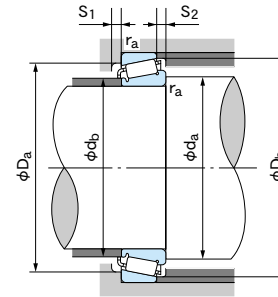
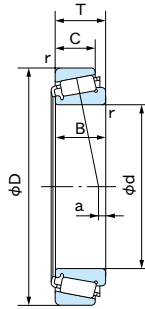


**Tapered Roller Bearings**  
**Metric Series**

Bore Diameter : 15~35mm



• Dynamic equivalent radial load  
 $P_r = XFr + YFa$

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y <sub>1</sub>
1	0	0.4	Y <sub>1</sub>

• Static equivalent radial load  
Larger value of following to be used:  
 $P_{or} = 0.5Fr + Y_0Fa$   
 $P_{or} = Fr$   
• Values e, Y<sub>1</sub>, and Y<sub>0</sub> from table.

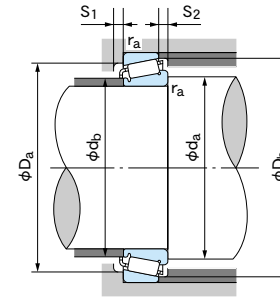
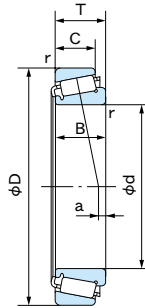
1N=0.102kgf

Boundary dimensions (mm)							Bearing No.	(Ref.) ISO355 Dimension series	Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center (mm) a (°)	Constant e	Axial load factor		Mass (kg) Reference	Bearing No.		
d	D	T	B	C	Cone r (min)	Cup r (min)					Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	S <sub>1</sub> (min)	S <sub>2</sub> (min)			Cone r <sub>a</sub> (max)	Cup r <sub>a</sub> (max)			Y <sub>1</sub>	Y <sub>0</sub>
15	35	11.75	11	10	0.6	0.6	H-E30202	—	15800	14500	11000	15000	20	20	28	33	2	2	0.6	0.6	3.4	0.32	1.88	1.04	0.053	H-E30202
	42	14.25	13	11	1	1																				
17	40	13.25	12	11	1	1	E30203J	2DB	20400	20200	10000	13000	23	22	33	36.5	2	2.5	1	1	3.4	0.35	1.74	0.96	0.070	E30203J
	40	17.25	16	13	1	1	32203	—	25400	24600	10000	13000	23	21	33	36.5	2	5	1	1	6.3	0.32	1.88	1.04	0.180	32203
	47	15.25	14	12	1	1	E30303J	2FB	30000	27600	9000	12000	23	23.5	39	42	2	5	1	1	4.8	0.29	2.11	1.16	0.130	E30303J
	47	20.25	19	16	1	1	32303	—	30500	33000	9000	12000	23	24	39	42	2	5	1	1	9.3	0.31	1.97	1.08	0.170	32303
20	42	15	15	12	0.6	0.6	E32004J	3CC	25100	28200	9200	12000	25	24	35	39	3	3.5	0.6	0.6	4.6	0.37	1.60	0.88	0.100	E32004J
	47	15.25	14	12	1	1	E30204J	2DB	29500	30500	8500	11500	26	26	39	43	2	3.5	1	1	3.9	0.35	1.74	0.95	0.120	E30204J
	47	19.25	18	15	1	1	32204	—	27500	28000	8500	11500	26	26	39	43	2	5	1	1	6.3	0.35	1.73	0.95	0.230	32204
	52	16.25	15	13	1.5	1.5	E30304J	2FB	35000	35500	8000	10700	27	27	43	47	2	5	1.5	1.5	4.7	0.30	2.00	1.10	0.170	E30304J
25	47	15	15	11.5	0.6	0.6	E32005J	4CC	28000	34000	8000	10700	30	28.5	40	44	3	3.5	0.6	0.6	3.3	0.43	1.39	0.77	0.110	E32005J
	47	17	17	14	0.6	0.6	E33005J	2CE	27500	37000	8000	10700	32	32	41	44	3	4	0.6	0.6	5.7	0.29	2.07	1.14	0.140	E33005J
	52	16.25	15	13	1	1	H-E30205J	3CC	31500	33700	7500	10000	31	30	43	48	2	3.5	1	1	3.5	0.37	1.60	0.88	0.152	H-30205J
	52	19.25	18	15	1.1	1.1	32205	—	32500	35000	7500	10000	31	30	43	48	2	5	1	1	5.4	0.37	1.60	0.88	0.180	32205
30	62	18.25	17	15	1.5	1.5	H-E30305J	2FB	48200	46900	6800	9000	33.5	34	54	57	2	3	1.5	1.5	5.4	0.30	2.00	1.10	0.265	H-E30305J
	62	18.25	17	13	1.5	1.5	H-E30305DJ	7FB	39800	42500	5700	8000	33.5	34	47	58.5	3	5	1.5	1.5	-2.2	0.83	0.73	0.40	0.267	H-E30305DJ
	62	25.25	24	20	1.5	1.5	H-E32305J	2FD	61200	64100	6900	9100	33.5	33	52	57	3	5	1.5	1.5	8.7	0.30	2.00	1.10	0.378	H-E32305J
	55	17	17	13	1	1	E32006J	4CC	37500	46500	6700	9100	36	34	48	52	3	4	1	1	3.5	0.43	1.39	0.77	0.170	E32006J
35	55	20	20	16	1	1	E33006J	2CE	39500	59500	6700	9100	38	38	48	52	3	4	1	1	6.7	0.29	2.06	1.13	0.220	E33006J
	62	17.25	16	14	1	1	E30206J	3DB	43500	48000	6200	8400	36	36.5	52	57	2	3.5	1	1	3.2	0.37	1.60	0.88	0.220	E30206J
	62	21.25	20	17	1	1	E32206J	3DC	53000	61500	6200	8400	36	35.5	52	57	2	5	1	1	5.5	0.37	1.60	0.88	0.280	E32206J
	72	20.75	19	16	1.5	1.5	H-E30306J	2FB	59600	60100	5800	7700	38.5	40	62	66	3	4.5	1.5	1.5	5.1	0.31	1.90	1.05	0.399	H-E30306J
35	72	20.75	19	14	1.5	1.5	E30306DJ	7FB	50900	54900	4900	6800	38.5	40	55	68	3	6.5	1.5	1.5	-2.9	0.83	0.73	0.04	0.395	E30306DJ
	72	28.75	27	23	1.5	1.5	H-E32306J	2FD	82200	91600	5900	7900	38.5	39	59	66	3	5.5	1.5	1.5	9.8	0.31	1.90	1.05	0.579	H-E32306J
	55	14	14	11.5	0.6	0.6	E32907J	2BD	26200	40000	6300	8500	41	41	50	52	3	4	0.6	0.6	3.2	0.29	2.06	1.13	0.130	E32907J
	62	18	18	14	1	1	E32007J	4CC	44500	57500	6000	8000	41	39	54	59	4	4	1	1	2.8	0.45	1.32	0.73	0.220	E32007J
35	62	21	21	17	1	1	E33007J	2CE	46000	71000	6000	8000	43	43	54	59	3	4	1	1	6.2	0.31	1.97	1.08	0.520	E33007J
	72	18.25	17	15	1.5	1.5	E30207J	3DB	54500	60500	5400	7200	42	42.5	61	67	3	3.5	1.5	1.5	2.8	0.37	1.60	0.88	0.320	E30207J
	72	24.25	23	19	1.5	1.5	E32207J	3DC	70000	86000	5400	7200	42	41.5	61	67	3	5.5	1.5	1.5	6.4	0.37	1.60	0.88	0.430	E32207J
	72	28	28	22	1.5	1.5	H-E33207J	2DE	86700	107000	5700	7500	43.5	42	61	68	5	6	1.5	1.5	9.6	0.35	1.70	0.93	0.542	H-E33207J
80	22.75	21	18	2	1.5	1.5	E30307J	2FB	76000	79000	5000	6700	44	43	68	74	3	6	2	1.5	5.8	0.31	1.90	1.05	0.540	E30307J
	80	22.75	21	15	2	1.5	E30307DJ	7FB	63100	69100	4300	6000	45	44	66	76.5	3	7.5	2	1.5	-4.1	0.83	0.73	0.40	0.528	E30307DJ
	80	32.75	31	25	2	1.5	E32307J	2FE	101000	114000	5300	7000	45	44	66	74	3	7.5	2	1.5	12.2	0.31	1.90	1.05	0.758	E32307J

Note: Minus value of load center indicates center is outside cone backface.

