


Section 4 Contents

Bearing Tables & Ratings

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Glossary of Abbreviations & Symbols Used in This Guide

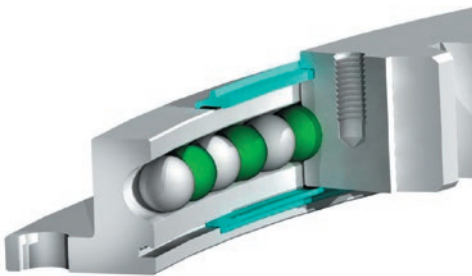
BEARING AND GEAR DIMENSIONS		
SYMBOL	FEATURE	UNITS
α	Pressure angle of gear teeth	°
b_2	Face width of gear teeth	in
B_i	Size of hole in inner ring	in
B_o	Size of hole in outer ring	in
D_2	Pitch diameter of gear	in
d_i	Inside diameter of inner ring	in
D_i	Internal diameter on outer ring	in
D_o	Outside diameter of outer ring	in
d_o	External diameter on inner ring	in
D_p	Diameter of bearing raceway	in
d_r	Internal diameter on inner ring	in
D_r	External diameter on outer ring	in
D_w	Diameter of rolling element	in
FD	Full depth involute spur gear (ref. ANSI B6.1-1968, R1974 or ISO 53:1998)	-
FS	Fellows stub involute spur gear (ref. Machinery's Handbook, 18th Edition)	-
H	Height of overall bearing assembly	in
H_i	Height of inner ring	in
H_o	Height of outer ring	in
L_i	Bolt circle in inner ring	in
L_o	Bolt circle in outer ring	in
m	Module of gear teeth = $25.4/P_d$	mm
n_f	Number of lubrication nipples/fittings per plane	-
n_i	Number holes in inner ring	-
n_o	Number holes in outer ring	-
P_d	Diametral pitch	-
SD	Stub involute spur gear (ref. ASA B6.1-1932)	-
x_2	Addendum modification coefficient of gear teeth, ("+" sign increases tooth thickness at D2 and "-" sign decreases tooth thickness at D2)	-
z_2	Number of gear teeth	-
BEARING AND GEAR PROPERTIES		
SYMBOL	FEATURE	UNITS
C_{rm}	Moment load rating	ft-lbs
F_z	Maximum allowable gear tooth load	lbs
G	Weight of bearing assembly	lbs
M_w	Friction torque of bearing, installed and subjected to loads	ft-lbs

PINION DIMENSIONS		
SYMBOL	FEATURE	UNITS
b_1	Face width	in
D_1	Pitch diameter	in
D_{i1}	Stock bore	in
D_{o1}	Outside diameter	in
D_{r1}	Diameter of hub	in
L_1	Length of pinion	in
P_d	Diametral pitch	-
w	Square key size, nominal	in
x_1	Addendum modification coefficient	-
z_1	Number of teeth	-
APPLICATION DATA		
SYMBOL	FEATURE	UNITS
f_a	Application Service Factor	-
F_a	Force parallel to bearing axis of rotation	lbs
F_r	Force perpendicular to bearing axis of rotation	lbs
M_k	Tilting moment about bearing centerline	ft-lbs
N	Rotational speed	rpm
μ	Friction coefficient	-
MISCELLANEOUS		
SYMBOL	FEATURE	UNITS
ft	Linear unit of measurement	foot
ft-lbs	Units of torque or moment	foot - pounds
in	Linear unit of measurement	inch
lbs	Units of force or weight	pounds
mm	Linear unit of measurement (SI)	millimeter
	Warning	-
REFERENCES		
AGMA	American Gear Manufacturers Association	
ANSI	American National Standards Institute	
ASTM	American Society for Testing and Materials	
DIN	Deutsches Institut für Normung	
ISO	International Standards Organization	
NLGI	National Lubricating Grease Institute	
SAE	Society of Automotive Engineers	

RK Series

Introduction

RK Series bearings have a flanged cross-section on one or both rings and range in size from 20 – 47 inches OD (500 – 1200 mm). The flanged design reduces weight and provides the equipment designer greater flexibility for configuration of adjacent mounting structures and bolting arrangements. RK Series bearings are well suited for many applications where a large diameter and lighter weight are predominant factors in selection of a bearing.



Design Features

The internal configuration is a deep-groove gothic arch raceway, which provides four points of contact with the balls, enabling the bearing to simultaneously carry radial, axial, and moment loads. The use of spacer balls alternated with load balls allows for lower rotational torque and superior performance in applications involving oscillatory movement. Integral face-riding seals are provided to assist in the exclusion of contaminants.

RK Series bearings are offered in non-g geared, internally geared, and externally geared configurations for maximum design flexibility. The gears are Involute Stub designs with 20° pressure angles, manufactured to AGMA Class Q5 quality and .005 to .015 inches allowance for backlash.

All models feature four fittings for lubrication, spaced 90 degrees apart. On non-g geared and internal geared models, they are located on the outer counterbore diameter (D_p). On external geared models, they are located on the inner counterbore diameter (d_p).

Availability

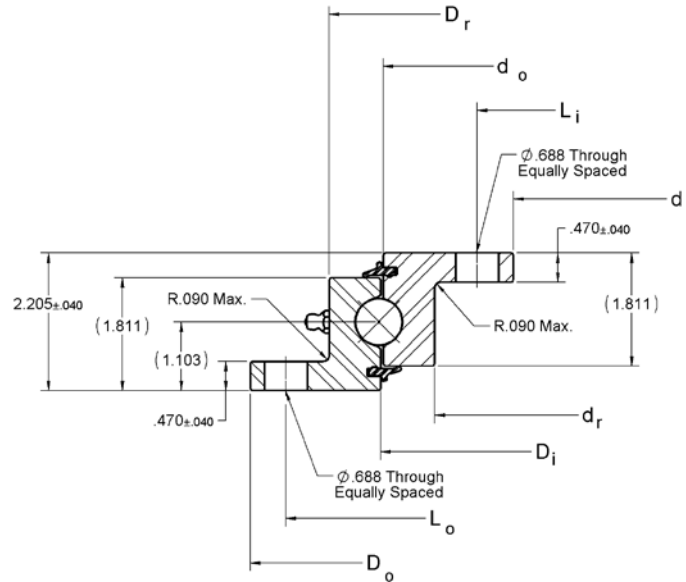
RK Series bearings are generally available from stock, and mating pinions for the geared versions are also generally available. See [page 70](#) for mating pinions.

Applications

RK Series bearings have been used successfully in a variety of light to medium duty applications including:

- Small cranes, booms, and lifts
- Industrial positioners and rotary tables
- Chute swivels
- Stretch wrapping machines
- Bottle filling machines
- Conveyors and related material handling equipment
- Rotating displays

RK Series



No Gear

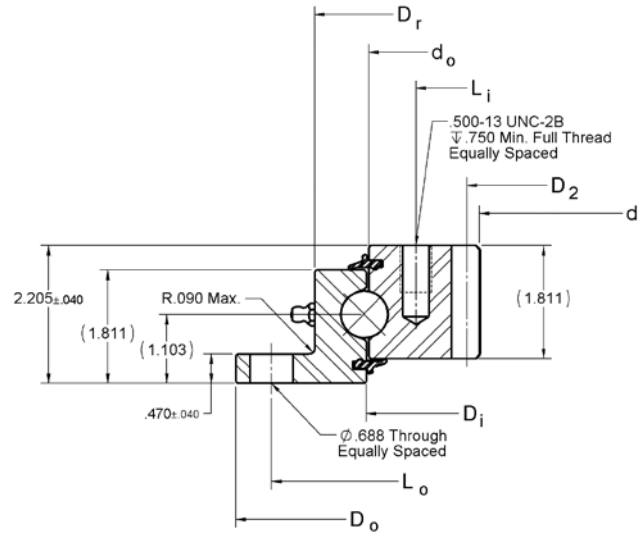
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT						G APPROX. (lbs)
	D _o (in)	d _i (in)	D _r (in)	D _i (in)	d _o (in)	d _r (in)	
RK6-16P1Z	20.390	11.970	17.870	16.220	16.140	14.490	58
RK6-22P1Z	25.510	17.090	22.990	21.340	21.260	19.610	76
RK6-25P1Z	29.450	21.030	26.930	25.280	25.200	23.550	89
RK6-29P1Z	33.390	24.970	30.870	29.220	29.140	27.490	104
RK6-33P1Z	37.320	28.900	34.800	33.150	33.070	31.420	118
RK6-37P1Z	41.260	32.840	38.740	37.090	37.010	35.360	132
RK6-43P1Z	47.170	38.750	44.650	43.000	42.920	41.270	153
Tolerances	±.040	±.040	+0.000 -.080	Ref.	Ref.	+0.080 -.000	

Kaydon P/N	MOUNTING HOLES				GEAR DATA INV. STUB, α = 20°				MOMENT RATING C _{rm} (ft-lbs)
	OUTER RING		INNER RING		D ₂ (in)	P _d	z ₂	F _Z (lbs)	
	L _o (in)	n _o	L _i (in)	n _i					
RK6-16P1Z	19.250	8	13.130	12	—	—	—	—	22,700
RK6-22P1Z	24.380	12	18.130	15	—	—	—	—	37,700
RK6-25P1Z	28.380	12	22.130	18	—	—	—	—	49,800
RK6-29P1Z	32.250	15	26.130	18	—	—	—	—	54,200
RK6-33P1Z	36.250	18	30.000	18	—	—	—	—	56,500
RK6-37P1Z	40.130	18	34.000	20	—	—	—	—	65,200
RK6-43P1Z	46.000	18	39.880	24	—	—	—	—	75,500

Not quite what you need? Contact Kaydon to inquire about custom features such as different mounting holes, internal clearance, pilot diameters, drive arrangements, or Endurakote® plating.

Section 4 Bearing Tables & Ratings

RK Series



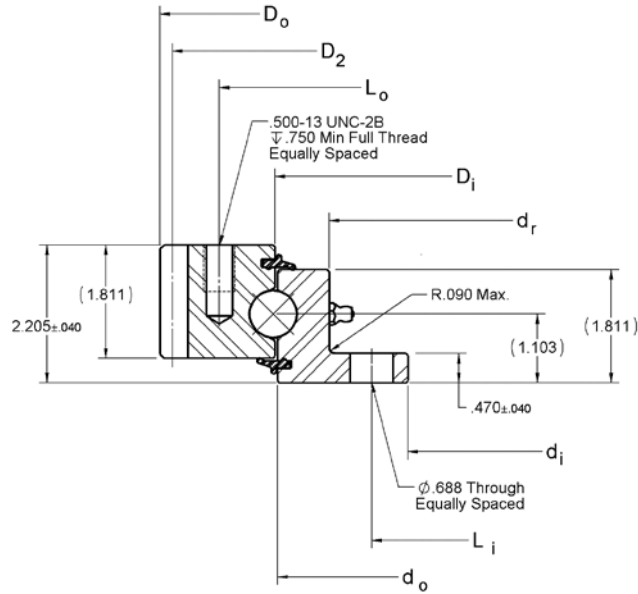
Internal Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT						G APPROX. (lbs)
	D _o (in)	d _i (in)	D _r (in)	D _i (in)	d _o (in)	d _r (in)	
RK6-16N1Z	20.390	12.850	17.870	16.220	16.140	—	65
RK6-22N1Z	25.510	17.600	22.990	21.340	21.260	—	90
RK6-25N1Z	29.450	21.600	26.930	25.280	25.200	—	106
RK6-29N1Z	33.390	25.600	30.870	29.220	29.140	—	121
RK6-33N1Z	37.320	29.133	34.800	33.150	33.070	—	148
RK6-37N1Z	41.260	33.133	38.740	37.090	37.010	—	165
RK6-43N1Z	47.170	39.133	44.650	43.000	42.920	—	188
Tolerances	±.040	+0.030 -0.000	+0.000 -0.080	Ref.	Ref.	Ref.	

Kaydon P/N	MOUNTING HOLES				GEAR DATA INV. STUB, α = 20°				MOMENT RATING C _{rm} (ft-lbs)
	OUTER RING		INNER RING		D ₂ (in)	P _d	z ₂	F _Z (lbs)	
	L _o (in)	n _o	L _i (in)	n _i					
RK6-16N1Z	19.250	8	14.880	12	13.250	4	53	6800	22,700
RK6-22N1Z	24.380	10	19.630	15	18.000	4	72	6530	37,700
RK6-25N1Z	28.380	12	23.630	18	22.000	4	88	6400	49,800
RK6-29N1Z	32.250	15	27.630	18	26.000	4	104	6300	54,200
RK6-33N1Z	36.250	18	31.500	18	29.667	3	89	8520	56,500
RK6-37N1Z	40.130	18	35.500	20	33.667	3	101	8420	65,200
RK6-43N1Z	46.000	18	41.500	24	39.667	3	119	8340	75,500

Not quite what you need? Contact Kaydon to inquire about custom features such as different mounting holes, internal clearance, pilot diameters, drive arrangements, or Endurakote® plating.

RK Series



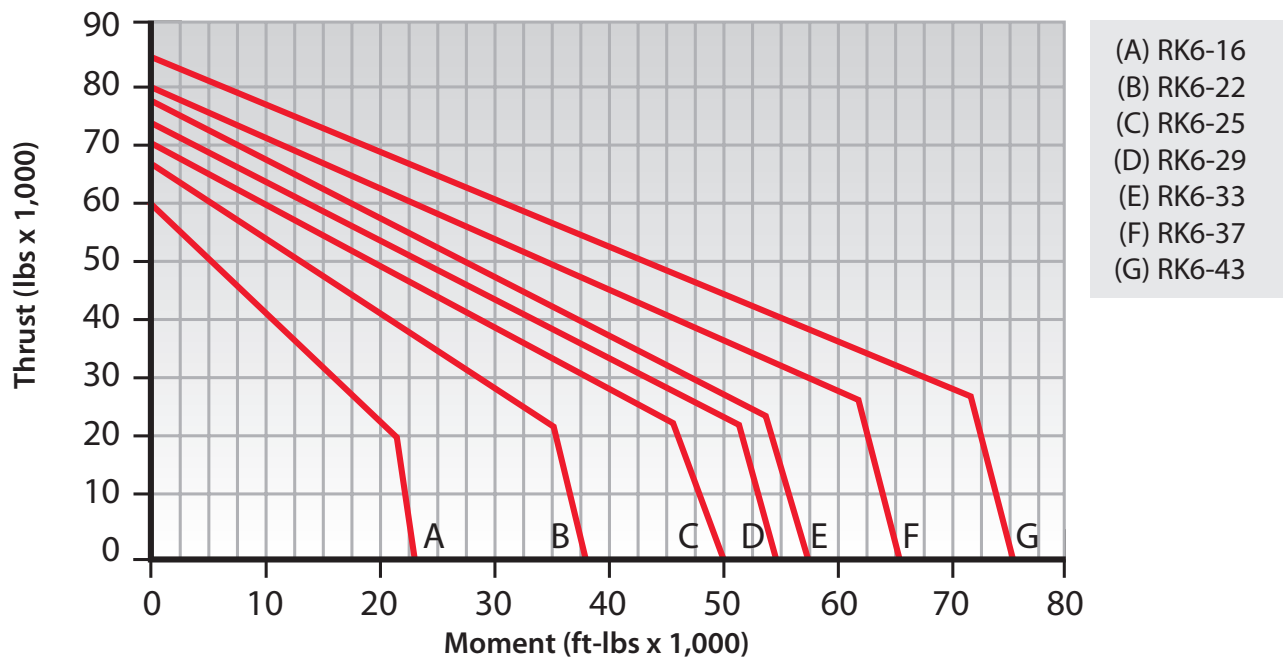
External Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT						
	D_o (in)	d_i (in)	D_r (in)	D_i (in)	d_o (in)	d_r (in)	G APPROX. (lbs)
RK6-16E1Z	19.900	11.970	—	16.220	16.140	14.490	72
RK6-22E1Z	25.150	17.090	—	21.340	21.260	19.610	96
RK6-25E1Z	29.150	21.030	—	25.280	25.200	23.550	115
RK6-29E1Z	32.900	24.970	—	29.220	29.140	27.490	128
RK6-33E1Z	37.200	28.900	—	33.150	33.070	31.420	152
RK6-37E1Z	41.200	32.840	—	37.090	37.010	35.360	172
RK6-43E1Z	46.867	38.750	—	43.000	42.920	41.270	189
Tolerances	+0.000 -.030	\pm .040	Ref.	Ref.	Ref.	+0.080 -.000	

Kaydon P/N	MOUNTING HOLES				GEAR DATA INV. STUB, $\alpha = 20^\circ$				MOMENT RATING C_{rm} (ft-lbs)
	OUTER RING		INNER RING		D_2 (in)	P_d	z_2	F_z (lbs)	
	L_o (in)	n_o	L_i (in)	n_i					
RK6-16E1Z	18.000	8	13.130	12	19.500	4	78	5,560	22,700
RK6-22E1Z	23.250	12	18.130	15	24.750	4	99	5,650	37,700
RK6-25E1Z	27.250	15	22.130	18	28.750	4	115	5,700	49,800
RK6-29E1Z	31.000	18	26.130	18	32.500	4	130	5,740	54,200
RK6-33E1Z	35.000	18	30.000	18	36.667	3	110	7,580	56,500
RK6-37E1Z	38.880	18	34.000	20	40.667	3	122	7,620	65,200
RK6-43E1Z	44.630	20	39.880	24	46.333	3	139	7,680	75,500

Not quite what you need? Contact Kaydon to inquire about custom features such as different mounting holes, internal clearance, pilot diameters, drive arrangements, or Endurakote® plating.

RK Series Load Charts

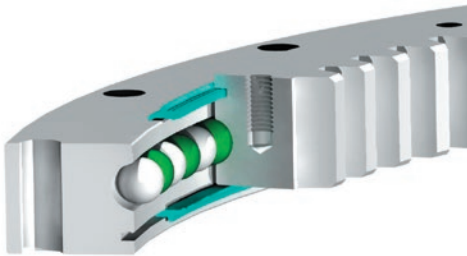


Rating Charts are only applicable for operating conditions defined as **NORMAL OPERATION** in [Section 2](#) and when installed and maintained as defined in [Section 3](#) of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements,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

HS Series

Introduction

HS Series slewing ring bearings are similar in size to the RK Series, but have rectangular cross sections, which allows for alternate hole patterns as well as improved stiffness and more capacity. They are available in sizes from 20 – 47 inches OD (500 – 1200 mm) with a standard cross section.



Design Features

The internal configuration consists of deep groove gothic arch raceways and maximum ball complement. This results in a four-point contact design which provides exceptional moment, thrust, and radial load capacities. Integral seals are provided to assist in the exclusion of contaminants.

Geared rings have tapped holes, while non-geared rings have through holes.

HS Series bearings are available in internal geared, external geared, and non-geared configurations. The gears are Involute Stub designs with 20° pressure angles, manufactured to AGMA Class Q5 and .015 to .025 inches allowance for backlash.

All models feature two fittings for lubrication, spaced 180 degrees apart. On non-geared and internal geared models, the fittings are located on the outer diameter (D_o). On the external geared models, the fittings are located on the inner diameter (d_i).

Availability

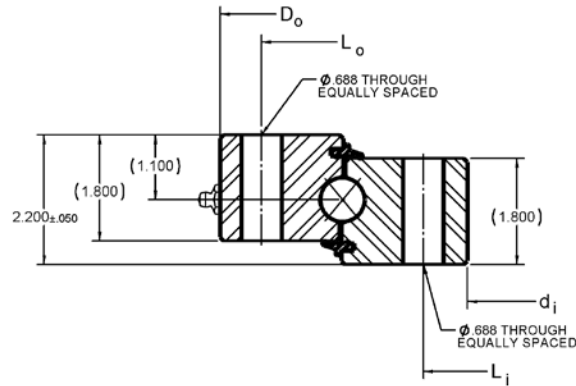
Forgings for HS Series bearings are stocked, and the finished bearings can usually be delivered promptly. Mating pinions are also generally available and can be found on [page 70](#).

