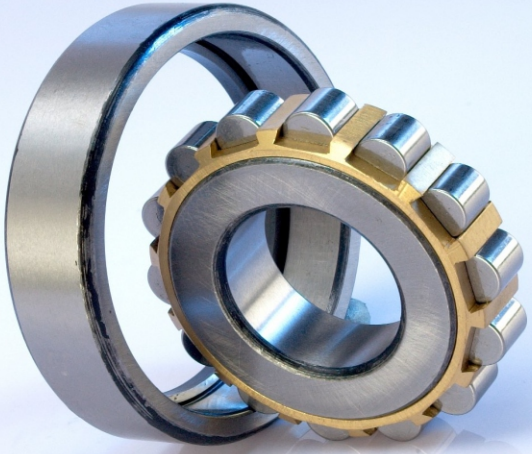


Cylindrical Roller Bearings

HTB BEARINGS

HTB manufactures many types and sizes of cylindrical roller bearings, the majority being single row bearings with a cage, but also single or double row bearings with a full complement of rollers. The contact geometry between roller and raceway has been much improved by the introduction of the '' logarithmic'' profile that provides for optimum stress distribution in the bearing. Optimized surface finishes favor lubricant film formation and the correct rolling motion of the cylindrical rollers.

Product Highlights

Logarithmically crowned rollers
High speed performance
Precision-honed rolling contact surfaces
Wide Range
Application flexibility
Customized solutions

Cylindrical Roller Bearings

E Design

HTB manufactures the E design of cylindrical roller bearings for higher load applications. The numbering system is the same only difference is the addition of a suffix "E".

Suffixes

1. Basic Design

N - Two integral flanges on inner ring, flangeless outer ring
NU - Two integral flanges on outer ring, flangeless inner
NJ - One flange on inner ring, two flanges on outer ring
NUP - Two intergral flanges on outer ring, one integral flange on inner ring and one loose flange on inner ring
NCF - full complement, two flanges on inner ring, one flange on outer ring with snap ring
NJG - Full complement with one flange on inner ring and two flanges on outer ring
NNCF - Two-Row, full compliment, three flanges on inner ring, one flange on outer ring with snap ring
NNF - Two row full complement
NNCL - Double row CRB with no outer ring intergral flanges, only one centrally located snap ring
NNC - Double row CRB with one outer ring integral flange and one flange ring'

2. Internal Design

EC - Increased capacity plus improved roller end to flange contact

3. Cage designs

M - Two piece machined brass cage, rolling element guided
MA - Two piece machined brass cage, rolling element guided
MB - Machined brass cage, inner ring flange guided
ML/MP - One Piece window-type brass cage, inner or outer ring centered
M2 - Solid brass drilled cage, roller guided for traction motor bearings
J - Pressed steel cage, rolling element guided
P - Molded glass fiber reinforced polyamide 6.6 cage, roller centered
PHA - Injection molded cage of poletheretherk-etone (PEEK) outer ring centered

4. Radial internal clearance

C1 - Clearance < C2
C2 - Clearance < Normal
(C0)* - Normal internal clearance
C3 - Clearance > Normal
C4 - Clearance > C3
* - Not marked on bearing or package

5. Variations

V - Full complement bearing without cage
BV - V+ surface treated rollers
2LS - Two lande riding contact seals

Cylindrical Roller Bearings

Internal Clearance

Radial Internal clearance

HTB single row cylindrical roller bearings are produced with normal radial internal clearance as standard; the majority of the bearings are also available with C3 radial internal clearance and some with the appreciably greater C4 clearance.
The values for the clearance correspond to DIN 620, part 4 for the size range covered by this standard. The values apply to bearings before mounting and under zero measuring loads.
HTB full complement cylindrical roller bearings are manufactured with normal or C3 radial internal clearance as standard. The values for the clearance limits correspond to ISO

Axial internal clearance

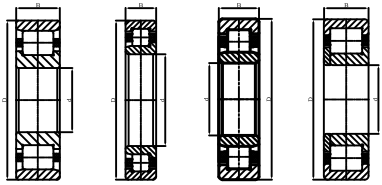
Cylindrical roller bearings of the NUP type can serve to locate shafts in both directions, and are manufactured by HTB with axial internal clearance The values given for axial internal clearance should be considered as guideline values. Because of roller tilting during measurement of the axial internal clearance, increases in the clearance are possible. These correspond for bearings of series 10,2,3 and 4 to approximately the radial internal clearance and For bearings of series 22 and 23 to approximately 2/3 of the radial internal clearance

Cylindrical Roller Bearings

The values for clearance limits corresponds to ISO and are shown in table below

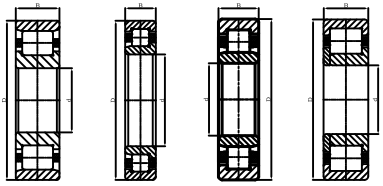
Bore Diameter	Radial Internal Clearance						
		CN		C3		C4	
d	Incl.	min	max	min	max	min	max
over (mm)	mm	micron					
-	24	20	45	35	60	50	75
24	30	20	45	35	60	50	75
30	40	25	50	45	70	60	85
40	50	30	60	50	80	70	100
50	65	40	70	60	90	80	110
65	80	40	75	65	100	90	125
80	100	50	85	75	110	105	140
100	120	50	90	85	125	125	165
120	140	60	105	100	145	145	190
140	160	70	120	115	165	165	215
160	180	75	125	123	170	170	220
180	200	90	145	140	195	195	250
200	225	105	165	160	220	220	280
225	250	110	175	170	235	235	300
250	280	125	195	190	260	260	330

