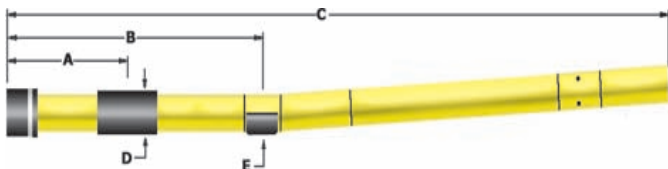




6 1/2" (165 mm)

Mud Motors



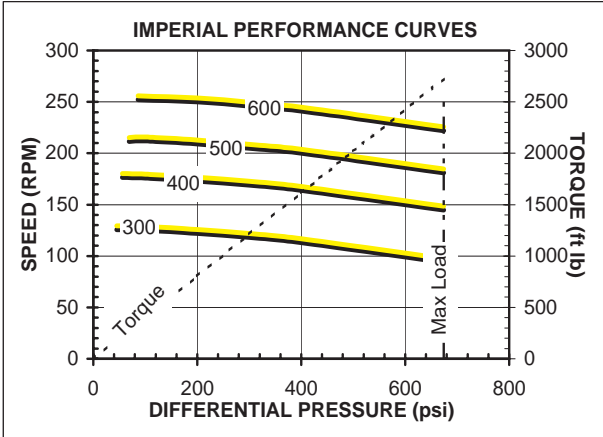
	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	304	inch	7,722	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	1,911	lb	850	daN	
Maximum Flow Rate	600	gpm	2.27	m ³ /min	
Maximum Torque	2,725	ft-lb	3,695	N-m	
Maximum Power	236	hp	176	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

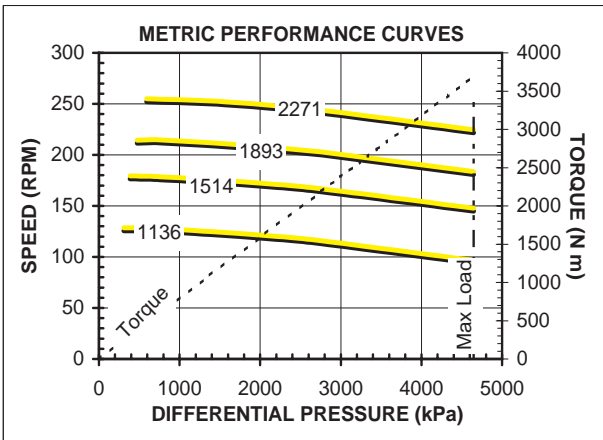
Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"
	200 mm	216 mm	223 mm	251 mm
0.26	0.09	0.00	0.00	0.00
0.52	2.38	0.00	0.95	0.00
0.78	4.85	2.47	1.52	0.00
1.03	7.23	4.85	3.89	0.39
1.27	9.51	7.13	6.18	1.89
1.50	11.70	9.31	8.36	4.08
1.72	13.79	11.41	10.46	6.17
1.93	15.79	13.41	12.45	8.17
2.12	17.60	15.21	14.26	9.98
2.30	19.31	16.93	15.97	11.69
2.60	22.17	19.78	18.83	14.54
2.82	24.26	21.88	20.93	16.64
2.95	25.50	23.12	22.17	17.88
3.00	25.98	23.60	22.64	18.35

6 1/2" (165 mm) 4-5 4.8 Stage

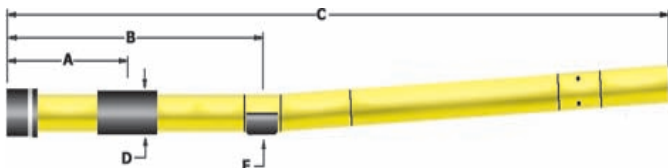
Maximum Pump Rate	600 gpm	2,271 Lpm
Revolutions per unit volume	0.423 rev/gal	0.112 rev/L
Pressure at full Load	674 psi	4,647 kPa
Torque at full load	2,725 ft lb	3,695 N m



Drilling Fluid Flow (GPM)	300	400	500	600
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	45	56	69	86
Maximum Allowable Differential Pressure (on-bottom - off-bottom pressure) (PSI)	629	618	605	588



Drilling Fluid Flow (L/min)	1136	1514	1893	2271
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	310	386	476	593
Maximum Allowable Differential Pressure (on-bottom - off-bottom pressure) (kPa)	4337	4261	4171	4054



	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	278	inch	7,054	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