Applications

HS Series bearings have been used successfully in a variety of medium to heavy duty applications including:

- Cranes
- Aerial lifts
- Digger derricks
- Chute swivels
- Lift truck rotators
- Industrial turntable

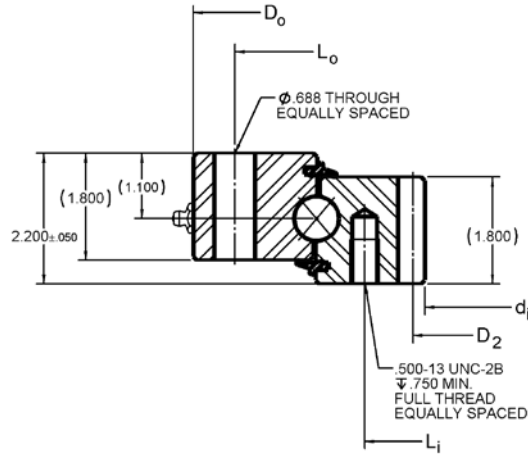
HS Series



No Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT			MOUNTING HOLES				GEAR DATA INV. STUB, $\alpha = 20^\circ$				MOMENT RATING C_{rm} (ft-lbs)
	D_o	d_i	G APPROX.	OUTER RING		INNER RING		D_2	P_d	z_2	F_z	
	(in)	(in)	(lbs)	L_o	n_o	L_i	n_i					
HS6-16P1Z	20.400	12.000	103	19.000	8	13.500	12	—	—	—	—	50,500
HS6-21P1Z	25.500	17.000	137	24.000	12	18.500	15	—	—	—	—	72,700
HS6-25P1Z	29.500	21.000	162	28.000	15	22.500	18	—	—	—	—	91,800
HS6-29P1Z	33.400	25.000	186	32.000	15	26.500	18	—	—	—	—	111,900
HS6-33P1Z	37.400	28.830	216	35.750	18	30.500	20	—	—	—	—	128,000
HS6-37P1Z	41.250	32.830	233	39.750	18	34.380	20	—	—	—	—	130,900
HS6-43P1Z	47.180	38.750	269	45.620	20	40.250	24	—	—	—	—	139,900

HS Series

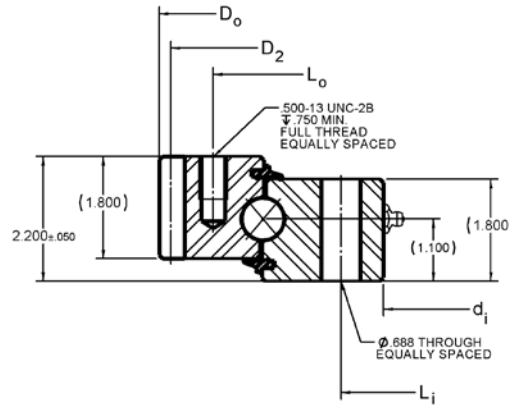


Internal Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT			MOUNTING HOLES				GEAR DATA INV. STUB, $\alpha = 20^\circ$				MOMENT RATING C_{rm} (ft-lbs)
	D_o (in)	d_i (in)	G APPROX. (lbs)	OUTER RING		INNER RING		D_2 (in)	P_d	z_2	F_z (lbs)	
				L_o (in)	n_o	L_i (in)	n_i					
HS6-16N1Z	20.400	12.850	92	19.000	8	14.880	16	13.250	4	53	6,084	50,500
HS6-21N1Z	25.500	17.600	117	24.000	12	19.630	20	18.000	4	72	5,842	72,700
HS6-25N1Z	29.500	21.600	148	28.000	15	23.630	24	22.000	4	88	5,719	91,800
HS6-29N1Z	33.400	25.600	171	32.000	15	27.630	28	26.000	4	104	5,634	111,900
HS6-33N1Z	37.400	29.130	205	35.750	18	31.500	30	29.667	3	89	7,617	128,000
HS6-37N1Z	41.250	33.133	226	39.750	18	35.500	32	33.667	3	101	7,531	130,900
HS6-43N1Z	47.180	39.130	253	45.620	20	41.500	36	39.667	3	119	7,434	139,900

Not quite what you need? Contact Kaydon to inquire about custom features such as different mounting holes, internal clearance, pilot diameters, drive arrangements, or Endurakote® plating.

HS Series

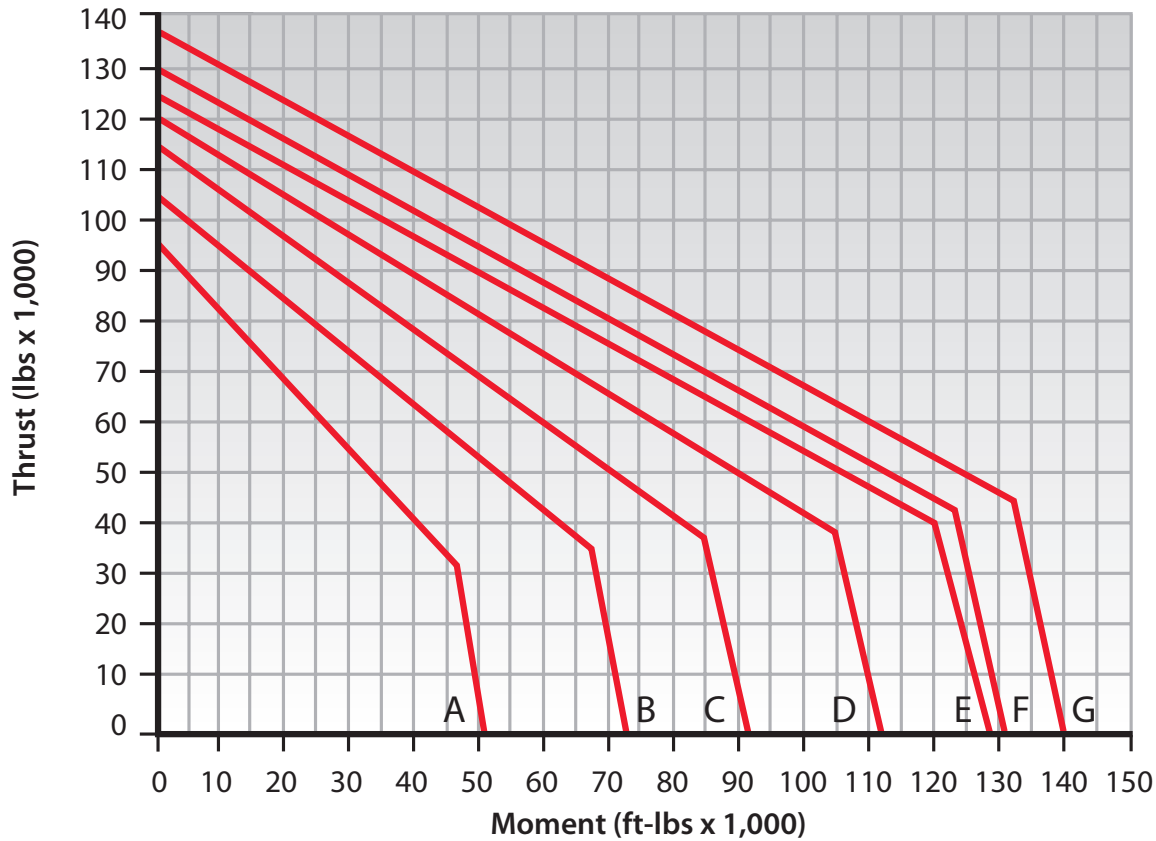


External Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT			MOUNTING HOLES				GEAR DATA INV. STUB, $\alpha = 20^\circ$				MOMENT RATING C_{rm} (ft-lbs)
	D_o (in)	d_i (in)	G APPROX. (lbs)	OUTER RING		INNER RING		D_2 (in)	P_d	z_2	F_z (lbs)	
				L_o (in)	n_o	L_i (in)	n_i					
HS6-16E1Z	19.900	12.000	85	18.000	14	13.500	12	19.500	4	78	4,981	50,500
HS6-21E1Z	25.150	17.000	108	23.250	18	18.500	15	24.750	4	99	5,076	72,700
HS6-25E1Z	29.150	21.000	137	27.250	20	22.500	18	28.750	4	115	5,127	91,800
HS6-29E1Z	32.900	25.000	158	31.000	24	26.500	18	32.500	4	130	5,164	111,900
HS6-33E1Z	37.200	28.830	188	35.000	28	30.500	20	36.667	3	110	6,817	128,000
HS6-37E1Z	41.200	32.830	207	38.880	28	34.380	20	40.667	3	122	6,860	130,900
HS6-43E1Z	46.870	38.750	237	44.630	32	40.250	24	46.333	3	139	6,910	139,900

Not quite what you need? Contact Kaydon to inquire about custom features such as different mounting holes, internal clearance, pilot diameters, drive arrangements, or Endurakote® plating.

HS Series Load Chart



- (A) HS6-016
- (B) HS6-021
- (C) HS6-025
- (D) HS6-029
- (E) HS6-033
- (F) HS6-037
- (G) HS6-043



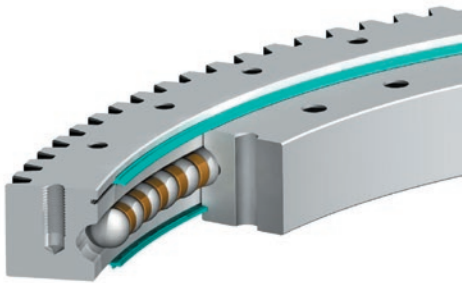
Rating Charts are only applicable for operating conditions defined as NORMAL OPERATION in [Section 2](#) and when installed and maintained as defined in [Section 3](#) of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements,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

Not quite what you need? Contact Kaydon to inquire about custom features such as different mounting holes, internal clearance, pilot diameters, drive arrangements, or Endurakote® plating.

HT Series

Introduction

HT Series slewing ring bearings are larger versions of the HS Series, with increased ball diameter and cross-sectional area providing substantially more capacity. They range in size from 36 – 66 inches OD (900 – 1700 mm) with a standard cross section.



Design Features

The internal configuration consists of deep groove gothic arch raceways and maximum ball complement. This results in a four-point contact design which provides exceptional moment, thrust, and radial load capacities. Integral seals are provided to assist in the exclusion of contaminants.

Geared rings have tapped holes, while non-geared rings have through holes.

HT Series bearings are available in internal geared, external geared, and non-geared configurations. The gears are Involute Stub designs with 20° pressure angles, manufactured to AGMA Class Q5 and .015 to .025 inches allowance for backlash.

All models feature two fittings for lubrication, spaced 180 degrees apart. On non-geared and internal geared models, the fittings are located on the outer diameter (D_o). On the external-geared models, the fittings are located on the inner diameter (d_i).

Availability

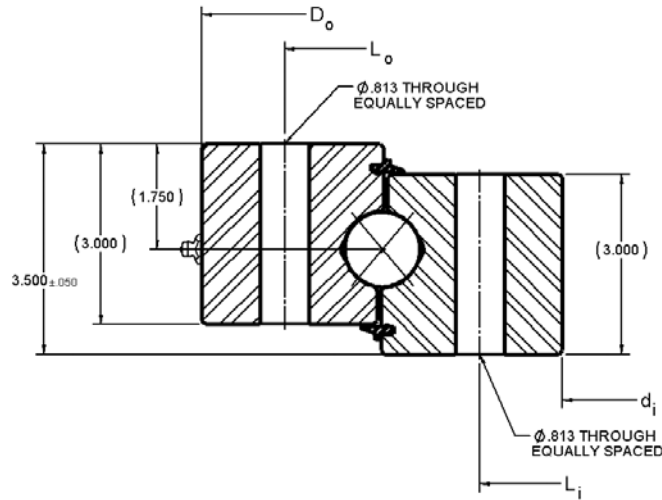
HT Series bearings are made to order and can require a longer lead time as forgings are not stocked.

Applications

HT Series bearings have been used successfully in a variety of medium to heavy duty applications including:

- Cranes
- Aerial lifts
- Digger derricks
- Chute swivels
- Lift truck rotators
- Industrial turntable

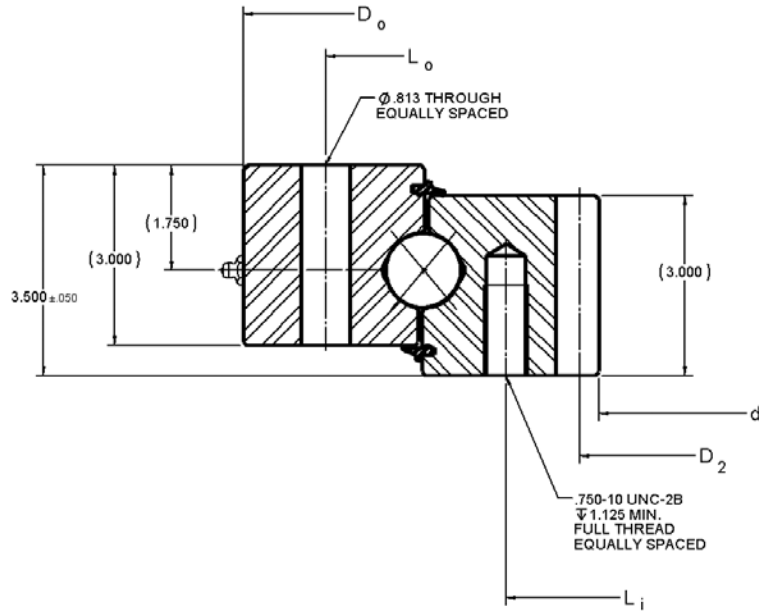
HT Series



No Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT			MOUNTING HOLES				GEAR DATA INV. STUB, $\alpha = 20^\circ$				MOMENT RATING C_{rm} (ft-lbs)
	D_o	d_i	G APPROX.	OUTER RING		INNER RING		D_2	P_d	z_2	F_z	
	(in)	(in)	(lbs)	L_o	n_o	L_i	n_i					
HT10-30P1Z	36.000	24.000	447	33.250	24	26.750	30	—	—	—	—	340,000
HT10-36P1Z	42.000	30.000	521	39.250	28	32.750	32	—	—	—	—	395,700
HT10-42P1Z	48.000	36.000	628	45.250	32	38.750	36	—	—	—	—	457,000
HT10-48P1Z	54.000	42.000	719	51.250	36	44.750	40	—	—	—	—	517,900
HT10-54P1Z	60.000	48.000	809	57.250	40	50.750	44	—	—	—	—	578,400
HT10-60P1Z	66.000	54.000	865	63.250	44	56.750	48	—	—	—	—	638,800

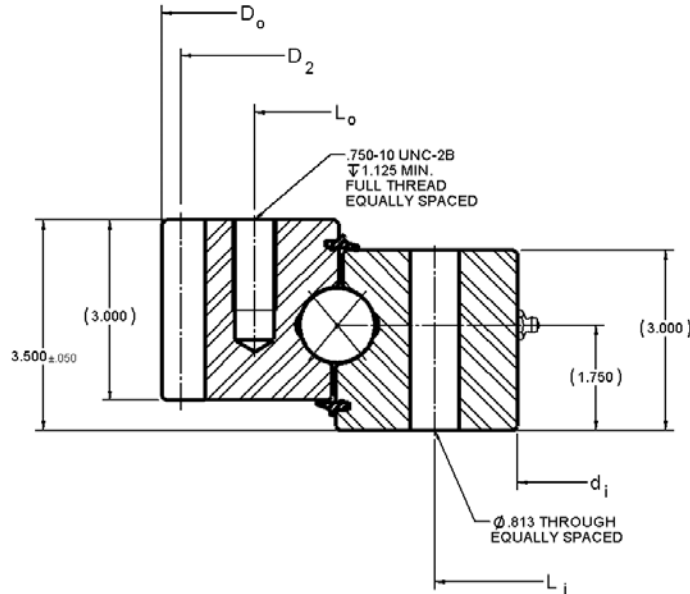
HT Series



Internal Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT			MOUNTING HOLES				GEAR DATA INV. STUB, $\alpha = 20^\circ$				MOMENT RATING C_{rm} (ft-lbs)
	D_o	d_i	G APPROX.	OUTER RING		INNER RING		D_2	P_d	z_2	F_z	
	(in)	(in)	(lbs)	L_o	n_o	L_i	n_i					
HT10-30N1Z	36.000	24.160	411	33.250	24	27.250	30	24.800	2.5	62	21,783	340,000
HT10-36N1Z	42.000	30.160	517	39.250	28	33.250	32	30.800	2.5	77	21,195	395,700
HT10-42N1Z	48.000	36.160	580	45.250	32	39.250	36	36.800	2.5	92	20,819	457,000
HT10-48N1Z	54.000	42.160	689	51.250	36	45.250	40	42.800	2.5	107	20,548	517,900
HT10-54N1Z	60.000	48.160	775	57.250	40	51.250	44	48.800	2.5	122	20,344	578,400
HT10-60N1Z	66.000	54.160	842	63.250	44	57.250	48	54.800	2.5	137	20,185	638,800

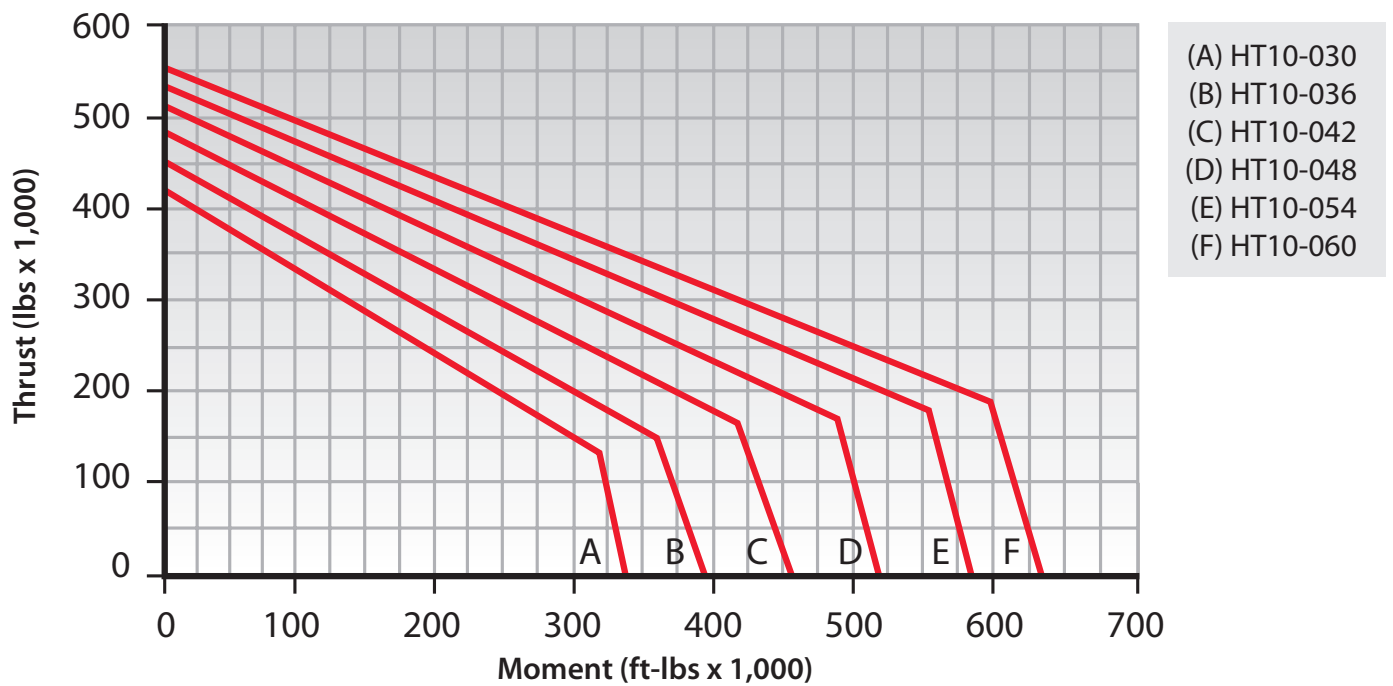
HT Series



External Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT			MOUNTING HOLES				GEAR DATA INV. STUB, $\alpha = 20^\circ$				MOMENT RATING C_{rm} (ft-lbs)
	D_o	d_i	G APPROX.	OUTER RING		INNER RING		D_2	P_d	z_2	F_z	
	(in)	(in)	(lbs)	L_o (in)	n_o	L_i (in)	n_i	(in)			(lbs)	
HT10-30E1Z	35.840	24.000	398	32.750	24	26.750	30	35.200	2.5	88	18,393	340,000
HT10-36E1Z	41.840	30.000	481	38.750	28	32.750	32	41.200	2.5	103	18,608	395,700
HT10-42E1Z	47.840	36.000	562	44.750	32	38.750	36	47.200	2.5	118	18,772	457,000
HT10-48E1Z	53.840	42.000	660	50.750	36	44.750	40	53.200	2.5	133	18,901	517,900
HT10-54E1Z	59.840	48.000	742	56.750	40	50.750	44	59.200	2.5	148	19,005	578,400
HT10-60E1Z	65.840	54.000	800	62.750	44	56.750	48	65.200	2.5	163	19,090	638,800

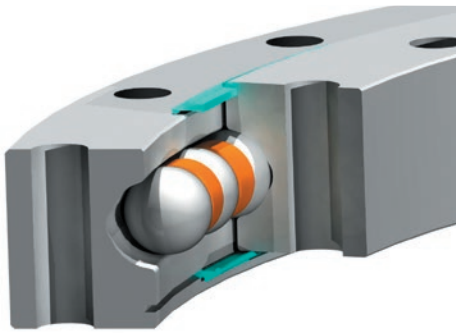
HT Series Load Chart



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](#).



