EE 6313 ZZ	78.0	127.0	2.10	2.0770
61814 EE 61814 2ZY	74.2	85.8	0.60	0.1400
6014 EE 6014 ZZ	76.0	104.0	1.10	0.6100
6214 EE 6214 ZZ	79.0	116.0	1.50	1.0000
6314 EE 6314 ZZ	83.0	137.0	2.10	2.5660
61815 EE 61815 2ZY	79.2	90.8	0.60	0.1500
6015 EE 6015 ZZ	81.0	109.0	1.10	0.6400
6215 EE 6215 ZZ	84.0	121.0	1.50	1.1900
6315 EE 6315 ZZ	88.0	147.0	2.10	3.1200
61816 EE 61816 2ZY	84.2	95.2	0.60	0.1550
6016 EE 6016 ZZ	86.0	119.0	1.10	0.8700
6216 EE 6216 ZZ	91.0	129.0	2.00	1.4200
6316 EE 6316 ZZ	93.0	157.0	2.10	3.7000
61817 EE 61817 2ZY	90.4	104.6	1.00	0.2700
6017 EE 6017 ZZ	91.0	124.0	1.10	0.9000
6217 EE 6217 ZZ	96.0	139.0	2.00	1.8500
6317 EE 6317 ZZ	99.0	166.0	3.00	4.2100
61818 EE 61818 2ZY	95.4	109.6	1.00	0.2800
6018 EE 6018 ZZ	98.0	132.0	1.50	1.1750
6218 EE 6218 ZZ	101.0	149.0	2.00	2.2500
6318 EE 6318 ZZ	104.0	176.0	3.00	4.9730
61819 EE 61819 2ZY	100.4	114.6	1.00	0.2950
6019 EE 6019 ZZ	103.0	137.0	1.50	1.2200
6219 EE 6219 ZZ	108.0	157.0	2.10	2.8000
6319 ZZ	108.0	157.0	2.10	2.6700
61820 EE 61820 2ZY	105.4	119.6	1.00	0.3100
6020 EE 6020 ZZ	108.0	142.0	1.50	1.2600
6220 EE 6220 ZZ	113.0	167.0	2.10	3.1200
6320 ZZ	113.0	167.0	2.10	3.1870

Single-row radial ball bearings *(continued)*

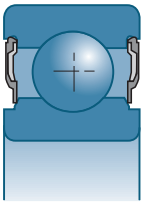


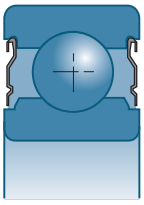


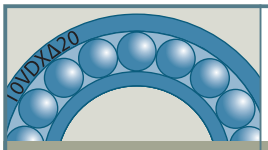
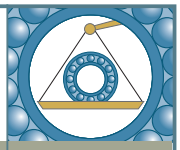
d		D	B	C	C_0		
mm	References	mm	mm	10^3N	10^3N	rpm EE/2RS*	rpm ZZ*
105	61821 EE 61821 2ZY 6021 EE	130 160	13 26	20.8 72	23.6 66	2800 2400	4600
110	61822 EE 61822 2ZY 6022 EE	140 170	16 28	28 82	30.5 73	2600 2300	4300
120	61824 EE 61824 2ZY 6024 EE	150 180	16 28	29 85	33 79	2400 2200	4000
130	61826 2RS 61826 2Z	165	18	38	43	2000	3600
140	61828 2RS 61828 2Z 6028 EE	175 210	18 33	39 109	46 107	1850 2800	3400
160	6032 EE	240	38	137	135	2500	

* These are the speed limits according to the SNR concept (see pages 85 to 87).

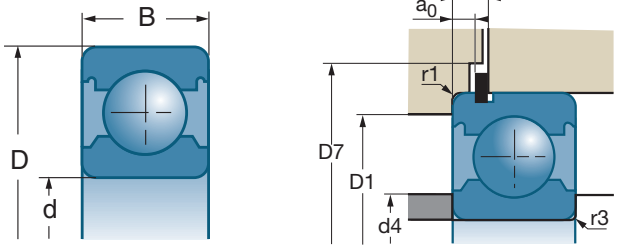
Sealed and shielded bearing *(continued)*





	d3 min	D1 max	r1 max	
References	mm	mm	mm	kg
61821 EE 61821 2ZY 6021 EE	110.4 114.0	124.6 151.0	1.00 2.00	0.3300 1.5900
61822 EE 61822 2ZY 6022 EE	115.4 119.0	134.6 161.0	1.00 2.00	0.5000 1.4900
61824 EE 61824 2ZY 6024 EE	125.4 129.0	144.6 171.0	1.00 2.00	0.5500 2.1400
61826 2RS 61826 2Z	137.6	157.4	1.10	0.7800
61828 2RS 61828 2Z 6028 EE	147.6 149.0	167.4 201.0	1.10 2.00	0.8300 3.6500
6032 EE	170.0	230.0	2.10	6.3000

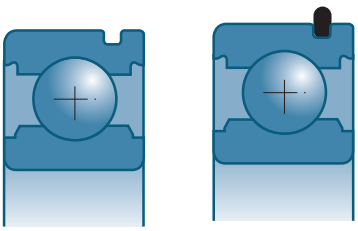
Single-row radial ball bearings *(continued)*