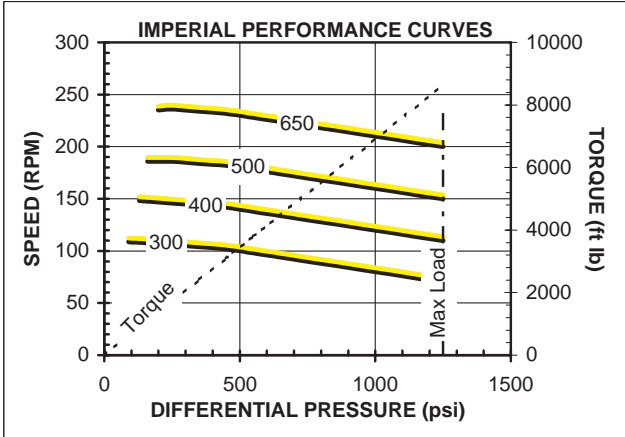
Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	1,884	lb	838	daN	
Maximum Flow Rate	650	gpm	2.46	m ³ /min	
Maximum Torque	8,235	ft-lb	11,165	N-m	
Maximum Power	270	hp	201	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"
	200 mm	216 mm	223 mm	251 mm
0.26	0.03	0.00	0.00	0.00
0.52	2.78	0.13	0.93	0.00
0.78	5.52	2.88	1.82	0.00
1.03	8.16	5.51	4.46	0.31
1.27	10.70	8.05	6.99	2.23
1.50	13.12	10.48	9.42	4.66
1.72	15.45	12.80	11.74	6.98
1.93	17.67	15.02	13.96	9.20
2.12	19.68	17.03	15.97	11.20
2.30	21.58	18.93	17.87	13.11
2.60	24.76	22.11	21.5	16.28
2.82	27.09	24.43	23.37	18.60
2.95	28.46	25.81	24.75	19.98
3.00	28.99	26.34	25.28	20.51

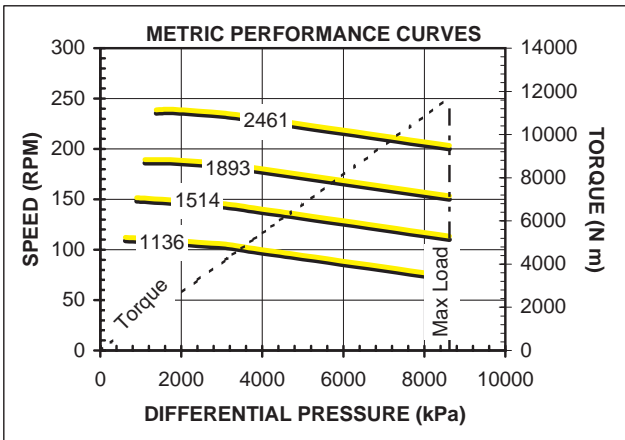
6 1/2" (165 mm) 6-7 3.1 Stage ERT



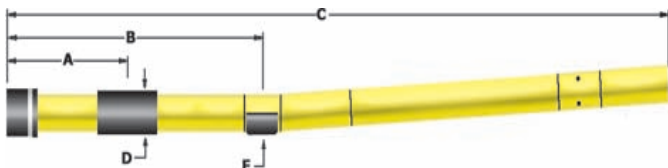
Maximum Pump Rate	650 gpm	2,461 Lpm
Revolutions per unit volume	0.370 rev/gal	0.098 rev/L
Pressure at full Load	1,175 psi	8,095 kPa
Torque at full load	8,235 ft lb	11,165 N-m



Drilling Fluid Flow (GPM)	300	400	500	650
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	90	130	160	200
Maximum Allowable Differential Pressure (on-bottom - off-bottom pressure) (PSI)	1160	1120	1090	1050



Drilling Fluid Flow (L/min)	1136	1514	1893	2461
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	621	896	1103	1379
Maximum Allowable Differential Pressure (on-bottom -- off-bottom pressure) (kPa)	7998	7722	7515	7239



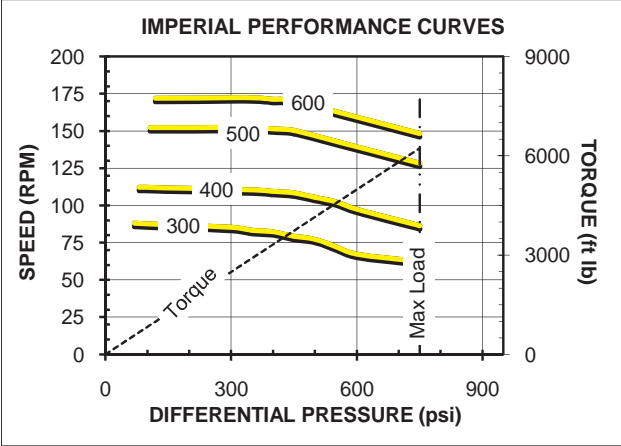
	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	350	inch	8,890	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	2,087	lb	928	daN	
Maximum Flow Rate	600	gpm	2.27	m ³ /min	
Maximum Torque	6,230	ft-lb	8,450	N-m	
Maximum Power	177	hp	132	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

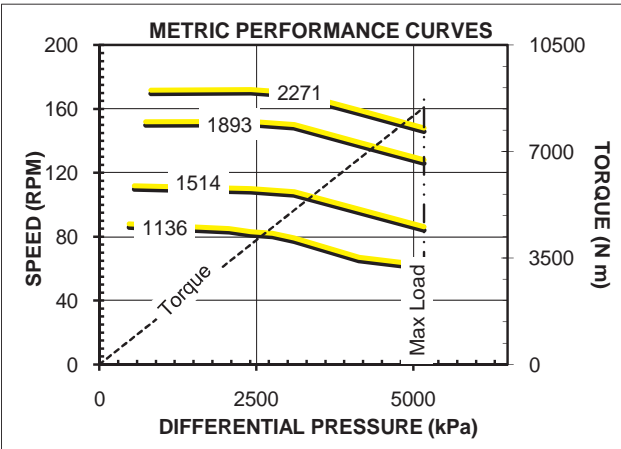
Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8" 200 mm	8 1/2" 216 mm	8 3/4" 223 mm	9 7/8" 251 mm
0.26	0.21	0.00	0.00	0.00
0.52	1.88	0.13	0.93	0.00
0.78	3.96	1.96	1.15	0.00
1.03	5.97	3.96	3.16	0.45
1.27	7.89	5.89	5.08	1.47
1.50	9.74	7.73	6.93	3.32
1.72	11.50	9.50	8.70	5.08
1.93	13.19	11.18	10.38	6.77
2.12	14.72	12.71	11.91	8.30
2.30	16.16	14.16	13.35	9.74
2.60	18.57	16.57	15.76	12.15
2.82	20.34	18.33	17.53	13.92
2.95	21.39	19.38	18.58	14.96
3.00	21.79	19.78	18.98	15.36

