

# MOTOR QUALITY SERVICE CYCLE

# 500 Motors

500

**#1**  
**Receipt of Motor**  
**From Field**

**#2**  
**Teardown, Reporting and**  
**Documentation Started**

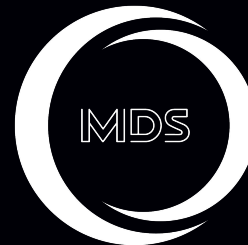
**#3**  
**MPI & Non-Destructive**  
**Inspection Performed**

**#4**  
**Quality Check Performed/**  
**Parts Replaced**

**#5**  
**Build to Suit Takes**  
**Place Per Tool Order**

**#6**  
**Motor QA per Request**  
**While Being Painted**

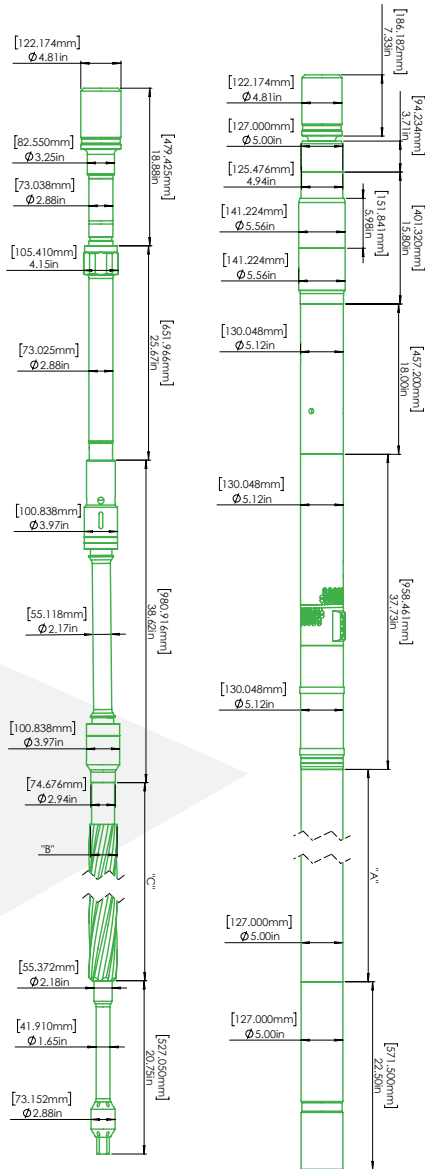
**#7**  
**Staged and Ready**  
**For Dispatch**



**MAGNUM DRILLING**  
**SOLUTIONS** KEEP IT IN THE  
HOLE!

# 500 FISHING DIAGRAM

# 500 SPECIFICATIONS



## POWER SECTION

		7/8 2.6	7/8 3.8	6/7 8.0	6/7 8.8
Stator Length	A	229.3 in	187 in	246 in	275 in
Rotor OD	B	3.095 in	2.945 in	3.018 in	3.298 in
Rotor Length	C	220 in	178 in	230.5 in	260.625 in

