

POWER SECTION

Model No: AT650782.9 ESX

Revised: 9/22/2020

Rotor Specifications	
	inches
Overall Length	220.75
Contour Length	214.25
Major Diameter	4.204
Eccentricity	0.233
Head diameter	4.000
Thread Form	2.375 API REG
Weight	712 lbs
Material	17-4 PH ¹

Stator Specifications	
	inches
Overall Length	228.75
Tube OD	6.50
Tube ID	5.00
Rubber Cutback Top/End	8.00 / 8.00
Weight	839 lbs
Number of Stages	2.9
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	3.734	0.004	0.019	0.034	0.057	0.072
.5 OS	3.747	-0.009	0.006	0.021	0.044	0.059
1.0 OS	3.759	-0.021	-0.006	0.009	0.031	0.046
1.5 OS						
2.0 OS						
2.5 OS						

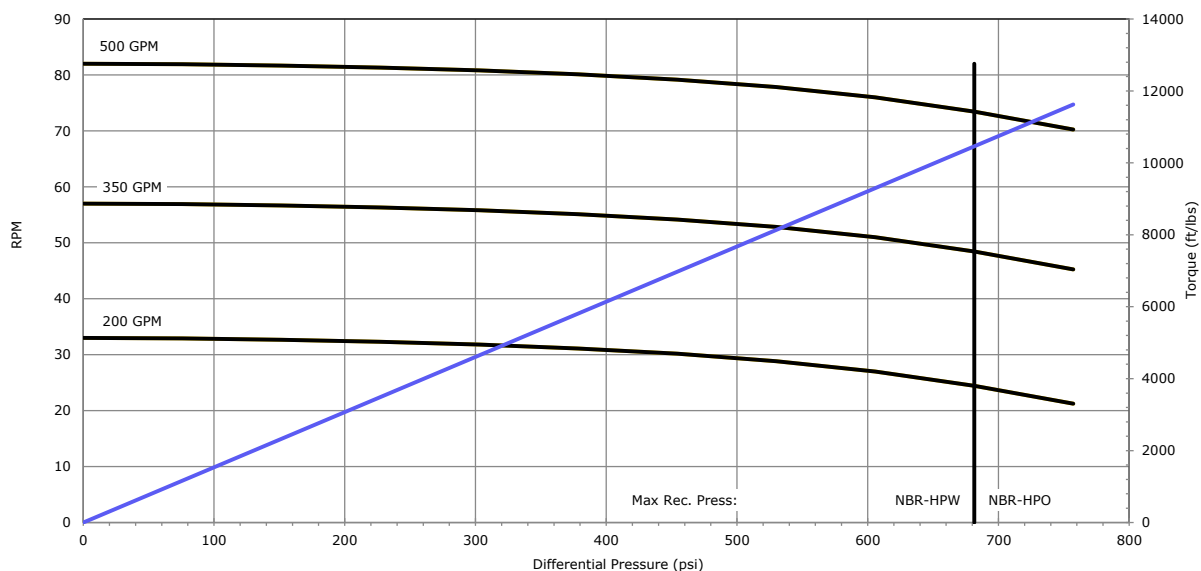
NBR-HPO (in)		Fits (+ Compression / - Loose)				
Size	Minor ²	75 °F	125 °F	175 °F	250 °F	300 °F ³
.5 US						
STD	3.734	0.004	0.019	0.034	0.057	0.072
.5 OS	3.747	-0.009	0.006	0.021	0.044	0.059
1.0 OS	3.759	-0.021	-0.006	0.009	0.031	0.046
1.5 OS						
2.0 OS						
2.5 OS						

Performance Specifications	
Flow Range (gpm)	200 - 500
Speed Range (rpm)	30 - 80
Torque Slope (ft-lb/psi)	15.35
Rotation (rev/gal)	0.164
Off Bottom Pressure (psi)	50

Performance Details		NBR-HPW	NBR-HPO
Max Diff Press (psi)		690	690
Stall Diff Press (psi)		1080	1080
Max Torque (ft-lb)		10470	10470
Stall Torque (ft-lb)		16480	16480

