SPIRA® Power Section Catalog

SPIRA SYSTEMS LTD.

SPIRA SYSTEMS LTD.

Spira Systems Ltd. is a privately owned Power Section manufacturing company, supplying the oil and gas drilling industry with premium quality products and superior customer service. In addition to conventional power sections, Spira Systems proudly brings the SPIRA® and SPIRA® TNT uniform-wall technology to North America. For over a decade, the benefits of SPIRA® uniform-wall power sections have been proven to provide exceptional reliability and performance throughout a broad range of drilling environments.

Our dedication to excellence is manifested in the way we design and manufacture power sections. Our precision measuring instruments coupled with years of industry experience equip our team with a competitive understanding of power section behaviour. Spira Systems leverages the operational expertise of a North American power section manufacturing team combined with Artemis' German engineering. Together we are committed to delivering exceptional quality stators, rotors and relines to the North American drilling motor industry.

www.spirasystems.com

SPIRA SYSTEMS LTD.


Conventional HRD Rubber

Conventional HRD Power Sections

Conventional hard rubber (HRD) stators offer:

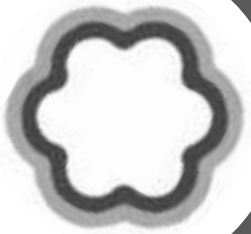
- More than 15 years of manufacturing stators with hard rubber
- Swell resistance in water, saturated brine, and oil based drilling fluids
- Highest rated wear resistance in the industry
- Offered in different stator sizes (STD, 1T, 1L)


SPIRA®

SPIRA® Uniform-Wall Power Sections

SPIRA® uniform-wall power sections:

- Highest pressure differential per stage in the industry
- Even rubber swell delivers better performance at operating temperature
- Spiraled tube reduces wellbore stick and friction during drilling
- Formed tubes are capital-cost effective (20% less expensive than competition)
- Rental programs available




SPIRA® TNT

SPIRA® TNT (Tube-In-Tube) Uniform-Wall Power Sections

SPIRA® Tube-In-Tube (TNT) stators offer:

- High pressure differential per stage similar to SPIRA® uniform-wall
- More rigid stator bodies resist bending downhole
- Several interchangeable models with conventional stators
- No limits on the number of lobes or length
- Rental programs available

SPIRA SYSTEMS LTD.

Power Section Elastomers

Spira Systems customers can turn to the next generation of power section elastomers and take advantage of measurably longer drilling time. Developed by our technical experts and rubber chemists with decades of experience, Spira Systems stator compounds are engineered to yield extended drilling life in the toughest down hole drilling applications.

SPIRA®-HRD

SPIRA®-HRD is our hard rubber compound formulated to maximize torque for conventional stators. Our HRD formula features:

- Excellent abrasion wear resistance
- High tear resistance
- Low swell in saturated brine and oil based fluids
- Excellent dynamic properties to minimize hysteresis heat build-up and stator chunking
- Superb rubber to tube bond
- Operating temperatures up to 125°C

SPIRA SYSTEMS LTD.

Uniform wall SPIRA® stators.

The next generation of power section handles higher temperatures, longer run times, and more aggressive drilling fluids. Here are four reasons to choose a SPIRA® uniform-wall stator:

1 DO MORE WITH LESS

- Handles higher pressures
- Delivers higher torque
- Shorter section
- Longer running life
- Less frequent relines
- Fewer trips to surface

2 PROFILE CONTROL

- Profile won't distort under heat
- Profile won't distort due to oil-based drilling fluids
- More precise fit
- Less leakage
- Higher efficiency

3 SPIRALED EXTERIOR

- Proprietary forming process
- Competitive capital cost
- Minimizes wellbore sticking
- Aids in wellbore cleaning

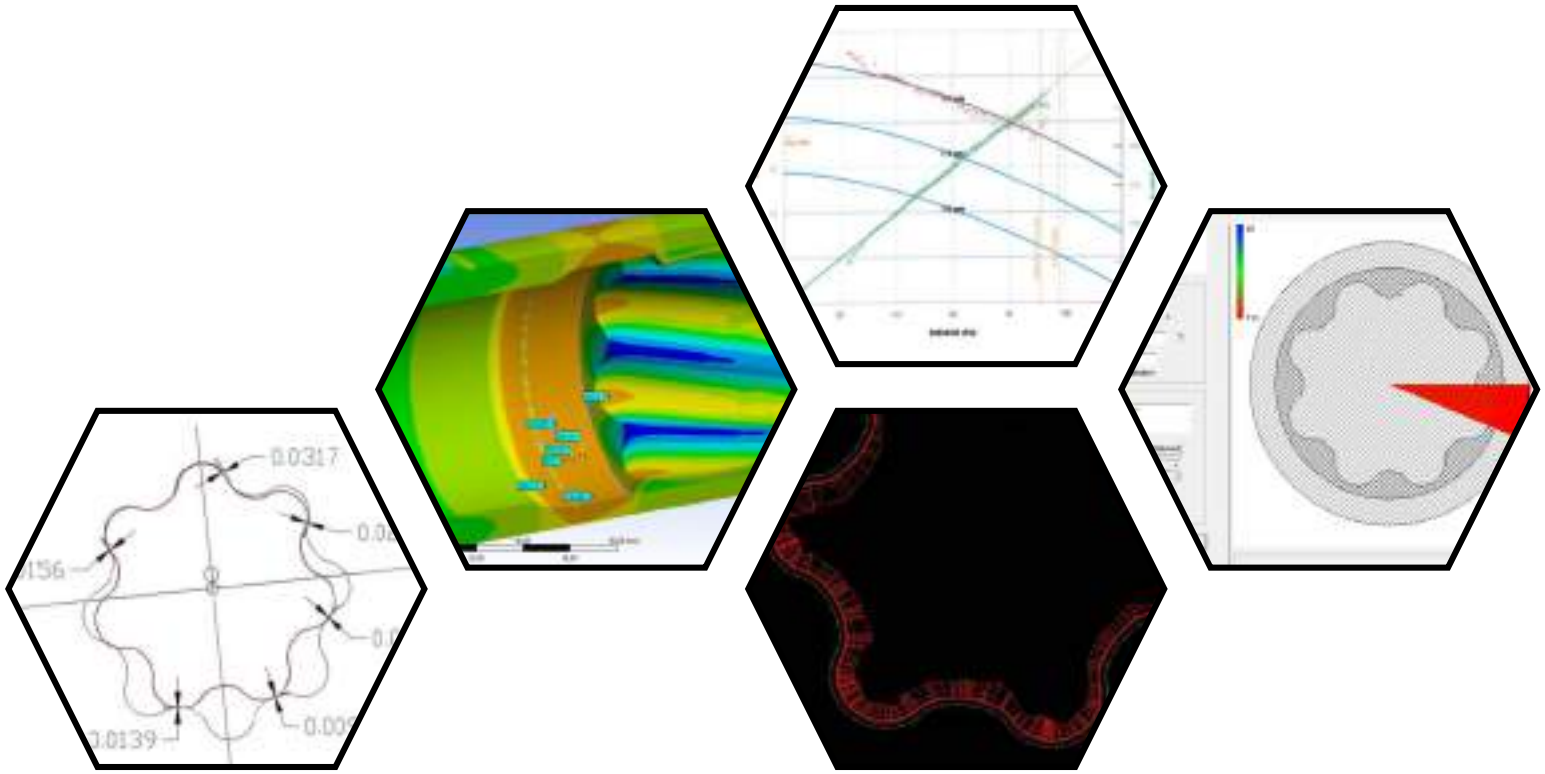
4 TEMP TOLERANCE

- Low hysteresis build-up
- Improved heat dissipation
- Manufactured with proprietary HRD rubber

Advanced Power Section Engineering

At Spira Systems, we believe in pushing the limits of our expertise. We are always finding new ways to educate and collaborate with customers to improve performance and understanding throughout the industry. This is why we choose to:

- Design our optimal fit around downhole conditions, not dyno conditions
- Measure true profile sizes using a no-contact Laser Measuring Machine
- Verify performance on a full-scale dynamometer



22 East Lake Crescent NE
Airdrie, Alberta, Canada
T4A 2H3
587-775-7777
sales@spirasystems.com

Conventional Performance Summary

Model	Size	Lobes	Stages	Tube OD (in)	Tube ID (in)	Stator Length (in)	Compatibility				Bit Speed (rev/gal) [rev/l]	Max Off Bottom Speed (RPM)	Optimal Flow Range (GPM) [lpm]	Max Flow Limit (GPM) [lpm]	Power at Max (HP) [kW]	Max Motor Pressure (psi) [kPa]	Max Torque Limit (ft-lb) [N-m]	Stall Torque (ft-lb) [N-m]
							Dyna-Drill	Abaco	Weatherford	NOV (Legacy R&M)								
SPS313565.0	3.13"	5/6	5	3.13	2.63	106.0		x		x	2.640 [0.697]	530	80-200 [310-760]	200 [760]	165 [120]	1250 [8600]	1200 [1600]	1600 [2100]
SPS500566.7	5.00"	5/6	6.7	5.00	4.00	250.0		x			0.630 [0.166]	240	150-375 [570-1420]	375 [1420]	225 [170]	1650 [11390]	6650 [9000]	8800 [11900]
SPS475568.3	4.75"	5/6	8.3	4.75	3.75	242.6	x	x	x	x	1.000 [0.264]	300	100-300 [380-1140]	300 [1140]	210 [155]	2045 [14110]	5275 [7100]	7000 [9500]
SPS500568.3	5.00"	5/6	8.3	5.00	3.75	242.6	x	x	x	x	1.000 [0.264]	300	100-300 [380-1140]	300 [1140]	210 [155]	2045 [14110]	5275 [7100]	7000 [9500]
SPS500678.0	5.00"	6/7	8	5.00	4.00	250.0	x	x	x	x	0.810 [0.214]	280	160-350 [610-1330]	350 [1330]	235 [175]	1975 [13600]	6275 [8500]	8300 [11300]
SPS500679.0	5.00"	6/7	9	5.00	4.00	250.0		x			0.850 [0.225]	300	150-350 [570-1330]	350 [1330]	255 [190]	2220 [15300]	6475 [8800]	8600 [11600]
SPS475783.7	4.75"	7/8	3.7	4.75	4.00	235.0	x	x	x		0.368 [0.097]	130	150-350 [570-1330]	350 [1330]	105 [80]	910 [6290]	6300 [8500]	8350 [11300]
SPS500783.7	5.00"	7/8	3.7	5.00	4.00	235.0	x	x	x		0.368 [0.097]	130	150-350 [570-1330]	350 [1330]	105 [80]	910 [6290]	6300 [8500]	8350 [11300]
SPS475783.8	4.75"	7/8	3.8	4.75	3.75	187.0	x	x	x	x	0.521 [0.138]	130	150-250 [570-950]	300 [1140]	110 [80]	935 [6460]	4875 [6600]	6450 [8700]
SPS500783.8	5.00"	7/8	3.8	5.00	3.75	187.0	x	x	x	x	0.521 [0.138]	130	150-250 [570-950]	300 [1140]	110 [80]	935 [6460]	4875 [6600]	6450 [8700]
SPS500784.5	5.00"	7/8	4.5	5.00	4.00	229.3	x	x			0.463 [0.122]	140	150-300 [570-1140]	320 [1220]	105 [80]	1110 [7650]	5750 [7800]	7600 [10300]
SPS475785.0	4.75"	7/8	5	4.75	3.88	198.0		x	x		0.630 [0.166]	190	150-300 [570-1140]	300 [1140]	100 [75]	1235 [8500]	3925 [5300]	5200 [7100]
SPS500785.0	5.00"	7/8	5	5.00	3.88	198.0		x	x		0.630 [0.166]	190	150-300 [570-1140]	300 [1140]	100 [75]	1235 [8500]	3925 [5300]	5200 [7100]
SPS500786.4	5.00"	7/8	6.4	5.00	3.88	235.0			x		0.630 [0.166]	190	150-300 [570-1140]	300 [1140]	145 [110]	1580 [10880]	5850 [7900]	7750 [10500]
SPS500896.0	5.00"	8/9	6	5.00	4.00	250.0			x		0.510 [0.135]	180	200-350 [760-1330]	350 [1330]	170 [130]	1480 [10200]	7250 [9800]	9600 [13000]

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							Dyna-Drill	Abaco	Weatherford	NOV (Legacy R&M)								
SPS475785.7	4.75"	7/8	5.7	4.75	4.00	250.0					0.522 [0.138]	190	200-370 [760-1410]	400 [1520]	185 [135]	1450 [9700]	6475 [8800]	8600 [11600]
SPS500785.7	5.00"	7/8	5.7	5.00	4.00	250.0					0.522 [0.138]	190	200-370 [760-1410]	400 [1520]	185 [135]	1450 [9700]	6475 [8800]	8600 [11600]
SPS513785.7	5.13"	7/8	5.7	5.13	4.00	250.0					0.522 [0.138]	190	200-370 [760-1410]	400 [1520]	185 [135]	1450 [9700]	6475 [8800]	8600 [11600]
SPS625784.8	6.25"	7/8	4.8	6.25	5.00	203.5	x	x	x	x	0.330 [0.087]	130	150-400 [570-1520]	500 [1900]	225 [165]	1200 [8200]	9450 [12800]	12500 [16900]
SPS650784.8	6.50"	7/8	4.8	6.50	5.00	203.5	x	x	x	x	0.330 [0.087]	130	150-400 [570-1520]	500 [1900]	225 [165]	1200 [8200]	9450 [12800]	12500 [16900]
SPS675457.0	6.75"	4/5	7	6.75	5.50	210.0	x	x	x	x	0.494 [0.131]	300	300-600 [1140-2280]	600 [2280]	360 [270]	1750 [12000]	9250 [12500]	12250 [16600]
SPS660675.0	6.60"	6/7	5	6.60	5.50	200.0	x	x	x	x	0.292 [0.077]	180	300-600 [1140-2280]	600 [2280]	235 [175]	1250 [8600]	10250 [13900]	13550 [18400]
SPS675675.0	6.75"	6/7	5	6.75	5.50	200.0	x	x	x	x	0.292 [0.077]	180	300-600 [1140-2280]	600 [2280]	235 [175]	1250 [8600]	10250 [13900]	13550 [18400]
SPS700785.0	7.00"	7/8	5	7.00	5.50	194.5	x	x	x	x	0.270 [0.071]	160	300-600 [1140-2280]	650 [2470]	265 [200]	1250 [8600]	11175 [15100]	14800 [20000]
SPS660785.0	6.60"	7/8	5	6.60	5.50	194.5	x	x	x	x	0.270 [0.071]	160	300-600 [1140-2280]	650 [2470]	265 [200]	1250 [8600]	11175 [15100]	14800 [20000]
SPS675785.0	6.75"	7/8	5	6.75	5.50	194.5	x	x	x	x	0.270 [0.071]	160	300-600 [1140-2280]	650 [2470]	265 [200]	1250 [8600]	11175 [15100]	14800 [20000]
SPS650786.0	6.50"	7/8	6	6.60	5.50	235.0	x	x	x		0.270 [0.071]	160	300-600 [1140-2280]	650 [2470]	320 [240]	1500 [10300]	13400 [18200]	17750 [24100]
SPS660786.0	6.60"	7/8	6	6.60	5.50	235.0	x	x	x		0.270 [0.071]	160	300-600 [1140-2280]	650 [2470]	320 [240]	1500 [10300]	13400 [18200]	17750 [24100]
SPS675786.0	6.75"	7/8	6	6.75	5.50	235.0	x	x	x		0.270 [0.071]	160	300-600 [1140-2280]	650 [2470]	320 [240]	1500 [10300]	13400 [18200]	17750 [24100]

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Conventional Performance Summary

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							Dyna-Drill	Abaco	Weatherford	NOV (Legacy R&M)								
SPS660785.7	6.60"	7/8	5.7	6.60	5.50	260.0	x	x	x	x	0.242 [0.064]	150	300-600 [1140-2280]	700 [2650]	355 [265]	1450 [9700]	15025 [20400]	19900 [27000]
SPS675785.7	6.75"	7/8	5.7	6.75	5.50	260.0	x	x	x	x	0.242 [0.064]	150	300-600 [1140-2280]	700 [2650]	355 [265]	1450 [9700]	15025 [20400]	19900 [27000]
SPS700785.7	7.00"	7/8	5.7	7.00	5.50	260.0	x	x	x	x	0.242 [0.064]	150	300-600 [1140-2280]	700 [2650]	355 [265]	1450 [9700]	15025 [20400]	19900 [27000]
SPS675786.4	6.75"	7/8	6.4	6.75	5.50	245.0	x	x		x	0.270 [0.071]	160	300-600 [1140-2280]	650 [2470]	340 [255]	1600 [10900]	14300 [19400]	18900 [25700]
SPS6759108.0	6.75"	9/10	8	6.75	5.50	260.0			x		0.270 [0.071]	190	400-700 [1520-2650]	700 [2650]	445 [335]	2000 [13700]	17950 [24300]	23750 [32200]
SPS700787.3	7.00"	7/8	7.3	7.00	5.75	275.0					0.266 [0.070]	200	300-750 [1140-2840]	750 [2840]	460 [340]	1800 [12500]	17450 [23700]	23100 [31300]
SPS700788.5	7.00"	7/8	8.5	7.00	5.75	300.0	x				0.260 [0.069]	200	500-750 [1900-2840]	750 [2840]	525 [395]	2100 [14500]	20500 [27800]	27150 [36800]
SPS800784.0	8.00"	7/8	4	8.00	6.25	203.2	x	x	x	x	0.155 [0.041]	140	400-900 [1520-3410]	900 [3410]	285 [215]	1000 [6900]	15550 [21100]	20600 [27900]
SPS800785.9	8.00"	7/8	5.9	8.00	6.25	300.0	x	x			0.155 [0.041]	140	400-900 [1520-3410]	900 [3410]	420 [315]	1500 [10100]	22950 [31100]	30350 [41200]

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22 East Lake Crescent NE
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T4A 2H3
587-775-7777
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Spira/TNT Performance Summary

Model Type	Model	Size	Lobes	Stages	Tube OD (in)	Tube ID (in)	Stator Length (in)	Compatibility				Bit Speed (rev/gal) [rev/l]	Max Off Bottom Speed (RPM)	Optimal Flow Range (GPM) [lpm]	Max Flow Limit (GPM) [lpm]	Power at Max (HP) [kW]	Max Motor Pressure (psi) [kPa]	Max Torque Limit (ft-lb) [N-m]	Stall Torque (ft-lb) [N-m]
								Dyna-Drill	Abaco	Weatherford	NOV (Legacy R&M)								
Spira	SPS500568.3	5.00"	5/6	8.3	5.00	3.75	242.6	x	x	x	x	1.000 [0.264]	300	100-300 [380-1140]	300 [1140]	250 [185]	2450 [16700]	6200 [8400]	8350 [11400]
Spira TNT	SPS500783.8	5.00"	7/8	3.8	5.00	3.75	187.0	x	x	x	x	0.521 [0.138]	160	150-300 [570-1140]	350 [1330]	155 [115]	1150 [7700]	5875 [8000]	7950 [10800]
Spira TNT	SPS675785.0	6.75"	7/8	5	6.89	5.50	200.0	x	x	x	x	0.270 [0.071]	160	200-600 [760-2280]	650 [2470]	265 [200]	1500 [10100]	13150 [17800]	17750 [24100]
Spira	SPS700565.3	7.00"	5/6	5.3	6.93	5.50	235.8					0.304 [0.080]	180	200-600 [760-2280]	650 [2470]	355 [265]	1550 [10700]	15575 [21100]	21050 [28500]
Spira TNT	SPS800784.0	8.00"	7/8	4	8.00	6.25	223.5	x	x	x	x	0.155 [0.041]	140	400-900 [1520-3410]	1000 [3790]	400 [295]	1200 [8100]	18300 [24800]	24700 [33500]

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Contact Us

Canadian Operations

Office: 587-775-7777
22 East Lake Crescent NE
Airdrie, Alberta, Canada
T4A 2H3

United States Operations

Office: 832-803-6507
Sales: 832-407-6020
16518 Aldine Westfield, Suite A
Houston, TX 77032

SPIRA SYSTEMS LTD.

Power Sections

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

3.13" 5/6 LOBES 5 STAGES

Model: SPS313565.0

Canadian Oilfield Units

Stator Specifications	
Overall Length (in.)	106.0 [2692 mm]
Tube O.D. (in.)	3.13 [79 mm]
Tube I.D. (in.)	2.63 [67 mm]
Rubber Cut Back Top (in.)	5.6
Rubber Cut Back Bottom (in.)	5.6
Weight (kg)	35
Tube Material	4140-4145
To be threaded and ID Banded by customer	

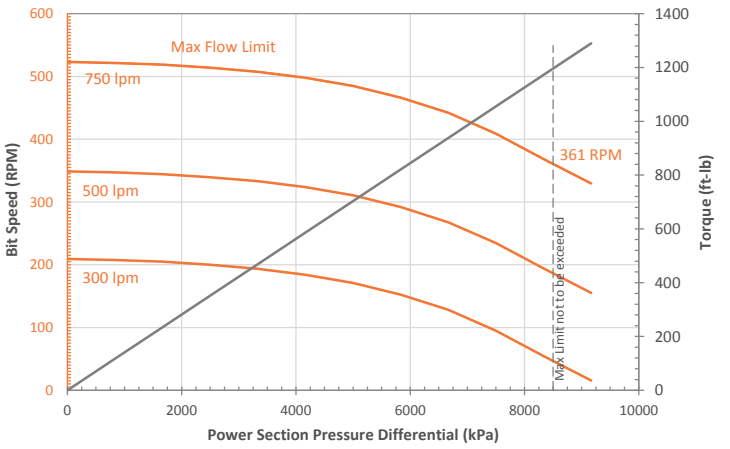
Rotor Specifications	
Overall Length (in.)	103.3 [2625 mm]
Contour Length (in.)	97 [2464 mm]
Major Diameter (in.)	2.073
Eccentricity (in.)	0.148
Head Diameter (in.)	2.250
Bored Weight (kg)	No bore option
Solid Weight (kg)	34
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	300 - 750
Speed Range (RPM)	210 - 525
Torque Slope (ft-lb/kPa)	0.141
Rotation (rev/l)	0.697
Stall Torque (ft-lb)	1,600
Operating Parameters	
Max Diff Pressure (kPa)	8,600
Torque (ft-lb)	1,100
Flow Rate (lpm)	750
Full Load RPM	361 at 750 lpm

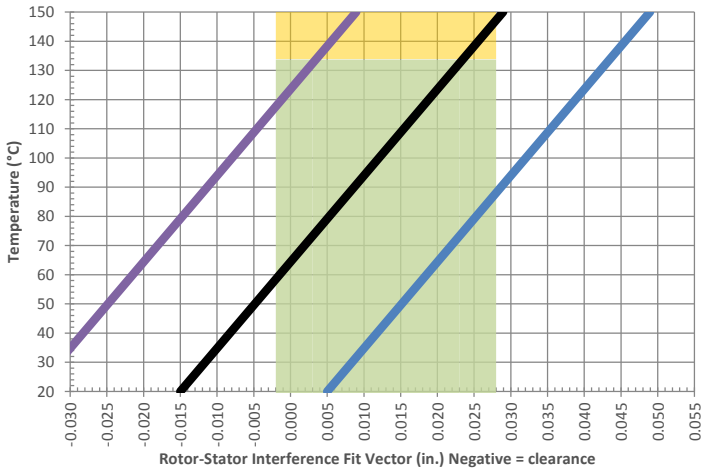
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	-0.015	1.792	-	-	85 - 115 °C
0.5L	-0.025	1.802	-	-	115 - 145 °C
1.0L	-0.035	1.812	-	-	140 - 170 °C
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00034**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.012 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

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Ph: (587) 775-7777
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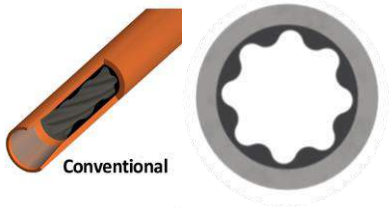
3.13" 5/6 LOBES 5 STAGES
Model: SPS313565.0
Imperial Units



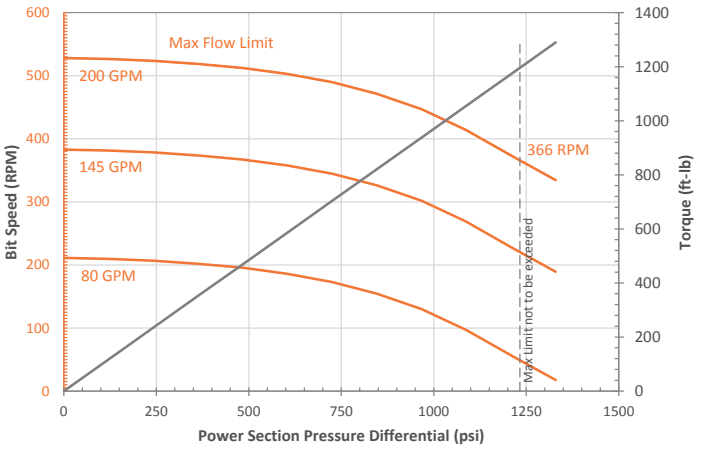
Stator Specifications	
	Inches
Overall Length	106.0
Tube O.D.	3.13
Tube I.D.	2.63
Rubber Cut Back Top	5.6
Rubber Cut Back Bottom	5.6
Weight (lb)	75
Tube Material	4140-4145
To be threaded and ID Banded by customer	

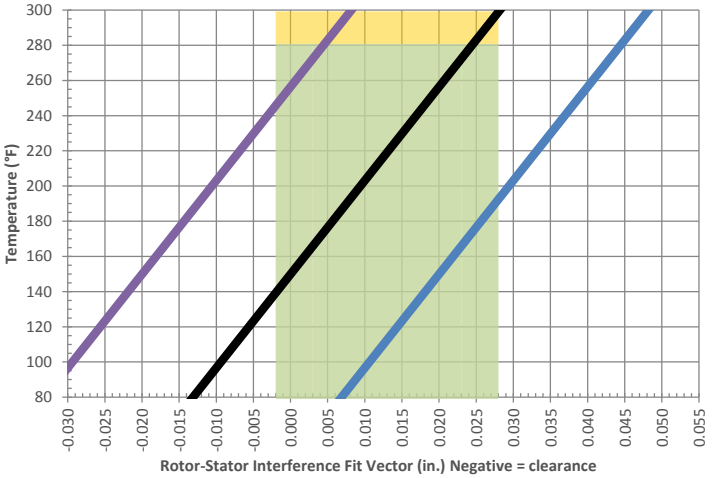
Rotor Specifications	
	Inches
Overall Length	103.3
Contour Length	97
Major Diameter	2.073
Eccentricity	0.148
Head Diameter	2.250
Gunbored Weight (lb)	No bore option
Solid Weight (lb)	75
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	80 - 200
Speed Range (RPM)	210 - 530
Torque Slope (ft-lbs/psi)	0.970
Rotation (rev/Gal)	2.640
Stall Torque (ft-lbs)	1,600
Operating Parameters	
Max Diff Pressure (psi)	1,250
Torque (ft-lbs)	1,100
Flow Rate (GPM)	200
Full Load RPM	366 at 200 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	-0.015	1.792	-	-	185 - 240 °F
0.5L	-0.025	1.802	-	-	235 - 290 °F
1.0L	-0.035	1.812	-	-	290 - 340 °F
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00019**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.012 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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Ph: (587) 775-7777
www.spirasystems.com

4.75" 5/6 LOBES 8.3 STAGES

Model: SPS475568.3

Canadian Oilfield Units

Stator Specifications	
Overall Length (in.)	242.6 [6162 mm]
Tube O.D. (in.)	4.75 [121 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)	245
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 Laser 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)				**0.00050**	

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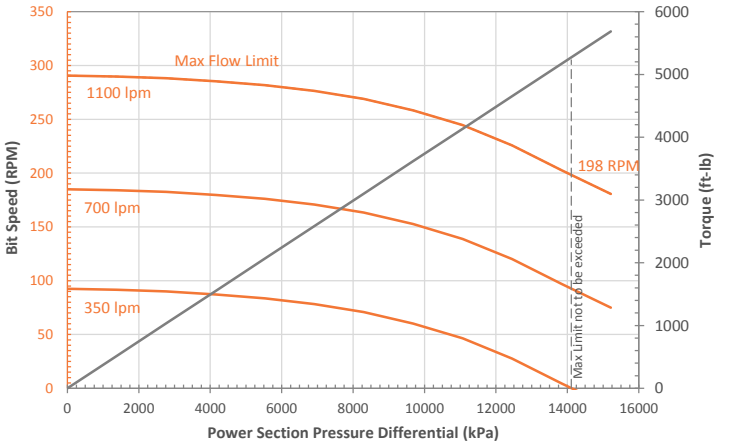
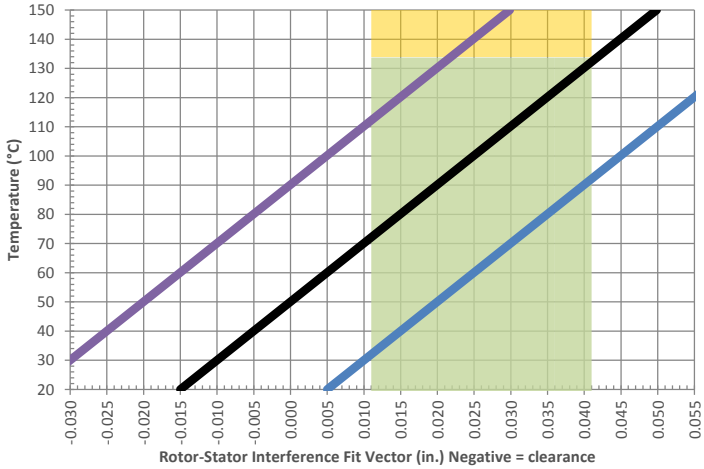
*Approximate Vector/laser gauge conversion: 0.014 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***Best operating temperatures are based on new stators subject to normal thermal expansion conditions. Operators may wish to consider swell and run life when selecting sizes.



------- Expected slightly reduced torque when operating at this flow limit
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

4.75" 5/6 LOBES 8.3 STAGES

Model: SPS475568.3

Imperial Units

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Power Sections

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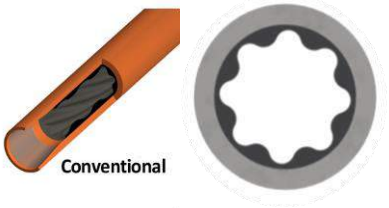


Stator Specifications	
	Inches
Overall Length	242.6
Tube O.D.	4.75
Tube I.D.	3.75
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	545
Tube Material	4140-4145
To be threaded and ID Banded by customer	

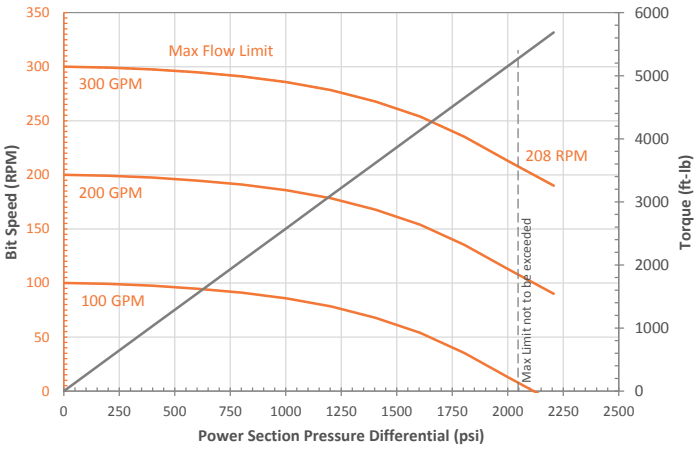
Rotor Specifications	
	Inches
Overall Length	229.5
Contour Length	223
Major Diameter	2.916
Eccentricity	0.207
Head Diameter	2.750
Gunbored Weight (lb)	275
Solid Weight (lb)	325
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

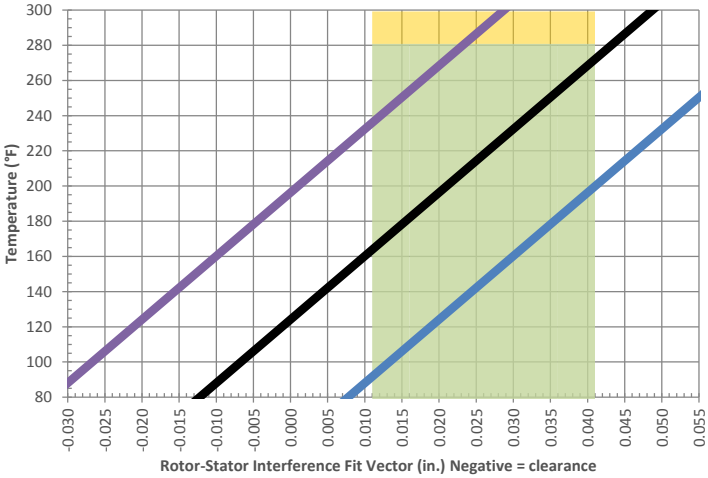
Performance Specifications	
Flow Range (GPM)	100 - 300
Speed Range (RPM)	100 - 300
Torque Slope (ft-lbs/psi)	2.576
Rotation (rev/Gal)	1.000
Stall Torque (ft-lbs)	7,000
Operating Parameters	
Max Diff Pressure (psi)	2,050
Torque (ft-lbs)	5,200
Flow Rate (GPM)	300
Full Load RPM	208 at 300 GPM

Minor Diameter Fit Details (at 68°F)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-0.005	2.507	0.009	2.493	150 - 200 °F
STD	-0.015	2.517	-0.001	2.503	185 - 235 °F
0.5L	-0.025	2.527	-0.011	2.513	220 - 270 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00028**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.014 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

4.75" 7/8 LOBES 3.7 STAGES

Model: SPS475783.7

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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www.spirasystems.com

Stator Specifications	
Overall Length (in.)	235.0 [5969 mm]
Tube O.D. (in.)	4.75 [121 mm]
Tube I.D. (in.)	4.00 [102 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	150
Tube Material	4140-4145
To be threaded and ID Banded by customer	

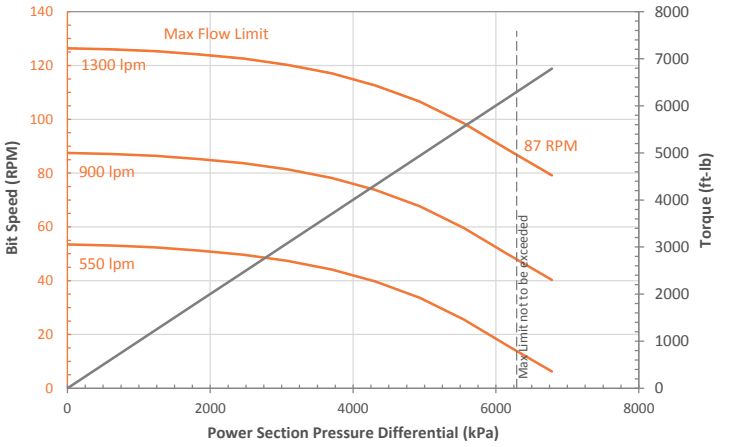
Rotor Specifications	
Overall Length (in.)	214.8 [5455 mm]
Contour Length (in.)	208 [5290 mm]
Major Diameter (in.)	3.122
Eccentricity (in.)	0.177
Head Diameter (in.)	3.250
Bored Weight (kg)	147
Solid Weight (kg)	169
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1300
Speed Range (RPM)	55 - 125
Torque Slope (ft-lb/kPa)	1.001
Rotation (rev/l)	0.097
Stall Torque (ft-lb)	8,350
Operating Parameters	
Max Diff Pressure (kPa)	6,300
Torque (ft-lb)	6,200
Flow Rate (lpm)	1,300
Full Load RPM	87 at 1300 lpm

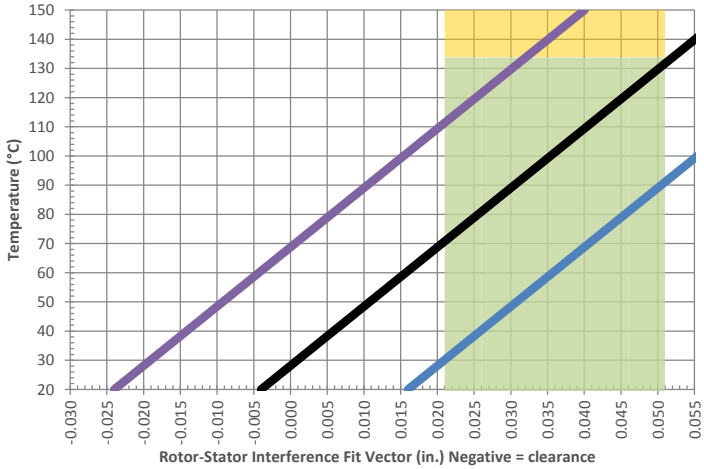
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.006	2.763	0.010	2.759	65 - 95 °C
STD	-0.004	2.773	0.000	2.769	85 - 115 °C
0.5L	-0.014	2.783	-0.010	2.779	105 - 135 °C
1.0L	-0.024	2.793	-0.020	2.789	120 - 150 °C
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00049**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.004 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

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Power Sections

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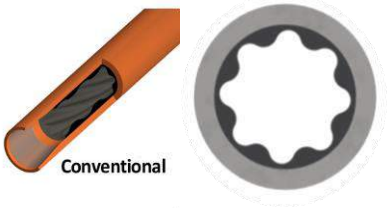
4.75" 7/8 LOBES 3.7 STAGES

Model: SPS475783.7

Imperial Units



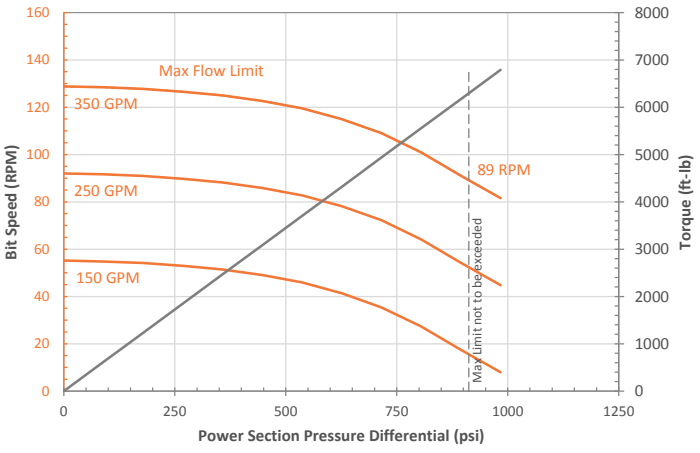
Stator Specifications	
	Inches
Overall Length	235.0
Tube O.D.	4.75
Tube I.D.	4.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	330
Tube Material	4140-4145
To be threaded and ID Banded by customer	

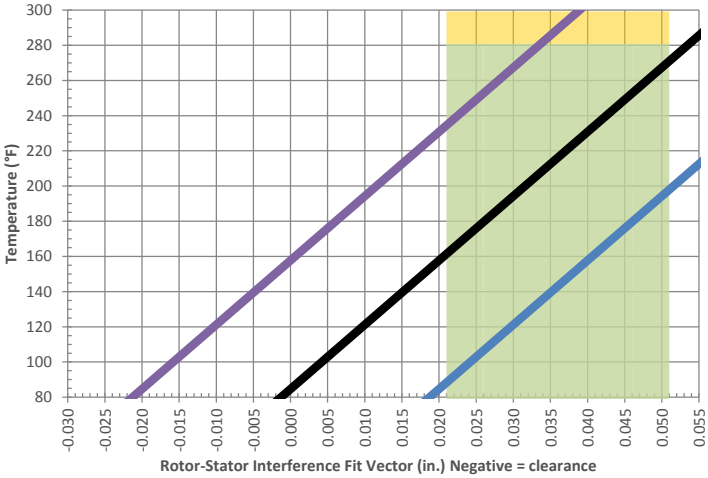
Rotor Specifications	
	Inches
Overall Length	214.8
Contour Length	208
Major Diameter	3.122
Eccentricity	0.177
Head Diameter	3.250
Gunbored Weight (lb)	325
Solid Weight (lb)	372
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	150 - 350
Speed Range (RPM)	55 - 130
Torque Slope (ft-lbs/psi)	6.901
Rotation (rev/Gal)	0.368
Stall Torque (ft-lbs)	8,350
Operating Parameters	
Max Diff Pressure (psi)	950
Torque (ft-lbs)	6,200
Flow Rate (GPM)	350
Full Load RPM	89 at 350 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.006	2.763	0.010	2.759	145 - 200 °F
STD	-0.004	2.773	0.000	2.769	180 - 235 °F
0.5L	-0.014	2.783	-0.010	2.779	215 - 270 °F
1.0L	-0.024	2.793	-0.020	2.789	250 - 305 °F
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00027	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.004 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

4.75" 7/8 LOBES 3.8 STAGES

Model: SPS475783.8

Canadian Oilfield Units

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Power Sections

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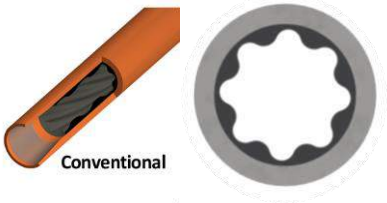


