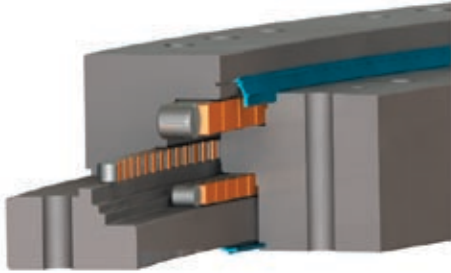


TR Series

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

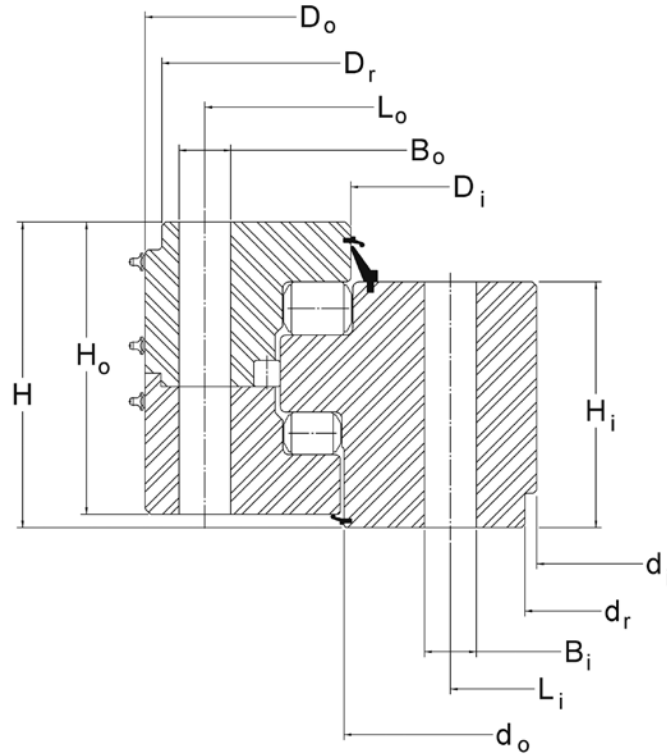
TR Series bearings are custom manufactured to fit the design and specification.

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



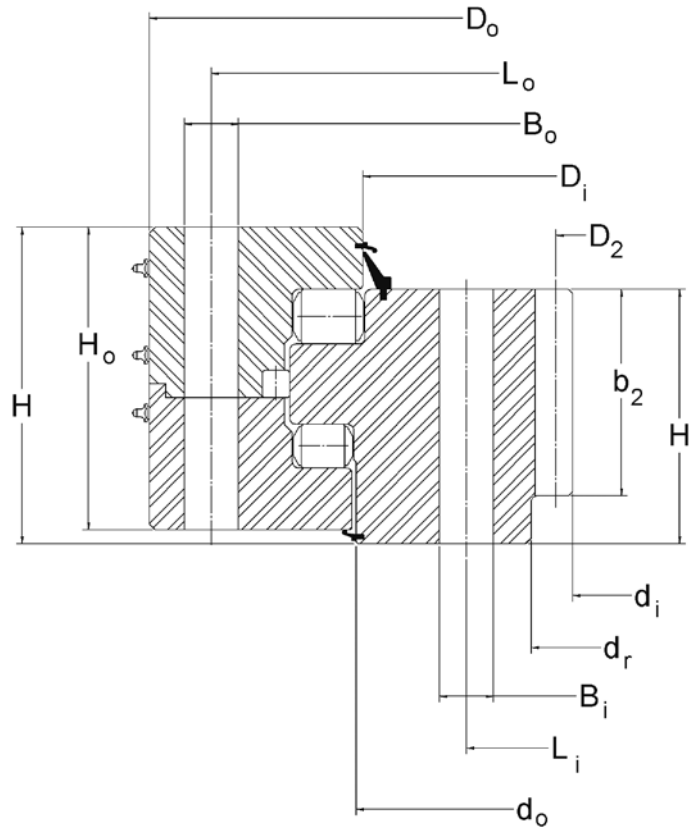
No Gear

| 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 F_z (lbs) | BEARING MOMENT RATING C_{rm} (ft-lbs) |
|---------|---------------|-------|---------------|---------------|---------|---------------|---------------------|---------------|-----------------|-------|-------|---------------|-------------------------------------|---|
| | OUTER RING | | | INNER RING | | | $\alpha = 20^\circ$ | | | | | | | |
| | 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) | | |
| 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

