

## POWER SECTION

**Model No: AT650783.0**

Revised: 9/22/2020

Rotor Specifications	
	inches
Overall Length	118.50
Contour Length	111.50
Major Diameter	4.52
Eccentricity	0.256
Head diameter	4.000
Thread Form	2.875 API REG
Weight	435 lbs
Material	17-4 PH <sup>1</sup>

Stator Specifications	
	inches
Overall Length	125.00
Tube OD	6.50
Tube ID	5.50
Rubber Cutback Top/End	8.00 / 8.00
Weight	373 lbs
Number of Stages	3.0
Tube Material	4140/4142 Alloy Steel
Rubber Options	NBR-HPW & NBR-HPO

NBR-HPW (in)		Fits (+ Compression / - Loose)				
Size	Minor <sup>2</sup>	75 °F	125 °F	175 °F	250 °F	300 °F <sup>3</sup>
.5 US						
STD	3.989	0.019	0.033	0.046	0.067	0.080
.5 OS	4.004	0.004	0.017	0.031	0.051	0.065
1.0 OS	4.016	-0.008	0.005	0.019	0.039	0.052
1.5 OS	4.025	-0.017	-0.004	0.010	0.029	0.043
2.0 OS						
2.5 OS						

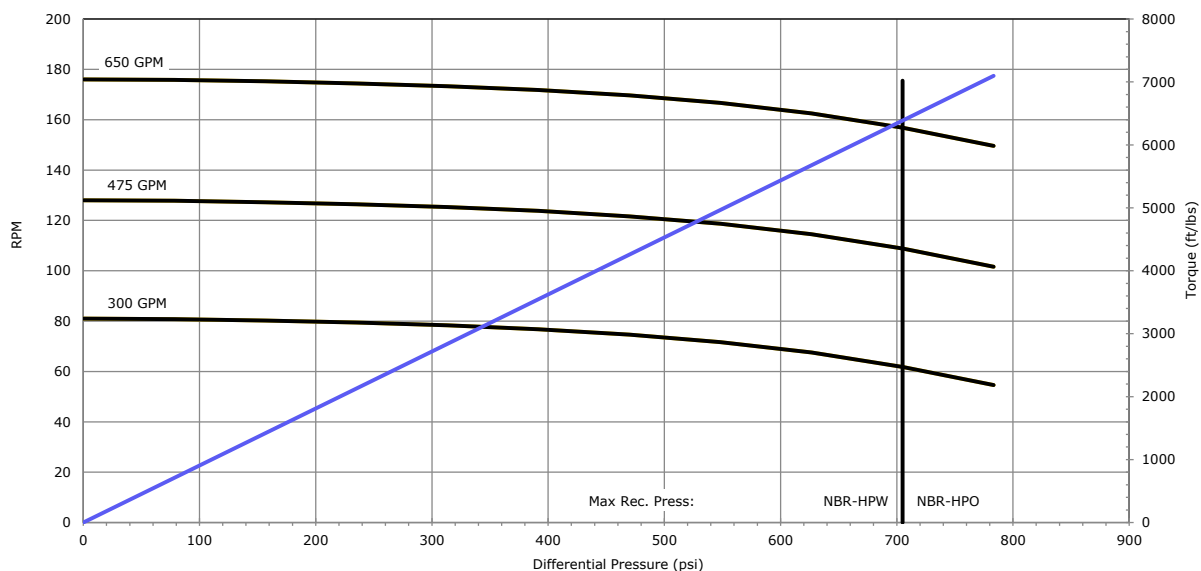
NBR-HPO (in)		Fits (+ Compression / - Loose)				
Size	Minor <sup>2</sup>	75 °F	125 °F	175 °F	250 °F	300 °F <sup>3</sup>
.5 US						
STD	3.989	0.019	0.033	0.046	0.067	0.080
.5 OS	4.004	0.004	0.017	0.031	0.051	0.065
1.0 OS	4.016	-0.008	0.005	0.019	0.039	0.052
1.5 OS	4.025	-0.017	-0.004	0.010	0.029	0.043
2.0 OS						
2.5 OS						

Performance Specifications	
Flow Range (gpm)	300 - 650
Speed Range (rpm)	80 - 180
Torque Slope (ft-lb/psi)	9.06
Rotation (rev/gal)	0.270
Off Bottom Pressure (psi)	90

Performance Details		NBR-HPW	NBR-HPO
Max Diff Press (psi)		710	710
Stall Diff Press (psi)		1120	1120
Max Torque (ft-lb)		6390	6390
Stall Torque (ft-lb)		10060	10060

■ (NBR-HPW/HPO)

■ Torque



<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> BHCT Exceeding 320°F will void warranty for NBR-HPW/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](http://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: AT650783.0**

