

## POWER SECTION

**Model No: AT650568.2 OPTI**

Revised: 8/15/2022

Rotor Specifications	
	inches
Overall Length	233.00
Contour Length	226.00
Major Diameter	4.371
Eccentricity	0.335
Head diameter	4.500
Thread Form	2.875 SLIMLINE H-90
Weight	717 lbs
Material	17-4 PH <sup>1</sup>

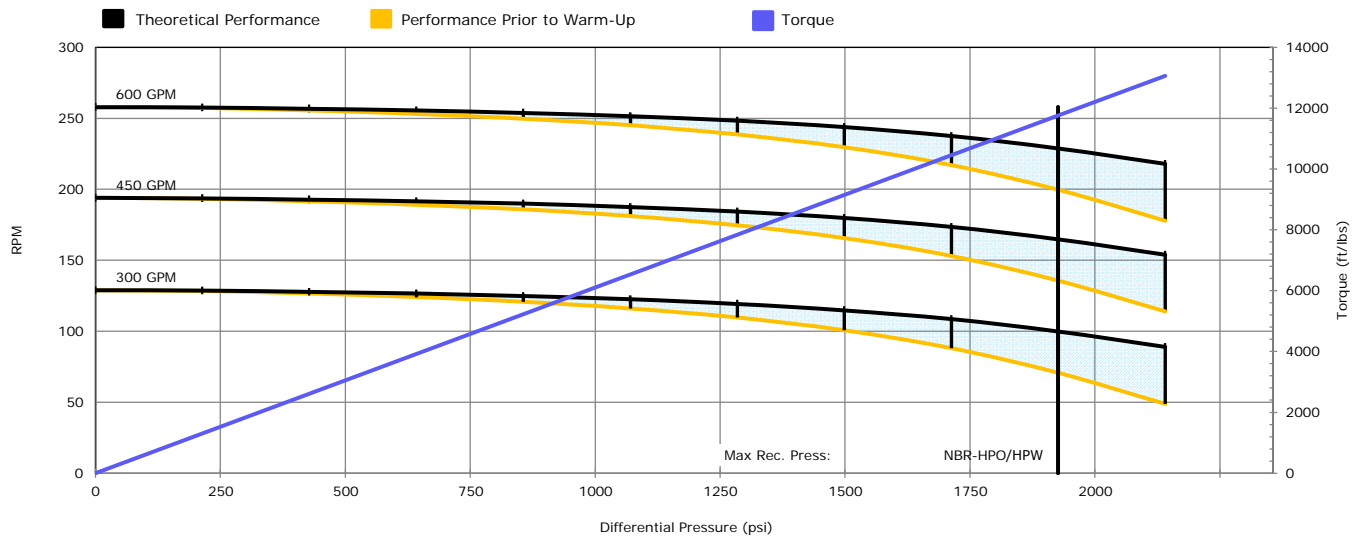
Performance Specifications	
Flow Range (gpm)	300 - 600
Speed Range (rpm)	130 - 260
Torque Slope (ft-lb/psi)	6.10
Rotation (rev/gal)	0.430
Off Bottom Pressure (psi)	150

Stator Specifications	
	inches
Overall Length	246.00
Tube OD	6.50
Tube ID	5.50
Rubber Cutback Top/End	11.00 / 11.00
Weight	1107 lbs
Number of Stages	8.2
Tube Material	4140/4142 Alloy Steel
Rubber Options	NBR-HPO/NBR-HPW

Performance Details	
	NBR-HPO/NBR-HPW
Max Diff Press (psi)	1930
Stall Diff Press (psi)	3040
Max Torque (ft-lb)	11760
Stall Torque (ft-lb)	18520

Size	Minor <sup>2</sup>	Fit @ 75°F	Stator Sizing and Fit Chart <sup>3</sup>	
.5 US	-	-	-	Fit Not Available
STD	-	-	-	Fit Not Available
.5 OS	3.696	0.005	90°F	130°F OPTIMAL RANGE 230°F 260°F
1.0 OS	3.708	-0.007	130°F	170°F OPTIMAL RANGE 260°F 300°F
1.5 OS	3.721	-0.020	170°F	210°F OPTIMAL RANGE 310°F 340°F <sup>3</sup>
2.0 OS	3.733	-0.032	210°F	250°F OPTIMAL RANGE 350°F 380°F <sup>3</sup>
2.5 OS	-	-	-	Fit Not Available

Minor Diameter Change = 0.001" per 3.1 °F      ΔFit = 0.00032" per 1°F



<sup>1</sup> Coating options of chrome or tungsten carbide are available <sup>2</sup> Vector Gauge Readings at Room Temp 75°F (measured from the top end) <sup>3</sup> Chart temp shows potential of the individual fit and not necessarily the elastomer. BHCT Exceeding 320°F will void warranty for NBR-HPO/NBR-HPW.   
Performance curves are based on new rotor and stator dimensions and for reference only. Actual performance may vary depending on fit and drilling conditions. The stall torque may exceed that specified for the connected components. Operating over the recommended limits may result in damage to the power section and connected components. Please visit [www.AbacoDrilling.com](http://www.AbacoDrilling.com) for the latest specification revisions.