Cylindrical Roller Bearings



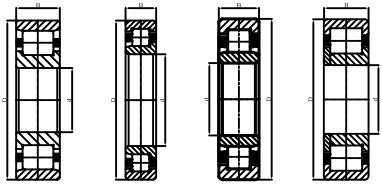
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
N 202 E	15	35	11	15.1	10.4	1.5	22000	0.047
N 203 E	17	40	12	20.8	14.6	2.1	18000	0.068
N 204 E	20	47	14	32.5	24.7	3.9	16000	0.112
N 205 E	25	52	15	34.5	27.5	3.5	15000	0.137
N 206 E	30	62	16	45.0	36.0	4.7	12000	0.207
N 207 E	35	72	17	58.0	48.5	7.9	10000	0.301
N 208 E	40	80	18	63.0	53.0	8.7	9000	0.358
N 209 E	45	85	19	72.0	63.0	10.6	8500	0.434
N 210 E	50	90	20	75.0	69.0	11.5	8000	0.488
N 211 E	55	100	21	99.0	95.0	16.3	7000	0.668
N 212 E	60	110	22	111.0	102.0	16.8	6300	0.827
N 213 E	65	120	23	127.0	119.0	19.8	6000	1.050
N 214 E	70	125	24	140.0	137.0	23.1	5300	1.160
N 214 E	85	150	28	194.0	194.0	31.5	4500	1.920
N 215 E	75	130	25	154.0	150.0	26.5	5300	1.290
N 216 E	80	140	26	165.0	167.0	27.5	4800	1.550
N 218 E	90	160	30	215.0	217.0	35.0	4300	2.370
N 219 E	95	170	32	260.0	265.0	41.5	3800	2.890
N 220 E	100	180	34	295.0	305.0	47.5	3800	3.500
N 221 EM	105	190	36	310.0	320.0	49.0	5600	4.630
N 222 E	110	200	38	345.0	365.0	56.0	3400	4.850
N 224 E	120	215	40	390.0	415.0	64.0	3200	5.670
N 226 E	130	230	40	425.0	445.0	65.0	3000	6.510

Cylindrical Roller Bearings



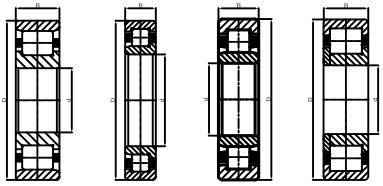
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
N 228 EM	140	250	42	460.0	510.0	72.0	4800	9.300
N 230 EM	150	270	45	520.0	590.0	82.0	4500	11.700
N 232 EM	160	290	48	590.0	670.0	93.0	4300	14.600
N 234 EM	170	310	52	700.0	780.0	107.0	3600	18.000
N 238 EM	190	340	55	680.0	930.0	100.0	3200	22.800
N 240 EM	200	360	58	750.0	1040.0	110.0	3000	27.200
N 305 E	25	62	17	48.0	36.5	4.7	12000	0.245
N 306 E	30	72	19	61.0	48.0	6.4	10000	0.368
N 307 E	35	80	21	76.0	63.0	10.7	9000	0.486
N 308 E	40	90	23	95.0	78.0	12.9	7500	0.656
N 309 E	45	100	25	115.0	98.0	16.4	6700	0.891
N 310 E	50	110	27	130.0	113.0	19.1	6300	1.160
N 311 E	55	120	29	159.0	139.0	23.6	5600	1.480
N 312 E	60	130	31	177.0	157.0	26.5	5000	1.840
N 313 E	65	140	33	214.0	191.0	32.0	4800	2.280
N 314 E	70	150	35	242.0	222.0	37.0	4500	2.790
N 315 E	75	160	37	285.0	265.0	43.0	4000	3.340
N 316 E	80	170	39	300.0	275.0	46.0	3800	4.120
N 317 EM	85	180	41	340.0	325.0	53.0	5600	5.300
N 318 E	90	190	43	370.0	350.0	55.0	5300	6.190
N 319 EM	95	200	45	390.0	380.0	59.0	5300	7.050
N 320 EM	100	215	47	450.0	425.0	65.0	5000	8.750

Cylindrical Roller Bearings



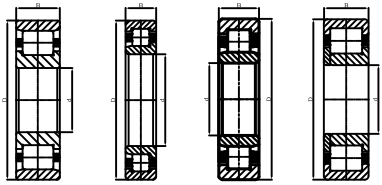
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
N 322 E	110	240	50	520.0	510.0	78.0	4800	11.700
N 324 EM	120	260	55	610.0	600.0	87.0	4500	15.100
N 326 EM	130	280	58	720.0	720.0	103.0	4300	18.400
N 328 EM	140	300	62	790.0	800.0	113.0	3800	22.500
N 330 EM	150	320	65	900.0	930.0	126.0	3600	26.800
N 332 EM	160	340	68	865.0	1060.0	114.0	3000	32.600
N 334 EM	170	360	72	965.0	1220.0	132.0	3000	37.900
NU 202 E	15	35	11	15.1	10.4	1.3	22000	0.048
NU 203 E	17	40	12	20.8	14.6	1.8	18000	0.069
NU 204 E	20	47	14	32.5	24.7	3.1	16000	0.114
NU 204 E	20	47	18	38.5	31.0	5.0	16000	0.146
NU 205 E	25	52	18	41.5	34.5	5.7	15000	0.165
NU 206E	30	62	20	57.0	48.5	8.1	12000	0.255
NU 207 E	35	72	17	58.0	48.0	6.4	10000	0.303
NU 208 E	40	80	18	63.0	53.0	7.0	9000	0.379
NU 209 E	45	85	19	72.0	63.0	8.6	8500	0.434
NU 210 E	50	90	20	75.0	69.0	9.3	8000	0.490
NU 211 E	55	100	21	99.0	95.0	13.2	7000	0.665
NU 212 E	60	110	22	111.0	102.0	13.9	6300	0.824
NU 213 E	65	120	23	127.0	119.0	16.3	6000	1.040
NU 214 E	70	125	24	140.0	137.0	19.0	5300	1.150
NU 215 E	75	130	25	154.0	156.0	21.7	5300	1.270