■ (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: AT650782.9 ESX

Revised: 9/22/2020

Rotor Specifications	
	mm
Overall Length	5607.1
Contour Length	5442.0
Major Diameter	106.78
Eccentricity	5.92
Head diameter	101.60
Thread Form	2.375 API REG
Weight	323 kg
Material	17-4 PH ¹

Stator Specifications	
	mm
Overall Length	5810.3
Tube OD	165.1
Tube ID	127.0
Rubber Cutback Top/End	203.0 / 203.0
Weight	381 kg
Number of Stages	2.9
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	94.84	0.10	0.79	1.14	1.49	1.83
.5 OS	95.17	-0.23	0.46	0.80	1.15	1.49
1.0 OS	95.48	-0.53	0.15	0.49	0.83	1.17
1.5 OS						
2.0 OS						
2.5 OS						

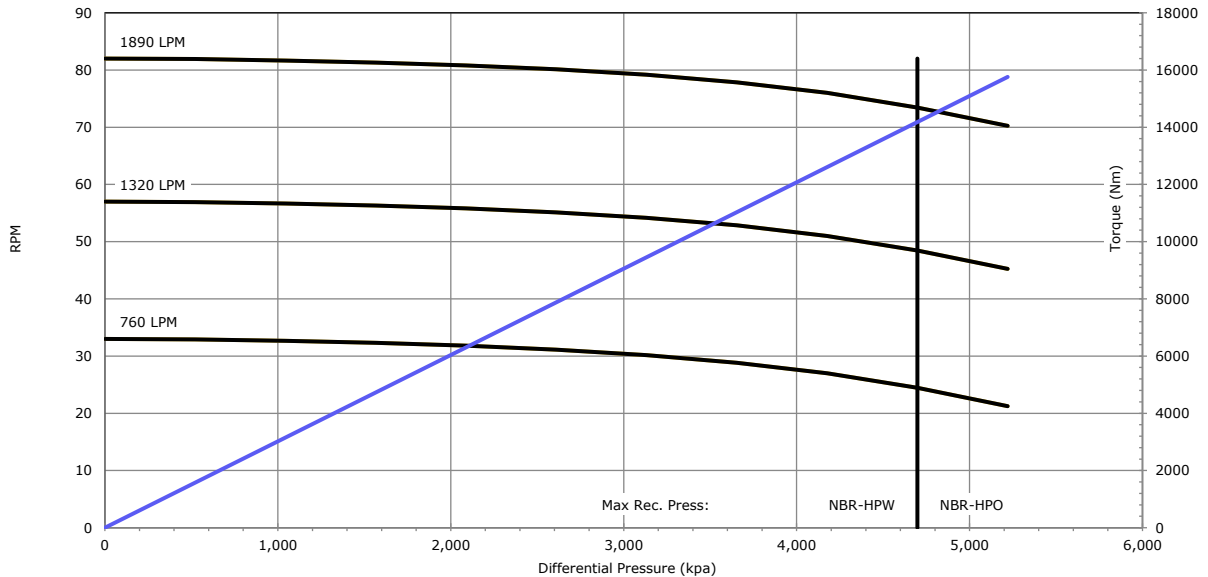
NBR-HPO (mm)		Fits (+ Compression / - Loose)				
Size	Minor ²	25 °C	75 °C	100 °C	125 °C	150 °C ³
.5 US						
STD	94.84	0.10	0.79	1.14	1.49	1.83
.5 OS	95.17	-0.23	0.46	0.80	1.15	1.49
1.0 OS	95.48	-0.53	0.15	0.49	0.83	1.17
1.5 OS						
2.0 OS						
2.5 OS						

Performance Specifications	
Flow Range (lpm)	760 - 1890
Speed Range (rpm)	30 - 80
Torque Slope (Nm/kpa)	3.02
Rotation (rev/Liter)	0.0433
Off Bottom Pressure (kpa)	360

Performance Details		
	NBR-HPW	NBR-HPO
Max Diff Press (kpa)	4700	4700
Stall Diff Press (kpa)	7400	7400
Max Torque (Nm)	14200	14200
Stall Torque (Nm)	22400	22400

■ (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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