Stator Specifications	
Overall Length (in.)	187.0 [4750 mm]
Tube O.D. (in.)	4.75 [121 mm]
Tube I.D. (in.)	3.75 [95 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	230
Tube Material	4140-4145
To be threaded and ID Banded by customer	

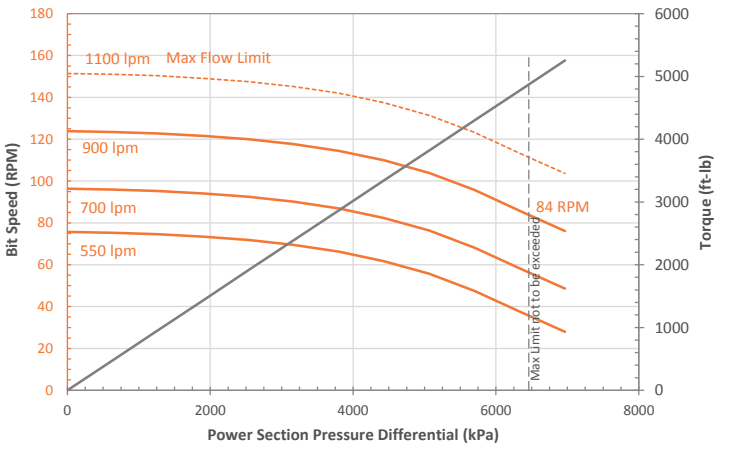
Rotor Specifications	
Overall Length (in.)	178.0 [4521 mm]
Contour Length (in.)	172 [4375 mm]
Major Diameter (in.)	2.945
Eccentricity (in.)	0.163
Head Diameter (in.)	2.750
Bored Weight (kg)	107
Solid Weight (kg)	124
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1100
Speed Range (RPM)	75 - 125
Torque Slope (ft-lb/kPa)	0.754
Rotation (rev/l)	0.138
Stall Torque (ft-lb)	6,450
Operating Parameters	
Max Diff Pressure (kPa)	6,500
Torque (ft-lb)	4,800
Flow Rate (lpm)	900
Full Load RPM	84 at 900 lpm

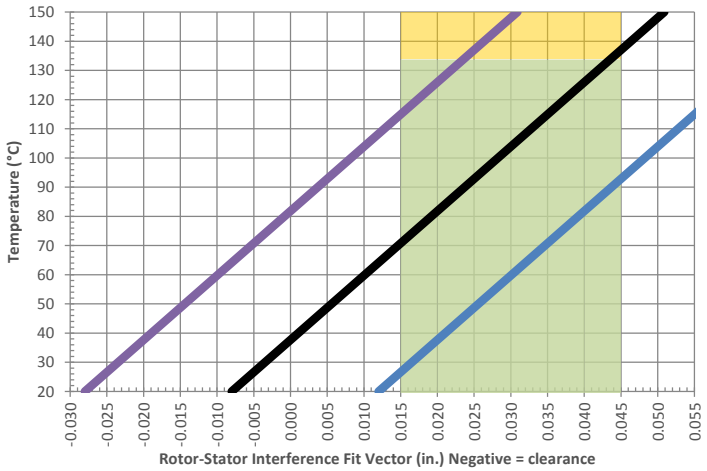
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.012	2.607	0.022	2.597	45 - 75 °C
0.5T	0.002	2.617	0.012	2.607	65 - 95 °C
STD	-0.008	2.627	0.002	2.617	85 - 115 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00045**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.010 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

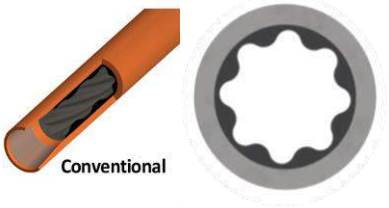
Power Sections

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

4.75" 7/8 LOBES 3.8 STAGES

Model: SPS475783.8

Imperial Units



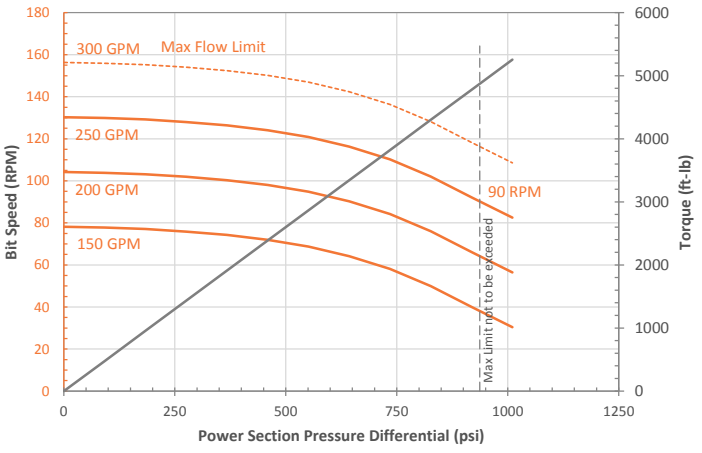
Stator Specifications	
	Inches
Overall Length	187.0
Tube O.D.	4.75
Tube I.D.	3.75
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	505
Tube Material	4140-4145
To be threaded and ID Banded by customer	

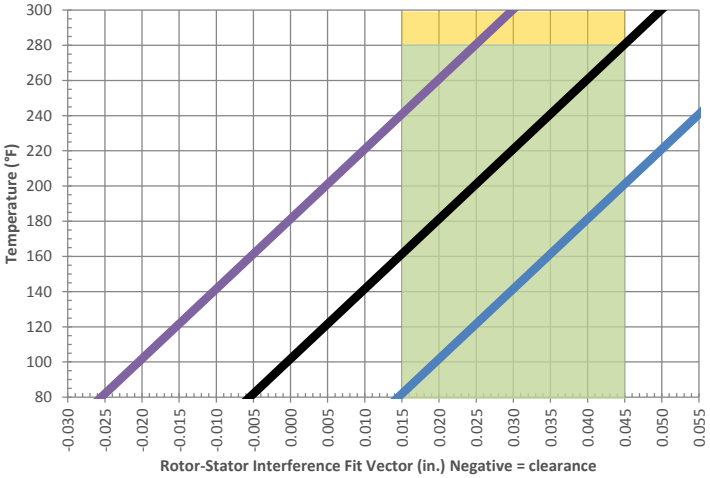
Rotor Specifications	
	Inches
Overall Length	178.0
Contour Length	172
Major Diameter	2.945
Eccentricity	0.163
Head Diameter	2.750
Gunbored Weight (lb)	235
Solid Weight (lb)	274
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	150 - 300
Speed Range (RPM)	80 - 130
Torque Slope (ft-lbs/psi)	5.200
Rotation (rev/Gal)	0.521
Stall Torque (ft-lbs)	6,450
Operating Parameters	
Max Diff Pressure (psi)	950
Torque (ft-lbs)	4,800
Flow Rate (GPM)	250
Full Load RPM	90 at 250 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.012	2.607	0.022	2.597	110 - 165 °F
0.5T	0.002	2.617	0.012	2.607	150 - 205 °F
STD	-0.008	2.627	0.002	2.617	190 - 245 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00025	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.010 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

4.75" 7/8 LOBES 5 STAGES

Model: SPS475785.0 WFD

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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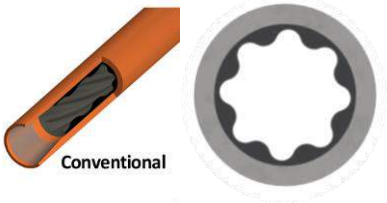


Stator Specifications	
Overall Length (in.)	198.0 [5029 mm]
Tube O.D. (in.)	4.75 [121 mm]
Tube I.D. (in.)	3.88 [99 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	225
Tube Material	4140-4145
To be threaded and ID Banded by customer	

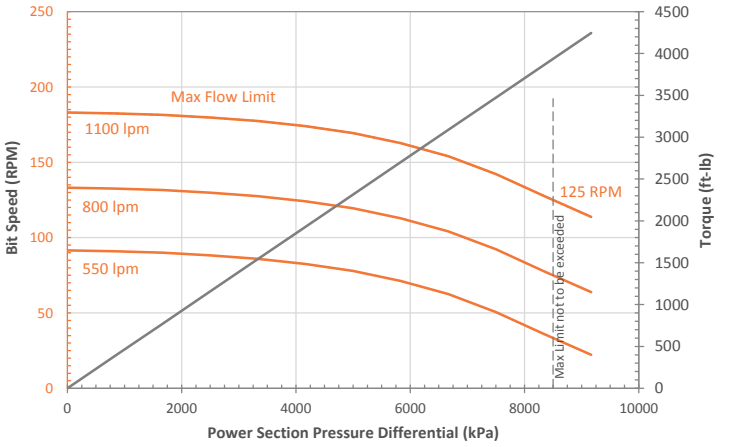
Rotor Specifications	
Overall Length (in.)	186.0 [4724 mm]
Contour Length (in.)	180 [4572 mm]
Major Diameter (in.)	3.041
Eccentricity (in.)	0.169
Head Diameter (in.)	2.750
Bored Weight (kg)	120
Solid Weight (kg)	139
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1100
Speed Range (RPM)	90 - 185
Torque Slope (ft-lb/kPa)	0.463
Rotation (rev/l)	0.166
Stall Torque (ft-lb)	5,200
Operating Parameters	
Max Diff Pressure (kPa)	8,600
Torque (ft-lb)	3,900
Flow Rate (lpm)	1,100
Full Load RPM	125 at 1100 lpm

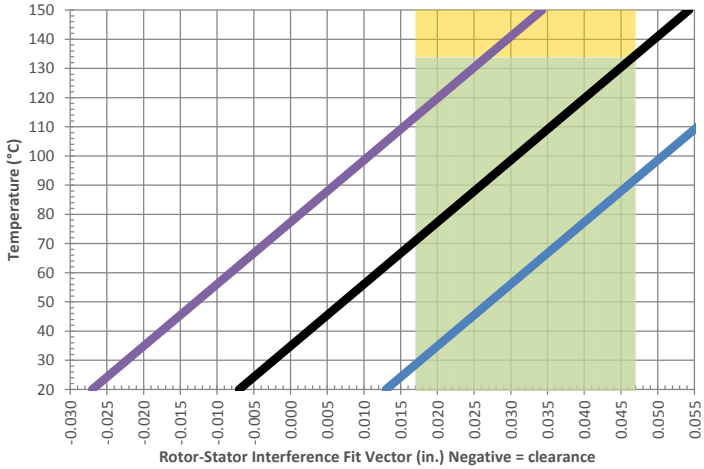
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.013	2.690	0.021	2.682	45 - 75 °C
0.5T	0.003	2.700	0.011	2.692	65 - 95 °C
STD	-0.007	2.710	0.001	2.702	85 - 115 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00047**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

4.75" 7/8 LOBES 5 STAGES

Model: SPS475785.0 WFD

Imperial Units

Power Sections

22 East Lake Crescent N.E., Airdrie, Alberta, Canada, T4A 2H3
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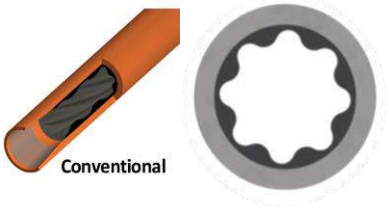

Stator Specifications	
	Inches
Overall Length	198.0
Tube O.D.	4.75
Tube I.D.	3.88
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	490
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
	Inches
Overall Length	186.0
Contour Length	180
Major Diameter	3.041
Eccentricity	0.169
Head Diameter	2.750
Gunbored Weight (lb)	265
Solid Weight (lb)	306
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	150 - 300
Speed Range (RPM)	95 - 190
Torque Slope (ft-lbs/psi)	3.193
Rotation (rev/Gal)	0.630
Stall Torque (ft-lbs)	5,200
Operating Parameters	
Max Diff Pressure (psi)	1,250
Torque (ft-lbs)	3,900
Flow Rate (GPM)	300
Full Load RPM	131 at 300 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.013	2.690	0.021	2.682	110 - 165 °F
0.5T	0.003	2.700	0.011	2.692	150 - 200 °F
STD	-0.007	2.710	0.001	2.702	185 - 240 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00026**	

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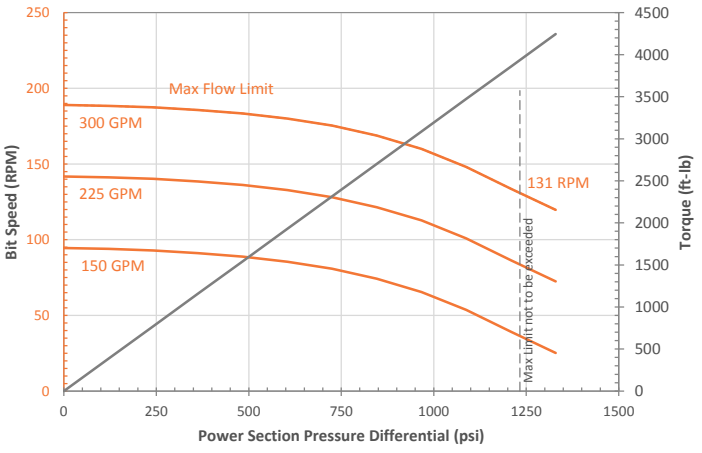
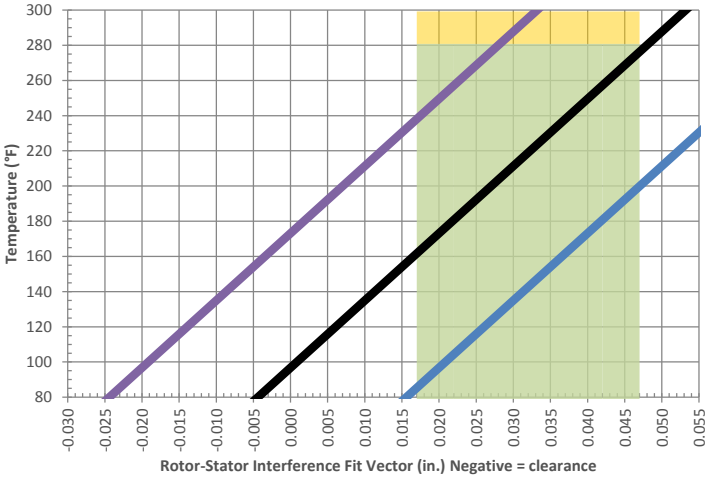
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***Best operating temperatures are based on new stators subject to normal thermal expansion conditions. Operators may wish to consider swell and run life when selecting sizes.





------- Expected slightly reduced torque when operating at this flow limit
– – – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

4.75" 7/8 LOBES 5.7 STAGES

Model: SPS475785.7

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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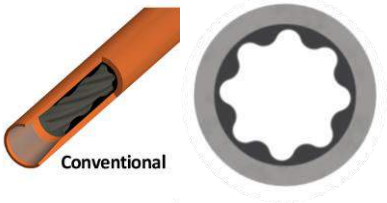


Stator Specifications	
Overall Length (in.)	250.0 [6350 mm]
Tube O.D. (in.)	4.75 [121 mm]
Tube I.D. (in.)	4.00 [102 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	185
Tube Material	4140-4145
To be threaded and ID Banded by customer	

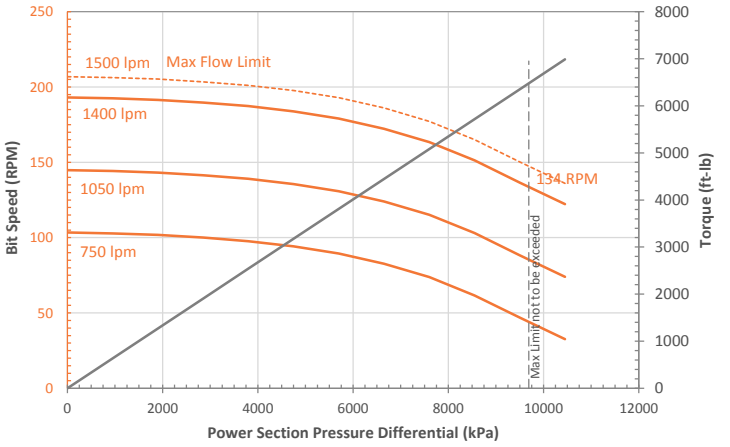
Rotor Specifications	
Overall Length (in.)	240.0 [6096 mm]
Contour Length (in.)	234 [5944 mm]
Major Diameter (in.)	3.144
Eccentricity (in.)	0.168
Head Diameter (in.)	3.250
Bored Weight (kg)	170
Solid Weight (kg)	194
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	750 - 1500
Speed Range (RPM)	105 - 195
Torque Slope (ft-lb/kPa)	0.669
Rotation (rev/l)	0.138
Stall Torque (ft-lb)	8,600
Operating Parameters	
Max Diff Pressure (kPa)	9,700
Torque (ft-lb)	6,400
Flow Rate (lpm)	1,400
Full Load RPM	134 at 1400 lpm

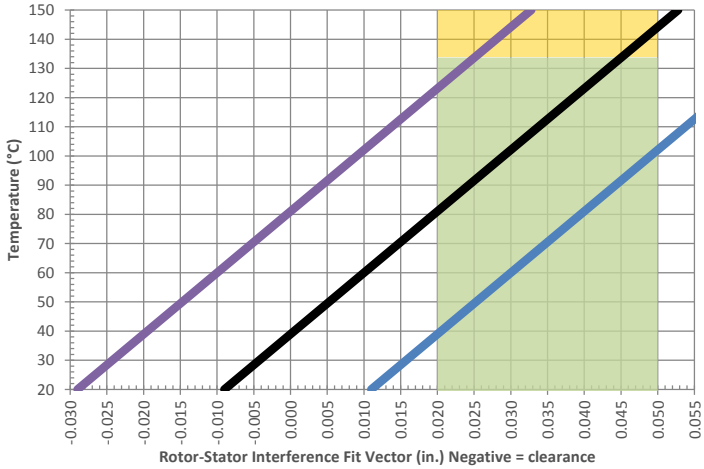
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.011	2.797	0.016	2.792	55 - 85 °C
0.5T	0.001	2.807	0.006	2.802	75 - 105 °C
STD	-0.009	2.817	-0.004	2.812	95 - 125 °C
0.5L	-0.019	2.827	-0.014	2.822	115 - 145 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00048**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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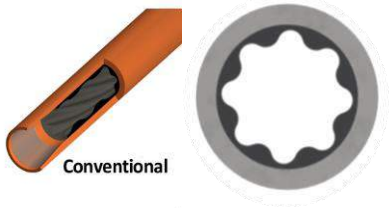
4.75" 7/8 LOBES 5.7 STAGES
Model: SPS475785.7
Imperial Units



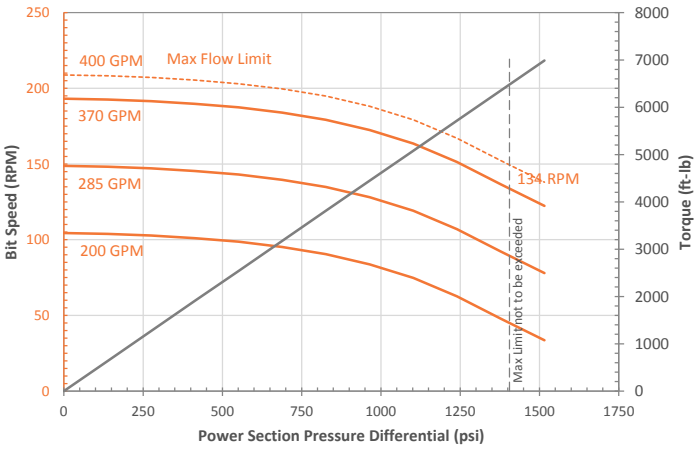
Stator Specifications	
	Inches
Overall Length	250.0
Tube O.D.	4.75
Tube I.D.	4.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	415
Tube Material	4140-4145
To be threaded and ID Banded by customer	

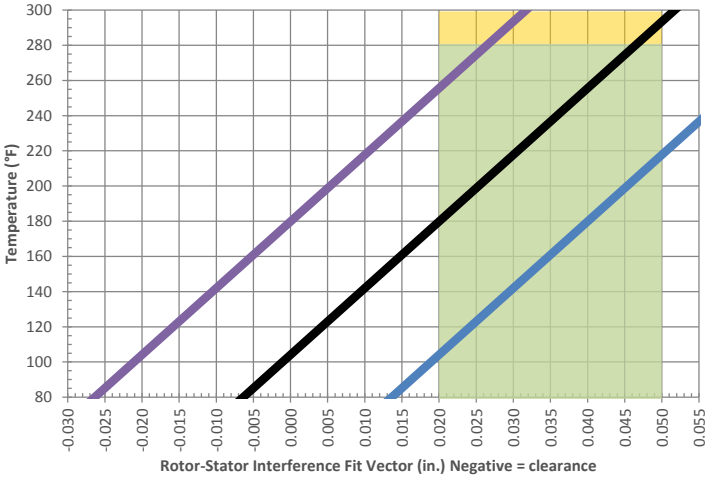
Rotor Specifications	
	Inches
Overall Length	240.0
Contour Length	234
Major Diameter	3.144
Eccentricity	0.168
Head Diameter	3.250
Gunbored Weight (lb)	375
Solid Weight (lb)	428
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	200 - 400
Speed Range (RPM)	105 - 195
Torque Slope (ft-lbs/psi)	4.610
Rotation (rev/Gal)	0.522
Stall Torque (ft-lbs)	8,600
Operating Parameters	
Max Diff Pressure (psi)	1,450
Torque (ft-lbs)	6,400
Flow Rate (GPM)	370
Full Load RPM	134 at 370 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.011	2.797	0.016	2.792	130 - 180 °F
0.5T	0.001	2.807	0.006	2.802	165 - 220 °F
STD	-0.009	2.817	-0.004	2.812	200 - 255 °F
0.5L	-0.019	2.827	-0.014	2.822	240 - 290 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00026**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

5.00" 5/6 LOBES 6.7 STAGES

Model: SPS500566.7

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

22 East Lake Crescent N.E., Airdrie, Alberta, Canada, T4A 2H3
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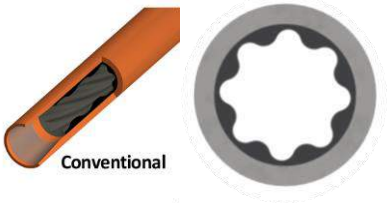


Stator Specifications	
Overall Length (in.)	250.0 [6350 mm]
Tube O.D. (in.)	5.00 [127 mm]
Tube I.D. (in.)	4.00 [102 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	250
Tube Material	4140-4145
To be threaded and ID Banded by customer	

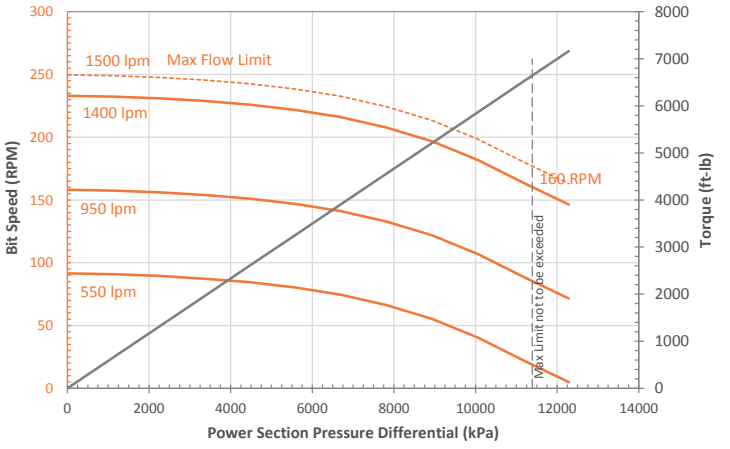
Rotor Specifications	
Overall Length (in.)	241.0 [6121 mm]
Contour Length (in.)	235 [5969 mm]
Major Diameter (in.)	3.120
Eccentricity (in.)	0.235
Head Diameter (in.)	2.900
Bored Weight (kg)	150
Solid Weight (kg)	174
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1500
Speed Range (RPM)	90 - 235
Torque Slope (ft-lb/kPa)	0.583
Rotation (rev/l)	0.166
Stall Torque (ft-lb)	8,800
Operating Parameters	
Max Diff Pressure (kPa)	11,400
Torque (ft-lb)	6,600
Flow Rate (lpm)	1,400
Full Load RPM	160 at 1400 lpm

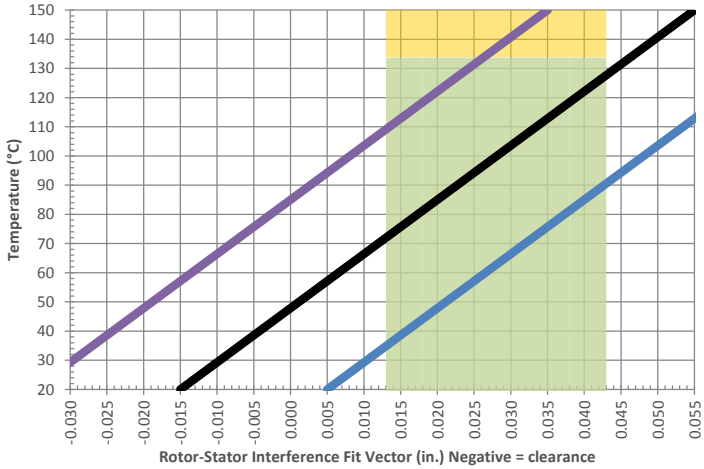
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-0.005	2.655	0.007	2.643	65 - 95 °C
STD	-0.015	2.665	-0.003	2.653	85 - 115 °C
0.5L	-0.025	2.675	-0.013	2.663	100 - 130 °C
1.0L	-0.035	2.685	-0.023	2.673	120 - 150 °C
1.5L	-0.045	2.695	-0.033	2.683	135 - 165 °C
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00054**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.012 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

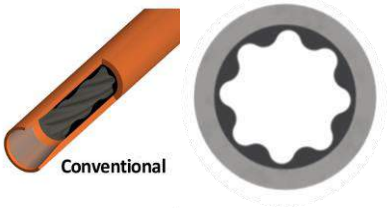
Power Sections

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

5.00" 5/6 LOBES 6.7 STAGES

Model: SPS500566.7

Imperial Units



Stator Specifications	
	Inches
Overall Length	250.0
Tube O.D.	5.00
Tube I.D.	4.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	555
Tube Material	4140-4145
To be threaded and ID Banded by customer	

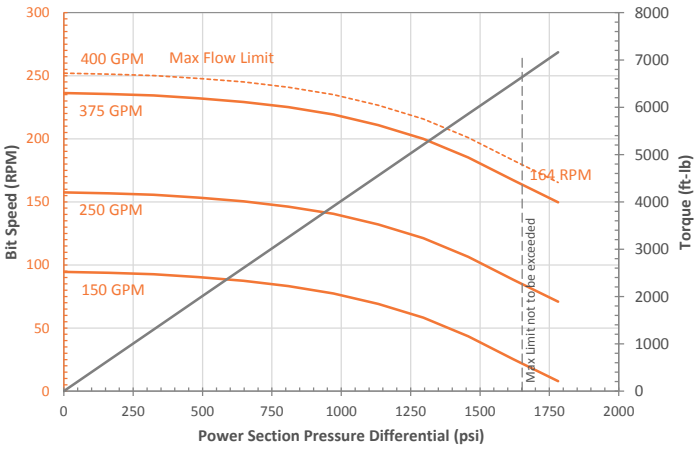
Rotor Specifications	
	Inches
Overall Length	241.0
Contour Length	235
Major Diameter	3.120
Eccentricity	0.235
Head Diameter	2.900
Gunbored Weight (lb)	330
Solid Weight (lb)	383
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	150 - 400
Speed Range (RPM)	95 - 235
Torque Slope (ft-lbs/psi)	4.020
Rotation (rev/Gal)	0.630
Stall Torque (ft-lbs)	8,800
Operating Parameters	
Max Diff Pressure (psi)	1,700
Torque (ft-lbs)	6,600
Flow Rate (GPM)	375
Full Load RPM	164 at 375 GPM

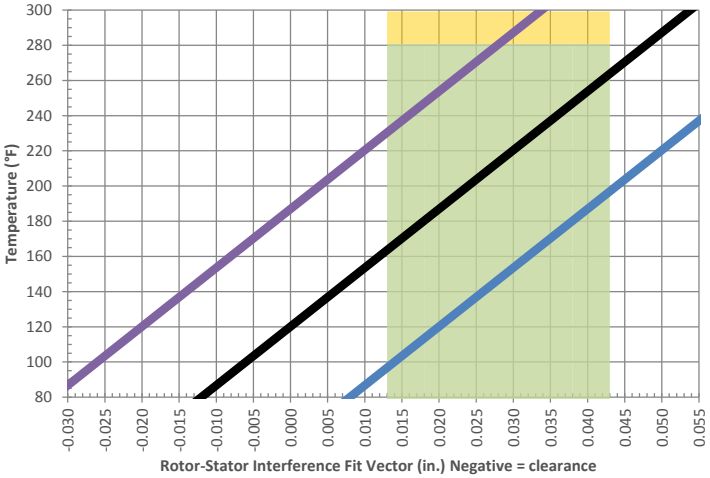
Minor Diameter Fit Details (at 68°F)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-0.005	2.655	0.007	2.643	150 - 205 °F
STD	-0.015	2.665	-0.003	2.653	180 - 235 °F
0.5L	-0.025	2.675	-0.013	2.663	215 - 270 °F
1.0L	-0.035	2.685	-0.023	2.673	245 - 300 °F
1.5L	-0.045	2.695	-0.033	2.683	280 - 335 °F
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00030**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.012 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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

5.00" 5/6 LOBES 8.3 STAGES

Model: SPS500568.3

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 Laser 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)				**0.00050**	

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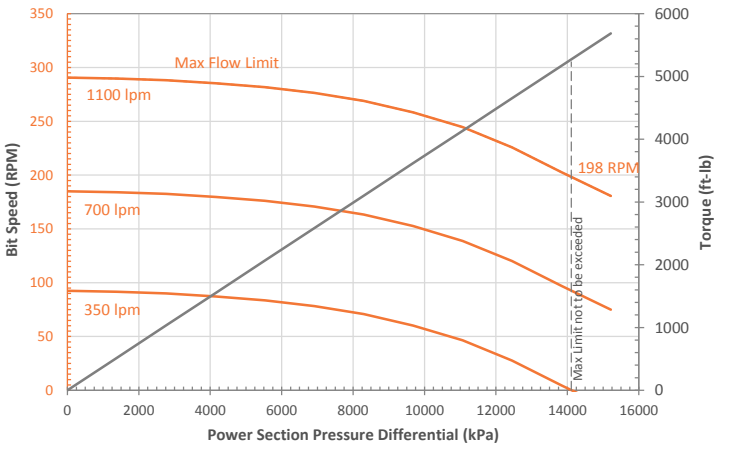
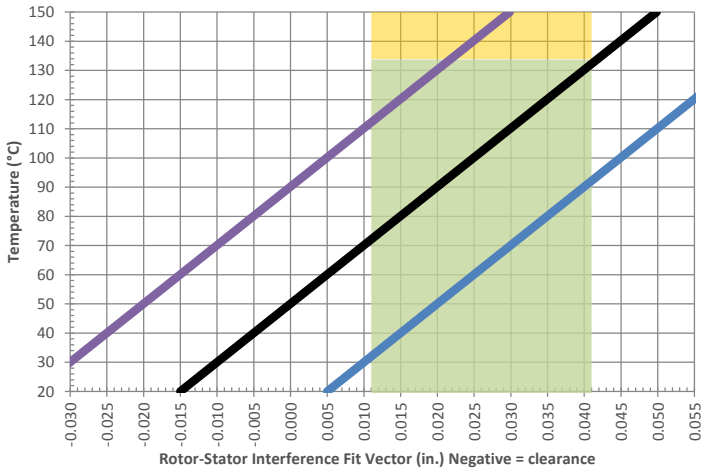
*Approximate Vector/laser gauge conversion: 0.014 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***Best operating temperatures are based on new stators subject to normal thermal expansion conditions. Operators may wish to consider swell and run life when selecting sizes.



------- Expected slightly reduced torque when operating at this flow limit
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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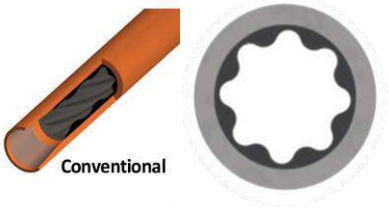
Ph: (587) 775-7777
www.spirasystems.com

5.00" 5/6 LOBES 8.3 STAGES

Model: SPS500568.3

Imperial Units



Stator Specifications	
	Inches
Overall Length	242.6
Tube O.D.	5.00
Tube I.D.	3.75
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	635
Tube Material	4140-4145
To be threaded and ID Banded by customer	

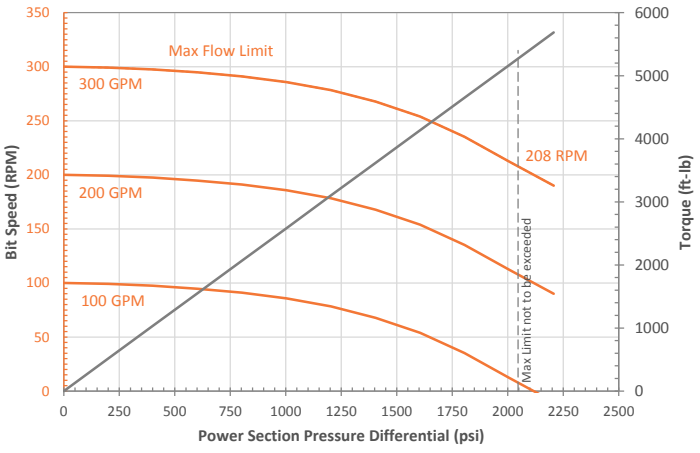
Rotor Specifications	
	Inches
Overall Length	229.5
Contour Length	223
Major Diameter	2.916
Eccentricity	0.207
Head Diameter	2.750
Gunbored Weight (lb)	275
Solid Weight (lb)	325
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

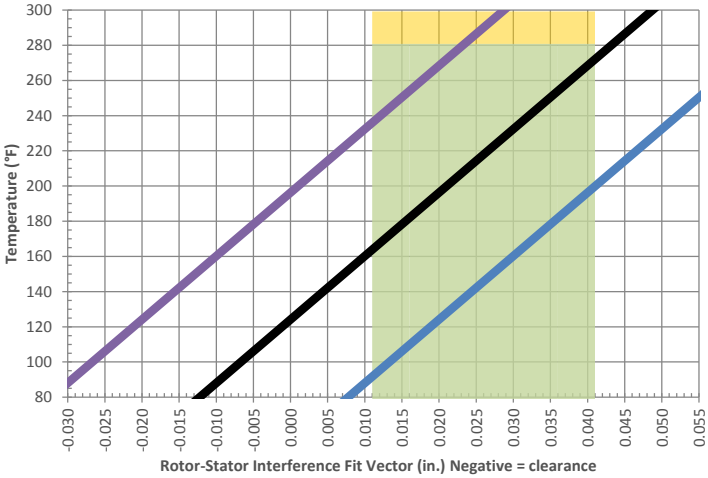
Performance Specifications	
Flow Range (GPM)	100 - 300
Speed Range (RPM)	100 - 300
Torque Slope (ft-lbs/psi)	2.576
Rotation (rev/Gal)	1.000
Stall Torque (ft-lbs)	7,000
Operating Parameters	
Max Diff Pressure (psi)	2,050
Torque (ft-lbs)	5,200
Flow Rate (GPM)	300
Full Load RPM	208 at 300 GPM

Minor Diameter Fit Details (at 68°F)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-0.005	2.507	0.009	2.493	150 - 200 °F
STD	-0.015	2.517	-0.001	2.503	185 - 235 °F
0.5L	-0.025	2.527	-0.011	2.513	220 - 270 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00028**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.014 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

5.00" 6/7 LOBES 8 STAGES

Model: SPS500678.0

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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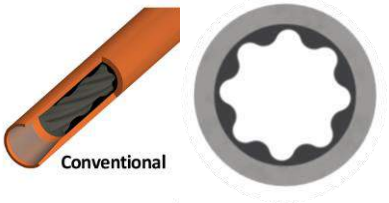
Ph: (587) 775-7777
www.spirasystems.com



Stator Specifications	
Overall Length (in.)	250.0 [6350 mm]
Tube O.D. (in.)	5.00 [127 mm]
Tube I.D. (in.)	4.00 [102 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	255
Tube Material	4140-4145
To be threaded and ID Banded by customer	

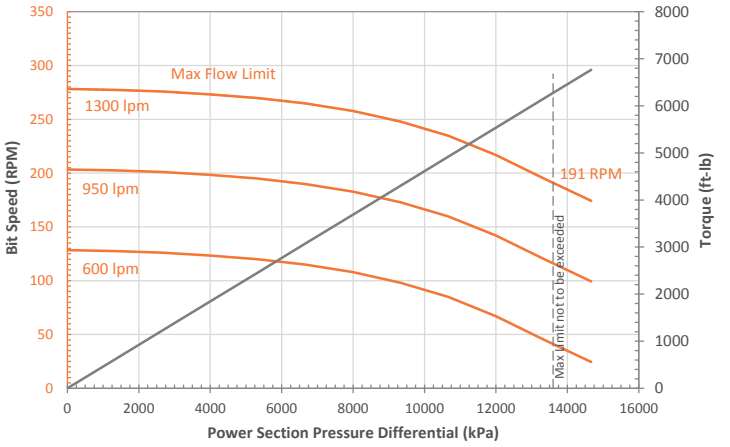
Rotor Specifications	
Overall Length (in.)	241.0 [6121 mm]
Contour Length (in.)	235 [5969 mm]
Major Diameter (in.)	3.018
Eccentricity (in.)	0.192
Head Diameter (in.)	2.900
Bored Weight (kg)	147
Solid Weight (kg)	171
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

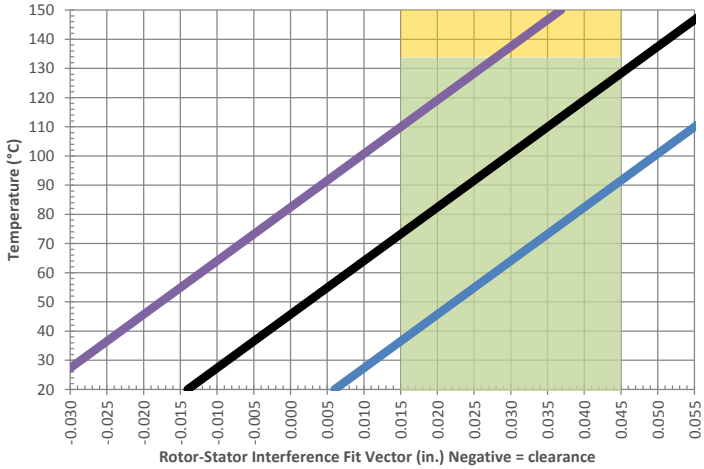
Performance Specifications	
Flow Range (lpm)	600 - 1300
Speed Range (RPM)	130 - 280
Torque Slope (ft-lb/kPa)	0.461
Rotation (rev/l)	0.214
Stall Torque (ft-lb)	8,300
Operating Parameters	
Max Diff Pressure (kPa)	13,700
Torque (ft-lb)	6,200
Flow Rate (lpm)	1,300
Full Load RPM	191 at 1300 lpm

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 Laser Measurements		Optimal
1.0T	0.006	2.628	0.016	2.618	45 - 75 °C
0.5T	-0.004	2.638	0.006	2.628	65 - 95 °C
STD	-0.014	2.648	-0.004	2.638	85 - 115 °C
0.5L	-0.024	2.658	-0.014	2.648	100 - 130 °C
1.0L	-0.034	2.668	-0.024	2.658	120 - 150 °C
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00054**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.010 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

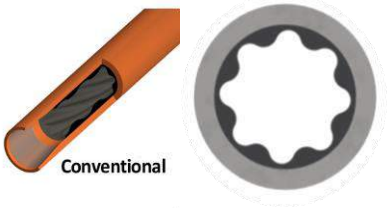
5.00" 6/7 LOBES 8 STAGES

Model: SPS500678.0

Imperial Units

Power Sections

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



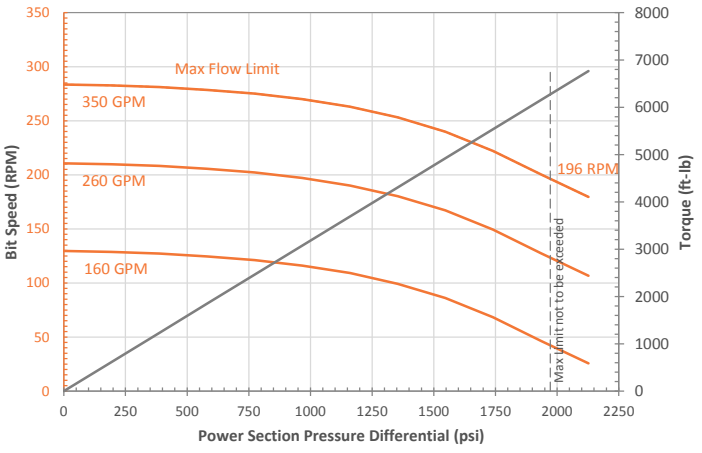
Stator Specifications	
	Inches
Overall Length	250.0
Tube O.D.	5.00
Tube I.D.	4.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	555
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
	Inches
Overall Length	241.0
Contour Length	235
Major Diameter	3.018
Eccentricity	0.192
Head Diameter	2.900
Gunbored Weight (lb)	325
Solid Weight (lb)	378
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

