

## POWER SECTION

**Model No: AT5506710.9 OPTI**

Revised: 11/23/2022

Rotor Specifications	
	inches
Overall Length	269.00
Contour Length	258.00
Major Diameter	3.419
Eccentricity	0.215
Head diameter	3.500
Thread Form	1.375-6 SA
Weight	553 lbs
Material	17-4 PH <sup>1</sup>

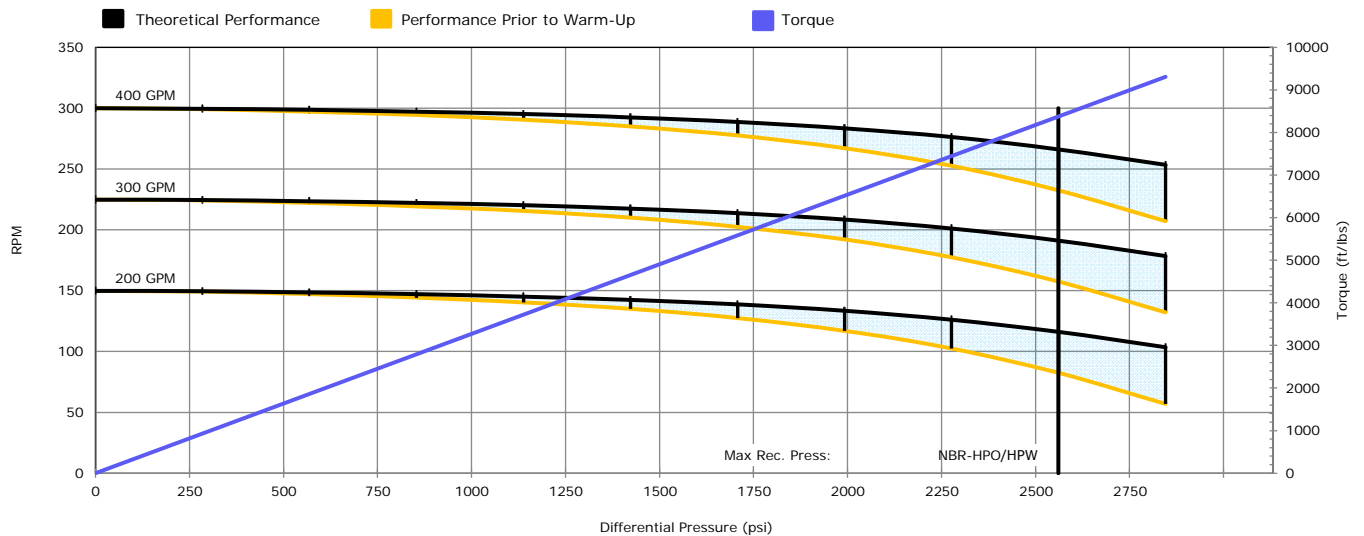
Performance Specifications	
Flow Range (gpm)	200 - 400
Speed Range (rpm)	150 - 300
Torque Slope (ft-lb/psi)	3.27
Rotation (rev/gal)	0.750
Off Bottom Pressure (psi)	150

Stator Specifications	
	inches
Overall Length	275.00
Tube OD	5.50
Tube ID	4.00
Rubber Cutback Top/End	12.00 / 12.00
Weight	607 lbs
Number of Stages	10.9
Tube Material	4140/4142 Alloy Steel
Rubber Options	NBR-HPO/NBR-HPW

Performance Details	
	NBR-HPO/NBR-HPW
Max Diff Press (psi)	2570
Stall Diff Press (psi)	4040
Max Torque (ft-lb)	8380
Stall Torque (ft-lb)	13200

Size	Minor <sup>2</sup>	Fit @ 75°F	Stator Sizing and Fit Chart <sup>3</sup>	
.5 US	-	-	-	Fit Not Available
STD	2.983	0.006	80°F	110°F OPTIMAL RANGE 190°F 220°F
.5 OS	2.993	-0.004	110°F	140°F OPTIMAL RANGE 220°F 260°F
1.0 OS	3.003	-0.015	150°F	180°F OPTIMAL RANGE 260°F 300°F
1.5 OS	3.018	-0.029	200°F	240°F OPTIMAL RANGE 320°F 350°F <sup>3</sup>
2.0 OS	-	-	-	Fit Not Available
2.5 OS	-	-	-	Fit Not Available

Minor Diameter Change = 0.001" per 3.5 °F      ΔFit = 0.00029" 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

