

# DT Series

## Introduction

The DT Series consists of the eight-point ball bearing Kaydon originally developed to provide maximum load capacity for given envelope and bolt circle diameters. It provides up to 80% increase in capacity over that of a single-row four-point design of the same diameter and bolt circles. Yet the DT Series has a smaller profile than a three-row roller design.



## Design Features

The internal configuration consists of two deep groove gothic arch raceways, each with a maximum ball complement, located in both the inner and outer rings. This results in a total of eight surfaces where the balls may contact at any time, providing exceptional moment, thrust, and radial load capacities. Through precise manufacturing, the raceways are closely matched to provide a high degree of load sharing. Integral seals are provided to assist in the exclusion of contaminants.

## Availability

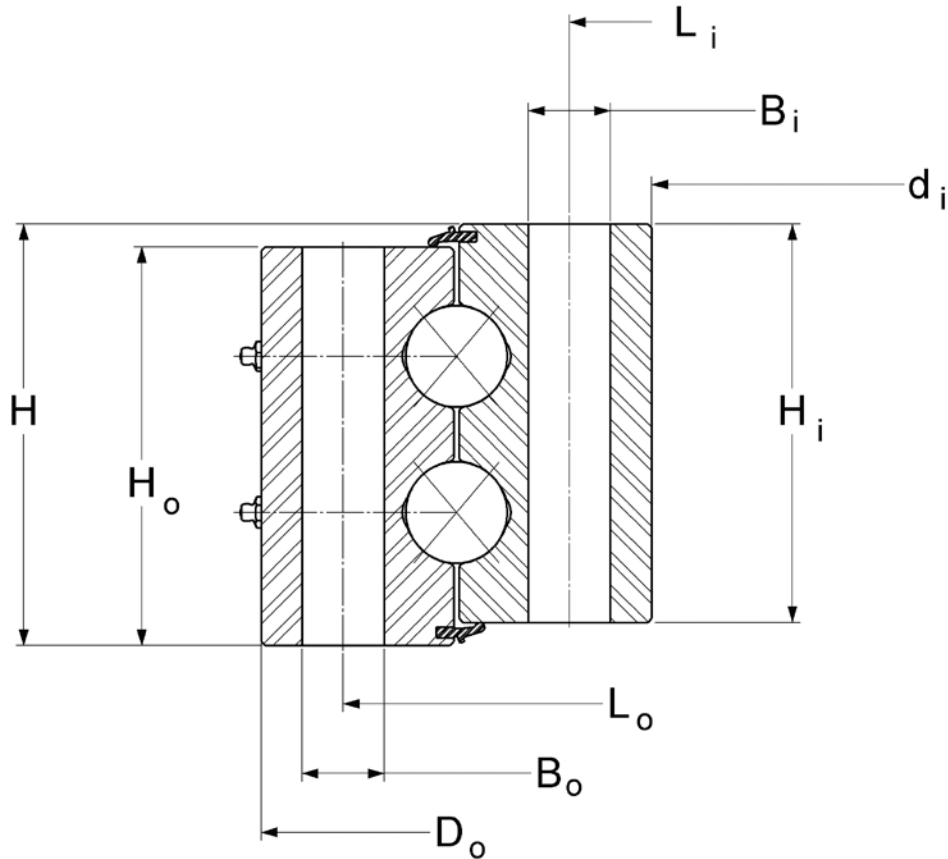
DT Series bearings are made to order with a fully customizable hole pattern for bearing retention, and an internal or external gear or other drive mechanism.

## Applications

DT Series bearings have been used successfully in heavy duty applications including:

- Large excavators
- Large cranes
- Mining equipment
- Wind turbines
- Telescopes