Cylindrical Roller Bearings



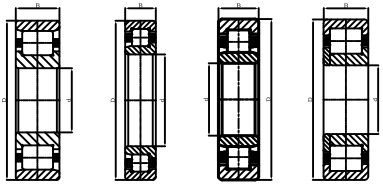
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NU 216 E	80	140	26	165.0	167.0	22.6	4800	1.550
NU 217 E	85	150	28	194.0	194.0	26.0	4500	1.910
NU 218 E	90	160	30	215.0	217.0	28.5	4300	2.360
NU 219 E	95	170	32	260.0	265.0	34.0	3800	2.880
NU 220 E	100	180	34	295.0	305.0	38.5	3800	3.490
NU 221 E	105	190	36	310.0	320.0	40.0	3600	4.080
NU 222 E	110	200	38	345.0	365.0	56.0	3400	4.840
NU 224 E	120	215	40	390.0	415.0	52.0	3200	5.800
NU 226 E	130	230	40	425.0	445.0	54.0	3000	6.500
NU 228 EM	140	250	42	460.0	510.0	59.0	4800	9.310
NU 232 EM	160	290	48	590.0	670.0	76.0	4300	14.600
NU 230 EM	150	270	45	520.0	590.0	68.0	4500	11.800
NU 234 EM	170	310	52	700.0	780.0	88.0	3600	18.100
NU 236 EM	180	320	52	730.0	830.0	93.0	3600	18.900
NU 238 EM	190	340	55	680.0	930.0	85.0	3200	22.800
NU 240EM	200	360	58	750.0	1040.0	110.0	3000	27.200
NU 244 EM	200	400	65	950.0	1320.0	109.0	2800	38.500
NU 244 EM	220	400	65	950.0	1320.0	109.0	2800	38.500
NU 303 E	17	47	14	30.0	21.2	2.7	16000	0.121
NU 304 E	20	52	21	48.5	38.0	6.3	14000	0.215
NU 305 E	25	62	24	66.0	55.0	9.4	12000	0.349
NU 307 E	35	80	21	76.0	63.0	8.6	9000	0.486

Cylindrical Roller Bearings



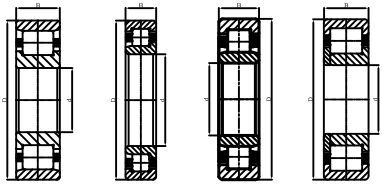
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NU 308 E	40	90	23	95.0	78.0	10.4	7500	0.659
NU 309 E	45	100	25	115.0	98.0	13.3	6700	0.893
NU 310 E	50	110	27	130.0	113.0	1.5	6300	1.160
NU 311 E	55	120	29	159.0	139.0	19.1	5600	1.480
NU 312 E	60	130	31	177.0	157.0	21.7	5000	1.850
NU 313 E	65	140	33	214.0	191.0	26.0	4800	2.280
NU 314 E	70	150	35	242.0	222.0	30.0	4500	2.790
NU 315 E	75	160	37	285.0	265.0	34.5	4000	3.330
NU 316 E	80	170	39	300.0	275.0	37.0	3800	3.960
NU 317 E	85	180	41	320.0	300.0	40.0	3600	4.620
NU 318 E	90	190	43	370.0	350.0	44.0	3400	5.390
NU 319 E	95	200	45	390.0	380.0	48.0	3400	6.320
NU 320 E	100	215	47	450.0	425.0	53.0	3200	7.670
NU 322 E	110	240	50	495.0	475.0	59.0	3000	10.300
NU 324 E	120	260	55	610.0	60.0	70.0	2800	13.300
NU 326 E	130	280	58	680.0	670.0	79.0	2600	16.200
NU 328 E	140	300	62	790.0	800.0	92.0	2400	20.100
NU 330EM	150	320	65	900.0	930.0	103.0	3600	26.800
NU 332 EM	160	340	68	865.0	1060.0	96.0	3000	31.800
NU 334 EM	170	360	72	965.0	1220.0	105.0	3000	38.000
NU 336 EM	180	380	75	1040.0	1320.0	112.0	2800	43.900
NU 338 EM	190	400	78	1120.0	1430.0	120.0	2800	50.600
NU 340 EM	200	420	80	1180.0	1530.0	128.0	2600	57.300

Cylindrical Roller Bearings



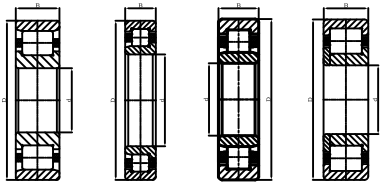
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NU 344 EM	200	460	88	1430.0	1900.0	152.0	2400	75.500
NU 344 EM	220	460	88	1430.0	1900.0	152.0	2400	75.500
NU 1005 M	25	52	15	34.5	27.5	4.4	15000	0.135
NU 1006 M	30	62	16	45.0	36.0	5.7	12000	0.205
NU 1007 M	35	62	14	29.0	26.0	3.2	20000	0.177
NU 1008 M	40	68	15	33.5	30.5	3.4	19000	0.216
NU 1009 M	45	75	16	40.0	37.5	4.8	16000	0.277
NU 1010 M	50	80	16	42.5	41.5	5.3	15000	0.305
NU 1011 EM	55	90	18	53.0	62.0	6.6	13000	0.451
NU 1012 M	60	95	18	52.0	55.0	7.1	13000	0.480
NU 1013 M	65	100	18	53.0	58.0	7.5	12000	0.507
NU 1014 M	70	110	20	75.0	78.0	10.6	11000	0.706
NU 1015 M	75	115	20	76.0	82.0	11.1	10000	0.737
NU 1016 M	80	125	22	91.0	99.0	13.6	9500	0.990
NU 1017 M	85	130	22	93.0	103.0	14.0	9000	1.040
NU 1018 M	90	140	24	111.0	124.0	16.8	8500	1.310
NU 1019 M	95	145	24	113.0	130.0	17.3	8000	1.410
NU 1020 M	100	150	24	116.0	135.0	17.9	7500	1.460
NU 1021 M	105	160	26	131.0	153.0	19.4	7000	1.840
NU 1022 M	110	170	28	166.0	190.0	24.2	7000	2.310
NU 1024 M	120	180	28	174.0	207.0	26.0	6300	2.470
NU 1026 M	130	200	33	212.0	250.0	31.0	5600	3.810

