

# **MOTOR HANDBOOK**

First Edition, April 2021 **Version 2.1** 





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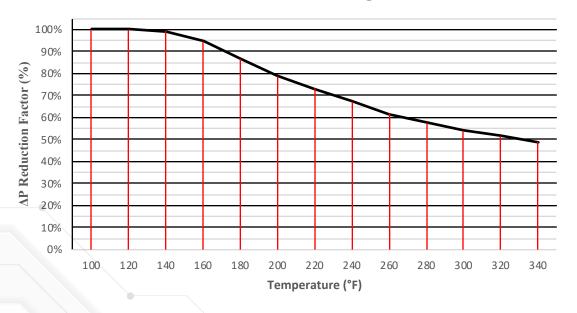
## **POWER SECTION SPECIFICATIONS**

MOTOR S	ELECTION	мото	R PHYSIC	AL DATA		мото	R PERFORMA	NCE DATA		HOLE SIZE	
OD (IN)	Model	Lobes	ower Sect	tion Rev/Gal	Flow Rate (gpm)	Operating Diff. (psi)	Maximum Diff. (psi)	Speed Range (RPM)	Torque (ftlbs.)	Bit Range (in)	
	Conventional	5/6	8.3	1.02	100-300	1,040	1,750	100-300	3,968		
4 3/4	Conventional	7/8	3.1	0.31	100-275	390	910	31-85	7,033	6 - 6 3/4	
	Conventional	7/8	5.0	0.69	150-300	625	1,470	104-207	5,612		
	Premium	6/7	8.0	0.84	150-350	1,200	2,065	120-280	5,897		
	Premium	6/7	8.8	0.68	150-400	1,200	2,240	102-272	7,979		
5 & 5 x 5 5/8	Premium	6/7	11.7	0.89	150-350	1,200	2,905	134-312	7,658	6 - 6 3/4*	
Hybrid	Premium	7/8	4.0	0.30	250-400	800	1,190	75-120	9,371		
	Premium	7/8	7.0	0.49	150-400	1,200	1,824	73-194	9,837		
6 1/4	Conventional	7/8	4.8	0.36	150-400	900	1,365	50-130	8,500	7 7/8 - 8 3/4	
6 1/2 x 6 1/4	Conventional	6/7	5.0	0.30	300-600	625	1,180	90-180	9,850	7 7/8 - 8 3/4	
	Conventional	4/5	7.0	0.50	300-600	875	1,260	149-300	5,571		
60/4	Conventional	6/7	5.0	0.31	300-600	625	1,260	93-186	9,762	7 7/8* - 8 3/4	
6 3/4	Conventional	7/8	3.3	0.15	300-600	415	945	42-84	14,110		
	Conventional	7/8	6.4	0.28	300-600	1,000	1,820	83-166	14,360		
	Premium	5/6	9.4	0.40	300-700	1,350	2,030	120-280	11,729		
6 5/8	Premium	5/6	8.4	0.35	350-700	1,250	1,785	123-245	11,771	7 7/8 - 8 3/4	
	Premium	7/8	6.9	0.25	300-700	1,050	1,960	75-175	19,010		
	Premium	5/6	9.4	0.40	350-700	1,350	2,030	120-280	11,729		
7 & 7 x 7 3/4	Premium	5/6	8.4	0.35	350-700	1,250	1,785	123-245	11,771	0.1/2 12.1/2	
Hybrid	Premium	7/8	6.9	0.25	300-700	1,050	1,960	75-175	19,010	8 1/2 - 12 1/2	
	Premium	8/9	4.3	0.15	400-700	650	1,400	60-105	22,828		
70/40 70/4	Conventional	4/5	5.3	0.26	400-950	665	945	70-230	8,371		
7 3/4 & 7 3/4 x 9 5/8 Hybrid	Conventional	6/7	4.0	0.18	300-900	850	1,015	70-150	13,820	9 7/8* - 12 1/2	
3 3/8 Hybrid	Conventional	7/8	2.2	0.09	600-900	500	665	54-81	18,474		
8 x 7 3/4 & 8 x 9 5/8 Hybrid	Premium	7/8	5.9	0.16	400-900	750	1,390	60-140	21,870	9 7/8* - 17 1/2	
9.2/4 × 0.5/9	Premium	7/8	7.0	0.18	400-1100	1,600	2,135	72-198	28,408	12.1/4 17.1/2	
8 3/4 x 9 5/8	Premium	8/9	4.0	0.09	600-1100	900	1,158	54-99	32,935	12 1/4 - 17 1/2	
9 5/8	Conventional	6/7	5.0	0.13	600-1200	900	1,260	78-156	21,731	12 1/4 - 17 1/2	

<sup>\*</sup>Application Dependent



# **Differential Pressure Derating Guide**





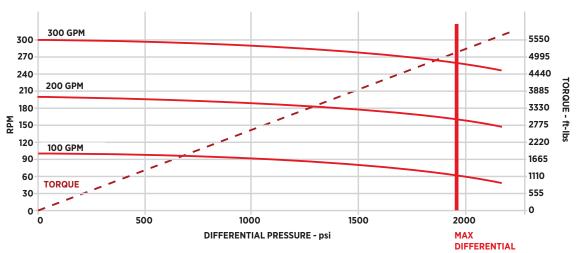
4 3/4" 5/6 8.3 (1.02 RPG) 5" OD, 5/6 Lobe, 8.3 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	6 - 6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	144,000	
Max Pull to Yield (lbs)	344,000	

PERFORMANCE DATA				
Flow Range (gpm)	100-300			
Rev/Gal	1.02			
Max Operating Differential (psi)	1,040			
Max Differential (psi)	1,750			
Max Torque (ftlbs)	3,968			
Max Operating WOB (lbs)	20,000			

DIMENSIONAL DATA				
Dit to Dand (in)	ADJUSTABLE	FIXED		
Bit to Bend (in)	56	53.5		

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE				
Bend Angle	RPM			
<1.83°	<85			
1.83° - 2.00°	<70			
2.00° - 2.12°	<50			
2.12° - 2.38°	<35			
>2.38°	Not Recommended			





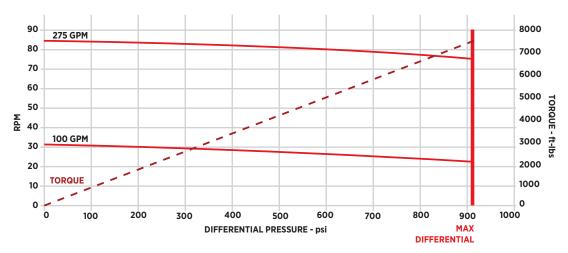
4 3/4" 7/8 3.1 (0.31 RPG) 5" OD, 7/8 Lobe, 3.1 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	6 - 6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	144,000	
Max Pull to Yield (lbs)	344,000	

PERFORMANCE DATA				
Flow Range (gpm)	100-275			
Rev/Gal	0.31			
Max Operating Differential (psi)	390			
Max Differential (psi)	910			
Max Torque (ftlbs)	7,033			
Max Operating WOB (lbs)	20,000			

DIMENSIONAL DATA				
Dit to Dond (in)	ADJUSTABLE	FIXED		
Bit to Bend (in)	56	53.5		

