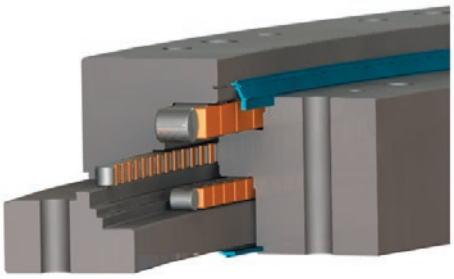
TR Series



The TR Series consists of three-row roller bearings which offer the highest capacity for a given diameter. When an XR or DT Series bearing doesn't meet the stiffness and capacity requirements, consider the TR Series.

Design Features

The bearing has three independent rows of rollers oriented normal to the direction of loads being transmitted through the bearing. Their orientation is selected to optimize capacity, provide low frictional resistance and minimize deflection.

The top and bottom rows of rollers transmit any opposing thrust loads and combine to transmit any moment loading, while the middle row transmits any radial loads. The rollers, the separator configuration used for each and the mating raceways are sized to meet load or other application requirements.

In order to obtain these performance benefits, the supporting structures must satisfy higher stiffness and lower flatness requirements than those for similar sized XT or DT Series bearings.

Gear teeth or other drive mechanisms can be provided on the inner or outer support ring, and the choice of hole pattern can be added for bearing retention.

Availability

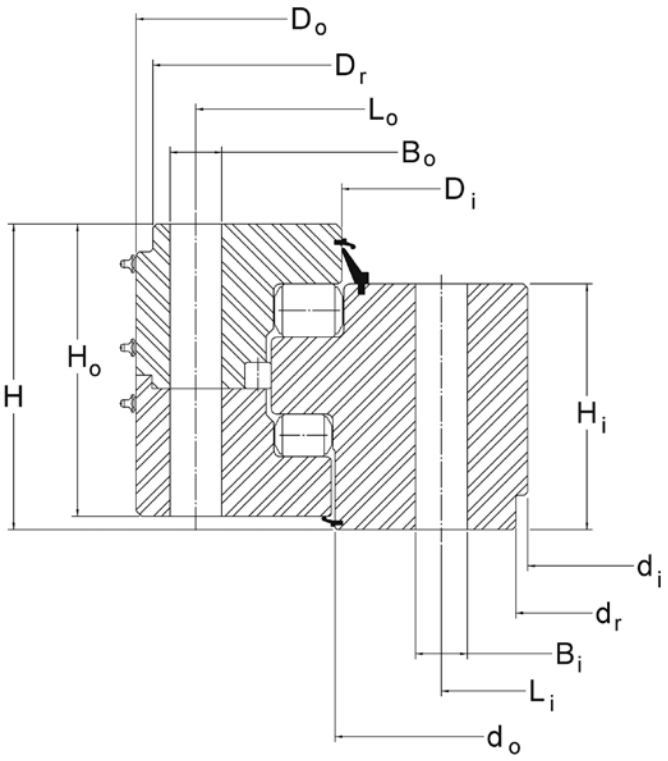
TR Series bearings are custom manufactured to fit the design and specification.

Applications

TR Series bearings have been used successfully in heavy duty applications requiring extra stiffness and capacity including:

- Radar
- Cranes
- Mining shovels
- Stackers and reclaimers
- Heavy mill equipment
- Tunnel boring machines