**Tapered Roller Bearings**  
**Metric Series**

Bore Diameter : 40~50mm



• Dynamic equivalent radial load  
 $Pr = XFr + YFa$

$\frac{Fa}{Fr} \leq e$		$\frac{Fa}{Fr} > e$	
X	Y	X	Y <sub>1</sub>
1	0	0.4	Y <sub>1</sub>

• Static equivalent radial load  
Larger value of following to be used:  
 $Por = 0.5Fr + YoFa$   
 $Por = Fr$   
• Values e, Y<sub>1</sub>, and Yo from table.

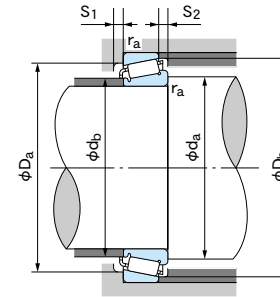
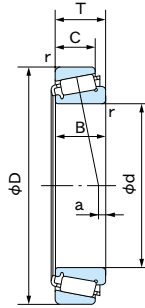
1N=0.102kgf

d	Boundary dimensions (mm)					Bearing No.	(Ref.) ISO355 Dimension series	Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center (mm) a (°)	Constant e	Axial load factor		Mass (kg) Reference	Bearing No.				
	D	T	B	C	Cone r (min)					Cup r (min)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	S <sub>1</sub> (min)			S <sub>2</sub> (min)	Cone r <sub>a</sub> (max)			Cup r <sub>a</sub> (max)	Y <sub>1</sub>	Y <sub>0</sub>	
40	62	15	15	12	0.6	0.6	E32908J	2BC	32000	46000	5600	7600	46	46	56	59	3	5	0.6	0.6	3.2	0.29	2.07	1.14	0.180	E32908J	
	68	19	19	14.5	1	1	E32008J	3CD	52500	71500	5300	7200	46	45	60	65	4	4.5	1	1	4.1	0.38	1.58	0.87	0.270	E32008J	
	68	22	22	18	1	1	E33008J	2BE	59000	82000	5300	7200	48	48	60	65	4	5	1	1	6.8	0.28	2.12	1.17	0.330	E33008J	
	75	26	26	20.5	1.5	1.5	E33108J	2CE	77500	102000	5000	6700	47	47	65	72	4	5	1.5	1.5	7.3	0.36	1.69	0.93	0.520	E33108J	
	80	19.75	18	16	1.5	1.5	E30208J	3DB	63500	70500	4800	6500	47	47.5	68	75	3	3.5	1.5	1.5	2.6	0.37	1.60	0.88	0.420	E30208J	
	80	24.75	23	19	1.5	1.5	E32208J	3DC	78000	91500	4800	6500	47	47	68	75	3	3.5	1.5	1.5	5.6	0.37	1.60	0.88	0.530	E32208J	
	80	32	32	25	1.5	1.5	H-E33208J	2DE	108000	139000	5000	6700	48.5	47	67	76	5	7	1.5	1.5	11.3	0.36	1.68	0.92	0.747	H-E33208J	
	90	25.25	23	20	2	1.5	1.5	E30308J	2FB	90600	101000	4500	6100	50	52	77	82	3	5	2	1.5	5.4	0.35	1.74	0.96	0.756	E30308J
	90	25.25	23	17	2	1.5	1.5	E30308DJ	7FB	80500	90200	3800	5300	50	51	80	86	3	8	2	1.5	-4.6	0.83	0.73	0.40	0.744	E30308DJ
	90	35.25	33	27	2	1.5	1.5	E32308J	2FD	116000	139000	4600	6200	50	50	73	82	3	8	2	1.5	10.9	0.35	1.74	0.96	1.04	E32308J
	45	68	15	15	12	0.6	0.6	E32909J	2BC	34500	57000	5100	6800	51	51	61	65	3	5	0.6	0.6	2.7	0.32	1.88	1.04	0.20	E32909J
		75	20	20	15.5	1	1	E32009J	3CC	59500	83000	4800	6500	51	50.5	67	72	4	4.5	1	1	3.6	0.39	1.53	0.84	0.34	E32009J
75		24	24	19	1	1	E33009J	2CE	64500	99000	4800	6500	53	53	66	71	4	5	1	1	7.3	0.29	2.04	1.12	0.44	E33009J	
80		26	26	20.5	1.5	1.5	E33109J	3CE	79500	108000	4600	6200	52	52	69	77	4	5	1.5	1.5	6.1	0.38	1.57	0.85	0.56	E33109J	
85		20.75	19	16	1.5	1.5	E30209J	3DB	69500	81500	4400	6000	52	52.5	73	80	3	4.5	1.5	1.5	2.3	0.40	1.48	0.81	0.47	E30209J	
85		24.75	23	19	1.5	1.5	E32209J	3DC	83500	102000	4400	6000	52	52	73	80	3	5.5	1.5	1.5	4.4	0.40	1.48	0.81	0.58	E32209J	
85		32	32	25	1.5	1.5	E33209J	3DE	112000	149000	4600	6200	53.5	52	76.5	81	5	7	1.5	1.5	10.2	0.39	1.56	0.86	0.803	E33209J	
100		27.25	25	22	2	1.5	1.5	E30309J	2FB	113000	128000	4100	5400	55	59	86	92	3	5	2	1.5	5.9	0.35	1.74	0.96	0.999	E30309J
100		27.25	25	18	2	1.5	1.5	E30309DJ	7FB	95100	107000	3400	4700	55	56	90	96	3	9	2	1.5	-5.7	0.83	0.73	0.40	0.964	E30309DJ
100		38.25	36	30	2	1.5	1.5	E32309J	2FD	146000	180000	4100	5500	55	56	82	93	3	8	2	1.5	11.4	0.35	1.74	0.96	1.40	E32309J
50		72	15	15	12	0.6	0.6	E32910J	2BC	35500	60500	4700	6300	56	56	65	69	3	5	0.6	0.6	1.5	0.34	1.76	0.97	0.21	E32910J
		80	20	20	15.5	1	1	E32010J	3CC	62000	90500	4400	6000	56	55	72	77	4	4.5	1	1	1.9	0.42	1.42	0.78	0.37	E32010J
	80	24	24	19	1	1	E33010J	2CE	67000	107000	4400	6000	56	56	72	76	4	5	1	1	6.2	0.32	1.90	1.04	0.45	E33010J	
	85	26	26	20	1.5	1.5	E33110J	3CE	84500	120000	4300	5700	56	56	74	82	5	6	1.5	1.5	4.9	0.41	1.46	0.80	0.60	E33110J	
	90	21.75	20	17	1.5	1.5	E30210J	3DB	79000	96000	4100	5500	57	56.5	78	85	3	4.5	1.5	1.5	1.9	0.42	1.43	0.79	0.53	E30210J	
	90	24.75	23	19	1.5	1.5	E32210J	3DC	88500	111000	4100	5500	57	56	78	85	3	6	1.5	1.5	3.2	0.42	1.43	0.79	0.61	E32210J	
	110	29.25	27	23	2.5	2	2	E30310J	2FB	137000	152000	3700	4900	62	65	95	102	3	6	2	2	6.4	0.35	1.74	0.96	1.29	E30310J
	110	29.25	27	19	2.5	2	2	E30310DJ	7FB	115000	133000	3100	4300	62	62	87	105	3	10	2	2	-5.8	0.83	0.73	0.40	1.24	E30310DJ
	110	42.25	40	33	2.5	2	2	E32310J	2FD	176000	220000	3700	5000	62	62	90	102	3	9	2	2	12.9	0.35	1.74	0.96	1.86	E32310J

Note: Minus value of load center indicates center is outside cone backface.