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE				
Bend Angle	RPM			
<1.83°	<85			
1.83° - 2.00°	<70			
2.00° - 2.12°	<50			
2.12° - 2.38°	<35			
>2.38°	Not Recommended			





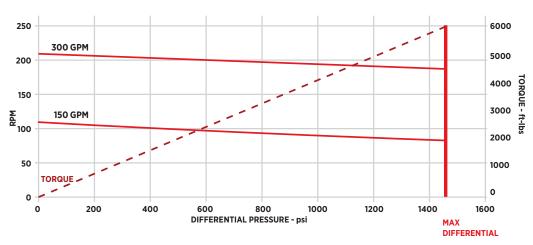
4 3/4" 7/8 5.0 (0.69 RPG) 5" OD, 7/8 Lobe, 5.0 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	6 - 6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	144,000	
Max Pull to Yield (lbs)	344,000	

PERFORMANCE DATA				
Flow Range (gpm)	150-300			
Rev/Gal	0.69			
Max Operating Differential (psi)	625			
Max Differential (psi)	1,470			
Max Torque (ftlbs)	5,612			
Max Operating WOB (lbs)	20,000			

DIMENSIONAL	DATA	
Dit to Dand (in)	ADJUSTABLE	FIXED
Bit to Bend (in)	56	53.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





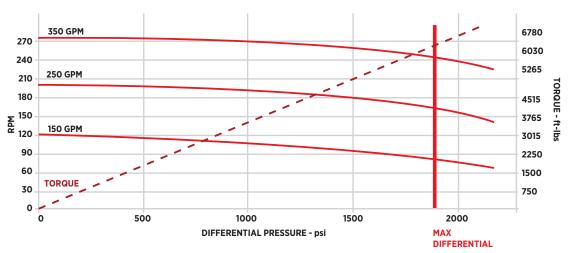
5" 6/7 8.0 (0.79 RPG) 5" OD, 6/7 Lobe, 8.0 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	6 - 6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	195,000	
Max Pull to Yield (lbs)	427,000	

PERFORMANCE DATA		
Flow Range (gpm)	150-350	
Rev/Gal	0.79	
Max Operating Differential (psi)	1,200	
Max Differential (psi)	1,880	
Max Torque (ftlbs)	6,110	
Max Operating WOB (lbs)	25,000	

DIMENSIONAL DATA		
Dit to Dand (in)	FIXED SHORT	FIXED STANDARD
Bit to Bend (in)	45.5	50.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





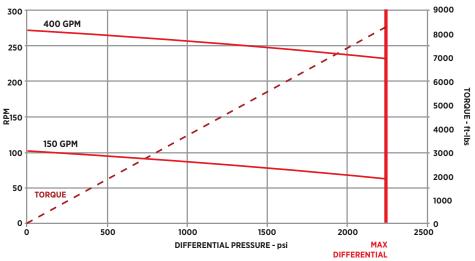
**5" 6/7 8.8 (0.68 RPG)** 5" OD, 6/7 Lobe, 8.8 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	6 - 6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	195,000	
Max Pull to Yield (lbs)	427,000	

PERFORMANCE DATA		
Flow Range (gpm)	150-400	
Rev/Gal	0.68	
Max Operating Differential (psi)	1,200	
Max Differential (psi)	2,240	
Max Torque (ftlbs)	7,979	
Max Operating WOB (lbs)	25,000	

DIMENSIONAL	DATA	
Dit to Dand (in)	FIXED SHORT	FIXED STANDARD
Bit to Bend (in)	45.5	50.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





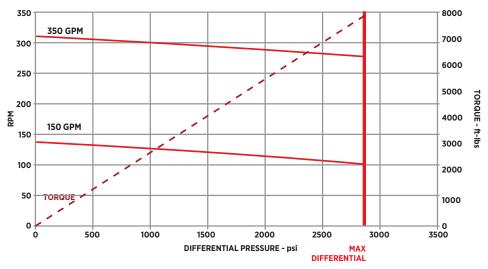
**5" 6/7 11.7 (0.89 RPG)** 5" OD, 6/7 Lobe, 11.7 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	6 - 6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	195,000	
Max Pull to Yield (lbs)	427,000	

PERFORMANCE DATA		
Flow Range (gpm)	150-350	
Rev/Gal	0.89	
Max Operating Differential (psi)	1,200	
Max Differential (psi)	2,905	
Max Torque (ftlbs)	7,658	
Max Operating WOB (lbs)	25,000	

DIMENSIONAL	DATA	
Dit to Dand (in)	FIXED SHORT	FIXED STANDARD
Bit to Bend (in)	45.5	50.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





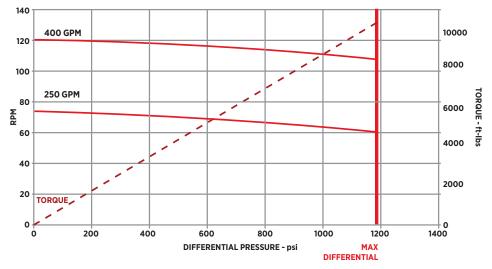
5" 7/8 4.0 (0.30 RPG) 5" OD, 7/8 Lobe, 4.0 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	6 - 6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	195,000	
Max Pull to Yield (lbs)	427,000	

PERFORMANCE DATA		
Flow Range (gpm)	250-400	
Rev/Gal	0.30	
Max Operating Differential (psi)	800	
Max Differential (psi)	1,190	
Max Torque (ftlbs)	9,371	
Max Operating WOB (lbs)	25,000	

DIMENSIONAL	DATA	
Dit to Dand (in)	FIXED SHORT	FIXED STANDARD
Bit to Bend (in)	45.5	50.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





5" 7/8 7.0 (0.49 RPG) 5" OD, 7/8 Lobe, 7.0 Stage, Mud Lube

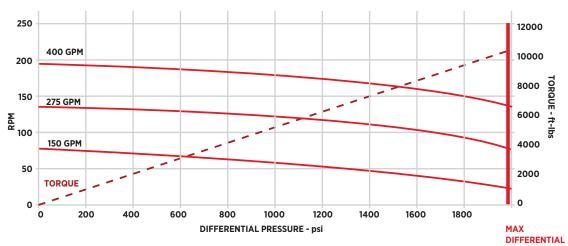
PHYSICAL DATA		
Bit Size Range (in)	6 - 6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	195,000	
Max Pull to Yield (lbs)	427,000	

PERFORMANCE DATA		
Flow Range (gpm)	150-400	
Rev/Gal	0.49	
Max Operating Differential (psi)	1,200	
Max Differential (psi)	1,824	
Max Torque (ftlbs)	9,837	
Max Operating WOB (lbs)	25,000	

DIMENSIONAL DATA		
Dit to Dand (in)	FIXED SHORT	FIXED STANDARD
Bit to Bend (in)	45.5	50.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	







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## **MUD MOTOR SPECIFICATION SHEET**

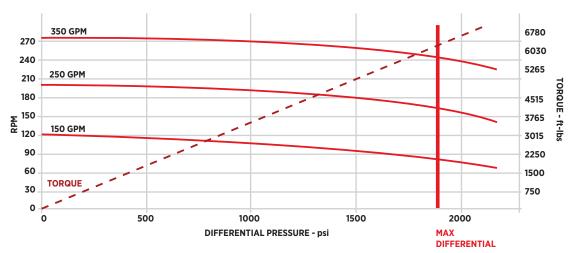
**5" X 5 5/8" Hybrid 6/7 8.0 (0.84 RPG)** 5 5/8" OD, 6/7 Lobe, 8.0 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	195,000	
Max Pull to Yield (lbs)	427,000	