TR Series



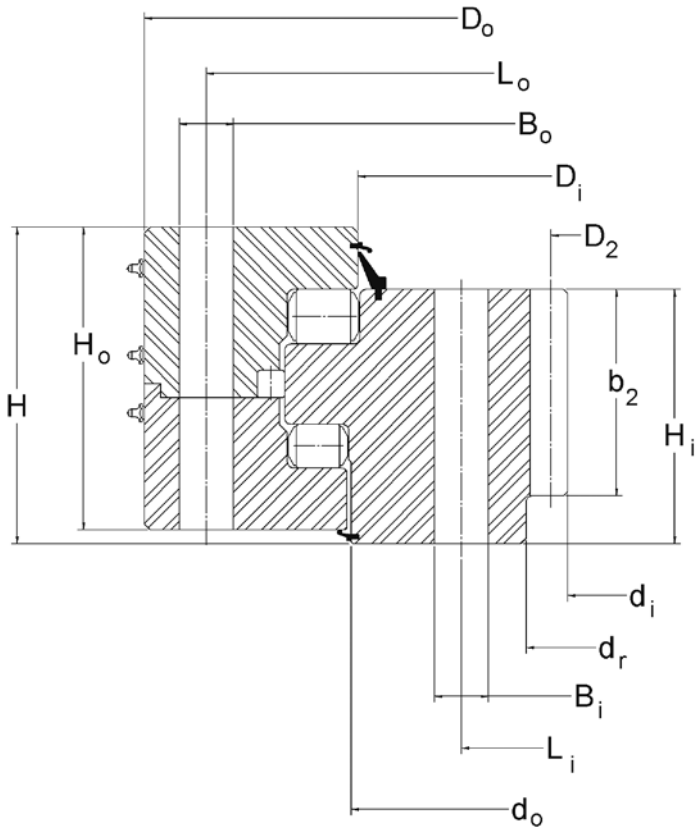
No Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT									
	D_o (in)	d_i (in)	H (in)	H_o (in)	H_i (in)	D_r (in)	D_i (in)	d_o (in)	d_r (in)	G APPROX. (lbs)
16349001	48.560	33.000	7.300	6.880	6.380	48.500	39.310	39.710	33.120	1,700
16350001	56.890	41.535	8.661	8.150	6.772	—	47.215	47.563	—	2,450
16351001	77.250	59.880	7.550	7.000	7.120	77.125	69.410	70.420	60.000	3,400
16352001	93.000	72.500	9.050	8.630	8.620	—	80.960	81.410	—	5,630
16353001	118.583	97.638	7.677	7.283	6.102	—	107.087	107.402	—	6,280
16354001	122.480	107.638	5.945	5.472	4.646	—	113.780	113.976	—	3,500
16356001	158.000	136.500	9.000	8.500	7.250	—	146.280	146.080	—	10,100
16387001	207.480	187.795	8.819	8.425	8.425	—	198.622	199.055	—	13,200
16366001	236.220	210.236	12.205	9.842	11.811	—	225.433	224.409	—	25,800

TR Series

HOLE DATA						GEAR DATA						GEAR TOOTH RATING	BEARING MOMENT RATING
OUTER RING			INNER RING			$\alpha = 20°$							
L_o (in)	n_o	B_o (in)	L_i (in)	n_i	B_i (in)	TOOTH FORM	D_2 (in)	P_d or (m)	z_2	x_2	b_2 (in)	F_z (lbs)	C_{rm} (ft-lbs)
46.000	32	1.313	36.000	32	1 1/4-7	—	—	—	—	—	—	—	1,104,700
54.843	48	1.024	43.583	48	1.024	—	—	—	—	—	—	—	1,275,900
74.500	44	1.250	62.500	44	1.250	—	—	—	—	—	—	—	2,332,400
89.500	60	1.625	76.000	60	1.625	—	—	—	—	—	—	—	6,404,300
115.039	72	1.535	101.181	72	1.535	—	—	—	—	—	—	—	7,936,000
119.882	66	1.299	110.236	66	1.299	—	—	—	—	—	—	—	6,653,000
154.000	100	1.563	140.500	100	1.563	—	—	—	—	—	—	—	20,124,000
202.756	120	1.535	190.945	120	1.535	—	—	—	—	—	—	—	32,339,000
231.102	120	1.772	215.354	120	1.772	—	—	—	—	—	—	—	49,976,000