MT Series



Versions of these standard bearings with features manufactured to higher precision requirements can be used in machine tool, material handling, power transmission, radar, and robotics applications.

Contact Kaydon to speak with an applications engineer about the following options:

- Precision runout control
- Precision gear
- Preload for zero free play and increased stiffness
- Pilot diameters
- Tapped mounting holes
- Endurakote® plating for increased corrosion resistance

Kaydon also offers a high-precision KH Series in a standard line which incorporates all the above except Endurakote® plating.

Introduction

MT Series slewing ring bearings have a rectangular cross-section and range in size from 4 – 47 inches OD (100 – 1200 mm). They provide optimal economy and capacity for a given envelope dimension.

Design Features

The internal configuration consists of deep groove gothic arch raceways and maximum ball complement. This results in a four-point contact design which provides exceptional moment, thrust, and radial load capacities. Integral face riding seals for the larger sizes and non-contact shields for the smaller assist in the exclusion of contaminants. These features make them an ideal choice for a wide range of applications from light to heavy duty.

MT Series bearings are offered in non-geared (MTO) and externally geared (MTE) configurations. The gears are Fellows Stub Involute up to the MTE-324 size and Stub Involute for larger sizes, all manufactured to AGMA Class Q6 quality. Contact Kaydon for tooth backlash allowance.

Part numbers ending in a "T" suffix have threaded mounting holes. Thread depths are a minimum of 1.5 times the nominal hole size diameter indicated.

Part numbers ending in an "X" suffix provide additional load capacity.

Availability

MT Series bearings are generally available from stock, and mating pinions for the geared versions through MTE-705 are also generally available. Refer to [page 70](#) for mating pinions.

Applications

MT Series bearings have been used successfully in a wide range of applications from light to heavy duty.

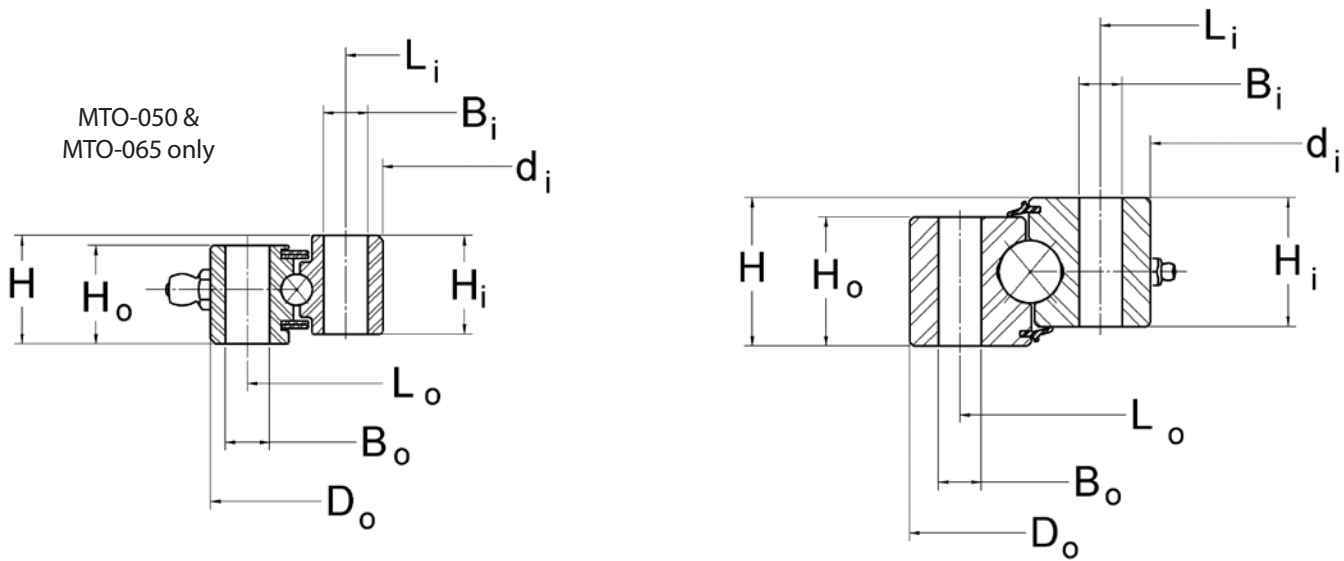
The smaller sizes are well suited for:

- Manipulators
- Jib cranes
- Lift-assist devices
- Work positioners

Larger sizes are well suited for:

- Truck-mounted cranes
- Aerial lifts
- Hoists
- Small wind turbines
- Non-precision positioning tables

MT Series



No Gear

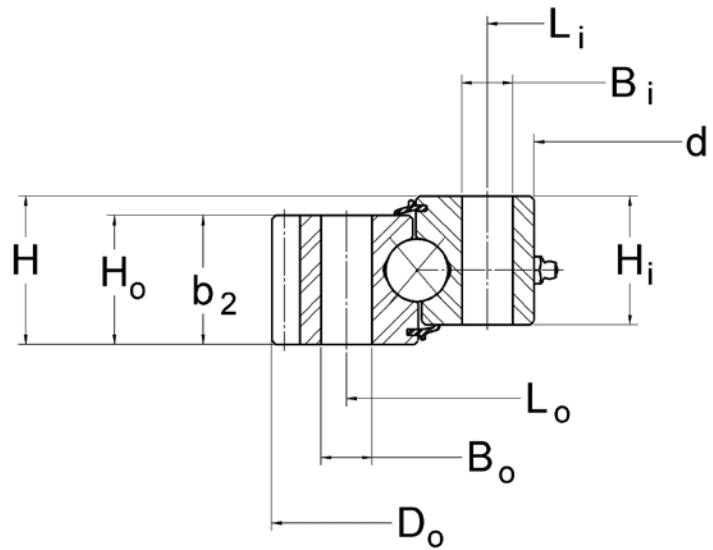
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT				
	D _o (in)	d _i (in)	H (in)	H _i /H _o (in)	G APPROX. (lbs)
MTO-050	4.331	1.968	0.787	0.728	2
MTO-050T	4.331	1.968	0.787	0.728	2
MTO-065	5.315	2.559	0.866	0.787	4
MTO-065T	5.315	2.559	0.866	0.787	4
MTO-122	8.898	4.803	1.339	1.142	13
MTO-122T	8.898	4.803	1.339	1.142	13
MTO-143	9.803	5.630	1.339	1.142	15
MTO-143T	9.803	5.630	1.339	1.142	15
MTO-145	11.811	5.709	1.968	1.732	37
MTO-145T	11.811	5.709	1.968	1.732	37
MTO-145X	12.286	5.709	1.968	1.732	41
MTO-170	12.205	6.693	1.811	1.614	33
MTO-170T	12.205	6.693	1.811	1.614	33
MTO-210	14.370	8.268	1.575	1.496	38
MTO-210T	14.370	8.268	1.575	1.496	38
MTO-210X	14.686	8.268	1.968	1.732	48
MTO-265	16.535	10.433	1.968	1.732	54
MTO-265T	16.535	10.433	1.968	1.732	54
MTO-265X	17.086	10.433	1.968	1.732	61
*MTO-324T	20.486	12.750	2.062	2.022	105
MTO-324X	20.486	12.770	2.375	2.063	105

* Part number MTO-324 has been superseded by MTO-324T.

MT Series

MOUNTING HOLES							MOMENT RATING C_{rm} (ft-lbs)
OUTER RING			INNER RING				
L_o (in)	n_o	B_o (in)	L_i (in)	n_i	B_i (in)		
3.818	8	0.26	2.480	8	0.26		675
3.818	8	M6	2.480	8	M6		675
4.724	8	0.354	3.149	8	0.354		1,075
4.724	8	M8	3.149	8	M8		1,075
8.189	12	0.354	5.512	12	0.354		5,020
8.189	12	M8	5.512	12	M8		5,020
8.937	12	0.433	6.496	12	0.433		8,950
8.937	12	M10	6.496	12	M10		8,950
10.630	16	0.562	6.890	16	0.562		26,000
10.630	16	5/8-11	6.890	16	5/8-11		26,000
10.630	16	0.594	6.890	16	0.594		30,600
11.024	12	0.512	7.874	12	0.512		16,520
11.024	12	M12	7.874	12	M12		16,520
13.190	16	0.562	9.449	20	0.562		44,500
13.190	16	5/8-11	9.449	20	5/8-11		44,500
13.190	16	0.594	9.449	20	0.594		52,100
15.354	18	0.562	11.614	24	0.562		62,000
15.354	18	5/8-11	11.614	24	5/8-11		62,000
15.354	18	0.594	11.614	24	0.594		71,900
18.875	20	5/8-11	14.375	20	5/8-11		102,400
18.875	20	0.688	14.375	20	0.688		102,400

MT Series



External Gear

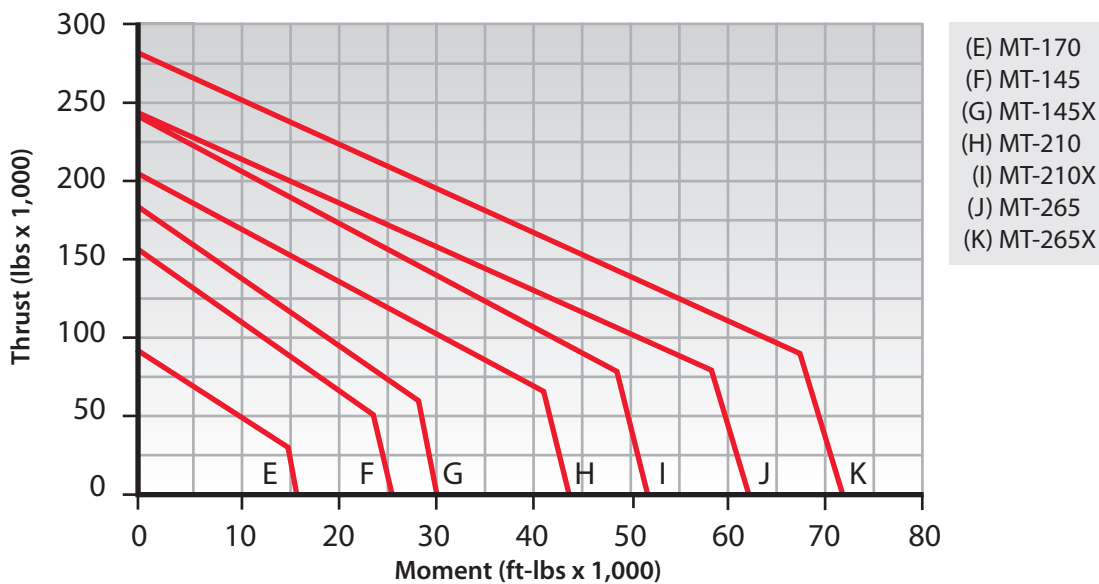
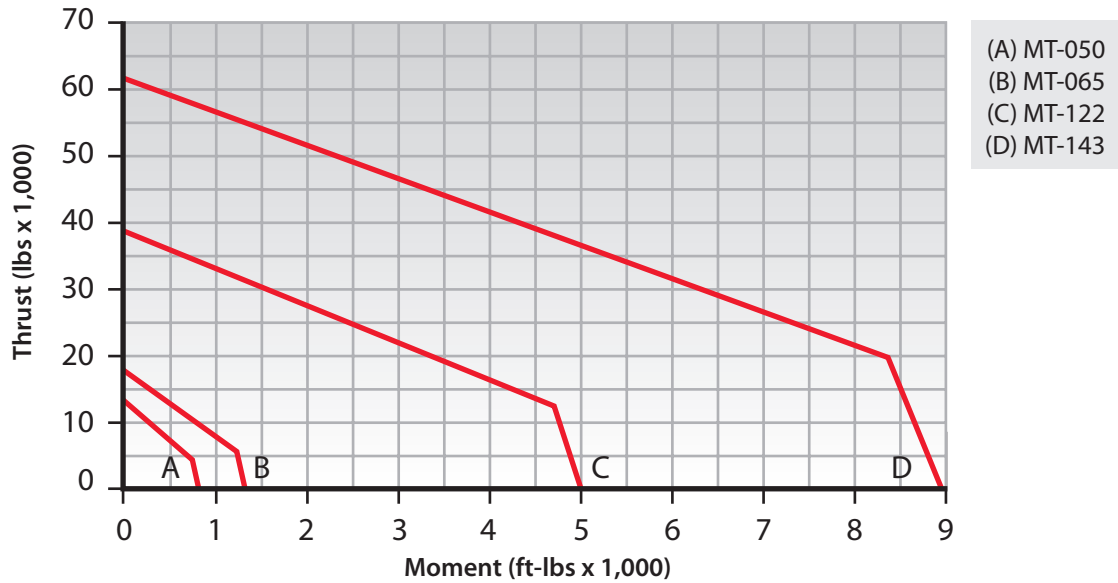
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT					MOUNTING HOLES					
	D _o (in)	d _i (in)	H (in)	H _i /H _o (in)	G APPROX. (lbs)	OUTER RING			INNER RING		
						L _o (in)	n _o	B _o (in)	L _i (in)	n _i	B _i (in)
MTE-145	12.286	5.709	1.968	1.732	38	10.630	16	0.562	6.890	16	0.562
MTE-145T	12.286	5.709	1.968	1.732	38	10.630	16	5/8-11	6.890	16	5/8-11
MTE-145X	12.286	5.709	1.968	1.732	38	10.630	16	0.594	6.890	16	0.594
MTE-210	14.686	8.268	1.575	1.496	38	13.190	16	0.562	9.449	20	0.562
MTE-210T	14.686	8.268	1.575	1.496	38	13.190	16	5/8-11	9.449	20	5/8-11
MTE-210X	14.686	8.268	1.968	1.732	44	13.190	16	0.594	9.449	20	0.594
MTE-265	17.086	10.433	1.968	1.732	57	15.354	18	0.562	11.614	24	0.562
MTE-265T	17.086	10.433	1.968	1.732	57	15.354	18	5/8-11	11.614	24	5/8-11
MTE-265X	17.086	10.433	1.968	1.732	57	15.354	18	0.594	11.614	24	0.594
*MTE-324T	20.486	12.750	2.062	2.022	98	18.875	20	5/8-11	14.375	20	5/8-11
MTE-324X	20.486	12.770	2.375	2.063	99	18.875	20	0.688	14.375	20	0.688
MTE-415	24.650	16.250	2.375	2.063	132	22.250	16	0.813	17.750	20	0.813
MTE-415T	24.650	16.250	2.375	2.063	132	22.250	16	3/4-10	17.750	20	3/4-10
MTE-470	26.900	18.500	2.375	2.063	147	24.500	18	0.813	20.000	24	0.813
MTE-470T	26.900	18.500	2.375	2.063	147	24.500	18	3/4-10	20.000	24	3/4-10
MTE-540	29.650	21.250	2.375	2.063	163	27.250	24	0.813	22.750	28	0.813
MTE-540T	29.650	21.250	2.375	2.063	163	27.250	24	3/4-10	22.750	28	3/4-10
MTE-590	33.534	23.125	2.875	2.563	283	30.625	18	0.938	24.875	24	0.938
MTE-590T	33.534	23.125	2.875	2.563	283	30.625	18	7/8-9	24.875	24	7/8-9
MTE-705	38.201	27.750	2.875	2.563	325	35.250	24	0.938	29.50	28	0.938
MTE-705T	38.201	27.750	2.875	2.563	325	35.250	24	7/8-9	29.50	28	7/8-9
MTE-730	41.85	28.750	3.250	2.880	491	38.000	20	1.063	31.00	24	1.063
MTE-730T	41.85	28.750	3.250	2.880	491	38.000	20	1-8	31.00	24	1-8
MTE-870	47.444	34.250	4.250	3.875	771	43.875	24	1.188	36.25	28	1.188
MTE-870T	47.444	34.250	4.250	3.875	771	43.875	24	1 1/8-7	36.25	28	1 1/8-7

* Part number MTE-324 has been superseded by MTE-324T.