# DT Series



## No Gear

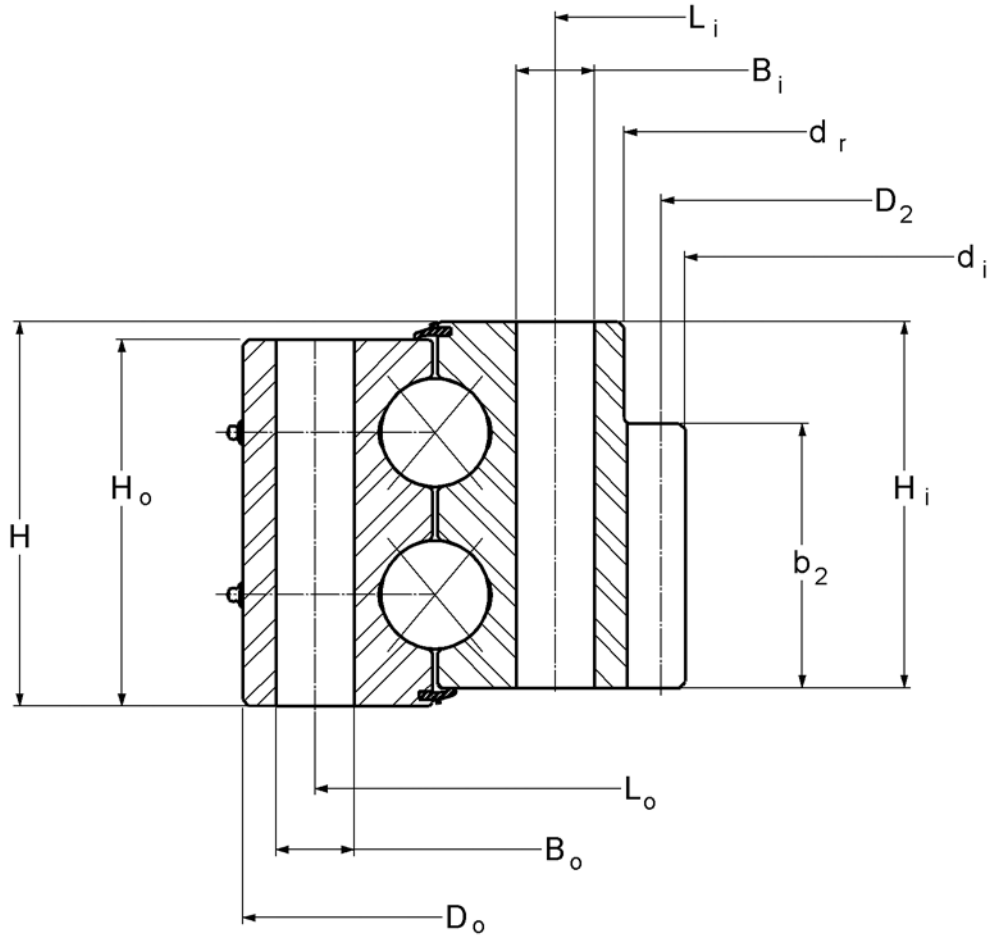
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT							
	$D_o$ (in)	$d_i$ (in)	H (in)	$H_o$ (in)	$H_i$ (in)	$D_r^*$ (in)	$d_r^*$ (in)	G APPROX. (lbs)
16282001	20.375	12.250	4.500	4.185	4.185	—	—	210
16283001	29.750	18.620	7.000	6.500	6.551	—	—	645
16284001	41.417	30.236	7.480	6.890	6.890	—	—	1,060
16015001	56.250	43.750	6.750	6.380	6.380	—	—	1,520
16285001	75.750	59.750	8.750	8.375	8.375	—	—	3,540
16286001	131.000	114.000	8.000	7.500	7.500	—	—	6,950
13004001	170.000	150.000	9.875	9.250	9.250	—	—	11,950

\*No internal or external diameters for this type.

# DT 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)		
18.875	20	0.688	13.625	20	0.688	—	—	—	—	—	—	—	102,500	
27.875	34	0.813	20.375	32	0.813	—	—	—	—	—	—	—	363,100	
39.449	36	0.866	32.205	36	0.866	—	—	—	—	—	—	—	734,800	
53.630	36	1.313	46.380	36	1 1/4-7	—	—	—	—	—	—	—	2,083,600	
73.625	48	1.004	62.375	36	1.250	—	—	—	—	—	—	—	2,934,900	
127.000	64	1.313	118.000	64	1.313	—	—	—	—	—	—	—	5,666,800	
166.000	64	1.625	154.000	64	1.625	—	—	—	—	—	—	—	8,098,000	

