

Model: 30 & 30D



HĒCO GEAR
Planetary Speed Reducers for Industry

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Heco Gear Warranty Information

1. Heco Inc. (“Heco”), dba HECO GEAR, warrants its Products to be free from defects in material and workmanship for a period of twelve (12) months from the date of first use or eighteen (18) months from the date of manufacture, whichever occurs first.
2. Any Heco Product Buyer claims to be defective must be returned by Buyer to Heco for inspection by Heco factory personnel at Heco’s factory. Buyer’s sole remedy with respect to any defective Product shall be replacement or repair of the part or Product determined to be defective by Heco’s factory inspection, at Heco’s option.
3. Heco Warranty does not apply to any Product that has been disassembled or modified in any way outside of Heco’s factory or to failures due to reasons other than defects such as accidents or misuse.
4. Any alterations or modifications made to the Product (other than those made by Heco) shall render this Warranty null and void. No oral or written information or advice given by Heco, its dealers, distributors, agents or employees will create a warranty or in any way increase the scope of the limited warranty set forth herein, and Buyer may not rely on any such information or advice.

THIS IS THE SOLE AND ONLY WARRANTY OF HECO AND NO OTHER WARRANTY IS APPLICABLE, EITHER EXPRESSED OR IMPLIED, IN FACT OR BY LAW, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE, WHICH WARRANTIES ARE EXPRESSLY WAIVED BY BUYER.

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Application Data Sheet

It is recommended that applications be submitted to Heco Engineering using the Application Data Sheet which can be found at www.hecogear.com/public/application_datasheet.asp Heco Engineers can estimate speed reducer life for your specific application, however, testing the speed reducer in the specific application by the customer will determine actual life.

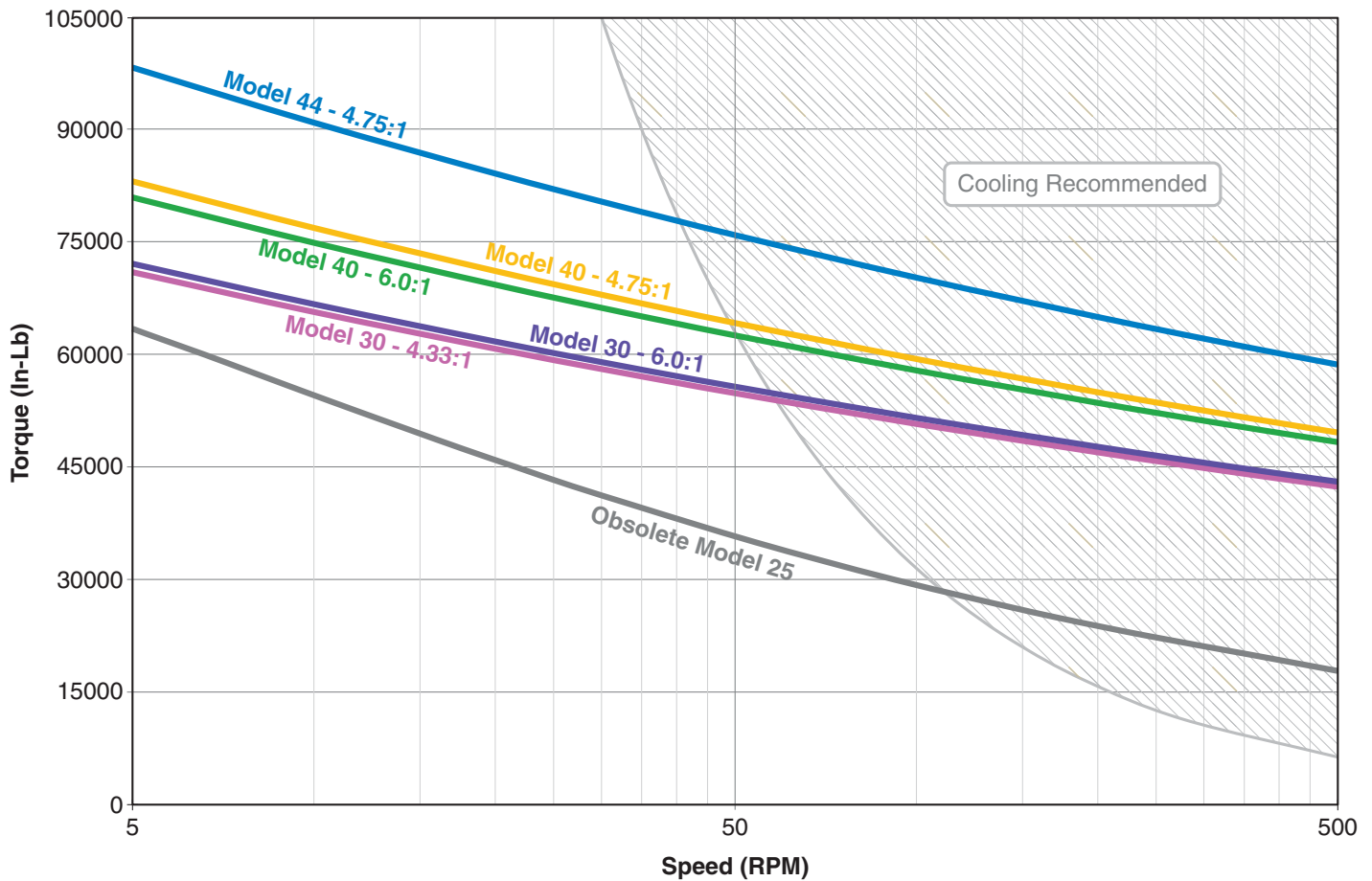
Approximate Model Weights

Mounting Flange	Single Reduction	Double Reduction
30FF	205 lbs	230 lbs
30CF	145 lbs	165 lbs
30AF	150 lbs	170 lbs
40FF	213 lbs	238 lbs
40CF	153 lbs	173 lbs
40AF	158 lbs	178 lbs