Cylindrical Roller Bearings



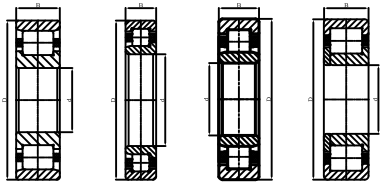
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NU 1028 M	140	210	33	216.0	265.0	32.0	5300	3.940
NU 1030 M	150	225	35	248.0	310.0	37.0	5000	4.930
NU 1032 M	160	240	38	290.0	355.0	42.5	4800	5.920
NU 1034 M	170	260	42	350.0	435.0	49.5	4500	8.030
NU 1036 M	180	280	46	425.0	520.0	61.0	4500	10.500
NU 1038 M	190	290	46	435.0	550.0	63.0	4300	10.900
NU 1040 M	200	310	51	470.0	600.0	68.0	3800	14.100
NU 1044 M	200	340	56	510.0	765.0	69.0	3200	20.500
NU 1044 M	220	340	56	510.0	765.0	69.0	3200	19.800
NU 2203 E	17	40	16	28.5	21.9	3.5	18000	0.051
NU 2204 E	20	52	15	36.5	26.0	3.3	14000	0.153
NU 2205 E	25	62	17	48.0	36.5	5.8	12000	0.242
NU 2206 E	30	72	19	61.0	480.0	8.0	10000	0.366
NU 2207 E	35	72	23	72.0	64.0	10.8	10000	0.406
NU 2208 E	40	80	23	83.0	75.0	12.9	9000	0.492
NU 2209 E	45	85	23	87.0	82.0	14.1	8500	0.532
NU 2210 E	50	90	23	92.0	88.0	15.3	8000	0.573
NU 2211 E	55	100	25	117.0	118.0	20.7	7000	0.796
NU 2212 E	60	110	28	151.0	15.0	26.5	6300	1.080
NU 2213 E	65	120	31	176.0	181.0	32.0	5600	1.430
NU 2214 E	70	125	31	184.0	194.0	34.0	5300	1.520
NU 2215 E	75	130	31	191.0	207.0	36.0	5300	1.600

Cylindrical Roller Bearings



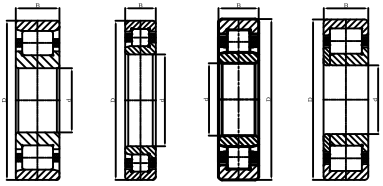
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NU 2216 E	80	140	33	220.0	243.0	42.0	4800	2.010
NU 2217 E	85	150	36	255.0	275.0	46.5	4500	2.500
NU 2218 E	90	160	40	285.0	315.0	52.0	4300	3.170
NU 2219 E	95	170	43	340.0	370.0	60.0	3800	3.900
NU 2220 E	100	180	46	395.0	445.0	72.0	3800	4.770
NU 2222 E	110	200	53	455.0	520.0	81.0	3400	6.670
NU 2224 E	120	215	58	530.0	610.0	97.0	3200	8.380
NU 2226 E	130	230	64	620.0	730.0	111.0	3000	10.400
NU 2228 EM	140	250	68	670.0	830.0	123.0	4500	14.500
NU 2230 EM	150	270	73	780.0	970.0	142.0	4300	18.400
NU 2232 EM	160	290	80	940.0	1170.0	172.0	3800	23.500
NU 2234 EM	170	310	86	1130.0	1400.0	198.0	3200	29.400
NU 2236 EM	180	320	86	1180.0	1490.0	209.0	3200	30.500
NU 2238 EM	190	340	92	1100.0	1660.0	184.0	3000	37.100
NU 2240 EM	200	360	98	1220.0	1860.0	206.0	2800	44.700
NU 2244 EM	200	400	108	1630.0	2360.0	250.0	2600	61.600
NU 2244 EM	220	400	108	1630.0	2360.0	250.0	2600	61.600
NU 2304 E	25	47	12	16.7	12.9	1.5	28000	0.092
NU 2305 E	30	55	13	22.9	19.3	2.4	24000	0.134
NU 2306 E	30	72	27	86.0	75.0	13.2	10000	0.529
NU 2307 E	35	80	31	108.0	98.0	17.4	9000	0.723
NU 2308 E	40	90	33	132.0	119.0	20.7	7500	0.958