**POWER SECTION - METRIC**

**Model No: AT5506710.9 OPTI**

Revised: 11/23/2022

Rotor Specifications	
	mm
Overall Length	6832.6
Contour Length	6553.2
Major Diameter	86.84
Eccentricity	5.47
Head diameter	88.90
Thread Form	1.375-6 SA
Weight	251 kg
Material	17-4 PH <sup>1</sup>

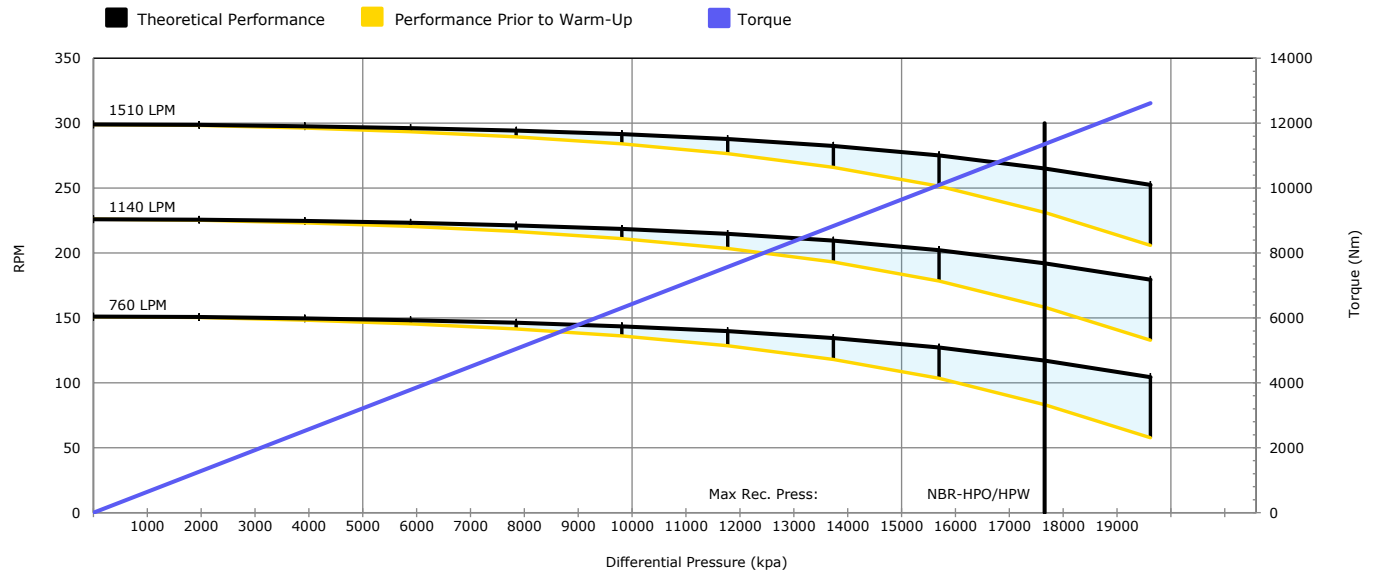
Stator Specifications	
	mm
Overall Length	6985.0
Tube OD	139.7
Tube ID	101.6
Rubber Cutback Top/End	305.0 / 305.0
Weight	275 kg
Number of Stages	10.9
Tube Material	4140/4142 Seamless Alloy Steel
Rubber Options	NBR-HPO/NBR-HPW

Performance Specifications	
Flow Range (lpm)	760 - 1510
Speed Range (rpm)	150 - 300
Torque Slope (Nm/kpa)	0.64
Rotation (rev/Liter)	0.1981
Off Bottom Pressure (kpa)	1060

Performance Details	
	NBR-HPO/NBR-HPW
Max Diff Press (kpa)	17700
Stall Diff Press (kpa)	27900
Max Torque (Nm)	11400
Stall Torque (Nm)	17900

Size	Minor <sup>2</sup>	Minor <sup>2</sup>	Stator Sizing and Fit Chart <sup>3</sup>	
.5 US	-	-	-	Fit Not Available
STD	75.768	0.140	30°C	40°C OPTIMAL RANGE 90°C 100°C
.5 OS	76.149	-0.241	50°C	70°C OPTIMAL RANGE 120°C 140°C
1.0 OS	76.403	-0.495	70°C	90°C OPTIMAL RANGE 140°C 150°C
1.5 OS	76.657	-0.749	90°C	120°C OPTIMAL RANGE 160°C 180°C <sup>3</sup>
2.0 OS	-	-	-	Fit Not Available
2.5 OS	-	-	-	Fit Not Available

Minor Diameter Change = 0.025 mm per 1.94 °C      ΔFit = 0.0131 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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