

Cylindrical roller bearing

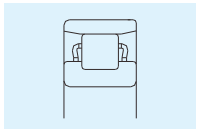
The rollers of cylindrical roller bearings are often guided by two ribs of a certain ring. The cage, roller and guide ring make up an assembly. It can be separated from another ring. They are separable bearings. They are easy to mount and dismount. Especially when interference fit is required for the inner/outer ring and the shaft/housing, their advantages are more obvious.

This type of bearings is often used to take radial load. Only single-row bearings with ribs on both inner and outer rings can take low constant axial load or high interval axial load.

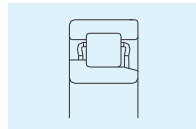
Compared with deep groove ball bearings of same physical dimensions, this type of bearings' radial loading capacity is larger. The requirement for the working accuracy of the shaft/housing bores for this type of bearings is higher.

1. Primary structure type

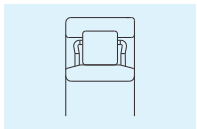
Outer ring without rib, inner ring with two ribs NJ type



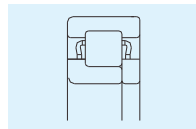
Outer ring with two ribs, inner ring with single rib NUP type



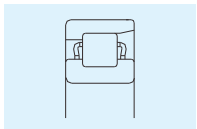
Outer ring without rib, inner ring with two ribs NU type



Outer ring with two ribs, inner ring with single rib and a plate NUP type



Outer ring with single ribs, inner ring with two ribs NF type



The cages of bearing of the above structures often include: Pressed structure, nylon fabric, etc. Some models can be full of rollers without cages.

2. Allowable misalignment angle

Generally the shaft of the cylindrical roller bearing is not permitted to incline to the outer bore. But, when the load is light, the axial directions of the inner and outer rings of the single row cylindrical roller bearings are permitted to incline 2' mutually. If the load is heavier, the permissible error is also larger, but is not permitted to exceed 4'.

3. Tolerance and clearance

As required, products of different class of tolerance can be provided. See the above section tolerance for the tolerance values.

4. Axial load capacity

For cylindrical roller bearings with inner and outer ring, their axial load is related to radial load they take and the lubricating methods. Maximum permitted axial load:

$$F_{ap} = KC_{0r} \left(\frac{n_g - n}{n_g + 2n} \right) \quad \text{Oil lubrication}$$

$$F_{ap} = KC_{0r} \left(\frac{n_g - 2.5n}{n_g + 10n} \right) \quad \text{Grease lubrication}$$

$$F_{ap} < 0.4F_r$$

In the equations:

F_{ap} : Maximum permitted axial load N

K : Coefficient relating to the bearing dimension series

For 2, 3 series $K=0.2$

22, 33 series $K=0.16$

C_{0r} : static radial load rating of bearings N

n_g : the limit speed when the bearing takes radial load, when $F_r > 0.1C_r$, the limit speeds listed in the specification table shall be multiplied by the decreasing coefficient r/min .

n : bearing working speed r/min

The axial load determined by the above formula can make Class 0 tolerance bearing (except improved and reinforced bearings) work normally in the following conditions:

Bearing temperature rise is 55°C for oil lubrication and 40°C for grease lubrication. The bearing maximum temperature is 90°C (the used lubricating oil viscosity is $V_{50}=33\text{mm}^2/\text{s}$ and the drop point of grease is 170°C).

For interval axial load, the permitted axial load can be improved 1 time, and for transient one, it can be improved 2 times. According to the working conditions, single row cylindrical roller bearings with larger axial load capacity can be provided.

5. Dynamic equivalent radial load

$$P_r = F_r$$

For cylindrical roller bearings taking axial load

2, 3 Series:

$$P_r = F_r + 0.3F_a \quad (0 \leq F_a/F_r \leq 0.12)$$

$$P_r = 0.94F_r + 0.8F_a \quad (0.12 < F_a/F_r \leq 0.3)$$

22, 23 Series:

$$P_r = F_r + 0.2F_a \quad (0 \leq F_a/F_r \leq 0.18)$$

$$P_r = 0.94F_r + 0.53F_a \quad (0.18 < F_a/F_r \leq 0.3)$$

6. Static equivalent radial load

$$P_{0r} = F_r$$

Double row cylindrical roller bearing

Double row cylindrical roller bearings are featured in small cross section, high load capacity and rigidity. They are mainly used to machine tools, rolling mill necks, plastic rollers, grinders as well as large gear cases, etc.

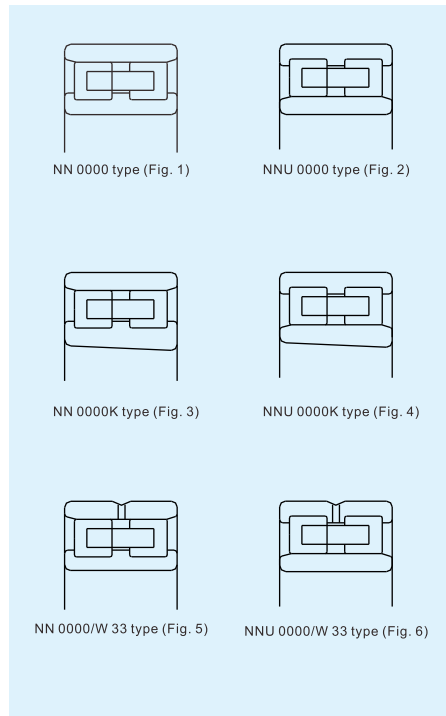
C&U specializes in manufacturing NN type and NNU type double row cylindrical roller bearings. The rings and components of this type of bearings can be mounted separately. NNU type double row cylindrical roller bearings, outer rings, rollers and cages components can be mounted separately with its inner rings. Or all the parts can be mounted separately to facilitate the mounting, check and maintenance of bearings.

There are two types of the internal bores of double row cylindrical roller bearings, cylindrical bore and tapered bore. The NN and NNU bearings manufactured by C&U fall into two types, cylindrical bore and tapered bore. When the bearings with tapered bores are mounted, a certain radial interior clearance or preload might be achieved.

The outer rings of some double row cylindrical roller bearings have lubricating grooves or oil holes. C&U can provide double row cylindrical roller bearings with lubricating grooves and oil holes in the outer rings. Please consult the technical center of C&U Group if required.

1. Structure

1. NN 0000 type (Fig. 1): inner ring with rib, outer ring without rib, cylindrical internal bore;
2. NNU 0000 type (Fig. 2): inner ring without rib, outer ring with rib, cylindrical internal bore;
3. NN 0000K type (Fig. 3): inner ring with rib, outer ring without rib, tapered internal bore, tapering 1:12;
4. NNU 0000K type (Fig. 4): inner ring without rib, outer ring with rib, tapered internal bore, tapering 1:12;
5. NN 0000/W 33 type (Fig. 5): inner ring with rib, outer ring without rib, cylindrical internal bore, outer ring with lubricating groove and oil hole;
6. NNU 0000/W 33 type (Fig. 6): inner ring without rib, outer ring with rib, cylindrical internal bore; outer ring with lubricating groove and oil hole;



2. Dimension accuracy & running accuracy

See Table 5.3 Page 34 of the technical specification for the requirements for accuracy and running accuracy.

3. Radial clearance

See Table 6.17 Page 67 of the technical specification for the radial clearance values of cylindrical bore bearings and tapered bore bearings. These data are the clearance values before the bearing mounting without preload.

4. Cage

Double row cylindrical roller bearings generally adopt lathe machined brass cages.

5. Dynamic equivalent load

$$P = F_r$$

6. Static equivalent load

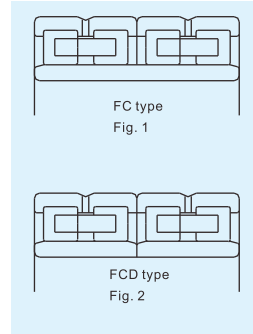
$$P_0 = F_r$$

Four-row cylindrical roller bearing

Four-row cylindrical roller bearings are featured in simple structure, high accuracy, high dynamic load rating large, etc. However, they are incapable of taking axial load. Because the inner ring has no rib, the inner and outer ring components can be mounted separately (with full set of roller and cage). Therefore, they are easy to mount and dismount, and the first choice for various cold and hot rolling mills whose rolls are frequently changed.

1. Structure

- 1.FC type (Fig. 1): two outer rings with rib, full set of rollers and cage's outer ring components, and an inner ring;
- 2.FCD type (Fig. 2): two outer rings with rib, full set of rollers and cage's outer ring components, and two inner rings;



2. Dimension accuracy & running accuracy

See Table 5.3 Page 34 of the technical specification for requirements of dimensional accuracy and running accuracy of four-row cylindrical roller bearings.

3. Radial clearance

As radial support bearings of rolls, their working conditions are very severe. The actual working clearance depends on load, rotation speed, lubrication, temperature rise, design structure, fitting surface roughness and bearing bore diameter fit shrink range. Proper radial clearance shall be selected according to specific circumstances.

Clearances of C3 group are recommended for cold rolling mills or small bearing bore diameter with small fitting interference. Clearances of C4 group are recommended for hot rolling mills or large bearing bore diameter with large fitting interference. See Table 6.16 Page 66 for details.

4. Cage

Four-row cylindrical roller bearings generally adopt lathe machined brass cages.

5. Dynamic equivalent load

$$P = F_r$$

6. Static equivalent load

$$P_0 = F_r$$

Split cylindrical roller bearing

Restricted by the structures of many machines and equipment, it is difficult and inconvenient to handle, check and replace solid bearings, especially large and oversize bearings.

The split bearings developed by the technical center of C&U Group have solved this problem, and greatly facilitate the handling of bearings, and reduce the cost.

1. Application scope of split bearing

Some split bearings can be used in every industrial field, various crankshaft, multi-support axle, mandrel and major axis with several supporting points, etc., where there bearing mountings are restricted.

Cold bed for steel rolling	Rotary furnace Conveyance device
Continuous caster	Conveyance device
Elevator and conveyer	Paper manufacturing machinery
Material handling equipment	Rotary kiln driver

2. Comparison between split bearing and solid bearing

Easy mounting
Short stop time
No need to dismount related devices

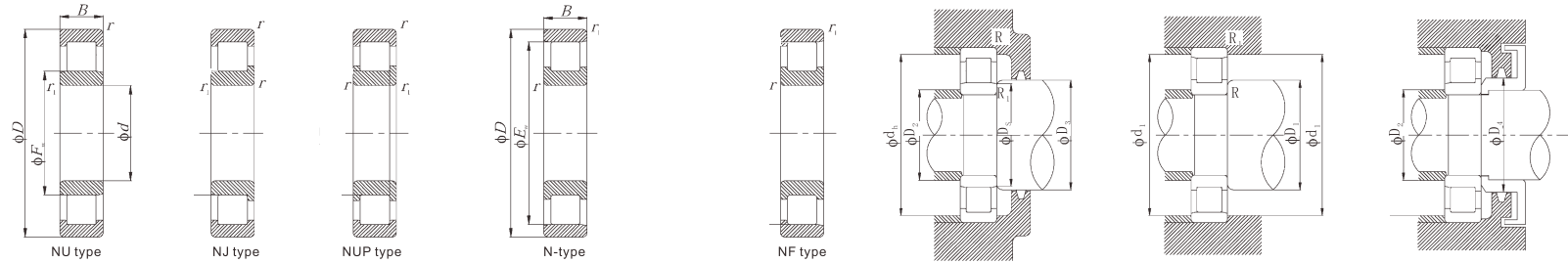
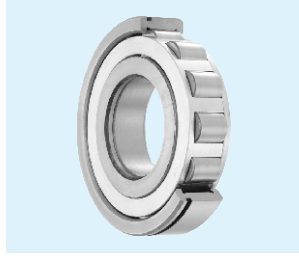
3. Structural features of split cylindrical roller bearings

- A. inner ring, outer ring and cage all consist of two split semicircle parts
- B. The internal bore is cylindrical bore, which can be mounted on the axle directly.
- C. able to substitute for solid bearing

4. Advanced technology of split cylindrical roller bearing

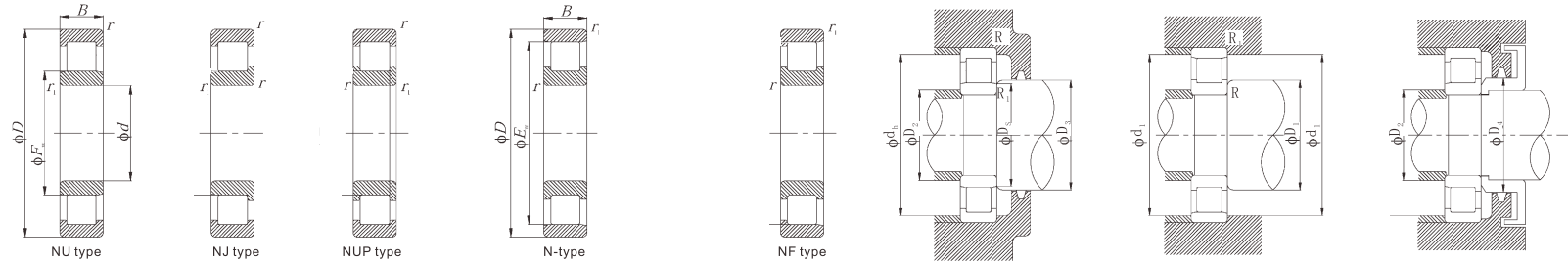
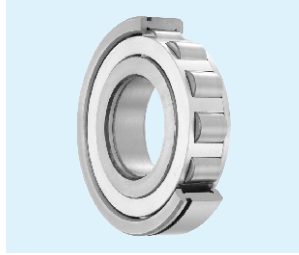
Split cylindrical roller bearing adopts advanced bearing production technology to guarantee the safe running of bearings:

- A. Finite element analysis, CAD optimum design, bearing structure parameters which can achieve maximum load rating
- B. Advanced cutting technology and cutting scheme
- C. Advanced thermal treatment techniques to achieve fine internal quality
- D. Guarantee joint reliability, excellent minimum fastener design



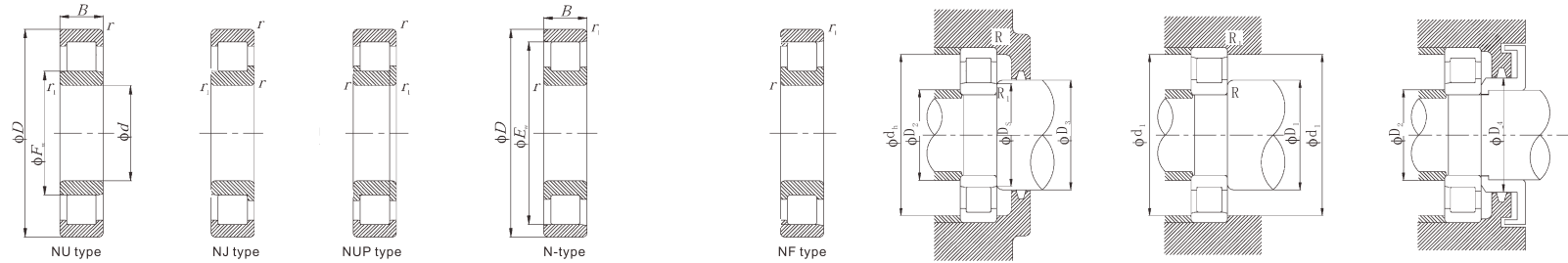
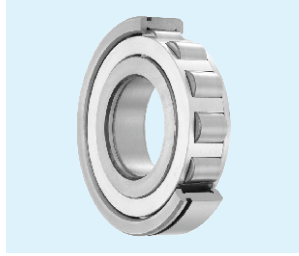
d 15~25 mm