## Tapered Roller Bearings Metric Series

Bore Diameter : 55~65mm



- Dynamic equivalent radial load  
 $P_r = XFr + YFa$

$\frac{Fa}{Fr} \leq e$		$\frac{Fa}{Fr} > e$	
X	Y	X	Y <sub>1</sub>
1	0	0.4	Y <sub>1</sub>

- Static equivalent radial load  
Larger value of following to be used:  
 $P_{0r} = 0.5Fr + Y_0Fa$   
 $P_{0r} = Fr$
- Values e, Y<sub>1</sub>, and Y<sub>0</sub> from table.

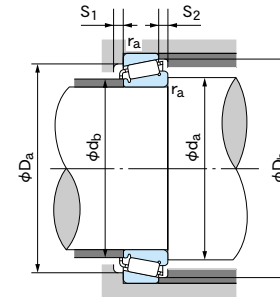
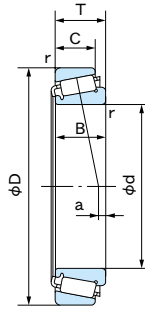
1N=0.102kgf

d	Boundary dimensions (mm)					Bearing No.	(Ref.) ISO355 Dimension series	Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)								Load center (mm) a (°)	Constant e	Axial load factor		Mass (kg) Reference	Bearing No.
	D	T	B	C	Cone r (min)					Cup r (min)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	S <sub>1</sub> (min)	S <sub>2</sub> (min)	Cone r <sub>a</sub> (max)			Cup r <sub>a</sub> (max)	Y <sub>1</sub>		
55	80	17	17	14	1	E32911J	2BC	47000	77000	4300	5700	62	62	73	76	4	6	1	1	2.3	0.31	1.94	1.07	0.31	E32911J
	90	23	23	17.5	1.5	E32011J	3CC	82500	122000	4000	5400	62	61.5	81	86	4	5.5	1.5	1.5	3.2	0.40	1.48	0.81	0.55	E32011J
	90	27	27	21	1.5	E33011J	2CE	86500	140000	4000	5400	64	64	81	86	4	6	1.5	1.5	7.3	0.31	1.92	1.06	0.70	E33011J
	95	30	30	23	1.5	E33111J	3CE	114000	161000	3800	5200	62	62	83	91	5	7	1.5	1.5	7.7	0.37	1.60	0.88	0.86	E33111J
55	100	22.75	21	18	2	E30211J	3DB	94500	113000	3700	4000	64	62.5	87	94	4	4.5	2	1.5	1.6	0.40	1.48	0.81	0.69	E30211J
	100	26.75	25	21	2	E32211J	3DC	110000	137000	3700	4000	64	62	87	94	4	6	2	1.5	3.7	0.40	1.48	0.81	0.83	E32211J
	120	31.5	29	25	2.5	E30311J	2FB	148000	170000	3300	4400	65	67	103	111	4	7	2	2	6.5	0.35	1.74	0.96	1.56	E30311J
	120	31.5	29	21	2.5	E30311DJ	7FB	129000	148000	2900	4000	67	68	94	113	4	10.5	2	2	-6.9	0.83	0.73	0.40	1.58	E30311DJ
60	120	45.5	43	35	2.5	E32311J	2FD	200000	250000	3400	4500	67	68	99	111	4	10.5	2	2	13.1	0.35	1.74	0.96	2.35	E32311J
	85	17	17	14	1	E32912J	2BC	45500	76000	4000	5400	67	67	77	81	4	6	1	1	1.2	0.33	1.81	1.00	0.33	E32912J
	95	23	23	17.5	1.5	E32012J	4CC	86100	127000	3900	5200	68.5	67	85	91	4	5.5	1.5	1.5	2.0	0.43	1.39	0.77	0.609	E32012J
	95	27	27	21	1.5	E33012J	2CE	92500	148000	3700	5000	68	68	85	90	5	6	1.5	1.5	6.5	0.33	1.83	1.01	0.73	E33012J
60	100	30	30	23	1.5	E33112J	3CE	117000	166000	3600	4900	66	66	88	97	5	7	1.5	1.5	6.5	0.40	1.51	0.83	0.94	E33112J
	110	23.75	22	19	2	E30212J	3EB	104000	123000	3400	4600	69	68.5	95	102	4	4.5	2	1.5	1.2	0.40	1.48	0.81	0.86	E30212J
	110	29.75	28	24	2	E32212J	3EC	131000	167000	3400	4600	69	67	95	102	4	6	2	1.5	4.7	0.40	1.48	0.81	1.14	E32212J
	130	33.5	31	26	3	E30312J	2FB	173000	201000	3100	4100	74	77	112	120	4	7.5	2.5	2	6.6	0.35	1.74	0.96	2.03	E30312J
65	130	33.5	31	22	3	E30312DJ	7FB	153000	179000	2600	3700	74	73	103	123	4	11.5	2.5	2	-7.3	0.83	0.73	0.40	1.99	E30312DJ
	130	48.5	46	37	3	E32312J	2FD	232000	295000	3000	4100	72	72	112	120	4	11	2.5	2	16.0	0.35	1.74	0.96	2.86	E32312J
	90	17	17	14	1	E32913J	2BC	49500	87000	3700	5000	72	72	82	86	4	6	1	1	0.0	0.35	1.70	0.93	0.36	E32913J
	100	23	23	17.5	1.5	E32013J	4CC	90000	137000	3600	4800	73.5	72	90	97	4	5.5	1.5	1.5	0.5	0.46	1.31	0.72	0.65	E32013J
65	100	27	27	21	1.5	E33013J	2CE	98000	160000	3500	4700	72	72	90	96	5	6	1.5	1.5	5.4	0.35	1.72	0.95	0.78	E33013J
	110	34	34	26.5	1.5	E33113J	3DE	152000	223000	3400	4600	73.5	73	96	106	6	7.5	1.5	1.5	8.1	0.39	1.55	0.85	1.30	E33113J
	120	24.75	23	20	2	E30213J	3EB	128000	156000	3200	4300	75	77	106	113	4	4.5	2	1.5	0.6	0.40	1.48	0.81	1.16	E30213J
	120	32.75	31	27	2	E32213J	3EC	156000	200000	3100	4200	74	74	105	112	4	6	2	1.5	5.1	0.41	1.48	0.82	1.50	E32213J
65	120	41	41	32	2	E33213J	3EE	200000	277000	3200	4300	75	74	102	115	7	9	2	1.5	11	0.39	1.54	0.85	2.01	E33213J
	140	36	33	28	3	E30313J	2GB	204000	239000	2800	3800	79	83	122	130	4	8	2.5	2	6.7	0.35	1.74	0.96	2.52	E30313J
	140	36	33	23	3	E30313DJ	7GB	176000	209000	2400	3400	79	79	111	130	4	13	2.5	2	-8.3	0.83	0.73	0.40	2.43	E30313DJ
	140	51	48	39	3	E32313J	2GD	276000	357000	2900	3900	79	80	117	130	4	12	2.5	2	16.3	0.35	1.74	0.96	3.64	E32313J

Note: Minus value of load center indicates center is outside cone backface.