MT Series

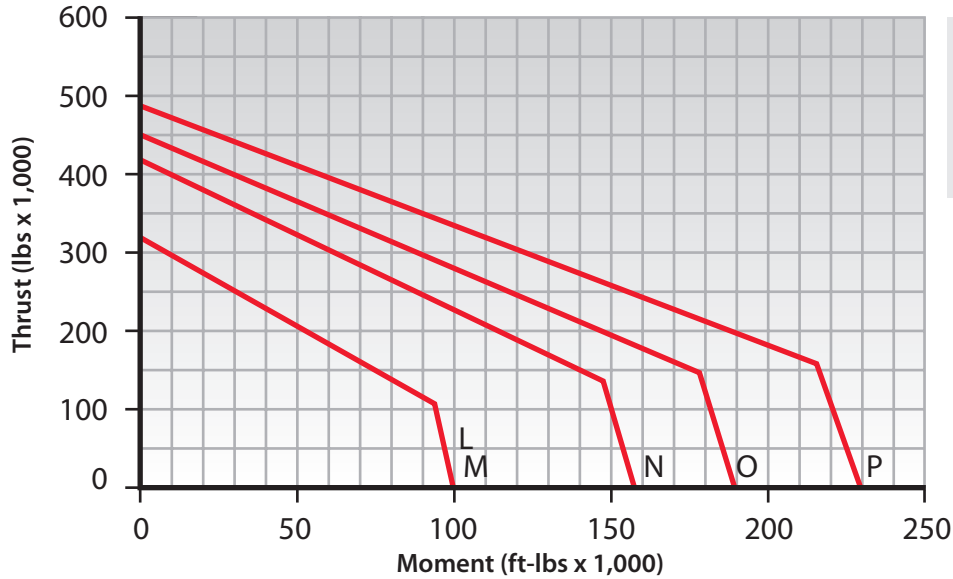
TOOTH FORM	GEAR DATA $\alpha = 20^\circ$					F_z (lbs) MAX GEAR TOOTH LOAD	MOMENT RATING C_{rm}
	D_2 (in)	P_d	z_2	b_2 (in)	(ft-lbs)		
FS	12.000	5/7	60	1.732	7,140	26,000	
FS	12.000	5/7	60	1.732	7,140	26,000	
FS	12.000	5/7	60	1.732	7,140	30,600	
FS	14.400	5/7	72	1.496	5,810	44,500	
FS	14.400	5/7	72	1.496	5,810	44,500	
FS	14.400	5/7	72	1.732	7,290	52,100	
FS	16.800	5/7	84	1.732	7,330	62,000	
FS	16.800	5/7	84	1.732	7,330	62,000	
FS	16.800	5/7	84	1.732	7,330	71,900	
FS	20.200	5/7	101	2.022	8,700	102,400	
FS	20.200	5/7	101	2.063	8,863	102,400	
SD	24.250	4	97	2.063	10,420	159,200	
SD	24.250	4	97	2.063	10,420	159,200	
SD	26.500	4	106	2.063	10,460	191,600	
SD	26.500	4	106	2.063	10,460	191,600	
SD	29.250	4	117	2.063	10,520	232,000	
SD	29.250	4	117	2.063	10,520	232,000	
SD	33.000	3	99	2.563	17,290	338,700	
SD	33.000	3	99	2.563	17,290	338,700	
SD	37.667	3	113	2.563	17,390	443,200	
SD	37.667	3	113	2.563	17,390	443,200	
SD	41.200	2.5	103	2.630	21,290	588,000	
SD	41.200	2.5	103	2.630	21,290	588,000	
SD	46.800	2.5	117	3.875	31,620	873,800	
SD	46.800	2.5	117	3.875	31,620	873,800	

MT Series Load Charts

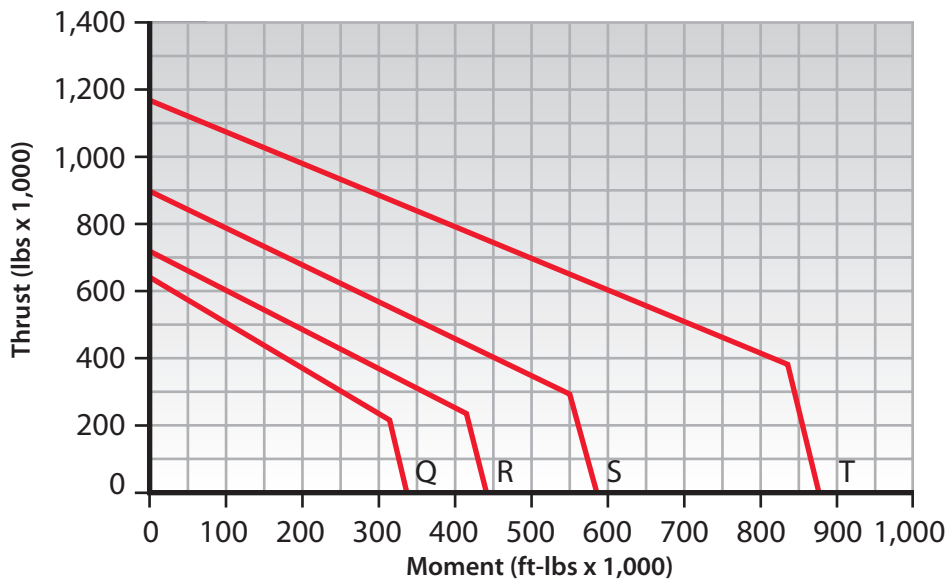


Rating Charts are only applicable for operating conditions defined as NORMAL OPERATION in Section 2 and when installed and maintained as defined in Section 3 of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements, ring section,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

MT Series Load Charts



(L) MT-324
 (M) MT-324X
 (N) MT-415
 (O) MT-470
 (P) MT-540

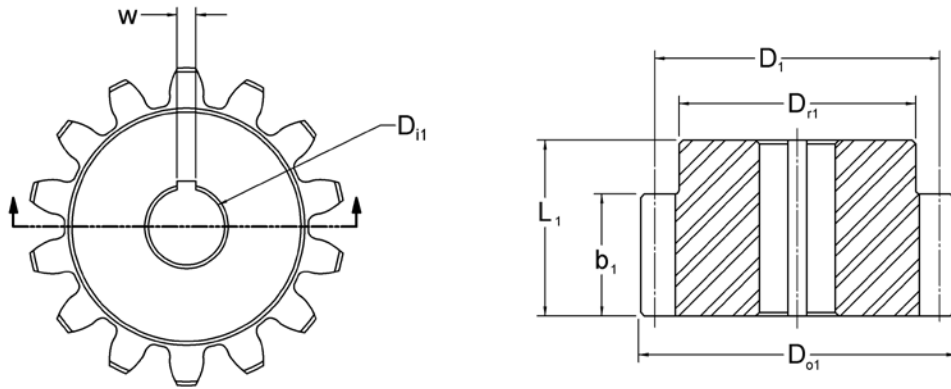


(Q) MT-590
 (R) MT-705
 (S) MT-730
 (T) MT-870



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.

Pinion Tables for RK, HS and MT Series



Mating Pinions for RK Series Bearings

BEARING P/N	PINION P/N	GEAR DATA ($\alpha = 20^\circ$)				OUTLINE DIMENSIONS AND WEIGHT						
		TOOTH FORM	z_1	P_d (in)	b_1 (in)	L_1 (in)	D_1 (in)	D_{o1} (in)	D_{r1} (in)	D_{i1} (in)	w (in)	G APPROX. (lbs)
RK6-16 thru RK6-29	39200001	SD	14	4	2.000	2.880	3.500	3.900	2.880	1.000	1/4	6.4
	39200002		17	4	2.000	2.880	4.250	4.650	3.630	1.000		10.0
RK6-33 thru RK6-43	39200003	SD	14	3	2.000	2.880	4.667	5.200	3.880	1.250	5/16	11.4
	39200004		17	3	2.000	2.880	5.667	6.200	4.880	1.250		18.3
Tolerances				Ref.	$\pm .015$	$\pm .015$	Ref.	+0.000 -0.010	Ref.	+0.002 -0.000		

Mating Pinions for HS Series Bearings

BEARING P/N	PINION P/N	GEAR DATA ($\alpha = 20^\circ$)				OUTLINE DIMENSIONS AND WEIGHT						
		TOOTH FORM	z_1	P_d (in)	b_1 (in)	L_1 (in)	D_1 (in)	D_{o1} (in)	D_{r1} (in)	D_{i1} (in)	w (in)	G APPROX. (lbs)
HS6-16 thru HS6-29	39200001	SD	14	4	2.000	2.880	3.500	3.900	2.880	1.000	1/4	6.4
	39200002		17	4	2.000	2.880	4.250	4.650	3.630	1.000		10.0
HS6-33 thru HS6-43	39200003	SD	14	3	2.000	2.880	4.667	5.200	3.880	1.250	5/16	11.4
	39200004		17	3	2.000	2.880	5.667	6.200	4.880	1.250		18.3
Tolerances				Ref.	$\pm .015$	$\pm .015$	Ref.	+0.000 -0.010	Ref.	+0.002 -0.000		

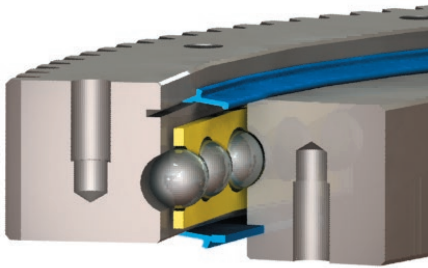
Mating Pinions for MT Series Bearings

BEARING P/N	PINION P/N	GEAR DATA ($\alpha = 20^\circ$)				OUTLINE DIMENSIONS AND WEIGHT						
		TOOTH FORM	z_1	P_d (in)	b_1 (in)	L_1 (in)	D_1 (in)	D_{o1} (in)	D_{r1} (in)	D_{i1} (in)	w (in)	G APPROX. (lbs)
MTE-145 thru MTE-324	39201001	FS	17	5/7	2.25	3.125	3.4	3.686	2.906	1.000	1/4	6.6
MTE-415 thru MTE-540	39200001	SD	14	4	2.000	2.880	3.500	3.900	2.880	1.000	1/4	6.4
	39200002		17	4	2.000	2.880	4.250	4.650	3.630	1.000		10.0
MTE-590 thru MTE-705	39200003	SD	14	3	2.000	2.880	4.667	5.200	3.880	1.250	5/16	11.4
	39200004		17	3	2.000	2.880	5.667	6.200	4.880	1.250		18.3
Tolerances				Ref.	$\pm .015$	$\pm .015$	Ref.	-0.01	Ref.	0.002		

KH Series

Introduction

KH Series slewing ring bearings have a rectangular cross-section and range in size from 16 – 37 inches OD (400 – 950 mm). They provide precise positioning and repeatability in applications where rotation is constant, intermittent, or oscillating.



Design Features

The internal configuration is a deep-groove gothic arch raceway, which provides four points of contact with the balls, enabling it to carry radial, thrust, and moment loads individually or simultaneously. The use of internal diametral preload provides for greater stiffness, which combined with tightly controlled radial and axial runouts, delivers accurate repeatability. The axial runouts are 0.001 inch TIR and the radial runouts for locating diameters are 0.002 inch TIR.

A separator is used to maintain consistent ball spacing interval, keep friction to a minimum, and minimize noise. Integral face riding seals are provided to assist in the exclusion of contaminants.

KH Series bearings are offered in non-geared and externally geared configurations. The gears have Full Depth Involute teeth and are manufactured to an AGMA Class Q8 quality, allowing for decreased backlash, more accurate positioning, and less noise while operating.

Availability

KH Series bearings are generally available from stock.

Applications

KH Series bearings have been used successfully in applications demanding higher precision, including:

- Precision rotary index tables
- Radar antennas
- Satellite antennas
- Robots
- Medical equipment
- Machine tool tables
- Any design where the KH bearing features will interface with other precision components.

KH Series

No Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT					HOLE DATA				GEAR DATA			GEAR TOOTH RATING F _z (lbs)
						OUTER RING		INNER RING					
	D _o (in)	d _i (in)	D _i (in)	d _o (in)	G APPROX. (lbs)	L _o (in)	n _o	L _i (in)	n _i	D ₂ (in)	b ₂ (in)	z ₂	
KH-125P	16.500	8.625	12.750	12.250	80	14.750	16	10.250	16	—	—	—	—
KH-166P	20.500	12.750	16.875	16.375	105	18.875	20	14.375	20	—	—	—	—
KH-225P	26.700	18.500	22.750	22.250	150	24.500	18	20.500	18	—	—	—	—
KH-275P	31.700	23.500	27.750	27.250	185	29.500	24	25.500	24	—	—	—	—
KH-325P	36.700	28.500	32.750	32.250	220	34.500	28	30.500	28	—	—	—	—
TOLERANCES	±.050	±.050	*Note	*Note		⊕ .030		⊕ .030					

External Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT					HOLE DATA				GEAR DATA - FD INVOLUTE			GEAR TOOTH RATING F _z (lbs)
						OUTER RING		INNER RING		P _d = 6, α = 20°, AGMA Q8			
	D _o (in)	d _i (in)	D _i (in)	d _o (in)	G APPROX. (lbs)	L _o (in)	n _o	L _i (in)	n _i	D ₂ (in)	b ₂ (in)	z ₂	
KH-125E	16.500	8.625	12.750	12.250	75	14.750	16	10.250	16	16.167	2.000	97	5,480
KH-166E	20.500	12.750	16.875	16.375	100	18.875	20	14.375	20	20.167	2.000	121	5,570
KH-225E	26.667	18.500	22.750	22.250	140	24.500	18	20.500	18	26.333	2.000	158	5,670
KH-275E	31.667	23.500	27.750	27.250	175	29.500	24	25.500	24	31.333	2.000	188	5,700
KH-325E	36.667	28.500	32.750	32.250	205	34.500	28	30.500	28	36.333	2.000	218	5,730
TOLERANCES	+0/-.020	±.050	*Note	*Note		⊕ .030		⊕ .030					±.030

Dynamic and Intermittent Capacities

Size	Dynamic		Intermittent	
	Axial (lbs)	Moment (ft-lbs)	Axial (lbs)	Moment (ft-lbs)
KH-125	32,000	13,100	60,000	25,800
KH-166	36,000	20,500	82,800	45,200
KH-225	40,000	30,500	115,200	56,000
KH-275	43,000	39,600	142,000	75,000
KH-325	45,000	48,100	167,000	92,000

*Note:

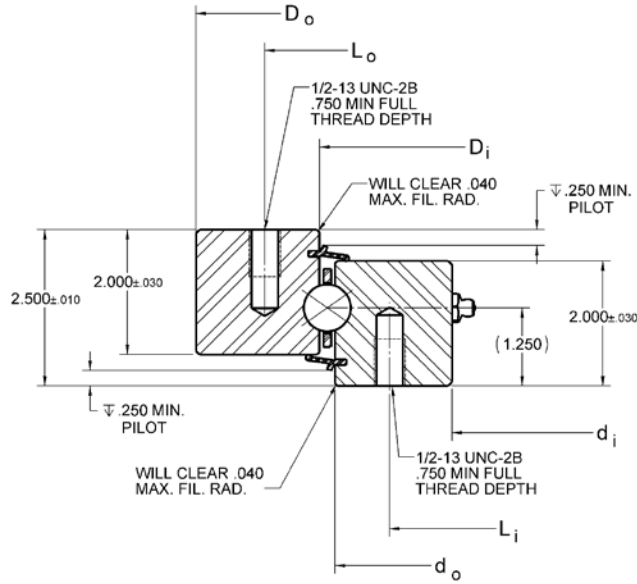
D_i = d_o = +0/-.002 tolerance for KH-125 through KH-225.

D_i = d_o = +0/-.003 tolerance for KH-275 through KH-325.

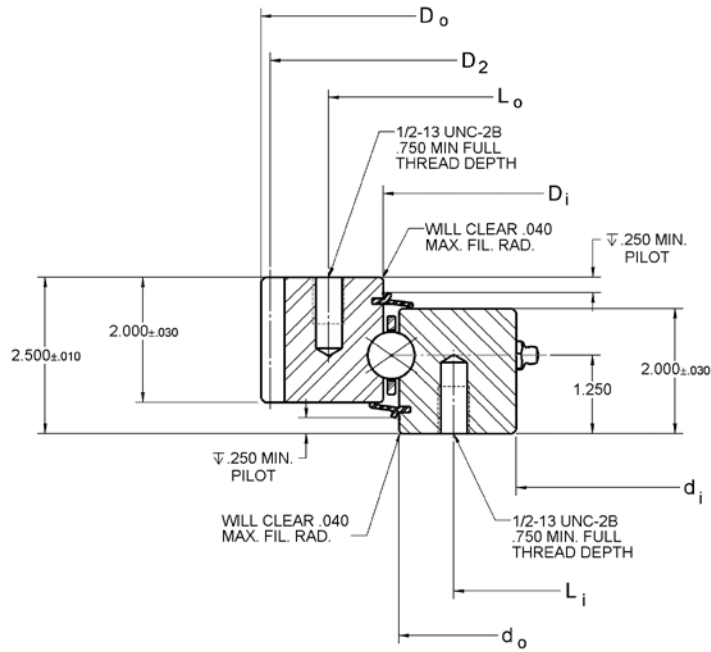
Note: Dynamic-L₁₀ capabilities based on million revolutions. Values do not apply simultaneously.

Intermittent-Individual capacity limits for maximum loading when normal mode of operation is an intermittent load application and rotation.

KH Series



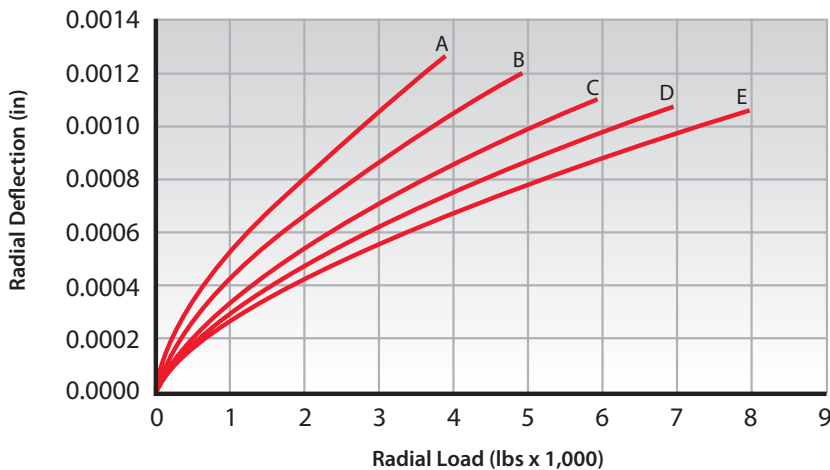
Non-geared



External geared

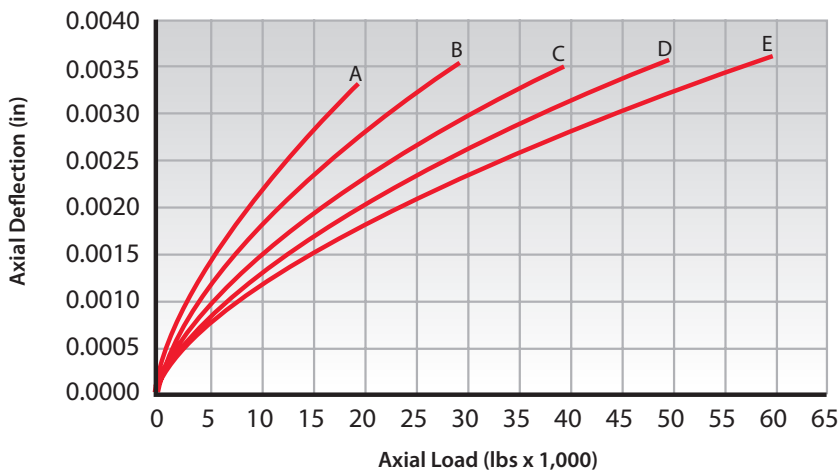
KH Series Deflection Chart

KH Series Radial Deflection



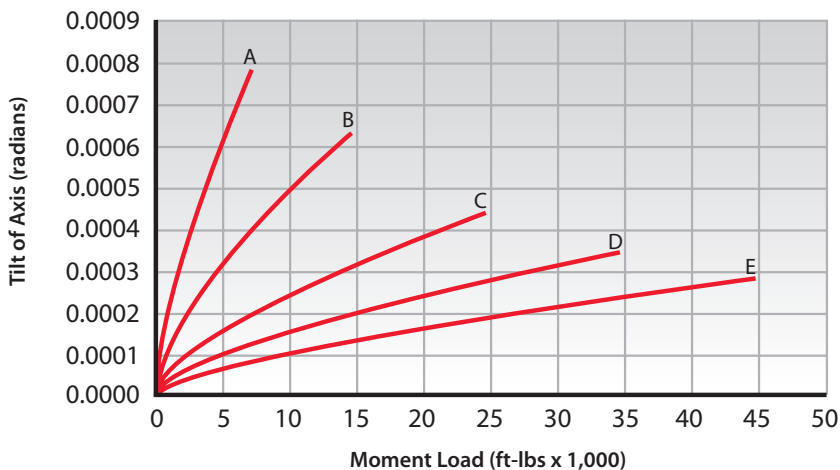
- (A) KH-125
- (B) KH-166
- (C) KH-225
- (D) KH-275
- (E) KH-325

KH Series Axial Deflection



- (A) KH-125
- (B) KH-166
- (C) KH-225
- (D) KH-275
- (E) KH-325

KH Series Tilt of Axis

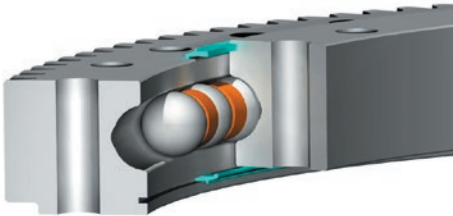


- (A) KH-125
- (B) KH-166
- (C) KH-225
- (D) KH-275
- (E) KH-325

XT Series

Introduction

XT Series slewing ring bearings are custom designs having a rectangular cross-section, and are available in sizes up to 218 inches OD (5500 mm). They are well suited for a wide range of applications where our standard product series do not meet your size, capacity, or weight requirements.



Design Features

The internal configuration consists of deep groove gothic arch raceways and maximum ball complement. This results in a four-point contact design which provides exceptional moment, thrust, and radial load capacities. Integral seals are provided to assist in the exclusion of contaminants.

XT Series bearings are available in internal geared, external geared, and non-geared configurations.

