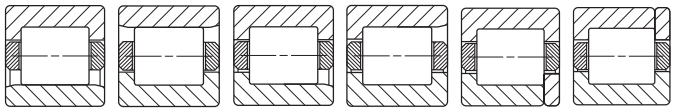
Radial Cylindrical Roller Bearings

Bore

inch:		metric:	
200	20.0 in.	**200**	200 mm
42	4.25 in.	**210**	210 mm
43	4.375 in.	**220**	220 mm
standard sizes are 4 - 27.20 inch		standard sizes are 100 - 600 mm	

Standard Styles inch/metric



RIU,RU,NU | RIN,RN,N | RIJ,RJ,NJ | RIF,RF,NF | RIT,RT,NUP | RIP,RP,NP

METRIC **200** **RU** **02** **OA107** **R3**

Series:
two digits indicates metric envelope dimensions
three digits indicates inch envelope dimensions

Modifications:
(First two letters are assigned by Timken engineers)
letter other than "O" in first position indicates modification to inner ring.
Letter other than "O" in second position indicates modification to outer ring.

Common Modifications:

101	outer ring with special lubrication hole size
107	outer ring with standard lubrication holes and machined lubrication groove in center of O.D.
127	steel cage
132	wide inner ring
229	rings and rollers made of carburized grade steel
305	inner ring with oversize bore outer ring with standard lubrication holes and machined lubrication groove in center of O.D.
334	centrifically cast brass cage
771	mark bearings serially

Radial Internal Clearance:

R1 < R2	**C2 < C0**
R2 < R3	**C0 < C3**
R3 = Standard	**C3 < C4**
R4 > R3	**C4 < C5**
R5 > R4	**C5**

Cylindrical Roller Radial Bearings - Metric Nominal Dimensions

Prefix

NJ =	cylindrical roller radial bearing (two ribs on outer ring, one rib on inner ring)
NU =	cylindrical roller radial bearing (two ribs on outer ring, cylindrical inner ring)
NUP =	cylindrical roller radial bearing (two ribs on outer ring, one fixed rib and one loose rib/flat washer on inner ring)
RNU =	cylindrical roller radial bearing (two ribs on outer ring, without an inner ring)

Inner Ring Bore Diameter
02 = 15 mm
03 = 17 mm
(for inner ring bore > 20 mm):
bore code x 5 = bore diameter
04 = 4 x 5 = 20 mm

NJ **2** **04** **E.TVP**

Series

10 =	width series 1; diameter series 0 (dimension series 10)
2 =	width series 0; diameter series 2 (dimension series 02)
22 =	width series 2; diameter series 2 (dimension series 22)
3 =	width series 0; diameter series 3 (dimension series 03)
23 =	width series 2; diameter series 3 (dimension series 23)

Suffix

E.TVP =	"E" design bearing, molded reinforced polymer window-type cage
M =	machined brass cage

SINGLE-ROW RADIAL BEARINGS – METRIC SERIES

The Timken radial cylindrical roller bearing has integral end ribs on the outer ring for end guiding the cylindrical rollers. The inner ring is separable for simplified mounting and removal.

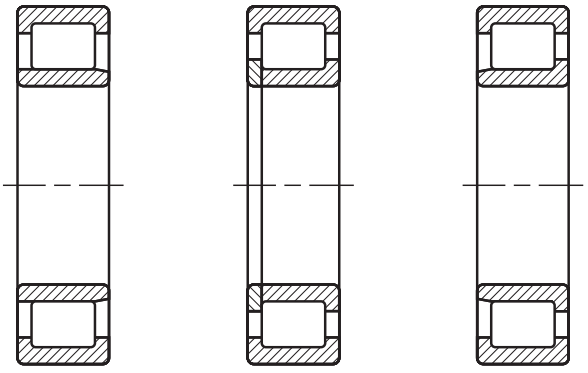
All NU design bearings are available on request without inner rings. For this requirement add letter R in the prefix.

The modified line contact between the cylindrical rollers and raceways reduces edge stressing.

REFERENCE STANDARDS ARE:

- DIN 5412 single-row cylindrical roller bearings.
- ISO 246 & DIN 5412 angle rings (thrust collar).

TYPES OF METRIC SERIES CYLINDRICAL ROLLER RADIAL BEARINGS



NU NUP NJ

SUFFIXES

E.TVP	E-design bearing, molded window type cage of engineered polymer.
M	Machined brass cages.

CONSTRUCTION

Cylindrical roller radial bearings can be recognized by the arrangement of their end ribs. Bearings of NU design have two ribs on the outer ring, the inner ring being cylindrical, making them well-suited for use as floating bearings. They are separable, which simplifies mounting and removal. Radial cylindrical roller bearings of NJ design have two ribs on the outer ring and one rib on the inner ring. They can accept axial loading in one direction.

Bearings of NUP design have two ribs on the outer ring, and one fixed and one loose rib (a flat washer) on the inner ring. These radial cylindrical roller bearings are used for locating purposes and can accept reversing axial loading. A radial cylindrical roller bearing of NJ design with an HJ Type thrust collar forms a locating bearing similar to the NUP design.

Cylindrical roller bearings of RNU Type, available on request, are supplied without an inner ring so that the cylindrical rollers run directly on a hardened and ground shaft. For most general applications, the shaft may be machined to g6 and the housing bore to K6 tolerances.

CAGE DESIGNS

The majority of cylindrical roller bearings of series 2..E, 22..E, 3..E and 23..E use cages of glass-fiber reinforced nylon. This cage construction allows bearings to be designed with maximum load carrying capability. These cages can also be used at operating temperatures of up to 120° C over extended periods. When bearings are lubricated with an oil, presence of additives may reduce operating life if the temperature exceeds 100° C over extended periods. Furthermore, stagnant oil may affect the performance of the cage at these temperatures, requiring oil change intervals to be strictly observed.

Suffix M indicates that the bearings use machined brass cages.

DIMENSIONAL ACCURACY

TOLERANCES AND BEARING CLEARANCE

Metric series radial cylindrical roller bearings are available in various tolerance classes and clearance groups. Single-row cylindrical roller bearings are made to normal clearance group C0, although bearings with radial clearance groups C2, C3 and C4 may be obtained on request.

For tolerances of radial cylindrical roller bearings see the engineering section. For radial internal clearances of radial cylindrical roller bearings see the engineering section.

ALIGNMENT

The modified line contact between the cylindrical rollers and raceways of cylindrical roller bearings reduces stress concentration at ends of the rollers and provides some aligning capability. The angular alignment of single-row cylindrical roller bearings must not exceed a maximum of four angular minutes at a .001% load of C/P≥5= equivalent dynamic load, kN. At higher applied loads, or with presence of greater misalignment, consultation with Timken engineering is strongly encouraged.

MOUNTING DIMENSIONS

The bearing inner and outer rings should be mounted against the stepped portion on the shaft and the shoulder of the housing. Under no circumstances should they interfere with the shaft or housing fillets. For this reason, the maximum fillet radius $r_{as\ max}$ of the mating component must be no greater than the minimum chamfer dimension of the corresponding cylindrical roller bearing ring corner $r_{s\ min}$.

The shoulder of the mating components must be such that, even with the maximum permissible single chamfer dimension of the corresponding bearing ring, there is an adequate contact surface area. Table 1 lists the maximum fillet radius $r_{as\ max}$ and the minimum shoulder height. At high axial loads the ribs must be supported over half their height.

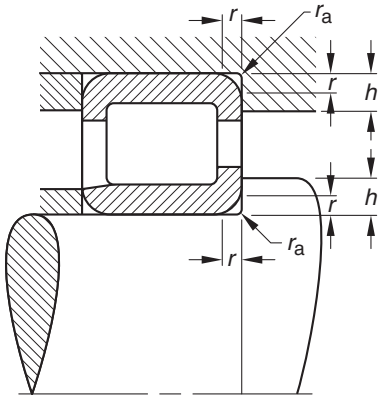
$$\left(\frac{H+E}{2} \text{ and } \frac{F+J}{2}\right)$$

where from bearing tables:

F raceway diameter of the inner ring
E raceway diameter of the outer ring
J rib diameter of the inner ring
H rib diameter of the outer ring

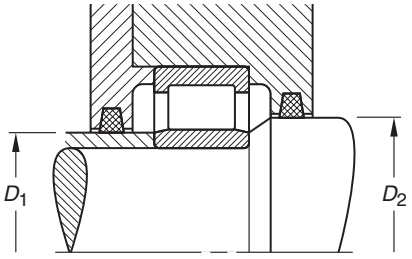
The shaft can be mounted and removed if the mounting dimensions shown in Table 2 on page B330 are observed.

TABLE 1 –
ABUTMENT DIMENSIONS AS SPECIFIED IN DIN 5418 FOR METRIC SERIES BEARINGS

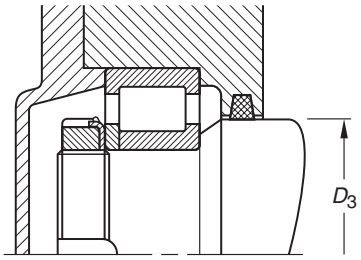


$r_{s\ min}$ mm	$r_{as\ max}$	h_{min} BEARING SERIES	
		10	2..E 3..E 22..E 23..E
0.3	0.3	1	1.2
0.6	0.6	1.6	2.1
1	1	2.3	2.8
1.1	1	3	3.5
1.5	1.5	3.5	4.5
2	2	4.4	5.5
2.1	2.1	5.1	6
3	2.5	6.2	7
4	3	7.3	8.5
5	4	9	10
6	5	11.5	13

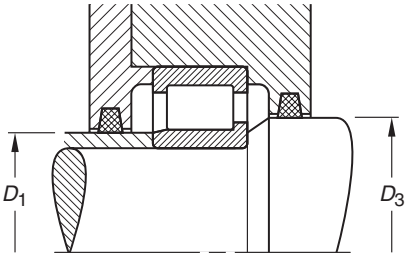
See the Needle section for cylindrical roller bearings with inner rings.



NU



NUP



NJ

TABLE 2 – MOUNTING DIMENSIONS FOR METRIC SERIES SINGLE-ROW CYLINDRICAL ROLLER BEARINGS

Bore Reference Number	Shaft Dia.	BEARING SERIES							
		10	22..E		2..E	23..E	3..E		
	mm	D_1 max.	D_2 min.	D_1 max.	D_2 min.	D_3 min.	D_1 max.	D_2 min.	D_3 min.
02	15			20	23	26			
03	17			21	25	27	24	27	30
04	20	25	27	26	29	32	27	30	33
05	25	30	32	31	34	37	33	37	40
06	30	35	38	37	40	44	40	44	48
07	35	41	44	43	46	50	45	48	53
08	40	46	49	49	52	56	51	55	60
09	45	52	54	54	57	61	57	60	66
10	50	57	59	58	62	67	63	67	73
11	55	63	66	65	68	73	69	72	80
12	60	68	71	71	75	80	75	79	86
13	65	73	76	77	81	87	81	85	93
14	70	78	82	82	86	92	87	92	100
15	75	83	87	87	90	96	93	97	106
16	80	90	94	94	97	104	99	105	114

LOAD RATINGS

CYLINDRICAL ROLLER BEARING MAXIMUM ALLOWABLE AXIAL LOAD

Metric series cylindrical roller bearings of NUP, NJ, as well as NU or NJ designs with a thrust collar can transmit axial loads if they are radially loaded at the same time. The allowable axial load ratio F_a/C of 0.1 maximum depends to a great extent on the magnitude of radial load, the operating speed, type of lubricant used, the operating temperature, and heat transfer conditions at the bearing location. The heat balance achieved at the bearing location is used as a basis for determination of the allowable axial load.

The nomogram on page B332 should be used to determine the allowable axial load F_{az} based on the following operating conditions:

- The axial load is of constant direction and magnitude.
- Radial load ratio $F_r/C \leq 0.2$.
- Ratio of axial load to radial load $F_a/F_r<0.4$.
- The temperature of the bearing is 80° C at an ambient temperature of 20° C.
- Lubricating oil is ISO VG 100 using oil bath lubrication or circulating oil.
- As an alternative, the bearing may be lubricated with a grease using the above specified base oil and viscosity. Use of EP additives will be necessary, although considerably shorter relubrication intervals may be expected than with purely radially loaded radial cylindrical roller bearings.

EXAMPLE OF USING THE NOMOGRAM

From the lower part of the nomogram, determine the intersection point of the inner ring bore diameter and the dimension series of the bearing. From the upper part, the allowable axial load ratio F_{az}/C can be found as a function of the operating speed, n.