TR Series



Internal Gear

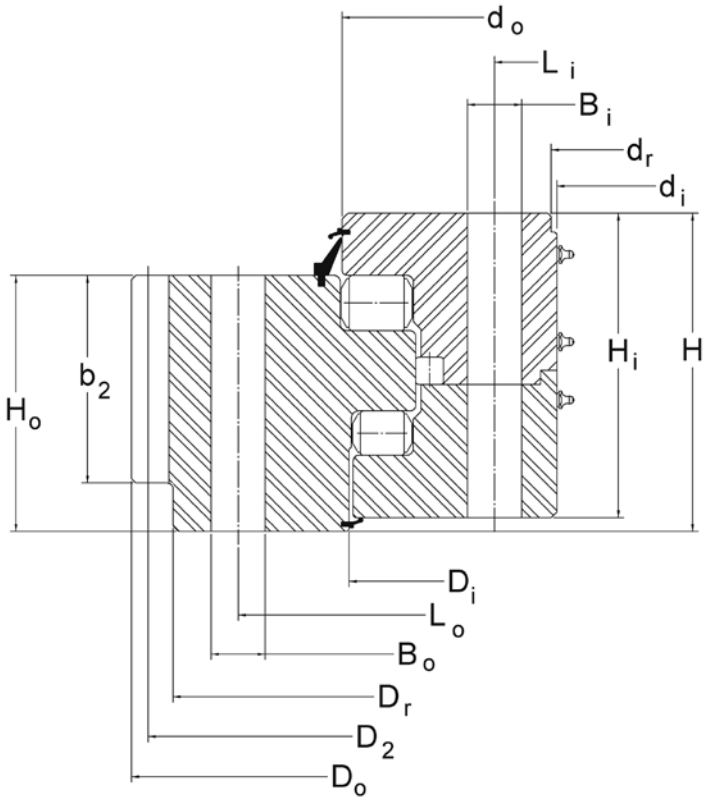
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT									
	D_o (in)	d_i (in)	H (in)	H_o (in)	H_i (in)	D_r* (in)	D_i (in)	d_o (in)	d_r (in)	G APPROX. (lbs)
16376001	54.530	41.760	4.720	4.410	3.700	—	48.150	48.390	43.380	950
16377001	64.173	46.850	7.874	7.283	6.299	—	54.803	54.567	—	2,650
16378001	70.500	50.200	8.620	8.120	6.750	—	59.800	60.220	52.250	3,550
16379001	87.244	68.032	6.969	6.772	5.315	—	77.764	78.112	71.102	3,460
16380001	108.189	85.433	8.504	8.150	6.850	—	97.126	96.339	88.150	6,000
16381001	120.866	97.008	13.701	10.157	11.732	—	108.740	109.291	97.008	10,820
16382001	125.620	106.333	8.380	6.810	6.880	—	115.280	115.630	—	5,800
16383001	155.512	131.339	9.055	8.661	7.284	—	143.307	143.701	133.701	10,550
16384001	187.402	162.992	9.252	8.858	7.480	—	175.158	175.591	—	14,200
16385001	228.000	198.000	11.750	11.250	9.250	—	213.630	214.130	203.000	24,950

*No external diameters for this type.