**Tapered Roller Bearings**  
**Metric Series**

Bore Diameter : 70~80mm



- Dynamic equivalent radial load  
 $P_r = XFr + YFa$

$\frac{Fa}{Fr} \leq e$		$\frac{Fa}{Fr} > e$	
X	Y	X	Y <sub>1</sub>
1	0	0.4	Y <sub>1</sub>

- Static equivalent radial load  
Larger value of following to be used:  
 $P_{0r} = 0.5Fr + Y_0Fa$   
 $P_{0r} = Fr$
- Values e, Y<sub>1</sub>, and Y<sub>0</sub> from table.

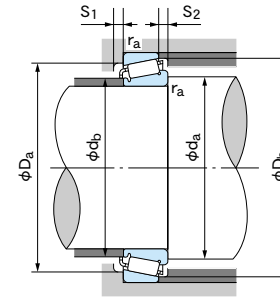
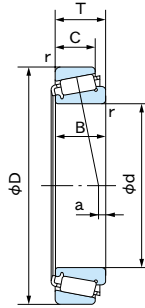
1N=0.102kgf

Boundary dimensions (mm)						Bearing No.	(Ref.) ISO355 Dimension series	Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center (mm) a (°)	Constant e	Axial load factor		Mass (kg) Reference	Bearing No.			
d	D	T	B	C	Cone r (min)					Cup r (min)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	S <sub>1</sub> (min)			S <sub>2</sub> (min)	Cone r <sub>a</sub> (max)			Cup r <sub>a</sub> (max)	Y <sub>1</sub>	Y <sub>0</sub>
70	100	20	20	16	1	1	E32914J	2BC	70500	114000	3400	4600	78	78	92	96	4	6	1	1	2.4	0.32	1.90	1.05	0.53	E32914J
	110	25	25	19	1.5	1.5	E32014J	4CC	108000	163000	3300	4400	78.5	78	98	105	5	6	1.5	1.5	1.4	0.43	1.38	0.76	0.87	E32014J
	110	31	31	25.5	1.5	1.5	E33014J	2CE	126000	198000	3200	4300	77	78	99	105	5	6	1.5	1.5	8.1	0.29	2.11	1.17	1.10	E33014J
	120	37	37	29	2	1.5	E33114J	3DE	171000	246000	3000	4100	78	78	106	116	6	7	2	1.5	8.4	0.38	1.58	1.87	1.72	E33114J
	125	26.25	24	21	2	1.5	E30214J	3EB	138000	173000	3100	4100	80	81	110	118	4	5	2	1.5	0.3	0.42	1.43	0.79	1.30	E30214J
	125	33.25	31	27	2	1.5	E32214J	3EC	157000	205000	3000	4000	79	78	108	117	4	6	2	1.5	4.5	0.42	1.43	0.79	1.61	E32214J
70	150	38	35	30	3	2.5	E30314J	2GB	230000	273000	2600	3500	84	89	130	140	4	8	2.5	2	7.5	0.35	1.74	0.96	3.05	E30314J
	150	38	35	25	3	2.5	E30314DJ	7GB	197000	235000	2300	3200	84	84	118	142	4	13	2.5	2	-9.1	0.83	0.73	0.40	2.95	E30314DJ
	150	54	51	42	3	2.5	E32314J	2GD	317000	414000	2700	3600	84	86	125	140	4	12	2.5	2	16.6	0.35	1.74	0.96	4.43	E32314J
	105	20	20	16	1	1	E32915J	2BC	72000	127000	3200	4300	82	82	97	101	5	7	1	1	1.3	0.33	1.80	0.99	0.56	E32915J
75	115	25	25	19	1.5	1.5	E32015J	4CC	110000	169000	3100	4200	83.5	83	103	110	5	6	1.5	1.5	-0.1	0.46	1.31	0.72	0.91	E32015J
	115	31	31	25.5	1.5	1.5	E33015J	2CE	129000	206000	3000	4100	82	83	104	110	6	6	1.5	1.5	7.3	0.30	2.01	1.11	1.15	E33015J
	125	37	37	29	2	1.5	E33115J	3DE	176000	260000	2900	3900	83	83	111	121	6	7	2	1.5	7.2	0.40	1.51	0.83	1.80	E33115J
	130	27.25	25	22	2	1.5	E30215J	4DB	142000	181000	2900	3900	85	86	115	124	4	5	2	1.5	-0.3	0.44	1.38	0.76	1.39	E30215J
	130	33.25	31	27	2	1.5	E32215J	4DC	165000	221000	2800	3800	84	83	113	123	4	6	2	1.5	3.4	0.44	1.38	0.76	1.70	E32215J
	160	40	37	31	3	2.5	E30315J	2GB	250000	297000	2500	3300	89	95	139	149	4	9	2.5	2	8.1	0.35	1.73	0.95	3.52	E30315J
80	110	20	20	16	1	1	E32916J	2BC	72500	130000	3000	4100	87	87	101	106	5	7	1	1	0.0	0.35	1.71	0.94	0.60	E32916J
	125	29	29	22	1.5	1.5	E32016J	3CC	147000	225000	2900	3900	88.5	89	112	120	6	7	1.5	1.5	2.3	0.42	1.42	0.78	1.29	E32016J
	125	36	36	29.5	1.5	1.5	E33016J	2CE	157000	277000	2800	3800	87	90	112	119	6	6.5	1.5	1.5	10.4	0.28	2.16	1.19	1.65	E33016J
	130	37	37	29	2	1.5	E33116J	3DE	191000	294000	2800	3800	90	89	114	126	6	8	2	1.5	6.5	0.42	1.44	0.79	1.90	E33116J
	140	28.25	26	22	2.5	2	E30216J	3EB	161000	202000	2700	3600	92	91	124	132	4	6	2	2	-0.3	0.42	1.43	0.79	1.68	E30216J
	140	35.25	33	28	2.5	2	E32216J	3EC	192000	254000	2600	3500	90	88.5	122	132	4	8	2	2	3.8	0.42	1.43	0.79	2.04	E32216J
80	170	42.5	39	33	3	2.5	30316	—	233000	263000	2300	3100	98	98	147	159	4	9	2.5	2	9.5	0.35	1.73	0.95	4.05	30316
	170	42.5	39	27	3	2.5	E30316DJ	7GB	236000	283000	2000	2800	92	93.5	132	160	5	12.5	2.5	2	-10.5	0.83	0.73	0.40	4.00	E30316DJ
	170	61.5	58	48	3	2.5	E32316J	2GD	380000	500000	2300	3100	92	96	147	159	4	13	2.5	2	19.1	0.35	1.74	0.96	6.12	E32316J

Note: Minus value of load center indicates center is outside cone backface.

**Tapered Roller Bearings**  
**Metric Series**

Bore Diameter : 85~95mm



• Dynamic equivalent radial load  
 $Pr = XFr + YFa$

$\frac{Fa}{Fr} \leq e$		$\frac{Fa}{Fr} > e$	
X	Y	X	Y <sub>1</sub>
1	0	0.4	Y <sub>1</sub>

• Static equivalent radial load  
Larger value of following to be used:  
 $Por = 0.5Fr + YoFa$   
 $Por = Fr$   
• Values e, Y<sub>1</sub>, and Yo from table.