# DT Series



## Internal Gear

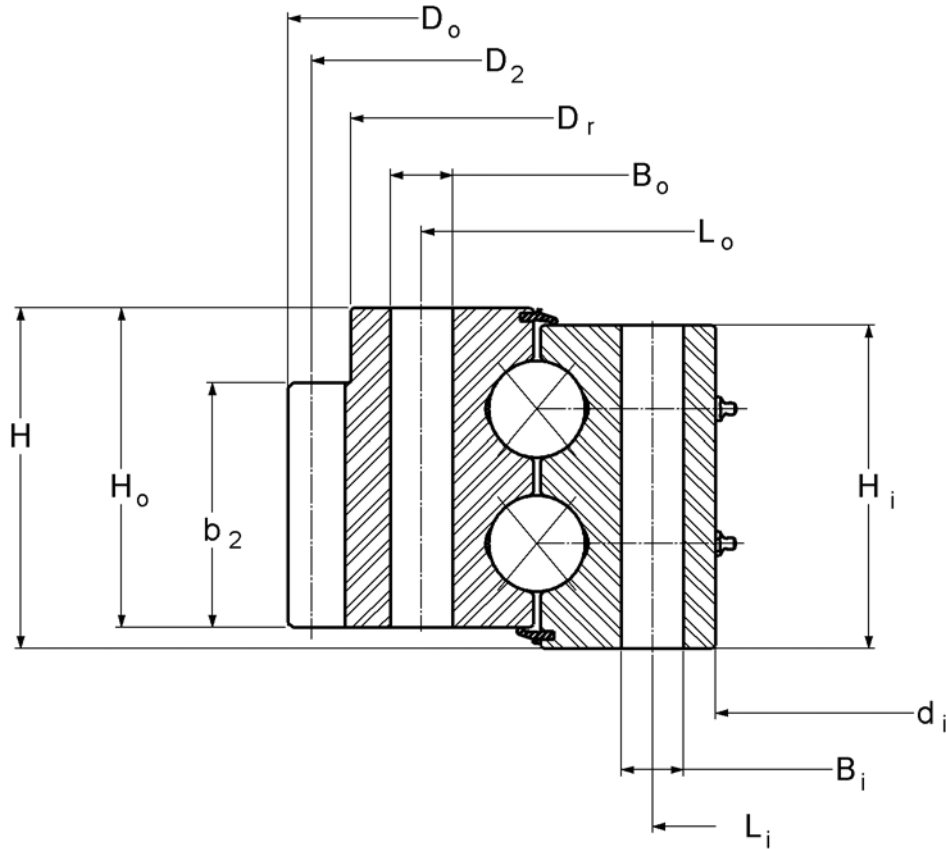
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT							
	$D_o$ (in)	$d_i$ (in)	H (in)	$H_o$ (in)	$H_i$ (in)	$D_r^*$ (in)	$d_r$ (in)	G APPROX. (lbs)
16274001	56.693	43.661	5.472	5.118	5.118	—	46.142	1,200
16275001	66.000	47.600	8.000	7.625	7.625	—	50.125	2,820
16276001	70.500	50.200	8.625	8.312	8.312	—	52.125	3,700
16277001	81.890	65.248	5.591	5.197	5.197	—	67.520	2,460
16278001	94.173	77.008	7.126	6.732	6.732	—	79.291	3,410
16279001	109.375	87.170	9.312	8.937	8.000	—	87.170	7,100
16280001	121.000	98.400	8.750	8.438	8.438	—	102.250	7,440
16281001	141.000	114.941	11.180	10.000	10.430	—	120.710	14,850

\*No external diameters for this type.

# DT 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)		
54.724	48	0.866	48.425	48	0.866	FD	44.094	(14)	80	-5	4.134	48,640	1,225,400	
63.000	42	1.625	53.000	45	1.625	SD	48.667	1.5	73	0	5.500	78,680	3,921,100	
67.625	36	1 1/2-6	55.000	40	1.625	SD	51.000	2	102	0	5.000	56,400	4,863,400	
78.740	54	1.299	70.866	54	1.299	FD	65.669	(12)	139	-5	3.937	41,140	2,534,900	
90.787	60	1.535	82.677	60	1.535	FD	77.480	(12)	164	-5	3.937	40,770	3,896,200	
102.953	66	1.593	93.504	66	1.593	FD	87.874	(18)	124	-5	6.000	94,870	9,075,400	
117.000	72	1.625	105.000	72	1.625	FD	100.000	1.25	125	0	6.000	106,940	8,751,800	
133.661	90	1.625	124.252	90	1.625	FD	116.221	(18)	165	-5	10.000	155,340	12,625,000	

