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.

Heco Terms and Conditions of Sale: www.hecogear.com/termsandconditions.pdf

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.

*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 60 & 63D Performance Data

Peak Operating Torque: 180,000 In-Lb, 20,337 N•m
Output RPM: Up To 300 RPM Single Reduction, 60 RPM Double Reduction
Ratio: 6.0:1 Single Reduction, 28.8:1 or 36:1 Double Reduction
Radial Load: Up To 80,000 Lbs

Operating Torque Vs. Speed Chart

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 60 Speed Reducer.

2. 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.

3. Consult Heco Engineering for applications where torques exceed the above torque curve for short durations.

4. Cooling may be required due to the operating horsepower of the application. Cooling can be achieved by adding external cooling or internal by adding an oil cooling loop or through the use of synthetic gear oils with specific heat dissipating properties.

5. When using brakes, it is recommended brakes be applied on the output shaft of the reducer. Dynamic braking on the input of the Heco gear reducer voids the warranty.
Output Shaft Bearing Radial Load Curve
Based on 18,000,000 revolution life (filled with 85W-140 oil)

- Simultaneous maximum torque and maximum speed NOT recommended.
- Consult Heco if your application falls outside of recommended maximum RPM, torque, or radial load.

Approximate Weight

<table>
<thead>
<tr>
<th>Mounting Flange</th>
<th>Model 60</th>
<th>Model 63D</th>
<th>Model 63T</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td>338 lbs</td>
<td>397 lbs</td>
<td>420 lbs</td>
</tr>
</tbody>
</table>

Spline Specifications
- Number Teeth: 20
- Pitch: 6/12
- Pitch Diameter: 3.333 (84.667 mm)
- Pressure Angle: 30 degrees
- Type of Fit: Flat Root Side Fit
- Material: 4140 NOT Heat Treated
  * Weldable Mount

Adapter for the Code 4 Splined Output Shaft
Part Number: 60SB1

Hydraulic Motor Adapter Options

**Code 0: SAE B, 4 Bolt**
- Model: 62T, 62Q

**Code 3: SAE B, 2 & 4 Bolt**
- Model: 62D

**Code 4: SAE A, 2 & 4 Bolt**
- Model: 62D, 62T, 62Q

**Code 5: SAE B, 2 Bolt**
- Model: 62T, 62Q

**Code 6: SAE C, 2 & 4 Bolt**
- Model: 62D, 62T, 62Q

**Code 7: SAE D, 4 Bolt**
- Model: 60, 62D
Model Codes and Ordering Information

Sample Model Code: 60CF-4-7-6/X

<table>
<thead>
<tr>
<th>MODEL</th>
<th>OUTPUT SHAFT</th>
<th>MOTOR ADAPTER</th>
<th>RATIO</th>
<th>INPUT SHAFT/SUNGEAR*</th>
</tr>
</thead>
<tbody>
<tr>
<td>60CF</td>
<td></td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Model 60 Center Flange</td>
<td>1 – 3 7/8&quot; Keyed</td>
<td>7 – SAE D; 4 bolt</td>
<td>6 – 6:0:1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 – 20T 6/12 Splined</td>
<td></td>
<td></td>
<td>60K – 1 3/4&quot; 13T Spline 8/16 DP</td>
</tr>
<tr>
<td></td>
<td>2 – Flanged Spindle</td>
<td></td>
<td></td>
<td>60L – 1 1/2&quot; 17T Spline 12/24 DP</td>
</tr>
<tr>
<td></td>
<td>7 – Flanged with Threaded Holes</td>
<td></td>
<td></td>
<td>X – Gearbox only, without Input Shaft/Sungear*</td>
</tr>
</tbody>
</table>

Common Options:

Nickel Plating (MIL-C-26074E; Class 2, Grade 0005): Nickel plated shaft, seal carrier, and stainless steel seal carrier bolts for corrosion prone environments.

Speed Pickup: Inductive sensor protected in housing for speed feedback.

Output Shafts: Quick turnaround on customized shafts for your application.

Delivery: Standard delivery on all Heco gearboxes is 4-6 weeks ARO.

