

POWER SECTION

Model No: AT650782.1 ESX

Revised: 9/22/2020

Rotor Specifications	
	inches
Overall Length	221.00
Contour Length	213.00
Major Diameter	4.265
Eccentricity	0.224
Head diameter	4.000
Thread Form	2.875 API REG
Weight	743 lbs
Material	17-4 PH ¹

Stator Specifications	
	inches
Overall Length	230.00
Tube OD	6.50
Tube ID	5.31
Rubber Cutback Top/End	9.00 / 9.00
Weight	797 lbs
Number of Stages	2.1
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	3.824	-0.007	0.009	0.026	0.050	0.067
.5 OS	3.840	-0.023	-0.007	0.009	0.034	0.050
1.0 OS	3.850	-0.033	-0.017	-0.001	0.023	0.039
1.5 OS						
2.0 OS						
2.5 OS						

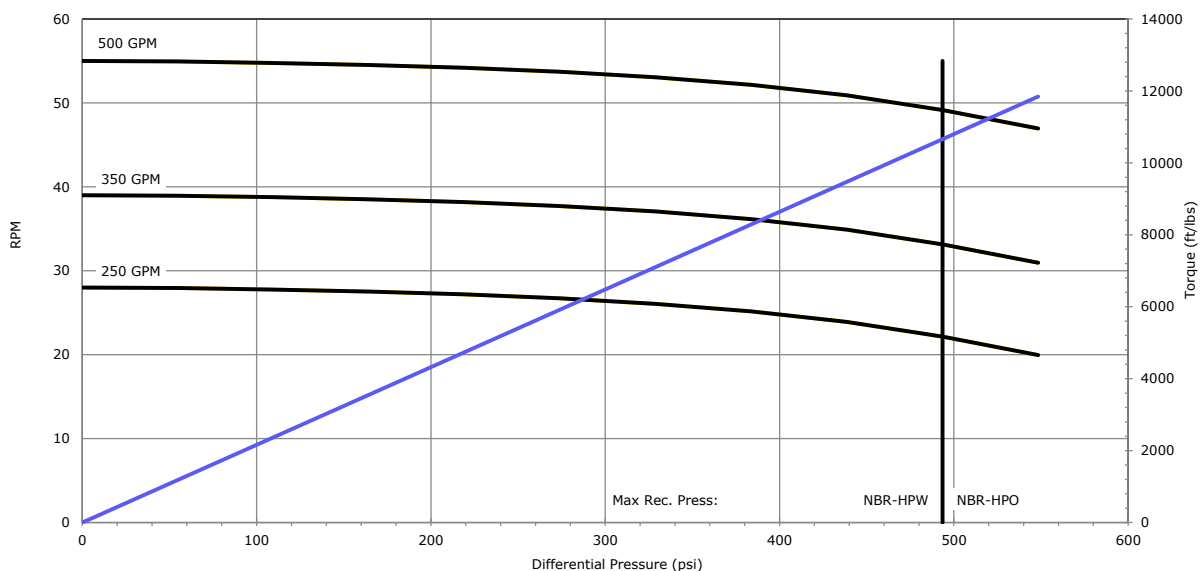
NBR-HPO (in)		Fits (+ Compression / - Loose)				
Size	Minor ²	75 °F	125 °F	175 °F	250 °F	300 °F ³
.5 US						
STD	3.824	-0.007	0.009	0.026	0.050	0.067
.5 OS	3.840	-0.023	-0.007	0.009	0.034	0.050
1.0 OS	3.850	-0.033	-0.017	-0.001	0.023	0.039
1.5 OS						
2.0 OS						
2.5 OS						

Performance Specifications	
Flow Range (gpm)	250 - 500
Speed Range (rpm)	30 - 60
Torque Slope (ft-lb/psi)	21.60
Rotation (rev/gal)	0.110
Off Bottom Pressure (psi)	40

Performance Details		NBR-HPW	NBR-HPO
Max Diff Press (psi)		500	500
Stall Diff Press (psi)		780	780
Max Torque (ft-lb)		10660	10660
Stall Torque (ft-lb)		16790	16790