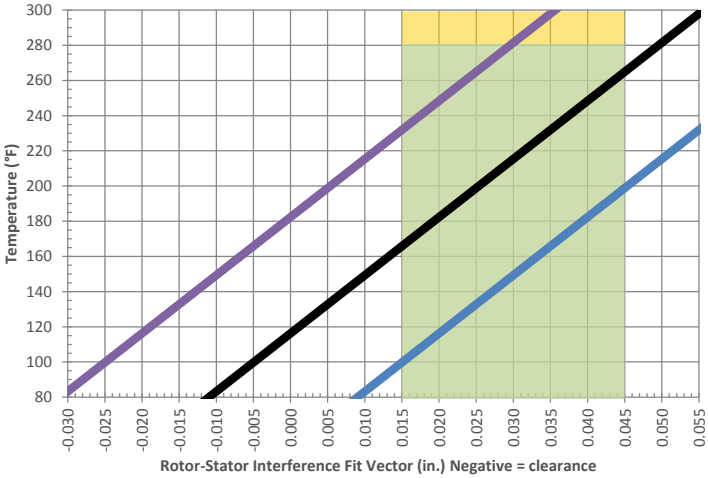
Performance Specifications	
Flow Range (GPM)	160 - 350
Speed Range (RPM)	130 - 285
Torque Slope (ft-lbs/psi)	3.180
Rotation (rev/Gal)	0.810
Stall Torque (ft-lbs)	8,300
Operating Parameters	
Max Diff Pressure (psi)	2,000
Torque (ft-lbs)	6,200
Flow Rate (GPM)	350
Full Load RPM	196 at 350 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.006	2.628	0.016	2.618	115 - 170 °F
0.5T	-0.004	2.638	0.006	2.628	150 - 205 °F
STD	-0.014	2.648	-0.004	2.638	180 - 235 °F
0.5L	-0.024	2.658	-0.014	2.648	215 - 265 °F
1.0L	-0.034	2.668	-0.024	2.658	245 - 300 °F
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00030	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.010 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

5.00" 6/7 LOBES 9 STAGES

Model: SPS500679.0

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

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.)	250.0 [6350 mm]
Tube O.D. (in.)	5.00 [127 mm]
Tube I.D. (in.)	4.00 [102 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	250
Tube Material	4140-4145
To be threaded and ID Banded by customer	

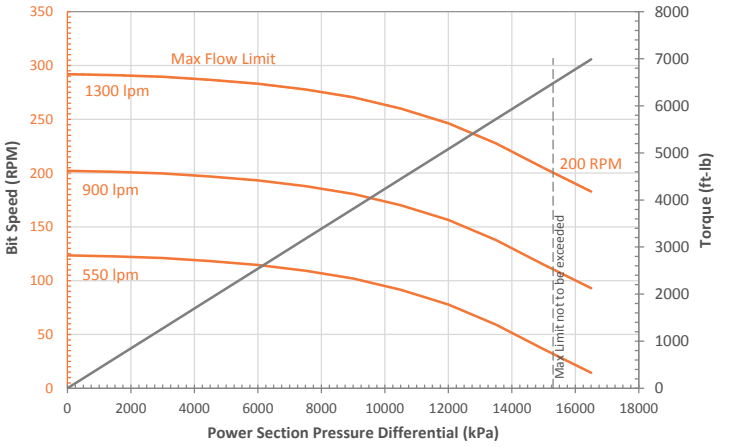
Rotor Specifications	
Overall Length (in.)	241.0 [6121 mm]
Contour Length (in.)	235 [5969 mm]
Major Diameter (in.)	3.190
Eccentricity (in.)	0.194
Head Diameter (in.)	2.900
Bored Weight (kg)	171
Solid Weight (kg)	195
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1300
Speed Range (RPM)	125 - 290
Torque Slope (ft-lb/kPa)	0.424
Rotation (rev/l)	0.225
Stall Torque (ft-lb)	8,600
Operating Parameters	
Max Diff Pressure (kPa)	15,400
Torque (ft-lb)	6,400
Flow Rate (lpm)	1,300
Full Load RPM	200 at 1300 lpm

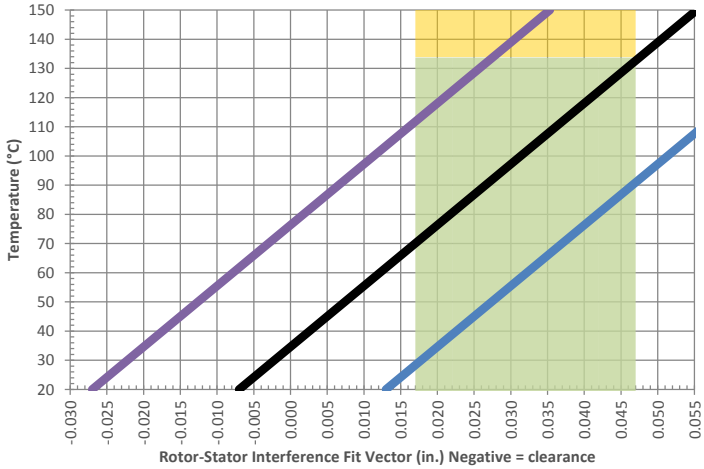
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	-0.007	2.810	0.001	2.802	85 - 115 °C
0.5L	-0.017	2.820	-0.009	2.812	105 - 135 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00048**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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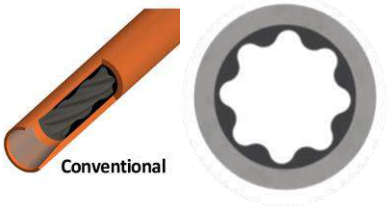
5.00" 6/7 LOBES 9 STAGES

Model: SPS500679.0

Imperial Units



Stator Specifications	
	Inches
Overall Length	250.0
Tube O.D.	5.00
Tube I.D.	4.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	550
Tube Material	4140-4145
To be threaded and ID Banded by customer	

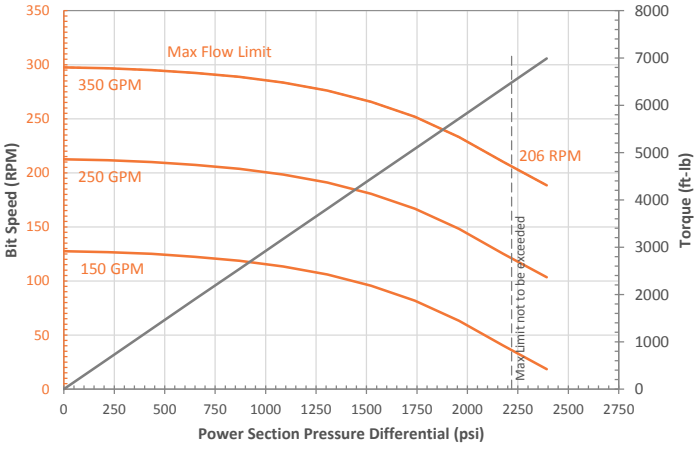
Rotor Specifications	
	Inches
Overall Length	241.0
Contour Length	235
Major Diameter	3.190
Eccentricity	0.194
Head Diameter	2.900
Gunbored Weight (lb)	377
Solid Weight (lb)	430
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

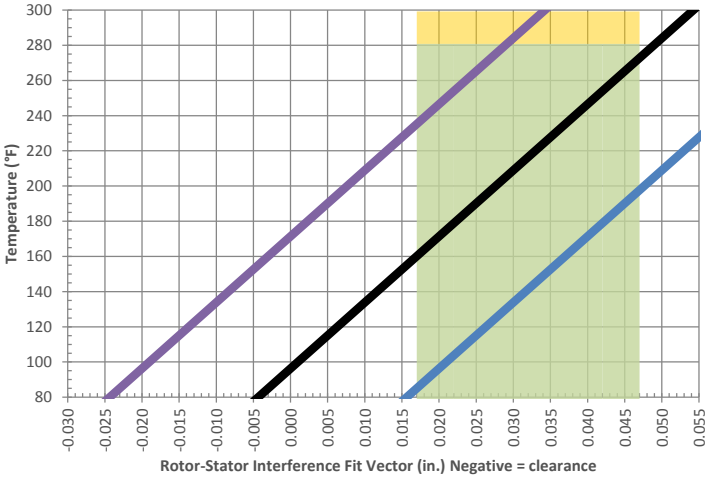
Performance Specifications	
Flow Range (GPM)	150 - 350
Speed Range (RPM)	130 - 300
Torque Slope (ft-lbs/psi)	2.920
Rotation (rev/Gal)	0.850
Stall Torque (ft-lbs)	8,600
Operating Parameters	
Max Diff Pressure (psi)	2,250
Torque (ft-lbs)	6,400
Flow Rate (GPM)	350
Full Load RPM	206 at 350 GPM

Minor Diameter Fit Details (at 68°F)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	-0.007	2.810	0.001	2.802	180 - 235 °F
0.5L	-0.017	2.820	-0.009	2.812	220 - 270 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00027**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

5.00" 7/8 LOBES 3.7 STAGES

Model: SPS500783.7

Canadian Oilfield Units

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Power Sections

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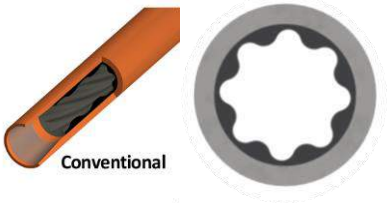


Stator Specifications	
Overall Length (in.)	235.0 [5969 mm]
Tube O.D. (in.)	5.00 [127 mm]
Tube I.D. (in.)	4.00 [102 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	235
Tube Material	4140-4145
To be threaded and ID Banded by customer	

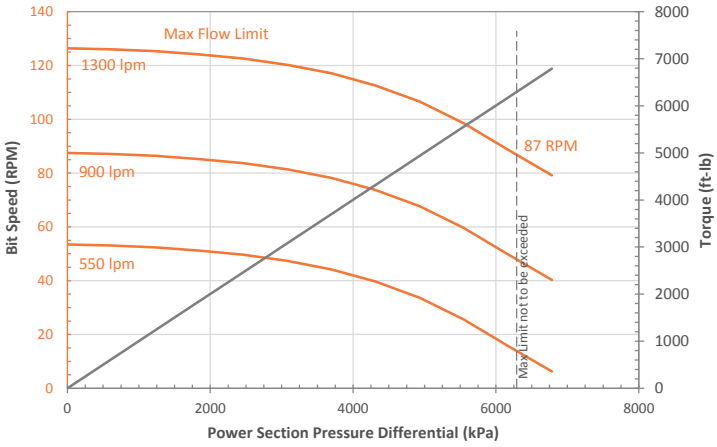
Rotor Specifications	
Overall Length (in.)	214.8 [5455 mm]
Contour Length (in.)	208 [5290 mm]
Major Diameter (in.)	3.122
Eccentricity (in.)	0.177
Head Diameter (in.)	3.250
Bored Weight (kg)	147
Solid Weight (kg)	169
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1300
Speed Range (RPM)	55 - 125
Torque Slope (ft-lb/kPa)	1.001
Rotation (rev/l)	0.097
Stall Torque (ft-lb)	8,350
Operating Parameters	
Max Diff Pressure (kPa)	6,300
Torque (ft-lb)	6,200
Flow Rate (lpm)	1,300
Full Load RPM	87 at 1300 lpm

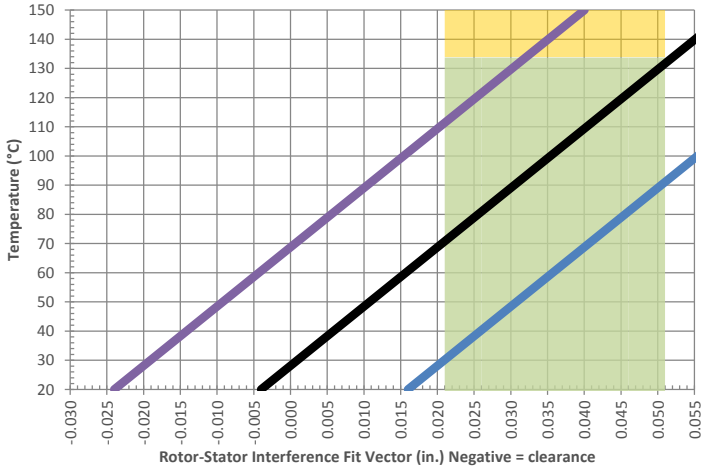
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.006	2.763	0.010	2.759	65 - 95 °C
STD	-0.004	2.773	0.000	2.769	85 - 115 °C
0.5L	-0.014	2.783	-0.010	2.779	105 - 135 °C
1.0L	-0.024	2.793	-0.020	2.789	120 - 150 °C
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00049**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.004 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

5.00" 7/8 LOBES 3.7 STAGES

Model: SPS500783.7

Imperial Units

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Power Sections

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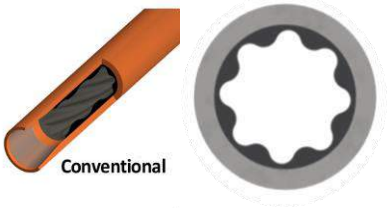


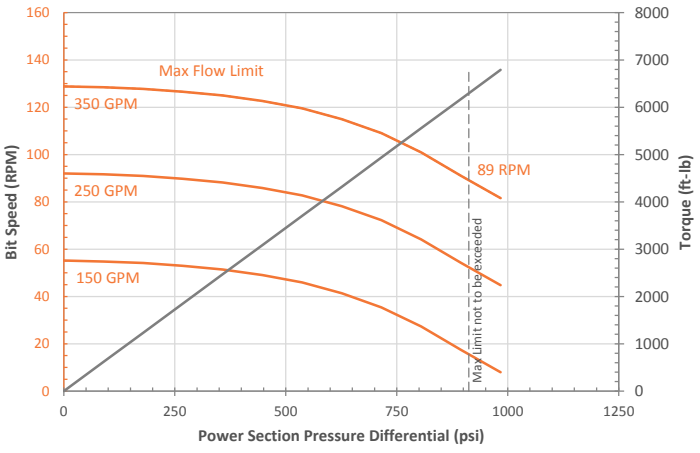
Stator Specifications	
	Inches
Overall Length	235.0
Tube O.D.	5.00
Tube I.D.	4.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	520
Tube Material	4140-4145
To be threaded and ID Banded by customer	

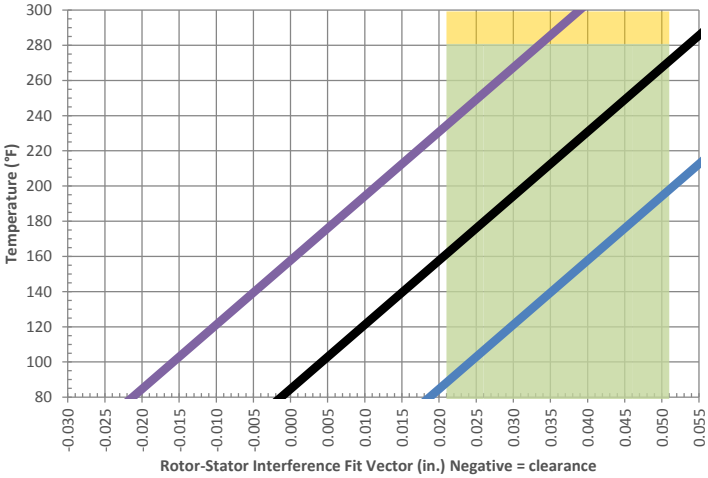
Rotor Specifications	
	Inches
Overall Length	214.8
Contour Length	208
Major Diameter	3.122
Eccentricity	0.177
Head Diameter	3.250
Gunbored Weight (lb)	325
Solid Weight (lb)	372
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	150 - 350
Speed Range (RPM)	55 - 130
Torque Slope (ft-lbs/psi)	6.901
Rotation (rev/Gal)	0.368
Stall Torque (ft-lbs)	8,350
Operating Parameters	
Max Diff Pressure (psi)	950
Torque (ft-lbs)	6,200
Flow Rate (GPM)	350
Full Load RPM	89 at 350 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.006	2.763	0.010	2.759	145 - 200 °F
STD	-0.004	2.773	0.000	2.769	180 - 235 °F
0.5L	-0.014	2.783	-0.010	2.779	215 - 270 °F
1.0L	-0.024	2.793	-0.020	2.789	250 - 305 °F
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00027	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.004 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

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Power Sections

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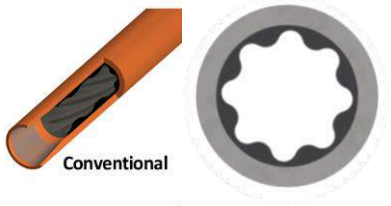
5.00" 7/8 LOBES 3.8 STAGES

Model: SPS500783.8

Canadian Oilfield Units



Stator Specifications	
Overall Length (in.)	187.0 [4750 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)	220
Tube Material	4140-4145
To be threaded and ID Banded by customer	

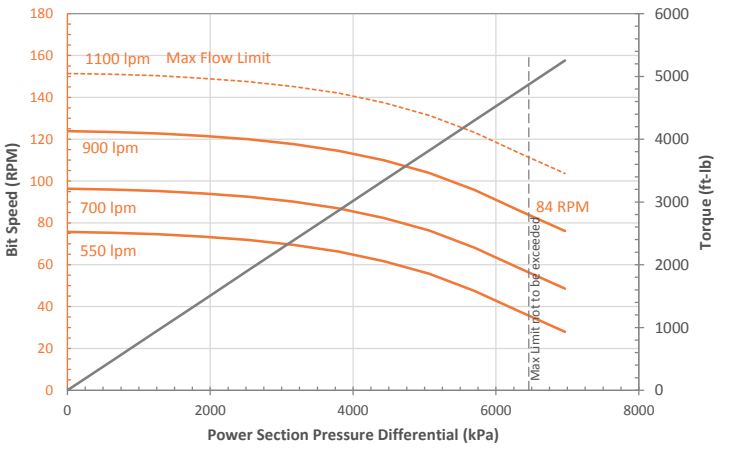
Rotor Specifications	
Overall Length (in.)	178.0 [4521 mm]
Contour Length (in.)	172 [4375 mm]
Major Diameter (in.)	2.945
Eccentricity (in.)	0.163
Head Diameter (in.)	2.750
Bored Weight (kg)	107
Solid Weight (kg)	124
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1100
Speed Range (RPM)	75 - 125
Torque Slope (ft-lb/kPa)	0.754
Rotation (rev/l)	0.138
Stall Torque (ft-lb)	6,450
Operating Parameters	
Max Diff Pressure (kPa)	6,500
Torque (ft-lb)	4,800
Flow Rate (lpm)	900
Full Load RPM	84 at 900 lpm

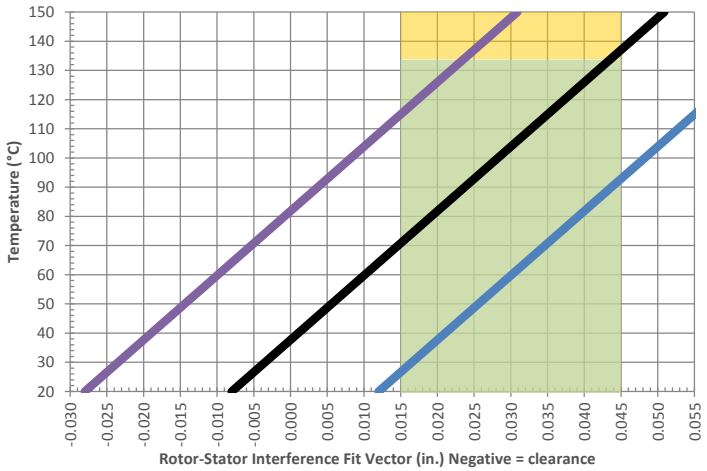
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.012	2.607	0.022	2.597	45 - 75 °C
0.5T	0.002	2.617	0.012	2.607	65 - 95 °C
STD	-0.008	2.627	0.002	2.617	85 - 115 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00045**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.010 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

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Power Sections

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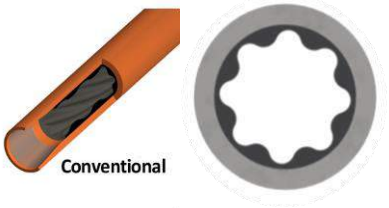
5.00" 7/8 LOBES 3.8 STAGES

Model: SPS500783.8

Imperial Units



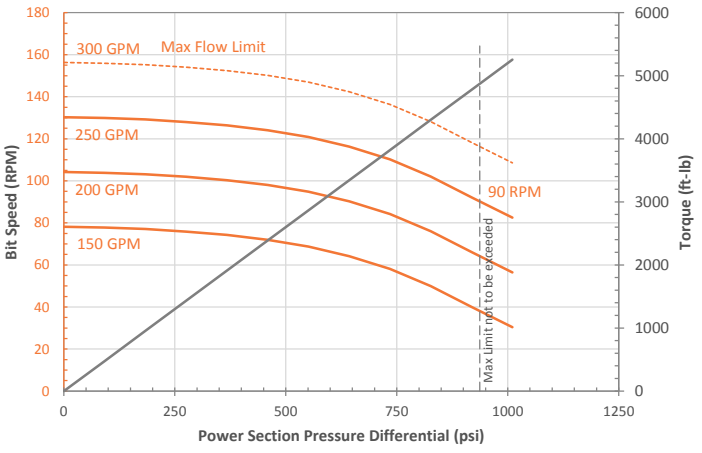
Stator Specifications	
	Inches
Overall Length	187.0
Tube O.D.	5.00
Tube I.D.	3.75
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	485
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
	Inches
Overall Length	178.0
Contour Length	172
Major Diameter	2.945
Eccentricity	0.163
Head Diameter	2.750
Gunbored Weight (lb)	235
Solid Weight (lb)	274
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

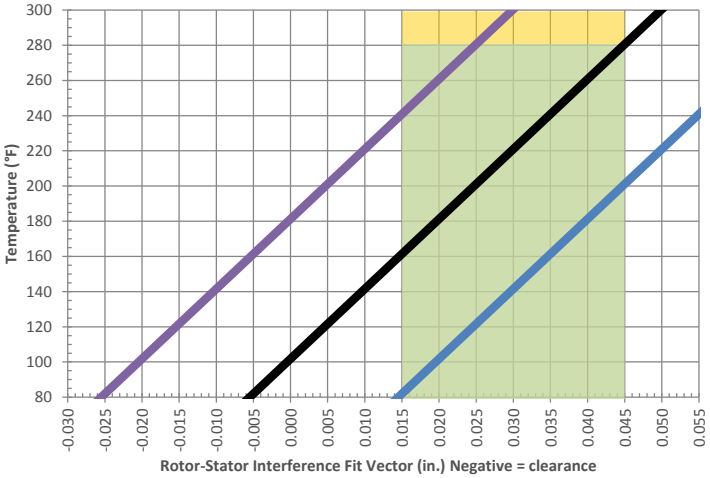
Performance Specifications	
Flow Range (GPM)	150 - 300
Speed Range (RPM)	80 - 130
Torque Slope (ft-lbs/psi)	5.200
Rotation (rev/Gal)	0.521
Stall Torque (ft-lbs)	6,450
Operating Parameters	
Max Diff Pressure (psi)	950
Torque (ft-lbs)	4,800
Flow Rate (GPM)	250
Full Load RPM	90 at 250 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.012	2.607	0.022	2.597	110 - 165 °F
0.5T	0.002	2.617	0.012	2.607	150 - 205 °F
STD	-0.008	2.627	0.002	2.617	190 - 245 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00025	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.010 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

5.00" 7/8 LOBES 4.5 STAGES

Model: SPS500784.5

Canadian Oilfield Units

Power Sections

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Ph: (587) 775-7777
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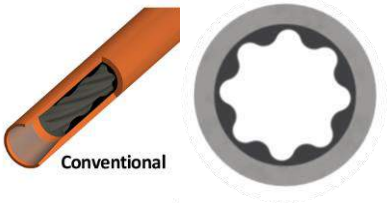


Stator Specifications	
Overall Length (in.)	229.3 [5823 mm]
Tube O.D. (in.)	5.00 [127 mm]
Tube I.D. (in.)	4.00 [102 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	175
Tube Material	4140-4145
To be threaded and ID Banded by customer	

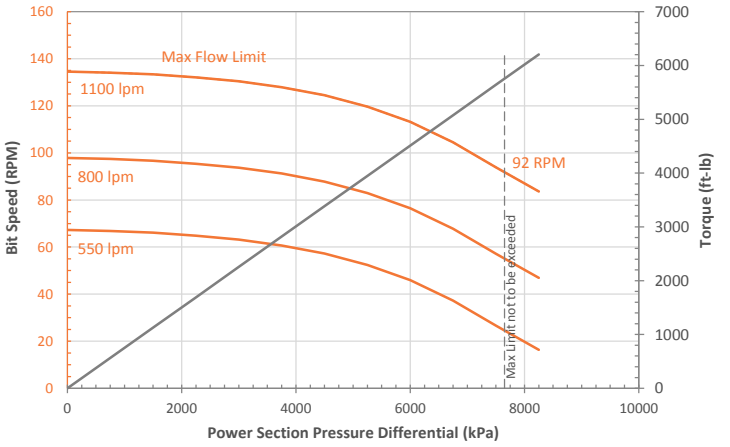
Rotor Specifications	
Overall Length (in.)	220.0 [5588 mm]
Contour Length (in.)	214 [5442 mm]
Major Diameter (in.)	3.091
Eccentricity (in.)	0.172
Head Diameter (in.)	2.750
Bored Weight (kg)	151
Solid Weight (kg)	173
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1100
Speed Range (RPM)	65 - 135
Torque Slope (ft-lb/kPa)	0.752
Rotation (rev/l)	0.122
Stall Torque (ft-lb)	7,600
Operating Parameters	
Max Diff Pressure (kPa)	7,700
Torque (ft-lb)	5,700
Flow Rate (lpm)	1,100
Full Load RPM	92 at 1100 lpm

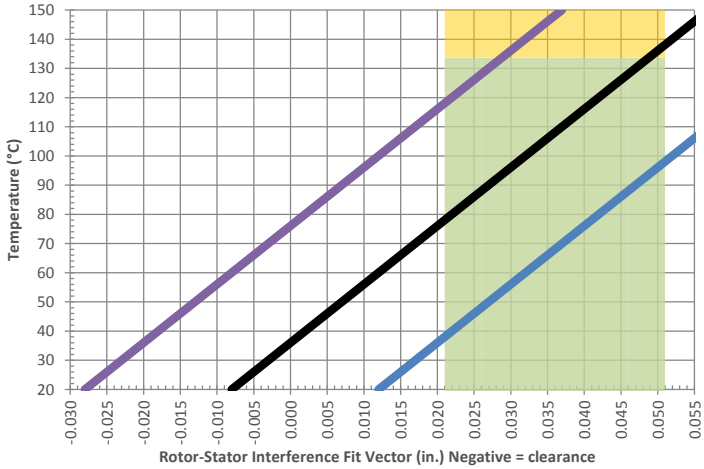
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.012	2.735	0.016	2.731	50 - 80 °C
0.5T	0.002	2.745	0.006	2.741	70 - 100 °C
STD	-0.008	2.755	-0.004	2.751	90 - 120 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00050**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.004 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

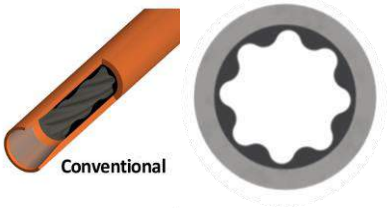
5.00" 7/8 LOBES 4.5 STAGES

Model: SPS500784.5

Imperial Units

Power Sections

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



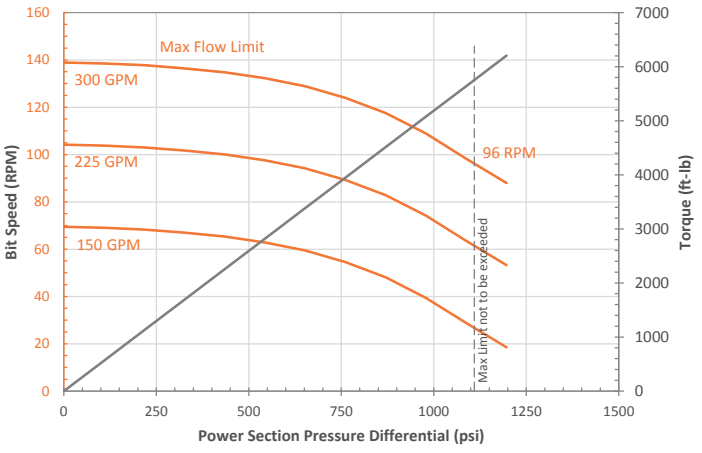
Stator Specifications	
	Inches
Overall Length	229.3
Tube O.D.	5.00
Tube I.D.	4.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	385
Tube Material	4140-4145
To be threaded and ID Banded by customer	

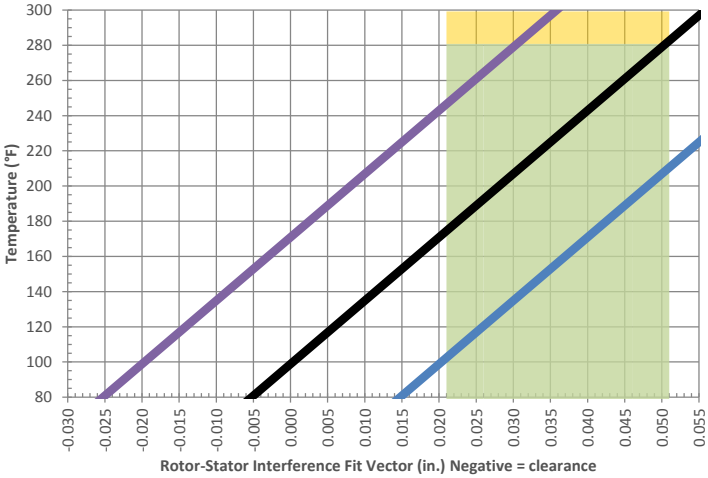
Rotor Specifications	
	Inches
Overall Length	220.0
Contour Length	214
Major Diameter	3.091
Eccentricity	0.172
Head Diameter	2.750
Gunbored Weight (lb)	332
Solid Weight (lb)	380
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	150 - 300
Speed Range (RPM)	70 - 140
Torque Slope (ft-lbs/psi)	5.185
Rotation (rev/Gal)	0.463
Stall Torque (ft-lbs)	7,600
Operating Parameters	
Max Diff Pressure (psi)	1,150
Torque (ft-lbs)	5,700
Flow Rate (GPM)	300
Full Load RPM	96 at 300 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.012	2.735	0.016	2.731	125 - 180 °F
0.5T	0.002	2.745	0.006	2.741	160 - 215 °F
STD	-0.008	2.755	-0.004	2.751	195 - 250 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00028	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.004 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

5.00" 7/8 LOBES 5 STAGES

Model: SPS500785.0 WFD

Canadian Oilfield Units

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.)	198.0 [5029 mm]
Tube O.D. (in.)	5.00 [127 mm]
Tube I.D. (in.)	3.88 [99 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	215
Tube Material	4140-4145
To be threaded and ID Banded by customer	

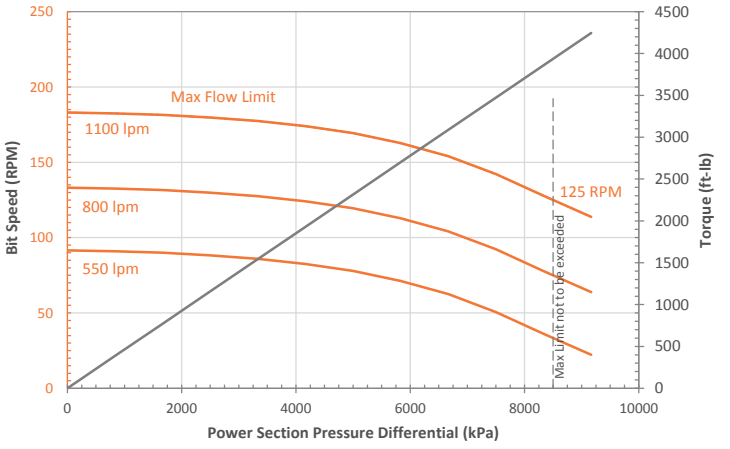
Rotor Specifications	
Overall Length (in.)	186.0 [4724 mm]
Contour Length (in.)	180 [4572 mm]
Major Diameter (in.)	3.041
Eccentricity (in.)	0.169
Head Diameter (in.)	2.750
Bored Weight (kg)	120
Solid Weight (kg)	139
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1100
Speed Range (RPM)	90 - 185
Torque Slope (ft-lb/kPa)	0.463
Rotation (rev/l)	0.166
Stall Torque (ft-lb)	5,200
Operating Parameters	
Max Diff Pressure (kPa)	8,600
Torque (ft-lb)	3,900
Flow Rate (lpm)	1,100
Full Load RPM	125 at 1100 lpm

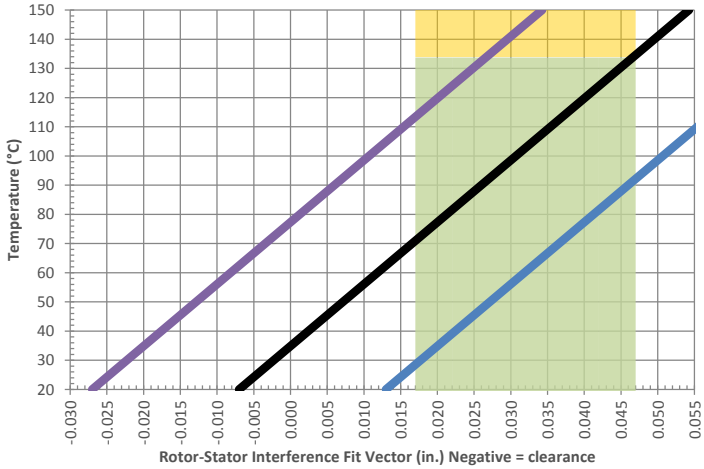
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.013	2.690	0.021	2.682	45 - 75 °C
0.5T	0.003	2.700	0.011	2.692	65 - 95 °C
STD	-0.007	2.710	0.001	2.702	85 - 115 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00047**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

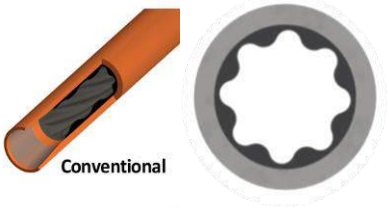
Power Sections

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

5.00" 7/8 LOBES 5 STAGES

Model: SPS500785.0 WFD

Imperial Units



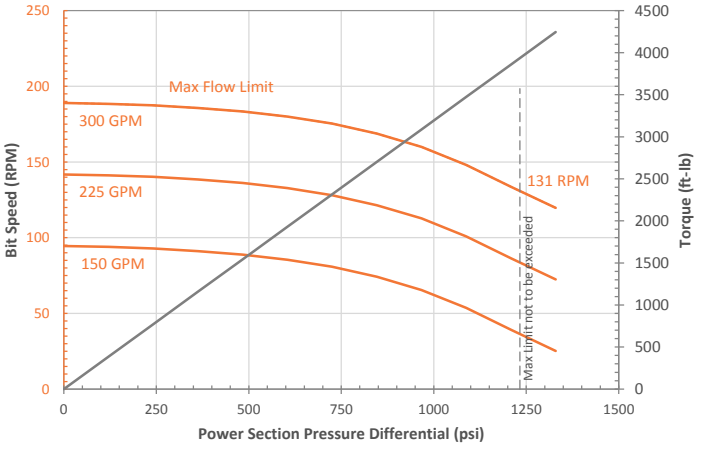
Stator Specifications	
	Inches
Overall Length	198.0
Tube O.D.	5.00
Tube I.D.	3.88
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	475
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
	Inches
Overall Length	186.0
Contour Length	180
Major Diameter	3.041
Eccentricity	0.169
Head Diameter	2.750
Gunbored Weight (lb)	265
Solid Weight (lb)	306
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

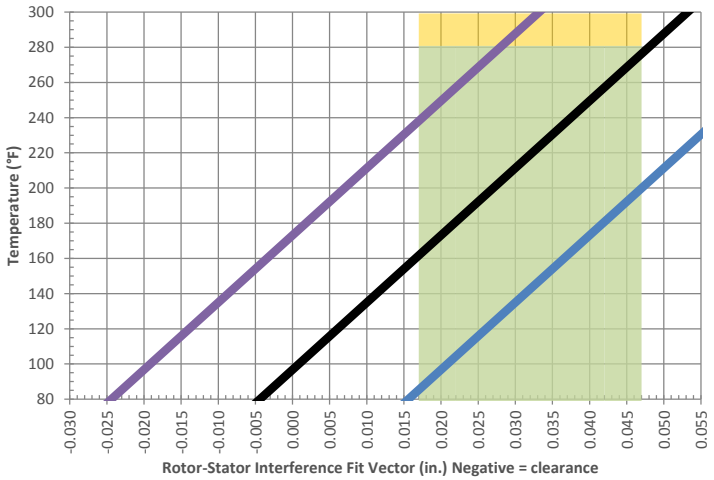
Performance Specifications	
Flow Range (GPM)	150 - 300
Speed Range (RPM)	95 - 190
Torque Slope (ft-lbs/psi)	3.193
Rotation (rev/Gal)	0.630
Stall Torque (ft-lbs)	5,200
Operating Parameters	
Max Diff Pressure (psi)	1,250
Torque (ft-lbs)	3,900
Flow Rate (GPM)	300
Full Load RPM	131 at 300 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.013	2.690	0.021	2.682	110 - 165 °F
0.5T	0.003	2.700	0.011	2.692	150 - 200 °F
STD	-0.007	2.710	0.001	2.702	185 - 240 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00026**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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

5.00" 7/8 LOBES 5.7 STAGES
Model: SPS500785.7
Canadian Oilfield Units

Stator Specifications	
Overall Length (in.)	250.0 [6350 mm]
Tube O.D. (in.)	5.00 [127 mm]
Tube I.D. (in.)	4.00 [102 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	250
Tube Material	4140-4145
To be threaded and ID Banded by customer	

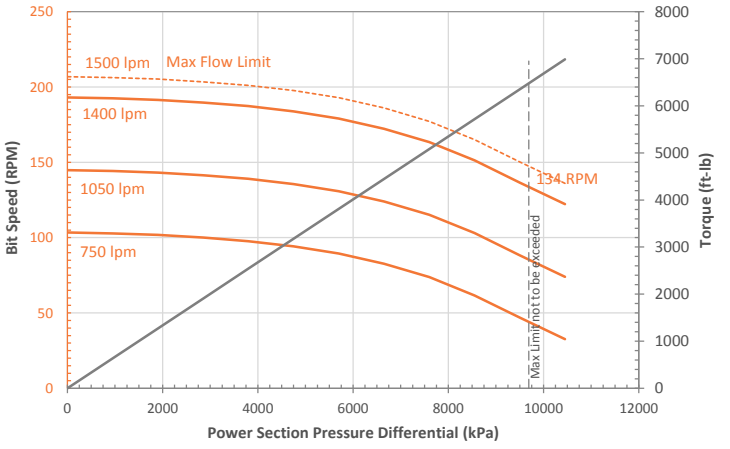
Rotor Specifications	
Overall Length (in.)	240.0 [6096 mm]
Contour Length (in.)	234 [5944 mm]
Major Diameter (in.)	3.144
Eccentricity (in.)	0.168
Head Diameter (in.)	3.250
Bored Weight (kg)	170
Solid Weight (kg)	194
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	750 - 1500
Speed Range (RPM)	105 - 195
Torque Slope (ft-lb/kPa)	0.669
Rotation (rev/l)	0.138
Stall Torque (ft-lb)	8,600
Operating Parameters	
Max Diff Pressure (kPa)	9,700
Torque (ft-lb)	6,400
Flow Rate (lpm)	1,400
Full Load RPM	134 at 1400 lpm

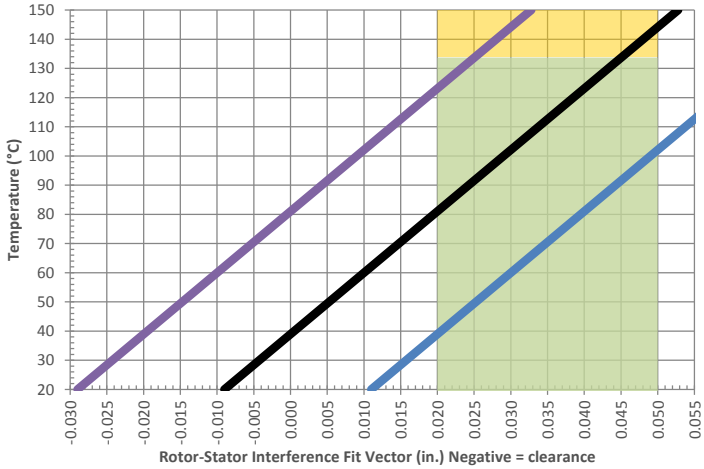
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.011	2.797	0.016	2.792	55 - 85 °C
0.5T	0.001	2.807	0.006	2.802	75 - 105 °C
STD	-0.009	2.817	-0.004	2.812	95 - 125 °C
0.5L	-0.019	2.827	-0.014	2.822	115 - 145 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00048**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