For a cylindrical roller radial bearing **NU2207E.TVP**
C = 63 kN; d = 35 mm
n = 2000 RPM
F_r = 10 kN

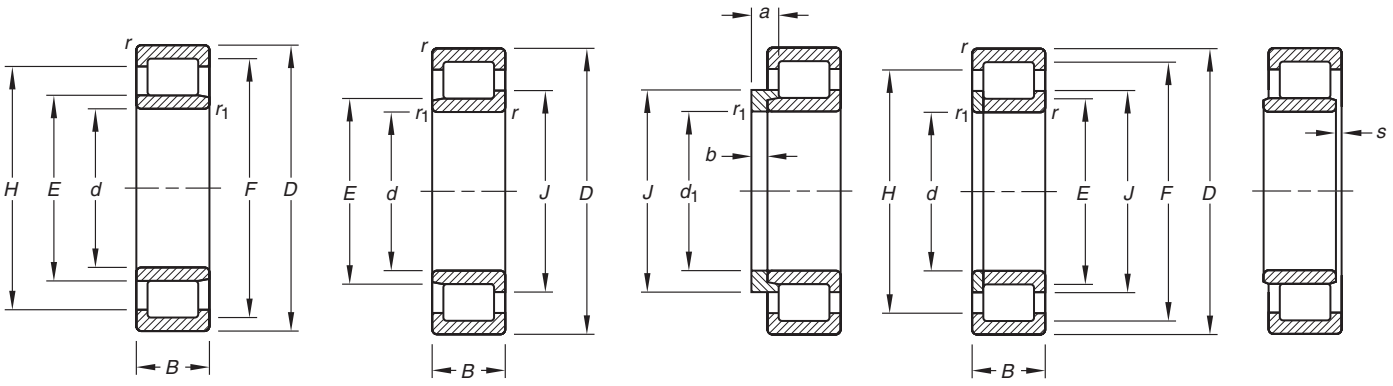
From the nomogram:
$F_{az}/C = 0.06$
Then $F_{az} = 0.06 \bullet 63$
The calculated allowable axial load F_{az} is 3.78 kN

It should be noted that an axial load as high as that determined by means of the nomogram should not be applied if an oil of rated kinematic viscosity lower than ISO VG 100 is used. Suitable EP additives, which are known for fatigue life improving qualities, may allow for an increase in applied axial load subject to thorough testing.

HIGHER APPLIED AXIAL LOADS

Axial loads greater than those determined by means of the nomogram may be considered, providing they are to be applied intermittently. Also, the bearing should be cooled using circulating oil lubrication. If the operating temperature, due to the internal friction and the higher axial load, exceeds 80° C, a more viscous oil must be used.

CYLINDRICAL ROLLER RADIAL BEARINGS SINGLE-ROW METRIC SERIES

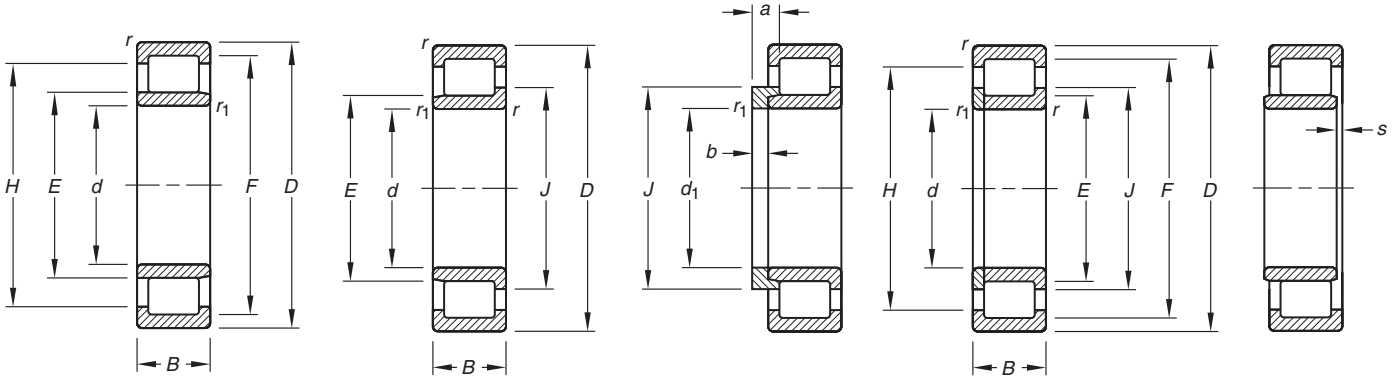


Bearing Number	Bore d or d_1	O.D. D	Width B	Min Outer r	Fillet Radius Inner r_1	Backing Dia. Shaft E	Backing Dia. Housing F	Rib Dia. Inner J	Rib Dia. Outer H	a	b	s	Load Ratings Static C_0	Load Ratings Dynamic C	Lubrication Factor C_g	Reference Speed Grease	Thermal Ratings Oil	Wt. Brg.	Wt. Thrust Collar
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.	kg lbs.
NJ202E.TVP	**15** 0.5906	**35** 1.3780	**11** 0.4331	**0.3** 0.01	**0.6** 0.02	**19.3** 0.76	**30.3** 1.19	**21.8** 0.86	**27.8** 1.09	**5.0** 0.20	**2.5** 0.10		**11.6** 2610	**13.9** 3120	**0.0327**	**14000**	**17000**	**0.047** 0.104	**0.015** 0.007
NU202E.TVP	**15** 0.5906	**35** 1.3780	**11** 0.4331	**0.3** 0.01	**0.6** 0.02	**19.3** 0.76	**30.3** 1.19		**27.8** 1.09			**1.0** 0.04	**11.6** 2610	**13.9** 3120	**0.0327**	**14000**	**17000**	**0.047** 0.104	
NJ203E.TVP	**17** 0.6693	**40** 1.5748	**12** 0.4724	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38	**24.7** 0.97	**32.0** 1.26	**5.5** 0.22	**3.0** 0.12		**16.0** 3600	**18.9** 4250	**0.0366**	**12000**	**15000**	**0.068** 0.150	**0.020** 0.009
NU203E.TVP	**17** 0.6693	**40** 1.5748	**12** 0.4724	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38		**32.0** 1.26			**1.2** 0.05	**16.0** 3600	**18.9** 4250	**0.0366**	**12000**	**15000**	**0.068** 0.150	
NUP203E.TVP	**17** 0.6693	**40** 1.5748	**12** 0.4724	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38	**24.7** 0.97	**32.0** 1.26				**16.0** 3600	**18.9** 4250	**0.0366**	**12000**	**15000**	**0.068** 0.150	
NJ2203E.TVP	**17** 0.6693	**40** 1.5748	**16** 0.6299	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38	**24.7** 0.97	**32.0** 1.26	**6.0** 0.24	**3.0** 0.12		**23.3** 5240	**25.3** 5690	**0.0402**	**11000**	**13000**	**0.091** 0.201	**0.022** 0.010
NU2203E.TVP	**17** 0.6693	**40** 1.5748	**16** 0.6299	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38		**32.0** 1.26			**1.0** 0.04	**23.3** 5240	**25.3** 5690	**0.0402**	**11000**	**13000**	**0.091** 0.201	
NUP2203E.TVP	**17** 0.6693	**40** 1.5748	**16** 0.6299	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38	**24.7** 0.97	**32.0** 1.26				**23.3** 5240	**25.3** 5690	**0.0402**	**11000**	**13000**	**0.091** 0.201	
NJ303E.TVP	**17** 0.6693	**47** 1.8504	**14** 0.5512	**0.6** 0.02	**1.1** 0.04	**24.2** 0.95	**40.2** 1.58	**27.6** 1.09	**36.8** 1.45	**6.5** 0.26	**4.0** 0.16		**22.8** 5130	**26.7** 6000	**0.0392**	**11000**	**13000**	**0.121** 0.267	**0.012** 0.026
NU303E.TVP	**17** 0.6693	**47** 1.8504	**14** 0.5512	**0.6** 0.02	**1.1** 0.04	**24.2** 0.95	**40.2** 1.58		**36.8** 1.45			**1.2** 0.05	**22.8** 5130	**26.7** 6000	**0.0392**	**11000**	**13000**	**0.121** 0.267	
NJ204E.TVP	**20** 0.7874	**47** 1.8504	**14** 0.5512	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63	**29.9** 1.18	**38.4** 1.51	**5.5** 0.22	**3.0** 0.12		**26.5** 5960	**29.0** 6520	**0.0436**	**11000**	**13000**	**0.133** 0.293	**0.024** 0.011
NU204E.TVP	**20** 0.7874	**47** 1.8504	**14** 0.5512	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63		**38.4** 1.51			**1.0** 0.04	**26.5** 5960	**29.0** 6520	**0.0436**	**11000**	**13000**	**0.133** 0.293	
NUP204E.TVP	**20** 0.7874	**47** 1.8504	**14** 0.5512	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63	**29.9** 1.18	**38.4** 1.51				**26.5** 5960	**29.0** 6520	**0.0433**	**11000**	**13000**	**0.133** 0.293	
NJ2204E.TVP	**20** 0.7874	**47** 1.8504	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63	**29.9** 1.18	**38.4** 1.51	**6.5** 0.26	**3.0** 0.12		**32.7** 7350	**34.1** 7670	**0.0459**	**9400**	**11000**	**0.142** 0.313	**0.012** 0.026
NU2204E.TVP	**20** 0.7874	**47** 1.8504	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63		**38.4** 1.51			**1.8** 0.07	**32.7** 7350	**34.1** 7670	**0.0459**	**9400**	**11000**	**0.142** 0.313	
NUP2204E.TVP	**20** 0.7874	**47** 1.8504	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63	**29.9** 1.18	**38.4** 1.51				**32.7** 7350	**34.1** 7670	**0.0459**	**9400**	**11000**	**0.142** 0.313	
NJ304E.TVP	**20** 0.7874	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.1** 0.04	**27.5** 1.08	**45.5** 1.79	**31.4** 1.24	**41.8** 1.65	**6.5** 0.26	**4.0** 0.16		**28.0** 6290	**32.6** 7330	**0.0435**	**10000**	**12000**	**0.152** 0.335	**0.017** 0.037
NU304E.TVP	**20** 0.7874	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.1** 0.04	**27.5** 1.08	**45.5** 1.79		**41.8** 1.65			**1.1** 0.04	**28.0** 6290	**32.6** 7330	**0.0435**	**10000**	**12000**	**0.152** 0.335	
NUP304E.TVP	**20** 0.7874	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.1** 0.04	**27.5** 1.08	**45.5** 1.79	**31.4** 1.24	**41.8** 1.65				**28.0** 6290	**32.6** 7330	**0.0435**	**10000**	**12000**	**0.152** 0.335	
NJ2304E.TVP	**20** 0.7874	**52** 2.0472	**21** 0.8268	**0.6** 0.02	**1.1** 0.04	**27.5** 1.08	**45.5** 1.79	**31.4** 1.24	**41.8** 1.65	**7.5** 0.30	**4.0** 0.16		**40.0** 8990	**42.9** 9640	**0.0475**	**8200**	**9800**	**0.207** 0.456	**0.020** 0.044