d		D	B					a0 min	a0 max
mm	References	mm	mm	10^3N	10^3N	rpm*	rpm*	mm	mm
10	6200 N 6200 NR	30	9	6	2.65	23000	27000	1.9	2.06
12	6201 N 6201 NR	32	10	6.9	3.1	21000	25000	1.9	2.06
15	6002 N 6002 NR 6202 N 6202 NR	32 35	9 11	5.6 7.7	2.85 3.75	21000 19000	26000 22000	1.9 1.9	2.06 2.06
17	6003 N 6003 NR 6203 N 6203 NR	35 40	10 12	6 9.5	3.25 4.75	19000 16000	23000 19000	1.9 1.9	2.06 2.06
20	6004 N 6004 NR 6204 N 6204 NR 6304 N 6304 NR	42 47 52	12 14 15	9.4 12.8 15.9	5 6.6 7.9	16000 14000 12000	20000 16000 15000	1.9 2.31 2.31	2.06 2.46 2.46
25	6005 N 6005 NR 6205 N 6205 NR 6305 N 6305 NR	47 52 62	12 15 17	10.1 14 23.6	5.8 7.9 12.1	14000 12000 10000	18000 14000 13000	1.9 2.31 3.07	2.06 2.46 3.28
30	6006 N 6006 NR 6206 N 6206 NR 6306 N 6306 NR	55 62 72	13 16 19	13.2 19.5 28	8.3 11.3 15.8	12000 10000 8900	15000 12000 10000	1.88 3.07 3.07	2.08 3.28 3.28
35	6007 N 6007 NR 6207 N 6207 NR 6307 N 6307 NR	62 72 80	14 17 21	16 25.5 33.5	10.3 15.3 19.2	10000 8700 8000	12000 10000 9800	1.88 3.07 3.07	2.08 3.28 3.28
40	6008 N 6008 NR 6208 N 6208 NR 6308 N 6308 NR 6408 N 6408 NR	68 80 90 110	15 18 23 27	16.8 29 40.5 63	11.5 17.9 23.9 36.5	9200 7800 7200 6200	11000 9100 8800 7600	2.29 3.07 3.07 3.07	2.49 3.28 3.28 3.28
45	6009 N 6009 NR 6209 N 6209 NR 6309 N 6309 NR 6409 N 6409 NR	75 85 100 120	16 19 25 29	21 32.5 53 77	15.2 20.5 31.5 45	8300 7300 6400 5600	10000 8800 7800 6900	2.29 3.07 3.07 3.86	2.49 3.28 3.28 4.06
50	6010 N 6010 NR 6210 N 6210 NR 6310 N 6310 NR	80 90 110	16 20 27	21.8 35 62	16.6 23.2 38	7600 6900 5800	9400 8200 7100	2.29 3.07 3.07	2.49 3.28 3.28

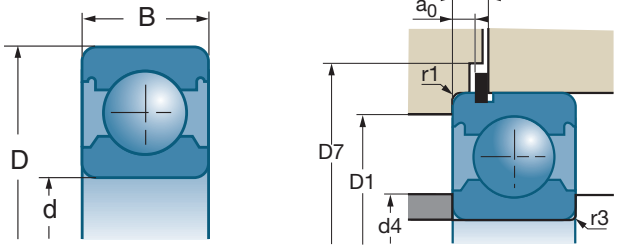
* These are the speed limits according to the SNR concept (see pages 85 to 87).

Bearing with groove or groove and snap ring



References		c0 min	c0 max	d4 min	D1 max	D7 min	r3 max	r1 max	snap ring	kg
		mm	mm	mm	mm	mm	mm	mm		
6200 N	6200 NR	2.92	3.18	14.0	26.0	36	0.6	0.6	R 30	0.033
6201 N	6201 NR	2.92	3.18	16.0	28.0	38	0.6	0.6	R 32	0.039
6002 N	6002 NR	2.92	3.18	17.0	30.0	38	0.3	0.3	R 32	0.030
6202 N	6202 NR	2.92	3.18	19.0	31.2	41	0.6	0.6	R 35	0.045
6003 N	6003 NR	2.92	3.18	19.0	33.0	41	0.3	0.3	R 35	0.039
6203 N	6203 NR	2.92	3.18	21.0	36.0	46	0.6	0.6	R 40	0.065
6004 N	6004 NR	2.92	3.18	24.0	38.0	47.5	0.6	0.5	R 42	0.068
6204 N	6204 NR	3.33	3.58	26.0	41.3	54	1	0.6	R 47	0.106
6304 N	6304 NR	3.33	3.58	27.0	45.0	59	1.1	0.6	R 52	0.145
6005 N	6005 NR	2.92	3.18	29.0	43.0	54	0.6	0.5	R 47	0.080
6205 N	6205 NR	3.33	3.58	31.0	46.5	59	1	0.5	R 52	0.126
6305 N	6305 NR	4.67	4.98	32.0	55.0	69	1.1	0.6	R 62	0.225
6006 N	6006 NR	2.9	3.2	35.0	50.0	62	1	0.5	R 55	0.116
6206 N	6206 NR	4.67	4.98	36.0	56.0	69	1	0.5	R 62	0.199
6306 N	6306 NR	4.67	4.98	37.0	65.0	80	1.1	0.6	R 72	0.346
6007 N	6007 NR	3.48	3.78	40.0	57.0	69	1	0.5	R 62	0.153
6207 N	6207 NR	4.67	4.98	42.0	65.0	80	1.1	0.5	R 72	0.285
6307 N	6307 NR	4.67	4.98	44.0	71.0	88	1.5	0.5	R 80	0.446
6008 N	6008 NR	3.89	4.19	45.0	63.0	76	1	0.6	R 68	0.192
6208 N	6208 NR	4.67	4.98	47.0	73.0	88	1.1	0.5	R 80	0.373
6308 N	6308 NR	5.43	5.74	49.0	81.0	97.5	1.5	0.6	R 90	0.625
6408 N	6408 NR	5.43	5.74	52.0	98.0	118	2	0.6	R 110	1.214
6009 N	6009 NR	3.89	4.19	50.0	70.0	83	1	0.6	R 75	0.244
6209 N	6209 NR	4.67	4.98	52.0	78.0	93	1.1	0.5	R 85	0.404
6309 N	6309 NR	5.43	5.74	54.0	91.0	108	1.5	0.5	R 100	0.825
6409 N	6409 NR	6.58	6.88	57.0	108.0	131	2	0.6	R 120	1.513
6010 N	6010 NR	3.89	4.19	55.0	75.0	88	1	0.5	R 80	0.267
6210 N	6210 NR	5.43	5.74	57.0	83.0	97.5	1.1	0.6	R 90	0.439
6310 N	6310 NR	5.43	5.74	61.0	99.0	118	2	0.6	R 110	1.070

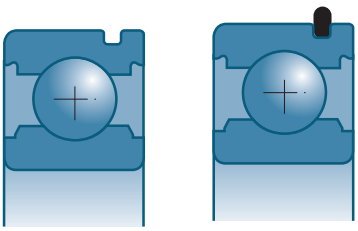
Single-row radial ball bearings *(continued)*



d		D	B					a0 min	a0 max
				C	C_0				
mm	References	mm	mm	10^3N	10^3N	rpm*	rpm*	mm	mm
55	6011 N 6011 NR	90	18	28.5	21.3	6800	8500	2.67	2.87
	6211 N 6211 NR	100	21	43.5	29	6200	7400	3.07	3.28
	6311 N 6311 NR	120	29	71	44.5	5200	6500	3.86	4.06
	6411 N 6411 NR	140	33	100	62	4800	5800	4.65	4.9
60	6212 N 6212 NR	110	22	52	36	5600	6800	3.07	3.28
	6312 N 6312 NR	130	31	82	52	4800	5900	3.86	4.06
65	6013 N 6013 NR	100	18	30.5	25	6100	7500	2.67	2.87
	6213 N 6213 NR	120	23	57	40	5100	6200	3.86	4.06
	6313 N 6313 NR	140	33	93	60	4500	5600	4.65	4.9
70	6014 N 6014 NR	110	20	38	31	5500	6800	2.67	2.87
85	6017 N 6017 NR	130	22	49.5	43	4700	5800	2.67	2.87
	6217 N 6217 NR	150	28	83	64	4100	4900	4.65	4.9
90	6018 N 6018 NR	140	24	58	49.5	4300	5300	3.45	3.71
100	6020 N 6020 NR	150	24	60	54	4000	4900	3.45	3.71
120	6024 N 6024 NR	180	28	85	79	3300	4100	3.45	3.71

* These are the speed limits according to the SNR concept (see pages 85 to 87).