24 Hour Quick Ship: Available for all gearboxes and components.
HECO GEAR

Model 63D

180,000 in-lbs Continuous Torque Output
28.8 to 1 or 36 to 1 Ratio

80,000 lb. Maximum Radial Load
100 RPM Maximum Output Speed

*Code 6 SAE C Motor Adapter Shown

1/2-13 UNC, 4PL
.70 DEEP MIN.
ON 6.375 DIA. B.C.

5/8-11 UNC, 2 PL
1.10 DEEP MIN.
ON 7.125 DIA. B.C.

Ø0.050
PILOT DEPTH
0.55*

O’RING GROOVE
SIZED FOR
2-252 O’RING

3/8 NPT CASE DRAIN
2 @ 180 DEG APART

3/8 NPT CASE DRAIN
1 PLACE ONLY

12 Holes
3/4-10 UNC ON
11.00 DIA. B.C.

12.90

Unit Weight: 390 Lbs / 177 Kg

*Socket Head Bolts Required For Mounting

Model 63DCF-4-6-36 Illustrated with Code 4 Splined Output Shaft and Code 6 SAE C Motor Adapter (5” pilot/2&4 bolt)

Model Codes and Ordering Information
Sample Model Code: 63DCF-1-6-36/X

<table>
<thead>
<tr>
<th>MODEL</th>
<th>OUTPUT SHAFT</th>
<th>MOTOR ADAPTER</th>
<th>RATIO</th>
<th>INPUT SHAFT/SUNGEAR*</th>
</tr>
</thead>
<tbody>
<tr>
<td>63DCF</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 62D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Center Flange</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 – 3 7/8' Keyed</td>
<td>3 – SAE B; 2 &amp; 4 bolt</td>
<td>29 – 28.8:1</td>
<td>20F4 – C/L 4000 Bearingless 4.8:1</td>
<td></td>
</tr>
<tr>
<td>4 – 20T 6/12 Splined</td>
<td>4 – SAE A; 2 &amp; 4 bolt</td>
<td>36 – 36:1</td>
<td>20F6 – C/L 4000 Bearingless 6:1</td>
<td></td>
</tr>
<tr>
<td>2 – Flanged Spindle</td>
<td>6 – SAE C; 2 &amp; 4 bolt</td>
<td></td>
<td>20G4 – C/L 6000 Bearingless 4.8:1</td>
<td></td>
</tr>
<tr>
<td>7 – Flanged with Threaded Holes</td>
<td>7 – SAE D; 4 bolt</td>
<td></td>
<td>20G6 – C/L 6000 Bearingless 6:1</td>
<td></td>
</tr>
<tr>
<td>2014 – 1 1/4&quot;-14T Spline 4.8:1</td>
<td>2016 – 1 1/4&quot;-14T Spline 6:1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25L4 – 1 1/2&quot;-17T Spline 4.8:1</td>
<td>25L6 – 1 1/2&quot;-17T Spline 6:1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25K6 – 1 3/4&quot;-13T Spline 6:1</td>
<td>X – Gearbox only, without Input Shaft/Sun gear*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Common Options:
Nickel Plating (MIL-C-28074E; Class 2, Grade 0005): Nickel plated shaft, seal carrier, and stainless steel seal carrier bolts for corrosion prone environments.

Speed Pickup: Inductive sensor protected in housing for speed feedback.

Output Shafts: Quick turnaround on customized shafts for your application.

Delivery: Standard delivery on all Heco gearboxes is 4-6 weeks ARO.

