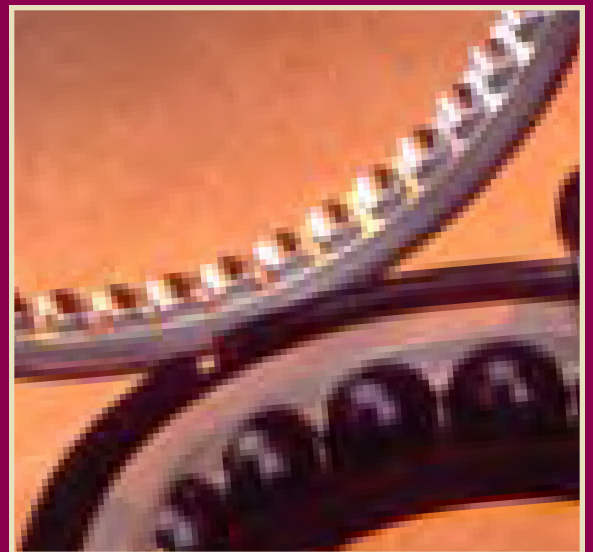




roller and ball bearings

DESIGN GUIDE



Welcome to the HiTech Division of NHBB

The HiTech Division of NHBB has firmly established its leadership position within the industry as the solution provider for your most critical and demanding bearing applications.

In today's competitive business climate, performance is what sets us apart. From bearing design to delivery of a quality product, on-time, at a competitive price, NHBB is committed to being the bearing supplier of choice.

The employees of the HiTech Division are devoted to making constant advancements in all aspects of our business. Initiatives such as AS9000, D1-9000 Rev A., and ISO 9001 provide the framework for continuing improvements in our manufacturing processes and product quality. Certification to the environmental standard ISO 14001 is reflective of our pledge to minimize our impact on the environment.

This Roller and Ball Bearing Design Guide illustrates many of the products offered by the HiTech Division. Standard dimensions, tolerances, and available options are included to help you select the optimal bearing design for your unique application. Please contact HiTech's sales or engineering groups for assistance with your specific requirements.



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Note: NHBB reserves the right to change specifications and other information included in this catalog without notice.
All information, data and dimension tables in this catalog have been carefully compiled and thoroughly checked.
However, no responsibility for possible errors or omissions can be assumed.

CAPABILITIES

WE CAN MAKE JUST ABOUT ANY BEARING.

While we offer a wide range of standard bearings, our specialty is custom bearing design and manufacture. We also have the facilities to develop and incorporate special materials and lubricants in order to meet the requirements of leading-edge applications. We encourage you to consult with NHBB engineers as early as possible in the product design phase. We'll acquaint you with the most up-to-date developments in bearing technology and their impact on your applications.



Miniature & Instrument Bearings
Precision Division



Composite Components
Astro Division



Ultra Precision Machine Tool Bearings
HiTech Division



ONGOING NEW PRODUCT DEVELOPMENT.



Rod Ends, Sphericals and Link Assemblies
Astro Division



Cylindrical Roller Bearings
HiTech Division

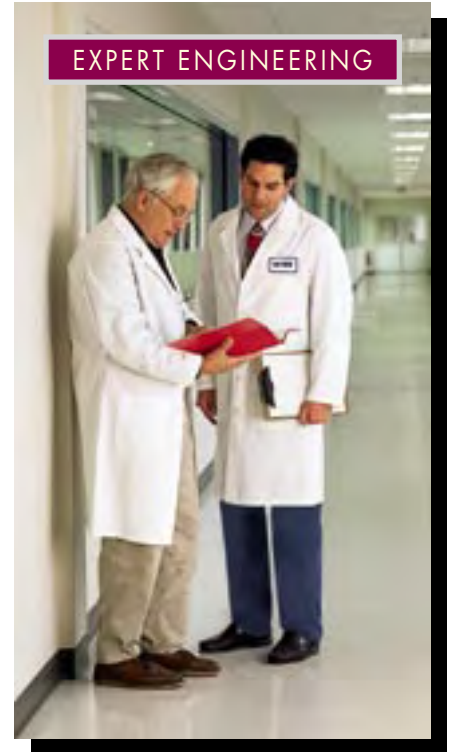
**WE MAKE
CUSTOM
PRODUCTS
TO YOUR
SPECIFICATIONS.**

Racing Series Bearings
Astro Division



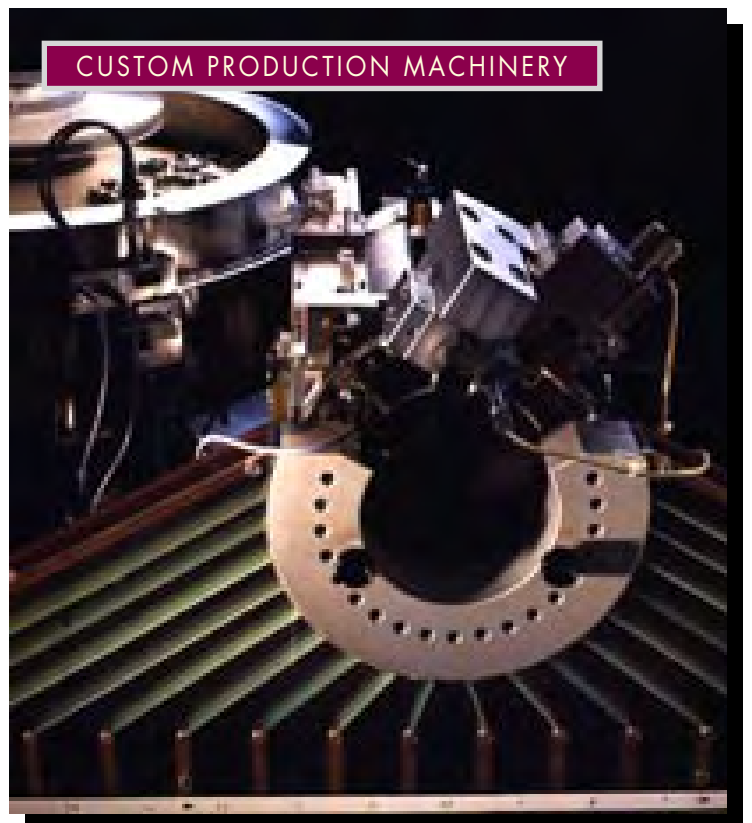
CAPABILITIES

ULTRA-PRECISION MANUFACTURING SYSTEMS.



OUR FACILITIES INCLUDE:

- CAD CAM-based Manufacturing and Design
- Metallurgy and Testing Laboratories
- Class 10,000 Clean Room
- Class 100 Clean Workstations
- World Class Manufacturing
- Comprehensive Life Testing





TOTAL IN-HOUSE QUALITY CONTROL.



DEDICATION TO QUALITY

WE MEET OR EXCEED EVERY STANDARD IN THE BOOK.

We employ over 1,000 people in a total of 455,000 sq. ft. of manufacturing, engineering and administrative facilities. With a dedicated R&D staff, materials and testing laboratories, state-of-the-art manufacturing, and continuous quality programming, we maintain stringent controls over each step in the manufacturing process.

This enables us to meet every major standard, including:

- ABEC
- MIL-SPEC
- RBEC
- ISO 9000



STATE-OF-THE-ART EQUIPMENT



LIFE-TESTING

PART NUMBERING

Ball Bearing Part Numbering System

EXAMPLE: MTMER-1905CV52DB20R6A5

MT	MER-	1905		CV52	DB20	R6	A5
MATERIAL	TYPE	BASIC NUMBER	ENCLOSURES	SPECIAL DESIGN	DUPLEX	CAGES	TOLERANCE
No Code=52100 chrome steel CE =52100 rings, ceramic balls MT =M-50 tool steel SB =440C modified SE =440C rings, ceramic balls SH =Cobalt based alloy SS =440C stainless steel TE =M-50 rings, ceramic balls	F =Flanged GR =Gothic arch R,RI =Radial MBR =Inner ring relieved, separable MDR =Inner ring relieved, non-separable MER =Outer ring relieved, non-separable W =Fractured outer ring	Inch Series: First 1-3 digits indicate OD in 16ths of an inch, the bore size is the next 2-3 digits Metric Series: ABMA Dimension series 18,19,10,02 and 03 indicated by 18,19,1,2,and 3 followed by bore size of: 00 for 10mm 01 for 12mm 02 for 15mm 03 for 17mm 04 for 20mm 05 for 25mm etc...in 5mm increments	D =Rubber seal DD1 =Molded, snap-in seal H =Metallic shield L =Glass reinforced PTFE shield S =Non-contact rubber seal Z =Metallic shield, removable	SD , 3 Digit number assigned by NHBB engineering CV , Non-standard race curvature expressed as a value	DB =Back to back DF =Face to face DT =Tandem DU =Universal When followed by a number= preload value in pounds	F =None, full complement R =2pc ribbon, steel R6 =Riveted ribbon, steel B2 =2pc riveted, bronze B5 =Machined, silicon-iron bronze KE =Crown, inner land piloted, phenolic KM =Fully machined, inner land piloted, phenolic M2 =One-piece machined silver plated steel	A1 =ABEC 1 * A3 =ABEC 3 A5 =ABEC 5 A7 =ABEC 7 A9 =ABEC 9 <small>*A1 miniature and instrument bearings of both the metric and inch configurations meet the tolerances of ABMA Standard 20 for ABEC 1 metric series bearings.</small>

The above descriptions indicate the most common options; additional types exist. Beyond the basic **part number**, NHBB may also show **specifications** such as coding, radial play, torque, lubricant and packaging. These features are not part of the basic number.



Roller Bearing Part Numbering System

EXAMPLE: MTPULS105-5

MT	TP	U	L	S	105	-5
MATERIAL	ALL ROLLERS	OUTER RING CONFIGURATION	INNER RING CONFIGURATION	CAGE MATERIAL	BASIC SIZE	- DASH NUMBER
No Code=52100 chrome steel MT =M-50 tool steel SB =440C modified SS =440C stainless steel	TP	U =Double guide flange L =Single guide flange S =No guide flanges	U =Double guide flange L =Single guide flange S =No guide flanges	B =Bronze or brass S =Steel	ABMA dimension series 18, 19, 1002 and 03 indicated by 18, 19, 1, 2 and 3 followed by bore size of: 00 for 10mm 01 for 12 mm 02 for 15mm 03 for 17mm 04 for 20mm 05 for 25 mm etc. ...in 5mm increments	Unique number assigned within each dimension series identifying special features

The roller bearing part numbering system is designed to identify the important basic features of the bearing while providing a unique part number. Complete bearing details are available on NHBB sales drawings.

METRIC SERIES
CYLINDRICAL ROLLER BEARINGS

Bore sizes 10-25 mm 5

Bore sizes 30-55 mm 6

Bore sizes 60-85 mm 7

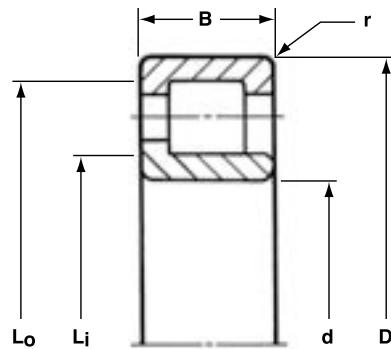
Bore sizes 90-130 mm 8

Bore sizes 140-200 mm 9





Cylindrical Roller Bearings



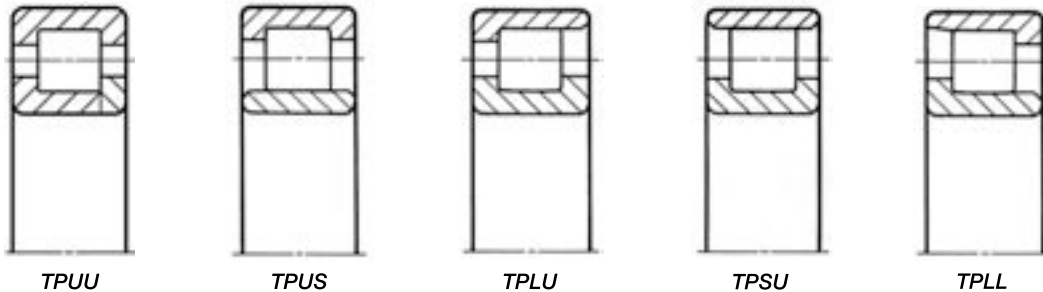
Notes:

1. NHB typically manufactures roller bearings in both 52100 and M-50 material, to RBEC 5 tolerances. Other materials and tolerances are available.
2. All cages are metallic, one-piece machined.
3. Standard rollers have equal length and diameter. Rectangular rollers (typically under 2:1, length to diameter ratio) are available.
4. Features such as puller grooves, mounting flanges, and anti-rotation devices can be designed into all ring configurations.
5. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.