Bearing with groove or groove and snap ring *(continued)*



References		c0 min	c0 max	d4 min	D1 max	D7 min	r3 max	r1 max	snap ring	kg
		mm	mm	mm	mm	mm	mm	mm		
6011 N	6011 NR	5.03	5.33	61.0	84.0	97.5	1.1	0.6	R 90	0.388
6211 N	6211 NR	5.43	5.74	64.0	91.0	107.5	1.5	0.6	R 100	0.598
6311 N	6311 NR	6.58	6.88	66.0	109.0	131	2	0.5	R 120	1.380
6411 N	6411 NR	7.37	7.72	69.0	126.0	151	2.1	0.6	R 140	2.283
6212 N	6212 NR	5.43	5.74	69.0	101.0	118	1.5	0.6	R 110	0.763
6312 N	6312 NR	6.58	6.88	73.0	117.0	141	2.1	0.6	R 130	1.685
6013 N	6013 NR	5.03	5.33	71.0	94.0	107.5	1.1	0.6	R 100	0.432
6213 N	6213 NR	6.58	6.88	74.0	111.0	131	1.5	0.5	R 120	0.990
6313 N	6313 NR	7.37	7.72	78.0	127.0	151	2.1	0.6	R 140	2.060
6014 N	6014 NR	5.03	5.33	76.0	104.0	117.5	1.1	0.5	R 110	0.610
6017 N	6017 NR	5.39	5.69	91.0	124.0	141	1.1	0.6	R 130	0.879
6217 N	6217 NR	7.37	7.72	96.0	139.0	161	2	0.6	R 150	1.776
6018 N	6018 NR	6.17	6.53	98.0	132.0	151	1.5	0.6	R 140	1.175
6020 N	6020 NR	6.17	6.53	108.0	142.0	161	1.5	0.6	R 150	1.260
6024 N	6024 NR	6.45	6.81	129.0	171.0	194	2	0.6	R 180	2.100

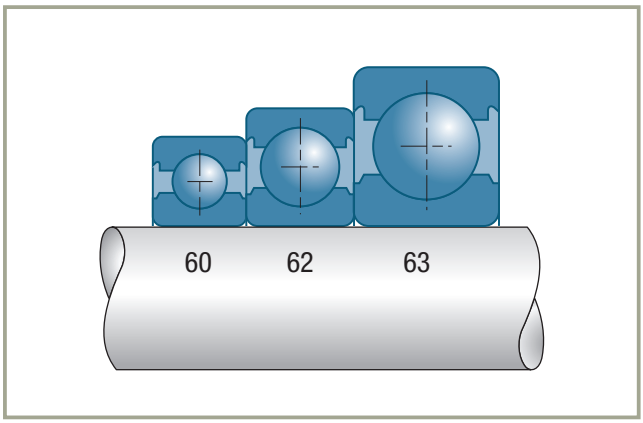
Stainless Steel ball bearings

Definition and capabilities

This bearing family combines high corrosion resistance and a load capacity which matches that of standard steel bearings: it is the ideal solution for machines operated in corrosive environments such as:

- Farming industry, pharmaceutical and chemical sector
- Others, such as paper mills, engines, pumps, naval application, etc.

Series



Variations

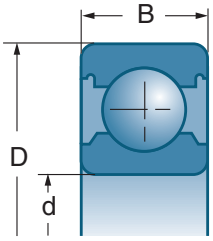
All SNR single-row ball bearings made of stainless steel display the prefix S (referring to the steel used) and the suffix 2RS (indicative of standard, dual seal version).

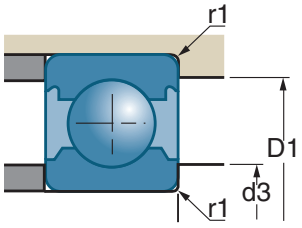
There are two variations for these series, depending on whether the bearings are lubricated with standard grease or with a food-compatible grease (suffix D136).

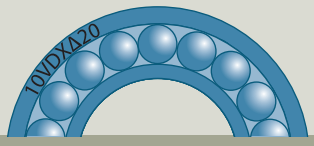
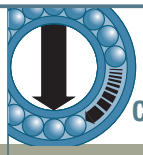
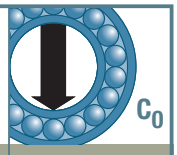
Suffixes