### LOCATIONS

US: Headquarters   
US: Sales & Distribution   
CANADA: Stator Manufacturing   
DUBAI UAE: Stator Manufacturing

713 Northpark Central Dr., #400 Houston, TX 77073 - Tel: (281) 869-0700 - Fax: (281) 869-0701   
11308 West Interstate 20 East, Odessa, TX 79765 - Tel: (432) 248-1814   
6303-39th Street Leduc, Alberta T9E 0Z3 Canada - Tel: (780) 986-8947 - Fax: (780) 986-8842   
Oilfields Supply Center B#57, Jebel Ali, Dubai UAE, P.O. Box 19909 - Tel: 971-4-870-8600

Rotor Specifications	
	mm
Overall Length	5918.2
Contour Length	5740.4
Major Diameter	111.02
Eccentricity	8.51
Head diameter	114.30
Thread Form	2.875 SLIMLINE H-90
Weight	325 kg
Material	17-4 PH <sup>1</sup>

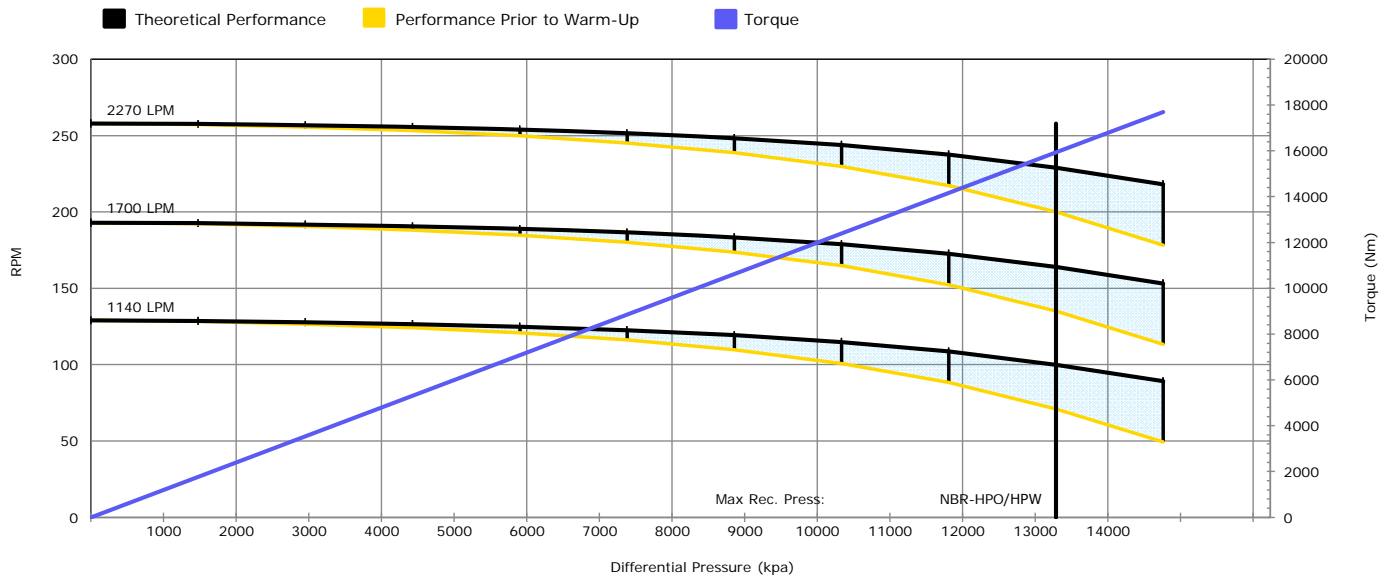
Stator Specifications	
	mm
Overall Length	6248.4
Tube OD	165.1
Tube ID	139.7
Rubber Cutback Top/End	279.0 / 279.0
Weight	502 kg
Number of Stages	8.2
Tube Material	4140/4142 Seamless Alloy Steel
Rubber Options	NBR-HPO/NBR-HPW

Performance Specifications	
Flow Range (lpm)	1140 - 2270
Speed Range (rpm)	130 - 260
Torque Slope (Nm/kpa)	1.20
Rotation (rev/Liter)	0.1136
Off Bottom Pressure (kpa)	1050

Performance Details	
	NBR-HPO/NBR-HPW
Max Diff Press (kpa)	13300
Stall Diff Press (kpa)	21000
Max Torque (Nm)	16000
Stall Torque (Nm)	25200

Size	Minor <sup>2</sup>	Minor <sup>2</sup>	Stator Sizing and Fit Chart <sup>3</sup>	
.5 US	-	-	-	Fit Not Available
STD	-	-	-	Fit Not Available
.5 OS	93.878	0.127	30°C	50°C OPTIMAL RANGE 110°C 130°C
1.0 OS	94.183	-0.178	50°C	80°C OPTIMAL RANGE 130°C 150°C
1.5 OS	94.513	-0.508	80°C	100°C OPTIMAL RANGE 150°C 170°C <sup>3</sup>
2.0 OS	94.818	-0.813	100°C	120°C OPTIMAL RANGE 180°C 190°C <sup>3</sup>
2.5 OS	-	-	-	Fit Not Available

Minor Diameter Change = 0.025 mm per 1.71 °C      ΔFit = 0.0148 mm per 1°C



<sup>1</sup> Coating options of chrome or tungsten carbide are available    <sup>2</sup> Vector Gauge Readings at Room Temp 25°C (measured from the top end)    <sup>3</sup> Chart temp shows potential of the individual fit and not necessarily the elastomer. BHCT Exceeding 160°C will void warranty for NBR-HPO/NBR-HPW.

Performance curves are based on new rotor and stator dimensions and for reference only. Actual performance may vary depending on fit and drilling conditions. The stall torque may exceed that specified for the connected components. Operating over the recommended limits may result in damage to the power section and connected

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