BASIC P/N	BORE d		O.D. D		WIDTH B		NOMINAL ROLLER PATH DIA.		MOUNTING SHOULDER DIA.		FILLET RADIUS r	ROLLER		LOAD RATINGS LBS	
	mm	INCH	mm	INCH	mm	INCH	INNER INCH	OUTER INCH	MIN. SHAFT L _i INCH	MAX. HOUSING L _o INCH		NO.	DIA. & LENGTH mm	DYN C	STATIC C _o
											INCH				
TP1900	10	.3937	22	.8661	6	.2362	.4923	.7679	.472	.788	.012	10	3.5	1100	790
TP100	10	.3937	26	1.0236	8	.3150	.5116	.9053	.482	.929	.012	8	5	1800	1250
TP200	10	.3937	30	1.1811	9	.3543	.5910	.9847	.558	1.025	.024	8	5	1800	1250
TP300	10	.3937	35	1.3780	11	.4331	.6694	1.1812	.571	1.202	.024	8	6.35	2900	2000
TP1901	12	.4724	24	.9449	6	.2362	.5777	.8532	.559	.862	.012	10	3.5	1100	810
TP101	12	.4724	28	1.1024	8	.3150	.5909	.9846	.560	1.016	.012	8	5	1800	1250
TP201	12	.4724	32	1.2598	10	.3937	.6299	1.1024	.616	1.116	.024	8	6	2500	1750
TP301	12	.4724	37	1.4567	12	.4724	.7103	1.2615	.676	1.263	.039	8	7	3400	2400
TP1902	15	.5906	28	1.1024	7	.2756	.7088	.9844	.678	1.027	.012	14	3.5	1400	1200
TP102	15	.5906	32	1.2598	9	.3543	.7382	1.1319	.682	1.166	.012	10	5	2150	1650
TP202	15	.5906	35	1.3780	11	.4331	.7485	1.2210	.737	1.239	.024	10	6	2950	2250
TP302	15	.5906	42	1.6535	13	.5118	.8229	1.4529	.792	1.452	.039	8	8	4400	3200
TP1903	17	.6693	30	1.1811	7	.2756	.7877	1.0633	.742	1.107	.012	14	3.5	1400	1200
TP103	17	.6693	35	1.3780	10	.3937	.8366	1.2303	.767	1.288	.012	12	5	2450	2050
TP203	17	.6693	40	1.5748	12	.4724	.8782	1.3900	.811	1.425	.024	10	6.35	3600	2850
TP303	17	.6693	47	1.8504	14	.5512	.9232	1.6319	.872	1.640	.039	8	9	5400	4000
TP1804	20	.7874	32	1.2598	7	.2756	.8858	1.1614	.879	1.172	.012	16	3.5	1550	1400
TP1904	20	.7874	37	1.4567	9	.3543	.9352	1.3289	.878	1.371	.012	14	5	2750	2450
TP104	20	.7874	42	1.6535	12	.4724	.9449	1.4961	.922	1.519	.024	10	7	4000	3250
TP204	20	.7874	47	1.8504	14	.5512	1.0199	1.6498	.975	1.667	.039	10	8	5200	4250
TP304	20	.7874	52	2.0472	15	.5906	1.0235	1.8109	.994	1.849	.039	8	10	6650	5050
TP1805	25	.9843	37	1.4567	7	.2756	1.0847	1.3583	1.060	1.380	.012	18	3.5	1700	1600
TP1905	25	.9843	42	1.6535	9	.3543	1.1429	1.5366	1.075	1.569	.012	16	5	3050	2850
TP105	25	.9843	47	1.8504	12	.4724	1.1419	1.6931	1.131	1.702	.024	12	7	4600	4050
TP205	25	.9843	52	2.0472	15	.5906	1.2003	1.8303	1.151	1.861	.039	12	8	5950	5300
TP305	25	.9843	62	2.4409	17	.6693	1.3211	2.1873	1.206	2.223	.039	10	11	9300	7750

METRIC SERIES CYLINDRICAL ROLLER BEARINGS

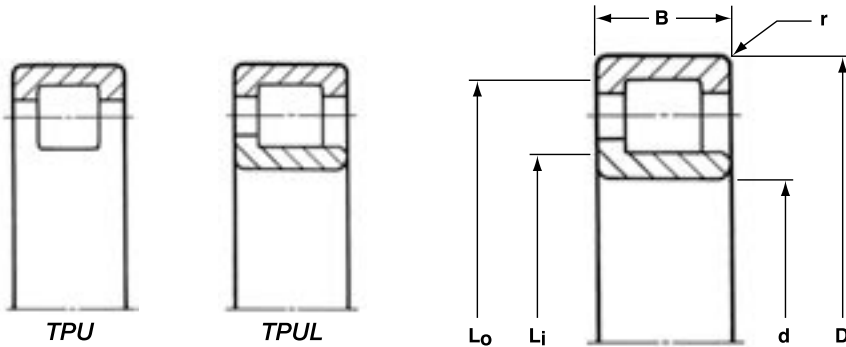
Cylindrical Roller Bearings



BASIC P/N	BORE d		O.D. D		WIDTH B		NOMINAL ROLLER PATH DIA.		MOUNTING SHOULDER DIA.		FILLET RADIUS r	ROLLER		LOAD RATINGS LBS	
	mm	INCH	mm	INCH	mm	INCH	INNER	OUTER	MIN. SHAFT L _i	MAX. HOUSING L _o		NO.	DIA. & LENGTH mm	DYN C	STATIC C _o
							INCH	INCH	INCH	INCH	INCH			INCH	
TP1806	30	1.1811	42	1.6535	7	.2756	1.2795	1.5551	1.255	1.589	.012	20	3.5	1800	1800
TP1906	30	1.1811	47	1.8504	9	.3543	1.3288	1.7225	1.265	1.765	.012	18	5	3300	3300
TP106	30	1.1811	55	2.1654	13	.5118	1.4116	1.9628	1.360	1.985	.039	14	7	5150	4900
TP206	30	1.1811	62	2.4409	16	.6299	1.4579	2.2454	1.375	2.285	.039	12	10	9050	8150
TP306	30	1.1811	72	2.8346	19	.7480	1.5219	2.5455	1.415	2.600	.039	10	13	12900	11100
TP1807	35	1.3780	47	1.8504	7	.2756	1.4764	1.7520	1.450	1.770	.012	22	3.5	1950	2050
TP1907	35	1.3780	55	2.1654	10	.3937	1.5470	2.0195	1.517	2.030	.024	18	6	4550	4650
TP107	35	1.3780	62	2.4409	14	.5512	1.6100	2.2400	1.562	2.257	.039	14	8	6700	6500
TP207	35	1.3780	72	2.8346	17	.6693	1.6946	2.5607	1.585	2.624	.039	12	11	10700	9900
TP307	35	1.3780	80	3.1496	21	.8268	1.7126	2.8150	1.685	2.846	.059	10	14	14700	12900
TP1808	40	1.5748	52	2.0472	7	.2756	1.6735	1.9491	1.650	1.960	.012	24	3.5	2100	2250
TP1908	40	1.5748	62	2.4409	12	.4724	1.7327	2.2839	1.708	2.302	.024	18	7	6200	6500
TP108	40	1.5748	68	2.6772	15	.5906	1.7718	2.4805	1.758	2.499	.039	14	9	8250	8100
TP208	40	1.5748	80	3.1496	18	.7087	1.9130	2.8579	1.795	2.933	.039	12	12	12600	12000
TP308	40	1.5748	90	3.5433	23	.9055	1.9607	3.2206	1.890	3.243	.059	10	16	19100	17100
TP1809	45	1.7717	58	2.2835	7	.2756	1.8899	2.1655	1.875	2.190	.012	28	3.5	2350	2650
TP1909	45	1.7717	68	2.6772	12	.4724	1.9486	2.4998	1.912	2.537	.024	20	7	6750	7300
TP109	45	1.7717	75	2.9528	16	.6299	2.0258	2.7344	1.957	2.760	.039	16	9	9100	9450
TP209	45	1.7717	85	3.3465	19	.7480	2.0725	3.0962	1.980	3.135	.039	12	13	14800	14300
TP309	45	1.7717	100	3.9370	25	.9843	2.1852	3.5238	2.080	3.625	.059	10	17	21500	19700
TP1810	50	1.9685	65	2.5591	7	.2756	2.1260	2.4016	2.102	2.395	.012	32	3.5	2600	3050
TP1910	50	1.9685	72	2.8346	12	.4724	2.1267	2.6779	2.107	2.696	.024	22	7	6750	7400
TP110	50	1.9685	80	3.1496	16	.6299	2.2227	2.9314	2.152	2.963	.039	18	9	9950	10700
TP210	50	1.9685	90	3.5433	20	.7874	2.2698	3.2934	2.183	3.334	.039	14	13	16600	16900
TP310	50	1.9685	110	4.3307	27	1.0630	2.4393	3.9353	2.357	3.949	.079	10	19	26600	24900
TP1811	55	2.1654	72	2.8346	9	.3543	2.3031	2.6969	2.281	2.720	.012	30	5	4850	5850
TP1911	55	2.1654	80	3.1496	13	.5118	2.3956	2.9467	2.361	2.953	.039	24	7	7700	9000
TP111	55	2.1654	90	3.5433	18	.7087	2.4427	3.3088	2.396	3.314	.039	16	11	13200	14100
TP211	55	2.1654	100	3.9370	21	.8268	2.5004	3.6028	2.444	3.654	.059	14	14	18900	19600
TP311	55	2.1654	120	4.7244	29	1.1417	2.7343	4.2304	2.555	4.334	.079	12	19	30500	30600



Cylindrical Roller Bearings



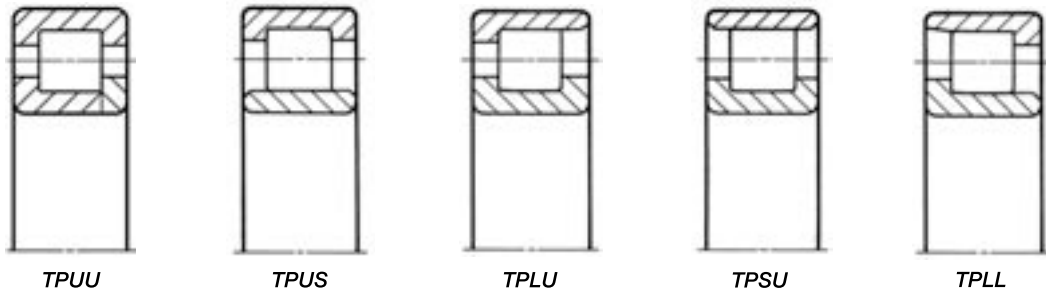
Notes:

1. NHBB typically manufactures roller bearings in both 52100 and M-50 material, to RBEC 5 tolerances. Other materials and tolerances are available.
2. All cages are metallic, one-piece machined.
3. Standard rollers have equal length and diameter. Rectangular rollers (typically under 2:1, length to diameter ratio) are available.
4. Features such as puller grooves, mounting flanges, and anti-rotation devices can be designed into all ring configurations.
5. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.

BASIC P/N	BORE d		O.D. D		WIDTH B		NOMINAL ROLLER PATH DIA.		MOUNTING SHOULDER DIA.		FILLET RADIUS r	ROLLER		LOAD RATINGS LBS	
	mm	INCH	mm	INCH	mm	INCH	INNER INCH	OUTER INCH	MIN. SHAFT Li INCH	MAX. HOUSING L0 INCH		NO.	DIA. & LENGTH mm	DYN C	STATIC Co
											mm				
TP1812	60	2.3622	78	3.0709	10	.3937	2.5196	2.9134	2.480	2.940	.012	32	5	5100	6250
TP1912	60	2.3622	85	3.3465	13	.5118	2.5873	3.1385	2.565	3.145	.039	24	7	7250	8300
TP112	60	2.3622	95	3.7402	18	.7087	2.6180	3.4841	2.597	3.515	.039	18	11	14400	16000
TP212	60	2.3622	110	4.3307	22	.8661	2.7483	4.0082	2.643	4.046	.059	14	16	24500	25800
TP312	60	2.3622	130	5.1181	31	1.2205	2.9525	4.5273	2.769	4.715	.079	12	20	33700	34400
TP1813	65	2.5591	85	3.3465	10	.3937	2.7166	3.1891	2.670	3.215	.024	28	6	6350	7700
TP1913	65	2.5591	90	3.5433	13	.5118	2.7757	3.3269	2.758	3.345	.039	26	7	8200	9850
TP113	65	2.5591	100	3.9370	18	.7087	2.8152	3.6813	2.783	3.707	.039	18	11	14400	16200
TP213	65	2.5591	120	4.7244	23	.9055	3.0432	4.3030	2.855	4.429	.059	14	16	24500	26300
TP313	65	2.5591	140	5.5118	33	1.2992	3.2124	4.9447	2.942	5.124	.079	12	22	40500	41800
TP1814	70	2.7559	90	3.5433	10	.3937	2.9134	3.3858	2.860	3.410	.024	30	6	6700	8250
TP1914	70	2.7559	100	3.9370	16	.6299	3.0095	3.7182	2.965	3.737	.039	24	9	12300	14900
TP114	70	2.7559	110	4.3307	20	.7874	3.0314	4.0550	2.995	4.095	.039	18	13	20100	22900
TP214	70	2.7559	125	4.9213	24	.9449	3.1690	4.5076	3.050	4.625	.059	14	17	27600	29800
TP314	70	2.7559	150	5.9055	35	1.3780	3.4332	5.3229	3.199	5.468	.079	12	24	47000	48700
TP1815	75	2.9528	95	3.7402	10	.3937	3.1103	3.5827	3.095	3.600	.024	32	6	7050	8850
TP1915	75	2.9528	105	4.1339	16	.6299	3.1893	3.8979	3.162	3.928	.039	24	9	12300	15000
TP115	75	2.9528	115	4.5276	20	.7874	3.2285	4.2522	3.192	4.295	.039	18	13	20100	23100
TP215	75	2.9528	130	5.1181	25	.9843	3.3269	4.7448	3.256	4.822	.059	14	18	30500	33100
TP315	75	2.9528	160	6.2992	37	1.4567	3.6537	5.7009	3.401	5.847	.079	12	26	53900	56200
TP1816	80	3.1496	100	3.9370	10	.3937	3.3071	3.7795	3.285	3.800	.024	34	6	7350	9450
TP1916	80	3.1496	110	4.3307	16	.6299	3.3859	4.0946	3.358	4.127	.039	26	9	13100	16300
TP116	80	3.1496	125	4.9213	22	.8661	3.5238	4.5474	3.386	4.684	.039	20	13	21700	26000
TP216	80	3.1496	140	5.5118	26	1.0236	3.6222	5.0396	3.518	5.145	.079	16	18	33300	37700
TP316	80	3.1496	170	6.6929	39	1.5354	3.9120	6.1168	3.615	6.235	.079	12	28	61700	64800
TP1817	85	3.3465	110	4.3307	13	.5118	3.5670	4.1182	3.540	4.125	.039	34	7	10000	13200
TP1917	85	3.3465	120	4.7244	18	.7087	3.6243	4.4904	3.575	4.502	.039	24	11	17500	21700
TP117	85	3.3465	130	5.1181	22	.8661	3.6810	4.7834	3.595	4.875	.039	20	14	24700	29700
TP217	85	3.3465	150	5.9055	28	1.1024	3.8777	5.4525	3.722	5.535	.079	14	20	36600	40400
TP317	85	3.3465	180	7.0866	41	1.6142	4.1141	6.3188	3.878	6.558	.098	12	28	62200	66600

