

Single-row cylindrical roller bearings

Single-row cylindrical roller bearings usually carry radial loads, their rollers and raceways are line contact. To compare with radial ball bearings having the same dimensions, their radial loading capacity is 1.5–3 times higher. They can't carry axial loads, but they have impact resistance and better stiffness.

Single-row cylindrical roller bearings are separable bearings, the rollers are guided by the two ribs of bearing rings. The cage, rollers and guide ring are assembled to a unit, and can be separated from the other ring. These bearings are easy to be mounted and dismounted, especially inner and outer rings interference fit with shafts and housings.

The structures of cylindrical roller bearings are distinguished by ribs. Type N has inner ring with two ribs and outer ring without rib; type NU has outer ring with two ribs and inner ring without rib; type NJ has inner ring with one rib and outer ring with two ribs, and can carry certain axial loads in one direction; type NF has inner ring with two ribs and outer ring with one rib.

The machining accuracy of shafts and housings which is fitted with single-row cylindrical bearings is high, the obliquity is forbidden between inner and outer ring axes. If the inner and outer ring axes were oblique, the contact between rollers and rings will be asymmetric, and the stress will be intensive, then it will have serious effects on bearing loading capacity and life. The edge effect between rollers and raceways will be down, and bearing life will be prolonged if there was some convexity on inner and outer raceways or roller generatrix.

The axial displacement of shafts or housings can't be limited by cylindrical roller bearings. If it was needed, they are often used with other bearings, such as deep groove ball bearings.

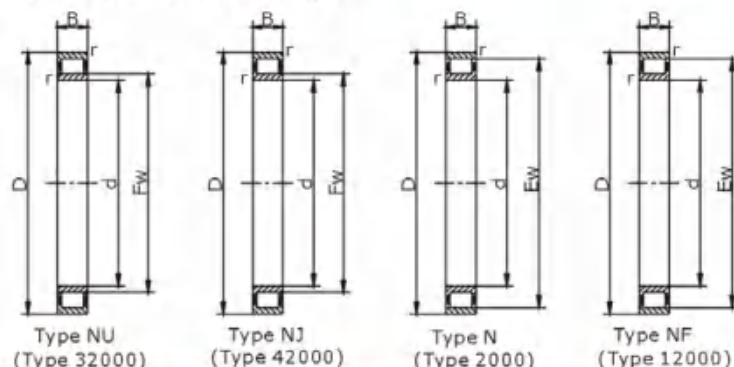
This type of bearings generally carry radial loads, but bearings with ribs on inner and outer rings can carry certain axial loads.

It is not permitted that the obliquity between shafts and housings, but $2'$ angular misalignment between inner and outer ring axes is permitted under lower loads. If the loads were higher, the more angular misalignment will be permitted, but the upper limit is $4'$.

When $D \leq 400\text{mm}$, steel pressed cages are commonly used, and steel or brass solid cages are adopted for $D > 400\text{mm}$.

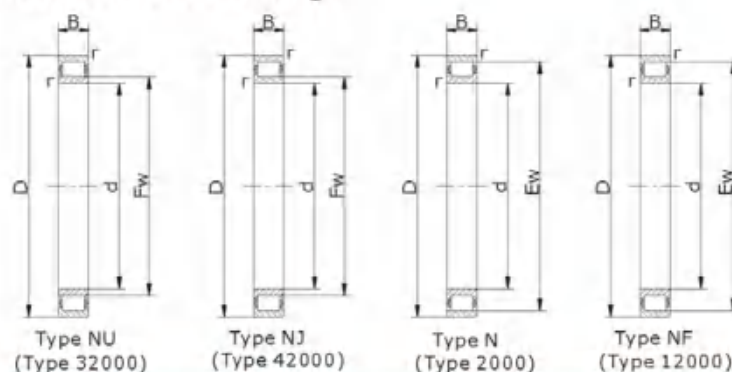
Single-row cylindrical roller bearings are mainly used in large-size generators, machine tool spindles, axle boxes, bent axles of diesel engines, gearboxes of automotives and tractors, and so on.

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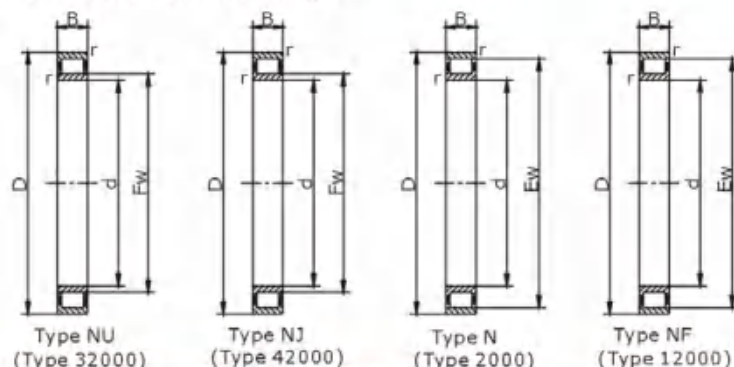
Boundary dimensions						Basic load ratings		Designations		Mass	Limiting speeds	
mm						kN		Current	Original	kg	r/min	
d	D	B	Fw	Ew	r _{min}	Cr	Cor				Grease	Oil
120	180	28	135	—	2	130	168	NU1024M	32124H	2.96	3400	4000
	180	28	135	—	2	130	168	NJ1024	42124	3.09	3400	4000
	215	40	—	191.5	2.1	250	211	N224E	2224H	6.2	2400	3000
	215	40	143.5	—	2.1	322	422	NU224E	32224H	6.2	2400	3000
	215	40	143.5	—	2.1	322	422	NJ224E	42224H	6.2	2400	3000
	240	80	150	—	3	477	408	NJ624	42724	17.8	2400	3200
	260	86	154	—	3	632	868	NU2324E	32624	23.8	1900	2400
	310	72	—	260	5	660	530	N424	2424	29	1900	2400
	310	72	170	—	5	642	772	NU424	32424	29.1	1900	2400
	310	72	170	—	5	642	772	NJ424	42424	29.1	1900	2400
130	200	33	148	—	2	152	212	NU1026	32126	3.84	3200	3800
	250	80	158	—	3	547	473	NJ626	42726	18.7	2200	3000
	280	58	—	243	4	515	410	N326E	2326	17.8	1800	2200
	280	58	167	—	4	492	620	NU326E	32326	17.9	1800	2200
	280	58	167	—	4	492	620	NJ326E	42326	18.2	1800	2200
	280	93	—	243	4	770	1060	N2326	2626	29	1800	2200
	280	93	167	—	4	748	1060	NU2326	32626	28.7	1800	2200
	280	93	167	—	4	748	1060	NJ2326	42626	29	1800	2200
	340	78	185	—	5	782	942	NU426	32426	41.5	1500	1900
	340	78	185	—	5	782	942	NJ426	42426	41.7	1500	1900
140	190	24	—	178	1.5	126	190	N1928	—	2	3200	3800
	190	24	154	—	1.5	126	190	NU1928	—	1.98	3200	3800
	210	33	158	—	1.1	190	270	NU1028	32128	3.87	2400	3000
	250	68	169	—	3	500	730	NU2228	32528	14.7	2000	2600
	250	68	169	—	3	438	700	NJ2228	42528	17	2000	2600
	300	62	—	260	4	545	690	NF328	12328	21.8	1800	2200
	300	62	—	260	4	545	690	N328	2328	21.9	1800	2200
	300	62	180	—	4	545	690	NU328	32328	22.2	1800	2200
	300	62	180	—	4	545	690	NJ328	42328	22.6	1800	2200
	300	102	—	260	4	825	1180	N2328	2628	34.6	1800	2200
	300	102	180	—	4	825	1180	NU2328E	32628	36	1800	2200
	360	82	—	304	5	845	1020	N428	2428	47	1400	1800
	360	82	196	—	5	845	1020	NU428	32428	48	1400	1800
	360	82	196	—	5	845	1020	NJ428	42428	48.8	1400	1800
150	210	28	—	195	2.1	135	205	N1930	—	2.88	2400	3200
	210	28	165	—	2.1	135	205	NU1930	—	2.96	2400	3200
	270	45	—	238	3	360	490	N230	2230	11.6	1900	2400
	270	45	182	—	3	360	490	NU230	32230	11.8	1900	2400
	270	45	182	—	3	360	490	NJ230	42230	12	1900	2400
	270	73	182	—	3	530	772	NJ2230	42530	18.1	1900	2400
	320	65	—	277	4	595	765	N330	2330	26.5	1700	2000
	320	65	193	—	4	595	765	NU330	32330	26.7	1700	2000
	320	65	193	—	4	595	765	NJ330	42330	26.9	1700	2000