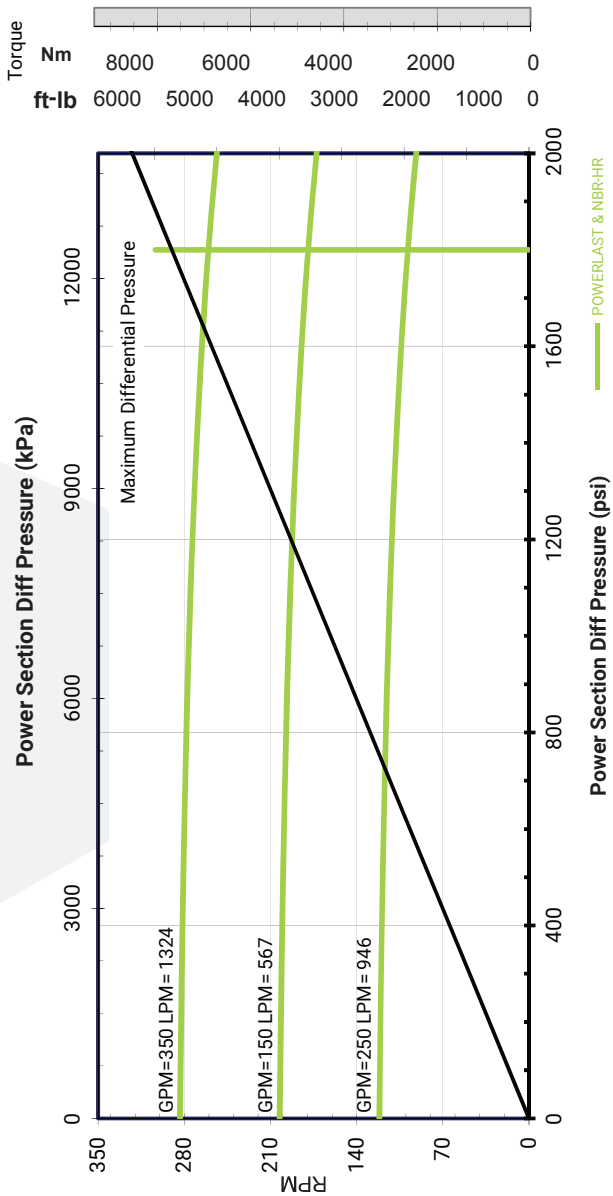
## SPECIFICATIONS

Bit Box to Stabilizer	11 in	0.28 m
Bit Box to Bend	58 (64) *in	1.47 (1.63)* m
Bit Box to Top Sub	356 in	9.04m
Maximum Dynamic Weight On Bit	90,000 lb	400 kN
Max. Dynamic Pull to Re-Run Motor	60,000 lb	267 kN
Max. Static Pull to Re-Run Motor	170,000 lb	756 kN
Pull to Yield Motor	440,000 lb	1,950 kN
Standard Bit Box Connections	3 1/2 Reg, XT39 Pin Down	
Driveline Connections Torque Limit	12,500 ft-lbs	17,000 Nm
Housing Connections Torque Limit	12,500 ft-lbs	17,000 Nm
Side Load Limit (Static)	105,000 lbf	142,000 N
Side Load Limit (Dynamic)	64,000 lbf	87,000 N

\*With Adjustable Bend Housing

# 5" 6/7 LOBES 8 STAGES

# 5" 6/7 LOBES 8 STAGES



Operating a power section above the maximum recommended differential pressure will reduce stator life. Performance Curves are for section performance may vary depending on the down hole temperature and rotor/stator fit. Performance data are subject to change without notice. Power calculation is based on maximum RPM and full torque. Stator sizes subject to change without notice

## SPECIFICATIONS

Flow Range	150 - 350 gpm	570 - 1,320 lpm
Revolutions per Volume	0.810 rev/gal	0.214 rev/l
Speed Range	121 - 290 rpm	
Max. Differential Pressure	1,800 psi	12,410 kPa
Torque @ Max. Diff. Pressure	5,720 lb-ft	7,760 Nm
Stall Torque	8,580 lb-ft	11,630 Nm

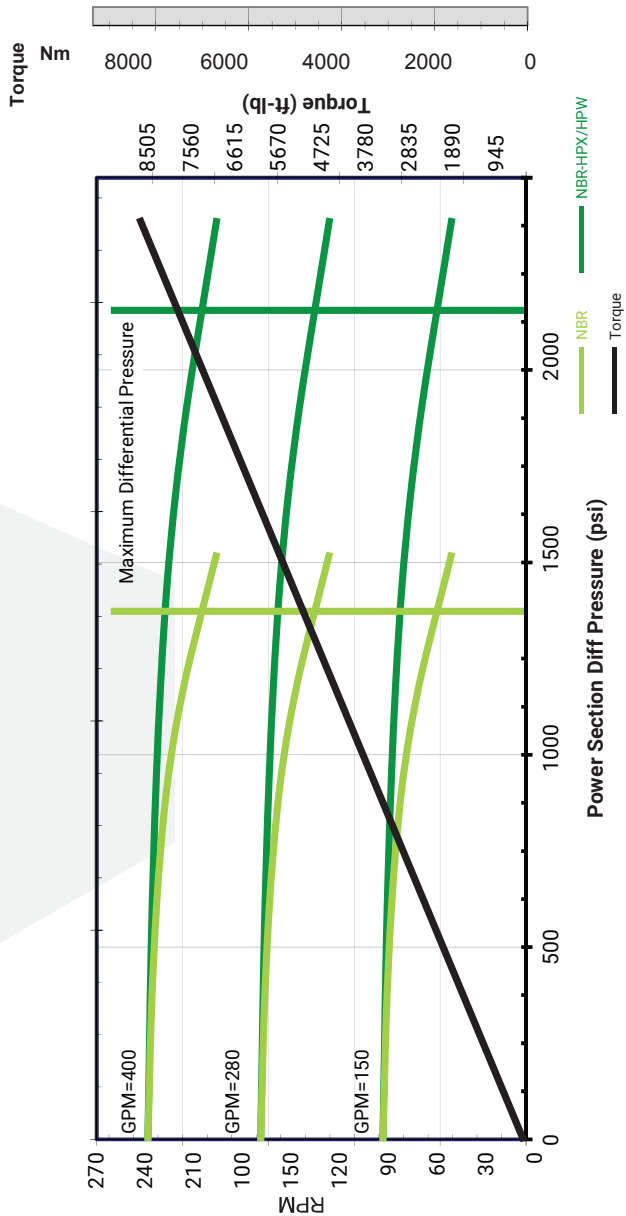
## PREDICTED BUILD RATES - DEGREES/100 FT (30 M)

