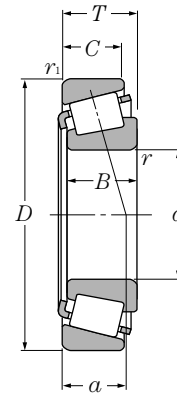


## Metric system sizes

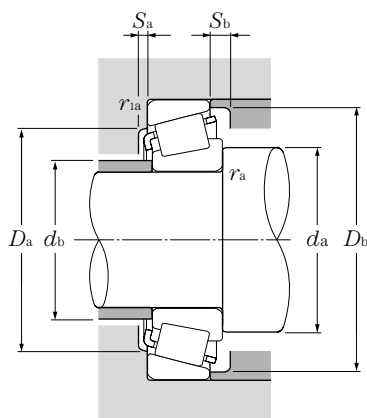


### d 95 ~ 120mm

d	Boundary dimensions						Basic load ratings				Limiting speeds		Bearing numbers
	D	T	mm			dynamic	static	dynamic	static	rpm			
			B	C	$r_{s\ min}^{\text{①}}$	$r_{ls\ min}^{\text{①}}$	$C_r$	$C_{or}$	$C_r$	$C_{or}$	grease	oil	
<b>95</b>	200	71.5	67	55	4	3	505	670	51,500	68,500	1,900	2,500	<b>32319U</b>
<b>100</b>	140	25	25	20	1.5	1.5	121	206	12,300	21,000	2,400	3,200	* 32920XU
	140	25	24	20	1.5	1.5	97.5	162	9,950	16,500	2,400	3,200	32920 <sup>®</sup>
	145	24	22.5	17.5	3	3	107	153	10,900	15,600	1,800	2,400	4T-T4CB100
	150	32	32	24	2	1.5	170	281	17,300	28,600	2,200	3,000	32020XU
	150	39	39	32.5	2	1.5	224	390	22,800	39,500	2,200	3,000	33020U
	180	37	34	29	3	2.5	258	335	26,300	34,500	2,000	2,700	30220U
	180	49	46	39	3	2.5	330	465	33,500	47,500	2,000	2,700	32220U
	215	51.5	47	39	4	3	410	500	41,500	51,000	1,800	2,400	30320U
	215	51.5	47	39	3	3	345	400	35,000	40,500	1,800	2,400	30320 <sup>®</sup>
215	56.5	51	35	4	3	355	435	36,000	44,000	1,800	2,400	31320XU	
215	77.5	73	60	4	3	570	770	58,500	78,500	1,800	2,400	32320U	
<b>105</b>	145	25	25	20	1.5	1.5	126	219	12,800	22,400	2,300	3,000	32921XA <sup>®</sup>
	160	35	35	26	2.5	2	201	335	20,500	34,000	2,100	2,800	32021XU
	160	43	43	34	2.5	2	245	420	25,000	43,000	2,100	2,800	33021U
	190	39	36	30	3	2.5	287	380	29,300	38,500	1,900	2,500	30221U
	190	53	50	43	3	2.5	380	540	38,500	55,500	1,900	2,500	32221U
	225	53.5	49	41	4	3	435	530	44,500	54,500	1,700	2,300	* 30321U
	225	53.5	49	41	3	3	365	420	37,000	43,000	1,700	2,300	30321 <sup>®</sup>
	225	58	53	36	4	3	380	470	39,000	47,500	1,700	2,300	* 31321XU
225	81.5	77	63	4	3	610	825	62,500	84,500	1,700	2,300	32321U	
<b>110</b>	150	25	25	20	1.5	1.5	127	226	13,000	23,100	2,200	2,900	32922XA <sup>®</sup>
	170	38	38	29	2.5	2	236	390	24,000	39,500	2,000	2,700	32022XU
	170	47	47	37	2.5	2	288	500	29,400	51,000	2,000	2,700	33022U
	200	41	38	32	3	2.5	325	435	33,000	44,000	1,800	2,400	30222U
	200	56	53	46	3	2.5	420	605	43,000	62,000	1,800	2,400	32222U
	240	54.5	50	42	4	3	480	590	49,000	60,000	1,600	2,200	* 30322U
	240	54.5	50	42	3	3	400	465	40,500	47,000	1,600	2,200	30322 <sup>®</sup>
	240	63	57	38	4	3	430	535	44,000	54,500	1,600	2,200	31322XU
240	84.5	80	65	4	3	705	970	72,000	98,500	1,600	2,200	* 32322U	
240	84.5	80	65	3	3	620	830	63,500	84,500	1,600	2,200	32322 <sup>®</sup>	
<b>120</b>	165	29	29	23	1.5	1.5	162	294	16,500	30,000	2,000	2,600	* 32924XU
	165	29	27	23	1.5	1.5	118	205	12,000	20,900	2,000	2,600	32924 <sup>®</sup>
	180	38	38	29	2.5	2	245	420	25,000	43,000	1,800	2,500	32024XU
	215	43.5	40	34	3	2.5	345	470	35,500	48,000	1,700	2,200	30224U

