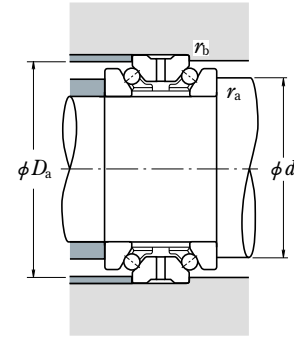
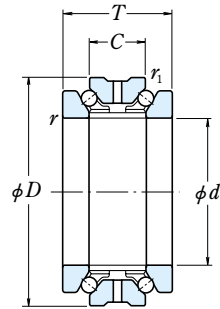


Bore Diameter 35 – 150 mm



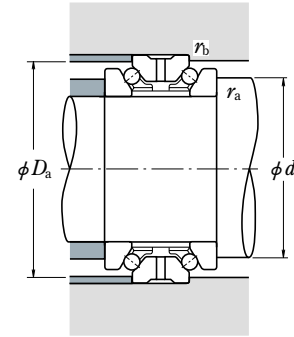
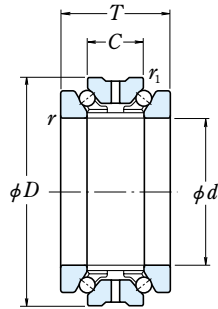
Boundary Dimensions (mm)						Basic Load Ratings				Limiting Speeds	
<i>d</i>	<i>D</i> ⁽¹⁾	<i>T</i>	<i>C</i>	<i>r</i> _{min.}	<i>r</i> _{1 min.}	(N)		(kgf)		(min ⁻¹)	
						<i>C_a</i>	<i>C_{0a}</i>	<i>C_a</i>	<i>C_{0a}</i>	Grease	Oil
35	62	34	17	1	0.6	22 800	53 500	2 330	5 450	10 000	11 000
40	68	36	18	1	0.6	23 600	59 000	2 410	6 050	9 000	10 000
45	75	38	19	1	0.6	26 300	67 500	2 680	6 900	8 000	9 000
50	80	38	19	1	0.6	27 200	74 000	2 780	7 550	7 000	8 000
55	90	44	22	1.1	0.6	33 500	94 000	3 450	9 550	6 300	6 900
60	95	44	22	1.1	0.6	35 000	102 000	3 550	10 400	5 900	6 500
65	100	44	22	1.1	0.6	36 000	110 000	3 700	11 300	5 500	6 100
70	110	48	24	1.1	0.6	49 500	146 000	5 050	14 900	5 000	5 600
75	115	48	24	1.1	0.6	50 000	152 000	5 100	15 500	4 800	5 300
80	125	54	27	1.1	0.6	59 000	181 000	6 000	18 500	4 400	4 900
85	130	54	27	1.1	0.6	59 500	189 000	6 050	19 300	4 200	4 700
90	140	60	30	1.5	1	78 500	246 000	8 000	25 100	4 000	4 400
95	145	60	30	1.5	1	79 500	256 000	8 100	26 100	3 800	4 200
100	140	48	24	1.1	0.6	55 000	196 000	5 600	20 000	3 800	4 200
	150	60	30	1.5	1	80 500	267 000	8 200	27 200	3 600	4 000
105	145	48	24	1.1	0.6	56 500	208 000	5 750	21 300	3 600	4 000
	160	66	33	2	1	91 500	305 000	9 350	31 000	3 400	3 800
110	150	48	24	1.1	0.6	57 000	215 000	5 800	21 900	3 500	3 900
	170	72	36	2	1	103 000	350 000	10 500	35 500	3 300	3 600
120	165	54	27	1.1	0.6	66 500	256 000	6 800	26 100	3 200	3 600
	180	72	36	2	1	106 000	375 000	10 800	38 000	3 000	3 400
130	180	60	30	1.5	1	79 500	315 000	8 100	32 500	3 000	3 300
	200	84	42	2	1	134 000	455 000	13 600	46 500	2 800	3 100
140	190	60	30	1.5	1	91 500	365 000	9 350	37 500	2 800	3 100
	210	84	42	2	1	145 000	525 000	14 800	53 500	2 600	2 900
150	210	72	36	2	1	116 000	465 000	11 800	47 500	2 500	2 800
	225	90	45	2.1	1.1	172 000	620 000	17 500	63 500	2 400	2 700

Note (1) Outside tolerance is f6.

