

Metric Bearings

Introduction

Any series of Avon Bearings can be engineered and manufactured with metric dimensions. Metric threads for mounting holes and module gearing are readily available.

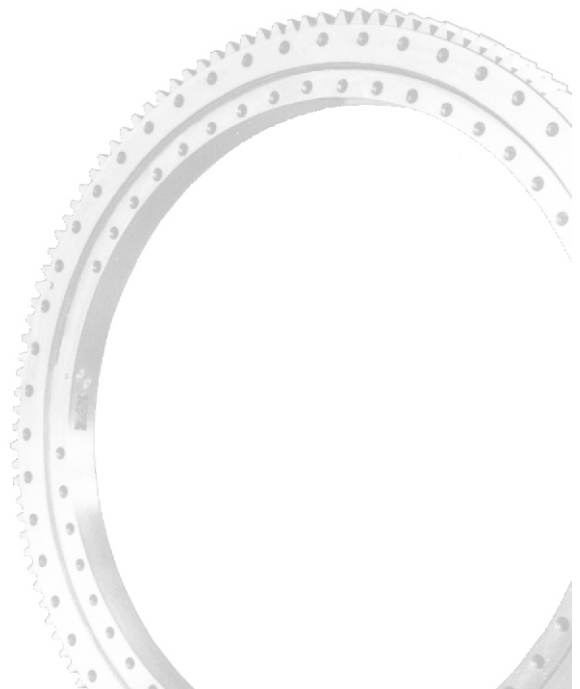
This section contains Series T and Series R bearings designed with metric dimensions. Please refer to these series as well as Series TR for additional metric bearings or bearings designed with metric threads or module gearing.

Construction

Metric bearings are produced from special alloy steel through hardened to the appropriate level. The raceways are induction hardened to 58-62 Rc. The rolling elements are made from A.I.S.I. 52100 steel.

Advantages

Metric bearings offer flexibility to the global purchaser and designer. In addition to metric design characteristics, bearings can be manufactured in accordance with standards such as DIN and JIS. Criteria outlined by certifying authorities such as Lloyd's and DNV can also be met.



Metric Bearings External, Internal and Gearless

External Gear

MOUNTING HOLES						GEAR DATA					CAPACITY DATA			
Outer race			Inner race			Tooth	PD	Module	#Teeth	Face	Moment	Thrust	Radial	Tooth
OBC	# Holes	Bolt	IBC	# Holes	Bolt									
585	28	M12 x 1.5	498	32	12	MOD	630	6	105	46	48,808	448,550	179,420	32,199
475	20	16	370	20	16	MOD	515	5	103	50.8	75,774	896,952	179,390	29,254
893	18	20	753	30	20	MOD	968	8	121	65	389,720	2,367,816	947,126	60,413
1191	32	M20 x 1.5	1035	36	20	MOD	1260	10	126	71	749,911	3,345,153	386,265	68,515
1370	40	20	1215	40	20	MOD	1440	10	144	85	1,251,006	4,838,176	558,664	102,012
1505	26	M16 x 2	1345	30	20	MOD	1580	10	158	71	1,574,810	5,412,091	624,934	85,957
2274	42	20	2127	42	20	MOD	2352	12	196	78	3,591,222	8,160,446	942,287	113,339
2673	40	20	2527	40	20	MOD	2736	12	228	77	5,031,123	9,637,143	1,112,801	112,520
885	24	M20 x 2.5	737	24	20	MOD	936	6	156	89	490,745	3,025,593	605,118	91,470
1870	60	20	1702	62	20	MOD	1960	14	140	89	2,868,288	8,030,557	927,288	148,225
1067	30	22	889	32	22	MOD	1140	10	114	102	1,021,468	5,222,809	603,078	120,310
1464	40	24	1260	42	24	MOD	1570	10	157	114	2,258,706	8,292,258	957,507	146,979
1543	54	M24 x 3	1349.4	53-O	M24 x 3	MOD	1624	14	116	152	2,952,704	10,098,086	1,166,026	266,804
2887	60	30	2673	60	30	MOD	3024	18	168	152	11,775,327	21,332,375	2,463,250	306,923
2851	72	32	2565.4	72	32	MOD	2960	20	148	190	13,265,140	24,565,099	2,836,533	469,364