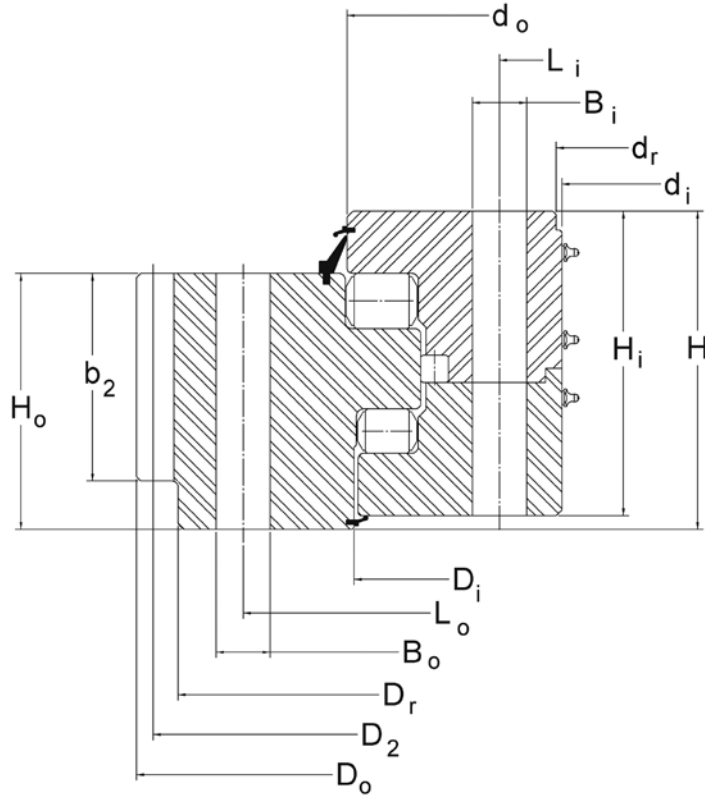
| Kaydon P/N | OUTLINE DIMENSIONS AND WEIGHT | | | | | | | | | |
|-----------------|-------------------------------|---------|--------|--------|--------|---------|---------|---------|---------|-----------|
| | D_o | d_i | H | H_o | H_i | D_r^* | D_i | d_o | d_r | G APPROX. |
| | (in) | (in) | (in) | (in) | (in) | (in) | (in) | (in) | (in) | (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 F_z (lbs) | BEARING MOMENT RATING C_{rm} (ft-lbs) |
|---------------|-------|---------------|---------------|-------|---------------|---------------|------------|---------------------|-------|-------|---------------|---------|-------------------------------------|---|
| OUTER RING | | | INNER RING | | | | TOOTH FORM | $\alpha = 20^\circ$ | | | | | | |
| L_o (in) | n_o | B_o (in) | L_i (in) | n_i | B_i (in) | D_2 (in) | | P_d or (m) | z_2 | x_2 | b_2 (in) | | | |
| 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



