

# CHALLENGER

DOWNHOLE TOOLS INC

www.challengerdownhole.com

Calgary  
403.235.2364

Edmonton  
780.435.5455 (24 Hour)

## POWER SECTION

Model No: AT500566.7

Revised: 10/05/2018

Rotor Specification	
Overall Length	241.00 in.
Contour Length	235.00 in.
Major Diameter	3.120 in.
Eccentricity	0.235 in.
Head Diameter	2.900 in.
Thread Form	2.375 HEF Modified
Weight	383 lbs.
Material	17-4 PH <sup>1</sup>

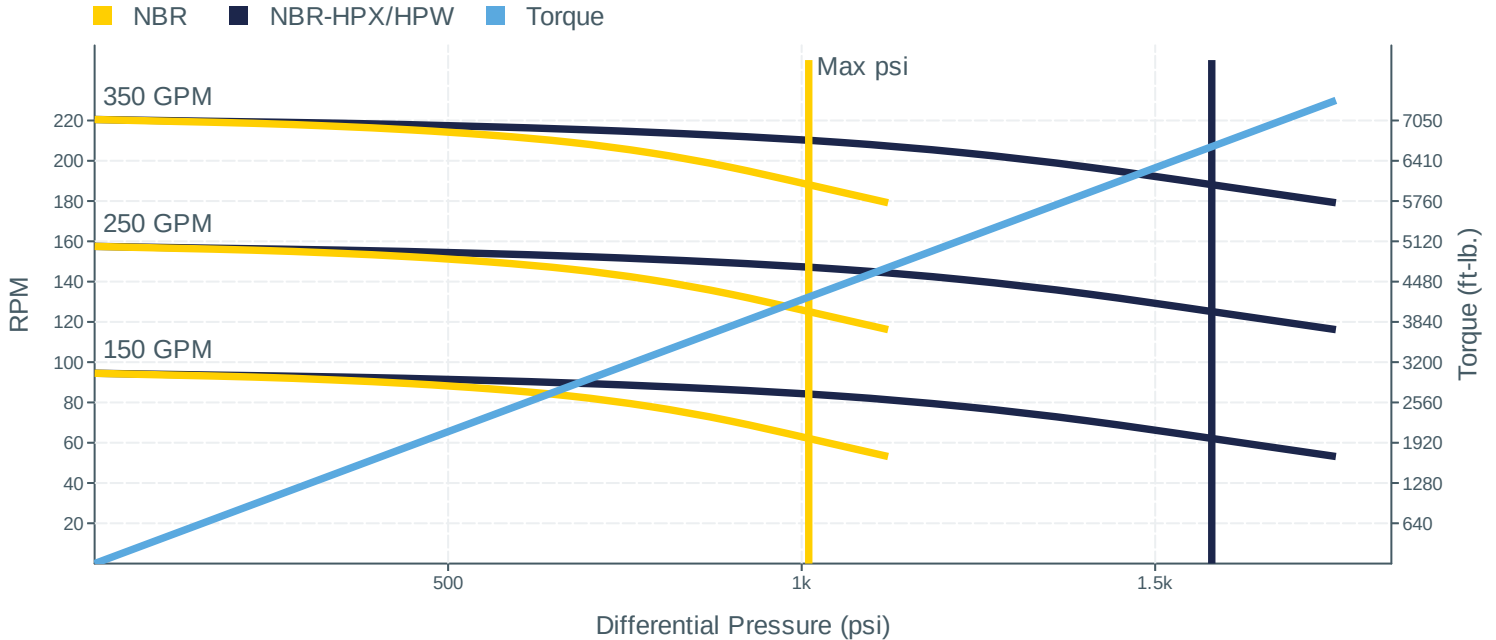
Stator Specification	
Overall Length	250.00 in.
Tube OD	5.00 in.
Tube ID	4.00 in.
Rubber Cutback Top/End	8/8 in.
Weight	496 lbs.
Number of Stages	6.7 in.
Tube Material	4140/4142 Alloy Steel
Rubber Options	NBR, NBR-HPX/HPW

NBR (in.)		Fits (+Compression / -Loose)				
Size	Minor <sup>2</sup>	75°F	125°F	175°F	250°F	300°F <sup>3</sup>
0.5 US	--	--	--	--	--	--
STD	2.643	0.007	0.023	0.040	0.064	0.081
0.5 OS	--	--	--	--	--	--
1 OS	2.663	-0.013	0.003	0.019	0.043	0.060
1.5 OS	2.673	-0.023	-0.007	0.009	0.033	0.049
2 OS	--	--	--	--	--	--
2.5 OS	--	--	--	--	--	--

NBR-HPX/HPW (in.)		Fits (+Compression / -Loose)				
Size	Minor <sup>2</sup>	75°F	125°F	175°F	250°F	300°F <sup>3</sup>
0.5 US	--	--	--	--	--	--
STD	2.640	0.010	0.026	0.043	0.067	0.084
0.5 OS	--	--	--	--	--	--
1 OS	2.660	-0.010	0.006	0.022	0.047	0.063
1.5 OS	2.670	-0.020	-0.004	0.012	0.036	0.052
2 OS	--	--	--	--	--	--
2.5 OS	--	--	--	--	--	--

Performance Specifications	
Flow Range	150 - 350 GPM
Speed Range	90 - 220 RPM
Torque Slope	4.02 ft-lb./psi
Rotation	0.630 rev/gal
Off Bottom Pressure	90 psi

Performance Details		
	NBR	NBR-HPX/HPW
Max Diff. Press.	1010 psi	1580 psi
Stall Diff. Press.	1510 psi	2480 psi
Max Torque	4050 ft-lb.	6330 ft-lb.
Stall Torque	6070 ft-lb.	9970 ft-lb.