PERFORMANCE DATA		
Flow Range (gpm)	150-350	
Rev/Gal	0.84	
Max Operating Differential (psi)	1,200	
Max Differential (psi)	2,065	
Max Torque (ftlbs)	5,897	
Max Operating WOB (lbs)	45,000	

DIMENSIONAL DATA		
Bit to Bend (in)	ADJUSTABLE	FIXED
	N/A	47.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





## **MUD MOTOR SPECIFICATION SHEET**

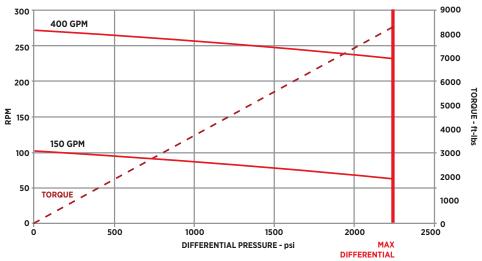
**5" X 5 5/8" Hybrid 6/7 8.8 (0.68 RPG)** 5 5/8" OD, 6/7 Lobe, 8.8 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	195,000	
Max Pull to Yield (lbs)	427,000	

PERFORMANCE DATA		
Flow Range (gpm)	150-400	
Rev/Gal	0.68	
Max Operating Differential (psi)	1,200	
Max Differential (psi)	2,240	
Max Torque (ftlbs)	7,979	
Max Operating WOB (lbs)	45,000	

DIMENSIONAL DATA		
Bit to Bend (in)  ADJUSTABLE  N/A	ADJUSTABLE	FIXED
	N/A	47.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





## **MUD MOTOR SPECIFICATION SHEET**

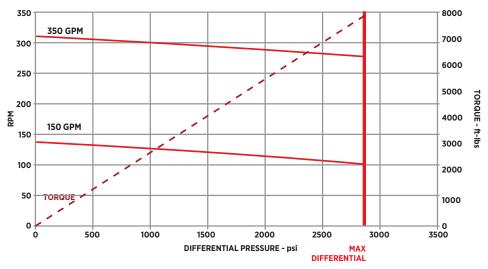
5" X 5 5/8" Hybrid 6/7 11.7 (0.89 RPG) 5 5/8" OD, 6/7 Lobe, 11.7 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	195,000	
Max Pull to Yield (lbs)	427,000	

PERFORMANCE DATA		
Flow Range (gpm)	150-350	
Rev/Gal	0.89	
Max Operating Differential (psi)	1,200	
Max Differential (psi)	2,905	
Max Torque (ftlbs)	7,658	
Max Operating WOB (lbs)	45,000	

DIMENSIONAL DATA		
Dit to Dand (in)	ADJUSTABLE	FIXED
Bit to Bend (in)	N/A	47.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





# **MUD MOTOR SPECIFICATION SHEET**

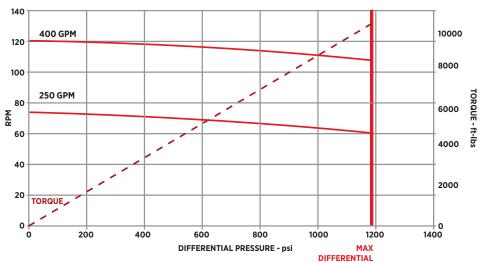
5" X 5 5/8" Hybrid 7/8 4.0 (0.30 RPG) 5 5/8" OD, 7/8 Lobe, 4.0 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	195,000	
Max Pull to Yield (lbs)	427,000	

PERFORMANCE DATA		
Flow Range (gpm)	250-400	
Rev/Gal	0.30	
Max Operating Differential (psi)	800	
Max Differential (psi)	1,190	
Max Torque (ftlbs)	9,371	
Max Operating WOB (lbs)	45,000	

DIMENSIONAL DATA		
Dit to Dand (in)	ADJUSTABLE	FIXED
Bit to Bend (in)	N/A	47.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





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**MUD MOTOR SPECIFICATION SHEET** 

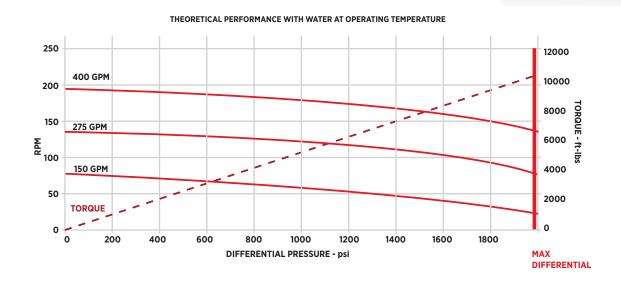
5" X 5 5/8" Hybrid 7/8 7.0 (0.49 RPG) 5 5/8" OD, 7/8 Lobe, 7.0 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	6 3/4	
Bit Box Connection	3 1/2 Reg.	
Top Sub Connection	3 1/2 IF	
Max Over Pull to Re-Run (lbs)	195,000	
Max Pull to Yield (lbs)	427,000	

PERFORMANCE DATA		
Flow Range (gpm)	150-400	
Rev/Gal	0.49	
Max Operating Differential (psi)	1,200	
Max Differential (psi)	1,824	
Max Torque (ftlbs)	9,837	
Max Operating WOB (lbs)	45,000	

DIMENSIONAL DATA		
Dit to Dand (in)	ADJUSTABLE	FIXED
Bit to Bend (in)	N/A	47.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





6 1/4" 7/8 4.8 (0.36 RPG) 6 1/4" OD, 7/8 Lobe, 4.8 Stage, Seal Lube

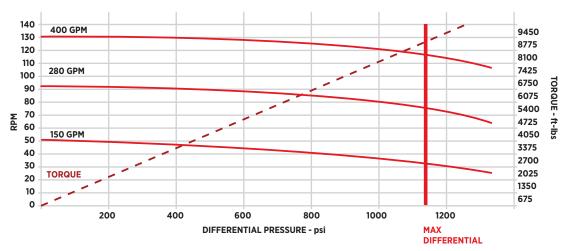
PHYSICAL DATA		
Bit Size Range (in)	7 7/8 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 XH	
Max Over Pull to Re-Run (lbs)	285,000	
Max Pull to Yield (lbs)	703,000	

PERFORMANCE DATA		
Flow Range (gpm)	150-400	
Rev/Gal	0.36	
Max Operating Differential (psi)	900	
Max Differential (psi)	1,365	
Max Torque (ftlbs)	8,500	
Max Operating WOB (lbs)	30,000	

DIMENSIONAL DATA		
Dit to Dand (in)	ADJUSTABLE	FIXED
Bit to Bend (in)	67.5	61

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<100	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	







