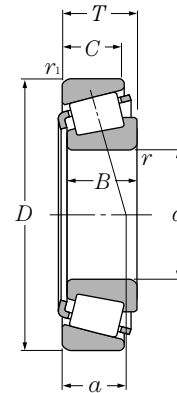


Metric system sizes

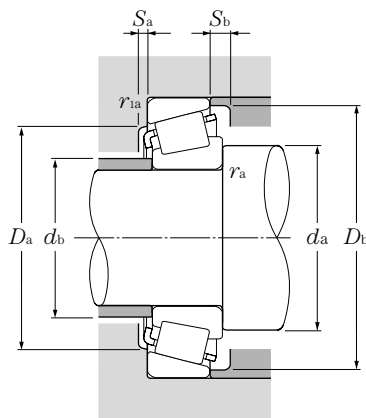


d 45 ~ 60mm

d	Boundary dimensions						Basic load ratings				Limiting speeds		Bearing numbers
	D	T	mm			dynamic	static	dynamic	static	rpm			
			B	C	$r_{s \min}$ ①	$r_{ls \min}$ ①	kN	C_{or}	kgf	C_{or}	grease	oil	
45	75	20	20	15.5	1	1	57.5	76.5	5,850	7,800	4,800	6,400	4T-32009X
	75	24	24	19	1	1	66.0	93.5	6,750	9,550	4,800	6,400	4T-33009
	80	26	26	20.5	1.5	1.5	84.5	115	8,650	11,700	4,700	6,200	4T-33109
	85	20.75	19	16	1.5	1.5	67.5	78.5	6,900	8,000	4,400	5,900	4T-30209
	85	24.75	23	19	1.5	1.5	82.0	100	8,350	10,200	4,400	5,900	4T-32209
	85	32	32	25	1.5	1.5	107	141	10,900	14,400	4,400	5,900	4T-33209
	100	27.25	25	22	2	1.5	111	126	11,300	12,800	4,000	5,300	4T-30309
	100	27.25	25	18	2	1.5	96.0	109	9,800	11,100	3,500	4,600	4T-30309D
	100	38.25	36	30	2	1.5	154	191	15,700	19,500	4,000	5,300	32309U
50	72	15	15	12	0.6	0.6	35.5	57.0	3,650	5,800	4,700	6,300	* 32910XU
	72	15	14	12	0.6	0.6	31.5	50.5	3,200	5,150	4,700	6,300	32910 [®]
	80	20	20	15.5	1	1	62.5	88.0	6,400	9,000	4,400	5,800	4T-32010X
	80	24	24	19	1	1	69.5	103	7,100	10,500	4,400	5,800	4T-33010
	85	26	26	20	1.5	1.5	86.5	121	8,850	12,400	4,200	5,600	4T-33110
	90	21.75	20	17	1.5	1.5	77.0	93.0	7,850	9,450	4,000	5,300	4T-30210
	90	24.75	23	19	1.5	1.5	87.5	109	8,900	11,100	4,000	5,300	4T-32210
	90	32	32	24.5	1.5	1.5	115	158	11,700	16,100	4,000	5,300	4T-33210
	100	36	35	30	2.5	2.5	151	190	15,400	19,400	3,800	5,100	4T-T2ED050
	105	32	29	22	3	3	107	132	10,900	13,500	3,400	4,500	4T-T7FC050
55	110	29.25	27	23	2.5	2	133	152	13,500	15,500	3,600	4,800	4T-30310
	110	29.25	27	19	2.5	2	113	130	11,600	13,300	3,200	4,200	4T-30310D
	110	42.25	40	33	2.5	2	184	232	18,700	23,600	3,600	4,800	32310U
	80	17	17	14	1	1	44.5	73.5	4,550	7,500	4,300	5,700	32911XU
	90	23	23	17.5	1.5	1.5	80.5	118	8,200	12,000	4,000	5,400	4T-32011X
	90	27	27	21	1.5	1.5	91.5	138	9,350	14,100	4,000	5,400	4T-33011
	95	30	30	23	1.5	1.5	111	155	11,300	15,800	3,900	5,200	4T-33111
	100	22.75	21	18	2	1.5	93.0	111	9,500	11,300	3,600	4,900	4T-30211
100	26.75	25	21	2	1.5	108	134	11,000	13,700	3,600	4,900	4T-32211	
60	100	35	35	27	2	1.5	138	188	14,100	19,100	3,600	4,900	4T-33211
	120	31.5	29	25	2.5	2	155	179	15,800	18,300	3,300	4,400	4T-30311
	120	31.5	29	21	2.5	2	132	154	13,500	15,700	2,900	3,800	4T-30311D
	120	45.5	43	35	2.5	2	215	275	21,900	28,000	3,300	4,400	32311U
	85	17	17	14	1	1	51.0	83.0	5,200	8,450	4,000	5,300	32912XA [®]
	95	23	23	17.5	1.5	1.5	82.0	123	8,350	12,500	3,700	4,900	4T-32012X
60	95	27	27	21	1.5	1.5	93.5	145	9,550	14,700	3,700	4,900	4T-33012
	100	30	30	23	1.5	1.5	113	164	11,600	16,700	3,600	4,700	4T-33112

① Minimal allowable dimension for chamfer dimension r or r_1 .