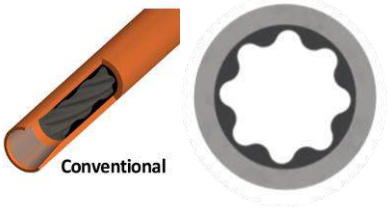
Power Sections

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

5.00" 7/8 LOBES 5.7 STAGES

Model: SPS500785.7

Imperial Units



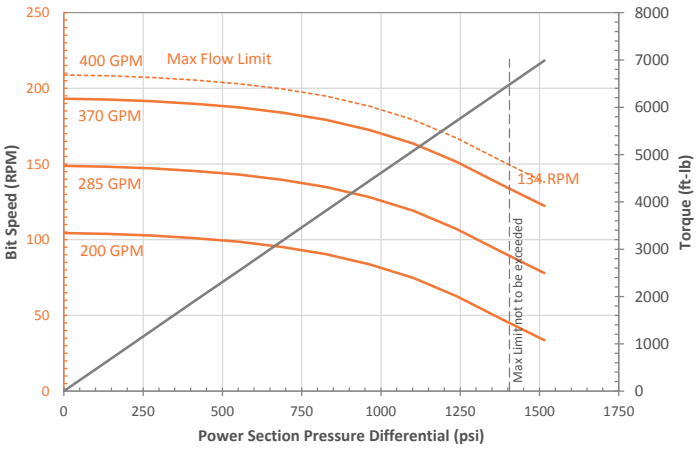
Stator Specifications	
	Inches
Overall Length	250.0
Tube O.D.	5.00
Tube I.D.	4.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	550
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
	Inches
Overall Length	240.0
Contour Length	234
Major Diameter	3.144
Eccentricity	0.168
Head Diameter	3.250
Gunbored Weight (lb)	375
Solid Weight (lb)	428
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

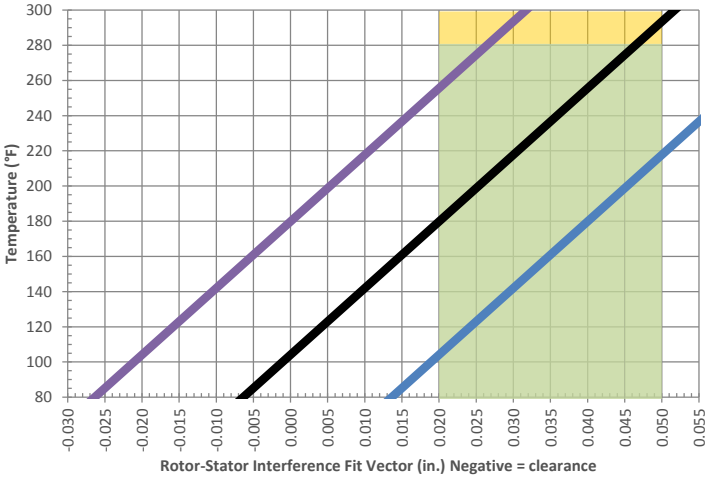
Performance Specifications	
Flow Range (GPM)	200 - 400
Speed Range (RPM)	105 - 195
Torque Slope (ft-lbs/psi)	4.610
Rotation (rev/Gal)	0.522
Stall Torque (ft-lbs)	8,600
Operating Parameters	
Max Diff Pressure (psi)	1,450
Torque (ft-lbs)	6,400
Flow Rate (GPM)	370
Full Load RPM	134 at 370 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.011	2.797	0.016	2.792	130 - 180 °F
0.5T	0.001	2.807	0.006	2.802	165 - 220 °F
STD	-0.009	2.817	-0.004	2.812	200 - 255 °F
0.5L	-0.019	2.827	-0.014	2.822	240 - 290 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00026**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

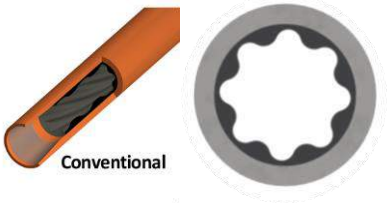
Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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

5.00" 7/8 LOBES 6.4 STAGES
Model: SPS500786.4
Canadian Oilfield Units



Stator Specifications	
Overall Length (in.)	235.0 [5969 mm]
Tube O.D. (in.)	5.00 [127 mm]
Tube I.D. (in.)	3.88 [99 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	255
Tube Material	4140-4145
To be threaded and ID Banded by customer	

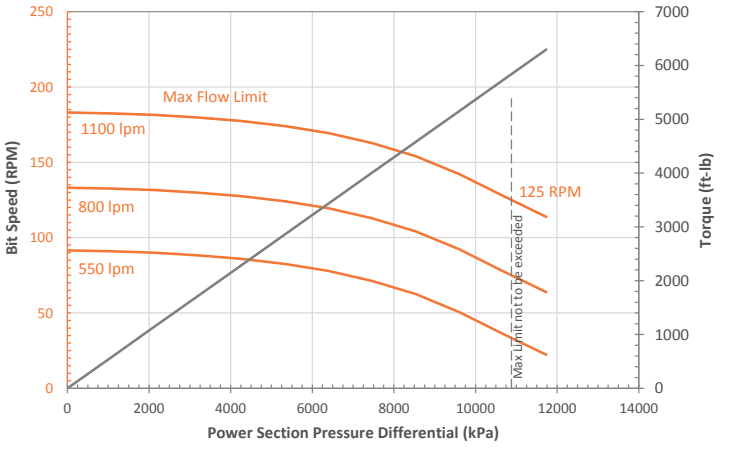
Rotor Specifications	
Overall Length (in.)	226.0 [5740 mm]
Contour Length (in.)	220 [5588 mm]
Major Diameter (in.)	3.029
Eccentricity (in.)	0.170
Head Diameter (in.)	3.250
Bored Weight (kg)	147
Solid Weight (kg)	170
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

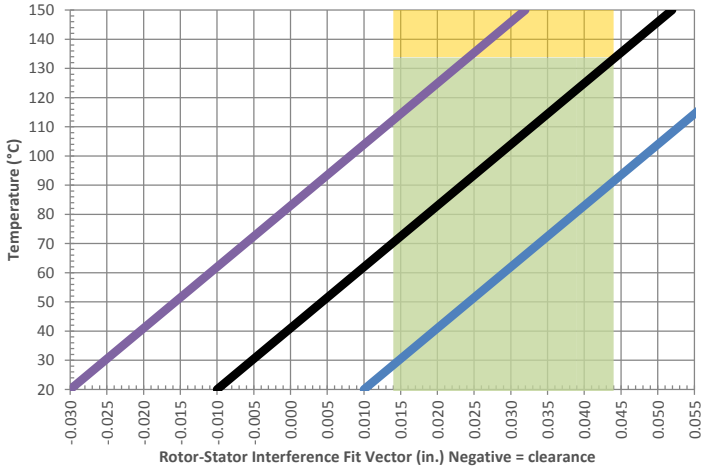
Performance Specifications	
Flow Range (lpm)	550 - 1100
Speed Range (RPM)	90 - 185
Torque Slope (ft-lb/kPa)	0.537
Rotation (rev/l)	0.166
Stall Torque (ft-lb)	7,750
Operating Parameters	
Max Diff Pressure (kPa)	10,900
Torque (ft-lb)	5,800
Flow Rate (lpm)	1,100
Full Load RPM	125 at 1100 lpm

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 Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.000	2.689	0.011	2.678	65 - 95 °C
STD	-0.010	2.699	0.001	2.688	85 - 115 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00048**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.011 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

5.00" 7/8 LOBES 6.4 STAGES

Model: SPS500786.4

Imperial Units

SPIRA SYSTEMS LTD.

Power Sections

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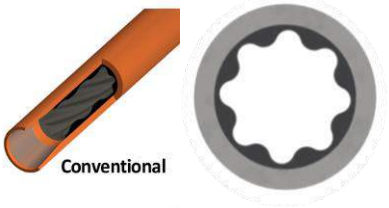


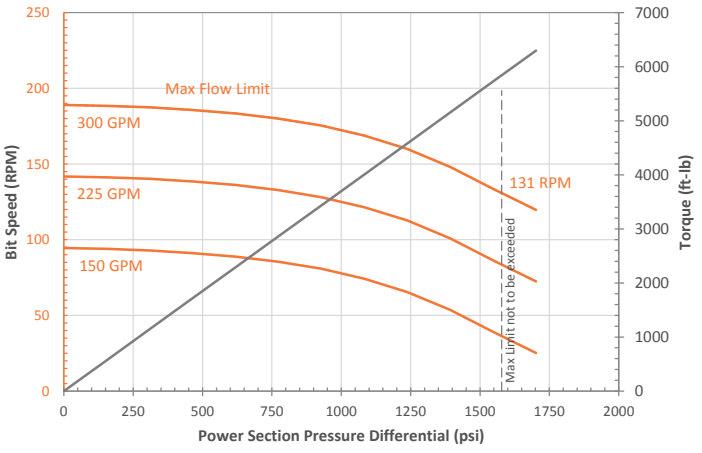
Stator Specifications	
	Inches
Overall Length	235.0
Tube O.D.	5.00
Tube I.D.	3.88
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	565
Tube Material	4140-4145
To be threaded and ID Banded by customer	

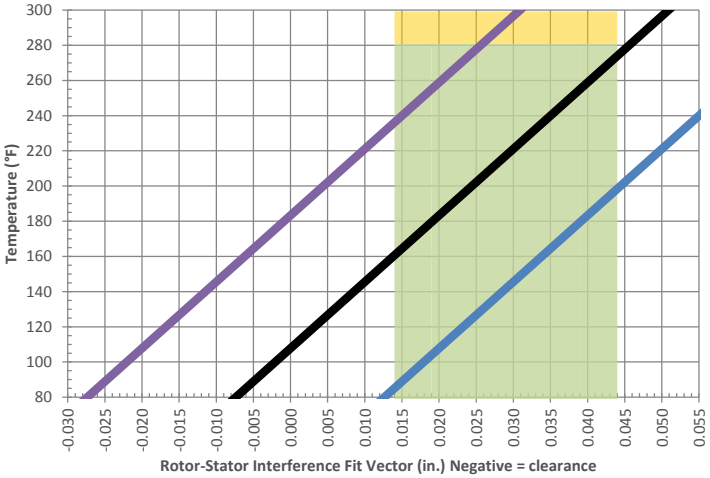
Rotor Specifications	
	Inches
Overall Length	226.0
Contour Length	220
Major Diameter	3.029
Eccentricity	0.170
Head Diameter	3.250
Gunbored Weight (lb)	325
Solid Weight (lb)	375
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	150 - 300
Speed Range (RPM)	95 - 190
Torque Slope (ft-lbs/psi)	3.700
Rotation (rev/Gal)	0.630
Stall Torque (ft-lbs)	7,750
Operating Parameters	
Max Diff Pressure (psi)	1,600
Torque (ft-lbs)	5,800
Flow Rate (GPM)	300
Full Load RPM	131 at 300 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.000	2.689	0.011	2.678	150 - 200 °F
STD	-0.010	2.699	0.001	2.688	185 - 240 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00026	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.011 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

5.00" 8/9 LOBES 6 STAGES

Model: SPS500896.0

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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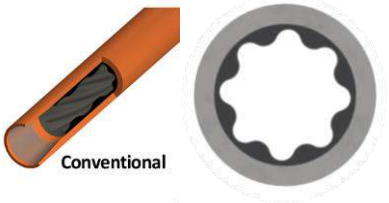
Ph: (587) 775-7777
www.spirasystems.com



Stator Specifications	
Overall Length (in.)	250.0 [6350 mm]
Tube O.D. (in.)	5.00 [127 mm]
Tube I.D. (in.)	4.00 [102 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	250
Tube Material	4140-4145
To be threaded and ID Banded by customer	

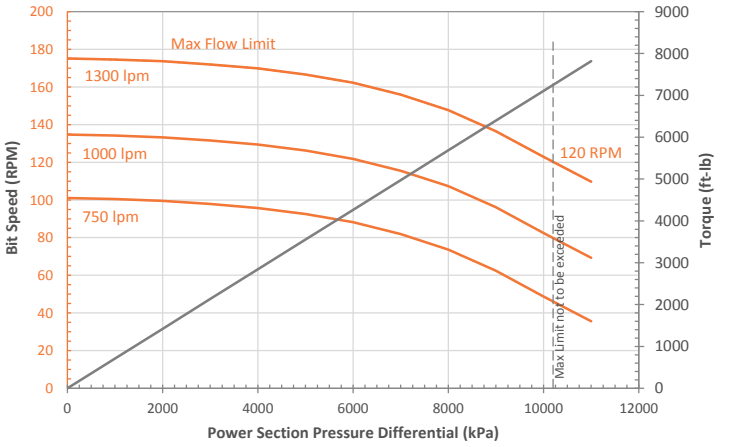
Rotor Specifications	
Overall Length (in.)	241.0 [6121 mm]
Contour Length (in.)	235 [5969 mm]
Major Diameter (in.)	3.198
Eccentricity (in.)	0.163
Head Diameter (in.)	3.380
Bored Weight (kg)	181
Solid Weight (kg)	205
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	750 - 1300
Speed Range (RPM)	100 - 175
Torque Slope (ft-lb/kPa)	0.711
Rotation (rev/l)	0.135
Stall Torque (ft-lb)	9,600
Operating Parameters	
Max Diff Pressure (kPa)	10,300
Torque (ft-lb)	7,200
Flow Rate (lpm)	1,300
Full Load RPM	120 at 1300 lpm

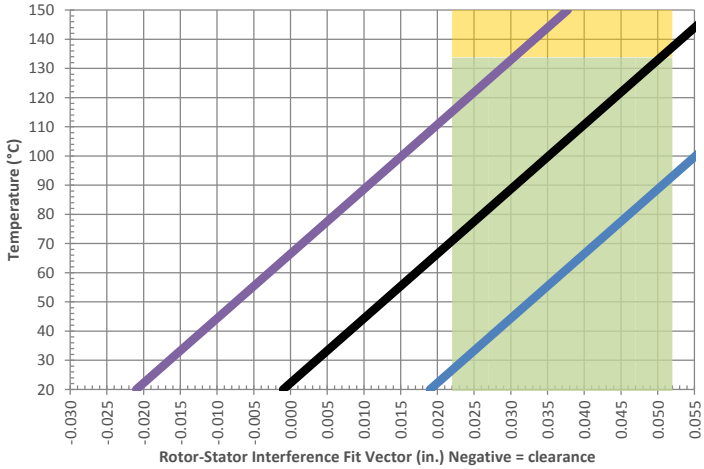
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.009	2.863	0.012	2.860	65 - 95 °C
STD	-0.001	2.873	0.002	2.870	85 - 115 °C
0.5L	-0.011	2.883	-0.008	2.880	110 - 140 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00045**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.003 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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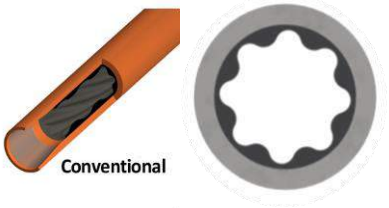
Ph: (587) 775-7777
www.spirasystems.com

5.00" 8/9 LOBES 6 STAGES

Model: SPS500896.0

Imperial Units



Stator Specifications	
	Inches
Overall Length	250.0
Tube O.D.	5.00
Tube I.D.	4.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	550
Tube Material	4140-4145
To be threaded and ID Banded by customer	

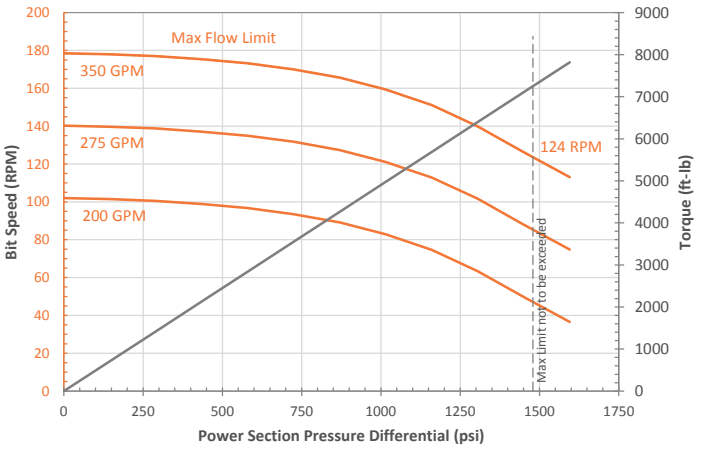
Rotor Specifications	
	Inches
Overall Length	241.0
Contour Length	235
Major Diameter	3.198
Eccentricity	0.163
Head Diameter	3.380
Gunbored Weight (lb)	400
Solid Weight (lb)	453
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

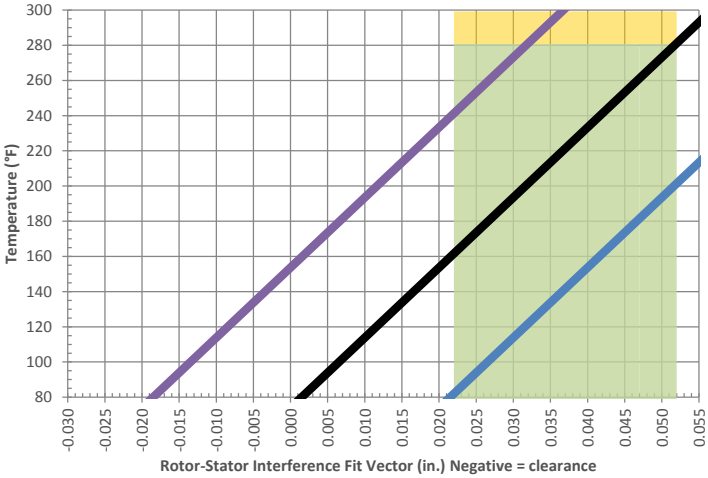
Performance Specifications	
Flow Range (GPM)	200 - 350
Speed Range (RPM)	100 - 180
Torque Slope (ft-lbs/psi)	4.900
Rotation (rev/Gal)	0.510
Stall Torque (ft-lbs)	9,600
Operating Parameters	
Max Diff Pressure (psi)	1,500
Torque (ft-lbs)	7,200
Flow Rate (GPM)	350
Full Load RPM	124 at 350 GPM

Minor Diameter Fit Details (at 68°F)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.009	2.863	0.012	2.860	150 - 205 °F
STD	-0.001	2.873	0.002	2.870	190 - 245 °F
0.5L	-0.011	2.883	-0.008	2.880	225 - 280 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00025**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.003 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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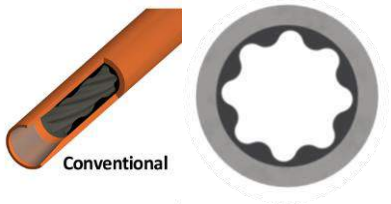
5.13" 7/8 LOBES 5.7 STAGES

Model: SPS513785.7

Canadian Oilfield Units



Stator Specifications	
Overall Length (in.)	250.0 [6350 mm]
Tube O.D. (in.)	5.13 [130 mm]
Tube I.D. (in.)	4.00 [102 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	280
Tube Material	4140-4145
To be threaded and ID Banded by customer	

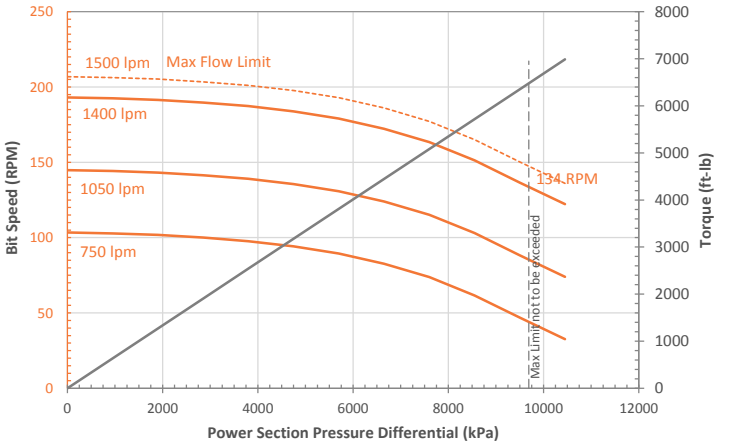
Rotor Specifications	
Overall Length (in.)	240.0 [6096 mm]
Contour Length (in.)	234 [5944 mm]
Major Diameter (in.)	3.144
Eccentricity (in.)	0.168
Head Diameter (in.)	3.250
Bored Weight (kg)	170
Solid Weight (kg)	194
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	750 - 1500
Speed Range (RPM)	105 - 195
Torque Slope (ft-lb/kPa)	0.669
Rotation (rev/l)	0.138
Stall Torque (ft-lb)	8,600
Operating Parameters	
Max Diff Pressure (kPa)	9,700
Torque (ft-lb)	6,400
Flow Rate (lpm)	1,400
Full Load RPM	134 at 1400 lpm

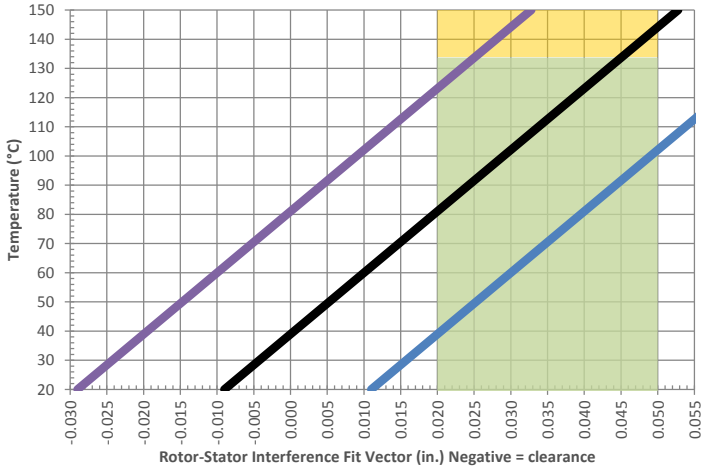
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.011	2.797	0.016	2.792	55 - 85 °C
0.5T	0.001	2.807	0.006	2.802	75 - 105 °C
STD	-0.009	2.817	-0.004	2.812	95 - 125 °C
0.5L	-0.019	2.827	-0.014	2.822	115 - 145 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00048**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

5.13" 7/8 LOBES 5.7 STAGES

Model: SPS513785.7

Imperial Units

SPIRA SYSTEMS LTD.

Power Sections

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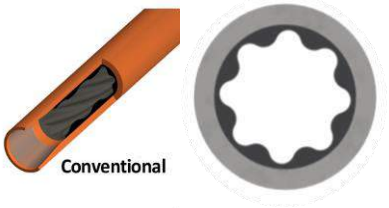


Stator Specifications	
	Inches
Overall Length	250.0
Tube O.D.	5.13
Tube I.D.	4.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	620
Tube Material	4140-4145
To be threaded and ID Banded by customer	

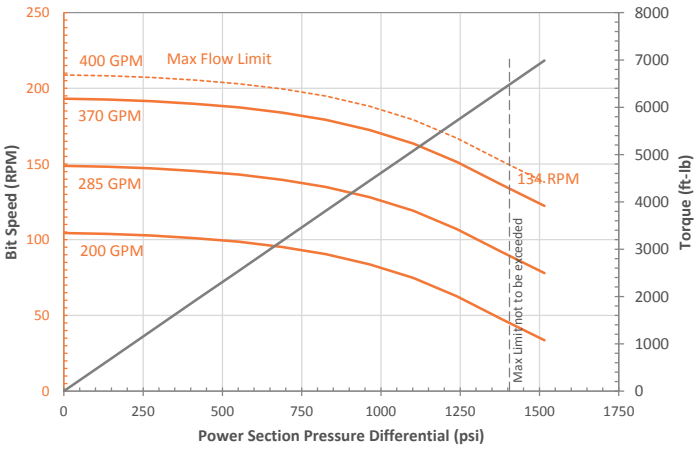
Rotor Specifications	
	Inches
Overall Length	240.0
Contour Length	234
Major Diameter	3.144
Eccentricity	0.168
Head Diameter	3.250
Gunbored Weight (lb)	375
Solid Weight (lb)	428
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

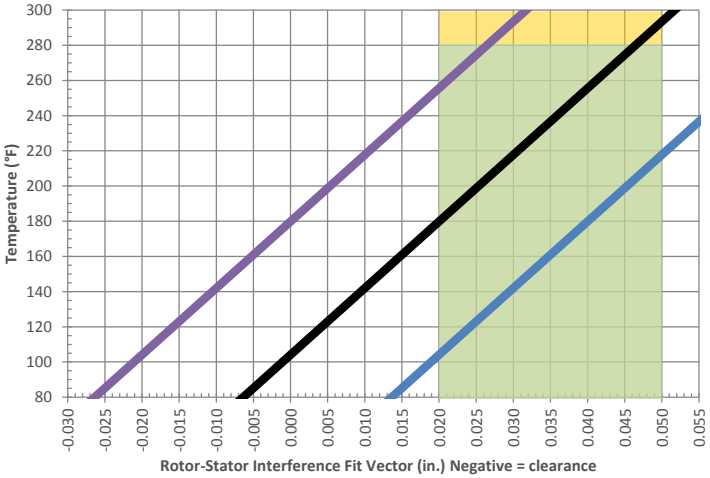
Performance Specifications	
Flow Range (GPM)	200 - 400
Speed Range (RPM)	105 - 195
Torque Slope (ft-lbs/psi)	4.610
Rotation (rev/Gal)	0.522
Stall Torque (ft-lbs)	8,600
Operating Parameters	
Max Diff Pressure (psi)	1,450
Torque (ft-lbs)	6,400
Flow Rate (GPM)	370
Full Load RPM	134 at 370 GPM

Minor Diameter Fit Details (at 68°F)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.011	2.797	0.016	2.792	130 - 180 °F
0.5T	0.001	2.807	0.006	2.802	165 - 220 °F
STD	-0.009	2.817	-0.004	2.812	200 - 255 °F
0.5L	-0.019	2.827	-0.014	2.822	240 - 290 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00026**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.25" 7/8 LOBES 4.8 STAGES

Model: SPS625784.8

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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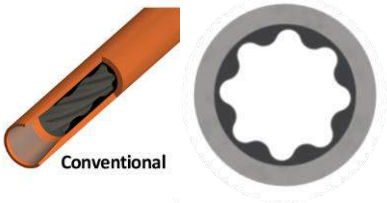
www.spirasystems.com



Stator Specifications	
Overall Length (in.)	203.5 [5169 mm]
Tube O.D. (in.)	6.25 [159 mm]
Tube I.D. (in.)	5.00 [127 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	315
Tube Material	4140-4145
To be threaded and ID Banded by customer	

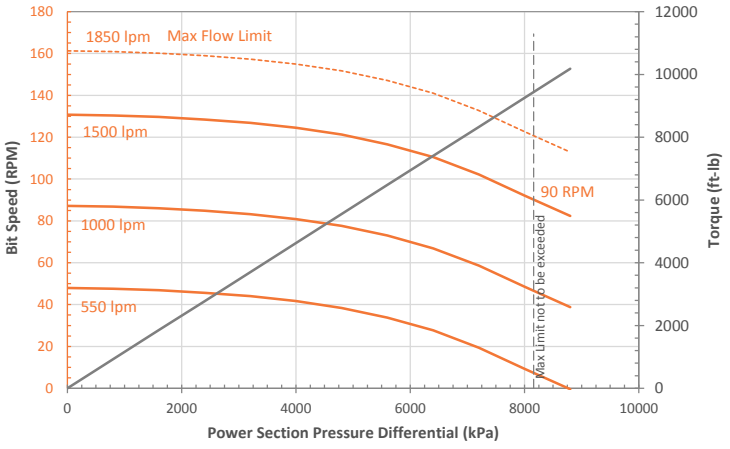
Rotor Specifications	
Overall Length (in.)	194.3 [4934 mm]
Contour Length (in.)	188 [4769 mm]
Major Diameter (in.)	3.980
Eccentricity (in.)	0.226
Head Diameter (in.)	3.500
Bored Weight (kg)	215
Solid Weight (kg)	246
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1850
Speed Range (RPM)	50 - 130
Torque Slope (ft-lb/kPa)	1.157
Rotation (rev/l)	0.087
Stall Torque (ft-lb)	12,500
Operating Parameters	
Max Diff Pressure (kPa)	8,200
Torque (ft-lb)	9,400
Flow Rate (lpm)	1,500
Full Load RPM	90 at 1500 lpm

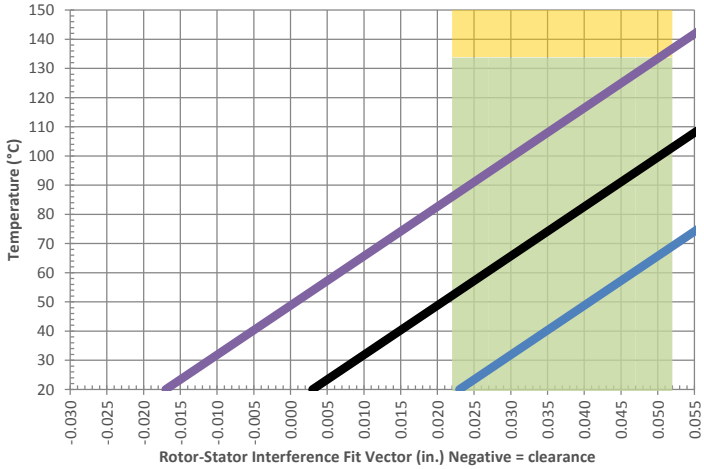
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	0.003	3.525	0.006	3.522	60 - 90 °C
0.5L	-0.007	3.535	-0.004	3.532	80 - 110 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00059**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.003 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

6.25" 7/8 LOBES 4.8 STAGES

Model: SPS625784.8

Imperial Units

SPIRA SYSTEMS LTD.

Power Sections

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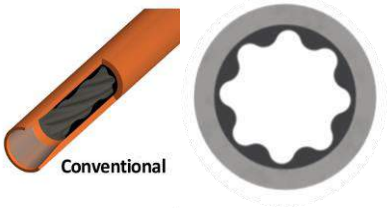


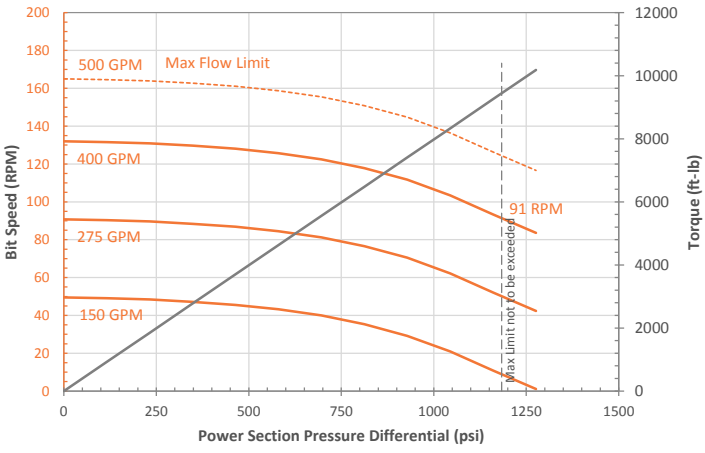
Stator Specifications	
	Inches
Overall Length	203.5
Tube O.D.	6.25
Tube I.D.	5.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	695
Tube Material	4140-4145
To be threaded and ID Banded by customer	

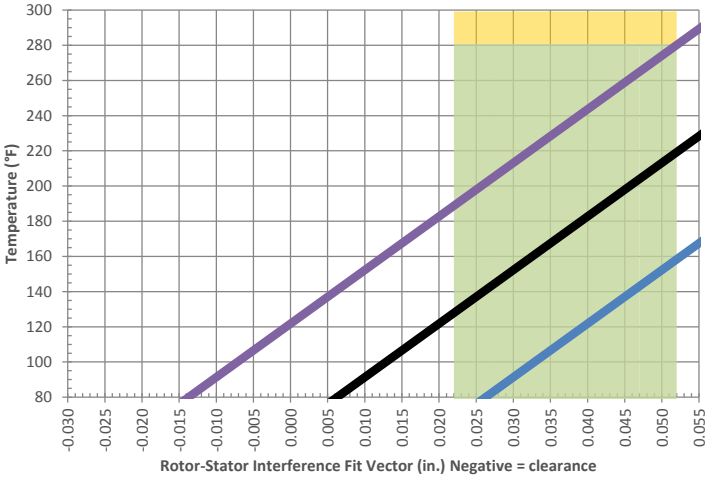
Rotor Specifications	
	Inches
Overall Length	194.3
Contour Length	188
Major Diameter	3.980
Eccentricity	0.226
Head Diameter	3.500
Gunbored Weight (lb)	475
Solid Weight (lb)	542
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	150 - 500
Speed Range (RPM)	50 - 130
Torque Slope (ft-lbs/psi)	7.977
Rotation (rev/Gal)	0.330
Stall Torque (ft-lbs)	12,500
Operating Parameters	
Max Diff Pressure (psi)	1,200
Torque (ft-lbs)	9,400
Flow Rate (GPM)	400
Full Load RPM	91 at 400 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	0.003	3.525	0.006	3.522	145 - 200 °F
0.5L	-0.007	3.535	-0.004	3.532	175 - 225 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00033	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.003 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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Ph: (587) 775-7777
www.spirasystems.com

6.50" 7/8 LOBES 4.8 STAGES

Model: SPS650784.8

Canadian Oilfield Units

Stator Specifications	
Overall Length (in.)	203.5 [5169 mm]
Tube O.D. (in.)	6.50 [165 mm]
Tube I.D. (in.)	5.00 [127 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	380
Tube Material	4140-4145
To be threaded and ID Banded by customer	

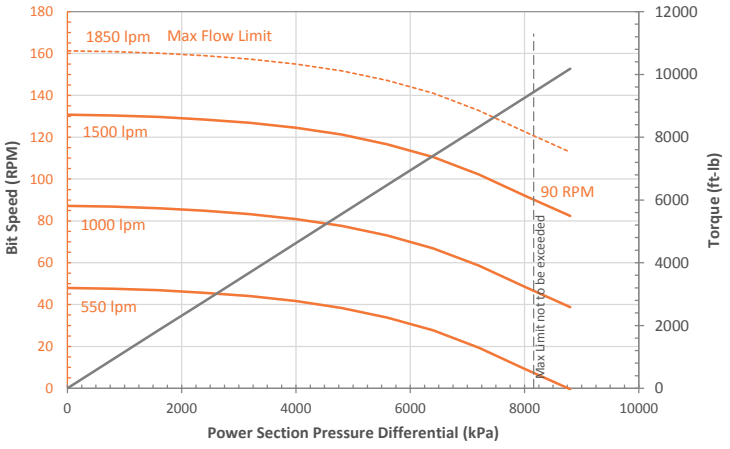
Rotor Specifications	
Overall Length (in.)	194.3 [4934 mm]
Contour Length (in.)	188 [4769 mm]
Major Diameter (in.)	3.980
Eccentricity (in.)	0.226
Head Diameter (in.)	3.500
Bored Weight (kg)	215
Solid Weight (kg)	246
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1850
Speed Range (RPM)	50 - 130
Torque Slope (ft-lb/kPa)	1.157
Rotation (rev/l)	0.087
Stall Torque (ft-lb)	12,500
Operating Parameters	
Max Diff Pressure (kPa)	8,200
Torque (ft-lb)	9,400
Flow Rate (lpm)	1,500
Full Load RPM	90 at 1500 lpm

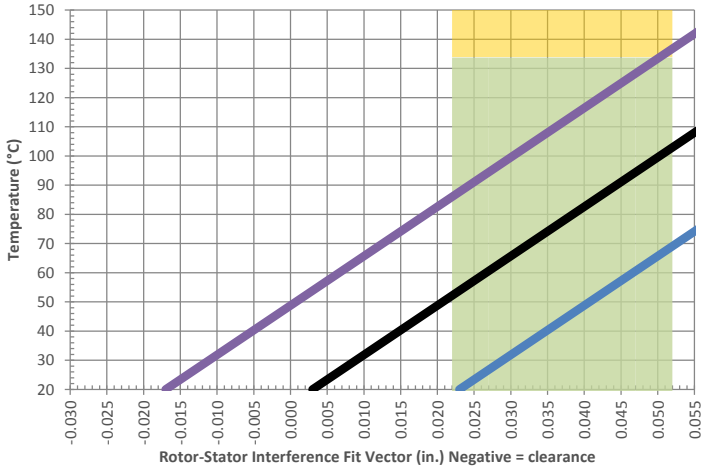
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	0.003	3.525	0.006	3.522	60 - 90 °C
0.5L	-0.007	3.535	-0.004	3.532	80 - 110 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00059**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.003 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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Ph: (587) 775-7777
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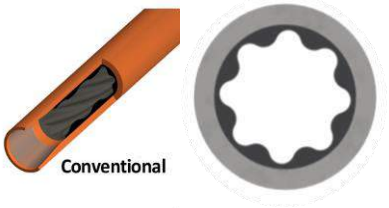
6.50" 7/8 LOBES 4.8 STAGES

Model: SPS650784.8

Imperial Units



Stator Specifications	
	Inches
Overall Length	203.5
Tube O.D.	6.50
Tube I.D.	5.00
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	840
Tube Material	4140-4145
To be threaded and ID Banded by customer	

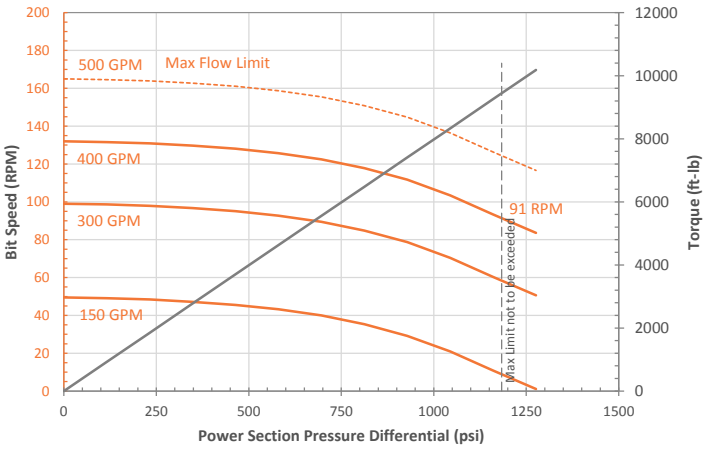
Rotor Specifications	
	Inches
Overall Length	194.3
Contour Length	188
Major Diameter	3.980
Eccentricity	0.226
Head Diameter	3.500
Gunbored Weight (lb)	475
Solid Weight (lb)	542
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

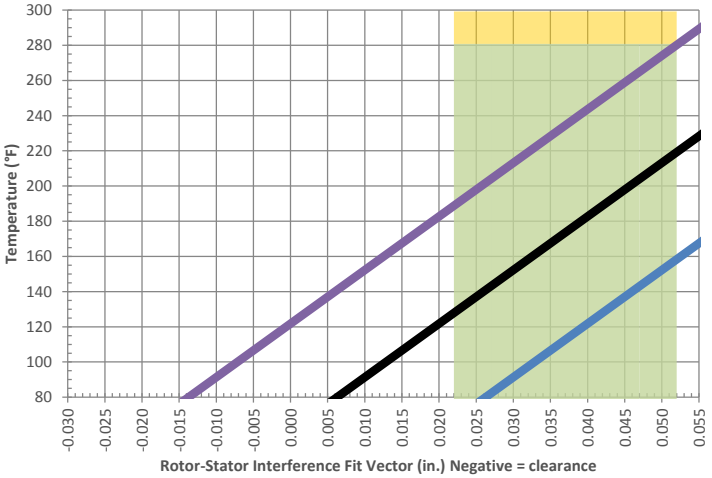
Performance Specifications	
Flow Range (GPM)	150 - 500
Speed Range (RPM)	50 - 130
Torque Slope (ft-lbs/psi)	7.977
Rotation (rev/Gal)	0.330
Stall Torque (ft-lbs)	12,500
Operating Parameters	
Max Diff Pressure (psi)	1,200
Torque (ft-lbs)	9,400
Flow Rate (GPM)	400
Full Load RPM	91 at 400 GPM

Minor Diameter Fit Details (at 68°F)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	0.003	3.525	0.006	3.522	145 - 200 °F
0.5L	-0.007	3.535	-0.004	3.532	175 - 225 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00033**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.003 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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www.spirasystems.com

6.50" 7/8 LOBES 6 STAGES

Model: SPS650786.0

Canadian Oilfield Units

Stator Specifications	
Overall Length (in.)	235.0 [5969 mm]
Tube O.D. (in.)	6.60 [168 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	350
Tube Material	4140-4145
To be threaded and ID Banded by customer	