METRIC SERIES CYLINDRICAL ROLLER BEARINGS

Cylindrical Roller Bearings



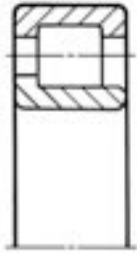
BASIC P/N	BORE d		O.D. D		WIDTH B		NOMINAL ROLLER PATH DIA.		MOUNTING SHOULDER DIA.		FILLET RADIUS r	ROLLER		LOAD RATINGS LBS	
	mm	INCH	mm	INCH	mm	INCH	INNER	OUTER	MIN. SHAFT L _i	MAX. HOUSING L _o		NO.	DIA. & LENGTH mm	DYN C	STATIC C _o
							INCH	INCH	INCH	INCH	INCH			INCH	
TP1818	90	3.5433	115	4.5276	13	.5118	3.7603	4.3115	3.740	4.360	.039	36	7	10500	14000
TP1918	90	3.5433	125	4.9213	18	.7087	3.8213	4.6874	3.762	4.693	.039	24	11	17900	22400
TP118	90	3.5433	140	5.5118	24	.9449	3.9668	5.1479	3.840	5.215	.059	20	15	27800	33700
TP218	90	3.5433	160	6.2992	30	1.1811	4.1336	5.7085	3.979	5.870	.079	16	20	40400	46800
TP318	90	3.5433	190	7.4803	43	1.6929	4.3899	6.7521	4.087	6.934	.098	12	30	70100	75300
TP1819	95	3.7402	120	4.7244	13	.5118	3.9567	4.5079	3.920	4.530	.039	38	7	10900	14800
TP1919	95	3.7402	130	5.1181	18	.7087	4.0181	4.8843	3.969	4.902	.039	26	11	19000	24400
TP119	95	3.7402	145	5.7087	24	.9449	4.1263	5.3861	4.033	5.411	.059	20	16	31200	37900
TP219	95	3.7402	170	6.6929	32	1.2598	4.3934	6.1257	4.184	6.257	.079	16	22	48200	56200
TP319	95	3.7402	200	7.8740	45	1.7717	4.6100	7.1297	4.297	7.325	.098	12	32	78900	85200
TP1820	100	3.9370	125	4.9213	13	.5118	4.1533	4.7044	4.140	4.770	.039	40	7	11300	15700
TP1920	100	3.9370	140	5.5118	20	.7874	4.2518	5.1966	4.179	5.278	.039	24	12	21300	27100
TP120	100	3.9370	150	5.9055	24	.9449	4.3225	5.5824	4.238	5.614	.059	20	16	31600	38800
TP220	100	3.9370	180	7.0866	34	1.3386	4.5279	6.4964	4.392	6.637	.079	14	25	56100	63600
TP1821	105	4.1339	130	5.1181	13	.5118	4.3613	4.9125	4.350	4.932	.039	42	7	11700	16500
TP1921	105	4.1339	145	5.7087	20	.7874	4.4489	5.3938	4.361	5.475	.039	24	12	20900	26500
TP121	105	4.1339	160	6.2992	26	1.0236	4.5804	5.9190	4.523	5.968	.079	20	17	34700	42700
TP221	105	4.1339	190	7.4803	36	1.4173	4.8344	6.8817	4.607	7.014	.079	14	26	60500	69300
TP1822	110	4.3307	140	5.5118	16	.6299	4.5681	5.2767	4.560	5.300	.039	34	9	15600	21200
TP1922	110	4.3307	150	5.9055	20	.7874	4.6453	5.5901	4.560	5.670	.039	26	12	22200	28800
TP122	110	4.3307	170	6.6929	28	1.1024	4.7634	6.2594	4.725	6.294	.079	18	19	40400	49200
TP222	110	4.3307	200	7.8740	38	1.4961	5.0002	7.2049	4.810	7.391	.079	14	28	70400	81500
TP1824	120	4.7244	150	5.9055	16	.6299	4.9636	5.6722	4.940	5.700	.039	38	9	17400	24600
TP1924	120	4.7244	165	6.4961	22	.8661	5.0867	6.1891	4.960	6.250	.039	26	14	29600	39100
TP124	120	4.7244	180	7.0866	28	1.1024	5.1946	6.6906	5.125	6.738	.079	20	19	43200	54400
TP224	120	4.7244	215	8.4646	40	1.5748	5.4726	7.8348	5.203	7.980	.079	14	30	79300	92600
TP1826	130	5.1181	165	6.4961	18	.7087	5.4140	6.2014	5.390	6.240	.039	36	10	20100	38300
TP1926	130	5.1181	180	7.0866	24	.9449	5.5117	6.6928	5.457	6.750	.059	26	15	33900	45500
TP126	130	5.1181	200	7.8740	33	1.2992	5.7082	7.2830	5.530	7.450	.079	20	20	47800	61200
TP226	130	5.1181	230	9.0551	40	1.5748	5.9643	8.3265	5.693	8.472	.098	16	30	87000	106500



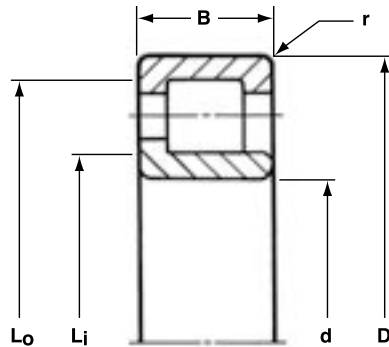
Cylindrical Roller Bearings



TPU



TPUL



Notes:

1. NHBB typically manufactures roller bearings in both 52100 and M-50 material, to RBEC 5 tolerances. Other materials and tolerances are available.
2. All cages are metallic, one-piece machined.
3. Standard rollers have equal length and diameter. Rectangular rollers (typically under 2:1, length to diameter ratio) are available.
4. Features such as puller grooves, mounting flanges, and anti-rotation devices can be designed into all ring configurations.
5. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.

BASIC P/N	BORE d		O.D. D		WIDTH B		NOMINAL ROLLER PATH DIA.		MOUNTING SHOULDER DIA.		FILLET RADIUS r	ROLLER		LOAD RATINGS LBS	
	mm	INCH	mm	INCH	mm	INCH	INNER INCH	OUTER INCH	MIN. SHAFT Li INCH	MAX. HOUSING L0 INCH		NO.	DIA. & LENGTH mm	DYN C	STATIC Co
TP1828	140	5.5118	175	6.8898	18	.7087	5.8072	6.5946	5.760	6.630	.039	38	10	22300	32600
TP1928	140	5.5118	190	7.4803	24	.9449	5.9057	7.0868	5.840	7.140	.059	28	15	36400	50300
TP128	140	5.5118	210	8.2677	33	1.2992	6.1027	7.6775	5.939	7.845	.079	22	20	53100	70800
TP228	140	5.5118	250	9.8425	42	1.6535	6.4176	8.9373	6.132	9.220	.098	16	32	99300	123500
TP1830	150	5.9055	190	7.4803	20	.7874	6.1811	7.2047	6.150	7.244	.039	34	13	32300	46700
TP1930	150	5.9055	210	8.2677	28	1.1024	6.4177	7.7563	6.340	7.825	.079	28	17	46400	65400
TP130	150	5.9055	225	8.8583	35	1.3780	6.5150	8.2479	6.435	8.310	.079	22	22	63800	86100
TP1832	160	6.2992	200	7.8740	20	.7874	6.5748	7.5984	6.530	7.618	.039	34	13	32300	46900
TP1932	160	6.2992	220	8.6614	28	1.1024	6.7710	8.1884	6.720	8.270	.079	28	18	51900	73800
TP132	160	6.2992	240	9.4488	38	1.4961	6.9290	8.8187	6.875	8.880	.079	22	24	74000	105000
TP1834	170	6.6929	215	8.4646	22	.8661	7.0669	8.0905	6.980	8.170	.039	36	13	33700	49900
TP1934	170	6.6929	230	9.0551	28	1.1024	7.1650	8.5824	7.070	8.670	.079	28	18	51900	74100
TP134	170	6.6929	260	10.2362	42	1.6535	7.4407	9.4880	7.380	9.590	.079	22	26	86400	119000
TP1836	180	7.0866	225	8.8583	22	.8661	7.4606	8.4826	7.410	8.540	.039	38	13	35100	52900
TP1936	180	7.0866	250	9.8425	33	1.2992	7.6779	9.2527	7.600	9.350	.079	28	20	63600	92200
TP136	180	7.0866	280	11.0236	46	1.8110	7.8742	10.2364	7.820	10.360	.079	20	30	104500	141500
TP1838	190	7.4803	240	9.4488	24	.9449	7.9134	9.0517	7.840	9.150	.059	36	14	38400	57400
TP1938	190	7.4803	260	10.2362	33	1.2992	8.0703	9.6451	8.030	9.770	.079	28	20	63600	92700
TP138	190	7.4803	290	11.4173	46	1.8110	8.2085	10.7085	8.150	10.830	.079	20	32	117500	160000
TP1840	200	7.8740	250	9.8425	24	.9449	8.3071	9.4094	8.220	9.495	.059	38	14	40000	60800
TP1940	200	7.8740	280	11.0236	38	1.4961	8.5057	10.3937	8.415	10.500	.079	26	24	83900	121500

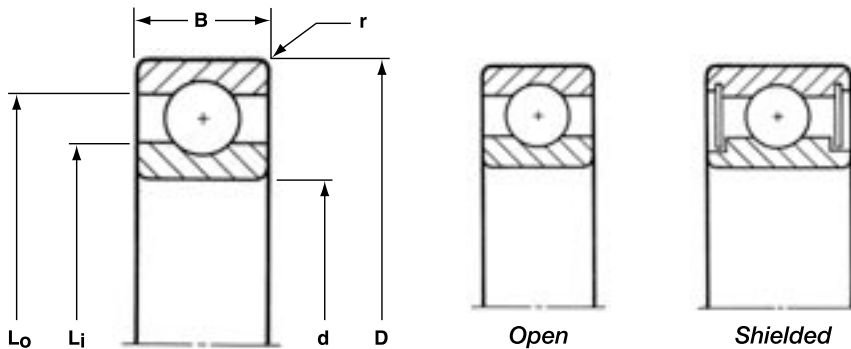
INCH SERIES BALL BEARINGS

Radial Bearings	
Bore sizes .5000-1.5000 inches	11
Torque Tube Radial Bearings	
Bore sizes .6250-3.0625 inches	12
Torque Tube Angular Contact Bearings	
Bore sizes .6250-3.0625 inches	13
Thinex Radial Bearings	
Bore sizes .8750-4.0000 inches	14
Thinex Angular Contact Bearings	
Bore sizes .8750-4.0000 inches	15





Radial Bearings



Notes:

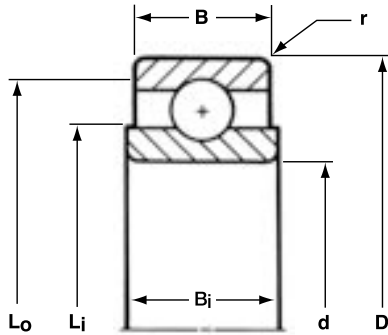
1. Radial inch series typically manufactured from 440C stainless steel.
2. Load ratings shown are for 52100 material.
3. For part numbers -2258 and -2634, ABEC 3P, 5P and 7P apply. For all others, ABEC 3, 5, and 7 apply.
4. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.

BASIC P/N	BORE d		O.D. D		WIDTH B				LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS	
	INCH	mm	INCH	mm	OPEN		SHIELDED		Lj	Lo	INCH	NO.	SIZE INCH	DYN C	STATIC Co
					INCH	mm	INCH	mm							
RI-1812	.5000	12.700	1.1250	28.575	.2500	6.350	.3125	7.938	.701	.913	.016	9	5/32	880	440
RI-2258	.6250	15.875	1.3750	34.925	.2812	7.142	.3438	8.732	.868	1.132	.031	8	7/32	1500	740
RI-2634	.7500	19.050	1.6250	41.275	.3125	7.938	.4375	11.112	1.037	1.338	.031	8	1/4	1900	980
RI-3078	.8750	22.225	1.8750	47.625	.3750	9.525	.5000	12.700	1.225	1.526	.031	10	1/4	2200	1300
RI-3216	1.0000	25.400	2.0000	50.800	.3750	9.525	.5000	12.700	1.312	1.688	.031	9	5/16	3100	1750
RI-3418	1.1250	28.575	2.1250	53.975	.3750	9.525	.5000	12.700	1.456	1.794	.031	11	9/32	2950	1800
RI-3620	1.2500	31.750	2.2500	57.150	.3750	9.525	.5000	12.700	1.580	1.919	.031	11	9/32	2900	1850
RI-4224	1.5000	38.100	2.6250	66.675	.4375	11.112	.5625	14.288	1.856	2.269	.031	11	11/32	4200	2750

The HiTech Division has the ability to design and manufacture custom-engineered product with an outside diameter of up to 12". Please contact HiTech's sales or engineering groups for assistance with specific application requirements.

