

POWER SECTION

Model No: AT650457.0

Revised: 9/22/2020

Rotor Specifications	
	inches
Overall Length	202.50
Contour Length	195.50
Major Diameter	4.22
Eccentricity	0.355
Head diameter	4.000
Thread Form	2.875 API REG
Weight	576 lbs
Material	17-4 PH ¹

Stator Specifications	
	inches
Overall Length	210.00
Tube OD	6.50
Tube ID	5.50
Rubber Cutback Top/End	7.50 / 7.50
Weight	666 lbs
Number of Stages	7.0
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	3.480	0.030	0.048	0.066	0.094	0.112
STD	3.499	0.011	0.029	0.047	0.074	0.092
.5 OS	3.509	0.001	0.019	0.037	0.064	0.082
1.0 OS	3.525	-0.015	0.003	0.021	0.047	0.065
1.5 OS	3.540	-0.030	-0.012	0.005	0.032	0.049
2.0 OS	3.555	-0.045	-0.027	-0.010	0.016	0.034
2.5 OS	3.583	-0.073	-0.056	-0.038	-0.013	0.005

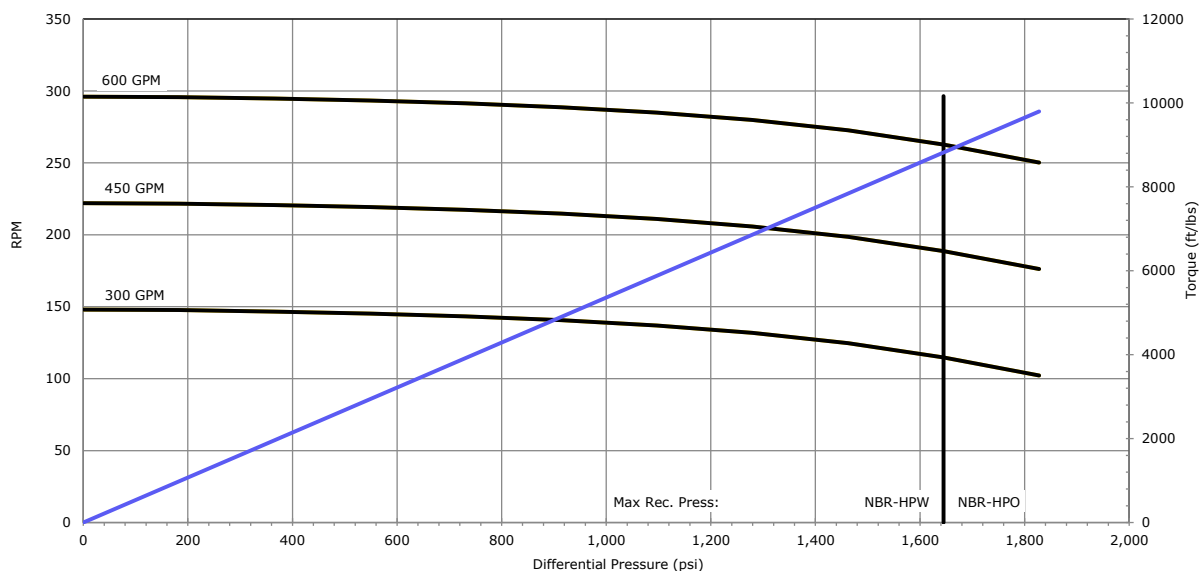
NBR-HPO (in)		Fits (+ Compression / - Loose)				
Size	Minor ²	75 °F	125 °F	175 °F	250 °F	300 °F ³
.5 US	3.480	0.030	0.048	0.066	0.094	0.112
STD	3.499	0.011	0.029	0.047	0.074	0.092
.5 OS	3.509	0.001	0.019	0.037	0.064	0.082
1.0 OS	3.525	-0.015	0.003	0.021	0.047	0.065
1.5 OS	3.540	-0.030	-0.012	0.005	0.032	0.049
2.0 OS	3.555	-0.045	-0.027	-0.010	0.016	0.034
2.5 OS	3.583	-0.073	-0.056	-0.038	-0.013	0.005

Performance Specifications	
Flow Range (gpm)	300 - 600
Speed Range (rpm)	150 - 300
Torque Slope (ft-lb/psi)	5.36
Rotation (rev/gal)	0.494
Off Bottom Pressure (psi)	150

Performance Details		
	NBR-HPW	NBR-HPO
Max Diff Press (psi)	1650	1650
Stall Diff Press (psi)	2600	2600
Max Torque (ft-lb)	8820	8820
Stall Torque (ft-lb)	13890	13890

■ (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/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: AT650457.0