6 1/2" (165 mm) 6-7 5.0 Stage

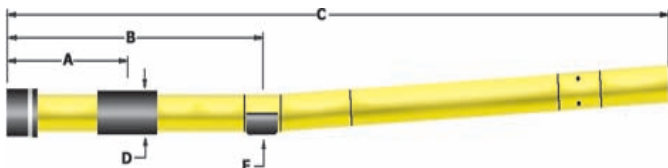
Maximum Pump Rate	600 gpm	2,270 Lpm
Revolutions per unit volume	0.292 rev/gal	0.077 rev/L
Pressure at full Load	750 psi	5,170 kPa
Torque at full load	6,230 ft lb	8,450 N m



Drilling Fluid Flow (GPM)	300	400	500	600
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	69	81	107	119
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (PSI)	681	669	643	631



Drilling Fluid Flow (L/min)	1136	1514	1893	2271
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	476	558	738	820
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (kPa)	4695	4613	4433	4351



	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	350	inch	8,890	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

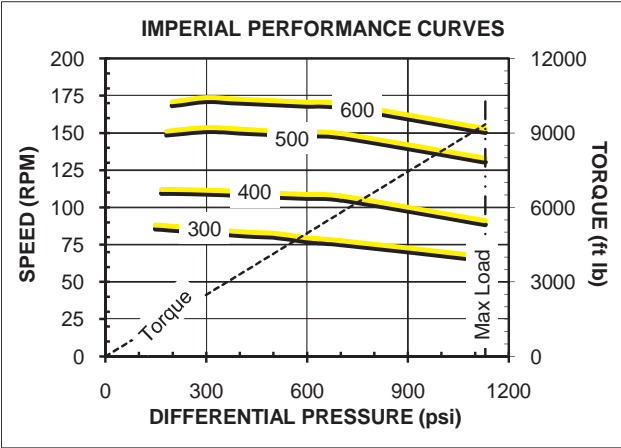
Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	2,087	lb	928	daN	
Maximum Flow Rate	600	gpm	2.27	m ³ /min	
Maximum Torque	9,350	ft-lb	12,680	N-m	
Maximum Power	290	hp	216	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"
	200 mm	216 mm	223 mm	251 mm
0.26	0.21	0.00	0.00	0.00
0.52	1.88	0.13	0.93	0.00
0.78	3.96	1.96	1.15	0.00
1.03	5.97	3.96	3.16	0.45
1.27	7.89	5.89	5.08	1.47
1.50	9.74	7.73	6.93	3.32
1.72	11.50	9.50	8.70	5.08
1.93	13.19	11.18	10.38	6.77
2.12	14.72	12.71	11.91	8.30
2.30	16.16	14.16	13.35	9.74
2.60	18.57	16.57	15.76	12.15
2.82	20.34	18.33	17.53	13.92
2.95	21.39	19.38	18.58	14.96
3.00	21.79	19.78	18.98	15.36

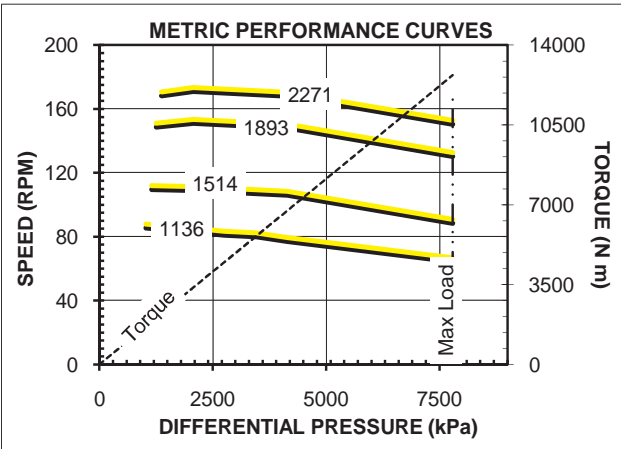
6 1/2" (165 mm) 6-7 5.0 Stage HR



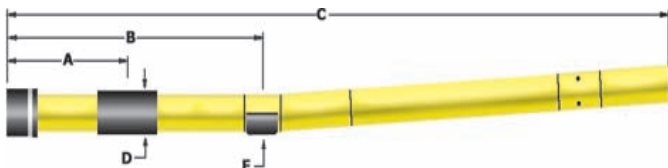
Maximum Pump Rate	600 gpm	2,270 Lpm
Revolutions per unit volume	0.292 rev/gal	0.077 rev/L
Pressure at full Load	1,130 psi	7,760 kPa
Torque at full load	9,350 ft lb	12,680 N m