INCH SERIES BALL BEARINGS

Torque Tube Radial Bearings



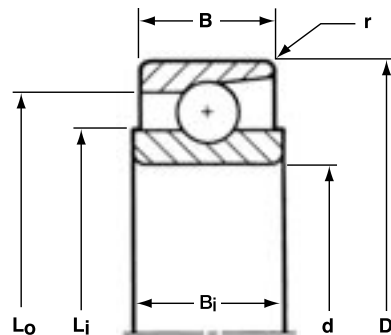
Notes:

1. Torque Tube Radial ball bearings typically manufactured from 440C stainless steel.
2. Load ratings shown are for 52100 material.
3. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.
4. Standard retainer is a phenolic crown. Please check with NHBB for availability of other retainer options.
5. ABEC 5T is standard. 7T tolerances also available.

BASIC P/N	BORE d		O.D. D		WIDTH				LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS	
	INCH	mm	INCH	mm	INNER Bi		OUTER B		Li	Lo	INCH	NO.	SIZE INCH	DYN C	STATIC Co
					INCH	mm	INCH	mm	INCH	INCH					
RI-538	.6250	15.875	1.0625	26.988	.2812	7.142	.2500	6.350	.773	.933	.015	12	1/8	700	400
RI-539	.7500	19.050	1.1875	30.162	.2812	7.142	.2500	6.350	.894	1.054	.015	12	1/8	680	410
RI-540	.8750	22.225	1.3125	33.338	.2812	7.142	.2500	6.350	1.019	1.179	.015	14	1/8	740	490
RI-541	1.0625	26.988	1.5000	38.100	.2812	7.142	.2500	6.350	1.210	1.370	.015	16	1/8	780	570
RI-542	1.3125	33.338	1.7500	44.450	.2812	7.142	.2500	6.350	1.460	1.620	.015	18	1/8	810	630
RI-543	1.5625	39.688	2.0000	50.800	.2812	7.142	.2500	6.350	1.706	1.866	.015	25	1/8	970	860
RI-544	1.8125	46.038	2.2500	57.150	.2812	7.142	.2500	6.350	1.947	2.116	.015	29	1/8	1030	990
RI-545	2.0625	52.388	2.6250	66.675	.2812	7.142	.2500	6.350	2.260	2.434	.015	32	1/8	1070	1100
RI-546	2.3125	58.738	2.8750	73.025	.2812	7.142	.2500	6.350	2.513	2.674	.015	34	1/8	1100	1150
RI-547	2.5625	65.088	3.2500	82.550	.3750	9.525	.3120	7.925	2.793	3.019	.015	26	3/16	2050	2050
RI-548	2.8125	71.438	3.5000	88.900	.3750	9.525	.3120	7.925	3.043	3.269	.015	28	3/16	2150	2200
RI-549	3.0625	77.788	3.8750	98.425	.3750	9.525	.3120	7.925	3.356	3.582	.015	32	3/16	2250	2500



Torque Tube Angular Contact Bearings



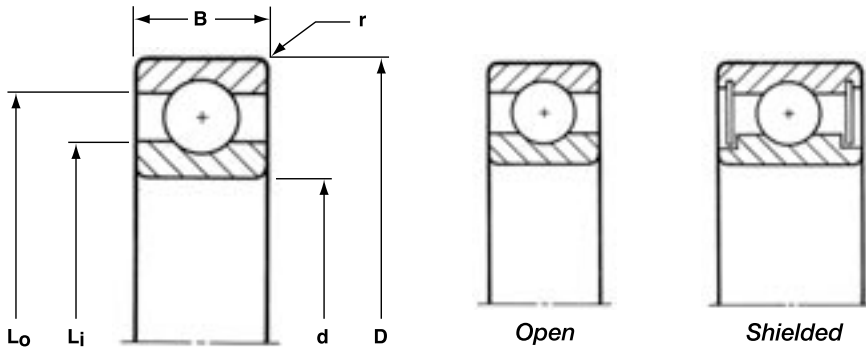
Notes:

1. Torque Tube Angular Contact ball bearings typically manufactured from 440C stainless steel.
2. Load ratings shown are for 52100 material.
3. Part numbers listed are with outer-ring relieved configuration. Other design options are available.
4. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.
5. Standard retainer is a one-piece phenolic. Please check with NHBB for availability of other retainer options.
6. ABEC 5T is standard. 7T tolerances also available.

BASIC P/N	BORE d		O.D. D		WIDTH				LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS	
	INCH	mm	INCH	mm	INNER B _i		OUTER B		L _j	L _o	INCH	NO.	SIZE INCH	DYN C	STATIC C _o
					INCH	mm	INCH	mm	INCH	INCH					
MERI-538	.6250	15.875	1.0625	26.988	.2812	7.142	.2500	6.350	.773	.933	.015	16	1/8	840	530
MERI-539	.7500	19.050	1.1875	30.162	.2812	7.142	.2500	6.350	.894	1.054	.015	18	1/8	890	610
MERI-540	.8750	22.225	1.3125	33.338	.2812	7.142	.2500	6.350	1.019	1.179	.015	20	1/8	940	700
MERI-541	1.0625	26.988	1.5000	38.100	.2812	7.142	.2500	6.350	1.210	1.370	.015	24	1/8	1050	850
MERI-542	1.3125	33.338	1.7500	44.450	.2812	7.142	.2500	6.350	1.460	1.620	.015	28	1/8	1100	980
MERI-543	1.5625	39.688	2.0000	50.800	.2812	7.142	.2500	6.350	1.706	1.866	.015	34	1/8	1200	1150
MERI-544	1.8125	46.038	2.2500	57.150	.2812	7.142	.2500	6.350	1.947	2.116	.015	38	1/8	1250	1300
MERI-545	2.0625	52.388	2.6250	66.675	.2812	7.142	.2500	6.350	2.260	2.434	.015	44	1/8	1300	1500
MERI-546	2.3125	58.738	2.8750	73.025	.2812	7.142	.2500	6.350	2.513	2.674	.015	48	1/8	1350	1600
MERI-547	2.5625	65.088	3.2500	82.550	.3750	9.525	.3120	7.925	2.793	3.019	.015	36	3/16	2550	2850
MERI-548	2.8125	71.438	3.5000	88.900	.3750	9.525	.3120	7.925	3.043	3.269	.015	39	3/16	2650	3050
MERI-549	3.0625	77.788	3.8750	98.425	.3750	9.525	.3120	7.925	3.356	3.582	.015	42	3/16	2700	3250

INCH SERIES BALL BEARINGS

Thinex Radial Bearings



Notes:

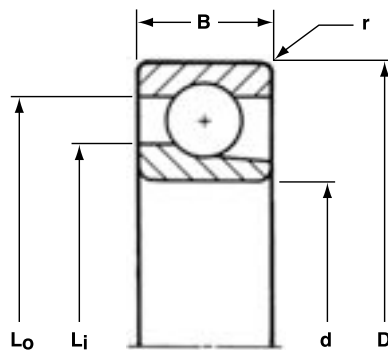
1. Radial thinex ball bearings typically manufactured from 440C stainless steel.
2. Load ratings shown are for 52100 material.
3. NHBB typically manufactures this series to ABEC 5T and 7T tolerances.
4. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.

BASIC P/N	BORE d		O.D. D		WIDTH B				LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS	
	INCH	mm	INCH	mm	OPEN		SHIELDED		Li	Lo	INCH	NO.	SIZE INCH	DYN C	STATIC Co
					INCH	mm	INCH	mm	INCH	INCH					
RI-1878	.8750	22.225	1.1250	28.575	.1562	3.967	.1960	4.978	.961	1.049	.010	24	1/16	165	129
RI-2117	1.0625	26.988	1.3125	33.338	.1562	3.967	.1960	4.978	1.144	1.231	.010	28	1/16	175	153
RI-2420	1.2500	31.750	1.5000	38.100	.1562	3.967	.1960	4.978	1.320	1.402	.010	32	1/16	185	177
RI-2622	1.3750	34.925	1.6250	41.275	.1562	3.967	.1960	4.978	1.457	1.543	.010	36	1/16	195	200
RI-2824	1.5000	38.100	1.7500	44.450	.1562	3.967	.1960	4.978	1.582	1.667	.010	38	1/16	199	212
RI-3026	1.6250	41.275	1.8750	47.625	.1562	3.967	.1960	4.978	1.707	1.793	.010	42	1/16	208	235
RI-4032	2.0000	50.800	2.5000	63.500	.2500	6.350	-	-	2.175	2.325	.025	30	1/8	1050	1000
RI-4232	2.0000	50.800	2.6250	66.675	.3125	7.938	-	-	2.219	2.406	.040	25	5/32	1450	1350
RI-4840	2.5000	63.500	3.0000	76.200	.2500	6.350	-	-	2.675	2.825	.025	36	1/8	1100	1200
RI-5040	2.5000	63.500	3.1250	79.375	.3125	7.938	-	-	2.719	2.901	.040	30	5/32	1550	1600
RI-5648	3.0000	76.200	3.5000	88.900	.2500	6.350	-	-	3.175	3.325	.025	43	1/8	1200	1450
RI-5848	3.0000	76.200	3.6250	92.075	.3125	7.938	-	-	3.219	3.406	.040	35	5/32	1650	1850
RI-6456	3.5000	88.900	4.0000	101.600	.2500	6.350	-	-	3.675	3.825	.025	49	1/8	1250	1600
RI-6656	3.5000	88.900	4.1250	104.775	.3125	7.938	-	-	3.719	3.906	.040	40	5/32	1750	2100
RI-7264	4.0000	101.600	4.5000	114.300	.2500	6.350	-	-	4.175	4.325	.025	55	1/8	1300	1800
RI-7464	4.0000	101.600	4.6250	117.475	.3125	7.938	-	-	4.219	4.406	.040	45	5/32	1800	2350

The HiTech Division has the ability to design and manufacture custom-engineered product with an outside diameter of up to 12". Please contact HiTech's sales or engineering groups for assistance with specific application requirements.



Thinex Angular Contact Bearings



Notes:

1. Angular contact thinex ball bearings typically manufactured from 440C stainless steel.
2. Load ratings shown are for 52100 material.
3. NHBB typically manufactures this series to ABEC 5T and 7T tolerances.
4. Part numbers listed are with inner-ring relieved configuration. Other design options are available.
5. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.
6. Consult NHBB for shielded designs.

BASIC P/N	BORE d		O.D. D		WIDTH B				LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS	
	INCH	mm	INCH	mm	OPEN		SHIELDED		Lj	Lo	INCH	NO.	SIZE INCH	DYN C	STATIC Co
					INCH	mm	INCH	mm	INCH	INCH					
MDRI-1878	.8750	22.225	1.1250	28.575	.1562	3.967	.1960	4.978	.961	1.049	.010	32	1/16	200	172
MDRI-2117	1.0625	26.988	1.3125	33.338	.1562	3.967	.1960	4.978	1.144	1.231	.010	38	1/16	215	208
MDRI-2420	1.2500	31.750	1.5000	38.100	.1562	3.967	.1960	4.978	1.320	1.402	.010	44	1/16	228	243
MDRI-2622	1.3750	34.925	1.6250	41.275	.1562	3.967	.1960	4.978	1.457	1.543	.010	49	1/16	240	272
MDRI-2824	1.5000	38.100	1.7500	44.450	.1562	3.967	.1960	4.978	1.582	1.667	.010	53	1/16	248	296
MDRI-3026	1.6250	41.275	1.8750	47.625	.1562	3.967	.1960	4.978	1.707	1.793	.010	57	1/16	255	319
MDRI-4032	2.0000	50.800	2.5000	63.500	.2500	6.350	-	-	2.175	2.325	.025	42	1/8	1300	1400
MDRI-4232	2.0000	50.800	2.6250	66.675	.3125	7.938	-	-	2.219	2.406	.040	34	5/32	1800	1850
MDRI-4840	2.5000	63.500	3.0000	76.200	.2500	6.350	-	-	2.675	2.825	.025	52	1/8	1400	1750
MDRI-5040	2.5000	63.500	3.1250	79.375	.3125	7.938	-	-	2.719	2.901	.040	42	5/32	1950	2250
MDRI-5648	3.0000	76.200	3.5000	88.900	.2500	6.350	-	-	3.175	3.325	.025	62	1/8	1500	2050
MDRI-5848	3.0000	76.200	3.6250	92.075	.3125	7.938	-	-	3.219	3.406	.040	50	5/32	2100	2650
MDRI-6456	3.5000	88.900	4.0000	101.600	.2500	6.350	-	-	3.675	3.825	.025	70	1/8	1550	2300
MDRI-6656	3.5000	88.900	4.1250	104.775	.3125	7.938	-	-	3.719	3.906	.040	58	5/32	2200	3050
MDRI-7264	4.0000	101.600	4.5000	114.300	.2500	6.350	-	-	4.175	4.325	.025	80	1/8	1650	2650
MDRI-7464	4.0000	101.600	4.6250	117.475	.3125	7.938	-	-	4.219	4.406	.040	66	5/32	2350	3450

The HiTech Division has the ability to design and manufacture custom-engineered product with an outside diameter of up to 12". Please contact HiTech's sales or engineering groups for assistance with specific application requirements.