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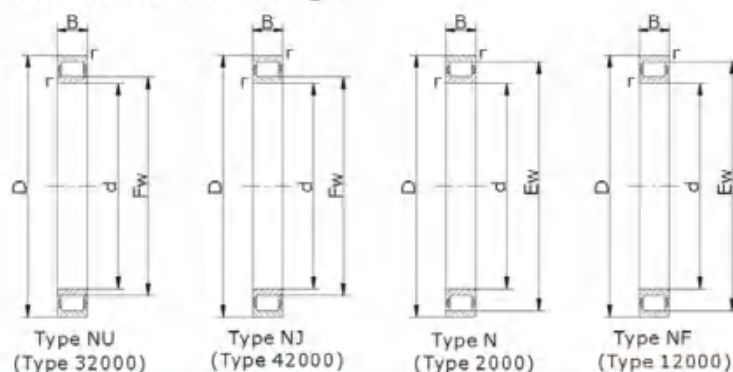
Boundary dimensions						Basic load ratings		Designations		Mass	Limiting speeds	
mm						kN		Current	Original	kg	r/min	
d	D	B	Fw	Ew	r _{min}	Cr	Cor				Grease	Oil
150	320	108	—	277	4	930	1340	NF2330	12630	43.6	1700	2000
	320	108	193	—	4	930	1340	NU2330	32630	45.7	1700	2000
	320	108	193	—	4	930	1340	NJ2330	42630	45.7	1700	2000
160	240	38	180	—	1.5	260	390	NU1032	32132	5.98	1900	2400
	290	48	—	255	3	405	552	N232	2232	14.3	1800	2200
	290	48	195	—	3	405	552	NU232	32232	14.4	1800	2200
	290	48	195	—	3	405	552	NJ232	42232	14.2	1800	2200
	290	80	193	—	3	590	898	NU2232	32532	24.5	1800	2200
	340	68	—	292	4	628	825	N332	2332	30.8	1500	1800
	340	68	208	—	4	628	825	NU332	32332	31	1500	1800
	340	68	208	—	4	628	825	NJ332	42332	31.5	1500	1800
	340	114	208	—	4	972	1430	NU2332	32632	54.5	1500	1800
170	260	42	193	—	2.1	255	365	NU1034	32134	8.3	2200	2800
	260	54	191	—	2.1	455	690	NU2034	—	10.4	2200	2800
	310	52	—	272	4	425	650	N234	2234	18.2	1800	2200
	310	52	208	—	4	425	650	NU234	32234	17.9	1800	2200
	310	52	208	—	4	425	650	NJ234	42234	19.2	1800	2200
	310	86	208	—	4	715	1080	NU2234	32534	30	1800	2200
	310	86	208	—	4	715	1080	NJ2234	42534	29.3	1800	2200
	360	72	—	310	4	715	952	N334	2334	38.1	1600	1900
	360	72	220	—	4	715	952	NU334	32334	37.7	1600	1900
	360	72	220	—	4	715	912	NJ334	42334	38.4	1600	1900
	360	120	220	—	4	1110	1650	NU2334	32634	62.3	1400	1700
	360	120	220	—	4	1110	1650	NJ2334	42634	63.6	1400	1700
180	280	46	205	—	2.1	385	560	NU1036	32136	10.5	1800	2200
	320	52	—	282	4	425	650	N236	2236	19.7	1700	2000
	320	52	217	—	4	425	650	NU236	32236	19.2	1700	2000
	320	52	218	—	4	425	650	NJ236	42236	19.3	1700	2000
	320	86	215	—	4	745	1140	NU2236	32536	30.8	1700	2000
	320	86	215	—	4	745	1140	NJ2236	42536	31.9	1700	2000
	380	75	—	328	4	860	710	N336	2336	39.6	1500	1800
	380	75	232	—	4	835	1100	NU336	32336	42.8	1500	1800
	380	75	232	—	4	835	1100	NJ336	42336	42.7	1500	1800
	380	126	232	—	4	1200	1780	NU2336	32636	77.9	1300	1600
	380	126	232	—	4	1200	1780	NJ2336	42636	77.9	1300	1600
190	260	42	208	—	2	239	216	NU2938	2032938	6.45	2000	2800
	290	46	215	—	2.1	395	595	NU1038	32138	11	2000	2800
	340	55	—	302	4	630	830	N238	2238	22.9	1600	1900
	340	55	231	—	4	512	745	NU238	32238	21.6	1600	1900
	340	55	231	—	4	512	745	NJ238	42238	22	1600	1900
	340	92	—	299	4	910	1400	N2238	2538	38.6	1600	1900
	340	92	231	—	4	975	1570	NU2238	32538	38.6	1600	1900
	400	78	—	345	5	882	1190	N338	2338	50.2	1200	1500
	400	78	245	—	5	882	1190	NU338	32338	48.5	1200	1500

Single-row cylindrical roller bearings



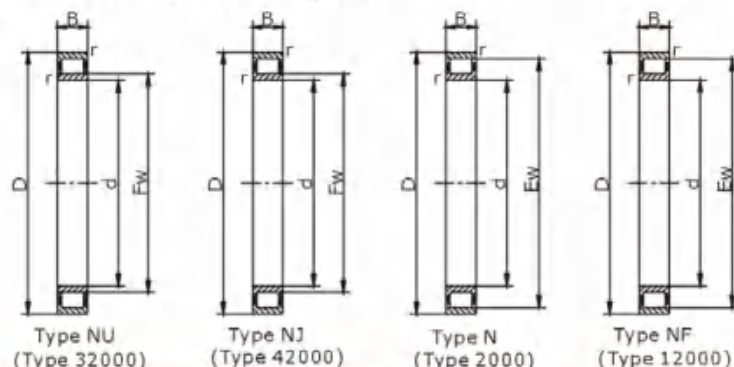
Boundary dimensions						Basic load ratings		Designations		Mass	Limiting speeds	
mm						kN		Current	Original	kg	r/min	
d	D	B	Fw	Ew	r _{min}	Cr	Cor				Grease	Oil
200	310	51	—	281	2.1	408	408	N1040	42140	10.2	1900	2400
	310	51	229	—	2.1	408	615	NU1040	32140	14.3	1900	2400
	310	51	229	—	2.1	408	615	NJ1040	42140	14.7	1900	2400
	310	66	229	—	3	560	925	NU2040	—	18.5	1900	2400
	360	58	—	316	4	570	842	N240	2240	26.8	1500	1800
	360	58	244	—	4	570	842	NU240	32240	26.5	1500	1800
	360	58	244	—	4	570	842	NJ240	42240	27.1	1500	1800
	420	138	—	360	4	1510	2240	N2340	2640	94.5	1200	1500
	420	165	260	—	5	1730	2660	NU3340	3032340	118	1200	1500
220	340	56	250	—	3	448	685	NU1044	32144	19.3	1800	2200
	340	56	250	—	3	448	685	NJ1044	42144	19.6	1800	2200
	400	65	—	350	4	702	1050	N244	2244	36.7	1500	1800
	400	65	270	—	4	702	1050	NU244	32244	35	1500	1800
	400	65	270	—	4	702	1050	NJ244	42244	35.4	1500	1800
	400	108	259	—	4	1360	2330	NU2244	32544	62.2	1300	1600
	400	108	270	—	4	1360	2330	NJ2244	42544	62.2	1300	1600
	460	88	284	—	5	1080	1465	NU344	32344	75.6	1200	1500
	460	145	284	—	5	1780	2620	NU2344	32644	114	1000	1300
230	350	70	—	316	2.1	856	610	NF646	402746	26	1500	1900
	370	80	—	334	3	826	795	N646	2746	37	1400	1800
240	360	37	—	325	2.1	388	392	N0048	7002148	14.7	1000	1400
	360	56	270	—	3	470	745	NU1048	32148	20.4	1700	2000
	360	56	270	—	3	470	745	NJ1048	42148	21	1700	2000
	360	92	274	—	3	855	938	NU3048	3032148	35.5	1000	1300
	400	74	282	—	4	975	1500	NU1148	—	39.1	1300	1600
	440	72	—	395	4	1100	1550	N248	2248	50.3	1300	1600
	440	72	295	—	4	880	1345	NU248	32248	46.9	1300	1600
	440	72	295	—	4	880	1345	NJ248	42248	49.6	1300	1600
	440	120	295	—	4	1700	2500	NU2248E	—	84.1	1200	1500
	500	95	310	—	5	1290	1810	NU348	32348	97.7	1000	1300
	500	155	310	—	5	2000	2900	NU2348	—	150	1000	1300
250	380	50	—	347	4	660	643	N650	2750	19.8	1300	1700
260	400	44	—	360	3	552	603	N0052	7002152	22.7	1500	1800
	400	65	—	364	4	621	630	N1052	2152	30.8	1500	1800
	400	65	296	—	4	592	932	NU1052	32152	29.5	1500	1800
	440	144	298.5	—	4	2300	3500	NU3152E	—	92.9	1200	1500
	480	80	320	—	5	1100	1580	NU252	32252	67.2	1100	1400
280	350	33	299	—	2.1	210	440	NJ1856	—	7.31	1500	1800
	360	30	—	339	4	325	605	N1856X3	—	7.76	1400	1700
	380	46	—	354	2.1	495	875	N1956	—	15.3	1400	1700
	380	46	306	—	3	450	785	NU1956	—	14.5	1400	1700
	420	65	—	384	4	840	1500	N1056	2156	33	1400	1700
	420	82	316	—	4	1050	1900	NU2056	—	41.8	1400	1700
	420	65	316	—	4	600	965	NU1056	32156	33.4	1400	1700

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Boundary dimensions						Basic load ratings		Designations		Mass	Limiting speeds	
mm						kN				kg	r/min	
d	D	B	Fw	Ew	r _{min}	Cr	Cor	Current	Original		Grease	Oil
300	420	56	332	—	3	500	850	NU1960MA	—	23.4	1200	1500
	460	74	340	—	4	880	1470	NU1060	32160	44.4	1200	1500
	460	74	340	—	4	880	1470	NJ1060	42160	45.1	1200	1500
	460	118	340	—	4	1690	1340	NU3060	3032160	72	1060	1340
	500	160	358	—	5	2000	4000	NU3160	—	135	1000	1300
	540	85	364	—	5	1350	1290	NU260	32260	87.2	1000	1300
	620	109	385	—	7.5	2010	1840	NU360	32360	166	900	1100
320	400	38	—	380	2.1	340	680	N1864	—	10.7	1100	1400
	440	72	—	408	3	735	1520	N2964M	—	33.7	1200	1500
	480	74	360	—	4	890	1520	NU1064	32164	47	1100	1400
	480	74	360	—	4	890	1520	NJ1064	42164	47	1100	1400
	480	95	360	—	4	1540	2800	NU2064	—	61	1100	1400
340	520	57	—	470	4	810	1400	N0068	7002168	45.5	950	1200
	520	82	385	—	5	1200	2000	NU1068	32168	62.6	955	1200
	520	106	385	—	5	1950	3730	NU2068	—	84.6	955	1200
	530	133.5	—	476	4	1660	2600	N668	2768	117	880	1100
360	540	82	405	—	5	1200	2050	NU1072	32172	65.6	900	1100
	650	170	435	—	6	3500	6050	NU2272	32572	263	850	1000
	750	224	465	—	7.5	5010	8740	NU2372	32672	485	850	1000
380	480	60	—	455	2.1	800	1200	N2876	2002876	24.6	900	1100
	560	82	425	—	5	1250	2150	NU1076	32176	68.5	900	1100
	680	177	451	—	6	3860	6410	NU2276	—	282	700	900
400	540	65	438	—	4	785	988	NU1980	1032980	42.7	950	1150
	600	90	450	—	5	1420	2480	NU1080	32180	88.8	900	1100
	600	148	—	554	5	2400	4400	N3080	—	151	700	900
	600	148	458	—	5	2150	4450	NU3080	3032180	145	700	900
	650	145	—	585	6	2830	3030	N2180	2002780	190	700	900
420	620	90	470	—	5	1390	2380	NU1084	32184	91.7	700	900
440	546	46	468	—	2.5	413	760	NU688	32788	26.5	730	920
	650	94	493	—	6	1600	2850	NU1088	32188	106	700	900
	720	122	—	648	6	2320	2220	N1188	1002788	191	510	620
460	620	95	—	580	4	1340	2930	N2992	2002992	82.4	500	630
	620	95	504	—	4	1340	2060	NU2992	2032992	84	500	630
	760	240	529.3	—	7.5	5210	9690	NU3192	—	419	400	500
500	670	100	543	—	5	2000	2410	NU29/500	20329/500	99.5	560	710
	720	100	556	—	6	2050	3710	NU10/500	—	137	400	500
530	710	106	578	—	5	1770	3900	NU29/530	20329/530	123	400	500
560	820	115	625	—	6	2550	4700	NU10/560	—	205	380	460
600	730	60	635	—	3	830	1950	NU18/600	—	49.2	400	500
	800	90	—	750	5	1210	2140	N19/600	—	115	380	460
	800	90	649	—	5	1950	2650	NU19/600	—	122	380	460
	800	118	650	—	5	2430	5110	NUP29/600	—	173	380	460
630	850	100	688	—	6	1850	3900	NU19/630	10329/630	160	280	360
	850	128	685	—	6	3050	4260	NU29/630	20329/630	206	280	360

