

## POWER SECTION

**Model No: AT650785.0**

Revised: 9/24/2020

Rotor Specifications	
	inches
Overall Length	188.00
Contour Length	181.00
Major Diameter	4.52
Eccentricity	0.256
Head diameter	4.000
Thread Form	2.875 API REG
Weight	694 lbs
Material	17-4 PH <sup>1</sup>

Stator Specifications	
	inches
Overall Length	194.50
Tube OD	6.50
Tube ID	5.50
Rubber Cutback Top/End	8.00 / 8.00
Weight	583 lbs
Number of Stages	5.0
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	4.036	-0.028	-0.015	-0.002	0.018	0.031
2.5 OS						

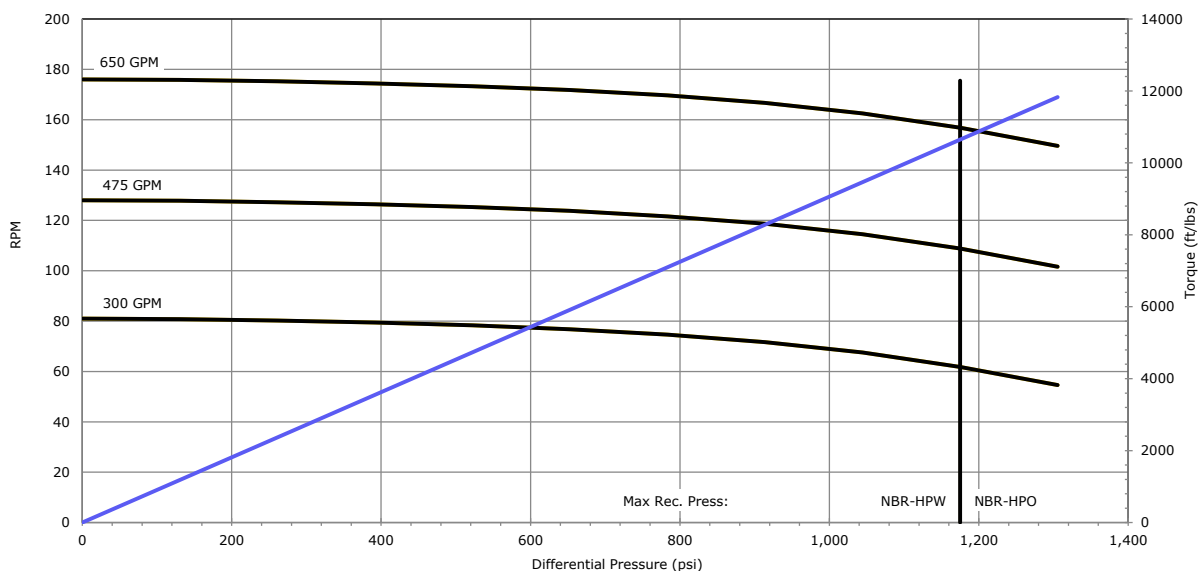
NBR-HPO (in)		Fits (+ Compression / - Loose)				
Size	Minor <sup>2</sup>	75 °F	125 °F	175 °F	250 °F	300 °F <sup>3</sup>
.5 US						
STD	3.989	0.019	0.033	0.046	0.067	0.080
.5 OS	4.004	0.004	0.017	0.031	0.051	0.065
1.0 OS	4.016	-0.008	0.005	0.019	0.039	0.052
1.5 OS	4.025	-0.017	-0.004	0.010	0.029	0.043
2.0 OS	4.036	-0.028	-0.015	-0.002	0.018	0.031
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)	110

Performance Details		NBR-HPW	NBR-HPO
Max Diff Press (psi)		1180	1180
Stall Diff Press (psi)		1860	1860
Max Torque (ft-lb)		10650	10650
Stall Torque (ft-lb)		16770	16770

■ (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 (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](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: AT650785.0**

Revised: 9/24/2020

Rotor Specifications	
	mm
Overall Length	4775.2
Contour Length	4597.4
Major Diameter	114.81
Eccentricity	6.50
Head diameter	101.60
Thread Form	2.875 API REG
Weight	315 kg
Material	17-4 PH <sup>1</sup>

Stator Specifications	
	mm
Overall Length	4940.3
Tube OD	165.1
Tube ID	139.7
Rubber Cutback Top/End	203.0 / 203.0
Weight	264 kg
Number of Stages	5.0
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	102.51	-0.71	-0.11	0.19	0.49	0.79
2.5 OS						

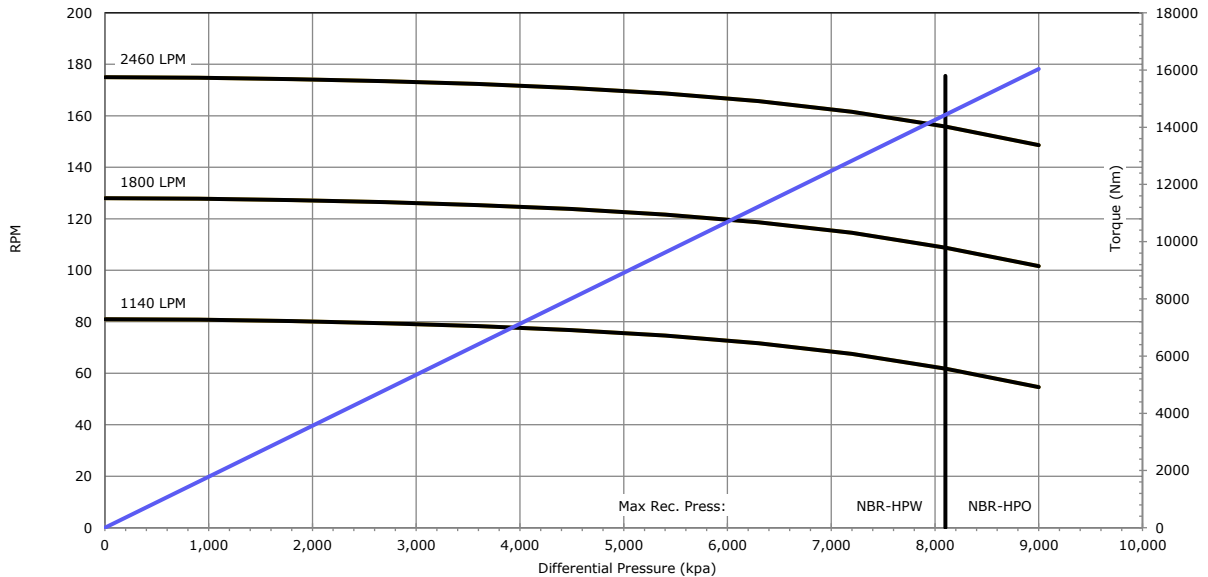
NBR-HPO (mm)		Fits (+ Compression / - Loose)				
Size	Minor <sup>2</sup>	25 °C	75 °C	100 °C	125 °C	150 °C <sup>3</sup>
.5 US						
STD	101.32	0.48	1.10	1.42	1.73	2.04
.5 OS	101.70	0.10	0.72	1.02	1.33	1.64
1.0 OS	102.01	-0.20	0.41	0.71	1.02	1.32
1.5 OS	102.24	-0.43	0.18	0.48	0.78	1.09
2.0 OS	102.51	-0.71	-0.11	0.19	0.49	0.79
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)	720

Performance Details		
	NBR-HPW	NBR-HPO
Max Diff Press (kpa)	8200	8200
Stall Diff Press (kpa)	12800	12800
Max Torque (Nm)	14500	14500
Stall Torque (Nm)	22800	22800

■ (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 (163°C for NBR-HPO).

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