METRIC SERIES
BALL BEARINGS

Metric Radial Bearings

- Bore sizes 10-25 mm 17
- Bore sizes 30-55 mm 18
- Bore sizes 60-85 mm 19
- Bore sizes 90-130 mm 20
- Bore sizes 140-200 mm 21

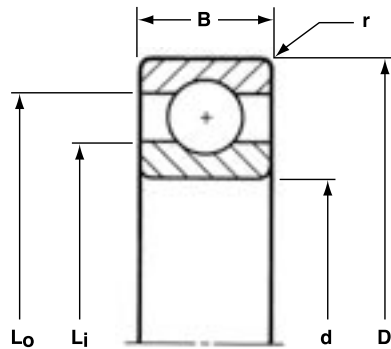
Metric Angular Contact Bearings

- Bore sizes 10-25 mm 22
- Bore sizes 30-55 mm 23
- Bore sizes 60-85 mm 24
- Bore sizes 90-130 mm 25
- Bore sizes 140-200 mm 26





Radial Bearings



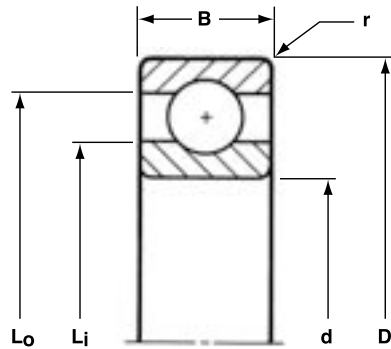
Notes:

1. Metric series radial ball bearings are typically manufactured from 52100, to ABEC 3, 5, or 7 tolerances.
2. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.

BASIC P/N	BORE d		O.D. D		WIDTH B		LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS.	
	mm	INCH	mm	INCH	mm	INCH	L _i	L _o		NO.	SIZE	DYN. C	STATIC C ₀
							INCH	INCH	INCH		INCH		
R-1900	10	.3937	22	.8661	6	.2362	.570	.734	.012	9	1/8	580	280
R-100	10	.3937	26	1.0236	8	.3150	.583	.837	.012	7	3/16	1000	440
R-200	10	.3937	30	1.1811	9	.3543	.656	.919	.024	7	7/32	1300	580
R-300	10	.3937	35	1.3780	11	.4331	.717	1.055	.024	6	9/32	1800	770
R-1901	12	.4724	24	.9449	6	.2362	.629	.800	.012	9	9/64	730	350
R-101	12	.4724	28	1.1024	8	.3150	.670	.900	.012	7	3/16	1000	460
R-201	12	.4724	32	1.2598	10	.3937	.725	1.007	.024	7	15/64	1500	670
R-301	12	.4724	37	1.4567	12	.4724	.777	1.153	.039	6	5/16	2150	930
R-1902	15	.5906	28	1.1024	7	.2756	.735	.972	.012	10	5/32	940	490
R-102	15	.5906	32	1.2598	9	.3543	.803	1.048	.012	9	3/16	1250	630
R-202	15	.5906	35	1.3780	11	.4331	.815	1.153	.024	7	1/4	1700	790
R-302	15	.5906	42	1.6535	13	.5118	.934	1.310	.039	7	5/16	2500	1200
R-1903	17	.6693	30	1.1811	7	.2756	.832	1.015	.012	11	5/32	1000	550
R-103	17	.6693	35	1.3780	10	.3937	.910	1.140	.012	10	3/16	1300	710
R-203	17	.6693	40	1.5748	12	.4724	.952	1.292	.024	8	17/64	2100	1050
R-303	17	.6693	47	1.8504	14	.5512	1.017	1.495	.039	7	11/32	3000	1450
R-1804	20	.7874	32	1.2598	7	.2756	.948	1.098	.012	14	1/8	750	480
R-1904	20	.7874	37	1.4567	9	.3543	.995	1.262	.012	9	7/32	1600	860
R-104	20	.7874	42	1.6535	12	.4724	1.075	1.375	.024	8	1/4	1900	990
R-204	20	.7874	47	1.8504	14	.5512	1.131	1.507	.039	8	5/16	2850	1450
R-304	20	.7874	52	2.0472	15	.5906	1.192	1.643	.039	7	3/8	3550	1750
R-1805	25	.9843	37	1.4567	7	.2756	1.145	1.295	.012	17	1/8	820	600
R-1905	25	.9843	42	1.6535	9	.3543	1.195	1.460	.012	11	7/32	1850	1100
R-105	25	.9843	47	1.8504	12	.4724	1.267	1.567	.024	10	1/4	2200	1300
R-205	25	.9843	52	2.0472	15	.5906	1.328	1.703	.039	9	5/16	3100	1750
R-305	25	.9843	62	2.4409	17	.6693	1.450	1.976	.039	7	7/16	4750	2450

METRIC SERIES BALL BEARINGS

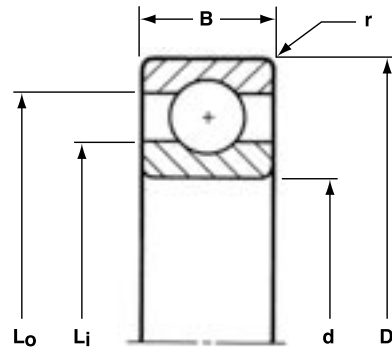
Radial Bearings



BASIC P/N	BORE d		O.D. D		WIDTH B		LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS.	
	mm	INCH	mm	INCH	mm	INCH	L _i	L ₀		NO.	SIZE	DYN. C	STATIC C ₀
							INCH	INCH	INCH				
R-1806	30	1.1811	42	1.6535	7	.2756	1.342	1.492	.012	20	1/8	880	700
R-1906	30	1.1811	47	1.8504	9	.3543	1.384	1.649	.012	13	7/32	2050	1350
R-106	30	1.1811	55	2.1654	13	.5118	1.504	1.842	.039	11	9/32	2900	1850
R-206	30	1.1811	62	2.4409	16	.6299	1.585	2.037	.039	9	3/8	4350	2500
R-306	30	1.1811	72	2.8346	19	.7480	1.707	2.308	.043	8	1/2	6600	3700
R-1807	35	1.3780	47	1.8504	7	.2756	1.539	1.689	.012	22	1/8	910	760
R-1907	35	1.3780	55	2.1654	10	.3937	1.621	1.922	.024	13	1/4	2600	1750
R-107	35	1.3780	62	2.4409	14	.5512	1.721	2.097	.039	11	5/16	3550	2300
R-207	35	1.3780	72	2.8346	17	.6693	1.824	2.388	.043	8	15/32	5950	3400
R-307	35	1.3780	80	3.1496	21	.8268	1.925	2.602	.059	8	9/16	8200	4700
R-1808	40	1.5748	52	2.0472	7	.2756	1.735	1.886	.012	25	1/8	970	860
R-1908	40	1.5748	62	2.4409	12	.4724	1.857	2.158	.024	14	1/4	2550	1800
R-108	40	1.5748	68	2.6772	15	.5906	1.900	2.351	.039	10	3/8	4650	2950
R-208	40	1.5748	80	3.1496	18	.7087	2.061	2.663	.043	9	1/2	7250	4450
R-308	40	1.5748	90	3.5433	23	.9055	2.183	2.935	.059	8	5/8	9900	5850
R-1809	45	1.7717	58	2.2835	7	.2756	1.877	2.178	.012	28	1/8	1000	950
R-1909	45	1.7717	68	2.6772	12	.4724	2.055	2.393	.024	15	9/32	3450	2650
R-109	45	1.7717	75	2.9528	16	.6299	2.136	2.587	.039	12	3/8	5200	3600
R-209	45	1.7717	85	3.3465	19	.7480	2.277	2.841	.043	10	15/32	6950	4550
R-309	45	1.7717	100	3.9370	25	.9843	2.440	3.268	.059	8	11/16	11800	7100
R-1810	50	1.9685	65	2.5591	7	.2756	2.169	2.357	.012	25	5/32	1550	1350
R-1910	50	1.9685	72	2.8346	12	.4724	2.232	2.570	.024	16	9/32	3600	2850
R-110	50	1.9685	80	3.1496	16	.6299	2.333	2.784	.039	13	3/8	5450	4000
R-210	50	1.9685	90	3.5433	20	.7874	2.455	3.056	.043	10	1/2	7800	5200
R-310	50	1.9685	110	4.3307	27	1.0630	2.698	3.600	.079	8	3/4	13800	8500
R-1811	55	2.1654	72	2.8346	9	.3543	2.387	2.612	.012	23	3/16	1950	1850
R-1911	55	2.1654	80	3.1496	13	.5118	2.469	2.845	.039	16	5/16	4350	3550
R-111	55	2.1654	90	3.5433	18	.7087	2.591	3.117	.043	12	7/16	6900	4950
R-211	55	2.1654	100	3.9370	21	.8268	2.712	3.389	.059	10	9/16	9650	6550
R-311	55	2.1654	120	4.7244	29	1.1417	2.956	3.933	.079	8	13/16	16000	10000



Radial Bearings



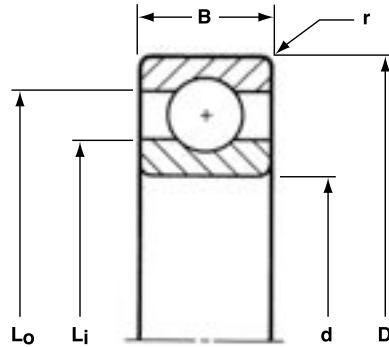
Notes:

1. Metric series radial ball bearings are typically manufactured from 52100, to ABEC 3, 5, or 7 tolerances.
2. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.

BASIC P/N	BORE d		O.D. D		WIDTH B		LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS.	
	mm	INCH	mm	INCH	mm	INCH	L _i	L _o		NO.	SIZE	DYN. C	STATIC C ₀
							INCH	INCH	INCH		INCH		
R-1812	60	2.3622	78	3.0709	10	.3937	2.584	2.848	.012	22	7/32	2600	2400
R-1912	60	2.3622	85	3.3465	13	.5118	2.666	3.042	.039	17	5/16	4500	3800
R-112	60	2.3622	95	3.7402	18	.7087	2.788	3.314	.043	12	7/16	6800	5050
R-212	60	2.3622	110	4.3307	22	.8661	2.970	3.722	.059	10	5/8	11700	8050
R-312	60	2.3622	130	5.1181	31	1.2205	3.213	4.266	.083	8	7/8	18300	11100
R-1813	65	2.5591	85	3.3465	10	.3937	2.821	3.084	.024	23	7/32	2600	2500
R-1913	65	2.5591	90	3.5433	13	.5118	2.863	3.239	.039	18	5/16	4600	4100
R-113	65	2.5591	100	3.9370	18	.7087	2.985	3.511	.043	13	7/16	7100	5550
R-213	65	2.5591	120	4.7244	23	.9055	3.228	4.055	.059	10	11/16	13900	9700
R-313	65	2.5591	140	5.5118	33	1.2992	3.471	4.599	.083	8	15/16	20700	13500
R-1814	70	2.7559	90	3.5433	10	.3937	3.018	3.281	.024	25	7/32	2700	2700
R-1914	70	2.7559	100	3.9370	16	.6299	3.139	3.553	.039	17	11/32	5250	4650
R-114	70	2.7559	110	4.3307	20	.7874	3.242	3.844	.043	13	1/2	9150	7200
R-214	70	2.7559	125	4.9213	24	.9449	3.424	4.252	.059	10	11/16	13900	9850
R-314	70	2.7559	150	5.9055	35	1.3780	3.729	4.932	.083	8	1	23300	15400
R-1815	75	2.9528	95	3.7402	10	.3937	3.214	3.478	.024	26	7/32	2750	2800
R-1915	75	2.9528	105	4.1339	16	.6299	3.317	3.768	.039	17	3/8	5550	6200
R-115	75	2.9528	115	4.5276	20	.7874	3.440	4.041	.043	14	1/2	7800	9500
R-215	75	2.9528	130	5.1181	25	.9843	3.621	4.449	.059	10	11/16	10000	13900
R-315	75	2.9528	160	6.2992	37	1.4567	3.986	5.265	.083	8	1-1/16	17400	26000
R-1816	80	3.1496	100	3.9370	10	.3937	3.411	3.674	.024	28	7/32	2850	3000
R-1916	80	3.1496	110	4.3307	16	.6299	3.514	3.965	.039	17	3/8	5600	6100
R-116	80	3.1496	125	4.9213	22	.8661	3.697	4.373	.043	13	9/16	9100	11300
R-216	80	3.1496	140	5.5118	26	1.0236	3.879	4.782	.079	10	3/4	11900	16200
R-316	80	3.1496	170	6.6929	39	1.5354	4.244	5.598	.083	8	1-1/8	19500	28800
R-1817	85	3.3465	110	4.3307	13	.5118	3.669	4.007	.039	24	9/32	4200	4300
R-1917	85	3.3465	120	4.7244	18	.7087	3.772	4.298	.043	16	7/16	7800	6950
R-117	85	3.3465	130	5.1181	22	.8661	3.893	4.570	.043	13	9/16	11000	9050
R-217	85	3.3465	150	5.9055	28	1.1024	4.137	5.114	.079	10	13/16	18400	13600
R-317	85	3.3465	180	7.0866	41	1.6142	4.539	5.893	.118	8	1-1/8	28500	19600