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								
2GD	113	113	186	166	186	5	16.5	3	2.5	49	0.35	1.74	0.96	10.1		
2CC	108.5	107.5	131.5	127.5	135.5	4	5	1.5	1.5	24.5	0.33	1.82	1.00	1.14		
	108.5	107.5	131.5	127.5	135.5	4	5	1.5	1.5	25	0.35	1.73	0.95	1.08		
4CB	114	109	131	130	140	4	6.5	2.5	2.5	30	0.47	1.27	0.70	1.15		
4CC	110	109	141.5	134	144	6	8	2	1.5	32.5	0.46	1.31	0.72	1.91		
2CE	110	108	141.5	135	143	7	6.5	2	1.5	29.5	0.29	2.09	1.15	2.37		
3FB	114	116	168	157	168	5	8	2.5	2	36	0.42	1.43	0.79	3.78		
3FC	114	114	168	154	171	5	10	2.5	2	41.5	0.42	1.43	0.79	5.12		
2GB	118	127	201	184	200	5	12.5	3	2.5	41.5	0.35	1.74	0.96	8.56		
	118	127	201	184	200	5	12.5	3	2.5	42	0.35	1.73	0.95	7.72		
7GB	118	121	201	168	202	7	21.5	3	2.5	69	0.83	0.73	0.40	8.67		
2GD	118	121	201	177	200	5	17.5	3	2.5	53	0.35	1.74	0.96	12.7		
	113.5	113.5	136.5	131.5	140.5	5	5	1.5	1.5	25	0.34	1.76	0.97	1.20		
4DC	117	116	150	143	154	6	9	2	2	34.5	0.44	1.35	0.74	2.42		
2DE	117	116	150	145	153	7	9	2	2	31	0.28	2.12	1.17	3.00		
3FB	119	122	178	165	178	6	9	2.5	2	38	0.42	1.43	0.79	4.39		
3FC	119	119	178	161	180	6	10	2.5	2	44	0.42	1.43	0.79	6.25		
2GB	123	132	211	193	209	6	12.5	3	2.5	43.5	0.35	1.74	0.96	9.79		
	123	132	211	193	209	6	12.5	3	2.5	43.5	0.35	1.73	0.95	8.93		
7GB	123	126	211	176	211	7	22	3	2.5	71.5	0.83	0.73	0.40	9.68		
2GD	123	128	211	185	209	6	18.5	3	2.5	55	0.35	1.74	0.96	14.5		
	118.5	117.5	141.5	137	145.5	5	5	1.5	1.5	26.5	0.36	1.69	0.93	1.23		
4DC	122	122	160	152	163	7	9	2	2	36.5	0.43	1.39	0.77	3.07		
2DE	122	121	160	152	161	7	10	2	2	33.5	0.29	2.09	1.15	3.80		
3FB	124	129	188	174	188	6	9	2.5	2	40	0.42	1.43	0.79	5.18		
3FC	124	126	188	170	190	6	10	2.5	2	47	0.42	1.43	0.79	7.43		
2GB	128	141	226	206	222	6	12.5	3	2.5	45.5	0.35	1.74	0.96	11.4		
	128	141	226	206	222	6	12.5	3	2.5	44	0.35	1.73	0.95	10.5		
7GB	128	135	226	188	224	7	25	3	2.5	76	0.83	0.73	0.40	11.9		
2GD	128	135	226	198	222	6	19.5	3	2.5	57.5	0.35	1.74	0.96	18.0		
	128	135	226	198	222	6.5	19.5	3	2.5	56	0.35	1.73	0.95	16.9		
2CC	128.5	128.5	156.5	150	160	6	6	1.5	1.5	29.5	0.35	1.72	0.95	1.77		
	128.5	130.5	156.5	147.5	159.5	6	6	1.5	1.5	31	0.37	1.60	0.88	1.63		
4DC	132	131	170	161	173	7	9	2	2	39	0.46	1.31	0.72	3.25		
4FB	134	140	203	187	203	6	9.5	2.5	2	44	0.44	1.38	0.76	6.23		

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