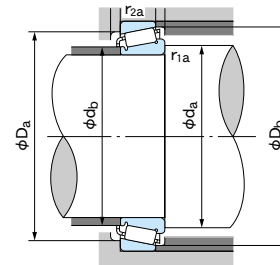
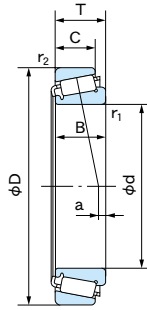


**Tapered Roller Bearings**  
**Inch Series**

Bore Diameter : 15.875~25.000mm



- 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.

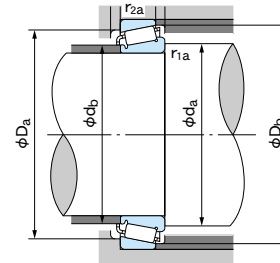
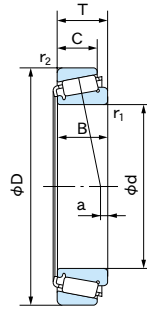
1N=0.102kgf

Boundary dimensions (mm)					Bearing No.		Basic dynamic load rating	Basic static load rating	Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center (mm)	Constant	Axial load factor		Mass (kg) Reference		Bearing No.			
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone	Cup	Cr (N)	Cor (N)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)	a (°)	e	Y <sub>1</sub>	Y <sub>0</sub>	Cone	Cup	Cone	Cup
15.875	34.988	10.998	10.998	8.712	1.3	1.3	L21549	L21511	13800	13400	11000	15000	21.5	19.5	29.0	32.5	1.3	1.3	3.3	0.32	1.9	1.0	0.033	0.019	L21549	L21511
	42.862	14.288	14.288	9.525	1.5	1.5	11590	11520	17800	17800	8500	12000	24.5	22.5	34.5	39.5	1.5	1.5	1.1	0.70	0.85	0.47	0.060	0.040	11590	11520
	42.863	14.288	14.288	9.525	1.6	1.6	H-11590	H-11520	17800	17700	8600	12000	24.5	22.5	34.5	39.5	1.6	1.6	1.2	0.70	0.85	0.47	0.060	0.041	H-11590	H-11520
16.993	39.992	12.014	11.153	9.525	0.8	1.3	A6067	A6157	14900	15700	10000	14000	22.0	21.0	34.0	37.0	0.8	1.3	1.5	0.53	1.1	0.63	0.040	0.032	A6067	A6157
17.462	39.878	13.843	14.605	10.668	1.3	1.3	▲LM11749	LM11710	23400	23000	10000	13000	23.0	21.5	34.0	37.0	1.3	1.3	5.2	0.29	2.1	1.2	0.055	0.026	▲LM11749	LM11710
17.463	39.878	13.843	14.605	10.668	1.2	1.2	H-LM11749R	H-LM11710	25400	26000	8800	12000	23.0	21.5	34.0	37.0	1.2	1.2	5.1	0.29	2.10	1.15	0.058	0.028	H-LM11749R	H-LM11710
19.050	39.992	12.014	11.153	9.525	1.0	1.3	A6075	A6157	14900	15700	10000	14000	24.0	23.0	34.0	37.0	1.0	1.3	1.5	0.53	1.1	0.63	0.037	0.032	A6075	A6157
	45.237	15.494	16.637	12.065	1.2	1.2	H-LM11949	H-LM11910	29400	30100	7800	11000	31.0	28.0	39.5	41.5	1.2	1.2	5.5	0.30	2.00	1.10	0.081	0.044	H-LM11949	H-LM11910
	45.237	15.494	16.637	12.065	1.3	1.3	▲LM11949	LM11910	29900	30500	9000	12000	25.0	23.5	39.5	41.5	1.3	1.3	5.6	0.30	2.0	1.1	0.080	0.045	▲LM11949	LM11910
	47.000	14.381	14.381	11.112	1.3	1.3	05075	05185	24900	25400	8500	11000	25.0	23.5	40.5	42.5	1.3	1.3	3.9	0.36	1.7	0.92	0.074	0.046	05075	05185
	49.225	18.034	19.050	14.288	1.2	1.2	H-09067	H-09195	37700	37700	7500	10000	25.5	24.0	42.0	44.5	1.2	1.2	7.4	0.27	2.26	1.24	0.116	0.065	H-09067	H-09195
	49.225	18.034	19.050	14.288	1.3	1.3	09067	09195	37500	37500	8500	11000	25.5	24.0	42.0	44.5	1.3	1.3	9.1	0.27	2.3	1.2	0.110	0.065	09067	09195
	49.225	21.209	19.050	17.463	1.3	1.5	09067	09196	37500	37500	8500	11000	25.5	24.0	41.5	44.5	1.3	1.5	7.3	0.27	2.3	1.2	0.110	0.085	09067	09196
	49.225	21.209	19.050	17.463	1.3	3.5	09067	09194	37500	37500	8500	11000	25.5	24.0	41.5	44.5	1.3	3.5	7.3	0.27	2.3	1.2	0.110	0.081	09067	09194
	49.225	19.845	21.539	14.288	1.3	1.3	09078	09195	37500	37500	8500	11000	25.5	24.0	42.0	44.5	1.3	1.3	9.1	0.27	2.3	1.2	0.110	0.065	09078	09195
	49.225	23.020	21.539	17.463	1.3	1.5	09078	09196	37500	37500	8500	11000	25.5	24.0	41.5	44.5	1.3	1.5	7.3	0.27	2.3	1.2	0.110	0.085	09078	09196
	49.225	23.020	21.539	17.463	1.3	3.5	09078	09194	37500	37500	8500	11000	25.5	24.0	41.5	44.5	1.3	3.5	7.3	0.27	2.3	1.2	0.110	0.081	09078	09194
	49.225	19.845	21.539	14.288	1.3	1.3	09074	09195	37500	37500	8500	11000	25.5	24.0	42.0	44.5	1.3	1.3	9.1	0.27	2.3	1.2	0.110	0.065	09074	09195
	49.225	23.020	21.539	17.463	1.3	1.5	09074	09196	37500	37500	8500	11000	25.5	24.0	41.5	44.5	1.3	1.5	7.3	0.27	2.3	1.2	0.110	0.085	09074	09196
	49.225	23.020	21.539	17.463	1.3	3.5	09074	09194	37500	37500	8500	11000	25.5	24.0	41.5	44.5	1.3	3.5	7.3	0.27	2.3	1.2	0.110	0.081	09074	09194
19.987	47.000	14.381	14.381	11.112	1.5	1.3	05079	05185	24900	25400	8500	11000	26.5	24.0	40.5	42.5	1.5	1.3	3.9	0.36	1.7	0.92	0.070	0.046	05079	05185
20.638	49.225	19.845	19.845	15.875	1.5	1.5	12580	12520	36000	37000	8000	11000	28.5	26.0	42.5	45.5	1.5	1.5	7.1	0.32	1.9	1.0	0.115	0.066	12580	12520
21.430	50.005	17.526	18.288	13.970	1.17	1.17	H-M12649	H-M12610	39100	40700	7000	10000	27.5	25.5	44.0	46.0	1.2	1.2	6.4	0.28	2.16	1.19	0.112	0.060	H-M12649	H-M12610
	50.005	17.526	18.288	13.970	1.3	1.3	▲M12649	M12610	37000	37500	8000	11000	27.5	25.5	44.0	46.0	1.3	1.3	6.4	0.28	2.2	1.2	0.110	0.059	▲M12649	M12610
22.000	45.237	15.494	16.637	12.065	1.27	1.27	H-LM12749	H-LM12710	30100	34600	7400	10000	27.5	26.0	40.0	42.5	1.2	1.2	5.5	0.31	1.96	1.08	0.078	0.038	H-LM12749	H-LM12710
	45.237	15.494	16.637	12.065	1.3	1.3	▲LM12749	LM12710	28700	33000	8500	11000	27.5	26.0	39.5	42.5	1.3	1.3	5.4	0.31	2.0	1.1	0.079	0.039	▲LM12749	LM12710
	45.975	15.494	16.637	12.065	1.27	1.27	H-LM12749	H-LM12711	30100	34600	7400	10000	27.5	26.0	40.0	42.5	1.2	1.2	5.5	0.31	1.96	1.08	0.078	0.043	H-LM12749	H-LM12711
22.225	50.005	13.495	14.260	9.525	1.3	1.0	07087	07196	26000	27700	7500	10000	28.5	27.0	44.5	47.0	1.3	1.0	2.9	0.40	1.5	0.82	0.095	0.035	07087	07196
	50.005	17.526	18.288	13.970	1.3	1.3	▲M12648	M12610	37000	37500	8000	11000	28.5	26.5	44.0	46.0	1.3	1.3	6.4	0.28	2.2	1.2	0.107	0.059	▲M12648	M12610
	51.994	15.011	14.260	12.700	1.3	1.3	07087	07204	26000	27700	7500	10000	28.5	27.0	44.5	47.0	1.3	1.3	4.4	0.40	1.5	0.82	0.094	0.060	07087	07204
	52.388	19.368	20.168	14.288	1.5	1.5	1380	1328	42500	47500	7500	10000	29.5	29.7	45.0	48.5	1.5	1.5	7.6	0.29	2.1	1.1	0.130	0.067	1380	1328
	52.388	19.368	20.168	14.288	1.6	1.6	H-1380	H-1328	36700	37900	6700	9400	29.5	29.5	45.0	48.5	1.6	1.6	7.7	0.29	2.05	1.13	0.131	0.068	H-1380	H-1328
	57.150	22.225	22.225	17.463	0.8	1.6	H-1280	H-1220	52600	55700	6300	8900	29.5	29.0	49.0	52.0	0.8	1.6	7.9	0.35	1.73	0.95	0.188	0.107	H-1280	H-1220
23.812	56.896	19.368	19.837	15.875	0.8	1.3	1779	1729	40500	44000	7100	9500	29.5	28.5	49.0	51.0	0.8	1.3	6.8	0.31	2.0	1.1	0.143	0.100	1779	1729
24.981	50.005	13.495	14.260	9.525	1.5	1.0	07098	07196	26000	27700	7500	10000	31.0	29.0	44.5	47.0	1.5	1.0	2.9	0.40	1.5	0.82	0.085	0.035	07098	07196
	51.994	15.011	14.260	12.700	1.5	1.3	07098	07204	26000	27700	7500	10000	31.0	29.0	45.0	48.0	1.5	1.3	2.9	0.40	1.5	0.82	0.085	0.060	07098	07204
25.000	50.005	13.495	14.260	9.525	1.5	1.0	07097	07196	26000	27700	7500	10000	31.0	29.0	44.5	47.0	1.5	1.0	2.9	0.40	1.5	0.82	0.096	0.035	07097	07196
	51.994	15.011	14.260	12.700	1.5	1.3	07097	07204	26000	27700	7500	10000	31.0	29.0	45.0	48.0	1.5	1.3	2.9	0.40	1.5	0.82	0.096	0.060	07097	07204

Note: 1. Minus value of load center indicates center is outside cone backface.  
2. Bearings marked (▲&▲) where tolerance of bearing bore diameter and bearing width are different. See page 226.

Tapered Roller Bearings  
Inch Series

Bore Diameter : 25.400~30.213mm



- 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
1	0	0.4	Y <sub>1</sub>

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

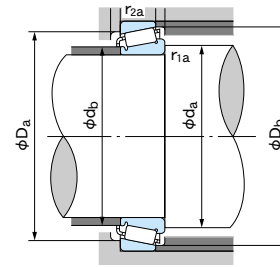
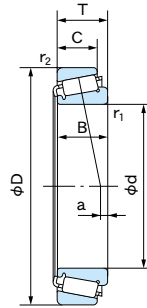
1N=0.102kgf

