

POWER SECTION

Model No: AT500678.0 OPTI

Revised: 8/16/2022

Rotor Specifications	
	inches
Overall Length	241.00
Contour Length	235.00
Major Diameter	3.018
Eccentricity	0.192
Head diameter	2.900
Thread Form	2.375 HEF Modified
Weight	383 lbs
Material	17-4 PH ¹

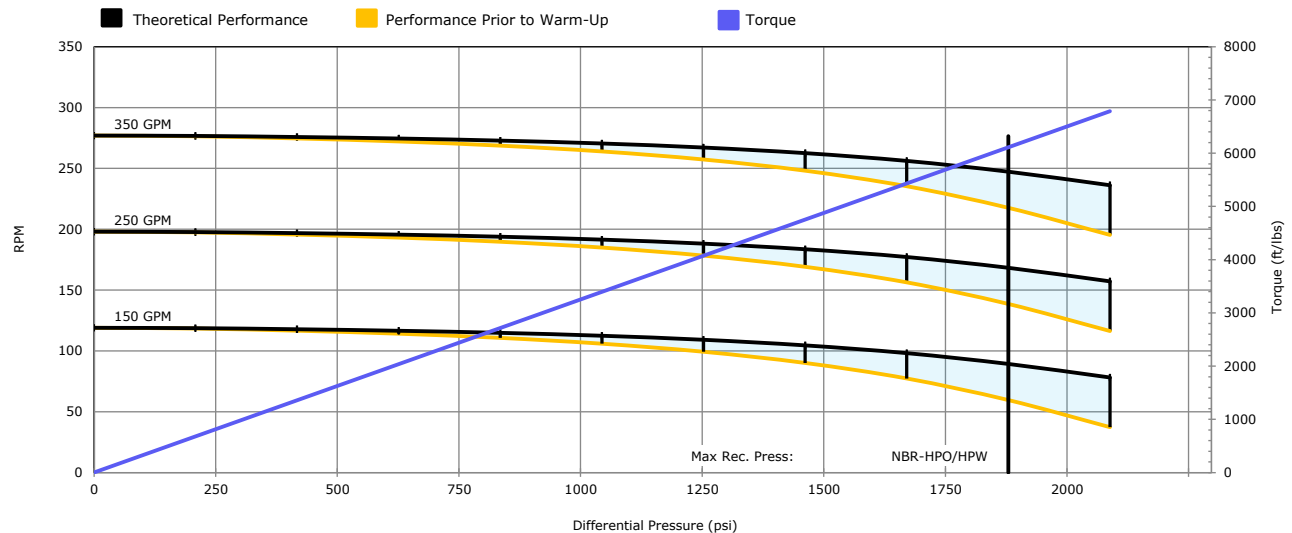
Stator Specifications	
	inches
Overall Length	250.00
Tube OD	5.00
Tube ID	4.00
Rubber Cutback Top/End	8.00 / 8.00
Weight	575 lbs
Number of Stages	8.0
Tube Material	4140/4142 Alloy Steel
Rubber Options	NBR-HPO/NBR-HPW

Performance Specifications	
Flow Range (gpm)	150 - 350
Speed Range (rpm)	120 - 280
Torque Slope (ft-lb/psi)	3.25
Rotation (rev/gal)	0.790
Off Bottom Pressure (psi)	110

Performance Details	
	NBR-HPO/NBR-HPW
Max Diff Press (psi)	1880
Stall Diff Press (psi)	2970
Max Torque (ft-lb)	6110
Stall Torque (ft-lb)	9630

Size	Minor ²	Fit @ 75°F	Stator Sizing and Fit Chart ³	
.5 US	-	-	-	Fit Not Available
STD	2.638	-0.004	110°F	140°F OPTIMAL RANGE 220°F 250°F
.5 OS	2.653	-0.019	160°F	190°F OPTIMAL RANGE 270°F 300°F
1.0 OS	2.663	-0.029	190°F	230°F OPTIMAL RANGE 300°F 340°F
1.5 OS	2.673	-0.039	230°F	260°F OPTIMAL RANGE 340°F 370°F
2.0 OS	-	-	-	Fit Not Available
2.5 OS	-	-	-	Fit Not Available

Minor Diameter Change = 0.001" per 3.3 °F ΔFit = 0.0003" per 1°F



¹ Coating options of chrome or tungsten carbide are available ² Vector Gauge Readings at Room Temp 75°F ³ 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 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: AT500678.0 OPTI

