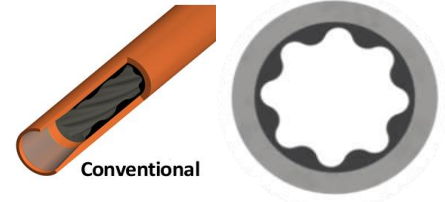


# Power Sections

22 East Lake Crescent N.E., Airdrie, Alberta, Canada, T4A 2H3  
 Ph: (587) 775-7777  
 www.spirasystems.com



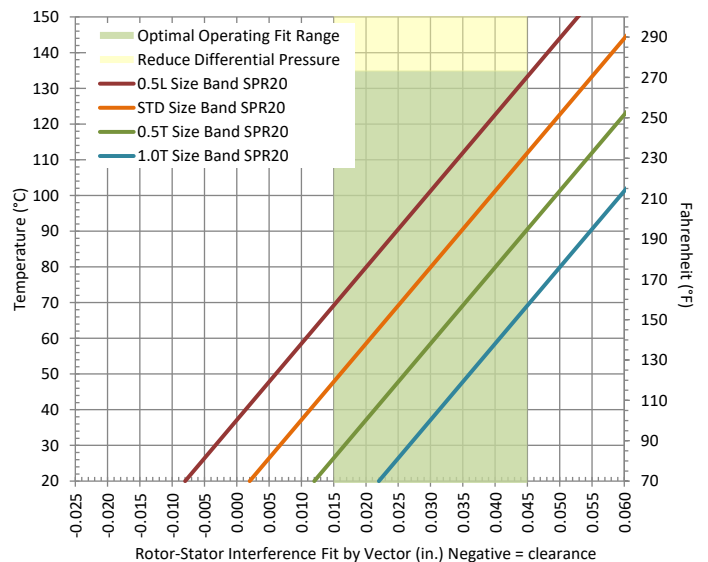
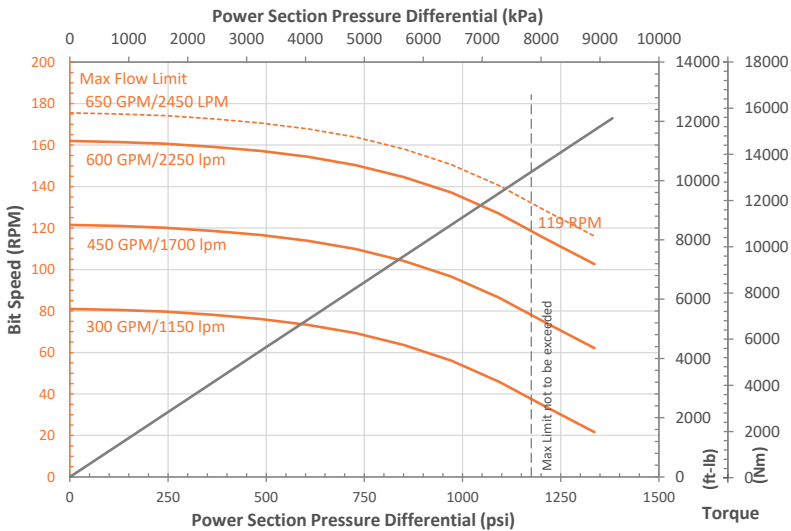
| Stator Specifications                    |              |
|------------------------------------------|--------------|
| Overall Length in. [mm]                  | 194.5 [4940] |
| Tube O.D. in. [mm]                       | 7.00 [178]   |
| Tube I.D. (Terminal) in. [mm]            | 5.50 [140]   |
| Rubber Cutback Top in. [mm]              | 8.0 [203.2]  |
| Rubber Cutback Btm in. [mm]              | 8.0 [203.2]  |
| Weight lb [kg]                           | 790 [360]    |
| Tube Material                            | 4140-4145    |
| To be threaded and ID Banded by customer |              |

| Rotor Specifications       |                                                      |
|----------------------------|------------------------------------------------------|
| Overall Length in. [mm]    | 188.0 [4775]                                         |
| Contour Length in. [mm]    | 181.0 [4597]                                         |
| Major Diameter in. [mm]    | 4.520 [114.8]                                        |
| Eccentricity in. [mm]      | 0.256 [6.5]                                          |
| Head Diameter in. [mm]     | 4.000 [101.6]                                        |
| Gunbored Weight lb [kg]    | 510 [231]                                            |
| Solid Weight lb [kg]       | 675 [306]                                            |
| Material Options           | 17-4 PH 140ksi Min Yield<br>17-4 PH 110ksi Min Yield |
| Coating Options            | Chrome or Carbide                                    |
| To be threaded by customer |                                                      |

| Performance Specifications      |                         |
|---------------------------------|-------------------------|
| Flow Range GPM [lpm]            | 300 - 650 [1140 - 2460] |
| Speed Range RPM                 | 80 - 160                |
| Torque Slope ft-lb/psi [Nm/kPa] | 9.060 [1.782]           |
| Rotation rev/Gal [rev/lit]      | 0.270 [0.071]           |
| Stall Torque ft-lb [Nm]         | 15,950 [21,700]         |
| Operating Parameters            |                         |
| Max Diff Pressure psi [kPa]     | 1,200 [8,100]           |
| Torque ft-lbs [Nm]              | 10,650 [14,400]         |
| Flow Rate GPM [lpm]             | 600 [2,250]             |
| Full Load RPM                   | 119 at 600 GPM          |

| Minor Diameter Fit Details at 20°C [68°F] |                                  |                          |                                          |                                                              |                                                          |
|-------------------------------------------|----------------------------------|--------------------------|------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------|
| SPR-20                                    |                                  |                          |                                          |                                                              |                                                          |
| Size Band                                 | Vector Fit (in.)<br>(see note 1) | Vector Measurement (in.) | Recommended Min<br>Operating Temperature | Recommended Optimal<br>Operating Temperature<br>(see note 2) | Recommended Max<br>Operating Temperature<br>(see note 2) |
| 1.0T                                      | 0.022                            | 3.986                    | 68 °F [20 °C]                            | 95 °F [35 °C]                                                | 155 °F [70 °C]                                           |
| 0.5T                                      | 0.012                            | 3.996                    | 75 °F [25 °C]                            | 135 °F [55 °C]                                               | 190 °F [90 °C]                                           |
| STD                                       | 0.002                            | 4.006                    | 115 °F [45 °C]                           | 170 °F [80 °C]                                               | 230 °F [110 °C]                                          |
| 0.5L                                      | -                                | -                        | -                                        | -                                                            | -                                                        |
| 1.0L                                      | -                                | -                        | -                                        | -                                                            | -                                                        |
| <b>Minor Shrinkage (in/°F) [in/°C]</b>    |                                  |                          |                                          |                                                              | <b>0.000260 [0.000468]</b>                               |

- Notes:
- Negative fits indicate clearance fit at room temperature using nominal new rotor.
  - Reduce differential pressure by 20% for temperatures above 275°F (135°C) and by 40% for temperatures above 320°F (160°C)
  - All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.



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 the operator may be liable for. Data subject to change without notice. Visit [www.spirasystems.com](http://www.spirasystems.com) for most up to date information.