*Specifications and dimensions contained in this brochure may be changed at any time. For the most up-to-date information consult the Heco Gear web site at www.hecogear.com.

Model 30, 40, & 44 Performance Data

Operating Torque Vs. Speed Chart



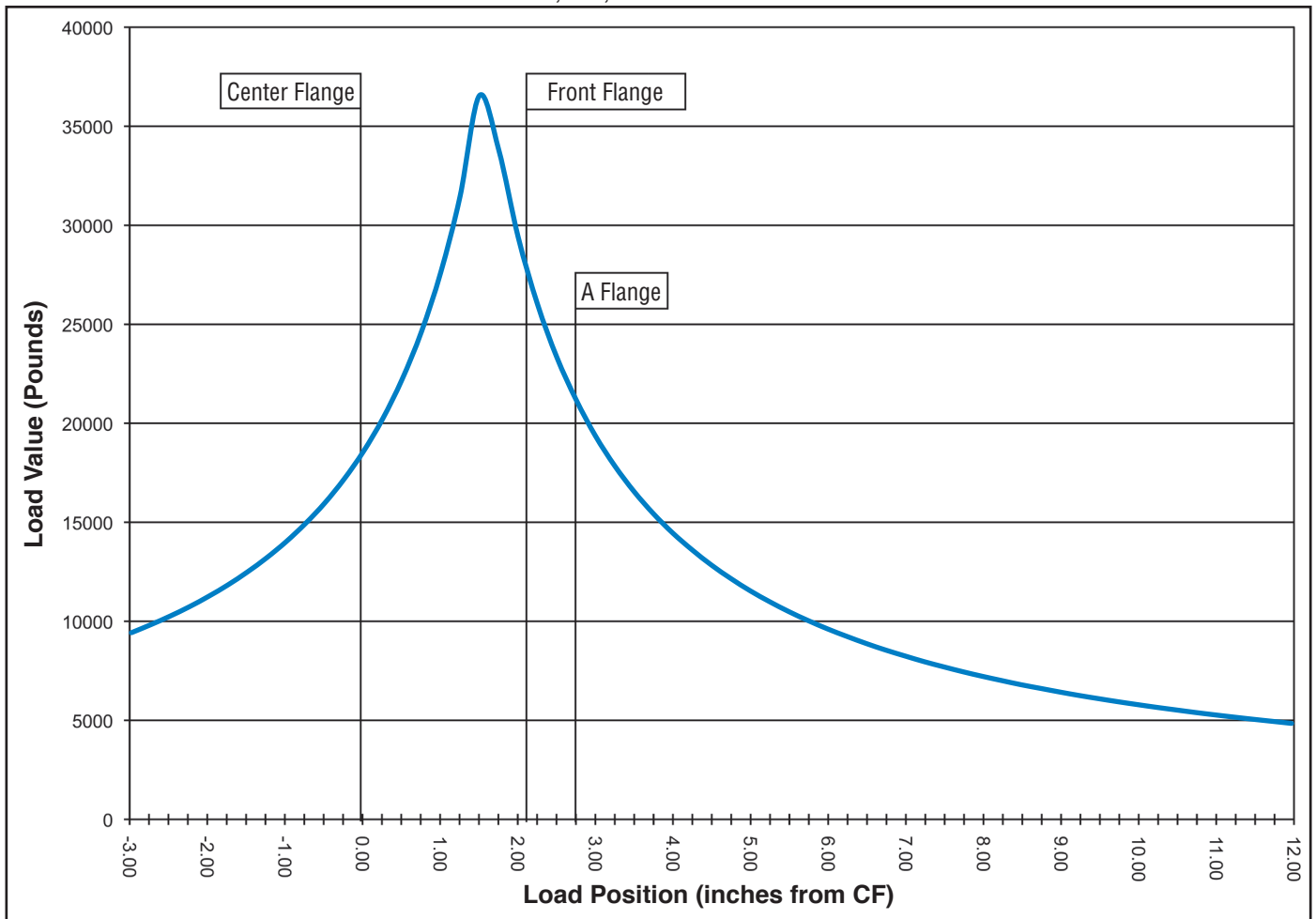
Model	Single Reduction	Double Reduction
Max. Speed	500 RPM	150 RPM
30	4.33:1	17.32:1
		22.52:1
40 / 44	4.75:1	19.0:1
		24.7:1
30 / 40	6.0:1	24.0:1
		31.2:1

- The Load vs Speed chart above was generated by HECO GEAR testing using AGMA 7S-EP Synthetic gear lubrication and is an indication of the capacity of the HECO Model 30 & 40 Series Speed Reducers.
- The table shown right details the available single and double reduction ratios. Operating torque & speed capacity for double reduction units is the same as shown in the chart for their corresponding single reduction albeit with a lower maximum speed.