## **MUD MOTOR SPECIFICATION SHEET**

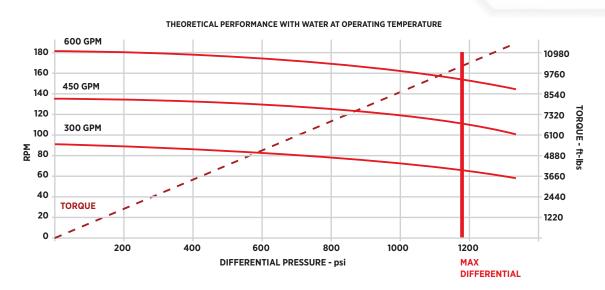
6 1/2" x 6 1/4" Hybrid 6/7 5.0 (0.30 RPG) 6 1/2" OD, 6/7 Lobe, 5.0 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	7 7/8 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 XH	
Max Over Pull to Re-Run (lbs)	285,000	
Max Pull to Yield (lbs)	703,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-600	
Rev/Gal	0.30	
Max Operating Differential (psi)	625	
Max Differential (psi)	1,180	
Max Torque (ftlbs)	9,850	
Max Operating WOB (lbs)	30,000	

DIMENSIONAL DATA		
Dit to Dand (in)	ADJUSTABLE	FIXED
Bit to Bend (in)	67.5	61

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<100	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





6 3/4" 4/5 7.0 (0.50 RPG) 6 7/8" OD, 4/5 Lobe, 7.0 Stage, Seal Lube

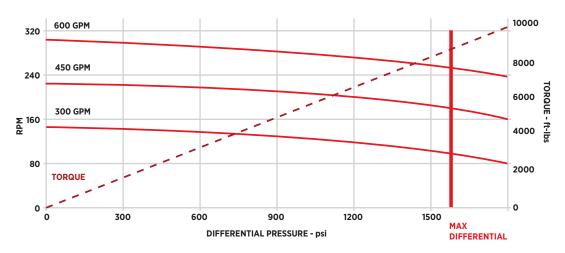
PHYSICAL DATA		
Bit Size Range (in)	*7 7/8 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	245,000	
Max Pull to Yield (lbs)	649,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-600	
Rev/Gal	0.50	
Max Operating Differential (psi)	875	
Max Differential (psi)	1,260	
Max Torque (ftlbs)	5,571	
Max Operating WOB (lbs)	40,000	

*Application Dependent	*App	lication	Depe	ndent
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DIMENSIONAL DATA			
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD	FIXED SHORT
Bit to Bend (in)	66	58	50.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE			
Bend Angle	RPM		
<1.83°	<100		
1.83° - 2.00°	<70		
2.00° - 2.12°	<50		
2.12° - 2.38°	<35		
>2.38°	Not Recommended		





6 3/4" 6/7 5.0 (0.31 RPG) 6 7/8" OD, 6/7 Lobe, 5.0 Stage, Seal Lube

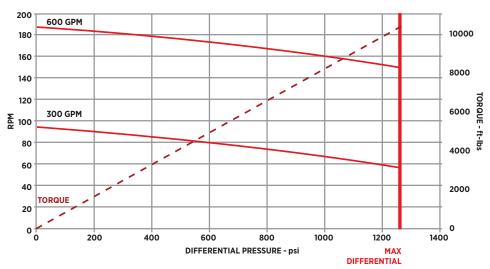
PHYSICAL DATA		
Bit Size Range (in)	*7 7/8 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	245,000	
Max Pull to Yield (lbs)	649,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-600	
Rev/Gal	0.31	
Max Operating Differential (psi)	625	
Max Differential (psi)	1,260	
Max Torque (ftlbs)	9,762	
Max Operating WOB (lbs)	40,000	

*Application	Dependent
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DIMENSIONAL DATA			
Dit to Donal (in)	ADJUSTABLE	FIXED STANDARD	FIXED SHORT
Bit to Bend (in)	66	58	50.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE			
Bend Angle	RPM		
<1.83°	<100		
1.83° - 2.00°	<70		
2.00° - 2.12°	<50		
2.12° - 2.38°	<35		
>2.38°	Not Recommended		





6 3/4" 7/8 3.3 (0.15 RPG) 6 7/8" OD, 7/8 Lobe, 3.3 Stage, Seal Lube

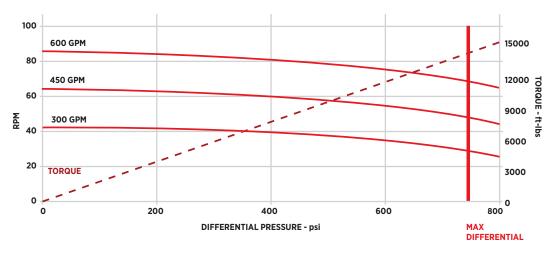
PHYSICAL DATA		
Bit Size Range (in)	*7 7/8 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	245,000	
Max Pull to Yield (lbs)	649,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-600	
Rev/Gal	0.15	
Max Operating Differential (psi)	415	
Max Differential (psi)	945	
Max Torque (ftlbs)	14,110	
Max Operating WOB (lbs)	40,000	

Application Dependent	*Ap	plication	Dependen	t
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DIMENSIONAL DATA			
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD	FIXED SHORT
Bit to Bend (in)	66	58	50.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<100	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





6 3/4" 7/8 6.4 (0.28 RPG) 6 7/8" OD, 7/8 Lobe, 6.4 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	*7 7/8 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	245,000	
Max Pull to Yield (lbs)	649,000	

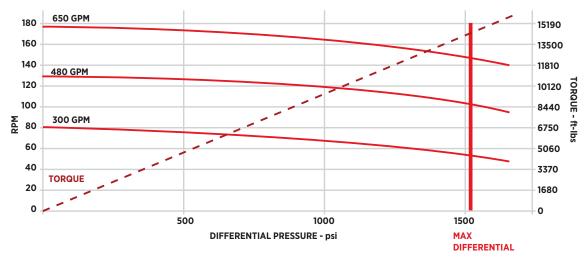
PERFORMANCE DATA		
Flow Range (gpm)	300-600	
Rev/Gal	0.28	
Max Operating Differential (psi)	1,000	
Max Differential (psi)	1,820	
Max Torque (ftlbs)	14,360	
Max Operating WOB (lbs)	40,000	

*Application De	ependent
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DIMENSIONAL DATA			
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD	FIXED SHORT
Bit to Bend (in)	66	58	50.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<100	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	







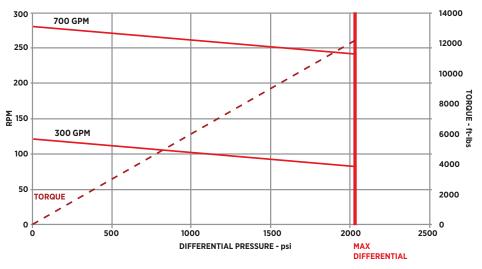
6 5/8" 5/6 9.4 (0.40 RPG) 6 5/8" OD, 5/6 Lobe, 9.4 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	7 7/8 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	240,000	
Max Pull to Yield (lbs)	685,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-700	
Rev/Gal	0.40	
Max Operating Differential (psi)	1,350	
Max Differential (psi)	2,030	
Max Torque (ftlbs)	11,729	
Max Operating WOB (lbs)	55,000	

DIMENSIONAL DATA		
Dit to Dand (in)	ADJUSTABLE	FIXED
Bit to Bend (in)	N/A	51.0

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<100	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