Drilling Fluid Flow (GPM)	300	400	500	600
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	149	167	182	199
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (PSI)	981	963	948	931



Drilling Fluid Flow (L/min)	1136	1514	1893	2271
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	1027	1151	1255	1372
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (kPa)	6764	6640	6536	6419



	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	370	inch	9,390	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

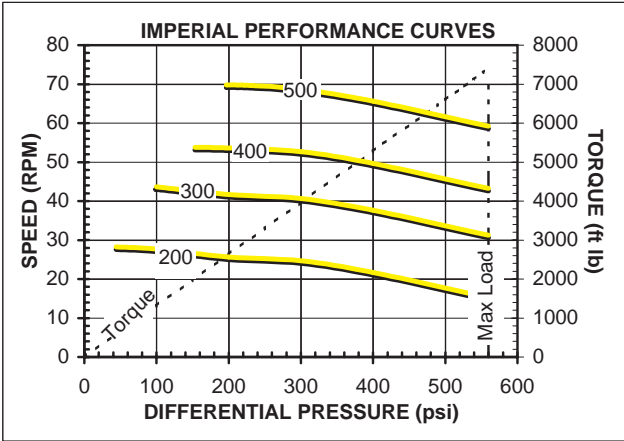
Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	2,442	lb	1,086	daN	
Maximum Flow Rate	500	gpm	1.89	m ³ /min	
Maximum Torque	7,402	ft-lb	10,036	N-m	
Maximum Power	163	hp	122	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"
	200 mm	216 mm	223 mm	251 mm
0.26	0.23	0.00	0.00	0.00
0.52	1.73	0.16	0.91	0.00
0.78	3.69	1.80	1.05	0.00
1.03	5.57	3.69	2.93	0.46
1.27	7.38	5.50	4.74	1.35
1.50	9.12	7.23	6.48	3.08
1.72	10.77	8.89	8.14	4.74
1.93	12.36	10.47	9.72	6.33
2.12	13.79	11.91	11.15	7.76
2.30	15.15	13.27	12.51	9.12
2.60	17.42	15.53	14.78	11.38
2.82	19.08	17.19	16.44	13.04
2.95	20.06	18.18	17.42	14.03
3.00	20.44	18.55	17.80	14.40

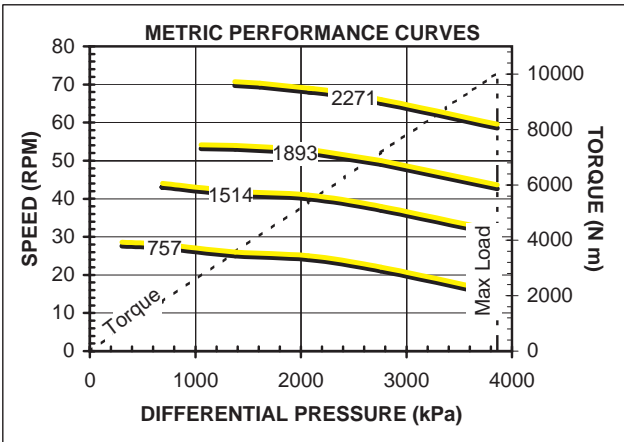
6 1/2" (165 mm) 7-8 2.9 Stage Slow



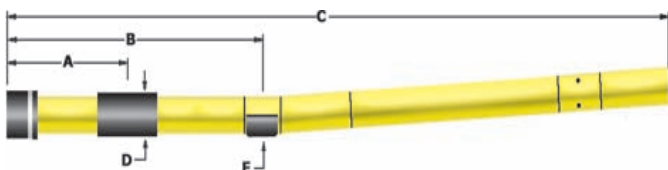
Maximum Pump Rate	500 gpm	1,893 Lpm
Revolutions per unit volume	0.144 rev/gal	0.038 rev/L
Pressure at full load	560 psi	3,861 kPa
Torque at full load	7,402 ft lb	10,036 N m



Drilling Fluid Flow (GPM)	200	300	400	500
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	44	107	153	210
Maximum Allowable Differential Pressure (on-bottom - off-bottom pressure) (PSI)	516	453	407	350



Drilling Fluid Flow (L/min)	757	1136	1514	1893
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	303	738	1055	1448
Maximum Allowable Differential Pressure (on-bottom - off-bottom pressure) (kPa)	3558	3123	2806	2413



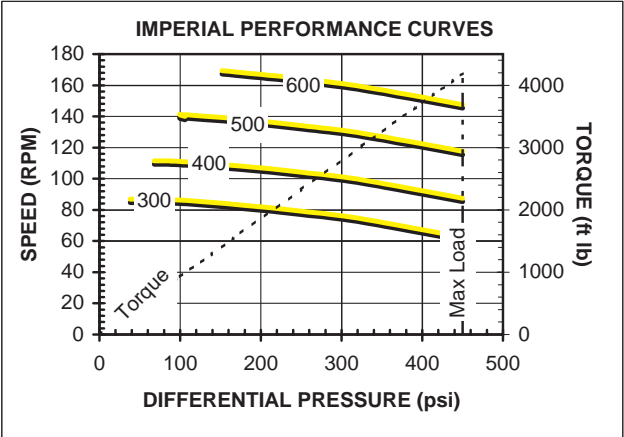
	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	275	inch	6,985	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	1,835	lb	816	daN	
Maximum Flow Rate	600	gpm	2.27	m ³ /min	
Maximum Torque	4,190	ft-lb	5,670	N-m	
Maximum Power	102	hp	76	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