- Reducer life is dependent on the duty cycle of the specific customer application and may vary based on the application and proper lubrication. Actual reducer life can only be determined by testing the selected reducer in the specific customer application.
- Consult Heco Engineering for applications where torques exceed the above torque curve for short durations.
- Cooling may be required to maintain the **225°F** max. operating temperature of the gearbox depending on duty cycle. The "Cooling Recommended" region of the chart represents **50HP** and above for reference only. Cooling can be achieved using flow through lubrication with a heat exchanger or by adding external air/liquid cooling.

Output Shaft Bearing Radial Load Curve

Model 30 & 40 Output Bearing Life Curve
3000 Hours at 100 RPM (L10 Life)
18,000,000 Revolutions



Oil Recommendations

Oil with EP (Extreme Pressure) additives are crucial to life of a Reducer. ISO VG-460 EP, AGMA 7 EP Gear Lubes are formulated from the most premium base fluids and combined with exclusive additive technology to improve performance and extend speed reducer life.

ISO VG-460 EP, AGMA 7S EP, PAO Synthetic gear oil is the premier gear oil for heavy duty gear drive applications. It is the recommended oil for Heco Reducers and is the oil used when generating Heco Gear performance data. Consult your oil provider for alternate recommendations.

When using a bearingless hydraulic motor or “Flow Through” lubrication, where hydraulic oil flowing from the hydraulic motor lubricates the speed reducer, an ISO 68 hydraulic oil with EP1 additives and a minimum of 0.125% zinc anti-wear additive should provide adequate speed reducer lubrication.

Maximum oil temperature should not exceed 160°F (71°C) for continuous operation or 180°F (82°C) for intermittent operation.

Consult Heco Gear for applications requiring use of non-petroleum based or fire retardant lubrication.

Model Codes & Ordering Information

Model 30 – Speed Reducer Model Code

Code	Description	Code	Description
1 - Mounting Flange Base Model		3 - Motor Adapters	
30FF	Front Flange	3	SAE B - 2&4 Bolt Combination
30AF	"A" Flange	4	SAE A - 2&4 Bolt Combination
30CF	Center Flange	6	SAE C - 2&4 Bolt Combination
2 - Output Shaft Options		7	SAE D - 4 Bolt
1	2.750" Straight Keyed	4 - Ratios	
11	3.375" Straight Keyed	4	4.8:1
2	Flanged Shaft	6	6.0:1
22	Flanged Shaft with 5/8" Studs	5 - Design Number	
4	23 Tooth 8/16 Spline	1	Current Design
7	Flanged Shaft with Threaded Holes	6 - Special Options	
		Axx	Will Be Noted By "Axx"
		A22	Nickel Plated Shaft & Seal Carrier

Sample Model 30 Code

1	2		3	4		5		6
25CF	11	-	6	6	-	1	-	

Model 30 – Sungear Kit Model Code

30F4	4.8:1 Ratio Charlynn 4000 Bearingless	30I6	6.0:1 Ratio 1 1/4" - 14 Tooth Spline
30F6	6.0:1 Ratio Charlynn 4000 Bearingless	30K6	6.0:1 Ratio 1 3/4" - 13 Tooth 8/16 Spline
30G4	4.8:1 Ratio Charlynn 6000 Bearingless	30L4	4.8:1 Ratio 17 Tooth 12/24 Spline
30G6	6.0:1 Ratio Charlynn 6000 Bearingless	30L6	6.0:1 Ratio 17 Tooth 12/24 Spline
30I4	4.8:1 Ratio 1 1/4" - 14 Tooth Spline		

Note: Mounting bolts and O-rings or gaskets are included.

Model 30D – Speed Reducer Model Code

Code	Description	Code	Description
1 - Mounting Flange Base Model		3 - Motor Adapters	
30DFF	Front Flange	0	SAE B - 4 Bolt
30DAF	"A" Flange	4	SAE A - 2&4 Bolt Combination
30DCF	Center Flange	5	SAE B - 2 Bolt
2 - Output Shaft Options		6	SAE C - 2&4 Bolt Combination
1	2.750" Straight Keyed	4 - Ratios	
11	3.375" Straight Keyed	25	24.96:1
2	Flanged Shaft	31	31.2:1
22	Flanged Shaft with 5/8" Studs	5 - Design Number	
4	23 Tooth 8/16 Spline	2	Current Design
7	Flanged Shaft with Threaded Holes	6 - Special Options	
		Axx	Will Be Noted By "Axx"
		A22	Nickel Plated Shaft & Seal Carrier

Sample Model 30D Code

1	2		3	4		5		6
30DCF	1	-	0	31	-	2	-	A22

Model 30D – Sungear Kit Model Code

16B	7/8" - 13 Tooth Spline	16F	Charlynn 4000 Bearingless
16C	1" - 15 Tooth Spline	16H	1 1/4" Straight Keyed
16D	1" Straight Keyed	16I	1 1/4" - 14 Tooth Spline
16E	Charlynn 2000 Bearingless	16M	1" SAE 6B Spline