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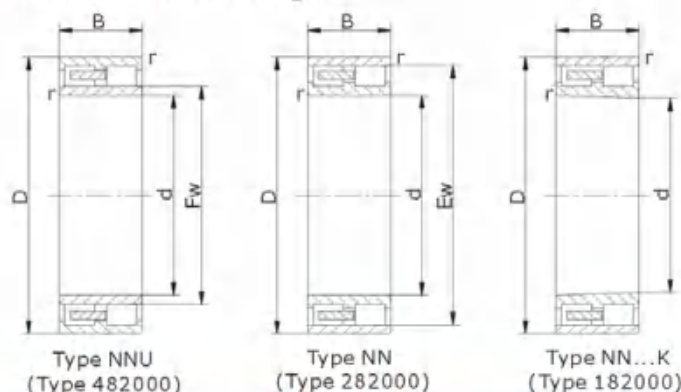
Boundary dimensions						Basic load ratings		Designations		Mass	Limiting speeds	
mm						kN		Current	Original	kg	r/min	
d	D	B	Fw	Ew	r _{min}	Cr	Cor				Grease	Oil
670	820	69	708	—	4	1230	2830	NJ18/670	—	78.4	280	360
700	930	160	760	—	6	3200	4580	NU8/700	327/700	295	310	390
710	870	74	750	—	4	1300	3000	NJ18/710	—	94.5	310	390
	950	106	—	890	6	2300	5000	N19/710	10023/710	205	220	300
	950	106	775	—	6	2300	5000	NU19/710	10329/710	207	220	300
800	1080	115	870	—	6	2760	6150	NU19/800	10329/800	280	200	240
840	1040	125	—	985	3	2530	5290	N6/840	27/840	240	200	240
850	1120	118	925	—	6	2780	6350	NU19/850	10329/850	320	170	220
	1120	118	—	1059	6	3318	7156	NF19/850	—	282	170	220
	1120	155	917	—	6	4450	10500	NU29/850	20329/850	425	170	220
870	1050	90	912	—	5	2140	5280	NJ18/870	—	152	170	220
880	950	60	898	—	2.5	775	2900	NU18/880	—	36.8	200	240
	950	60	898	—	2.5	800	3000	NUP18/880	—	39.4	200	240
950	1250	175	1024	—	7.5	5270	9120	NU29/950	20329/950	563	140	170
	1250	224	—	1170	7.5	6780	10500	N39/950	30029/950	745	140	170
1000	1210	92	—	1155	5	1350	2760	N18/1000	—	206	120	150
	1220	100	1053	—	6	2376	5895	NU18/1000	10328/1000	265	120	150
	1220	128	1058	—	6	3200	8850	NU28/1000	—	319	120	150
	1220	128	—	1165	6	3680	10020	NF28/1000	—	350	120	150
	1220	128	1053	—	6	2376	5896	NUP18/1000	10928/1000	287	120	150
	1320	185	1082	—	7.5	6336	15570	NU29/1000	20329/1000	700	110	140
1060	1280	165	1120	—	6	3750	11300	NU38/1060	—	427	120	150
	1280	128	—	1225	6	3222	9360	N28/1060	20028/1060	360	110	140
	1400	150	1162	—	7.5	4500	10000	NU19/1060	10329/1060	683	120	150
	1400	195	1142	—	7.5	6489	15570	NU29/1060	20329/1060	870	120	150
	1400	250	1146	—	7.5	8217	21600	NU39/1060	30329/1060	1070	120	150
	1500	325	—	1390	9.5	11700	29250	N30/1060	30021/1060	1900	—	—
1120	1360	106	1182	—	6	3069	7785	NJ18/1120	10428/1120	335	—	—
	1360	180	1180	—	6	5700	17300	NU38/1120	—	547	—	—
	1580	345	1231	—	9.5	14130	35100	NU30/1120	30321/1120	2150	—	—
1180	1420	106	1245	—	6	3250	8500	NU18/1180	—	328	—	—
	1420	106	1245	—	6	2727	7020	NJ18/1180	10428/1180	350	—	—
	1540	206	1258	—	7.5	8073	19440	NU29/1180	20329/1180	1050	—	—
	1540	272	—	1466	7.5	10080	26100	N39/1180	30029/1180	1400	—	—
1250	1750	290	—	1635	9.5	11520	27450	N20/1250	20021/1250	2320	—	—
	1630	170	1350	—	7.5	6300	15400	NU19/1250	—	952	—	—
1320	1600	122	1395	—	6	4200	9000	NU18/1320	10328/1320	530	—	—
	1600	122	1385	—	6	4000	9000	NJ18/1320	—	525	—	—
	1720	230	1420	—	7.5	10260	27450	NU29/1320	20329/1320	1500	—	—
	1720	175	1424	—	7.5	7000	17100	NU19/1320	—	1100	—	—
	1720	300	—	1640	7.5	11880	30600	N39/1320	30029/1320	1900	—	—
	1850	400	—	1737	12	19440	49500	N30/1320	30021/1320	3550	—	—
1400	1700	175	—	1637	7.5	5940	16470	N28/1400	20028/1400	860	—	—
1900	2300	175	—	2204	9.5	7722	22500	N18/1900	10028/1900	1480	—	—

Double-row cylindrical roller bearings

Double-row cylindrical roller bearings have two structures of cylindrical and tapered bore. These bearings have compact structures, high stiffness, high loading capacity and little deformation, and are especially as main shaft bearings of machine tools. Type NN has inner ring with two ribs and outer ring with no ribs. Type NNU has outer ring with two ribs and inner ring with no ribs. The two types of bearings don't limit axial displacement of shafts or housings, so they are used as nonlocating bearings.

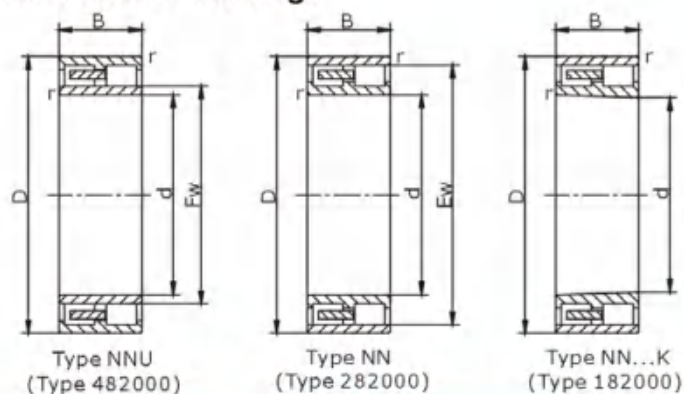
Machined solid cages are usually used in double-row cylindrical roller bearings.

Double-row cylindrical roller bearings



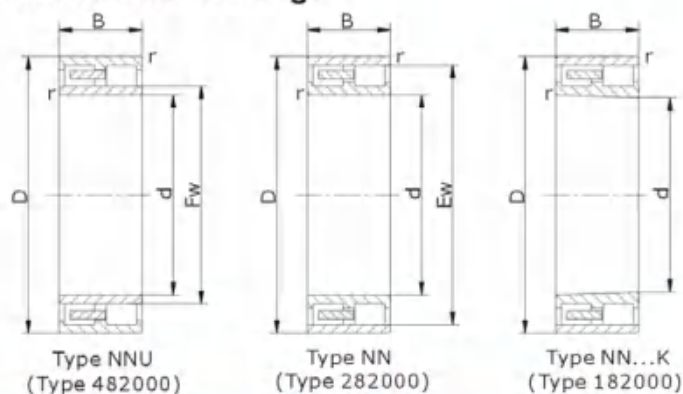
Boundary dimensions						Basic load ratings		Designations		Mass
mm						kN				kg
d	D	B	r _{min}	Fw	Ew	Cr	Cor	Current	Original	
200	280	60	2.1	—	259	420	815	NN3940	3282940	10.6
	280	80	2.1	—	259	484	960	NN4940K/W20	4182940Y	14.1
	280	80	2.1	—	259	570	1220	NN4940	4282940	15.3
	280	80	2.1	225	—	570	1220	NNU4940	4482940	15.3
	310	82	2.1	—	282	655	1170	NN3040	3282140	22.7
	310	82	2.1	232	—	655	1170	NNU3040	3482140	22.7
	310	109	2.1	—	282	890	1730	NN4040	4282140	30.4
220	300	60	2.1	—	279	440	895	NN3944	3282944	11.4
	300	80	2.1	—	279	600	1330	NN4944	4282944	16.6
	300	80	2.1	245	—	600	1330	NNU4944	4482944	16.6
	340	90	3	—	310	815	1480	NN3044	3282144	29.6
	340	90	3	254	—	815	1480	NNU3044	3482144	30
	340	118	3	—	310	1190	2400	NN4044	4282144	39.8
	370	120	4	—	331	1050	1810	NN3144	3282744	51.9
	370	120	4	283	—	1050	1810	NNU3144	3482744	52.3
240	300	60	1.1	—	283	405	1030	NN4848	4282848	9.77
	300	60	1.1	259	—	358	930	NNU4848	—	9.9
	320	60	2.1	—	300	460	975	NN3948	3282948	12.2
	320	80	2.1	—	300	625	1450	NN4948	4282948	17.9
	320	80	2.1	263	—	625	1450	NNU4948	4482948	18
	360	92	3	—	330	855	1600	NN3048	3282148	32.7
	360	92	3	274	—	855	1600	NNU3048	3482148	32.7
	360	118	3	—	330	1240	2600	NN4048	4282148	39.3