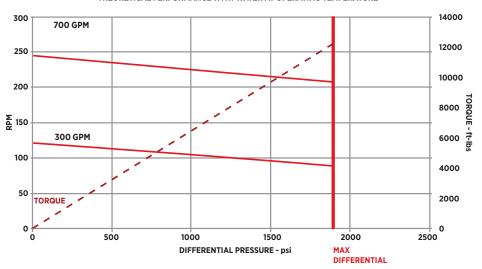
6 5/8" 5/6 8.4 (0.35 RPG) 6 5/8" OD, 5/6 Lobe, 8.4 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	7 7/8 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	240,000	
Max Pull to Yield (lbs)	685,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-700	
Rev/Gal	0.35	
Max Operating Differential (psi)	1,250	
Max Differential (psi)	1,785	
Max Torque (ftlbs)	11,771	
Max Operating WOB (lbs)	55,000	

DIMENSIONAL DATA		
Bit to Bend (in)	ADJUSTABLE	FIXED
	N/A	51.0

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<100	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





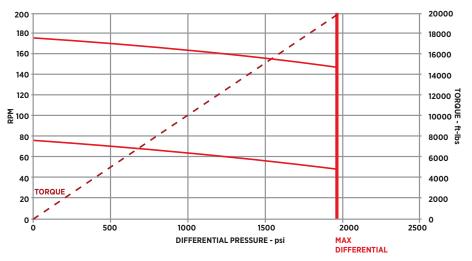
6 5/8" 7/8 6.9 (0.25 RPG) 6 5/8" OD, 7/8 Lobe, 6.9 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	7 7/8 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	240,000	
Max Pull to Yield (lbs)	685,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-700	
Rev/Gal	0.25	
Max Operating Differential (psi)	1,050	
Max Differential (psi)	1,960	
Max Torque (ftlbs)	19,010	
Max Operating WOB (lbs)	55,000	

DIMENSIONAL	DATA	
Dit to Dand (in)	ADJUSTABLE	FIXED
Bit to Bend (in)	N/A	51.0

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<100	
1.83° - 2.00°	<70	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





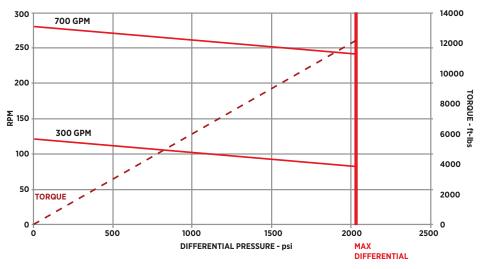
**7" 5/6 9.4 (0.40 RPG)** 7 3/16" OD, 5/6 Lobe, 9.4 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	8 1/2 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	181,000	
Max Pull to Yield (lbs)	536,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-700	
Rev/Gal	0.40	
Max Operating Differential (psi)	1,350	
Max Differential (psi)	2,030	
Max Torque (ftlbs)	11,729	
Max Operating WOB (lbs)	55,000	

DIMENSIONAL DATA		
Dit to Dand (in)	FIXED STANDARD	FIXED SHORT
Bit to Bend (in)	58.5	52.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<60	
2.00° - 2.12°	<50	
2.12° - 2.38°	<30	
>2.38°	Not Recommended	





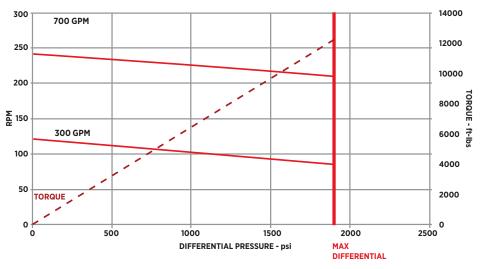
**7" 5/6 8.4 (0.35 RPG)** 7 3/16" OD, 5/6 Lobe, 8.4 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	8 1/2 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	181,000	
Max Pull to Yield (lbs)	536,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-700	
Rev/Gal	0.35	
Max Operating Differential (psi)	1,250	
Max Differential (psi)	1,785	
Max Torque (ftlbs)	11,771	
Max Operating WOB (lbs)	55,000	

DIMENSIONAL DATA		
Dit to Dand (in)	FIXED STANDARD	FIXED SHORT
Bit to Bend (in)	58.5	52.5

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<60	
2.00° - 2.12°	<50	
2.12° - 2.38°	<30	
>2.38°	Not Recommended	





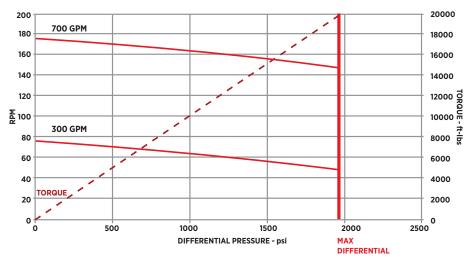
**7" 7/8 6.9 (0.25 RPG)** 7 3/16" OD, 7/8 Lobe, 6.9 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	8 1/2 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	181,000	
Max Pull to Yield (lbs)	536,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-700	
Rev/Gal	0.25	
Max Operating Differential (psi)	1,050	
Max Differential (psi)	1,960	
Max Torque (ftlbs)	19,010	
Max Operating WOB (lbs)	55,000	

DIMENSIONAL	DATA	
Dit to Dand (in)	FIXED STANDARD	FIXED SHORT
Bit to Bend (in)	58.5	N/A

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<60	
2.00° - 2.12°	<50	
2.12° - 2.38°	<30	
>2.38°	Not Recommended	





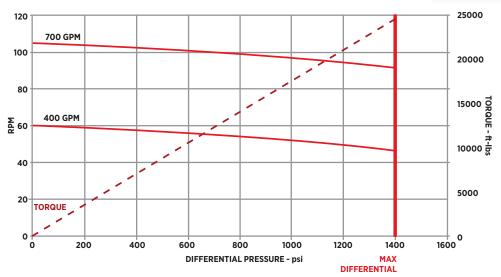
**7" 8/9 4.3 (0.15 RPG)** 7 3/16" OD, 8/9 Lobe, 4.3 Stage, Mud Lube

PHYSICAL DATA		
Bit Size Range (in)	8 1/2 - 8 3/4	
Bit Box Connection	4 1/2 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	181,000	
Max Pull to Yield (lbs)	536,000	

PERFORMANCE DATA		
Flow Range (gpm)	400-700	
Rev/Gal	0.15	
Max Operating Differential (psi)	650	
Max Differential (psi)	1,400	
Max Torque (ftlbs)	22,828	
Max Operating WOB (lbs)	55,000	

DIMENSIONAL	DATA	
Dit to Dand (in)	FIXED STANDARD	FIXED SHORT
Bit to Bend (in)	58.5	N/A

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<60	
2.00° - 2.12°	<50	
2.12° - 2.38°	<30	
>2.38°	Not Recommended	





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## **MUD MOTOR SPECIFICATION SHEET**

