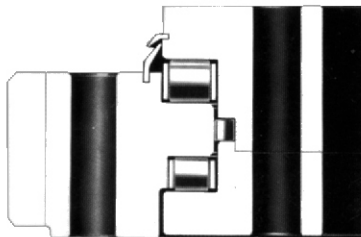


Series TR Bearings

Introduction

Series TR designates a triple-row roller bearing configuration. Three independent rows of rollers transmit thrust, moment and radial loads simultaneously. Loads are applied to roller paths which are perpendicular to the load direction enabling each roller to be utilized in the most efficient manner possible.

Typical Cross Section



Construction

These bearings are produced from special alloy steel through hardened to the appropriate level. The roller paths are induction hardened to 58-62 Rc. Rollers are made from A.I.S.I. 52100 steel.

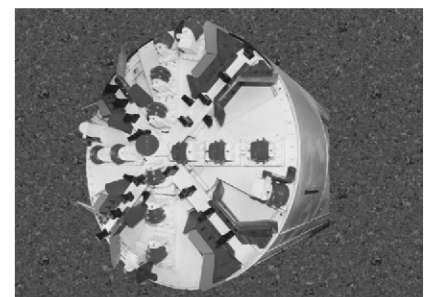
Advantages

Series TR bearings, per unit size, offer more capacity than any other Avon design. The perpendicular orientation of the rollers minimizes the axial deflection under load, making the Series TR bearing the stiffest Avon design.



Applications

Ideal applications for Avon Series TR bearings include marine cranes, draglines, heavy-duty cranes, hydraulic shovels, stacker/reclaimers, tunnel borers, mooring buoys, machine tools and telescopes.



Series TR External, Internal and Gearless

External Gear

MOUNTING HOLES						GEAR DATA					CAPACITY DATA	
Outer race			Inner race			Tooth	PD	DP	# Teeth	Face	Moment	Thrust
OBC	# Holes	Bolt	IBC	# Holes	Bolt							
52.000	40	1.125	44.375	40	1.125	FD	56.000	1.5	84	4.00	1,225,932	1,486,179
55.130	54	.750	46.880	54	.750	MOD	58.267	10	148	4.13	1,635,743	2,200,031
80.709	36	1.250	71.457	36-N	1.250	MOD	85.827	20	109	6.30	5,143,240	3,291,776
103.937	48	1.250	93.701	48	1.250	MOD	108.346	16	172	4.96	6,047,870	4,135,397
78.875	60	1.500	66.000	60	1.500	ST	84.000	2	168	7.13	4,523,271	3,710,204
2325	40	M36	2030	40	M36	MOD	2448	18	136	139	6,387,131	4,402,776
112.250	72	1.250	101.000	72	1.250	MOD	116.535	20	148	5.47	10,166,452	5,540,572
2640	48	M30	2380	48	M30	MOD	2752	16	172	126	10,222,000	5,463,742
2812	48	M36	2487	48	M36	MOD	2940	20	147	170	11,390,085	5,756,443
2882.9	48	M36	2552.7	48	M36	ST	3014.1	1.5	178	181.1	11,862,409	5,854,010

Internal Gear

MOUNTING HOLES						GEAR DATA					CAPACITY DATA	
Outer race			Inner race			Tooth	PD	DP	# Teeth	Face	Moment	Thrust
OBC	# Holes	Bolt	IBC	# Holes	Bolt							
60.750	48	0.625	52.375	48	0.625	ST	49.500	2	99	5.43	2,806,002	2,431,613
97.830	40-N	1.500	89.125	56	1.500-6	FD	82.667	1.5	124	7.25	7,635,043	4,003,064
114.750	72	1.250	105.312	72	1.250	ST	100.670	1.5	151	4.25	7,731,237	4,763,977
67.717	68	1.250	58.071	68	1.250	ST	53.333	1.5	80	5.24	3,526,766	3,240,245
2380	60	M36	2085	60	M36	MOD	1926	18	107	130	6,903,923	4,551,184
117.000	72	1.500	105.312	72	1.500	ST	100.667	1.5	151	6.00	10,964,368	5,738,449
2510	66	M36	2185	72	M36	MOD	2020	20	101	170	9,051,997	5,105,997
2722	72	M36	2397	72	M36	MOD	2240	20	112	187	10,785,108	5,593,832
112.750	90	1.500-6	99.750	96	1.500-6	ST	94.667	1.5	142	7.50	12,673,729	5,854,010
117.500	96	1.500	104.500	105	1.500-6	ST	100.000	1.5	150	7.50	13,830,174	6,114,188
2310	84	M40	1880	88	M40	MOD	1728	24	72	237	7,754,325	5,992,307
100.500	66	1.500	86.000	66	1.500	ST	82.000	2	164	7.50	9,865,442	6,728,204
2880	90	M39	2495	39	M39 x 3	MOD	2304	24	96	254	16,556,726	7,674,358