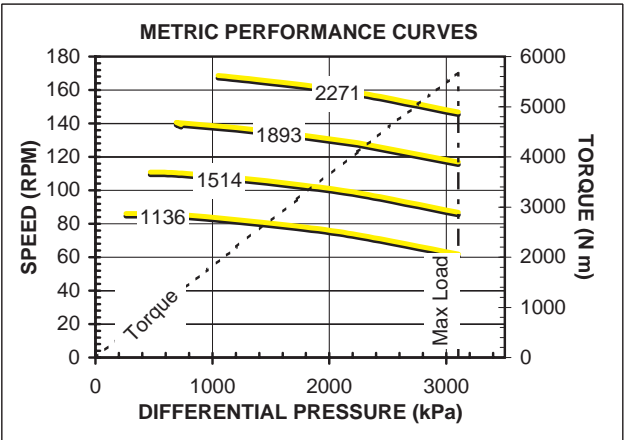
Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"
	200 mm	216 mm	223 mm	251 mm
0.26	0.02	0.00	0.00	0.00
0.52	2.73	0.12	0.93	0.00
0.78	5.45	2.83	1.78	0.00
1.03	8.06	5.44	4.40	0.32
1.27	10.57	7.95	6.90	2.19
1.50	12.97	10.30	9.31	4.59
1.72	15.27	12.65	11.61	6.89
1.93	17.47	14.85	13.80	9.09
2.12	19.46	16.84	15.79	11.07
2.30	21.34	18.72	17.68	12.96
2.60	24.48	21.86	20.81	16.09
2.82	26.79	24.17	23.12	18.40
2.95	28.15	25.53	24.48	19.76
3.00	28.68	26.05	25.00	20.28

6 1/2" (165 mm) 7-8 3.0 Stage

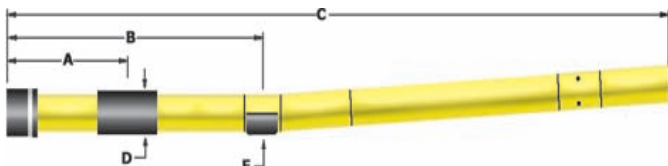
Maximum Pump Rate	600 gpm	2,271 Lpm
Revolutions per unit volume	0.283 rev/gal	0.075 rev/L
Pressure at full Load	450 psi	3,103 kPa
Torque at full load	4,190 ft lb	5,670 N m



Drilling Fluid Flow (GPM)	300	400	500	600
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	38	68	106	152
Maximum Allowable Differential Pressure (on-bottom - off-bottom pressure) (PSI)	412	382	344	298



Drilling Fluid Flow (L/min)	1136	1514	1893	2271
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	262	469	731	1048
Maximum Allowable Differential Pressure (on-bottom - off-bottom pressure) (kPa)	2841	2634	2372	2055



	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	348	inch	8,839	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

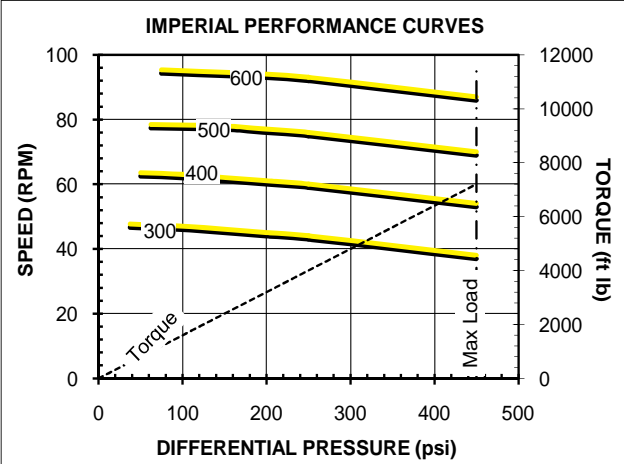
Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	2,578	lb	1,147	daN	
Maximum Flow Rate	600	gpm	2.27	m ³ /min	
Maximum Torque	7,200	ft-lb	9,760	N-m	
Maximum Power	106	hp	79	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"
	200 mm	216 mm	223 mm	251 mm
0.26	0.02	0.00	0.00	0.00
0.52	2.73	0.12	0.93	0.00
0.78	5.45	2.83	1.78	0.00
1.03	8.06	5.44	4.40	0.32
1.27	10.57	7.95	6.90	2.19
1.50	12.97	10.30	9.31	4.59
1.72	15.27	12.65	11.61	6.89
1.93	17.47	14.85	13.80	9.09
2.12	19.46	16.84	15.79	11.07
2.30	21.34	18.72	17.68	12.96
2.60	24.48	21.86	20.81	16.09
2.82	26.79	24.17	23.12	18.40
2.95	28.15	25.53	24.48	19.76
3.00	28.68	26.05	25.00	20.28