2RS	Two-side sealing
D136	Food grade grease

Stainless Steel ball bearings *(continued)*



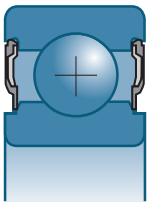


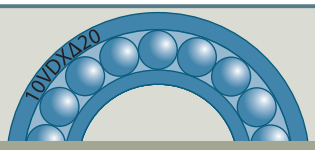
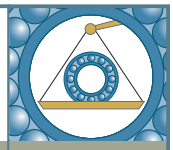
d			D	B		 C	 C_0	
mm	References		mm	mm	rpm*	10^3N	10^3N	
10	S6000 2RS	S6000 2RSD136	26	8	18000	4.55	1.96	
	S6200 2RS	S6200 2RSD136	30	9	15000	5.10	2.39	
	S6300 2RS	S6300 2RSD136	35	11	13000	8.10	3.45	
12	S6001 2RS	S6001 2RSD136	28	8	16000	5.10	2.39	
	S6201 2RS	S6201 2RSD136	32	10	14000	6.10	2.80	
	S6301 2RS	S6301 2RSD136	37	12	12000	9.70	4.20	
15	S6002 2RS	S6002 2RSD136	32	9	14000	5.60	2.85	
	S6202 2RS	S6202 2RSD136	35	11	12000	7.60	3.70	
	S6302 2RS	S6302 2RSD136	42	13	10000	11.40	5.40	
17	S6003 2RS	S6003 2RSD136	35	10	12000	6.00	3.25	
	S6203 2RS	S6203 2RSD136	40	12	11000	9.60	4.80	
	S6303 2RS	S6303 2RSD136	47	14	9300	13.60	6.60	
20	S6004 2RS	S6004 2RSD136	42	12	10000	9.40	5.10	
	S6204 2RS	S6204 2RSD136	47	14	9200	12.80	6.70	
	S6304 2RS	S6304 2RSD136	52	15	8600	15.90	7.90	
25	S6005 2RS	S6005 2RSD136	47	12	9200	10.10	5.90	
	S6205 2RS	S6205 2RSD136	52	15	8200	14.00	7.90	
	S6305 2RS	S6305 2RSD136	62	17	6900	20.60	11.20	
30	S6006 2RS	S6006 2RSD136	55	13	7800	13.20	8.30	
	S6206 2RS	S6206 2RSD136	62	16	6800	19.50	11.30	
35	S6007 2RS	S6007 2RSD136	62	14	6800	16.00	10.30	
	S6207 2RS	S6207 2RSD136	72	17	5800	25.50	15.40	
40	S6008 2RS	S6008 2RSD136	68	15	6100	16.80	11.50	
	S6208 2RS	S6208 2RSD136	80	18	5300	29.00	17.90	

* These are the speed limits according to the SNR concept (see pages 85 to 87).

Characteristics

Stainless steel ball bearings



		d3 min	D1 max	r1 max	
References		mm	mm	mm	kg
S6000 2RS	S6000 2RSD136	12.0	24.0	0.3	0.019
S6200 2RS	S6200 2RSD136	14.0	26.0	0.6	0.032
S6300 2RS	S6300 2RSD136	14.0	31.0	0.6	0.053
S6001 2RS	S6001 2RSD136	14.0	26.0	0.3	0.022
S6201 2RS	S6201 2RSD136	16.0	28.0	0.6	0.032
S6301 2RS	S6301 2RSD136	17.9	31.5	1	0.060
S6002 2RS	S6002 2RSD136	17.0	30.0	0.3	0.030
S6202 2RS	S6202 2RSD136	19.0	31.2	0.6	0.045
S6302 2RS	S6302 2RSD136	21.0	36.3	1	0.082
S6003 2RS	S6003 2RSD136	19.0	33.0	0.3	0.039
S6203 2RS	S6203 2RSD136	21.0	36.0	0.6	0.065
S6303 2RS	S6303 2RSD136	23.0	41.0	1	0.115
S6004 2RS	S6004 2RSD136	24.0	38.0	0.6	0.069
S6204 2RS	S6204 2RSD136	26.0	41.3	1	0.106
S6304 2RS	S6304 2RSD136	27.0	45.0	1.1	0.144
S6005 2RS	S6005 2RSD136	29.0	43.0	0.6	0.080
S6205 2RS	S6205 2RSD136	31.0	46.5	1	0.128
S6305 2RS	S6305 2RSD136	32.0	55.0	1.1	0.232
S6006 2RS	S6006 2RSD136	35.0	50.0	1	0.116
S6206 2RS	S6206 2RSD136	36.0	56.0	1	0.199
S6007 2RS	S6007 2RSD136	40.0	57.0	1	0.155
S6207 2RS	S6207 2RSD136	42.0	65.0	1.1	0.275
S6008 2RS	S6008 2RSD136	45.0	63.0	1	0.191
S6208 2RS	S6208 2RSD136	47.0	73.0	1.1	0.366

Bearing for special applications

Definitions and capabilities

Amongst multiple industrial applications, in some tangible cases, bearings must operate in a particular environment, as is the case with kiln car wheels. However, certain conditions are often encountered, such as high or very high temperatures, low temperatures or high speeds. SNR is aware of the difficulty, for users, to procure single-row ball bearings capable of such conditions, and therefore created the TOPLINE Range. As standard, this range offers bearing designs which were previously considered as specific, therefore introducing significant delivery-time and costs-savings advantages.

Series

- **FT series:** for operation up to 150° C (300°F) peak (and up to 500 000 N.Dm) 6000, 6200, 6300 series

  • So-called « high temperature » (-40°C/ -40°F to +200C°/ +400°F) seals made of Viton for the FT 150 series, providing excellent resistance to chemical agents and permitting high speed rotation, highly effective against outside contamination.
  • Pressed-steel shields for the FT150 ZZ series, no bearing operating speed limitation.
  • J30: (C3) increased clearance (Category 3) to compensate for variations in temperatures.
  • Grease specifically tested and selected for high temperatures.
  • Pressed-steel cage, no limitations for bearing operating temperature.

- **HT series:** for operation up to 200° C (400°F) peak (and up to 150 000 N.Dm) 6200, 6300 series

  • Viton seals for the HT200 series (- 40° C to + 200° C).
  • Pressed-steel shields for the HT200 ZZ series.
  • Special heat treat providing metallurgical stability for operating temperatures up to + 200°C (400°F).
  • J40 (C4): increased internal clearance (Category 4) to compensate for variations in temperatures.
  • Pressed-steel cage.
  • Grease specifically tested and selected for very high temperatures.

- **LT series:** for operation up to -60° C (-75°F) (and up to 500 000 N.Dm) 6000, 6200 series

  • Nitrile rubber seal (- 40° C/ -40°F up to + 110° C/ +230°F) for the LT series.
  • Pressed-steel shields for the LT ZZ series.
  • Pressed-steel cage.
  • J30 (C3): increased internal clearance (Category3) to compensate for variations in temperature.
  • Grease specifically tested and selected for low temperatures and damp atmosphere.

- **HV series:** for operation up to 700 000 N.Dm 6000, 6200 series

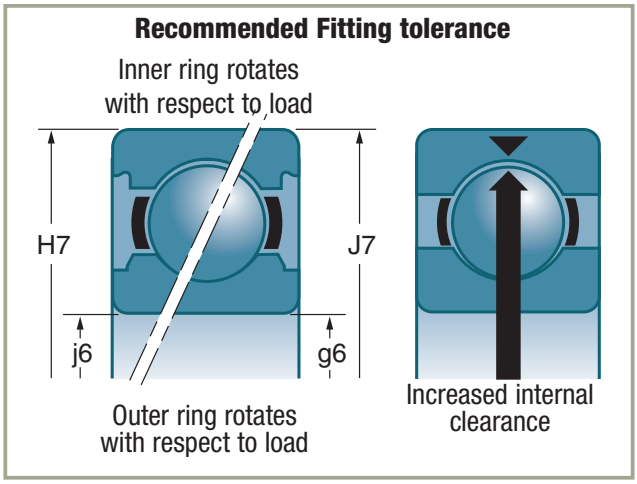
  • High precision bearing that meet DIN P6 or ISO 6 standards for high accuracy.
  • High precision balls: grade 10. Grade 10 is the 3rd most stringent grade in the classification of rolling elements (in the order: grade 3, 5, 10, 16, etc.). Very high surface finish quality.
  • Improved internal geometry with tight tolerances.
  • Glass-fiber reinforced polyamide cage provides accurate guidance of rolling elements for improved capabilities at high speed.
  • Pressed-steel shields.
  • Grease specifically tested and selected for very high speeds and low torque.