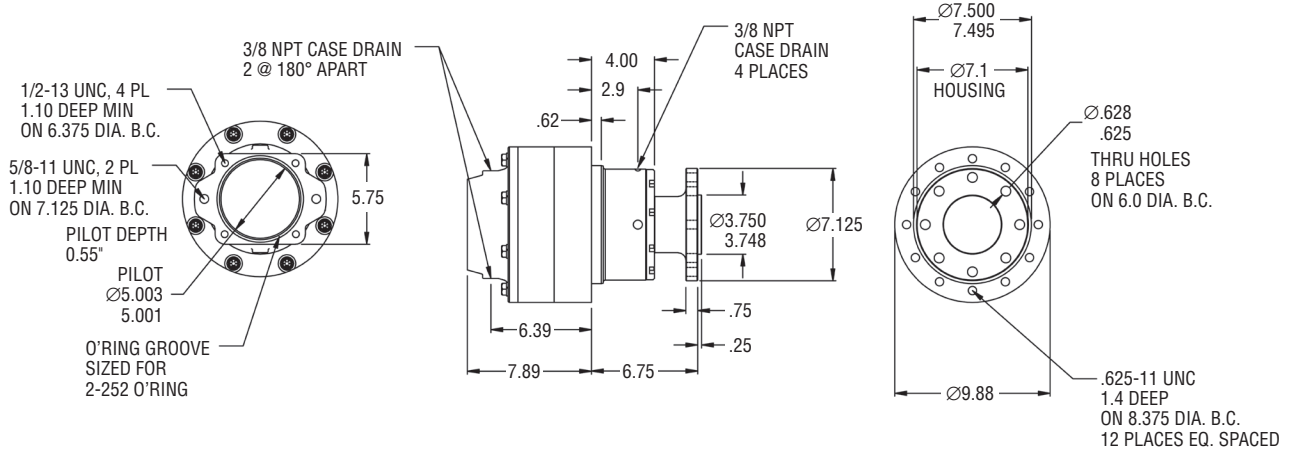
Note: Mounting bolts and O-rings or gaskets are included.

Model 30 & 40 Installation Dimensions

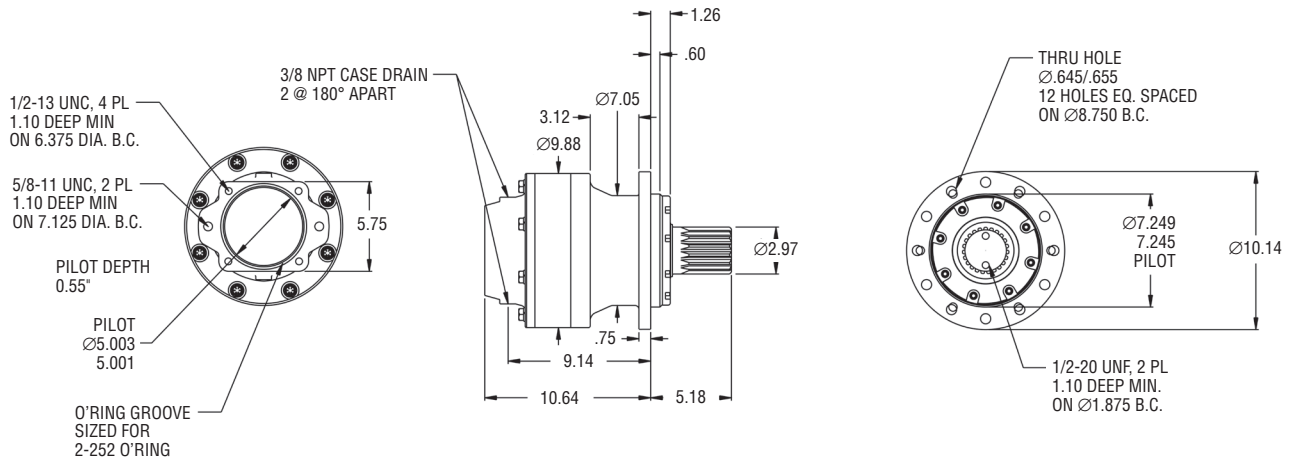
65,000 in-lbs Peak Operating Torque
6.0 or 4.8 to 1 Ratio