Double-row cylindrical roller bearings



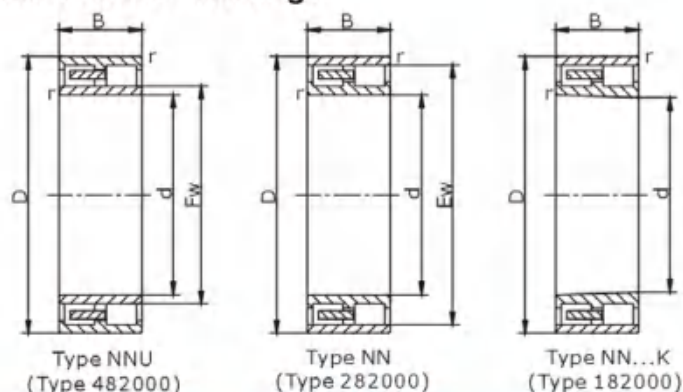
Boundary dimensions						Basic load ratings		Designations		Mass
mm						kN				
d	D	B	r _{min}	Fw	Ew	Cr	Cor	Current	Original	kg
240	360	118	3	274	—	1240	2600	NNU4048	4482148	42.7
	400	128	4	—	358	1170	2040	NN3148	3282748	64.2
	400	160	4	282	—	1880	3530	NNU4148	4482748	85
260	360	75	2.1	—	335	670	1380	NN3952	3282952	21.4
	360	100	2.1	—	335	711	1540	NN4952K	4182952	29.2
	360	100	2.1	—	335	935	2100	NN4952	4282952	28.3
	360	100	2.1	292	—	935	2100	NNU4952	4482952	31.1
	400	104	4	—	364	969	1810	NN3052K	3182152	47.1
	400	104	4	—	364	969	1810	NN3052	3282152	48.5
	400	140	4	—	364	1550	3250	NN4052	4282152	59.7
	400	140	4	300	—	1550	3250	NNU4052	4482152	65
	440	144	4	—	393	1480	2660	NN3152	3282752	89.1
440	180	4	306	—	2200	4000	NNU4152	4482752	113	
280	350	69	1.1	—	329	445	1160	NN4856	4282856	15.3
	350	69	2	303	—	457	1200	NNU4856K	—	15.5
	380	75	2.1	—	355	695	1460	NN3956	3282956	22.7
	380	100	2.1	—	355	960	2230	NN4956	4284956	32.9
	380	100	2.1	312	—	960	2230	NNU4956	4482956	33
	420	106	4	—	384	1020	1950	NN3056K	3182156	49.1
	420	106	4	—	384	1020	1950	NN3056	3282156	49.9
	420	106	4	320	—	1080	2080	NNU3056	—	51.4
	460	146	5	—	413	1520	2790	NN3156	3282756	95.7
300	380	80	2.1	324	—	690	1760	NNU4860	4482860	21.7
	420	118	3	—	388	1230	2870	NN4960	4282960	51.6
	420	118	3	339	—	1230	2870	NNU4960	4482960	51.9
	460	118	4	—	418	1180	2250	NN3060	3282160	71.7
	460	118	4	—	418	1180	2250	NN3060K	3182160	69.6
	460	160	4	—	418	1920	4100	NN4060	—	97.6
	500	160	5	—	448	1760	3150	NN3160	3282760	125
	500	160	5	358	—	1760	3150	NNU3160	3482760	126
320	400	80	2.1	346	—	700	1840	NNU4864	4482864	22.8
	440	118	3	—	408	1260	3050	NN4964	4282964	50.2
	440	118	3	—	408	1260	3050	NN4964K	4182964	52
	440	118	3	359	—	1260	3050	NNU4964	4482964	54.9
	480	121	4	—	438	1350	2670	NN3064	3282164	76.6
	480	121	4	366	—	1350	2670	NNU3064	3482164	76.9
	480	160	4	367	—	1960	4300	NNU4064	4482164	103
	540	176	5	384	—	2090	3750	NNU3164	3482764	154
340	460	90	3	—	428	905	2020	NN3968	3282968	42.9
	460	118	3	—	428	1040	2450	NN4968K	4182968	53.8
	460	118	3	—	428	1350	3400	NN4968	4282968	52.1

Double-row cylindrical roller bearings



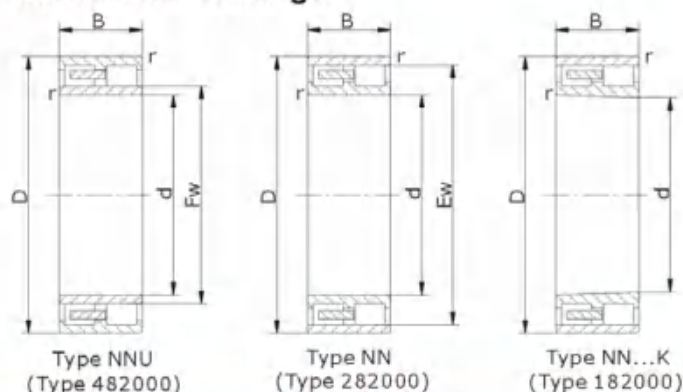
Boundary dimensions						Basic load ratings		Designations		Mass
mm						kN				
d	D	B	r _{min}	Fw	Ew	Cr	Cor	Current	Original	kg
340	460	118	3	379	—	1350	3400	NNU4968	4482968	57.8
	520	133	5	—	473	1560	3020	NN3068K	3182168	101
	520	133	5	—	473	1560	3020	NN3068	3282168	104
	520	133	5	387	—	1560	3020	NNU3068	3482168	104
	520	180	5	385	—	2420	5350	NNU4068	4482168	141
360	480	90	3	—	448	930	2130	NN3972	3282972	44.9
	480	118	3	399	—	1390	3550	NNU4972	4482972	60.6
	540	134	5	—	493	1630	3240	NN3072	3282172	106
	540	134	5	—	493	1630	3240	NN3072K	3182172	106
	540	134	5	413	—	1630	3240	NNU3072	3482172	108
	540	180	5	—	496	2530	5450	NN4072	3282172	132
	600	243	5	422	—	4000	8000	NNU4172	4482772	282
380	520	140	4	—	485	1880	4600	NN4976	4282976	81.3
	520	140	4	426	—	1880	4600	NNU4976	4482976	88.8
	560	135	5	—	513	1590	3240	NN3076K	3182176	110
	560	135	5	—	513	1590	3240	NN3076	3282176	114
	620	194	5	—	559	2620	4950	NN3176	3282776	224
	620	194	5	449	—	2620	4950	NNU3176	3482776	228
400	500	100	2.1	430	—	905	2540	NNU4880	4482880	45.7
	540	106	4	—	504	1240	2400	NN3980K	318980	71.3
	600	148	5	—	549	1980	3660	NN3080K	3182180	143
	600	148	5	—	549	1980	3660	NN3080	3282180	147
	650	200	6	474	—	2770	5400	NNU3180	3482780	262
420	560	106	4	—	522	1280	2900	NN3984	3282984	71.2
	560	140	4	—	525	2000	5150	NN4984	4282984	87.9
	560	140	4	466	—	2000	5015	NNU4984	4482184	97.2
	620	150	5	—	568	2130	4450	NN3084	3282184	154
	620	150	5	478	—	2130	4450	NNU3084	3482184	155
	620	200	5	—	571	3150	7100	NN4084	4282184	189
	620	200	5	469	—	3400	7850	NNU4084	4482184	209
	700	224	6	501	—	3550	6800	NNU3184	3482784	347
440	540	100	2.1	470	—	950	2790	NNU4888	4482888	49.5
	650	157	6	—	596	2360	4900	NN3088	3282188	177
	650	157	6	500	—	2360	4900	NNU3088	3482188	178
	720	226	6	—	649	3500	6800	NN3188	3282788	357
460	580	118	3	497	—	1200	3600	NNU4892	4482892	76
	620	118	4	—	578	1610	3700	NN3992	3282992	94.5
	620	160	4	510	—	2400	6200	NNU4992	4482992	140
	680	163	6	—	624	2470	5070	NN3092K	3182192	204
	680	163	6	—	624	2470	5070	NN3092	3282192	204

Double-row cylindrical roller bearings



Boundary dimensions						Basic load ratings		Designations		Mass
mm						kN				
d	D	B	r _{min}	Fw	Ew	Cr	Cor	Current	Original	kg
480	650	170	5	—	607	2690	7000	NN4996	4282996	164
	700	165	6	—	643	2600	5550	NN3096	3282196	211
	700	218	6	533	—	4300	8600	NNU4096	4482196	273
	790	248	7.5	—	708	4050	8100	NN3196	3282796	447
500	670	170	5	554	—	2720	7200	NNU49/500	44829/500	171
	720	167	6	—	664	2580	5600	NN30/500	32821/500	205
	720	167	6	563	—	2580	5600	NNU30/500	34821/500	220
530	710	136	5	—	663	2040	4900	NN39/530	32829/530	149
	710	180	5	588	—	2900	7050	NNU49/530	44829/530	202
	780	185	6	—	715	3200	6900	NN30/530	32821/530	296
560	750	140	5	—	705	2370	4860	NN39/560	32829/530	188
	750	190	5	623	—	3250	8700	NNU49/560	44829/560	239
	780	180	8	—	725	2400	6400	NN6/560	2872/560	266
	820	195	8	—	756	2460	6560	NN30/560K	31821/560	341
	820	258	6	—	745	4100	10600	NN40/560	42821/560	472
	820	258	6	626	—	5720	13100	NNU40/560	44821/560	420
	920	280	7.5	650	—	6850	13700	NNU31/560	34827/560	738
600	800	200	5	666	—	3850	10500	NNU49/600	44829/600	284
	800	200	5	—	755	3450	7180	NN49/600K	41829/600	257
	870	200	6	—	803	3420	7785	NN30/600	32821/600	355
	870	272	6	664	—	6138	14040	NNU40/600	44821/600	530
	980	375	7.5	699	—	8910	18990	NNU41/600	44827/600	1100
630	780	150	4	676	—	2290	7000	NNU48/630	44828/630	160
	850	218	6	—	793	4200	11400	NN49/630	42829/630	328
	850	218	6	704	—	4000	10800	NNU49/630	44829/630	356
	920	212	7.5	—	845	3860	8820	NN30/630	32821/630	430
	920	290	7.5	699	—	6885	15750	NNU40/630	44821/630	635
	1030	400	7.5	734	—	9900	21600	NNU41/630	44827/630	1330
670	900	230	6	—	838	4450	12330	NN49/670	42829/670	419
	900	230	6	738	—	4950	13100	NNU49/670	44829/670	430
	980	230	7.5	—	901	4620	10260	NN30/670K	31821/670	597
	980	308	7.5	744	—	7578	17640	NNU40/670	44821/670	765
	1090	412	7.5	774	—	10890	22950	NNU41/670	44827/670	1500
710	870	160	4	759	—	2640	8350	NNU48/710	44828/710	203
	950	243	6	782	—	4850	13770	NNU49/710	44829/710	480
	1030	236	7.5	—	951	5148	11880	NN30/710	32821/710	590
	1030	315	7.5	784	—	8415	19440	NNU40/710	44821/710	850
	1150	438	9.5	820	—	12060	25650	NNU41/710	44827/710	1790
750	920	170	5	—	879	3070	9180	NN48/750	42828/750	240
	1000	250	6	831	—	4950	14400	NNU49/750	44829/750	540