Boundary dimensions (mm)						Bearing No.		Basic dynamic load rating	Basic static load rating	Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center	Axial load factor		Mass (kg) Reference		Bearing No.			
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone	Cup	Cr (N)	Cor (N)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)	a (°)	e	Y <sub>1</sub>	Y <sub>o</sub>	Cone	Cup	Cone	Cup
25.400	50.005	13.495	14.260	9.525	1.0	1.0	07100	07196	26000	27700	7500	10000	30.5	29.5	44.5	47.0	1.0	1.0	2.9	0.40	1.5	0.82	0.080	0.035	07100	07196
	50.292	14.224	14.732	10.668	1.2	1.2	H-L44643R	H-L44610	31200	37000	6500	9100	31.5	29.5	44.5	47.0	1.2	1.2	3.2	0.37	1.60	0.88	0.092	0.040	H-L44643R	H-L44610
	50.292	14.224	14.732	10.668	1.3	1.3	▲L44643	L44610	28500	34000	7300	10000	31.5	29.5	44.5	47.0	1.3	1.3	3.3	0.37	1.6	0.88	0.085	0.038	▲L44643	L44610
	51.994	15.011	14.260	12.700	1.0	1.3	07100	07204	26000	27700	7500	10000	30.5	44.5	45.0	48.0	1.0	1.3	4.4	0.40	1.5	0.82	0.080	0.060	07100	07204
	62.000	19.050	20.638	14.288	0.8	1.3	15101	15245	45000	54500	6000	8000	32.5	31.5	55.0	58.0	0.8	1.3	5.8	0.35	1.7	0.94	0.215	0.080	15101	15245
	62.000	19.050	20.638	14.288	3.5	1.3	15100	15245	45000	54500	6000	8000	38.0	31.5	55.0	58.0	3.5	1.3	4.3	0.35	1.7	0.94	0.215	0.080	15100	15245
	63.500	20.638	20.638	15.875	0.8	1.3	15101	15250	45000	54500	6000	8000	32.5	31.5	56.0	58.0	0.8	1.3	7.4	0.35	1.7	0.94	0.215	0.114	15101	15250
	63.500	20.638	20.638	15.875	0.8	1.5	15101	15250X	45000	54500	6000	8000	32.5	31.5	55.0	59.0	0.8	1.5	7.4	0.35	1.7	0.94	0.215	0.114	15101	15250X
	63.500	19.050	20.638	15.875	3.5	1.3	15100	15250	45000	54500	6000	8000	38.0	31.5	56.0	58.0	3.5	1.3	4.3	0.35	1.7	0.94	0.215	0.114	15100	15250
	63.500	20.638	20.638	15.875	3.5	1.5	15100	15250X	45000	54500	6000	8000	38.0	31.5	55.0	59.0	3.5	1.5	5.8	0.35	1.7	0.94	0.215	0.114	15100	15250X
65.088	22.225	21.463	15.875	1.5	1.5	23100	23256	43000	45000	5600	8000	39.0	34.6	53.0	61.0	1.5	1.5	2.2	0.73	0.82	0.45	0.210	0.143	23100	23256	
26.988	50.292	14.224	14.732	10.668	3.5	1.3	▲L44649	L44610	28500	34000	7300	10000	37.5	31.0	44.5	47.0	3.5	1.3	3.3	0.37	1.6	0.88	0.080	0.038	▲L44649	L44610
	51.150	17.462	17.462	13.495	3.5	1.5	15580	15520	42500	49000	6700	9000	38.5	32.0	51.0	53.0	3.5	1.5	2.8	0.35	1.7	0.94	0.135	0.070	15580	15520
	62.000	19.050	20.638	14.288	0.8	1.3	15106	15245	45000	54500	6000	8000	33.5	33.0	55.0	58.0	0.8	1.3	5.8	0.35	1.7	0.94	0.205	0.080	15106	15245
28.575	57.150	19.845	19.355	15.875	3.6	1.6	H-1988R	H-1922	48800	57100	5800	8200	39.5	33.5	51.0	53.5	3.6	1.6	5.9	0.33	1.82	1.00	0.151	0.077	H-1988R	H-1922
	68.263	22.225	22.225	17.463	0.8	1.6	H-02474	H-02420	51000	61100	5000	7000	36.5	36.0	59.0	63.0	0.8	1.6	5.1	0.42	1.44	0.79	0.251	0.153	H-02474	H-02420
	73.025	22.225	22.225	17.462	0.8	3.3	02872	02820	55000	65500	5200	7000	37.5	37.0	62.0	68.0	0.8	3.3	3.8	0.45	1.3	0.73	0.313	0.158	02872	02820
	73.025	22.225	22.225	17.463	0.8	3.2	H-02872	H-02820	55000	65700	4600	6500	37.5	37.0	62.0	68.0	0.8	3.2	3.7	0.45	1.32	0.73	0.317	0.163	H-02872	H-02820
29.985	62.000	16.002	16.566	14.288	1.5	1.5	17118	17244	35000	36000	6300	8500	37.0	35.0	54.0	57.0	1.5	1.5	3.5	0.38	1.6	0.86	0.137	0.090	17118	17244
30.000	62.000	19.050	20.638	14.288	1.3	1.3	* 15117	15245	45000	54500	6000	8000	36.5	35.0	55.0	58.0	1.3	1.3	5.8	0.35	1.7	0.94	0.180	0.080	* 15117	15245
	63.500	20.638	20.638	15.875	1.3	1.3	* 15117	15250	45000	54500	6000	8000	36.5	35.0	56.0	59.0	1.3	1.3	5.8	0.35	1.7	0.94	0.180	0.114	* 15117	15250
	63.500	20.638	20.638	15.875	1.3	1.5	* 15117	15250X	45000	54500	6000	8000	36.5	35.0	55.0	59.0	1.3	1.5	5.8	0.35	1.7	0.94	0.180	0.114	* 15117	15250X
	72.085	22.385	19.202	18.415	0.8	2.4	H-14118	H-14283	46100	55000	4900	6900	52.0	43.0	54.0	62.0	0.8	2.4	4.4	0.38	1.57	0.86	0.238	0.198	H-14118	H-14283
30.162	64.292	21.433	21.433	16.670	1.5	1.5	M86649	M86610	55000	72500	6000	8000	41.0	38.2	54.0	61.0	1.5	1.5	3.3	0.55	1.1	0.60	0.210	0.125	M86649	M86610
30.163	64.292	21.433	21.433	16.670	1.57	1.57	H-M86649R	H-M86610	55200	70700	5300	7500	41.0	38.0	54.0	61.0	1.6	1.6	3.4	0.55	1.10	0.60	0.213	0.128	H-M86649R	H-M86610
30.213	62.000	19.050	20.638	14.288	0.8	1.3	15120	15245	45000	54500	6000	8000	36.0	35.5	55.0	58.0	0.8	1.3	5.8	0.35	1.7	0.94	0.183	0.080	15120	15245
	62.000	19.050	20.638	14.288	3.5	1.3	15118	15245	45000	54500	6000	8000	41.5	35.5	55.0	58.0	3.5	1.3	5.8	0.35	1.7	0.94	0.178	0.080	15118	15245
	63.500	20.638	20.638	15.875	0.8	1.3	15120	15250	45000	54500	6000	8000	36.0	35.0	56.0	58.0	0.8	1.3	7.4	0.35	1.7	0.94	0.183	0.114	15120	15250
	63.500	20.638	20.638	15.875	0.8	1.5	15120	15250X	45000	54500	6000	8000	36.0	35.0	55.0	59.0	0.8	1.5	7.4	0.35	1.7	0.94	0.183	0.114	15120	15250X
	63.500	20.638	20.638	15.875	3.5	1.3	15118	15250	45000	54500	6000	8000	41.5	35.5	56.0	58.0	3.5	1.3	7.4	0.35	1.7	0.94	0.178	0.114	15118	15250
	63.500	20.638	20.638	15.875	3.5	1.5	15118	15250X	45000	54500	6000	8000	41.5	35.5	55.0	59.0	3.5	1.5	7.4	0.35	1.7	0.94	0.178	0.114	15118	15250X

- Note:
1. Minus value of load center indicates center is outside cone backface.
  2. Bearings marked (\*) where tolerance of bearing bore or outside diameter is different. See page 226.
  3. Bearings marked (▲&▲) where tolerance of bearing bore diameter and bearing width are different. See page 226.
  4. "SP" mark on r<sub>1</sub> column means special chamfer as noticed on page 226.

# Tapered Roller Bearings Inch Series

Bore Diameter : 31.750~36.512mm



- 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>

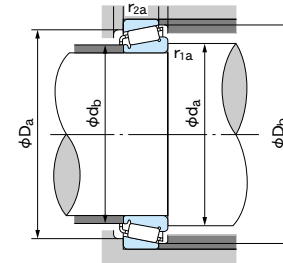
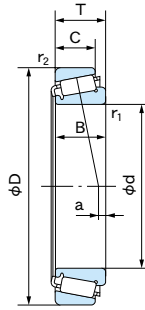
- Static equivalent radial load  
Larger value of following to be used:  
 $Por = 0.5Fr + YoFa$   
 $Por = Fr$
- Values e, Y<sub>1</sub>, and Yo from table.

1N=0.102kgf

Boundary dimensions (mm)					Bearing No.		Basic dynamic load rating	Basic static load rating	Limiting speed (rpm)		Abutment and fillet dimensions (mm)					Load center		Axial load factor		Mass (kg) Reference		Bearing No.				
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone	Cup	Cr (N)	Cor (N)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)	a (°)	e	Y <sub>1</sub>	Y <sub>0</sub>	Cone	Cup	Cone	Cup
31.750	59.131	15.875	16.764	11.811	SP	1.3	▲LM67048	LM67010	36500	43500	6000	8500	42.5	36.0	52.0	56.0	3.5	1.3	2.9	0.41	1.5	0.80	0.120	0.062	▲LM67048	LM67010
	61.999	18.161	19.050	14.288	SP	1.2	H-15123	H-15245	44600	50700	5400	7500	42.5	36.5	55.0	58.0	3.5	1.2	4.8	0.35	1.71	0.94	0.157	0.082	H-15123	H-15245
	62.000	18.161	19.050	14.288	SP	1.3	15123	15245	43500	51500	6000	8000	42.5	36.5	55.0	58.0	3.5	1.3	5.0	0.35	1.7	0.94	0.155	0.080	15123	15245
	62.000	19.050	20.638	14.288	0.8	1.3	15126	15245	45000	54500	6000	8000	37.0	36.5	55.0	58.0	0.8	1.3	5.8	0.35	1.7	0.94	0.167	0.080	15126	15245
	62.000	19.050	20.638	14.288	3.5	1.3	15125	15245	45000	54500	6000	8000	42.5	36.5	55.0	58.0	3.5	1.3	5.8	0.35	1.7	0.94	0.165	0.080	15125	15245
	63.500	20.638	19.050	15.875	SP	1.3	15123	15250	45000	54500	6000	8000	42.5	36.5	56.0	59.0	3.5	1.3	7.4	0.35	1.7	0.94	0.155	0.114	15123	15250
	63.500	20.638	19.050	15.875	SP	1.5	15123	15250X	45000	54500	6000	8000	42.5	36.5	55.0	59.0	3.5	1.5	7.4	0.35	1.7	0.94	0.155	0.114	15123	15250X
	63.500	20.638	20.638	15.875	0.8	1.3	15126	15250	45000	54500	6000	8000	37.0	36.5	56.0	59.0	0.8	1.3	7.3	0.35	1.7	0.94	0.167	0.114	15126	15250
	63.500	20.638	20.638	15.875	0.8	1.5	15126	15250X	45000	54500	6000	8000	37.0	36.5	55.0	59.0	0.8	1.5	7.3	0.35	1.7	0.94	0.167	0.114	15126	15250X
	63.500	20.638	20.638	15.875	3.5	1.3	15125	15250	45000	54500	6000	8000	42.5	36.5	56.0	59.0	3.5	1.3	7.3	0.35	1.7	0.94	0.165	0.114	15125	15250
	63.500	20.638	20.638	15.875	3.5	1.5	15125	15250X	45000	54500	6000	8000	42.5	36.5	55.0	59.0	3.5	1.5	7.3	0.35	1.7	0.94	0.165	0.114	15125	15250X
	66.421	25.400	25.357	20.638	0.8	3.2	H-2580	H-2520	71400	85100	5000	7000	38.5	37.5	57.0	62.5	0.8	3.2	9.4	0.27	2.19	1.21	0.279	0.128	H-2580	H-2520
	68.263	22.225	22.225	17.463	3.6	1.6	H-02475	H-02420	51000	61100	5000	7000	44.5	38.5	59.0	63.0	3.6	1.6	5.1	0.42	1.44	0.79	0.223	0.153	H-02475	H-02420
	69.012	19.845	19.583	15.875	3.5	1.3	14125A	14276	44500	55000	5500	7500	44.0	37.5	60.0	63.0	3.5	1.3	4.3	0.38	1.6	0.87	0.220	0.135	14125A	14276
	69.012	19.845	19.583	15.875	3.5	3.3	14125A	14274	44500	55000	5500	7500	44.0	37.5	59.0	63.0	3.5	3.3	4.3	0.38	1.6	0.87	0.220	0.130	14125A	14274
	69.850	23.812	25.357	19.050	0.8	1.2	2580	2523	70000	84000	5600	7500	38.5	37.5	61.0	64.0	0.8	1.2	8.6	0.27	2.2	1.2	0.290	0.165	2580	2523
	69.850	23.812	25.357	19.050	0.8	1.2	H-2580	H-2523	71400	85100	5000	7000	38.5	37.5	56.0	63.0	0.8	1.2	9.4	0.27	2.19	1.21	0.282	0.169	H-2580	H-2523
	33.338	68.262	22.225	22.225	17.462	0.8	1.5	M88048	M88010	56500	71500	5600	7500	42.5	41.2	58.0	65.0	0.8	1.5	2.8	0.55	1.1	0.60	0.230	0.090	M88048
68.263		22.225	22.225	17.463	0.8	1.6	H-M88048	H-M88010	56100	71100	5000	7000	42.5	41.0	58.0	65.0	0.8	1.6	3.0	0.55	1.10	0.60	0.234	0.090	H-M88048	H-M88010
69.012		19.845	19.583	15.875	0.8	1.2	H-14131	H-14276	46100	55000	4900	6900	52.0	43.0	60.0	63.0	0.8	1.2	4.4	0.38	1.57	0.86	0.201	0.136	H-14131	H-14276
69.012		19.845	19.583	15.875	3.5	1.3	14130	14276	44500	55000	5500	7500	45.0	38.5	60.0	63.0	3.5	1.3	4.3	0.38	1.6	0.87	0.210	0.135	14130	14276
69.012		19.845	19.583	15.875	3.5	3.3	14130	14274	44500	55000	5500	7500	45.0	38.5	59.0	63.0	3.5	3.3	4.3	0.38	1.6	0.87	0.210	0.130	14130	14274
34.925	65.088	18.034	18.288	13.970	SP	1.3	▲LM48548	LM48510	48500	59000	5600	7500	46.0	40.0	58.0	61.0	3.5	1.3	3.7	0.38	1.6	0.88	0.160	0.085	▲LM48548	LM48510
	69.012	19.845	19.583	15.875	1.5	1.3	14137A	14276	44500	55000	5500	7500	42.0	40.0	60.0	63.0	1.5	1.3	4.3	0.38	1.6	0.87	0.190	0.135	14137A	14276
	69.012	19.845	19.583	15.875	1.5	3.3	14137A	14274	44500	55000	5500	7500	42.0	40.0	59.0	63.0	1.5	3.3	4.3	0.38	1.6	0.87	0.190	0.130	14137A	14274
	69.012	19.845	19.583	15.875	3.5	1.3	14138A	14276	44500	55000	5500	7500	46.0	40.0	60.0	63.0	3.5	1.3	4.3	0.38	1.6	0.87	0.189	0.135	14138A	14276
	69.012	19.845	19.583	15.875	3.5	3.3	14138A	14274	44500	55000	5500	7500	46.0	40.0	59.0	63.0	3.5	3.3	4.3	0.38	1.6	0.87	0.189	0.130	14138A	14274
	69.012	19.845	19.583	15.875	3.6	1.2	H-14138A	H-14276	46100	55000	4900	6900	52.0	43.0	60.0	63.0	3.6	1.2	4.4	0.38	1.57	0.86	0.185	0.136	H-14138A	H-14276
	72.233	25.400	25.400	19.842	2.4	2.4	H-HM88649	H-HM88610	66900	87400	4700	6600	48.5	42.5	60.0	69.0	2.4	2.4	4.7	0.55	1.10	0.60	0.305	0.189	H-HM88649	H-HM88610
	73.025	23.812	24.608	19.050	1.5	0.8	25877	25821	73000	88500	5200	7100	47.0	40.5	64.0	68.0	1.5	0.8	8.1	0.29	2.1	1.1	0.310	0.167	25877	25821
	73.025	23.812	24.608	19.050	1.6	0.8	H-25877R	H-25821	72200	87300	4600	6500	43.0	40.5	65.0	68.0	1.6	0.8	8.2	0.29	2.07	1.14	0.309	0.167	H-25877R	H-25821
	76.200	29.370	28.575	23.812	1.5	3.3	31594	31520	80000	96000	5000	6800	46.0	43.5	64.0	72.0	1.5	3.3	7.7	0.40	1.5	0.82	0.400	0.230	31594	31520
76.200	29.370	28.575	23.813	3.6	3.3	H-31593	H-31520	80900	97400	4500	6300	55.0	45.0	64.0	72.0	3.6	3.2	7.8	0.40	1.49	0.82	0.363	0.238	H-31593	H-31520	
80.167	29.370	30.391	23.813	3.6	3.2	3379	3320	91000	106000	4200	5900	59.0	48.0	66.0	75.0	3.6	3.2	10.7	0.27	2.20	1.21	0.503	0.220	3379	3320	
34.987	59.131	15.875	16.764	11.938	SP	1.27	H-L68149	H-L68110	35700	48500	5300	7500	45.5	39.0	53.0	56.0	3.5	1.2	2.7	0.42	1.44	0.79	0.112	0.057	H-L68149	H-L68110
	59.975	15.875	16.764	11.938	SP	1.27	H-L68149	H-L68111	35700	48500	5300	7500	45.5	39.0	53.0	56.0	3.5	1.2	2.7	0.42	1.44	0.79	0.112	0.064	H-L68149	H-L68111
35.000	59.131	15.875	16.764	11.938	SP	1.3	■L68149	L68110	34000	46000	6000	8000	45.5	39.0	52.0	56.0	3.5	1.3	2.5	0.42	1.4	0.79	0.110	0.055	■L68149	L68110
36.487	73.025	23.812	24.608	19.050	1.5	0.8	25880	25821	73000	88500	5200	7100	44.0	42.0	65.0	68.0	1.5	0.8	8.1	0.29	2.1	1.1	0.300	0.165	25880	25821
36.512	69.012	19.050	19.050	15.083	3.5	0.8	13682	13620	47000	60000	5300	7100	49.5	43.0	62.0	65.0	3.5	0.8	3.0	0.40	1.5	0.82	0.190	0.105	13682	13620
	76.200	29.370	28.575	23.020	3.5	3.3	HM89449	HM89410	79500	108000	5000	6800	54.0	44.6	62.0	73.0	3.5	3.3	5.6							

**Tapered Roller Bearings**  
**Inch Series**

Bore Diameter : 36.513~42.875mm



- 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:  
 $P_{or} = 0.5 F_r + Y_0 F_a$   
 $P_{or} = F_r$
- Values e, Y<sub>1</sub>, and Y<sub>0</sub> from table.