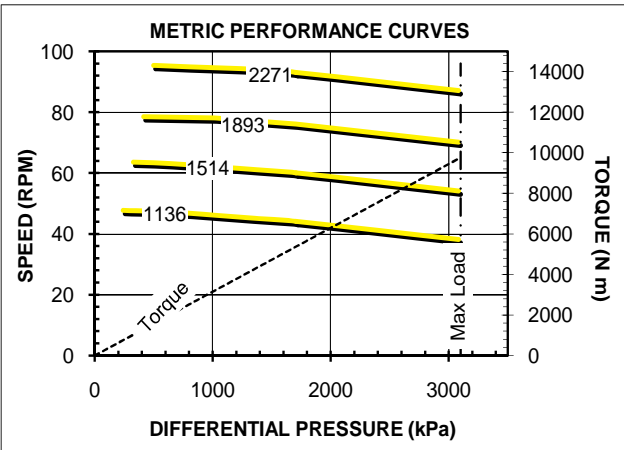
6 1/2" (165 mm) 7-8 3.0 Stage Slow



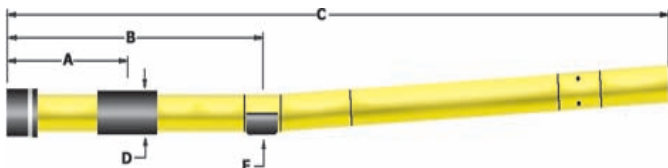
Maximum Pump Rate	600 gpm	2,270 Lpm
Revolutions per unit volume	0.155 rev/gal	0.041 rev/L
Pressure at full Load	450 psi	3,100 kPa
Torque at full load	7,200 ft lb	9,760 N m



Drilling Fluid Flow (GPM)	300	400	500	600
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	38	50	63	75
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (PSI)	413	400	388	375



Drilling Fluid Flow (L/min)	1136	1514	1893	2271
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	259	345	431	517
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (kPa)	2844	2758	2672	2586



	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	340	inch	8,636	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

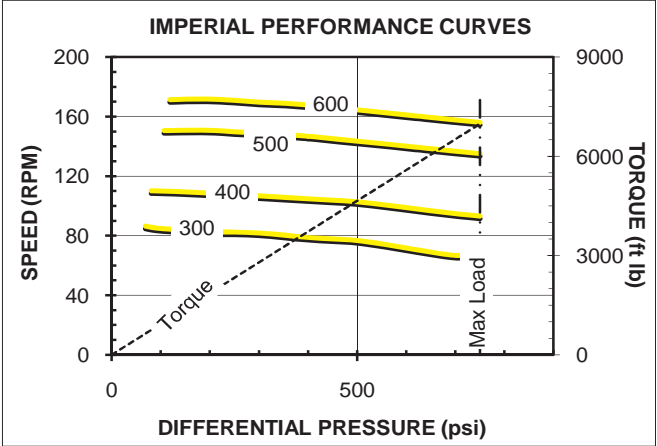
Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	2,310	lb	1,028	daN	
Maximum Flow Rate	600	gpm	2.27	m ³ /min	
Maximum Torque	6,980	ft-lb	9,460	N-m	
Maximum Power	190	hp	142	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"
	200 mm	216 mm	223 mm	251 mm
0.26	0.21	0.00	0.00	0.00
0.52	1.88	0.13	0.93	0.00
0.78	3.96	1.96	1.15	0.00
1.03	5.97	3.96	3.16	0.45
1.27	7.89	5.89	5.08	1.47
1.50	9.74	7.73	6.93	3.32
1.72	11.50	9.50	8.70	5.08
1.93	13.19	11.18	10.38	6.77
2.12	14.72	12.71	11.91	8.30
2.30	16.16	14.16	13.35	9.74
2.60	18.57	16.57	15.76	12.15
2.82	20.34	18.33	17.53	13.92
2.95	21.39	19.38	18.58	14.96
3.00	21.79	19.78	18.98	15.36

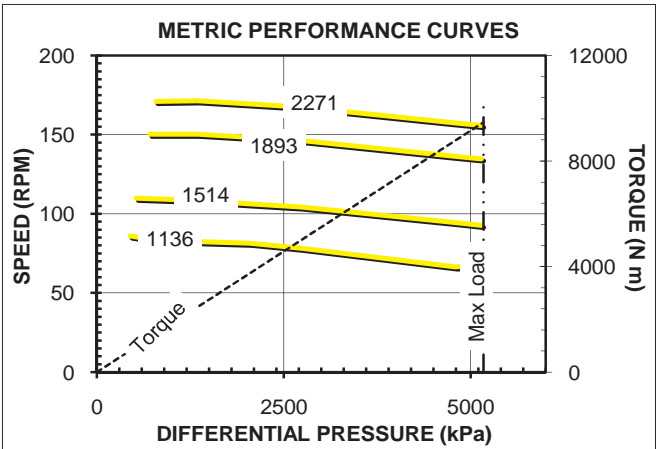
6 1/2" (165 mm) 7-8 5.0 Stage



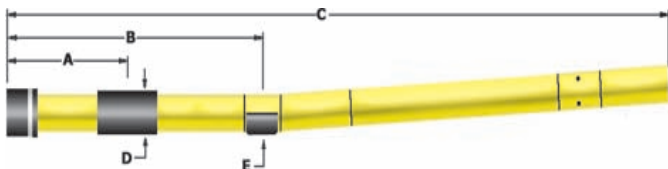
Maximum Pump Rate	600	gpm	2,271	Lpm
Revolutions per unit volume	0.280	rev/gal	0.076	rev/L
Pressure at full Load	750	psi	5,170	kPa
Torque at full load	6,980	ft lb	9,460	N m