# DT Series



## External Gear

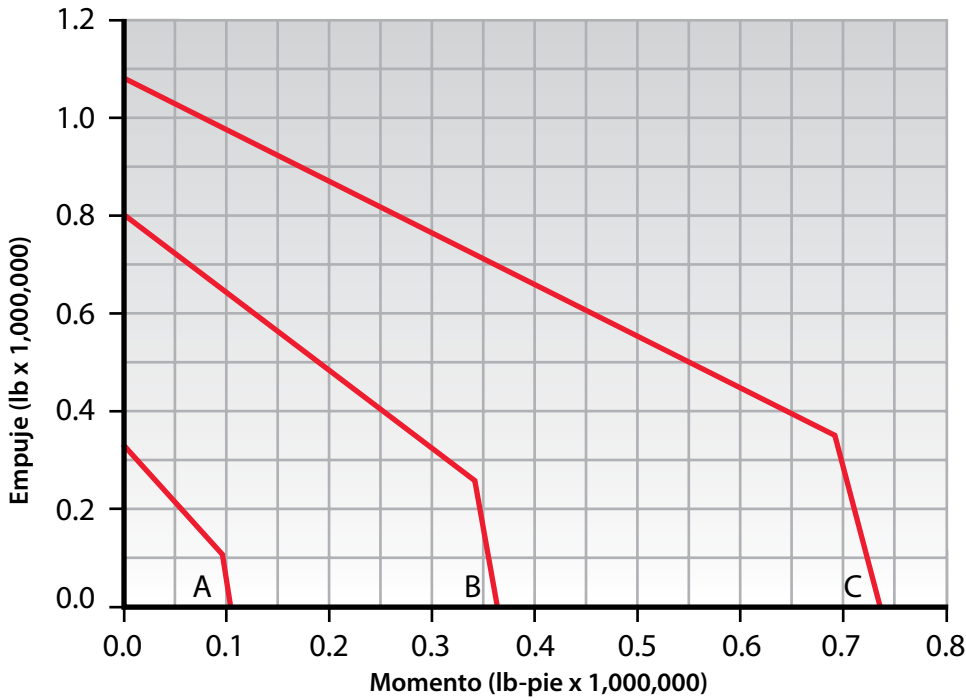
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT							
	D <sub>o</sub>	d <sub>i</sub>	H	H <sub>o</sub>	H <sub>i</sub>	D <sub>r</sub>	d <sub>r</sub> *	G APPROX.
	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(lbs)
16258001	17.086	10.250	3.313	3.000	3.000	17.086	—	105
16264001	50.016	38.504	5.512	5.157	4.567	48.425	—	870
16265001	56.240	41.370	7.125	6.688	6.688	54.675	—	1,730
16266001	68.800	51.250	7.375	6.875	7.000	68.800	—	2,850
16267001	75.394	58.500	6.110	5.750	5.750	73.307	—	2,450
16268001	89.181	71.400	7.090	6.650	6.730	96.566	—	3,360
16269001	94.742	72.250	9.125	8.375	8.750	92.500	—	5,560
16270001	102.992	84.134	7.205	6.654	6.654	99.331	—	3,970
16271001	124.800	98.375	11.250	9.375	10.750	124.800	—	10,500
16272001	143.800	114.000	11.062	10.250	10.437	143.800	—	14,980
16273001	180.000	150.000	10.625	10.000	10.000	175.250	—	22,100

\*No internal diameters for this type.