Bearing Number	Bore d or d_1	O.D. D	Width B	Min Fillet Radius Outer r	Min Fillet Radius Inner r_1	Backing Dia. Shaft E	Backing Dia. Housing F	Rib Dia. Inner J	Rib Dia. Outer H	a	b	s	Load Ratings Static C_0	Load Ratings Dynamic C	Lubrication Factor C_g	Reference Speed Grease	Thermal Ratings Oil	Wt. Brg.	Wt. Thrust Collar
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.	kg lbs.
NJ205E.TVP	**25** 0.9843	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83	**34.9** 1.37	**43.3** 1.70	**6.0** 0.24	**3.0** 0.12		**29.8** 6700	**31.0** 6970	**0.0489**	**9600**	**12000**	**0.140** 0.309	**0.031** 0.014
NU205E.TVP	**25** 0.9843	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83		**43.3** 1.70			**1.3** 0.05	**29.8** 6700	**31.0** 6970	**0.0489**	**9600**	**12000**	**0.140** 0.309	
NUP205E.TVP	**25** 0.9843	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83	**34.9** 1.37	**43.3** 1.70				**29.8** 6700	**31.0** 6970	**0.0486**	**9600**	**12000**	**0.140** 0.309	
NJ2205E.TVP	**25** 0.9843	**52** 2.0472	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83	**34.9** 1.37	**43.3** 1.70	**6.5** 0.26	**3.0** 0.12		**36.7** 8250	**36.5** 8210	**0.0515**	**8100**	**9700**	**0.160** 0.353	**0.014** 0.031
NU2205E.TVP	**25** 0.9843	**52** 2.0472	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83		**43.3** 1.70			**1.7** 0.07	**36.7** 8250	**36.5** 8210	**0.0515**	**8100**	**9700**	**0.160** 0.353	
NUP2205E.TVP	**25** 0.9843	**52** 2.0472	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83	**34.9** 1.37	**43.3** 1.70				**36.7** 8250	**36.5** 8210	**0.0515**	**8100**	**9700**	**0.160** 0.353	
NJ305E.TVP	**25** 0.9843	**62** 2.4409	**17** 0.6693	**1.1** 0.04	**1.1** 0.04	**34.0** 1.34	**54.0** 2.13	**38.3** 1.51	**50.1** 1.97	**7.0** 0.28	**4.0** 0.16		**38.9** 8750	**42.8** 9620	**0.0508**	**8500**	**10000**	**0.243** 0.536	**0.025** 0.055
NU305E.TVP	**25** 0.9843	**62** 2.4409	**17** 0.6693	**1.1** 0.04	**1.1** 0.04	**34.0** 1.34	**54.0** 2.13		**50.1** 1.97			**1.5** 0.06	**38.9** 8750	**42.8** 9620	**0.0508**	**8500**	**10000**	**0.243** 0.536	
NUP305E.TVP	**25** 0.9843	**62** 2.4409	**17** 0.6693	**1.1** 0.04	**1.1** 0.04	**34.0** 1.34	**54.0** 2.13	**38.3** 1.51	**50.1** 1.97				**38.9** 8750	**42.8** 9620	**0.0508**	**8500**	**10000**	**0.243** 0.536	
NJ2305E.TVP	**25** 0.9843	**62** 2.4409	**24** 0.9449	**1.1** 0.04	**1.1** 0.04	**34.0** 1.34	**54.0** 2.13	**38.3** 1.51	**50.1** 1.97	**8.0** 0.31	**4.0** 0.16		**57.6** 12900	**58.1** 13100	**0.0561**	**6900**	**8300**	**0.348** 0.767	**0.026** 0.057
NU2305E.TVP	**25** 0.9843	**62** 2.4409	**24** 0.9449	**1.1** 0.04	**1.1** 0.04	**34.0** 1.34	**54.0** 2.13		**50.1** 1.97			**1.9** 0.07	**57.6** 12900	**58.1** 13100	**0.0561**	**6900**	**8300**	**0.348** 0.767	
NJ206E.TVP	**30** 1.1811	**62** 2.4409	**16** 0.6299	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19	**41.4** 1.63	**52.0** 2.05	**7.0** 0.28	**4.0** 0.16		**39.0** 8770	**40.4** 9080	**0.0552**	**8000**	**9700**	**0.206** 0.454	**0.055** 0.025
NU206E.TVP	**30** 1.1811	**62** 2.4409	**16** 0.6299	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19		**52.0** 2.05			**1.4** 0.06	**39.0** 8770	**40.4** 9080	**0.0280**	**8000**	**9700**	**0.206** 0.454	
NUP206E.TVP	**30** 1.1811	**62** 2.4409	**16** 0.6299	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19	**41.4** 1.63	**52.0** 2.05				**39.0** 8770	**40.4** 9080	**0.0552**	**8000**	**9700**	**0.206** 0.454	
NJ2206E.TVP	**30** 1.1811	**62** 2.4409	**20** 0.7874	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19	**41.4** 1.63	**52.0** 2.05	**7.5** 0.30	**4.0** 0.16		**51.5** 11600	**50.1** 11300	**0.0591**	**6800**	**8100**	**0.255** 0.562	**0.025** 0.055
NU2206E.TVP	**30** 1.1811	**62** 2.4409	**20** 0.7874	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19		**52.0** 2.05			**1.6** 0.06	**51.5** 11600	**50.1** 11300	**0.0591**	**6800**	**8100**	**0.255** 0.562	
NUP2206E.TVP	**30** 1.1811	**62** 2.4409	**20** 0.7874	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19	**41.4** 1.63	**52.0** 2.05				**51.5** 11600	**50.1** 11300	**0.0591**	**6800**	**8100**	**0.255** 0.562	
NJ306E.TVP	**30** 1.1811	**72** 2.8346	**19** 0.7480	**1.1** 0.04	**1.1** 0.04	**40.5** 1.59	**62.5** 2.46	**45.1** 1.78	**58.3** 2.30	**8.5** 0.33	**5.0** 0.20		**52.1** 11700	**54.6** 12300	**0.0581**	**7400**	**8800**	**0.370** 0.816	**0.042** 0.093
NU306E.TVP	**30** 1.1811	**72** 2.8346	**19** 0.7480	**1.1** 0.04	**1.1** 0.04	**40.5** 1.59	**62.5** 2.46		**58.3** 2.30			**1.9** 0.07	**52.1** 11700	**54.6** 12300	**0.0581**	**7400**	**8800**	**0.370** 0.816	
NUP306E.TVP	**30** 1.1811	**72** 2.8346	**19** 0.7480	**1.1** 0.04	**1.1** 0.04	**40.5** 1.59	**62.5** 2.46	**45.1** 1.78	**58.3** 2.30				**52.1** 11700	**54.6** 12300	**0.0581**	**7400**	**8800**	**0.370** 0.816	
NJ2306E.TVP	**30** 1.1811	**72** 2.8346	**27** 1.0630	**1.1** 0.04	**1.1** 0.04	**40.5** 1.59	**62.5** 2.46	**45.1** 1.78	**58.3** 2.30	**9.5** 0.37	**5.0** 0.20		**79.5** 17900	**75.9** 17100	**0.0645**	**6000**	**7200**	**0.530** 1.169	**0.095** 0.043
NUP2306E.TVP	**30** 1.1811	**72** 2.8346	**27** 1.0630	**1.1** 0.04	**1.1** 0.04	**40.5** 1.59	**62.5** 2.46	**45.1** 1.78	**58.3** 2.30				**79.5** 17900	**75.9** 17100	**0.0642**	**6000**	**7200**	**0.530** 1.169	
NJ207E.TVP	**35** 1.3780	**72** 2.8346	**17** 0.6693	**0.6** 0.02	**1.1** 0.04	**44.0** 1.73	**64.0** 2.52	**48.0** 1.89	**60.1** 2.37	**7.0** 0.28	**4.0** 0.16		**52.2** 11700	**51.8** 11600	**0.0624**	**6800**	**8200**	**0.303** 0.668	**0.073** 0.033
NU2207E.TVP	**35** 1.3780	**72** 2.8346	**23** 0.9055	**0.6** 0.02	**1.1** 0.04	**44.0** 1.73	**64.0** 2.52		**60.1** 2.37			**2.9** 0.11	**67.3** 15100	**63.0** 14200	**0.0664**	**6100**	**7300**	**0.395** 0.871	
NUP2207E.TVP	**35** 1.3780	**72** 2.8346	**23** 0.9055	**0.6** 0.02	**1.1** 0.04	**44.0** 1.73	**64.0** 2.52	**48.0** 1.89	**60.1** 2.37				**67.3** 15100	**63.0** 14200	**0.0664**	**6100**	**7300**	**0.395** 0.871	
NJ307E.TVP	**35** 1.3780	**80** 3.1496	**21** 0.8268	**1.1** 0.04	**1.5** 0.06	**46.2** 1.82	**70.2** 2.76	**51.2** 2.02	**65.7** 2.59	**9.5** 0.37	**6.0** 0.24		**66.4** 14900	**67.3** 15100	**0.0653**	**6700**	**7900**	**0.485** 1.069	**0.132** 0.060
NUP307E.TVP	**35** 1.3780	**80** 3.1496	**21** 0.8268	**1.1** 0.04	**1.5** 0.06	**46.2** 1.82	**70.2** 2.76	**51.2** 2.02	**65.7** 2.59				**66.4** 14900	**67.3** 15100	**0.0653**	**6700**	**7900**	**0.485** 1.069	
NU2307E.TVP	**35** 1.3780	**80** 3.1496	**31** 1.2205	**1.1** 0.04	**1.5** 0.06	**46.2** 1.82	**70.2** 2.76		**65.7** 2.59			**3.0** 0.12	**102.0** 22900	**93.7** 21100	**0.0724**	**5600**	**6600**	**0.720** 1.588	
NUP208E.TVP	**40** 1.5748	**80** 3.1496	**18** 0.7087	**1.1** 0.04	**1.1** 0.04	**49.5** 1.95	**71.5** 2.81	**54.1** 2.13	**67.3** 2.65				**57.7** 13000	**57.3** 12900	**0.0668**	**6200**	**7500**	**0.380** 0.838	

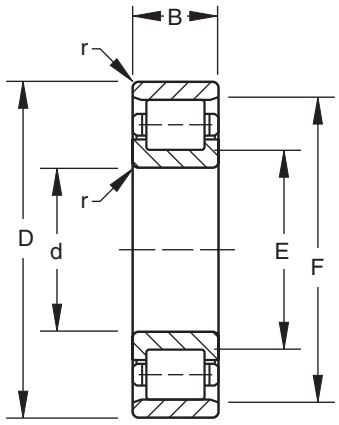
Continued on next page.

CYLINDRICAL ROLLER RADIAL BEARINGS SINGLE-ROW METRIC SERIES - *continued*



Bearing Number	Bore d or d_1	O.D. D	Width B	Min Outer r	Fillet Radius Inner r_1	Backing Dia. Shaft E	Backing Dia. Housing F	Rib Dia. Inner J	Rib Dia. Outer H	a	b	s	Load Ratings Static C_0	Load Ratings Dynamic C	Lubrication Factor C_g	Reference Speed Grease	Thermal Ratings Oil	Wt. Brg.	Wt. Thrust Collar
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.	kg lbs.
NU2208E.TVP	**40** 1.5748	**80** 3.1496	**23** 0.9055	**1.1** 0.04	**1.1** 0.04	**49.5** 1.95	**71.5** 2.81		**67.3** 2.65			**2.3** 0.09	**79.8** 17900	**73.8** 16600	**0.0724**	**5300**	**6300**	**0.490** 1.080	
NUP308E.TVP	**40** 1.5748	**90** 3.5433	**23** 0.9055	**1.5** 0.06	**1.5** 0.06	**52.0** 2.05	**80.0** 3.15	**57.7** 2.27	**74.9** 2.95				**82.7** 18600	**84.0** 18900	**0.0714**	**6000**	**7100**	**0.660** 1.455	
NJ2308E.TVP	**40** 1.5748	**90** 3.5433	**33** 1.2992	**1.5** 0.06	**1.5** 0.06	**52.0** 2.05	**80.0** 3.15	**57.7** 2.27	**74.9** 2.95	**12.5** 0.49	**7.0** 0.28		**123.0** 27700	**115.0** 25900	**0.0788**	**5000**	**5900**	**0.950** 2.095	**0.091** 0.201
NU2209E.TVP	**45** 1.7717	**85** 3.3465	**23** 0.9055	**1.1** 0.04	**1.1** 0.04	**54.5** 2.15	**76.5** 3.01		**72.4** 2.85			**2.3** 0.09	**87.0** 19600	**77.7** 17500	**0.0775**	**4800**	**5700**	**0.530** 1.169	
NUP2209E.TVP	**45** 1.7717	**85** 3.3465	**23** 0.9055	**1.1** 0.04	**1.1** 0.04	**54.5** 2.15	**76.5** 3.01	**59.1** 2.33	**72.4** 2.85				**87.0** 19600	**77.7** 17500	**0.0775**	**4800**	**5700**	**0.530** 1.169	
NJ309E.TVP	**45** 1.7717	**100** 3.9370	**25** 0.9843	**1.5** 0.06	**1.5** 0.06	**58.5** 2.30	**88.5** 3.48	**64.6** 2.54	**83.1** 3.27	**11.5** 0.45	**7.0** 0.28		**104.0** 23400	**101.0** 22700	**0.0785**	**5500**	**6400**	**0.895** 1.973	**0.110** 0.243
NUP210E.TVP	**50** 1.9685	**90** 3.5433	**20** 0.7874	**1.1** 0.04	**1.1** 0.04	**59.5** 2.34	**81.5** 3.21	**64.1** 2.52	**77.4** 3.05				**74.5** 16700	**67.7** 15200	**0.0778**	**5500**	**6600**	**0.490** 1.080	
NU2210E.TVP	**50** 1.9685	**90** 3.5433	**23** 0.9055	**1.1** 0.04	**1.1** 0.04	**59.5** 2.34	**81.5** 3.21		**77.4** 3.05			**2.2** 0.09	**94.1** 21200	**81.2** 18300	**0.0824**	**4400**	**5200**	**0.575** 1.268	
NUP211E.TVP	**55** 2.1654	**100** 3.9370	**21** 0.8268	**1.1** 0.04	**1.5** 0.06	**66.0** 2.60	**90.0** 3.54	**71.0** 2.80	**85.6** 3.37				**100.0** 22500	**87.2** 19600	**0.0862**	**4800**	**5700**	**0.665** 1.466	
NU311E.TVP	**55** 2.1654	**120** 4.7244	**29** 1.1417	**2.0** 0.08	**2.0** 0.08	**70.5** 2.78	**106.5** 4.19		**100.3** 3.95			**3.0** 0.12	**149.0** 33500	**142.0** 31900	**0.0628**	**4700**	**5500**	**1.470** 3.241	
NUP212E.TVP	**60** 2.3622	**110** 4.3307	**22** 0.8661	**1.5** 0.06	**1.5** 0.06	**72.0** 2.83	**100.0** 3.94	**77.7** 3.06	**95.1** 3.74				**109.0** 24500	**98.6** 22200	**0.0896**	**4500**	**5300**	**0.825** 1.819	
NUP2212E.TVP	**60** 2.3622	**110** 4.3307	**28** 1.1024	**1.5** 0.06	**1.5** 0.06	**72.0** 2.83	**100.0** 3.94	**77.7** 3.06	**95.1** 3.74				**158.0** 35500	**132.0** 29700	**0.0984**	**3700**	**4300**	**1.080** 2.381	
NUP2213E.TVP	**65** 2.5591	**120** 4.7244	**31** 1.2205	**1.5** 0.06	**1.5** 0.06	**78.5** 3.09	**108.5** 4.27	**84.6** 3.33	**103.2** 4.06				**188.0** 42300	**153.0** 34400	**0.0723**	**3500**	**4100**	**1.420** 3.131	