30,000 lb. Maximum Radial Load
350 RPM Maximum Output Speed

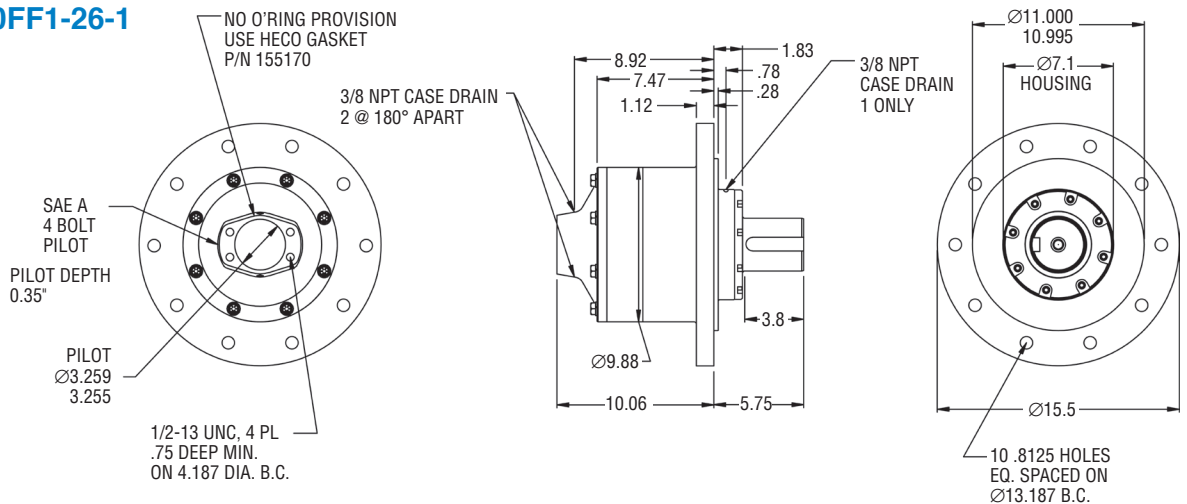
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Model 30AF1-66-1



Model 30FF1-26-1

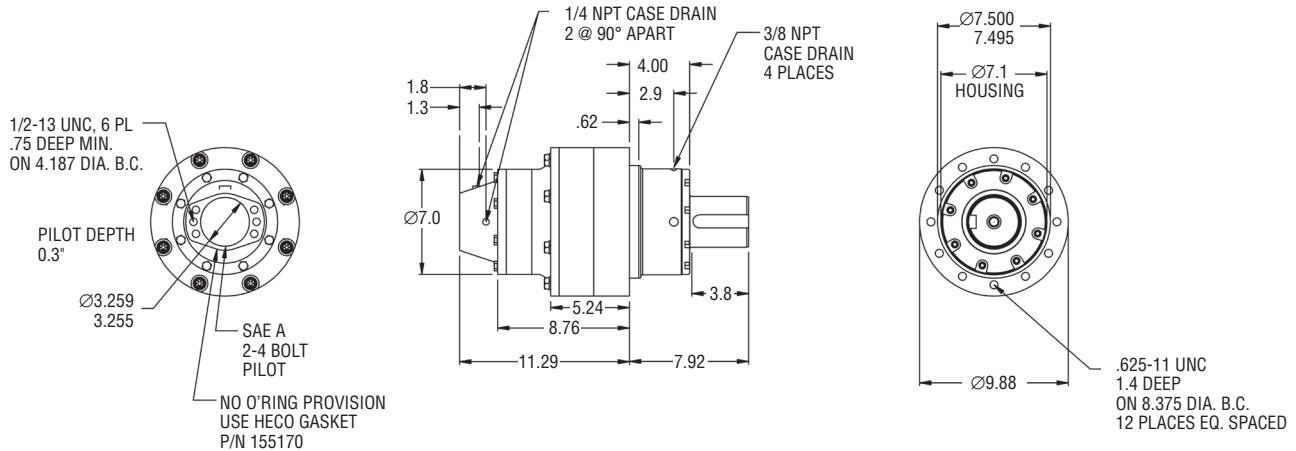


Model 30D&40D Installation Dimensions

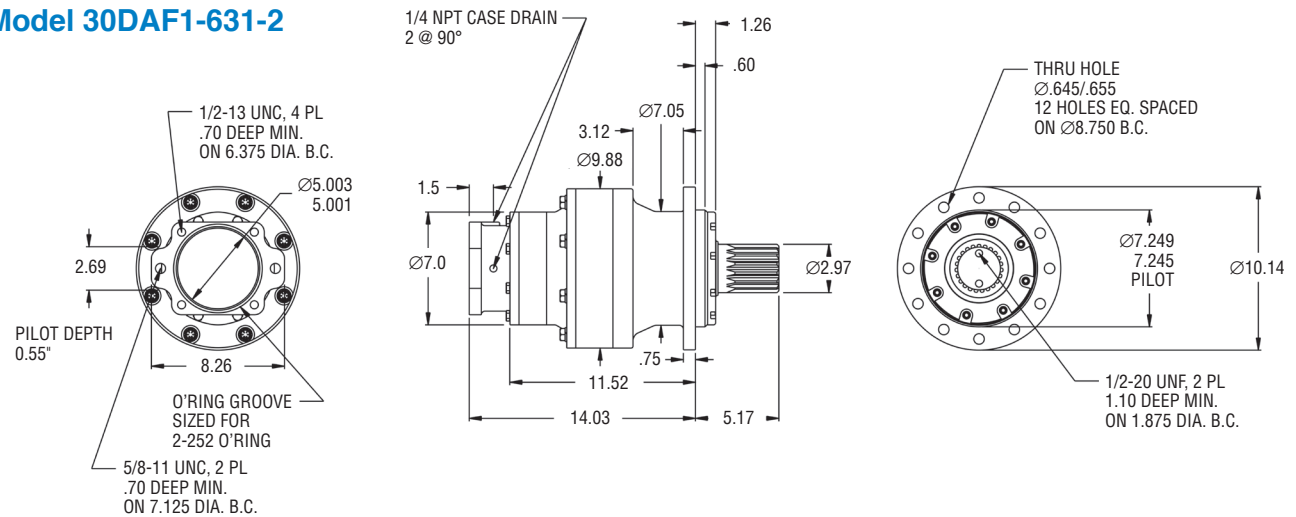
65,000 in-lbs Peak Operating Torque
31.2 or 24.96 to 1 Ratio