Cylindrical Roller Bearings



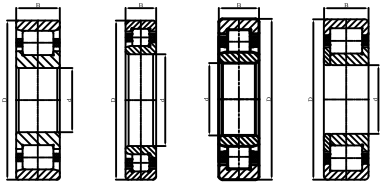
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NU 2309 E	45	100	36	162.0	153.0	27.0	6700	1.300
NU 2310 E	50	110	40	192.0	187.0	33.0	6300	1.750
NU 2311 E	55	120	43	235.0	230.0	41.0	5600	2.230
NU 2312 E	60	130	46	265.0	260.0	47.0	5000	2.780
NU 2313 E	65	140	48	295.0	285.0	50.0	4800	3.320
NU 2314 E	70	150	51	325.0	325.0	56.0	4500	4.020
NU 2315 E	75	160	55	390.0	395.0	67.0	4000	4.950
NU 2316 E	80	170	58	420.0	425.0	73.0	3800	5.890
NU 2317 E	85	180	60	435.0	445.0	75.0	3600	6.720
NU 2318 E	90	190	64	510.0	530.0	86.0	3400	8.040
NU 2319 E	95	200	67	540.0	580.0	93.0	3400	9.400
NU 2320 E	100	215	73	680.0	720.0	114.0	3200	12.100
NU 2322 E	110	240	80	750.0	800.0	126.0	2800	16.600
NU 2324 EM	120	260	86	930.0	1010.0	153.0	4300	23.200
NU 2326 EM	130	280	93	1080.0	1220.0	180.0	3800	28.800
NU 2328 EM	140	300	102	1210.0	1390.0	202.0	3600	36.000
NU 2330 EM	150	320	108	1380.0	1600.0	226.0	3200	43.200
NU 2332 EM	160	340	114	1320.0	1830.0	204.0	3000	51.500
NU 2334 EM	170	360	120	1500.0	2080.0	231.0	2800	61.400
NU 2336 EM	180	380	126	1660.0	2320.0	260.0	2800	71.800
NU 2338 EM	190	400	132	1900.0	2650.0	285.0	2600	83.100
NU 2340 EM	200	420	138	2040.0	2900.0	310.0	2400	95.600
NU 2344 EM	200	460	145	2360.0	3350.0	340.0	2200	121.000

Cylindrical Roller Bearings



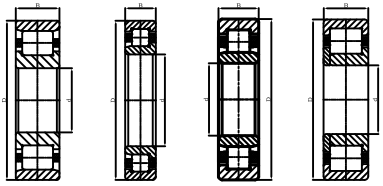
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NJ 202 E	15	35	11	15.1	10.4	1.4	22000	0.049
NJ 203 E	17	40	12	20.8	14.6	2.1	18000	0.070
NJ 204 E	20	47	14	32.5	24.7	3.8	16000	1.170
NJ 205 E	25	52	15	34.5	27.5	4.3	15000	0.140
NJ 206 E	30	62	16	45.0	36.0	5.7	12000	0.213
NJ 207 E	35	72	17	58.0	48.5	7.9	10000	0.309
NJ 208 E	40	80	18	63.0	53.0	8.7	9000	0.389
NJ 209 E	45	85	19	72.0	63.0	10.6	8500	0.445
NJ 210 E	50	90	20	75.0	69.0	11.5	8000	0.503
NJ 211 E	55	100	21	99.0	95.0	16.3	7000	0.679
NJ 212 E	60	110	22	111.0	102.0	16.8	6300	0.845
NJ 213 E	65	120	23	127.0	119.0	198.0	6000	1.060
NJ 214 E	70	125	24	140.0	137.0	23.1	5300	1.180
NJ 215 E	75	130	25	154.0	156.0	26.5	5300	1.300
NJ 216 E	80	140	26	165.0	167.0	27.5	4800	1.580
NJ 217 E	70	125	24	140.0	137.0	23.1	5300	1.180
NJ 217 E	85	150	28	194.0	194.0	31.5	4500	1.950
NJ 218 E	90	160	30	215.0	217.0	35.0	4300	2.410
NJ 219 E	95	170	32	260.0	265.0	41.5	3800	2.940
NJ 220 E	100	180	34	295.0	305.0	47.5	3800	3.550
NJ 221 E	105	190	36	310.0	320.0	49.0	3600	4.170
NJ 222 E	110	200	38	345.0	365.0	55.0	3400	4.930
NJ 224 E	120	215	40	390.0	415.0	64.0	3200	5.910

Cylindrical Roller Bearings



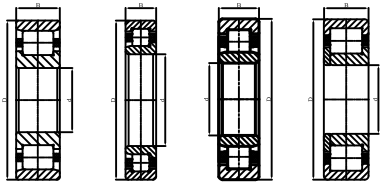
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NJ 226 E	130	230	40	425.0	445.0	65.0	3000	6.630
NJ 228 E	140	250	42	460.0	510.0	72.0	4800	94.600
NJ 230 EM	150	270	45	520.0	590.0	82.0	4500	119.000
NJ 232 EM	160	290	48	590.0	670.0	93.0	4300	14.800
NJ 234 EM	170	310	52	700.0	780.0	107.0	3600	18.400
NJ 236 EM	180	320	52	730.0	830.0	112.0	3600	19.200
NJ 238 EM	190	340	55	680.0	930.0	100.0	3200	23.200
NJ 240 EM	200	360	58	750.0	1040.0	110.0	3000	27.500
NJ 244 EM	220	400	65	950.0	1320.0	134.0	2800	38.700
NJ 248 EM	240	440	72	1140.0	1600.0	163.0	2600	52.500
NJ 303 E	17	47	14	30.0	21.2	3.3	16000	0.124
NJ 304 E	20	52	15	36.5	26.0	4.0	14000	0.156
NJ 305 E	25	62	17	48.0	36.5	5.8	12000	0.250
NJ 306 E	30	72	19	61.0	48.0	8.0	10000	0.376
NJ 307 E	35	80	21	76.0	63.0	10.7	9000	0.496
NJ 308 E	40	80	23	95.0	78.0	12.9	7500	0.674
NJ 309 E	45	100	25	108.0	91.0	15.2	6700	0.913
NJ 310 E	50	110	27	130.0	113.0	19.1	6300	1.190
NJ 311 E	55	120	29	159.0	139.0	23.6	5600	1.510
NJ 312 E	60	130	31	177.0	157.0	26.5	5000	1.890
NJ 313 E	65	140	33	214.0	191.0	32.0	4800	2.320
NJ 314 E	70	150	35	242.0	222.0	3.7	4500	2.840