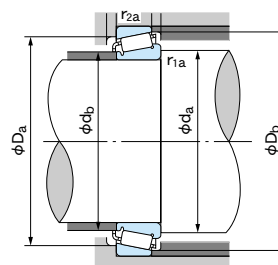
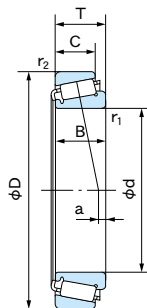
1N=0.102kgf

Boundary dimensions (mm)							Bearing No.		Basic dynamic load rating		Basic static load rating		Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center		Axial load factor		Mass (kg) Reference		Bearing No.	
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone	Cup	Cr (N)	Cor (N)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)	(mm)	Constant e	Y <sub>1</sub>	Y <sub>0</sub>	Cone	Cup	Cone	Cup		
36.513	93.663	31.750	31.750	26.195	1.6	3.2	46143	46368	105000	134000	3600	5100	68.0	56.0	72.0	86.0	1.6	3.2	7.7	0.40	1.49	0.82	0.728	0.412	46143	46368		
38.000	63.000	17.000	17.000	13.500	3.56	1.27	H-JL69349	H-JL69310	43500	58200	5000	7000	49.0	41.0	60.0	56.5	3.5	1.2	2.4	0.42	1.44	0.79	0.128	0.072	H-JL69349	H-JL69310		
38.100	63.500	12.700	11.908	9.525	1.5	0.8	13889	13830	27200	34000	5400	7300	45.0	42.5	59.0	60.0	1.5	0.8	0.8	0.35	1.7	0.95	0.108	0.045	13889	13830		
	65.088	18.034	18.288	13.970	2.3	1.3	LM29749	LM29710	45000	60000	5400	7500	46.0	42.5	59.0	62.0	2.3	1.3	4.2	0.33	1.8	0.99	0.155	0.080	LM29749	LM29710		
	65.088	18.034	18.288	13.970	2.36	1.17	H-LM29749	H-LM29710	42900	56500	4900	6800	46.0	42.5	59.0	62.0	2.4	1.2	4.3	0.33	1.80	0.99	0.158	0.080	H-LM29749	H-LM29710		
	65.088	18.034	18.288	13.970	SP	1.17	H-LM29748	H-LM29710	42900	56500	4900	6800	49.0	42.5	59.0	62.0	3.5	1.2	4.3	0.33	1.80	0.99	0.154	0.080	H-LM29748	H-LM29710		
	69.012	19.050	19.050	15.083	3.5	2.3	13685	13621	47000	60000	5300	7100	49.5	43.0	61.0	65.0	3.5	2.3	3.0	0.40	1.5	0.82	0.185	0.103	13685	13621		
	76.200	23.812	25.654	19.050	3.5	0.8	2788	2729	68000	81000	5000	6700	50.0	43.5	68.0	70.0	3.5	0.8	8.0	0.30	2.0	1.1	0.310	0.187	2788	2729		
	76.200	23.812	25.654	19.050	3.5	3.3	2788	2720	68000	81000	5000	6700	50.0	43.5	66.0	70.0	3.5	3.3	8.0	0.30	2.0	1.1	0.310	0.185	2788	2720		
	76.200	23.813	25.654	19.050	3.6	3.2	H-2788R	H-2720	74100	92200	4500	6300	50.0	43.5	61.0	69.0	3.6	3.2	8.1	0.30	1.98	1.09	0.305	0.190	H-2788R	H-2720		
	79.375	23.813	25.400	19.050	0.8	0.8	H-26878R	H-26822	81100	105000	4200	5900	60.0	50.0	65.0	73.0	0.8	0.8	7.5	0.32	1.88	1.04	0.397	0.185	H-26878R	H-26822		
	79.375	29.370	29.771	23.813	3.6	3.2	3490	3420	87400	105000	4300	6100	52.0	45.9	67.0	74.0	3.6	3.2	8.6	0.37	1.64	0.90	0.415	0.262	3490	3420		
	80.167	29.370	30.391	23.812	3.5	3.3	3381	3320	86000	106000	4800	6400	46.5	45.5	70.0	74.8	3.5	3.3	18.5	0.27	2.19	1.2	0.445	0.215	3381	3320		
	88.501	26.988	29.083	22.225	3.6	1.6	418	414	98100	112000	4000	5700	51.0	44.5	77.0	80.0	3.6	1.6	10.1	0.26	2.28	1.25	0.522	0.329	418	414		
39.688	73.025	23.812	25.654	19.050	3.5	0.8	2789	2735X	68000	81000	5000	6700	52.0	45.0	65.0	70.0	3.5	0.8	8.0	0.30	2.0	1.1	0.290	0.170	2789	2735X		
	73.025	25.654	22.098	21.336	0.8	2.3	M201047	M201011	63000	81000	5000	6700	45.5	47.8	64.0	69.0	0.8	2.3	5.9	0.33	1.8	0.99	0.255	0.183	M201047	M201011		
	76.200	23.813	25.654	19.050	3.6	3.2	H-2789R	H-2720	74100	92200	4500	6300	52.0	45.0	61.0	69.0	3.6	3.2	8.1	0.30	1.98	1.09	0.285	0.190	H-2789R	H-2720		
40.987	67.975	17.500	18.000	13.500	SP	1.6	H-LM300849	H-LM300811	44000	59500	4600	6500	55.0	47.0	58.0	64.0	3.5	1.6	3.6	0.35	1.72	0.95	0.157	0.082	H-LM300849	H-LM300811		
41.275	73.025	16.667	17.462	12.700	3.5	1.5	18590	18520	46500	57000	4800	6700	53.0	46.0	66.0	69.0	3.5	1.5	2.8	0.35	1.7	0.94	0.208	0.084	18590	18520		
	73.025	16.667	17.463	12.700	3.6	1.6	H-18590	H-18520	45900	55800	4300	6100	53.0	46.0	66.0	69.0	3.6	1.6	2.2	0.35	1.71	0.94	0.198	0.087	H-18590	H-18520		
	73.431	19.558	19.812	14.732	3.5	0.8	LM501349	LM501310	55500	69000	4900	6700	53.0	46.5	67.0	70.0	3.5	0.8	3.4	0.40	1.5	0.83	0.220	0.108	LM501349	LM501310		
	73.431	19.558	19.812	14.732	3.6	0.8	H-LM501349	H-LM501310	57800	73000	4400	6100	53.0	46.5	67.0	70.0	3.6	0.8	3.5	0.40	1.50	0.83	0.226	0.109	H-LM501349	H-LM501310		
	73.431	21.430	19.812	16.604	3.6	0.8	H-LM501349	H-LM501314	57800	73000	4400	6100	53.0	46.5	60.0	69.0	3.6	0.8	3.5	0.40	1.50	0.83	0.226	0.129	H-LM501349	H-LM501314		
	76.200	18.009	17.384	14.288	1.6	1.6	11162R	11300	51600	63300	4300	6000	49.0	46.5	67.0	72.0	1.6	1.6	0.5	0.49	1.23	0.68	0.219	0.130	11162R	11300		
	76.200	22.225	23.020	17.462	3.5	0.8	24780	24720	63500	78500	4800	6600	54.0	47.0	67.0	72.0	3.5	0.8	1.6	0.39	1.5	0.84	0.275	0.189	24780	24720		
	76.200	25.400	23.020	20.638	3.6	2.4	24780R	24721	66300	83300	4000	5600	54.0	47.0	61.0	72.0	3.6	2.4	4.8	0.39	1.53	0.84	0.271	0.191	24780R	24721		
	79.375	23.812	25.400	19.050	3.5	0.8	26882	26822	75000	94500	4700	6300	54.0	47.0	71.0	74.0	3.5	0.8	7.5	0.32	1.9	1.0	0.340	0.185	26882	26822		
	80.167	25.400	25.400	20.638	3.6	3.2	H-26882R	H-26820	81100	105000	4200	5900	60.0	50.0	64.0	73.0	3.6	3.2	7.5	0.32	1.88	1.04	0.350	0.223	H-26882R	H-26820		
	80.167	29.370	30.391	23.813	0.8	3.2	3384	3320	91000	106000	4200	5900	59.0	48.0	66.0	75.0	0.8	3.2	10.7	0.27	2.20	1.21	0.416	0.220	3384	3320		
	87.313	30.163	30.886	23.813	1.6	3.2	3585R	3525	95800	120000	3900	5400	63.0	54.0	75.0	81.0	1.6	3.2	9.7	0.31	1.96	1.08	0.527	0.308	3585R	3525		
90.488	39.688	40.386	33.338	3.6	3.2	4388	4335	132000	169000	3800	5300	57.0	51.0	77.0	85.0	3.6	3.2	14.1	0.28	2.11	1.16	0.767	0.463	4388	4335			
42.863	87.313	30.163	30.886	23.813	3.6	3.2	3579R	3525	95800	120000	3900	5400	63.0	54.0	75.0	81.0	3.6	3.2	9.7	0.31	1.96	1.08	0.499	0.308	3579R	3525		
42.875	80.000	21.000	22.403	17.826	3.5	1.3	342S	332	69000	76000	4500	6300	54.0	47.5	73.0	75.0	3.5	1.3	6.2	0.27	2.2	1.2	0.295	0.145	342S	332		
	82.931	23.812	25.400	19.050	3.5	0.8	25577	25520	78500	98000	4500	6000	55.0	49.0	74.0	77.0	3.5	0.8	6.2	0.33	1.8	0.99	0.380	0.200	25577	25520		
	82.931	26.988	25.400	22.225	3.5	2.3	25577	25523	78500	98000	4500	6000	55.0	49.0	72.0	77.0	3.5	2.3	9.4	0.33	1.8	0.99	0.380	0.245	25577	25523		
	82.931	26.988	25.400	22.225	3.6	2.4	H-25577	H-25523	77300	100000	4000	5500	55.0	49.0	67.0	77.0	3.6	2.4	6.3	0.33	1.79	0.99	0.379	0.251	H-25577	H-25523		
	83.058	23.812	25.400	19.050	3.5	3.3	25577	25521	78500	98000	4500	6000	55.0	49.0	72.0	77.0	3.5	3.3	6.2	0.33	1.8	0.99	0.380	0.199	25577	25521		

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

Tapered Roller Bearings  
Inch Series

Bore Diameter : 44.450~50.000mm



- 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:  
 $P_{or} = 0.5 F_r + Y_0 F_a$   
 $P_{or} = F_r$
- Values e, Y<sub>1</sub>, and Y<sub>0</sub> from table.

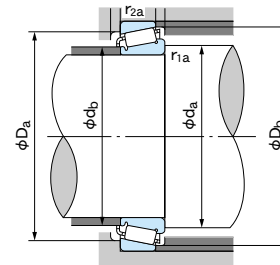
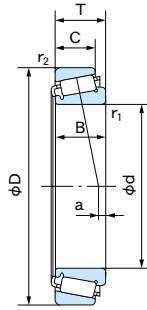
1N=0.102kgf