- **F600 series:** for operation up to 350° C (660°F) and below 50 rpm. 6000, 6200, 6300 series

  • Large radial clearance

  This clearance is sufficient to compensate for differential thermal expansion between the inner and outer rings of the bearing and for the expansion of surrounding parts.

  • Heat treatment with stabilization tempering. Beyond 110-120° C (230°F -250°F), steel undergoes a structural change resulting in a decrease of its specific volume. To limit this phenomenon, SNR F600 bearings are subject to a special high-temperature tempering.



  • Pressed steel cage

  • Recessed markings on both rings: this marking process allows maintaining the proper identification of any bearings at all times regardless of operating conditions.

Variations

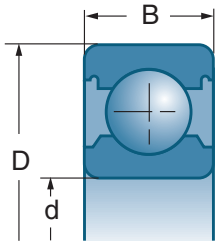
- **FT. HT and LT:** the basic design for each one of these families is the dual sealing. A dual protected variation is also available: ZZ.

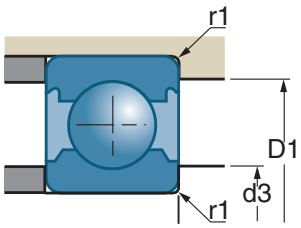
- **F600:** as basic design is open and with surface treatment by phosphating and molybdenum disulfide deposit, variations are available with 1 or 2 shields along with a high temperature lubrication paste.

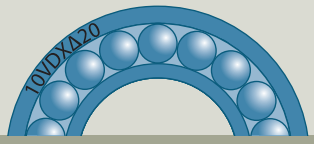
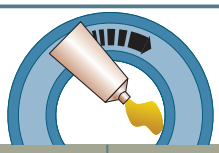
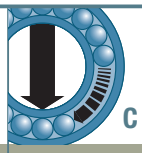
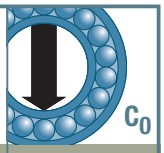
Tolerances and clearances

- **FT. LT:** manufactured in normal tolerance class and increased clearance class C3.
- **HT:** manufactured in normal tolerance class and increased clearance class C4.
- **HV:** manufactured with high precision balls and in tolerance class that meets ISO 6 standards for high accuracy. Clearance class C3.
- **F600:** manufactured in special clearance class, up to C5 defined by the standards.

Bearing for special applications *(continued)*



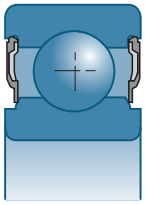


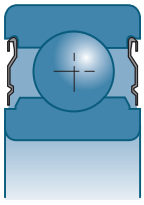
d			D	B			 C	 C_0
mm	References		mm	mm	rpm EE*	rpm ZZ*	10^3N	10^3N
8	608 FT150		22	7	22000		3.3	1.36
10	6000 FT150	6000 FT150ZZ	26	8	18000	27000	4.6	1.97
		6000 HVZZ	26	8		38800	4.6	1.97
	6000 LT	6000 LTZZ	26	8	19000	28000	4.6	1.97
		6200 FT150ZZ	30	9		24000	6	2.65
	6200 LT	6200 LTZZ	30	9	16000	23000	6	2.65
		6300 FT150ZZ	35	11		22000	8.1	3.45
12	6001 FT150	6001 FT150ZZ	28	8	16000	25000	5.1	2.37
		6001 HVZZ	28	8		35000	5.1	2.37
	6001 LT	6001 LTZZ	28	8	17000	25000	5.1	2.37
	6201 FT150	6201 FT150ZZ	32	10	15000	22000	6.9	3.1
		6201 HT200ZZ	32	10		6800	6.9	3.1
		6201 HVZZ	32	10		31800	6.9	3.1
	6201 LT	6201 LTZZ	32	10	15000	22000	6.9	3.1
		6301 FT150ZZ	37	12		20000	9.7	4.2
15	6002 FT150	6002 FT150ZZ	32	9	14000	21000	5.6	2.85
		6002 HVZZ	32	9		29700	5.6	2.85
	6002 LT	6002 LTZZ	32	9	14000	21000	5.6	2.85
	6202 FT150	6202 FT150ZZ	35	11	13000	19000	7.7	3.75
		6202 HT200ZZ	35	11		5900	7.7	3.75
		6202 HVZZ	35	11		28000	7.7	3.75
	6202 LT	6202 LTZZ	35	11	13000	19000	7.7	3.75
		6302 FT150ZZ	42	13		17000	11.3	5.4
17	6003 FT150	6003 FT150ZZ	35	10	12000	19000	6	3.25
		6003 HVZZ	35	10		26900	6	3.25
	6003 LT	6003 LTZZ	35	10	13000	19000	6	3.25
	6203 FT150	6203 FT150ZZ	40	12	11000	17000	9.5	4.75
		6203 HT200ZZ	40	12		5200	9.5	4.75
		6203 HVZZ	40	12		24500	9.5	4.75
	6203 LT	6203 LTZZ	40	12	11000	17000	9.5	4.75
	6303 FT150	6303 FT150ZZ	47	14	10000	15000	13.6	6.6

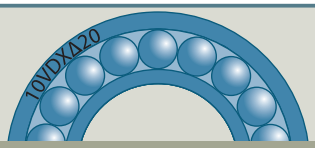
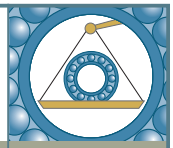
* These are the speed limits according to the SNR concept (see pages 85 to 87).