Availability

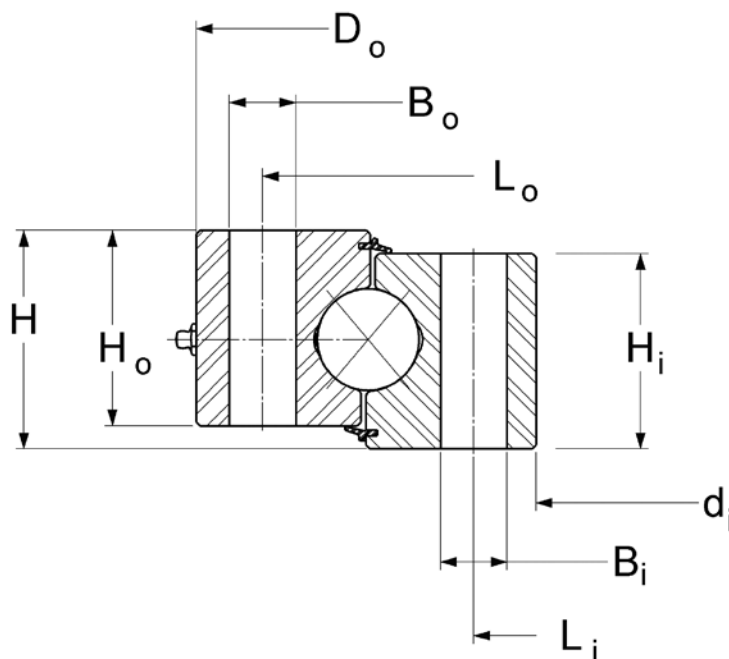
XT Series bearings are made to order, and can be customized for the specific application.

Applications

XT Series bearings have been used successfully in a wide range of applications, including:

- Cranes
- Aerial lifts
- Excavators
- Wind turbines
- Utility derricks
- Log loaders and feller bunchers
- Grapples
- Mining equipment

XT Series



No Gear

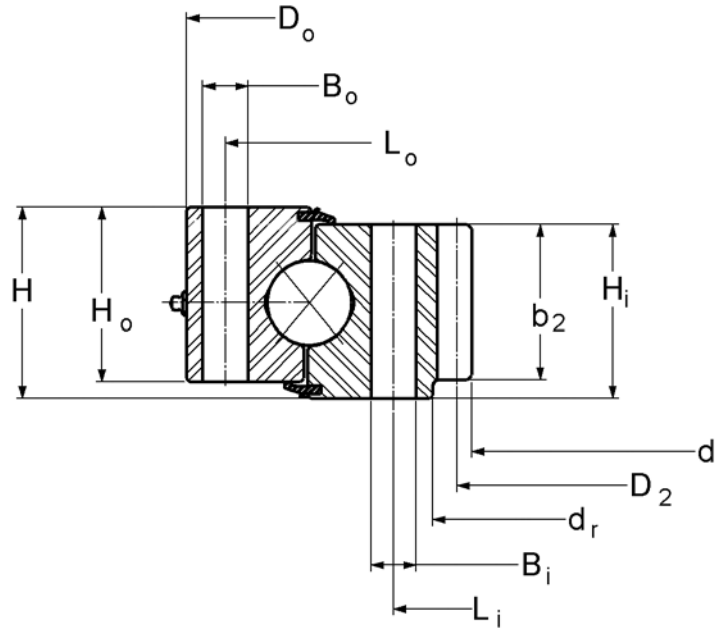
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT							
	D_o (in)	d_i (in)	H (in)	H_o (in)	H_i (in)	D_r^* (in)	d_r^* (in)	G APPROX. (lbs)
12740001	24.650	16.250	2.375	2.063	2.063	—	—	145
12750001	26.900	18.500	2.375	2.063	2.063	—	—	155
12770001	29.650	21.250	2.375	2.063	2.063	—	—	180
12775001	33.534	23.125	2.875	2.563	2.563	—	—	305
12780001	38.201	27.750	2.875	2.563	2.563	—	—	350
12785001	41.850	28.750	3.250	2.880	2.880	—	—	530
12790001	47.444	34.250	4.250	3.875	3.875	—	—	835
16289001	61.250	52.325	3.540	2.800	2.800	—	—	585
16389001	87.992	69.094	6.024	5.512	5.512	—	—	3,330
16290001	129.000	113.000	5.500	5.000	5.000	—	—	3,950
16291001	178.000	162.000	5.500	5.000	5.000	—	—	5,350

*No internal or external diameters for this type.

XT 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)			
22.250	16	0.813	17.750	20	0.813	—	—	—	—	—	—	—	159,000	
24.500	18	0.813	20.000	24	0.813	—	—	—	—	—	—	—	188,000	
27.250	24	0.813	22.750	28	0.813	—	—	—	—	—	—	—	232,000	
30.625	18	0.938	24.875	24	0.938	—	—	—	—	—	—	—	338,000	
35.250	24	0.938	29.500	28	0.938	—	—	—	—	—	—	—	443,000	
38.000	20	1.063	31.000	24	1.063	—	—	—	—	—	—	—	587,000	
43.875	24	1.188	36.250	28	1.188	—	—	—	—	—	—	—	873,000	
59.625	30	0.844	54.000	30	0.844	—	—	—	—	—	—	—	348,000	
83.543	52	1.535	73.543	52	1.535	—	—	—	—	—	—	—	3,675,000	
125.500	72	1.063	116.500	72	1.063	—	—	—	—	—	—	—	1,337,000	
174.500	96	1.063	165.500	96	1.063	—	—	—	—	—	—	—	2,258,000	

XT Series



Internal Gear

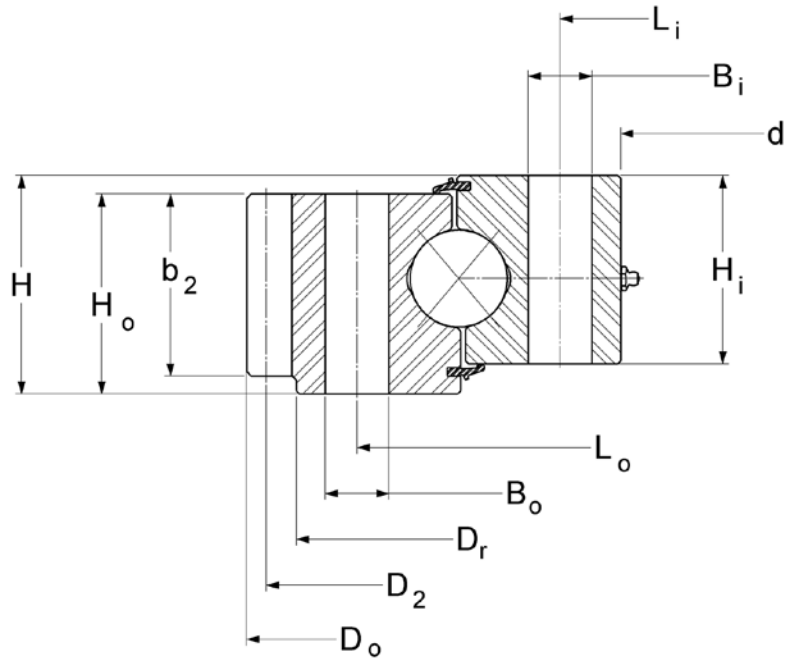
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT							
	D_o (in)	d_i (in)	H (in)	H_o (in)	H_i (in)	D_r^* (in)	d_r (in)	G APPROX. (lbs)
16292001	16.625	9.714	1.968	1.732	1.732	—	—	65
16293001	20.486	12.750	2.060	2.000	2.000	—	—	105
16294001	25.750	16.850	2.750	2.375	2.375	—	—	180
16295001	28.937	19.600	2.834	2.480	2.480	—	—	225
16296001	34.252	24.921	2.834	2.480	2.480	—	—	270
16390001	40.880	30.560	3.380	2.560	3.000	—	32.375	375
16374001	48.250	36.400	4.000	3.500	3.500	—	38.250	660
16297001	54.375	41.280	5.000	3.875	4.625	—	43.000	1,090
16298001	62.250	47.760	4.875	4.375	4.375	—	49.325	1,370
16299001	72.500	57.000	6.000	5.000	5.000	—	59.380	1,900
16300001	81.750	62.267	6.500	5.625	6.125	—	64.750	3,080
16301001	102.500	85.360	7.440	6.780	5.660	—	88.380	3,750
16302001	117.000	93.600	7.125	6.500	6.500	—	96.375	6,200
16303001	148.425	135.039	4.724	4.134	4.134	—	136.890	3,000
16304001	168.000	151.700	6.000	5.500	5.500	—	153.940	5,500

*No external diameters for this type.

XT 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)			
15.354	18	0.594	11.614	24	0.594	FS	10.000	5/7	50	0	1.732	7,800	71,800	
18.875	20	0.594	14.375	20	0.594	FS	13.000	5/7	65	0	2.000	8,800	81,300	
24.500	18	0.688	19.500	24	0.688	SD	17.250	4	69	0	2.375	12,750	143,000	
27.165	24	0.813	22.126	30	0.813	SD	20.000	4	80	0	2.480	13,250	244,000	
32.480	30	0.813	27.441	36	0.813	SD	25.250	4	101	-15	2.480	12,900	343,000	
39.250	40	0.813	33.750	40	0.813	SD	31.200	2.5	78	0	2.750	20,230	461,000	
46.125	30	0.938	39.875	36	0.938	FD	37.200	2.5	93	0	3.250	21,290	720,000	
52.500	48	0.938	45.250	48	0.938	SD	41.600	2.5	104	-40	3.000	24,900	1,131,000	
59.750	48	1.063	51.750	48	1.063	SD	48.400	2.5	121	0	4.312	38,500	1,650,000	
69.750	48	1.063	61.500	48	1.063	FD	58.000	2	116	0	4.500	46,600	1,831,000	
78.750	52	1.312	67.625	52	1.312	SD	63.333	1.5	95	0	5.000	75,450	3,764,000	
99.803	60	1.312	91.142	60	1.312	FD	86.667	1.5	130	0	5.500	81,500	3,457,000	
113.000	52	1.562	100.000	52	1.562	SD	94.667	1.5	142	0	4.750	69,900	6,125,000	
146.457	72	0.866	138.583	72	0.866	FD	135.827	(10)	345	0	3.543	25,300	1,013,000	
165.120	90	1.313	156.000	90	1.313	SD	152.500	2	305	0	5.000	45,400	3,003,000	

XT Series



External Gear

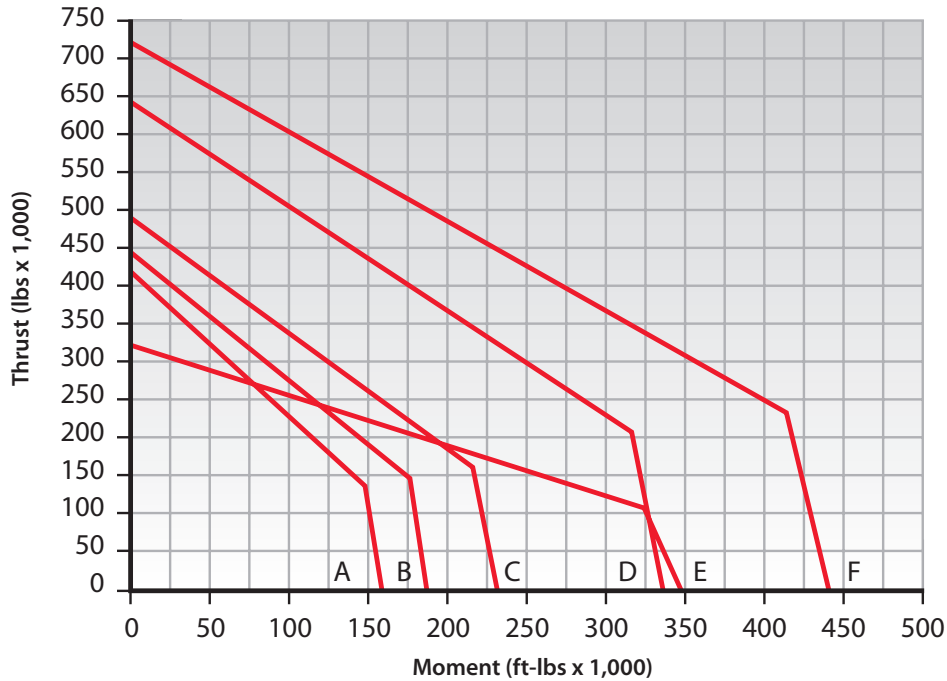
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT							
	D _o (in)	d _i (in)	H (in)	H _o (in)	H _i (in)	D _r (in)	d _r * (in)	G APPROX. (lbs)
16305001	9.500	4.813	1.344	1.141	1.141	—	—	15
16306001	21.286	12.438	2.812	2.656	2.656	—	—	140
16307001	30.457	19.000	3.625	3.250	3.250	—	—	330
12440001	39.400	29.500	3.875	3.031	3.031	38.375	—	390
16308001	50.640	37.750	4.000	3.620	3.620	—	—	770
12288001	54.300	42.000	4.625	3.625	3.625	52.250	—	770
16309001	56.240	41.370	4.750	3.850	4.400	—	—	1,133
16310001	61.300	47.125	5.875	4.688	4.688	59.375	—	1,420
16311001	75.000	54.500	6.500	5.875	5.875	72.560	—	2,865
16312001	85.067	66.750	7.120	6.500	6.620	82.120	—	3,410
16313001	98.800	78.400	6.625	6.000	6.000	98.000	—	4,000
16314001	134.331	118.110	5.512	5.000	5.000	130.984	—	3,600
16315001	170.079	146.850	6.024	5.512	5.512	—	—	8,030
16316001	196.850	173.622	7.000	6.250	6.250	192.716	—	10,100
16317001	218.268	197.244	5.512	5.039	5.039	216.142	—	8,700

*No internal diameters for this type.

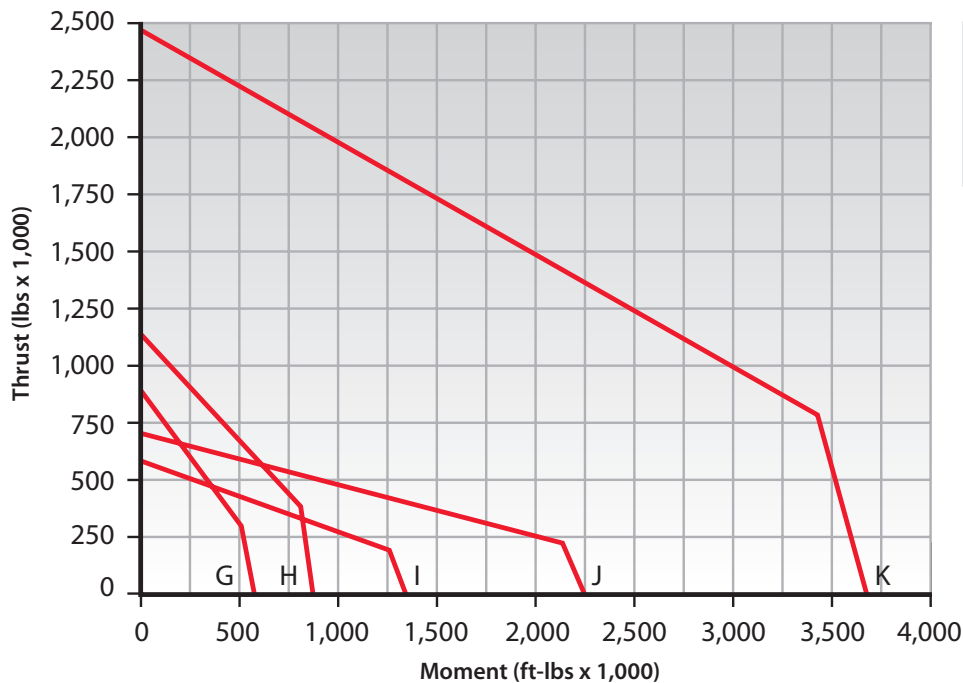
XT Series

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)			
8.188	12	0.354	5.500	12	0.354	FD	9.250	8	74	0	1.141	2,470	6,200	
19.156	16	0.813	13.750	18	0.813	FS	21.000	5/7	105	0	2.656	10,570	122,500	
27.375	30	0.813	20.625	29	0.813	SD	30.000	3.5	105	0	3.250	17,400	322,000	
36.750	36	0.813	31.250	39	0.813	SD	39.000	4	156	0	2.750	14,000	477,000	
47.000	30	1.031	40.000	29	1.031	SD	50.000	2.5	125	0	3.620	27,400	832,000	
50.375	30	1.062	44.125	36	1.062	SD	53.500	2	107	0	3.000	28,150	875,000	
52.000	28	1.313	44.000	28	1.313	SD	55.600	2.5	139	0	3.850	29,300	1,220,000	
57.375	40	1.063	49.250	44	1.063	SD	60.500	2	121	0	4.000	40,850	1,522,000	
70.250	40	1.313	58.500	40	1.313	FD	74.000	2	148	0	4.000	36,600	2,873,000	
80.125	48	1.313	69.250	48	1.313	SD	84.000	1.5	126	0	6.000	81,900	3,575,000	
94.250	72	1.562	82.500	60	1.812	SD	98.000	2	196	0	4.750	49,600	4,951,000	
128.976	72	1.260	120.512	72	1.260	FD	132.520	(18)	187	.28	4.724	61,800	2,070,000	
162.598	72	1.535	150.787	72	1.535	FD	168.504	(20)	214	0	5.512	80,500	4,176,000	
189.370	80	1.535	177.559	80	1.535	FD	195.276	(20)	248	0	5.512	81,000	5,210,000	
212.598	90	1.260	200.787	90	1.260	FD	217.323	(12)	460	0	3.780	31,100	3,190,000	

XT Series Load Charts - No Gear



- (A) 12740001
- (B) 12750001
- (C) 12770001
- (D) 12775001
- (E) 16289001
- (F) 12780001

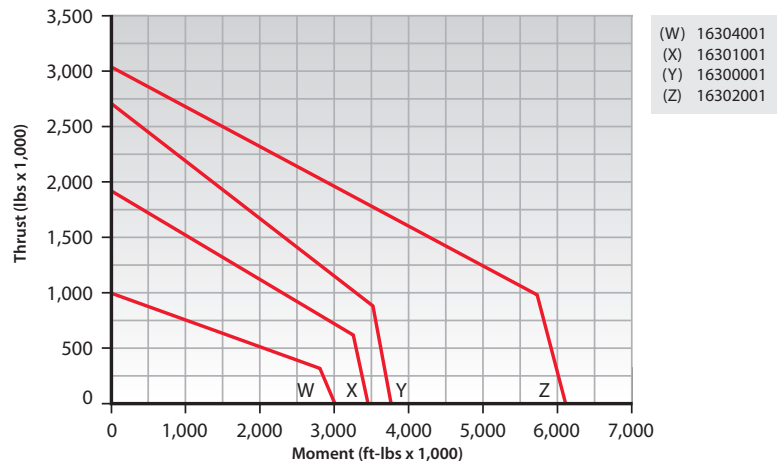
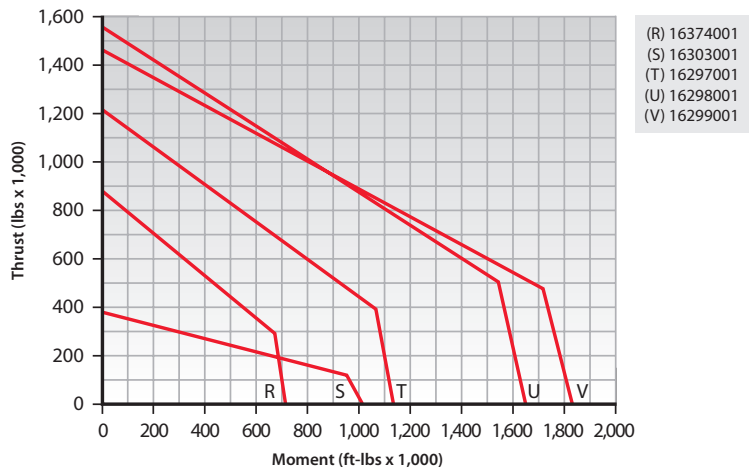
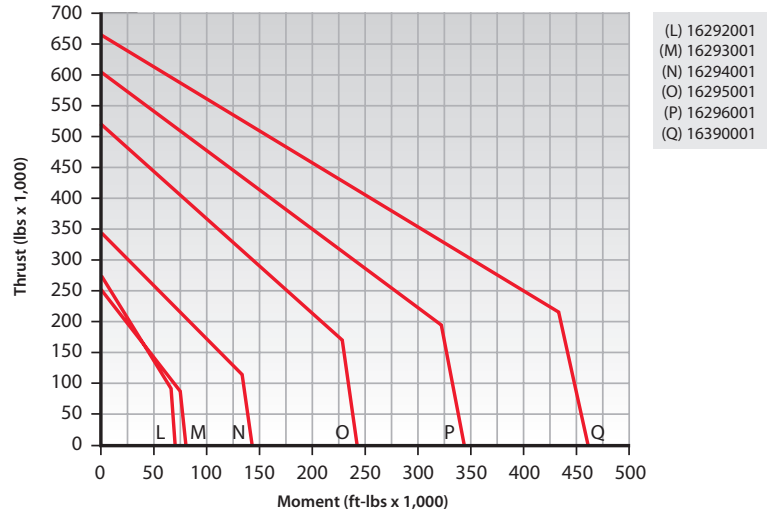