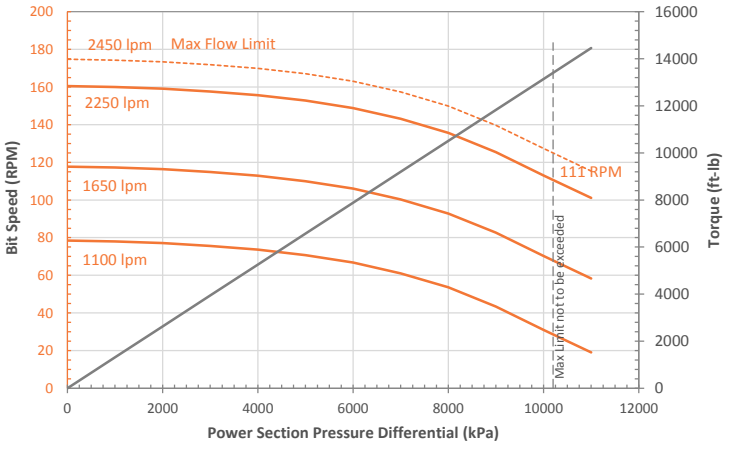
Rotor Specifications	
Overall Length (in.)	223.0 [5664 mm]
Contour Length (in.)	216 [5486 mm]
Major Diameter (in.)	4.520
Eccentricity (in.)	0.256
Head Diameter (in.)	4.500
Bored Weight (kg)	277
Solid Weight (kg)	366
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2450
Speed Range (RPM)	80 - 160
Torque Slope (ft-lb/kPa)	1.314
Rotation (rev/l)	0.071
Stall Torque (ft-lb)	17,750
Operating Parameters	
Max Diff Pressure (kPa)	10,300
Torque (ft-lb)	13,400
Flow Rate (lpm)	2,250
Full Load RPM	111 at 2250 lpm

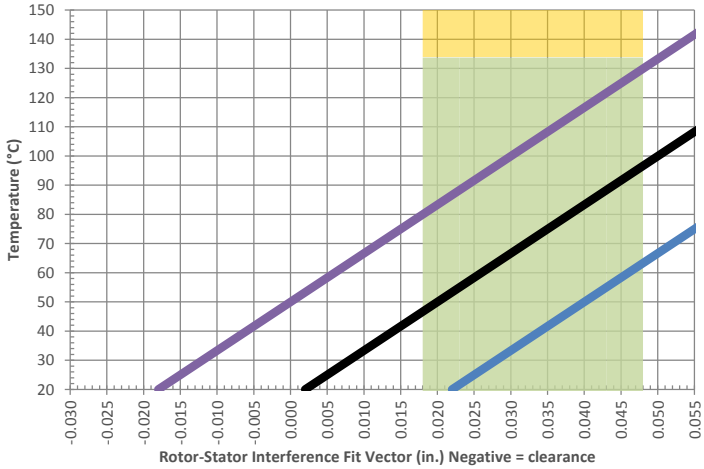
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	40 - 70 °C
STD	0.002	4.006	0.009	3.999	55 - 85 °C
0.5L	-0.008	4.016	-0.001	4.009	70 - 100 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00060**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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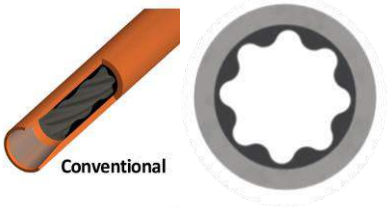
www.spirasystems.com

6.50" 7/8 LOBES 6 STAGES

Model: SPS650786.0

Imperial Units



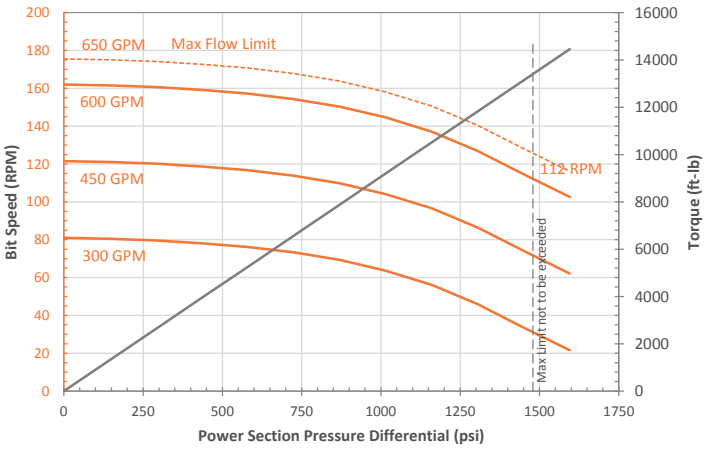
Stator Specifications	
	Inches
Overall Length	235.0
Tube O.D.	6.60
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	775
Tube Material	4140-4145
To be threaded and ID Banded by customer	

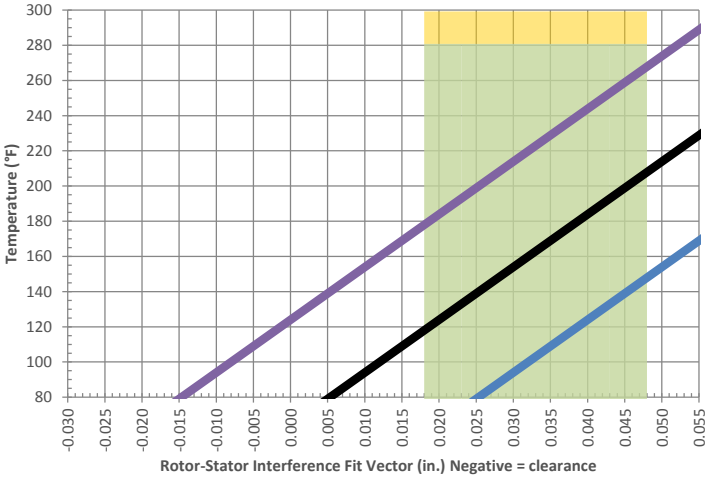
Rotor Specifications	
	Inches
Overall Length	223.0
Contour Length	216
Major Diameter	4.520
Eccentricity	0.256
Head Diameter	4.500
Gunbored Weight (lb)	610
Solid Weight (lb)	806
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 650
Speed Range (RPM)	80 - 160
Torque Slope (ft-lbs/psi)	9.060
Rotation (rev/Gal)	0.270
Stall Torque (ft-lbs)	17,750
Operating Parameters	
Max Diff Pressure (psi)	1,500
Torque (ft-lbs)	13,400
Flow Rate (GPM)	600
Full Load RPM	112 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	100 - 155 °F
STD	0.002	4.006	0.009	3.999	130 - 185 °F
0.5L	-0.008	4.016	-0.001	4.009	160 - 215 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00033**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.60" 6/7 LOBES 5 STAGES

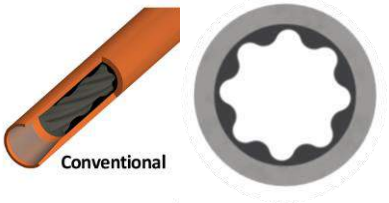
Model: SPS660675.0

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

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.)	200.0 [5080 mm]
Tube O.D. (in.)	6.60 [168 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	305
Tube Material	4140-4145
To be threaded and ID Banded by customer	

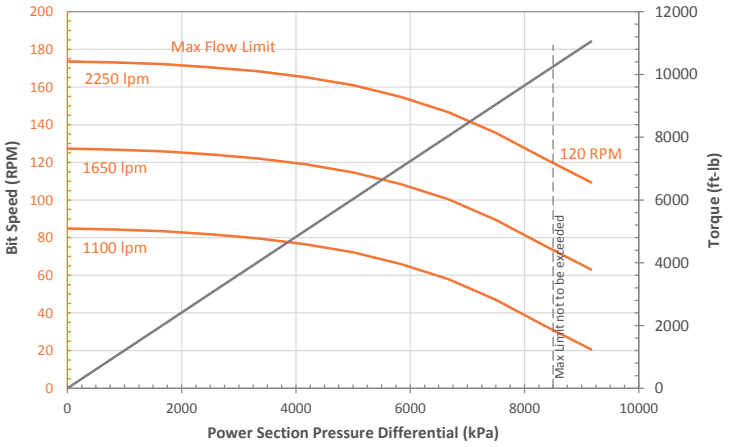
Rotor Specifications	
Overall Length (in.)	194.0 [4928 mm]
Contour Length (in.)	188 [4775 mm]
Major Diameter (in.)	4.316
Eccentricity (in.)	0.288
Head Diameter (in.)	4.000
Bored Weight (kg)	200
Solid Weight (kg)	277
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2250
Speed Range (RPM)	85 - 175
Torque Slope (ft-lb/kPa)	1.206
Rotation (rev/l)	0.077
Stall Torque (ft-lb)	13,550
Operating Parameters	
Max Diff Pressure (kPa)	8,600
Torque (ft-lb)	10,200
Flow Rate (lpm)	2,250
Full Load RPM	120 at 2250 lpm

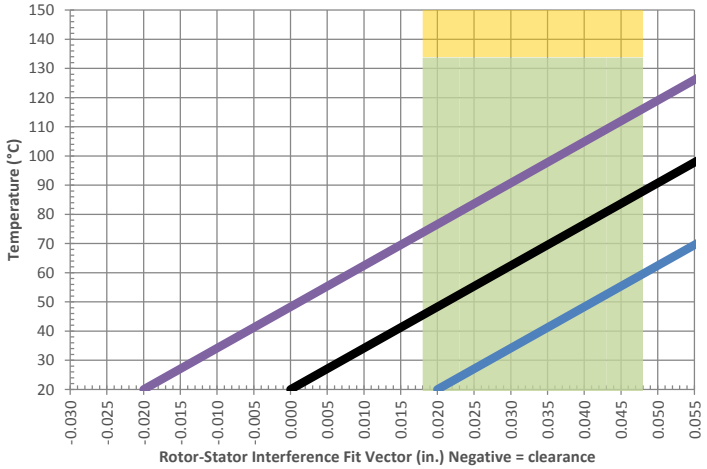
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.010	3.730	0.017	3.723	35 - 65 °C
STD	0.000	3.740	0.007	3.733	50 - 80 °C
0.5L	-0.010	3.750	-0.003	3.743	65 - 95 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00071**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.60" 6/7 LOBES 5 STAGES

Model: SPS660675.0

Imperial Units

SPIRA SYSTEMS LTD.

Power Sections

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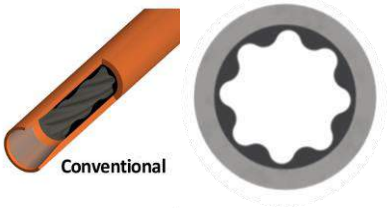


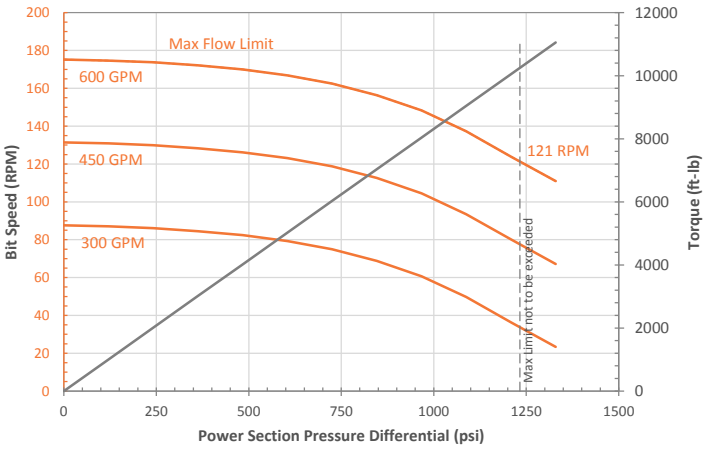
Stator Specifications	
	Inches
Overall Length	200.0
Tube O.D.	6.60
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	670
Tube Material	4140-4145
To be threaded and ID Banded by customer	

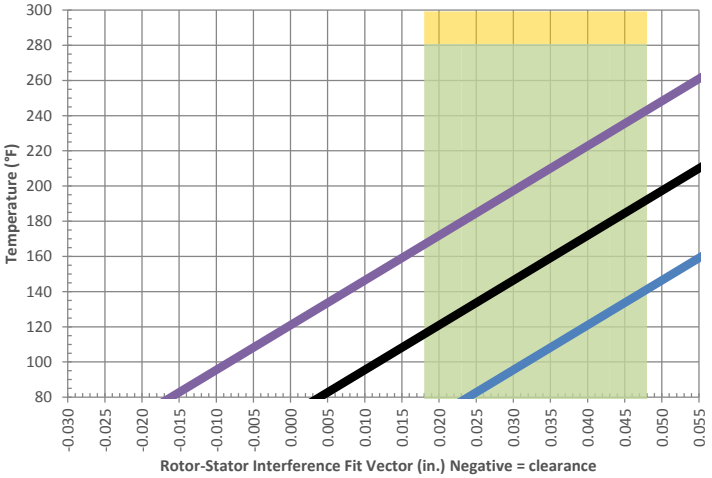
Rotor Specifications	
	Inches
Overall Length	194.0
Contour Length	188
Major Diameter	4.316
Eccentricity	0.288
Head Diameter	4.000
Gunbored Weight (lb)	440
Solid Weight (lb)	611
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 600
Speed Range (RPM)	90 - 175
Torque Slope (ft-lbs/psi)	8.313
Rotation (rev/Gal)	0.292
Stall Torque (ft-lbs)	13,550
Operating Parameters	
Max Diff Pressure (psi)	1,250
Torque (ft-lbs)	10,200
Flow Rate (GPM)	600
Full Load RPM	121 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.010	3.730	0.017	3.723	100 - 155 °F
STD	0.000	3.740	0.007	3.733	125 - 180 °F
0.5L	-0.010	3.750	-0.003	3.743	150 - 205 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00039	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.60" 7/8 LOBES 5 STAGES

Model: SPS660785.0

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

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.)	194.5 [4940 mm]
Tube O.D. (in.)	6.60 [168 mm]
Tube I.D. (in.)	5.50 [140 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.)	188.0 [4775 mm]
Contour Length (in.)	181 [4597 mm]
Major Diameter (in.)	4.520
Eccentricity (in.)	0.256
Head Diameter (in.)	4.000
Bored Weight (kg)	231
Solid Weight (kg)	306
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2450
Speed Range (RPM)	80 - 160
Torque Slope (ft-lb/kPa)	1.314
Rotation (rev/l)	0.071
Stall Torque (ft-lb)	14,800
Operating Parameters	
Max Diff Pressure (kPa)	8,600
Torque (ft-lb)	11,100
Flow Rate (lpm)	2,250
Full Load RPM	111 at 2250 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 Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	40 - 70 °C
STD	0.002	4.006	0.009	3.999	55 - 85 °C
0.5L	-0.008	4.016	-0.001	4.009	70 - 100 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00060**	

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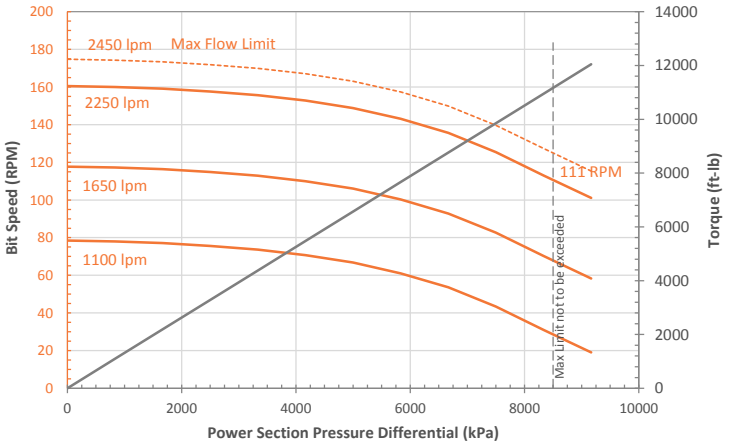
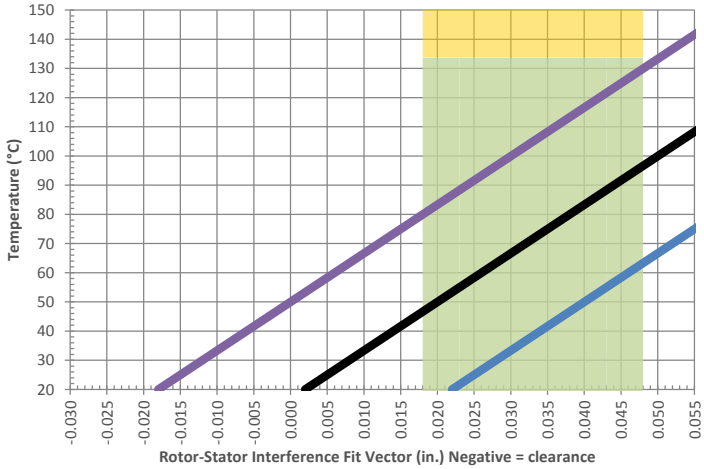
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***Best operating temperatures are based on new stators subject to normal thermal expansion conditions. Operators may wish to consider swell and run life when selecting sizes.



------ Expected slightly reduced torque when operating at this flow limit
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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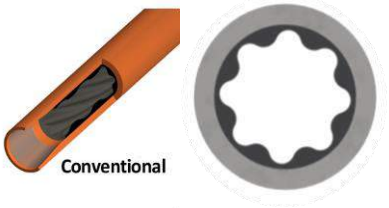
6.60" 7/8 LOBES 5 STAGES

Model: SPS660785.0

Imperial Units



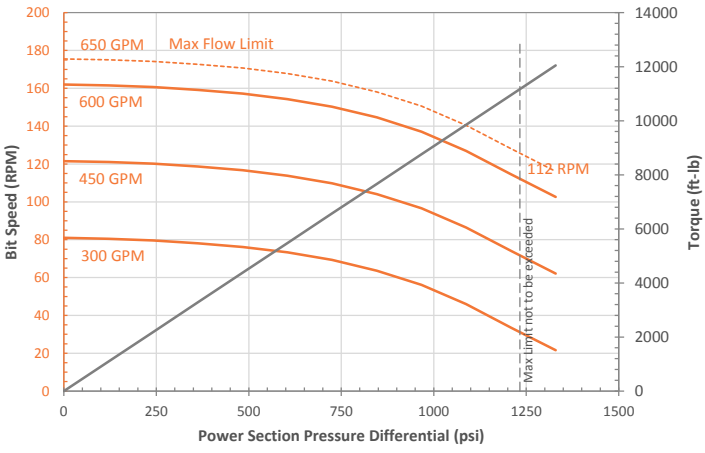
Stator Specifications	
	Inches
Overall Length	194.5
Tube O.D.	6.60
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	640
Tube Material	4140-4145
To be threaded and ID Banded by customer	

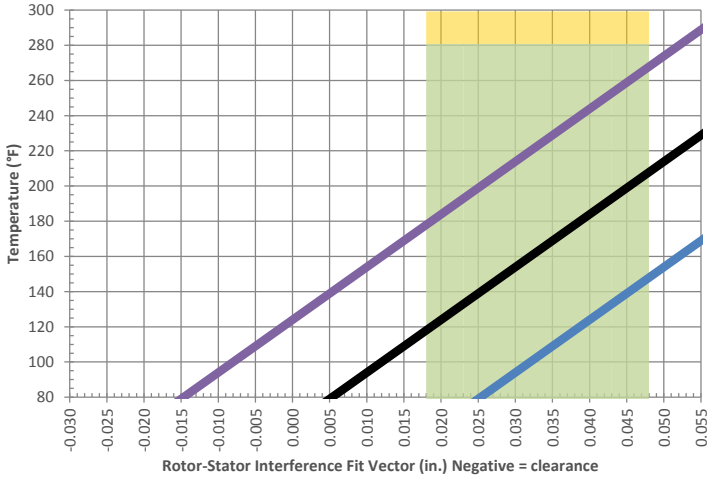
Rotor Specifications	
	Inches
Overall Length	188.0
Contour Length	181
Major Diameter	4.520
Eccentricity	0.256
Head Diameter	4.000
Gunbored Weight (lb)	510
Solid Weight (lb)	675
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 650
Speed Range (RPM)	80 - 160
Torque Slope (ft-lbs/psi)	9.060
Rotation (rev/Gal)	0.270
Stall Torque (ft-lbs)	14,800
Operating Parameters	
Max Diff Pressure (psi)	1,250
Torque (ft-lbs)	11,100
Flow Rate (GPM)	600
Full Load RPM	112 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	100 - 155 °F
STD	0.002	4.006	0.009	3.999	130 - 185 °F
0.5L	-0.008	4.016	-0.001	4.009	160 - 215 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00033	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.60" 7/8 LOBES 5.7 STAGES

Model: SPS660785.7 SX2

Canadian Oilfield Units

Power Sections

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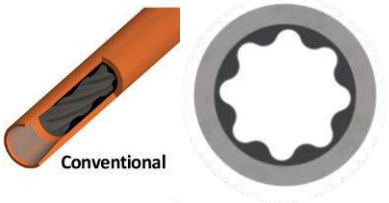
Ph: (587) 775-7777
www.spirasystems.com



Stator Specifications	
Overall Length (in.)	260.0 [6604 mm]
Tube O.D. (in.)	6.60 [168 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	280
Tube Material	4140-4145
To be threaded and ID Banded by customer	

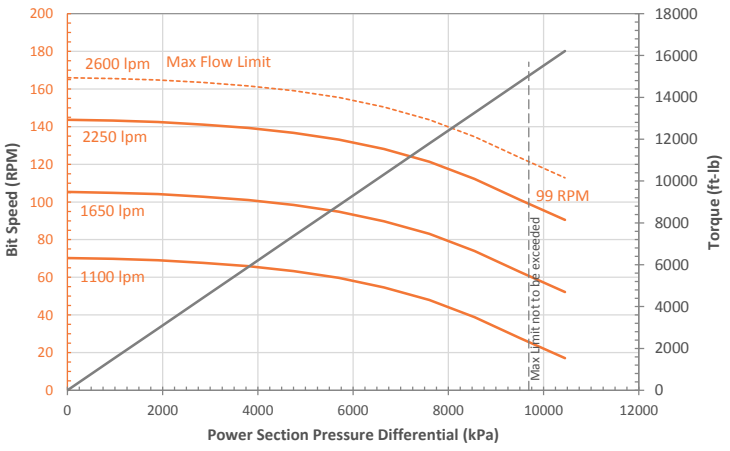
Rotor Specifications	
Overall Length (in.)	252.0 [6401 mm]
Contour Length (in.)	245 [6223 mm]
Major Diameter (in.)	4.644
Eccentricity (in.)	0.247
Head Diameter (in.)	4.500
Bored Weight (kg)	339
Solid Weight (kg)	440
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2600
Speed Range (RPM)	70 - 145
Torque Slope (ft-lb/kPa)	1.552
Rotation (rev/l)	0.064
Stall Torque (ft-lb)	19,900
Operating Parameters	
Max Diff Pressure (kPa)	9,700
Torque (ft-lb)	15,000
Flow Rate (lpm)	2,250
Full Load RPM	99 at 2250 lpm

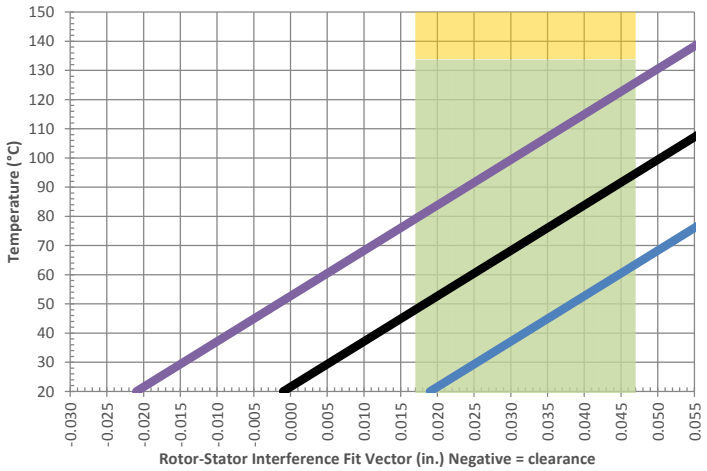
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.009	4.142	0.017	4.134	40 - 70 °C
STD	-0.001	4.152	0.007	4.144	55 - 85 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00064**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.60" 7/8 LOBES 5.7 STAGES

Model: SPS660785.7 SX2

Imperial Units

SPIRA SYSTEMS LTD.

Power Sections

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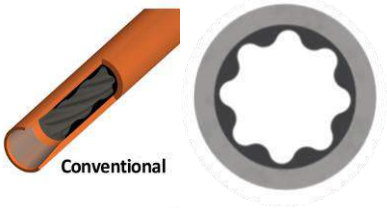


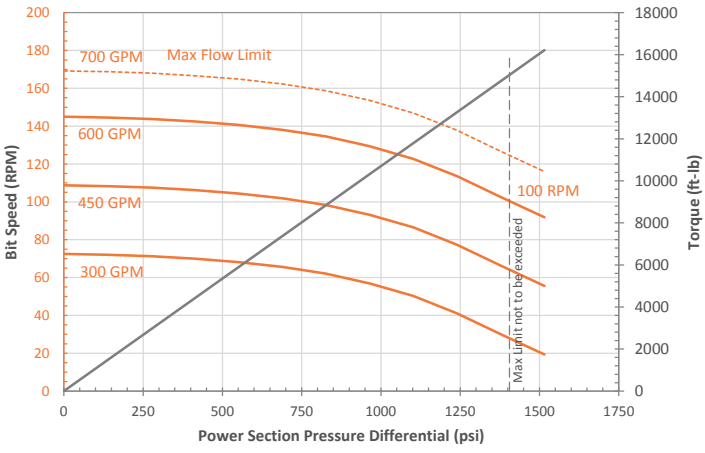
Stator Specifications	
	Inches
Overall Length	260.0
Tube O.D.	6.60
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	620
Tube Material	4140-4145
To be threaded and ID Banded by customer	

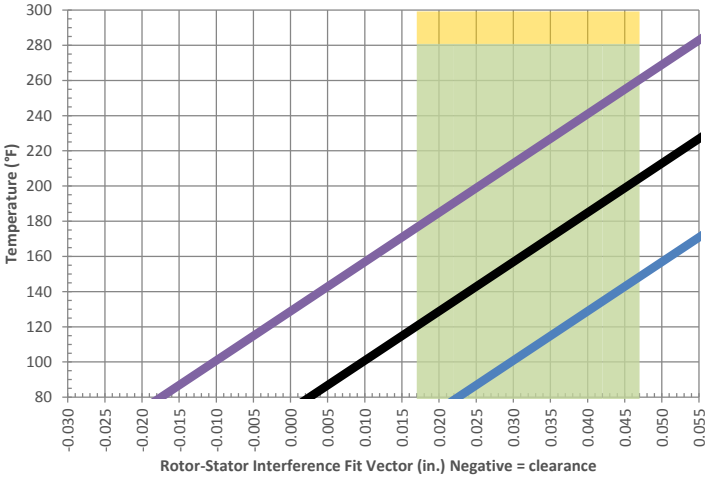
Rotor Specifications	
	Inches
Overall Length	252.0
Contour Length	245
Major Diameter	4.644
Eccentricity	0.247
Head Diameter	4.500
Gunbored Weight (lb)	748
Solid Weight (lb)	970
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 700
Speed Range (RPM)	75 - 145
Torque Slope (ft-lbs/psi)	10.698
Rotation (rev/Gal)	0.242
Stall Torque (ft-lbs)	19,900
Operating Parameters	
Max Diff Pressure (psi)	1,450
Torque (ft-lbs)	15,000
Flow Rate (GPM)	600
Full Load RPM	100 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.009	4.142	0.017	4.134	105 - 160 °F
STD	-0.001	4.152	0.007	4.144	130 - 185 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00036	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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Ph: (587) 775-7777
www.spirasystems.com

6.60" 7/8 LOBES 6 STAGES

Model: SPS660786.0

Canadian Oilfield Units

Stator Specifications	
Overall Length (in.)	235.0 [5969 mm]
Tube O.D. (in.)	6.60 [168 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	350
Tube Material	4140-4145
To be threaded and ID Banded by customer	

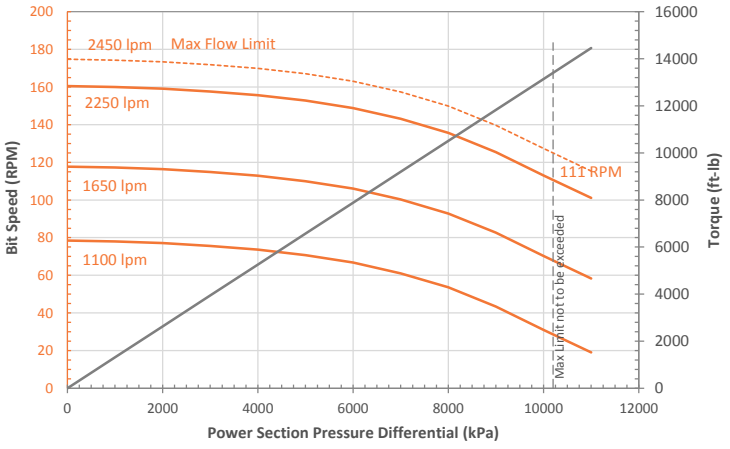
Rotor Specifications	
Overall Length (in.)	223.0 [5664 mm]
Contour Length (in.)	216 [5486 mm]
Major Diameter (in.)	4.520
Eccentricity (in.)	0.256
Head Diameter (in.)	4.500
Bored Weight (kg)	277
Solid Weight (kg)	366
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2450
Speed Range (RPM)	80 - 160
Torque Slope (ft-lb/kPa)	1.314
Rotation (rev/l)	0.071
Stall Torque (ft-lb)	17,750
Operating Parameters	
Max Diff Pressure (kPa)	10,300
Torque (ft-lb)	13,400
Flow Rate (lpm)	2,250
Full Load RPM	111 at 2250 lpm

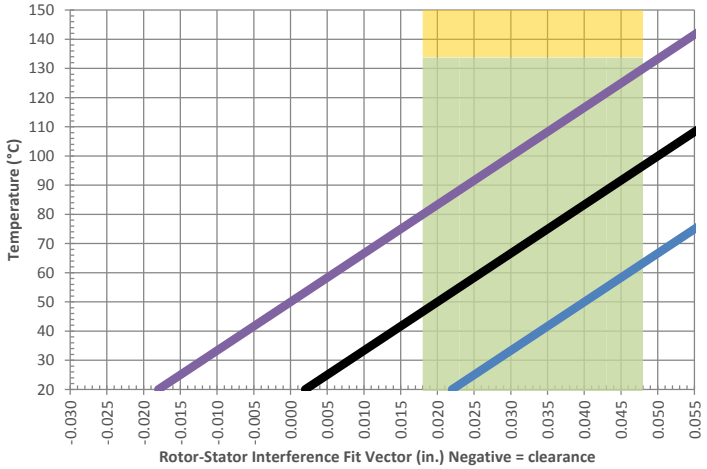
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	40 - 70 °C
STD	0.002	4.006	0.009	3.999	55 - 85 °C
0.5L	-0.008	4.016	-0.001	4.009	70 - 100 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00060**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

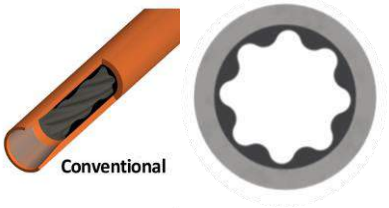
Power Sections

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

6.60" 7/8 LOBES 6 STAGES

Model: SPS660786.0

Imperial Units



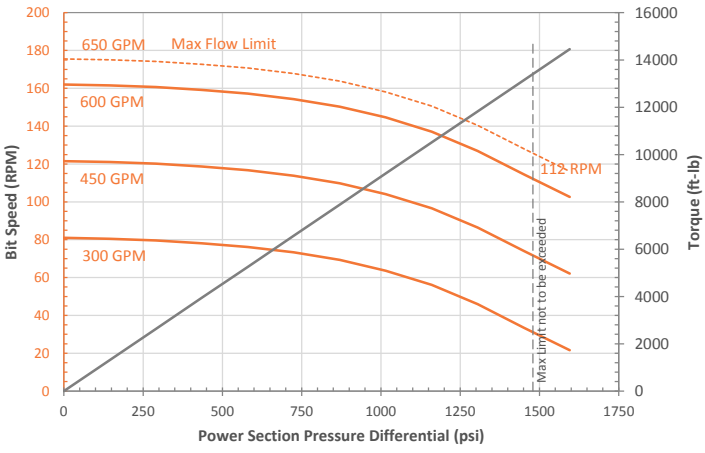
Stator Specifications	
	Inches
Overall Length	235.0
Tube O.D.	6.60
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	775
Tube Material	4140-4145
To be threaded and ID Banded by customer	

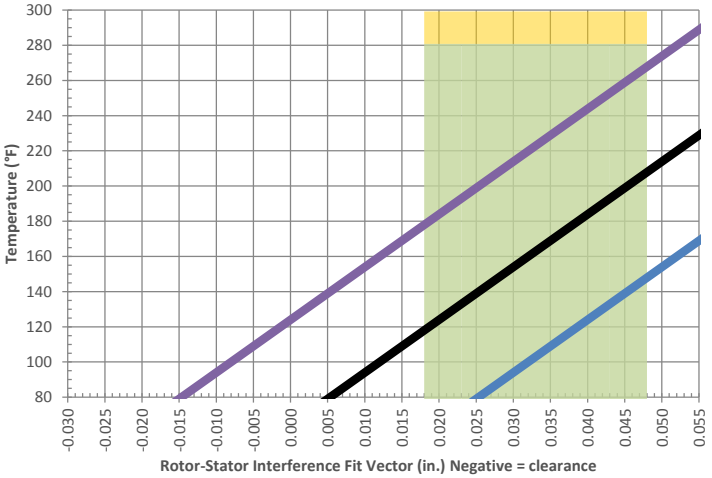
Rotor Specifications	
	Inches
Overall Length	223.0
Contour Length	216
Major Diameter	4.520
Eccentricity	0.256
Head Diameter	4.500
Gunbored Weight (lb)	610
Solid Weight (lb)	806
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 650
Speed Range (RPM)	80 - 160
Torque Slope (ft-lbs/psi)	9.060
Rotation (rev/Gal)	0.270
Stall Torque (ft-lbs)	17,750
Operating Parameters	
Max Diff Pressure (psi)	1,500
Torque (ft-lbs)	13,400
Flow Rate (GPM)	600
Full Load RPM	112 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	100 - 155 °F
STD	0.002	4.006	0.009	3.999	130 - 185 °F
0.5L	-0.008	4.016	-0.001	4.009	160 - 215 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00033**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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

6.75" 4/5 LOBES 7 STAGES
Model: SPS675457.0
Canadian Oilfield Units

Stator Specifications	
Overall Length (in.)	210.0 [5334 mm]
Tube O.D. (in.)	6.75 [171 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	7.5
Rubber Cut Back Bottom (in.)	7.5
Weight (kg)	365
Tube Material	4140-4145
To be threaded and ID Banded by customer	

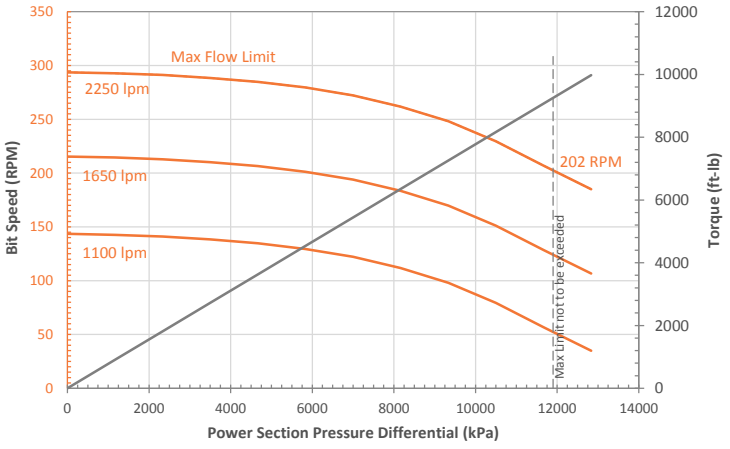
Rotor Specifications	
Overall Length (in.)	202.5 [5144 mm]
Contour Length (in.)	196 [4966 mm]
Major Diameter (in.)	4.220
Eccentricity (in.)	0.355
Head Diameter (in.)	4.000
Bored Weight (kg)	175
Solid Weight (kg)	255
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

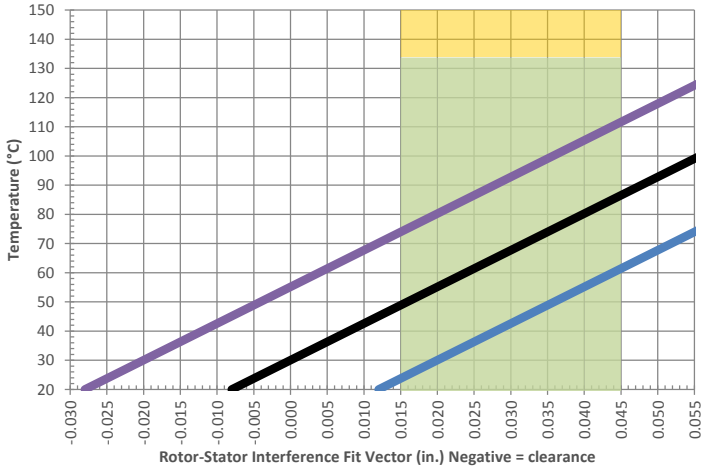
Performance Specifications	
Flow Range (lpm)	1100 - 2250
Speed Range (RPM)	145 - 295
Torque Slope (ft-lb/kPa)	0.777
Rotation (rev/l)	0.131
Stall Torque (ft-lb)	12,250
Operating Parameters	
Max Diff Pressure (kPa)	12,000
Torque (ft-lb)	9,200
Flow Rate (lpm)	2,250
Full Load RPM	202 at 2250 lpm

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 Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.002	3.508	0.012	3.498	40 - 70 °C
STD	-0.008	3.518	0.002	3.508	50 - 80 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00080**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.010 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

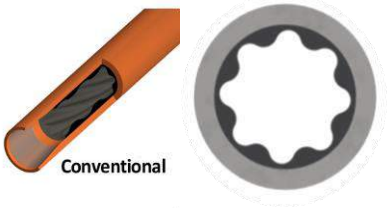
6.75" 4/5 LOBES 7 STAGES

Model: SPS675457.0

Imperial Units

Power Sections

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



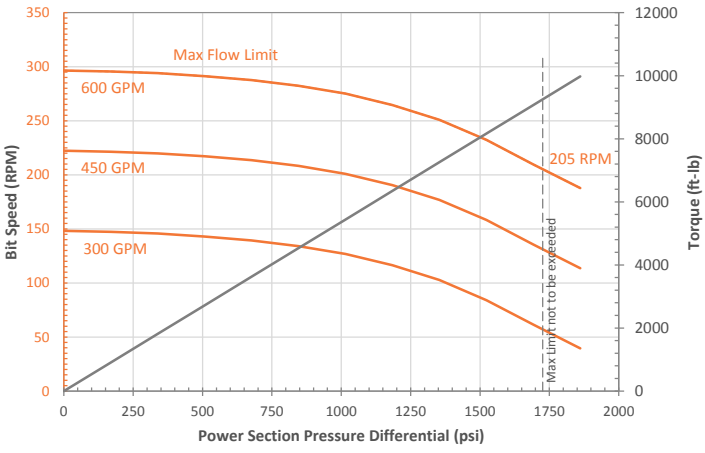
Stator Specifications	
	Inches
Overall Length	210.0
Tube O.D.	6.75
Tube I.D.	5.50
Rubber Cut Back Top	7.5
Rubber Cut Back Bottom	7.5
Weight (lb)	800
Tube Material	4140-4145
To be threaded and ID Banded by customer	

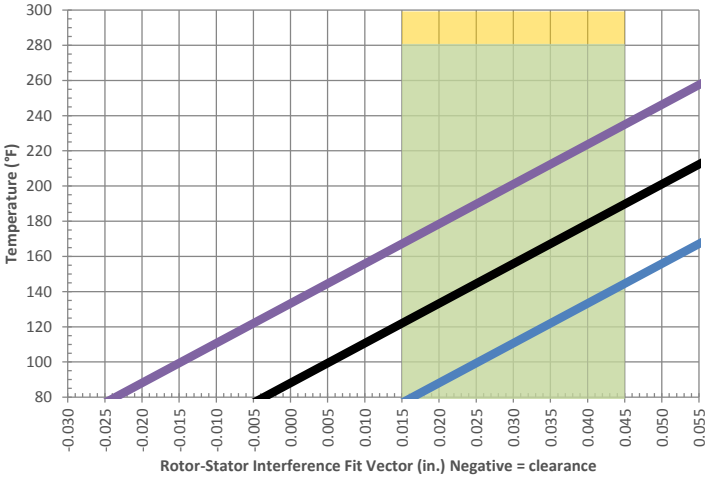
Rotor Specifications	
	Inches
Overall Length	202.5
Contour Length	196
Major Diameter	4.220
Eccentricity	0.355
Head Diameter	4.000
Gunbored Weight (lb)	385
Solid Weight (lb)	563
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 600
Speed Range (RPM)	150 - 295
Torque Slope (ft-lbs/psi)	5.360
Rotation (rev/Gal)	0.494
Stall Torque (ft-lbs)	12,250
Operating Parameters	
Max Diff Pressure (psi)	1,750
Torque (ft-lbs)	9,200
Flow Rate (GPM)	600
Full Load RPM	205 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.002	3.508	0.012	3.498	105 - 155 °F
STD	-0.008	3.518	0.002	3.508	125 - 180 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00044	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.010 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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

6.75" 6/7 LOBES 5 STAGES

Model: SPS675675.0

Canadian Oilfield Units

Stator Specifications	
Overall Length (in.)	200.0 [5080 mm]
Tube O.D. (in.)	6.75 [171 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	345
Tube Material	4140-4145
To be threaded and ID Banded by customer	

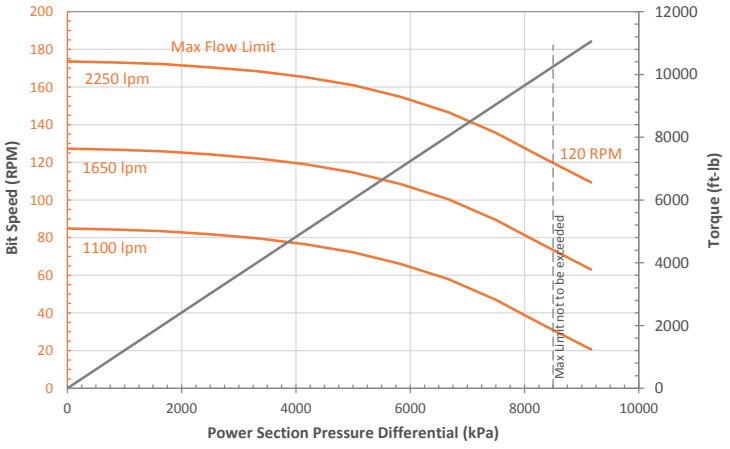
Rotor Specifications	
Overall Length (in.)	194.0 [4928 mm]
Contour Length (in.)	188 [4775 mm]
Major Diameter (in.)	4.316
Eccentricity (in.)	0.288
Head Diameter (in.)	4.000
Bored Weight (kg)	200
Solid Weight (kg)	277
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2250
Speed Range (RPM)	85 - 175
Torque Slope (ft-lb/kPa)	1.206
Rotation (rev/l)	0.077
Stall Torque (ft-lb)	13,550
Operating Parameters	
Max Diff Pressure (kPa)	8,600
Torque (ft-lb)	10,200
Flow Rate (lpm)	2,250
Full Load RPM	120 at 2250 lpm

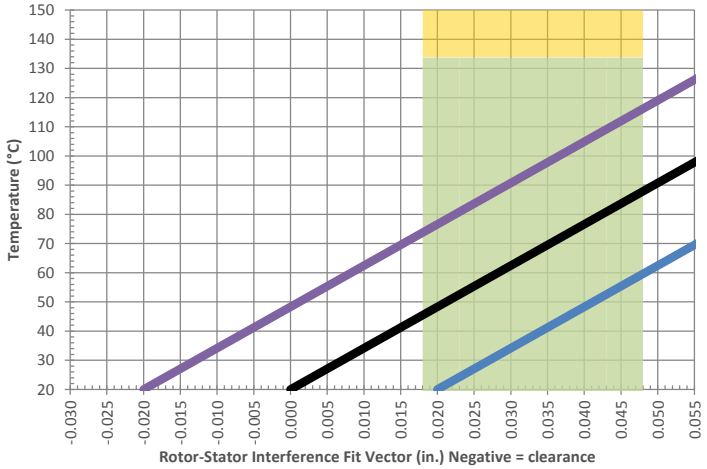
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.010	3.730	0.017	3.723	35 - 65 °C
STD	0.000	3.740	0.007	3.733	50 - 80 °C
0.5L	-0.010	3.750	-0.003	3.743	65 - 95 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00071**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.75" 6/7 LOBES 5 STAGES

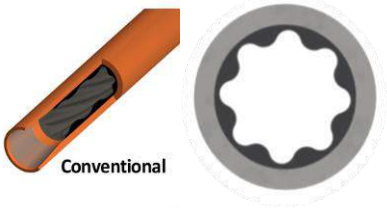
Model: SPS675675.0

Imperial Units

SPIRA SYSTEMS LTD.