TR Series

HOLE DATA						GEAR DATA						GEAR TOOTH RATING	BEARING MOMENT RATING
OUTER RING			INNER RING			$\alpha = 20°$							
L_o (in)	n_o	B_o (in)	L_i (in)	n_i	B_i (in)	TOOTH FORM	D_2 (in)	P_d or (m)	z_2	x_2	b_2 (in)	F_z (lbs)	C_{rm} (ft-lbs)
52.953	36	1.024	45.079	36	1.024	SD	42.400	2.5	106	0	3.390	28,250	896,700
61.811	48	1.024	50.551	48	1.024	FD	46.850	(10)	119	-0.75	6.299	55,480	1,479,900
67.625	48	1 1/2-6	55.000	48	1.563	SD	51.000	2	102	0	5.000	56,440	3,514,400
84.646	60	1.299	73.819	60	1.299	FD	68.661	(16)	109	-0.5	4.252	60,240	4,250,900
104.646	80	1.772	91.890	80	1.772	FD	85.984	(14)	156	-0.5	4.724	57,210	9,038,400
117.717	72	1.535	104.724	72	1.535	FD	97.874	(22)	113	-0.5	8.000	143,850	10,642,000
122.812	72	1.563	112.250	72	1 1/2-6	FD	107.333	1.5	161	-0.25	6.880	93,140	9,275,100
151.969	96	1.535	137.402	96	1.535	FD	132.284	(12)	280	0	5.906	59,840	18,616,000
183.858	90	1.535	169.882	90	1.535	FD	164.567	(20)	209	0	7.480	128,000	28,772,000
224.000	150	1.563	207.000	150	1.563	FD	200.000	1	200	0	6.000	130,700	43,823,000

TR Series



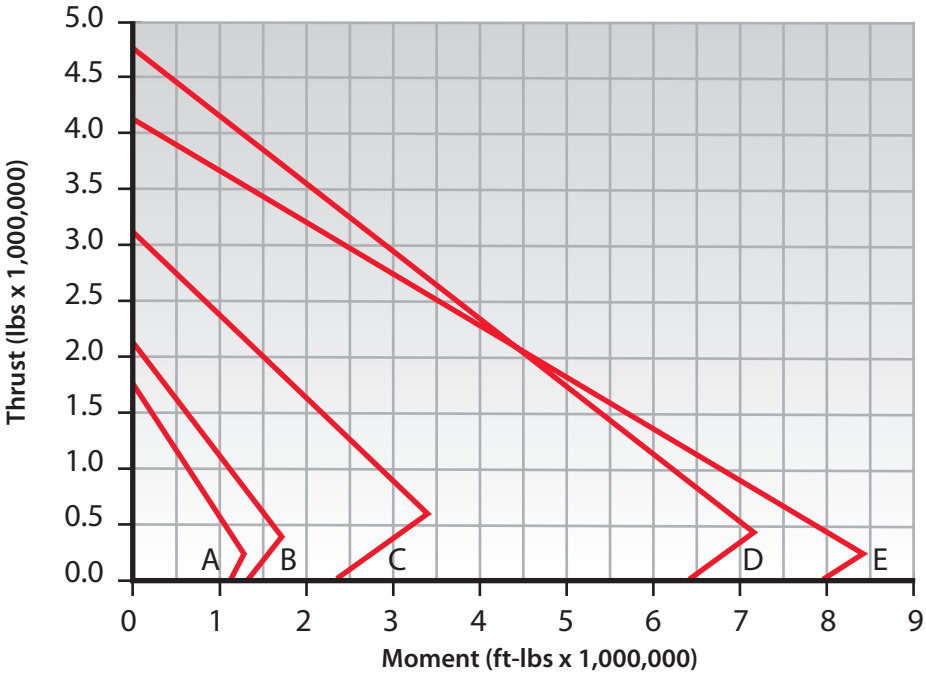
External Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT									
	D_o (in)	d_i (in)	H (in)	H_o (in)	H_i (in)	D_r (in)	D_i (in)	d_o (in)	d_r (in)	G APPROX. (lbs)
16367001	57.100	42.500	5.000	4.500	4.500	53.750	48.850	49.090	42.630	1,250
16368001	71.338	57.000	5.850	4.790	4.630	69.040	63.760	64.030	57.080	1,600
16369001	97.795	76.850	7.126	5.472	6.772	—	86.614	87.047	—	4,400
16370001	115.800	90.500	10.750	8.500	10.250	—	104.240	104.040	—	10,000
16371001	152.756	129.921	10.039	8.071	9.646	—	141.535	141.339	—	11,130
16372001	170.079	144.882	9.941	7.638	9.449	—	156.729	157.155	—	13,830
16373001	210.968	187.795	8.819	8.425	8.425	207.480	198.622	199.055	—	14,330
16388001	233.000	203.000	11.750	9.250	11.250	228.000	216.880	217.380	—	25,500