Boundary dimensions (mm)						Bearing No.		Basic dynamic load rating	Basic static load rating	Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center	Axial load factor		Mass (kg) Reference		Bearing No.			
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone	Cup	Cr (N)	Cor (N)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)	(mm) a (°)	Constant e	Y <sub>1</sub>	Y <sub>0</sub>	Cone	Cup	Cone	Cup
44.450	82.931	23.812	25.400	19.050	3.5	0.8	25580	25520	78500	98000	4500	6000	57.0	50.0	74.0	77.0	3.5	0.8	6.2	0.33	1.8	0.99	0.355	0.200	25580	25520
	82.931	23.813	25.400	19.050	3.6	0.8	H-25580	H-25520	77300	100000	4000	5500	64.0	54.0	74.0	77.0	3.6	0.8	6.3	0.33	1.79	0.99	0.361	0.202	H-25580	H-25520
	82.931	26.988	25.400	22.225	3.5	2.3	25580	25523	78500	98000	4500	6000	57.0	50.0	72.0	77.0	3.5	2.3	9.4	0.33	1.8	0.99	0.355	0.245	25580	25523
	83.058	23.812	25.400	19.050	3.5	3.3	25580	25521	78500	98000	4500	6000	57.0	50.0	72.0	77.0	3.5	3.3	6.2	0.33	1.8	0.99	0.355	0.199	25580	25521
	87.312	30.162	30.886	23.812	3.5	3.3	3578	3525	90000	110000	4300	6000	57.0	51.0	75.0	81.0	3.5	3.3	10.2	0.31	2.0	1.1	0.476	0.305	3578	3525
	87.313	30.163	30.886	23.813	3.6	3.2	3578R	3525	95800	120000	3900	5400	57.0	51.0	75.0	81.0	3.6	3.2	9.7	0.31	1.96	1.08	0.473	0.308	3578R	3525
	88.900	30.163	29.370	23.020	3.6	3.3	HM803149	HM803110	99600	125000	3800	5400	62.0	53.4	74.0	85.0	3.6	3.2	4.1	0.55	1.10	0.60	0.517	0.326	HM803149	HM803110
	90.119	23.000	21.926	21.808	3.6	2.4	355X	352	71800	81700	3800	5400	63.0	55.0	72.0	80.0	3.6	2.4	5.1	0.31	1.96	1.08	0.336	0.325	355X	352
	92.075	30.163	29.370	23.020	3.6	3.2	HM803149	HM803112	99600	125000	3800	5400	62.0	53.4	67.0	84.0	3.6	3.2	4.1	0.55	1.10	0.60	0.517	0.407	HM803149	HM803112
	93.264	30.163	30.302	23.813	3.6	3.2	3782	3720	103000	137000	3500	4900	71.0	59.0	82.0	88.0	3.6	3.2	8.0	0.34	1.77	0.97	0.651	0.296	3782	3720
	95.250	30.958	28.575	22.225	3.6	0.8	HM903249	HM903210	99700	120000	3700	5100	65.0	54.0	81.0	91.0	3.6	0.8	0.1	0.74	0.81	0.45	0.609	0.389	HM903249	HM903210
	95.250	30.958	28.301	20.638	1.2	0.8	53176	53375	88700	98400	3700	5200	59.0	52.5	81.0	89.0	1.2	0.8	1.0	0.74	0.81	0.45	0.557	0.367	53176	53375
	112.713	30.163	26.909	20.638	3.5	3.3	55175	55443	92000	108000	3100	4300	67.0	60.0	90.0	105.0	3.5	3.3	-7.1	0.88	0.68	0.37	0.820	0.500	55175	55443
	114.300	44.450	44.450	34.925	3.6	3.2	65385	65320	189000	230000	3100	4400	79.0	59.0	97.0	107.0	3.6	3.2	12.5	0.43	1.39	0.77	1.466	0.884	65385	65320
44.983	93.264	30.163	30.302	23.813	3.6	3.2	3776	3720	103000	137000	3500	4900	59.0	53.0	82.0	88.0	3.6	3.2	8.0	0.34	1.77	0.97	0.642	0.296	3776	3720
45.242	73.431	19.558	19.812	15.748	3.5	0.8	LM102949	LM102910	55500	78000	4700	6400	57.0	50.0	68.0	70.0	3.5	0.8	4.7	0.31	2.0	1.1	0.208	0.100	LM102949	LM102910
	73.431	19.558	19.812	15.748	3.6	0.8	H-LM102949	H-LM102910	55600	78100	4200	5900	56.0	50.0	68.0	70.0	3.6	0.8	4.9	0.31	1.97	1.08	0.207	0.101	H-LM102949	H-LM102910
	77.788	19.842	19.842	15.080	3.6	0.8	LM603049	LM603011	57100	73500	4100	5700	57.0	50.0	71.0	74.0	3.6	0.8	2.3	0.43	1.41	0.77	0.242	0.122	LM603049	LM603011
	77.788	21.430	19.842	16.667	3.6	0.8	LM603049	LM603012	57100	73500	4100	5700	57.0	50.0	71.0	74.0	3.6	0.8	2.3	0.43	1.41	0.77	0.241	0.141	LM603049	LM603012
45.618	82.931	23.812	25.400	19.050	3.5	0.8	25590	25520	78500	98000	4500	6000	58.0	51.0	74.0	77.0	3.5	0.8	6.2	0.33	1.8	0.99	0.340	0.200	25590	25520
	82.931	23.813	25.400	19.050	3.6	0.8	H-25590	H-25520	77300	100000	4000	5500	58.0	51.0	74.0	77.0	3.6	0.8	6.3	0.33	1.79	0.99	0.345	0.202	H-25590	H-25520
	82.931	26.988	25.400	22.225	3.5	2.3	25590	25523	78500	98000	4500	6000	58.0	51.0	72.0	77.0	3.5	2.3	6.2	0.33	1.8	0.99	0.340	0.245	25590	25523
	82.931	26.988	25.400	22.225	3.6	2.4	H-25590	H-25523	77300	100000	4000	5500	58.0	51.0	67.0	77.0	3.6	2.4	6.3	0.33	1.79	0.99	0.341	0.251	H-25590	H-25523
46.038	79.375	17.463	17.463	13.495	2.8	1.6	18690	18620	47100	59100	4000	5600	56.0	51.0	71.0	74.0	2.8	1.6	1.5	0.37	1.60	0.88	0.206	0.126	18690	18620
	85.000	20.638	21.692	17.462	2.3	1.3	359S	354A	69000	78000	4300	6000	55.0	51.0	77.0	80.0	2.3	1.3	4.9	0.31	2.0	1.1	0.330	0.160	359S	354A
47.625	93.264	30.163	30.302	23.813	3.6	3.2	3779	3720	103000	137000	3500	4900	71.0	59.0	82.0	88.0	3.6	3.2	8.0	0.34	1.77	0.97	0.596	0.296	3779	3720
	101.600	34.925	36.068	26.988	3.5	3.3	528	522	139000	171000	3700	5000	62.0	55.0	89.0	95.0	3.5	3.3	12.7	0.29	2.1	1.2	0.890	0.410	528	522
	107.950	36.513	36.957	28.575	3.6	3.2	536	532X	138000	172000	3200	4400	76.0	64.0	94.0	100.0	3.6	3.2	12.3	0.30	2.02	1.11	1.03	0.583	536	532X
	111.125	30.162	26.909	20.638	3.5	3.3	55187	55437	92000	108000	3100	4300	69.0	62.0	92.0	105.0	3.5	3.3	-7.1	0.88	0.68	0.37	0.825	0.510	55187	55437
49.212	93.264	30.162	30.302	23.812	3.5	0.8	3781	3730	102000	134000	3800	5300	62.0	56.0	84.0	88.0	3.5	0.8	8.4	0.34	1.8	0.97	0.650	0.295	3781	3730
	103.188	43.658	44.475	36.512	3.5	3.3	5395	5335	177000	245000	3700	5000	66.0	60.0	89.0	97.0	3.5	3.3	27.3	0.30	2.0	1.11	1.13	0.640	5395	5335
	114.300	44.450	44.450	36.068	3.5	3.3	HH506348	HH506310	199000	243000	3500	4700	71.0	61.0	97.0	107.0	3.5	3.3	31.2	0.40	1.5	0.82	1.70	0.850	HH506348	HH506310
50.000	82.000	21.500	21.500	17.000	3.0	0.5	H-JLM104948H	H-JLM104910	71700	97900	3800	5300	60.0	55.0	76.0	78.0	3.0	0.5	5.3	0.31	1.97	1.08	0.305	0.129	H-JLM104948H	H-JLM104910

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

Tapered Roller Bearings  
Inch Series

Bore Diameter : 50.800~57.150mm



- Dynamic equivalent radial load  
 $F_r = X F_r + Y F_a$

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
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:  
 $P_{or} = 0.5 F_r + Y_o F_a$   
 $P_{or} = F_r$
- Values e, Y<sub>1</sub>, and Y<sub>o</sub> from table.

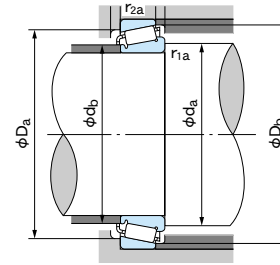
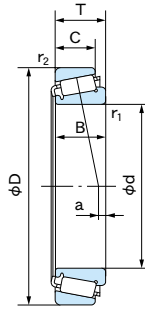
1N=0.102kgf

Boundary dimensions (mm)							Bearing No.		Basic dynamic load rating		Basic static load rating		Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center		Axial load factor		Mass (kg) Reference		Bearing No.	
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone	Cup	Cr (N)	Cor (N)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (min)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)	a (°)	e	Y <sub>1</sub>	Y <sub>o</sub>	Cone	Cup	Cone	Cup		
50.800	82.000	21.976	22.225	17.000	3.6	0.5	H-LM104949	H-LM104910	61200	84300	3700	5200	62.0	55.0	76.0	78.0	3.6	0.5	5.2	0.31	1.97	1.08	0.288	0.129	H-LM104949	H-LM104910		
	82.550	21.590	22.225	16.510	3.5	1.3	LM104949	LM104911	71000	96000	4300	5700	62.0	55.0	75.0	78.0	3.5	1.3	3.9	0.31	2.0	1.1	0.285	0.150	LM104949	LM104911		
	82.550	21.590	22.225	16.510	3.6	1.2	H-LM104949	H-LM104911	61200	84300	3700	5200	62.0	55.0	75.0	78.0	3.6	1.2	5.2	0.31	1.97	1.08	0.287	0.133	H-LM104949	H-LM104911		
	82.931	21.590	22.225	16.510	3.6	1.2	H-LM104949	H-LM104912	61200	84300	3700	5200	62.0	55.0	72.0	78.0	3.6	1.2	5.2	0.31	1.97	1.08	0.287	0.140	H-LM104949	H-LM104912		
	85.000	17.462	17.462	13.495	3.5	1.5	18790	18720	44000	58500	4000	5600	62.0	56.0	77.0	80.0	3.5	1.5	0.7	0.41	1.5	0.81	0.235	0.134	18790	18720		
	88.900	17.462	17.462	13.495	3.5	1.3	18790	18724	44000	58500	4000	5600	62.0	56.0	75.5	80.5	3.5	1.3	0.7	0.41	1.5	0.81	0.235	0.134	18790	18724		
	88.900	20.638	22.225	16.513	1.5	1.3	368	362A	74500	89000	4000	5600	58.0	56.0	81.0	84.0	1.5	1.3	4.2	0.32	1.9	1.0	0.345	0.165	368	362A		
	88.900	20.638	22.225	16.513	3.6	1.3	368A	362A	74300	87300	3700	5200	62.0	56.0	81.0	84.0	3.6	1.2	4.6	0.32	1.88	1.03	0.329	0.166	368A	362A		
	92.075	24.608	25.400	19.845	3.6	0.8	28580R.L	28521.L	84800	119000	3500	4900	73.0	61.0	76.0	86.0	3.6	0.8	4.7	0.38	1.59	0.88	0.455	0.247	28580R.L	28521.L		
	93.264	30.162	30.302	23.812	3.5	0.8	3780	3730	102000	134000	3800	5300	64.0	58.0	84.0	88.0	3.5	0.8	8.2	0.34	1.8	0.97	0.558	0.295	3780	3730		
	93.264	30.163	30.302	23.813	3.6	3.2	3780	3720	103000	137000	3500	4900	64.0	58.0	82.0	88.0	3.6	3.2	8.0	0.34	1.77	0.97	0.539	0.296	3780	3720		
	101.600	31.750	31.750	25.400	3.5	3.3	49585	49520	107000	128000	3600	5000	66.0	59.0	88.0	96.0	3.5	3.3	7.1	0.40	1.5	0.82	0.750	0.385	49585	49520		
	101.600	34.925	36.068	26.988	0.8	3.3	529	522	139000	169000	3700	5000	59.0	58.0	89.0	95.0	0.8	3.3	12.7	0.29	2.1	1.2	0.830	0.410	529	522		
	104.775	30.162	30.958	23.812	6.4	3.3	45284	45220	131000	171000	3500	4700	71.0	59.0	99.0	99.0	6.4	3.3	7.9	0.33	1.80	0.99	0.825	0.410	45284	45220		
	104.775	36.512	36.512	28.575	3.5	3.3	HM807046	HM807010	147000	201000	3500	4800	70.0	63.1	89.0	100.0	3.5	3.3	7.4	0.49	1.2	0.68	0.970	0.500	HM807046	HM807010		
	107.950	36.512	36.512	28.575	3.5	3.3	537	532X	139000	173000	3600	4800	65.0	59.0	94.0	100.0	3.5	3.3	11.7	0.30	2.02	1.1	0.970	0.570	537	532X		
	111.125	30.162	26.909	20.638	3.5	3.3	55200	55437	92000	108000	3100	4300	71.0	63.9	92.0	105.0	3.5	3.3	-7.1	0.88	0.68	0.37	0.770	0.510	55200	55437		
	122.238	38.100	36.678	30.162	2.3	3.3	555	553X	149000	197000	3000	4100	66.0	62.0	108.0	115.0	2.3	3.3	9.4	0.35	1.73	0.95	1.50	0.690	555	553X		
	123.825	38.100	32.791	25.400	3.5	3.3	72200	72487	135000	148000	2900	4100	74.0	65.9	102.0	116.0	3.5	3.3	-1.3	0.74	0.81	0.45	1.24	0.785	72200	72487		
	127.000	44.450	44.450	34.925	3.5	3.3	65200	65500	198000	258000	3100	4300	75.0	69.0	107.0	119.0	3.5	3.3	9.4	0.49	1.2	0.68	1.87	1.03	65200	65500		
	52.388	92.075	24.608	25.400	19.845	3.6	0.8	28584R.	28521	84800	119000	3500	4900	73.0	61.0	76.0	87.0	3.6	0.8	4.7	0.38	1.59	0.87	0.430	0.247	28584R.	28521	
	53.975	96.838	21.001	21.946	15.875	1.6	0.8	389AS	382A	80400	101000	3300	4600	75.0	66.0	89.0	92.0	1.6	0.8	3.6	0.35	1.69	0.93	0.475	0.179	389AS	382A	
98.425		21.000	21.946	17.826	0.8	0.8	389A	382	74500	91500	3600	5000	69.0	71.0	90.0	92.0	0.8	0.8	3.0	0.35	1.7	0.93	0.380	0.225	389A	382		
104.775		30.162	29.317	24.605	3.5	3.3	456	453X	116000	150000	3400	4800	67.0	63.0	92.0	98.0	3.5	3.3	7.0	0.34	1.8	0.98	0.740	0.375	456	453X		
104.775		36.512	36.512	28.575	3.5	3.3	HM807049	HM807010	147000	201000	3500	4800	73.0	63.1	89.0	95.0	3.5	3.3	7.4	0.49	1.2	0.68	0.890	0.500	HM807049	HM807010		
112.712		30.162	30.163	23.812	3.5	3.3	39578	39520	126000	168000	3100	4300	77.0	61.0	101.0	107.0	3.5	3.3	6.6	0.34	1.8	0.97	0.900	0.360	39578	39520		
120.650		41.275	41.275	31.750	3.5	3.3	621	612	163000	198000	3300	4400	70.0	63.0	105.0	110.0	3.5	3.3	26.9	0.31	1.91	1.05	1.49	0.735	621	612		
123.825		38.100	36.678	30.162	3.5	3.3	557S	552A	149000	197000	3000	4100	71.0	65.0	109.0	116.0	3.5	3.3	9.2	0.35	1.73	0.95	1.50	0.750	557S	552A		
127.000		44.450	44.450	34.925	3.5	3.3	65212	65500	198000	258000	3100	4300	77.0	71.0	107.0	119.0	3.5	3.3	9.4	0.49	1.2	0.68	1.80	1.03	65212	65500		
127.000	50.800	44.450	41.275	3.5	3.3	6280	6220	241000	300000	3100	4300	74.0	67.0	108.0	117.0	3.5	3.3	19.5	0.30	2.0	1.1	2.06	1.25	6280	6220			
55.000	90.000	23.000	23.000	18.500	1.5	0.5	JLM506849E	JLM506810E	81400	115000	3500	4900	72.0	62.0	76.0	87.0	1.5	0.5	2.9	0.40	1.49	0.82	0.377	0.184	JLM506849E	JLM506810E		
55.562	122.238	43.658	43.764	36.512	1.3	3.3	5566	5535	178000	263000	3000	4000	70.0	68.0	106.0	116.0	1.3	3.3	12.1	0.36	1.7	0.92	1.76	0.811	5566	5535		
55.563	97.630	24.608	24.608	19.446	3.6	0.8	28680	28622	89600	131000	3300	4600	68.0	62.0	88.0	92.0	3.6	0.8	3.4	0.40	1.49	0.82	0.490	0.270	28680	28622		
57.150	96.838	21.001	21.946	15.875	3.6	0.8	387A	382A	80400	101000	4200	5900	69.0	62.0	89.0	92.0	3.6	0.8	3.6	0.35	1.69	0.93	0.425	0.179	387A	382A		
	97.630	24.608	24.608	19.446	3.6	0.8	28682	28622	89600	131000	3300	4600	76.0	66.0	88.0	92.0	3.6	0.8	3.4	0.40	1.49	0.82	0.463	0.270	28682	28622		
	104.775	30.163	29.317	24.605	2.4	3.2	462	453X	109000	144000	3100	4300	67.0	63.0	92.0	98.0	2.4	3.2	6.6	0.34	1.79	0.98	0.678	0.382	462	453X		
	104.775	30.162	30.958	23.812	2.3	0.8	45290	45221	131000	171000	3500	4700	68.0	65.0	95.0	99.0	2.3	0.8	8.0	0.33	1.8	0.99	0.765	0.350	45290	45221		
	104.775	30.163	29.317	24.605	3.6	3.2	469	453X	109000	144000	3100	4300	70.0	63.0	92.0	98.0	3.6	3.2	6.6	0.34	1.79	0.98	0.678	0.382	469	453X		
	110.000	21.999	21.996	18.824	2.4	1.2	390	394A	86400	116000	2800	4000	86.0	77.0	101.0	104.5	2.4	1.2	0.7	0.40	1.49	0.82	0.677	0.262	390	394A		
	112.712	30.162	30.048	23.812	3.5	3.3	3979	3920	118000	172000	3200	4300	72.0	66.0	99.0	106.0	3.5	3.3	4.6	0.								