Boundary dimensions (mm)							Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers		Nominal numbers					Mounting dimensions (mm)									Reference mass	
<i>d</i>	<i>D</i>	<i>B</i>	<i>F_w</i>	<i>E_w</i>	<i>r</i> (Min)	<i>r_f</i>	<i>C_r</i>	<i>C_{0r}</i>	Grease	Oil	NU type	NJ type	NUP type			Ntype	NF type	<i>D_s</i> Min	<i>D_i</i> Min	<i>D₂</i> Max	<i>D_i</i> Min	<i>D₂</i> Min	<i>d_b</i> Max	<i>d_i</i> Max	Min	<i>R</i> Max	<i>R_i</i> Max	(kg)
15	35	11	19.3	29.3	0.6	0.3	7.5	3.5	17,000	20,000	NU202	NJ202	—			N202	NF202	19	20	24	27	21	30	31	30	0.6	0.3	0.005
	35	11	19.3	30.3	0.6	0.3	11.5	9.5	15,000	19,000	NU202E	NJ202E	—			N202E	—	19	—	24	27	21	30	—	—	0.6	0.3	0.005
17	40	12	22.9	33.9	0.6	0.3	8.7	4.7	15,000	19,000	NU203	NJ203	NUP203			N203	NF203	21	20	25	28	24	35	36	35	0.6	0.3	0.009
	40	12	22.1	35.1	0.6	0.3	17.2	14.3	15,000	18,000	NU203E	NJ203E	NUP203E			N203E	—	21	—	25	28	24	35	—	—	0.6	0.3	0.009
	40	16	22.1	—	0.6	0.6	19.8	16.3	14,000	17,000	NU2203E	NJ2203E	NUP2203E			—	—	21	—	25	28	24	35	—	—	0.6	0.3	0.011
	47	14	24.2	40.2	1.1	0.6	19.2	15.3	14,000	17,000	NU303E	NJ303E	NUP303E			—	—	24	—	26	29	32	42	—	—	1	0.6	0.135
	47	14	27.0	40.0	1.0	0.6	16.6	13.9	17,000	20,000	NU204	NJ204	NUP204			N204	NF204	24	25	26	29	32	42	43	42	1	0.6	0.111
20	47	14	26.5	—	1.0	0.6	25.7	22.6	15,000	18,000	NU204E	NJ204E	NUP204E			—	—	24	—	26	29	32	42	—	—	1	0.6	0.122
	47	18	27.0	40.0	1.0	0.6	22.2	20.3	15,000	18,000	NU2204	NJ2204	NUP2204			N2204	—	24	25	26	29	32	42	43	42	1	0.6	0.143
20	47	18	26.5	—	1.0	0.6	30.5	28.3	14,000	16,000	NU2204E	NJ2204E	NUP2204E			—	—	24	—	26	29	32	42	—	—	1	0.6	0.158
	52	15	28.5	44.5	1.1	0.6	23.1	19.2	14,000	17,000	NU304	NJ304	NUP304			N304	NF304	24	26.5	27	30	33	45.5	48	47	1	0.6	0.153
	52	15	27.5	—	1.1	0.6	31.5	26.9	13,000	15,000	NU304E	NJ304E	NUP304E			—	—	24	—	27	30	33	45.5	—	—	1	0.6	0.176
	52	21	28.5	44.5	1.1	0.6	33.0	30.0	13,000	15,000	NU2304	NJ2304	NUP2304			N2304	—	24	26.5	27	30	33	45.5	48	47	1	0.6	0.250
	52	21	27.5	—	1.1	0.6	42.0	39.0	12,000	14,000	NU2304E	NJ2304E	NUP2304E			—	—	24	—	27	30	33	45.5	—	—	1	0.6	0.240
25	47	12	30.5	41.5	0.6	0.3	15.1	14.1	16,000	19,000	NU1005	NJ1005	NUP1005			N1005	—	27	29	30	32	33	43	45	42.5	0.6	0.3	0.092
	52	15	32.0	45.0	1.0	0.6	18.8	17.0	14,000	16,000	NU205	NJ205	NUP205			N205	NF205	29	30	31	34	37	47	48	47	1	0.6	0.137
	52	15	31.5	—	1.0	0.6	29.3	27.7	13,000	15,000	NU205E	NJ205E	NUP205E			—	—	29	—	31	34	37	47	—	—	1	0.6	0.151
	52	18	32.0	45.0	1.0	0.6	25.1	24.7	13,000	15,000	NU2205	NJ2205	NUP2205			N2205	—	29	30	31	34	37	47	48	47	1	0.6	0.166
	52	18	31.5	—	1.0	0.6	35.0	34.5	11,000	13,000	NU2205E	NJ2205E	NUP2205E			—	—	29	—	31	34	37	47	—	—	1	0.6	0.186
	62	17	35.0	53.0	1.1	1.1	31.5	27.7	12,000	14,000	NU305	NJ305	NUP305			N305	NF305	31.5	31.5	33	37	40	55.5	55.5	55	1	1	0.241
	62	17	34.0	—	1.1	1.1	41.5	37.5	11,000	13,000	NU305E	NJ305E	NUP305E			—	—	31.5	—	33	37	40	55.5	—	—	1	1	0.275
	62	24	35.0	53.0	1.1	1.1	46.0	45.0	11,000	12,000	NU2305	NJ2305	NUP2305			N2305	—	31.5	31.5	33	37	40	55.5	55.5	55	1	1	0.343
	62	24	34.0	—	1.1	1.1	57.0	56.0	9,700	11,000	NU2305E	NJ2305E	NUP2305E			—	—	31.5	—	33	37	40	55.5	—	—	1	1	0.386
	80	21	38.8	62.8	1.5	1.5	46.5	40.0	8,500	10,000	NU405	NJ405	NUP405			N405	NF405	33	33	38	41	46	72	72	64	1.5	1.5	0.550



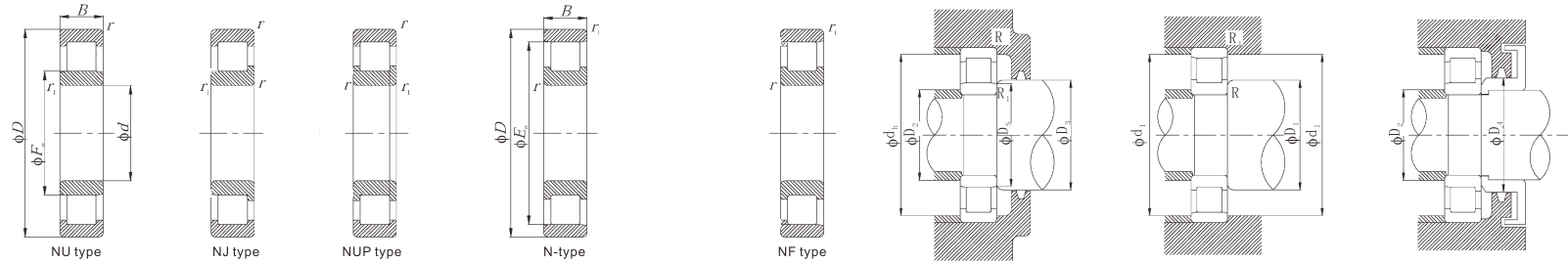
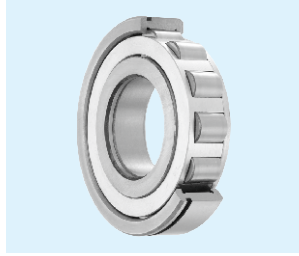
d 30~40 mm

Boundary dimensions (mm)							Basic load ratings (kN)			Limiting speeds (r/min)		Nominal numbers			Nominal numbers			Mounting dimensions (mm)										Reference mass
<i>d</i>	<i>D</i>	<i>B</i>	<i>F_w</i>	<i>E_w</i>	<i>r₁</i> (Min)	<i>r₂</i>	<i>C_r</i>	<i>C_{0r}</i>	Grease	Oil	NU type	NJ type	NUP type	Ntype	NF type	<i>D_s</i> Min	<i>D_i</i> Min	<i>D₂</i> Max	<i>D₃</i> Min	<i>D_i</i> Min	<i>d_a</i> Max	<i>d_i</i> Max	<i>d_i</i> Min	<i>R</i> Max	<i>R_i</i> Max	(kg)		
30	55	13	36.5	48.5	1.0		0.6	19.7	19.6	14,000	16,000	NU1006	NJ1006	NUP1006	—	N1006	33	35	35	38	39.5	50	52	50	1	0.6	0.130	
	62	16	38.5	53.5	1.0		0.6	24.9	23.3	12,000	14,000	NU206	NJ206	NUP206	N206	NF206	34	35	37	40	44	57	58	56	1	0.6	0.207	
	62	16	37.5	—	1.0		0.6	39.0	37.5	11,000	13,000	NU206E	NJ206E	NUP206E	—	—	34	—	37	40	44	57	—	—	1	0.6	0.226	
	62	20	38.5	53.5	1.0		0.6	35.0	36.0	11,000	13,000	NU2206	NJ2206	NUP2206	N2206	—	34	35	37	40	44	57	58	56	1	0.6	0.261	
	62	20	37.5	—	1.0		0.6	49.0	50.0	9,700	11,000	NU2206E	NJ2206E	NUP2206E	—	—	34	—	37	40	44	57	—	—	1	0.6	0.297	
	72	19	42.0	62.0	1.1		1.1	38.5	35.0	10,000	12,000	NU306	NJ306	NUP306	N306	NF306	36.5	36.5	40	44	48	65.5	66	64	1	1	0.358	
	72	19	40.5	—	1.1		1.1	53.0	50.0	9,300	11,000	NU306E	NJ306E	NUP306E	—	—	36.5	—	40	44	48	65.5	—	—	1	1	0.398	
	72	27	42.0	62.0	1.1		1.1	51.5	51.0	9,000	11,000	NU2306	NJ2306	NUP2306	N2306	—	36.5	36.5	40	44	48	65.5	66	64	1	1	0.513	
	72	27	40.5	—	1.1		1.1	74.5	77.5	8,300	9,700	NU2306E	NJ2306E	NUP2306E	—	—	36.5	—	40	44	48	65.5	—	—	1	1	0.580	
	90	23	45.0	73.0	1.5		1.5	62.5	55.0	7,300	8,500	NU406	NJ406	NUP406	N406	NF406	38	38	44	47	52	82	82	74	1.5	1.5	0.751	
35	62	14	42.0	55.0	1.0		0.6	22.6	23.2	12,000	15,000	NU1007	NJ1007	NUP1007	N1007	—	38	40	41	44	45	57	59	56	1	0.6	0.179	
	72	17	43.8	61.8	1.1		0.6	35.5	34.0	11,000	12,000	NU207	NJ207	NUP207	N207	NF207	39	41.5	43	46	50	65.5	68	64	1	0.6	0.295	
	72	17	44.0	—	1.1		0.6	50.5	50.0	9,500	11,000	NU207E	NJ207E	NUP207E	—	—	39	—	43	46	50	65.5	—	—	1	0.6	0.327	
	72	23	43.8	61.8	1.1		0.6	52.0	55.5	9,500	11,000	NU2207	NJ2207	NUP2207	N2207	—	39	41.5	43	46	50	65.5	68	64	1	0.6	0.404	
	72	23	44.0	—	1.1		0.6	61.5	65.5	8,500	10,000	NU2207E	NJ2207E	NUP2207E	—	—	39	—	43	46	50	65.5	—	—	1	0.6	0.455	
	80	21	46.2	68.2	1.5		1.1	49.5	47.0	9,000	11,000	NU307	NJ307	NUP307	N307	NF307	41.5	43	45	48	53	72	74	71	1.5	1	0.461	
	80	21	46.2	—	1.5		1.1	71.0	71.0	8,100	9,600	NU307E	NJ307E	NUP307E	—	—	41.5	—	45	48	53	72	—	—	1.5	1	0.545	
	80	31	46.2	68.2	1.5		1.1	64.5	65.5	7,900	9,300	NU2307	NJ2307	NUP2307	N2307	—	41.5	43	45	48	53	72	74	71	1.5	1	0.712	
	80	31	46.2	—	1.5		1.1	99.0	109.0	7,200	8,500	NU2307E	NJ2307E	NUP2307E	—	—	41.5	—	45	48	53	72	—	—	1.5	1	0.780	
	100	25	53.0	83.0	1.5		1.5	75.5	69.0	6,400	7,500	NU407	NJ407	NUP407	N407	NF407	43	43	52	55	61	92	92	84	1.5	1.5	0.990	
40	68	15	47.0	61.0	1.0		0.6	27.3	29.0	11,000	13,000	NU1008	NJ1008	NUP1008	N1008	—	44	45	46	49	50.5	63	64	62	1	0.6	0.221	
	80	18	50.0	70.0	1.1		1.1	43.5	42.0	9,400	11,000	NU208	NJ208	NUP208	N208	NF208	46.5	46.5	49	52	56	73.5	74	72	1	1	0.378	
	80	18	49.5	—	1.1		1.1	55.5	55.5	8,500	10,000	NU208E	NJ208E	NUP208E	—	—	46.5	—	49	52	56	73.5	—	—	1	1	0.426	
	80	23	50.0	70.0	1.1		1.1	58.0	62.0	8,500	10,000	NU2208	NJ2208	NUP2208	N2208	—	46.5	46.5	49	52	56	73.5	74	72	1	1	0.49	
	80	23	49.5	—	1.1		1.1	72.5	77.5	7,600	8,900	NU2208E	NJ2208E	NUP2208E	—	—	46.5	—	49	52	56	73.5	—	—	1	1	0.552	
	90	23	53.5	77.5	1.5		1.5	58.5	57.0	8,000	9,400	NU308	NJ308	NUP308	N308	NF308	48	48	51	55	60	82	82	80	1.5	1.5	0.658	
	90	23	52.0	—	1.5		1.5	83.0	81.5	7,200	8,500	NU308E	NJ308E	NUP308E	—	—	48	—	51	55	60	82	—	—	1.5	1.5	0.754	
	90	33	53.5	77.5	1.5		1.5	82.5	88.0	7,000	8,200	NU2308	NJ2308	NUP2308	N2308	—	48	48	51	55	60	82	82	80	1.5	1.5	0.951	
	90	33	52.0	—	1.5		1.5	114.0	122.0	6,400	7,500	NU2308E	NJ2308E	NUP2308E	—	—	48	—	51	55	60	82	—	—	1.5	1.5	1.06	



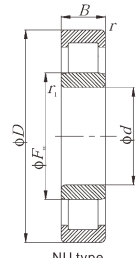
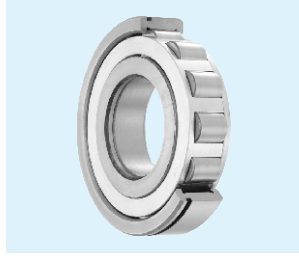
d 45~55 mm