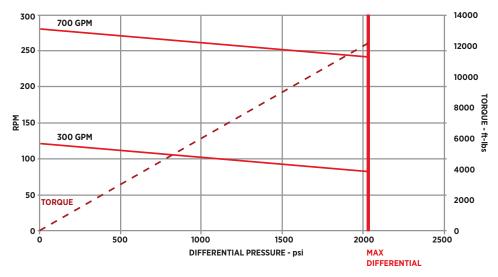
**7"** x **7 3/4" Hybrid 5/6 9.4 (0.40 RPG)** 7 3/4" OD, 5/6 Lobe, 9.4 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	9 7/8 - 12 1/2	
Bit Box Connection	6 5/8 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	181,000	
Max Pull to Yield (lbs)	536,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-700	
Rev/Gal	0.40	
Max Operating Differential (psi)	1,350	
Max Differential (psi)	2,030	
Max Torque (ftlbs)	11,729	
Max Operating WOB (lbs)	60,000	

DIMENSIONAL DATA		
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD
Bit to Bend (in)	83	73

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<60	
2.00° - 2.12°	<50	
2.12° - 2.38°	<30	
>2.38°	Not Recommended	





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## **MUD MOTOR SPECIFICATION SHEET**

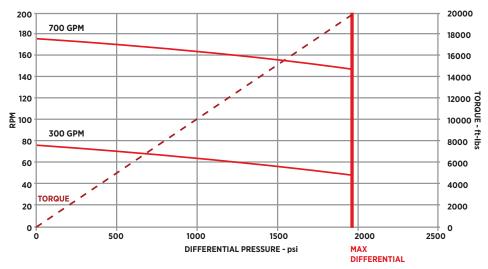
7" x 7 3/4" Hybrid 7/8 6.9 (0.25 RPG) 7 3/4" OD, 7/8 Lobe, 6.9 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	9 7/8 - 12 1/2	
Bit Box Connection	6 5/8 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	181,000	
Max Pull to Yield (lbs)	536,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-700	
Rev/Gal	0.25	
Max Operating Differential (psi)	1,350	
Max Differential (psi)	1,960	
Max Torque (ftlbs)	19,010	
Max Operating WOB (lbs)	60,000	

DIMENSIONAL DATA		
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD
Bit to Bend (in)	83	73

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<60	
2.00° - 2.12°	<50	
2.12° - 2.38°	<30	
>2.38°	Not Recommended	





## **MUD MOTOR SPECIFICATION SHEET**

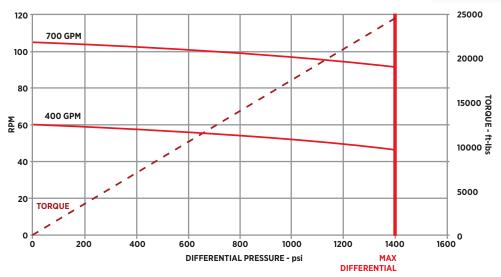
7" x 7 3/4" Hybrid 8/9 4.3 (0.15 RPG) 7 3/4" OD, 8/9 Lobe, 4.3 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	9 7/8 - 12 1/2	
Bit Box Connection	6 5/8 Reg.	
Top Sub Connection	4 1/2 IF	
Max Over Pull to Re-Run (lbs)	181,000	
Max Pull to Yield (lbs)	536,000	

PERFORMANCE DATA		
Flow Range (gpm)	400-700	
Rev/Gal	0.15	
Max Operating Differential (psi)	1,000	
Max Differential (psi)	1,400	
Max Torque (ftlbs)	22,828	
Max Operating WOB (lbs)	60,000	

DIMENSIONAL DATA		
Bit to Bend (in)  ADJUSTABLE  83	FIXED STANDARD	
	83	73

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<60	
2.00° - 2.12°	<50	
2.12° - 2.38°	<35	
>2.38°	Not Recommended	





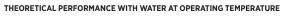
**7 3/4" 4/5 5.3 (0.26 RPG)** 8" OD, 4/5 Lobe, 5.3 Stage, Seal Lube

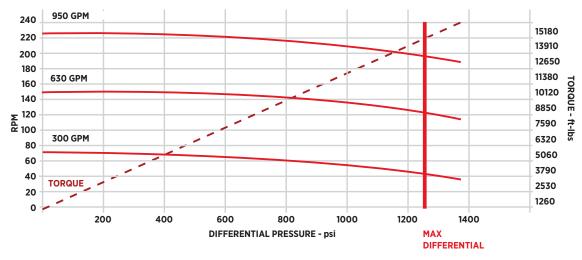
PHYSICAL DATA		
Bit Size Range (in)	9 7/8 - 12 1/2	
Bit Box Connection	6 5/8 Reg.	
Top Sub Connection	6 5/8 Reg.	
Max Over Pull to Re-Run (lbs)	303,000	
Max Pull to Yield (lbs)	777,000	

PERFORMANCE DATA		
Flow Range (gpm)	400-900	
Rev/Gal	0.26	
Max Operating Differential (psi)	665	
Max Differential (psi)	945	
Max Torque (ftlbs)	8,371	
Max Operating WOB (lbs)	60,000	

DIMENSIONAL DATA		
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD
Bit to Bend (in)	83	73

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<60	
2.00° - 2.12°	<50	
2.12° - 2.38°	<30	
>2.38°	Not Recommended	







7 3/4" 6/7 4.0 (0.18 RPG) 8" OD, 6/7 Lobe, 4.0 Stage, Seal Lube

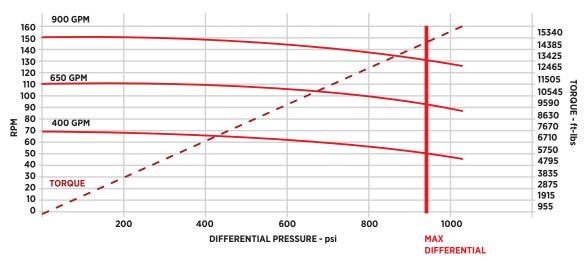
PHYSICAL DATA		
Bit Size Range (in)	9 7/8 - 12 1/2	
Bit Box Connection	6 5/8 Reg.	
Top Sub Connection	6 5/8 Reg.	
Max Over Pull to Re-Run (lbs)	303,000	
Max Pull to Yield (lbs)	777,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-900	
Rev/Gal	0.18	
Max Operating Differential (psi)	850	
Max Differential (psi)	1,015	
Max Torque (ftlbs)	13,820	
Max Operating WOB (lbs)	60,000	

DIMENSIONAL DATA		
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD
Bit to Bend (in)	83	73

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<60	
2.00° - 2.12°	<50	
2.12° - 2.38°	<30	
>2.38°	Not Recommended	







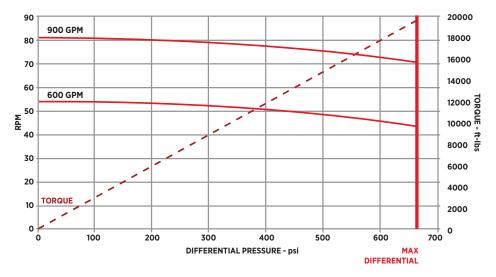
7 3/4" 7/8 2.2 (0.09 RPG) 8" OD, 7/8 Lobe, 2.2 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	9 7/8 - 12 1/2	
Bit Box Connection	6 5/8 Reg.	
Top Sub Connection	6 5/8 Reg.	
Max Over Pull to Re-Run (lbs)	303,000	
Max Pull to Yield (lbs)	777,000	

PERFORMANCE DATA		
Flow Range (gpm)	600-900	
Rev/Gal	0.09	
Max Operating Differential (psi)	500	
Max Differential (psi)	665	
Max Torque (ftlbs)	18,474	
Max Operating WOB (lbs)	60,000	