Gearless

MOUNTING HOLES					
Outer race			Inner race		
OBC	# Holes	Bolt	IBC	# Holes	Bolt
46.000	24	1.250	38.000	32	1.125-7
115.625	72	1.250-7	107.000	72	1.250
62.375	60	1.000	52.875	60	1.000
1340	54	M30	1058	54	M30
2570	52	M36	2235	52	M36
2280	60	M45	1920	60	M45

CAPACITY DATA	
Moment	Thrust
930,596	1,282,194
10,885,148	4,797,060
2,915,161	2,943,429
2,341,741	2,601,782
9,482,651	5,236,086
9,977,391	5,939,743

of teeth: Number of teeth in the gear.

Face: Face width of the gear (inches).

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 (ft.-lbs.).

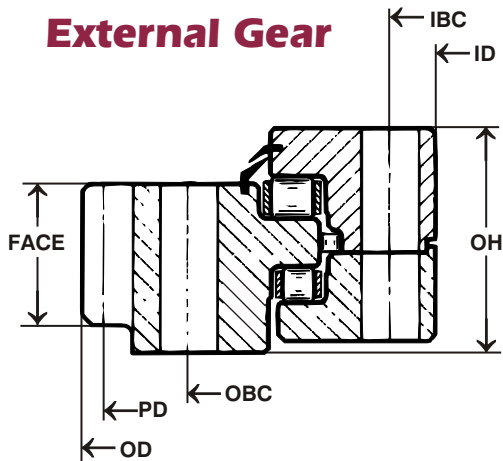
Thrust: Denotes thrust or axial capacity of raceway, single-axis (lbs.).

Radial: Denotes radial capacity of raceway, single-axis (lbs.).

Note: Models with an "*" are dimensioned in millimeters.

Series TR External, Internal and Gearless

External Gear



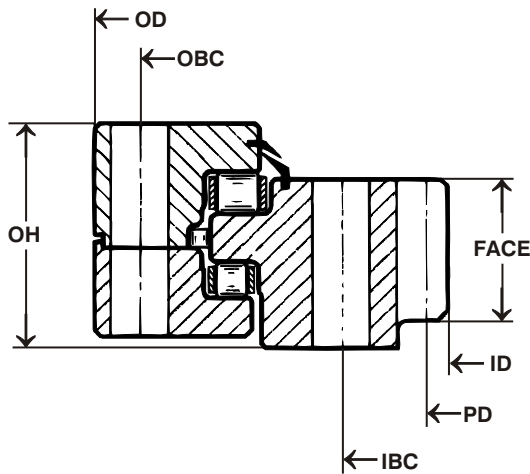
Models

TR748A1
TR1051A1
TR1076A1
TR1098A1
TR1272A1
TR1285A1*
TR12107A1E
TR1599A1*
TR15104A1*
TR15107A1*

Outline Dimensions

	OD	ID	OH
TR748A1	57.10	42.50	5.00
TR1051A1	58.73	44.94	5.62
TR1076A1	87.32	69.09	7.64
TR1098A1	109.47	90.87	6.10
TR1272A1	84.80	62.00	8.50
TR1285A1*	2485	1952	181
TR12107A1E	118.11	98.56	7.13
TR1599A1*	2781	2315	246
TR15104A1*	2980	2409	220
TR15107A1*	3041.2	2476.5	222.2