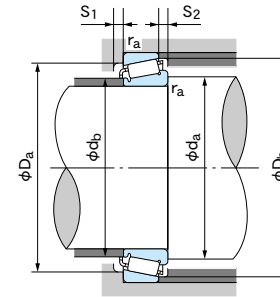
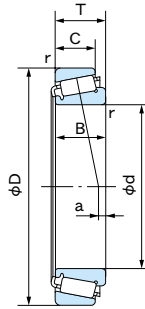
1N=0.102kgf

Boundary dimensions (mm)						Bearing No.	(Ref.) ISO355 Dimension series	Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center (mm) a (°)	Constant e	Axial load factor		Mass (kg) Reference	Bearing No.			
d	D	T	B	C	Cone r (min)					Cup r (min)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	S <sub>1</sub> (min)			S <sub>2</sub> (min)	Cone r <sub>a</sub> (max)			Cup r <sub>a</sub> (max)	Y <sub>1</sub>	Y <sub>0</sub>
85	120	23	23	18	1.5	1.5	E32917J	2BC	95000	160000	2800	3800	93	93	111	115	6	8	1.5	1.5	2.0	0.33	1.83	1.01	0.85	E32917J
	130	29	29	22	1.5	1.5	E32017J	4CC	150000	234000	2800	3700	93.5	94	117	125	6	7	1.5	1.5	1	0.44	1.36	0.75	1.36	E32017J
	130	36	36	29.5	1.5	1.5	E33017J	2CE	172000	285000	2700	3600	92	94	118	125	6	6.5	1.5	1.5	9.4	0.29	2.06	1.13	1.74	E33017J
	140	41	41	32	2.5	2.5	E33117J	3DE	215000	325000	2600	3500	95	95	122	135	7	9	2	2	7.4	0.41	1.48	0.81	2.50	E33117J
	150	30.5	28	24	2.5	2	E30217J	3EB	182000	231000	2500	3400	97	97	132	141	5	6.5	2	2	0.1	0.42	1.43	0.79	2.12	E30217J
	150	38.5	36	30	2.5	2	E32217J	3EC	212000	280000	2500	3300	95	94	130	140	5	8	2	2	4.6	0.42	1.43	0.79	2.61	E32217J
	150	49	49	37	2.5	2	E33217J	3EE	294000	439000	2500	3400	97	95	128	144	7	12	2	2	11.9	0.42	1.43	0.79	3.62	E33217J
	180	44.5	41	34	4	3	30317	—	260000	298000	2200	3000	105	103	155	167	5	10	3	2.5	9.5	0.35	1.73	0.95	4.75	30317
	180	44.5	41	28	4	3	30317D	—	237000	278000	1900	2700	102	100	141	170	6	12.5	3	2.5	-10.5	0.81	0.74	0.41	4.60	30317D
180	63.5	60	49	4	3	E32317J	2GD	410000	540000	2200	3000	99	101	155	167	5	14	3	2.5	19.9	0.35	1.74	0.96	6.80	E32317J	
90	125	23	23	18	1.5	1.5	E32918J	2BC	92500	167000	2600	3600	97	97	116	120	6	8	1.5	1.5	2.0	0.34	1.75	0.96	0.89	E32918J
	140	32	32	24	2	1.5	E32018J	3CC	178000	267000	2600	3500	100	100	125	134	6	8	2	1.5	2.2	0.42	1.42	0.78	1.76	E32018J
	140	39	39	32.5	2	2	E33018J	2CE	216000	355000	2500	3300	99	100	127	135	7	8	2	1.5	10.6	0.27	2.23	1.23	2.20	E33018J
	150	45	45	35	2.5	2	E33118J	3DE	258000	413000	2500	3300	102	100	130	144	7	10	2	2	9.6	0.40	1.51	0.83	3.13	E33118J
	160	32.5	30	26	2.5	2	E30218J	3FB	204000	261000	2400	3200	102	103	140	150	5	6.5	2	2	-0.1	0.42	1.43	0.79	2.60	E30218J
	160	42.5	40	34	2.5	2	E32218J	3FC	255000	345000	2300	3100	100	100	138	150	5	8	2	2	6.0	0.42	1.43	0.79	3.36	E32218J
190	46.5	43	36	4	3	30318	—	288000	330000	2000	2700	106	110	163	177	5	10	3	2.5	10.5	0.35	1.73	0.95	5.55	30318	
190	46.5	43	30	4	3	30318D	—	252000	297000	1800	2500	103	105	148	179	5	11	3	2.5	-10.5	0.81	0.74	0.41	5.40	30318D	
190	67.5	64	53	4	3	32318	—	395000	500000	2000	2700	105	107	160	177	4	13	3	2.5	23.5	0.35	1.73	0.95	8.05	32318	
95	130	23	23	18	1.5	1.5	E32919J	2BC	102000	181000	2500	3400	102	102	121	125	6	8	1.5	1.5	-0.2	0.36	1.68	0.92	0.88	E32919J
	145	32	32	24	2	1.5	E32019J	4CC	182000	287000	2500	3300	105	105	130	140	6	8	2	1.5	0.8	0.44	1.36	0.75	1.84	E32019J
	145	39	39	32.5	2	1.5	E33019J	2CF	226000	382000	2500	3300	105	104	131	139	7	6.5	2	1.5	11.2	0.28	2.16	1.19	2.29	E33019J
	160	49	49	38	2.5	2.5	E33119J	3EE	287000	435000	2200	3000	105	105	141	154	8	10	2	2	10.9	0.39	1.54	0.85	3.99	E33119J
	170	34.5	32	27	3	2.5	E30219J	3FB	231000	299000	2200	3000	109	110	149	159	5	7.5	2.5	2	-0.4	0.42	1.43	0.79	3.14	E30219J
	170	45.5	43	37	3	2.5	E32219J	3FC	285000	390000	2100	2900	107	106	146	158	5	10	2.5	2	6.6	0.42	1.43	0.79	4.06	E32219J
	200	49.5	45	38	4	3	30319	—	330000	390000	1900	2600	110	114	171	186	5	11	3	2.5	10.5	0.35	1.73	0.95	6.55	30319
	200	49.5	45	32	3	3	30319D	—	265000	310000	1700	2400	110	114	155	186	3	14	3	2.5	-14.4	0.81	0.74	0.41	6.45	30319D
200	71.5	67	55	4	3	32319	—	450000	585000	1900	2600	109	111	171	186	3	14	3	2.5	24.5	0.35	1.73	0.95	11.0	32319	

Note: Minus value of load center indicates center is outside cone backface.

**Tapered Roller Bearings**  
**Metric Series**

Bore Diameter : 100~110mm



• Dynamic equivalent radial load  
 $P_r = X F_r + Y F_a$

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y <sub>1</sub>
1	0	0.4	Y <sub>1</sub>

• Static equivalent radial load  
Larger value of following to be used:  
 $P_{0r} = 0.5 F_r + Y_0 F_a$   
 $P_{0r} = F_r$   
• Values e, Y<sub>1</sub>, and Y<sub>0</sub> from table.