Cylindrical Roller Bearings



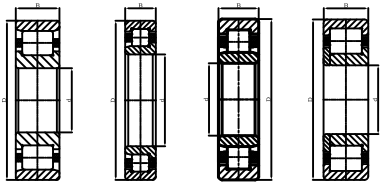
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NJ 315 E	75	160	37	285.0	265.0	43.0	4000	3.390
NJ 316 E	80	170	39	300.0	275.0	46.0	3800	4.030
NJ 317 E	85	180	41	320.0	300.0	49.5	3600	4.710
NJ 318 E	90	190	43	370.0	350.0	55.0	3400	5.490
NJ 319 E	95	200	45	390.0	380.0	59.0	3400	6.440
NJ 320 E	100	215	47	450.0	425.0	65.0	3200	7.820
NJ 322 E	110	240	50	495.0	475.0	73.0	3000	10.300
NJ 324 E	120	260	55	610.0	600.0	87.0	2800	13.500
NJ 326 E	130	280	58	680.0	670.0	96.0	2600	16.500
NJ 328 E	140	300	62	790.0	800.0	113.0	2400	20.500
NJ 330 EM	150	320	65	900.0	930.0	126.0	3600	27.200
NJ 332 EM	160	340	68	865.0	1060.0	1140.0	3000	32.300
NJ 334 EM	170	360	72	965.0	1220.0	132.0	3000	38.600
NJ 336 EM	180	380	75	1040.0	1320.0	141.0	2800	44.600
NJ 340 EM	200	420	80	1180.0	1530.0	161.0	2600	58.100
NJ 348 EM	240	500	95	1730.0	2280.0	221.0	2200	97.000
NJ 2203 E	17	40	16	28.5	21.9	3.5	18000	0.053
NJ 2204 E	20	47	18	38.5	31.0	5.0	16000	0.150
NJ 2205 E	25	52	18	41.5	34.5	5.7	15000	0.170
NJ 2206 E	30	62	20	57.0	48.5	8.1	12000	0.261
NJ 2207 E	35	72	23	72.0	64.0	10.8	10000	0.416
NJ 2208 E	40	80	23	83.0	75.0	12.9	9000	0.504

Cylindrical Roller Bearings



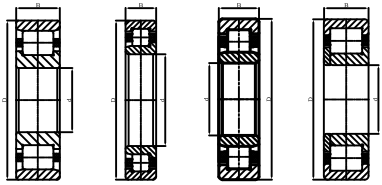
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NJ 2209 E	45	85	23	87.0	82.0	141.0	8500	0.544
NJ 2210 E	50	90	23	92.0	88.0	15.3	8000	0.586
NJ 2211 E	55	100	25	117.0	118.0	20.7	7000	0.812
NJ 2212 E	60	110	28	151.0	152.0	26.5	6300	1.100
NJ 2213 E	65	120	31	176.0	181.0	32.0	5600	1.460
NJ 2214 E	70	125	31	184.0	194.0	34.0	5300	1.540
NJ 2215 E	75	130	31	191.0	207.0	36.0	5300	1.640
NJ 2216 E	80	140	33	220.0	243.0	42.0	4800	2.040
NJ 2217 E	85	150	36	255.0	275.0	46.0	4500	2.550
NJ 2218 E	90	160	40	285.0	315.0	52.0	4300	3.230
NJ 2219 E	95	170	43	340.0	370.0	60.0	3800	3.980
NJ 2220 E	100	180	46	395.0	445.0	72.0	3800	4.850
NJ 2222 E	110	200	53	455.0	520.0	81.0	3400	6.890
NJ 2224 E	120	215	58	530.0	610.0	96.0	3200	8.540
NJ 2226 E	130	230	64	620.0	730.0	111.0	3000	10.600
NJ 2228 EM	140	250	68	670.0	830.0	123.0	4500	14.700
NJ 2230 EM	150	270	73	780.0	970.0	142.0	4300	187.000
NJ 2232 EM	160	290	80	940.0	1170.0	171.0	3800	23.900
NJ 2234 EM	170	310	86	1130.0	1400.0	198.0	3200	29.800
NJ 2236 EM	180	320	86	1180.0	1490.0	208.0	3200	30.900
NJ 2238 EM	190	340	92	1100.0	1660.0	184.0	3000	37.700
NJ 2240 EM	200	360	98	1220.0	1860.0	206.0	2800	45.300