METRIC SERIES BALL BEARINGS

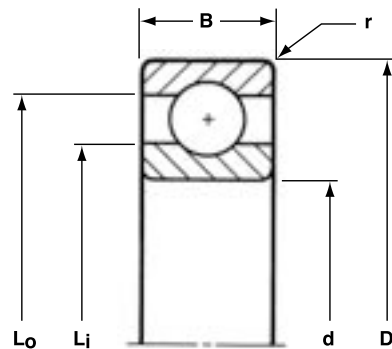
Radial Bearings



BASIC P/N	BORE d		O.D. D		WIDTH B		LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS.	
	mm	INCH	mm	INCH	mm	INCH	L_i	L_0		NO.	SIZE	DYN. C	STATIC C_0
							INCH	INCH	INCH				
R-1818	90	3.5433	115	4.5276	13	.5118	3.866	4.204	.039	25	9/32	4250	4450
R-1918	90	3.5433	125	4.9213	18	.7087	3.969	4.495	.043	17	7/16	8000	7450
R-118	90	3.5433	140	5.5118	24	.9449	4.151	4.903	.059	13	5/8	13300	11100
R-218	90	3.5433	160	6.2992	30	1.1811	4.394	5.447	.079	10	7/8	21000	15700
R-318	90	3.5433	190	7.4803	43	1.6929	4.797	6.226	.118	8	1-3/16	31400	21800
R-1819	95	3.7402	120	4.7244	13	.5118	4.063	4.401	.039	26	9/32	4350	4650
R-1919	95	3.7402	130	5.1181	18	.7087	4.165	4.692	.043	18	7/16	8400	8100
R-119	95	3.7402	145	5.7087	24	.9449	4.348	5.100	.059	13	5/8	13500	11400
R-219	95	3.7402	170	6.6929	32	1.2598	4.652	5.780	.083	10	15/16	24300	18400
R-319	95	3.7402	200	7.8740	45	1.7717	5.055	6.559	.118	8	1-1/4	35100	24700
R-1820	100	3.9370	125	4.9213	13	.5118	4.259	4.598	.039	27	9/32	4450	4850
R-1920	100	3.9370	140	5.5118	20	.7874	4.423	5.025	.043	17	1/2	10500	9900
R-120	100	3.9370	150	5.9055	24	.9449	4.545	5.297	.059	14	5/8	14100	12400
R-220	100	3.9370	180	7.0866	34	1.3386	4.910	6.113	.083	10	1	27300	20900
R-1821	105	4.1339	130	5.1181	13	.5118	4.456	4.795	.039	28	9/32	4500	5000
R-1921	105	4.1339	145	5.7087	20	.7874	4.620	5.222	.043	17	1/2	10400	9950
R-121	105	4.1339	160	6.2992	26	1.0236	4.802	5.630	.079	13	11/16	16100	13800
R-221	105	4.1339	190	7.4803	36	1.4173	5.167	6.446	.083	10	1-1/16	30500	23500
R-1822	110	4.3307	140	5.5118	16	.6299	4.714	5.128	.039	25	11/32	6200	6800
R-1922	110	4.3307	150	5.9055	20	.7874	4.817	5.418	.043	18	1/2	10700	10600
R-122	110	4.3307	170	6.6929	28	1.1024	5.060	5.963	.079	13	3/4	18900	16300
R-222	110	4.3307	200	7.8740	38	1.4961	5.425	6.779	.079	10	1-1/8	33900	26300
R-1824	120	4.7244	150	5.9055	16	.6299	5.108	5.521	.039	27	11/32	6450	7300
R-1924	120	4.7244	165	6.4961	22	.8661	5.273	5.947	.043	17	9/16	12800	12700
R-124	120	4.7244	180	7.0866	28	1.1024	5.454	6.356	.079	14	3/4	19700	17900
R-224	120	4.7244	215	8.4646	40	1.5748	5.917	7.271	.079	10	1-1/8	33700	26900
R-1826	130	5.1181	165	6.4961	18	.7087	5.563	6.052	.043	25	13/32	8400	9500
R-1926	130	5.1181	180	7.0866	24	.9449	5.726	6.478	.059	17	5/8	15600	15600
R-126	130	5.1181	200	7.8740	33	1.2992	5.971	7.023	.079	13	7/8	25000	22300
R-226	130	5.1181	230	9.0551	40	1.5748	6.372	7.801	.098	10	1-3/16	37200	30100



Radial Bearings



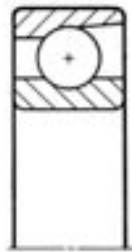
Notes:

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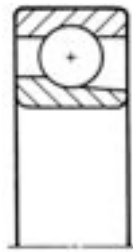
BASIC P/N	BORE d		O.D. D		WIDTH B		LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS.	
	mm	INCH	mm	INCH	mm	INCH	L _i	L _o		NO.	SIZE	DYN. C	STATIC C ₀
							INCH	INCH	INCH		INCH		
R-1828	140	5.5118	175	6.8898	18	.7087	5.956	6.445	.043	26	13/32	8500	9800
R-1928	140	5.5118	190	7.4803	24	.9449	5.923	6.675	.059	18	5/8	16000	16500
R-128	140	5.5118	210	8.2677	33	1.2992	6.363	7.416	.079	14	7/8	26000	24300
R-228	140	5.5118	250	9.8425	42	1.6535	6.887	8.467	.098	10	1-5/16	44600	36600
R-1830	150	5.9055	190	7.4803	20	.7874	6.430	6.956	.043	26	7/16	9700	11400
R-1930	150	5.9055	210	8.2677	28	1.1024	6.635	7.538	.079	16	3/4	20900	21000
R-130	150	5.9055	225	8.8583	35	1.3780	6.855	7.908	.083	15	7/8	26900	36400
R-1832	160	6.2992	200	7.8740	20	.7874	6.823	7.350	.043	28	7/16	10000	12200
R-1932	160	6.2992	220	8.6614	28	1.1024	7.029	7.932	.079	17	3/4	21500	22500
R-132	160	6.2992	240	9.4488	38	1.4961	7.272	8.476	.083	14	1	33100	31800
R-1834	170	6.6929	215	8.4646	22	.8661	7.278	7.880	.043	26	1/2	12400	14900
R-1934	170	6.6929	230	9.0551	28	1.1024	7.423	8.325	.079	18	3/4	22000	24000
R-134	170	6.6929	260	10.2360	42	1.6535	7.788	9.141	.083	13	1-1/8	39200	37000
R-1836	180	7.0866	225	8.8583	22	.8661	7.672	8.273	.043	28	1/2	12800	16000
R-1936	180	7.0866	250	9.8425	33	1.2992	7.938	8.991	.079	17	7/8	28700	30500
R-136	180	7.0866	280	11.0240	46	1.8110	8.378	9.732	.083	14	1-1/8	40800	40400
R-1838	190	7.4803	240	9.4488	24	.9449	8.126	8.803	.059	26	9/16	15400	18900
R-1938	190	7.4803	260	10.2360	33	1.2992	8.332	9.385	.079	17	7/8	28300	30700
R-138	190	7.4803	290	11.4173	46	1.8110	8.734	10.163	.083	14	1-3/16	45500	44400
R-1840	200	7.8740	250	9.8425	24	.9449	8.520	9.197	.059	27	9/16	15600	19500
R-1940	200	7.8740	280	11.0240	38	1.4961	8.847	10.050	.083	16	1	35200	37400

METRIC SERIES BALL BEARINGS

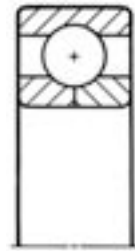
Angular Contact Bearings



MER



MDR

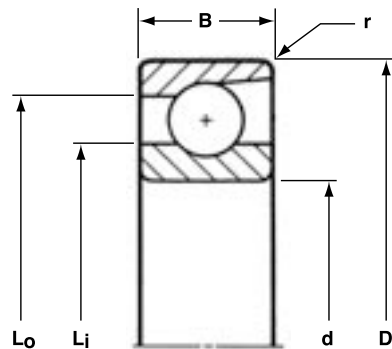


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BASIC P/N	BORE d		O.D. D		WIDTH B		LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS.	
	mm	INCH	mm	INCH	mm	INCH	L _i	L _o		NO.	SIZE	DYN. C	STATIC C ₀
							INCH	INCH	INCH				
MER-1900	10	.3937	22	.8661	6	.2362	.570	.734	.012	11	1/8	670	340
MER-100	10	.3937	26	1.0236	8	.3150	.583	.837	.012	9	3/16	1200	560
MER-200	10	.3937	30	1.1811	9	.3543	.656	.919	.024	9	7/32	1550	750
MER-300	10	.3937	35	1.3780	11	.4331	.717	1.055	.024	8	9/32	2200	1000
MER-1901	12	.4724	24	.9449	6	.2362	.629	.800	.012	11	9/64	830	430
MER-101	12	.4724	28	1.1024	8	.3150	.670	.924	.012	10	3/16	1300	650
MER-201	12	.4724	32	1.2598	10	.3937	.725	1.007	.024	9	15/64	1800	870
MER-301	12	.4724	37	1.4567	12	.4724	.777	1.153	.039	7	5/16	2400	1100
MER-1902	15	.5906	28	1.1024	7	.2756	.735	.972	.012	12	5/32	1050	590
MER-102	15	.5906	32	1.2598	9	.3543	.816	1.042	.012	11	3/16	1400	760
MER-202	15	.5906	35	1.3780	11	.4331	.815	1.153	.024	10	1/4	2200	1150
MER-302	15	.5906	42	1.6535	13	.5118	.934	1.310	.039	9	5/16	3000	1550
MER-1903	17	.6693	30	1.1811	7	.2756	.832	1.015	.012	13	5/32	1100	660
MER-103	17	.6693	35	1.3780	10	.3937	.895	1.153	.012	13	3/16	1550	930
MER-203	17	.6693	40	1.5748	12	.4724	.952	1.292	.024	10	17/64	2450	1350
MER-303	17	.6693	47	1.8504	14	.5512	1.034	1.485	.039	8	3/8	3750	1900
MER-1804	20	.7874	32	1.2598	7	.2756	.948	1.098	.012	17	1/8	850	580
MER-1904	20	.7874	37	1.4567	9	.3543	1.002	1.267	.012	11	7/32	1850	1050
MER-104	20	.7874	42	1.6535	12	.4724	1.075	1.395	.024	11	1/4	2400	1350
MER-204	20	.7874	47	1.8504	14	.5512	1.131	1.506	.039	10	5/16	3300	1850
MER-304	20	.7874	52	2.0472	15	.5906	1.192	1.643	.039	9	3/8	4200	2250
MER-1805	25	.9843	37	1.4567	7	.2756	1.145	1.295	.012	20	1/8	920	700
MER-1905	25	.9843	42	1.6535	9	.3543	1.195	1.460	.012	14	7/32	2200	1400
MER-105	25	.9843	47	1.8504	12	.4724	1.267	1.567	.024	13	1/4	2650	1700
MER-205	25	.9843	52	2.0472	15	.5906	1.328	1.703	.039	11	5/16	3550	2150
MER-305	25	.9843	62	2.4409	17	.6693	1.450	1.976	.039	10	7/16	6000	3500



Angular Contact Bearings



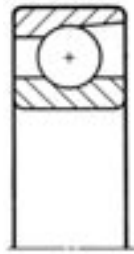
Notes:

1. Metric Series Angular Contact ball bearings are typically manufactured from 52100, to ABEC 3, 5, & 7 tolerances.
2. Standard contact angles are 15° and 25°. Other options are available.
3. Part numbers listed are with outer-ring relieved configuration. Other design options are available.
4. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.

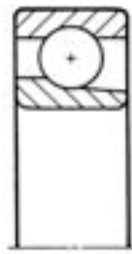
BASIC P/N	BORE d		O.D. D		WIDTH B		LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS.	
	mm	INCH	mm	INCH	mm	INCH	Li	L0		NO.	SIZE	DYN. C	STATIC Co
							INCH	INCH	INCH				
MER-1806	30	1.1811	42	1.6535	7	.2756	1.342	1.492	.012	23	1/8	970	810
MER-1906	30	1.1811	47	1.8504	9	.3543	1.384	1.649	.012	16	7/32	2350	1650
MER-106	30	1.1811	55	2.1654	13	.5118	1.504	1.842	.039	14	9/32	3450	2350
MER-206	30	1.1811	62	2.4409	16	.6299	1.585	2.045	.039	12	3/8	5250	3350
MER-306	30	1.1811	72	2.8346	19	.7480	1.707	2.308	.039	10	1/2	7700	4650
MER-1807	35	1.3780	47	1.8504	7	.2756	1.539	1.689	.012	26	1/8	1000	900
MER-1907	35	1.3780	55	2.1654	10	.3937	1.644	1.942	.024	18	1/4	3200	2450
MER-107	35	1.3780	62	2.4409	14	.5512	1.721	2.097	.039	15	5/16	4350	3100
MER-207	35	1.3780	72	2.8346	17	.6693	1.825	2.388	.039	10	15/32	6900	4250
MER-307	35	1.3780	80	3.1496	21	.8268	1.926	2.602	.059	10	9/16	9500	5850
MER-1808	40	1.5748	52	2.0472	7	.2756	1.735	1.886	.012	29	1/8	1050	1000
MER-1908	40	1.5748	62	2.4409	12	.4724	1.878	2.141	.024	19	1/4	3250	2700
MER-108	40	1.5748	68	2.6772	15	.5906	1.900	2.351	.039	14	3/8	5800	4100
MER-208	40	1.5748	80	3.1496	18	.7087	2.062	2.663	.039	11	1/2	8300	5450
MER-308	40	1.5748	90	3.5433	23	.9055	2.184	2.935	.059	10	5/8	11500	7300
MER-1809	45	1.7717	58	2.2835	7	.2756	1.952	2.102	.012	31	1/8	1100	1050
MER-1909	45	1.7717	68	2.6772	12	.4724	2.055	2.394	.024	19	9/32	4050	3350
MER-109	45	1.7717	75	2.9528	16	.6299	2.137	2.588	.039	15	3/8	6050	4500
MER-209	45	1.7717	85	3.3465	19	.7480	2.228	2.840	.039	13	15/32	8300	5900
MER-309	45	1.7717	100	3.9370	25	.9843	2.441	3.267	.059	11	11/16	14600	9800
MER-1810	50	1.9685	65	2.5591	7	.2756	2.169	2.357	.012	30	5/32	1650	1650
MER-1910	50	1.9685	72	2.8346	12	.4724	2.232	2.571	.024	21	9/32	4300	3750
MER-110	50	1.9685	80	3.1496	16	.6299	2.334	2.785	.039	16	3/8	6250	4900
MER-210	50	1.9685	90	3.5433	20	.7874	2.455	3.056	.039	14	1/2	9800	7250
MER-310	50	1.9685	110	4.3307	27	1.0630	2.699	3.600	.079	11	3/4	17100	11700
MER-1811	55	2.1654	72	2.8346	9	.3543	2.387	2.612	.012	29	3/16	2300	2300
MER-1911	55	2.1654	80	3.1496	13	.5118	2.469	2.845	.039	20	5/16	5050	4450
MER-111	55	2.1654	90	3.5433	18	.7087	2.592	3.116	.039	17	7/16	8700	7050
MER-211	55	2.1654	100	3.9370	21	.8268	2.713	3.389	.059	14	9/16	12100	9150
MER-311	55	2.1654	120	4.7244	29	1.1417	2.956	3.933	.079	11	13/16	19800	13800