Boundary dimensions (mm)						Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers					Mounting dimensions (mm)										Reference mass (kg)
<i>d</i>	<i>D</i>	<i>B</i>	<i>F_w</i>	<i>E_w</i>	<i>r</i> (Min)	<i>C_r</i>	<i>C_{0r}</i>	Grease	Oil	NU type	NJ type	NUP type	Ntype	NF type	<i>D</i> _s Min	<i>D</i> _i Min	<i>D</i> ₂ Max	<i>D</i> ₁ Min	<i>D</i> _i Min	<i>d</i> ₀ Max	<i>d</i> ₁ Max	<i>d</i> _i Min	<i>R</i> Max	<i>R</i> _i Max	
45	110	27	58.0	92.0	2.0	95.5	89.0	5,700	6,700	NU408	NJ408	NUP408	N408	NF408	49	49	57	60	67	101	101	93	2	2	1.29
	75	16	52.5	67.5	1.0	31.0	34.0	9,900	12,000	NU1009	NJ1009	NUP1009	N1009	—	49	50	52	54	56	70	71	69	1	0.6	0.282
	85	19	55.0	75.0	1.1	46.0	47.0	8,400	9,900	NU209	NJ209	NUP209	N209	NF209	51.5	51.5	54	57	61	78.5	79	77	1	1	0.432
	85	19	54.5	—	1.1	63.0	66.5	7,600	9,000	NU209E	NJ209E	NUP209E	—	—	51.5	—	54	57	61	78.5	—	—	1	1	0.496
	85	23	55.0	75.0	1.1	61.5	68.0	7,600	9,000	NU2209	NJ2209	NUP2209	N2209	—	51.5	51.5	54	57	61	78.5	79	77	1	1	0.531
	85	23	54.5	—	1.1	76.0	84.5	6,800	8,000	NU2209E	NJ2209E	NUP2209E	—	—	51.5	—	54	57	61	78.5	—	—	1	1	0.601
	100	25	58.5	86.5	1.5	69.7	77.5	7,200	8,400	NU309	NJ309	NUP309	N309	NF309	53	53	57	60	66	92	92	89	1.5	1.5	0.877
	100	25	58.5	—	1.5	97.5	98.5	6,500	7,600	NU309E	NJ309E	NUP309E	—	—	53	—	57	60	66	92	—	—	1.5	1.5	0.995
	100	36	58.5	86.5	1.5	106.0	113.0	6,300	7,400	NU2309	NJ2309	NUP2309	N2309	—	53	53	57	60	66	92	92	89	1.5	1.5	1.27
	100	36	58.5	—	1.5	137.0	153.0	5,700	6,800	NU2309E	NJ2309E	NUP2309E	—	—	53	—	57	60	66	92	—	—	1.5	1.5	1.41
	120	29	64.5	100.5	2.0	115.0	112.0	5,100	6,000	NU409	NJ409	NUP409	N409	NF409	54	54	63	66	74	111	111	102	2	2	1.62
	80	16	57.5	72.5	1.0	32.0	36.0	8,900	11,000	NU1010	NJ1010	NUP1010	N1010	—	54	55	57	59	61	75	76	74	1	0.6	0.295
50	90	20	60.4	80.4	1.1	50.5	54.5	7,600	9,000	NU210	NJ210	NUP210	N210	NF210	56.5	56.5	58	62	67	83.5	84	83	1	1	0.47
	90	20	59.5	—	1.1	66.0	72.0	6,900	8,100	NU210E	NJ210E	NUP210E	—	—	56.5	—	58	62	67	83.5	—	—	1	1	0.541
	90	23	60.4	80.4	1.1	67.5	78.5	6,900	8,100	NU2210	NJ2210	NUP2210	N2210	—	56.5	56.5	58	62	67	83.5	84	83	1	1	0.571
	90	23	59.5	—	1.1	79.5	91.5	6,200	7,300	NU2210E	NJ2210E	NUP2210E	—	—	56.5	—	58	62	67	83.5	—	—	1	1	0.652
	110	27	65.0	95.0	2.0	87.0	86.0	6,500	7,700	NU310	NJ310	NUP310	N310	NF310	59	59	63	67	73	101	101	98	2	2	1.14
	110	27	65.0	—	2.0	110.0	113.0	5,900	6,900	NU310E	NJ310E	NUP310E	—	—	59	—	63	67	73	101	—	—	2	2	1.31
	110	40	65.0	95.0	2.0	121.0	131.0	5,700	6,700	NU2310	NJ2310	NUP2310	N2310	—	59	59	63	67	73	101	101	98	2	2	1.68
	110	40	65.0	—	2.0	163.0	187.0	5,200	6,100	NU2310E	NJ2310E	NUP2310E	—	—	59	—	63	67	73	101	—	—	2	2	1.88
	130	31	70.8	110.8	2.1	139.0	136.0	4,700	5,500	NU410	NJ410	NUP410	N410	NF410	61	61	69	73	81	119	119	112	2	2	2.02
	90	18	64.5	80.5	1.1	37.5	44.0	8,200	9,700	NU1011	NJ1011	NUP1011	N1011	—	60	61.5	63	66	68.5	83.5	85	82	1	1	0.442
	100	21	66.5	88.5	1.5	61.0	66.5	6,900	8,200	NU211	NJ211	NUP211	N211	NF211	61.5	63	65	68	73	92	94	91	1.5	1	0.638
	100	21	66.0	—	1.5	82.5	93.0	6,300	7,400	NU211E	NJ211E	NUP211E	—	—	61.5	—	65	68	73	92	—	—	1.5	1	0.718
	100	25	66.5	88.5	1.5	79.0	93.0	6,300	7,400	NU2211	NJ2211	NUP2211	N2211	—	61.5	63	65	68	73	92	94	91	1.5	1	0.773
55	100	25	66.0	—	1.5	97.0	114.0	5,600	6,600	NU2211E	NJ2211E	NUP2211E	—	—	61.5	—	65	68	73	92	—	—	1.5	1	0.968
	120	29	70.5	104.5	2.0	111.0	111.0	5,900	7,000	NU311	NJ311	NUP311	N311	NF311	64	64	69	72	80	111	111	107	2	2	1.45
	120	29	70.5	—	2.0	137.0	143.0	5,300	6,300	NU311E	NJ311E	NUP311E	—	—	64	—	69	72	80	111	—	—	2	2	1.65



d 55~70 mm

Boundary dimensions (mm)							Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers		Nominal numbers					Mounting dimensions (mm)										Reference mass
<i>d</i>	<i>D</i>	<i>B</i>	<i>F_w</i>	<i>E_w</i>	<i>r</i> (Min)	<i>r_i</i>	<i>C_r</i>	<i>C_{0r}</i>	Grease	Oil	NU type	NJ type	NUP type	Ntype	NF type	<i>D_s</i> Min	<i>D_i</i> Min	<i>D₂</i> Max	<i>D₃</i> Min	<i>D₄</i> Min	<i>d_b</i> Max	<i>d_i</i> Max	<i>R</i> Min	<i>R</i> Max	<i>R_i</i> Max	(kg)		
55	120	43	70.5	104.5	2.0	2.0	148.0	162.0	5,200	6,100	NU2311	NJ2311	NUP2311	N2311	—	64	64	69	72	80	111	111	107	2	2	2.17		
	120	43	70.5	—	2.0	2.0	201.0	233.0	4,700	5,600	NU2311E	NJ2311E	NUP2311E	—	—	64	—	69	72	80	111	—	—	2	2	2.37		
	140	33	77.2	117.2	2.1	2.1	139.0	138.0	4,300	5,000	NU411	NJ411	NUP411	N411	NF411	66	66	76	79	87	129	129	109	2	2	2.48		
60	95	18	69.5	85.5	1.1	1.1	40.0	48.5	7,500	8,800	NU1012	NJ1012	NUP1012	N1012	—	65	66.5	68	71	73.5	88.5	90	87	1	1	0.474		
	110	22	73.5	97.5	1.5	1.5	72.0	80.0	6,400	7,600	NU212	NJ212	NUP212	N212	NF212	68	68	71	75	80	102	102	100	1.5	1.5	0.818		
	110	22	72.0	—	1.5	1.5	97.5	107.0	5,800	6,800	NU212E	NJ212E	NUP212E	—	—	68	—	71	75	80	102	—	—	1.5	1.5	0.923		
	110	28	73.5	97.5	1.5	1.5	101.0	123.0	5,800	6,800	NU2212	NJ2212	NUP2212	N2212	—	68	68	71	75	80	102	102	100	1.5	1.5	1.06		
	110	28	72.0	—	1.5	1.5	131.0	157.0	5,200	6,100	NU2212E	NJ2212E	NUP2212E	—	—	68	—	71	75	80	102	—	—	1.5	1.5	1.21		
	130	31	77.0	113.0	2.1	2.1	124.0	126.0	5,500	6,500	NU312	NJ312	NUP312	N312	NF312	71	71	75	79	86	119	119	116	2	2	1.82		
	130	31	77.0	—	2.1	2.1	150.0	157.0	4,900	5,800	NU312E	NJ312E	NUP312E	—	—	71	—	75	79	86	119	—	—	2	2	2.05		
	130	46	77.0	113.0	2.1	2.1	169.0	188.0	4,800	5,700	NU2312	NJ2312	NUP2312	N2312	—	71	71	75	79	86	119	119	116	2	2	2.71		
	130	46	77.0	—	2.1	2.1	222.0	262.0	4,400	5,200	NU2312E	NJ2312E	NUP2312E	—	—	71	—	75	79	86	119	—	—	2	2	2.96		
	150	35	83.0	127.0	2.1	2.1	167.0	168.0	3,900	4,600	NU412	NJ412	NUP412	N412	NF412	71	71	82	85	94	139	139	128	2	2	3.02		
65	100	18	74.5	90.5	1.1	1.0	41.0	51.0	7,000	8,200	NU1013	NJ1013	NUP1013	N1013	—	70	71.5	73	76	78.5	93.5	95	92	1	1	0.485		
	120	23	79.6	105.6	1.5	1.5	84.0	94.5	5,900	7,000	NU213	NJ213	NUP213	N213	NF213	73	73	77	81	87	112	112	108	1.5	1.5	1.02		
	120	23	78.5	—	1.5	1.5	108.0	119.0	5,400	6,300	NU213E	NJ213E	NUP213E	—	—	73	—	77	81	87	112	—	—	1.5	1.5	1.21		
	120	31	79.6	105.6	1.5	1.5	120.0	149.0	5,400	6,300	NU2213	NJ2213	UP2213	N2213	—	73	73	77	81	87	112	112	108	1.5	1.5	1.41		
	120	31	78.5	—	1.5	1.5	149.0	181.0	4,800	5,600	NU2213E	NJ2213E	NUP2213E	—	—	73	—	77	81	87	112	—	—	1.5	1.5	1.62		
	140	33	83.5	121.5	2.1	2.1	135.0	139.0	5,100	6,000	NU313	NJ313	NUP313	N313	NF313	76	76	81	85	93	129	129	125	2	2	2.23		
	140	33	82.5	—	2.1	2.1	181.0	191.0	4,600	5,400	NU313E	NJ313E	NUP313E	—	—	76	—	81	85	93	129	—	—	2	2	2.54		
	140	48	83.5	121.5	2.1	2.1	188.0	212.0	4,400	5,200	NU2313	NJ2313	NUP2313	N2313	—	76	76	81	85	93	129	129	125	2	2	3.27		
	140	48	82.5	—	2.1	2.1	248.0	287.0	4,100	4,800	NU2313E	NJ2313E	NUP2313E	—	—	76	—	81	85	93	129	—	—	2	2	3.48		
	160	37	89.3	135.3	2.1	2.1	195.0	203.0	3,600	4,300	NU413	NJ413	NUP413	N413	NF413	76	76	88	91	100	149	149	137	2	2	3.61		
70	110	20	80.0	100.0	1.1	1.0	58.5	70.5	6,500	7,600	NU1014	NJ1014	NUP1014	N1014	—	75	76.5	78	82	85	103.5	105	101	1	1	0.699		
	125	24	84.5	110.5	1.5	1.5	87.5	101.0	5,500	6,500	NU214	NJ214	NUP214	N214	NF214	78	78	82	86	92	117	117	114	1.5	1.5	1.12		
	125	24	83.5	—	1.5	1.5	119.0	137.0	5,000	5,900	NU214E	NJ214E	NUP214E	—	—	78	—	82	86	92	117	—	—	1.5	1.5	1.32		
	125	31	84.5	110.5	1.5	1.5	125.0	160.0	5,000	5,900	NU2214	NJ2214	NUP2214	N2214	—	78	78	82	86	92	117	117	114	1.5	1.5	1.47		
	125	31	83.5	—	1.5	1.5	156.0	194.0	4,500	5,200	NU2214E	NJ2214E	NUP2214E	—	—	78	—	82	86	92	117	—	—	1.56	1.56	1.71		
	150	35	90.0	130.0	2.1	2.1	158.0	168.0	4,700	5,500	NU314	NJ314	NUP314	N314	NF314	81	81	87	92	100	139	139	134	2	2	2.71		



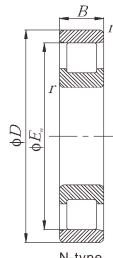
NU type



NJ type



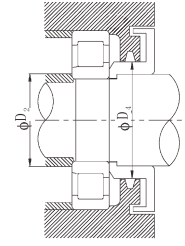
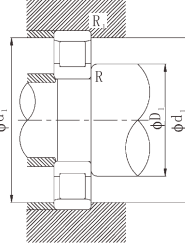
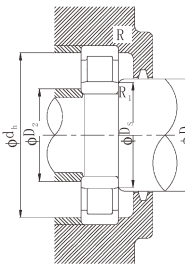
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N-type

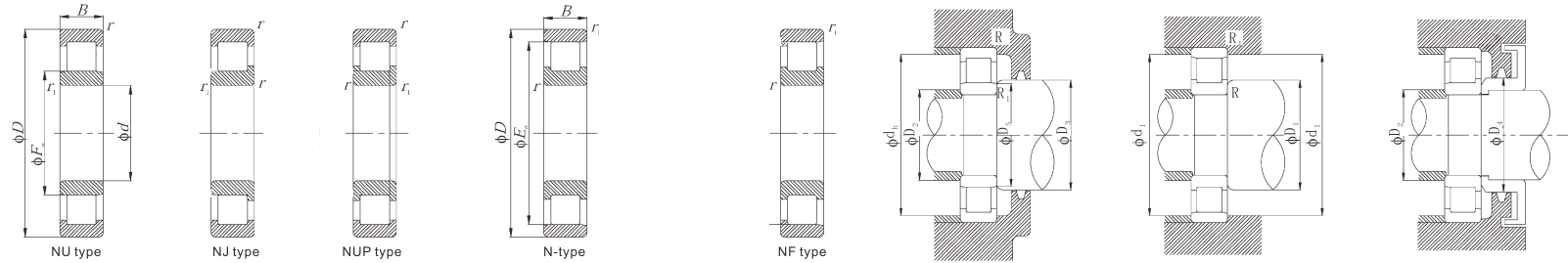
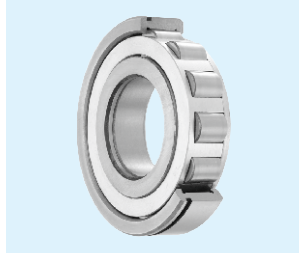


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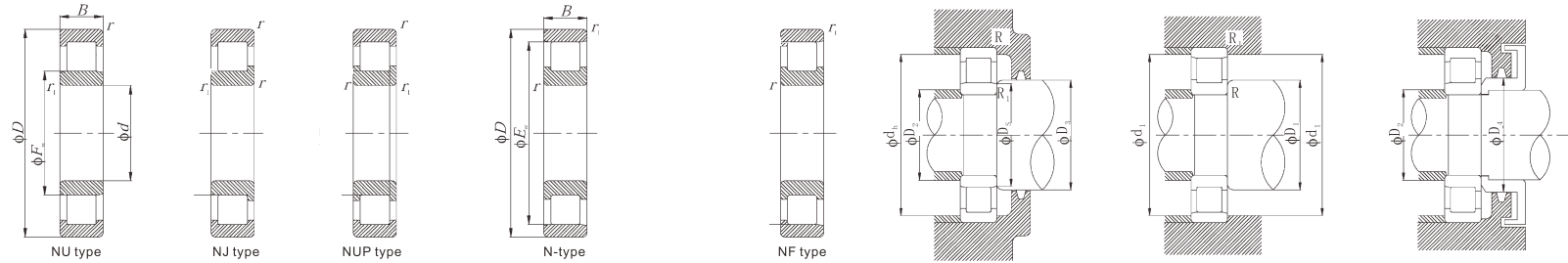
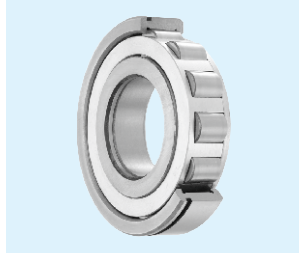
d 70~85 mm

