

Power Sections

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Canadian Oilfield Units





Stator Specifications				
Overall Length (in.)	242.6 [6162 mm]			
Tube O.D. (in.)	5.00 [127 mm]			
Tube I.D. (in.)	3.75 [95 mm]			
Rubber Cut Back Top (in.)	8.0			
Rubber Cut Back Bottom (in.)	8.0			
Weight (kg)	290			
Tube Material	4140-4145			
To be threaded and ID Banded by customer				

Rotor Specifications				
Overall Length (in.)	229.5 [5829 mm]			
Contour Length (in.)	223 [5664 mm]			
Major Diameter (in.)	2.916			
Eccentricity (in.)	0.207			
Head Diameter (in.)	2.750			
Bored Weight (kg)	125			
Solid Weight (kg)	148			
Material	17-4PH			
Coating option 1	Chrome			
Coating option 2	Carbide			
To be threaded by customer				

Performance Specifications					
Flow Range (lpm)	350 - 1100				
Speed Range (RPM)	90 - 290				
Torque Slope (ft-lb/kPa)	0.374				
Rotation (rev/l)	0.264				
Stall Torque (ft-lb)	7,000				
Operating Parameters					
Max Diff Pressure (kPa)	14,200				
Torque (ft-lb)	5,200				
Flow Rate (lpm)	1,100				
Full Load RPM	198 at 1100 lpm				

Minor Diameter Fit Details (at 20°C)							
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp		
Size Band	Vector Measurements		True Size Las	ser Measurements	Optimal		
1.0T	-	-	-	-	-		
0.5T	-0.005	2.507	0.009	2.493	65 - 95 °C		
STD	-0.015	2.517	-0.001	2.503	85 - 115 °C		
0.5L	-0.025	2.527	-0.011	2.513	105 - 135 °C		
1.0L	-	-	-	-	-		
1.5L	-	-	-	-	-		
2.0L	-	-	-	-	-		
Minor Shrinkage (in./°C)			0.0	00050			

150 140

130

120

110

100

90

80

70

60

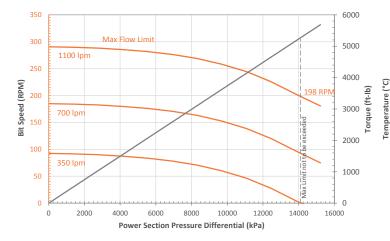
50

40

30 20

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.

^{***}Best operating temperatures are based on new stators subject to normal thermal expansion conditions. Operators may wish to consider swell and run life when selecting sizes.



----- Expected slightly reduced torque when operating at this flow limit

1. Choose desired operating temperature

-0.025 -0.020

-0.030

2. Read across to middle of shaded region

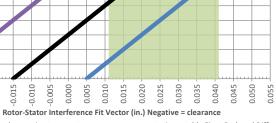
-0.015

-0.010

-0.005

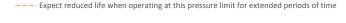
0.000

3. Follow slope down to room temperature to determine which fit to order



Acceptable Fit at Reduced Diff Optimal Operating Fit Range

■ 1L Size Band STD Size Band



Performance curves are for reference only. Actual power section performance may vary depending on operating conditions (e.g. chosen rotor/stator interference fit, possible rubber swelling by drilling fluid, rotor and stator wear, actual downhole temperature, actual stator temperature, physical and chemical properties of the drilling fluid and other factors encountered downhole). The torque may exceed that specified for the connected components. Operating above the recommended limits may result in damage to the power section and connected components which will be the liability of the operator. Data subject to change without notice. Visit www.spirasystems.com for most up to date information.

0.010

0.005

^{*}Approximate Vector/laser gauge conversion: 0.014 ± 0.005

^{**}Negative fits indicate clearance fit at room temperature using nominal new rotor