Section 4 Bearing Tables & Ratings

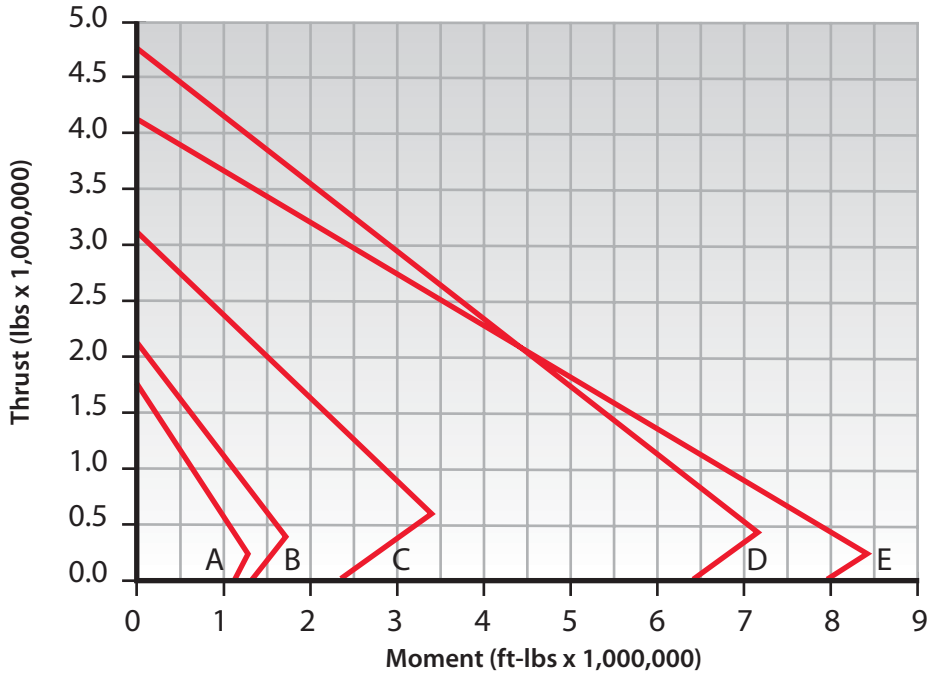
External Gear

| 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 |

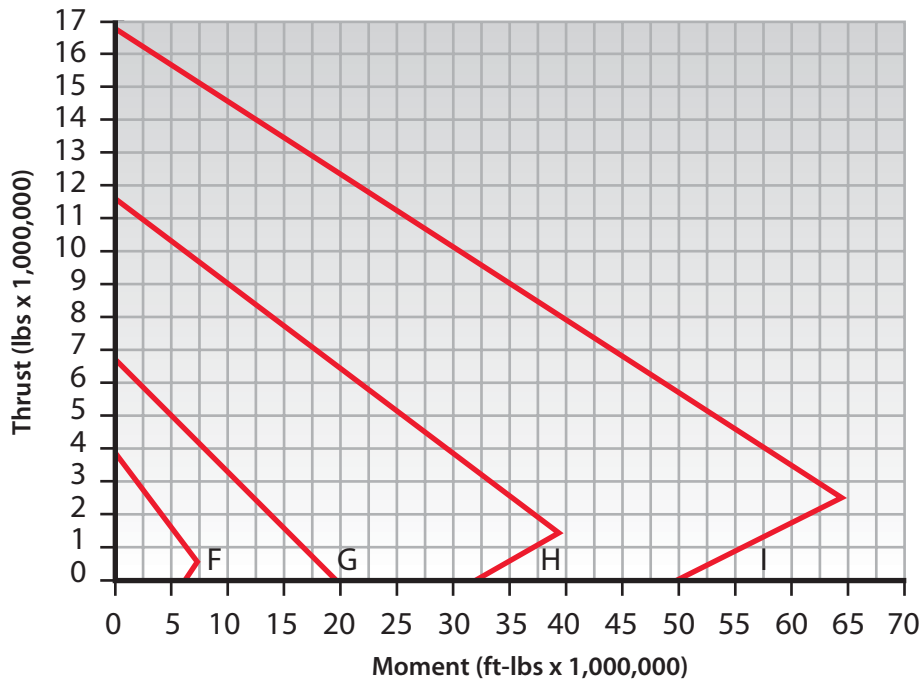
TR Series

| HOLE DATA | | | | | | | GEAR DATA | | | | | | GEAR TOOTH RATING F_z (lbs) | BEARING MOMENT RATING C_{rm} (ft-lbs) |
|---------------|-------|---------------|---------------|-------|---------------|------------|---------------------|-----------------|-------|-------|---------------|---------|-------------------------------------|---|
| OUTER RING | | | INNER RING | | | | $\alpha = 20^\circ$ | | | | | | | |
| 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) | | | |
| 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

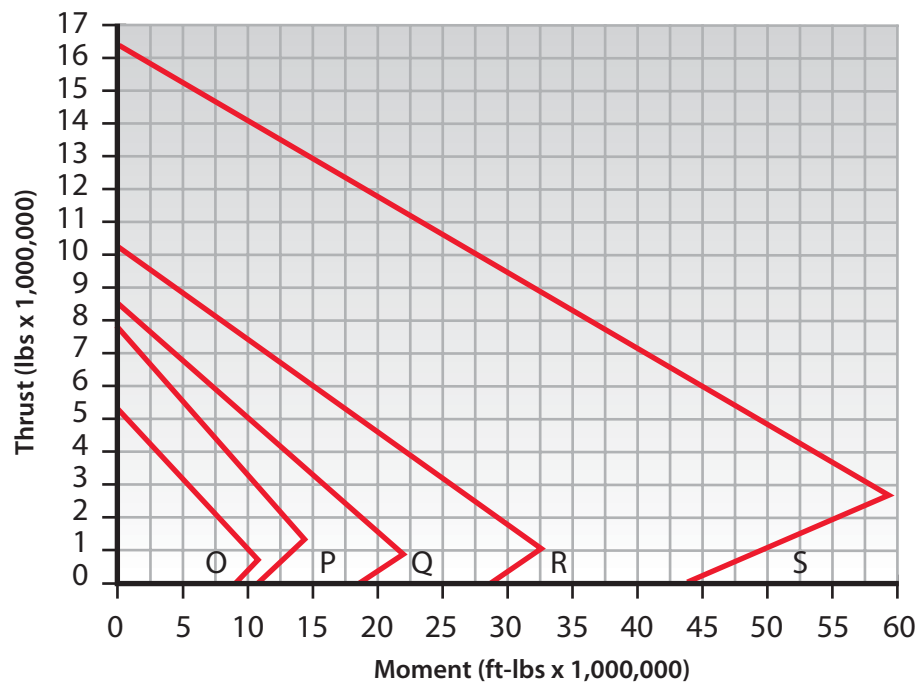


Rating Charts are only applicable for operating conditions defined as NORMAL OPERATION in Section 2 and when installed and maintained as defined in Section 3 of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements, ring section, 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