Bend Setting	Slick Hole Size			Single Stabilizer Hole Size		
	6"	6.25"	6.75"	6"	6.25"	6/75"
	152 mm	159 mm	171 mm	152 mm	159 mm	171 mm
0.39	1.1	0.5	-	1.5	1.7	1.9
0.78	3.7	3	1.8	4.3	4.2	4
1.15	6.1	5.5	4.2	7.1	7	6.7
1.5	8.4	7.7	6.5	9.1	9.6	9.3
1.83	10.5	9.9	8.6	12.3	12.2	11.8
2.12	12.4	11.8	10.5	14.5	14.4	14
2.38	14.1	13.5	12.2	16.4	16.3	16
2.6	15.6	14.9	13.7	18.1	18	17.7
2.77	16.7	16	14.8	19.4	19.3	19
2.9	17.5	16.9	15.6	20.4	20.3	20
2.97	18	17.3	16.1	20.9	20.8	20.5
3.00	18.2	17.5	16.3	21.1	21	20.7

\*With Adjustable Bend Housing

# 5" 6/7 LOBES 8.8 STAGES

# 5" 6/7 LOBES 8.8 STAGES



Operating a power section above the maximum recommended differential pressure will reduce stator life. Performance Curves are for section performance may vary depending on the down hole temperature and rotor/stator fit. Performance data are subject to change without notice. Power calculation is based on maximum RPM and full torque. Stator sizes subject to change without notice

## SPECIFICATIONS

Flow Range	150 - 400 gpm	570 - 1,520 lpm
Revolutions per Volume	0.660 rev/gal	0.1744 rev/liter
Speed Range	100 - 260 rpm	
Max. Differential Pressure	1,320 psi	9,200 kpa
Torque @ Max. Diff. Pressure	4,890 ft-lb	6,700 Nm
Stall Torque	7,330 ft-lb	10,000 Nm

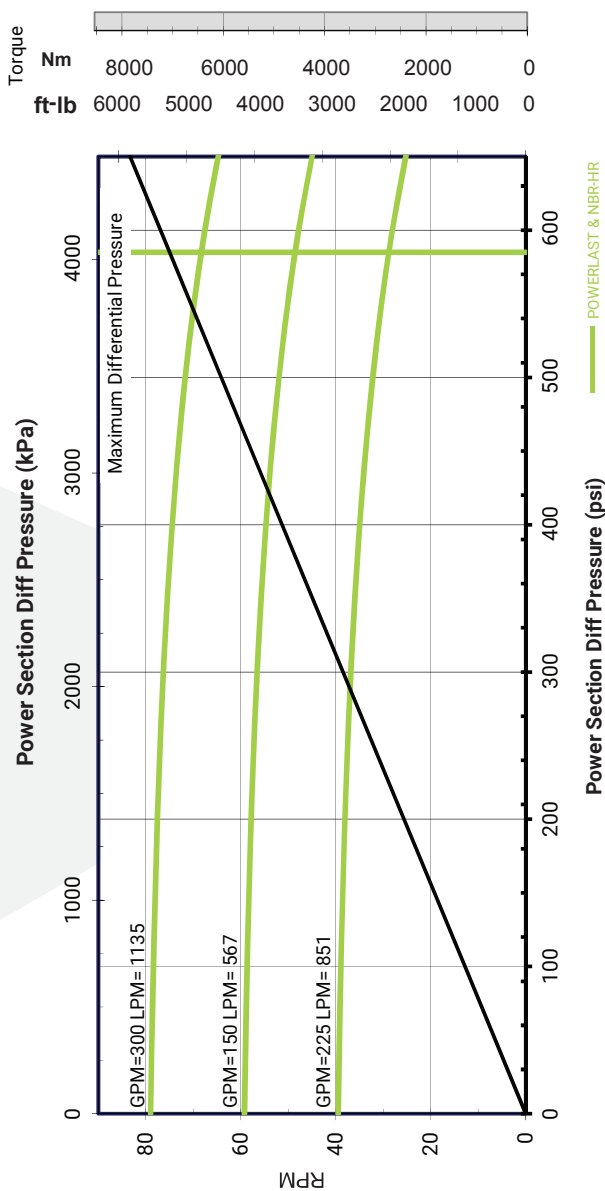
## PREDICTED BUILD RATES - DEGREES/100 FT (30 M)