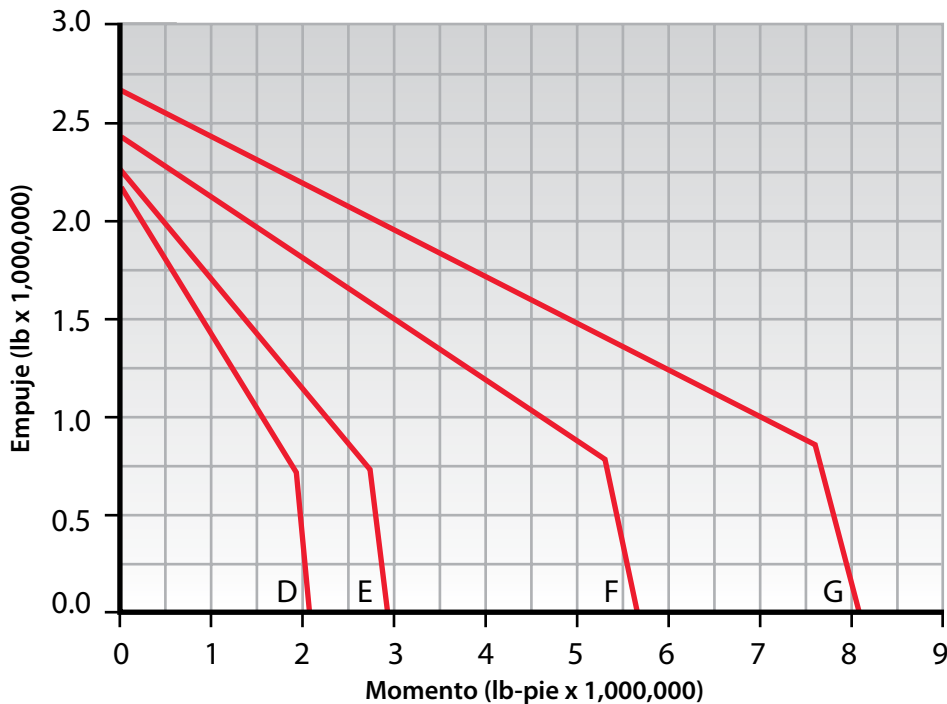
# DT Series

	HOLE DATA						GEAR DATA						GEAR TOOTH RATING $F_z$ (lbs)	BEARING MOMENT RATING $C_{rm}$ (ft-lbs)
	OUTER RING			INNER RING			$\omega = 20^\circ$							
	$L_o$ (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)		
15.354	18	0.563	11.614	24	0.563	FS	16.800	5/7	84	0	1.750	6,850	65,200	
46.496	42	M24x3	40.551	48	1.024	FD	49.134	(8)	156	+5	3.346	19,390	970,400	
52.000	30	1.313	44.000	30	1.313	SD	55.600	2.5	139	0	4.000	30,480	2,132,100	
64.250	36	1.438	55.000	42	1.438	FD	68.000	2	136	0	4.000	36,480	3,470,900	
70.500	48	1.313	61.366	48	1.313	FD	74.016	(10)	188	+8	4.130	31,400	3,335,700	
83.622	60	1.299	74.016	60	1.299	FD	87.638	(14)	159	+5	5.080	53,760	4,793,200	
89.750	60	1.625	75.250	68	1.625	SD	94.000	2	188	0	5.500	55,490	8,669,000	
95.906	64	1.299	87.205	68	1.535	FD	100.787	(20)	128	+5	5.709	92,060	3,658,500	
117.625	72	1.875	103.625	72	1.875	FD	123.200	1.25	154	0	6.000	86,780	14,639,200	
136.625	72	2.156	121.375	72	2.156	SD	143.000	2	286	0	8.000	85,120	18,293,300	
170.000	80	1.875	156.250	80	1.875	FD	178.000	1	178	0	7.000	129,080	18,000,000	