Power Sections

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



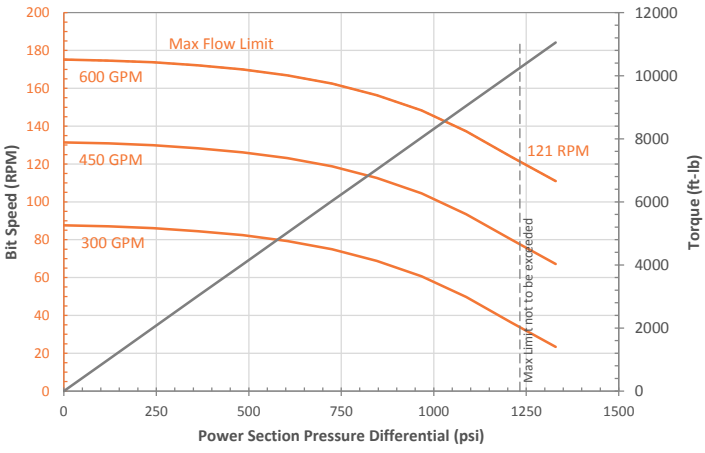
Stator Specifications	
	Inches
Overall Length	200.0
Tube O.D.	6.75
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	760
Tube Material	4140-4145
To be threaded and ID Banded by customer	

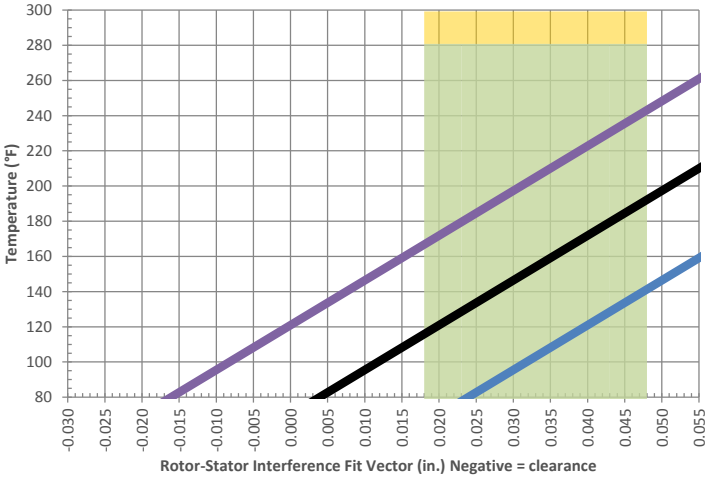
Rotor Specifications	
	Inches
Overall Length	194.0
Contour Length	188
Major Diameter	4.316
Eccentricity	0.288
Head Diameter	4.000
Gunbored Weight (lb)	440
Solid Weight (lb)	611
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 600
Speed Range (RPM)	90 - 175
Torque Slope (ft-lbs/psi)	8.313
Rotation (rev/Gal)	0.292
Stall Torque (ft-lbs)	13,550
Operating Parameters	
Max Diff Pressure (psi)	1,250
Torque (ft-lbs)	10,200
Flow Rate (GPM)	600
Full Load RPM	121 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.010	3.730	0.017	3.723	100 - 155 °F
STD	0.000	3.740	0.007	3.733	125 - 180 °F
0.5L	-0.010	3.750	-0.003	3.743	150 - 205 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00039**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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

6.75" 7/8 LOBES 5 STAGES

Model: SPS675785.0

Canadian Oilfield Units

Stator Specifications	
Overall Length (in.)	194.5 [4940 mm]
Tube O.D. (in.)	6.75 [171 mm]
Tube I.D. (in.)	5.50 [140 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	

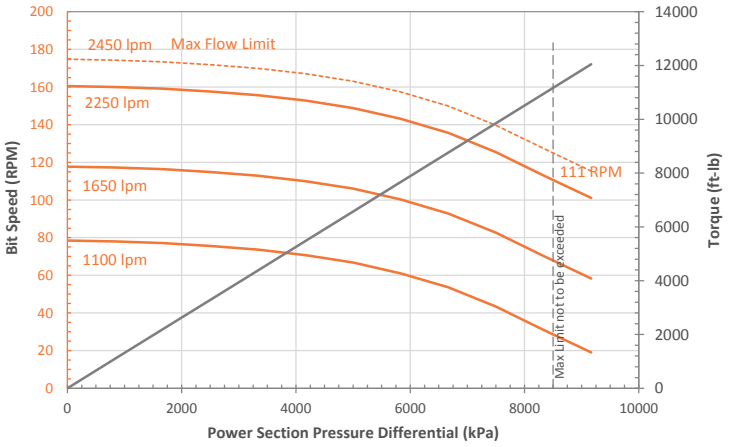
Rotor Specifications	
Overall Length (in.)	188.0 [4775 mm]
Contour Length (in.)	181 [4597 mm]
Major Diameter (in.)	4.520
Eccentricity (in.)	0.256
Head Diameter (in.)	4.000
Bored Weight (kg)	231
Solid Weight (kg)	306
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

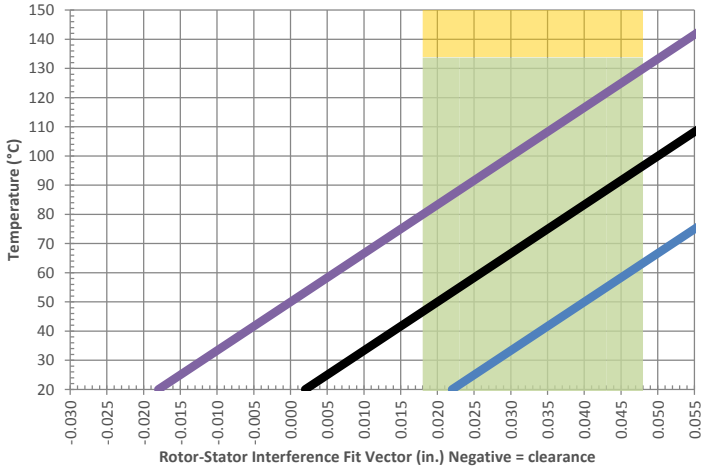
Performance Specifications	
Flow Range (lpm)	1100 - 2450
Speed Range (RPM)	80 - 160
Torque Slope (ft-lb/kPa)	1.314
Rotation (rev/l)	0.071
Stall Torque (ft-lb)	14,800
Operating Parameters	
Max Diff Pressure (kPa)	8,600
Torque (ft-lb)	11,100
Flow Rate (lpm)	2,250
Full Load RPM	111 at 2250 lpm

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 Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	40 - 70 °C
STD	0.002	4.006	0.009	3.999	55 - 85 °C
0.5L	-0.008	4.016	-0.001	4.009	70 - 100 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00060**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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.





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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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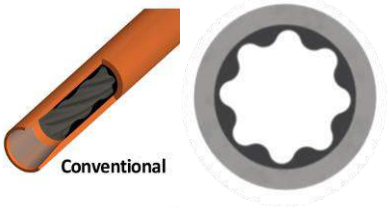
Ph: (587) 775-7777
www.spirasystems.com

6.75" 7/8 LOBES 5 STAGES

Model: SPS675785.0

Imperial Units



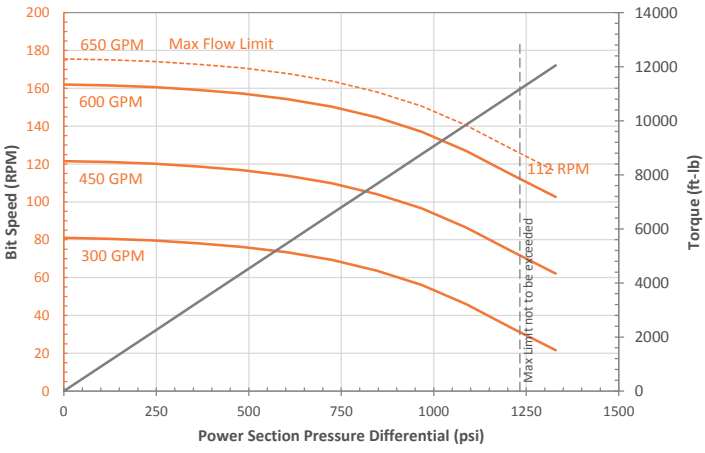
Stator Specifications	
	Inches
Overall Length	194.5
Tube O.D.	6.75
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	640
Tube Material	4140-4145
To be threaded and ID Banded by customer	

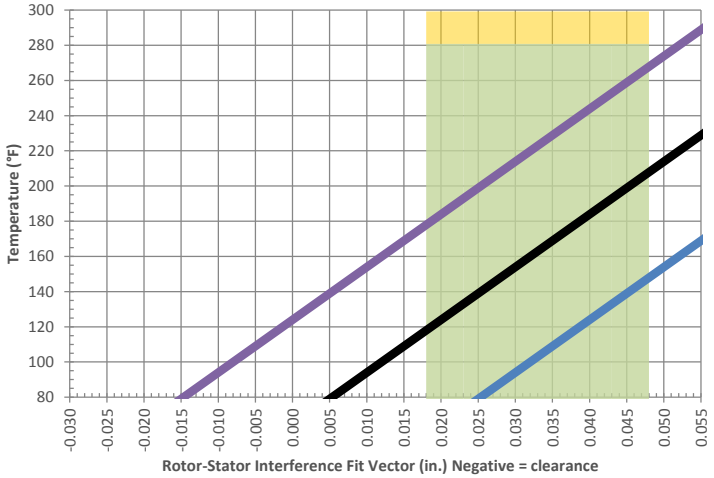
Rotor Specifications	
	Inches
Overall Length	188.0
Contour Length	181
Major Diameter	4.520
Eccentricity	0.256
Head Diameter	4.000
Gunbored Weight (lb)	510
Solid Weight (lb)	675
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 650
Speed Range (RPM)	80 - 160
Torque Slope (ft-lbs/psi)	9.060
Rotation (rev/Gal)	0.270
Stall Torque (ft-lbs)	14,800
Operating Parameters	
Max Diff Pressure (psi)	1,250
Torque (ft-lbs)	11,100
Flow Rate (GPM)	600
Full Load RPM	112 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	100 - 155 °F
STD	0.002	4.006	0.009	3.999	130 - 185 °F
0.5L	-0.008	4.016	-0.001	4.009	160 - 215 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00033**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.75" 7/8 LOBES 5.7 STAGES

Model: SPS675785.7 SX2

Canadian Oilfield Units

Power Sections

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Ph: (587) 775-7777
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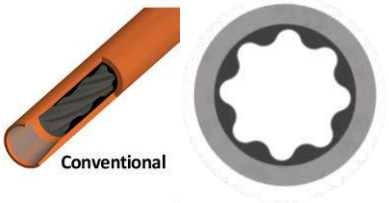


Stator Specifications	
Overall Length (in.)	260.0 [6604 mm]
Tube O.D. (in.)	6.75 [171 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	335
Tube Material	4140-4145
To be threaded and ID Banded by customer	

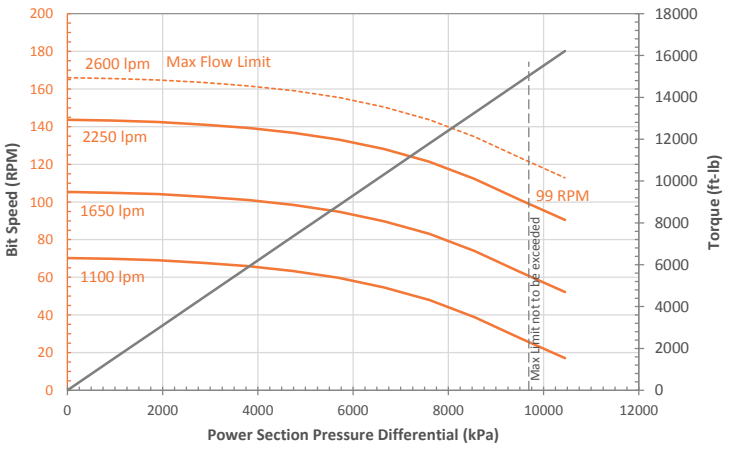
Rotor Specifications	
Overall Length (in.)	252.0 [6401 mm]
Contour Length (in.)	245 [6223 mm]
Major Diameter (in.)	4.644
Eccentricity (in.)	0.247
Head Diameter (in.)	4.500
Bored Weight (kg)	339
Solid Weight (kg)	440
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2600
Speed Range (RPM)	70 - 145
Torque Slope (ft-lb/kPa)	1.552
Rotation (rev/l)	0.064
Stall Torque (ft-lb)	19,900
Operating Parameters	
Max Diff Pressure (kPa)	9,700
Torque (ft-lb)	15,000
Flow Rate (lpm)	2,250
Full Load RPM	99 at 2250 lpm

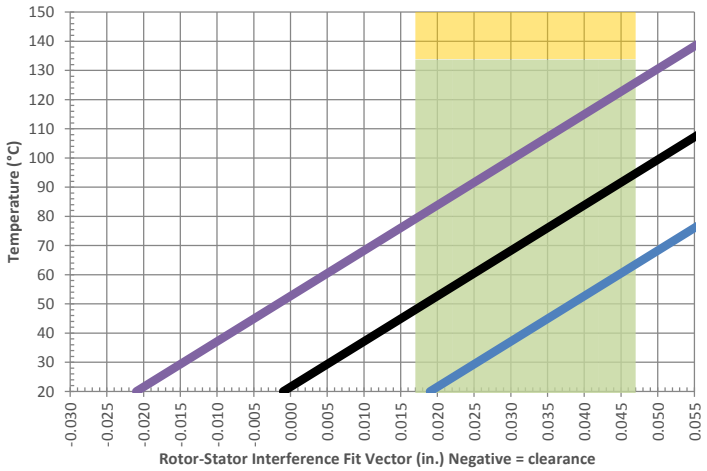
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.009	4.142	0.017	4.134	40 - 70 °C
STD	-0.001	4.152	0.007	4.144	55 - 85 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00064**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

6.75" 7/8 LOBES 5.7 STAGES

Model: SPS675785.7 SX2

Imperial Units

Power Sections

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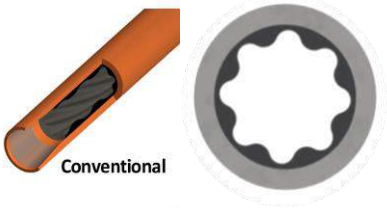

Stator Specifications	
	Inches
Overall Length	260.0
Tube O.D.	6.75
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	735
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
	Inches
Overall Length	252.0
Contour Length	245
Major Diameter	4.644
Eccentricity	0.247
Head Diameter	4.500
Gunbored Weight (lb)	748
Solid Weight (lb)	970
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 700
Speed Range (RPM)	75 - 145
Torque Slope (ft-lbs/psi)	10.698
Rotation (rev/Gal)	0.242
Stall Torque (ft-lbs)	19,900
Operating Parameters	
Max Diff Pressure (psi)	1,450
Torque (ft-lbs)	15,000
Flow Rate (GPM)	600
Full Load RPM	100 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.009	4.142	0.017	4.134	105 - 160 °F
STD	-0.001	4.152	0.007	4.144	130 - 185 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00036	

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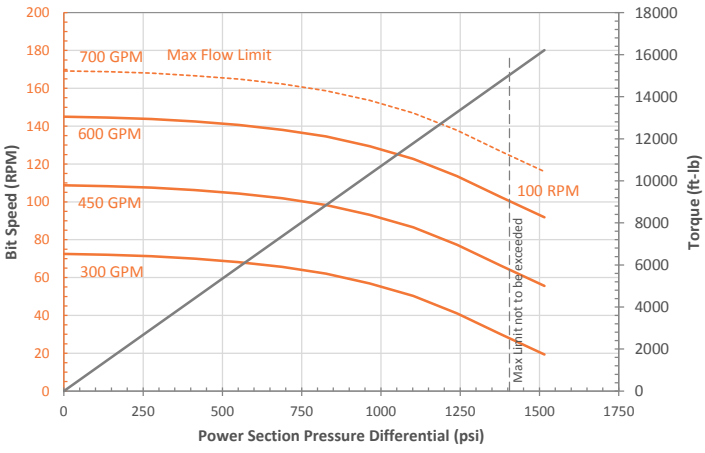
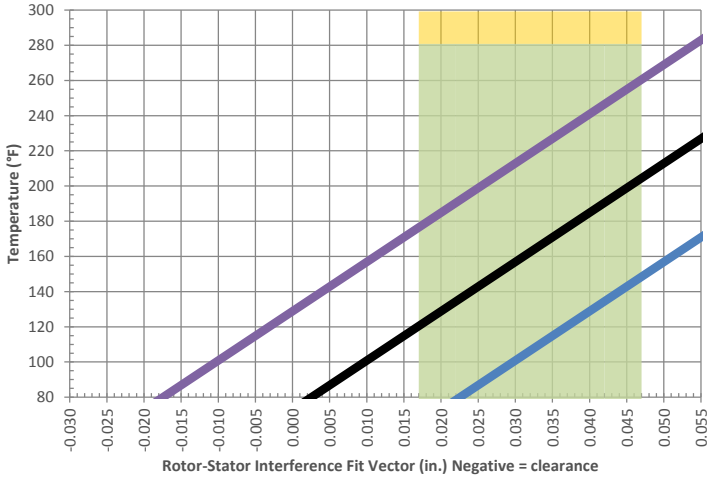
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***Best operating temperatures are based on new stators subject to normal thermal expansion conditions. Operators may wish to consider swell and run life when selecting sizes.





------ Expected slightly reduced torque when operating at this flow limit
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.75" 7/8 LOBES 6 STAGES

Model: SPS675786.0

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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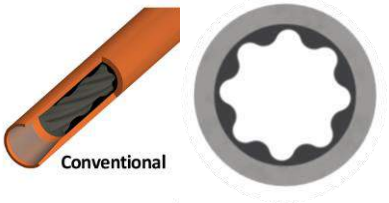


Stator Specifications	
Overall Length (in.)	235.0 [5969 mm]
Tube O.D. (in.)	6.75 [171 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	400
Tube Material	4140-4145
To be threaded and ID Banded by customer	

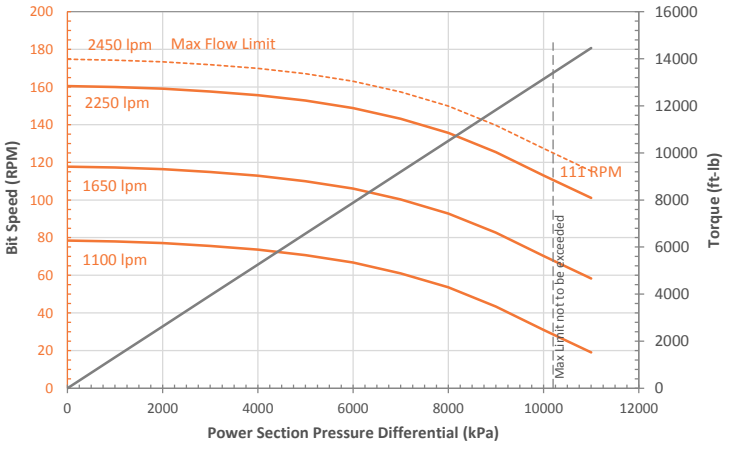
Rotor Specifications	
Overall Length (in.)	223.0 [5664 mm]
Contour Length (in.)	216 [5486 mm]
Major Diameter (in.)	4.520
Eccentricity (in.)	0.256
Head Diameter (in.)	4.500
Bored Weight (kg)	277
Solid Weight (kg)	366
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2450
Speed Range (RPM)	80 - 160
Torque Slope (ft-lb/kPa)	1.314
Rotation (rev/l)	0.071
Stall Torque (ft-lb)	17,750
Operating Parameters	
Max Diff Pressure (kPa)	10,300
Torque (ft-lb)	13,400
Flow Rate (lpm)	2,250
Full Load RPM	111 at 2250 lpm

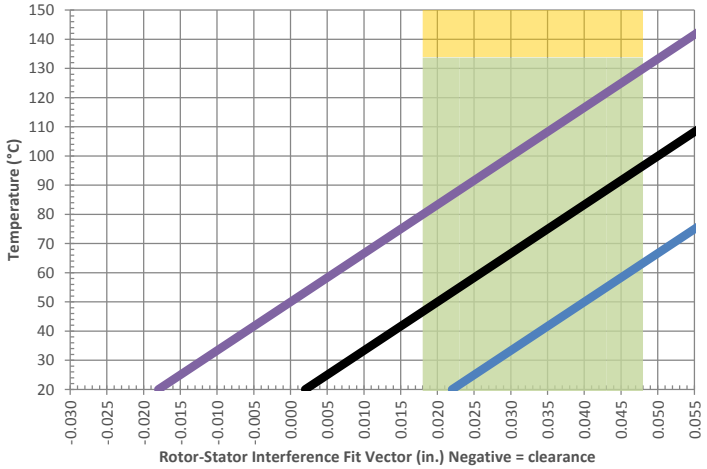
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	40 - 70 °C
STD	0.002	4.006	0.009	3.999	55 - 85 °C
0.5L	-0.008	4.016	-0.001	4.009	70 - 100 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00060**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.75" 7/8 LOBES 6 STAGES

Model: SPS675786.0

Imperial Units

SPIRA SYSTEMS LTD.

Power Sections

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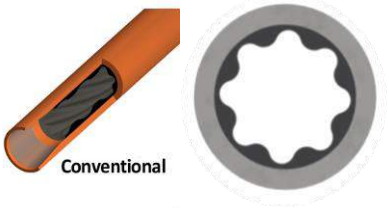


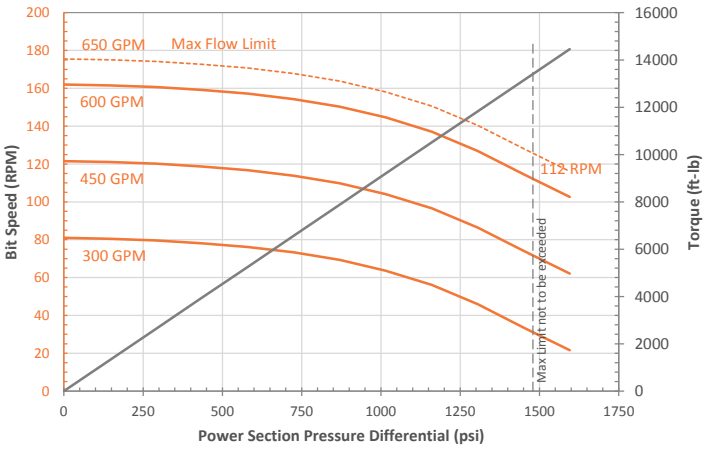
Stator Specifications	
	Inches
Overall Length	235.0
Tube O.D.	6.75
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	875
Tube Material	4140-4145
To be threaded and ID Banded by customer	

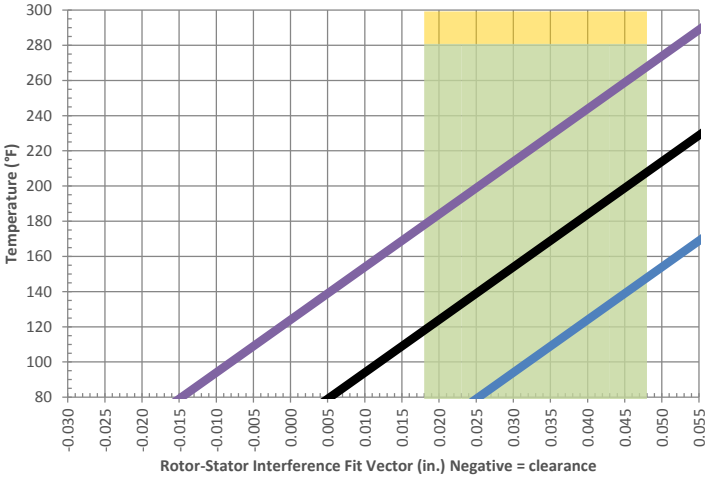
Rotor Specifications	
	Inches
Overall Length	223.0
Contour Length	216
Major Diameter	4.520
Eccentricity	0.256
Head Diameter	4.500
Gunbored Weight (lb)	610
Solid Weight (lb)	806
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 650
Speed Range (RPM)	80 - 160
Torque Slope (ft-lbs/psi)	9.060
Rotation (rev/Gal)	0.270
Stall Torque (ft-lbs)	17,750
Operating Parameters	
Max Diff Pressure (psi)	1,500
Torque (ft-lbs)	13,400
Flow Rate (GPM)	600
Full Load RPM	112 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	100 - 155 °F
STD	0.002	4.006	0.009	3.999	130 - 185 °F
0.5L	-0.008	4.016	-0.001	4.009	160 - 215 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00033**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.75" 7/8 LOBES 6.4 STAGES

Model: SPS675786.4

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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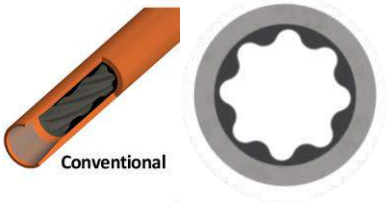


Stator Specifications	
Overall Length (in.)	245.0 [6223 mm]
Tube O.D. (in.)	6.75 [171 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	380
Tube Material	4140-4145
To be threaded and ID Banded by customer	

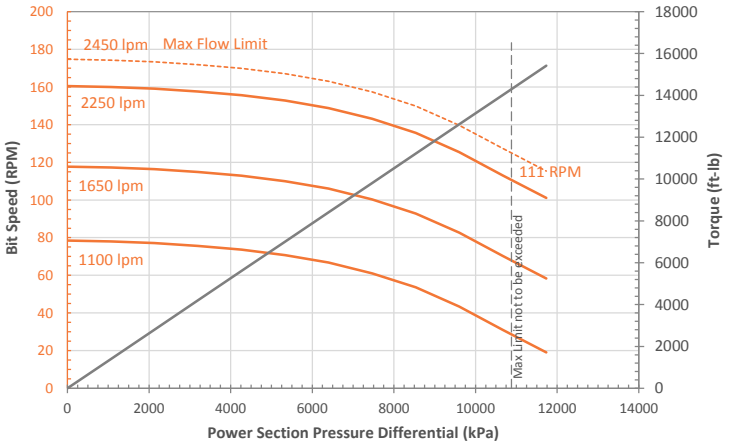
Rotor Specifications	
Overall Length (in.)	238.5 [6058 mm]
Contour Length (in.)	232 [5880 mm]
Major Diameter (in.)	4.520
Eccentricity (in.)	0.256
Head Diameter (in.)	4.000
Bored Weight (kg)	293
Solid Weight (kg)	388
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2450
Speed Range (RPM)	80 - 160
Torque Slope (ft-lb/kPa)	1.314
Rotation (rev/l)	0.071
Stall Torque (ft-lb)	18,900
Operating Parameters	
Max Diff Pressure (kPa)	10,900
Torque (ft-lb)	14,200
Flow Rate (lpm)	2,250
Full Load RPM	111 at 2250 lpm

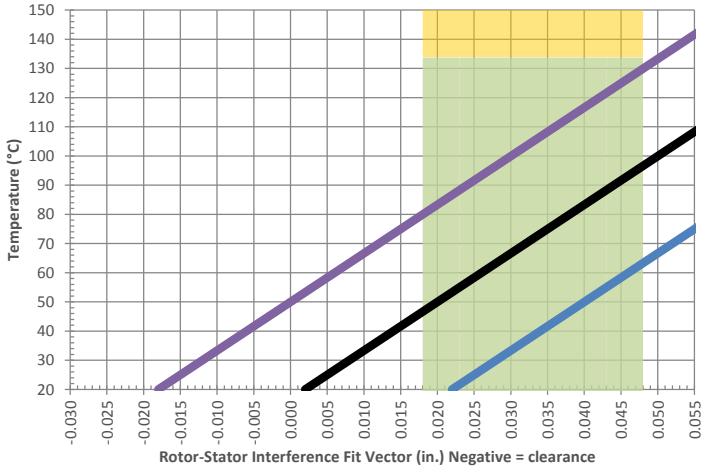
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	40 - 70 °C
STD	0.002	4.006	0.009	3.999	55 - 85 °C
0.5L	-0.008	4.016	-0.001	4.009	70 - 100 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00060**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

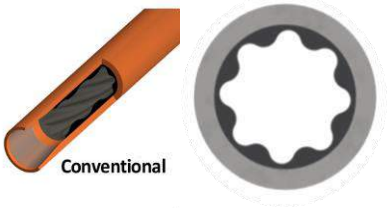
Power Sections

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

6.75" 7/8 LOBES 6.4 STAGES

Model: SPS675786.4

Imperial Units



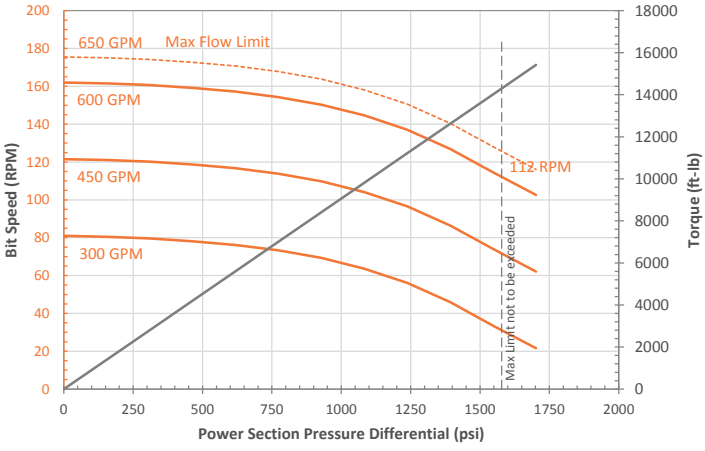
Stator Specifications	
	Inches
Overall Length	245.0
Tube O.D.	6.75
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	835
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
	Inches
Overall Length	238.5
Contour Length	232
Major Diameter	4.520
Eccentricity	0.256
Head Diameter	4.000
Gunbored Weight (lb)	646
Solid Weight (lb)	856
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

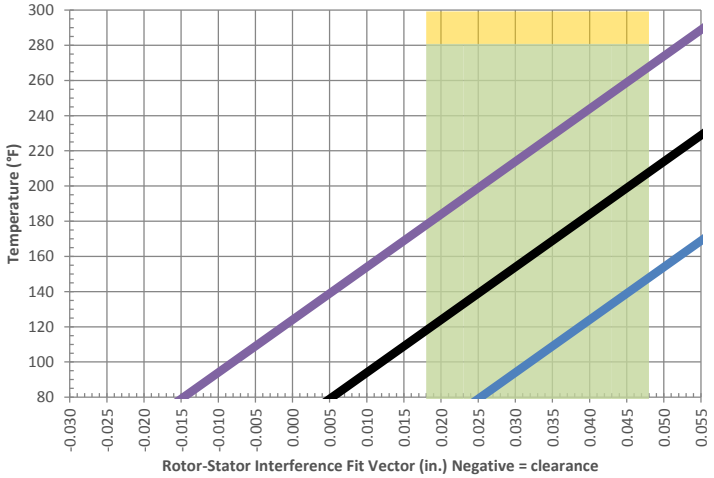
Performance Specifications	
Flow Range (GPM)	300 - 650
Speed Range (RPM)	80 - 160
Torque Slope (ft-lbs/psi)	9.060
Rotation (rev/Gal)	0.270
Stall Torque (ft-lbs)	18,900
Operating Parameters	
Max Diff Pressure (psi)	1,600
Torque (ft-lbs)	14,200
Flow Rate (GPM)	600
Full Load RPM	112 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	100 - 155 °F
STD	0.002	4.006	0.009	3.999	130 - 185 °F
0.5L	-0.008	4.016	-0.001	4.009	160 - 215 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00033	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.75" 9/10 LOBES 8 STAGES

Model: SPS6759108.0

Canadian Oilfield Units

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Power Sections

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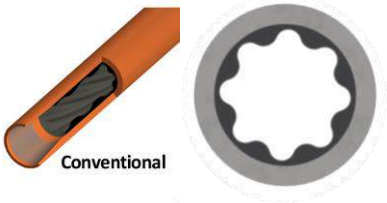
Ph: (587) 775-7777
www.spirasystems.com



Stator Specifications	
Overall Length (in.)	260.0 [6604 mm]
Tube O.D. (in.)	6.75 [171 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	370
Tube Material	4140-4145
To be threaded and ID Banded by customer	

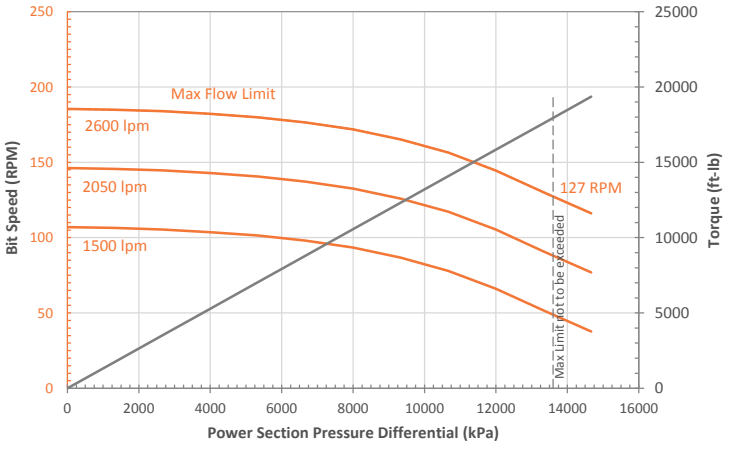
Rotor Specifications	
Overall Length (in.)	252.0 [6401 mm]
Contour Length (in.)	245 [6223 mm]
Major Diameter (in.)	4.830
Eccentricity (in.)	0.224
Head Diameter (in.)	4.625
Bored Weight (kg)	392
Solid Weight (kg)	493
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1500 - 2600
Speed Range (RPM)	105 - 185
Torque Slope (ft-lb/kPa)	1.320
Rotation (rev/l)	0.071
Stall Torque (ft-lb)	23,750
Operating Parameters	
Max Diff Pressure (kPa)	13,700
Torque (ft-lb)	17,900
Flow Rate (lpm)	2,600
Full Load RPM	127 at 2600 lpm

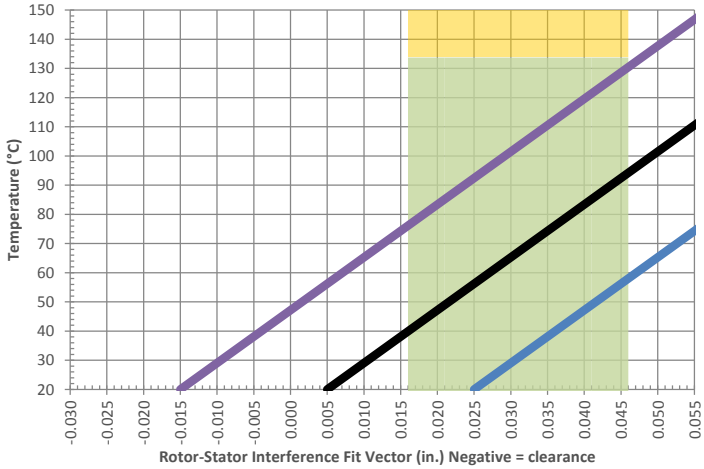
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	0.005	4.378	0.014	4.369	50 - 80 °C
0.5L	-0.005	4.388	0.004	4.379	70 - 100 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00055**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.009 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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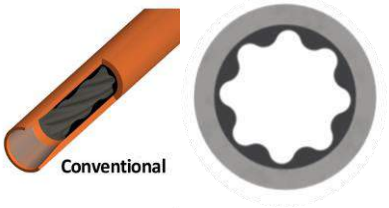
6.75" 9/10 LOBES 8 STAGES

Model: SPS6759108.0

Imperial Units



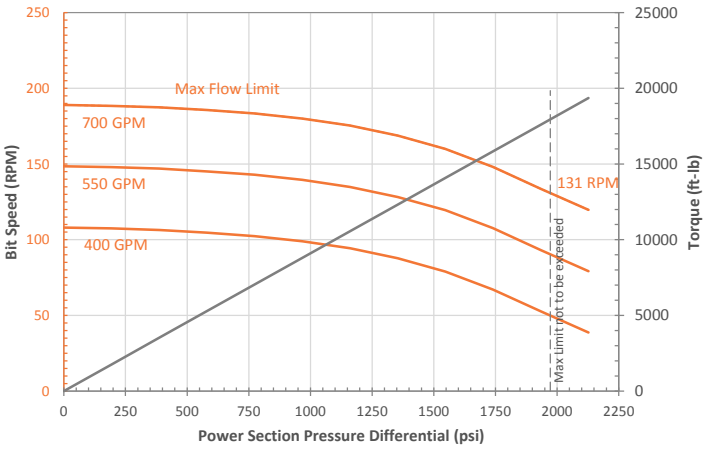
Stator Specifications	
	Inches
Overall Length	260.0
Tube O.D.	6.75
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	820
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
	Inches
Overall Length	252.0
Contour Length	245
Major Diameter	4.830
Eccentricity	0.224
Head Diameter	4.625
Gunbored Weight (lb)	865
Solid Weight (lb)	1087
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