Bearing Numbers	Abutment and Fillet Dimensions (mm)				Mass (kg) approx.
	<i>d_a</i>	<i>D_a</i>	<i>r_a</i> _{max.}	<i>r_b</i> _{max.}	
35 TAC 20X+L	46	58	1	0.6	0.375
40 TAC 20X+L	51	63	1	0.6	0.460
45 TAC 20X+L	57	70	1	0.6	0.580
50 TAC 20X+L	62	75	1	0.6	0.625
55 TAC 20X+L	69	84	1	0.6	0.945
60 TAC 20X+L	74	89	1	0.6	1.000
65 TAC 20X+L	79	94	1	0.6	1.080
70 TAC 20X+L	87	104	1	0.6	1.460
75 TAC 20X+L	92	109	1	0.6	1.550
80 TAC 20X+L	99	117	1	0.6	2.110
85 TAC 20X+L	104	122	1	0.6	2.210
90 TAC 20X+L	110	131	1.5	1	2.930
95 TAC 20X+L	115	136	1.5	1	3.050
100 TAC 29X+L	117	134	1	0.6	1.950
100 TAC 20X+L	120	141	1.5	1	3.200
105 TAC 29X+L	122	139	1	0.6	2.040
105 TAC 20X+L	127	150	2	1	4.100
110 TAC 29X+L	127	144	1	0.6	2.120
110 TAC 20X+L	134	158	2	1	5.150
120 TAC 29X+L	139	157	1	0.6	2.940
120 TAC 20X+L	144	168	2	1	5.500
130 TAC 29X+L	150	170	1.5	1	3.950
130 TAC 20X+L	160	187	2	1	8.200
140 TAC 29D+L	158	182	1.5	1	4.200
140 TAC 20D+L	167	198	2	1	8.750
150 TAC 29D+L	172	200	2	1	6.600
150 TAC 20D+L	178	213	2	1	10.700

Remarks Nominal bearing bore and outside diameters for 20X · 20D and 29X · 29D bearing series are the same as those for the NN30 and NNU49 · NN49 bearing series respectively.

Bore Diameter 160 – 280 mm



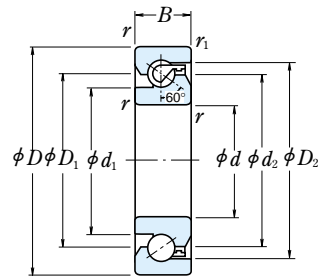
<i>d</i>	Boundary Dimensions (mm)					Basic Load Ratings (N) (kgf)				Limiting Speeds (min ⁻¹)	
	<i>D</i> ⁽¹⁾	<i>T</i>	<i>C</i>	<i>r</i> _{min.}	<i>r</i> _{1 min.}	<i>C</i> _a	<i>C</i> _{0a}	<i>C</i> _a	<i>C</i> _{0a}	Grease	Oil
160	220	72	36	2	1	118 000	490 000	12 100	50 000	2 400	2 700
	240	96	48	2.1	1.1	185 000	680 000	18 900	69 500	2 300	2 500
170	230	72	36	2	1	120 000	520 000	12 300	53 000	2 300	2 500
	260	108	54	2.1	1.1	218 000	810 000	22 200	82 500	2 100	2 400
180	250	84	42	2	1	158 000	655 000	16 100	67 000	2 100	2 400
	280	120	60	2.1	1.1	281 000	1 020 000	28 700	104 000	2 000	2 200
190	260	84	42	2	1	161 000	695 000	16 400	71 000	2 000	2 300
	290	120	60	2.1	1.1	285 000	1 060 000	29 000	108 000	1 900	2 100
200	280	96	48	2.1	1.1	204 000	855 000	20 800	87 000	1 900	2 100
	310	132	66	2.1	1.1	315 000	1 180 000	32 000	120 000	1 800	2 000
220	300	96	48	2.1	1.1	210 000	930 000	21 400	95 000	1 800	2 000
240	320	96	48	2.1	1.1	213 000	980 000	21 700	100 000	1 700	1 800
260	360	120	60	2.1	1.1	315 000	1 390 000	32 000	141 000	1 500	1 700
280	380	120	60	2.1	1.1	320 000	1 470 000	32 500	150 000	1 400	1 600

Note ⁽¹⁾ Outside tolerance is f6.

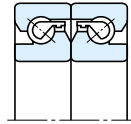
Bearing Numbers	Abutment and Fillet Dimensions (mm)				Mass (kg) approx.
	<i>d</i> _a	<i>D</i> _a	<i>r</i> _{a max.}	<i>r</i> _{b max.}	
160 TAC 29D+L	182	210	2	1	7.000
160 TAC 20D+L	191	228	2	1	13.000
170 TAC 29D+L	192	219	2	1	7.350
170 TAC 20D+L	206	245	2	1	17.700
180 TAC 29D+L	207	238	2	1	10.700
180 TAC 20D+L	220	264	2	1	23.400
190 TAC 29D+L	217	247	2	1	11.200
190 TAC 20D+L	230	274	2	1	24.400
200 TAC 29D+L	230	267	2	1	15.700
200 TAC 20D+L	245	291	2	1	31.500
220 TAC 29D+L	250	287	2	1	17.000
240 TAC 29D+L	270	307	2	1	18.300
260 TAC 29D+L	300	344	2	1	31.500
280 TAC 29D+L	320	364	2	1	33.500

Remarks Nominal bearing bore and outside diameters for **20X - 20D** and **29X - 29D** bearing series are the same as those for the **NN30** and **NNU49 - NN49** bearing series respectively.