■ (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: AT650782.1 ESX

Revised: 9/22/2020

Rotor Specifications	
	mm
Overall Length	5613.4
Contour Length	5410.2
Major Diameter	108.33
Eccentricity	5.69
Head diameter	101.60
Thread Form	2.875 API REG
Weight	337 kg
Material	17-4 PH ¹

Stator Specifications	
	mm
Overall Length	5842.0
Tube OD	165.1
Tube ID	134.9
Rubber Cutback Top/End	229.0 / 229.0
Weight	361 kg
Number of Stages	2.1
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	97.13	-0.18	0.57	0.95	1.32	1.69
.5 OS	97.54	-0.58	0.16	0.53	0.90	1.27
1.0 OS	97.79	-0.84	-0.10	0.27	0.63	1.00
1.5 OS						
2.0 OS						
2.5 OS						

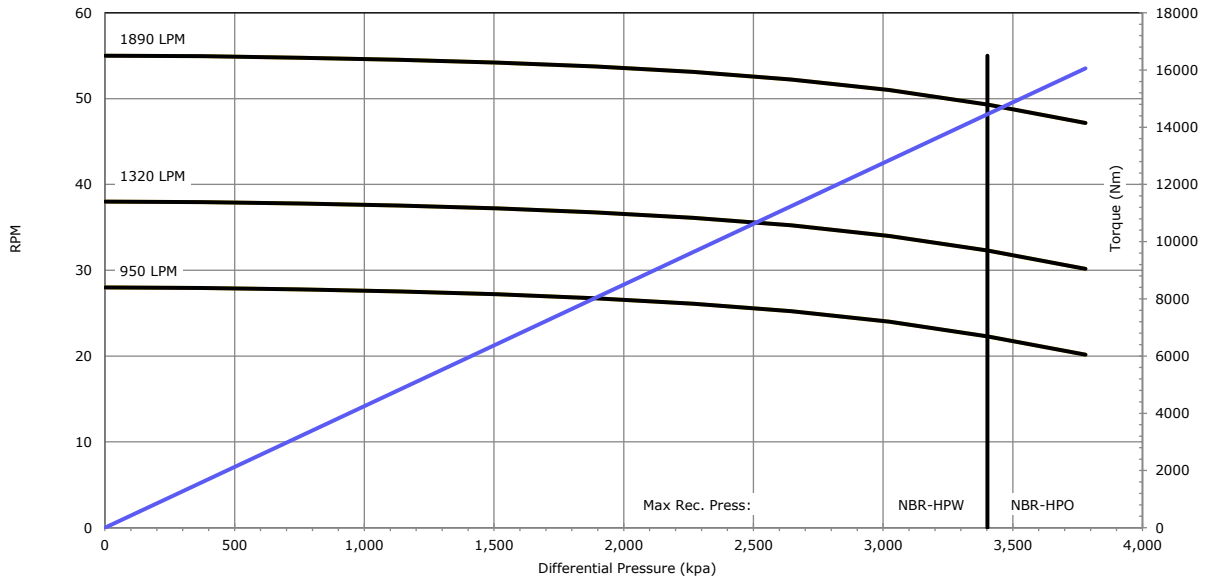
NBR-HPO (mm)		Fits (+ Compression / - Loose)				
Size	Minor ²	25 °C	75 °C	100 °C	125 °C	150 °C ³
.5 US						
STD	97.13	-0.18	0.57	0.95	1.32	1.69
.5 OS	97.54	-0.58	0.16	0.53	0.90	1.27
1.0 OS	97.79	-0.84	-0.10	0.27	0.63	1.00
1.5 OS						
2.0 OS						
2.5 OS						

Performance Specifications	
Flow Range (lpm)	950 - 1890
Speed Range (rpm)	30 - 60
Torque Slope (Nm/kpa)	4.25
Rotation (rev/Liter)	0.0291
Off Bottom Pressure (kpa)	280

Performance Details		
	NBR-HPW	NBR-HPO
Max Diff Press (kpa)	3500	3500
Stall Diff Press (kpa)	5400	5400
Max Torque (Nm)	14500	14500
Stall Torque (Nm)	22800	22800

■ (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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