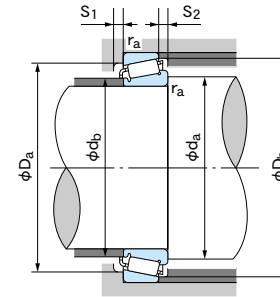
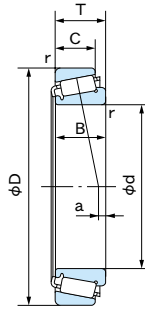
1N=0.102kgf

Boundary dimensions (mm)						Bearing No.	(Ref.) ISO355 Dimension series	Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center (mm) a (°)	Constant e	Axial load factor		Mass (kg) Reference	Bearing No.			
d	D	T	B	C	Cone r (min)					Cup r (min)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	S <sub>1</sub> (min)			S <sub>2</sub> (min)	Cone r <sub>a</sub> (max)			Cup r <sub>a</sub> (max)	Y <sub>1</sub>	Y <sub>0</sub>
100	140	25	25	20	1.5	1.5	E32920J	2CC	117000	210000	2300	3200	108	108	130	135	6	8	1.5	1.5	0.9	0.33	1.82	1.00	1.20	E32920J
	150	32	32	24	2	1.5	E32020J	4CC	185000	298000	2400	3200	110	109	134	144	6	8	2	1.5	-0.6	0.46	1.31	0.72	1.92	E32020J
	150	39	39	32.5	2	1.5	E33020J	2CE	231000	397000	2400	3200	110	108	135	143	7	6.5	2	1.5	10.4	0.29	2.09	1.15	2.39	E33020J
	165	52	52	40	2.5	2.5	E33120J	3EE	305000	485000	2100	2900	109	109	144	160	8	10	2	2	11.2	0.41	1.48	0.81	4.13	E33120J
	180	37	34	29	3	2.5	E30220J	3FB	258000	338000	2100	2800	114	116	157	168	5	8	2.5	2	0.2	0.42	1.43	0.79	3.76	E30220J
	180	49	46	39	3	2.5	E32220J	3FC	315000	465000	2000	2700	112	112	155	168	5	10	2.5	2	7.2	0.42	1.43	0.79	4.99	E32220J
	215	51.5	47	39	4	3	30320	—	365000	430000	1800	2400	118	124	183	198	5	12	3	2.5	11.5	0.35	1.73	0.95	8.00	30320
	215	51.5	47	33	3	3	30320D	—	288000	330000	1600	2200	115	119	181	200	5	13	3	2.5	-13.0	0.81	0.74	0.41	7.90	30320D
	215	77.5	73	60	4	3	32320	—	465000	670000	1800	2400	115	121	183	200	3	15	3	2.5	26.5	0.35	1.73	0.95	14.9	32320
	105	145	25	25	20	1.5	1.5	E32921J	2CC	118000	216000	2300	3000	113	113	135	140	6	8	1.5	1.5	-0.2	0.34	1.75	0.96	1.25
160		35	35	26	2.5	2	E32021J	4DC	204000	330000	2100	2900	115	113	143	154	6	9	2	2	0.8	0.44	1.35	0.76	2.42	E32021J
160		43	43	34	2.5	2	E33021J	2DE	240000	400000	2100	2900	115	116	144	153	7	9	2	2	11.7	0.28	2.12	1.17	3.05	E33021J
175		56	56	44	2.5	2	E33121J	3EE	335000	530000	2000	2700	115	116	150	169	9	11	2.5	2	12.1	0.40	1.48	0.82	5.43	E33121J
190		39	36	30	3	2.5	30221	—	247000	310000	1900	2600	117	120	163	178	6	9	2.5	2	2	0.42	1.44	0.79	4.15	30221
190		53	50	43	3	2.5	E32221J	3FC	360000	510000	1900	2600	117	118	163	178	6	10	2.5	2	7.7	0.42	1.43	0.79	5.90	E32221J
225		53.5	49	41	4	3	30321	—	380000	450000	1700	2300	125	130	193	209	6	12	3	2.5	9.4	0.35	1.73	0.95	9.30	30321
225		53.5	49	36	4	3	30321D	—	330000	395000	1400	2000	124	128	193	212	5	11	3	2.5	-15.7	0.81	0.74	0.41	9.20	30321D
225		81.5	77	63	4	3	E32321J	2GD	635000	870000	1700	2300	119	126	193	209	6	17	3	2.5	25.8	0.35	1.74	0.96	14.7	E32321J
110		150	25	25	20	1.5	1.5	E32922J	2CC	119000	220000	2200	2900	118	118	140	145	7	9	1.5	1.5	-1.6	0.36	1.69	0.93	1.29
	170	38	38	29	2.5	2	E32022J	4DC	235000	360000	2000	2700	120	119	152	163	7	9	2	2	1.5	0.43	1.39	0.77	3.06	E32022J
	170	47	47	37	2.5	2	E33022J	2DE	273000	465000	2000	2700	121	121	154	161	7	9	2	2	13	0.29	2.09	1.15	3.89	E33022J
	180	56	56	43	2.5	2	E33122J	3EE	345000	560000	1900	2600	120	121	155	174	9	13	2	2	10.8	0.42	1.43	0.79	5.55	E33122J
	200	41	38	32	3	2.5	E30222J	3FB	310000	415000	1800	2400	122	125	171	188	6	9	2.5	2	0.6	0.42	1.43	0.79	5.00	E30222J
	200	56	53	46	3	2.5	E32222J	3FC	395000	565000	1800	2400	122	124	171	188	6	10	2.5	2	8.5	0.42	1.43	0.79	6.90	E32222J
	240	54.5	50	42	4	3	30322	—	395000	460000	1600	2100	130	135	205	222	5	12	3	2.5	8.6	0.35	1.73	0.95	10.7	30322
	240	54.5	50	36	4	3	30322D	—	370000	440000	1400	1900	130	133	205	222	4	14	3	2.5	-15.1	0.81	0.74	0.41	10.4	30322D
	240	84.5	80	65	4	3	32322	—	600000	785000	1600	2100	130	135	205	222	4	15	3	2.5	28.5	0.35	1.73	0.95	16.7	32322

Note: Minus value of load center indicates center is outside cone backface.

**Tapered Roller Bearings**  
**Metric Series**

Bore Diameter : 120~150mm



• Dynamic equivalent radial load  
 $P_r = X F_r + Y F_a$

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y <sub>1</sub>
1	0	0.4	Y <sub>1</sub>

• Static equivalent radial load  
Larger value of following to be used:  
 $P_{0r} = 0.5 F_r + Y_0 F_a$   
 $P_{0r} = F_r$   
• Values e, Y<sub>1</sub>, and Y<sub>0</sub> from table.

