

## POWER SECTION

**Model No: AT700678.4 OPTI**

Revised: 8/17/2022

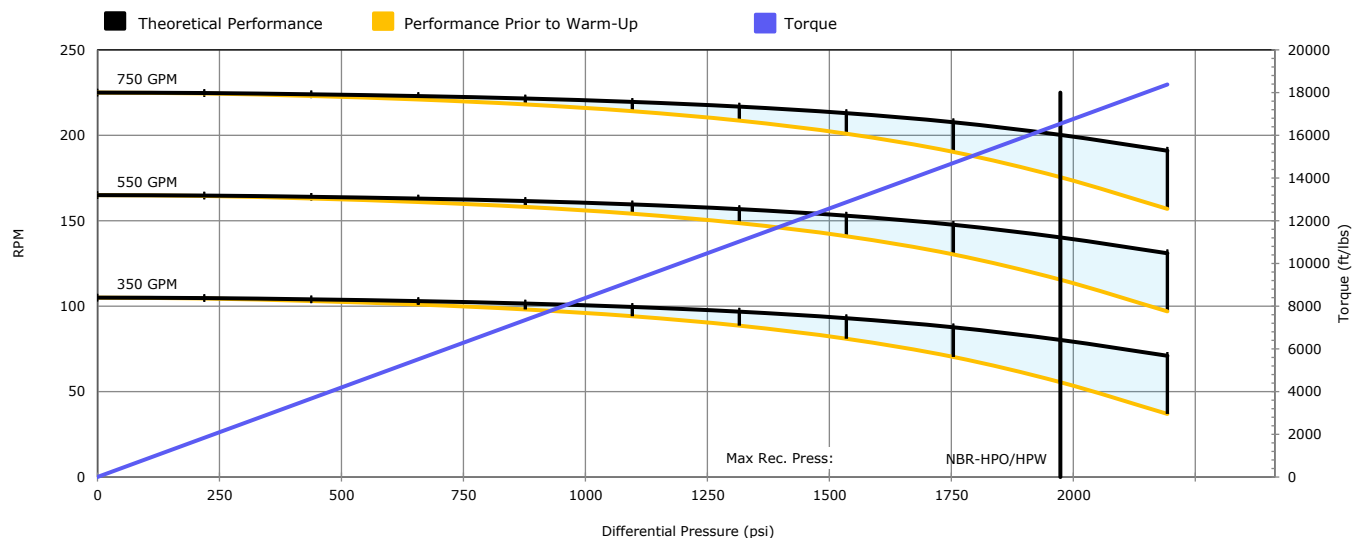
Rotor Specifications	
	inches
Overall Length	267.00
Contour Length	259.00
Major Diameter	4.747
Eccentricity	0.302
Head diameter	4.750
Thread Form	2.875 SLIMLINE H-90
Weight	932 lbs
Material	17-4 PH <sup>1</sup>

Stator Specifications	
	inches
Overall Length	275.00
Tube OD	7.00
Tube ID	5.75
Rubber Cutback Top/End	8.00 / 8.00
Weight	983 lbs
Number of Stages	8.4
Tube Material	4140/4142 Alloy Steel
Rubber Options	NBR-HPO/NBR-HPW

Performance Specifications	
Flow Range (gpm)	350 - 750
Speed Range (rpm)	110 - 230
Torque Slope (ft-lb/psi)	8.38
Rotation (rev/gal)	0.300
Off Bottom Pressure (psi)	160

Performance Details	
	NBR-HPO/NBR-HPW
Max Diff Press (psi)	1980
Stall Diff Press (psi)	3110
Max Torque (ft-lb)	16550
Stall Torque (ft-lb)	26060

Size	Minor <sup>2</sup>	Fit @ 75°F	Stator Sizing and Fit Chart <sup>3</sup>	
.5 US	-	-	-	Fit Not Available
STD	4.138	0.005	100°F	140°F OPTIMAL RANGE 230°F 260°F
.5 OS	4.151	-0.008	140°F	180°F OPTIMAL RANGE 270°F 300°F
1.0 OS	4.163	-0.020	170°F	210°F OPTIMAL RANGE 310°F 340°F <sup>3</sup>
1.5 OS	-	-	-	Fit Not Available
2.0 OS	-	-	-	Fit Not Available
2.5 OS	-	-	-	Fit Not Available
Minor Diameter Change = 0.001" per 3.1 °F			ΔFit = 0.00033" 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 <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