Bend Setting	Slick Hole Size			Single Stabilizer Hole Size		
	6"	6.25"	6.75"	6"	6.25"	6.75"
	152 mm	159 mm	171 mm	152 mm	159 mm	171 mm
0.39	0.8	0.2	-	6.0	5.2	3.5
0.78	3.2	2.6	1.4	8.3	7.5	5.9
1.15	5.4	4.9	3.7	10.6	9.8	8.2
1.5	7.6	7.0	5.8	12.7	11.9	10.3
1.83	9.6	9.0	7.9	14.8	13.9	12.3
2.12	11.4	10.8	9.6	16.5	15.7	14.1
2.38	12.9	12.4	11.2	18.1	17.3	15.7
2.6	14.3	13.7	12.6	19.5	18.6	17.0
2.77	15.3	14.8	13.6	20.5	19.7	18.1
2.9	16.1	15.5	14.4	21.3	20.5	18.9
2.97	16.5	16.0	14.8	21.7	20.9	19.3
3.00	16.7	16.2	15.0	21.9	21.1	19.5

\*With Adjustable Bend Housing

# 5" 7/8 LOBES 2.6 STAGES

# 5" 7/8 LOBES 2.6 STAGES



Operating a power section above the maximum recommended differential pressure will reduce stator life. Performance Curves are for section performance may vary depending on the down hole temperature and rotor/stator fit. Performance data are subject to change without notice. Power calculation is based on maximum RPM and full torque. Stator sizes subject to change without notice.

## SPECIFICATIONS

Flow Range	150 - 350 gpm	570 - 1,135 lpm
Revolutions per Volume	0.263 rev/gal	0.214 rev/l
Speed Range	39 - 79 rpm	
Max. Differential Pressure	590 psi	12,410 kPa
Torque @ Max. Diff. Pressure	5,250 lb-ft	7,760 Nm
Stall Torque	7,880 lb-ft	10,680 Nm