Internal Gear



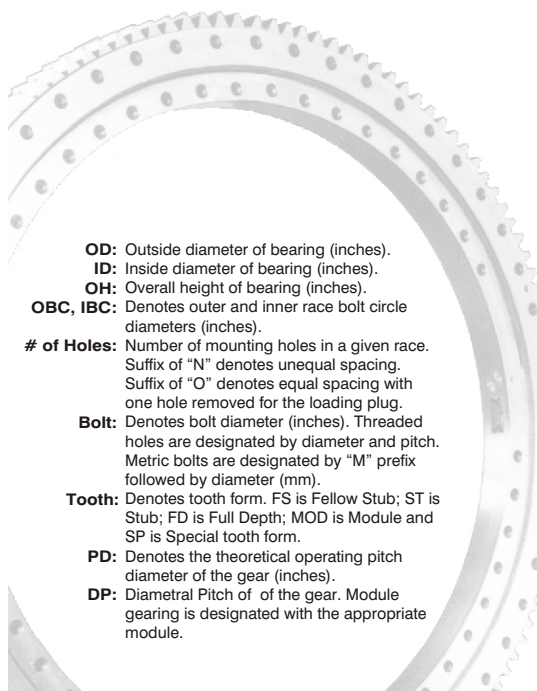
Models

TR1057B1
TR1093B2
TR10110B1
TR1263B1E
TR1288B1*
TR12111B1
TR1593B1*
TR15101B1*
TR15106B1
TR15111B1
TR2082B4*
TR2093B1
TR20106B2*

Outline Dimensions

	OD	ID	OH
TR1057B1	63.38	48.70	7.00
TR1093B2	101.14	81.62	7.64
TR10110B1	117.25	99.60	5.50
TR1263B1E	70.31	52.53	6.42
TR1288B1*	2458	1908	181
TR12111B1	120.00	99.60	8.00
TR1593B1*	2588	1980	220
TR15101B1*	2800	2220	246
TR15106B1	115.75	93.60	10.25
TR15111B1	120.50	98.93	10.25
TR2082B4*	2400	1656	312
TR2093B1	103.50	81.20	11.35
TR20106B2*	3000	2256	305

Gearless



OD: Outside diameter of bearing (inches).

ID: Inside diameter of bearing (inches).

OH: Overall height of bearing (inches).

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

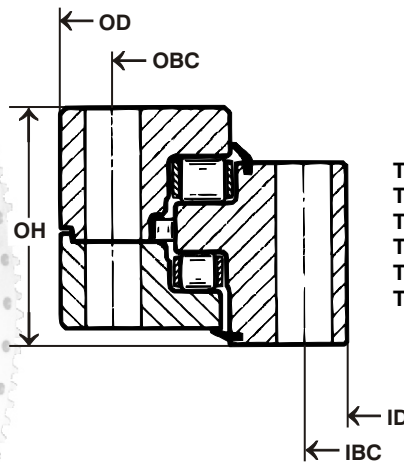
of Holes: Number of mounting holes in a given race. Suffix of "N" denotes unequal spacing. Suffix of "O" denotes equal spacing with one hole removed for the loading plug.

Bolt: Denotes bolt diameter (inches). Threaded holes are designated by diameter and pitch. Metric bolts are designated by "M" prefix followed by diameter (mm).

Tooth: Denotes tooth form. FS is Fellow Stub; ST is Stub; FD is Full Depth; MOD is Module and SP is Special tooth form.

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

DP: Diametral Pitch of of the gear. Module gearing is designated with the appropriate module.