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.

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## POWER SECTION

Model No: AT500566.7

Revised: 10/05/2018

Rotor Specification	
Overall Length	6121.4 mm
Contour Length	5969.0 mm
Major Diameter	79.20 mm
Eccentricity	6.00 mm
Head Diameter	73.70 mm
Thread Form	2.375 HEF Modified
Weight	174 kgs
Material	17-4 PH <sup>1</sup>

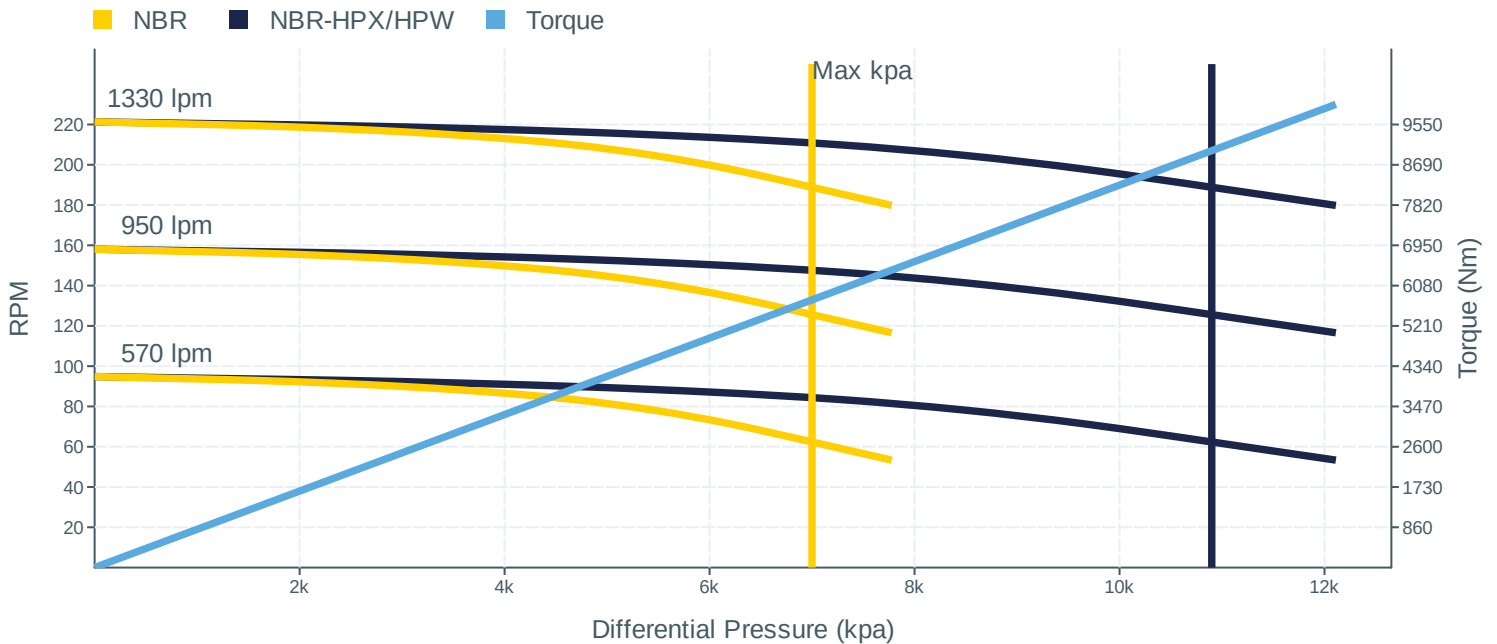
Stator Specification	
Overall Length	6350.0 mm
Tube OD	127.0 mm
Tube ID	101.6 mm
Rubber Cutback Top/End	203.2/203.2 mm
Weight	225 kgs
Number of Stages	6.7 mm
Tube Material	4140/4142 Alloy Steel
Rubber Options	NBR, NBR-HPX/HPW

NBR (mm)		Fits (+Compression / -Loose)				
Size	Minor <sup>2</sup>	24°C	52°C	79°C	121°C	149°C <sup>3</sup>
0.5 US	--	--	--	--	--	--
STD	67.13	0.18	0.58	1.02	1.63	2.06
0.5 OS	--	--	--	--	--	--
1 OS	67.64	-0.33	0.08	0.48	1.09	1.52
1.5 OS	67.89	-0.58	-0.18	0.23	0.84	1.24
2 OS	--	--	--	--	--	--
2.5 OS	--	--	--	--	--	--

NBR-HPX/HPW (mm)		Fits (+Compression / -Loose)				
Size	Minor <sup>2</sup>	24°C	52°C	79°C	121°C	149°C <sup>3</sup>
0.5 US	--	--	--	--	--	--
STD	67.06	0.25	0.66	1.09	1.70	2.13
0.5 OS	--	--	--	--	--	--
1 OS	67.56	-0.25	0.15	0.56	1.19	1.60
1.5 OS	67.82	-0.51	-0.10	0.30	0.91	1.32
2 OS	--	--	--	--	--	--
2.5 OS	--	--	--	--	--	--

Performance Specifications	
Flow Range	570 - 1330 lpm
Speed Range	90 - 220 RPM
Torque Slope	0.79 Nm/kpa
Rotation	0.1664 rev/liter
Off Bottom Pressure	630 kpa

Performance Details		
	NBR	NBR-HPX/HPW
Max Diff. Press.	7000 kpa	10900 kpa
Stall Diff. Press.	10400 kpa	17100 kpa
Max Torque	5500 Nm	8600 Nm
Stall Torque	8300 Nm	13600 Nm



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