

Mode1: 25 & 25D

Application Information

Torque, speed, radial and axial load affect reducer life. Reducer life is also dependent on the duty cycle of the specific application. A duty life cycle is defined by Heco as an operation beginning with start and ending with a full stop or full reversal. Duty cycle segments often consist a number of components; starting, running and stopping are the typical components. Swing or slewing drives often consist of reversals with overrunning load components that effect speed reducer life. Starting and stopping under load will affect reducer life.

Applications requiring simultaneous high speed and high torque operation will have short design life. Applications requiring high speed and low torque operation will have short design life. Applications requiring high speed and low torque duty cycles or low speed and high torque duty cycles will have extended reducer life.

Consult Heco Gear with your duty cycle information and Heco can estimate speed reducer life for your specific application. It is possible to stimulate speed reducer loads but testing the speed reducer in the specific application by the customer is recommended to determine actual design life.

Oil Recommendation

For maximum speed reducer life the recommended oil is SAE 85W-140 Multi-grade gear oil meeting API-GL5 and API-MTI service. Alternate oil that will provide adequate speed reducer life is SAE 90W gear oil meeting API-GL5 and API-MTI service. These oils should be readily available at your local automotive store or lubricant dealer.

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

Maximum oil temperature should not exceed 160° F (70° C) for continuous operation or 180° F (80° C) for intermittent operation.

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

Approximate Weight

Mounting Flange	Single Reduction	Double Reduction
CF	145	165
AF	150	170
FF	205	230

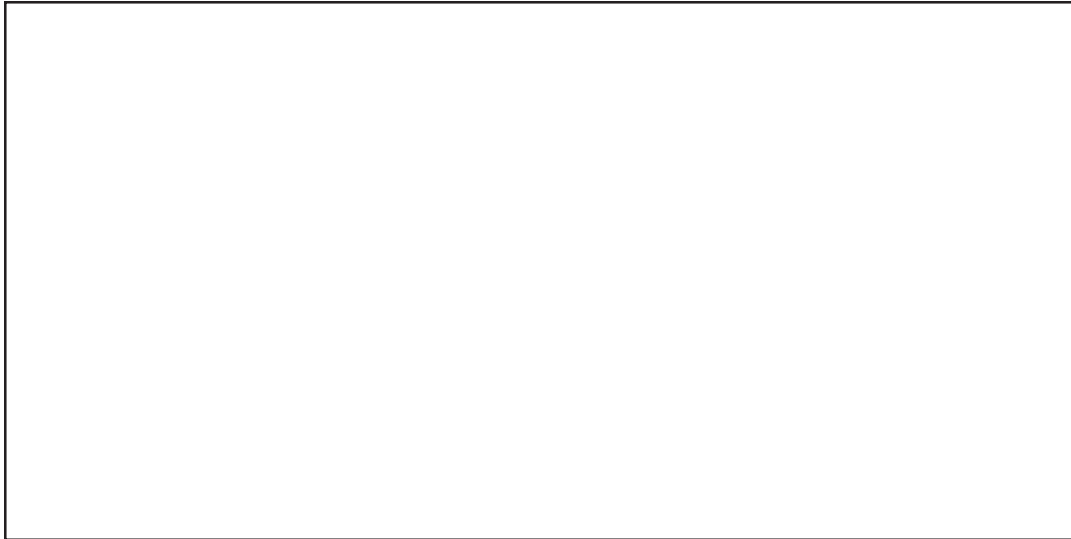
Performance Data

Torque ⁽¹⁾	Continuous	Intermittent	Peak
	85,000 in-lbs.	110,000 in-lbs	135,000 in-lbs
	7,080 ft-lb	9,150 ft-lb	11,250 ft-lb
	9,600 Nm	12,400 Nm	15,250 Nm

Ratios	Single Reduction	Double Reduction
	4.8:1 & 6.0:1	24.96:1 & 31.2:1

Speed ⁽¹⁾	Single Reduction Max. Intermittent		Double Reduction Max. Intermittent	
	Input	Output	Input	Output
	1500 rpm	300 rpm	2300 rpm	90 rpm

Radial Load Rating ⁽¹⁾



⁽¹⁾Ratings are based on using 85 W-140 gear oil.

Model 25CF2-66-1
(Illustrated with Code 2 Flanged Output Shaft)

Model 25AF4-66-1
(Illustrated with Code 4 Splined Output Shaft)

Model 25FF11-26-1
(Illustrated with Code 11 Straight Keyed Output Shaft)

Double Reduction Installation Dimensions

Model 25DCF11-431-1
(Illustrated with Code 11 Straight Keyed Output Shaft)

Model 25DFF4-631-1
(Illustrated with Code 4 Splined Output Shaft)

Model 25FF11-26-1
(Illustrated with Code 11 Straight Keyed Output Shaft)