Double-row cylindrical roller bearings



Boundary dimensions						Basic load ratings		Designations		Mass
mm						kN				
d	D	B	r _{min}	Fw	Ew	Cr	Cor	Current	Original	kg
750	1090	250	7.5	–	1007	6336	14400	NN30/750	32821/750	705
	1090	335	7.5	830	–	9180	21600	NNU40/750	44821/750	925
	1220	475	9.5	871	–	14490	31950	NNU41/750	44827/750	2230
800	1060	258	6	884	–	5247	15300	NNU49/800	44829/800	615
	1150	258	7.5	–	1065	7029	16200	NN30/800	32821/800	790
	1150	345	7.5	885	–	9720	23400	NNU40/800	44821/800	1140
	1280	475	9.5	921	–	14850	32850	NNU41/800	44827/800	2390
850	1030	180	5	905	–	3400	11400	NNU48/850	44828/850	310
	1120	272	6	939	–	5346	16200	NNU49/850	44829/850	715
	1220	272	7.5	–	1130	7128	16740	NN30/850	32821/850	940
	1220	365	7.5	940	–	10530	25650	NNU40/850	44821/850	1340
	1360	500	12	976	–	19080	40500	NNU41/850	44827/850	2900
900	1180	280	6	966	–	5940	18000	NNU49/900	44829/900	805
	1280	280	7.5	–	1185	7425	18000	NN30/900	32821/900	1050
	1280	375	7.5	990	–	11520	28350	NNU40/900	44821/900	1500
	1420	515	6	1032	–	19800	42750	NNU41/900	44827/900	3180
950	1250	300	7.5	1046	–	6633	20160	NNU49/950	44829/950	960
	1360	300	7.5	–	1255	8217	20160	NN30/950	32821/950	1300
	1360	412	7.5	1050	–	12780	31950	NNU40/950	44821/950	1900
	1500	545	12	1092	–	22950	51300	NNU41/950	44827/950	3830
1000	1320	315	7.5	1103	–	7722	23400	NNU49/1000	44829/1000	1250
	1320	315	7.5	–	1238	8580	25200	NN49/1000	42829/1000	1200
	1420	308	7.5	–	1316	9090	22050	NN30/1000	32821/1000	1400
	1420	412	7.5	1101	–	13860	34200	NNU40/1000	44821/1000	2000
	1580	580	12	1154	–	24750	55800	NNU41/1000	44827/1000	4270
1060	1400	335	7.5	1160	–	9450	27450	NNU49/1060	44829/1060	1350
	1500	325	9.5	–	1391	9900	24750	NN30/1060	32821/1060	1650
	1660	600	15	1214	–	27270	62550	NNU41/1060	44827/1060	5070
1120	1460	335	7.5	1220	–	9450	28350	NNU49/1120	44829/1120	1450
	1750	630	15	1279	–	30240	68850	NNU41/1120	44827/1120	5600
1180	1540	355	7.5	1285	–	10710	32400	NNU49/1180	44829/1180	1650
	1850	670	15	1350	–	33210	76500	NNU41/1180	44827/1180	7200
1250	1950	710	15	1426	–	37620	88200	NNU41/1250	44827/1250	8000
1320	1720	400	7.5	1440	–	12420	38250	NNU49/1320	44829/1320	3100
	1720	400	7.5	–	1620	13800	42500	NN49/1320	42829/1320	3060
	2060	750	15	1507	–	41130	95400	NNU41/1320	44827/1320	9400
1400	2180	775	19	1598	–	44550	104400	NNU41/1400	44827/1400	10700
1500	2300	800	19	1709	–	47520	118800	NNU41/1500	44827/1500	12300

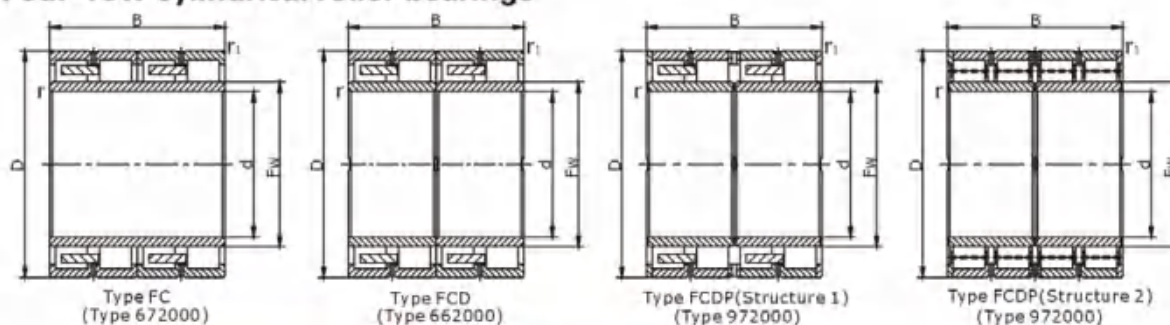
Four-row cylindrical roller bearings

Four-row cylindrical roller bearings are the one of the main bearings for rolling mills. They have compact structures and high stiffness, and can carry high radial loads but not axial loads. Because of inner rings with no ribs, inner and outer ring subassembly (with full set of rollers and cage) can be mounted respectively. Cleaning, inspecting and dismounting are very convenient.

Four-row cylindrical roller bearings are especially applied to rolling mills required high speed and precision, for example, wire mills, bar and shape mills, cold or hot sheet mills and cogging mills.

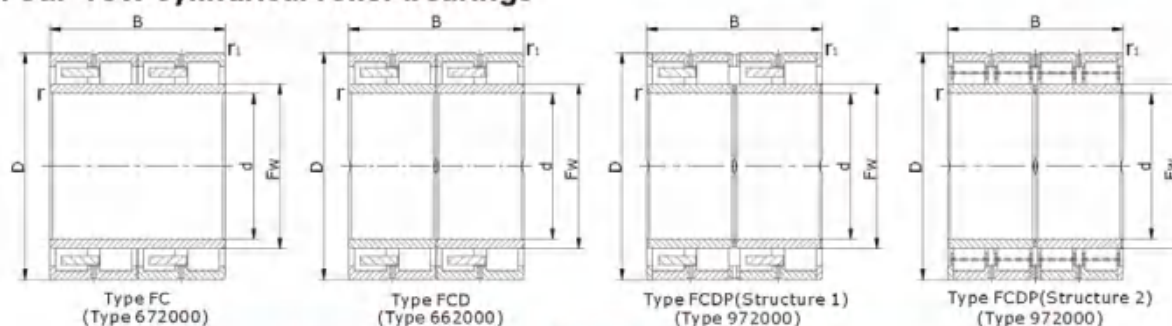
Brass solid cages or pin-type cages are mainly used in four-row cylindrical roller bearings.

Four-row cylindrical roller bearings



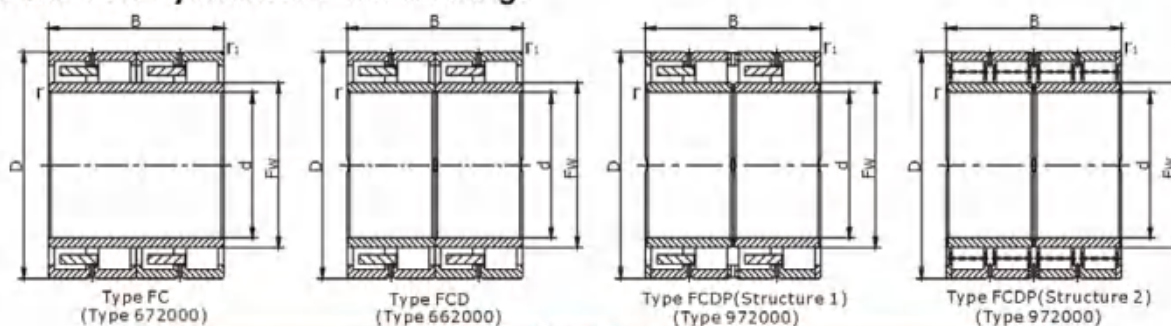
Boundary dimensions						Basic load ratings		Designations		Mass
mm						kN				
d	D	B	Fw	r _{min}	r _{max}	Cr	Cor	Current	Original	kg
90	140	70	105	1.5	1.1	222	454	FC182870	672718	4.4
	140	74	105	1.5	1.1	222	454	FC182874	—	4.5
100	140	70	111	1.5	1.1	194	416	FC202870	672820	3.5
	140	90	111	1.5	1.1	290	616	FC202890	—	4.3
	140	104	111	1.5	1.1	335	730	FC2028104	672720	5.1
	145	70	113	1.5	1.1	219	457	FC202970	672720K	4.1
	150	106	113	1.5	1.1	347	736	FC2030106	—	6.8
110	150	80	122	1.5	1.1	241	602	FC223080	—	4.4
	170	90	127	2	2	358	754	FC223490	—	7.9
	170	120	127	2	2	605	1060	FC2234120	672722	10.6
	210	170	136.5	2	2	923	1810	FC2242170	—	27.3
120	180	92	137	2	2	375	820	FC243692	—	8.7
	180	105	135	2	2	612	927	FC2436105	672724	9.8
	180	120	136	2	2	477	1081	FC2436120	—	11.2
130	200	104	149	2	2	478	1006	FC2640104	—	12.5
	200	125	149	2	2	738	1220	FC2640125	672726	15
140	210	100	158	2	2	503	1096	FC2842100	—	12.8
	210	106	158	2	2	503	1096	FC2842106	—	13.6
	210	125	158	2	2	718	1365	FC2842125	672728	15.8
	210	155	158	2	2	756	1774	FC2842155	—	19.6