**POWER SECTION - METRIC**

**Model No: AT700678.4 OPTI**

Revised: 8/17/2022

Rotor Specifications	
	mm
Overall Length	6781.8
Contour Length	6578.6
Major Diameter	120.57
Eccentricity	7.66
Head diameter	120.65
Thread Form	2.875 SLIMLINE H-90
Weight	423 kg
Material	17-4 PH <sup>1</sup>

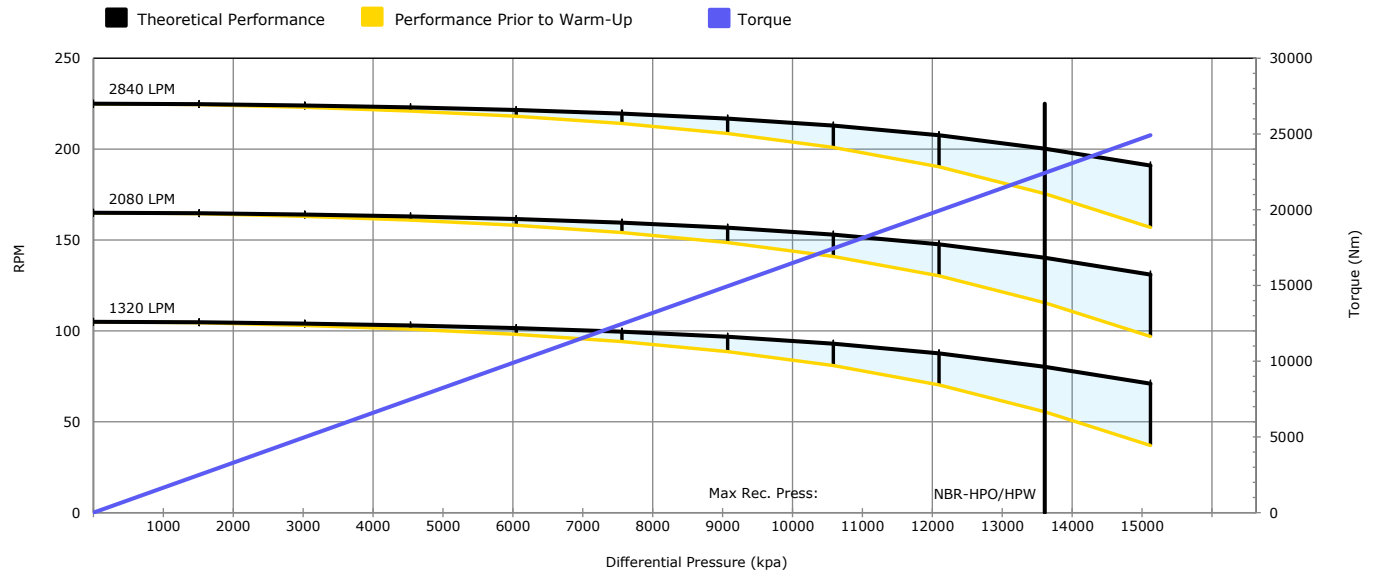
Stator Specifications	
	mm
Overall Length	6985.0
Tube OD	177.8
Tube ID	146.1
Rubber Cutback Top/End	203.0 / 203.0
Weight	446 kg
Number of Stages	8.4
Tube Material	4140/4142 Seamless Alloy Steel
Rubber Options	NBR-HPO/NBR-HPW

Performance Specifications	
Flow Range (lpm)	1320 - 2840
Speed Range (rpm)	110 - 230
Torque Slope (Nm/kpa)	1.65
Rotation (rev/Liter)	0.0793
Off Bottom Pressure (kpa)	1080

Performance Details	
	NBR-HPO/NBR-HPW
Max Diff Press (kpa)	13700
Stall Diff Press (kpa)	21500
Max Torque (Nm)	22500
Stall Torque (Nm)	35400

Size	Minor <sup>2</sup>	Minor <sup>2</sup>	Stator Sizing and Fit Chart <sup>3</sup>	
.5 US	-	-	-	Fit Not Available
STD	105.105	0.140	40°C	60°C OPTIMAL RANGE 110°C 130°C
.5 OS	105.435	-0.190	60°C	80°C OPTIMAL RANGE 130°C 150°C
1.0 OS	105.740	-0.495	80°C	100°C OPTIMAL RANGE 150°C 170°C <sup>3</sup>
1.5 OS	-	-	-	Fit Not Available
2.0 OS	-	-	-	Fit Not Available
2.5 OS	-	-	-	Fit Not Available

Minor Diameter Change = 0.025 mm per 1.7 °C      ΔFit = 0.0149 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 <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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