24 Hour Quick Ship: Available for all gearboxes and components.
HÉCO GEAR

Model 63T

180,000 in-lbs Continuous Torque Output
149 to 1 or 187 to 1 Ratio

80,000 lb. Maximum Radial Load
30 RPM Maximum Output Speed

Model Codes and Ordering Information

Sample Model Code: 63TCF-7-4-149/X

<table>
<thead>
<tr>
<th>MODEL</th>
<th>OUTPUT SHAFT</th>
<th>MOTOR ADAPTER</th>
<th>RATIO</th>
<th>INPUT SHAFT/SUNGEAR*</th>
</tr>
</thead>
<tbody>
<tr>
<td>63TCF</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 62T</td>
<td>1 – 3 7/8&quot; Keyed</td>
<td>0 – SAE B; 4 bolt</td>
<td>149 – 149:1</td>
<td>16E – Charlynn 2000 Bearingless</td>
</tr>
<tr>
<td>Center Flange</td>
<td>4 – 20T 6/12 Splined</td>
<td>4 – SAE A; 2 &amp; 4 bolt</td>
<td>16F – Charlynn 4000 Bearingless</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 – Flanged Spindle</td>
<td>5 – SAE B; 2 bolt</td>
<td>16S – Danfoss OMSS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 – Flanged with Threaded Holes</td>
<td>6 – SAE C; 2 &amp; 4 bolt</td>
<td>160 – 7/8&quot; Straight Keyed</td>
<td></td>
</tr>
</tbody>
</table>

Common Options:
- Nickel Plating (MIL-C-26074E; Class 2, Grade 0005): Nickel plated shaft, seal carrier, and stainless steel seal carrier bolts for corrosion prone environments.
- Speed Pickup: Inductive sensor protected in housing for speed feedback.
- Output Shafts: Quick turnaround on customized shafts for your application.
- Delivery: Standard delivery on all Heco gearboxes is 4-6 weeks ARO.
- 24 Hour Quick Ship: Available for all gearboxes and components.

*Socket Head Bolts Required For Mounting

Model 63TCF-7-4-149 Illustrated with Code 7 Flanged Shaft and Code 4 SAE A Motor Adapter (3.25" pilot/2&4 bolt)
HECO GEAR

**Model 63Q**

180,000 in-lbs Continuous Torque Output  
778 to 1 or 973 to 1 Ratio  
80,000 lb. Maximum Radial Load  
5 RPM Maximum Output Speed

Unit Weight: 444 lbs / 201 Kg  
*Socket Head Bolts Required For Mounting

**Model 63QCF-1-0-973** Illustrated with Code 1 Keyed output shaft and Code 0 SAE B Motor Adapter (4” pilot/4 bolt)

---

**Model Codes and Ordering Information**

*Sample Model Code: 63QCF-1-0-973/X*

<table>
<thead>
<tr>
<th>MODEL</th>
<th>OUTPUT SHAFT</th>
<th>MOTOR ADAPTER</th>
<th>RATIO</th>
<th>INPUT SHAFT/SUNGEAR*</th>
</tr>
</thead>
<tbody>
<tr>
<td>63QCF</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 62Q</td>
<td>1 – 3 7/8&quot; Keyed</td>
<td>0 – SAE B; 4 bolt</td>
<td>778 – 778:1</td>
<td></td>
</tr>
<tr>
<td>Center Flange</td>
<td>4 – 20T 6/12 Splined</td>
<td>4 – SAE A; 2 &amp; 4 bolt</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 – Flanged Spindle</td>
<td>5 – SAE B; 2 bolt</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 – Flanged with Threaded Holes</td>
<td>6 – SAE C; 2 &amp; 4 bolt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16E – Charlynn 2000 Bearingless  
16F – Charlynn 4000 Bearingless  
16S – Danfoss OMSS  
16O – 7/8" Straight Keyed  
16B – 7/8" 13T Spline 16/32 DP  
16D – 1" Straight Keyed  
16M – 1" SAE 6B Spline  
16C – 1" 15T Spline 16/32 DP  
16P – 1 1/8" Straight Keyed  
16H – 1 1/4" Straight Keyed  
16I – 1 1/4" 14T Spline 12/24 DP  
X – Gearbox only, without Input Shaft/Sun gear*  

* A sungear is required for EACH gearbox.

---

**Common Options:**

Nickel Plating (MIL-C-26074E; Class 2, Grade 0005): Nickel plated shaft, seal carrier, and stainless steel seal carrier bolts for corrosion prone environments.