Four-row cylindrical roller bearings



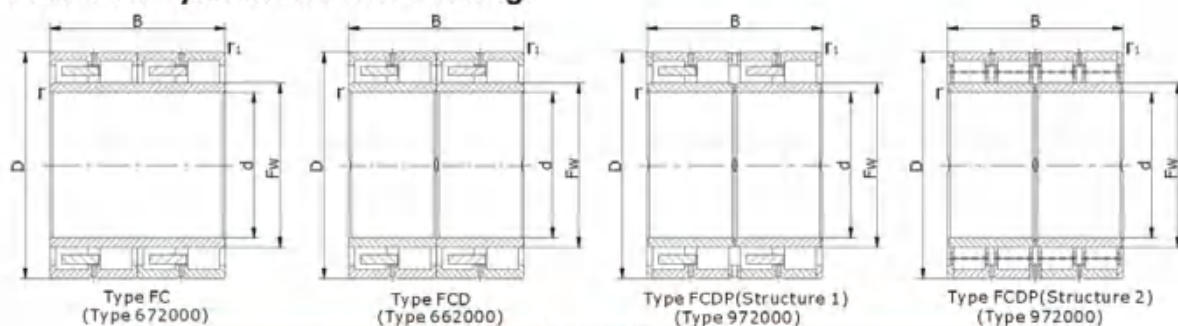
Boundary dimensions						Basic load ratings		Designations		Mass
mm						kN				
d	D	B	Fw	r _{min}	r _{1min}	Cr	Cor	Current	Original	kg
145	210	155	166	2	2	720	1560	FC2942155	—	24.4
	225	156	169	2	2	815	1660	FC2945156	672729	24.4
150	225	120	169	2	2	788	1586	FC3045120	—	17.5
	225	150	169	2	2	865	1770	FC3045150	—	21
	230	156	174	2	2	840	1760	FC3046156	672730	24.4
160	230	130	180	2	2	1040	1384	FC3246130	—	22.7
	230	168	179	3	2	818	2218	FC3246168	—	24.2
	240	124	183	2.1	2.1	690	1543	FC3248124	672732K	20.6
	240	168	183	2.1	2.1	947	2310	FC3248168	672732	28
	260	168	183	2.5	2.1	953	2326	FC3252168	—	38.2
170	230	130	188.5	2	2	680	1720	FC3446130	—	16.3
	230	152	186	2	2	765	1790	FC3446152	—	17.4
	230	180	186	2	2	707	2041	FC3446180	—	22.7
	240	130	190	2	2	830	1830	FC3448130	—	19
	250	170	192	2.1	2.1	1000	2400	FC3450170	672734H	29.9
	260	120	195	2.1	2.1	863	1730	FC3452120	672734Y	24.2
	260	150	195	2.1	2.1	860	1948	FC3452150	—	30.2
	260	170	196	2.1	2.1	1080	2460	FC3452170	—	34.9
	260	225	196	2.1	2.1	1270	3350	FC3452225	—	43.5
180	250	120	200	2.1	2.1	609	1583	FC3650120	—	19
	250	156	200	2	2	710	1527	FC3650156	672836	24.7
	260	120	202	2.5	2.1	693	860	FC3652120	—	20.2
	260	124	202	2.1	2.1	718	1668	FC3652124	672736K	22.6
	260	154	202	2.5	2.1	983	2200	FC3652154	—	28.2
	260	160	202	2.1	2.1	893	2206	FC3652160	—	29.2
	260	168	202	2.1	2.1	1060	2440	FC3652168	672736	30.7
	260	180	202	2.1	2.1	1150	2560	FC3652180	—	32.9
	280	180	207	2.1	2.1	1220	2580	FC3656180	—	43.4
190	260	168	212	2.1	2.1	1020	2600	FC3852168	—	27.9
	265	124	213	2.1	2.1	816	1926	FC3853124	672838K	22.1
	270	124	212	2.1	2.1	816	1925	FC3854124	—	24.2
	270	168	212	2.1	2.1	1062	2798	FC3854168	672738K	32
	270	200	212	2.1	2.1	1359	3350	FC3854200	672738	38.2
	280	200	214	2.1	2.1	1540	3350	FC3856200	—	41.5
200	270	120	222	2.1	2.1	615	1626	FC4054120	—	20.8
	270	170	222	2.1	2.1	985	2670	FC4054170	—	29.5
	280	170	222	2.1	2.1	1130	2730	FC4056170	—	33
	280	200	222	2.1	2.1	1359	2693	FC4056200	—	39.9
	290	130	226	2.5	2.1	840	1975	FC4058130	—	29.9
	290	192	226	2.1	2.1	1386	3250	FC4058192	672740	44.9
210	290	192	236	2.1	2.1	1300	3400	FC4258192	—	40.6
	300	170	234	2.1	2.1	1031	2814	FC4260170	—	41.4
	300	210	234	2.1	2.1	1300	3040	FC4260210	672742	50.3

Four-row cylindrical roller bearings



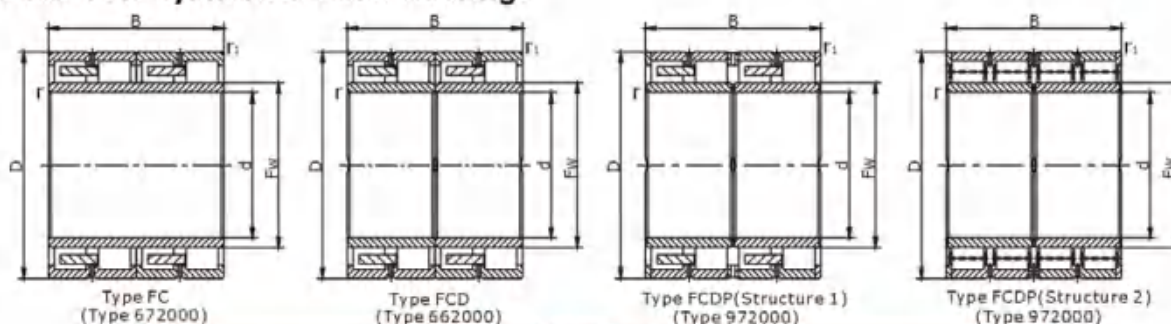
Boundary dimensions						Basic load ratings		Designations		Mass
mm						kN				
d	D	B	Fw	r _{min}	r _{1min}	Cr	Cor	Current	Original	kg
220	300	192	242	2.1	2.1	1085	3310	FC4460192	—	41.5
	310	157	246	2.1	2.1	1132	2627	FC4462157	—	39.7
	310	190	246	2.1	2.1	1283	3503	FC4462190	—	47.2
	310	192	246	2.1	2.1	1250	3070	FC4462192	672744	48.6
	320	210	248	2.1	2.1	1321	3534	FC4464210	—	59.8
	340	192	246	2.5	2.1	1599	3444	FC4468192	—	65.6
230	330	170	260	2.1	2.1	1142	2974	FC4666170	—	50.2
	330	206	260	2.1	2.1	1470	3760	FC4666206	672746	60.8
	365	250	266	3	3	2400	4900	FC4673250	—	100
240	330	220	264	2.1	2.1	1373	3789	FC4866220	672748	58.4
	340	192	268	2.1	2.1	1219	3161	FC4868192	—	58
	360	220	272	2.1	2.1	1600	4065	FC4872220	—	83
250	340	170	274	3	3	1141	3281	FC5068170	—	47.9
	350	220	278	3	3	1350	3804	FC5070220	672750	70.2
	360	160	282	3	3	1077	2781	FC5072160	—	57
	360	220	282	3	3	1486	4210	FC5072220	—	78.5
260	360	192	287	3	3	1274	3468	FC5272192	—	62.3
	360	200	288	3	3	1483	4217	FC5272200	—	64.9
	360	204	287	2.1	2.1	1620	3990	FC5272204	—	63.5
	370	200	292	3	3	1407	4057	FC5274200	—	74.2
	370	220	292	3	3	1964	4650	FC5274220	672752	73.7
	380	220	292	3	3	1516	4353	FC5276220	—	91.2
	380	280	295	3	3	2250	5680	FC5276280	—	110
	400	200	296	4	4	1795	4051	FC5280200	—	95.6
	400	290	296	4	4	2710	7100	FC5280290	—	135
270	380	230	298	3	3	1725	4598	FC5476230	672754	85.3
	400	220	305	3	3	1833	4570	FC5480220	—	100
280	375	200	307	3	3	1480	4311	FC5675200	672956	65.1
	380	290	308	3	3	1888	5835	FC5676290	—	100
	390	220	312	3	3	1600	4730	FC5678220	672756Q	86.2
	390	240	312	3	3	1763	5235	FC5678240	—	93.4
	390	275	308	3	1.1	2250	6500	FCD5678275	—	105.1
	420	280	318	4	4	2430	6350	FCD5684280	—	143.4
290	410	240	320	4	4	2070	5670	FC5882240	672758	105
300	420	240	332	4	4	2060	5695	FC6084240	672760	107.8
	420	240	332	4	4	2225	5750	FCD6084240	—	107
	420	300	332	3	3	2305	6565	FCD6084300	—	134.7
320	440	240	351	3	3	2120	6101	FC6488240	—	113.9
	440	300	352	3	3	2530	7660	FCD6488300	—	142.3
	450	240	355	4	4	2145	5860	FC6490240	672764	125.3
	450	240	355	4	4	2145	5860	FCD6490240	—	125.3
	460	280	357	3	3	2450	6534	FC6492280	—	159
	460	340	360	3	3	2895	8105	FCD6492340	—	193.1
330	480	350	364	4	4	3790	10500	FCDP6496350	—	227
	460	340	365	4	4	3760	8265	FCD6692340	—	175