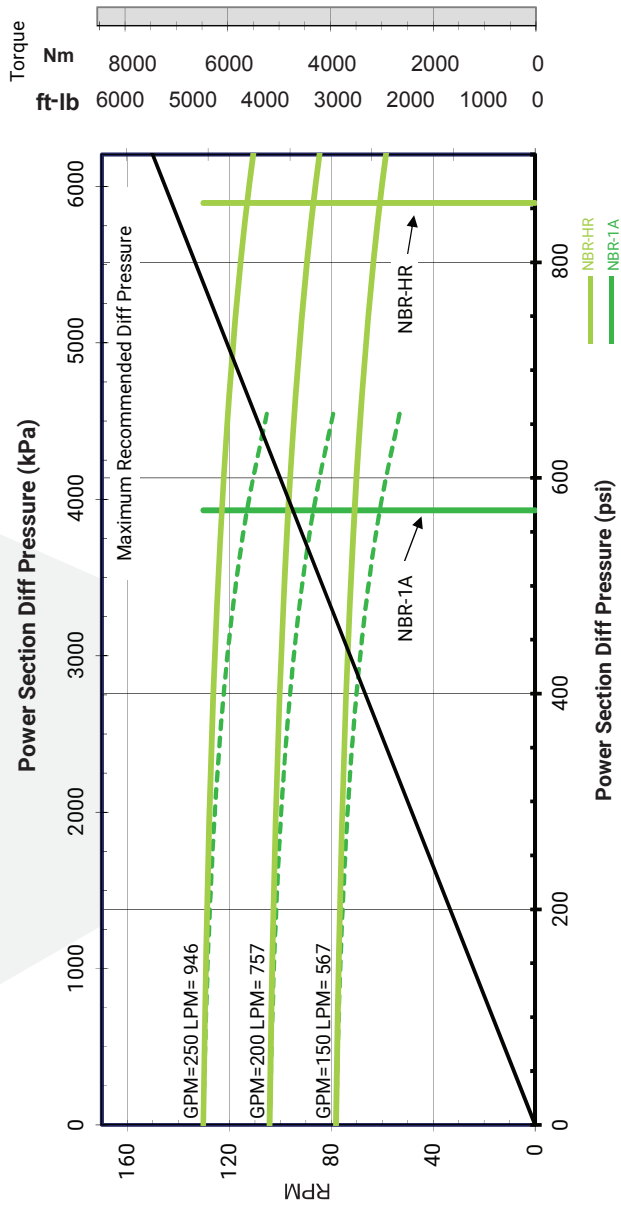
## PREDICTED BUILD RATES - DEGREES/100 FT (30 M)

Bend Setting	Slick Hole Size			Single Stabilizer Hole Size		
	6"	6.25"	6.75"	6"	6.25"	6/75"
	152 mm	159 mm	171 mm	152 mm	159 mm	171 mm
0.39	1.1	0.5	-	1.5	1.7	1.9
0.78	3.7	3	1.8	4.3	4.2	4
1.15	6.1	5.5	4.2	7.1	7	6.7
1.5	8.4	7.7	6.5	9.1	9.6	9.3
1.83	10.5	9.9	8.6	12.3	12.2	11.8
2.12	12.4	11.8	10.5	14.5	14.4	14
2.38	14.1	13.5	12.2	16.4	16.3	16
2.6	15.6	14.9	13.7	18.1	18	17.7
2.77	16.7	16	14.8	19.4	19.3	19
2.9	17.5	16.9	15.6	20.4	20.3	20
2.97	18	17.3	16.1	20.9	20.8	20.5
3.00	18.2	17.5	16.3	21.1	21	20.7

\*With Adjustable Bend Housing

# 5" 7/8 LOBES 3.8 STAGES

# 5" 7/8 LOBES 3.8 STAGES



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## SPECIFICATIONS

Flow Range	150 - 250 gpm	570 - 1,320 lpm
Revolutions per Volume	0.521 rev/gal	0.214 rev/l
Speed Range	78 - 130 rpm	
Max. Differential Pressure	860 psi	12,410 kPa
Torque @ Max. Diff. Pressure	4,450 lb-ft	7,760 Nm
Stall Torque	6,670 lb-ft	9,050 Nm

## PREDICTED BUILD RATES - DEGREES/100 FT (30 M)

Bend Setting	Slick Hole Size			Single Stabilizer Hole Size		
	6"	6.25"	6.75"	6"	6.25"	6/75"
	152 mm	159 mm	171 mm	152 mm	159 mm	171 mm
0.39	1.3	0.6	-	1.7	1.9	2.3
0.78	4.2	3.5	2.0	5.0	4.7	4.6
1.15	6.9	6.2	4.8	8.2	8.0	7.6
1.5	9.5	8.8	7.4	11.3	11.1	10.7
1.83	12.0	11.3	9.8	14.2	14.0	13.6
2.12	14.1	13.4	12.0	16.8	16.5	16.2
2.38	16.1	15.3	13.9	19.1	18.8	18.5
2.6	17.7	17.0	15.5	21.0	20.8	20.4
2.77	19.0	18.2	16.8	22.5	22.3	21.9
2.9	19.9	19.2	17.8	23.6	23.4	23.0
2.97	20.4	19.7	18.3	24.3	24.0	23.9
3.00	20.6	19.9	18.5	24.5	24.2	23.9

\*With Adjustable Bend Housing



**MAGNUM DRILLING  
SOLUTIONS** KEEP IT IN THE  
HOLE!

**MANUFACTURING FACILITY**

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