STANDARD STYLES



Bearing Number and Style					d	D	B	r(1)	Backing Dia.		Load Ratings		Lubri-cation Factor	Reference Speed	Thermal Ratings	Wt.
					Bore	O.D.	Width	Fillet Radius (max.)	Shaft E	Housing F	Static Load Rating C_0	Dynamic Load Ratings C	C_g	Grease	Oil	
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
100RU02	100RN02	100RJ02	100RF02	100RT02	100.000 3.9370	180.000 7.0866	34.000 1.3386	2.0 0.08	114 4.5	165 6.5	245 55000	216 49000	0.088	2200	2600	3.8 8.5
100RU33	100RN33	100RJ33	100RF33	100RT33	100.000 3.9370	215.000 8.4646	82.600 3.2500	2.5 0.10	122 4.8	193 7.6	865 196000	670 150000	0.119	2200	2500	15.5 34.2
40RIU130	40RIN130	40RIJ130	40RIF130	40RIT130	101.600 4.0000	142.880 5.6250	22.230 0.8750	2.5 0.10	110 4.3	135 5.3	134 30000	98 22000	0.081	2100	2500	1.1 2.4
40RIU133	40RIN133	40RIJ133	40RIF133	40RIT133	101.600 4.0000	215.900 8.5000	44.450 1.7500	4.0 0.16	121 4.8	197 7.8	325 73500	320 72000	0.095	2200	2600	8.3 18.3
105RU02	105RN02	105RJ02	105RF02	105RT02	105.000 4.1339	190.000 7.4803	36.000 1.4173	2.0 0.08	121 4.8	175 6.9	250 57000	224 50000	0.090	2100	2600	4.6 10.2
105RU32	105RN32	105RJ32	105RF32	105RT32	105.000 4.1339	190.000 7.4803	65.100 2.5625	2.0 0.08	121 4.8	175 6.9	655 146000	480 108000	0.113	2300	2700	8.3 18.3
105RU03	105RN03	105RJ03	105RF03	105RT03	105.000 4.1339	225.000 8.8583	49.000 1.9291	2.5 0.10	127 5.0	203 8.0	450 100000	400 90000	0.104	2100	2400	10.1 22.2
42RIU194	42RIN194	42RIJ194	42RIF194	42RIT194	107.950 4.2500	222.250 8.7500	69.850 2.7500	4.0 0.16	127 5.0	203 8.0	720 160000	570 129000	0.115	2100	2400	13.6 30.0
110RU02	110RN02	110RJ02	110RF02	110RT02	110.000 4.3307	200.000 7.8740	38.000 1.4961	2.0 0.08	125 4.9	185 7.3	315 71000	275 62000	0.098	2000	2400	5.4 11.8
110RU03	110RN03	110RJ03	110RF03	110RT03	110.000 4.3307	240.000 9.4488	50.000 1.9685	2.5 0.10	135 5.3	215 8.5	750 170000	550 122000	0.106	1600	1900	11.7 25.8
45RIU196	45RIN196	45RIJ196	45RIF196	45RIT196	114.300 4.5000	203.200 8.0000	33.340 1.3125	3.0 0.12	130 5.1	187 7.4	245 55000	224 50000	0.090	1900	2300	4.8 10.5
120RU30	120RN30	120RJ30	120RF30	120RT30	120.000 4.7244	180.000 7.0866	46.000 1.8110	2.0 0.08	130 5.1	170 6.7	390 88000	255 57000	0.108	2200	2600	4.2 9.3
120RU02	120RN02	120RJ02	120RF02	120RT02	120.000 4.7244	215.000 8.4646	40.000 1.5748	2.0 0.08	137 5.4	198 7.8	320 72000	285 64000	0.098	1900	2300	6.5 14.4
120RU92	120RN92	120RJ92	120RF92	120RT92	120.000 4.7244	215.000 8.4646	76.200 3.0000	2.0 0.08	137 5.4	198 7.8	865 196000	620 140000	0.125	2000	2300	12.4 27.3
120RU03	120RN03	120RJ03	120RF03	120RT03	120.000 4.7244	260.000 10.2362	55.000 2.1654	2.5 0.10	145 5.7	235 9.2	540 120000	490 112000	0.114	1800	2100	15.2 33.4
130RU30	130RN30	130RJ30	130RF30	130RT30	130.000 5.1181	200.000 7.8740	52.000 2.0472	2.0 0.08	143 5.6	187 7.4	540 122000	355 80000	0.119	2000	2300	6.1 13.5
130RU02	130RN02	130RJ02	130RF02	130RT02	130.000 5.1181	230.000 9.0551	40.000 1.5748	2.5 0.10	148 5.8	212 8.3	355 80000	305 69500	0.105	1800	2100	7.4 16.3
130RU92	130RN92	130RJ92	130RF92	130RT92	130.000 5.1181	230.000 9.0551	79.400 3.1250	2.5 0.10	148 5.8	213 8.4	980 224000	680 153000	0.133	1800	2000	14.7 32.4
130RU03	130RN03	130RJ03	130RF03	130RT03	130.000 5.1181	280.000 11.0236	58.000 2.2835	3.0 0.12	158 6.2	252 9.9	600 134000	550 125000	0.100	1600	1900	18.5 40.8

(1) Maximum shaft or housing fillet radius that bearing corners will clear.

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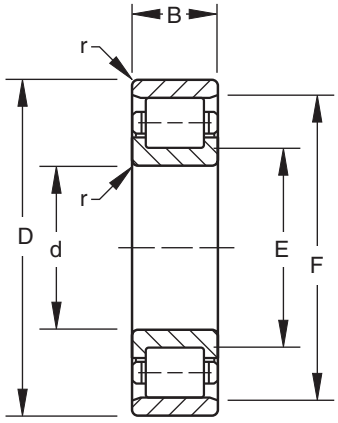
STANDARD STYLES - *continued*



Bearing Number and Style					d	D	B	r[1]	Backing Dia.		Load Ratings		Lubrication Factor	Reference Speed	Thermal Ratings	Wt.
					Bore	O.D.	Width	Fillet Radius (max.)	Shaft E	Housing F	Static Load Rating	Dynamic Load Ratings				
											C_0	C	C_g	Grease	Oil	
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
140RU30	140RN30	140RJ30	140RF30	140RT30	140.000 5.5118	210.000 8.2677	53.000 2.0866	2.0 0.08	152 6.0	198 7.8	540 122000	355 80000	0.120	1900	2200	6.6 14.6
140RU51	140RN51	140RJ51	140RF51	140RT51	140.000 5.5118	220.000 8.6614	36.000 1.4173	2.0 0.08	155 6.1	206 8.1	300 68000	240 54000	0.104	1700	2000	5.3 11.6
140RU91	140RN91	140RJ91	140RF91	140RT91	140.000 5.5118	220.000 8.6614	63.500 2.5000	2.0 0.08	154 6.1	206 8.1	800 180000	520 116000	0.132	1800	2000	9.3 20.5
140RU02	140RN02	140RJ02	140RF02	140RT02	140.000 5.5118	250.000 9.8425	42.000 1.6535	2.5 0.10	159 6.2	231 9.1	465 104000	400 88000	0.114	1600	1900	9.2 20.2
140RU92	140RN92	140RJ92	140RF92	140RT92	140.000 5.5118	250.000 9.8425	82.600 3.2500	2.5 0.10	159 6.2	231 9.1	1200 270000	830 186000	0.143	1600	1800	18.2 40.0
140RU03	140RN03	140RJ03	140RF03	140RT03	140.000 5.5118	300.000 11.8110	62.000 2.4409	3.0 0.12	168 6.6	271 10.7	670 150000	610 137000	0.106	1500	1800	22.8 50.2
140RU93	140RN93	140RJ93	140RF93	140RT93	140.000 5.5118	300.000 11.8110	114.300 4.5000	3.0 0.12	168 6.6	271 10.7	1760 400000	1290 290000	0.109	1400	1500	42.0 92.5
150RU51	150RN51	150RJ51	150RF51	150RT51	150.000 5.9055	235.000 9.2520	38.000 1.4961	2.0 0.08	165 6.5	220 8.7	400 90000	310 69500	0.114	1500	1900	6.3 13.9
150RU91	150RN91	150RJ91	150RF91	150RT91	150.000 5.9055	235.000 9.2520	66.700 2.6250	2.0 0.08	165 6.5	220 8.7	900 204000	585 132000	0.139	1600	1800	11.1 24.5
150RU02	150RN02	150RJ02	150RF02	150RT02	150.000 5.9055	270.000 10.6299	45.000 1.7717	2.5 0.10	171 6.8	248 9.8	520 118000	440 100000	0.099	1400	1700	11.7 25.7
150RU92	150RN92	150RJ92	150RF92	150RT92	150.000 5.9055	270.000 10.6299	88.900 3.5000	2.5 0.10	170 6.7	250 9.8	1400 315000	950 216000	0.126	1400	1600	23.1 50.9
150RU03	150RN03	150RJ03	150RF03	150RT03	150.000 5.9055	320.000 12.5984	65.000 2.5591	3.0 0.12	182 7.2	288 11.3	815 183000	720 163000	0.111	1300	1600	27.3 60.1
150RU93	150RN93	150RJ93	150RF93	150RT93	150.000 5.9055	320.000 12.5984	123.900 4.8750	3.0 0.12	182 7.2	288 11.3	2040 455000	1460 325000	0.137	1300	1400	51.8 114.1
60RIU247	60RIN247	60RIJ247	60RIF247	60RIT247	152.400 6.0000	203.200 8.0000	25.400 1.0000	2.5 0.10	161 6.3	194 7.7	270 61000	173 39000	0.110	1400	1700	2.2 4.9
60RIU248	60RIN248	60RIJ248	60RIF248	60RIT248	152.400 6.0000	266.700 10.5000	39.690 1.5625	4.0 0.16	173 6.8	246 9.7	450 100000	380 86500	0.097	1400	1700	9.7 21.4
60RIU249	60RIN249	60RIJ249	60RIF249	60RIT249	152.400 6.0000	266.700 10.5000	61.910 2.4375	4.0 0.16	174 6.8	245 9.7	865 196000	640 146000	0.114	1400	1700	15.2 33.5
60RIU250	60RIN250	60RIJ250	60RIF250	60RIT250	152.400 6.0000	304.800 12.0000	57.150 2.2500	5.0 0.20	182 7.2	275 10.8	735 166000	640 143000	0.109	1300	1600	20.7 45.6
60RIU251	60RIN251	60RIJ251	60RIF251	60RIT251	152.400 6.0000	304.800 12.0000	88.900 3.5000	5.0 0.20	181 7.1	276 10.9	1340 305000	1020 228000	0.125	1300	1500	32.3 71.3
160RU30	160RN30	160RJ30	160RF30	160RT30	160.000 6.2992	240.000 9.4488	60.000 2.3622	2.0 0.08	175 6.9	225 8.9	765 170000	475 108000	0.138	1600	1800	9.8 21.7
160RU51	160RN51	160RJ51	160RF51	160RT51	160.000 6.2992	250.000 9.8425	40.000 1.5748	2.0 0.08	173 6.8	237 9.3	455 102000	345 78000	0.100	1500	1700	7.5 16.5

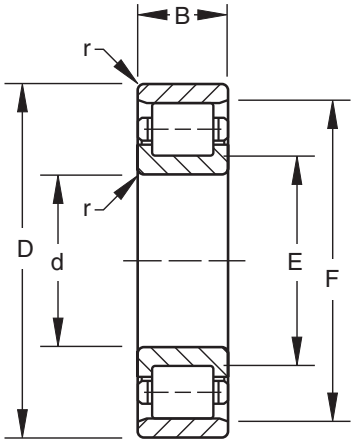
[1] Maximum shaft or housing fillet radius that bearing corners will clear.