## Tapered Roller Bearings Inch Series

Bore Diameter : 58.738~65.088mm



1N=0.102kgf

Boundary dimensions (mm)						Bearing No.		Basic dynamic load rating	Basic static load rating	Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center	Axial load factor		Mass (kg) Reference		Bearing No.			
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone	Cup	Cr (N)	Cor (N)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)	a (°)	e	Y <sub>1</sub>	Y <sub>0</sub>	Cone	Cup	Cone	Cup
58.738	112.712 127.000	30.162 44.450	30.048 44.450	23.812 34.925	3.5 3.5	3.3 3.3	3981 65231	3920 65500	118000 198000	172000 258000	3200 3100	4300 4200	73.0 81.0	67.0 71.0	99.0 107.0	106.0 119.0	3.5 3.5	3.3 3.3	4.5 9.3	0.40 0.49	1.5 1.2	0.82 0.68	0.890 1.71	0.460 1.03	3981 65231	3920 65500
59.987	134.983	33.449	30.925	21.948	3.6	3.6	HM911244R	HM911216	153000	181000	2600	3700	100.0	75.0	98.0	122.0	3.6	3.6	-7.1	0.82	0.73	0.40	1.35	0.823	HM911244R	HM911216
60.325	100.000	25.400	25.400	19.845	3.6	3.2	28985	28921	91400	137000	3100	4300	73.0	67.0	89.0	96.0	3.6	3.2	2.6	0.43	1.41	0.78	0.527	0.237	28985	28921
	101.600	25.400	25.400	19.845	3.6	3.2	28985	28920	91400	137000	3100	4300	73.0	67.0	89.0	96.0	3.6	3.2	2.6	0.43	1.41	0.78	0.526	0.276	28985	28920
	122.238	38.100	38.354	29.718	8.0	1.5	3980	3925	118000	172000	3200	4300	74.0	68.0	101.0	106.0	3.5	0.8	4.5	0.40	1.5	0.82	0.90	0.450	3980	3925
	122.238	38.100	38.354	29.718	8.0	1.5	HM212044	HM212010	187000	243000	3000	4100	85.0	70.0	110.0	116.0	8.0	1.5	10.9	0.34	1.8	0.98	1.45	0.600	HM212044	HM212010
	127.000	36.512	36.512	26.988	3.5	1.5	HM813841	HM813811	113000	149000	2900	3800	80.0	73.0	113.0	121.0	3.5	1.5	3.7	0.50	1.2	0.66	1.58	0.625	HM813841	HM813811
	130.175	36.512	33.338	23.812	5.0	3.3	HM911245	HM911210	146000	171000	2700	3600	87.0	74.4	109.0	123.6	5.0	3.3	-5.2	0.82	0.73	0.40	1.48	0.685	HM911245	HM911210
	130.175	41.275	41.275	31.750	3.5	3.3	637	633	183000	246000	2800	3800	78.0	72.0	116.0	124.0	3.5	3.3	11.2	0.36	1.7	0.91	1.89	0.705	637	633
	135.755	53.975	56.007	44.450	3.5	3.3	6376	6320	263000	360000	2800	3800	81.0	74.0	117.0	126.0	3.5	3.3	19.2	0.32	1.8	1.0	2.45	1.40	6376	6320
	136.525	46.038	46.038	36.512	3.5	3.3	H715332	H715311	184000	280000	2600	3600	84.0	78.0	118.0	132.0	3.5	3.3	8.5	0.47	1.3	0.70	2.53	1.02	H715332	H715311
	61.912	110.000	22.000	21.996	18.824	0.8	1.3	392	394A	87500	117000	3200	4300	70.0	69.0	101.0	104.5	0.8	1.3	0.8	0.40	1.5	0.82	0.615	0.265	392
	122.238	38.100	36.678	30.162	3.5	3.3	554	553X	149000	197000	3000	4100	73.0	67.0	108.0	115.0	3.5	3.3	9.4	0.35	1.7	0.95	1.40	0.690	554	553X
	139.700	46.038	46.038	36.512	3.5	3.3	H715334	H715310	184000	280000	2600	3600	86.0	79.0	120.0	133.0	3.5	3.3	8.5	0.47	1.3	0.70	2.48	1.15	H715334	H715310
	146.050	41.275	39.688	25.400	3.5	3.3	H913842	H913810	191000	221000	2400	3300	90.0	82.4	124.0	138.0	3.5	3.3	-4.3	0.78	0.77	0.42	2.25	0.900	H913842	H913810
63.500	94.458	19.050	19.050	15.083	1.5	1.5	L610549	L610510	49000	80000	3600	4800	71.0	69.0	86.0	91.0	1.5	1.5	-0.7	0.42	1.4	0.78	0.295	0.156	L610549	L610510
	107.950	25.400	25.400	19.050	1.6	0.8	29586	29522	92800	143000	2800	4000	73.0	71.0	91.0	104.0	1.6	0.8	0.7	0.46	1.31	0.72	0.646	0.286	29586	29522
	107.950	25.400	25.400	19.050	3.5	3.3	29585	29520	94500	144000	3200	4300	77.0	71.0	96.0	103.0	3.5	3.3	0.8	0.46	1.3	0.72	0.640	0.280	29585	29520
	110.000	22.000	21.996	18.824	3.5	1.3	395	394A	87500	117000	3200	4300	77.0	70.0	101.0	104.5	3.5	1.3	0.8	0.40	1.5	0.82	0.565	0.265	395	394A
	110.000	25.400	25.400	19.050	3.5	1.3	29585	29521	94500	144000	3200	4300	77.0	71.0	99.0	104.0	3.5	1.3	0.8	0.46	1.3	0.72	0.640	0.335	29585	29521
	112.712	30.162	30.048	23.812	3.5	0.8	3982	3925	118000	172000	3200	4300	77.0	71.0	101.0	106.0	3.5	0.8	4.5	0.40	1.5	0.82	0.775	0.450	3982	3925
	112.713	30.163	30.163	23.813	3.6	3.2	39585	39520	147000	207000	2800	3900	77.0	71.0	101.0	107.0	3.6	3.2	6.9	0.34	1.77	0.97	0.907	0.363	39585	39520
	112.713	30.163	30.048	23.813	3.6	3.2	3982	3920	111000	164000	2800	4000	88.0	76.0	99.0	106.0	3.6	3.2	4.3	0.40	1.49	0.82	0.772	0.458	3982	3920
	120.000	29.002	29.007	23.444	3.5	3.3	483	472A	119000	161000	3000	4000	78.0	72.0	106.0	114.0	3.5	3.3	4.0	0.38	1.6	0.86	0.985	0.445	483	472A
	120.000	29.794	30.162	23.444	0.8	0.8	33251	33472	112000	168000	3000	4000	73.0	72.0	107.0	113.0	0.8	0.8	2.6	0.44	1.4	0.76	1.03	0.510	33251	33472
	122.238	38.100	38.354	29.718	7.0	3.3	HM212047	HM212011	187000	243000	3000	4100	87.0	73.0	108.0	116.0	7.0	3.3	10.9	0.34	1.8	0.98	1.45	0.600	HM212047	HM212011
	122.238	38.100	38.354	29.718	7.1	3.2	HM212047UR	HM212011UR	191000	249000	2700	3800	90.0	77.0	102.0	115.0	7.1	3.2	10.8	0.34	1.78	0.98	1.35	0.605	HM212047UR	HM212011UR
	127.000	36.512	36.512	26.988	3.5	1.5	HM813842	HM813811	113000	149000	2900	3800	82.0	76.0	113.0	121.0	3.5	1.5	3.7	0.50	1.2	0.66	1.40	0.715	HM813842	HM813811
	130.175	41.275	41.275	31.750	3.5	3.3	639	633	183000	246000	2800	3800	81.0	74.0	116.0	124.0	3.5	3.3	11.2	0.36	1.7	0.91	1.79	0.705	639	633
	136.525	41.275	41.275	31.750	3.5	3.3	H414235	H414210	231000	300000	2700	3700	82.0	78.0	121.0	129.0	3.5	3.3	10.9	0.36	1.7	0.92	1.95	0.795	H414235	H414210
	136.525	46.038	46.038	36.512	3.5	3.3	H715336	H715311	184000	280000	2600	3600	87.0	80.0	118.0	132.0	3.5	3.3	8.5	0.47	1.3	0.70	2.45	1.02	H715336	H715311
	140.030	36.512	33.236	23.520	2.3	2.3	78250	78551	145000	172000	2500	3500	85.0	78.9	117.0	132.0	2.3	2.3	-8.0	0.87	0.69	0.38	1.50	0.925	78250	78551
150.089	44.450	43.673	36.512	3.5	3.3	745S	742	252000	345000	2400	3200	88.0	82.0	134.0	142.0	3.5	3.3	11.9	0.33	1.8	1.0	2.90	1.06	745S	742	
64.963	127.000	36.512	36.170	28.575	3.5	3.3	569	563	165000	232000	2800	3800	81.0	74.0	112.0	120.0	3.5	3.3	8.1	0.36	1.6	0.91	1.45	0.650	569	563
65.000	120.000	39.000	38.500	32.000	3.0	2.5	JH211749E	JH211710E	189000	255000	2700	3800	91.0	75.0	99.0	114.0	3.0	2.5	11.1	0.34	1.78	0.98	1.28	0.628	JH211749E	JH211710E
65.088	135.755	53.975	56.007	44.450	3.5	3.3	6379	6320	263000	360000	2800	3800	84.0	77.4	117.0	126.0	3.5	3.3	19.2	0.32	1.8	1.0	2.25	1.40	6379	6320
	136.525	46.038	46.038	36.512	3.5	3.3	H715340	H715311	184000	280000	2600	3600	88.0	82.0	118.0	132.0	3.5	3.3	8.5	0.47	1.3	0.7	2.35	1.02	H715340	H715311

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

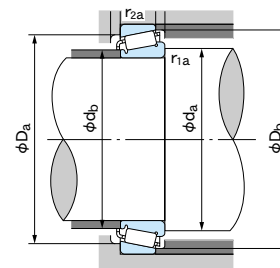
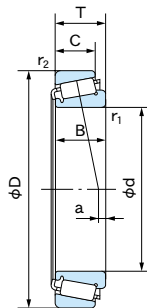
• Dynamic equivalent radial load  
Pr=XFr+YFa

$\frac{Fa}{Fr} \leq e$		$\frac{Fa}{Fr} > e$	
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.

**Tapered Roller Bearings**  
**Inch Series**

Bore Diameter : 66.675~71.438mm



- 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.

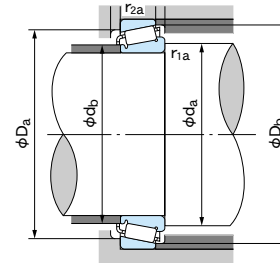
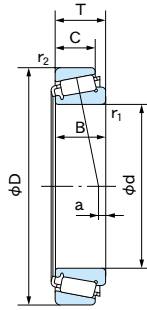
1N=0.102kgf