METRIC SERIES BALL BEARINGS

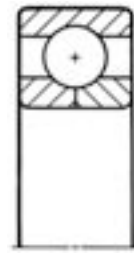
Angular Contact Bearings



MER



MDR

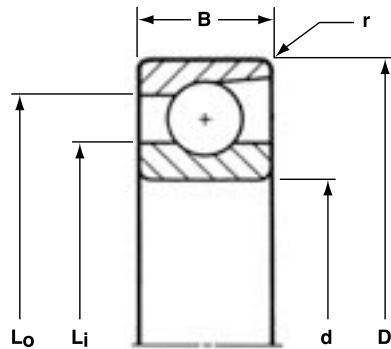


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BASIC P/N	BORE d		O.D. D		WIDTH B		LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS.	
	mm	INCH	mm	INCH	mm	INCH	L _i	L _o		NO.	SIZE	DYN. C	STATIC C ₀
							INCH	INCH	INCH		INCH		
MER-1812	60	2.3622	78	3.0709	10	.3937	2.584	2.848	.012	28	7/32	3050	3050
MER-1912	60	2.3622	85	3.3465	13	.5118	2.666	3.042	.039	21	5/16	5150	4700
MER-112	60	2.3622	95	3.7402	18	.7087	2.788	3.314	.039	18	7/16	8950	7600
MER-212	60	2.3622	110	4.3307	22	.8661	2.971	3.722	.059	14	5/8	14700	11300
MER-312	60	2.3622	130	5.1181	31	1.2205	3.213	4.266	.079	11	7/8	22600	16100
MER-1813	65	2.5591	85	3.3465	10	.3937	2.821	3.084	.024	29	7/32	3050	3150
MER-1913	65	2.5591	90	3.5433	13	.5118	2.863	3.239	.039	23	5/16	5450	5200
MER-113	65	2.5591	100	3.9370	18	.7087	2.985	3.511	.039	19	7/16	9150	8100
MER-213	65	2.5591	120	4.7244	23	.9055	3.228	4.055	.059	14	11/16	17400	13600
MER-313	65	2.5591	140	5.5118	33	1.2992	3.471	4.599	.079	12	15/16	27200	20200
MER-1814	70	2.7559	90	3.5433	10	.3937	3.018	3.281	.024	31	7/32	3150	3350
MER-1914	70	2.7559	100	3.9370	16	.6299	3.139	3.553	.039	21	11/32	6100	5750
MER-114	70	2.7559	110	4.3307	20	.7874	3.243	3.844	.039	18	1/2	11300	9950
MER-214	70	2.7559	125	4.9213	24	.9449	3.424	4.252	.059	15	11/16	18200	14800
MER-314	70	2.7559	150	5.9055	35	1.3780	3.729	4.932	.079	12	1	30500	23000
MER-1815	75	2.9528	95	3.7402	10	.3937	3.214	3.478	.024	33	7/32	3200	3550
MER-1915	75	2.9528	105	4.1339	16	.6299	3.318	3.769	.039	26	3/8	8250	8500
MER-115	75	2.9528	115	4.5276	20	.7874	3.440	4.041	.039	20	1/2	12100	11200
MER-215	75	2.9528	130	5.1181	25	.9843	3.621	4.449	.059	16	11/16	19000	16000
MER-315	75	2.9528	160	6.2992	37	1.4567	3.986	5.265	.079	12	1-1/16	34100	26100
MER-1816	80	3.1496	100	3.9370	10	.3937	3.411	3.675	.024	35	7/32	3300	3750
MER-1916	80	3.1496	110	4.3307	16	.6299	3.515	3.966	.039	27	3/8	8350	8850
MER-116	80	3.1496	125	4.9213	22	.8661	3.809	4.261	.039	19	9/16	14500	13300
MER-216	80	3.1496	140	5.5118	26	1.0236	3.992	4.669	.079	16	3/4	22200	19000
MER-316	80	3.1496	170	6.6929	39	1.5354	4.470	5.372	.079	12	1-1/8	37800	29300
MER-1817	85	3.3465	110	4.3307	13	.5118	3.669	4.007	.039	30	9/32	4900	5450
MER-1917	85	3.3465	120	4.7244	18	.7087	3.772	4.298	.039	25	7/16	10700	11100
MER-117	85	3.3465	130	5.1181	22	.8661	3.893	4.570	.039	20	9/16	14900	14200
MER-217	85	3.3465	150	5.9055	28	1.1024	4.137	5.114	.079	15	13/16	24600	20800
MER-317	85	3.3465	180	7.0866	41	1.6142	4.539	5.893	.098	13	1-1/8	40100	32400



Angular Contact Bearings



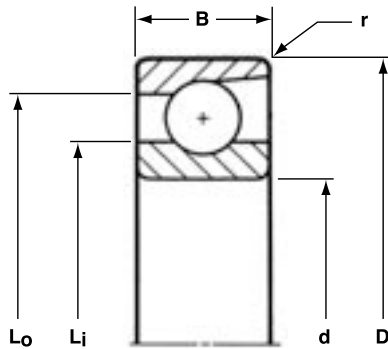
Notes:

1. Metric Series Angular Contact ball bearings are typically manufactured from 52100, to ABEC 3, 5, & 7 tolerances.
2. Standard contact angles are 15° and 25°. Other options are available.
3. Part numbers listed are with outer-ring relieved configuration. Other designs are available.
4. Fillet Radius (r)=maximum shaft or housing fillet radius that bearing corners will clear.

BASIC P/N	BORE d		O.D. D		WIDTH B		LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS.	
	mm	INCH	mm	INCH	mm	INCH	L _i	L _o		NO.	SIZE	DYN. C	STATIC C ₀
							INCH	INCH	INCH				
MER-1818	90	3.5433	115	4.5276	13	.5118	3.904	4.166	.039	31	9/32	4950	5600
MER-1918	90	3.5433	125	4.9213	18	.7087	3.969	4.495	.039	26	7/16	10900	11600
MER-118	90	3.5433	140	5.5118	24	.9449	4.151	4.903	.059	20	5/8	18200	17400
MER-218	90	3.5433	160	6.2992	30	1.1811	4.394	5.447	.079	15	7/8	28100	24100
MER-318	90	3.5433	190	7.4803	43	1.6929	4.797	6.226	.098	13	1-3/16	44200	36200
MER-1819	95	3.7402	120	4.7244	13	.5118	4.101	4.363	.039	32	9/32	5000	5750
MER-1919	95	3.7402	130	5.1181	18	.7087	4.169	4.692	.039	28	7/16	11300	12600
MER-119	95	3.7402	145	5.7087	24	.9449	4.348	5.100	.059	21	5/8	18600	18400
MER-219	95	3.7402	170	6.6929	32	1.2598	4.652	5.780	.079	15	15/16	31900	27600
MER-319	95	3.7402	200	7.8740	45	1.7717	5.055	6.559	.098	13	1-1/4	48500	40100
MER-1820	100	3.9370	125	4.9213	13	.5118	4.259	4.598	.039	34	9/32	5150	6100
MER-1920	100	3.9370	140	5.5118	20	.7874	4.423	5.025	.039	26	1/2	13900	15100
MER-120	100	3.9370	150	5.9055	24	.9449	4.545	5.297	.059	21	5/8	18500	18600
MER-220	100	3.9370	180	7.0866	34	1.3386	4.910	6.113	.079	15	1	35800	31300
MER-1821	105	4.1339	130	5.1181	13	.5118	4.456	4.795	.039	36	9/32	5300	6400
MER-1921	105	4.1339	145	5.7087	20	.7874	4.620	5.222	.039	27	1/2	14200	15800
MER-121	105	4.1339	160	6.2992	26	1.0236	4.802	5.630	.079	21	11/16	22100	22300
MER-221	105	4.1339	190	7.4803	36	1.4173	5.167	6.446	.079	15	1-1/16	40000	35300
MER-1822	110	4.3307	140	5.5118	16	.6299	4.714	5.128	.039	32	11/32	7300	8650
MER-1922	110	4.3307	150	5.9055	20	.7874	4.817	5.418	.039	28	1/2	14300	16500
MER-122	110	4.3307	170	6.6929	28	1.1024	5.060	5.963	.079	20	3/4	25200	25100
MER-222	110	4.3307	200	7.8740	38	1.4961	5.425	6.779	.079	15	1-1/8	44300	39400
MER-1824	120	4.7244	150	5.9055	16	.6299	5.108	5.521	.039	35	11/32	7600	9400
MER-1924	120	4.7244	165	6.4961	22	.8661	5.271	5.948	.039	27	9/16	17400	20100
MER-124	120	4.7244	180	7.0866	28	1.1024	5.454	6.356	.079	22	3/4	26600	28000
MER-224	120	4.7244	215	8.4646	40	1.5748	5.917	7.271	.079	16	1-1/8	46200	43000
MER-1826	130	5.1181	165	6.4961	18	.7087	5.562	6.051	.039	32	13/32	9900	12100
MER-1926	130	5.1181	180	7.0866	24	.9449	5.726	6.478	.059	27	5/8	21200	24700
MER-126	130	5.1181	200	7.8740	33	1.2992	5.969	7.022	.079	20	7/8	33200	34300
MER-226	130	5.1181	230	9.0551	40	1.5748	6.372	7.801	.098	17	1-3/16	52900	51200

METRIC SERIES BALL BEARINGS

Angular Contact Bearings



Notes:

1. Metric Series Angular Contact ball bearings are typically manufactured from 52100, to ABEC 3, 5, & 7 tolerances.
2. Standard contact angles are 15° and 25°. Other options are available.
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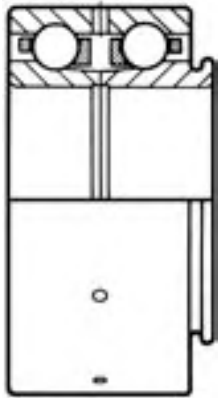
BASIC P/N	BORE d		O.D. D		WIDTH B		LAND DIAMETER (REFERENCE)		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS LBS.	
	mm	INCH	mm	INCH	mm	INCH	L _j	L ₀		NO.	SIZE	DYN. C	STATIC C ₀
							INCH	INCH	INCH				
MER-1828	140	5.5118	175	6.8898	18	.7087	5.956	6.445	.039	35	13/32	10300	13200
MER-1928	140	5.5118	190	7.4803	24	.9449	5.923	6.675	.059	29	5/8	22000	26700
MER-128	140	5.5118	210	8.2677	33	1.2992	6.363	7.416	.079	22	7/8	35100	38100
MER-228	140	5.5118	250	9.8425	42	1.6535	6.887	8.466	.098	16	1-5/16	61000	58500
MER-1830	150	5.9055	190	7.4803	20	.7874	6.429	6.956	.039	35	7/16	11800	15300
MER-1930	150	5.9055	210	8.2677	28	1.1024	6.635	7.537	.079	26	3/4	28900	34200
MER-130	150	5.9055	225	8.8583	35	1.3780	6.855	7.908	.079	23	7/8	35800	40400
MER-1832	160	6.2992	200	7.8740	20	.7874	6.823	7.349	.039	37	7/16	12100	16100
MER-1932	160	6.2992	220	8.6614	28	1.1024	7.029	7.931	.079	27	3/4	29300	35800
MER-132	160	6.2992	240	9.4488	38	1.4961	7.272	8.475	.079	22	1	44700	49900
MER-1834	170	6.6929	215	8.4646	22	.8661	7.277	7.879	.039	35	1/2	15100	20000
MER-1934	170	6.6929	230	9.0551	28	1.1024	7.422	8.325	.079	29	3/4	30300	38700
MER-134	170	6.6929	260	10.2360	42	1.6535	7.787	9.141	.079	21	1-1/8	54000	59800
MER-1836	180	7.0866	225	8.8583	22	.8661	7.671	8.273	.039	37	1/2	15500	21100
MER-1936	180	7.0866	250	9.8425	33	1.2992	7.938	8.991	.079	27	7/8	39000	48500
MER-136	180	7.0866	280	11.0240	46	1.811	8.378	9.732	.079	22	1-1/8	55100	63500
MER-1838	190	7.4803	240	9.4488	24	.9449	8.126	8.803	.059	36	9/16	19100	26200
MER-1938	190	7.4803	260	10.2360	33	1.2992	8.331	9.384	.079	28	7/8	39500	50600
MER-138	190	7.4803	290	11.4173	46	1.8110	8.734	10.163	.079	22	1-3/16	60800	70600
MER-1840	200	7.8740	250	9.8425	24	.9449	8.519	9.196	.059	37	9/16	19200	26800
MER-1940	200	7.8740	280	11.0240	38	1.4961	8.847	10.050	.079	26	1	48600	60800

SPECIAL PRODUCTS

Introduction

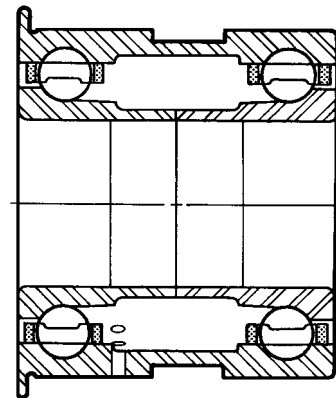
Many applications demand special bearings. No matter what your requirements are—high load, extreme speed, limited space, simplified assembly, efficient distribution of lubrication—NHBB's experienced, knowledgeable staff of

Applications Engineers can help from initial design to product completion. The following pages contain some examples of the nonstandard options available from NHBB.