**Speed Pickup:** Inductive sensor protected in housing for speed feedback.

**Output Shafts:** Quick turnaround on customized shafts for your application.

**Delivery:** Standard delivery on all Hecos is 4-6 weeks ARO.

**24 Hour Quick Ship:** Available for all gearboxes and components.
# Input Shaft / Sungear Options

## Model 60

<table>
<thead>
<tr>
<th>Part #</th>
<th>Hydraulic Motor Shaft Type</th>
<th>Minimum Length - in (mm)*</th>
<th>Maximum Length - in (mm)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>60J</td>
<td>Charlynn 10000 Bearingless</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>60K</td>
<td>1 3/4&quot; 13T Spline 8/16 DP</td>
<td>2.72&quot; (69.09)</td>
<td>2.97&quot; (75.44)</td>
</tr>
<tr>
<td>60L</td>
<td>1 1/2&quot; 17T Spline 12/24 DP</td>
<td>2.02&quot; (51.31)</td>
<td>2.27&quot; (57.66)</td>
</tr>
</tbody>
</table>

## Model 63D

<table>
<thead>
<tr>
<th>Part #</th>
<th>Hydraulic Motor Shaft Type</th>
<th>Minimum Length - in (mm)*</th>
<th>Maximum Length - in (mm)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>20F4</td>
<td>Charlynn 4000 Bearingless (4.8:1)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>20F6</td>
<td>Charlynn 4000 Bearingless (6:1)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>20G4</td>
<td>Charlynn 6000 Bearingless (4.8:1)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>20G6</td>
<td>Charlynn 6000 Bearingless (6:1)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>20L6</td>
<td>1 1/4&quot; 14T Spline 12/24 DP (4.8:1)</td>
<td>1.97&quot; (50.04)</td>
<td>2.32&quot; (58.93)</td>
</tr>
<tr>
<td>25L6</td>
<td>1 1/2&quot; 17T Spline 12/24 DP (6:1)</td>
<td>2.20&quot; (55.88)</td>
<td>2.40&quot; (60.96)</td>
</tr>
<tr>
<td>25K6</td>
<td>1 3/4&quot; 13T Spline 8/16 DP</td>
<td>1.92&quot; (48.77)</td>
<td>2.22&quot; (56.39)</td>
</tr>
</tbody>
</table>

## Model 63T, 63Q

<table>
<thead>
<tr>
<th>Part #</th>
<th>Hydraulic Motor Shaft Type</th>
<th>Minimum Length - in (mm)*</th>
<th>Maximum Length - in (mm)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>16E</td>
<td>Charlynn 2000 Bearingless</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>16F</td>
<td>Charlynn 4000 Bearingless</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>16S</td>
<td>Danfoss OMSS Bearingless</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>16O</td>
<td>7/8&quot; Straight Keyed</td>
<td>1.80&quot; (45.72)</td>
<td>2.09&quot; (53.09)</td>
</tr>
<tr>
<td>16B</td>
<td>7/8&quot; 13T Spline 16/32 DP</td>
<td>1.40&quot; (35.56)</td>
<td>1.75&quot; (44.45)</td>
</tr>
<tr>
<td>16D</td>
<td>1&quot; Straight Keyed</td>
<td>1.80&quot; (45.72)</td>
<td>2.10&quot; (53.34)</td>
</tr>
<tr>
<td>16M</td>
<td>1&quot; SAE 6B Spline</td>
<td>1.95&quot; (49.53)</td>
<td>2.30&quot; (58.42)</td>
</tr>
<tr>
<td>16C</td>
<td>1&quot; 15T Spline 16/32 DP</td>
<td>1.70&quot; (43.18)</td>
<td>1.95&quot; (49.53)</td>
</tr>
<tr>
<td>16P</td>
<td>1 1/8&quot; Straight Keyed</td>
<td>1.85&quot; (46.99)</td>
<td>2.15&quot; (54.61)</td>
</tr>
<tr>
<td>16H</td>
<td>1 1/4&quot; Straight Keyed</td>
<td>2.05&quot; (52.07)</td>
<td>2.40&quot; (60.96)</td>
</tr>
<tr>
<td>16I</td>
<td>1 1/4&quot; 14T Spline 12/24 DP</td>
<td>2.00&quot; (50.80)</td>
<td>2.32&quot; (58.93)</td>
</tr>
</tbody>
</table>

* Motor Shaft Length: Distance from hydraulic motor mounting flange to tip of motor output shaft (see above).
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Heco Warranty: [www.hecogear.com/warranty.pdf](http://www.hecogear.com/warranty.pdf)