30,000 lb. Maximum Radial Load
95 RPM Maximum Output Speed

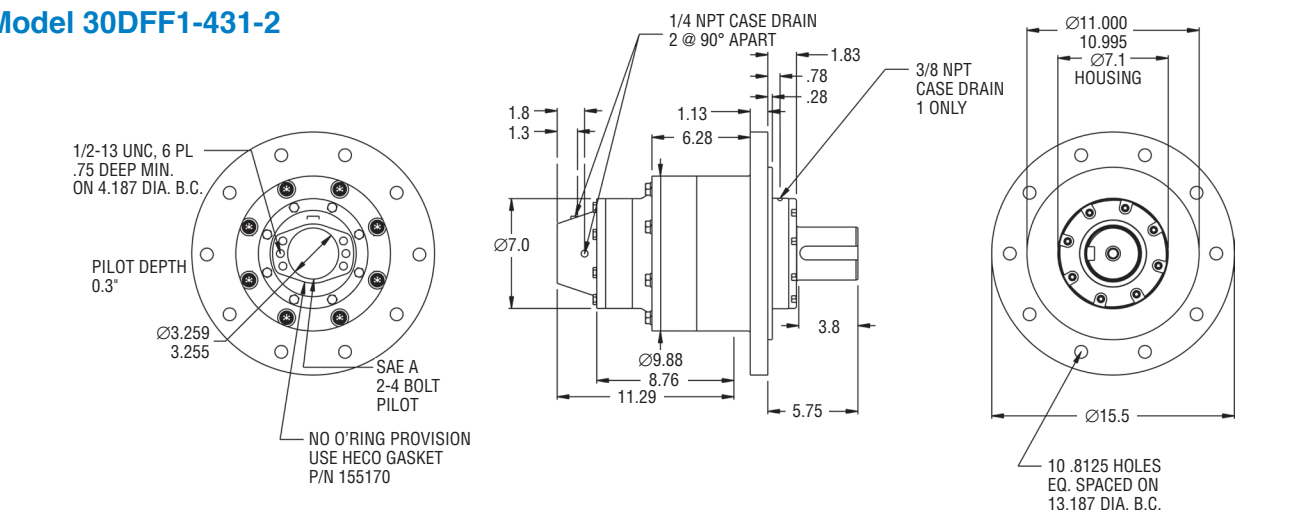
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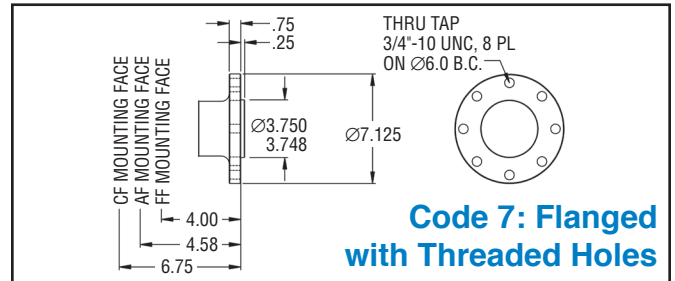
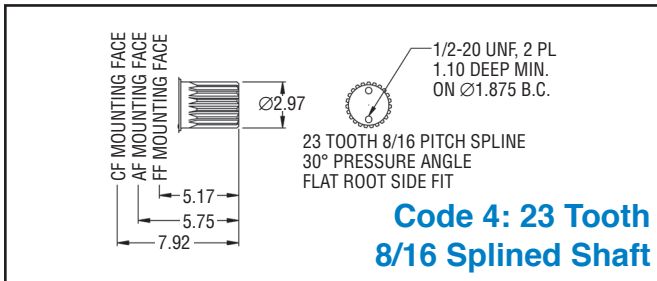
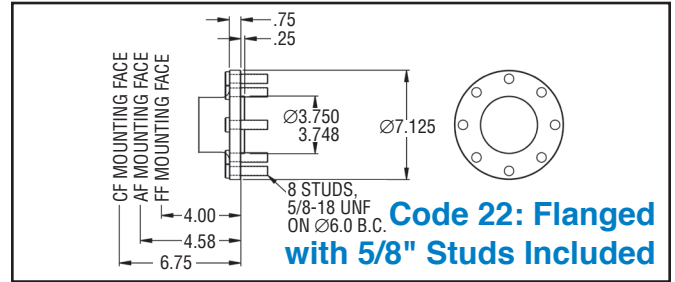
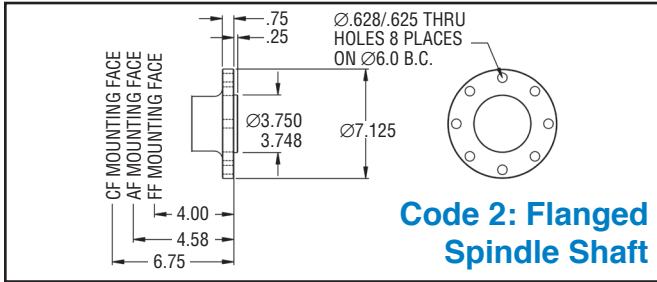
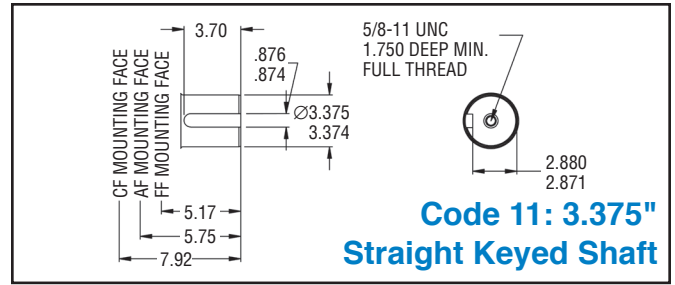
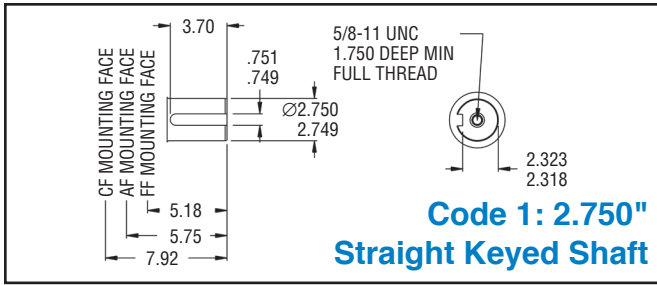