# DT Series Load Charts – No Gear



- (A) 16282001
- (B) 16283001
- (C) 16284001



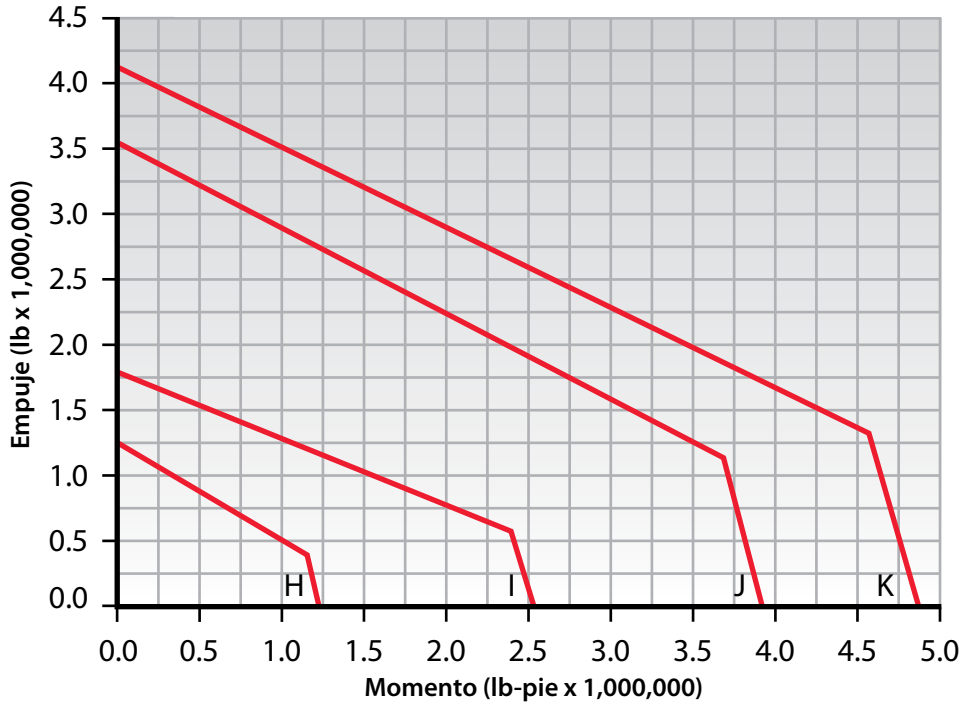
- (D) 16015001
- (E) 16285001
- (F) 16286001
- (G) 13004001



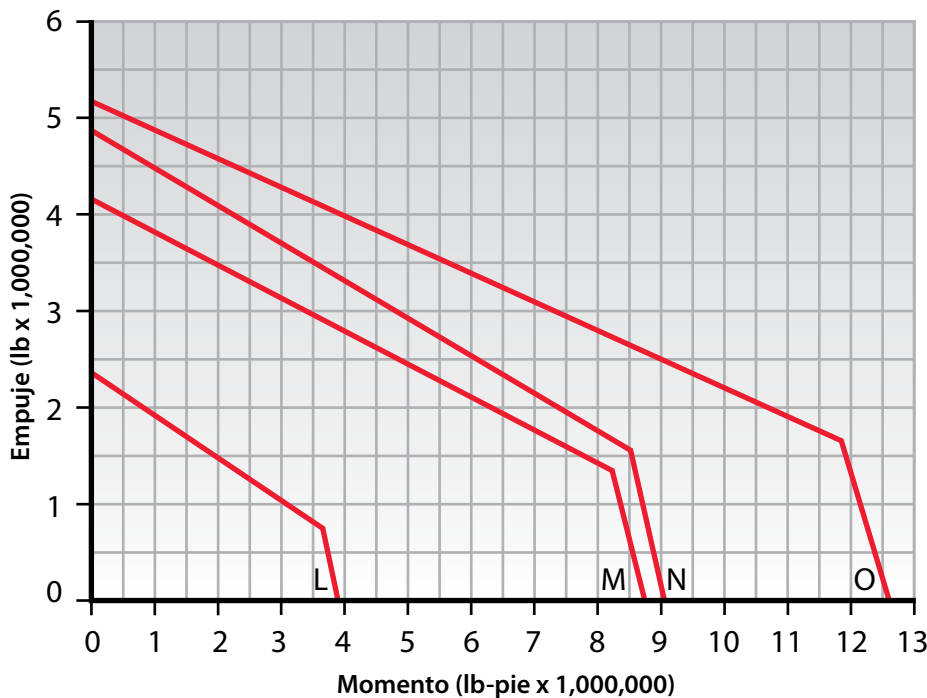
Rating Charts are only applicable for operating conditions defined as **NORMAL OPERATION** in [Section 2](#) and when installed and maintained as defined in [Section 3](#) of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements,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