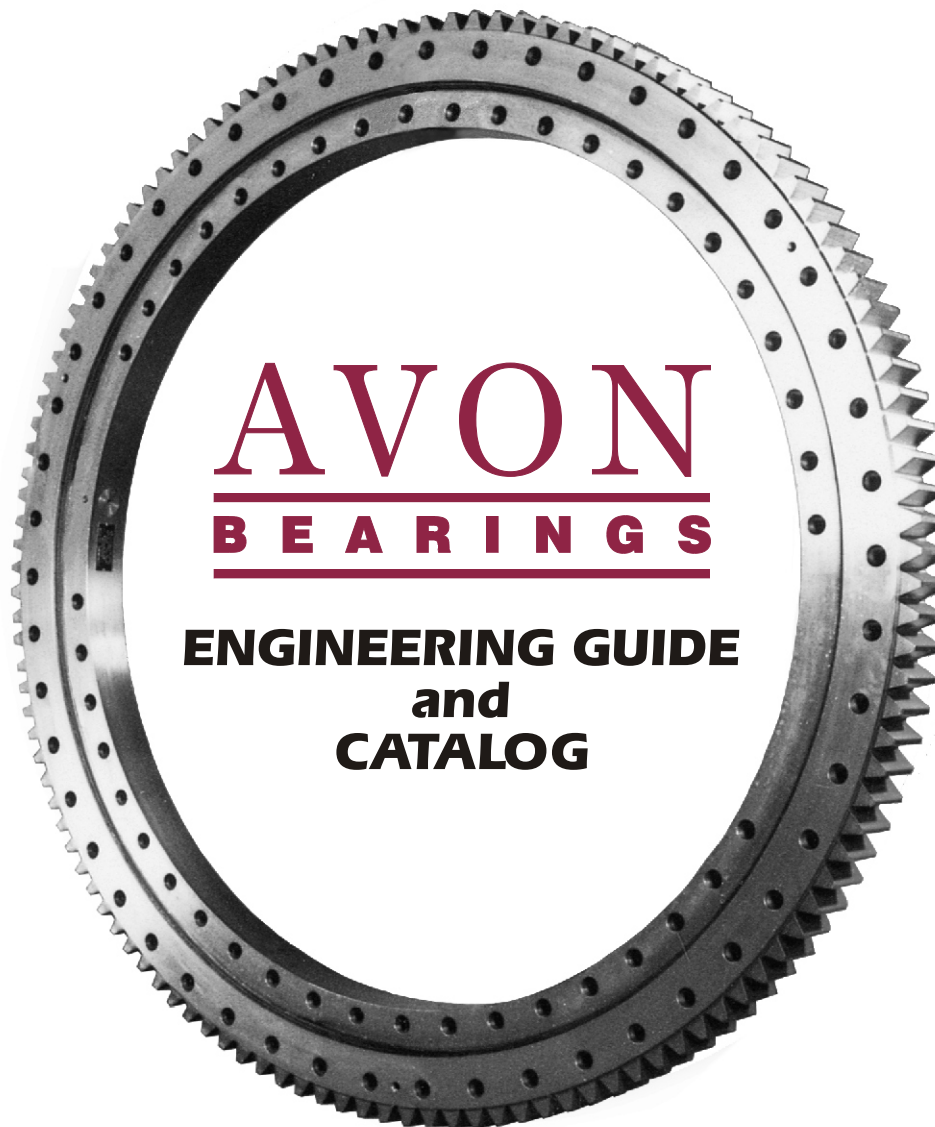
Models

TR742C1
TR10111C1
TR1257C1
TR1547C1*
TR1595C1*
TR2082C1*

Outline Dimensions

	OD	ID	OH
TR742C1	48.56	34.44	4.78
TR10111C1	118.75	104.00	6.00
TR1257C1	65.00	50.63	7.25
TR1547C1*	1400	988	220
TR1595C1*	2650	2150	228
TR2082C1*	2400	1780	305

Note: Models with an "" are dimensioned in millimeters.*



AVON
BEARINGS

**ENGINEERING GUIDE
and
CATALOG**



AVON BEARINGS CORPORATION

1500 Nagle Road • Avon, Ohio 44011

Telephone: 440-871-2500 • Fax: 440-871-2503 • Toll Free: 800-286-6274

www.avonbearings.com • E-Mail: info@avonbearings.com