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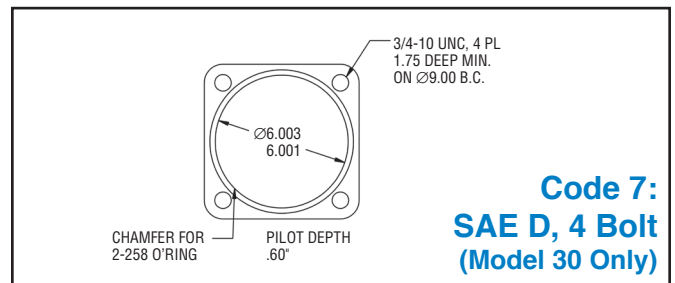
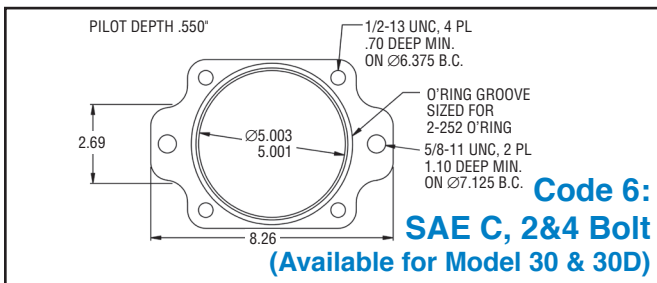
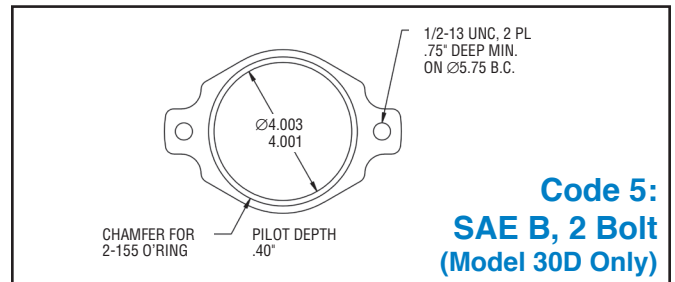
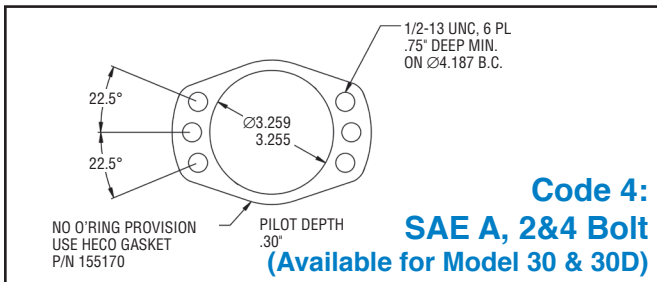
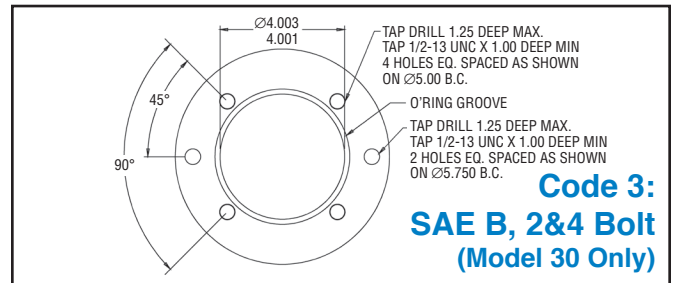
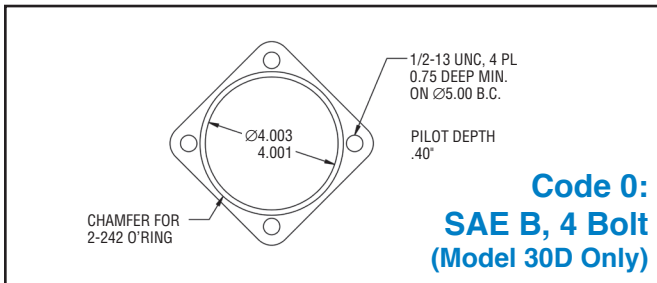
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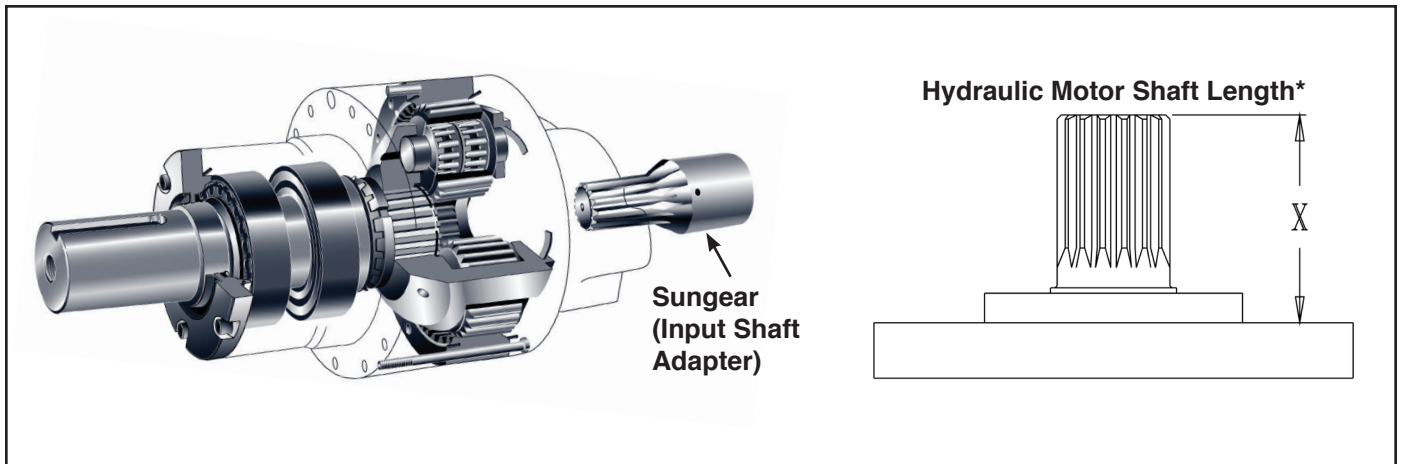
Output Shaft Options