Revised: 9/22/2020

Rotor Specifications	
	mm
Overall Length	3009.9
Contour Length	2832.1
Major Diameter	114.81
Eccentricity	6.50
Head diameter	101.60
Thread Form	2.875 API REG
Weight	197 kg
Material	17-4 PH <sup>1</sup>

Stator Specifications	
	mm
Overall Length	3175.0
Tube OD	165.1
Tube ID	139.7
Rubber Cutback Top/End	203.0 / 203.0
Weight	169 kg
Number of Stages	3.0
Tube Material	4140/4142 Seamless Alloy Steel
Rubber Options	NBR-HPW & NBR-HPO

NBR-HPW (mm)		Fits (+ Compression / - Loose)				
Size	Minor <sup>2</sup>	25 °C	75 °C	100 °C	125 °C	150 °C <sup>3</sup>
.5 US						
STD	101.32	0.48	1.10	1.42	1.73	2.04
.5 OS	101.70	0.10	0.72	1.02	1.33	1.64
1.0 OS	102.01	-0.20	0.41	0.71	1.02	1.32
1.5 OS	102.24	-0.43	0.18	0.48	0.78	1.09
2.0 OS						
2.5 OS						

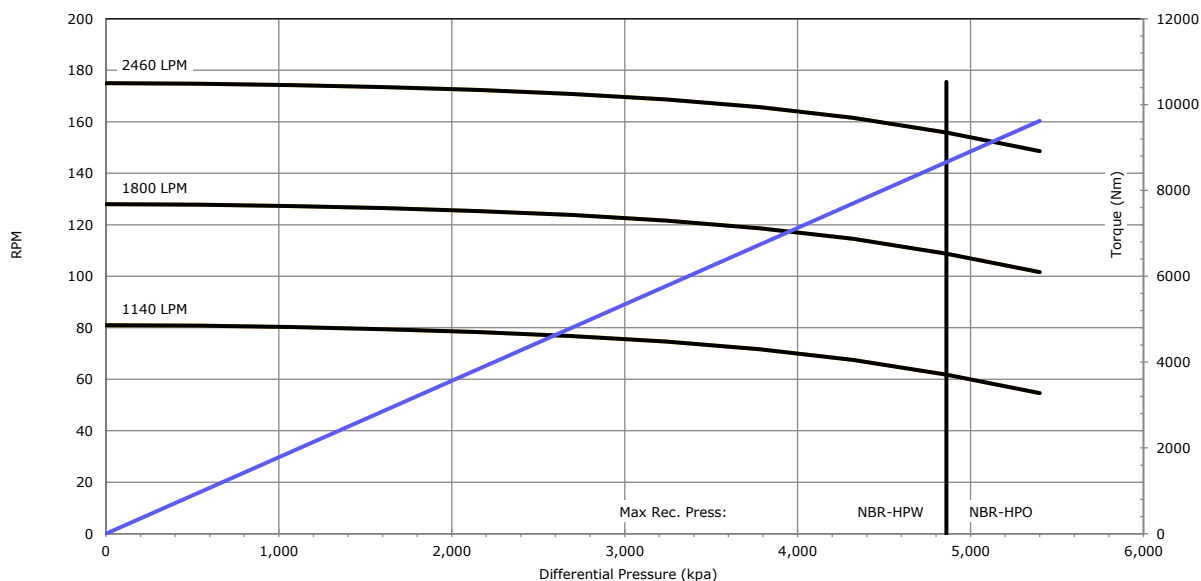
NBR-HPO (mm)		Fits (+ Compression / - Loose)				
Size	Minor <sup>2</sup>	25 °C	75 °C	100 °C	125 °C	150 °C <sup>3</sup>
.5 US						
STD	101.32	0.48	1.10	1.42	1.73	2.04
.5 OS	101.70	0.10	0.72	1.02	1.33	1.64
1.0 OS	102.01	-0.20	0.41	0.71	1.02	1.32
1.5 OS	102.24	-0.43	0.18	0.48	0.78	1.09
2.0 OS						
2.5 OS						

Performance Specifications	
Flow Range (lpm)	1140 - 2460
Speed Range (rpm)	80 - 180
Torque Slope (Nm/kpa)	1.78
Rotation (rev/Liter)	0.0713
Off Bottom Pressure (kpa)	630

Performance Details		
	NBR-HPW	NBR-HPO
Max Diff Press (kpa)	4900	4900
Stall Diff Press (kpa)	7700	7700
Max Torque (Nm)	8700	8700
Stall Torque (Nm)	13700	13700

■ (NBR-HPW/HPO)

■ Torque



<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> BHCT Exceeding 160°C will void warranty for NBR-HPW/HPO.

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