Boundary dimensions (mm)					Bearing No.		Basic dynamic load rating		Basic static load rating		Limiting speed (rpm)		Abutment and fillet dimensions (mm)					Load center		Axial load factor		Mass (kg) Reference		Bearing No.		
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone	Cup	Cr (N)	Cor (N)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)	a (°)	e	Y <sub>1</sub>	Y <sub>0</sub>	Cone	Cup	Cone	Cup
66.675	110.000	21.999	21.996	18.824	3.6	1.2	395S	394A	86400	116000	2800	4000	79.0	73.0	101.0	104.5	3.6	1.2	0.7	0.40	1.49	0.82	0.516	0.262	395S	394A
	110.000	21.999	21.996	18.824	0.8	1.2	395A	394A	86400	116000	2800	4000	73.0	73.0	101.0	104.5	0.8	1.2	0.7	0.40	1.49	0.82	0.521	0.262	395A	394A
	112.713	30.163	30.048	23.813	3.6	3.2	398A	3920	111000	164000	2800	4000	88.0	76.0	99.0	106.0	3.6	3.2	4.3	0.40	1.49	0.82	0.692	0.458	398A	3920
	112.713	30.163	30.163	23.813	3.6	3.2	39590	39520	147000	207000	2800	3900	80.0	74.0	101.0	107.0	3.6	3.2	6.9	0.34	1.77	0.97	0.827	0.363	39590	39520
	112.713	30.163	30.048	23.813	5.6	3.2	399A	3920	111000	164000	2800	4000	88.0	76.0	99.0	106.0	5.6	3.2	4.3	0.40	1.49	0.82	0.692	0.458	399A	3920
	117.475	30.162	30.162	23.812	3.5	3.3	33262	33462	112000	168000	3000	4000	81.0	75.0	104.0	112.0	3.5	3.3	2.8	0.44	1.4	0.76	0.910	0.440	33262	33462
	122.238	38.100	36.678	30.162	3.5	3.3	560	553X	149000	197000	3000	4000	81.0	75.0	104.0	115.0	3.5	3.3	9.4	0.35	1.7	0.95	1.15	0.690	560	553X
	122.238	38.100	38.354	29.718	3.5	1.5	HM212049	HM212010	187000	243000	3000	4100	82.0	75.5	110.0	116.0	3.5	1.5	10.9	0.34	1.8	0.98	1.25	0.600	HM212049	HM212010
	122.238	38.100	38.354	29.718	3.6	3.2	HM212049	HM212011	191000	249000	2700	3800	82.0	75.5	108.0	116.0	3.6	3.2	10.8	0.34	1.78	0.98	1.25	0.605	HM212049	HM212011
	136.525	41.275	41.275	31.750	3.5	3.3	H414242	H414210	231000	300000	2700	3700	85.0	81.0	121.0	129.0	3.5	3.3	10.9	0.36	1.7	0.92	1.95	0.795	H414242	H414210
	136.525	46.038	46.038	36.512	3.5	3.3	H715341	H715311	184000	280000	2600	3600	89.0	83.0	118.0	132.0	3.5	3.3	8.5	0.47	1.3	0.70	2.30	1.02	H715341	H715311
	68.262	110.000	22.000	21.996	18.824	2.3	1.3	399A	394A	87500	117000	3200	4300	78.0	74.0	101.0	104.5	2.3	1.3	0.8	0.40	1.5	0.82	0.495	0.265	399A
117.475		30.162	30.162	23.812	3.5	3.3	33269	33462	112000	168000	3000	4000	82.0	76.0	104.0	112.0	3.5	3.3	2.8	0.44	1.38	0.76	0.900	0.440	33269	33462
120.000		29.002	29.007	23.444	3.5	3.3	480	472A	119000	161000	3000	4000	82.0	75.0	106.0	114.0	3.5	3.3	4.0	0.38	1.56	0.86	0.890	0.445	480	472A
122.238		38.100	36.678	30.162	3.5	3.3	560S	553X	149000	197000	3000	4000	83.0	76.0	106.0	115.0	3.5	3.3	9.4	0.35	1.7	0.95	1.10	0.690	560S	553X
136.525		41.275	41.275	31.750	3.5	3.3	H414245	H414210	231000	300000	2700	3700	86.0	82.0	121.0	129.0	3.5	3.3	10.9	0.36	1.7	0.92	1.90	0.795	H414245	H414210
136.525		46.038	46.038	36.512	3.5	3.3	H715343	H715311	184000	280000	2600	3600	90.0	84.0	118.0	132.0	3.5	3.3	8.5	0.47	1.3	0.70	2.24	1.02	H715343	H715311
152.400		47.625	46.038	31.750	3.5	3.3	9185	9121	245000	279000	2600	3500	94.0	81.3	130.0	145.0	3.5	3.3	3.7	0.66	0.92	0.50	2.57	1.21	9185	9121
68.263	120.000	29.794	29.007	24.237	3.6	2.0	480	472	118000	161000	2700	3700	92.0	80.0	108.0	113.0	3.6	2.0	4.1	0.38	1.56	0.86	0.826	0.494	480	472
	123.825	38.100	36.678	30.163	3.6	3.2	560S	552A	162000	223000	2700	3700	91.0	78.0	109.0	116.0	3.6	3.2	9.4	0.35	1.73	0.95	1.07	0.770	560S	552A
	136.525	41.275	41.275	31.750	3.6	3.2	H414245	H414210	228000	295000	2400	3400	86.0	82.0	121.0	129.0	3.6	3.2	11.0	0.36	1.67	0.92	1.91	0.804	H414245	H414210
69.850	112.712	25.400	25.400	19.050	1.5	3.3	29675	29620	86000	133000	3000	4000	80.0	77.0	101.0	109.0	1.5	3.3	-0.9	0.49	1.2	0.68	0.670	0.290	29675	29620
	117.475	30.163	30.163	23.813	3.6	3.2	33275	33462	118000	179000	2700	3700	84.0	77.0	104.0	112.0	3.6	3.2	2.4	0.44	1.38	0.76	0.824	0.446	33275	33462
	120.000	29.794	29.007	24.237	3.6	2.0	482	472	118000	161000	2700	3700	93.0	81.0	99.0	112.0	3.6	2.0	4.1	0.38	1.56	0.82	0.786	0.494	482	472
	120.000	32.545	32.545	26.195	3.5	3.3	47487	47420	123000	167000	3000	4000	84.0	78.0	107.0	114.0	3.5	3.3	6.2	0.36	1.7	0.92	0.960	0.479	47487	47420
	120.000	32.545	32.545	26.195	3.6	0.5	47487R	47420DM	150000	218000	2600	3700	84.0	78.0	107.0	114.0	3.6	0.5	6.0	0.36	1.67	0.92	1.00	0.487	47487R	47420DM
	127.000	36.512	36.512	26.988	3.5	1.5	HM813846	HM813811	113000	149000	2800	3800	88.0	81.0	113.0	121.0	3.5	1.5	3.8	0.50	1.2	0.65	1.27	0.630	HM813846	HM813811
	146.050	41.275	39.688	25.400	3.6	3.2	H913849R.F	H913810.F	202000	237000	2400	3300	110.0	80.0	112.0	128.0	3.6	3.2	-4.0	0.78	0.77	0.42	2.05	0.907	H913849R.F	H913810.F
	146.050	41.275	41.275	31.750	3.5	3.3	655	653	188000	250000	2500	3300	88.0	82.0	131.0	139.0	3.5	3.3	7.9	0.41	1.5	0.81	2.35	0.890	655	653
149.225	53.975	54.229	44.450	5.0	3.3	645A	6420	284000	410000	2500	3400	94.0	85.0	129.0	140.0	5.0	3.3	15.1	0.36	1.7	0.91	2.90	1.65	645A	6420	
150.089	44.450	46.672	36.512	3.5	3.3	745A	742	252000	345000	2400	3200	88.0	82.0	134.0	142.0	3.5	3.3	12.0	0.33	1.8	1.0	2.80	1.06	745A	742	
69.952	121.442	24.608	23.012	17.462	2.0	2.0	34274	34478	85600	110000	2900	3800	81.0	78.0	110.0	116.0	2.0	2.0	-1.2	0.45	1.33	0.73	0.750	0.375	34274	34478
71.438	117.475	30.163	30.163	23.813	3.6	3.2	33281	33462	118000	179000	2700	3700	85.0	79.0	104.0	112.0	3.6	3.2	2.4	0.44	1.38	0.76	0.784	0.446	33281	33462
	120.000	29.794	30.163	23.444	3.6	0.8	33281	33472	118000	179000	2700	3700	85.0	79.0	97.0	112.0	3.6	0.8	2.4	0.44	1.38	0.76	0.787	0.523	33281	33472
	120.000	32.545	32.545	26.195	3.5	3.3	47490	47420	123000	167000	3000	4000	86.0	79.0	107.0	114.0	3.5	3.3	6.2	0.36	1.7	0.92	0.940	0.479	47490	47420
	127.000	36.512	36.512	26.988	3.5	1.5	HM813849	HM813811	113000	149000	2800	3800	89.0	81.9	113.0	121.0	3.5	1.5	3.8	0.50	1.2	0.65	1.35	0.630	HM813849	HM813811
	130.175	41.275	41.275	31.750	3.5	3.3	644	633	151000	229000	2800	3800	87.0	81.0	116.0	124.0	3.5	3.3	11.2	0.36	1.7	0.91	1.50	1.05	644	633
	133.350	33.338	33.338	26.195	3.5	0.8	47675	47620A	151000	229000	2600	3500	88.0	82.0	121.0	128.0	3.5	0.8	3.8	0.40	1.5	0.82	1.38	0.590	47675	47620A
	136.525	41.275	41.275	31.750	3.5	3.3	H414249	H414210	231000	300000	2700	3600	89.0	83.3	121.0	129.0	3.5	3.3	10.9	0.36	1.7	0.92	1.82	0.795	H414249	H414210
	136.525	41.275	41.275	31.750	3.6	3.2	H414249	H414210	228000	295000																



**Tapered Roller Bearings**  
**Inch Series**

Bore Diameter : 73.025~84.138mm



- 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>

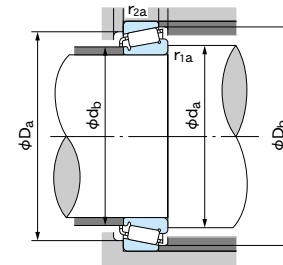
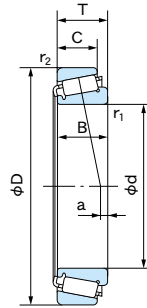
- Static equivalent radial load  
Larger value of following to be used:  
 $P_{or} = 0.5 F_r + Y_o F_a$   
 $P_{or} = F_r$
- Values e, Y<sub>1</sub>, and Y<sub>o</sub> from table.

1N=0.102kgf

Boundary dimensions (mm)								Bearing No.		Basic dynamic load rating		Basic static load rating		Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center		Axial load factor		Mass (kg) Reference		Bearing No.	
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone	Cup	Cr (N)	Cor (N)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)	a (°)	e	Y <sub>1</sub>	Y <sub>o</sub>	Cone	Cup	Cone	Cup			
73.025	112.713	25.400	25.400	19.050	3.6	3.2	29685	29620	97000	155000	2700	3800	86.0	80.0	101.0	109.0	3.6	3.2	-0.8	0.49	1.23	0.68	0.593	0.278	29685	29620			
	117.475	30.163	30.163	23.813	3.6	3.2	33287	33462	118000	179000	2700	3700	87.0	80.0	104.0	112.0	3.6	3.2	2.4	0.44	1.38	0.76	0.744	0.446	33287	33462			
	125.412	25.400	25.400	19.845	3.5	1.5	27680	27620	102000	164000	2700	3600	88.0	82.0	115.0	120.0	3.5	1.5	-0.6	0.42	1.4	0.79	0.90	0.410	27680	27620			
	127.000	30.162	31.000	22.225	3.5	3.3	42683	42620	131000	181000	2800	3700	88.0	81.0	114.0	121.0	3.5	3.3	2.8	0.42	1.4	0.79	1.05	0.510	42683	42620			
	127.000	36.513	36.170	28.575	3.6	3.2	567	563	156000	226000	2500	3500	88.0	81.0	112.0	120.0	3.6	3.2	7.9	0.36	1.65	0.91	1.13	0.661	567	563			
	149.225	53.975	54.229	44.450	3.5	3.3	6460	6420	284000	410000	2500	3400	93.0	87.0	129.0	140.0	3.5	3.3	15.1	0.36	1.7	0.91	2.79	1.65	6460	6420			
	149.225	53.975	54.229	44.450	7.0	3.2	6460YA	6420	285000	404000	2200	3100	111.0	88.0	129.0	141.0	7.0	3.2	14.7	0.36	1.66	0.91	2.73	1.64	6460YA	6420			
	150.089	44.450	46.673	36.512	3.5	3.3	744	742	252000	345000	2400	3200	91.0	85.0	134.0	142.0	3.5	3.3	12.0	0.33	1.8	1.0	2.50	1.06	744	742			
	73.817	112.712	25.400	25.400	19.050	1.5	3.3	29688	29620	86000	133000	3100	4100	83.0	81.0	101.0	109.0	1.5	3.3	-0.9	0.49	1.2	0.68	0.575	0.290	29688	29620		
	74.612	139.992	36.512	36.098	28.575	3.5	3.3	577	572	171000	252000	2500	3400	91.0	85.0	125.0	133.0	3.5	3.3	5.3	0.40	1.5	0.82	1.65	0.820	577	572		
76.200	125.412	25.400	25.400	19.845	3.5	1.5	27684	27620	102000	164000	2700	3600	91.0	84.0	115.0	120.0	3.5	1.5	-0.6	0.42	1.4	0.79	0.83	0.410	27684	27620			
	133.350	30.162	29.769	22.225	6.4	3.3	495AX	492A	118000	175000	2600	3500	98.0	86.0	120.0	128.0	6.4	3.3	0.8	0.44	1.4	0.74	1.20	0.430	495AX	492A			
	135.733	44.450	46.101	34.925	3.5	3.3	5760	5735	207000	295000	2600	3600	94.0	88.0	119.0	130.0	3.5	3.3	11.7	0.41	1.5	0.81	1.83	0.882	5760	5735			
	136.525	30.162	29.769	22.225	3.5	3.3	495A	493	118000	175000	2600	3500	92.0	86.0	122.0	130.0	3.5	3.3	0.8	0.44	1.4	0.74	1.26	0.490	495A	493			
	139.992	36.512	36.098	28.575	3.5	3.3	575	572	171000	252000	2500	3400	92.0	86.0	125.0	133.0	3.5	3.3	5.3	0.40	1.5	0.82	1.50	0.810	575	572			
	161.925	47.625	48.260	38.100	3.5	3.3	755	752	273000	390000	2300	3100	95.0	88.0	147.0	150.0	3.5	3.3	11.9	0.34	1.8	0.97	3.50	1.60	755	752			
	161.925	49.212	46.038	31.750	3.5	3.3	9285	9220	230000	263000	2100	3000	103.0	89.0	138.0	153.0	3.5	3.3	0	0.71	0.85	0.47	2.90	1.40	9285	9220			
	168.275	53.975	56.363	41.275	6.4	3.3	843	832	340000	460000	2200	3000	101.0	89.0	149.0	155.0	6.4	3.3	18.4	0.30	2.0	1.1	4.10	1.73	843	832			
	171.450	49.212	46.038	31.750	3.5	3.3	9380	9321	229000	271000	2000	2700	105.0	98.2	147.0	164.0	3.5	3.3	-4.4	0.76	0.79	0.43	3.50	1.50	9380	9321			
	190.500	57.150	57.531	46.038	3.5	3.3	HH221430	HH221410	425000	585000	1900	2600	101.0	95.0	171.0	179.0	3.5	3.3	14.4	0.33	1.8	0.99	5.80	2.90	HH221430	HH221410			
77.788	133.350	30.162	29.769	22.225	3.5	3.3	495AS	492A	118000	175000	2600	3500	93.0	87.0	120.0	128.0	3.5	3.3	0.8	0.44	1.4	0.74	1.10	0.430	495AS	492A			
	135.733	44.450	46.101	34.925	3.5	3.3	5795	5735	215000	340000	2600	3600	96.0	89.0	119.0	130.0	3.5	3.3	11.7	0.41	1.5	0.81	1.75	0.880	5795	5735			
79.375	146.050	41.275	41.275	31.750	3.5	3.3	661	653	188000	260000	2500	3300	96.0	90.0	131.0	139.0	3.5	3.3	7.9	0.41	1.5	0.81	2.00	0.890	661	653			
	150.089	44.450	46.672	36.512	3.5	3.3	750	742	273000	390000	2400	3200	96.0	90.0	134.0	142.0	3.5	3.3	11.9	0.33	1.8	1.0	1.45	1.06	750	742			
	161.925	47.625	48.260	38.100	8.0	3.3	756A	752	273000	390000	2300	3100	106.0	91.0	144.0	150.0	8.0	3.3	14.9	0.34	1.8	0.97	3.02	1.60	756A	752			
80.000	130.000	35.000	34.000	28.500	3.0	2.5	JM515649	JM515610	168000	256000	2400	3300	94.0	88.0	117.0	125.0	3.0	2.5	5.4	0.39	1.54	0.85	1.19	0.585	JM515649	JM515610			
80.962	133.350	30.162	29.769	22.225	3.5	3.3	496	492A	118000	175000	2600	3500	95.0	89.0	120.0	128.0	3.5	3.3	0.7	0.44	1.4	0.74	1.05	0.430	496	492A			
	133.350	33.338	33.338	26.195	3.5	0.8	47681	47620A	151000	228000	2600	3500	95.0	89.0	121.0	128.0	3.5	0.8	4.3	0.40	1.5	0.82	1.18	0.59	47681	47620A			
	150.089	44.450	46.673	36.512	5.0	3.3	740	742	253000	345000	2400	3200	101.0	91.0	134.0	142.0	5.0	3.3	11.9	0.33	1.8	1.01	2.33	1.06	740	742			
	168.275	53.975	56.363	41.275	0.8	3.3	838	832	340000	470000	2200	3000	90.0	89.0	149.0	155.0	0.8	3.3	18.4	0.30	2.0	1.1	4.05	1.73	838	832			
82.550	125.413	25.400	25.400	19.845	3.6	1.6	27687	27620	101000	162000	2400	3400	96.0	89.0	115.0	120.0	3.6	1.6	0.7	0.42	1.44	0.79	0.711	0.349	27687	27620			
	133.350	30.162	29.769	22.225	3.5	3.3	495	492A	118000	175000	2600	3500	97.0	90.0	120.0	128.0	3.5	3.3	0.7	0.44	1.4	0.74	1.02	0.51	495	492A			
	133.350	33.338	33.338	26.195	3.5	0.8	47686	47620A	151000	228000	2600	3500	97.0	90.0	121.0	128.0	3.5	0.8	3.8	0.40	1.5	0.82	1.15	0.575	47686	47620A			
	133.350	33.338	33.338	26.195	3.6	3.2	47686	47620	145000	226000	2300	3200	108.0	94.0	119.0	128.0	3.6	3.2	4.2	0.40	1.48	0.82	1.11	0.582	47686	47620			
	133.350	33.338	33.338	26.195	6.7	3.2	47687	47620	145000	226000	2300	3200	107.0	94.0	119.0	128.0	6.7	3.2	4.2	0.40	1.48	0.82	1.10	0.582	47687	47620			
	133.350	39.688	39.688	32.545	3.5	3.3	HM516449	HM516410	184000	320000	2600	3500	99.0	92.0	118.0	128.0	3.5	3.3	7.5	0.40	1.5	0.82	1.50	0.750	HM516449	HM516410			
	139.992	36.512	36.098	28.575	3.5	3.3	580	572	171000	255000	2500	3400	98.0	91.0	125.0	133.0	3.5	3.3	5.3	0.40	1.5	0.82	1.35	0.810	580	572			
	139.992	36.513	36.098	28.575	3.6	3.2	580R	572	175000	262000	2300	3200	98.0	91.0	125.0	133.0	3.6	3.2	5.5	0.40	1.49	0.82	1.35	0.841	580R	572			
	146.050	41.275	41.275	31.750	3.5	3.3	663	653	188000	260000	2500	3300	99.0	92.0	131.0	139.0	3.5	3.3	8.0	0.41	1.5	0.81	1.85	0.890	663	653			
	161.925	47.625	48.260	38.100	3.5	3.3	757	752	273000	390000	2300	3100	100.0	94.0	144.0	150.0	3.5	3.3	12.1										