Characteristics

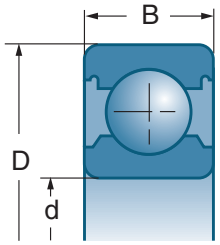
TOPLINE bearing for special applications

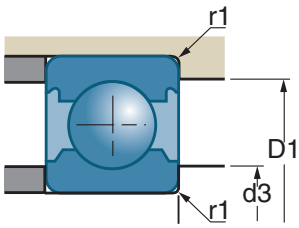


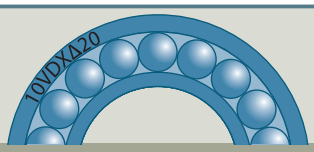
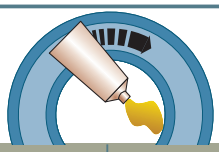
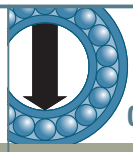


		d3 min	D1 max	r1 max	
References		mm	mm	mm	kg
608 FT150		10.0	20.0	0.3	0.012
6000 FT150	6000 FT150ZZ	12.0	24.0	0.3	0.019
	6000 HVZZ	12.0	24.0	0.3	0.019
6000 LT	6000 LTZZ	12.0	24.0	0.3	0.019
	6200 FT150ZZ	14.0	26.0	0.6	0.033
6200 LT	6200 LTZZ	14.0	26.0	0.6	0.033
	6300 FT150ZZ	14.0	31.0	0.6	0.053
6001 FT150	6001 FT150ZZ	14.0	26.0	0.3	0.022
	6001 HVZZ	14.0	26.0	0.3	0.022
6001 LT	6001 LTZZ	14.0	26.0	0.3	0.022
6201 FT150	6201 FT150ZZ	16.0	28.0	0.6	0.037
	6201 HT200ZZ	16.0	28.0	0.6	0.035
	6201 HVZZ	16.0	28.0	0.6	0.037
6201 LT	6201 LTZZ	16.0	28.0	0.6	0.037
	6301 FT150ZZ	17.9	31.5	1	0.060
6002 FT150	6002 FT150ZZ	17.0	30.0	0.3	0.030
	6002 HVZZ	17.0	30.0	0.3	0.030
6002 LT	6002 LTZZ	17.0	30.0	0.3	0.030
6202 FT150	6202 FT150ZZ	19.0	31.2	0.6	0.046
	6202 HT200ZZ	19.0	31.2	0.6	0.044
	6202 HVZZ	19.0	31.2	0.6	0.045
6202 LT	6202 LTZZ	19.0	31.2	0.6	0.045
	6302 FT150ZZ	21.0	36.3	1	0.083
6003 FT150	6003 FT150ZZ	19.0	33.0	0.3	0.039
	6003 HVZZ	19.0	33.0	0.3	0.039
6003 LT	6003 LTZZ	19.0	33.0	0.3	0.039
6203 FT150	6203 FT150ZZ	21.0	36.0	0.6	0.068
	6203 HT200ZZ	21.0	36.0	0.6	0.065
	6203 HVZZ	21.0	36.0	0.6	0.065
6203 LT	6203 LTZZ	21.0	36.0	0.6	0.065
6303 FT150	6303 FT150ZZ	23.0	41.0	1	0.113

Bearing for special applications *(continued)*

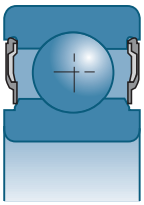


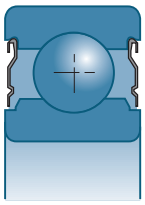


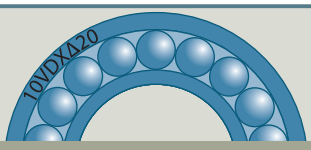
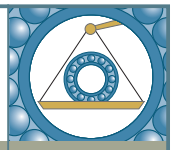
d			D	B			C	 C_0
mm	References		mm	mm	rpm EE*	rpm ZZ*	10^3N	10^3N
20	6004 FT150	6004 FT150ZZ	42	12	10000	16000	9.4	5
	6004 HT200	6004 HVZZ	42	12	4800	22500	9.4	5
	6004 LT	6004 LTZZ	42	12	10000	16000	9.4	5
	6204 FT150	6204 FT150ZZ	47	14	9900	14000	12.8	6.6
	6204 HT200	6204 HT200ZZ	47	14	4400	4400	12.8	6.6
		6204 HVZZ	47	14		20800	12.8	6.6
	6204 LT	6204 LTZZ	47	14	9300	14000	12.8	6.6
	6304 FT150	6304 FT150ZZ	52	15	9200	13000	15.9	7.9
	6304 HT200	6304 HT200ZZ	52	15	4100	4100	15.9	7.9
		6304 LTZZ	52	15		12000	15.9	7.9
25	6005 FT150	6005 FT150ZZ	47	12	9300	14000	10.1	5.8
		6005 HVZZ	47	12		19400	10.1	5.8
	6005 LT	6005 LTZZ	47	12	9300	14000	10.1	5.8
	6205 FT150	6205 FT150ZZ	52	15	8500	12000	14	7.9
	6205 HT200	6205 HT200ZZ	52	15	3800	3800	14	7.9
		6205 HVZZ	52	15		18100	14	7.9
	6205 LT	6205 LTZZ	52	15	8200	12000	14	7.9
	6305 FT150	6305 FT150ZZ	62	17	7600	11000	23.6	12.1
	6305 HT200	6305 HT200ZZ	62	17	3400	3400	23.6	12.1
30	6006 FT150	6006 FT150ZZ	55	13	7800	11000	13.2	8.3
		6006 HVZZ	55	13		16400	13.2	8.3
	6006 LT	6006 LTZZ	55	13	7800	12000	13.2	8.3
	6206 FT150	6206 FT150ZZ	62	16	7200	10000	19.5	11.3
	6206 HT200	6206 HT200ZZ	62	16	3200	3200	19.5	11.3
		6206 HVZZ	62	16		15200	19.5	11.3
	6206 LT	6206 LTZZ	62	16	7000	10000	19.5	11.3
	6306 FT150	6306 FT150ZZ	72	19	6400	9600	28	15.8
	6306 HT200	6306 HT200ZZ	72	19	2900	2900	28	15.8
35	6007 FT150	6007 FT150ZZ	62	14	6800	10000	16	10.3
		6007 HVZZ	62	14		16400	16	10.3
		6007 LTZZ	62	14		10000	16	10.3
	6207 FT150	6207 FT150ZZ	72	17	6200	9300	25.5	15.3
	6207 HT200	6207 HT200ZZ	72	17	2800	2800	25.5	15.3
		6207 HVZZ	72	17		13000	25.5	15.3
	6307 FT150	6307 FT150ZZ	80	21	5700	8600	33.5	19.2
	6307 HT200	6307 HT200ZZ	80	21	5300	2600	33.5	19.1

* These are the speed limits according to the SNR concept (see pages 85 to 87).