	Boundary dimensions (mm)						Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers		Nominal numbers			Mounting dimensions (mm)										Reference mass		
	<i>d</i>	<i>D</i>	<i>B</i>	<i>F_w</i>	<i>E_w</i>	<i>r</i> (Min)	<i>r_i</i>	<i>C_r</i>	<i>C_{0r}</i>	Grease	Oil	NU type	NJ type	NUP type	Ntype	NF type	<i>D_s</i> Min	<i>D_i</i> Min	<i>D₂</i> Max	<i>D₃</i> Min	<i>D₄</i> Min	<i>d₆</i> Max	<i>d_i</i> Max	Min	<i>R</i> Max	<i>R_i</i> Max	(kg)	
70	150	35	89.0	—	2.1	2.1		205.0	222.0	4,200	5,000	NU314E	NJ314E	NUP314E	—	—	81	—	87	92	100	139	—	—	2	2		3.11
	150	51	90.0	130.0	2.1	2.1		223.0	262.0	4,100	4,800	NU2314	NJ2314	NUP2314	N2314	—	81	81	87	92	100	139	139	134	2	2		3.98
	150	51	89.0	—	2.1	2.1		274.0	325.0	3,800	4,400	NU2314E	NJ2314E	NUP2314E	—	—	81	—	87	92	100	139	—	—	2	2		4.25
	180	42	100.0	152.0	3.0	3.0		243.0	257.0	3,400	4,000	NU414	NJ414	NUP414	N414	Nf414	83	83	99	102	112	167	167	153	2.5	2.5		5.24
75	115	20	85.0	105.0	1.1	1.0		60.0	74.5	6,100	7,100	NU1015	NJ1015	NUP1015	N1015	—	80	81.5	83	87	90	108.5	110	106	1	1		0.738
	130	25	88.5	116.5	1.5	1.5		101.0	118.0	5,100	6,000	NU215	NJ215	NUP215	N215	NF215	83	83	87	90	96	122	122	120	1.5	1.5		1.23
	130	25	88.5	—	1.5	1.5		130.0	156.0	4,700	5,500	NU215E	NJ215E	NUP215E	—	—	83	—	87	90	96	122	—	—	1.5	1.5		1.41
	130	31	88.5	116.5	1.5	1.5		136.0	172.0	4,700	5,500	NU2215	NJ2215	NUP2215	N2215	—	83	83	87	90	96	122	122	120	1.5	1.5		1.55
	130	31	88.5	—	1.5	1.5		162.0	207.0	4,200	4,900	NU2215E	NJ2215E	NUP2215E	—	—	83	—	87	90	96	122	—	—	1.5	1.5		1.79
	160	37	95.5	139.5	2.1	2.1		190.0	205.0	4,400	5,200	NU315	NJ315	NUP315	N315	NF315	86	86	93	97	106	149	149	143	2	2		3.28
	160	37	95.0	—	2.1	2.1		240.0	263.0	4,000	4,700	NU315E	NJ315E	NUP315E	—	—	86	—	93	97	106	149	—	—	2	2		3.74
	160	55	95.5	139.5	2.1	2.1		274.0	325.0	3,800	4,500	NU2315	NJ2315	NUP2315	N2315	—	86	86	93	97	106	149	149	143	2	2		4.87
	160	55	95.0	—	2.1	2.1		330.0	295.0	3,500	4,100	NU2315E	NJ2315E	NUP2315E	—	—	86	—	93	97	106	149	—	—	2	2		5.25
	190	45	104.5	160.5	3.0	3.0		262.0	274.0	3,200	3,700	NU415	NJ415	NUP415	N415	NF415	88	88	103	107	118	177	177	162	2.5	2.5		6.22
80	125	22	91.5	113.5	1.1	1.0		72.5	90.5	5,700	6,700	NU1016	NJ1016	NUP1016	N1016	—	85	86.5	90	94	97	118.5	120	115	1	1		0.98
	140	26	95.3	125.3	2.0	2.0		111.0	130.0	4,800	5,700	NU216	NJ216	NUP216	N216	NF216	89	89	94	97	104	131	131	128	2	2		1.52
	140	26	95.3	—	2.0	2.0		139.0	167.0	4,400	5,100	NU216E	NJ216E	NUP216E	—	—	89	—	94	97	104	131	—	—	2	2		1.67
	140	33	95.3	125.3	2.0	2.0		154.0	198.0	4,400	5,100	NU2216	NJ2216	NUP2216	N2216	—	89	89	94	97	104	131	131	128	2	2		1.93
	140	33	95.3	—	2.0	2.0		186.0	243.0	3,900	4,600	NU2216E	NJ2216E	NUP2216E	—	—	89	—	94	97	104	131	—	—	2	2		2.12
	170	39	103.0	147.0	2.1	2.1		201.0	223.0	4,100	4,800	NU316	NJ316	NUP316	N316	NF316	91	91	99	105	114	159	159	151	2	2		3.86
	170	39	101.0	—	2.1	2.1		256.0	282.0	2,700	4,400	NU316E	NJ316E	NUP316E	—	—	91	—	99	105	114	159	—	—	2	2		4.22
	170	58	103.0	147.0	2.1	2.1		274.0	330.0	3,600	4,200	NU2316	NJ2316	NUP2316	N2316	—	91	91	99	105	114	159	159	151	2	2		5.79
	170	58	101.0	—	2.1	2.1		355.0	430.0	3,300	3,900	NU2316E	NJ2316E	NUP2316E	—	—	91	—	99	105	114	159	—	—	2	2		6.25
	200	48	110.0	170.0	3.0	3.0		299.0	315.0	3,000	3,500	NU416	NJ416	NUP416	N416	NF416	93	93	109	112	124	187	187	172	2.5	2.5		7.32
85	130	22	96.5	118.5	1.1	1.0		74.5	95.5	5,400	6,300	NU1017	NJ1017	NUP1017	N1017	—	90	91.5	95	99	102	123.5	125	120	1	1		1.03
	150	28	101.8	133.8	2.0	2.0		126.0	149.0	4,500	5,300	NU217	NJ217	NUP217	N217	NF217	94	94	99	104	110	141	141	137	2	2		1.87
	150	28	100.5	—	2.0	2.0		167.0	199.0	4,100	4,800	NU217E	NJ217E	NUP217E	—	—	94	—	99	104	110	141	—	—	2	2		2.11
	150	36	101.8	133.8	2.0	2.0		178.0	232.0	4,100	4,800	NU2217	NJ2217	NUP2217	N2217	—	94	94	99	104	110	141	141	137	2	2		2.44



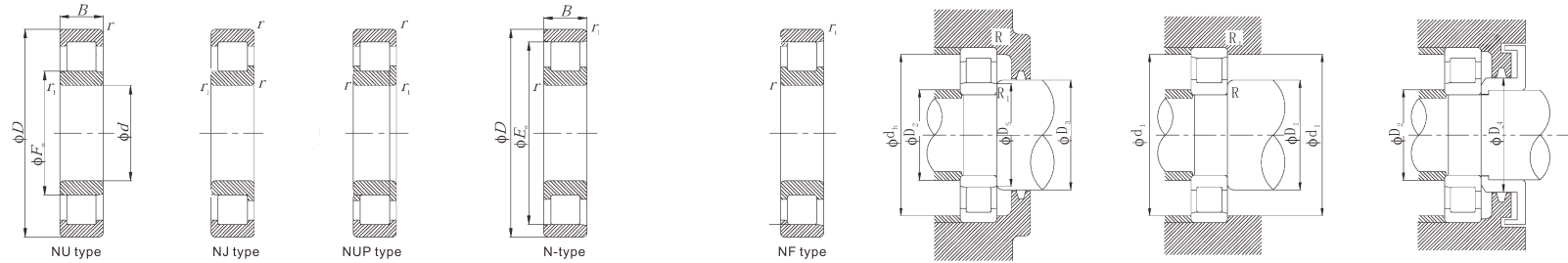
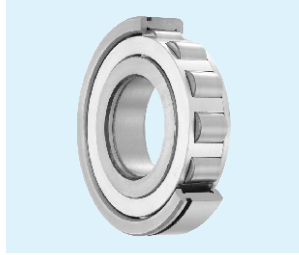
d 85~100mm

Boundary dimensions (mm)							Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers		Nominal numbers			Mounting dimensions (mm)										Reference mass		
<i>d</i>	<i>D</i>	<i>B</i>	<i>F_w</i>	<i>E_w</i>	<i>r</i> (Min)	<i>r_i</i>	<i>C_r</i>	<i>C_{0r}</i>	Grease	Oil	NU type	NJ type	NUP type	Ntype	NF type	<i>D_s</i> Min	<i>D_i</i> Min	<i>D₂</i> Max	<i>D₃</i> Min	<i>D₄</i> Min	<i>d_s</i> Max	<i>d_i</i> Max	<i>R</i> Min	<i>R_i</i> Max	<i>R_i</i> Max	(kg)		
85	150	36	100.5	—	2.0	2.0	217.0	279.0	3,700	4,300	NU2217E	NJ2217E	NUP2217E	—	—	94	—	99	104	110	141	—	—	2	2		2.67	
	180	41	108.0	156.0	3.0	3.0	225.0	247.0	3,900	4,600	NU317	NJ317	NUP317	N317	N317	98	98	106	110	119	167	167	160	2.5	2.5		4.54	
	180	41	108.0	—	3.0	3.0	291.0	330.0	3,500	4,100	NU317E	NJ317E	NUP317E	—	—	98	—	106	110	119	167	—	—	2.5	2.5		4.81	
	180	60	108.0	156.0	3.0	3.0	315.0	380.0	3,400	4,000	NU2317	NJ2317	NUP2317	N2317	—	98	98	106	110	119	167	167	160	2.5	2.5		6.7	
	180	60	108.0	—	3.0	3.0	395.0	485.0	3,100	3,700	NU2317E	NJ2317E	NUP2137E	—	—	98	—	106	110	119	167	—	—	2.5	2.5		7.16	
	210	52	113.0	177.0	4.0	4.0	335.0	350.0	2,800	3,300	NU417	NJ417	NUP417	N417	NF417	101	101	111	115	128	194	194	179	3	3		9.41	
	180	60	108.0	156.0	3.0	3.0	315.0	380.0	3,400	4,000	NU2317	NJ2317	NUP2317	N2317	—	98	98	106	110	119	167	167	160	2.5	2.5		6.7	
	180	60	108.0	—	3.0	3.0	395.0	485.0	3,100	3,700	NU2317E	NJ2317E	NUP2137E	—	—	98	—	106	110	119	167	—	—	2.5	2.5		7.16	
	210	52	113.0	177.0	4.0	4.0	335.0	350.0	2,800	3,300	NU417	NJ417	NUP417	N417	NF417	101	101	111	115	128	194	194	179	3	3		9.41	
90	140	24	103.0	127.0	1.5	1.1	88.0	114.0	5,100	5,900	NU101018	NJ1018	NUP1018	N1018	—	96.5	98	101	106	109	132	134	129	1.5	1		1.33	
	160	30	107.0	143.0	2.0	2.0	152.0	178.0	4,300	5,000	NU218	NJ218	NUP218	N218	N218	99	99	105	109	116	151	151	146	2	2		2.29	
	160	30	107.0	—	2.0	2.0	182.0	217.0	3,900	4,600	NU218E	NJ218E	NUP218E	—	—	99	—	105	109	116	151	—	—	2	2		2.44	
	160	40	107.0	143.0	2.0	2.0	207.0	265.0	3,900	4,600	NU2218	NJ2218	NUP2218	N2218	—	99	99	105	109	116	151	151	146	2	2		3.09	
	160	40	107.0	—	2.0	2.0	242.0	315.0	3,500	4,100	NU2218E	NJ2218E	NUP2218E	—	—	99	—	105	109	116	151	—	—	2	2		3.33	
	190	43	115.0	165.0	3.0	3.0	240.0	265.0	3,700	4,300	NU318	NJ318	NUP318	N318	N318	103	103	111	117	127	177	177	169	2.5	2.5		5.31	
	190	43	113.5	—	3.0	3.0	315.0	355.0	3,300	3,900	NU318E	NJ318E	NUP318E	—	—	103	—	111	117	127	177	—	—	2.5	2.5		5.72	
	190	64	115.0	165.0	3.0	3.0	325.0	395.0	3,200	3,800	NU2318	NJ2318	NUP2318	N2318	—	103	103	111	117	127	177	177	169	2.5	2.5		7.95	
	190	64	113.5	—	3.0	3.0	435.0	535.0	2,900	3,400	NU2318E	NJ2318E	NUP2318E	—	—	103	—	111	117	127	177	—	—	2.5	2.5		8.56	
	225	54	123.5	191.5	4.0	4.0	375.0	400.0	2,600	3,100	NU418	NJ418	NUP418	N418	NF418	106	106	122	125	139	209	209	194	3	3		11.2	
	95	145	24	108.0	132.0	1.5	1.1	90.5	120.0	4,800	5,600	NU1019	NJ1019	NUP1019	N1019	—	101.5	103	106	111	114	137	139	134	1.5	1		1.42
		170	32	113.5	151.5	2.1	2.1	166.0	195.0	4,000	4,700	NU219	NJ219	NUP219	N219	NF219	106	106	111	116	123	159	159	155	2	2		2.78
		170	32	112.5	—	2.1	2.1	220.0	265.0	3,600	4,300	NU219E	NJ219E	NUP209E	—	—	106	—	111	116	123	159	—	—	2	2		3.02
		170	43	113.5	151.5	2.1	2.1	230.0	298.0	3,600	4,300	NU2219	NJ2219	NUP2219	N2219	—	106	—	111	116	123	159	159	155	2	2		3.79
		170	43	112.5	—	2.1	2.1	286.0	370.0	3,300	3,800	NU2219E	NJ2219E	NUP2219E	—	—	106	—	111	116	123	159	—	—	2	2		4.14
200		45	121.5	173.5	3.0	3.0	274.0	310.0	3,400	4,000	NU319	NJ319	NUP319	N319	NF319	108	108	119	124	134	187	187	178	2.5	2.5		6.13	
200		45	121.5	—	3.0	3.0	335.0	385.0	3,100	3,600	NU319E	NJ319E	NUP319E	—	—	108	—	119	124	134	187	—	—	2.5	2.5		6.62	
200		67	121.5	173.5	3.0	3.0	395.0	495.0	3,000	3,500	NU2319	NJ2319	NUP2319	N2319	—	108	108	119	124	134	187	187	178	2.5	2.5		9.21	
200		67	121.5	—	3.0	3.0	460.0	585.0	2,700	3,200	NU2319E	NJ2319E	NUP2319E	—	—	108	—	119	124	134	187	—	—	2.5	2.5		9.81	
240		55	133.5	201.5	4.0	4.0	400.0	445.0	2,500	2,900	NU419	NJ419	NUP419	N419	NF419	111	111	132	136	149	224	224	204	3	3		13.2	
100		150	24	113.0	137.0	1.5	2.1	93.0	126.0	4,600	5,400	NU1020	NJ1020	NUP1020	N1020	—	106.5	108	111	116	119	142	144	139	1.5	2		1.45
		180	34	120.0	160.0	2.1		183.0	217.0	3,800	4,500	NU220	NJ220	NUP220	N220	NF220	111	111	117	122	130	169	169	164	2			3.33
		180	34	119.0	—	2.1	2.1	249.0	305.0	3,500	4,100	NU220E	NJ220E	NUP220E	—	—	111	—	117	122	130	169	—	—	2	2		3.66