Cylindrical Roller Bearings



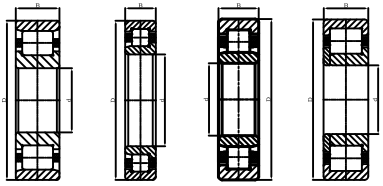
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NJ 2304 E	20	52	21	48.5	38.0	6.3	14000	0.219
NJ 2305 E	25	62	24	66.0	55.0	9.4	12000	0.356
NJ 2306 E	30	72	27	86.0	75.0	13.2	10000	0.540
NJ 2307 E	35	80	31	108.0	98.0	17.4	9000	0.736
NJ 2308 E	40	80	33	132.0	119.0	20.7	7500	0.978
NJ 2309 E	45	100	36	162.0	153.0	27.0	6700	1.330
NJ 2310 E	50	110	40	192.0	187.0	33.0	6300	1.770
NJ 2311 E	55	120	43	235.0	230.0	41.0	5600	0.227
NJ 2312 E	60	130	46	265.0	260.0	47.0	5000	2.830
NJ 2313 E	65	140	48	295.0	285.0	50.0	4800	3.380
NJ 2314 E	70	150	51	325.0	325.0	56.0	4500	4.100
NJ 2315 E	75	160	55	390.0	395.0	67.0	4000	5.040
NJ 2316 E	80	170	58	420.0	425.0	73.0	3800	6.000
NJ 2317 E	85	180	60	435.0	445.0	75.0	3600	6.850
NJ 2318 E	90	190	64	510.0	530.0	86.0	3400	0.819
NJ 2319 E	95	200	67	540.0	580.0	92.0	3400	9.580
NJ 2320 E	100	215	73	680.0	720.0	114.0	3200	12.300
NJ 2322 E	110	240	80	750.0	800.0	126.0	2800	16.900
NJ 2324 E	120	260	86	930.0	1010.0	153.0	4300	23.500
NJ 2326 EM	130	280	93	1080.0	1220.0	180.0	3800	29.200
NJ 2328 EM	140	300	102	1210.0	1390.0	202.0	3600	36.600
NJ 2330 EM	150	320	108	1380.0	1600.0	226.0	3200	43.800
NJ 2332 EM	160	340	114	1320.0	1830.0	204.0	3000	52.300

Cylindrical Roller Bearings



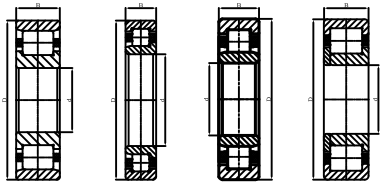
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NJ 2334 EM	170	360	120	1500.0	2080.0	230.0	2800	62.300
NJ 2336 EM	180	380	126	1660.0	2320.0	260.0	2800	72.900
NJ 2338 EM	190	400	132	1900.0	2650.0	285.0	2600	84.400
NJ 2340 EM	200	420	138	2040.0	2900.0	310.0	2400	97.200
NUP 203 E	17	40	12	20.8	14.6	2.1	18000	0.073
NUP 204 E	20	47	14	32.5	24.7	3.8	16000	0.119
NUP 205 E	25	52	15	34.5	27.5	4.3	15000	0.145
NUP 206 E	30	62	16	45.0	36.0	5.7	12000	0.219
NUP 207 E	35	72	17	58.0	48.5	7.9	10000	0.317
NUP 208 E	40	80	18	63.0	53.0	8.7	9000	0.399
NUP 209 E	45	85	19	72.0	63.0	10.6	8500	0.457
NUP 210 E	50	90	20	75.0	69.0	11.5	8000	0.517
NUP 211 E	55	100	21	99.0	95.0	16.3	7000	0.693
NUP 212 E	60	110	22	111.0	102.0	16.8	6300	0.865
NUP 213 E	65	120	23	127.0	119.0	19.8	6000	1.090
NUP 214 E	70	125	24	140.0	137.0	23.1	5300	1.200
NUP 215 E	75	130	25	154.0	156.0	26.5	5300	1.330
NUP 216 E	80	140	26	165.0	167.0	27.5	4800	1.620
NUP 217 E	85	150	28	194.0	194.0	31.5	4500	2.080
NUP 218 E	90	160	30	215.0	217.0	35.0	4300	2.460
NUP 219 E	95	170	32	260.0	265.0	41.5	3800	2.990
NUP 220 E	100	180	34	295.0	305.0	47.5	3800	3.610

Cylindrical Roller Bearings



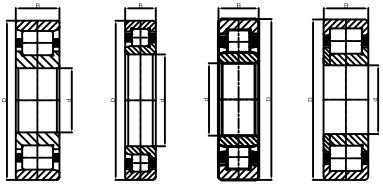
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NUP 221 E	105	190	36	310.0	320.0	49.0	3600	4.260
NUP 222 E	110	200	38	345.0	365.0	55.0	3400	5.020
NUP 224 E	120	215	40	390.0	415.0	64.0	3200	6.020
NUP 226 E	130	230	40	425.0	445.0	65.0	3000	6.740
NUP 228 EM	140	250	42	460.0	510.0	72.0	4800	96.100
NUP 230 EM	150	270	45	520.0	590.0	82.0	4500	12.100
NUP 232 EM	160	290	48	590.0	670.0	93.0	4300	15.100
NUP 234 EM	170	310	52	700.0	780.0	107.0	3600	18.600
NUP 236 EM	180	320	52	730.0	830.0	112.0	3600	17.300
NUP 238 EM	190	340	55	680.0	930.0	100.0	3200	23.500
NUP 240 EM	200	360	58	750.0	1040.0	110.0	3000	28.000
NUP 244 EM	220	400	65	950.0	1320.0	134.0	2800	39.300
NJP304 E	20	52	15	36.5	26.0	4.0	14000	0.160
NUP 305 E	25	62	17	48.0	36.5	5.8	12000	0.256
NUP 306 E	30	72	19	61.0	48.0	8.0	10000	0.385
NUP 307 E	35	80	21	76.0	63.0	10.7	9000	0.506
NUP 308 E	40	80	23	95.0	78.0	12.9	7500	0.674
NUP 308 E	40	80	23	95.0	78.0	12.9	7500	0.688
NUP 309 E	45	100	25	115.0	98.0	16.4	6700	0.937
NUP 310 E	50	110	27	130.0	113.0	19.1	6300	0.121
NUP 311 E	55	120	29	159.0	139.0	23.6	5600	1.540
NUP 312 E	60	130	31	177.0	157.0	26.5	5000	1.930