Revised: 9/22/2020

Rotor Specifications	
	mm
Overall Length	5143.5
Contour Length	4965.7
Major Diameter	107.19
Eccentricity	9.02
Head diameter	101.60
Thread Form	2.875 API REG
Weight	261 kg
Material	17-4 PH ¹

Stator Specifications	
	mm
Overall Length	5334.0
Tube OD	165.1
Tube ID	139.7
Rubber Cutback Top/End	191.0 / 191.0
Weight	302 kg
Number of Stages	7.0
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	88.39	0.76	1.59	2.01	2.42	2.84
STD	88.87	0.28	1.10	1.51	1.93	2.34
.5 OS	89.13	0.03	0.84	1.25	1.66	2.07
1.0 OS	89.54	-0.38	0.43	0.84	1.24	1.65
1.5 OS	89.92	-0.76	0.04	0.45	0.85	1.25
2.0 OS	90.30	-1.14	-0.34	0.06	0.46	0.86
2.5 OS	91.01	-1.85	-1.07	-0.67	-0.28	0.12

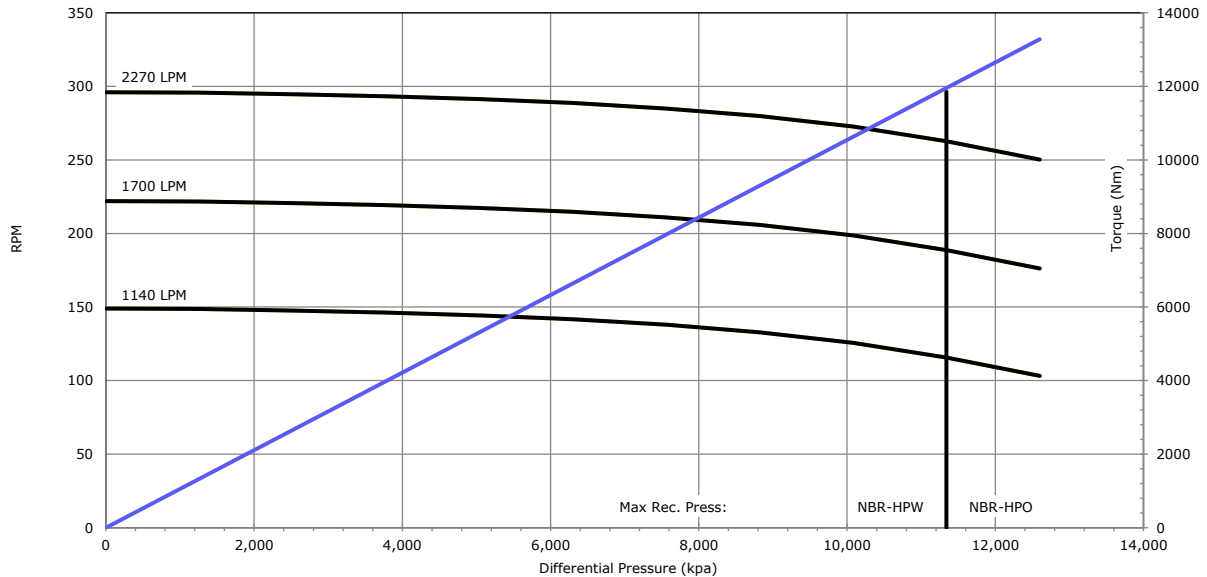
NBR-HPO (mm)		Fits (+ Compression / - Loose)				
Size	Minor ²	25 °C	75 °C	100 °C	125 °C	150 °C ³
.5 US	88.39	0.76	1.59	2.01	2.42	2.84
STD	88.87	0.28	1.10	1.51	1.93	2.34
.5 OS	89.13	0.03	0.84	1.25	1.66	2.07
1.0 OS	89.54	-0.38	0.43	0.84	1.24	1.65
1.5 OS	89.92	-0.76	0.04	0.45	0.85	1.25
2.0 OS	90.30	-1.14	-0.34	0.06	0.46	0.86
2.5 OS	91.01	-1.85	-1.07	-0.67	-0.28	0.12

Performance Specifications	
Flow Range (lpm)	1140 - 2270
Speed Range (rpm)	150 - 300
Torque Slope (Nm/kpa)	1.05
Rotation (rev/Liter)	0.1305
Off Bottom Pressure (kpa)	1040

Performance Details		
	NBR-HPW	NBR-HPO
Max Diff Press (kpa)	11400	11400
Stall Diff Press (kpa)	17900	17900
Max Torque (Nm)	12000	12000
Stall Torque (Nm)	18900	18900

■ (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/HPO.

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