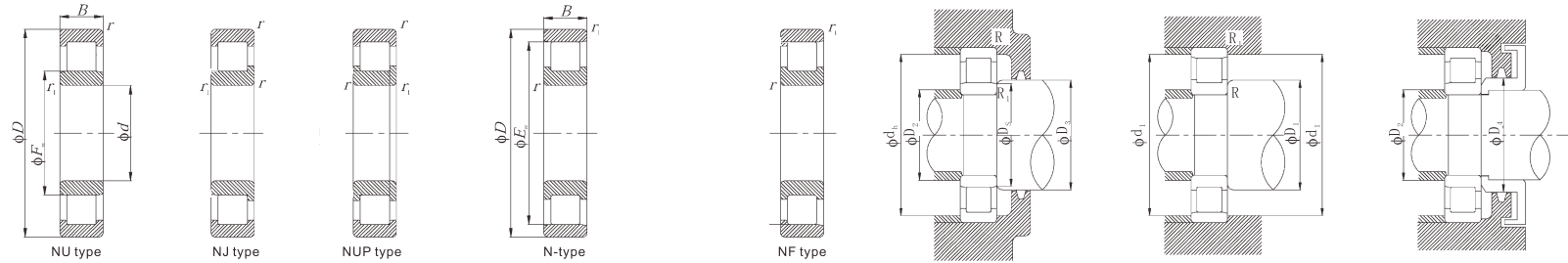
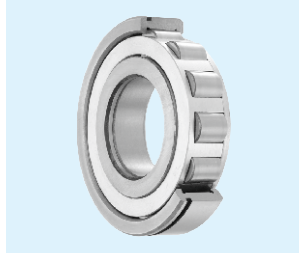
d 100~120 mm

Boundary dimensions (mm)							Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers		Nominal numbers					Mounting dimensions (mm)										Reference mass	
<i>d</i>	<i>D</i>	<i>B</i>	<i>F_w</i>	<i>E_w</i>	<i>r</i> (Min)	<i>r₁</i>	<i>C_r</i>	<i>C_{0r}</i>	Grease	Oil	NU type	NJ type	NUP type			Ntype	NF type	<i>D_s</i> Min	<i>D₁</i> Min	<i>D₂</i> Max	<i>D₃</i> Min	<i>D₄</i> Min	<i>d_s</i> Max	<i>d₁</i> Max	<i>d₁</i> Min	<i>R</i> Max	<i>R₁</i> Max	(kg)	
100	180	46	120.0	160.0	2.1	2.1	258.0	340.0	3,500	4,100	NU2220E	NJ2220	NUP2220E			N2220	—	111	111	117	122	130	169	169	164	2	2	4.57	
	180	46	119.0	—	2.1	2.1	335.0	445.0	3,100	3,600	NU2220E	NJ2220E	NUP2220E			—	—	111	—	117	122	130	169	—	—	2	2	5.01	
	215	47	129.5	185.5	3.0	3.0	315.0	365.0	3,300	3,800	NU320	NJ320	NUP320			N320	NF320	113	113	125	132	143	202	202	190	2.5	2.5	7.49	
	215	47	127.5	—	3.0	3.0	380.0	425.0	2,900	3,500	NU320E	NJ320E	NUP320E			—	—	113	—	125	132	143	202	—	—	2.5	2.5	8.57	
	215	73	129.5	185.5	3.0	3.0	460.0	590.0	2,900	3,400	NU2320	NJ2320	NUP2320			N2320	—	113	113	125	132	143	202	202	190	2.5	2.5	11.7	
	215	73	127.5	—	3.0	3.0	570.0	715.0	2,600	3,100	NU2320E	NJ2320E	NUP2320E			—	—	113	—	125	132	143	202	—	—	2.5	2.5	12.8	
	250	58	139.0	211.0	4.0	4.0	445.0	495.0	2,300	2,800	NU420	NJ420	NUP420			N420	NF420	116	116	137	141	156	234	234	213	3	3	14.9	
	105	160	26	119.5	145.5	2.0	2.0	105.0	142.0	4,300	5,100	NU1021	NJ1021	NUP1021			N1021	—	111.5	114	118	122	126	151	154	148	2	1	1.84
		190	36	126.8	168.8	2.1	2.1	201.0	241.0	3,600	4,300	NU221	NJ221	NUP221			N221	NF221	116	116	124	129	137	179	179	173	2	2	3.95
		225	49	135.0	195.0	3.0	3.0	360.0	415.0	3,100	3,700	NU321	NJ321	NUP321			N321	NF321	118	118	132	137	149	212	212	199	2.5	2.5	8.53
		260	60	144.5	220.5	4.0	4.0	495.0	555.0	2,200	2,600	NU421	NJ421	NUP421			N421	NF421	121	121	143	147	162	244	244	223	3	3	16.6
110	170	28	125.0	155.0	2.0	2.0	131.0	174.0	4,100	4,800	NU1022	NJ1022	NUP1022			N1022	—	116.5	119	124	128	132	161	164	157	2	1	2.33	
	200	38	132.5	178.5	2.1	2.1	240.0	290.0	3,400	4,000	NU222	NJ222	NUP222			N2220	NF222	121	121	130	135	144	189	189	182	2	2	4.63	
	200	38	132.5	—	2.1	2.1	293.0	365.0	3,100	3,700	NU222E	NJ222E	NUP222E			—	—	121	—	130	135	144	189	—	—	2	2	4.27	
	200	53	132.5	178.5	2.1	2.1	335.0	440.0	3,100	3,700	NU2222	NJ2222	NUP2222			N2222	—	121	121	130	135	144	189	189	182	2	2	6.56	
	200	53	132.5	—	2.1	2.1	385.0	515.0	2,800	3,300	NU2222E	NJ2222E	NUP2222E			—	—	121	—	130	135	144	189	—	—	2	2	7.41	
	240	50	143.0	207.0	3.0	3.0	400.0	465.0	3,000	3,500	NU322	NJ322	NUP322			N322	NF322	123	123	140	145	158	227	227	211	2.5	2.5	10.1	
	240	50	143.0	—	3.0	3.0	450.0	525.0	2,700	3,100	NU322E	NJ322E	NUP322E			—	—	123	123	140	145	158	227	—	—	2.5	2.5	11.1	
	240	80	143.0	207.0	3.0	3.0	605.0	790.0	2,600	3,100	NU2322	NJ2322	NUP2322			N2322	—	123	123	140	145	158	227	227	211	2.5	2.5	17.1	
	240	80	143.0	—	3.0	3.0	675.0	880.0	2,400	2,800	NU2322E	NJ2322E	NUP2322E			—	—	123	—	140	145	158	227	—	—	2.5	2.5	19.4	
	280	65	155.0	235.0	4.0	4.0	550.0	620.0	2,100	2,500	NU422	NJ422	NUP422			N422	NF422	126	126	153	157	173	264	264	237	3	3	21.1	
	120	180	28	135.0	165.0	2.0	2.0	139.0	191.0	3,800	4,400	NU1024	NJ1024	NUP1024			N1024	—	126.5	129	134	138	142	171	174	167	2	1	2.44
215		40	143.5	191.5	2.1	2.1	272.0	340.0	3,200	3,700	NU224	NJ224	NUP224			N224	NF224	131	131	141	146	156	204	204	196	2	2	5.57	
215		40	143.5	—	2.1	2.1	335.0	420.0	2,900	3,400	NU224E	NJ224E	NUP224E			—	—	131	—	141	146	156	204	—	—	2	2	5.97	
215		58	143.5	191.5	2.1	2.1	380.0	525.0	2,900	3,400	NU2224	NJ2224	NUP2224			N2224	—	131	131	141	146	156	204	204	196	2	2	8.19	
215		58	143.5	—	2.1	2.1	450.0	620.0	2,600	3,000	NU2224E	NJ2224E	NUP2224E			—	—	131	—	141	146	156	204	—	—	2	2	9.18	
260		55	154.0	226.0	3.0	3.0	475.0	550.0	2,700	3,200	NU324	NJ324	NUP324			N324	NF324	133	133	151	156	171	247	247	230	2.5	2.5	12.8	



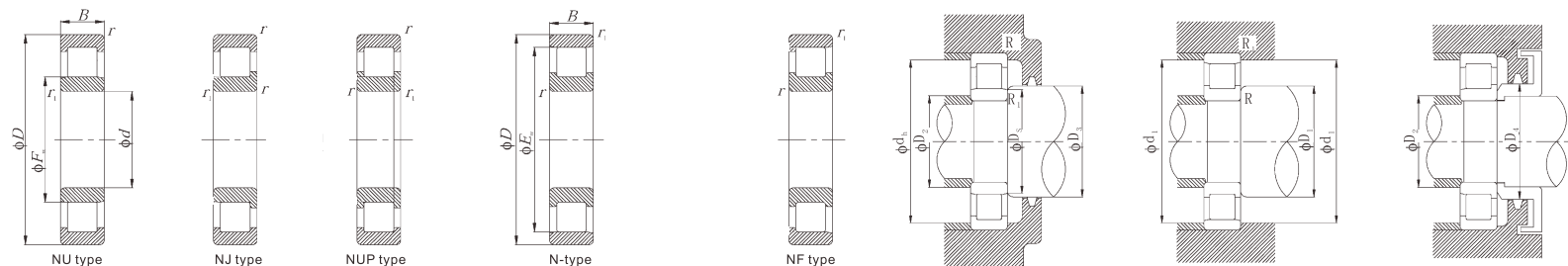
d 120~150 mm

	Boundary dimensions (mm)						Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers					Mounting dimensions (mm)										Reference mass (kg)
	d	D	B	F _w	E _w	r _i (Min)	C _r	C _{0r}	Grease	Oil	NU type	NJ type	NUP type	Ntype	NF type	D _s Min	D _i Min	D ₂ Max	D ₁ Min	D ₄ Min	d ₆ Max	d ₁ Max	R Min	R _i Max	R _i Max	
120	260	55	154.0	—	3.0	3.0	530.0	610.0	2,400	2,800	NU324E	NJ324E	NUP324E	—	—	133	—	151	156	171	247	—	—	2.5	2.5	13.9
	260	86	154.0	226.0	3.0	3.0	710.0	920.0	2,400	2,800	NU2324	NJ2324	NUP2324	N2324	—	133	133	151	156	171	247	247	230	2.5	2.5	21.5
	260	86	154.0	—	3.0	3.0	795.0	1030.0	2,200	2,500	NU2324E	NJ2324E	NUP2324E	—	—	133	—	151	156	171	247	—	—	2.5	2.5	26.1
	310	72	170.0	260.0	5.0	5.0	675.0	770.0	1,900	2,300	NU424	NJ424	NUP424	N424	NF424	140	140	168	172	190	290	290	262	4	4	28.9
130	200	32	148.0	182.0	2.0	1.1	172.0	238.0	3,400	4,000	NU1026	NJ1026	NUP1026	N1026	—	136.5	139	146	151	156	191	194	184	2	1	3.69
	230	40	156.0	204.0	3.0	3.0	282.0	360.0	2,900	3,400	NU226	NJ226	NUP226	N226	NF226	143	143	151	158	168	217	217	208	2.5	2.5	6.32
	230	40	153.5	—	3.0	3.0	365.0	455.0	2,600	3,100	NU226E	NJ226E	NUP226E	—	—	143	—	151	158	168	217	—	—	2.5	2.5	6.92
	230	64	156.0	204.0	3.0	3.0	395.0	560.0	2,600	3,100	NU2226	NJ2226	NUP2226	N2226	—	143	143	151	158	168	217	217	208	2.5	2.5	10.2
	230	64	153.5	—	3.0	3.0	530.0	735.0	2,300	2,700	NU2226E	NJ2226E	NUP2226E	—	—	143	—	151	158	168	217	—	—	2.5	2.5	11.8
	280	58	167.0	243.0	4.0	4.0	560.0	665.0	2,500	2,900	NU326	NJ326	NUP326	N326	NF326	146	146	164	169	184	264	264	247	3	3	17.4
	280	58	167.0	—	4.0	4.0	615.0	735.0	2,200	2,600	NU326E	NJ326E	NUP326E	—	—	146	—	164	169	184	264	—	—	3	3	19.4
	280	93	167.0	243.0	4.0	4.0	840.0	1130.0	2,200	2,600	NU2326	NJ2326	NUP2326	N2326	—	146	146	164	169	184	264	264	247	3	3	26.9
	280	93	167.0	—	4.0	4.0	920.0	1230.0	2,000	2,300	NU2326E	NJ2326E	NUP2326E	—	—	146	—	164	169	184	264	—	—	3	3	30.9
	340	78	185.0	285.0	5.0	5.0	825.0	955.0	1,800	2,100	NU426	NJ426	NUP426	N426	NF426	150	150	183	187	208	320	320	287	4	4	37.7
140	210	33	158.0	192.0	2.0	1.1	176.0	250.0	3,200	3,800	NU1028	NJ1028	NUP1028	N1028	—	146.5	149	156	161	166	201	204	194	2	1	4.05
	250	42	169.0	221.0	3.0	3.0	325.0	420.0	2,700	3,100	NU228	NJ228	NUP228	N228	NF228	153	153	166	171	182	237	237	225	2.5	2.5	7.88
	250	42	169.0	—	3.0	3.0	395.0	515.0	2,400	2,800	NU228E	NJ228E	NUP228E	—	—	153	—	166	171	182	237	—	—	2.5	2.5	8.73
	250	68	169.0	221.0	3.0	3.0	465.0	670.0	2,400	2,800	NU2228	NJ2228	NUP2228	N2228	—	153	153	166	171	182	237	237	225	2.5	2.5	12.9
	250	68	169.0	—	3.0	3.0	575.0	835.0	2,100	2,500	NU2228E	NJ2228E	NUP2228E	—	—	153	—	166	171	182	237	—	—	2.5	2.5	15.8
	300	62	180.0	260.0	4.0	4.0	615.0	745.0	2,300	2,700	NU328	NJ328	NUP328	N328	NF328	156	156	176	182	198	284	284	265	3	3	21.2
	300	62	180.0	—	4.0	4.0	665.0	795.0	2,100	2,400	NU328E	NJ328E	NUP328E	—	—	156	—	176	182	198	284	—	—	3	3	23.2
	300	102	180.0	260.0	4.0	4.0	920.0	1250.0	2,000	2,300	NU2328	NJ2328	NUP2328	N2328	—	156	156	176	182	198	284	284	265	3	3	33.8
	300	102	180.0	—	4.0	4.0	1020.0	1380.0	1,800	2,100	NU2328E	NJ2328E	NUP2328E	—	—	156	—	176	182	198	284	—	—	3	3	38.7
	360	82	198.0	302.0	5.0	5.0	875.0	1020.0	1,600	1,900	NU428	NJ428	NUP428	N428	NF428	160	160	195	200	222	340	340	304	4	4	44.3
150	225	35	169.5	205.5	2.1	1.5	202.0	294.0	3,000	3,500	NU1030	NJ1030	NUP1030	N1030	—	158	161	167	173	178	214	217	208	2	1.5	4.77
	270	45	182.0	238.0	3.0	3.0	375.0	490.0	2,500	2,900	NU230	NJ230	NUP230	N230	NF230	163	163	179	184	196	257	257	242	2.5	2.5	9.92
	270	45	182.0	—	3.0	3.0	450.0	595.0	2,200	2,600	NU230E	NJ230E	NUP230E	—	—	163	—	179	184	196	257	—	—	2.5	2.5	11.1
	270	73	182.0	238.0	3.0	3.0	545.0	800.0	2,200	2,600	NU2230	NJ2230	NUP2230	N2230	—	163	163	179	184	196	257	257	242	2.5	2.5	16.3