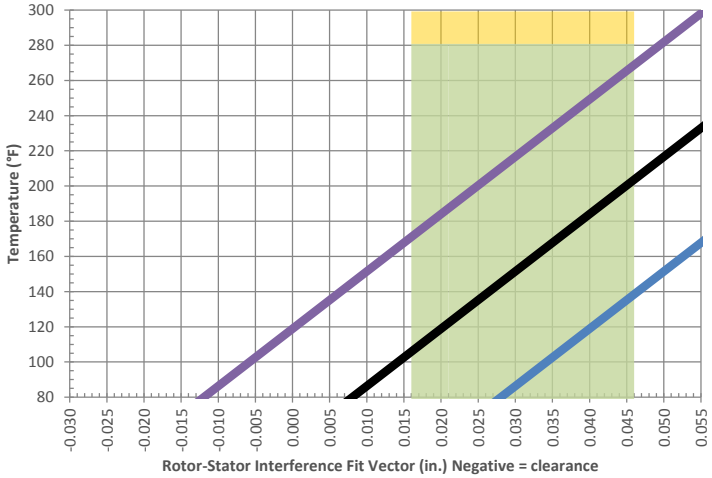
Performance Specifications	
Flow Range (GPM)	400 - 700
Speed Range (RPM)	110 - 190
Torque Slope (ft-lbs/psi)	9.100
Rotation (rev/Gal)	0.270
Stall Torque (ft-lbs)	23,750
Operating Parameters	
Max Diff Pressure (psi)	2,000
Torque (ft-lbs)	17,900
Flow Rate (GPM)	700
Full Load RPM	131 at 700 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	0.005	4.378	0.014	4.369	125 - 180 °F
0.5L	-0.005	4.388	0.004	4.379	160 - 210 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00031**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.009 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

7.00" 7/8 LOBES 5 STAGES

Model: SPS700785.0

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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Stator Specifications	
Overall Length (in.)	194.5 [4940 mm]
Tube O.D. (in.)	7.00 [178 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	360
Tube Material	4140-4145
To be threaded and ID Banded by customer	

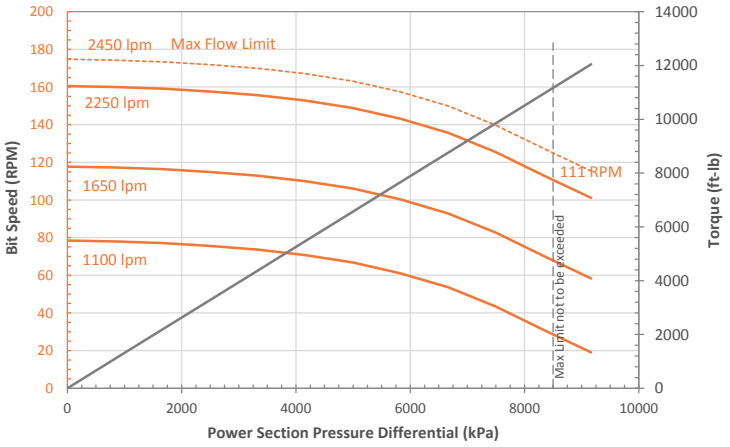
Rotor Specifications	
Overall Length (in.)	188.0 [4775 mm]
Contour Length (in.)	181 [4597 mm]
Major Diameter (in.)	4.520
Eccentricity (in.)	0.256
Head Diameter (in.)	4.000
Bored Weight (kg)	231
Solid Weight (kg)	306
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2450
Speed Range (RPM)	80 - 160
Torque Slope (ft-lb/kPa)	1.314
Rotation (rev/l)	0.071
Stall Torque (ft-lb)	14,800
Operating Parameters	
Max Diff Pressure (kPa)	8,600
Torque (ft-lb)	11,100
Flow Rate (lpm)	2,250
Full Load RPM	111 at 2250 lpm

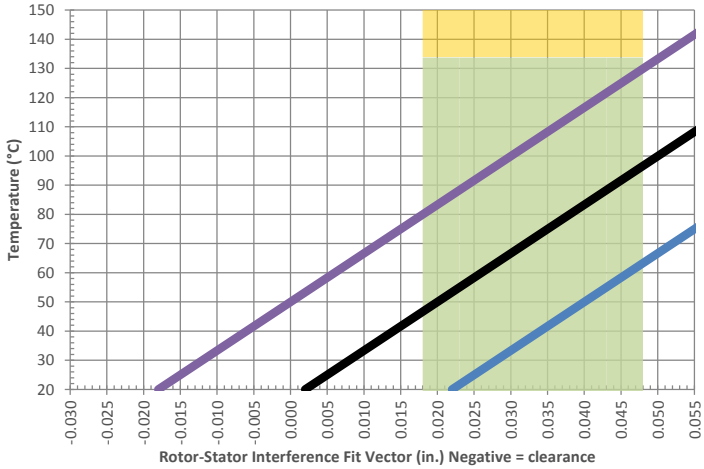
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	40 - 70 °C
STD	0.002	4.006	0.009	3.999	55 - 85 °C
0.5L	-0.008	4.016	-0.001	4.009	70 - 100 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00060**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

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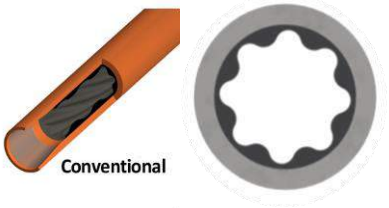
www.spirasystems.com

7.00" 7/8 LOBES 5 STAGES

Model: SPS700785.0

Imperial Units



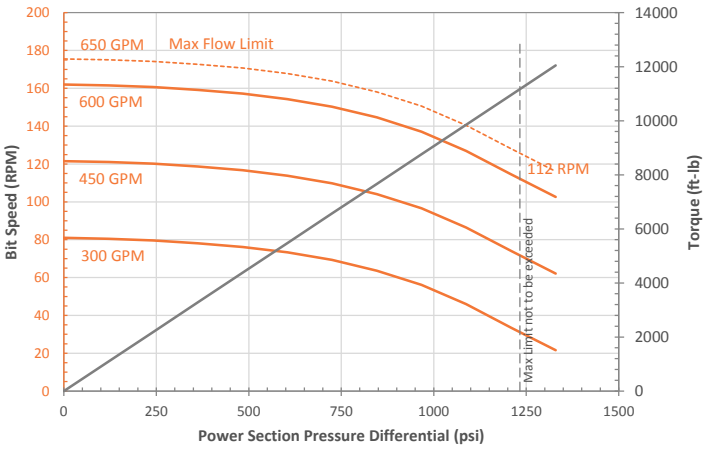
Stator Specifications	
	Inches
Overall Length	194.5
Tube O.D.	7.00
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	790
Tube Material	4140-4145
To be threaded and ID Banded by customer	

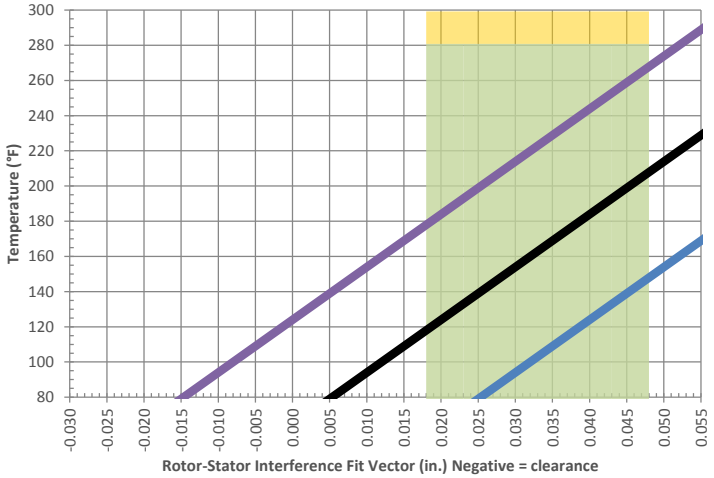
Rotor Specifications	
	Inches
Overall Length	188.0
Contour Length	181
Major Diameter	4.520
Eccentricity	0.256
Head Diameter	4.000
Gunbored Weight (lb)	510
Solid Weight (lb)	675
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 650
Speed Range (RPM)	80 - 160
Torque Slope (ft-lbs/psi)	9.060
Rotation (rev/Gal)	0.270
Stall Torque (ft-lbs)	14,800
Operating Parameters	
Max Diff Pressure (psi)	1,250
Torque (ft-lbs)	11,100
Flow Rate (GPM)	600
Full Load RPM	112 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.012	3.996	0.019	3.989	100 - 155 °F
STD	0.002	4.006	0.009	3.999	130 - 185 °F
0.5L	-0.008	4.016	-0.001	4.009	160 - 215 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00033	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

7.00" 7/8 LOBES 5.7 STAGES

Model: SPS700785.7 SX2

Canadian Oilfield Units

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Power Sections

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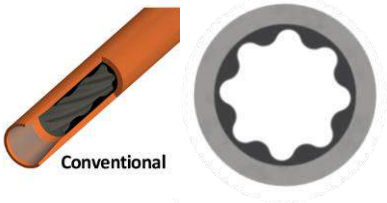


Stator Specifications	
Overall Length (in.)	260.0 [6604 mm]
Tube O.D. (in.)	7.00 [178 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	425
Tube Material	4140-4145
To be threaded and ID Banded by customer	

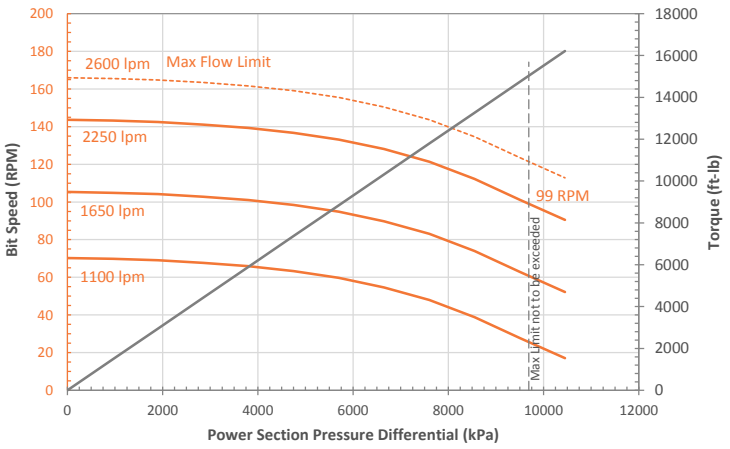
Rotor Specifications	
Overall Length (in.)	252.0 [6401 mm]
Contour Length (in.)	245 [6223 mm]
Major Diameter (in.)	4.644
Eccentricity (in.)	0.247
Head Diameter (in.)	4.500
Bored Weight (kg)	339
Solid Weight (kg)	440
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2600
Speed Range (RPM)	70 - 145
Torque Slope (ft-lb/kPa)	1.552
Rotation (rev/l)	0.064
Stall Torque (ft-lb)	19,900
Operating Parameters	
Max Diff Pressure (kPa)	9,700
Torque (ft-lb)	15,000
Flow Rate (lpm)	2,250
Full Load RPM	99 at 2250 lpm

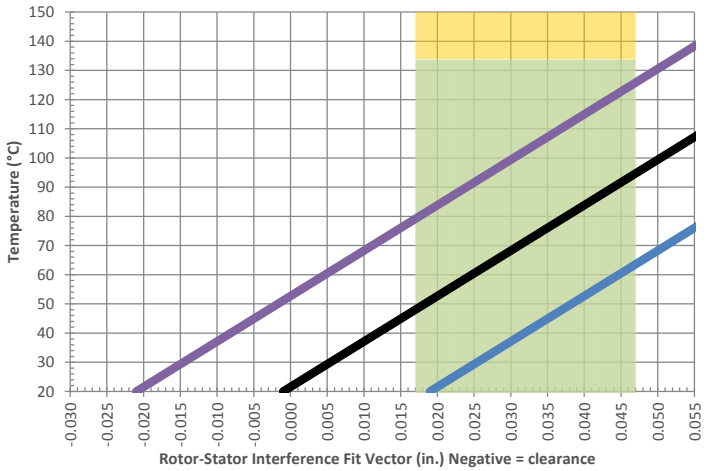
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.009	4.142	0.017	4.134	40 - 70 °C
STD	-0.001	4.152	0.007	4.144	55 - 85 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00064**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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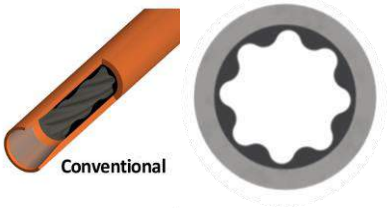
7.00" 7/8 LOBES 5.7 STAGES

Model: SPS700785.7 SX2

Imperial Units



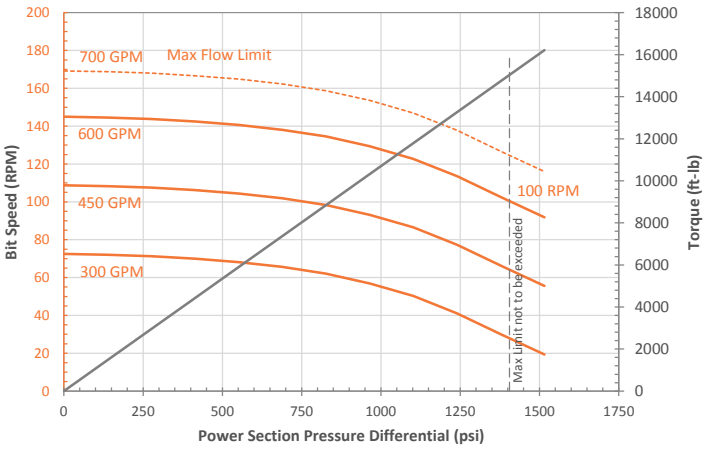
Stator Specifications	
	Inches
Overall Length	260.0
Tube O.D.	7.00
Tube I.D.	5.50
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	935
Tube Material	4140-4145
To be threaded and ID Banded by customer	

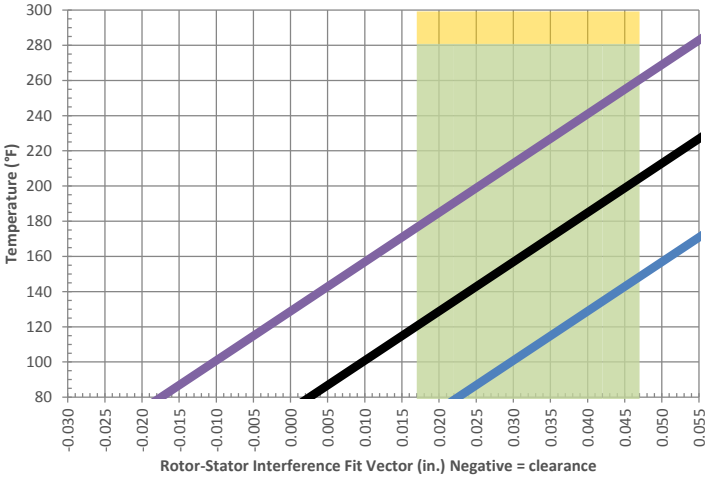
Rotor Specifications	
	Inches
Overall Length	252.0
Contour Length	245
Major Diameter	4.644
Eccentricity	0.247
Head Diameter	4.500
Gunbored Weight (lb)	748
Solid Weight (lb)	970
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	300 - 700
Speed Range (RPM)	75 - 145
Torque Slope (ft-lbs/psi)	10.698
Rotation (rev/Gal)	0.242
Stall Torque (ft-lbs)	19,900
Operating Parameters	
Max Diff Pressure (psi)	1,450
Torque (ft-lbs)	15,000
Flow Rate (GPM)	600
Full Load RPM	100 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.009	4.142	0.017	4.134	105 - 160 °F
STD	-0.001	4.152	0.007	4.144	130 - 185 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00036**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.008 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

7.00" 7/8 LOBES 7.3 STAGES

Model: SPS700787.3

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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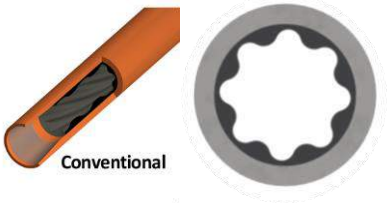


Stator Specifications	
Overall Length (in.)	275.0 [6985 mm]
Tube O.D. (in.)	7.00 [178 mm]
Tube I.D. (in.)	5.75 [146 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	485
Tube Material	4140-4145
To be threaded and ID Banded by customer	

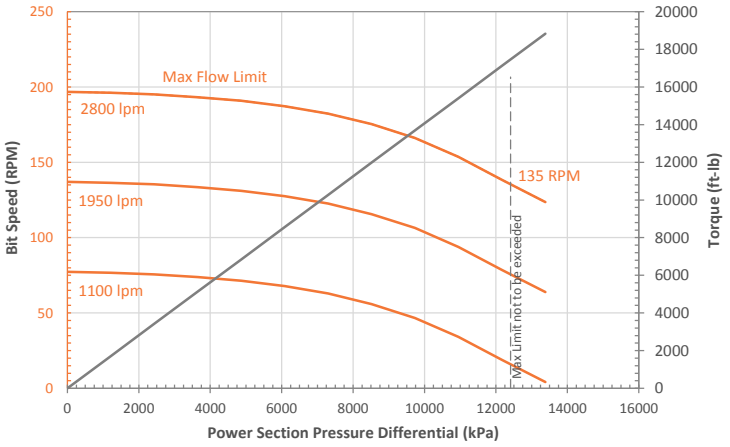
Rotor Specifications	
Overall Length (in.)	268.0 [6807 mm]
Contour Length (in.)	260 [6604 mm]
Major Diameter (in.)	4.752
Eccentricity (in.)	0.257
Head Diameter (in.)	4.750
Bored Weight (kg)	383
Solid Weight (kg)	490
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1100 - 2800
Speed Range (RPM)	75 - 195
Torque Slope (ft-lb/kPa)	1.407
Rotation (rev/l)	0.070
Stall Torque (ft-lb)	23,100
Operating Parameters	
Max Diff Pressure (kPa)	12,500
Torque (ft-lb)	17,400
Flow Rate (lpm)	2,800
Full Load RPM	135 at 2800 lpm

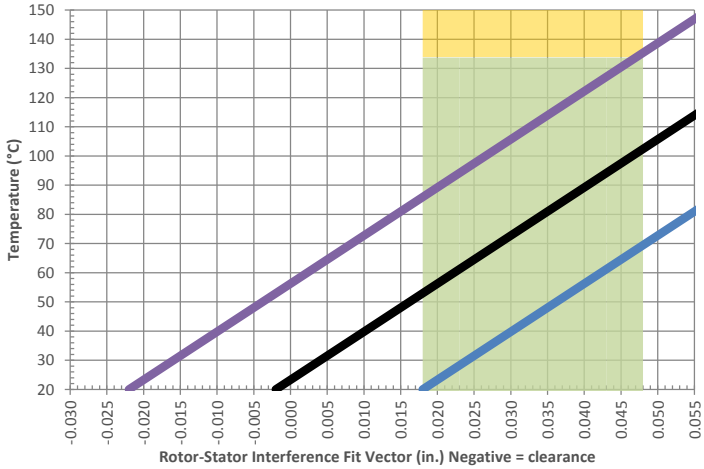
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.008	4.230	0.015	4.223	45 - 75 °C
STD	-0.002	4.240	0.005	4.233	60 - 90 °C
0.5L	-0.012	4.250	-0.005	4.243	75 - 105 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00061**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

Power Sections

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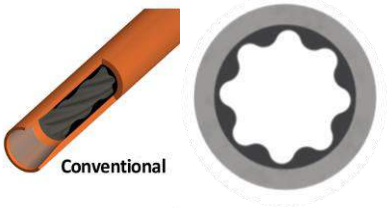
7.00" 7/8 LOBES 7.3 STAGES

Model: SPS700787.3

Imperial Units



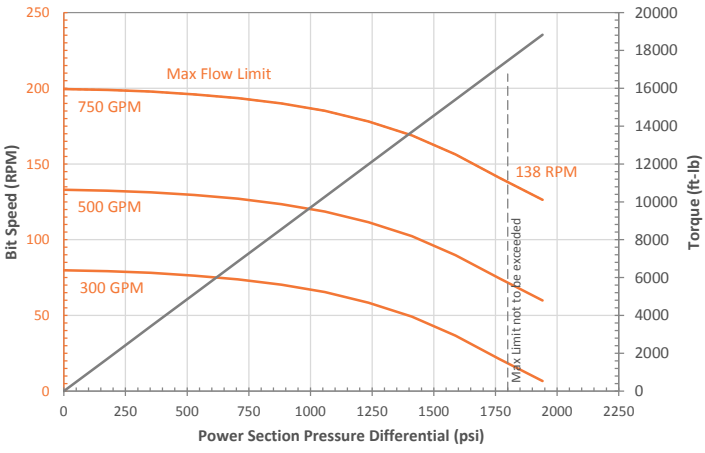
Stator Specifications	
	Inches
Overall Length	275.0
Tube O.D.	7.00
Tube I.D.	5.75
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	1070
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
	Inches
Overall Length	268.0
Contour Length	260
Major Diameter	4.752
Eccentricity	0.257
Head Diameter	4.750
Gunbored Weight (lb)	845
Solid Weight (lb)	1081
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

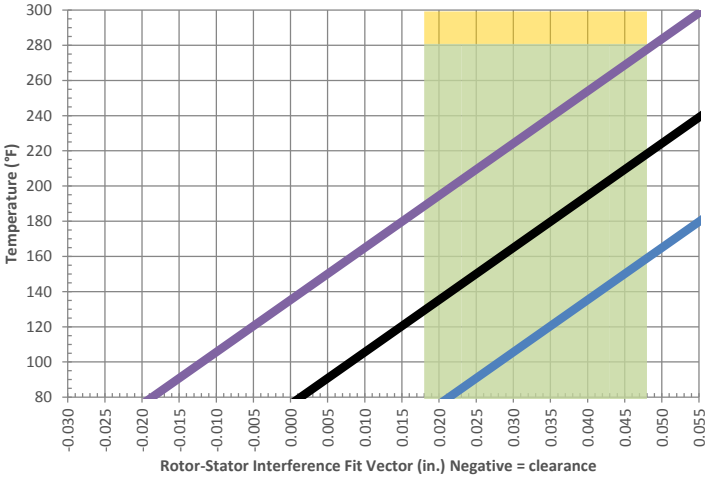
Performance Specifications	
Flow Range (GPM)	300 - 750
Speed Range (RPM)	80 - 200
Torque Slope (ft-lbs/psi)	9.700
Rotation (rev/Gal)	0.266
Stall Torque (ft-lbs)	23,100
Operating Parameters	
Max Diff Pressure (psi)	1,800
Torque (ft-lbs)	17,400
Flow Rate (GPM)	750
Full Load RPM	138 at 750 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.008	4.230	0.015	4.223	115 - 165 °F
STD	-0.002	4.240	0.005	4.233	140 - 195 °F
0.5L	-0.012	4.250	-0.005	4.243	170 - 225 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00034**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T Size Band

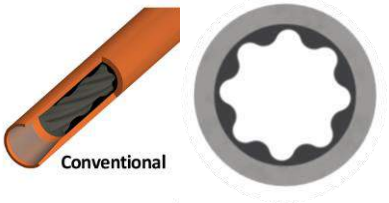
Performance curves are for reference only. Actual power section performance may vary depending on operating conditions (e.g. chosen rotor/stator interference fit, possible rubber swelling by drilling fluid, rotor and stator wear, actual downhole temperature, actual stator temperature, physical and chemical 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.

Model last revised: 03/01/2020

7.00" 7/8 LOBES 8.5 STAGES

Model: SPS700788.5

Canadian Oilfield Units



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.)	300.0 [7620 mm]
Tube O.D. (in.)	7.00 [178 mm]
Tube I.D. (in.)	5.75 [146 mm]
Rubber Cut Back Top (in.)	7.0
Rubber Cut Back Bottom (in.)	7.0
Weight (kg)	445
Tube Material	4140-4145
To be threaded and ID Banded by customer	

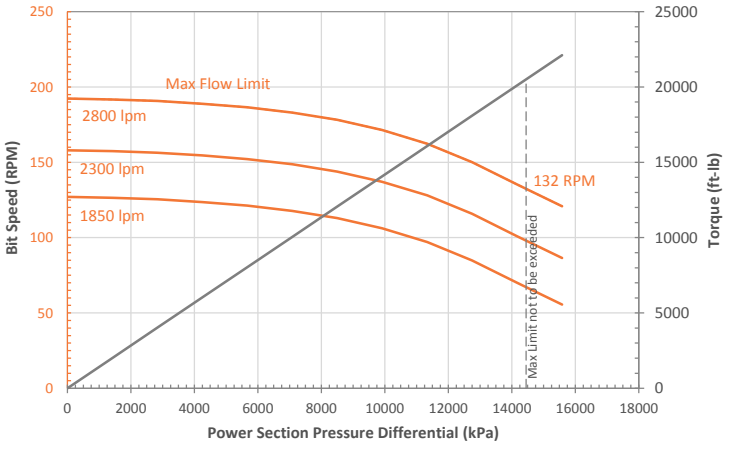
Rotor Specifications	
Overall Length (in.)	294.0 [7468 mm]
Contour Length (in.)	288 [7315 mm]
Major Diameter (in.)	5.024
Eccentricity (in.)	0.268
Head Diameter (in.)	5.000
Bored Weight (kg)	484
Solid Weight (kg)	601
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1850 - 2800
Speed Range (RPM)	125 - 190
Torque Slope (ft-lb/kPa)	1.419
Rotation (rev/l)	0.069
Stall Torque (ft-lb)	27,150
Operating Parameters	
Max Diff Pressure (kPa)	14,500
Torque (ft-lb)	20,500
Flow Rate (lpm)	2,800
Full Load RPM	132 at 2800 lpm

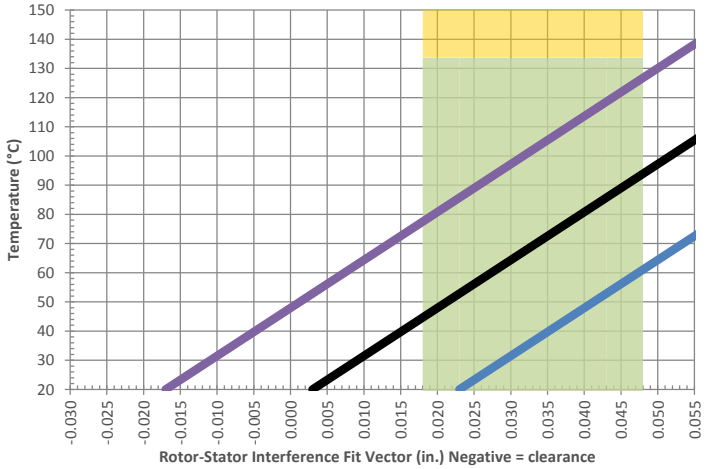
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.023	4.465	0.030	4.458	20 - 50 °C
0.5T	0.013	4.475	0.020	4.468	35 - 65 °C
STD	0.003	4.485	0.010	4.478	55 - 85 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00061**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

7.00" 7/8 LOBES 8.5 STAGES

Model: SPS700788.5

Imperial Units

SPIRA SYSTEMS LTD.

Power Sections

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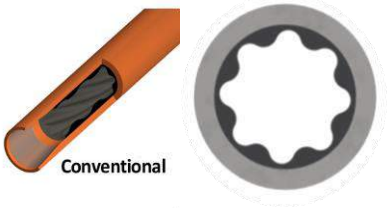


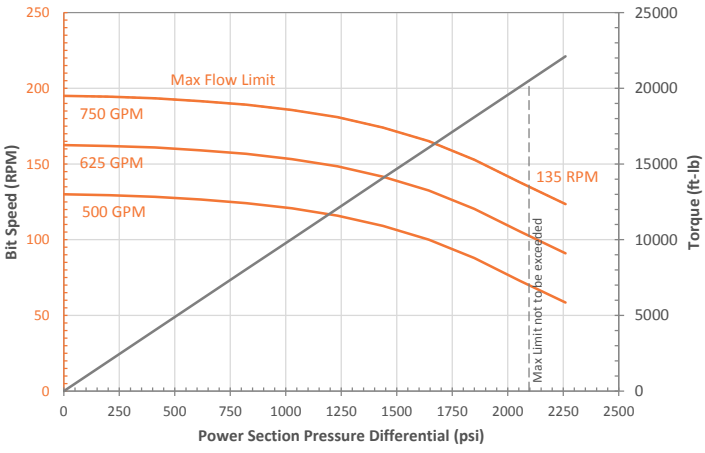
Stator Specifications	
	Inches
Overall Length	300.0
Tube O.D.	7.00
Tube I.D.	5.75
Rubber Cut Back Top	7.0
Rubber Cut Back Bottom	7.0
Weight (lb)	985
Tube Material	4140-4145
To be threaded and ID Banded by customer	

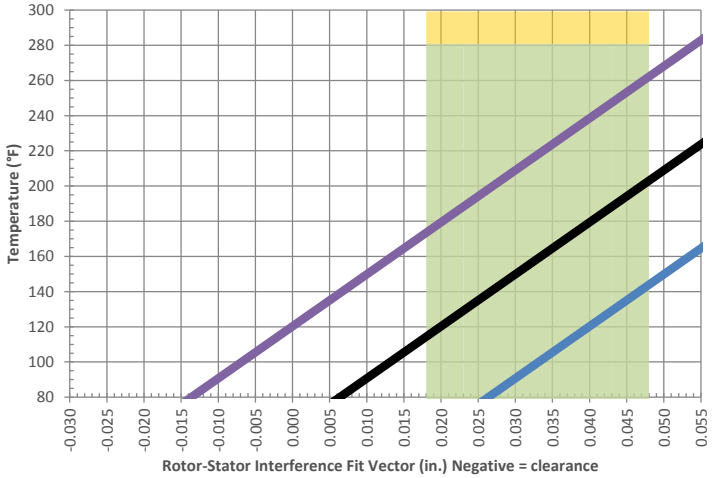
Rotor Specifications	
	Inches
Overall Length	294.0
Contour Length	288
Major Diameter	5.024
Eccentricity	0.268
Head Diameter	5.000
Gunbored Weight (lb)	1067
Solid Weight (lb)	1326
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	500 - 750
Speed Range (RPM)	130 - 195
Torque Slope (ft-lbs/psi)	9.783
Rotation (rev/Gal)	0.260
Stall Torque (ft-lbs)	27,150
Operating Parameters	
Max Diff Pressure (psi)	2,100
Torque (ft-lbs)	20,500
Flow Rate (GPM)	750
Full Load RPM	135 at 750 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	0.023	4.465	0.030	4.458	70 - 125 °F
0.5T	0.013	4.475	0.020	4.468	100 - 150 °F
STD	0.003	4.485	0.010	4.478	125 - 180 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00034	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

8.00" 7/8 LOBES 4 STAGES

Model: SPS800784.0

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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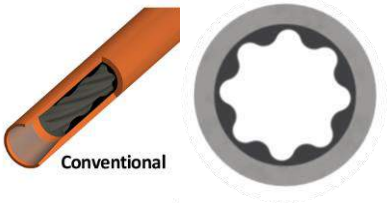
Ph: (587) 775-7777
www.spirasystems.com



Stator Specifications	
Overall Length (in.)	203.2 [5161 mm]
Tube O.D. (in.)	8.00 [203 mm]
Tube I.D. (in.)	6.25 [159 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	8.0
Weight (kg)	545
Tube Material	4140-4145
To be threaded and ID Banded by customer	

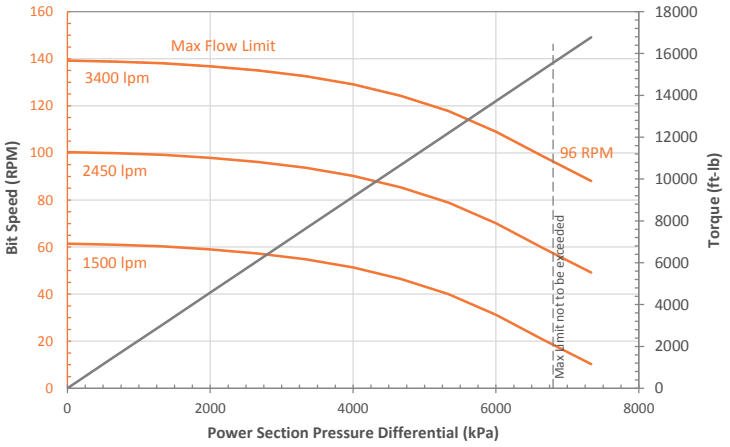
Rotor Specifications	
Overall Length (in.)	196.3 [4985 mm]
Contour Length (in.)	188 [4782 mm]
Major Diameter (in.)	5.186
Eccentricity (in.)	0.293
Head Diameter (in.)	4.750
Bored Weight (kg)	345
Solid Weight (kg)	423
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1500 - 3400
Speed Range (RPM)	60 - 140
Torque Slope (ft-lb/kPa)	2.287
Rotation (rev/l)	0.041
Stall Torque (ft-lb)	20,600
Operating Parameters	
Max Diff Pressure (kPa)	6,900
Torque (ft-lb)	15,500
Flow Rate (lpm)	3,400
Full Load RPM	96 at 3400 lpm

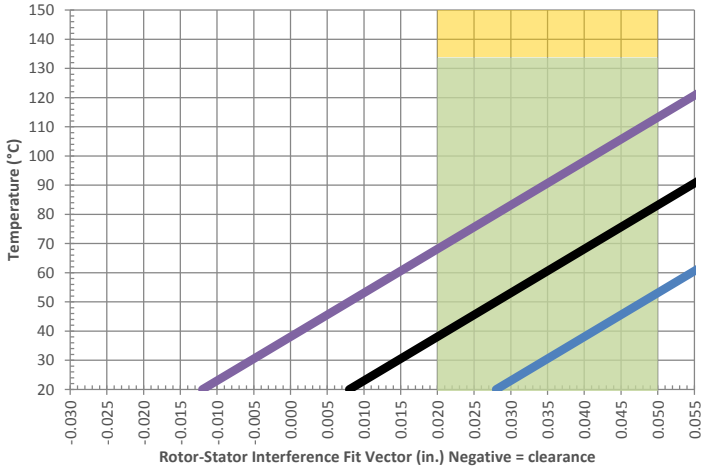
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.018	4.582	0.023	4.577	30 - 60 °C
STD	0.008	4.592	0.013	4.587	45 - 75 °C
0.5L	-0.002	4.602	0.003	4.597	60 - 90 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00067**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

Power Sections

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Ph: (587) 775-7777
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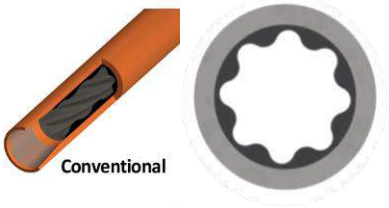
8.00" 7/8 LOBES 4 STAGES

Model: SPS800784.0

Imperial Units



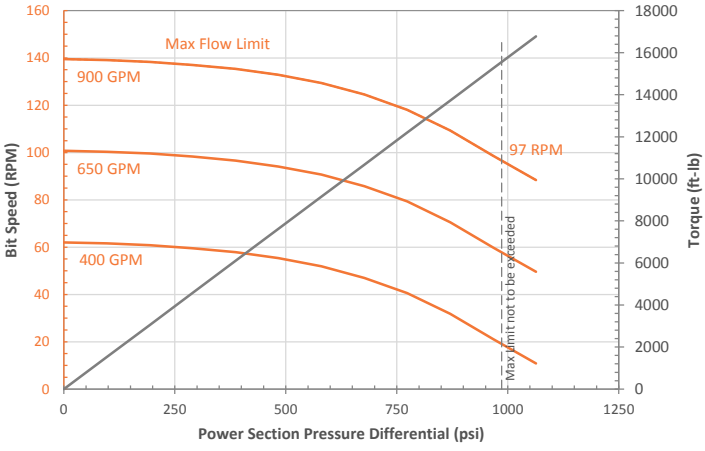
Stator Specifications	
	Inches
Overall Length	203.2
Tube O.D.	8.00
Tube I.D.	6.25
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	1205
Tube Material	4140-4145
To be threaded and ID Banded by customer	

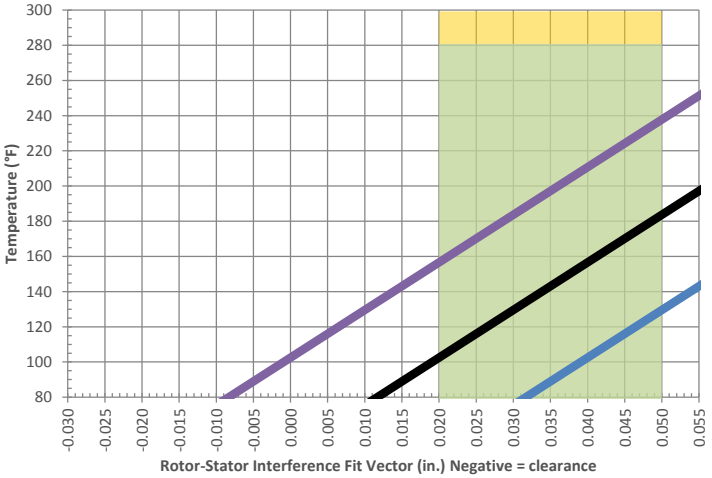
Rotor Specifications	
	Inches
Overall Length	196.3
Contour Length	188
Major Diameter	5.186
Eccentricity	0.293
Head Diameter	4.750
Gunbored Weight (lb)	760
Solid Weight (lb)	933
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	400 - 900
Speed Range (RPM)	60 - 140
Torque Slope (ft-lbs/psi)	15.770
Rotation (rev/Gal)	0.155
Stall Torque (ft-lbs)	20,600
Operating Parameters	
Max Diff Pressure (psi)	1,000
Torque (ft-lbs)	15,500
Flow Rate (GPM)	900
Full Load RPM	97 at 900 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.018	4.582	0.023	4.577	85 - 140 °F
STD	0.008	4.592	0.013	4.587	115 - 165 °F
0.5L	-0.002	4.602	0.003	4.597	140 - 195 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00037	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

8.00" 7/8 LOBES 5.9 STAGES

Model: SPS800785.9

Canadian Oilfield Units

SPIRA SYSTEMS LTD.