Bearing Number and Style					d Bore	D O.D.	B Width	r (1) Fillet Radius (max.)	Backing Dia. Shaft E	Backing Dia. Housing F	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Ratings C	Lubrication Factor C_g	Reference Speed Grease	Thermal Ratings Oil	Wt.
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
160RU91	160RN91	160RJ91	160RF91	160RT91	160.000 6.2992	250.000 9.8425	73.000 2.8750	2.0 0.08	173 6.8	237 9.3	1060 240000	670 150000	0.124	1500	1700	13.7 30.3
160RU02	160RN02	160RJ02	160RF02	160RT02	160.000 6.2992	290.000 11.4173	48.000 1.8898	2.5 0.10	183 7.2	267 10.5	670 150000	550 122000	0.106	1300	1500	14.4 31.8
160RU92	160RN92	160RJ92	160RF92	160RT92	160.000 6.2992	290.000 11.4173	98.000 3.8750	2.5 0.10	183 7.2	267 10.5	1560 345000	1060 236000	0.134	1300	1500	29.8 65.6
160RU03	160RN03	160RJ03	160RF03	160RT03	160.000 6.2992	340.000 13.3858	68.000 2.6772	3.0 0.12	194 7.6	306 12.1	900 204000	780 176000	0.115	1200	1400	32.2 71.0
160RU93	160RN93	160RJ93	160RF93	160RT93	160.000 6.2992	340.000 13.3858	133.000 5.2500	3.0 0.12	194 7.6	306 12.1	2320 520000	1660 375000	0.147	1200	1300	62.8 138.6
170RU30	170RN30	170RJ30	170RF30	170RT30	170.000 6.6929	260.000 10.2362	67.000 2.6378	2.0 0.08	186 7.3	243 9.6	1020 228000	640 143000	0.125	1400	1600	13.2 29.1
170RU51	170RN51	170RJ51	170RF51	170RT51	170.000 6.6929	265.000 10.4331	42.000 1.6535	2.5 0.10	187 7.4	248 9.8	510 114000	380 86500	0.104	1400	1600	8.8 19.4
170RU91	170RN91	170RJ91	170RF91	170RT91	170.000 6.6929	265.000 10.4331	76.200 3.0000	2.5 0.10	187 7.4	248 9.8	1160 260000	735 166000	0.130	1400	1600	16.1 35.5
170RU02	170RN02	170RJ02	170RF02	170RT02	170.000 6.6929	310.000 12.2047	52.000 2.0472	3.0 0.12	195 7.7	285 11.2	695 156000	585 132000	0.112	1200	1500	18.2 40.0
170RU92	170RN92	170RJ92	170RF92	170RT92	170.000 6.6929	310.000 12.2047	104.800 4.1250	3.0 0.12	196 7.7	284 11.2	1930 430000	1270 290000	0.141	1200	1300	36.5 80.6
170RU03	170RN03	170RJ03	170RF03	170RT03	170.000 6.6929	360.000 14.1732	72.000 2.8346	3.0 0.12	205 8.1	325 12.8	1020 228000	880 200000	0.123	1200	1300	38.2 84.1
170RU93	170RN93	170RJ93	170RF93	170RT93	170.000 6.6929	360.000 14.1732	139.700 5.5000	3.0 0.12	205 8.1	325 12.8	2600 585000	1830 415000	0.153	1100	1200	73.6 162.4
180RU51	180RN51	180RJ51	180RF51	180RT51	180.000 7.0866	280.000 11.0236	44.000 1.7323	2.5 0.10	196 7.7	263 10.3	600 134000	440 100000	0.111	1200	1500	10.3 22.7
180RU30	180RN30	180RJ30	180RF30	180RT30	180.000 7.0866	280.000 11.0236	74.000 2.9134	2.0 0.08	197 7.8	264 10.4	1250 280000	780 176000	0.132	1200	1400	17.4 38.4
180RU91	180RN91	180RJ91	180RF91	180RT91	180.000 7.0866	280.000 11.0236	82.600 3.2500	2.5 0.10	197 7.8	262 10.3	1430 325000	880 196000	0.138	1200	1400	19.4 42.9
180RU02	180RN02	180RJ02	180RF02	180RT02	180.000 7.0866	320.000 12.5984	52.000 2.0472	3.0 0.12	205 8.1	295 11.6	710 160000	585 129000	0.114	1200	1400	18.9 41.6
180RU92	180RN92	180RJ92	180RF92	180RT92	180.000 7.0866	320.000 12.5984	108.000 4.2500	3.0 0.12	206 8.1	294 11.6	1930 440000	1270 285000	0.144	1100	1300	39.3 86.6
180RU03	180RN03	180RJ03	180RF03	180RT03	180.000 7.0866	380.000 14.9606	75.000 2.9528	3.0 0.12	216 8.5	344 13.6	1200 270000	1020 232000	0.127	1000	1200	44.0 97.0
190RU30	190RN30	190RJ30	190RF30	190RT30	190.000 7.4803	290.000 11.4173	75.000 2.9528	2.0 0.08	207 8.2	272 10.7	1270 285000	780 176000	0.138	1200	1400	18.4 40.6
190RU51	190RN51	190RJ51	190RF51	190RT51	190.000 7.4803	300.000 11.8110	46.000 1.8110	2.5 0.10	210 8.2	280 11.0	695 156000	510 114000	0.117	1100	1300	12.7 28.0
190RU91	190RN91	190RJ91	190RF91	190RT91	190.000 7.4803	300.000 11.8110	85.700 3.3750	2.5 0.10	210 8.2	281 11.1	1630 365000	980 220000	0.144	1100	1300	23.8 52.5
190RU02	190RN02	190RJ02	190RF02	190RT02	190.000 7.4803	340.000 13.3858	55.000 2.1654	3.0 0.12	216 8.5	314 12.4	930 208000	735 166000	0.124	1000	1200	22.7 50.0
190RU92	190RN92	190RJ92	190RF92	190RT92	190.000 7.4803	340.000 13.3858	114.300 4.5000	3.0 0.12	217 8.6	312 12.3	2240 500000	1460 325000	0.154	1000	1100	47.3 104.2
190RU03	190RN03	190RJ03	190RF03	190RT03	190.000 7.4803	400.000 15.7480	78.000 3.0709	4.0 0.16	233 9.2	357 14.1	1320 290000	1060 240000	0.136	980	1100	51.5 113.5
200RU30	200RN30	200RJ30	200RF30	200RT30	200.000 7.8740	310.000 12.2047	82.000 3.2283	2.0 0.08	220 8.7	290 11.4	1560 355000	930 212000	0.146	1100	1200	23.8 52.5
200RU51	200RN51	200RJ51	200RF51	200RT51	200.000 7.8740	320.000 12.5984	48.000 1.8898	2.5 0.10	221 8.7	299 11.8	735 166000	550 122000	0.120	1100	1300	15.5 34.1
200RU91	200RN91	200RJ91	200RF91	200RT91	200.000 7.8740	320.000 12.5984	88.900 3.5000	3.0 0.12	221 8.7	299 11.8	1630 365000	1020 228000	0.150	1100	1200	28.8 63.4
200RU02	200RN02	200RJ02	200RF02	200RT02	200.000 7.8740	360.000 14.1732	58.000 2.2835	3.0 0.12	230 9.1	330 13.0	930 208000	735 163000	0.127	1000	1200	27.3 60.2

(1) Maximum shaft or housing fillet radius that bearing corners will clear.

Continued on next page.

STANDARD STYLES - *continued*



Bearing Number and Style					d Bore	D O.D.	B Width	r (1) Fillet Radius (max.)	Backing Dia. Shaft E	Backing Dia. Housing F	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Ratings C	Lubrication Factor C_g	Reference Speed Grease	Thermal Ratings Oil	Wt.
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
200RU92	200RN92	200RJ92	200RF92	200RT92	200.000 7.8740	360.000 14.1732	120.700 4.7500	3.0 0.12	230 9.1	330 13.0	2600 585000	1630 365000	0.164	940	1000	56.8 125.2
200RU03	200RN03	200RJ03	200RF03	200RT03	200.000 7.8740	420.000 16.5354	80.000 3.1496	4.0 0.16	241 9.5	379 14.9	1290 290000	1120 250000	0.135	950	1100	57.6 127.0
210RU51	210RN51	210RJ51	210RF51	210RT51	210.000 8.2677	340.000 13.3858	50.000 1.9685	2.5 0.10	234 9.2	316 12.4	780 176000	600 134000	0.124	1000	1200	18.3 40.3
210RU91	210RN91	210RJ91	210RF91	210RT91	210.000 8.2677	340.000 13.3858	95.300 3.7500	2.5 0.10	233 9.2	318 12.5	1960 440000	1220 275000	0.156	980	1100	35.3 77.7
210RU02	210RN02	210RJ02	210RF02	210RT02	210.000 8.2677	380.000 14.9606	62.000 2.4409	3.0 0.12	242 9.5	348 13.7	1060 236000	850 190000	0.132	940	1100	32.4 71.5
210RU92	210RN92	210RJ92	210RF92	210RT92	210.000 8.2677	380.000 14.9606	127.000 5.0000	3.0 0.12	240 9.4	350 13.8	2700 600000	1760 400000	0.165	900	1000	66.1 145.8
210RU03	210RN03	210RJ03	210RF03	210RT03	210.000 8.2677	440.000 17.3228	84.000 3.3071	4.0 0.16	252 9.9	398 15.7	1430 325000	1220 275000	0.142	890	1000	66.3 146.2
220RU30	220RN30	220RJ30	220RF30	220RT30	220.000 8.6614	340.000 13.3858	90.000 3.5433	2.5 0.10	241 9.5	318 12.5	1960 440000	1160 260000	0.159	930	1000	31.2 68.9
220RU51	220RN51	220RJ51	220RF51	220RT51	220.000 8.6614	350.000 13.7796	51.000 2.0079	2.5 0.10	244 9.6	326 12.8	865 193000	630 143000	0.128	950	1100	19.6 43.2
220RU91	220RN91	220RJ91	220RF91	220RT91	220.000 8.6614	350.000 13.7796	98.400 3.8750	2.5 0.10	241 9.5	329 12.9	2080 475000	1290 290000	0.160	930	1000	37.6 82.9
220RU02	220RN02	220RJ02	220RF02	220RT02	220.000 8.6614	400.000 15.7480	65.000 2.5591	3.0 0.12	256 10.1	365 14.4	1180 260000	915 208000	0.138	880	1000	38.3 84.4
220RU92	220RN92	220RJ92	220RF92	220RT92	220.000 8.6614	400.000 15.7480	133.400 5.2500	3.0 0.12	252 9.9	368 14.5	3250 735000	2000 455000	0.178	800	880	78.4 172.9
220RU03	220RN03	220RJ03	220RF03	220RT03	220.000 8.6614	460.000 18.1102	88.000 3.4646	4.0 0.16	261 10.3	419 16.5	1600 360000	1340 305000	0.149	840	970	75.9 167.2
90RIU395	90RIN395	90RIJ395	90RIF395	90RIT395	228.600 9.0000	304.800 12.0000	38.100 1.5000	4.0 0.16	241 9.5	292 11.5	585 132000	355 80000	0.124	990	1200	7.8 17.3
90RIU396	90RIN396	90RIJ396	90RIF396	90RIT396	228.600 9.0000	368.300 14.5000	50.800 2.0000	5.0 0.20	255 10.0	342 13.5	930 208000	680 153000	0.133	880	1000	21.9 48.4
90RIU399	90RIN399	90RIJ399	90RIF399	90RIT399	228.600 9.0000	431.800 17.0000	117.480 4.6250	5.0 0.20	265 10.4	395 15.6	2600 600000	1860 415000	0.168	810	900	82.7 182.4
230RU51	230RN51	230RJ51	230RF51	230RT51	230.000 9.0551	370.000 14.5669	53.000 2.0866	3.0 0.12	256 10.1	344 13.6	1000 224000	720 163000	0.134	880	1000	23.1 50.8
230RU91	230RN91	230RJ91	230RF91	230RT91	230.000 9.0551	370.000 14.5669	101.600 4.0000	3.0 0.12	256 10.1	344 13.6	2450 550000	1460 325000	0.167	830	920	44.3 97.7
230RU02	230RN02	230RJ02	230RF02	230RT02	230.000 9.0551	420.000 16.5354	69.000 2.7165	3.0 0.12	263 10.4	387 15.2	1370 305000	1080 240000	0.144	820	950	44.5 98.1
230RU92	230RN92	230RJ92	230RF92	230RT92	230.000 9.0551	420.000 16.5354	139.000 5.5000	3.0 0.12	263 10.4	387 15.2	3400 765000	2200 490000	0.178	770	840	90.4 199.2

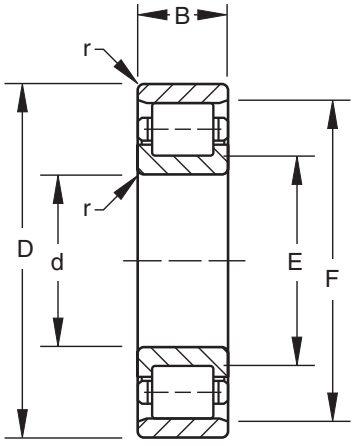
(1) Maximum shaft or housing fillet radius that bearing corners will clear.