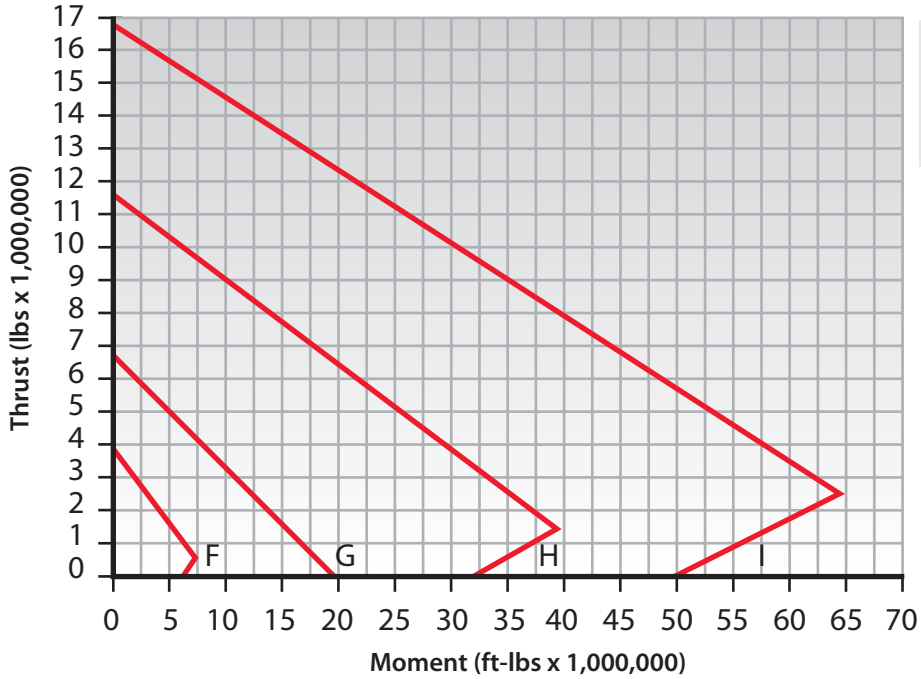
TR Series

HOLE DATA						GEAR DATA						GEAR TOOTH RATING	BEARING MOMENT RATING
OUTER RING			INNER RING			$\alpha = 20°$							
L_o (in)	n_o	B_o (in)	L_i (in)	n_i	B_i (in)	TOOTH FORM	D_2 (in)	P_d or (m)	z_2	x_2	b_2 (in)	F_z (lbs)	C_{rm} (ft-lbs)
52.000	40	1.094	44.375	40	1.094	FD	56.000	1.5	84	-.18	4.000	46,750	829,300
66.889	60	1.024	59.252	60	1.024	FD	69.921	(12)	148	+.50	3.430	27,510	1,329,900
91.535	40	1.535	79.921	40	1.535	FD	96.378	(18)	136	0	5.472	70,630	4,129,500
109.750	96	1 1/2-6	94.500	96	1 1/2-6	SD	115.000	2	230	0	8.500	89,510	12,091,000
145.669	90	1.299	133.465	90	1.299	FD	150.394	(20)	191	+.50	8.071	117,500	11,652,000
162.992	120	1.535	148.425	120	1.535	FD	168.504	(20)	214	0	7.638	111,600	24,086,000
202.756	120	1.535	190.945	120	1.535	FD	208.346	(18)	294	+.85	5.906	78,770	32,339,000
224.000	150	1.563	207.000	150	1.563	FD	230.000	1	230	+.50	7.000	130,300	43,823,000

