

POWER SECTION

Model No: AT650783.3 HTS

Revised: 9/24/2020

Rotor Specifications	
	inches
Overall Length	238.50
Contour Length	231.50
Major Diameter	4.5
Eccentricity	0.255
Head diameter	4.000
Thread Form	2.875 API REG
Weight	877 lbs
Material	17-4 PH ¹

Stator Specifications	
	inches
Overall Length	245.00
Tube OD	6.50
Tube ID	5.50
Rubber Cutback Top/End	8.00 / 8.00
Weight	737 lbs
Number of Stages	3.3
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	3.980	0.010	0.024	0.037	0.058	0.072
STD	3.990	0.000	0.014	0.027	0.048	0.061
.5 OS	4.001	-0.011	0.002	0.016	0.036	0.050
1.0 OS	4.011	-0.021	-0.008	0.006	0.026	0.039
1.5 OS	4.021	-0.031	-0.018	-0.004	0.016	0.029
2.0 OS						
2.5 OS						

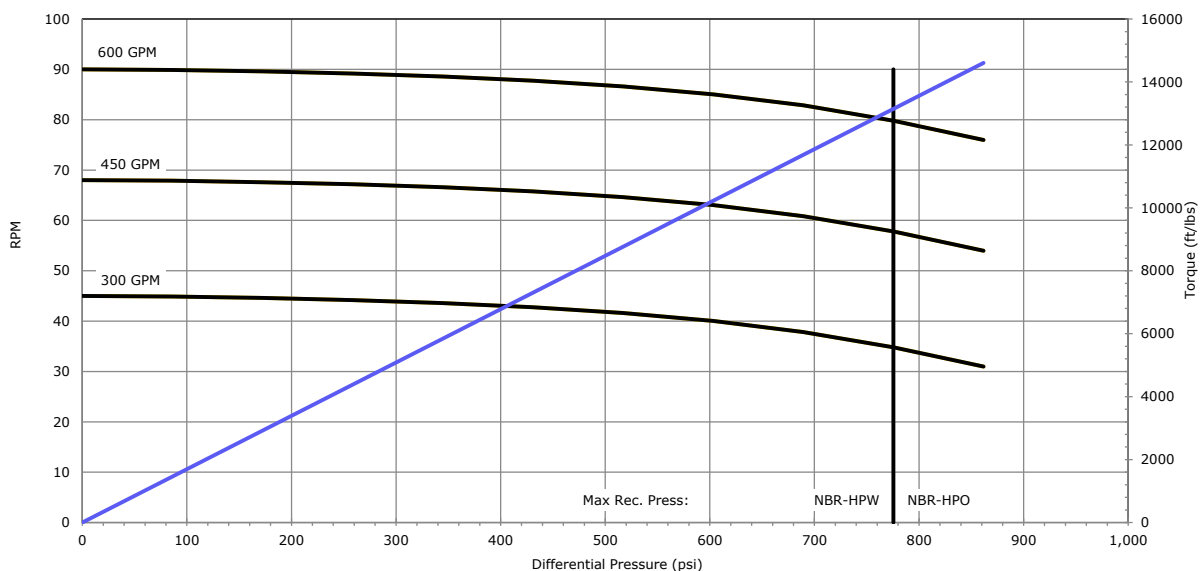
NBR-HPO (in)		Fits (+ Compression / - Loose)				
Size	Minor ²	75 °F	125 °F	175 °F	250 °F	300 °F ³
.5 US	3.980	0.010	0.024	0.037	0.058	0.072
STD	3.990	0.000	0.014	0.027	0.048	0.061
.5 OS	4.001	-0.011	0.002	0.016	0.036	0.050
1.0 OS	4.011	-0.021	-0.008	0.006	0.026	0.039
1.5 OS	4.021	-0.031	-0.018	-0.004	0.016	0.029
2.0 OS						
2.5 OS						

Performance Specifications	
Flow Range (gpm)	300 - 600
Speed Range (rpm)	50 - 90
Torque Slope (ft-lb/psi)	16.95
Rotation (rev/gal)	0.150
Off Bottom Pressure (psi)	70

Performance Details		NBR-HPW	NBR-HPO
Max Diff Press (psi)		780	780
Stall Diff Press (psi)		1230	1230
Max Torque (ft-lb)		13150	13150
Stall Torque (ft-lb)		20710	20710