Bearing Number and Style					d	D	B	r (1)	Backing Dia.		Load Ratings		Lubri-cation Factor	Reference Speed	Thermal Ratings	Wt.
					Bore	O.D.	Width	Fillet Radius (max.)	Shaft E	Housing F	Static Load Rating C_0	Dynamic Load Ratings C				
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.	C_g	RPM Grease	RPM Oil	kg lbs.
230RU03	230RN03	230RJ03	230RF03	230RT03	230.000 9.0551	480.000 18.8976	91.000 3.5827	4.0 0.16	279 11.0	431 17.0	1700 380000	1400 315000	0.151	800	920	85.6 188.8
240RU30	240RN30	240RJ30	240RF30	240RT30	240.000 9.4488	360.000 14.1732	92.000 3.6220	2.5 0.10	262 10.3	338 13.3	2200 490000	1220 275000	0.169	840	930	34.4 75.8
240RU51	240RN51	240RJ51	240RF51	240RT51	240.000 9.4488	390.000 15.3543	55.000 2.1654	3.0 0.12	265 10.4	365 14.4	1060 236000	765 173000	0.140	830	970	27.2 59.8
240RU91	240RN91	240RJ91	240RF91	240RT91	240.000 9.4488	390.000 15.3543	108.000 4.2500	3.0 0.12	265 10.4	365 14.4	2700 600000	1600 355000	0.176	790	870	53.4 117.7
240RU02	240RN02	240RJ02	240RF02	240RT02	240.000 9.4488	440.000 17.3228	72.000 2.8346	3.0 0.12	277 10.9	402 15.8	1400 315000	1100 250000	0.146	800	920	51.6 113.7
240RU92	240RN92	240RJ92	240RF92	240RT92	240.000 9.4488	440.000 17.3228	146.000 5.7500	3.0 0.12	277 10.9	402 15.8	3750 850000	2400 540000	0.185	720	790	104.3 230.0
240RU03	240RN03	240RJ03	240RF03	240RT03	240.000 9.4488	500.000 19.6850	95.000 3.7402	4.0 0.16	289 11.4	451 17.8	2000 450000	1600 360000	0.159	730	840	97.5 215.0
95RIU430	95RIN430	95RIJ430	95RIF430	95RIT430	241.300 9.5000	323.850 12.7500	41.270 1.6250	4.0 0.16	255 10.0	310 12.2	695 156000	425 95000	0.133	920	1100	9.8 21.5
250RU51	250RN51	250RJ51	250RF51	250RT51	250.000 9.8425	410.000 16.1417	57.000 2.2441	3.0 0.12	278 10.9	383 15.1	1140 255000	850 190000	0.144	790	920	31.3 69.0
250RU91	250RN91	250RJ91	250RF91	250RT91	250.000 9.8425	410.000 16.1417	111.100 4.3750	3.0 0.12	278 10.9	383 15.1	2750 610000	1700 380000	0.177	760	840	60.9 134.3
250RU02	250RN02	250RJ02	250RF02	250RT02	250.000 9.8425	460.000 18.1102	76.000 2.9921	4.0 0.16	291 11.5	418 16.5	1600 360000	1220 275000	0.154	750	860	59.8 131.8
250RU92	250RN92	250RJ92	250RF92	250RT92	250.000 9.8425	460.000 18.1102	152.400 6.0000	4.0 0.16	291 11.5	418 16.5	4050 915000	2550 570000	0.192	680	740	119.7 263.9
250RU03	250RN03	250RJ03	250RF03	250RT03	250.000 9.8425	520.000 20.4724	98.000 3.8583	5.0 0.20	300 11.8	470 18.5	2120 475000	1660 375000	0.165	700	800	109.0 240.3
100RIU433	100RIN433	100RIJ433	100RIF433	100RIT433	254.000 10.0000	336.550 13.2500	41.270 1.6250	4.0 0.16	269 10.6	322 12.7	735 163000	430 96500	0.136	870	1000	10.2 22.4
260RU30	260RN30	260RJ30	260RF30	260RT30	260.000 10.2362	400.000 15.7480	104.000 4.0945	3.0 0.12	285 11.2	375 14.8	2600 600000	1530 345000	0.180	760	840	49.8 109.8
260RU51	260RN51	260RJ51	260RF51	260RT51	260.000 10.2362	430.000 16.9291	59.000 2.3228	3.0 0.12	291 11.4	399 15.7	1200 270000	900 204000	0.147	750	880	36.1 79.6
260RU91	260RN91	260RJ91	260RF91	260RT91	260.000 10.2362	430.000 16.9291	114.300 4.5000	3.0 0.12	291 11.4	399 15.7	3100 695000	1900 425000	0.182	700	770	70.0 154.3
260RU02	260RN02	260RJ02	260RF02	260RT02	260.000 10.2362	480.000 18.8976	80.000 3.1496	4.0 0.16	300 11.8	440 17.3	1760 400000	1370 305000	0.160	710	820	68.2 150.4
260RU92	260RN92	260RJ92	260RF92	260RT92	260.000 10.2362	480.000 18.8976	158.800 6.2500	4.0 0.16	300 11.8	440 17.3	4400 1000000	2800 630000	0.200	640	700	136.3 300.4
260RU03	260RN03	260RJ03	260RF03	260RT03	260.000 10.2362	540.000 21.2598	102.000 4.0157	5.0 0.20	314 12.4	486 19.1	2320 520000	1860 415000	0.171	660	760	122.0 268.9
110RIU473	110RIN473	110RIJ473	110RIF473	110RIT473	279.400 11.0000	368.300 14.5000	44.450 1.7500	4.0 0.16	295 11.6	352 13.9	930 208000	530 118000	0.150	760	890	13.0 28.7
280RU30	280RN30	280RJ30	280RF30	280RT30	280.000 11.0236	420.000 16.5354	106.000 4.1732	3.0 0.12	303 11.9	397 15.6	3050 680000	1700 380000	0.192	670	740	53.9 118.8
280RU51	280RN51	280RJ51	280RF51	280RT51	280.000 11.0236	460.000 18.1102	63.000 2.4803	3.0 0.12	311 12.2	429 16.9	1430 325000	1000 228000	0.156	680	790	44.5 98.1
280RU91	280RN91	280RJ91	280RF91	280RT91	280.000 11.0236	460.000 18.1102	123.800 4.8750	3.0 0.12	311 12.2	429 16.9	3750 830000	2120 475000	0.201	620	680	87.4 192.8
280RU02	280RN02	280RJ02	280RF02	280RT02	280.000 11.0236	500.000 19.6850	80.000 3.1496	4.0 0.16	319 12.6	461 18.2	2000 450000	1500 335000	0.169	640	730	72.1 159.0
280RU92	280RN92	280RJ92	280RF92	280RT92	280.000 11.0236	500.000 19.6850	165.100 6.5000	4.0 0.16	319 12.6	461 18.2	5200 1180000	3150 710000	0.213	570	610	148.7 327.9
280RU03	280RN03	280RJ03	280RF03	280RT03	280.000 11.0236	580.000 22.8346	108.000 4.2520	5.0 0.20	341 13.4	519 20.4	2750 620000	2160 480000	0.182	590	670	148.6 327.6
300RU30	300RN30	300RJ30	300RF30	300RT30	300.000 11.8110	460.000 18.1102	118.000 4.6457	3.0 0.12	330 13.0	429 16.9	3750 830000	2040 455000	0.205	590	640	75.3 166.0

(1) Maximum shaft or housing fillet radius that bearing corners will clear.

Continued on next page.

STANDARD STYLES - *continued*



Bearing Number and Style					d Bore	D O.D.	B Width	r (1) Fillet Radius (max.)	Backing Dia.		Load Ratings		Lubrication Factor	Reference Speed	Thermal Ratings	Wt.
									Shaft E	Housing F	Static Load Rating C_0	Dynamic Load Ratings C	C_g	Grease	Oil	
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
300RU51	300RN51	300RJ51	300RF51	300RT51	300.000 11.8110	480.000 18.8976	67.000 2.6378	3.0 0.12	329 12.9	452 17.8	1660 375000	1160 260000	0.166	630	730	49.1 108.2
300RU91	300RN91	300RJ91	300RF91	300RT91	300.000 11.8110	480.000 18.8976	127.000 5.0000	3.0 0.12	329 12.9	452 17.8	4000 900000	2320 520000	0.204	580	630	93.0 205.1
300RU02	300RN02	300RJ02	300RF02	300RT02	300.000 11.8110	540.000 21.2598	85.000 3.3465	4.0 0.16	343 13.5	497 19.6	2280 510000	1660 375000	0.178	580	660	90.5 199.6
300RU92	300RN92	300RJ92	300RF92	300RT92	300.000 11.8110	540.000 21.2598	177.800 7.0000	4.0 0.16	343 13.5	497 19.6	6200 1400000	3750 830000	0.226	500	540	188.5 415.6
125RIU550	125RIN550	125RIJ550	125RIF550	125RIT550	317.500 12.5000	419.100 16.5000	50.800 2.0000	5.0 0.20	337 13.2	400 15.8	1290 290000	710 160000	0.167	640	740	19.4 42.8
125RIU551	125RIN551	125RIJ551	125RIF551	125RIT551	317.500 12.5000	482.600 19.0000	66.670 2.6250	5.0 0.20	337 13.8	451 17.8	1800 405000	1180 260000	0.174	590	680	46.0 101.3
320RU30	320RN30	320RJ30	320RF30	320RT30	320.000 12.5984	480.000 18.8976	121.000 4.7638	3.0 0.12	347 13.7	453 17.8	4050 900000	2120 480000	0.215	550	600	81.3 179.1
320RU51	320RN51	320RJ51	320RF51	320RT51	320.000 12.5984	500.000 19.6850	71.000 2.7953	3.0 0.12	352 13.9	468 18.4	1900 425000	1270 285000	0.176	590	670	54.7 120.7
320RU91	320RN91	320RJ91	320RF91	320RT91	320.000 12.5984	500.000 19.6850	130.200 5.1250	3.0 0.12	352 13.9	468 18.4	4300 980000	2450 550000	0.214	540	590	100.3 221.2
320RU02	320RN02	320RJ02	320RF02	320RT02	320.000 12.5984	580.000 22.8346	92.000 3.6220	4.0 0.16	368 14.5	532 20.9	2450 550000	1800 405000	0.186	550	630	114.9 253.4
320RU92	320RN92	320RJ92	320RF92	320RT92	320.000 12.5984	580.000 22.8346	190.500 7.5000	4.0 0.16	370 14.6	530 20.9	6700 1530000	4000 900000	0.238	470	510	236.4 521.1
340RU30	340RN30	340RJ30	340RF30	340RT30	340.000 13.3858	520.000 20.4724	133.000 5.2362	4.0 0.16	372 14.7	488 19.2	4650 1040000	2550 570000	0.224	500	550	107.6 237.2
135RIU580	135RIN580	135RIJ580	135RIF580	135RIT580	342.900 13.5000	457.200 18.0000	57.150 2.2500	5.0 0.20	365 14.4	435 17.1	1530 345000	815 183000	0.181	580	680	27.2 60.0
135RIU582	135RIN582	135RIJ582	135RIF582	135RIT582	342.900 13.5000	527.100 20.7500	104.770 4.1250	5.0 0.20	376 14.8	494 19.4	3450 765000	2040 455000	0.208	520	580	88.0 193.9
360RU30	360RN30	360RJ30	360RF30	360RT30	360.000 14.1732	540.000 21.2598	134.000 5.2765	4.0 0.16	392 15.4	508 20.0	4900 1100000	2600 585000	0.232	470	520	113.6 250.4
145RIU610	145RIN610	145RIJ610	145RIF610	145RIT610	368.300 14.5000	495.300 19.5000	63.500 2.5000	5.0 0.20	391 15.4	473 18.6	2040 455000	1100 245000	0.194	510	590	35.8 79.0
380RU30	380RN30	380RJ30	380RF30	380RT30	380.000 14.9606	560.000 22.0472	135.000 5.3150	4.0 0.16	412 16.2	528 20.8	5200 1180000	2750 610000	0.241	440	480	119.5 263.4
150RIU613	150RIN613	150RIJ613	150RIF613	150RIT613	381.000 15.0000	508.000 20.0000	63.500 2.5000	5.0 0.20	404 15.9	485 19.1	2040 455000	1100 245000	0.196	500	570	36.9 81.3
155RIU640	155RIN640	155RIJ640	155RIF640	155RIT640	393.700 15.5000	520.700 20.5000	63.500 2.5000	5.0 0.20	416 16.4	498 19.6	2040 455000	1080 245000	0.200	480	560	38.0 83.8
400RU30	400RN30	400RJ30	400RF30	400RT30	400.000 15.7480	600.000 23.6220	148.000 5.8268	4.0 0.16	438 17.2	562 22.1	6000 1340000	3100 695000	0.252	410	440	155.7 343.2

(1) Maximum shaft or housing fillet radius that bearing corners will clear.