Power Sections

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Ph: (587) 775-7777
www.spirasystems.com

Stator Specifications	
Overall Length (in.)	300.0 [7620 mm]
Tube O.D. (in.)	8.00 [203 mm]
Tube I.D. (in.)	6.25 [159 mm]
Rubber Cut Back Top (in.)	8.0
Rubber Cut Back Bottom (in.)	15.5
Weight (kg)	815
Tube Material	4140-4145
To be threaded and ID Banded by customer	

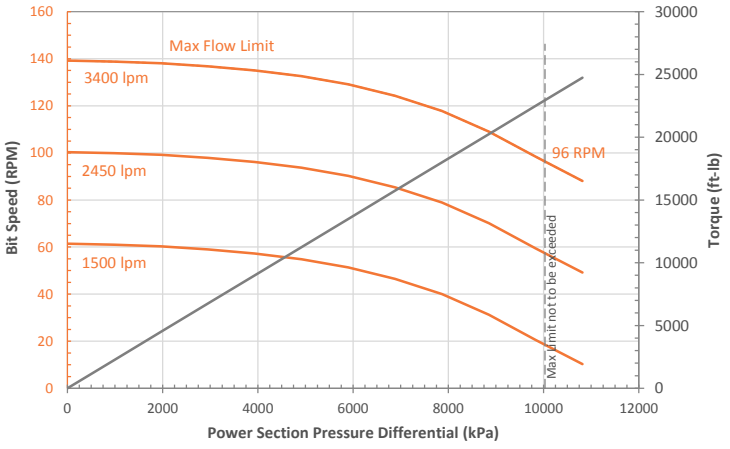
Rotor Specifications	
Overall Length (in.)	284.5 [7226 mm]
Contour Length (in.)	277 [7023 mm]
Major Diameter (in.)	5.186
Eccentricity (in.)	0.293
Head Diameter (in.)	5.250
Bored Weight (kg)	497
Solid Weight (kg)	611
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	1500 - 3400
Speed Range (RPM)	60 - 140
Torque Slope (ft-lb/kPa)	2.287
Rotation (rev/l)	0.041
Stall Torque (ft-lb)	30,350
Operating Parameters	
Max Diff Pressure (kPa)	10,100
Torque (ft-lb)	22,900
Flow Rate (lpm)	3,400
Full Load RPM	96 at 3400 lpm

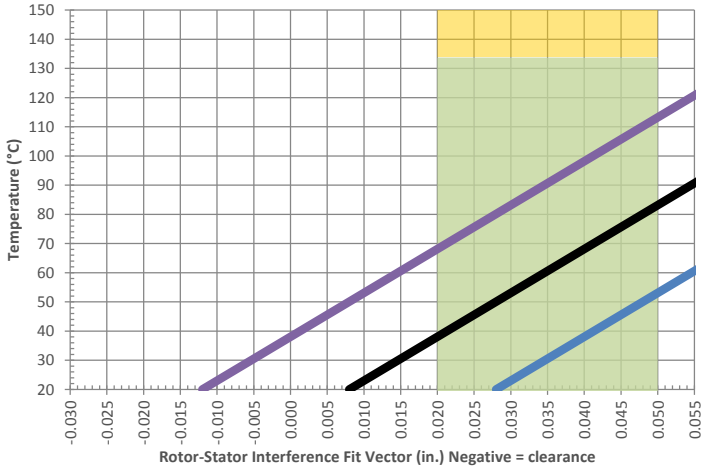
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.018	4.582	0.023	4.577	30 - 60 °C
STD	0.008	4.592	0.013	4.587	45 - 75 °C
0.5L	-0.002	4.602	0.003	4.597	60 - 90 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00067**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

Power Sections

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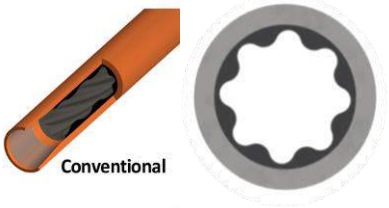
8.00" 7/8 LOBES 5.9 STAGES

Model: SPS800785.9

Imperial Units



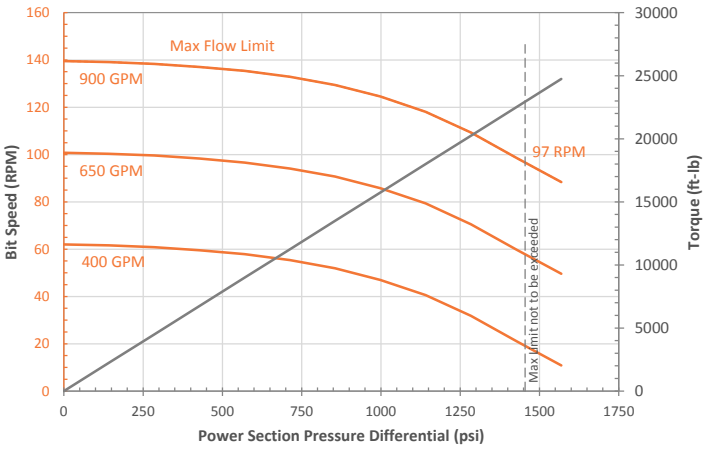
Stator Specifications	
	Inches
Overall Length	300.0
Tube O.D.	8.00
Tube I.D.	6.25
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	15.5
Weight (lb)	1800
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
	Inches
Overall Length	284.5
Contour Length	277
Major Diameter	5.186
Eccentricity	0.293
Head Diameter	5.250
Gunbored Weight (lb)	1096
Solid Weight (lb)	1346
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

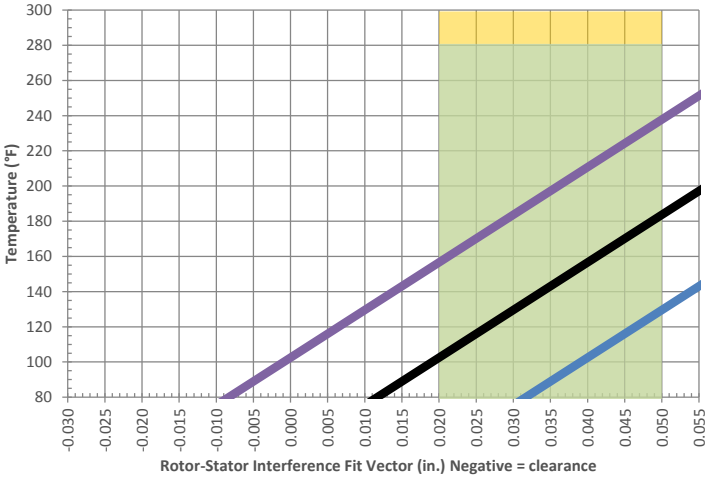
Performance Specifications	
Flow Range (GPM)	400 - 900
Speed Range (RPM)	60 - 140
Torque Slope (ft-lbs/psi)	15.770
Rotation (rev/Gal)	0.155
Stall Torque (ft-lbs)	30,350
Operating Parameters	
Max Diff Pressure (psi)	1,500
Torque (ft-lbs)	22,900
Flow Rate (GPM)	900
Full Load RPM	97 at 900 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.018	4.582	0.023	4.577	85 - 140 °F
STD	0.008	4.592	0.013	4.587	115 - 165 °F
0.5L	-0.002	4.602	0.003	4.597	140 - 195 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00037	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

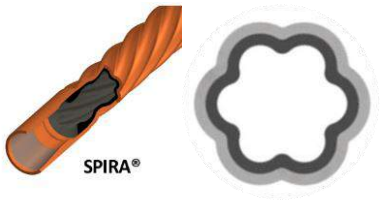
Power Sections

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

5.00" 5/6 LOBES 8.3 STAGES

Model: SPS500568.3-Spira®

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.)	9.3
Weight (kg)	185
Tube Material	4140-4145
To be threaded and ID Banded by customer	

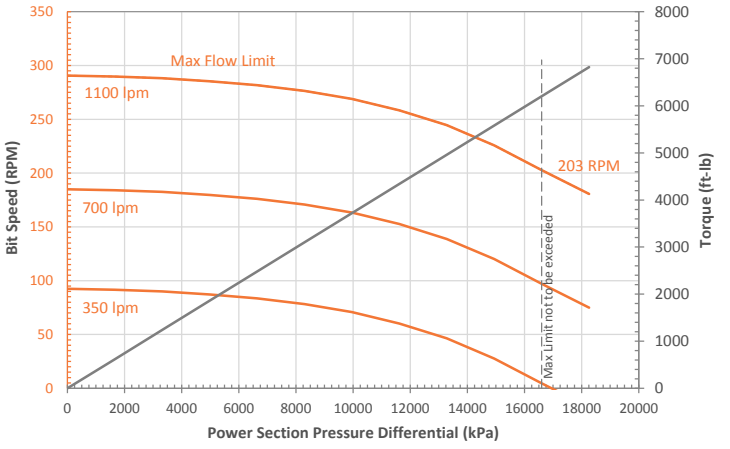
Rotor Specifications	
Overall Length (in.)	229.5 [5829 mm]
Contour Length (in.)	223 [5664 mm]
Major Diameter (in.)	2.916
Eccentricity (in.)	0.207
Head Diameter (in.)	3.125
Bored Weight (kg)	125
Solid Weight (kg)	148
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

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)	8,350
Operating Parameters	
Max Diff Pressure (kPa)	16,700
Torque (ft-lb)	6,200
Flow Rate (lpm)	1,100
Full Load RPM	203 at 1100 lpm

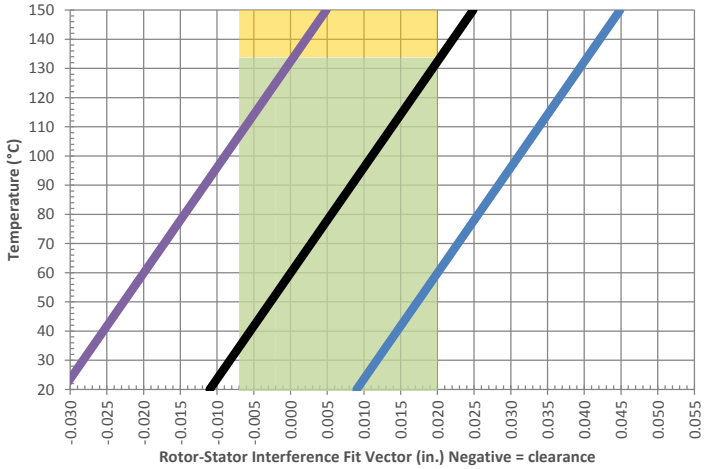
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-0.001	2.503	0.011	2.491	30 - 60 °C
STD	-0.011	2.513	0.001	2.501	65 - 95 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00028**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.012 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

5.00" 5/6 LOBES 8.3 STAGES

Model: SPS500568.3-Spira®

Imperial Units

Power Sections

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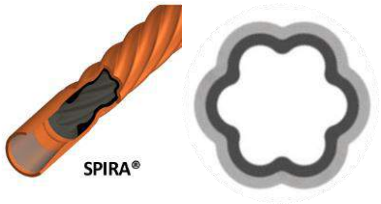


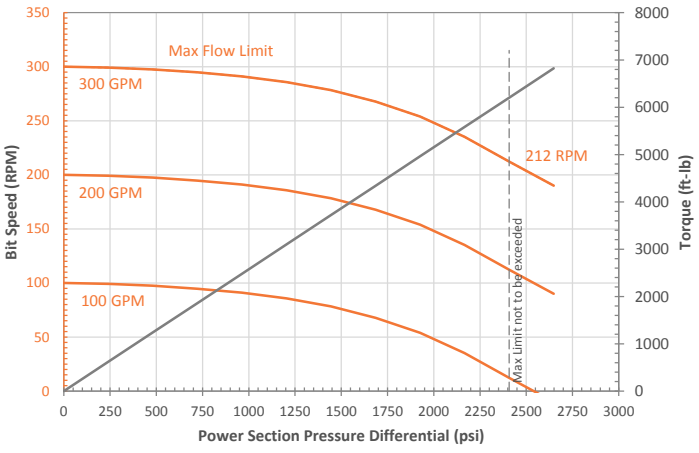
Stator Specifications	
	Inches
Overall Length	242.6
Tube O.D.	5.00
Tube I.D.	3.75
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	9.3
Weight (lb)	410
Tube Material	4140-4145
To be threaded and ID Banded by customer	

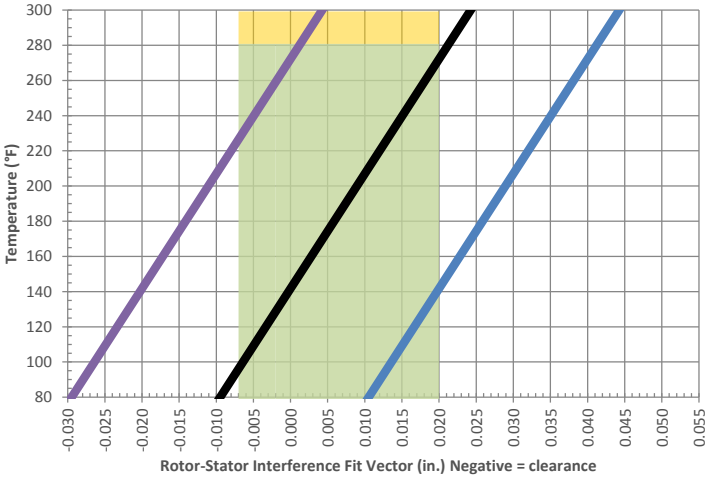
Rotor Specifications	
	Inches
Overall Length	229.5
Contour Length	223
Major Diameter	2.916
Eccentricity	0.207
Head Diameter	3.125
Gunbored Weight (lb)	275
Solid Weight (lb)	325
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	100 - 300
Speed Range (RPM)	100 - 300
Torque Slope (ft-lbs/psi)	2.576
Rotation (rev/Gal)	1.000
Stall Torque (ft-lbs)	8,350
Operating Parameters	
Max Diff Pressure (psi)	2,450
Torque (ft-lbs)	6,200
Flow Rate (GPM)	300
Full Load RPM	212 at 300 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-0.001	2.503	0.011	2.491	85 - 140 °F
STD	-0.011	2.513	0.001	2.501	150 - 205 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00015	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.012 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

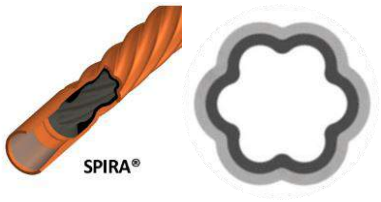
Power Sections

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

7.00" 5/6 LOBES 5.3 STAGES

Model: SPS700565.3-Spira®

Canadian Oilfield Units



Stator Specifications	
Overall Length (in.)	235.8 [5989 mm]
Tube O.D. (in.)	6.93 [176 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	10.0
Rubber Cut Back Bottom (in.)	10.0
Weight (kg)	335
Tube Material	4140-4145
To be threaded and ID Banded by customer	

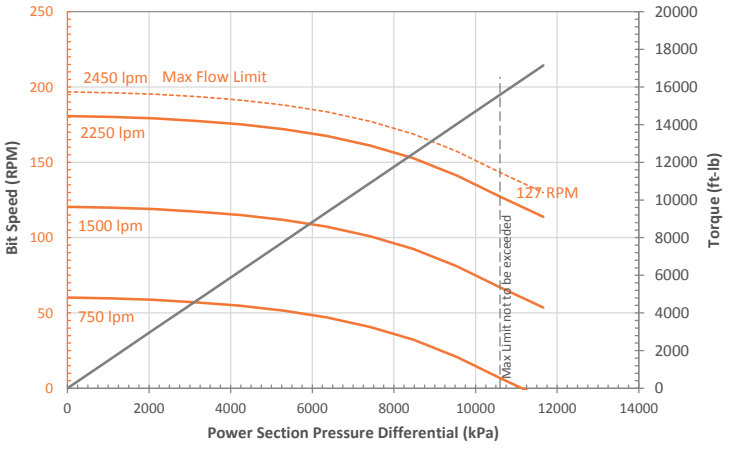
Rotor Specifications	
Overall Length (in.)	228.0 [5790 mm]
Contour Length (in.)	221 [5612 mm]
Major Diameter (in.)	Call Spira
Eccentricity (in.)	Call Spira
Head Diameter (in.)	4.000
Bored Weight (kg)	249
Solid Weight (kg)	340
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	750 - 2450
Speed Range (RPM)	60 - 180
Torque Slope (ft-lb/kPa)	1.470
Rotation (rev/l)	0.080
Stall Torque (ft-lb)	21,050
Operating Parameters	
Max Diff Pressure (kPa)	10,700
Torque (ft-lb)	15,500
Flow Rate (lpm)	2,250
Full Load RPM	127 at 2250 lpm

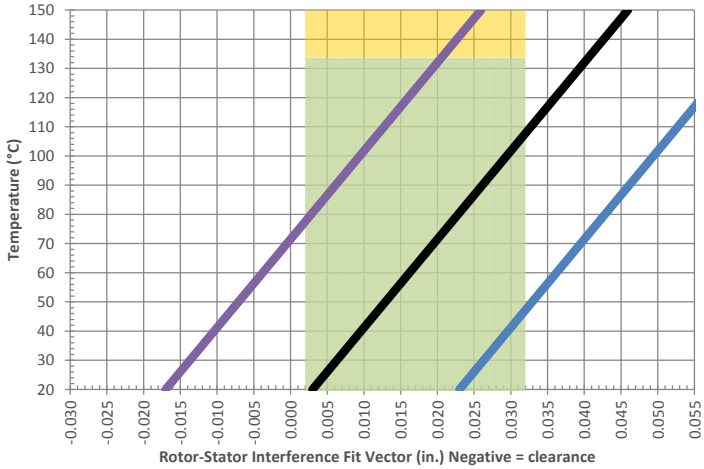
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.013	3.825	0.017	3.821	30 - 50 °C
STD	0.003	3.835	0.007	3.831	45 - 75 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00033**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.004 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

SPIRA SYSTEMS LTD.

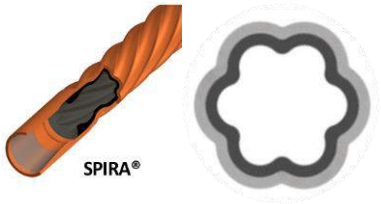
Power Sections

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

7.00" 5/6 LOBES 5.3 STAGES

Model: SPS700565.3-Spira®

Imperial Units



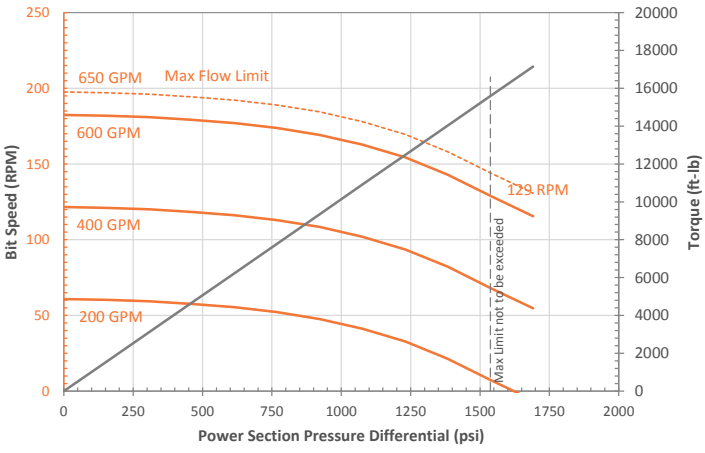
Stator Specifications	
	Inches
Overall Length	235.8
Tube O.D.	6.93
Tube I.D.	5.50
Rubber Cut Back Top	10.0
Rubber Cut Back Bottom	10.0
Weight (lb)	740
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
	Inches
Overall Length	228.0
Contour Length	221
Major Diameter	Call Spira
Eccentricity	Call Spira
Head Diameter	4.000
Gunbored Weight (lb)	550
Solid Weight (lb)	751
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

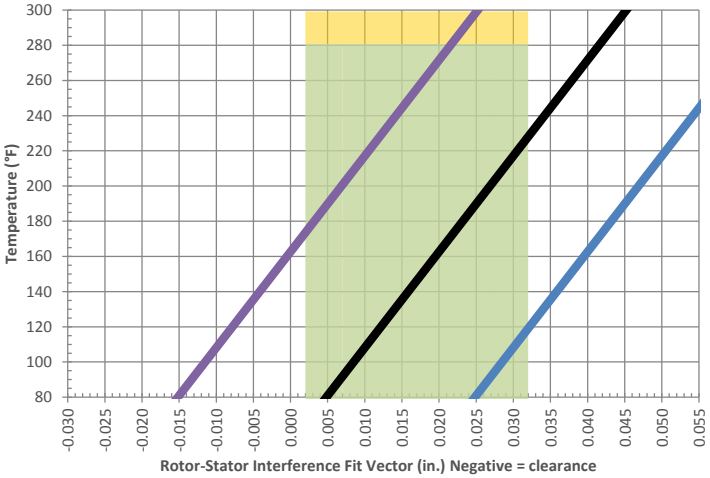
Performance Specifications	
Flow Range (GPM)	200 - 650
Speed Range (RPM)	60 - 180
Torque Slope (ft-lbs/psi)	10.138
Rotation (rev/Gal)	0.304
Stall Torque (ft-lbs)	21,050
Operating Parameters	
Max Diff Pressure (psi)	1,550
Torque (ft-lbs)	15,500
Flow Rate (GPM)	600
Full Load RPM	129 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.013	3.825	0.017	3.821	85 - 120 °F
STD	0.003	3.835	0.007	3.831	115 - 165 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00018**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.004 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

5.00" 7/8 LOBES 3.8 STAGES

Model: SPS500783.8-Spira TNT®

Canadian Oilfield Units

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.)	187.0 [4750 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)	215
Tube Material	4140-4145
To be threaded and ID Banded by customer	

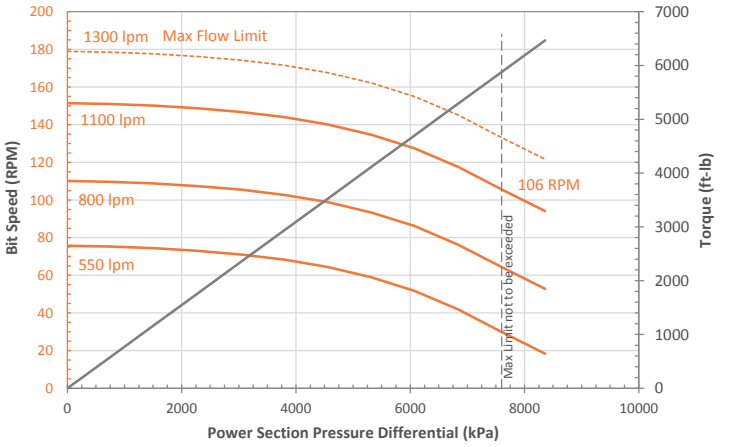
Rotor Specifications	
Uses Conv. Rotors	
Overall Length (in.)	178.0 [4521 mm]
Contour Length (in.)	172 [4375 mm]
Major Diameter (in.)	2.945
Eccentricity (in.)	0.163
Head Diameter (in.)	2.750
Bored Weight (kg)	107
Solid Weight (kg)	124
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	550 - 1300
Speed Range (RPM)	75 - 150
Torque Slope (ft-lb/kPa)	0.773
Rotation (rev/l)	0.138
Stall Torque (ft-lb)	7,950
Operating Parameters	
Max Diff Pressure (kPa)	7,700
Torque (ft-lb)	5,800
Flow Rate (lpm)	1,100
Full Load RPM	106 at 1100 lpm

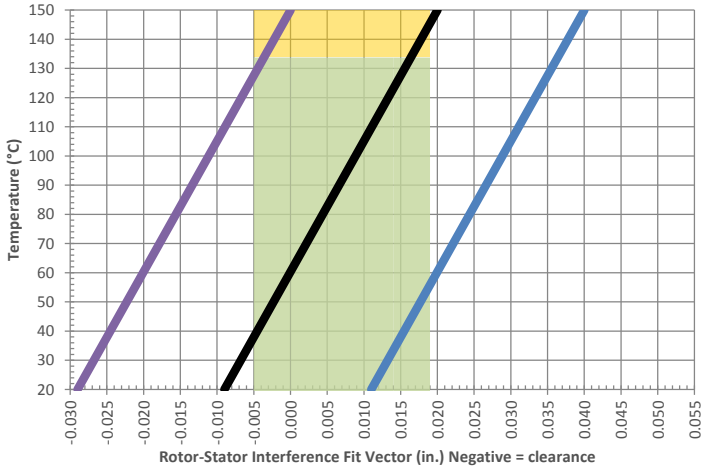
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.001	2.618	0.011	2.608	20 - 50 °C
STD	-0.009	2.628	0.001	2.618	65 - 95 °C
0.5L	-0.019	2.638	-0.009	2.628	110 - 140 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00022**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.010 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

5.00" 7/8 LOBES 3.8 STAGES

Model: SPS500783.8-Spira TNT®

Imperial Units

Power Sections

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

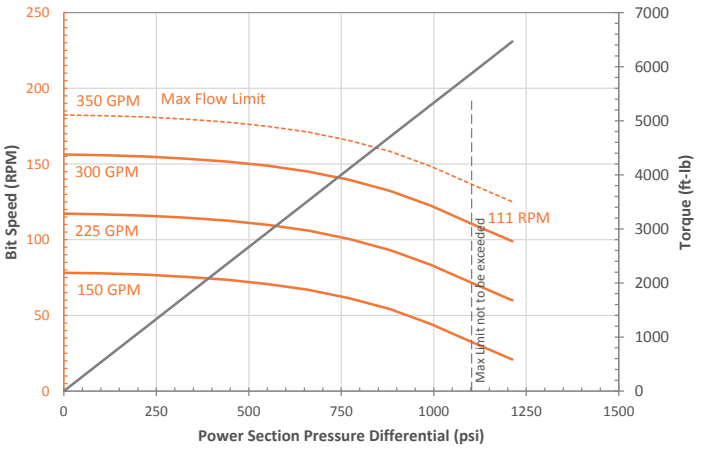
Stator Specifications	
	Inches
Overall Length	187.0
Tube O.D.	5.00
Tube I.D.	3.75
Rubber Cut Back Top	8.0
Rubber Cut Back Bottom	8.0
Weight (lb)	475
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
Uses Conv. Rotors	Inches
Overall Length	178.0
Contour Length	172
Major Diameter	2.945
Eccentricity	0.163
Head Diameter	2.750
Gunbored Weight (lb)	235
Solid Weight (lb)	274
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

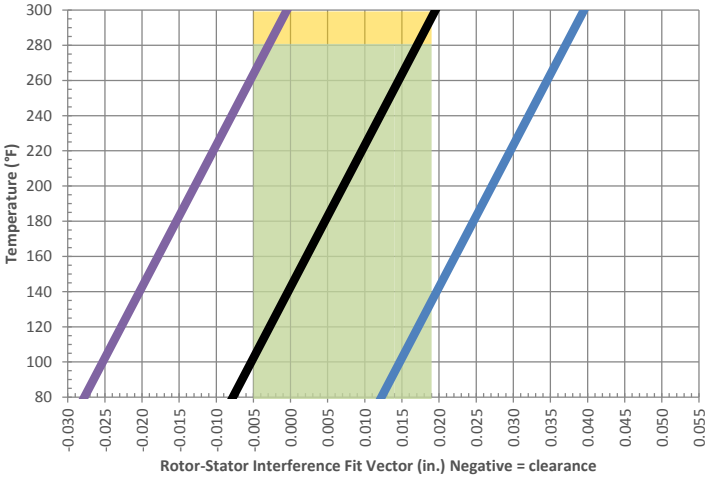
Performance Specifications	
Flow Range (GPM)	150 - 350
Speed Range (RPM)	80 - 155
Torque Slope (ft-lbs/psi)	5.333
Rotation (rev/Gal)	0.521
Stall Torque (ft-lbs)	7,950
Operating Parameters	
Max Diff Pressure (psi)	1,150
Torque (ft-lbs)	5,800
Flow Rate (GPM)	300
Full Load RPM	111 at 300 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.001	2.618	0.011	2.608	70 - 120 °F
STD	-0.009	2.628	0.001	2.618	150 - 205 °F
0.5L	-0.019	2.638	-0.009	2.628	230 - 285 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				**0.00012**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.010 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

6.75" 7/8 LOBES 5 STAGES

Model: SPS675785.0-Spira TNT®

Canadian Oilfield Units

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.)	200.0 [5080 mm]
Tube O.D. (in.)	6.89 [175 mm]
Tube I.D. (in.)	5.50 [140 mm]
Rubber Cut Back Top (in.)	10.0
Rubber Cut Back Bottom (in.)	10.0
Weight (kg)	385
Tube Material	4140-4145
To be threaded and ID Banded by customer	

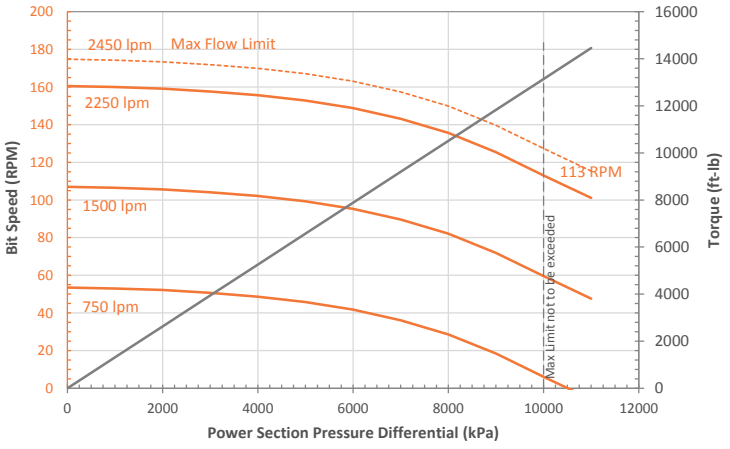
Rotor Specifications	
Uses Conv. Rotors	
Overall Length (in.)	188.0 [4775 mm]
Contour Length (in.)	181 [4597 mm]
Major Diameter (in.)	4.520
Eccentricity (in.)	0.256
Head Diameter (in.)	4.000
Bored Weight (kg)	231
Solid Weight (kg)	306
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (lpm)	750 - 2450
Speed Range (RPM)	55 - 160
Torque Slope (ft-lb/kPa)	1.314
Rotation (rev/l)	0.071
Stall Torque (ft-lb)	17,750
Operating Parameters	
Max Diff Pressure (kPa)	10,100
Torque (ft-lb)	13,100
Flow Rate (lpm)	2,250
Full Load RPM	113 at 2250 lpm

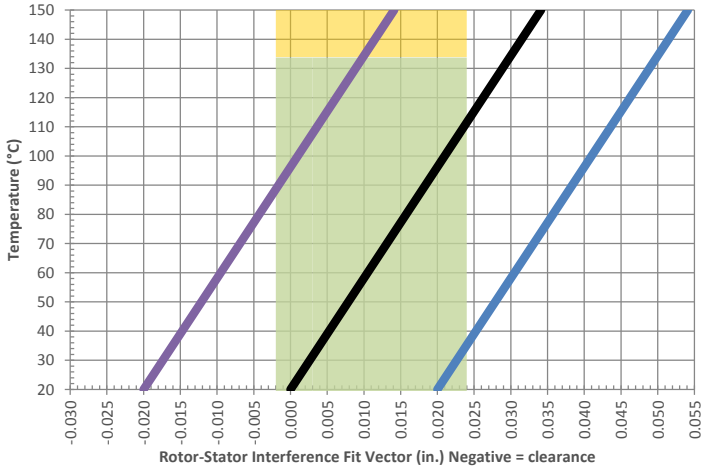
Minor Diameter Fit Details (at 20°C)

	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.010	3.998	0.017	3.991	30 - 50 °C
STD	0.000	4.008	0.007	4.001	40 - 70 °C
0.5L	-0.010	4.018	-0.003	4.011	80 - 110 °C
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00026**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

Model last revised: 03/01/2020

6.75" 7/8 LOBES 5 STAGES

Model: SPS675785.0-Spira TNT®

Imperial Units

Power Sections

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

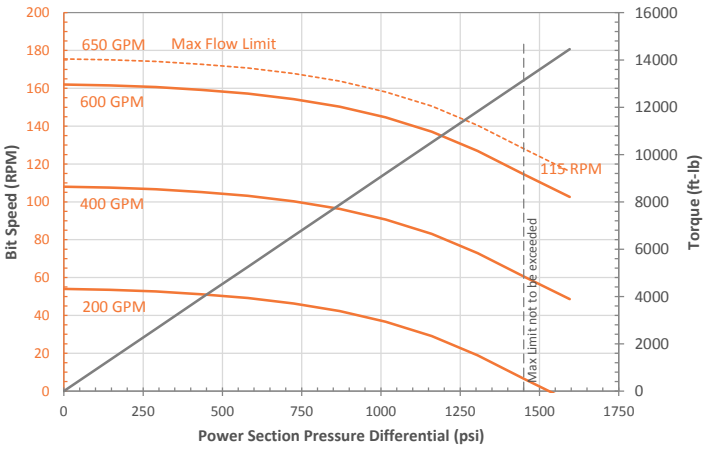
Stator Specifications	
	Inches
Overall Length	200.0
Tube O.D.	6.89
Tube I.D.	5.50
Rubber Cut Back Top	10.0
Rubber Cut Back Bottom	10.0
Weight (lb)	850
Tube Material	4140-4145
To be threaded and ID Banded by customer	

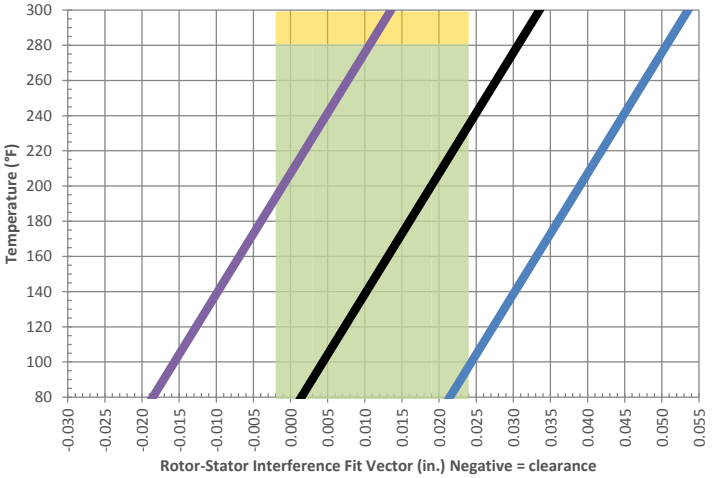
Rotor Specifications	
Uses Conv. Rotors	Inches
Overall Length	188.0
Contour Length	181
Major Diameter	4.520
Eccentricity	0.256
Head Diameter	4.000
Gunbored Weight (lb)	510
Solid Weight (lb)	675
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	200 - 650
Speed Range (RPM)	55 - 160
Torque Slope (ft-lbs/psi)	9.060
Rotation (rev/Gal)	0.270
Stall Torque (ft-lbs)	17,750
Operating Parameters	
Max Diff Pressure (psi)	1,500
Torque (ft-lbs)	13,100
Flow Rate (GPM)	600
Full Load RPM	115 at 600 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	0.010	3.998	0.017	3.991	85 - 120 °F
STD	0.000	4.008	0.007	4.001	105 - 160 °F
0.5L	-0.010	4.018	-0.003	4.011	175 - 225 °F
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00015	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.007 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – – Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T Size Band

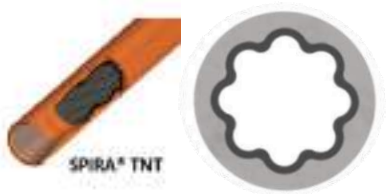
Performance curves are for reference only. Actual power section performance may vary depending on operating conditions (e.g. chosen rotor/stator interference fit, possible rubber swelling by drilling fluid, rotor and stator wear, actual downhole temperature, actual stator temperature, physical and chemical 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.

Model last revised: 03/01/2020

8.00" 7/8 LOBES 4 STAGES

Model: SPS800784.0-Spira TNT®

Canadian Oilfield Units



Power Sections

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

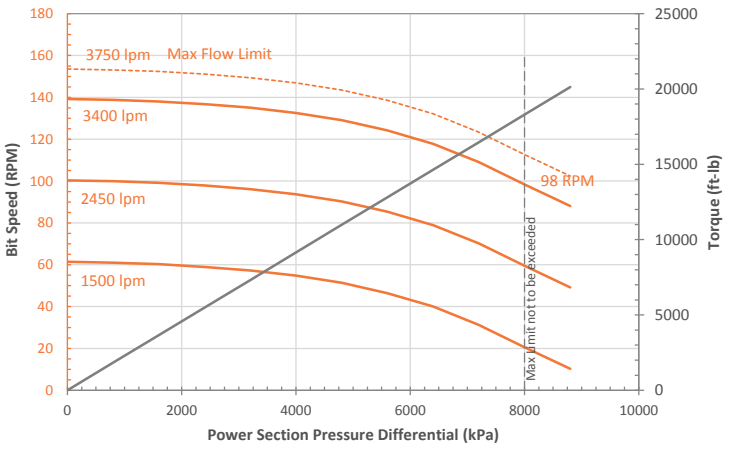
Stator Specifications	
Overall Length (in.)	223.5 [5677 mm]
Tube O.D. (in.)	8.00 [203 mm]
Tube I.D. (in.)	6.25 [159 mm]
Rubber Cut Back Top (in.)	18.0
Rubber Cut Back Bottom (in.)	18.0
Weight (kg)	645
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
Uses Conv. Rotors	
Overall Length (in.)	196.3 [4985 mm]
Contour Length (in.)	188 [4782 mm]
Major Diameter (in.)	5.186
Eccentricity (in.)	0.293
Head Diameter (in.)	4.750
Bored Weight (kg)	345
Solid Weight (kg)	423
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

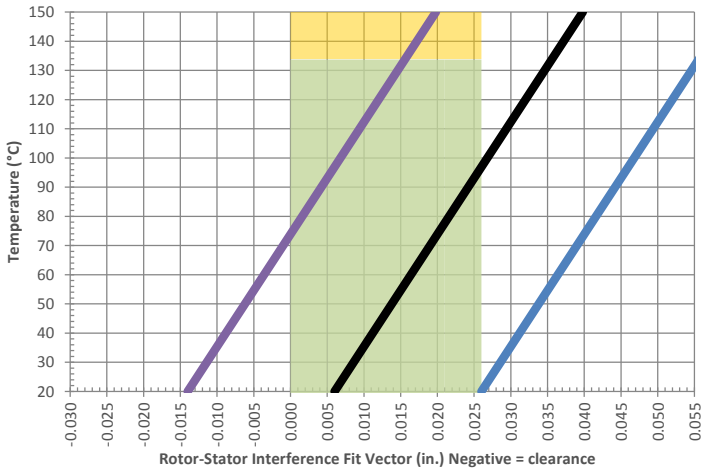
Performance Specifications	
Flow Range (lpm)	1500 - 3750
Speed Range (RPM)	60 - 140
Torque Slope (ft-lb/kPa)	2.287
Rotation (rev/l)	0.041
Stall Torque (ft-lb)	24,700
Operating Parameters	
Max Diff Pressure (kPa)	8,100
Torque (ft-lb)	18,200
Flow Rate (lpm)	3,400
Full Load RPM	98 at 3400 lpm

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 Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	0.006	4.594	0.011	4.589	25 - 55 °C
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°C)				**0.00026**	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
**Negative fits indicate clearance fit at room temperature using nominal new rotor
***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
– – – Expect reduced life when operating at this pressure limit for extended periods of time



1. Choose desired operating temperature
2. Read across to middle of shaded region
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
- 1T 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.

Model last revised: 03/01/2020

8.00" 7/8 LOBES 4 STAGES

Model: SPS800784.0-Spira TNT®

Imperial Units

Power Sections

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

Stator Specifications	
	Inches
Overall Length	223.5
Tube O.D.	8.00
Tube I.D.	6.25
Rubber Cut Back Top	18.0
Rubber Cut Back Bottom	18.0
Weight (lb)	1425
Tube Material	4140-4145
To be threaded and ID Banded by customer	

Rotor Specifications	
Uses Conv. Rotors	Inches
Overall Length	196.3
Contour Length	188
Major Diameter	5.186
Eccentricity	0.293
Head Diameter	4.750
Gunbored Weight (lb)	760
Solid Weight (lb)	933
Material	17-4PH
Coating option 1	Chrome
Coating option 2	Carbide
To be threaded by customer	

Performance Specifications	
Flow Range (GPM)	400 - 1000
Speed Range (RPM)	60 - 140
Torque Slope (ft-lbs/psi)	15.770
Rotation (rev/Gal)	0.155
Stall Torque (ft-lbs)	24,700
Operating Parameters	
Max Diff Pressure (psi)	1,200
Torque (ft-lbs)	18,200
Flow Rate (GPM)	900
Full Load RPM	99 at 900 GPM

Minor Diameter Fit Details (at 68°F)					
	Nominal Fit (in.)**	Minor Dia (in.)*	Nominal Fit (in.)**	Minor Dia (in.)*	Operating Temp
Size Band	Vector Measurements		True Size Laser Measurements		Optimal
1.0T	-	-	-	-	-
0.5T	-	-	-	-	-
STD	0.006	4.594	0.011	4.589	75 - 130 °F
0.5L	-	-	-	-	-
1.0L	-	-	-	-	-
1.5L	-	-	-	-	-
2.0L	-	-	-	-	-
Minor Shrinkage (in./°F)				0.00014	

All default tolerances are +/- 0.015 unless otherwise explicitly agreed upon with Spira Systems. Call for availability of sizes not listed.
*Approximate Vector/laser gauge conversion: 0.005 ± 0.005
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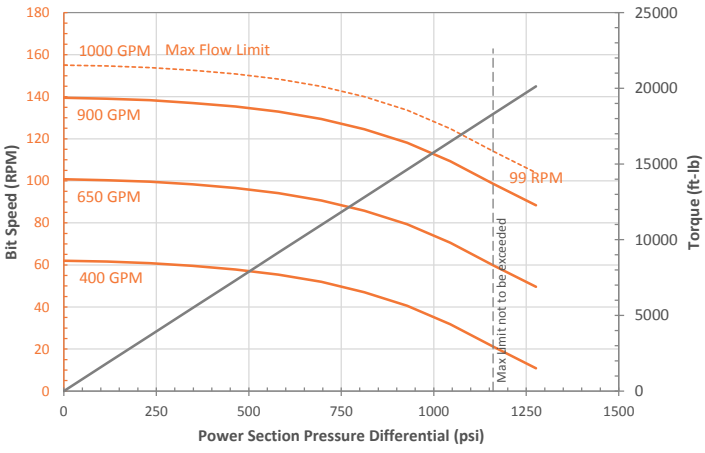
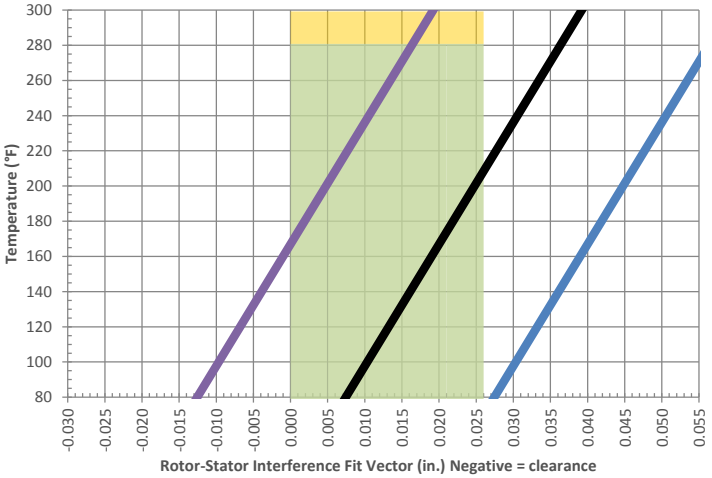
***Best operating temperatures are based on new stators subject to normal thermal expansion conditions. Operators may wish to consider swell and run life when selecting sizes.





Expected slightly reduced torque when operating at this flow limit
Expect reduced life when operating at this pressure limit for extended periods of time

1. Choose desired operating temperature
2. Read across to middle of shaded region
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
1T 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.

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