

POWER SECTION

Model No: AT650784.8

Revised: 9/24/2020

Rotor Specifications	
	inches
Overall Length	194.25
Contour Length	187.75
Major Diameter	3.98
Eccentricity	0.226
Head diameter	3.500
Thread Form	2.375 API REG
Weight	554 lbs
Material	17-4 PH ¹

Stator Specifications	
	inches
Overall Length	203.50
Tube OD	6.50
Tube ID	5.00
Rubber Cutback Top/End	8.00 / 8.00
Weight	844 lbs
Number of Stages	4.8
Tube Material	4140/4142 Alloy Steel
Rubber Options	NBR-HPW & NBR-HPO

NBR-HPW (in)		Fits (+ Compression / - Loose)				
Size	Minor ²	75 °F	125 °F	175 °F	250 °F	300 °F ³
.5 US						
STD	3.516	0.012	0.027	0.042	0.064	0.079
.5 OS	3.529	-0.001	0.014	0.028	0.050	0.065
1.0 OS	3.545	-0.017	-0.002	0.012	0.034	0.048
1.5 OS	3.554	-0.026	-0.012	0.003	0.025	0.039
2.0 OS						
2.5 OS						

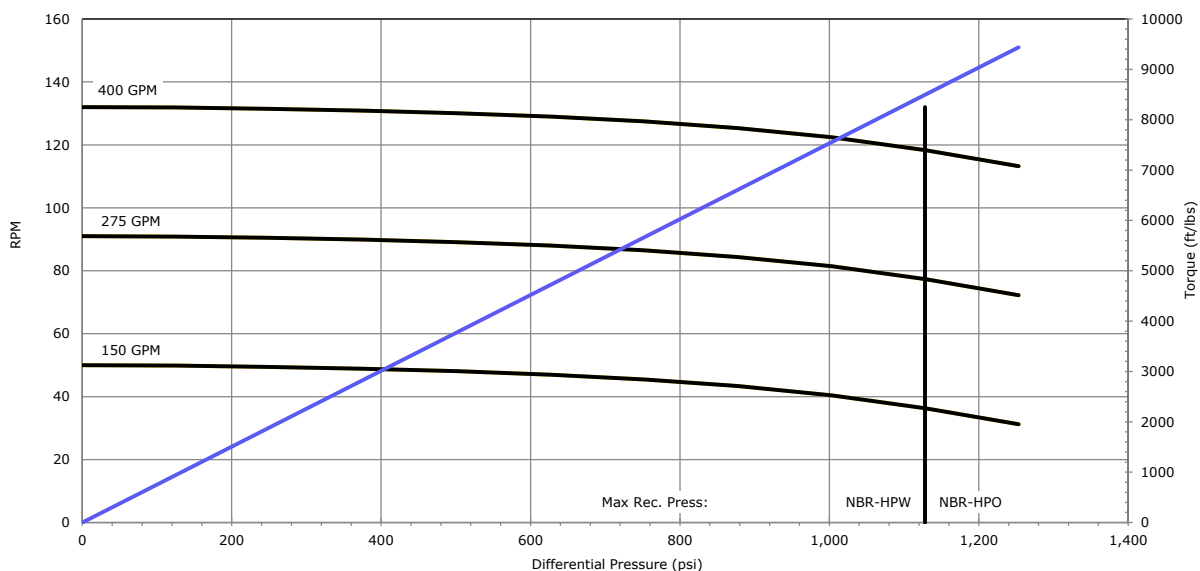
NBR-HPO (in)		Fits (+ Compression / - Loose)				
Size	Minor ²	75 °F	125 °F	175 °F	250 °F	300 °F ³
.5 US						
STD	3.516	0.012	0.027	0.042	0.064	0.079
.5 OS	3.529	-0.001	0.014	0.028	0.050	0.065
1.0 OS	3.545	-0.017	-0.002	0.012	0.034	0.048
1.5 OS	3.554	-0.026	-0.012	0.003	0.025	0.039
2.0 OS						
2.5 OS						

Performance Specifications	
Flow Range (gpm)	150 - 400
Speed Range (rpm)	50 - 130
Torque Slope (ft-lb/psi)	7.53
Rotation (rev/gal)	0.330
Off Bottom Pressure (psi)	70

Performance Details		NBR-HPW	NBR-HPO
Max Diff Press (psi)		1130	1130
Stall Diff Press (psi)		1780	1780
Max Torque (ft-lb)		8500	8500
Stall Torque (ft-lb)		13380	13380

■ (NBR-HPW/HPO)

■ Torque



¹ Coating options of chrome or tungsten carbide are available ² Vector Gauge Readings at Room Temp 75°F ³ BHCT Exceeding 320°F will void warranty for NBR-HPW (325°F for NBR-HPO).