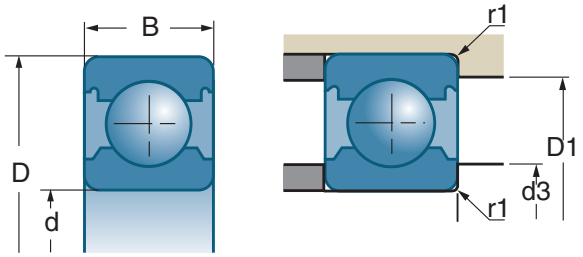
TOPLINE bearing for special applications *(continued)*





		d3 min	D1 max	r1 max	
References		mm	mm	mm	kg
6004 FT150	6004 FT150ZZ	24.0	38.0	0.6	0.068
6004 HT200	6004 HVZZ	24.0	38.0	0.6	0.070
6004 LT	6004 LTZZ	24.0	38.0	0.6	0.068
6204 FT150	6204 FT150ZZ	26.0	41.3	1	0.107
6204 HT200	6204 HT200ZZ	26.0	41.3	1	0.107
	6204 HVZZ	26.0	41.3	1	0.107
6204 LT	6204 LTZZ	26.0	41.3	1	0.107
6304 FT150	6304 FT150ZZ	27.0	45.0	1.1	0.147
6304 HT200	6304 HT200ZZ	27.0	45.0	1.1	0.147
	6304 LTZZ	27.0	45.0	1.1	0.135
6005 FT150	6005 FT150ZZ	29.0	43.0	0.6	0.077
	6005 HVZZ	29.0	43.0	0.6	0.077
6005 LT	6005 LTZZ	29.0	43.0	0.6	0.077
6205 FT150	6205 FT150ZZ	31.0	47.0	1	0.128
6205 HT200	6205 HT200ZZ	31.0	47.0	1	0.128
	6205 HVZZ	31.0	47.0	1	0.128
6205 LT	6205 LTZZ	31.0	47.0	1	0.128
6305 FT150	6305 FT150ZZ	32.0	55.0	1.1	0.225
6305 HT200	6305 HT200ZZ	32.0	55.0	1.1	0.225
6006 FT150	6006 FT150ZZ	35.0	50.0	1	0.116
	6006 HVZZ	35.0	50.0	1	0.116
6006 LT	6006 LTZZ	35.0	50.0	1	0.116
6206 FT150	6206 FT150ZZ	36.0	56.0	1	0.199
6206 HT200	6206 HT200ZZ	36.0	56.0	1	0.199
	6206 HVZZ	36.0	56.0	1	0.199
6206 LT	6206 LTZZ	36.0	56.0	1	0.199
6306 FT150	6306 FT150ZZ	37.0	65.0	1.1	0.346
6306 HT200	6306 HT200ZZ	37.0	65.0	1.1	0.346
6007 FT150	6007 FT150ZZ	40.0	57.0	1	0.153
	6007 HVZZ	40.0	57.0	1	0.153
	6007 LTZZ	40.0	57.0	1	0.153
6207 FT150	6207 FT150ZZ	42.0	65.0	1.1	0.285
6207 HT200	6207 HT200ZZ	42.0	65.0	1.1	0.280
	6207 HVZZ	42.0	65.0	1.1	0.285
6307 FT150	6307 FT150ZZ	44.0	71.0	1.5	0.446
6307 HT200	6307 HT200ZZ	44.0	71.0	1.5	0.445

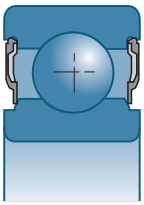
Bearing for special applications *(continued)*

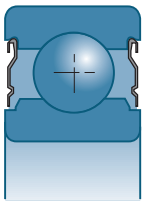


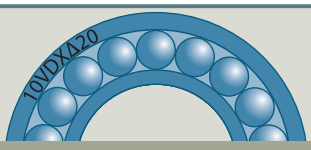
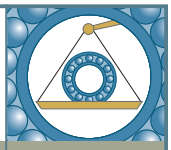
d			D	B			C	C_0
mm	References		mm	mm	rpm EE*	rpm ZZ*	10^3N	10^3N
40	6008 FT150	6008 FT150ZZ	68	15	6100	9200	16.8	11.5
	6008 HT200		68	15	2700		16.8	11.5
		6008 HVZZ	68	15		12000	16.8	11.5
	6208 FT150	6208 FT150ZZ	80	18	5500	8300	29	17.9
	6208 HT200	6208 HT200ZZ	80	18	2500	2500	29	17.9
		6208 HVZZ	80	18		11600	29	17.9
	6308 FT150	6308 FT150ZZ	90	23	5100	7600	40.5	23.9
	6308 HT200	6308 HT200ZZ	90	23	2300	2300	40.5	23.9
		6308 HVZZ	90	23		10000	40.5	23.9
45	6009 FT150	6009 FT150ZZ	75	16	5500	8300	21	15.2
	6209 FT150	6209 FT150ZZ	85	19	5100	7600	32.5	20.5
	6209 HT200	6209 HT200ZZ	85	19	2300	2300	32.5	20.5
		6209 HVZZ	85	19		10000	32.5	20.5
	6309 FT150	6309 FT150ZZ	100	25	4200	6800	53	31.5
	6309 HT200	6309 HT200ZZ	100	25	2000	2000	53	31.5
50	6010 FT150	6010 FT150ZZ	80	16	5000	7600	21.8	16.6
	6210 FT150	6210 FT150ZZ	90	20	4500	7100	35	23.2
	6210 HT200	6210 HT200ZZ	90	20	2100	2000	35	23.2
		6210 HVZZ	90	20		10000	35	23.2
	6310 FT150	6310 FT150ZZ	110	27	4000	6000	62	38
	6310 HT200	6310 HT200ZZ	110	27	1800	1800	62	38
55		6011 HVZZ	90	18		9600	28.5	21.3
65	6013 FT150		100	18	4000		30.5	25
65	6213 FT150		120	23	3600		57	40

* These are the speed limits according to the SNR concept (see pages 85 to 87).