DIMENSIONAL DATA		
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD
Bit to Bend (in)	83	73

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE	
Bend Angle	RPM
<1.83°	<85
1.83° - 2.00°	<60
2.00° - 2.12°	<50
2.12° - 2.38°	<30
>2.38°	Not Recommended





#### **MUD MOTOR SPECIFICATION SHEET**

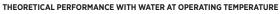
8" x 7 3/4" 7/8 5.9 (0.16 RPG) 8" OD, 7/8 Lobe, 5.9 Stage, Seal Lube

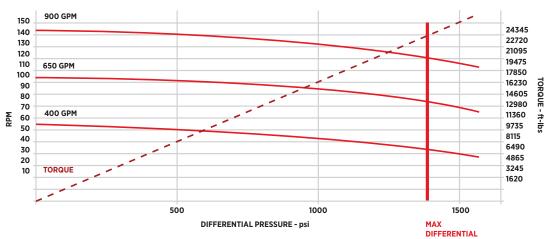
PHYSICAL DATA	
Bit Size Range (in)	9 7/8 - 12 1/2
Bit Box Connection	6 5/8 Reg.
Top Sub Connection	6 5/8 Reg.
Max Over Pull to Re-Run (lbs)	303,000
Max Pull to Yield (lbs)	777,000

PERFORMANCE DATA	
Flow Range (gpm)	400-900
Rev/Gal	0.16
Max Operating Differential (psi)	750
Max Differential (psi)	1,390
Max Torque (ftlbs)	21,870
Max Operating WOB (lbs)	60,000

DIMENSIONAL	DATA	
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD
Bit to Bend (in)	83	73

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE	
Bend Angle	RPM
<1.83°	<85
1.83° - 2.00°	<60
2.00° - 2.12°	<50
2.12° - 2.38°	<30
>2.38°	Not Recommended







## **MUD MOTOR SPECIFICATION SHEET**

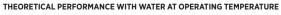
7 3/4" x 9 5/8" Hybrid 4/5 5.3 (0.24 RPG) 9 5/8" OD, 4/5 Lobe, 5.3 Stage, Seal Lube

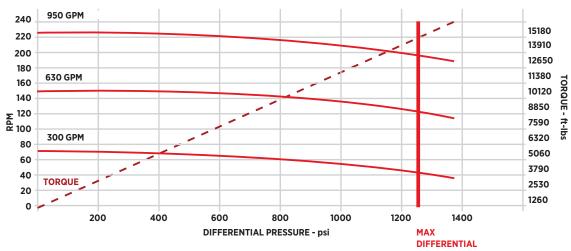
PHYSICAL DATA		
Bit Size Range (in)	12 1/4 - 17 1/2	
Bit Box Connection	6 5/8 Reg.	
	7 5/8 Reg.	
Top Sub Connection	6 5/8 Reg.	
Max Over Pull to Re-Run (lbs)	303,000	
Max Pull to Yield (lbs)	777,000	

PERFORMANCE DATA		
Flow Range (gpm)	300-950	
Rev/Gal	0.24	
Max Operating Differential (psi)	665	
Max Differential (psi)	1,250	
Max Torque (ftlbs)	8,371	
Max Operating WOB (lbs)	70,000	

DIMENSIONAL	DATA	
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD
Bit to Bend (in)	86	N/A

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE	
Bend Angle	RPM
<1.83°	<85
1.83° - 2.00°	<60
2.00° - 2.12°	<50
2.12° - 2.38°	<30
>2.38°	Not Recommended







#### **MUD MOTOR SPECIFICATION SHEET**

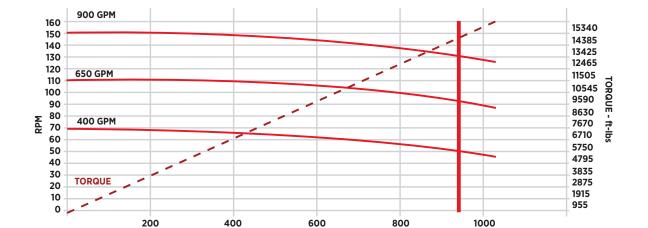
**7 3/4"** x **9 5/8"** Hybrid **6/7 4.0 (0.17 RPG)** 9 5/8" OD, 6/7 Lobe, 4.0 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	12 1/4 - 17 1/2	
Bit Box Connection	6 5/8 Reg.	
	7 5/8 Reg.	
Top Sub Connection	6 5/8 Reg.	
Max Over Pull to Re-Run (lbs)	303,000	
Max Pull to Yield (lbs)	777,000	

PERFORMANCE DATA		
Flow Range (gpm)	400-900	
Rev/Gal	0.17	
Max Operating Differential (psi)	850	
Max Differential (psi)	940	
Max Torque (ftlbs)	13,820	
Max Operating WOB (lbs)	70,000	

DIMENSIONAL	DATA	
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD
Bit to Bend (in)	86	N/A

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE	
Bend Angle	RPM
<1.83°	<85
1.83° - 2.00°	<60
2.00° - 2.12°	<50
2.12° - 2.38°	<30
>2.38°	Not Recommended



**DIFFERENTIAL PRESSURE - psi** 

MAX DIFFERENTIAL



## **MUD MOTOR SPECIFICATION SHEET**

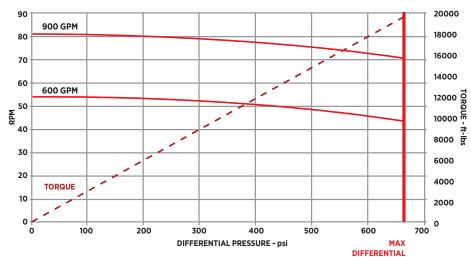
**7 3/4"** x **9 5/8"** Hybrid **7/8 2.2 (0.09 RPG)** 9 5/8" OD, 7/8 Lobe, 2.2 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	12 1/4 - 17 1/2	
Bit Box Connection	6 5/8 Reg.	
	7 5/8 Reg.	
Top Sub Connection	6 5/8 Reg.	
Max Over Pull to Re-Run (lbs)	303,000	
Max Pull to Yield (lbs)	777,000	

PERFORMANCE DATA		
Flow Range (gpm)	600-900	
Rev/Gal	0.09	
Max Operating Differential (psi)	500	
Max Differential (psi)	665	
Max Torque (ftlbs)	18,474	
Max Operating WOB (lbs)	70,000	

DIMENSIONAL	DATA	
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD
Bit to Bend (in)	86	N/A

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE	
Bend Angle	RPM
<1.83°	<85
1.83° - 2.00°	<60
2.00° - 2.12°	<50
2.12° - 2.38°	<30
>2.38°	Not Recommended





#### **MUD MOTOR SPECIFICATION SHEET**

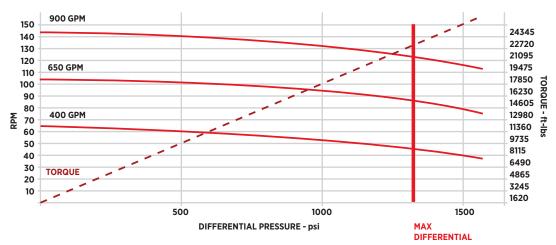
8" x 9 5/8" Hybrid 7/8 5.9 (0.16 RPG) 9 5/8" OD, 7/8 Lobe, 5.9 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	12 1/4 - 17 1/2	
Bit Box Connection	6 5/8 Reg.	
	7 5/8 Reg.	
Top Sub Connection	6 5/8 Reg.	
Max Over Pull to Re-Run (lbs)	303,000	
Max Pull to Yield (lbs)	777,000	