② This bearing does not incorporate the subunit dimensions.



Equivalent bearing load

dynamic
 $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y ₂

static

$P_{or} = 0.5F_r + Y_oF_a$

When $P_{or} < F_r$ use $P_{or} = F_r$

For values of e , Y_2 and Y_o see the table below.

Dimensions series to ISO	Abutment and fillet dimensions										Load center mm	Constant e	Axial load factors		Mass kg (approx.)		
	mm												a	e		Y_2	Y_o
	d_a min	d_b max	D_a max	D_b min	S_a min	S_b min	r_{as} max	r_{1as} max									
3CC	50.5	51	69.5	67	72	4	4.5	1	1	16.5	0.39	1.53	0.84	0.346			
2CE	50.5	51	69.5	67	71	4	5	1	1	16	0.29	2.04	1.12	0.398			
3CE	53.5	52	71.5	69	77	4	5.5	1.5	1.5	19.5	0.38	1.57	0.86	0.542			
3DB	53.5	54	76.5	74	80	3	4.5	1.5	1.5	18	0.40	1.48	0.81	0.495			
3DC	53.5	53	76.5	73	81	3	5.5	1.5	1.5	20	0.40	1.48	0.81	0.607			
3DE	53.5	52	76.5	72	81	5	7	1.5	1.5	22	0.39	1.56	0.86	0.783			
2FB	55	59	91.5	86	93	3	5	2	1.5	21	0.35	1.74	0.96	1.01			
7FB	55	56	91.5	79	96	3	9	2	1.5	32.5	0.83	0.73	0.40	0.958			
2FD	55	56	91.5	82	93	3	8	2	1.5	25.5	0.35	1.74	0.96	1.46			
2BC	54.5	55	67.5	63.5	69	3	3	0.6	0.6	13.5	0.34	1.76	0.97	0.191			
	54.5	55	67.5	63.5	69.5	3	3	0.6	0.6	14.5	0.36	1.67	0.92	0.192			
3CC	55.5	56	74.5	72	77	4	4.5	1	1	17.5	0.42	1.42	0.78	0.366			
2CE	55.5	56	74.5	72	76	4	5	1	1	17.5	0.32	1.90	1.04	0.433			
3CE	58.5	56	76.5	74	82	4	6	1.5	1.5	20.5	0.41	1.46	0.80	0.58			
3DB	58.5	58	81.5	79	85	3	4.5	1.5	1.5	19.5	0.42	1.43	0.79	0.563			
3DC	58.5	58	81.5	78	85	3	5.5	1.5	1.5	21	0.42	1.43	0.79	0.648			
3DE	58.5	57	81.5	77	87	5	7.5	1.5	1.5	23.5	0.41	1.45	0.80	0.852			
2ED	62	59	88	84	94	6	6	2	2	25.5	0.34	1.75	0.96	1.31			
7FC	64	60	91	78	100	4	10	2.5	2.5	36.5	0.87	0.69	0.38	1.23			
2FB	62	65	100	95	102	3	6	2	2	23	0.35	1.74	0.96	1.31			
7FB	62	62	100	87	105	3	10	2	2	35	0.83	0.73	0.40	1.25			
2FD	62	62	100	90	102	3	9	2	2	28.5	0.35	1.74	0.96	1.92			
2BC	60.5	60.5	74.5	70.5	76.5	3	3	1	1	14.5	0.31	1.94	1.07	0.274			
3CC	63.5	63	81.5	81	86	4	5.5	1.5	1.5	20	0.41	1.48	0.81	0.563			
2CE	63.5	63	81.5	81	86	5	6	1.5	1.5	19.5	0.31	1.92	1.06	0.643			
3CE	63.5	62	86.5	83	91	5	7	1.5	1.5	22	0.37	1.60	0.88	0.846			
3DB	65	64	91.5	88	94	4	4.5	2	1.5	21	0.40	1.48	0.81	0.74			
3DC	65	63	91.5	87	95	4	5.5	2	1.5	22.5	0.40	1.48	0.81	0.876			
3DE	65	62	91.5	85	96	6	8	2	1.5	25.5	0.40	1.50	0.83	1.15			
2FB	67	71	110	104	111	4	6.5	2	2	24.5	0.35	1.74	0.96	1.66			
7FB	67	68	110	94	113	4	10.5	2	2	38	0.83	0.73	0.40	1.59			
2FD	67	68	110	99	111	4	10.5	2	2	30.5	0.35	1.74	0.96	2.44			
	65.5	65.5	79.5	76.5	82	3	3	1	1	15.5	0.33	1.80	0.99	0.296			
4CC	68.5	67	86.5	85	91	4	5.5	1.5	1.5	21	0.43	1.39	0.77	0.576			
2CE	68.5	67	86.5	85	90	5	6	1.5	1.5	20.5	0.33	1.83	1.01	0.684			
3CE	68.5	67	91.5	88	96	5	7	1.5	1.5	23.5	0.40	1.51	0.83	0.912			

Note: When selecting bearings with bearing numbers marked with " * ", please consult NTN Engineering.