TR Series Load Charts – No Gear



(A) 16349001
(B) 16350001
(C) 16351001
(D) 16352001
(E) 16353001

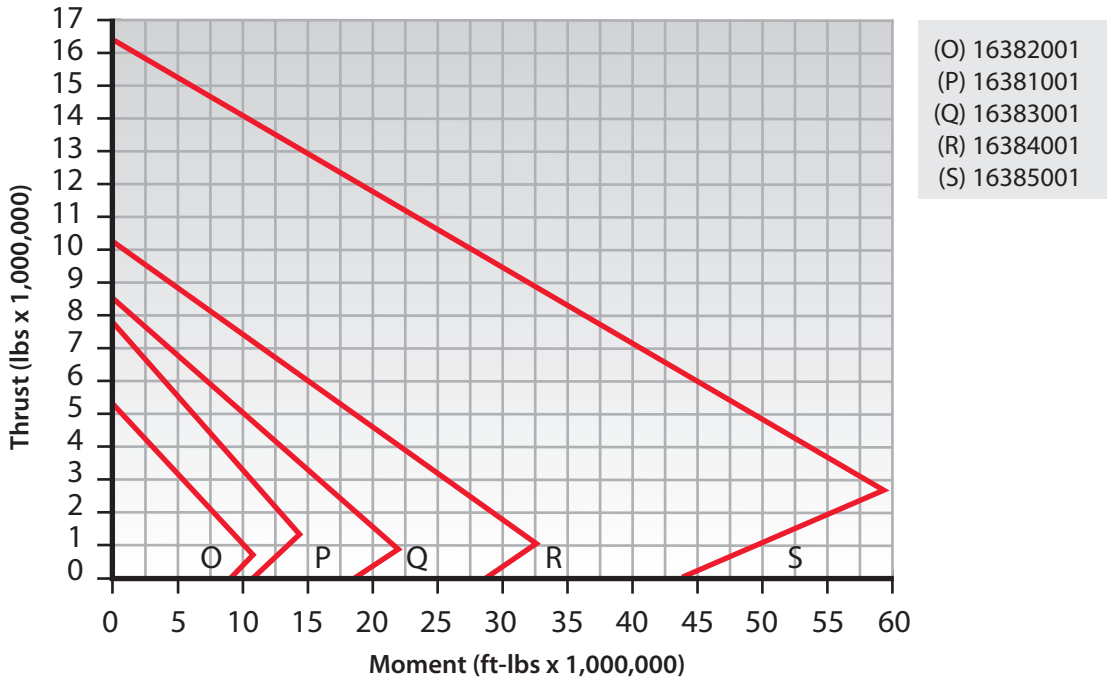


(F) 16354001
(G) 16356001
(H) 16387001
(I) 16366001

Rating Charts are only applicable for operating conditions defined as NORMAL OPERATION in Section 2 and when installed and maintained as defined in Section 3 of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements, ring section, and fastener complements. For information concerning the basis for development of Rating Charts refer to the LOAD RATING paragraph in Section 2.