- (G) 12785001
- (H) 12790001
- (I) 16290001
- (J) 16291001
- (K) 16389001



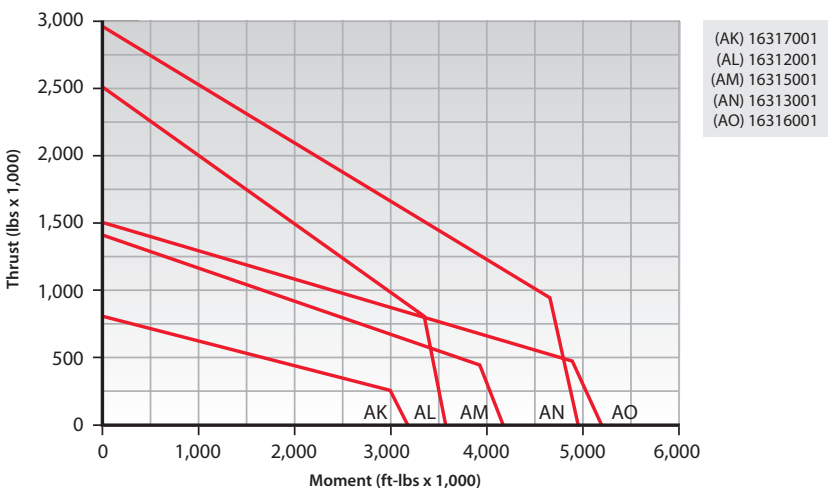
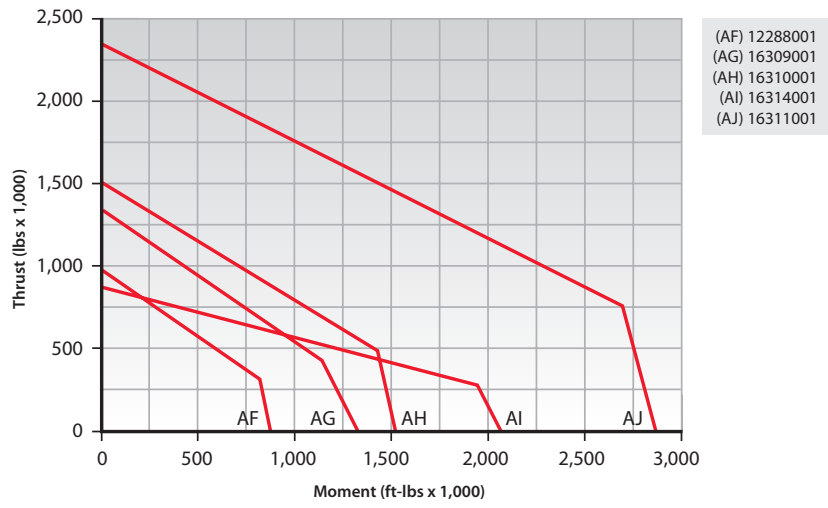
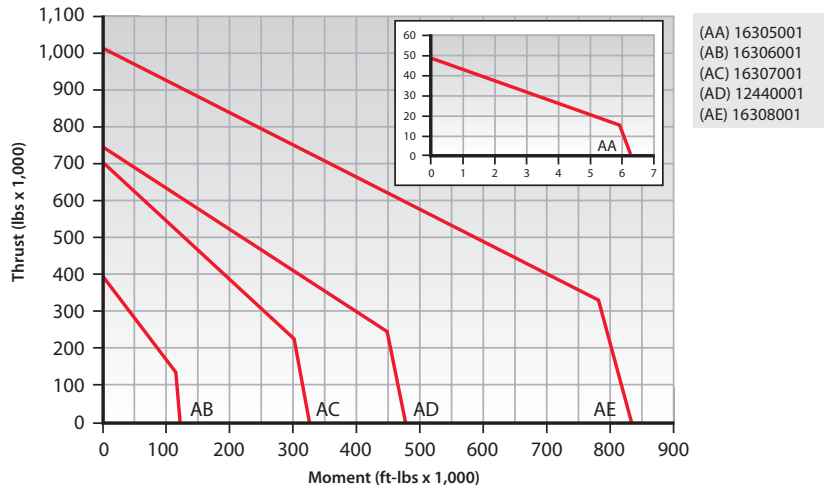
Rating Charts are only applicable for operating conditions defined as NORMAL OPERATION in Section 2 and when installed and maintained as defined in Section 3 of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements, ring section,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

XT Series Load Charts - Internal Gear



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.

XT Series Load Charts - External Gear



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

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

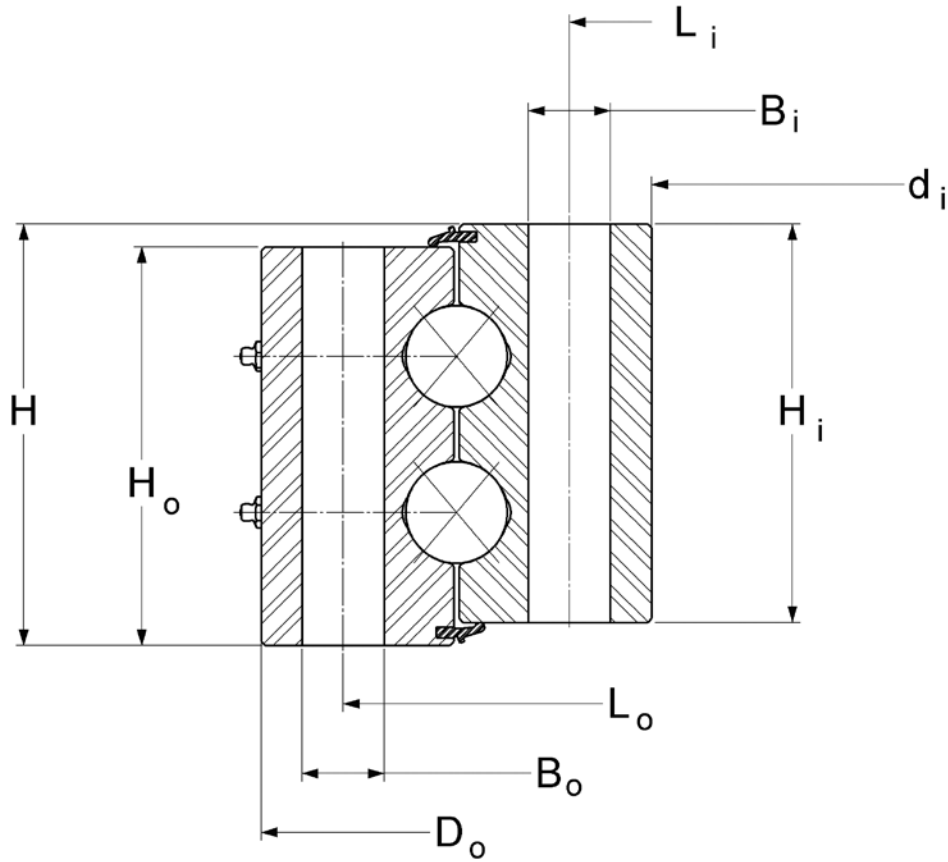
DT Series bearings are made to order with a fully customizable hole pattern for bearing retention, and an internal or external gear or other drive mechanism.

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

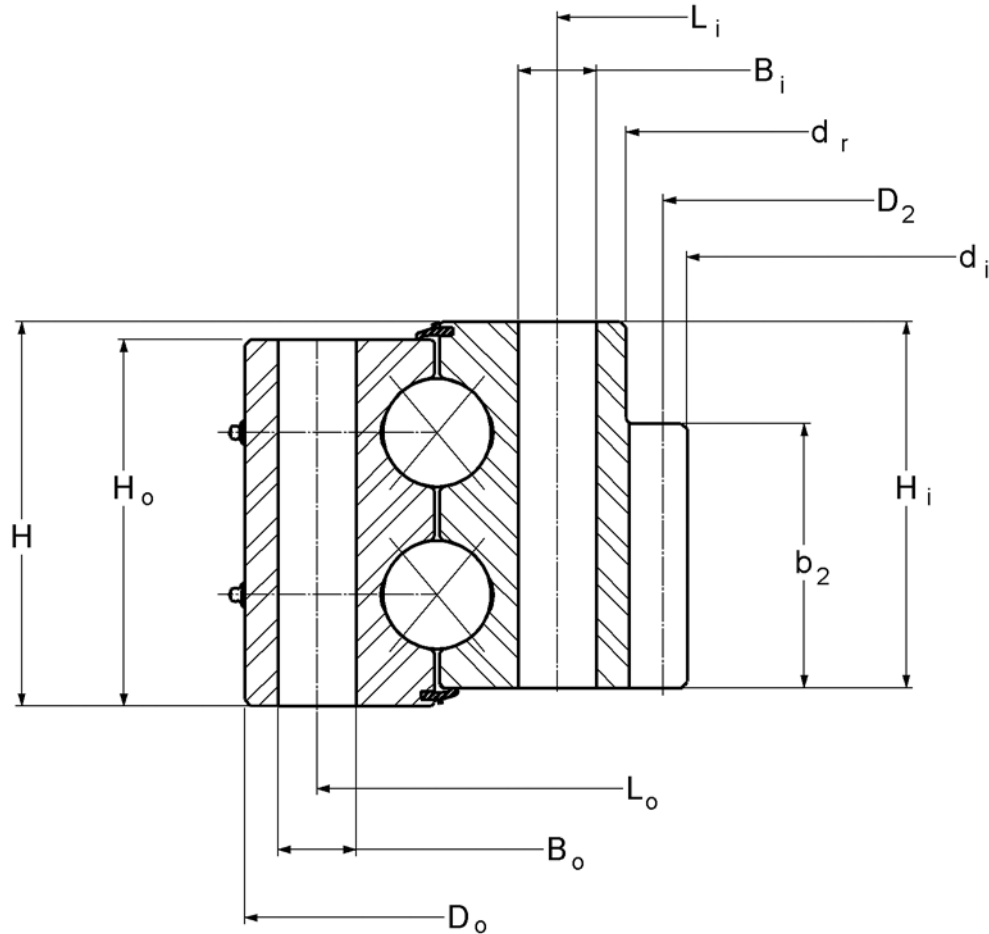
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT							
	D_o (in)	d_i (in)	H (in)	H_o (in)	H_i (in)	D_r^* (in)	d_r^* (in)	G APPROX. (lbs)
16282001	20.375	12.250	4.500	4.185	4.185	—	—	210
16283001	29.750	18.620	7.000	6.500	6.551	—	—	645
16284001	41.417	30.236	7.480	6.890	6.890	—	—	1,060
16015001	56.250	43.750	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

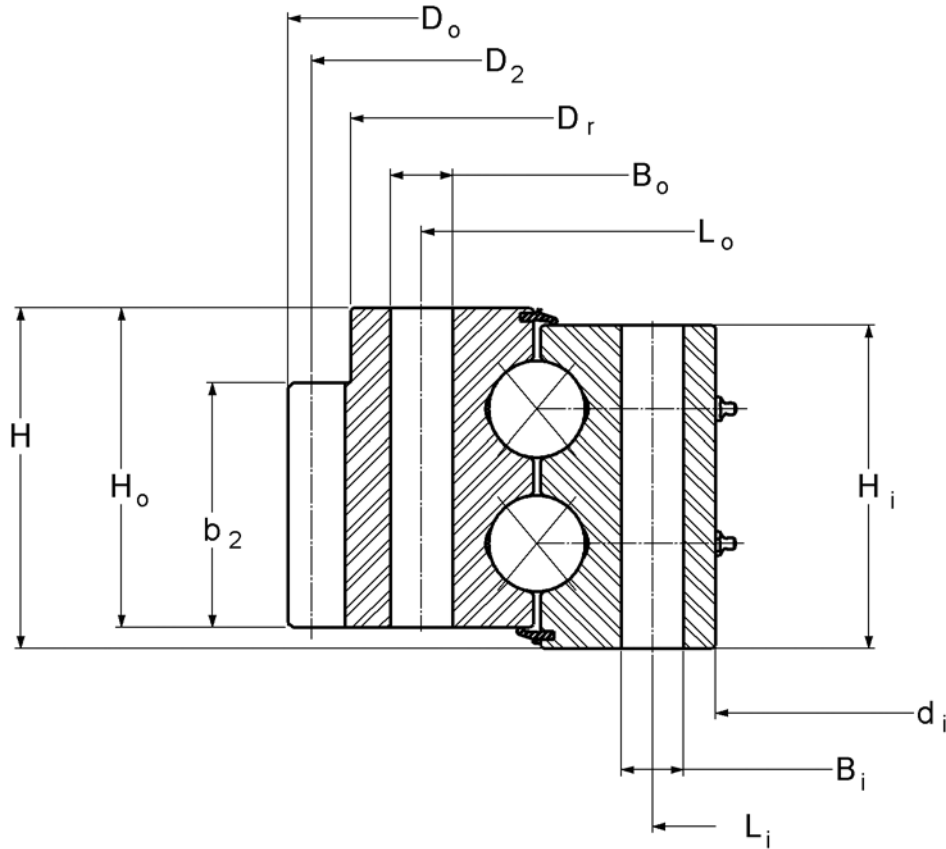
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT							
	D _o (in)	d _i (in)	H (in)	H _o (in)	H _i (in)	D _r * (in)	d _r (in)	G APPROX. (lbs)
16274001	56.693	43.661	5.472	5.118	5.118	—	46.142	1,200
16275001	66.000	47.600	8.000	7.625	7.625	—	50.125	2,820
16276001	70.500	50.200	8.625	8.312	8.312	—	52.125	3,700
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

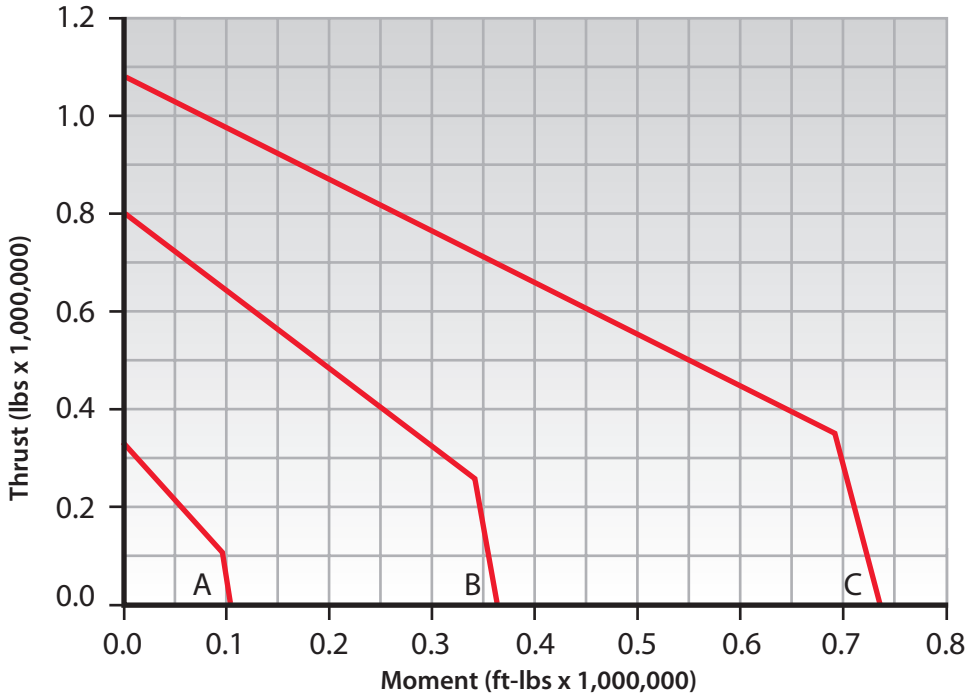
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT							
	D _o (in)	d _i (in)	H (in)	H _o (in)	H _i (in)	D _r (in)	d _r * (in)	G APPROX. (lbs)
16258001	17.086	10.250	3.313	3.000	3.000	17.086	—	105
16264001	50.016	38.504	5.512	5.157	4.567	48.425	—	870
16265001	56.240	41.370	7.125	6.688	6.688	54.675	—	1,730
16266001	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.