Bearing Number and Style					d Bore	D O.D.	B Width	r (1) Fillet Radius (max.)	Backing Dia. Shaft E	Backing Dia. Housing F	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Ratings C	Lubrication Factor C_g	Reference Speed Grease	Thermal Ratings Oil	Wt.
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
160RIU643	160RIN643	160RIJ643	160RIF643	160RIT643	406.400 16.0000	546.100 21.5000	69.850 2.7500	5.0 0.20	432 17.0	521 20.5	2500 560000	1320 300000	0.212	450	510	48.2 106.2
160RIU644	160RIN644	160RIJ644	160RIF644	160RIT644	406.400 16.0000	603.250 23.7500	82.550 3.2500	5.0 0.20	444 17.5	565 22.2	2800 630000	1700 380000	0.211	440	500	86.4 190.4
160RIU645	160RIN645	160RIJ645	160RIF645	160RIT645	406.400 16.0000	603.250 23.7500	123.820 4.8750	5.0 0.20	442 17.4	568 22.3	5000 1120000	2600 600000	0.243	410	450	129.4 285.4
165RIU662	165RIN662	165RIJ662	165RIF662	165RIT662	419.100 16.5000	622.300 24.5000	127.000 5.0000	5.0 0.20	456 18.0	585 23.0	5400 1200000	2900 655000	0.247	390	420	141.0 310.9
170RIU663	170RIN663	170RIJ663	170RIF663	170RIT663	431.800 17.0000	584.200 23.0000	76.200 3.0000	6.0 0.24	460 18.1	556 21.9	3000 670000	1560 355000	0.223	410	460	61.4 135.4
170RIU664	170RIN664	170RIJ664	170RIF664	170RIT664	431.800 17.0000	635.000 25.0000	88.900 3.5000	6.0 0.24	470 18.5	597 23.5	3450 780000	2040 455000	0.226	400	450	101.2 223.2
440RU30	440RN30	440RJ30	440RF30	440RT30	440.000 17.3228	650.000 25.5906	157.000 6.1811	5.0 0.20	476 18.8	613 24.1	7350 1660000	3650 830000	0.274	350	370	189.4 417.5
180RIU683	180RIN683	180RIJ683	180RIF683	180RIT683	457.200 18.0000	685.800 27.0000	88.900 3.5000	6.0 0.24	500 19.7	643 25.3	3450 780000	2160 480000	0.229	370	420	122.5 270.1
180RIU684	180RIN684	180RIJ684	180RIF684	180RIT684	457.200 18.0000	685.800 27.0000	139.700 5.5000	6.0 0.24	500 19.7	643 25.3	6300 1430000	3400 765000	0.265	350	380	192.2 423.8
460RU30	460RN30	460RJ30	460RF30	460RT30	460.000 18.1102	680.000 26.7717	163.000 6.4173	5.0 0.20	498 19.6	641 25.2	8000 1800000	4000 900000	0.283	330	350	215.6 475.2
185RIU696	185RIN696	185RIJ696	185RIF696	185RIT696	469.900 18.5000	698.500 27.5000	88.900 5.5000	6.0 0.24	513 20.2	656 25.8	6550 1500000	3550 800000	0.266	260	280	125.5 434.6
480RU30	480RN30	480RJ30	480RF30	480RT30	480.000 18.8976	700.000 27.5591	165.000 6.4961	5.0 0.20	518 20.4	660 26.0	8150 1830000	4000 900000	0.294	320	340	225.6 497.4
500RU30	500RN30	500RJ30	500RF30	500RT30	500.000 19.6850	720.000 28.3465	167.000 6.5748	5.0 0.20	540 21.2	680 26.8	8300 1900000	4150 930000	0.296	310	330	235.3 518.7
530RU30	530RN30	530RJ30	530RF30	530RT30	530.000 20.8661	780.000 30.7087	185.000 7.2835	5.0 0.20	578 22.8	730 28.8	10600 2360000	5100 1140000	0.320	260	280	321.7 709.2
210RIU728	210RIN728	210RIJ728	210RIF728	210RIT728	533.400 21.0000	787.400 31.0000	161.920 6.3750	6.0 0.24	579 22.8	742 29.2	8500 1900000	4300 965000	0.302	280	300	288.5 636.0
220RIU744	220RIN744	220RIJ744	220RIF744	220RIT744	558.800 22.0000	711.200 28.0000	111.120 4.3750	5.0 0.20	587 23.1	683 26.9	5700 1290000	2450 550000	0.292	300	330	112.2 247.3
560RU30	560RN30	560RJ30	560RF30	560RT30	560.000 22.0472	820.000 32.2835	195.000 7.6772	5.0 0.20	607 23.9	773 30.4	11400 2550000	5500 1250000	0.324	250	270	369.7 815.0
600RU30	600RN30	600RJ30	600RF30	600RT30	600.000 23.6220	870.000 34.2520	200.000 7.8740	5.0 0.20	650 25.6	820 32.3	12500 2800000	6000 1340000	0.341	230	240	420.3 926.7
260RIU802	260RIN802	260RIJ802	260RIF802	260RIT802	660.400 26.0000	958.850 37.7500	127.000 5.0000	6.0 0.24	716 28.2	903 35.6	7200 1630000	4000 900000		230	260	326.6 720.1
275RIU808	275RIN808	275RIJ808	275RIF808	275RIT808	698.500 27.5000	1016.000 40.0000	133.350 5.2500	6.0 0.24	757 29.8	957 37.7	8300 1860000	4550 1040000	0.325	210	230	385.7 850.3

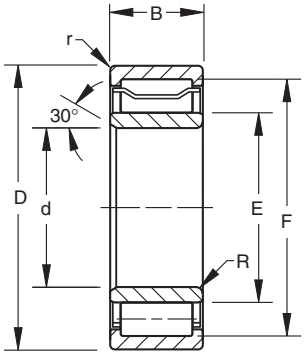
(1) Maximum shaft or housing fillet radius that bearing corners will clear.

5200, A5200 METRIC SERIES

- Ring tolerances are found on page B348.
- Life and load calculations are found in the engineering section of this catalog.
- Shaft and housing fits, tolerances and shaft diameters are found on pages B347 and B348.

IN THE BEARING NUMBER

W = double ribbed outer ring.
S = stamped steel land-riding cage.
M = machined brass land-riding cage.



Outer Ring & Roller Assembly		Inner* Ring		Complete Bearing
	+		=	
52XX-WS		A-52XX		A-52XX-WS

*** Inner ring can be ordered separately**

Bearing Number	d Bore	D O.D.	B Width	Max. Fillet Radius R Shaft	Max. Fillet Radius r Housing	Backing Diameter Shaft E	Backing Diameter Housing F	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Ratings C	Lubrication Factor Cg	Reference Speed Grease	Thermal Rating Oil	Weight
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
A-5220-WS	**100** 3.9370	**180** 7.0866	**60.325** 2.3750	**4.0** 0.16	**2.0** 0.08	**118** 4.6	**167** 6.6	**489** 110000	**387** 87000	**0.112**	**2600**	**3100**	**7.2** 15.9
A-5222-WS	**110** 4.3307	**200** 7.8740	**69.850** 2.7500	**4.0** 0.16	**2.0** 0.08	**130** 5.1	**186** 7.3	**645** 145000	**498** 112000	**0.124**	**2300**	**2700**	**10.4** 22.9
A-5224-WS	**120** 4.7244	**215** 8.4646	**76.200** 3.0000	**4.8** 0.19	**2.0** 0.08	**144** 5.7	**197** 7.8	**774** 174000	**574** 129000	**0.134**	**2100**	**2400**	**13.0** 28.6
A-5226-WS	**130** 5.1181	**230** 9.0551	**79.375** 3.1250	**4.8** 0.19	**2.5** 0.10	**148** 5.8	**213** 8.4	**867** 195000	**645** 145000	**0.140**	**1900**	**2200**	**15.2** 33.6
A-5228-WS	**140** 5.5118	**250** 9.8425	**82.550** 3.2500	**4.8** 0.19	**2.5** 0.10	**165** 6.5	**232** 9.1	**992** 223000	**730** 164000	**0.148**	**1700**	**1900**	**18.9** 41.7
A-5230-WS	**150** 5.9055	**270** 10.6299	**88.900** 3.5000	**6.4** 0.25	**2.5** 0.10	**179** 7.0	**252** 9.9	**1190** 268000	**872** 196000	**0.132**	**1500**	**1700**	**23.9** 52.8
A-5232-WS	**160** 6.2992	**290** 11.4173	**98.425** 3.8750	**6.4** 0.25	**2.5** 0.10	**190** 7.5	**268** 10.6	**1410** 318000	**1020** 229000	**0.141**	**1400**	**1600**	**30.8** 67.8
A-5234-WS	**170** 6.6929	**310** 12.2047	**104.775** 4.1250	**6.4** 0.25	**3.0** 0.12	**202** 7.9	**286** 11.2	**1610** 361000	**1130** 255000	**0.148**	**1300**	**1400**	**37.6** 82.9
A-5236-WS	**180** 7.0866	**320** 12.5984	**107.950** 4.2500	**6.4** 0.25	**3.0** 0.12	**211** 8.3	**298** 11.7	**1740** 392000	**1220** 274000	**0.153**	**1200**	**1300**	**40.4** 89.0
A-5238-WS	**190** 7.4803	**340** 13.3858	**114.300** 4.5000	**7.9** 0.31	**3.0** 0.12	**224** 8.8	**313** 12.3	**1940** 437000	**1350** 304000	**0.160**	**1100**	**1200**	**48.5** 107.0
A-5240-WS	**200** 7.8740	**360** 14.1732	**120.650** 4.7500	**7.9** 0.31	**3.0** 0.12	**235** 9.2	**325** 12.8	**1810** 406000	**1230** 277000	**0.165**	**1100**	**1300**	**57.6** 127.0
A-5244-WM	**220** 8.6614	**400** 15.7480	**133.350** 5.2500	**9.5** 0.38	**3.0** 0.12	**260** 10.2	**367** 14.4	**2740** 615000	**1850** 416000	**0.182**	**880**	**980**	**76.4** 175.0
A-5248-WM	**240** 9.4488	**440** 17.3228	**146.050** 5.7500	**9.5** 0.38	**3.0** 0.12	**285** 11.2	**402** 15.8	**3270** 736000	**2210** 497000	**0.195**	**780**	**860**	**106.1** 234.0

5200, A5200 METRIC SERIES SHAFT AND HOUSING FITS AND TOLERANCES

SHAFT FITS[1]

All tolerances shown in ten thousandth (.0001") and micrometers (µm).