# DT Series Load Charts – Internal Gear



(H) 16274001  
 (I) 16277001  
 (J) 16275001  
 (K) 16276001

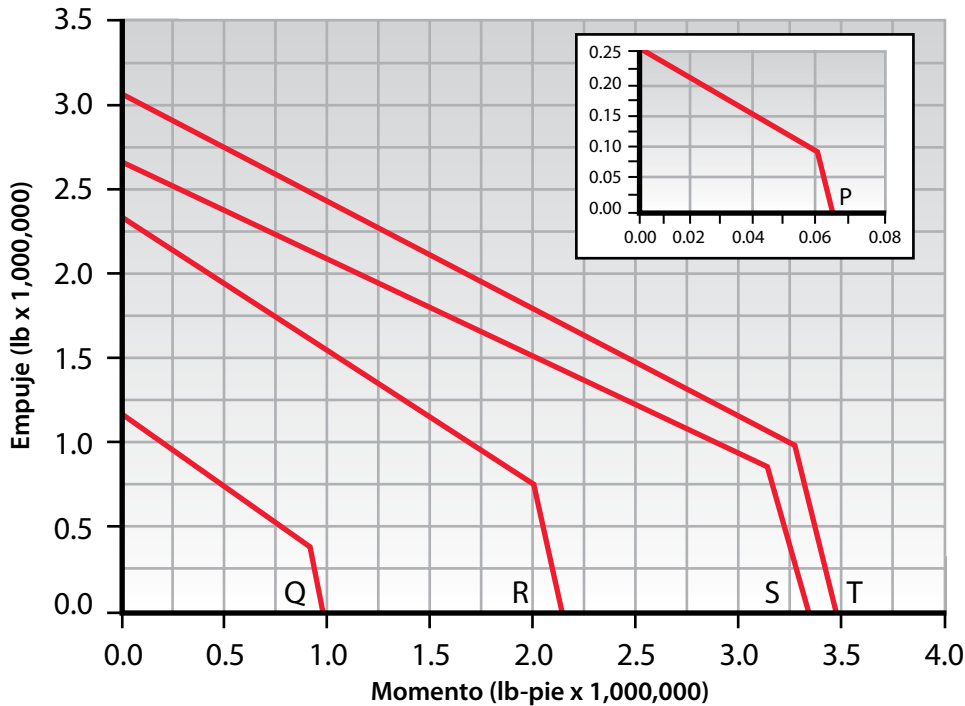


(L) 16278001  
 (M) 16280001  
 (N) 16279001  
 (O) 16281001

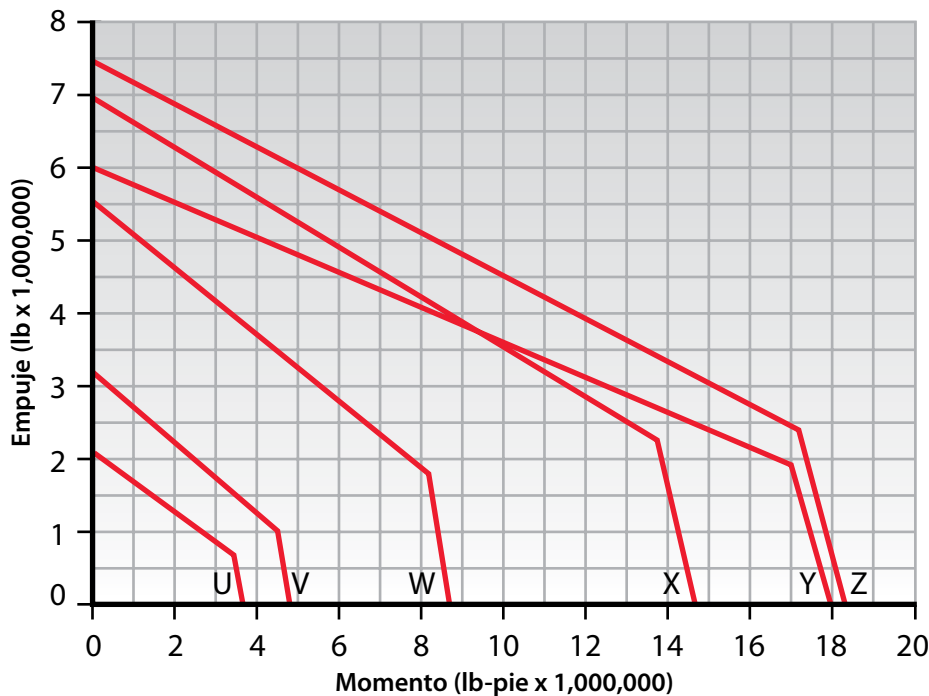


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# DT Series Load Charts – External Gear



- (P) 16258001
- (Q) 16264001
- (R) 16265001
- (S) 16267001
- (T) 16266001



- (U) 16270001
- (V) 16268001
- (W) 16269001
- (X) 16271001
- (Y) 16273001
- (Z) 16272001



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