PERFORMANCE DATA		
Flow Range (gpm)	400-900	
Rev/Gal	0.16	
Max Operating Differential (psi)	750	
Max Differential (psi)	1,390	
Max Torque (ftlbs)	21,870	
Max Operating WOB (lbs)	70,000	

DIMENSIONAL	DATA	
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD
Bit to Bend (in)	86	N/A

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE	
Bend Angle	RPM
<1.83°	<85
1.83° - 2.00°	<60
2.00° - 2.12°	<50
2.12° - 2.38°	<30
>2.38°	Not Recommended





## **MUD MOTOR SPECIFICATION SHEET**

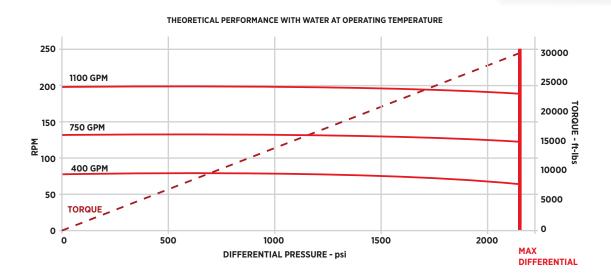
8 3/4" x 9 5/8" Hybrid 7/8 7.0 (0.18 RPG) 9 5/8" OD, 7/8 Lobe, 7.0 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	12 1/4 - 17 1/2	
Bit Box Connection	6 5/8 Reg.	
Bit Box Connection	7 5/8 Reg.	
Top Sub Connection	6 5/8 Reg.	
Max Over Pull to Re-Run (lbs)	465,000	
Max Pull to Yield (lbs)	1,072,000	

PERFORMANCE DATA		
Flow Range (gpm)	400-1100	
Rev/Gal	0.18	
Max Operating Differential (psi)	1,600	
Max Differential (psi)	2,135	
Max Torque (ftlbs)	28,408	
Max Operating WOB (lbs)	70,000	

DIMENSIONAL	DATA	
Dit to Dand (in)	ADJUSTABLE	FIXED STANDARD
Bit to Bend (in)	86	N/A

RECOMMENDED MAXIMUM ROTARY BY BEND	ANGLE
Bend Angle	RPM
<1.83°	<85
1.83° - 2.00°	<60
2.00° - 2.12°	<50
2.12° - 2.38°	<30
>2.38°	Not Recommended





## **MUD MOTOR SPECIFICATION SHEET**

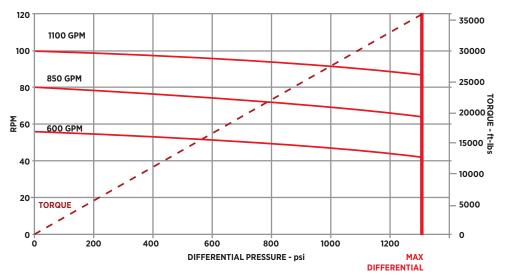
8 3/4" x 9 5/8" Hybrid 8/9 4.0 (0.09 RPG) 9 5/8" OD, 8/9 Lobe, 4.0 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	12 1/4 - 17 1/2	
Bit Box Connection	6 5/8 Reg.	
	7 5/8 Reg.	
Top Sub Connection	6 5/8 Reg.	
Max Over Pull to Re-Run (lbs)	465,000	
Max Pull to Yield (lbs)	1,072,000	

PERFORMANCE DATA	
Flow Range (gpm)	600-1100
Rev/Gal	0.09
Max Operating Differential (psi)	900
Max Differential (psi)	1,158
Max Torque (ftlbs)	32,935
Max Operating WOB (lbs)	70,000

DIMENSIONAL DATA		
Bit to Bend (in)	ADJUSTABLE	FIXED STANDARD
	86	N/A

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE	
Bend Angle	RPM
<1.83°	<85
1.83° - 2.00°	<60
2.00° - 2.12°	<50
2.12° - 2.38°	<30
>2.38°	Not Recommended





## **MUD MOTOR SPECIFICATION SHEET**

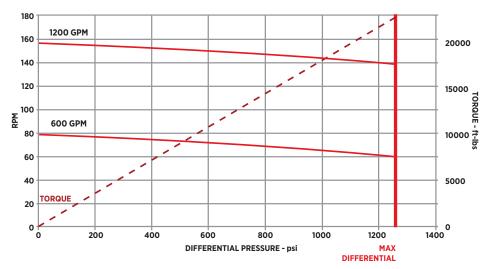
9 5/8" 6/7 5.0 (0.13 RPG) 9 5/8" OD, 6/7 Lobe, 5.0 Stage, Seal Lube

PHYSICAL DATA		
Bit Size Range (in)	12 1/4 - 17 1/2	
Bit Box Connection	6 5/8 Reg. 7 5/8 Reg.	
Top Sub Connection	6 5/8 Reg.	
Max Over Pull to Re-Run (lbs)	523,000	
Max Pull to Yield (lbs)	1,294,000	

PERFORMANCE DATA		
Flow Range (gpm)	600-1200	
Rev/Gal	0.13	
Max Operating Differential (psi)	900	
Max Differential (psi)	1,260	
Max Torque (ftlbs)	21,731	
Max Operating WOB (lbs)	70,000	

DIMENSIONAL	DATA	
Bit to Bend (in)	ADJUSTABLE	FIXED STANDARD
	86	N/A

RECOMMENDED MAXIMUM ROTARY BY BEND ANGLE		
Bend Angle	RPM	
<1.83°	<85	
1.83° - 2.00°	<60	
2.00° - 2.12°	<50	
2.12° - 2.38°	<30	
>2.38°	Not Recommended	













MS Directional developed the Mpact V+ (5-5/8" lower end motor) for our customers that need maximum drilling performance for 6-3/4" hole applications. The 5-5/8" lower end is the result of years of development, taking the very best of all components and combining them into one optimized high-performance lower end.

# **FEATURES AND BENEFITS:**



12,500+ FT-LBS TORQUE RATING



500 GPM



45,000 WOB



PROPRIETARY TRANSMISSION

Mpact's proprietary enlarged two-piece transmission design provides a torque capacity far exceeding that of any power section available on the market today, which allows our customer to utilize the full potential of any power section RELIABLY.





Mpact's VII+ series is no ordinary lower end. The 7-3/8 lower end utilizes a rugged field-proven design to provide our customers with maximum drilling performance and a sense of comfort knowing they are running the most reliable motor on the market.

# **FEATURES AND BENEFITS:**



23,000+ FT-LBS TORQUE RATING



700 GPM



55,000 WOB



PROPRIETARY **TRANSMISSION** 

This enlarged two-piece transmission allows customers to fully utilize the power output of the power section and reliably transfer that power to the drill bit. The result is increased ROP and fewer trips, which means less time spent on well and overall less cost to the Operator.



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