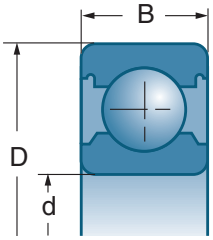
TOPLINE bearing for special applications *(continued)*

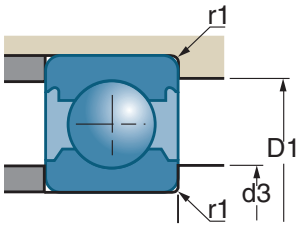


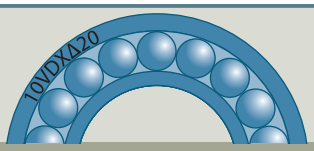
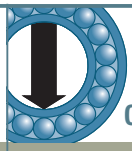


		d3 min	D1 max	r1 max	
References		mm	mm	mm	kg
6008 FT150	6008 FT150ZZ	45.0	63.0	1	0.192
6008 HT200		45.0	63.0	1	0.192
	6008 HVZZ	45.0	63.0	1	0.192
6208 FT150	6208 FT150ZZ	47.0	73.0	1.1	0.373
6208 HT200	6208 HT200ZZ	47.0	73.0	1.1	0.370
	6208 HVZZ	47.0	73.0	1.1	0.364
6308 FT150	6308 FT150ZZ	49.0	81.0	1.5	0.612
6308 HT200	6308 HT200ZZ	49.0	81.0	1.5	0.640
	6308 HVZZ	49.0	81.0	1.5	0.612
6009 FT150	6009 FT150ZZ	50.0	70.0	1	0.243
6209 FT150	6209 FT150ZZ	52.0	78.0	1.1	0.404
6209 HT200	6209 HT200ZZ	52.0	78.0	1.1	0.404
	6209 HVZZ	52.0	78.0	1.1	0.404
6309 FT150	6309 FT150ZZ	54.0	91.0	1.5	0.825
6309 HT200	6309 HT200ZZ	54.0	91.0	1.5	0.850
6010 FT150	6010 FT150ZZ	55.0	75.0	1	0.267
6210 FT150	6210 FT150ZZ	57.0	83.0	1.1	0.453
6210 HT200	6210 HT200ZZ	57.0	83.0	1.1	0.465
	6210 HVZZ	57.0	83.0	1.1	0.453
6310 FT150	6310 FT150ZZ	61.0	99.0	2	1.070
6310 HT200	6310 HT200ZZ	61.0	99.0	2	1.070
	6011 HVZZ	61.0	84.0	1.1	0.387
6013 FT150		71.0	94.0	1.1	0.454
6213 FT150		74.0	111.0	1.5	0.990

Bearing for special applications *(continued)*

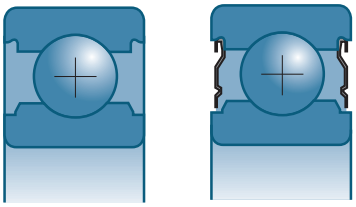


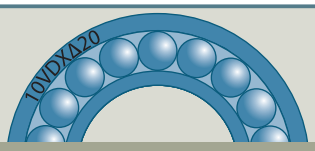
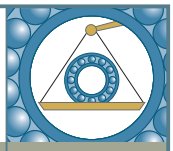


d				D	B		C	 C_0
mm	References			mm	mm	rpm max*	10^3N	10^3N
20	6004 F600	6004 F604	6004 F605	42	12	50	9.40	5.00
	6204 F600	6204 F604	6204 F605	47	14	50	12.80	6.60
25	6205 F600	6205 F604	6205 F605	52	15	50	14.00	7.90
	6305 F600	6305 F604	6305 F605	62	17	50	23.70	12.20
30	6206 F600	6206 F604	6206 F605	62	16	50	19.50	11.30
	6306 F600	6306 F604	6306 F605	72	19	50	28.00	15.80
35	6007 F600	6007 F604	6007 F605	62	14	50	16.00	10.30
	6207 F600	6207 F604	620 7F605	72	17	50	25.50	15.30
40	6008 F600	6008 F604	6008 F605	68	15	50	17.40	11.50
	6208 F600	6208 F604	6208 F605	80	18	50	29.00	17.90
45	6209 F600	6209 F604	6209 F605	85	19	50	32.50	20.50
	6309 F600	6309 F604	6309 F605	100	25	50	53.00	31.50
50	6210 F600	6210 F604	6210 F605	90	20	50	35.00	23.20
	6310 F600		6310 F605	110	27	50	62.00	38.00
55	6211 F600	6211 F604	6211 F605	100	21	50	43.50	29.00
	6311 F600	6311 F604	6311 F605	120	29	50	71.00	44.50
60	6212 F600	6212 F604	6212 F605	110	22	50	52.00	36.00
65	6213 F600	6213 F604	6213 F605	120	23	50	57.00	40.00
70	6214 F600	6214 F604	6214 F605	125	24	50	62.00	44.00
85	6217 F600			150	28	50	83.00	64.00
100	6220 F600			180	34	50	122.00	93.00

* These are the speed limits according to the SNR concept (see pages 85 to 87).

Bearing for very high temperatures or for kiln cars



			d3 min	D1 max	r1 max	
References			mm	mm	mm	kg
6004 F600	6004 F604	6004 F605	25.1	37.1	0.6	0.070
6204 F600	6204 F604	6204 F605	26.2	41.1	1.0	0.104
6205 F600	6205 F604	6205 F605	31.4	47	1.0	0.126
6305 F600	6305 F604	6305 F605	33	54	1.1	0.235
6206 F600	6206 F604	6206 F605	37	56	1.0	0.194
6306 F600	6306 F604	6306 F605	41.7	63.5	1.1	0.346
6007 F600	6007 F604	6007 F605	41.2	56.2	1.0	0.151
6207 F600	6207 F604	6207 F605	43.8	63.7	1.1	0.270
6008 F600	6008 F604	6008 F605	46.5	61.9	1.0	0.185
6208 F600	6208 F604	6208 F605	49.8	70.7	1.1	0.352
6209 F600	6209 F604	6209 F605	54.4	76.1	1.1	0.393
6309 F600	6309 F604	6309 F605	59.2	86.7	1.5	0.831
6210 F600	6210 F604	6210 F605	59.4	81.1	1.1	0.441
6310 F600		6310 F605	65.8	95.1	2.0	1.070
6211 F600	6211 F604	6211 F605	65.9	89.6	1.5	0.583
6311 F600	6311 F604	6311 F605	72.1	103.4	2.0	1.352
6212 F600	6212 F604	6212 F605	71	103	1.5	0.731
6213 F600	6213 F604	6213 F605	78.1	106.7	1.5	0.944
6214 F600	6214 F604	6214 F605	84	111.8	1.5	1.028
6217 F600			102.6	137.9	2.0	1.794
6220 F600			121.8	158.7	2.1	3.127