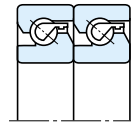
Bore Diameter 15 – 60 mm



Double-Row Combination

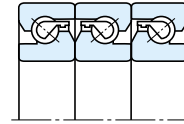


DF

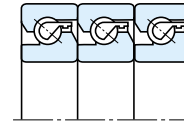


DT

Three-Row Combination

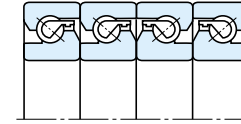


DFD

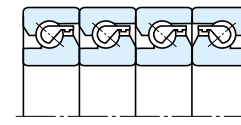


DTD

Four-Row Combination



DFF



DFT

Dynamic Equivalent Load

$$P_a = X F_r + Y F_a$$

Combination	Two Rows		Three Rows		Four Rows				
	DF	DT	DFD	DTD	DFT	DFF	DFT		
Axial Load Sustained by $e = 2.17$	One Row	Two Rows	One Row	Two Rows	Three Rows	One Row	Two Rows	Three Rows	
	X	1.9	—	1.43	2.33	—	1.17	2.33	2.53
$F_a/F_r \leq e$	X	1.9	—	1.43	2.33	—	1.17	2.33	2.53
	Y	0.55	—	0.77	0.35	—	0.89	0.35	0.26
$F_a/F_r > e$	X	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
	Y	1	1	1	1	1	1	1	1

Boundary Dimensions (mm)					Dimensions (mm)				Limiting Speeds ⁽¹⁾ (min ⁻¹)		Bearing Numbers	Mass (kg) approx.
d	D	B	r min.	r ₁ min.	d ₁	d ₂	D ₁	D ₂	Grease	Oil		
15	47	15	1	0.6	27.2	34	34	39.6	6 000	8 000	15 TAC 47B	0.144
17	47	15	1	0.6	27.2	34	34	39.6	6 000	8 000	17 TAC 47B	0.144
20	47	15	1	0.6	27.2	34	34	39.6	6 000	8 000	20 TAC 47B	0.135
25	62	15	1	0.6	37	45	45	50.7	4 500	6 000	25 TAC 62B	0.252
30	62	15	1	0.6	39.5	47	47	53.2	4 300	5 600	30 TAC 62B	0.224
35	72	15	1	0.6	47	55	55	60.7	3 600	5 000	35 TAC 72B	0.31
40	72	15	1	0.6	49	57	57	62.7	3 600	4 800	40 TAC 72B	0.275
	90	20	1	0.6	57	68	68	77.2	3 000	4 000	40 TAC 90B	0.674
45	75	15	1	0.6	54	62	62	67.7	3 200	4 300	45 TAC 75B	0.27
	100	20	1	0.6	64	75	75	84.2	2 600	3 600	45 TAC 100B	0.842
50	100	20	1	0.6	67.5	79	79	87.7	2 600	3 400	50 TAC 100B	0.778
55	100	20	1	0.6	67.5	79	79	87.7	2 600	3 400	55 TAC 100B	0.714
	120	20	1	0.6	82	93	93	102.2	2 200	3 000	55 TAC 120B	1.23
60	120	20	1	0.6	82	93	93	102.2	2 200	3 000	60 TAC 120B	1.16

Note ⁽¹⁾ These values apply when the standard preload (C10) is used.

Basic Load Ratings C _a						Limiting Axial Load					
Sustained by one row DF (N) (kgf)		Sustained by two rows DT, DFD, DFF (N) (kgf)		Sustained by three rows DTD, DFT (N) (kgf)		Sustained by one row DF (N) (kgf)		Sustained by two rows DT, DFD, DFF (N) (kgf)		Sustained by three rows DTD, DFT (N) (kgf)	
21 900	2 240	35 500	3 650	47 500	4 850	26 600	2 710	53 000	5 400	79 500	8 150
21 900	2 240	35 500	3 650	47 500	4 850	26 600	2 710	53 000	5 400	79 500	8 150
21 900	2 240	35 500	3 650	47 500	4 850	26 600	2 710	53 000	5 400	79 500	8 150
28 500	2 910	46 500	4 700	61 500	6 250	40 500	4 150	81 500	8 300	122 000	12 500
29 200	2 980	47 500	4 850	63 000	6 400	43 000	4 400	86 000	8 800	129 000	13 200
31 000	3 150	50 500	5 150	67 000	6 850	50 000	5 100	100 000	10 200	150 000	15 300
31 500	3 250	51 500	5 250	68 500	7 000	52 000	5 300	104 000	10 600	157 000	16 000
59 000	6 000	95 500	9 750	127 000	13 000	89 500	9 150	179 000	18 300	269 000	27 400
33 000	3 350	53 500	5 450	71 000	7 250	57 000	5 800	114 000	11 600	170 000	17 400
61 500	6 300	100 000	10 200	133 000	13 600	99 000	10 100	198 000	20 200	298 000	30 500
63 000	6 400	102 000	10 400	136 000	13 800	104 000	10 600	208 000	21 200	310 000	32 000
63 000	6 400	102 000	10 400	136 000	13 800	104 000	10 600	208 000	21 200	310 000	32 000
67 500	6 850	109 000	11 200	145 000	14 800	123 000	12 600	246 000	25 100	370 000	37 500
67 500	6 850	109 000	11 200	145 000	14 800	123 000	12 600	246 000	25 100	370 000	37 500