Internal Gear

MOUNTING HOLES						GEAR DATA					CAPACITY DATA			
Outer race			Inner race			Tooth	PD	Module	#Teeth	Face	Moment	Thrust	Radial	Tooth
OBC	# Holes	Bolt	IBC	# Holes	Bolt									
368	12	10	292	12	10	MOD	255	2.5	102	31.75	23,860	361,305	72,261	9,372
726	28	16	614	28	M16 x 2	MOD	544	8	68	49	189,636	1,415,100	163,401	59,101
920	24	M16 x 2	817	24	M16 x 2	MOD	774	6	129	58	435,552	2,517,307	290,673	50,140
1265.2	31-N	20	1160.8	36	M20 x 2.5	MOD	1100	10	110	83.3	1,185,044	4,927,724	569,004	122,985
1178	32	18	1022	36	18	MOD	948	12	79	76	901,897	4,099,292	4,733,455	137,621
3210	48	20	3070	48	M20 x 2.5	MOD	3000	10	300	82	7,272,534	11,606,106	1,340,157	114,713
2129	60	28	1899	60	28	MOD	1788	12	149	113	4,475,838	11,112,095	4,444,838	195,682
1441	48	22	1241	48	22	MOD	1164	12	97	114	2,196,535	8,187,702	945,434	215,848
1835	44	30	1625	48	M30 x 3	MOD	1498	14	107	115	3,634,003	10,497,630	1,212,161	218,525
2295	72	30	2065	72	30	MOD	1952	16	121	138	5,767,684	13,228,710	1,527,519	249,497
2815	80	24	2585	80	24	MOD	2466	18	137	145	8,844,890	16,379,442	1,891,335	375,217
1730	48	30	1515	52	M30 x 2	MOD	1400	14	100	119	3,665,944	11,296,943	1,304,458	261,759
2392	45	32	2154	45	M30 x 3.5	MOD	2034	18	113	148	7,517,728	16,627,867	6,651,146	411,375
3185	72	33	2960	72	M33 x 1.5	MOD	2816	22	128	158	12,196,377	19,863,339	2,293,620	510,939
2283	50	30	2035	50	30	MOD	1950	12	163	140	7,227,406	16,737,997	1,932,737	212,149
3106	94	34	2838	100	34	MOD	2688	16	168	138	13,556,616	22,807,004	2,633,526	287,948

Gearless

MOUNTING HOLES					
Outer race			Inner race		
OBC	# Holes	Bolt	IBC	# Holes	Bolt
590	32	12	498	32	12
893	28-N	20	753	28-N	20
1160	30	20	945	30	20
2450	48	20	2290	48	20
1584	48	22	1397	48	22
1449	48	20	1253	52	20
1640	48	24	1400	48	24
2050	60	36	1800	60	36
2740	48	30	2525	48	30
1640	48	24	1400	48	24
2489	66	24	2235	72	24
3106	94	34	2838	100	34

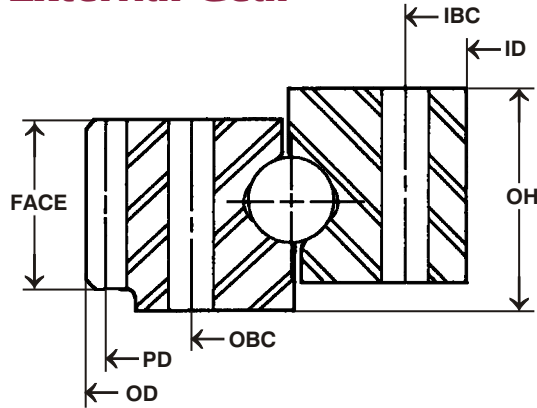
Note: All bearings listed are 4-point contact ball styles except those with an "R" prefix. These models are Series R, crossed roller designs.

CAPACITY DATA		
Moment	Thrust	Radial
103,093	947,441	189,488
389,720	2,367,816	947,126
756,365	3,584,736	716,947
4,159,618	8,775,647	1,013,324
2,347,691	7,875,730	909,411
1,848,893	6,842,610	1,368,522
2,899,598	9,538,633	3,815,453
4,486,401	11,652,689	1,345,536
8,402,316	15,959,216	1,842,811
3,190,927	10,497,003	1,212,089
7,659,249	16,212,246	1,872,028
13,556,616	22,807,004	2,633,526

Module: Denotes the module of the gear. **#of teeth:** Number of teeth in the gear. **Face:** Face width of the gear (mm).
Capacity: Raceway capacity (Moment, Thrust and Radial) are based upon the Theoretical Stress Limit Static Load rating for a single axis. See page 2-6 for additional information. Contact Avon Bearings Engineering for analysis of combined loading applications. **Note:** Bolts may be the limiting factor from a capacity standpoint. Tooth capacity denotes the Tangential Tooth Capacity based upon the Lewis equation and including a 4:1 safety factor over the tensile strength of the steel.
Moment: Denotes moment capacity of raceway, single-axis (Newton-meters). **Thrust:** Denotes thrust or axial capacity of raceway, single-axis (Newtons). **Radial:** Denotes radial capacity of raceway, single-axis (Newtons). **Tooth:** Denotes tangential tooth capacity (Newtons).