**Tapered Roller Bearings**  
**Inch Series**

Bore Diameter : 85.027~95.250mm



- 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>

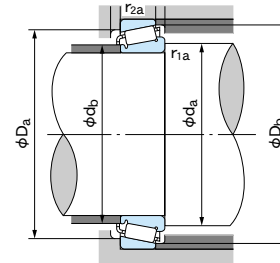
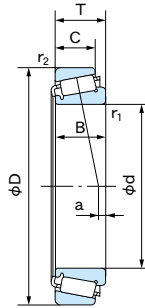
- Static equivalent radial load  
Larger value of following to be used:  
 $P_{or} = 0.5 F_r + Y_0 F_a$   
 $P_{or} = F_r$
- Values e, Y<sub>1</sub>, and Y<sub>0</sub> from table.

1N=0.102kgf

Boundary dimensions (mm)						Bearing No.		Basic dynamic load rating		Basic static load rating		Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center		Axial load factor		Mass (kg) Reference		Bearing No.	
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone	Cup	Cr (N)	Cor (N)	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)	a (°)	e	Y <sub>1</sub>	Y <sub>0</sub>	Cone	Cup	Cone	Cup	
85.027	150.089	44.450	46.672	36.512	3.5	3.3	749	742	253000	345000	2400	3200	101.0	95.0	134.0	142.0	3.5	3.3	11.9	0.33	1.8	1.0	2.15	1.05	749	742	
85.725	133.350	30.163	29.769	22.225	3.6	3.2	HM617049	492A	133000	198000	2300	3200	99.0	93.0	120.0	128.0	3.6	3.2	0.3	0.44	1.35	0.74	0.969	0.441	497	492A	
	136.525	30.163	29.769	22.225	3.6	3.2		493	133000	198000	2300	3200	99.0	93.0	122.0	130.0	3.6	3.2	0.3	0.44	1.35	0.74	0.972	0.558	497	493	
	142.138	42.862	42.862	34.133	4.8	3.3		7010	210000	345000	2500	3300	106.0	95.7	125.0	137.0	4.8	3.3	7.4	0.43	1.4	0.76	1.80	0.910	HM617049	HM617010	
	152.400	39.688	36.322	30.163	3.6	3.2		596	592A	183000	287000	2100	2900	102.0	96.0	135.0	144.0	3.6	3.2	2.6	0.44	1.36	0.75	1.81	1.06	596	592A
	161.925	47.625	48.260	38.100	3.5	3.3		758	752	273000	390000	2300	3100	103.0	97.0	144.0	150.0	3.5	3.3	11.9	0.34	1.8	0.97	2.65	1.60	758	752
	168.275	41.275	41.275	30.162	3.5	3.3		677	672	208000	310000	2000	2800	105.0	99.0	149.0	160.0	3.5	3.3	2.8	0.47	1.3	0.70	2.87	1.27	677	672
	168.275	53.975	56.363	41.275	3.5	3.3		841	832	340000	470000	2200	3000	101.0	94.0	149.0	155.0	3.5	3.3	18.4	0.30	2.0	1.1	3.53	1.78	841	832
87.312	190.500	57.150	57.531	44.450	8.0	3.3	869	854	365000	525000	1900	2600	120.0	105.0	171.0	179.0	8.0	3.3	15.0	0.33	1.8	0.99	5.67	2.69	869	854	
88.900	121.442	15.083	15.083	11.112	1.5	1.5	LL217849	LL217810	77500	132000	2700	3500	97.0	94.0	116.0	119.0	1.5	1.5	-0.1	0.33	1.8	1.0	0.490	0.245	LL217849	LL217810	
	147.638	35.717	36.322	26.192	3.5	0.8		593	592XE	185000	288000	2300	3100	104.0	98.0	135.0	142.0	3.5	0.8	-1.4	0.44	1.4	0.75	1.70	1.05	593	592XE
	149.225	31.750	28.971	24.608	3.0	3.3	42350	42587	139000	214000	2300	3100	104.0	98.0	134.0	143.0	3.0	3.3	3.1	0.49	1.2	0.67	1.32	0.590	42350	42587	
	152.400	39.688	36.322	30.163	3.6	3.2	593	592A	183000	287000	2100	2900	121.0	105.0	135.0	144.0	3.6	3.2	2.6	0.44	1.36	0.75	1.69	1.06	593	592A	
	152.400	39.688	36.322	30.163	6.4	3.2	HM518445	HM518410	248000	359000	2100	2900	110.0	98.0	135.0	144.0	6.4	3.2	6.6	0.40	1.49	0.82	2.09	0.783	HM518445	HM518410	
	161.925	53.975	55.100	42.862	3.5	3.3		6580	6535	305000	460000	2200	3000	109.0	101.9	141.0	154.0	3.5	3.3	13.1	0.40	1.5	0.82	3.10	1.65	6580	6535
	161.925	53.975	55.100	42.862	3.6	3.2	6580R	6535	316000	471000	2000	2800	109.0	98.0	141.0	154.0	3.6	3.2	12.9	0.40	1.50	0.82	3.06	1.68	6580R	6535	
	168.275	41.275	41.275	30.162	3.5	3.3	679	672	208000	310000	2000	2800	105.0	98.0	149.0	160.0	3.5	3.3	2.8	0.47	1.3	0.70	2.89	1.27	679	672	
	168.275	53.975	56.363	41.275	3.5	3.3	850	832	340000	470000	2200	3000	106.0	100.0	149.0	155.0	3.5	3.3	18.4	0.30	2.0	1.1	3.31	1.78	850	832	
	168.275	53.975	56.363	41.275	3.6	3.2	850R	832	344000	467000	2000	2800	122.0	103.0	149.0	155.0	3.6	3.2	19.0	0.30	2.00	1.10	3.26	1.75	850R	832	
	171.450	47.625	48.260	38.100	5.0	3.3		77350	77675	239000	340000	2100	2800	110.0	101.0	153.0	161.0	5.0	3.3	9.6	0.37	1.6	0.90	3.30	1.57	77350	77675
	190.500	57.150	57.531	44.450	8.0	3.3	855	854	340000	525000	1900	2600	118.0	103.0	170.0	174.0	8.0	3.3	15.4	0.33	1.8	0.99	5.05	2.69	855	854	
	200.000	52.761	49.212	34.925	3.5	3.3	98350	98788	289000	365000	2000	2700	105.0	98.0	170.0	193.0	3.5	3.3	1.8	0.75	0.79	0.43	4.80	2.55	98350	98788	
89.974	146.975	40.000	40.000	32.499	7.1	3.6	HM218248	HM218210	206000	310000	2100	3000	112.0	99.0	133.0	141.0	7.1	3.6	9.2	0.33	1.80	0.99	1.64	0.799	HM218248	HM218210	
90.000	147.000	40.000	40.000	32.500	7.0	3.5	*HM218248	*HM218210	220000	325000	2300	3100	104.0	99.0	135.0	142.0	7.0	3.5	8.6	0.33	1.8	0.99	1.96	0.95	*HM218248	*HM218210	
90.488	161.925	47.625	48.260	38.100	3.6	3.2	760	752	273000	391000	2000	2900	107.0	101.0	144.0	150.0	3.6	3.2	12.1	0.34	1.76	0.97	2.40	1.62	760	752	
92.075	146.050	33.338	34.925	26.195	3.5	3.3	47890	47820	157000	250000	2300	3100	107.0	101.0	131.0	140.0	3.5	3.3	1.0	0.45	1.3	0.74	1.63	0.660	47890	47820	
	147.638	35.717	36.322	26.192	3.5	0.8		598	592XE	185000	288000	2300	3100	107.0	101.0	135.0	144.0	3.5	0.8	-1.5	0.44	1.4	0.75	1.65	1.05	598	592XE
	148.430	28.575	28.971	21.433	3.5	3.0	42362	42584	139000	214000	2300	3100	107.0	101.0	134.0	142.0	3.5	3.0	-3.1	0.49	1.2	0.67	1.30	0.550	42362	42584	
	150.000	35.992	36.322	27.000	6.4	3.0	598A	593X	183000	287000	2100	2900	121.0	105.0	126.0	143.0	6.4	3.0	2.6	0.44	1.36	0.75	1.55	0.780	598A	593X	
	152.400	39.688	36.322	30.162	6.4	3.3	598A	592A	185000	288000	2300	3100	113.0	101.0	135.0	144.0	6.4	3.3	2.5	0.44	1.4	0.75	1.67	1.15	598A	592A	
	152.400	39.688	36.322	30.163	6.4	3.2	598AUR	592AUR	183000	287000	2100	2900	121.0	105.0	135.0	144.0	6.4	3.2	2.6	0.44	1.36	0.75	1.57	1.06	598AUR	592AUR	
	168.275	41.275	41.275	30.162	6.4	3.3	681A	672	208000	310000	2000	2800	116.0	104.0	149.0	160.0	6.4	3.3	2.8	0.47	1.3	0.70	2.64	1.27	681A	672	
	180.975	47.625	48.006	38.100	3.5	3.3	778	772	278000	415000	2000	2700	114.0	107.0	161.0	168.0	3.5	3.3	8.1	0.39	1.6	0.86	3.49	1.94	778	772	
	190.500	57.150	57.531	44.450	8.0	3.3	857	854	340000	525000	1900	2600	121.0	106.0	170.0	174.0	8.0	3.3	15.4	0.33	1.8	0.99	4.83	2.69	857	854	
	93.662	148.430	28.575	28.971	21.433	3.0	3.0	42368	42584	139000	214000	2300	3100	107.0	102.0	134.0	142.0	3.0	3.0	-3.1	0.49	1.2	0.67	1.28	0.550	42368	42584
95.250	146.050	33.338	34.925	26.195	3.5	3.3	47896	47820	157000	250000	2300	3100	110.0	103.0	131.0	140.0	3.5	3.3	1.0	0.45	1.3	0.74	1.53	0.660	47896	47820	
	147.638	35.717	36.322	26.192	3.5	0.8		594	592XE	185000	288000	2300	3100	110.0	104.0	135.0	142.0	3.5	0.8	-1.5	0.44	1.4	0.75	2.10	1.05	594	592XE
	150.000	35.992	36.322	27.000	3.6	3.0	594	593X	183000	287000	2100	2900	121.0	105.0	126.0	143.0	3.6	3.0	2.6	0.44	1.36	0.75	1.43	0.780	594	593X	
	152.400	39.688	36.322	30.163	3.6	3.2	594	592A	183000	287000	2100	2900	121.0	105.0	135.0	144.0	3.6	3.2	2.6	0.44	1.36	0.75	1.43	1.06	594	592A	
	157.162	36.512	36.116	26.195	3.5	3.3	52375	52618	176000	277000	2100	2900	112.0	105.0													

**Tapered Roller Bearings**  
**Inch Series**

Bore Diameter : 98.425~127.000mm



- 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>

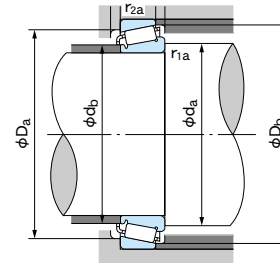
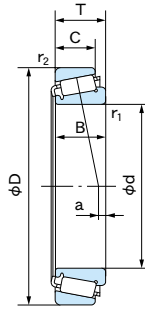
- Static equivalent radial load  
Larger value of following to be used:  
Por=0.5Fr+YoFa  
Por=Fr  
• Values e, Y<sub>1</sub>, and Yo from table.