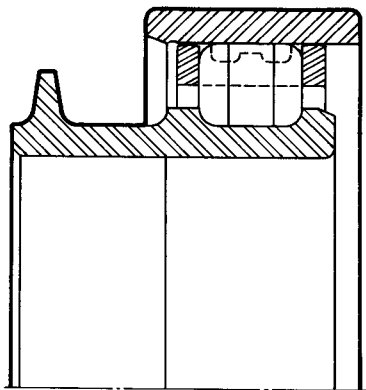
Super Duplex Ball Bearing Gas Turbine Power Take Off

The design of this ball bearing incorporates a puller groove for ease of disassembly. Oil scavenge holes allow spent lubricant to exit freely.



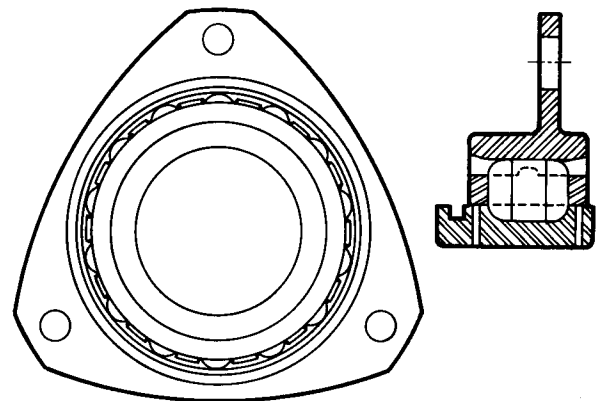
Super Duplex Ball Bearing Accessory Generator Drive

A locator flange on the outer ring ensures precise positioning and ease of installation. Supplied as a matched set for high moment resistance.



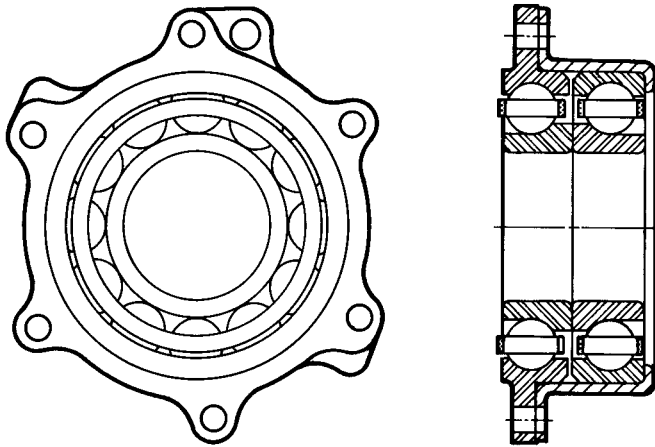
Cylindrical Roller Bearing Gas Turbine Mainshaft

This unique bearing features an innovative, extended inner ring to direct the flow and enhance the distribution of spent lubricant during the scavenge process.



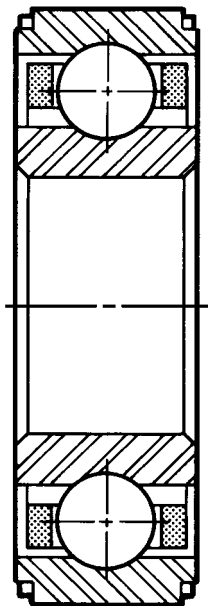
Cylindrical Roller Bearing Gas Turbine Accessory Gearbox

The design of this bearing incorporates an integral flange for ease of mounting. Oil holes on the inner ring provide for consistent lubrication.



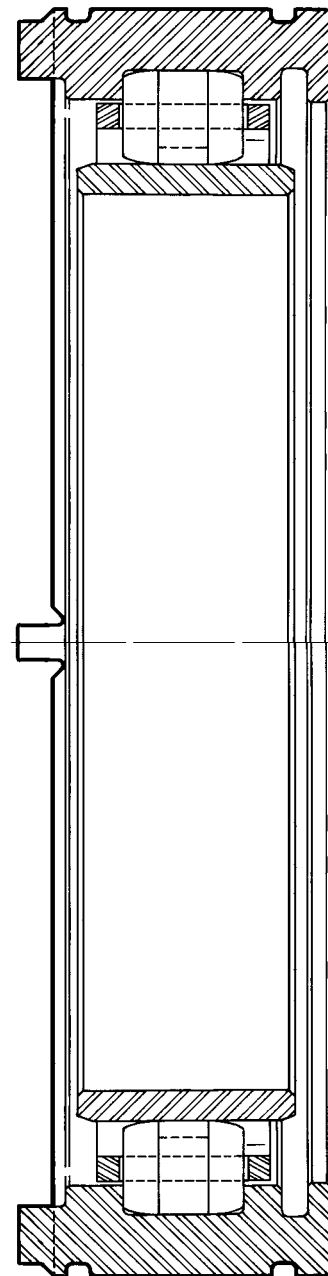
Duplex Ball Bearing Main Fuel Pump

The design of this bearing includes an integral mounting flange and full sleeve for ease of installation and fit.



Radial Ball Bearing with Fractured Outer Ring Accessory Gear Support

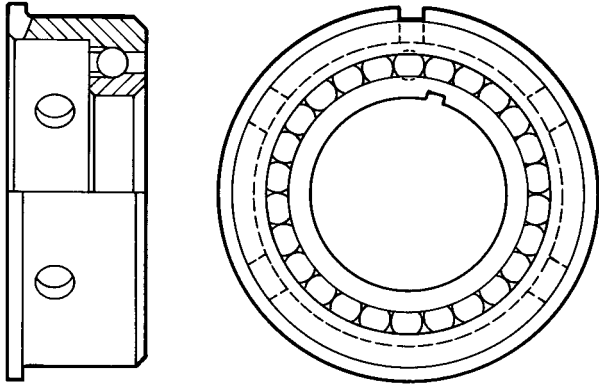
This radial bearing features a fractured outer ring and one-piece cage for maximum ball capacity.



Cylindrical Roller Bearing Gas Turbine Mainshaft

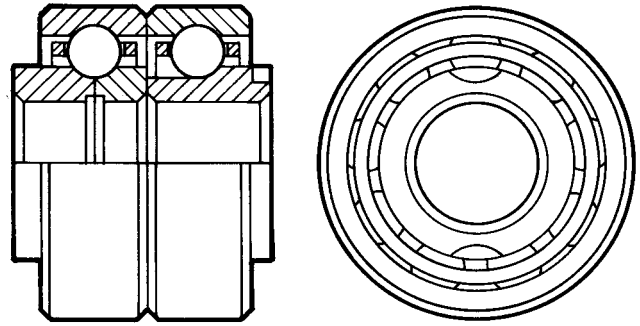
A series of integral, anti-rotation tabs prevent the ring from rotating under load. The design accommodates fluid-damped mounting to further reduce vibration.

SPECIAL PRODUCTS



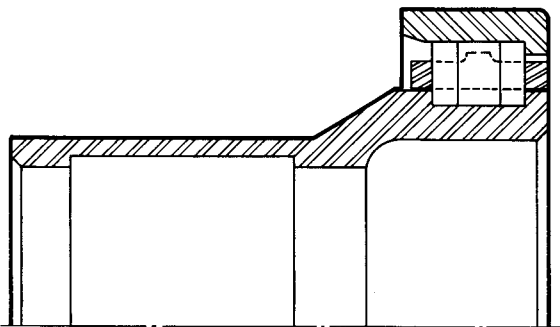
Full Type Ball Bearing Hydraulic Pump

The extended outer ring has an integral flange which helps simplify assembly. Oil scavenge holes allow spent lubricant to exit freely.



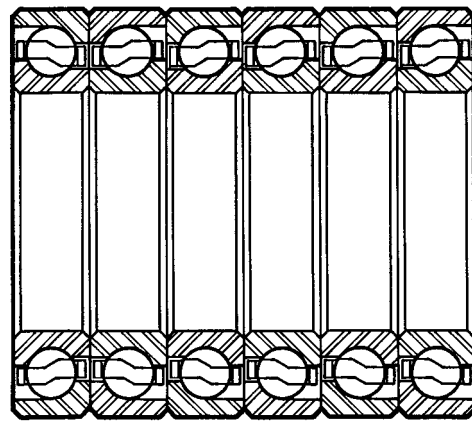
Duplex Tandem Ball Bearing Helicopter Tail Rotor Gearbox

Containing a split inner ring, this bearing was designed to minimize end play, reducing wear and extending the useful life of the tail rotor gear.



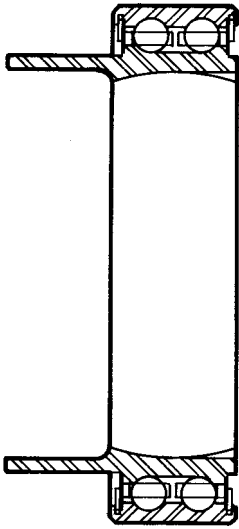
Cylindrical Roller Bearing Aircraft Engine Hydraulic Pump

The unique design of this roller bearing features an extended inner ring to allow offset mounting under tight space constraints.



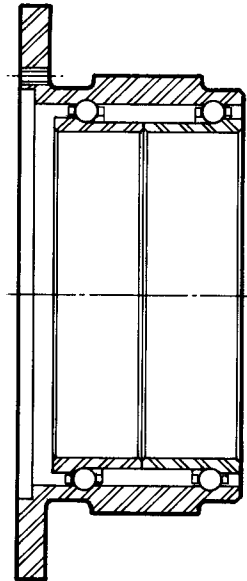
Matched Set of Six Ball Bearings Helicopter Blade Retention

Designed to accommodate extremely high thrust loads, this product can also be ordered in matched sets of two to eight ball bearings.



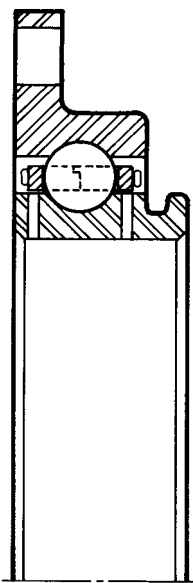
**Double Row
Ball Bearing
Helicopter Main Rotor
Swashplate**

Designed for resistance to cyclic moment loads. Extended inner ring for ease of hardware attachment.



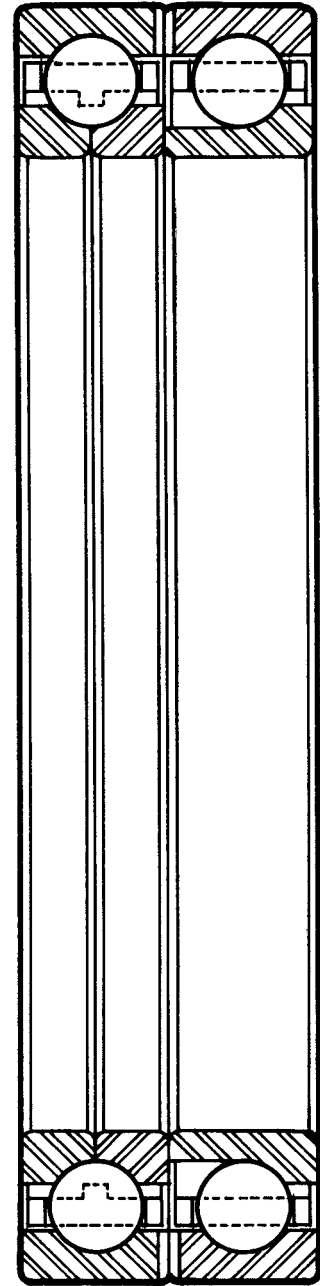
**Super Duplex
Ball Bearing
Missile Gimbal Support**

The low torque design also includes a distinct mounting flange for easy installation.



**Radial Ball Bearing
Aircraft Engine Gearbox**

The design incorporates an integral flange for ease of installation and a puller groove for simple disassembly.



**Duplex Tandem
Ball Bearing
Helicopter Main Gearbox**

This bearing was designed specifically for high thrust capacity. A split inner ring minimizes end play, reducing wear and extending the useful life of the gearbox.