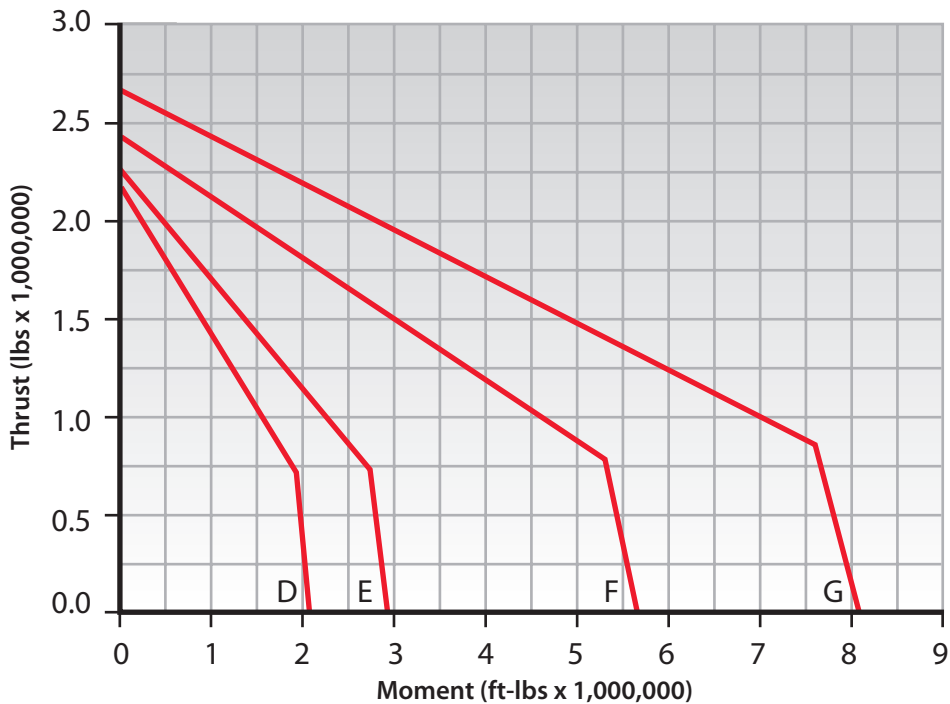
DT Series

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

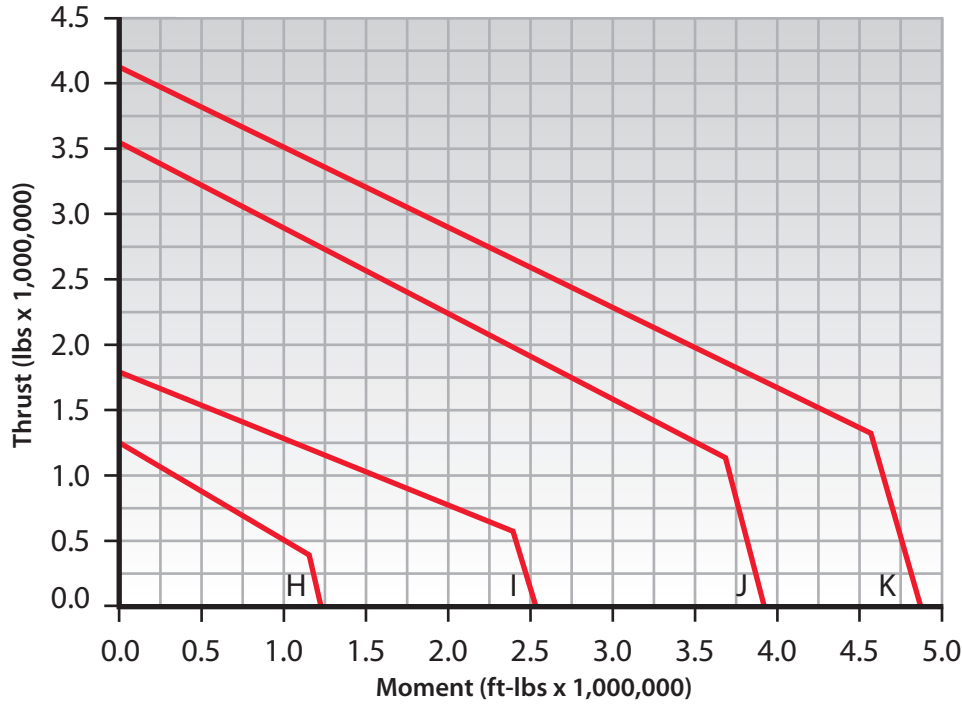


- (D) 16015001
- (E) 16285001
- (F) 16286001
- (G) 13004001

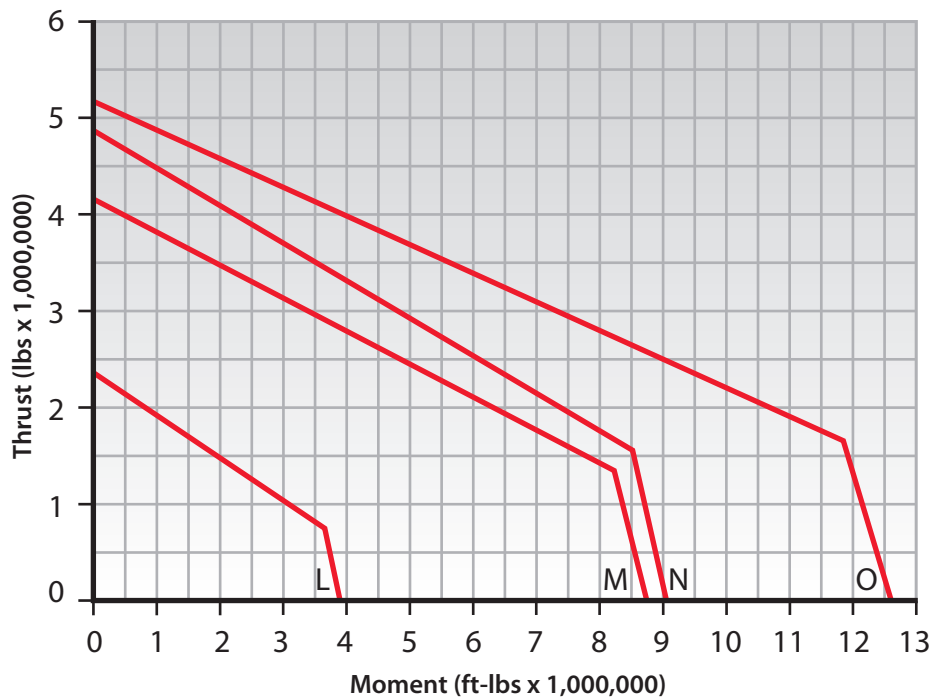


Rating Charts are only applicable for operating conditions defined as **NORMAL OPERATION** in [Section 2](#) and when installed and maintained as defined in [Section 3](#) of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements,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

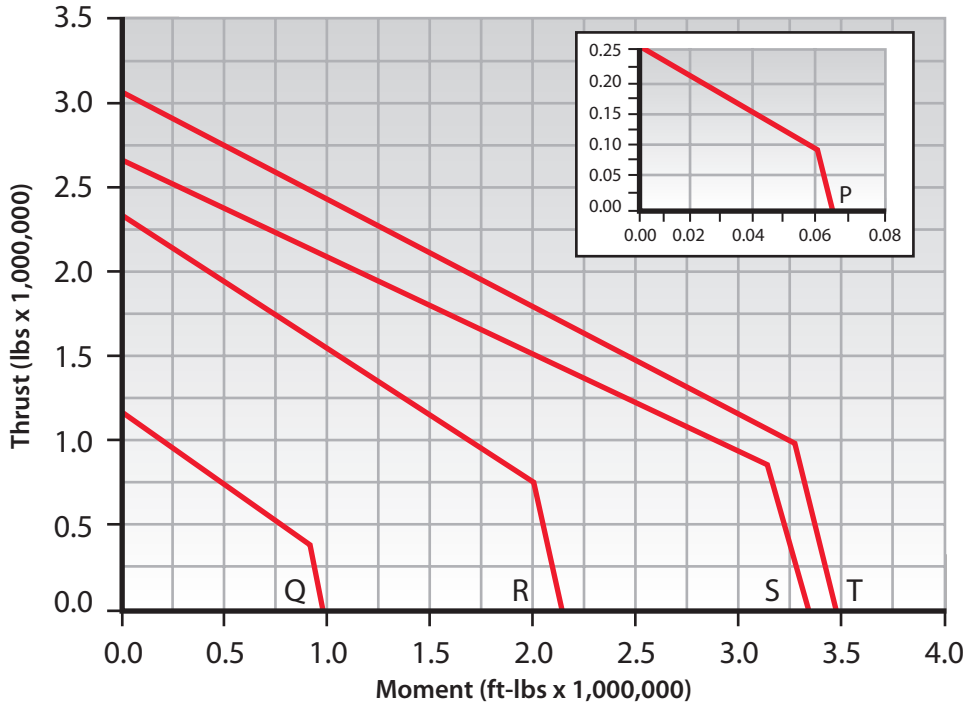


- (L) 16278001
- (M) 16280001
- (N) 16279001
- (O) 16281001

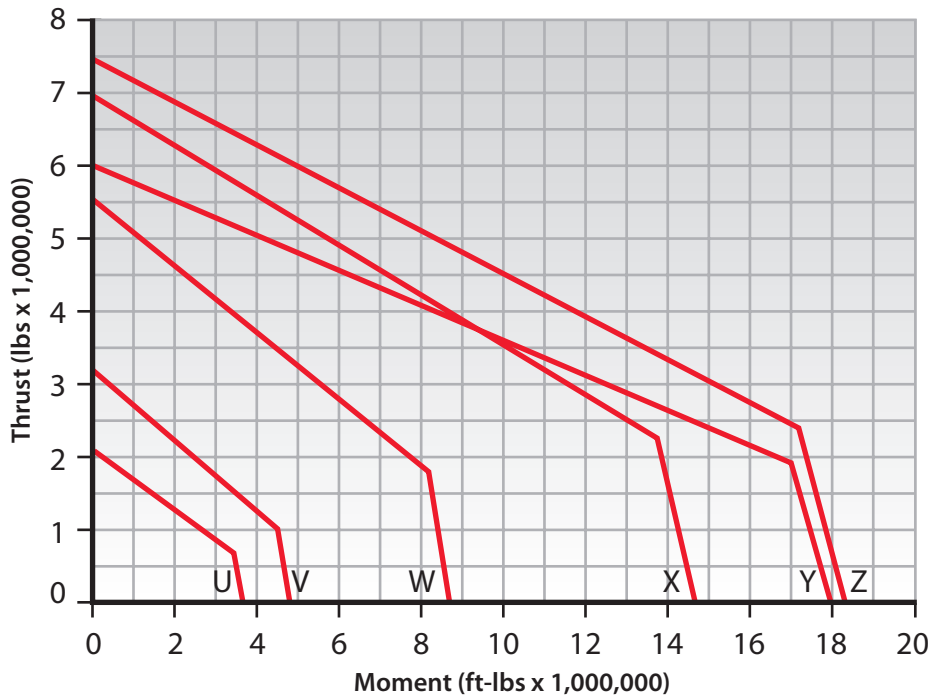


Rating Charts are only applicable for operating conditions defined as **NORMAL OPERATION** in [Section 2](#) and when installed and maintained as defined in [Section 3](#) of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements,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



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



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

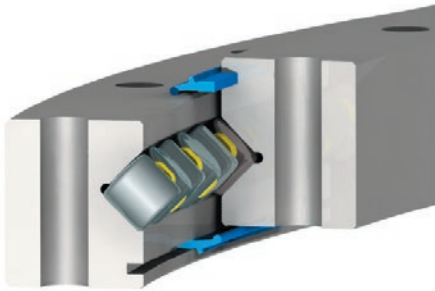


Rating Charts are only applicable for operating conditions defined as **NORMAL OPERATION** in [Section 2](#) and when installed and maintained as defined in [Section 3](#) of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements,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

XR Series

Introduction

The XR Series consists of Kaydon cross roller bearings. They provide a high degree of stiffness and low rotational torque within a minimal envelope. This design should be considered when a four-point contact ball bearing does not meet the operating performance requirements for torque and stiffness.



Design Features

The internal configuration consists of cylindrical rollers in a v-shaped groove in each ring. The rollers are oriented with alternating axes of rotation. Positioned in this manner, the bearing accepts all combinations of radial, thrust, and moment loads. Rotational torque is less than a four-point contact ball design because each roller only transmits load in a single direction, and the greater contact area and geometry of a roller versus a ball provides a higher degree of stiffness and rigidity.

A roller of approximately the same size as a ball has greater load-carrying ability. However, because not all the rollers are oriented in one direction, their thrust and moment load capacity is less than that of a four-point ball bearing.

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

Availability

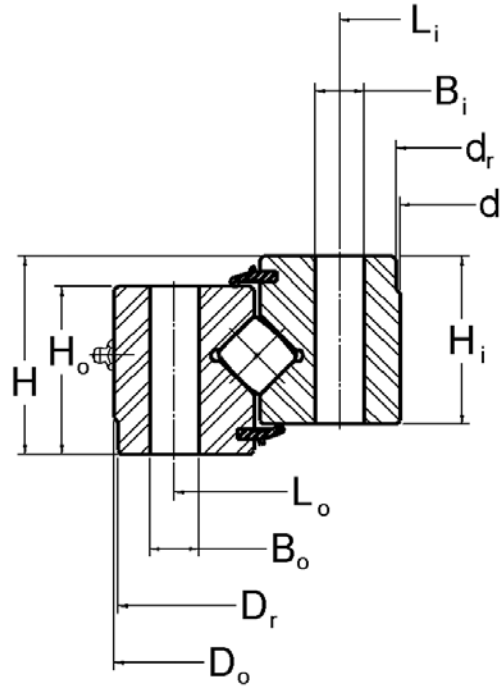
XR Series bearings are custom manufactured to fit the design and specification.

Applications

XR Series bearings have been used successfully in applications requiring extra stiffness with a low torque requirement including:

- Radar
- Military turrets
- Machine tools
- Tunnel boring machines

XR Series



No Gear

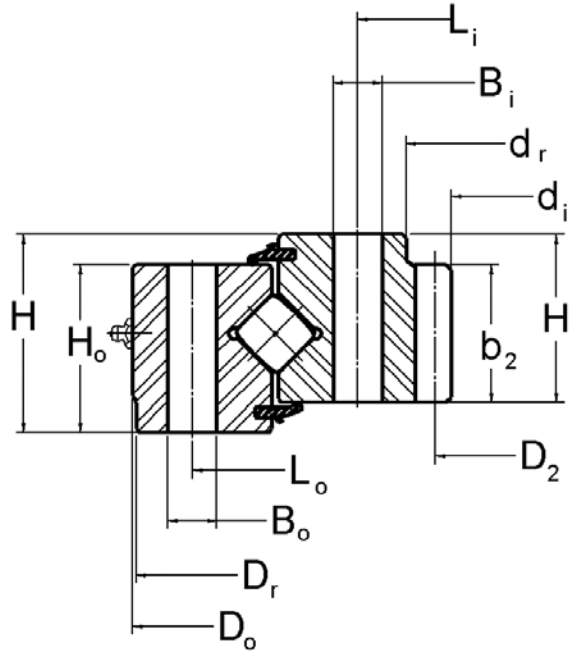
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT								HOLE DATA					
									OUTER RING			INNER RING		
	D_o (in)	d_i (in)	H (in)	H_o (in)	H_i (in)	D_r (in)	d_r (in)	G APPROX. (lbs)	L_o (in)	n_o	B_o (in)	L_i (in)	n_i	B_i (in)
16318001	11.811	5.512	1.417	1.181	1.181	—	—	30	10.630	6	M16x2	6.693	6	M16x2
16319001	15.886	9.055	2.165	1.772	1.850	—	—	65	14.094	24	0.512	10.197	24	0.512
16320001	27.362	18.779	3.031	2.520	2.244	27.283	18.897	185	25.197	28	0.709	20.000	28	0.709
16321001	35.312	26.625	2.953	2.863	2.863	35.251	26.750	325	34.000	24	1/2-13	29.000	24	0.590
16322001	46.250	34.250	4.250	3.880	3.880	—	34.380	765	44.000	28	1-8	36.250	28	1.063
16323001	56.380	46.770	3.820	3.470	3.430	56.295	46.850	710	40.000	36	0.813	33.875	36	3/4-16
16324001	85.000	74.000	3.750	3.250	3.250	84.880	74.120	1,190	83.000	42	0.938	76.000	42	0.938
16325001	95.000	82.000	4.000	3.500	3.500	94.875	82.063	1,660	93.000	48	1.063	85.000	48	1.063
16326001	131.890	112.205	7.874	6.496	7.087	131.250	120.866	6,500	127.559	40	M36x3	116.535	40	1.496
16327001	158.661	140.945	8.819	6.654	6.654	—	—	6,400	155.315	92	1.654	144.291	92	1.654

Note: Capacities are dynamic and based on an L_{10} life of 1 million revolutions per ABMA Std 11-1990. Values listed do not apply simultaneously. Ring cross section and bolted joint configuration used may result in lower bearing capacity ratings.

XR Series

TOOTH FORM	GEAR DATA $\alpha = 20^\circ$					GEAR TOOTH RATING F_z (lbs)	DYNAMIC CAPACITIES 1 MILLION REVOLUTIONS L_{10} LIFE		
	D_2 (in)	P_d or (m)	z_2	x_2	b_2 (in)		RADIAL (lbs)	THRUST (lbs)	MOMENT (ft-lbs)
—	—	—	—	—	—	—	19,150	22,340	7,530
—	—	—	—	—	—	—	36,850	42,830	20,140
—	—	—	—	—	—	—	64,560	73,730	65,660
—	—	—	—	—	—	—	81,310	91,980	116,170
—	—	—	—	—	—	—	235,420	270,010	425,900
—	—	—	—	—	—	—	209,680	237,380	482,960
—	—	—	—	—	—	—	267,330	300,410	956,430
—	—	—	—	—	—	—	362,100	407,250	1,450,300
—	—	—	—	—	—	—	762,050	858,130	4,185,500
—	—	—	—	—	—	—	723,870	812,130	4,879,900

XR Series



Internal Gear

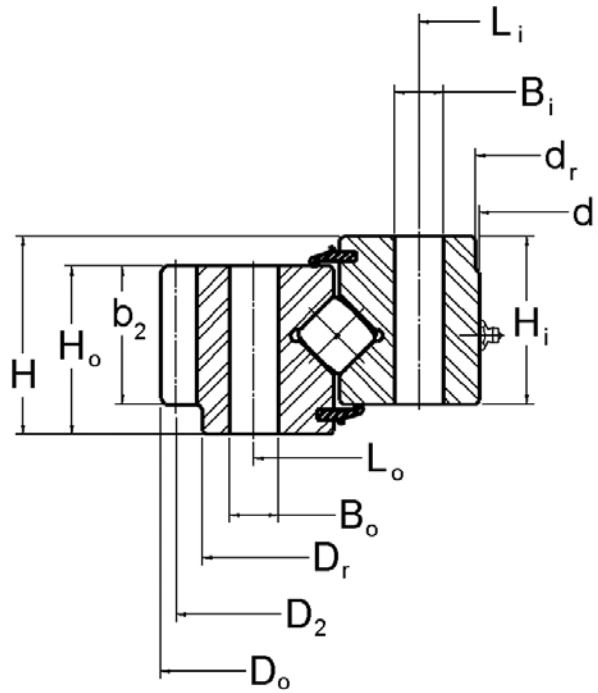
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT								HOLE DATA					
									OUTER RING			INNER RING		
	D _o (in)	d _i (in)	H (in)	H _o (in)	H _i (in)	D _r (in)	d _r (in)	G APPROX. (lbs)	L _o (in)	n _o	B _o (in)	L _i (in)	n _i	B _i (in)
16328001	26.700	18.667	2.500	2.000	2.000	—	—	130	24.500	18	1/2-13	20.500	18	1/2-13
16329001	36.000	24.160	3.880	3.380	3.380	—	—	465	33.250	24	0.813	27.250	30	3/4-10
16330001	41.500	30.320	4.190	3.370	4.000	—	32.360	510	40.000	36	0.807	33.500	36	3/4-16
16331001	41.970	30.828	3.350	2.560	2.950	41.929	—	400	39.961	24	M20x2.5	34.646	24	M20x2.5
16332001	54.740	44.400	4.500	3.750	4.130	—	46.380	500	53.000	36	0.922	48.000	36	7/8-14
16333001	78.819	62.913	5.906	4.921	4.921	—	65.157	2,050	76.575	48	1.181	67.520	48	1.181
16334001	114.000	95.000	6.000	5.500	5.500	—	97.500	4,250	111.000	48	1.063	100.000	48	1-8
16335001	121.496	97.717	6.772	6.299	6.299	—	—	6,080	117.795	72	1.535	105.512	72	1.535
16336001	142.000	123.200	6.000	5.500	5.500	—	—	5,370	139.000	72	1.063	128.000	72	1.063

Note: Capacities are dynamic and based on an L₁₀ life of 1 million revolutions per ABMA Std 11-1990. Values listed do not apply simultaneously. Ring cross section and bolted joint configuration used may result in lower bearing capacity ratings.