Four-row cylindrical roller bearings



Boundary dimensions						Basic load ratings		Designations		Mass
mm						kN				
d	D	B	Fw	r _{min}	r _{1min}	Cr	Cor	Current	Original	kg
340	450	250	368	3	3	2299	6312	FC6890250	—	111.2
	450	250	368	3	3	2045	6134	FCD6890250	—	112.6
	460	260	370	4	4	2132	5977	FC6892260	—	128.2
	480	350	378	4	4	4270	9480	FCD6896350	—	207
350	500	380	389	5	5	4290	11700	FCD70100380	672770	242
	520	300	401	5	5	3860	9000	FCD70104300	—	220
360	500	250	394	3	3	2940	6740	FCD72100250	—	143
	510	370	399	4	4	4010	10700	FCD72102370	—	273
370	520	380	409	4	4	4900	10750	FCD74104380	672974	263
	520	380	409	4	4	4160	12312	FCDP74104380	—	261
	520	400	409	4	4	4140	11200	FCD74104400	—	267
	540	400	415	4	4	3970	11240	FCD74108400	672774	322.4
380	540	380	422	4	4	3766	10930	FCD76108380	—	290.9
	540	400	422	4	4	4800	12000	FCD76108400	672776	305
	540	400	422	4	4	5140	14000	FCDP76108400	—	305
390	540	320	431	10 × 20°	2	4750	12200	FCDP78108320	—	230
	550	310	430	11 × 20°	4	4600	11200	FCDP78110310	—	240
400	550	300	441	4	4	3510	9260	FCD80110300	—	214
	560	350	445	5	5	3840	10400	FCD80112350	—	271
	560	410	445	5	5	5790	15600	FCDP80112410	—	315
	590	440	450	5	5	6630	16600	FCD80118440	—	415
410	560	400	450	14 × 20°	2	5790	16000	FCDP82112400	—	290
	600	440	460	5	5	6880	17300	FCDP82120440	—	425
420	580	280	468	4	4	3960	9650	FCD84116260	—	210
	580	320	463	4	4	4200	10800	FCD84116320	—	250
	600	440	470	5	5	6270	18100	FCDP84120440	—	400
	620	400	473	4	4	6230	15600	FCD84124400	—	430
440	620	450	487	5	5	6490	19600	FCDP88124450	—	440
	650	355	494	12.5 × 20°	4	5162	14000	FCDP88130355	—	420
450	590	300	490	12 × 45°	4	3510	12000	FCDP90118300	—	247
460	650	424	510	12 × 20°	3	7000	18300	FCDP92130424	—	450
	650	470	509	5	5	7900	22400	FCDP92130470	—	510
480	650	450	525	6	6	7420	21200	FCDP96130450	—	440
	680	420	528	5	5	7500	19300	FCDP96136420	—	515
	680	500	532	5	5	7323	24000	FCDP96136500	—	605
500	670	450	540	5	5	5343	17490	FCDP100134450	6728/500Y	460
	680	405	550	6	6	5495	16570	FCD100136405	—	453
	680	450	550	5	5	7420	22000	FCDP100136450	—	500
	710	480	558	5	5	7920	21600	FCD100142480	—	610
	720	400	558	6	3	7120	17600	FCD100144400	—	530
510	720	530	568	6	6	9720	19890	FCD100144530	—	755
	680	500	560	7.5 × 20°	5	8070	26000	FCDP102136500	—	522
	730	520	569	6	6	8560	22000	FCD102146520	—	750
	760	550	570	16 × 20°	3	10800	26500	FCDP102152550	—	950

Four-row cylindrical roller bearings



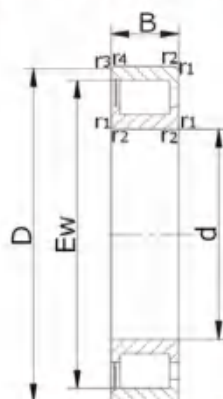
Boundary dimensions						Basic load ratings		Designations		Mass
mm						kN				
d	D	B	Fw	r _{min}	r _{1min}	Cr	Cor	Current	Original	kg
530	760	520	587	6	6	10530	28500	FCDP106152520	—	775
	780	500	591	6	6	8410	20400	FCD106156500	—	805
	780	570	595	6	6	11520	32500	FCDP106156570	—	960
550	740	510	600	6	6	7769	27000	FCDP110148510	—	615
	800	520	612	6	6	10530	26500	FCDP110160520	—	895
	800	560	610	6	6	10890	28000	FC110160560	—	930
570	750	530	622	5	5	6745	25200	FCD114150530	6727/570	662.5
600	820	575	660	6	6	11700	36000	FCDP120164575	—	910
	870	540	672	20 × 20°	4	11800	31500	FCDP120174540	—	1100
	870	640	682	6	6	13600	40000	FCDP120174640	—	1300
610	820	430	665	19 × 20°	3	8400	23600	FCDP122164430	—	650
650	900	650	704	7.5	7.5	15480	41500	FCDP130180650	—	1260
	920	670	723	7.5	7.5	15480	46500	FCDP130184670	—	1450
660	820	440	702	7.5	4	6730	22800	FCD132164440	—	530
	880	450	727	6	6	5546	23600	FCD132176450	—	785
680	940	600	743	4	4	16900	53400	FCDP136188600	—	1380
	980	640	760	20 × 20°	4	13230	41800	FCDP136196640	—	1590
690	980	715	767.5	7.5	7.5	17820	51300	FCDP138196715	—	1780
	980	750	766	7.5	7.5	17000	53000	FCDP138196750	—	1880
700	930	620	763	18 × 20°	7.5	11600	40850	FCDP140186620	—	1180
	980	700	774	6	6	17800	48200	FCDP140196700	—	1720
710	1000	715	787.5	7.5	7.5	15400	53200	FCDP142200715	—	1860
730	940	500	780	3	3	10150	42500	FCDP146188500	—	1000
	960	620	790	20 × 20°	7.5	11800	48750	FCDP146192620	—	1220
	1030	750	809	7.5	7.5	16000	55500	FCDP148206750	—	2040
750	1000	500	816	6	6	9460	32000	FCD150200600	—	1150
	1000	670	813	7.5	7.5	13500	47500	FCDP150200670	—	1480
780	1070	780	853	25 × 20°	7.5	17200	57900	FCDP156214780	—	2300
800	1080	700	878	7.5	7.5	15200	55500	FCDP160216700	—	1950
	1150	850	905	7.5	7.5	21000	76600	FCDP160230850	—	3150
820	1130	800	903	7.5	7.5	18600	64600	FCDP164226800	—	2540
850	1150	840	928	7.5	7.5	19600	72009	FCDP170230840	—	2570
	1180	850	940	7.5	7.5	20100	72700	FCDP170236850	—	2850
	1220	900	940	5	5	23000	84000	FCDP170244900	—	3720
900	1220	840	989	24 × 20°	7.5	20300	76000	FCDP180244840	—	3060
	1280	930	1000	25 × 20°	7.5	25300	88350	FCDP180256930	—	4080
950	1300	850	1044	5	5	22168	81318	FCDP190260850	6727/950Y	3505
	1360	975	1075	26 × 20°	7.5	26200	90000	FCDP190272975	—	4900
	1360	1000	1058	22 × 20°	7.5	29200	99000	FCDP1902721000	—	5020
980	1310	880	1061.7	20 × 20°	7.5	22000	82000	FCDP196262880	—	3310
1000	1360	800	1084	23 × 20°	7.5	22000	80000	FCDP200272800	—	3560
1040	1440	1000	—	27 × 20°	7.5	34200	51300	FCDP2082881000	—	5100
1200	1590	1050	1305	30 × 20°	7.5	37620	120600	FCDP2403181050	—	5970
1300	1655	880	1391	7.5	7.5	33660	109800	FCDP260331880	—	4800
1350	1765	1360	1457	42 × 20°	9	36180	109800	FCDP2703531360	—	9100
1400	1780	1200	1493	40 × 20°	9	47070	146700	FCDP2803561200	—	7400
	1900	1360	1521	40 × 20°	9	55440	164700	FCDP2803601360	—	11300

Full complement cylindrical roller bearings

Full complement cylindrical roller bearings include single-row full complement cylindrical roller bearings (type NCF) and double-row full complement cylindrical roller bearings (type NNCF) .

Full complement cylindrical roller bearings have no cage, full of rollers, the loading capacity is higher than bearings with cage, but the high speed performance is worse. Single and double rows open bearings are primarily used in general mechanical equipment required lower speed and heavy loads. Double-row closed bearings are generally used in wire rope pulleys of cranes.

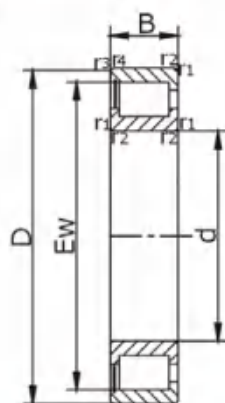
Single-row full complement cylindrical roller bearings (Type NCF)



Type NCF

Boundary dimensions						Basic load ratings		Designations	Mass	Limiting speeds	
mm						kN				r/min	
d	D	B	r ₁ , 2min	r ₂ , 4min	Ew	Cr	Cor		kg	Grease	Oil
150	210	36	2	1.1	195.5	289	505	NCF2930V	3.7	670	1400
	225	56	2.1	1.1	211.7	460	710	NCF3030V	7.1	630	1300
160	220	36	2	1.1	205.7	310	535	NCF2932V	3.8	630	1300
	240	60	2.1	1.1	225.1	520	810	NCF3032V	8.6	600	1200
170	215	22	1.5	1.1	203.5	149	272	NCF1834V	1.8	600	1200
	230	36	2	1.1	216	320	570	NCF2934V	4.1	600	1200
	260	67	2.1	1.1	243.2	675	1070	NCF3034V	11.9	560	1100
180	225	22	1.1	1	215.2	154	290	NCF1836V	1.8	600	1200
	250	42	2	1.1	232	390	695	NCF2936V	6.0	560	1100
	280	74	2.1	2.1	260.5	785	1260	NCF3036V	15.8	560	1100
190	240	24	1.5	1.1	229	178	335	NCF1838V	2.4	560	1100
	260	42	2	1.1	244	435	785	NCF2938V	6.5	560	1100
	290	75	2.1	2.1	270	805	1320	NCF3038V	16.7	530	1000
200	250	24	1.5	1.1	237.5	193	356	NCF1840V	2.5	560	1100
	280	48	2.1	1.5	262	530	955	NCF2940V	8.9	530	1000
	310	82	2.1	2.1	288.2	910	1510	NCF3040V	21.4	500	950
220	270	24	1.5	1.1	258	191	385	NCF1844V	2.7	530	1000
	300	48	2.1	1.5	283	555	1050	NCF2944V	9.6	480	900
	340	90	3	3	312.7	1100	1820	NCF3044V	28.2	450	850

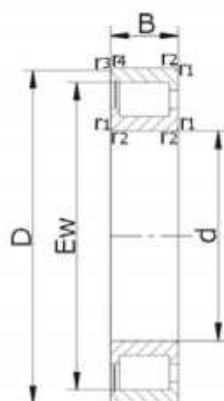
Single-row full complement cylindrical roller bearings (Type NCF)