Drilling Fluid Flow (GPM)	300	400	500	600
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	69	81	107	119
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (PSI)	681	673	643	631



Drilling Fluid Flow (L/min)	1136	1514	1893	2271
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	476	558	738	820
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (kPa)	4695	4640	4433	4351



	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	354	inch	8,992	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

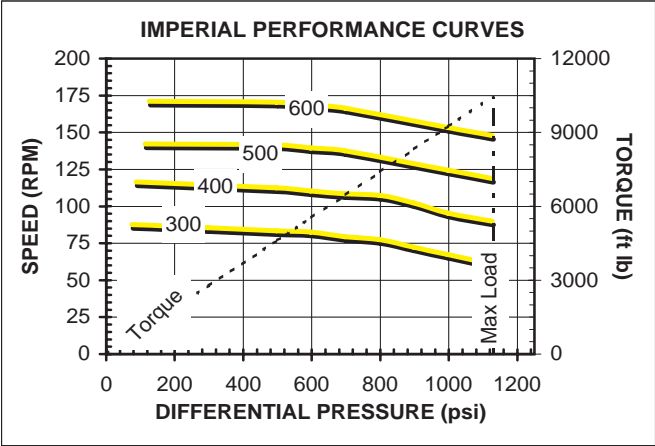
Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	2,176	lb	968	daN	
Maximum Flow Rate	600	gpm	2.3	m ³ /min	
Maximum Torque	10,460	ft-lb	14,190	N-m	
Maximum Power	323	hp	241	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"
	200 mm	216 mm	223 mm	251 mm
0.26	0.00	0.00	0.00	0.00
0.52	0.20	0.00	0.00	0.00
0.78	1.93	0.12	0.94	0.00
1.03	4.06	2.01	1.19	0.00
1.27	6.10	4.06	3.24	0.45
1.50	8.07	6.02	5.20	1.52
1.72	9.95	7.90	7.09	3.40
1.93	11.75	9.71	8.89	5.20
2.12	13.47	11.43	10.6	16.92
2.30	16.51	14.46	13.64	9.95
2.60	18.97	16.92	16.10	12.41
2.82	20.77	18.72	17.90	14.22
2.95	21.84	19.79	18.97	15.28
3.00	22.25	20.20	19.38	15.69

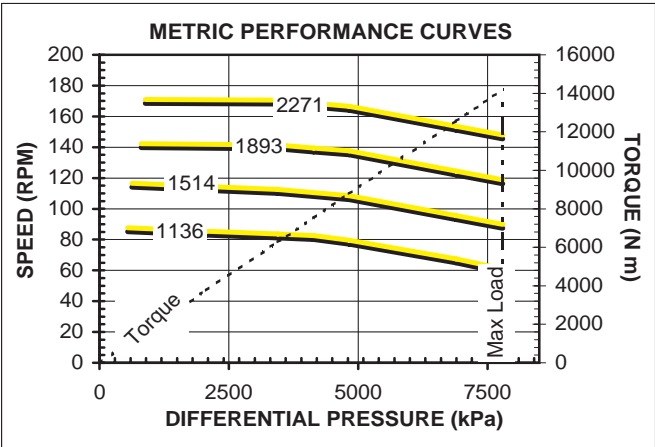
6 1/2" (165 mm) 7-8 5.0 Stage HR



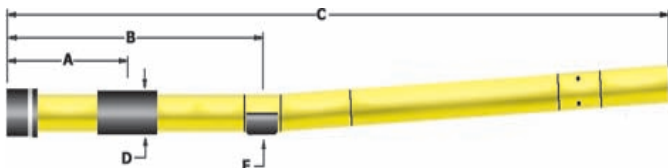
Maximum Pump Rate	600 gpm	2271 Lpm
Revolutions per unit volume	0.288 rev/gal	0.076 rev/L
Pressure at full Load	1,130 psi	7,760 kPa
Torque at full load	10,460 ft lb	14,190 N m



Drilling Fluid Flow (GPM)	300	400	500	600
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	79	91	117	129
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (PSI)	1051	1039	1013	1001



Drilling Fluid Flow (L/min)	1136	1514	1893	2271
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	545	627	807	889
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (kPa)	7246	7164	6984	6902



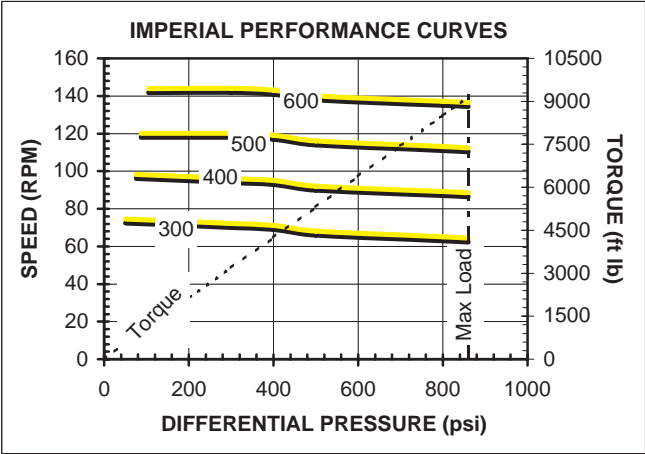
	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	410	inch	5,766	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	2,326	lb	1,035	daN	
Maximum Flow Rate	600	gpm	2.3	m ³ /min	
Maximum Torque	9,150	ft-lb	12,400	N-m	
Maximum Power	222	hp	166	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