Bearing O.D.		Bore Tolerance	Press fit Rotating Inner Ring				Slip Fit Stationary Inner Ring			
			Shaft Diameter		Fit		Shaft Diameter		Fit	
Over	Incl.	+0	min.	max.			min.	max.		
mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.
80 3.1496	**120** 4.7236	**-20** -8	**+25** +10	**+48** +19	**25T** 10T	**69T** 27T	**-23** -9	**0** 0	**23L** 9L	**20T** 8T
120 4.7236	**140** 5.5108	**-25** -10	**+30** +12	**+56** +22	**30T** 12T	**81T** 32T	**-25** -10	**0** 0	**25L** 10L	**25T** 10T
140 5.5108	**180** 7.0856	**-25** -10	**+46** +18	**+71** +28	**46T** 18T	**97T** 38T	**-25** -10	**10** 0	**25L** 10L	**25T** 10T
180 7.0856	**240** 9.4476	**-30** -12	**+51** +20	**+81** +32	**51T** 20T	**112T** 44T	**-30** -12	**0** 0	**30L** 12L	**30T** 12T

[1] When shaft is used as race surface, hardness to be Rc58 minimum and surface finish to be 15 RMS.

HOUSING FITS

All tolerances shown in ten thousandth (.0001") and micrometers (µm).

Bearing O.D.		O.D. Tolerance Inner Ring	Press fit Rotating Inner Ring				Slip Fit Stationary Inner Ring			
			Housing Diameter		Fit		Housing Diameter		Fit	
Over	Incl.	+0	min.	max.			min.	max.		
mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.
– –	**180** 7.0866	**-25** -10	**-15** -6	**+22** +8	**15T** 6T	**46L** 18L	**-56** -22	**-25** -10	**56T** 22T	**0L** 0L
180 7.0866	**200** 7.8740	**-30** -12	**-18** -7	**+18** +7	**18T** 7T	**48L** 19L	**-66** -26	**-30** -12	**66T** 26T	**0L** 0L
200 7.874	**230** 9.0551	**-30** -12	**-18** -7	**+23** +9	**18T** 7T	**53L** 21L	**-66** -26	**-30** -12	**66T** 26T	**0L** 0L
230 9.0551	**250** 9.8425	**-30** -12	**-18** -7	**+28** +11	**18T** 7T	**58L** 23L	**-66** -12	**-30** -12	**66T** 26T	**0L** 0L
250 9.8425	**270** 10.6299	**-36** -14	**-18** -7	**+28** +11	**18T** 7T	**64L** 25L	**-71** -28	**-30** -12	**71T** 28T	**5L** 2L
270 10.6299	**310** 12.2047	**-36** -14	**-18** -7	**+33** +13	**18T** 7T	**69L** 27L	**-71** -28	**-36** -14	**71T** 28T	**5L** 2L
310 12.2047	**400** 15.7480	**-41** -16	**-18** -7	**+38** +15	**18T** 7T	**79L** 31L	**-76** -30	**-36** -14	**79T** 30T	**5L** 2L
400 15.748	**440** 17.3228	**-46** -18	**-23** -9	**+41** +16	**23T** 9T	**86L** 34L	**-86** -14	**-36** -34	**86T** 34T	**10L** 4L

5200, A5200 METRIC SERIES SHAFT AND HOUSING FITS AND TOLERANCES - *continued*

RADIAL INTERNAL CLEARANCE (R6)

Bearing Bore		Radial Internal Clearance	
Over	Incl.	min.	max.
mm in.	mm in.	mm in.	mm in.
– –	100 3.937	0.127 0.005	0.183 0.0072
100 3.937	120 4.7244	0.127 0.005	0.188 0.0074
120 4.7244	140 5.5118	0.142 0.0056	0.208 0.0082
140 5.5118	170 6.6929	0.152 0.006	0.224 0.0088
170 6.6929	180 7.0866	0.152 0.006	0.229 0.009
180 7.0866	220 8.6614	0.173 0.0068	0.254 0.01
220 8.6614	240 9.4488	0.183 0.0072	0.269 0.0106

INNER RING TOLERANCES

All tolerances shown in ten thousandth (.0001") and micrometers (µm).

Bearing Bore		Bore & Inner O.D.	Width
Over	Incl.	+0	+0
mm in.	mm in.	mm in.	mm in.
80 3.1496	120 4.7244	-20 -8	-203 -80
120 4.7244	180 7.0866	-25 -10	-254 -100
180 7.0866	250 9.8425	-30 -12	-305 -120

OUTER RING TOLERANCES

All tolerances shown in ten thousandth (.0001") and micrometers (µm).

Bearing O.D.		O.D.	Diameter Under Rollers
Over	Incl.	+0	-0
mm in.	mm in.	mm in.	mm in.
150 5.9055	180 7.0866	-25 -10	+36 +14
180 7.0866	250 9.8425	-30 -12	+41 +16
250 9.8425	315 12.4016	-36 -14	+46 +18
315 12.4016	400 15.748	-41 -16	+51 +20
400 15.748	500 19.685	-46 -18	+56 +22

SHAFT DIMENSIONS - 5200 BEARINGS WITHOUT INNER RING

Bearing Number	Slip Fit Housing*		Press Fit Housing*	
	max.	min.	max.	min.
	mm in.	mm in.	mm in.	mm in.
5220 WS	121.064 4.7663	121.044 4.7655	121.036 4.7652	121.016 4.7644
5222 WS	133.007 5.2365	132.987 5.2357	132.969 5.235	132.949 5.2343
5224 WS	145.194 5.7163	145.174 5.7155	145.156 5.7148	145.136 5.714
5226 WS	155.042 6.104	155.016 6.103	155.004 6.1025	154.978 6.1015
5228 WS	168.529 6.635	168.504 6.634	168.491 6.6335	168.466 6.6325
5230 WS	181.623 7.1505	181.597 7.1495	181.587 7.149	181.559 7.148
5232 WS	193.713 7.6265	193.688 7.6255	193.675 7.625	193.65 7.624
5234 WS	205.562 8.093	205.537 8.092	205.524 8.0915	205.499 8.0905
5236 WS	216.37 8.5185	216.344 8.5175	216.319 8.5165	216.294 8.5155
5238 WS	229.032 9.017	229.001 9.0158	228.994 9.0155	228.963 9.0143
5240 WS	242.296 9.5392	242.265 9.538	242.245 9.5372	242.214 9.536
5244 WM	266.02 10.4725	265.971 10.4713	265.951 10.4705	265.92 10.4693
5248WM	291.292 11.4682	291.262 11.467	291.241 11.4662	291.211 11.465

*All shaft diameters are based on a housing bore to housing O.D. ratio of 0.7.

NCF/NU

- Single-row, full-complement cylindrical roller bearings.
- Features include integral flanges on the inner and outer rings.
- Can manage axial loads in one direction and permit small axial displacements.

Bearing Number	d Bore	D O.D.	B Width	r Fillet Rad. (max.)	Backing Diameter Shaft E	Backing Diameter Housing F	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Ratings C	Lubrication Factor Cg	Reference Speed Grease	Thermal Ratings Oil	Weight
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
NCF												
NCF1840V	**200** 7.8740	**250** 9.8425	**24** 0.9449	**1.5** 0.06	**207** 8.1	**243** 9.6	**343** 77200	**193** 43300	**0.112**	**610**	**740**	**2.5** 5.5
NCF1844V	**220** 8.6614	**270** 10.6299	**24** 0.9449	**1.5** 0.06	**227** 8.9	**263** 10.4	**377** 84800	**202** 45400	**0.119**	**550**	**670**	**2.9** 6.4
NCF2944V	**220** 8.6614	**300** 11.8110	**48** 1.8898	**2.1** 0.08	**230** 9.1	**290** 11.4	**1010** 226000	**575** 129000	**0.144**	**560**	**660**	**10.9** 24.0
NCF1852V	**260** 10.2362	**320** 12.5984	**28** 1.1024	**2.0** 0.08	**269** 10.6	**311** 12.3	**561** 126000	**297** 66700	**0.138**	**480**	**580**	**4.8** 10.6
NCF1864V	**320** 12.5984	**400** 15.7480	**38** 1.4961	**2.1** 0.08	**330** 13.0	**390** 15.3	**912** 205000	**479** 108000	**0.164**	**380**	**460**	**10.6** 23.4
NCF2964V	**320** 12.5984	**440** 17.3228	**72** 2.8346	**2.5** 0.10	**332** 13.1	**428** 16.8	**2380** 536000	**1300** 293000	**0.197**	**340**	**400**	**32.9** 72.5
NCF1876V	**380** 14.9606	**480** 18.8976	**46** 1.8110	**2.1** 0.08	**390** 15.4	**470** 18.5	**1360** 307000	**708** 159000	**0.190**	**310**	**370**	**19.1** 42.1
NCF2976V	**380** 14.9606	**520** 20.4724	**82** 3.2283	**3.0** 0.12	**395** 15.5	**505** 19.9	**3380** 759000	**1800** 405000	**0.226**	**270**	**310**	**52.9** 116.6
NCF1880V	**400** 15.7480	**500** 19.6850	**46** 1.8110	**2.1** 0.08	**410** 16.1	**490** 19.3	**1420** 319000	**722** 162000	**0.195**	**290**	**350**	**20.6** 45.4
NCF1888V	**440** 17.3228	**540** 21.2598	**46** 1.8110	**2.1** 0.08	**450** 17.7	**530** 20.9	**1560** 351000	**756** 170000	**0.208**	**260**	**310**	**22.3** 49.2
NCF1892V	**460** 18.1102	**580** 22.8346	**56** 2.2047	**2.5** 0.10	**472** 18.6	**568** 22.3	**2020** 455000	**1030** 232000	**0.220**	**250**	**290**	**34.2** 75.4
NCF18/530V	**530** 20.8661	**650** 25.5906	**56** 2.2047	**2.5** 0.10	**542** 21.4	**638** 25.1	**2320** 521000	**1100** 248000	**0.242**	**210**	**240**	**37.8** 83.3
NCF18/600V	**600** 23.6220	**730** 28.7402	**60** 2.3622	**2.5** 0.10	**612** 24.1	**718** 28.3	**2610** 587000	**1170** 263000	**0.264**	**180**	**210**	**50.2** 110.7
NCF18/630V	**630** 24.8031	**780** 30.7087	**69** 2.7165	**3.0** 0.12	**645** 25.4	**765** 30.1	**3080** 692000	**1410** 316000	**0.276**	**170**	**200**	**72.2** 159.2
NCF18/710V	**710** 27.9528	**870** 34.2520	**74** 2.9134	**3.0** 0.12	**725** 28.5	**855** 33.7	**3900** 876000	**1740** 390000	**0.304**	**150**	**170**	**91.6** 201.9
NU												
NU1036MA	**180** 7.0866	**280** 11.0236	**46** 1.8110	**2.1** 0.08	**190** 7.5	**270** 10.6	**505** 113000	**391** 88000	**0.111**	**2100**	**2600**	**10.7** 23.6
NU1040MA	**200** 7.8740	**310** 12.2047	**51** 2.0079	**2.1** 0.08	**210** 8.3	**300** 11.8	**602** 135000	**445** 100000	**0.120**	**1900**	**2300**	**14.6** 32.2
NU1052MA	**260** 10.2362	**400** 15.7480	**65** 2.5591	**3.0** 0.12	**275** 10.8	**385** 15.2	**1030** 232000	**737** 166000	**0.148**	**1400**	**1700**	**30.0** 66.1
NU1056MA	**280** 11.0236	**420** 16.5354	**65** 2.5591	**3.0** 0.12	**295** 11.6	**405** 16.0	**1080** 243000	**754** 169000	**0.154**	**1300**	**1600**	**31.9** 70.3
NU1060MA	**300** 11.8110	**460** 18.1102	**74** 2.9134	**3.0** 0.12	**315** 12.4	**445** 17.5	**1420** 319000	**1000** 225000	**0.167**	**1200**	**1400**	**45.7** 100.8
NU1064MA	**320** 12.5984	**480** 18.8976	**74** 2.9134	**3.0** 0.12	**335** 13.2	**465** 18.3	**1490** 335000	**1020** 230000	**0.173**	**1100**	**1300**	**48.1** 106.0
NU1068MA	**340** 13.3858	**520** 20.4724	**82** 3.2283	**4.0** 0.16	**358** 14.1	**502** 19.8	**1800** 404000	**1240** 279000	**0.184**	**1000**	**1200**	**64.2** 141.5
NU1080MA	**400** 15.7480	**600** 23.6220	**90** 3.5433	**4.0** 0.16	**418** 16.5	**582** 22.9	**2340** 525000	**1560** 350000	**0.206**	**830**	**970**	**91.9** 202.6
NU10/600	**600** 23.6220	**870** 34.2520	**118** 4.6457	**5.0** 0.20	**651** 25.6	**807** 31.8	**5030** 1130000	**3080** 692000	**0.283**	**490**	**560**	**239.6** 528.2