1N=0.102kgf

Boundary dimensions (mm)						Bearing No.		Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center		Axial load factor		Mass (kg) Reference		Bearing No.		
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone			Cup	Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)	Constant e	Y <sub>1</sub>	Y <sub>0</sub>	Cone	Cup	Cone	Cup	
98.425	161.925	39.688	36.116	29.370	3.5	3.3	52387	52638	176000	277000	2100	2900	117.0	111.0	142.0	152.0	3.5	3.3	3.6	0.47	1.3	0.69	1.95	0.900	52387	52638
	168.275	41.275	41.275	30.162	3.5	3.3	685	672	208000	310000	2000	2800	116.0	109.0	149.0	160.0	3.5	3.3	2.8	0.47	1.3	0.70	2.35	1.27	685	672
	180.975	47.625	48.006	38.100	3.5	3.3	779	772	278000	415000	2000	2700	116.0	110.0	161.0	168.0	3.5	3.3	8.1	0.39	1.6	0.86	3.30	1.94	779	772
	190.500	57.150	57.531	44.450	3.5	3.3	866	854	365000	525000	1900	2600	118.0	111.0	170.0	174.0	3.5	3.3	15.4	0.33	1.8	0.99	4.45	2.69	866	854
	100.000	180.975	47.625	48.006	38.100	3.5	3.3	783	772	278000	415000	2000	2700	122.0	116.0	161.0	168.0	3.5	3.3	8.1	0.39	1.6	0.86	3.22	1.94	783
100.012	157.162	36.512	36.116	26.195	3.5	3.3	52393	52618	176000	277000	2100	2900	116.0	109.0	142.0	152.0	3.5	3.3	0.4	0.47	1.3	0.69	1.79	0.700	52393	52618
101.600	157.162	36.512	36.116	26.195	3.5	3.3	52400	52618	176000	277000	2100	2900	117.0	111.0	142.0	152.0	3.5	3.3	0.4	0.47	1.3	0.69	1.70	0.700	52400	52618
	168.275	41.275	41.275	30.162	3.5	3.3	687	672	208000	310000	2000	2800	118.0	112.0	149.0	160.0	3.5	3.3	2.8	0.47	1.3	0.70	2.13	1.27	687	672
	180.975	47.625	48.006	38.100	3.5	3.3	780	772	278000	415000	2000	2700	119.0	113.0	161.0	168.0	3.5	3.3	8.1	0.39	1.6	0.86	3.04	1.94	780	772
	190.500	57.150	57.531	44.450	8.0	3.3	861	854	365000	525000	1900	2600	129.0	114.0	170.0	174.0	8.0	3.3	15.4	0.33	1.8	0.99	4.15	2.69	861	854
	190.500	57.150	57.531	46.038	8.0	3.3	HH221449	HH221410	425000	585000	1900	2600	131.0	115.9	171.0	179.0	8.0	3.3	15.0	0.33	1.8	0.99	4.70	2.28	HH221449	HH221410
	200.000	52.761	49.212	34.925	3.5	3.3	98400	98788	289000	365000	2000	2700	105.0	110.0	170.0	193.0	3.5	3.3	1.8	0.75	0.79	0.43	4.55	2.55	98400	98788
	212.725	66.675	66.675	53.975	7.0	3.3	941	932	455000	665000	1700	2400	141.0	128.0	187.0	193.0	7.0	3.3	19.7	0.33	1.8	1.0	6.05	4.06	941	932
212.725	66.675	66.675	53.975	7.0	3.3	HH224335	HH224310	480000	670000	1700	2300	132.0	121.0	192.0	201.0	7.0	3.3	18.9	0.33	1.8	1.0	8.30	3.02	HH224335	HH224310	
104.775	180.975	47.625	48.006	38.100	3.5	3.3	782	772	278000	415000	2000	2700	122.0	116.0	161.0	168.0	3.5	3.3	8.1	0.39	1.6	0.86	2.90	1.94	782	772
	190.500	47.625	49.212	34.925	3.5	3.3	71412	71750	273000	425000	1800	2500	124.0	118.0	171.0	181.0	3.5	3.3	6.5	0.42	1.4	0.79	4.09	1.74	71412	71750
107.950	146.050	21.433	21.433	16.670	1.5	1.5	L521949	L521910	93500	155000	2200	3000	116.0	114.0	136.0	141.0	1.5	1.5	-4.5	0.39	1.5	0.84	0.640	0.325	L521949	L521910
	158.750	23.020	21.438	15.875	3.6	3.2	37425	37625	104000	169000	1900	2700	122.0	115.0	143.0	152.0	3.6	3.2	-13.5	0.61	0.99	0.54	0.882	0.498	37425	37625
	159.987	34.925	34.925	26.988	3.5	3.3	LM522546	LM522510	176000	277000	2000	2800	122.0	116.0	146.0	154.0	3.5	3.3	1.4	0.40	1.5	0.82	1.55	0.775	LM522546	LM522510
	161.925	34.925	34.925	26.988	3.5	3.3	48190	48120	164000	280000	2100	2800	122.0	116.0	146.0	156.0	3.5	3.3	-3.9	0.51	1.2	0.65	1.60	0.830	48190	48120
	165.100	36.512	36.512	26.988	3.5	3.3	56425	56650	190000	305000	2000	2800	123.0	117.0	149.0	159.0	3.5	3.3	-2.0	0.50	1.2	0.66	1.75	0.850	56425	56650
	190.500	47.625	49.212	34.925	3.5	3.3	71425	71750	273000	425000	1800	2500	126.0	120.0	171.0	181.0	3.5	3.3	6.5	0.42	1.4	0.79	3.88	1.74	71425	71750
	212.725	66.675	66.675	53.975	8.0	3.3	936	932	455000	665000	1700	2400	141.0	128.0	187.0	193.0	8.0	3.3	19.7	0.33	1.8	1.0	5.86	4.06	936	932
	212.725	66.675	66.675	53.975	8.0	3.3	HH224340	HH224310	480000	670000	1700	2300	139.0	126.0	192.0	201.7	8.0	3.3	18.9	0.33	1.8	1.0	7.74	3.02	HH224340	HH224310
114.300	177.800	41.275	41.275	30.162	3.5	3.3	64450	64700	231000	370000	1900	2600	131.0	125.0	160.0	172.0	3.5	3.3	-1.2	0.52	1.2	0.64	2.46	1.15	64450	64700
	181.000	34.925	31.750	25.400	3.5	3.3	68450	*68712	173000	249000	1900	2500	136.0	125.0	160.0	172.0	3.5	3.3	-5.5	0.50	1.2	0.66	1.87	1.10	68450	*68712
	190.500	47.625	49.212	34.925	3.5	3.3	71450	71750	273000	425000	1800	2500	132.0	125.0	171.0	181.0	3.5	3.3	6.5	0.42	1.4	0.79	3.48	1.74	71450	71750
	212.725	66.675	66.675	53.975	7.0	3.3	938	932	455000	665000	1700	2400	141.0	128.0	187.0	193.1	7.0	3.3	19.7	0.33	1.8	1.0	5.73	4.06	938	932
	212.725	66.675	66.675	53.975	7.0	3.3	HH224346	HH224310	480000	670000	1700	2300	143.0	131.0	192.0	201.7	7.0	3.3	18.7	0.33	1.8	1.0	7.31	3.02	HH224346	HH224310
115.087	190.500	47.625	49.212	34.925	3.5	3.3	71453	71750	273000	425000	1800	2500	133.0	126.0	171.0	181.0	3.5	3.3	6.5	0.42	1.4	0.79	3.43	1.74	71453	71750
120.650	169.862	25.400	26.195	20.638	1.5	1.5	L225842	L225810	128000	264000	1500	2000	140.0	137.0	157.0	165.0	1.5	1.5	0.4	0.33	1.8	0.99	1.48	0.505	L225842	L225810
	174.625	35.720	36.512	27.783	3.5	1.5	M224749	M224710	212000	385000	1900	2600	135.0	129.0	163.0	168.0	3.5	1.5	3.6	0.33	1.8	0.99	1.82	0.835	M224749	M224710
	206.375	47.625	47.625	34.925	3.3	3.3	795	792	299000	500000	1600	2200	139.0	134.0	186.0	198.0	3.3	3.3	2.1	0.46	1.3	0.72	4.52	1.92	795	792
	234.950	63.500	63.500	49.212	6.4	3.3	95475	95925	500000	770000	1500	2000	152.0	140.0	209.0	217.0	6.4	3.3	14.0	0.37	1.6	0.89	8.17	3.96	95475	95925
127.000	165.895	18.258	17.462	13.495	1.5	1.5	LL225749	LL225710	71500	125000	1500	2000	140.0	137.0	159.0	162.0	1.5	1.5	-6.1	0.33	1.8	0.99	0.678	0.270	LL225749	LL225710
	180.975	25.400	26.195	20.638	1.5	1.5	L225849	L225818	128000	264000	1500	2000	140.0	137.0	157.0	165.0	1.5	1.5	0.4	0.33	1.8	0.99	1.42	1.01	L225849	L225818
	182.562	39.688	38.100	33.338	3.5	3.3	48290	48220	235000	445000	1800	2400	141.0	135.0	168.0	176.0	3.5	3.3	5.6	0.31	2.0	1.1	2.14	1.15	48290	48220
	196.850	46.038	46.038	38.100	3.5	3.3	67388	67322	295000	520000	1700	2300	144.0	138.0	180.0	189.0	3.5	3.3	6.4	0.34	1.7	0.96	3.62	1.44	67388	67322
	215.900	47.625	47.625	34.925	3.5	3.3	74500	74850	320000	565000	1500	2100	148.0	141.0	196.0	208.0	3.5	3.3	-2.2	0.49	1.2	0.68	5.01	1.93	74500	74850
	228.600	53.975																								

**Tapered Roller Bearings**  
**Inch Series**

Bore Diameter : 128.588~187.325mm



- 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:  
 $P_{or} = 0.5Fr + Y_o Fa$   
 $P_{or} = Fr$
- Values e, Y<sub>1</sub>, and Y<sub>o</sub> from table.

1N=0.102kgf

Boundary dimensions (mm)							Bearing No.		Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (rpm)		Abutment and fillet dimensions (mm)						Load center a (') Constant e	Axial load factor		Mass (kg) Reference		Bearing No.		
d	D	T	B	C	r <sub>1</sub> (min)	r <sub>2</sub> (min)	Cone	Cup			Grease lubrication	Oil lubrication	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (min)	D <sub>b</sub> (min)	r <sub>1a</sub> (max)	r <sub>2a</sub> (max)		Y <sub>1</sub>	Y <sub>o</sub>	Cone	Cup	Cone	Cup	
128.588	190.500	34.925	31.750	25.400	3.5	3.3	48506	48750	222000	410000	1600	2100	151.0	136.0	166.0	184.0	3.5	3.3	-15.4	0.65	0.91	0.50	2.12	1.16	48506	48750
	206.375	47.625	47.625	34.925	3.3	3.3	799	792	299000	500000	1700	2200	146.0	140.0	186.0	198.0	3.3	3.3	2.1	0.46	1.3	0.72	3.84	1.92	799	792
133.350	190.500	39.688	39.688	33.338	3.5	3.3	48385	48320	219000	430000	1700	2300	148.0	142.0	177.0	184.0	3.3	3.3	4.0	0.32	1.9	1.0	2.41	1.15	48385	48320
	203.200	46.038	46.038	38.100	3.5	3.3	67390	67324	295000	520000	1700	2200	149.0	143.0	183.0	193.0	3.5	3.3	6.4	0.34	1.7	0.96	3.40	1.61	67390	67324
	234.950	63.500	63.500	49.212	9.7	3.3	95525	95925	500000	770000	1500	2000	166.0	148.0	209.0	217.0	9.7	3.3	14.0	0.37	1.6	0.89	8.00	3.96	95525	95925
136.350	190.500	39.688	39.688	33.338	3.5	3.3	48393	48320	219000	430000	1700	2300	151.0	144.0	177.0	184.0	3.5	3.3	4.0	0.32	1.9	1.0	2.21	1.15	48393	48320
	215.900	47.625	47.625	34.925	3.5	3.3	74537	74850	320000	565000	1500	2100	148.0	141.0	196.0	208.0	3.5	3.3	-2.2	0.49	1.2	0.68	5.12	1.93	74537	74850
	224.600	57.150	57.150	44.450	3.5	3.3	896	892	410000	655000	1600	2100	173.0	156.0	200.0	222.0	3.5	3.3	7.6	0.40	1.5	0.82	6.18	2.76	896	892
139.700	180.975	21.433	20.638	16.670	1.5	1.5	LL428349	LL428310	120000	214000	1700	2200	150.0	145.0	175.0	175.0	1.5	1.5	-7.3	0.37	1.6	0.9	0.90	0.45	LL428349	LL428310
	215.900	47.625	47.625	34.925	3.5	3.3	74550	74850	320000	565000	1500	2100	158.0	151.0	196.0	208.0	3.5	3.3	-2.2	0.49	1.2	0.68	4.12	1.93	74550	74850
	228.600	57.150	57.150	44.450	3.5	3.3	898	892	410000	655000	1600	2100	173.0	156.0	200.0	222.0	3.5	3.3	7.6	0.40	1.5	0.82	6.24	2.76	898	892
	241.300	57.150	56.642	44.450	3.5	3.3	82550	82950	410000	665000	1500	2100	179.0	161.0	205.0	230.0	3.5	3.3	3.6	0.44	1.3	0.75	6.34	3.70	82550	82950
254.000	66.675	66.675	47.625	7.0	3.3	99550	99100	525000	855000	1300	1800	170.0	156.0	227.0	238.0	7.0	3.3	12.2	0.41	1.5	0.81	9.87	4.28	99550	99100	
142.875	200.025	41.275	39.688	34.130	8.0	3.3	48684	48620	246000	505000	1600	2100	166.0	151.0	185.0	193.0	8.0	3.3	5.6	0.34	1.8	0.98	2.43	1.35	48684	48620
	193.675	28.575	28.575	23.020	4.8	1.5	36691	36620	181000	375000	1600	2200	162.0	153.0	182.0	188.0	4.8	1.5	-4.9	0.37	1.6	0.90	1.62	0.77	36691	36620
	203.200	28.575	28.575	23.020	1.5	1.5	36690	36626	181000	375000	1600	2200	155.0	153.0	186.0	190.0	1.5	1.5	-4.9	0.37	1.6	0.90	1.85	0.95	36690	36626
	241.300	57.150	56.642	44.450	3.5	3.3	82576	82950	410000	665000	1500	2100	179.0	161.0	205.0	230.0	3.5	3.3	3.6	0.44	1.3	0.75	6.34	3.70	82576	82950
	254.000	66.675	66.675	47.625	7.0	3.3	99575	99100	525000	855000	1300	1800	175.0	162.0	227.0	238.0	7.0	3.3	12.2	0.41	1.5	0.81	9.10	4.28	99575	99100
	268.288	74.612	74.612	57.150	6.4	6.4	EE107057	107105	600000	925000	1300	1800	175.0	163.0	227.0	238.0	6.4	6.4	14.0	0.39	1.5	0.85	12.2	5.92	EE107057	107105
304.800	88.900	82.550	57.150	6.4	6.4	HH932145	HH932110	730000	990000	1300	1800	208.0	172.0	245.0	293.0	6.4	6.4	-4.5	0.73	0.82	0.45	18.5	8.80	HH932145	HH932110	
149.225	236.538	57.150	56.642	44.450	3.5	3.3	HM231149	HM231110	475000	760000	1200	1700	175.0	163.0	215.0	229.0	3.5	3.3	15.7	0.32	1.9	1.04	6.42	2.72	HM231149	HM231110
	254.000	66.675	66.675	47.625	7.0	3.3	99587	99100	525000	855000	1300	1800	178.0	165.0	227.0	238.0	7.0	3.3	12.2	0.41	1.5	0.81	8.73	4.28	99587	99100
152.400	268.288	74.612	74.612	57.150	6.4	6.4	EE107060	107105	600000	925000	1300	1800	181.0	162.0	237.0	238.0	6.4	6.4	14.0	0.39	1.5	0.85	11.6	5.92	EE107060	107105
184.150	266.700	47.625	46.833	38.100	3.6	3.2	67883	67820	339000	703000	1100	1500	232.0	207.0	234.0	259.0	3.6	3.2	-10.2	0.48	1.26	0.69	6.05	2.58	67883	67820
187.325	266.700	47.625	46.833	38.100	3.6	3.2	67884	67820	339000	703000	1100	1500	232.0	207.0	234.0	259.0	3.6	3.2	-10.2	0.48	1.26	0.69	5.71	2.58	67884	67820

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