Output Shaft Options

Code 1 - 2.750" Straight Keyed

ShaftCode 2 - Flanged Spindle Shaft

Code 11 - 3.375" Straight Keyed Shaft

Code 4 - 23 Tooth 8/16 Splined Shaft

Motor Adapter Options

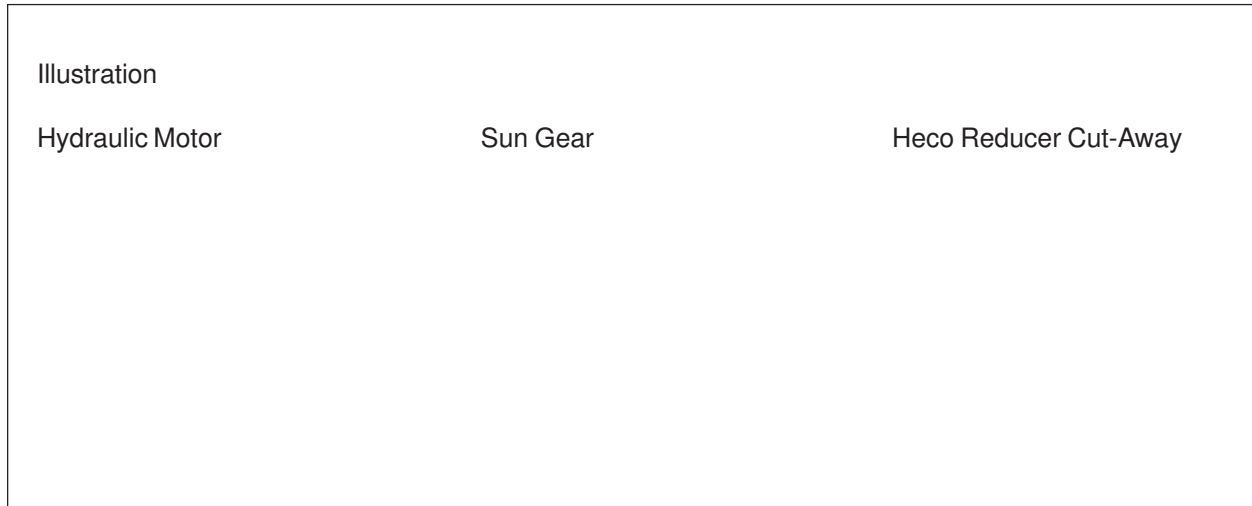
Code 4 SAE A

Code 0 SAE B(Double Reduction Only)

Code 5 SAE B (Double Reduction Only)

Code 6 SAE C

Sun Gear (Input Shaft) Options



Sun Gears

Motor Shaft Lengths
From Motor Mounting flange
to the end of the shaft

Single Reduction				
Sun Gear #	Motor Shaft Type	Min. Length - in (mm)	Max Length - (mm)	
20F4	4.8:1 Ratio Charlynn 4000 Bearingless	N/A	N/A	
20F6	6.0:1 Ratio Charlynn 4000 Bearingless	N/A	N/A	
20G4	4.8:1 Ratio Charlynn 6000 Bearingless	N/A	N/A	
20G6	6.0:1 Ratio Charlynn 4000 Bearingless	N/A	N/A	
20I4	4.8:1 Ratio 1 1/4"-14 tooth spline	1.97 (50.04)	2.32 (58.93)	
20I6	6.0:1 Ratio 1 1/4"-14 tooth spline	1.97 (50.04)	2.32 (58.93)	
Double Reduction				
Sun Gear #	Motor Shaft Type	Min. Length - in (mm)	Max Length - (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 200 Bearingless	N/A	N/A	
16FC	Charlynn 4000 Compact Bearingless	N/A	N/A	
16F	Charlynn 400 Bearingless	N/A	N/A	
16H	1 1/4" Straight Keyed	2.05 (52.07)	2.40 (60.96)	
16I	1 1/4"-14 Tooth Spline	2.00 (50.80)	2.32 (58.93)	
16M	1" SAE 6B Spline	1.95 (49.53)	2.30 (58.42)	
16O	7/8" Straight Keyed	CONSULT HECO		
16P	1 1/8" Straight Keyed	CONSULT HECO		
16S	Danfoss OMSS Bearingless	N/A	N/A	

Order Information & Model Codes

Single Reduction -- Speed Reducer Model Code			
Code	Description	Code	Description
1- Mounting Base Model		3 - Motor Adapters	
25FF	Front Flange	4	SAE A - 4 Bolt Magneto Mount
25AF	Compact Front Flange	6	SAE C - 2 & 4 Bolt Combination
25CF	Center Flange	4 - Ratios	
2 - Output Shaft Options		4	4.8:1
1	2.750" Straight Keyed	6	6.0:1
11	3.375" Straight Keyed	5 - Special Options	
2	Flanged Shaft	Axx	Will Be Noted By "Axx"
4	23 Tooth 8/16 Spline	A22	Nickel Plated Shaft & Seal Carrier

Sample Double Reduction Model Code

1	2	3	4	5	6
25CF	11	6	6	A22	1

Single Reduction Sun Gear Model Code

2014	4.8: Ratio - 1 1/4"-14 Tooth Spline	20F4	4.8 Ratio	Charlynn 4000 Bearingless
2016	6.0: Ratio - 1 1/4"-14 Tooth Spline	20F6	6.0 Ratio	Charlynn 4000 Bearingless
		20G4	4.8 Ratio	Charlynn 6000 Bearingless
		20G6	6.0 Ratio	Charlynn 6000 Bearingless

Double Reduction -- Speed Reducer Model Code

Code	Description	Code	Description
1- Mounting Base Model		3 - Motor Adapter	
25DFF	Double Red Front Flange	0	SAE B - 4 Bolt
25DAF	Double Red Compact Front Flange	4	SAE A - 2&4 Bolt Combination
25DCF	Double Red Center Flange	5	SAE B - 2 Bolt
		6	SAE - 2&4 Bolt Combination
2- Output Shaft Options		4 - Ratios	
1	2.750" Straight Keyed	25	24.96:1
11	30375" Straight Keyed	31	31.2:1
2	Flanged Shaft	5 -Special Options	
4	23 Tooth 8/16 Spline	Axx	Will Be Noted By "Axxx"
		A22	Nickel Plated Shaft & Seal Carrier
		6 - Design Number	
		1	Current Design

Sample Double Reduction Model Code

1	2	3	4	5	6
25DCF	1	0	31	A22	1

Double Reduction Sun Gear Model Code

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