Metric Bearings External, Internal and Gearless

External Gear



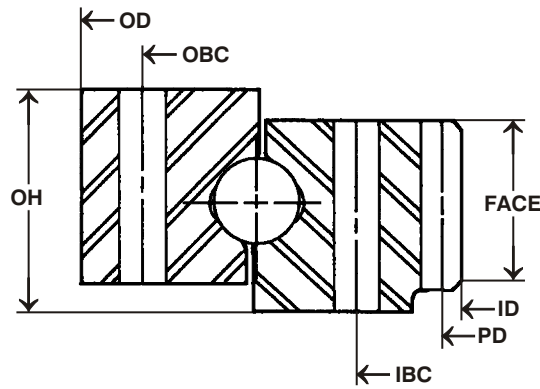
Models

R621A1
817A3
R1032A4
1244A4
1251A2
1257A6
1287A1
12102A1
1532A8
1570A1
1739A3
2054A4
2258A1
25108A1
30106A1

Outline Dimensions

	OD	ID	OH
R621A1	640	472	56
817A3	525	323	57.2
R1032A4	979	717	100
1244A4	1280	987	78
1251A2	1460	1176	114
1257A6	1600	1305	90
1287A1	2386	2083	87
12102A1	2776	2485	90
1532A8	948	698	102
1570A1	1988	1648	101.6
1739A3	1160	838	114
2054A4	1590	1206	126
2258A1	1649.2	1296	165
25108A1	3060	2544	165
30106A1	3000	2503.5	200

Internal Gear



Models

513B9
726B4
1034B9
1147B1
1243B42
12123B1
R1779B1
2053B1
2068B5
2086B4
20106B1
2264B5
R2289B2
22121B2
2585B1
25117B1

Outline Dimensions

	OD	ID	OH
513B9	400	250	38.1
726B4	761	536	58
1034B9	950	763.2	77
1147B1	1300	1085.3	92.7
1243B42	1226	924	89
12123B1	3250	2982	100
R1779B1	2189	1778	149
2053B1	1499	1140	127
2068B5	1901	1470	128
2086B4	2361	1920	150
20106B1	2875	2448	157
2264B5	1800	1386	140
R2289B2	2462	1998	158
22121B2	3245	2776	178
2585B1	2355	1930	152
25117B1	3200	2672	164

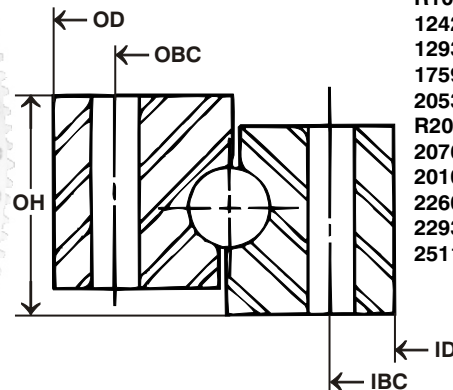
Gearless

Models

721C19
R1032C2
1242C5
1293C1
1759C1
2053C1
R2060C1
2076C2
20104C2
2260C1
2293C2
25117C1

Outline Dimensions

	OD	ID	OH
721C19	616	472	56
R1032C2	979	717	100
1242C5	1200	905	90
1293C1	2495	2245	90
1759C1	1638	1343	117
2053C1	1500	1202	127
R2060C1	1720	1330	140
2076C2	2150	1700	160
20104C2	2805	2460	132
2260C1	1720	1330	140
2293C2	2565	2168	140
25117C1	3200	2672	164



OD: Outside diameter of bearing (mm).

ID: Inside diameter of bearing (mm).

OH: Overall height of bearing (mm).

OBC, IBC: Denotes outer and inner race bolt circle diameters (mm).

of Holes: Number of mounting holes in a given race. Suffix of "N" denotes unequal spacing. Suffix of "O" denotes equal spacing with one hole removed for the loading plug.

Bolt: Denotes bolt diameter (mm). Threaded holes are designated by diameter and pitch.

Tooth: MOD denotes Module gear.

PD: Denotes the theoretical operating pitch diameter of the gear (mm).



AVON
BEARINGS

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