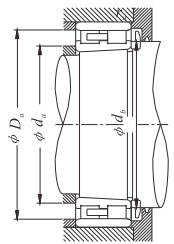
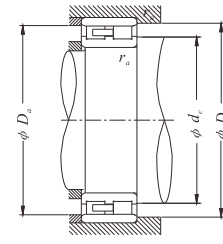
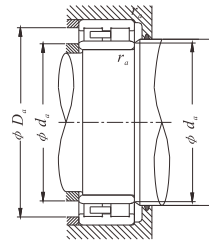
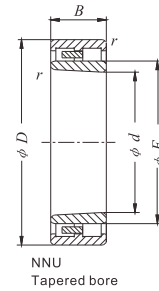
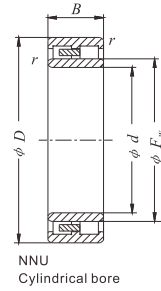
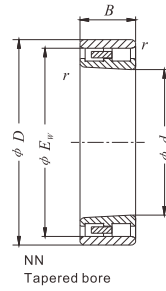
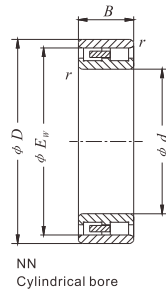
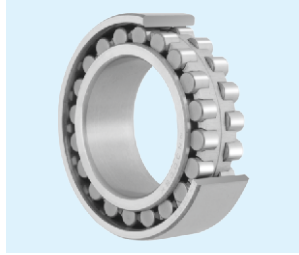
d 150~180 mm

Boundary dimensions (mm)							Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers		Nominal numbers			Mounting dimensions (mm)										Reference mass
<i>d</i>	<i>D</i>	<i>B</i>	<i>F_w</i>	<i>E_w</i>	<i>r</i> (Min)	<i>r_i</i>	<i>C_r</i>	<i>C_{0r}</i>	Grease	Oil	NU type	NJ type	NUP type	Ntype	NF type	<i>D_s</i> Min	<i>D_i</i> Min	<i>D₂</i> Max	<i>D₃</i> Min	<i>D₄</i> Min	<i>d_s</i> Max	<i>d_i</i> Max	<i>d_i</i> Min	<i>R</i> Max	<i>R_i</i> Max	(kg)
150	270	73	182.0	—	3.0	3.0	660.0	980.0	2,000	2,400	NU2230E	NJ2230E	NUP2230E	—	—	163	—	179	184	196	257	—	—	2.5	2.5	19.7
	320	65	193.0	277.0	4.0	4.0	665.0	805.0	2,100	2,500	NU330	NJ330	NUP330	N330	NF330	166	166	190	195	213	304	304	282	3	3	25.3
	320	65	193.0	—	4.0	4.0	760.0	920.0	1,900	2,300	NU330E	NJ330E	NUP330E	—	—	166	—	190	195	213	304	—	—	3	3	28.4
	320	108	193.0	277.0	4.0	4.0	1020.0	1400.0	1,900	2,200	NU2330	NJ2330	NUP2330	N2330	—	166	166	190	195	213	304	304	282	3	3	40.6
	320	108	193.0	—	4.0	4.0	1160.0	1600.0	1,700	2,000	NU2330E	NJ2330E	NUP2330E	—	—	166	—	190	195	213	304	—	—	3	3	47.2
	380	85	213.0	317.0	5.0	5.0	930.0	1120.0	1,500	1,800	NU430	NJ430	NUP430	N430	NF430	170	170	210	216	237	360	360	319	4	4	50.8
160	240	38	180.0	220.0	2.1	1.5	238.0	340.0	2,800	3,300	NU1032	NJ1032	NUP1032	N1032	—	168	171	178	184	189	229	232	222	2	1.5	5.91
	290	48	195.0	255.0	3.0	3.0	430.0	570.0	2,300	2,700	NU232	NJ232	NUP232	N232	NF232	173	173	192	197	210	277	277	259	2.5	2.5	13.7
	290	48	195.0	—	3.0	3.0	500.0	665.0	2,100	2,400	NU232E	NJ232E	NUP232E	—	—	173	—	192	197	210	277	—	—	2.5	2.5	15.6
	290	80	195.0	255.0	3.0	3.0	630.0	940.0	2,100	2,400	NU2232	NJ2232	NUP2232	N2232	—	173	173	192	197	210	277	277	259	2.5	2.5	22.1
	290	80	193.0	—	3.0	3.0	810.0	1190.0	1,900	2,200	NU2232E	NJ2232E	NUP2232E	—	—	173	—	192	197	210	277	—	—	2.5	2.5	25.1
	340	68	208.0	292.0	4.0	4.0	700.0	875.0	2,000	2,300	NU332	NJ332	NUP332	N332	NF332	176	176	200	211	228	324	324	297	3	3	31.3
	340	68	204.0	—	4.0	4.0	860.0	1050.0	1,800	2,100	NU332E	NJ332E	NUP332E	—	—	176	—	200	211	228	324	—	—	3	3	34
	340	114	208.0	292.0	4.0	4.0	1070.0	1520.0	1,700	2,000	NU2332	NJ2332	NUP2332	N2332	—	176	176	200	211	228	324	324	297	3	3	50.5
	340	114	204.0	—	4.0	4.0	1310.0	1820.0	1,600	1,900	NU2332E	NJ2332E	NUP2332E	—	—	176	—	200	211	228	324	—	—	3	3	56
	170	260	42	193.0	237.0	2.1	2.1	278.0	400.0	2,600	3,000	NU1034	NJ1034	NUP1034	N1034	—	181	181	190	197	203	249	249	239	2	2
310		52	208.0	272.0	4.0	4.0	475.0	635.0	2,200	2,500	NU234	NJ234	NUP234	N234	NF234	186	186	204	211	223	294	294	277	3	3	17
310		52	207.0	—	4.0	4.0	605.0	800.0	2,000	2,300	NU234E	NJ234E	NUP234E	—	—	186	—	204	211	223	294	—	—	3	3	19.6
310		86	208.0	272.0	4.0	4.0	715.0	1080.0	2,000	2,300	NU2234	NJ2234	NUP2234	N2234	—	186	186	204	211	223	294	294	277	3	3	27.2
310		86	205.0	—	4.0	4.0	965.0	1410.0	1,800	2,100	NU2234E	NJ2234E	NUP2234E	—	—	186	—	204	211	223	294	—	—	3	3	31
360		72	220.0	310.0	4.0	4.0	795.0	1010.0	1,800	2,200	NU334	NJ334	NUP334	N334	NF334	186	186	216	223	241	344	344	315	3	3	37
360		120	220.0	310.0	4.0	4.0	1220.0	1750.0	1,600	1,900	NU2334	NJ2334	NUP2334	N2334	—	186	186	216	223	241	344	344	315	3	3	59.5
180		280	46	205.0	255.0	2.1	2.1	340.0	485.0	2,400	2,900	NU1036	NJ1036	NUP1036	N1036	—	191	191	203	209	216	269	269	257	2	2
	320	52	218.0	282.0	4.0	4.0	495.0	675.0	2,000	2,400	NU236	NJ236	NUP236	N236	NF236	196	196	214	221	233	304	304	287	3	3	17.7
	320	52	217.0	—	4.0	4.0	625.0	850.0	1,800	2,200	NU236E	NJ236E	NUP236E	—	—	196	—	214	221	233	304	—	—	3	3	20.4
	320	86	218.0	282.0	4.0	4.0	745.0	1140.0	1,800	2,200	NU2236	NJ2236	NUP2236	N2236	—	196	196	214	221	233	304	304	287	3	3	28.4
	320	86	215.0	—	4.0	4.0	1010.0	1510.0	1,600	1,900	NU2236E	NJ2236E	NUP2236E	—	—	196	—	214	221	233	304	—	—	3	3	31.9
	380	75	232.0	328.0	4.0	4.0	905.0	1150.0	1,700	2,000	NU336	NJ336	NUP336	N336	NF336	196	196	227	235	255	364	364	333	3	3	44.2
	380	126	232.0	328.0	4.0	4.0	1380.0	1990.0	1,500	1,800	NU2336	NJ2336	NUP2336	N2336	—	196	196	227	235	255	364	364	333	3	3	69.5



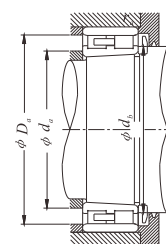
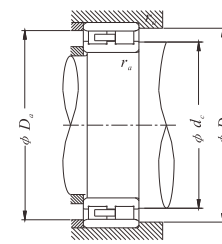
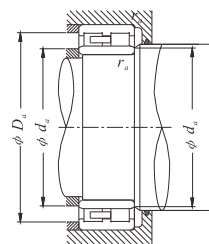
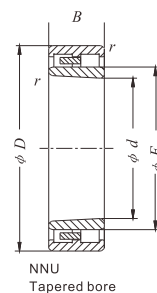
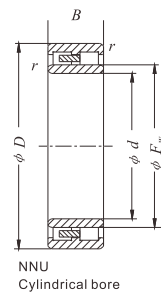
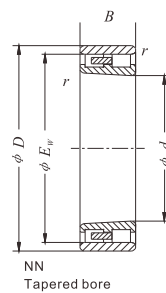
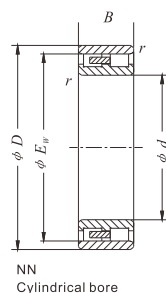
d 190~200mm

d	Boundary dimensions (mm)						Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers					Mounting dimensions (mm)										Reference mass (kg)
	D	B	F _w	E _w	r	r _i	C _r	C _{0r}	Grease	Oil	NU type	NJ type	NUP type	Ntype	NF type	D _s Min	D _i Min	D ₂ Max	D ₁ Min	D ₄ Min	d ₆ Max	d ₇ Max	d ₁ Min	R Max	R _i Max	
190	290	46	215.0	265.0	2.1	2.1	350.0	510.0	2,300	2,700	NU1038	NJ1038	NUP1038	N1038	—	201	201	213	219	226	279	279	267	2	2	10.7
	340	55	231.0	299.0	4.0	4.0	555.0	770.0	1,900	2,200	NU238	NJ238	NUP238	N238	NF238	206	206	227	234	247	324	324	304	3	3	21.3
	340	55	230.0	—	4.0	4.0	695.0	955.0	1,700	2,000	NU238E	NJ238E	NUP238E	—	—	206	—	227	234	247	324	—	—	3	3	24.2
	340	92	231.0	299.0	4.0	4.0	830.0	1290.0	1,700	2,000	NU2238	NJ2238	NUP2238	N2238	—	206	206	227	234	247	324	324	304	3	3	34.4
	340	92	228.0	—	4.0	4.0	1100.0	1670.0	1,500	1,800	NU2238E	NJ2238E	NUP2238E	—	—	206	—	227	234	247	324	—	—	3	3	39.5
	400	78	245.0	345.0	5.0	5.0	975.0	1260.0	1,600	1,900	NU338	NJ338	NUP338	N338	NF338	210	210	240	248	268	380	380	351	4	4	49.4
	400	132	245.0	345.0	5.0	5.0	1520.0	2220.0	1,400	1,700	NU2338	NJ2338	NUP2338	N2338	—	210	210	240	248	268	380	380	351	4	4	80.5
	310	51	229.0	281.0	2.1	2.1	390.0	580.0	2,200	2,600	NU1040	NJ1040	NUP1040	N1040	—	211	211	226	233	241	299	299	283	2	2	13.9
	360	58	244.0	316.0	4.0	4.0	620.0	865.0	1,800	2,100	NU240	NJ240	NUP240	N240	NF240	216	216	240	247	261	344	344	321	3	3	25.3
	360	58	243.0	—	4.0	4.0	765.0	1060.0	1,600	1,900	NU240E	NJ240E	NUP240E	—	—	216	—	240	247	261	344	—	—	3	3	28.1
200	360	98	244.0	316.0	4.0	4.0	925.0	1440.0	1,600	1,900	NU2240	NJ2240	NUP2240	N2240	—	216	216	240	247	261	344	344	321	3	3	41.3
	360	98	241.0	—	4.0	4.0	1220.0	1870.0	1,500	1,700	NU2240E	NJ2240E	NUP2240E	—	—	216	—	240	247	261	344	—	—	3	3	47.8
	420	80	260.0	360.0	5.0	5.0	975.0	1270.0	1,500	1,800	NU340	NJ340	NUP340	N340	NF340	220	220	254	263	283	400	400	366	4	4	55.8
	420	138	260.0	360.0	5.0	5.0	1510.0	2240.0	1,400	1,600	NU2340	NJ2340	NUP2340	N2340	—	220	220	254	263	283	400	400	366	4	4	92.6



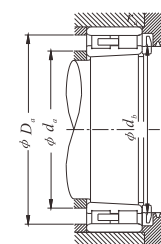
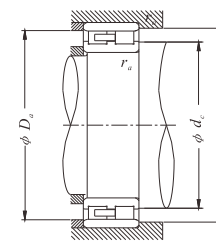
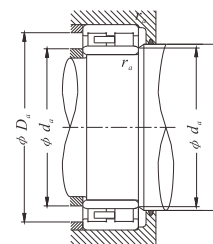
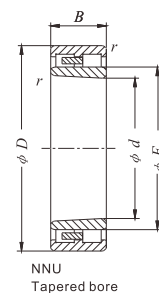
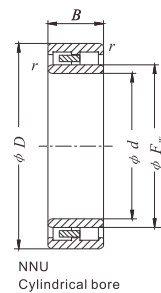
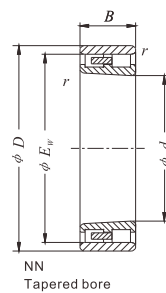
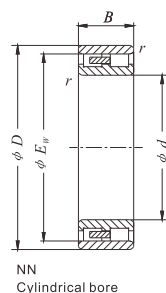
d 25~105 mm

Boundary dimensions (mm)										Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers		Nominal numbers		Mounting dimensions (mm)							Reference mass (kg)	
d	D	B	F _w	E _w	r	r _i	C _r	C _{0r}				Grease	Oil	Cylindrical bore	Tapered bore	Cylindrical bore	Tapered bore	d _a Min	d _a Max	d _b Min	d _c Min	D _a Max	D _a Min	r _a Max	Cylindrical bore	Tapered bore
25	47	16	—	41.3	0.6		26.0	30.0				14,000	17,000	NN3005	NN3005K	3282105	3182105	29	—	29	—	43	42	0.6	0.125	0.122
30	55	19	—	48.5	1.0		30.8	37.5				12,000	14,000	NN3006	NN3006K	3282106	3182106	35	—	36	—	50	50	1	0.199	0.193
35	62	20	—	55.0	1.0		39.1	50.0				10,000	12,000	NN3007	NN3007K	3282107	3182107	40	—	41	—	57	56	1	0.243	0.236
40	68	21	—	61.0	1.0		42.9	56.0				9,000	11,000	NN3008	NN3008K	3282108	3182108	45	—	46	—	63	62	1	0.311	0.302
45	75	23	—	67.5	1.0		50.1	65.5				8,500	10,000	NN3009	NN3009K	3282109	3182109	50	—	51	—	70	69	1	0.405	0.393
50	80	23	—	72.5	1.0		52.8	73.5				7,500	9,000	NN3010	NN3010K	3282110	3182110	55	—	56	—	75	74	1	0.436	0.419
55	90	26	—	81.0	1.1		69.3	96.5				6,700	8,000	NN3011	NN3011K	3282111	3182111	61.5	—	62	—	83.5	83	1	0.648	0.63
60	95	26	—	86.1	1.1		73.2	106.0				6,300	7,500	NN3012	NN3012K	3282112	3182112	66.5	—	67	—	88.5	88	1	0.694	0.681
65	100	26	—	91.0	1.1		76.5	116.0				6,000	7,100	NN3013	NN3013K	3282113	3182113	71.5	—	72	—	93.5	93	1	0.74	0.731
70	110	30	—	100.0	1.1		96.8	150.0				5,600	6,700	NN3014	NN3014K	3282114	3182114	76.5	—	77	—	103.5	102	1	1.07	1.01
75	115	30	—	105.0	1.1		96.8	150.0				5,300	6,300	NN3015	NN3015K	3282115	3182115	81.5	—	82	—	108.5	107	1	1.14	1.11
80	125	34	—	113.0	1.1		119.0	186.0				4,800	6,000	NN3016	NN3016K	3282116	3182116	86.5	—	87	—	118.5	115	1	1.53	1.48
85	130	34	—	118.0	1.1		125.0	204.0				4,500	5,600	NN3017	NN3017K	3282117	3182117	91.5	—	92	—	123.5	120	1	1.63	1.55
90	140	37	—	127.0	1.5		138.0	216.0				4,300	5,000	NN3018	NN3018K	3282118	3182118	98	—	99	—	132	129	1.5	2.12	2.01
95	145	37	—	132.0	1.5		151.0	250.0				4,000	5,000	NN3019	NN3019K	3282119	3182119	103	—	104	—	137	134	1.5	2.21	2.09
100	140	40	113.0	—	1.1		128.0	255.0				4,000	5,000	NNU4920	NNU4920K	4482920	4382920	106.5	111	108	115	133.5	—	1	1.83	1.75
	140	40	—	129.0	1.1		128.0	255.0				4,000	5,000	NN4920	NN4920K	4282920	4182920	106.5	—	108	—	133.5	131	1	1.75	1.67
	150	37	—	137.0	1.5		151.0	250.0				4,000	4,800	NN3020	NN3020K	3282120	3182120	108	—	109	—	142	139	1.5	2.26	2.19
105	145	40	118.0	—	1.1		130.0	260.0				3,800	4,800	NNU4921	NNU4921K	4482921	4382921	111.5	116	113	120	138.5	—	1	1.91	1.82
	145	40	—	134.0	1.1		130.0	260.0				3,800	4,800	NN4921	NN4921K	4282921	4182921	111.5	—	113	—	138.5	136	1	1.82	1.73
	160	41	—	146.0	2.0		190.0	305.0				3,800	4,500	NN3021	NN3021K	3282121	3182121	114	—	115	—	151	148	2	2.88	2.79