1N=0.102kgf

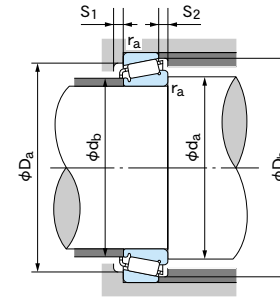
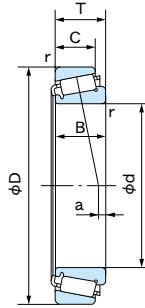
Boundary dimensions (mm)							Bearing No.	(Ref.) ISO355 Dimension series	Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)							Load center (mm) a <sup>(1)</sup>	Constant e	Axial load factor		Mass (kg) Reference	Bearing No.		
d	D	T	B	C	Cone r (min)	Cup r (min)					Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	S <sub>1</sub> (min)	S <sub>2</sub> (min)	Cone r <sub>a</sub> (max)			Cup r <sub>a</sub> (max)	Y <sub>1</sub>			Y <sub>0</sub>	
120	165	29	29	23	1.5	1.5	E32924J	2CC	149000	281000	1900	2600	127	128	154	160	7	9	1.5	1.5	-0.3	0.35	1.72	0.95	2.21	E32924J	
	180	38	38	29	2.5	2	E32024J	4DC	241000	400000	1800	2500	130	128	161	173	7	9	2	2	-1.2	0.46	1.31	0.72	3.24	E32024J	
	180	48	48	38	2.5	2	E33024J	2DE	281000	495000	1800	2500	130	132	160	171	7	10	2	2	11.8	0.31	1.97	1.08	4.20	E33024J	
	200	62	62	48	2.5	2	E33124J	3FE	435000	690000	1700	2300	131	132	172	193	9	13	2	2	13.2	0.40	1.51	0.83	7.30	E33124J	
	215	43.5	40	34	3	2.5	E30224J	4FE	325000	440000	1600	2200	132	135	184	203	6	9	2.5	2	-1.1	0.44	1.38	0.76	6.01	E30224J	
	215	61.5	58	50	3	2.5	32224	—	420000	600000	1600	2200	132	134	184	204	6	11	2.5	2	9.5	0.43	1.38	0.76	8.45	32224	
	260	59.5	55	46	4	3	30324	—	460000	545000	1400	2000	140	145	220	239	6	12	3	2.5	10.5	0.35	1.73	0.95	13.5	30324	
	260	59.5	55	37	4	3	30324D	—	405000	490000	1200	1700	140	145	220	241	5	14	3	2.5	-18.7	0.81	0.74	0.41	13.1	30324D	
	260	90.5	86	69	4	3	E32324J	4FD	815000	1140000	1400	2000	134	145	219	239	6	18	3	2.5	28	0.35	1.74	0.96	21.2	E32324J	
	130	180	32	32	25	2	1.5	E32926J	2CC	193000	350000	1800	2400	139	139	167	174	8	10	2	1.5	1.1	0.34	1.77	0.97	2.47	E32926J
		200	45	45	34	2.5	2	E32026J	4EC	315000	530000	1700	2300	140	140	178	192	8	11	2	2	1.8	0.43	1.38	0.76	3.93	E32026J
		200	55	55	43	2.5	2	E33026J	2EE	390000	720000	1700	2300	146	147	181	192	7	10	2	2	11.7	0.34	1.76	0.97	6.44	E33026J
230		43.75	40	34	4	3	30226	—	325000	425000	1500	2100	144	144	199	218	7	10	3	2.5	-1.25	0.43	1.39	0.77	6.50	30226	
230		67.75	64	54	4	3	32226	—	480000	690000	1500	2100	144	144	199	220	5	11	3	2.5	10.75	0.43	1.38	0.76	10.4	32226	
280		63.75	58	49	5	4	30326	—	535000	650000	1300	1800	148	163	239	258	6	12	4	3	9.05	0.36	1.67	0.92	16.7	30326	
280		98.75	93	78	5	4	32326	—	815000	1130000	1300	1800	148	157	238	263	3	12	4	3	28.55	0.36	1.67	0.92	25.8	32326	
140		190	32	32	25	2	1.5	E32928J	2CC	199000	370000	1700	2300	149	149	177	184	9	11	2	1.5	-1.1	0.36	1.67	0.92	2.67	E32928J
	210	45	45	34	2.5	2	E32028J	4DC	320000	540000	1600	2100	150	149	187	202	8	11	2	2	-0.8	0.46	1.31	0.72	5.23	E32028J	
	210	56	56	44	2.5	2	E33028J	2DE	345000	695000	1600	2100	155	156	190	202	7	10	2	2	11	0.36	1.67	0.92	6.88	E33028J	
	250	45.75	42	36	4	3	30228	—	370000	490000	1400	1900	154	157	215	237	10	12	3	2.5	-1.25	0.44	1.36	0.75	5.20	30228	
	250	71.75	68	58	4	3	32228	—	560000	815000	1400	1900	154	156	215	237	4	11	3	2.5	11.05	0.43	1.39	0.77	13.2	32228	
	300	67.75	62	53	5	4	30328	—	595000	730000	1300	1700	158	174	256	275	5	11	4	3	10.05	0.36	1.67	0.92	20.4	30328	
300	107.75	102	85	5	4	32328	—	980000	1430000	1300	1700	158	168	254	280	4	15	4	3	30.55	0.37	1.60	0.88	32.7	32328		
150	210	38	38	30	2.5	2	E32930J	2DC	255000	485000	1500	2100	161	161	195	202	9	11	2	2	1.5	0.33	1.83	1.01	4.10	E32930J	
	225	48	48	36	3	2.5	E32030J	4EC	370000	645000	1500	2000	162	160	200	216	8	12	2.5	2	-0.4	0.46	1.31	0.72	6.35	E32030J	
	225	59	59	46	3	2.5	E33030J	2EE	350000	800000	1500	2000	167	168	204	217	8	11	2.5	2	10.2	0.36	1.65	0.90	8.48	E33030J	
	270	49	45	38	4	3	30230	—	430000	565000	1300	1800	164	168	230	255	8	11	3	2.5	-2	0.43	1.39	0.77	10.2	30230	
	270	77	73	60	4	3	32230	—	610000	900000	1300	1800	164	168	230	255	5	14	3	2.5	13	0.43	1.38	0.76	16.8	32230	
	320	72	65	55	5	4	30330	—	680000	850000	1200	1600	168	189	275	295	6	14	4	3	10.6	0.36	1.67	0.92	24.9	30330	
	320	114	108	90	5	4	32330	—	1160000	1750000	1200	1600	168	183	268	300	5	15	4	3	32.4	0.37	1.60	0.88	38.8	32330	

Note: Minus value of load center indicates center is outside cone backface.



**Tapered Roller Bearings**  
**Metric Series**

Bore Diameter : 160~200mm



• Dynamic equivalent radial load  
Pr=XFr+YFa

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y <sub>1</sub>
1	0	0.4	Y <sub>1</sub>

• Static equivalent radial load  
Larger value of following to be used:  
Por=0.5Fr+YoFa  
Por=Fr  
• Values e, Y<sub>1</sub>, and Yo from table.

1N=0.102kgf

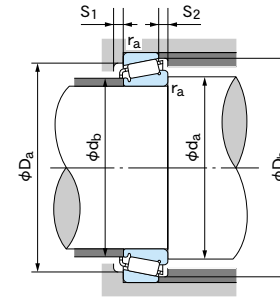
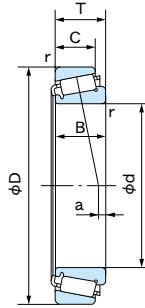
Boundary dimensions (mm)							Bearing No.	(Ref.) ISO355 Dimension series	Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)							Load center (mm) a <sup>(1)</sup>	Constant e	Axial load factor		Mass (kg) Reference	Bearing No.	
d	D	T	B	C	Cone r (min)	Cup r (min)					Grease lubrication	Oil lubrication	da (min)	db (max)	Da (min)	Db (min)	S <sub>1</sub> (min)	S <sub>2</sub> (min)	Cone ra (max)			Cup ra (max)	Y <sub>1</sub>			Y <sub>0</sub>
160	240	51	51	38	3	2.5	E32032J	4EC	425000	750000	1400	1900	171	171	213	231	10	13	2.5	2	-1.2	0.46	1.31	0.72	7.8	E32032J
	290	52	48	40	4	3	30232	—	455000	590000	1200	1600	174	184	250	275	9	12	3	2.5	-2.8	0.43	1.39	0.77	13.2	30232
	290	84	80	67	4	3	32232	—	710000	1110000	1200	1600	174	182	244	275	6	12	3	2.5	16	0.40	1.49	0.82	21.6	32232
	340	75	68	58	5	4	30332	—	785000	1020000	1100	1500	178	202	288	311	8	15	4	3	9	0.37	1.60	0.88	29.7	30332
	340	121	114	95	5	4	32332	—	1160000	1700000	1100	1500	178	197	287	315	6	18	4	3	38	0.35	1.73	0.95	47.0	32332
170	260	57	57	43	3	2.5	E32034J	4EC	505000	885000	1300	1700	182	183	230	249	8	13	2.5	2	0.9	0.44	1.35	0.74	10.4	E32034J
	310	57	52	43	5	4	30234	—	515000	715000	1100	1500	188	195	266	290	9	12	4	3	-4.8	0.46	1.31	0.72	16.5	30234
	310	91	86	71	5	4	32234	—	825000	1300000	1100	1500	188	193	264	295	6	12	4	3	17	0.40	1.49	0.82	26.9	32234
	360	80	72	62	5	4	30334	—	890000	1120000	1000	1400	188	209	307	330	8	15	4	3	13	0.35	1.73	0.95	35.4	30334
	360	127	120	100	5	4	32334	—	1210000	1780000	1000	1400	188	207	292	330	8	18	4	3	39	0.35	1.73	0.95	36.9	32334
180	280	64	64	48	3	2.5	E32036J	4EC	635000	1120000	1200	1600	196	197	247	267	11	15	2.5	2	5.2	0.42	1.42	0.78	14.4	E32036J
	320	57	52	43	5	4	30236	—	510000	675000	1100	1400	198	206	276	301	9	12	4	3	-4.1	0.44	1.35	0.74	17.2	30236
	320	91	86	71	5	4	32236	—	865000	1360000	1100	1400	198	203	272	305	6	12	4	3	15.6	0.40	1.49	0.82	28.0	32236
	380	83	75	64	5	4	30336	—	915000	1150000	950	1300	198	224	323	347	8	15	4	3	7	0.35	1.73	0.95	40.9	30336
	380	134	126	105	5	4	32336	—	1410000	2120000	950	1300	198	220	310	350	8	18	4	3	41	0.35	1.73	0.95	64.8	32336
190	290	64	64	48	3	2.5	E32038J	4FD	645000	1160000	1100	1500	207	207	257	279	11	15	2.5	2	0.8	0.44	1.36	0.75	14.6	E32038J
	340	60	55	46	5	4	30238	—	570000	795000	1000	1400	208	218	292	319	9	12	4	3	-4.2	0.40	1.49	0.82	20.9	30238
	340	97	92	75	5	4	32238	—	915000	1440000	1000	1400	208	216	290	330	6	12	4	3	15	0.46	1.31	0.72	33.9	32238
	400	86	78	65	5	5	30338	—	1010000	1330000	900	1200	212	237	339	364	8	16	5	4	11	0.37	1.60	0.88	46.9	30338
	400	140	132	109	5	5	32338	—	1530000	2310000	900	1200	212	231	327	368	8	18	5	4	42	0.35	1.73	0.95	74.8	32338
200	310	70	70	53	3	2.5	E32040J	4FD	760000	1370000	1000	1400	217	220	273	297	11	16	2.5	2	3.8	0.43	1.39	0.77	20.0	E32040J
	360	64	58	48	5	4	30240	—	635000	880000	950	1300	218	229	308	336	9	12	4	3	-2	0.40	1.49	0.82	24.8	30240
	360	104	98	82	5	4	32240	—	1070000	1720000	950	1300	218	229	307	340	6	13	4	3	20	0.40	1.49	0.82	41.0	32240
	420	89	80	67	5	5	30340	—	1090000	1450000	850	1200	222	249	356	381	8	16	5	4	11	0.37	1.60	0.88	53.4	30340
	420	146	138	115	5	5	32340	—	1670000	2540000	850	1200	222	243	343	388	8	18	5	4	44	0.35	1.73	0.95	86.0	32340