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

POWER SECTION - METRIC

Model No: AT650784.8

Revised: 9/24/2020

Rotor Specifications	
	mm
Overall Length	4934.0
Contour Length	4768.9
Major Diameter	101.09
Eccentricity	5.74
Head diameter	88.90
Thread Form	2.375 API REG
Weight	251 kg
Material	17-4 PH ¹

Stator Specifications	
	mm
Overall Length	5168.9
Tube OD	165.1
Tube ID	127.0
Rubber Cutback Top/End	203.0 / 203.0
Weight	383 kg
Number of Stages	4.8
Tube Material	4140/4142 Seamless Alloy Steel
Rubber Options	NBR-HPW & NBR-HPO

NBR-HPW (mm)		Fits (+ Compression / - Loose)				
Size	Minor ²	25 °C	75 °C	100 °C	125 °C	150 °C ³
.5 US						
STD	89.31	0.30	0.98	1.32	1.66	2.00
.5 OS	89.64	-0.03	0.65	0.98	1.32	1.66
1.0 OS	90.04	-0.43	0.23	0.57	0.90	1.23
1.5 OS	90.27	-0.66	0.00	0.33	0.66	0.99
2.0 OS						
2.5 OS						

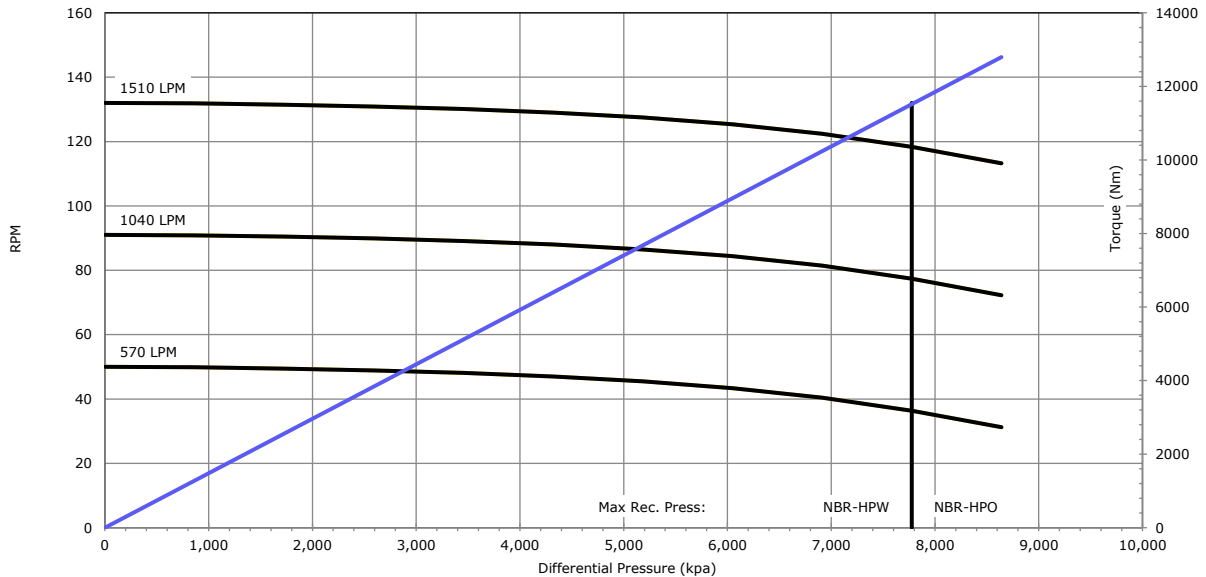
NBR-HPO (mm)		Fits (+ Compression / - Loose)				
Size	Minor ²	25 °C	75 °C	100 °C	125 °C	150 °C ³
.5 US						
STD	89.31	0.30	0.98	1.32	1.66	2.00
.5 OS	89.64	-0.03	0.65	0.98	1.32	1.66
1.0 OS	90.04	-0.43	0.23	0.57	0.90	1.23
1.5 OS	90.27	-0.66	0.00	0.33	0.66	0.99
2.0 OS						
2.5 OS						

Performance Specifications	
Flow Range (lpm)	570 - 1510
Speed Range (rpm)	50 - 130
Torque Slope (Nm/kpa)	1.48
Rotation (rev/Liter)	0.0872
Off Bottom Pressure (kpa)	460

Performance Details		
	NBR-HPW	NBR-HPO
Max Diff Press (kpa)	7800	7800
Stall Diff Press (kpa)	12200	12300
Max Torque (Nm)	11600	11600
Stall Torque (Nm)	18200	18200

■ (NBR-HPW/HPO)

■ Torque



¹ Coating options of chrome or tungsten carbide are available ² Vector Gauge Readings at Room Temp 25°C ³ BHCT Exceeding 160°C will void warranty for NBR-HPW (163°C for NBR-HPO).

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