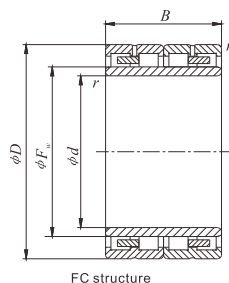
d 110~200 mm

	Boundary dimensions (mm)							Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers		Nominal numbers		Mounting dimensions (mm)							Reference mass (kg)		
	<i>d</i>	<i>D</i>	<i>B</i>	<i>F_w</i>	<i>E_w</i>	<i>r</i> (Min)	<i>r_i</i>	<i>C_r</i>	<i>C_{0r}</i>	Grease	Oil	Cylindrical bore	Tapered bore	Cylindrical bore	Tapered bore	<i>d_s</i> Min	<i>d_s</i> Max	<i>d_s</i> Min	<i>d_s</i> Min	<i>D_s</i> Max	<i>D_s</i> Min	<i>r_s</i> Max	Cylindrical bore	Tapered bore	
110	150	40	123.0	—	—	1.1		132.0	270.0	3,600	4,500	NNU4922	NNU4922K	4482922	4382922	116.5	121	118	125	143.5	—	1		1.99	1.9
	150	40	—	—	139.0	1.1		132.0	270.0	3,600	4,500	NN4922	NN4922K	4282922	4182922	116.5	—	118	—	143.5	141	1		1.9	1.81
	170	45	—	—	155.0	2.0		220.0	360.0	3,400	4,300	NN3022	NN3022K	3282122	3182122	119	—	121	—	161	157	2		3.69	3.56
120	165	45	134.5	—	—	1.1		176.0	340.0	3,200	4,000	NNU4924	NNU4924K	4482924	4382924	126.5	133	128	137	158.5	—	1		2.75	2.63
	165	45	—	—	154.5	1.1		176.0	340.0	3,200	4,000	NN4924	NN4924K	4282924	4182924	127	—	128	—	158.5	157	1		2.63	2.51
	180	46	—	—	165.0	2.0		229.0	390.0	3,200	3,800	NN3024	NN3024K	3282124	3182124	129	—	131	—	171	167	2		4.04	3.92
130	180	50	146.0	—	—	1.5		187.0	390.0	3,000	3,800	NNU4926	NNU4926K	4482926	4382926	138	143	140	148	172	—	1.5		3.85	3.65
	180	50	—	—	168.0	1.5		187.0	390.0	3,000	3,800	NN4926	NN4926K	4282926	4182926	138	—	140	—	172	170	1.5		3.65	3.46
	200	52	—	—	182.0	2.0		286.0	475.0	3,000	3,600	NN3026	NN3026K	3282126	3182126	139	—	141	—	191	185	2		5.88	5.71
140	190	50	156.0	—	—	1.5		190.0	400.0	2,800	3,600	NNU4928	NNU4928K	4482928	4382928	148	153	150	158	182	—	1.5		4.1	3.9
	190	50	—	—	178.0	1.5		190.0	400.0	2,800	3,600	NN4928	NN4928K	4282928	4182928	148	—	150	—	182	180	1.5		4.1	3.9
	210	53	—	—	192.0	2.0		297.0	520.0	2,800	3,400	NN3028	NN3028K	3282128	3182128	149	—	151	—	201	195	2		6.44	6.21
150	210	60	168.5	—	—	2.0		330.0	655.0	2,600	3,200	NNU4930	NNU4930K	4482930	4382930	159	166	162	171	201	—	2		6.18	5.9
	210	60	—	—	196.5	2.0		330.0	655.0	2,600	3,200	NN4930	NN4930K	4282930	4182930	159	—	162	—	201	199	2		5.9	5.62
	225	56	—	—	206.0	2.1		330.0	570.0	2,600	3,000	NN3030	NN3030K	3282130	3182130	161	—	162	—	214	209	2		7.81	7.53
160	220	60	178.5	—	—	2.0		330.0	680.0	2,400	3,000	NNU4932	NNU4932K	4482932	4382932	169	176	172	182	211	—	2		6.53	6.23
	220	60	—	—	206.5	2.0		330.0	680.0	2,400	3,000	NN4932	NN4932K	4282932	4182932	169	—	172	—	211	209	2		6.24	5.94
	240	60	—	—	219.0	2.1		369.0	655.0	2,400	2,800	NN3032	NN3032K	3282132	3182132	171	—	172	—	229	222	2		8.92	8.59
170	230	60	188.5	—	—	2.0		336.0	695.0	2,400	2,800	NNU4934	NNU4934K	4482934	4382934	179	186	182	192	221	—	2		6.87	6.55
	230	60	—	—	216.5	2.0		336.0	695.0	2,400	2,800	NN4934	NN4934K	4282934	4182934	179	—	182	—	221	219	2		6.56	6.24
	260	67	—	—	236.0	2.1		457.0	815.0	2,200	2,600	NN3034	NN3034K	3282134	3182134	181	—	183	—	249	239	2		12.6	12.2
180	250	69	202.0	—	—	2.0		402.0	850.0	2,200	2,600	NNU4936	NNU4936K	4482936	4382936	189	199	193	205	241	—	2		9.9	9.46
	250	69	—	—	234.0	2.0		402.0	850.0	2,200	2,600	NN4936	NN4936K	4282936	4182936	189	—	193	—	241	236	2		9.45	9.01
	280	74	—	—	255.0	2.1		561.0	1000.0	2,000	2,400	NN3036	NN3036K	3282136	3182136	191	—	193	—	269	258	2		16.6	16
190	260	69	212.0	—	—	2.0		402.0	880.0	2,000	2,600	NNU4938	NNU4938K	4482938	4382938	199	209	205	215	251	—	2		10.3	9.93
	260	69	—	—	244.0	2.0		402.0	880.0	2,000	2,600	NN4938	NN4938K	4282938	4182938	199	—	205	—	251	246	2		9.92	9.47
	290	75	—	—	265.0	2.1		594.0	1080.0	2,000	2,400	NN3038	NN3038K	3282138	3182138	201	—	207	—	279	267	2		18	17.4
200	280	80	225.0	—	—	2.1		484.0	1040.0	1,900	2,400	NNU4940	NNU4940K	4482940	4382940	211	222	218	228	269	—	2		14.7	14
	280	80	—	—	261.0	2.1		484.0	1040.0	1,900	2,400	NN4940	NN4940K	4282940	4182940	211	—	218	—	269	264	2		14	13.3
	310	82	—	—	282.0	2.1		644.0	1140.0	1,800	2,200	NN3040	NN3040K	3282140	3182140	211	—	218	—	299	285	2		21.7	20.8

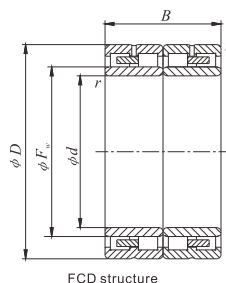


d 220~300 mm

Boundary dimensions (mm)							Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers		Nominal numbers		Mounting dimensions (mm)								Reference mass (kg)	
<i>d</i>	<i>D</i>	<i>B</i>	<i>F_w</i>	<i>E_w</i>	<i>r_i</i> (Min)	<i>r_f</i>	<i>C_r</i>	<i>C_{0r}</i>	Grease	Oil	Cylindrical bore	Tapered bore	Cylindrical bore	Tapered bore	<i>d_a</i> Min	<i>d_a</i> Max	<i>d_b</i> Min	<i>d_b</i> Max	<i>D_a</i> Max	<i>D_a</i> Min	<i>r_a</i> Max	Cylindrical bore	Tapered bore	
220	300	80	245.0	—	2.1		512.0	1140.0	1,700	2,200	NNU4944	NNU4944K	4482944	4382944	231	242	238	248	289	—	2		15.9	15.2
	300	80	—	281.0	2.1		512.0	1140.0	1,700	2,200	NN4944	NN4944K	4282944	4182944	231	—	238	—	289	284	2		15.2	14.4
	340	90	—	310.0	3.0		809.0	1460.0	1,700	2,000	NN3044	NN3044K	3282144	3182144	233	—	240	—	327	313	2.5		29.3	28.2
240	320	80	265.0	—	2.1		528.0	1220.0	1,600	2,000	NNU4948	NNU4948K	4482948	4382948	251	262	258	269	309	—	2		17.3	16.5
	320	80	—	301.0	2.1		528.0	1220.0	1,600	2,000	NN4948	NN4948K	4282948	4182948	251	—	258	—	309	304	2		16.4	15.6
	360	92	—	330.0	3.0		842.0	1560.0	1,500	1,800	NN3048	NN3048K	3282148	3182148	253	—	261	—	347	333	2.5		32.9	31.7
260	360	100	292.0	—	2.1		748.0	1700.0	1,400	1,800	NNU4952	NNU4952K	4482952	4382952	271	288	279	296	349	—	2		29.7	28.4
	360	100	—	336.0	2.1		748.0	1700.0	1,400	1,800	NN4952	NN4952K	4282952	4182952	271	—	279	—	349	339	2		28.3	27
	400	104	—	364.0	4.0		1020.0	1930.0	1,400	1,700	NN3052	NN3052K	3282152	3182152	276	—	285	—	384	367	3		47.4	45.8
280	380	100	312.0	—	2.1		765.0	1800.0	1,300	1,700	NNU4956	NNU4956K	4482956	4382956	291	308	299	316	369	—	2		31.6	30.2
	380	100	—	356.0	2.1		765.0	1800.0	1,300	1,700	NN4956	NN4956K	4282956	4182956	291	—	299	—	369	359	2		30.2	28.8
	420	106	—	384.0	4.0		1080.0	2080.0	1,300	1,500	NN3056	NN3056K	3282156	3182156	296	—	305	—	404	387	3		51.1	49.3
300	420	118	339.0	—	3.0		1020.0	2360.0	1,200	1,500	NNU4960	NNU4960K	4482960	4382960	313	335	323	343	407	—	2.5		48.5	46.3
	420	118	—	391.0	3.0		1020.0	2360.0	1,200	1,500	NN4960	NN4960K	4282960	4182960	313	—	323	—	407	394	2.5		46.3	44.1
	460	118	—	418.0	4.0		1250.0	2400.0	1,200	1,400	NN3060	NN3060K	3282160	3182160	316	—	326	—	444	421	3		70.8	68.6



FC structure



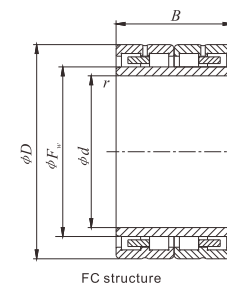
FCD structure

d 90~140 mm

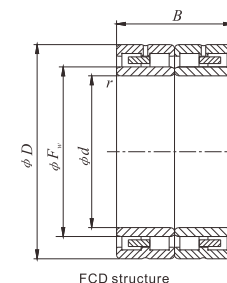
	Boundary dimensions (mm)					Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers	Reference mass (kg)
	d	D	B	F _w	r (Min)	C _r	C _{0r}	Grease	Oil		
90	140	70	105	1.5	1.5	222	454	3600	4400	FC182870	4.4
	140	70	105	1.5	1.5	222	454	3600	4400	FC182870YZ	4.4
	140	74	105	1.5	1.5	222	454	3600	4400	FC182874	4.5
100	138	80	110	1.5	1.5	262	609	3400	4200	FC202880	3.7
	140	70	111	1.5	1.5	194	416	3400	4200	FC202870	3.5
	140	104	111	1.5	1.5	293	707	3400	4200	FC2028104	5.1
	140	104	111	1.5	1.5	293	707	3400	4200	FC2028104YZ	5.1
	145	70	113	1.5	1.5	219	457	3300	4100	FC202970	4.1
	150	106	113	1.5	1.5	347	736	3200	4000	FC2030106	6.8
	150	106	113	1.5	1.5	347	736	3200	4000	FC2030106YZ	6.8
	150	106	113	1.5	1.5	347	736	3200	4000	FC2030106YZ	6.8
110	150	80	122	2	2	241	602	3100	3800	FC223080	4.4
	170	90	127	2	2	358	754	2800	3400	FC223490	7.9
	170	120	127	2	2	358	755	2800	3400	FC2234120	10.6
	170	120	127	2	2	358	755	2800	3400	FC2234120YZ	10.6
120	180	92	137	2	2	375	820	2500	3100	FC243692	8.7
	180	105	136	2	2	429	927	2500	3100	FC2436105	9.8
	180	105	136	2	2	429	927	2500	3100	FC2436105YZ	9.8
	180	120	136	2	2	477	1061	2500	3100	FC/2436120	11.2
130	200	104	150	2	2	478	1006	2200	2700	FC2640104	12.5
	200	125	149	2	2	531	1148	2200	2700	FC2640125	15
	200	125	149	2	2	531	1148	2200	2700	FC2640125YZ	15
140	190	119	154	2	2	—	—	—	—	FC2838119	—
	210	100	158	2	2	503	1096	2000	2500	FC2842100	12.8
	210	106	158	2	2	503	1096	2000	2500	FC2842106	13.6
	210	125	158	2	2	617	1365	2000	2500	FC2842125	15.8
	210	125	158	2	2	617	1365	2000	2500	FC2842125YZ	15.8
	210	155	158	2	2	756	1774	2000	2500	FC2842155	19.6
	210	155	158	2	2	756	1774	2000	2500	FC2842155YZ	19.6
	210	155	158	2	2	756	1774	2000	2500	FC2842155YZ	19.6

Remarks:

Numbers with suffix code YZ are four-row cylindrical roller bearings whose radial clearances are selected by using basic shaft system.