Type NCF

Boundary dimensions						Basic load ratings		Designations	Mass	Limiting speeds	
mm						kN				r/min	
d	D	B	r ₁ , 2min	r ₂ , 4min	Ew	Cr	Cor		kg		Grease
240	300	28	2	1.1	287	236	470	NCF1848V	4.2	480	900
	320	48	2.1	1.5	303	580	1140	NCF2948V	10.4	450	850
	360	92	3	3	335.25	1350	2490	NCF3048V	31.2	430	800
260	320	28	2	1.1	307.2	247	510	NCF1852V	4.5	430	800
	360	60	2.1	1.5	333.7	750	1460	NCF2952V	18.1	400	750
	400	104	4	4	376.1	1740	2960	NCF3052V	45.3	380	700
280	350	33	2	1.1	334	330	675	NCF1856V	6.8	400	750
	380	60	2.1	1.5	358.8	814	1750	NCF2956V	19.5	380	700
	420	106	4	4	390.5	1740	3110	NCF3056V	49	360	670
300	380	38	2.1	1.5	363	445	870	NCF1860V	9.7	360	670
	420	72	3	3	385	805	1730	NCF2960V	30.7	340	630
	460	118	4	4	432	1980	3500	NCF3060V	67.6	320	600
320	400	38	2.1	1.5	383	460	925	NCF1864V	10.3	340	630
	440	72	3	3	411	1150	2340	NCF2964V	33	320	600
	480	121	4	4	447.3	2170	3900	NCF3064V	73	300	560
340	420	38	2.1	1.5	401	475	985	NCF1868V	10.7	320	600
	460	72	3	3	431	1190	2470	NCF2968V	34.1	300	560
	520	133	5	5	486	2480	4350	NCF3068V	97	280	530
360	440	38	2.1	1.5	423.2	562	1180	NCF1872V	11.5	300	560
	480	72	3	3	451.5	1220	2610	NCF2972V	36	280	530
	540	134	5	5	503.2	2550	4600	NCF3072V	102	260	500
380	480	46	2.1	1.5	458	575	1230	NCF1876V	18.6	280	530
	520	82	4	4	486.7	1480	3210	NCF2976V	52	260	500
	560	135	5	5	520.5	2610	4800	NCF3076V	108	240	480
400	500	46	2.1	1.5	475	590	1300	NCF1880V	19.5	260	500
	540	82	4	4	511	1650	3550	NCF2980V	53.4	240	480
	600	148	5	5	559.1	2940	5450	NCF3080V	139	220	450
420	520	46	2.1	1.5	499	600	1340	NCF1884V	20.5	240	480
	560	82	4	4	524	1740	3590	NCF2984V	55.7	220	450
	620	150	5	5	578.2	3000	5650	NCF3084V	147	200	430
440	540	46	2.1	1.5	516	615	1410	NCF1888V	21.3	220	450
	600	95	4	4	565.5	2100	4160	NCF2988V	78.2	200	430
460	580	56	3	3	553	920	1950	NCF1892V	32.5	200	430
	620	95	4	4	579	2130	4480	NCF2992V	81.2	190	400
480	600	56	3	3	573.5	940	2040	NCF1896V	33.8	190	400
	650	100	5	5	606	2380	5100	NCF2996V	95.1	180	380
500	620	56	3	3	594	1030	2200	NCF18/500V	35	180	380
	670	100	5	5	634.5	2420	5250	NCF29/500V	98.4	170	360

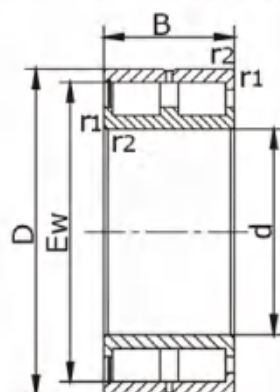
Single-row full complement cylindrical roller bearings (Type NCF)



Type NCF

Boundary dimensions						Basic load ratings		Designations	Mass	Limiting speeds	
mm						kN				r/min	
d	D	B	$r_{1, 2min}$	$r_{3, 4min}$	Ew	Cr	Cor		kg	Grease	Oil
530	650	56	3	3	624.5	990	2240	NCF18/530V	36.9	170	360
560	680	56	3	3	655	1020	2360	NCF18/560V	39.3	160	340
600	730	60	3	3	696	1140	2680	NCF18/600V	48.9	150	320
630	780	69	4	4	739	1470	3400	NCF18/630V	68.8	140	300
670	820	69	4	4	783	1520	3550	NCF18/670V	72.7	130	280
	820	88	4	4	783	2040	5340	NCF28/670V	90.8	130	280
710	870	74	4	4	831	1670	3900	NCF18/710V	79.7	120	260
750	920	78	5	5	880	1890	4430	NCF18/750V	94.6	110	240
	920	100	5	5	880	2630	6790	NCF28/750V	130	110	240
800	980	82	5	5	936	2070	4930	NCF18/800V	113	100	220
900	1090	85	5	5	1044	2390	5900	NCF18/900V	139	90	190
1000	1220	100	6	6	1165	3110	7640	NCF18/1000V	209	75	160

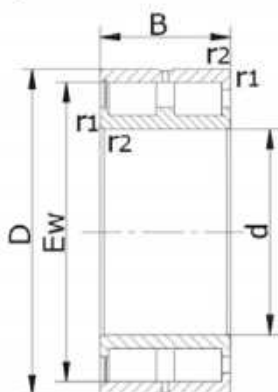
Double-row full complement cylindrical roller bearings (Type NNCF)



Type NNCF

Boundary dimensions					Basic load ratings		Designations	Mass	Limiting speeds	
mm					kN				r/min	
d	D	B	r _{1, 2min}	Ew	Cr	Cor		kg	Grease	Oil
150	210	60	2	192	390	865	NNCF4930V	6.6	670	1400
	225	100	2.1	209	785	1420	NNCF5030V	13	630	1300
160	220	60	2	203.9	410	930	NNCF4932V	7.0	630	1300
	240	109	2.1	225	895	1620	NNCF5032V	15.8	600	1200
170	230	60	2	212.2	415	975	NNCF4934V	7.3	600	1200
	260	122	2.1	243	1160	2140	NNCF5034V	22.1	560	1100
180	250	69	2	231.1	550	1230	NNCF4936V	10.7	560	1100
	280	136	2.1	260.5	1340	2510	NNCF5036V	29.4	560	1100
190	260	69	2	241.3	565	1290	NNCF4938V	11.1	560	1100
	290	136	2.1	270	1380	2630	NNCF5038V	30.8	530	1100
200	250	50	1.5	235.9	320	825	NNCF4840V	5.9	560	1100
	280	80	2.1	260	665	1500	NNCF4940V	15.7	530	1000
	310	150	2.1	288	1560	3000	NNCF5040V	39.7	500	950
220	270	50	1.5	256.9	340	905	NNCF4844V	6.4	530	1000
	300	80	2.1	277.2	695	1620	NNCF4944V	17	500	950
	340	160	3	308.5	1570	3080	NNCF5044V	50.7	450	850
240	300	60	2	282.4	495	1340	NNCF4848V	10.3	480	900
	320	80	2.1	300.1	725	1770	NNCF4948V	18.4	450	850
	360	160	3	335.6	1990	4000	NNCF5048V	54.3	430	800
260	320	60	2	304.7	515	1450	NNCF4852V	11	430	800
	360	100	2.1	331.5	1050	2530	NNCF4952V	32	400	750
	400	190	4	373.5	2690	5200	NNCF5052V	82.7	380	700
280	350	69	2	332.9	685	1860	NNCF4856V	16	400	750
	380	100	2.1	353.5	1090	2720	NNCF4956V	34	380	700
	420	190	4	389	2770	5450	NNCF5056V	87.7	360	670
300	380	80	2.1	357.4	805	2160	NNCF4860V	23	380	700
	420	118	3	390.2	1580	3800	NNCF4960V	52	340	630
	460	218	4	432	3400	7000	NNCF5060V	125	320	600
320	400	80	2.1	380.3	835	2310	NNCF4864V	24.3	340	630
	440	118	3	409	1620	4000	NNCF4964V	55	320	600
	480	218	4	447.5	3500	7350	NNCF5064V	131	300	600
340	420	80	2.1	397.4	855	2430	NNCF4868V	25.6	320	600
	460	118	3	427.1	1690	4300	NNCF4968V	58	300	560
	520	243	5	486	4250	8750	NNCF5068V	177	280	530
360	440	80	2.1	420.2	85	2580	NNCF4872V	27	300	560
	480	118	3	446	1730	4500	NNCF4972V	61	300	560
	540	243	5	503.6	4190	8850	NNCF5072V	186	260	500

Double-row full complement cylindrical roller bearings (Type NNCF)



Type NNCF

Boundary dimensions					Basic load ratings		Designations	Mass	Limiting speeds	
mm					kN				r/min	
d	D	B	r _{1, 2min}	Ew	Cr	Cor		kg	Grease	Oil
380	480	100	2.1	456	1260	3600	NNCF4876V	45.5	280	530
	520	140	4	481.5	2180	5650	NNCF4976V	90.5	260	500
	560	243	5	521.4	4280	9210	NNCF5076V	194	240	480
400	500	100	2.1	470.3	1290	3750	NNCF4880V	47.5	260	500
	540	140	4	502	2240	5900	NNCF4980V	94.5	240	480
	600	272	5	560	5050	10900	NNCF5080V	256	220	450
420	520	100	2.1	492.6	1320	3950	NNCF4884V	49.5	240	480
	560	140	4	522.5	2290	6200	NNCF4984V	98.5	220	450
	620	272	5	577.7	5150	11300	NNCF5084V	267	200	430
440	540	100	2.1	514.6	1350	4150	NNCF4888V	51.5	220	450
	600	160	4	563.5	3000	7850	NNCF4988V	136	200	430
460	580	118	3	543.3	1730	5150	NNCF4892V	77.5	200	430
	620	160	4	577	3050	8050	NNCF4992V	142	190	400
480	600	118	3	567.3	1760	5300	NNCF4896V	80.5	190	400
	650	170	5	605.5	3350	8900	NNCF4996V	167	180	380
500	620	118	3	583.5	1810	5600	NNCF48/500V	83.5	190	400
	670	170	5	631.5	3400	9350	NNCF49/500V	173	170	360