XR Series

TOOTH FORM	GEAR DATA						GEAR TOOTH RATING F_z (lbs)	DYNAMIC CAPACITIES		
	$\alpha = 20^\circ$							1 MILLION REVOLUTIONS L_{10} LIFE		
	D_2 (in)	P_d or (m)	z_2	x_2	b_2 (in)	RADIAL (lbs)		THRUST (lbs)	MOMENT (ft-lbs)	
FD	19.000	6	114	0	2.000	6,345	64,620	73,810	65,430	
SD	24.800	2.5	62	0	3.380	27,300	157,900	181,900	213,180	
FD	30.800	2.5	77	-400	3.500	27,600	220,820	254,250	362,220	
FD	31.102	(10)	79	-625	2.950	22,820	125,790	142,740	211,160	
FD	45.200	2.5	113	0	3.750	28,600	205,410	232,690	460,450	
FD	63.307	(12)	134	-500	4.528	40,350	406,070	459,660	1,315,740	
FD	96.000	2	192	0	5.000	54,550	500,930	563,230	2,389,570	
FD	98.268	(24)	104	-708	6.299	134,270	755,820	854,030	3,797,780	
SD	124.000	2	248	0	5.500	50,440	675,310	758,460	4,057,130	

XR Series



External Gear

Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT								HOLE DATA					
	D_o (in)	d_i (in)	H (in)	H_o (in)	H_i (in)	D_r (in)	d_r (in)	G APPROX. (lbs)	OUTER RING			INNER RING		
									L_o (in)	n_o	B_o (in)	L_i (in)	n_i	B_i (in)
16337001	16.000	9.190	2.170	1.770	1.850	14.880	9.250	55	14.094	24	0.562	10.197	24	0.562
16338001	23.333	13.750	2.750	2.500	2.500	—	—	175	20.875	12	0.688	15.375	12	0.688
16339001	27.362	18.780	3.030	2.520	2.240	26.380	18.900	180	25.197	18	0.688	20.000	18	0.688
16340001	33.627	26.535	2.205	1.752	1.752	—	—	140	30.906	36	M12x1.75	27.480	40	0.551
16341001	36.333	24.500	4.690	4.310	3.880	35.500	24.625	580	33.625	24	0.813	26.125	24	0.813
16342001	45.050	34.180	3.930	3.360	3.470	42.840	34.250	470	41.338	24	0.866	35.826	24	0.866
16343001	51.040	40.000	4.000	3.500	3.500	—	—	680	48.200	36	0.813	41.800	36	0.813
16344001	63.150	47.480	5.118	4.409	4.409	61.063	47.559	1,420	58.819	36	1.023	50.394	36	1.023
16345001	70.510	53.540	5.040	4.330	4.330	—	—	1,460	65.354	42	1.063	55.906	42	1.063
16346001	85.866	75.250	3.300	2.800	2.800	—	—	920	82.750	48	0.813	77.250	48	0.813
16347001	100.667	84.000	6.500	6.500	4.000	98.750	84.250	3,240	95.000	48	1-8	87.000	48	1.063
16348001	159.843	141.732	6.142	5.748	5.748	—	—	5,480	154.528	100	1.299	144.685	100	1.299
16393001	209.843	188.583	7.047	6.417	6.024	206.299	188.858	9,750	202.362	100	1.299	191.339	100	1.299

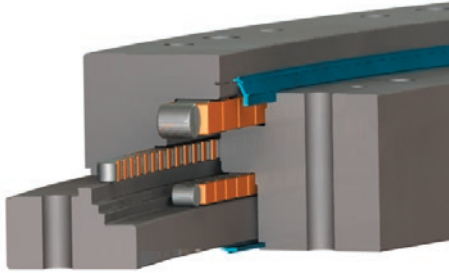
Note: Capacities are dynamic and based on an L_{10} life of 1 million revolutions per ABMA Std 11-1990. Values listed do not apply simultaneously. Ring cross section and bolted joint configuration used may result in lower bearing capacity ratings.

XR Series

TOOTH FORM	GEAR DATA					GEAR TOOTH RATING F_z (lbs)	DYNAMIC CAPACITIES		
	$\alpha = 20^\circ$						1 MILLION REVOLUTIONS L_{10} LIFE		
	D_2 (in)	P_d or (m)	z_2	x_2	b_2 (in)		RADIAL (lbs)	THRUST (lbs)	MOMENT (ft-lbs)
FD	15.600	5	78	0	1.460	4,320	24,130	27,780	13,190
FD	23.000	6	138	0	2.500	7,430	85,170	99,260	69,470
FD	26.969	(5)	137	0	1.650	5,725	64,560	73,730	65,660
FD	33.071	(8)	105	0	1.752	9,130	58,790	66,360	77,600
FD	36.000	6	216	0	4.000	12,700	204,020	236,880	274,290
FD	43.701	(10)	111	+0.713	2.580	15,490	128,480	145,650	223,060
SD	50.400	2.5	126	0	3.500	24,380	195,710	222,290	396,330
FD	61.811	(10)	157	+0.750	3.346	20,640	350,400	399,710	861,070
FD	68.346	(14)	124	+1.150	4.330	36,690	293,690	332,590	801,340
SD	85.333	3	256	0	2.800	18,280	190,740	213,890	686,710
FD	100.000	3	300	0	6.000	32,030	376,230	422,960	1,557,670
FD	158.110	(16)	251	+0.500	5.748	67,650	724,030	812,320	4,874,640
FD	206.929	(18)	292	+1.150	6.102	81,360	1,005,010	1,126,290	8,903,140



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

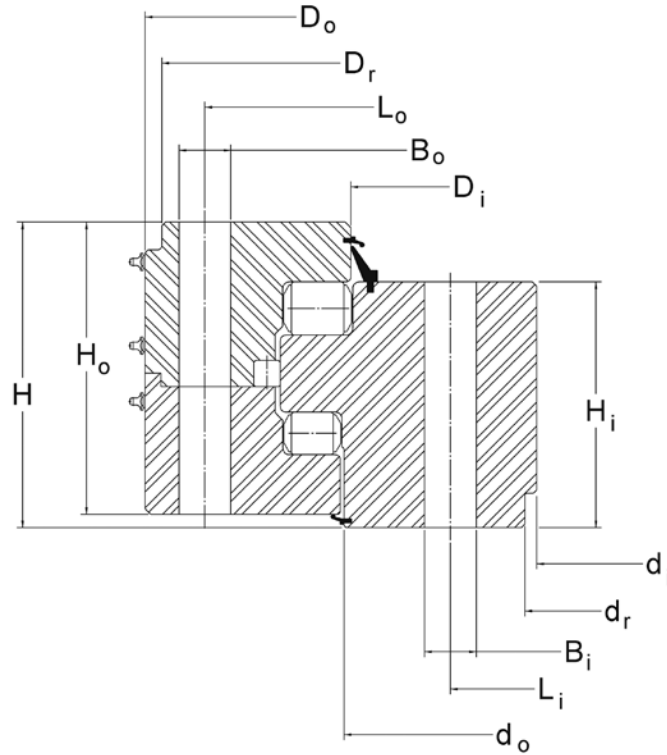
TR Series bearings are custom manufactured to fit the design and specification.

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



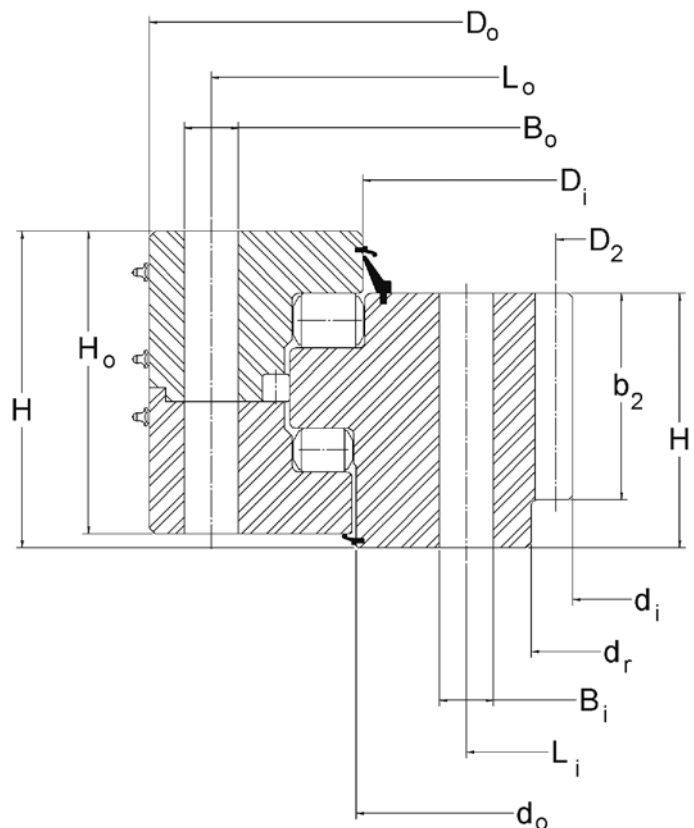
No Gear

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

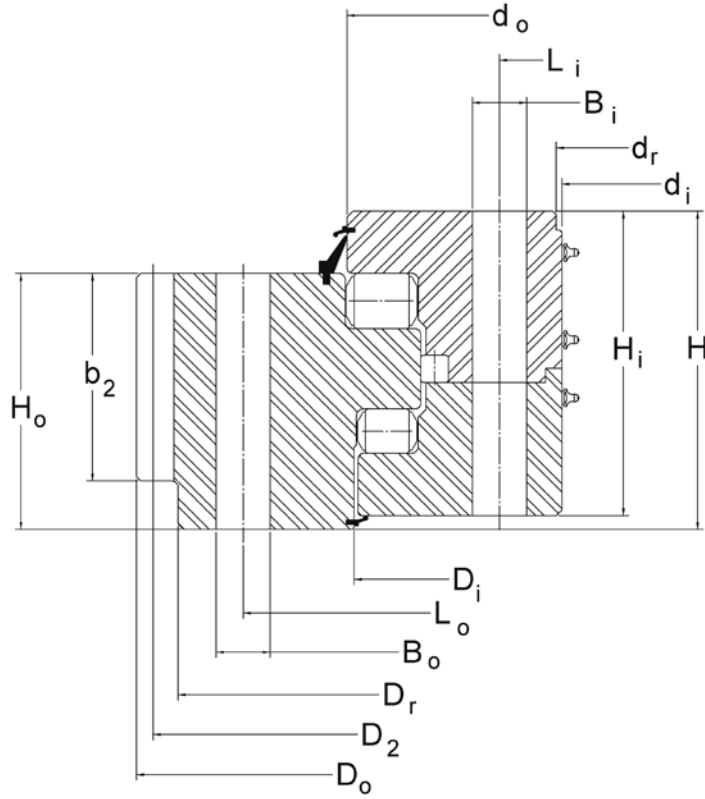
Kaydon P/N	OUTLINE DIMENSIONS AND WEIGHT									
	D_o	d_i	H	H_o	H_i	D_r^*	D_i	d_o	d_r	G APPROX.
	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(lbs)
16376001	54.530	41.760	4.720	4.410	3.700	—	48.150	48.390	43.380	950
16377001	64.173	46.850	7.874	7.283	6.299	—	54.803	54.567	—	2,650
16378001	70.500	50.200	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			$\alpha = 20^\circ$							
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)		
52.953	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



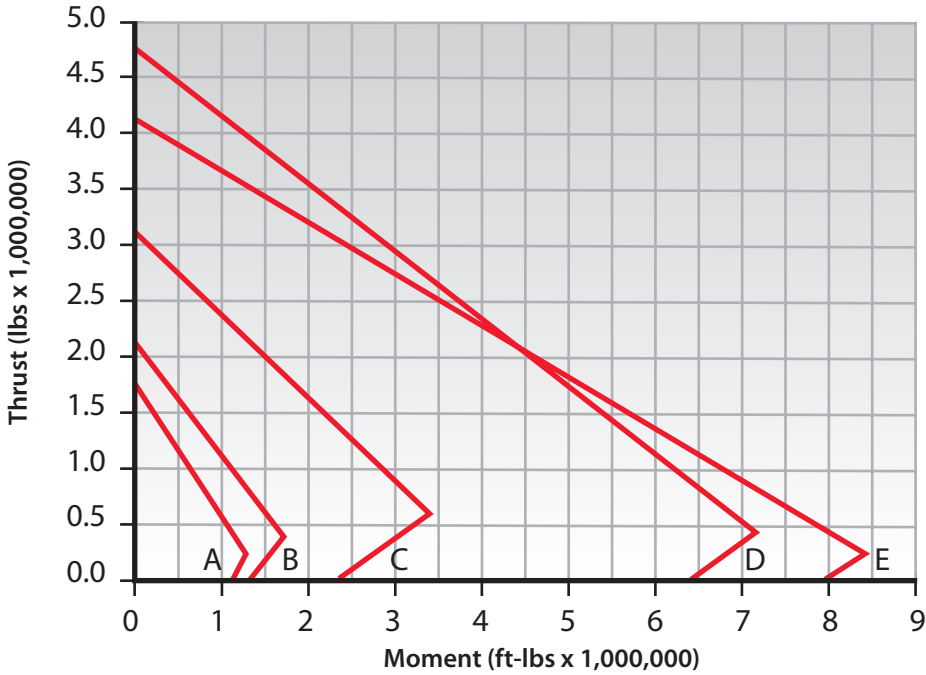
External Gear

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

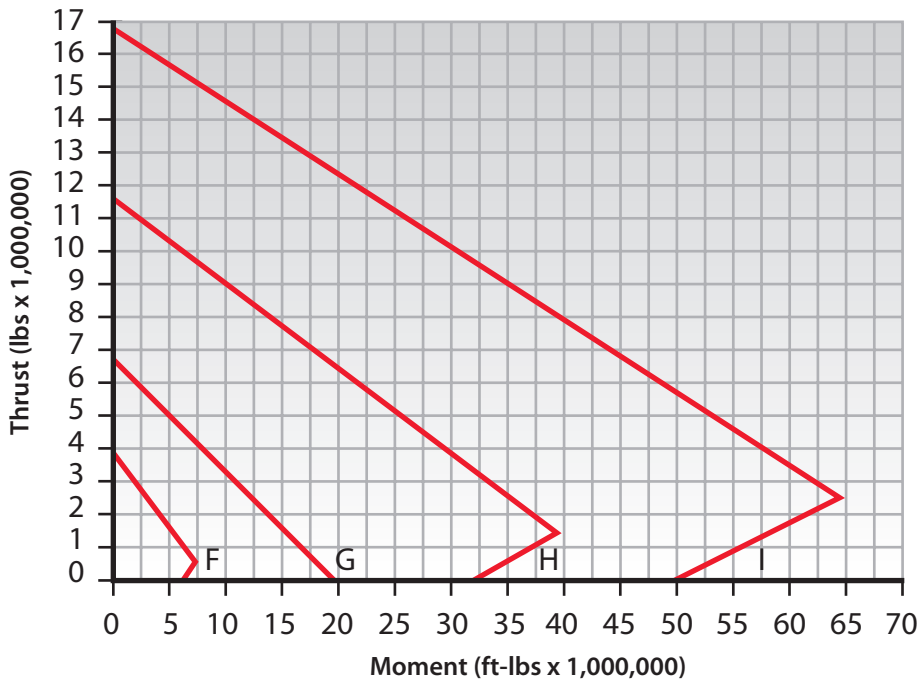
TR Series

HOLE DATA							GEAR DATA						GEAR TOOTH RATING 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

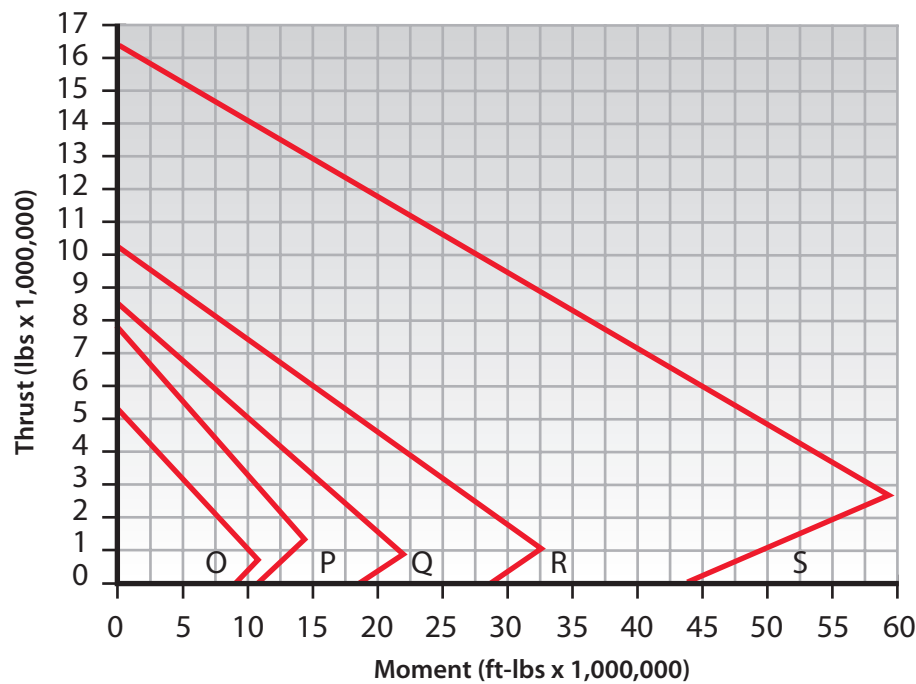


Rating Charts are only applicable for operating conditions defined as NORMAL OPERATION in Section 2 and when installed and maintained as defined in Section 3 of this catalog. Bearing diameter increase does not necessarily ensure bearing rating increase due to variations in rolling elements, ring section,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

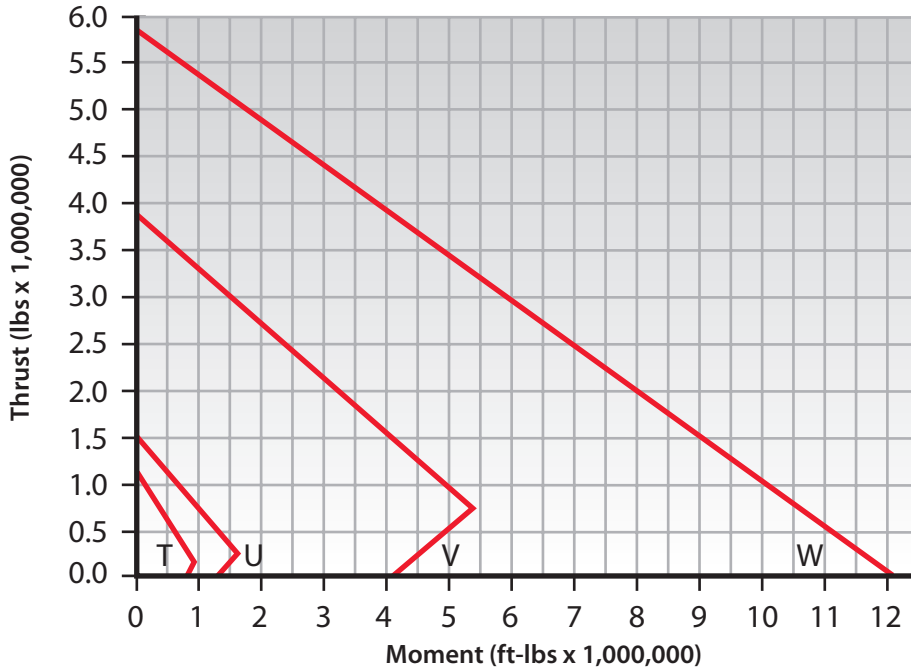


- (O) 16382001
- (P) 16381001
- (Q) 16383001
- (R) 16384001
- (S) 16385001

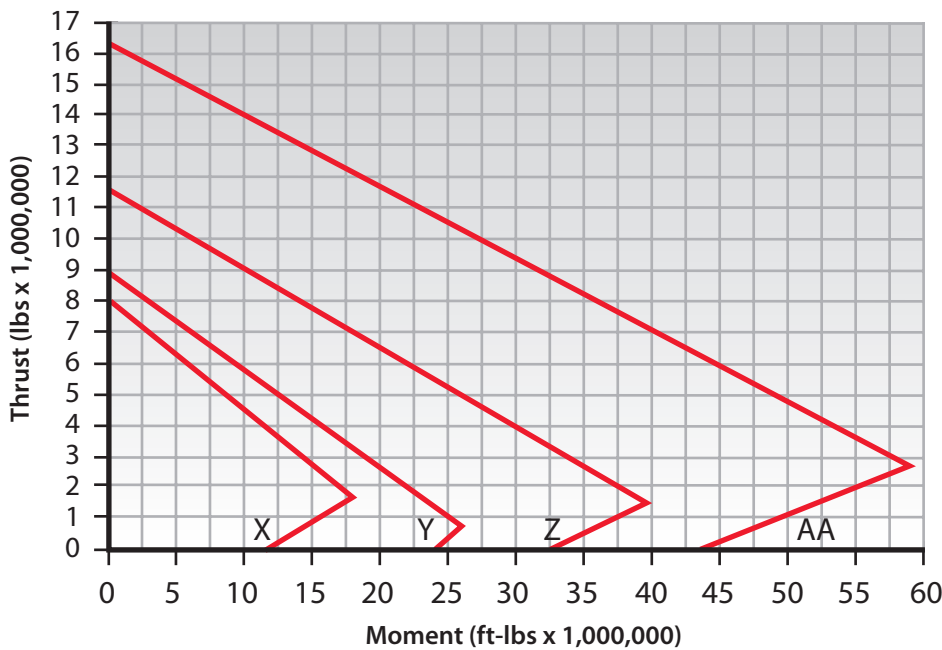


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TR Series Load Charts – External Gear



(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.