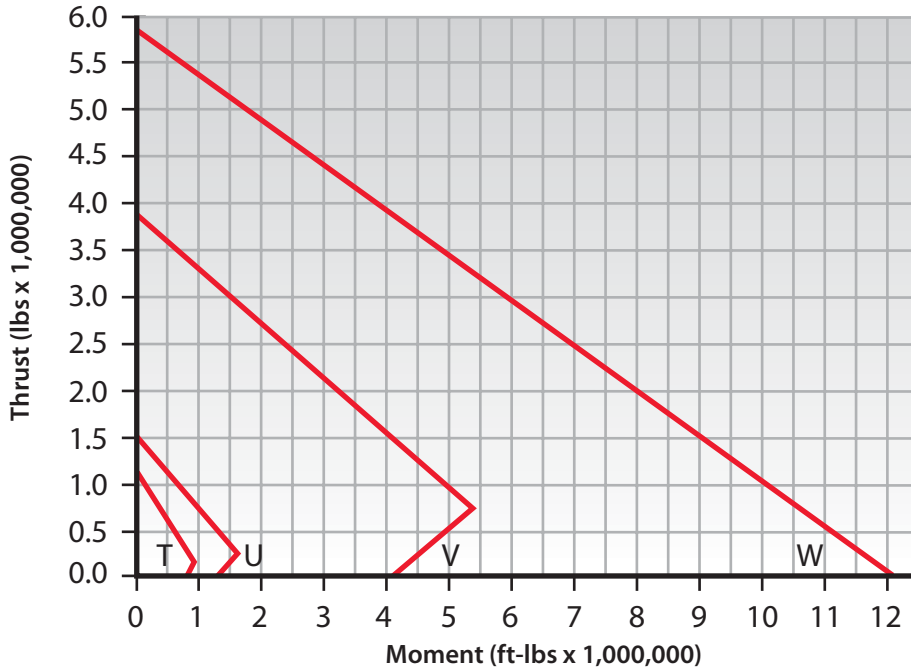


- (O) 16382001
- (P) 16381001
- (Q) 16383001
- (R) 16384001
- (S) 16385001

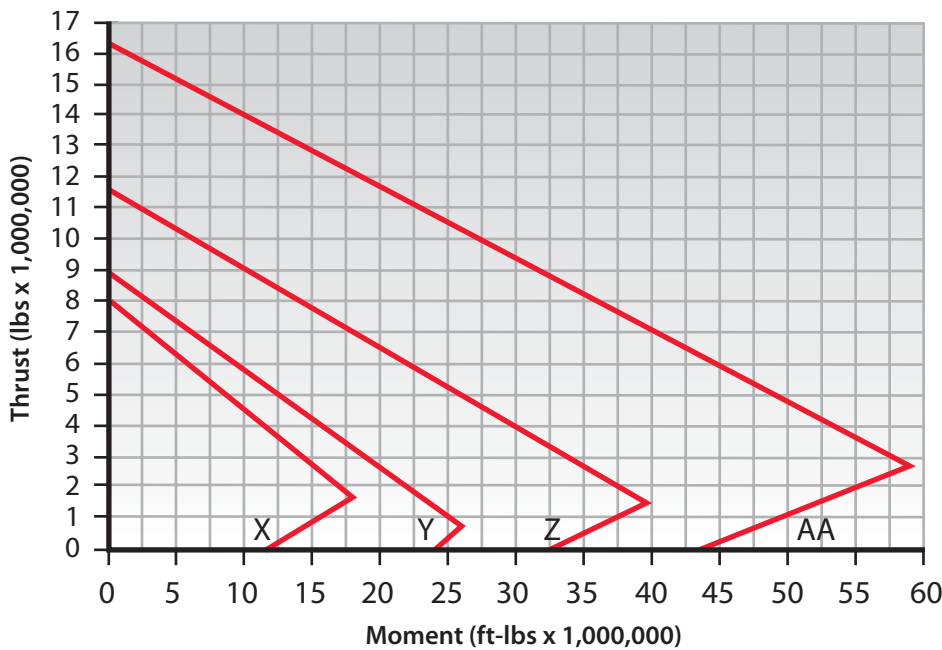


Rating Charts are only applicable for operating conditions defined as NORMAL OPERATION in Section 2 and when installed and maintained as defined in Section 3 of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements, ring section, 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 – 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.