Revised: 8/16/2022

Rotor Specifications	
	mm
Overall Length	6121.4
Contour Length	5969.0
Major Diameter	76.66
Eccentricity	4.88
Head diameter	73.66
Thread Form	2.375 HEF Modified
Weight	174 kg
Material	17-4 PH ¹

Stator Specifications	
	mm
Overall Length	6350.0
Tube OD	127.0
Tube ID	101.6
Rubber Cutback Top/End	203.0 / 203.0
Weight	261 kg
Number of Stages	8.0
Tube Material	4140/4142 Seamless Alloy Steel
Rubber Options	NBR-HPO/NBR-HPW

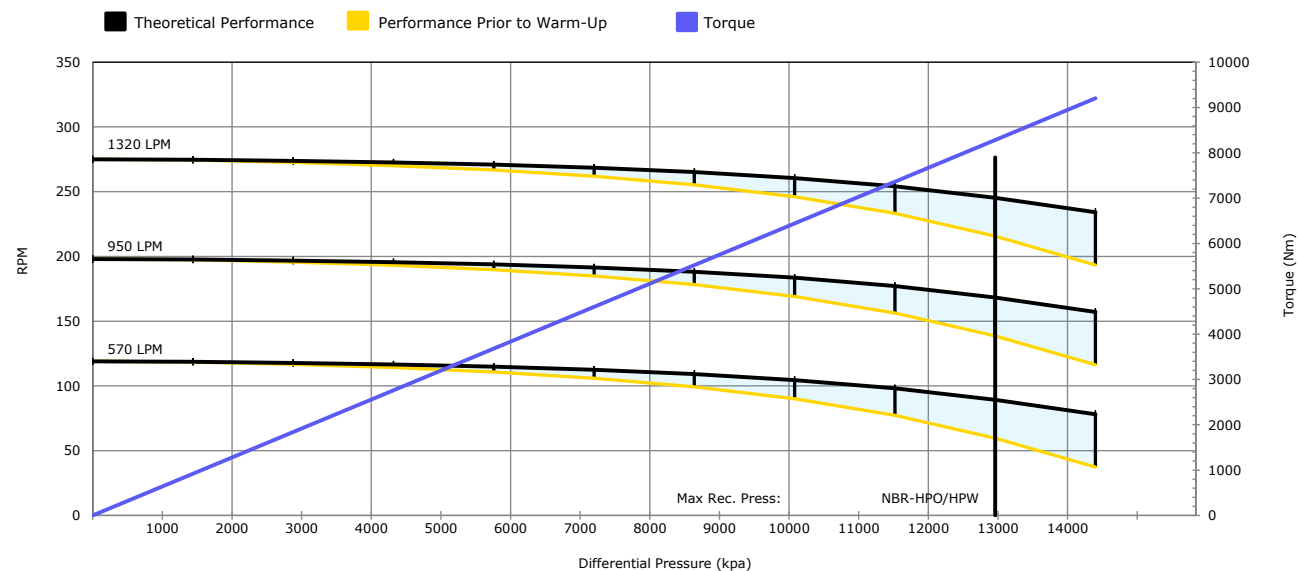
Performance Specifications	
Flow Range (lpm)	570 - 1320
Speed Range (rpm)	120 - 280
Torque Slope (Nm/kpa)	0.64
Rotation (rev/Liter)	0.2087
Off Bottom Pressure (kpa)	780

Performance Details	
	NBR-HPO/NBR-HPW
Max Diff Press (kpa)	13000
Stall Diff Press (kpa)	20500
Max Torque (Nm)	8300
Stall Torque (Nm)	13100

Size	Minor ²	Minor ²	Stator Sizing and Fit Chart ³			
.5 US	-	-	-	Fit Not Available	-	-
STD	67.005	-0.102	40°C	60°C	OPTIMAL RANGE	100°C 120°C
.5 OS	67.386	-0.483	70°C	90°C	OPTIMAL RANGE	130°C 150°C
1.0 OS	67.640	-0.737	90°C	110°C	OPTIMAL RANGE	150°C 170°C ³
1.5 OS	67.894	-0.991	110°C	130°C	OPTIMAL RANGE	170°C 190°C ³
2.0 OS	-	-	-	-	Fit Not Available	-
2.5 OS	-	-	-	-	Fit Not Available	-

Minor Diameter Change = 0.025 mm per 1.85 °C

ΔFit = 0.0137 mm per 1°C



¹ Coating options of chrome or tungsten carbide are available ² Vector Gauge Readings at Room Temp 25°C ³ 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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