■ (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: AT650783.3 HTS

Revised: 9/24/2020

Rotor Specifications	
	mm
Overall Length	6057.9
Contour Length	5880.1
Major Diameter	114.30
Eccentricity	6.48
Head diameter	101.60
Thread Form	2.875 API REG
Weight	398 kg
Material	17-4 PH ¹

Stator Specifications	
	mm
Overall Length	6223.0
Tube OD	165.1
Tube ID	139.7
Rubber Cutback Top/End	203.0 / 203.0
Weight	334 kg
Number of Stages	3.3
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	101.09	0.25	0.88	1.19	1.50	1.82
STD	101.35	0.00	0.62	0.93	1.24	1.55
.5 OS	101.63	-0.28	0.34	0.65	0.95	1.26
1.0 OS	101.88	-0.53	0.08	0.39	0.69	1.00
1.5 OS	102.13	-0.79	-0.18	0.13	0.43	0.73
2.0 OS						
2.5 OS						

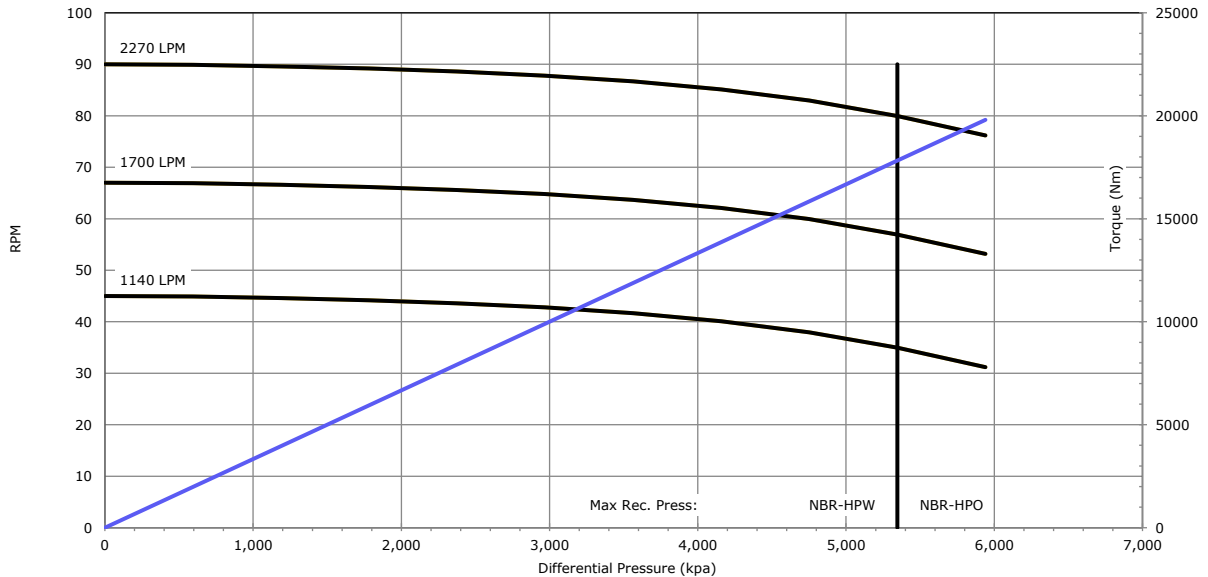
NBR-HPO (mm)		Fits (+ Compression / - Loose)				
Size	Minor ²	25 °C	75 °C	100 °C	125 °C	150 °C ³
.5 US	101.09	0.25	0.88	1.19	1.50	1.82
STD	101.35	0.00	0.62	0.93	1.24	1.55
.5 OS	101.63	-0.28	0.34	0.65	0.95	1.26
1.0 OS	101.88	-0.53	0.08	0.39	0.69	1.00
1.5 OS	102.13	-0.79	-0.18	0.13	0.43	0.73
2.0 OS						
2.5 OS						

Performance Specifications	
Flow Range (lpm)	1140 - 2270
Speed Range (rpm)	50 - 90
Torque Slope (Nm/kpa)	3.33
Rotation (rev/Liter)	0.0396
Off Bottom Pressure (kpa)	460

Performance Details		
	NBR-HPW	NBR-HPO
Max Diff Press (kpa)	5400	5400
Stall Diff Press (kpa)	8400	8500
Max Torque (Nm)	17900	17900
Stall Torque (Nm)	28100	28100

■ (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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