Note: Minus value of load center indicates center is outside cone backface.



**Tapered Roller Bearings**  
**Metric Series**

Bore Diameter : 220~320mm



• Dynamic equivalent radial load  
Pr=XFr+YFa

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y <sub>1</sub>
1	0	0.4	Y <sub>1</sub>

• Static equivalent radial load  
Larger value of following to be used:  
Por=0.5Fr+YoFa  
Por=Fr  
• Values e, Y<sub>1</sub>, and Yo from table.

1N=0.102kgf

Boundary dimensions (mm)							Bearing No.	(Ref.) ISO355 Dimension series	Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)							Load center (mm) a <sup>(1)</sup>	Constant e	Axial load factor		Mass (kg) Reference	Bearing No.	
d	D	T	B	C	Cone r (min)	Cup r (min)					Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	S <sub>1</sub> (min)	S <sub>2</sub> (min)	Cone r <sub>a</sub> (max)			Cup r <sub>a</sub> (max)	Y <sub>1</sub>			Y <sub>0</sub>
220	340	76	76	57	4	3	E32044J	4FD	890000	1560000	950	1300	240	240	300	326	12	17	3	2.5	3.8	0.43	1.39	0.77	24.5	E32044J
	400	72	65	54	5	4	30244	—	825000	1240000	850	1200	238	256	344	374	9	12	4	3	-9.9	0.49	1.23	0.68	34.7	30244
	400	114	108	90	5	4	32244	—	1220000	1970000	850	1200	238	250	334	375	6	13	4	3	12.1	0.49	1.23	0.68	56.0	32244
	460	97	88	73	5	5	30344	—	1310000	1780000	750	1000	242	273	391	418	10	18	5	4	12	0.37	1.60	0.88	69.6	30344
	460	154	145	122	5	5	32344	—	1920000	2930000	750	1000	242	267	375	423	10	18	5	4	43	0.35	1.73	0.95	108	32344
240	360	76	72	62	4	3	32048	—	740000	1410000	850	1200	261	260	318	346	12	19	3	2.5	2	0.39	1.55	0.85	24.9	32048
	440	79	72	60	5	4	30248	—	965000	1400000	750	1000	258	282	379	410	9	12	4	3	-6	0.46	1.31	0.72	46.4	30248
	440	127	120	100	5	4	32248	—	1600000	2560000	750	1000	258	274	373	416	6	14	4	3	21	0.43	1.39	0.77	76.0	32248
	500	105	95	80	5	5	30348	—	1510000	2060000	700	950	262	297	425	454	10	18	5	4	11	0.37	1.60	0.88	88.9	30348
	500	165	155	132	5	5	32348	—	2220000	3400000	700	950	262	292	409	409	10	18	5	4	46	0.35	1.73	0.95	137	32348
260	400	87	82	71	5	4	32052	—	1000000	1980000	800	1100	287	284	352	383	14	22	4	3	5.4	0.37	1.60	0.88	36.5	32052
	480	89	80	67	6	5	30252	—	1240000	1800000	700	950	282	302	412	446	9	16	5	4	-4	0.43	1.38	0.76	62.6	30252
	480	137	130	106	6	5	32252	—	1880000	3050000	700	950	282	298	409	453	6	15	5	4	24	0.43	1.39	0.77	98.1	32252
	540	113	102	85	6	6	30352	—	1750000	2060000	650	900	288	322	461	492	10	19	5	5	14	0.37	1.60	0.88	111	30352
	540	176	165	136	6	6	32352	—	2540000	3950000	650	900	288	315	444	444	10	24	5	5	48	0.35	1.73	0.95	187	32352
280	420	87	82	71	5	4	32056	—	1070000	2080000	750	1000	305	304	370	405	14	22	4	3	4.3	0.37	1.63	0.90	39.0	32056
	500	89	80	67	6	5	30256	—	1270000	1910000	620	820	302	323	432	467	9	16	5	4	-10	0.46	1.31	0.72	66.0	30256
	500	137	130	106	6	5	32256	—	1780000	2990000	620	820	302	320	425	475	6	15	5	4	16	0.47	1.27	0.70	103	32256
	580	119	108	90	6	6	30356	—	2010000	2790000	550	750	308	346	497	528	12	20	5	5	14	0.37	1.60	0.88	135	30356
	580	187	175	145	6	6	32356	—	2900000	4500000	550	750	308	340	479	479	12	24	5	5	50	0.35	1.73	0.95	208	32356
300	540	96	85	71	6	5	30260	—	1400000	2090000	570	780	322	347	465	500	9	20	5	4	-13	0.46	1.31	0.72	83.5	30260
	540	149	140	115	6	5	32260	—	2040000	3450000	570	780	322	343	456	510	6	15	5	4	17	0.47	1.27	0.70	132	32260
320	580	104	92	75	6	5	30264	—	1690000	2580000	530	730	342	373	500	536	9	22	5	4	-12	0.46	1.31	0.72	105	30264
	580	159	150	125	6	5	32264	—	2600000	4300000	530	730	342	363	497	550	6	16	5	4	24	0.43	1.39	0.77	164	32264

Note: Minus value of load center indicates center is outside cone backface.