FC structure



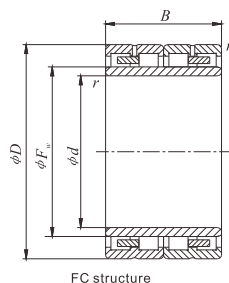
FCD structure

d 145~170 mm

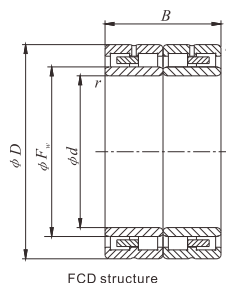
	Boundary dimensions (mm)					Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers	Reference mass (kg)
	d	D	B	F _w	r (Min)	C _r	C _{0r}	Grease	Oil		
145	210	155	166	2	2	720	1560	—	—	FC2942155	—
	210	155	166	2	2	720	1560	—	—	FC2942155YZ	—
	225	156	169	2	2	795	1935	1900	2400	FC2945156	24.4
	225	156	169	2	2	795	1935	1900	2400	FC2945156YZ	24.4
150	225	120	169	2	2	640	1400	1900	2300	FC3045120	18
	225	120	169	2	2	640	1400	1900	2300	FC3045120YZ	18
	230	156	174	2	2	797	1818	1860	2300	FC3046156	24.6
	230	156	174	2	2	797	1818	1860	2300	FC3046156YZ	24.6
160	225	168	183	2.1	2.1	1947	2301	—	—	FC3245168	—
	230	130	180	2.1	2.1	605	1384	1800	2200	FC3246130	18
	230	130	180	2.1	2.1	639	1610	1800	2200	FC3246130YZ	18.7
	230	168	180	2.1	2.1	618	2218	1800	2200	FC3246168	24.2
	240	124	183	2.1	2.1	690	1534	1700	2100	FC3248124	20.6
	240	124	183	2.1	2.1	780	1800	1700	2100	FC3248124YZ	20.6
	240	124	183	2.1	2.1	690	1534	1700	2100	FC3248124/P6	20.6
	240	168	183	2.1	2.1	947	2310	1700	2100	FC3248168	28
	240	168	183	2.1	2.1	822	2070	1700	2100	FC3248168YZ	28.5
	260	168	183	2.1	2.1	953	2326	1700	2100	FC3252168/C4	28.5
	230	130	188.5	2.1	2.1	680	1720	1720	2150	FC3446130/P4	16.3
	230	180	186	2.1	2.1	707	2041	1700	2100	FC/3446180/P64	22.7
	240	130	190	2.1	2.1	830	1830	1600	1900	FC/3448130/P6	—
170	250	170	192	2.1	2.1	1000	2400	1600	1970	FC/3450170/P64	29.9
	250	170	192	2.1	2.1	953	2325	1600	1970	FC3450170	29.9
	250	170	192	2.1	2.1	953	2325	1600	1970	FC3450170YZ	29.9
	260	120	195	2.1	2.1	880	1775	1550	1900	FC3452120	24.2
	260	120	195	2.1	2.1	880	1775	1550	1900	FC3452120YZ	24.2
	260	150	195	2.1	2.1	860	1948	1500	1900	FC3452150	30.2
	260	170	196	2.1	2.1	1080	2460	1550	1900	FC3452170/P64	34.9
	260	225	196	2.1	2.1	1270	3350	—	—	FC/3452225/P64	—
	260	225	196	2.1	2.1	1270	3350	—	—	FC/3452225/P64	—
	260	225	196	2.1	2.1	1270	3350	—	—	FC/3452225/P64	—
	260	225	196	2.1	2.1	1270	3350	—	—	FC/3452225/P64	—
	260	225	196	2.1	2.1	1270	3350	—	—	FC/3452225/P64	—

Remarks:

Numbers with suffix code YZ are four-row cylindrical roller bearings whose radial clearances are selected by using basic shaft system.



FC structure



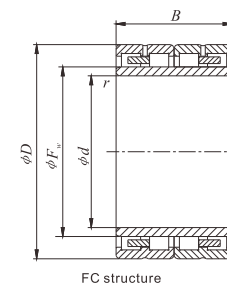
FCD structure

d 180~200 mm

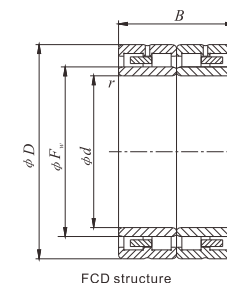
	Boundary dimensions (mm)					Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers	Reference mass (kg)
	d	D	B	F _w	r (Min)	C _r	C _{0r}	Grease	Oil		
180	250	120	200	2.1		609	1583	1540	1900	FC3650120/P64	19
	250	130	200	2.1		715	1944	1540	1900	FC3650130/P64	20.6
	250	156	200	2.1		710	1927	1540	1900	FC/3650156/P64	24.7
	250	156	200	2.1		710	1927	1540	1900	FC/3650156	24.7
	260	120	202	2.1		693	1860	—	—	FC3652120	
	260	124	202	2.1		718	1668	1500	1800	FC/3652124/P64	22.6
	260	154	202	2.1		983	2200	1500	1850	FC3652154/P64	28.2
	260	160	202	2.1		893	2206	1500	1800	FC3652160/C4	29.2
	260	168	202	2.1		993	2530	1500	1800	FC3652168	30.7
	260	168	202	2.1		993	2530	1500	1800	FC3652168YZ	30.7
	260	168	202	2.1		993	2530	1500	1800	FC3652168/P64	30.7
	260	180	202	2.1		1100	2560	1500	1850	FC3652180	32.9
	280	180	207	2.1		1220	2580	1400	1700	FC3656180	43.4
	280	180	207	2.1		1220	2580	1400	1700	FC3656180/P64	43.4
	260	168	212	2.1		990	2600	—	—	FC3852168/P6	—
	260	168	212	2.1		990	2600	1400	1800	FC3852168/C4	27.9
190	265	124	213	2.1		816	1926	1400	1750	FC3853124	22.1
	270	124	212	2.1		816	1925	1400	1700	FC3854124	24.2
	270	168	212	2.1		996	2486	1400	1700	FC3854168	32.7
	270	168	212	2.1		996	2486	1400	1700	FC3854168YZ	32
	270	200	212	2.1		954	2431	1400	1700	FC3854200	38
	270	200	212	2.1		954	2431	1400	1700	FC3854200YZ	38
	280	200	214	2.1		954	2431	—	—	FC3856200/P64	—
	270	120	222	2.1		615	1626	1340	1650	FC/4054120/C4	20.8
	270	170	222	2.1		831	2387	1340	1650	FC/4054170/C4	29.5
	280	200	222	2.1		1019	2693	1300	1600	FC4056200	39.9
200	280	200	222	2.1		1019	2693	1300	1600	FC4056200/P64	39.9
	280	200	224	2.1		1150	2770	1300	1600	FC4056200A	39.9
	290	130	226	2.1		840	1975	1250	1540	FC4058130/P6	29.9

Remarks:

Numbers with suffix code YZ are four-row cylindrical roller bearings whose radial clearances are selected by using basic shaft system.



FC structure



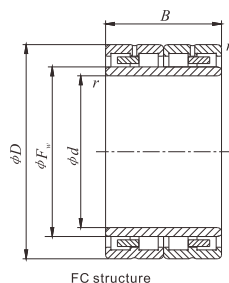
FCD structure

d 200~250 mm

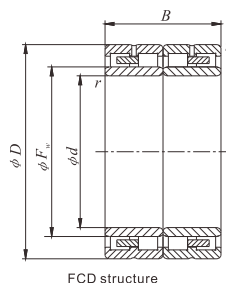
	Boundary dimensions (mm)					Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers	Reference mass (kg)
	d	D	B	F _w	r (Min)	C _r	C _{0r}	Grease	Oil		
200	290	192	226	2.1		1073	2891	1250	1540	FC4058192/P64	44.9
	290	192	226	2.1		1205	3141	1250	1540	FC4058192	44.1
210	290	192	234	2.1		1031	3000	1200	1500	FC/4258192	40.6
	290	192	236	2.1		1300	3400	1200	1500	FC/4258192/P6	40.4
	300	170	234	2.1		1031	2814	1160	1400	FC4260170	41.4
	300	210	234	2.1		1300	3040	1150	1450	FC4260210	50.3
220	300	192	242	2.1		1085	3310	1120	1380	FC/4460192	41.5
	310	157	246	2.1		932	2500	1100	1300	FC/4462157	39.7
	310	190	246	2.1		1283	3503	1100	1300	FC/4462190/C4	47.2
	310	192	246	2.1		1103	3104	1100	1300	FC4462192	48.6
	310	192	246	2.1		1103	3104	1100	1300	FC4462192/P64	48.6
	320	210	248	2.1		1321	3534	1050	1300	FC4464210/P6	59.8
230	340	192	246	2.1		1599	3444	980	1200	FC/4468192	65.6
	330	170	260	2.1		1142	2974	980	1200	FC/4666170	50.2
	330	206	260	2.1		1278	3435	980	1200	FC4666206	60.8
	330	206	260	2.1		1278	3435	980	1200	FC4666206/P64	60.8
240	365	250	266	2.1		2400	4900	—	—	FC/4673250/P6	—
	330	220	264	2.1		1373	3789	950	1200	FC4866220/P64	58.4
	330	220	264	2.1		1373	3789	950	1200	FC4866220	58.4
	340	192	268	2.1		1394	4014	920	1100	FC/4868192YZ	58
250	340	192	266	2.1		1219	4014	920	1100	FC/4868192/P64	58
	360	220	272	2.1		1604	4065	—	—	FC4872220	83
	360	220	272	2.1		1604	4065	—	—	FC4872220/P64	83
	340	170	274	3		1140	3281	890	1100	FC/5068170	47.9
250	350	220	278	3		1350	3804	—	—	FC5070220	69.6
	350	220	278	3		1350	3804	—	—	FC5070220/P64	72.7
250	360	160	284	3		1077	2780	1120	1380	FC5072160/C4	57
	360	220	282	3		1486	4210	1120	1380	FC/5072220	78.5

Remarks:

Numbers with suffix code YZ are four-row cylindrical roller bearings whose radial clearances are selected by using basic shaft system.



FC structure



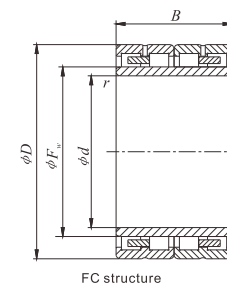
FCD structure

d 260~300 mm

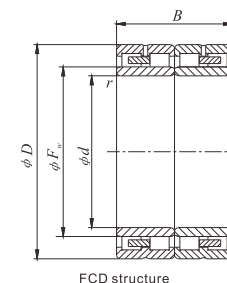
	Boundary dimensions (mm)					Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers	Reference mass (kg)
	d	D	B	F _w	r (Min)	C _r	C _{0r}	Grease	Oil		
260	360	192	288	3		1274	3468	1100	1350	FC5272192 FC/5272200/C4 FC5274200	62.3
	360	200	288	3		1483	4217	1100	1350		64.9
	370	200	292	3		1610	4400	1080	1330		74.2
	370	200	292	3		1610	4400	1080	1330	FC5274200YZ FC5274220 FC5274220/P6	74.2
	370	220	292	3		1760	4920	1080	1300		73.7
	370	220	292	3		1760	4920	1080	1300		73.7
	380	220	292	3		1516	4353	1060	1300	FC/5276220 FC5276280 FC5276280YZ	91.2
	380	280	295	3		1966	5710	1060	1300		114.5
	380	280	295	3		1966	5710	1060	1300		114.5
	400	200	296	3		1795	4051	1020	1250	FC5280200 FCD5280290	95.6
	400	290	296	3		2710	7100	—	—		—
270	380	230	298	3		1725	4598	1040	1280	FC5476230 FC5476230YZ FC/5480220	85.3
	380	230	298	3		1725	4598	1040	1280		85.3
	400	220	305	3		1833	4570	1000	1230		100
280	375	200	307	3		1480	4311	1030	1270	FC/5675200 FC/5676290 FC/5676220	65.1
	380	290	308	3		1888	5835	1020	1250		100
	380	220	312	3		1575	4640	1000	1230		86.2
	390	220	312	3		1600	4730	1000	1230	FC5678220 FC5678220YZ FC/5678240	86.2
	390	220	312	3		1800	5350	1000	1230		85.1
	390	240	312	3		1763	5325	1000	1200		93.4
	390	275	308	3		2250	6500	1000	1230	FCD/5678275 FCD/5684280	105.1
	420	280	318	3		2430	6350	950	1170		143.4
290	410	240	320	4		2070	5670	950	1170	FC5882240 FC5882240YZ	105
	410	240	320	4		2070	5670	950	1170		103.6
300	420	240	332	4		2060	5695	915	1130	FC6084240 FCD6084240 FCD6084300	107.8
	420	240	332	4		2225	5750	915	1130		107.8
	420	300	332	4		2305	6565	915	1130		134.7
	420	300	332	4		2305	6565	915	1130	FCD6084300YZ	134.7

Remarks:

Numbers with suffix code YZ are four-row cylindrical roller bearings whose radial clearances are selected by using basic shaft system.



FC structure



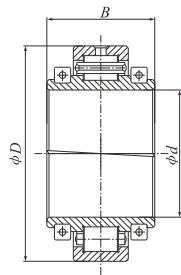
FCD structure

d 320~370 mm

	Boundary dimensions (mm)					Basic load ratings (kN)		Limiting speeds (r/min)		Nominal numbers	Reference mass (kg)
	d	D	B	F _w	r (Min)	C _r	C _{0r}	Grease	Oil		
320	440	240	351	4		2120	6101	850	1050	FC/6488240 FCD/6488240 FCD/3488300	113.9
	440	240	351	4		2120	6101	850	1050		113.9
	440	300	352	3		2530	7660	850	1050		142.3
	450	240	355	3		2145	5860	840	1030	FC6490240 FC6490240YZ FCD/6490240	142.3
	450	240	355	3		2145	5860	840	1030		125.3
	450	240	355	3		2145	5860	840	1030		125.3
	460	280	357	4		2450	6534	825	1020	FC/6492280 FCD/6492340 FC6496290	159
	460	340	357	4		2895	8105	825	1020		193.1
	480	290	364	4		2450	6534	825	1020		170
330	460	340	365	4		2790	8265	810	1000	FCD6692340YZ FCD6692340	182.1
	460	340	365	4		2790	8265	810	1000		182.1
340	450	250	366	4		2161	6312	810	1000	FC6890250 FCD/6890250 FC6890250YA	111.2
	450	250	369	4		2045	6134	810	1000		112.6
	450	250	371	4		1976	6142	810	1000		114.1
	460	260	370	4		2132	5977	800	980	FC6892260 FC6896350	128.2
	480	350	378	4		3270	9480	770	950		207
350	500	380	389	5		3800	11400	—	—	FCD70100380 FCD70104300	—
	520	300	401	5		3300	9000	—	—		—
360	510	370	392	4		3756	5686	715	886	FCD72102370	273
370	520	380	409	4		4160	12312	700	850	FCD74104380YZ FCD74104380	260.5
	520	380	409	4		3645	1075	700	850		263.2

Remarks:

Numbers with suffix code YZ are four-row cylindrical roller bearings whose radial clearances are selected by using basic shaft system.



d 260~300 mm

Boundary dimensions			Nominal numbers	Reference mass
<i>d</i>	<i>D</i>	<i>B</i>		
(mm)				(kg)
260	152.4	76.4	MS90A	4.38
	152.4	64.3	MS90B	4.13
270	203	93.4	MS110A	10.59
	203	78	MS110B	9.45
280	222	82.5	MS130A	9.03
	222	98.4	MS130B	9.59
290	241.5	108	MS140A	14.5
	241.5	108	MS140B	14.2
300	254	98.5	MS155A	16.84
	254	90.5	MS155B	16.14
	254	107.3	MS155C	18.65
	254	91	MS155D	16.05

Remarks:
Please contact the technical center of C&U Group for more parameters and performances.