TR Series Load Charts – Internal Gear

(J) 16376001
(K) 16377001
(L) 16378001
(M) 16379001
(N) 16380001



(O) 16382001
(P) 16381001
(Q) 16383001
(R) 16384001
(S) 16385001

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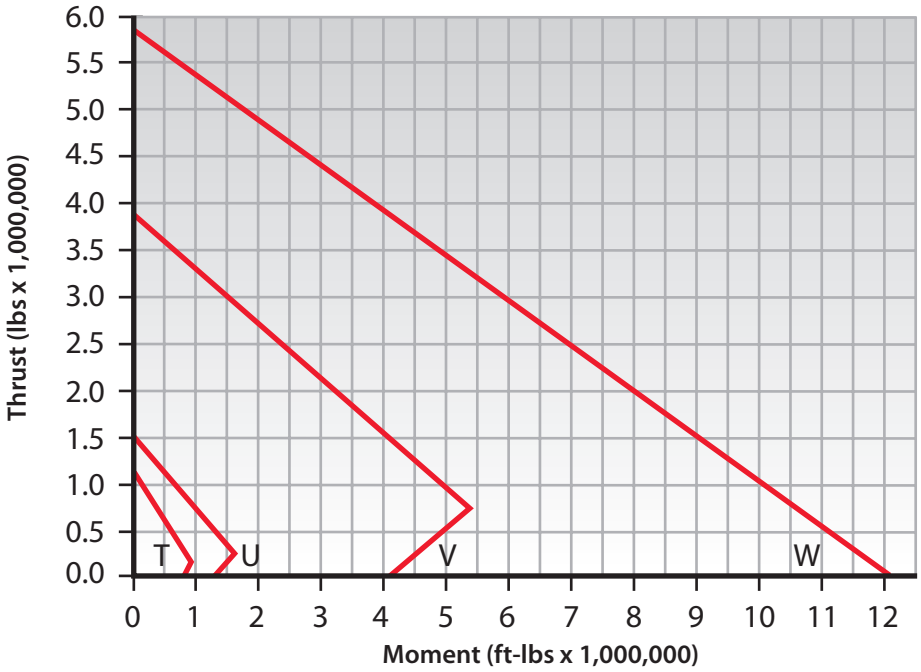
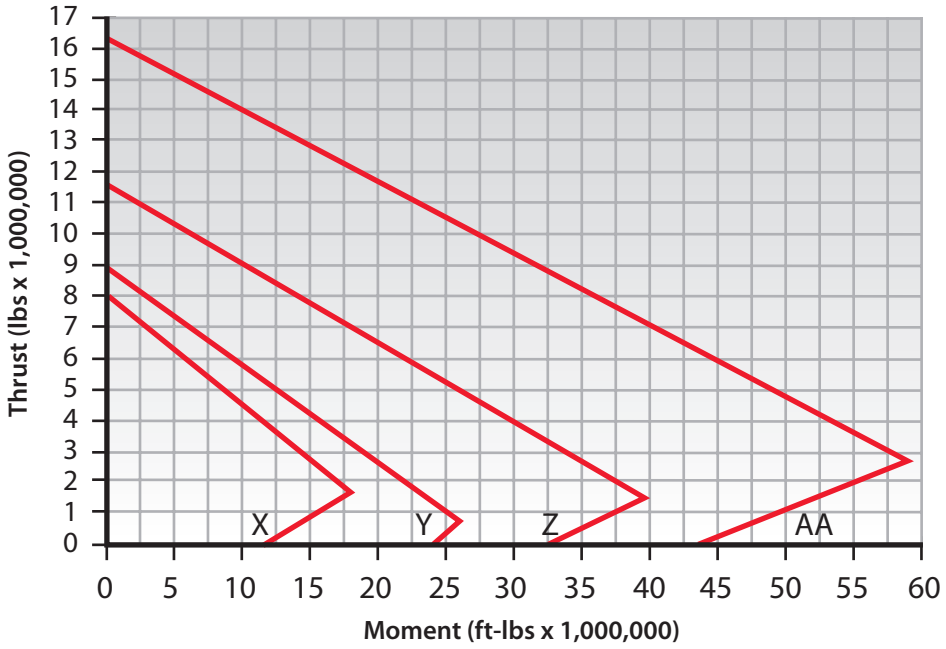
TR Series Load Charts – External Gear



(T) 16367001
(U) 16368001
(V) 16369001
(W) 16370001



(X) 16371001
(Y) 16372001
(Z) 16373001
(AA) 16388001

Rating Charts are only applicable for operating conditions defined as NORMAL OPERATION in Section 2 and when installed and maintained as defined in Section 3 of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements, ring section, and fastener complements. For information concerning the basis for development of Rating Charts refer to the LOAD RATING paragraph in Section 2.