Motor Adapter Options



Sungear (Input Shaft) Options



Model 30

Sungears		Motor Shaft Lengths (From motor mounting flange to the end of the shaft.)	
Sungear #	Hydraulic Motor Shaft Type	Min. Length - in (mm)	Max. Length - in (mm)
30F4	4.8:1 Ratio Charlynn 4000 Bearingless	N/A	N/A
30F6	6.0:1 Ratio Charlynn 4000 Bearingless	N/A	N/A
30G4	4.8:1 Ratio Charlynn 6000 Bearingless	N/A	N/A
30G6	6.0:1 Ratio Charlynn 6000 Bearingless	N/A	N/A
30I4	4.8:1 Ratio 1 1/4" - 14 Tooth Spline	1.97 (50.04)	2.32 (58.93)
30I6	6.0:1 Ratio 1 1/4" - 14 Tooth Spline	1.97 (50.04)	2.32 (58.93)
30K*	6.0:1 Ratio 1 3/4" - 13 Tooth 8/16 Spline	1.97 (50.04)	2.32 (58.93)
30L*	4.8:1 Ratio 17 Tooth 12/24 Spline	1.97 (50.04)	2.32 (58.93)
30L*	6.0:1 Ratio 17 Tooth 12/24 Spline	1.97 (50.04)	2.32 (58.93)

Model 30D

Sungears		Motor Shaft Lengths (From motor mounting flange to the end of the shaft.)	
Sungear #	Hydraulic Motor Shaft Type	Min. Length - in (mm)	Max. Length - in (mm)
16B*	7/8" - 13 Tooth Spline	1.40 (35.56)	1.75 (44.45)
16C*	1" - 15 Tooth Spline	1.70 (43.18)	1.95 (49.53)
16D*	1" Straight Keyed	1.80 (45.72)	2.10 (53.34)
16E	Charlynn 2000 Bearingless	N/A	N/A
16F	Charlynn 4000 Bearingless	N/A	N/A
16H*	1 1/4" Straight Keyed ⁽¹⁾	2.05 (52.07)	2.40 (60.96)
16I*	1 1/4" - 14 Tooth Spline ⁽¹⁾	2.00 (50.80)	2.32 (58.93)
16M*	1" SAE 6B Spline	1.95 (49.53)	2.30 (58.42)

* Hydraulic motor shaft may not be standard length. Components are available to accommodate longer motor shafts.

⁽¹⁾ Charlynn 4000 Series standard motors require a spacer kit - see price list.

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Heco Warranty: www.hecogear.com/warranty.pdf