Cylindrical Roller Bearings



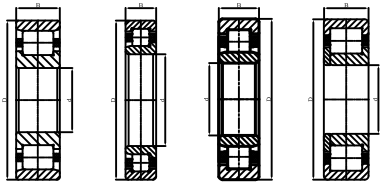
Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NUP 313 E	65	140	33	214.0	191.0	32.0	4800	2.370
NUP 314 E	70	150	35	242.0	222.0	37.0	4500	2.890
NUP 315 E	75	160	37	285.0	265.0	43.0	4000	3.450
NUP 316 E	80	170	39	300.0	275.0	46.0	3800	4.110
NUP 317 E	85	180	41	320.0	300.0	49.5	3600	4.800
NUP 318 E	90	190	43	370.0	350.0	55.0	3400	0.559
NUP 319 E	95	200	45	390.0	380.0	59.0	3400	6.560
NUP P320 E	100	215	47	450.0	425.0	65.0	3200	7.960
NUP 322 E	110	240	50	495.0	475.0	73.0	3000	10.700
NUP 324 E	120	260	55	610.0	600.0	87.0	2800	13.800
NUP 326 E	130	280	58	680.0	670.0	96.0	2600	16.700
NUP 328 E	140	300	62	7900.0	800.0	113.0	2400	20.800
NUP 330 EM	150	320	65	900.0	930.0	126.0	3600	27.700
NUP 2203 E	17	40	16	28.5	21.9	3.5	18000	0.055
NUP 2204 E	20	47	18	38.5	31.0	5.0	16000	0.154
NUP 2205 E	25	52	18	41.5	34.5	5.7	15000	0.174
NUP 2206 E	30	62	20	57.0	48.5	8.1	12000	0.268
NUP 2207 E	35	72	23	72.0	64.0	10.8	10000	0.427
NUP 2208 E	40	80	23	83.0	75.0	12.9	9000	0.518
NUP 2209 E	45	85	23	87.0	82.0	14.1	8500	0.559
NUP 2210 E	50	90	23	92.0	88.0	15.3	8000	0.597
NUP 2211 E	55	100	25	117.0	118.0	20.7	7000	0.828

Cylindrical Roller Bearings



Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NUP 2212 E	60	110	28	151.0	152.0	26.5	6300	1.120
NUP 2213 E	65	120	31	176.0	181.0	32.0	5600	1.540
NUP 2214 E	70	125	31	184.0	194.0	34.0	5300	1.580
NUP 2215 E	75	130	31	191.0	207.0	36.0	5300	1.670
NUP 2216 E	80	140	33	220.0	243.0	42.0	4800	2.080
NUP 2217 E	85	150	36	255.0	275.0	46.0	4500	2.600
NUP 2218 E	90	160	40	285.0	315.0	52.0	4300	3.290
NUP 2219 E	95	170	43	340.0	370.0	60.0	3800	4.050
NUP 2220 E	100	180	46	395.0	445.0	72.0	3800	4.920
NUP 2222 E	110	200	53	455.0	520.0	81.0	3400	7.020
NUP 2224 E	120	215	58	530.0	610.0	96.0	3200	8.700
NUP 2226 E	130	230	64	620.0	730.0	111.0	3000	10.800
NUP 2228 EM	140	250	68	670.0	830.0	123.0	4500	16.800
NUP 2230 EM	150	270	73	780.0	970.0	142.0	4300	19.100
NUP 2232 EM	160	290	80	940.0	1170.0	171.0	3800	24.300
NUP 2234 EM	170	310	86	1130.0	1400.0	198.0	3200	30.200
NUP 2236 EM	180	320	86	1180.0	1490.0	208.0	3200	31.400
NUP 2244 EM	220	400	108	1630.0	2360.0	250.0	2600	63.400
NUP 2304 E	20	52	21	48.5	38.0	6.3	14000	2.240
NUP 2305 E	25	62	24	66.0	55.0	9.4	12000	0.364
NUP 2306 E	30	72	27	86.0	75.0	13.2	10000	0.551
NUP 2307 E	35	80	31	108.0	98.0	17.4	9000	0.751

Cylindrical Roller Bearings



Bearing Designation	Principal Dimensions			Basic Load Ratings		Fatigue Load Limit	Limiting Speed	Mass
	d	D	B	Dynamic	Static			
	mm			C (kN)	CO (kN)	Pu (KN)	rpm	kg
NUP 2308 E	40	80	33	132.0	119.0	20.7	7500	0.999
NUP 2309 E	45	100	36	162.0	153.0	27.0	6700	1.360
NUP 2310 E	50	110	40	192.0	187.0	33.0	6300	1.820
NUP 2311 E	55	120	43	235.0	230.0	41.0	5600	0.231
NUP 2312 E	60	130	46	265.0	260.0	47.0	5000	2.880
NUP 2313 E	65	140	48	295.0	285.0	50.0	4800	3.450
NUP 2314 E	70	150	51	325.0	325.0	56.0	4500	4.180
NUP 2315 E	75	160	55	390.0	395.0	67.0	4000	5.140
NUP 2316 E	80	170	58	420.0	425.0	73.0	3800	6.110
NUP 2317 E	85	180	60	435.0	445.0	75.0	3600	6.990
NUP 2318 E	90	190	64	510.0	530.0	86.0	3400	8.350
NUP 2319 E	95	200	67	540.0	58.0	92.0	3400	9.770
NUP 2320 E	100	215	73	680.0	720.0	114.0	3200	12.500
NUP 2322 E	110	240	80	750.0	800.0	126.0	2800	17.200
NUP 2324 EM	120	260	86	930.0	1010.0	153.0	4300	23.800
NUP 2326 EM	130	280	93	1080.0	1220.0	180.0	3800	29.700
NUP 2328 EM	140	300	102	1.2	1.3	202.0	3600	37.100
NUP 2330 EM	150	320	108	1380.0	1600.0	226.0	3200	44.600
NUP 2344 EM	220	460	145	2360.0	3350.0	340.0	2200	124.000