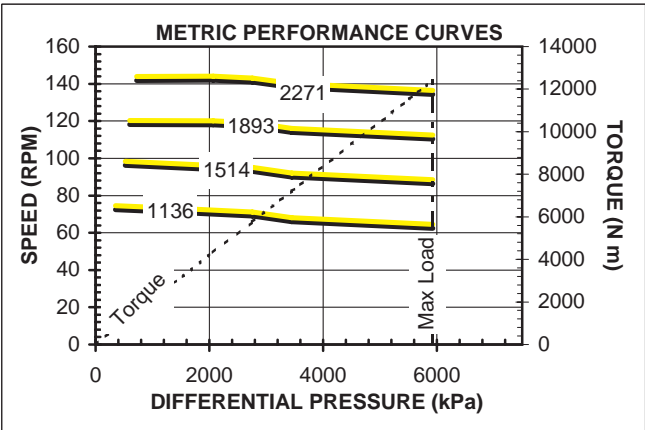
Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"
	200 mm	216 mm	223 mm	251 mm
0.26	0.26	0.00	0.00	0.00
0.52	1.48	0.19	0.86	0.00
0.78	3.23	1.55	0.88	0.00
1.03	4.90	3.23	2.56	0.46
1.27	6.51	4.84	4.17	1.15
1.50	8.05	6.38	5.10	2.69
1.72	9.53	7.85	7.19	4.17
1.93	10.94	9.26	8.59	5.58
2.12	12.22	10.54	9.87	6.85
2.30	13.42	11.75	11.08	8.06
2.60	15.44	13.76	13.09	10.08
2.82	16.92	15.24	14.57	11.55
2.95	17.79	15.98	15.31	12.29
3.00	18.13	16.45	15.78	12.76

6 1/2" (165 mm) 7-8 5.7 Stage

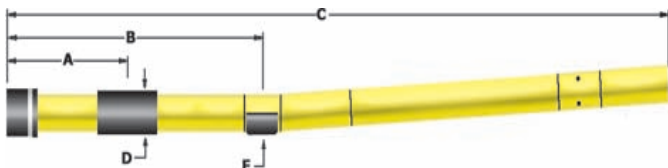
Maximum Pump Rate	600	gpm	2271	Lpm
Revolutions per unit volume	0.242	rev/gal	0.064	rev/L
Pressure at full Load	860	psi	5,900	kPa
Torque at full load	9,150	ft lb	12,400	N m



Drilling Fluid Flow (GPM)	300	400	500	600
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	51	76	87	105
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (PSI)	809	784	773	755



Drilling Fluid Flow (L/min)	1136	1514	1893	2271
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	352	524	600	724
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (kPa)	5578	5405	5330	5206



	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	410	inch	10,414	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

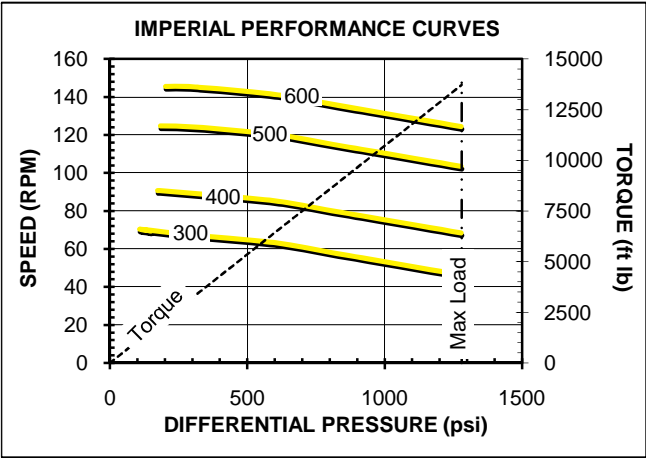
Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	2,326	lb	1,035	daN	
Maximum Flow Rate	600	gpm	2.3	m ³ /min	
Maximum Torque	13,720	ft-lb	18,600	N-m	
Maximum Power	355	hp	265	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"
	200 mm	216 mm	223 mm	251 mm
0.26	0.26	0.00	0.00	0.00
0.52	1.48	0.19	0.86	0.00
0.78	3.23	1.55	0.88	0.00
1.03	4.90	3.23	2.56	0.46
1.27	6.51	4.84	4.17	1.15
1.50	8.05	6.38	5.10	2.69
1.72	9.53	7.85	7.19	4.17
1.93	10.94	9.26	8.59	5.58
2.12	12.22	10.54	9.87	6.85
2.30	13.42	11.75	11.08	8.06
2.60	15.44	13.76	13.09	10.08
2.82	16.92	15.24	14.57	11.55
2.95	17.79	15.98	15.31	12.29
3.00	18.13	16.45	15.78	12.76

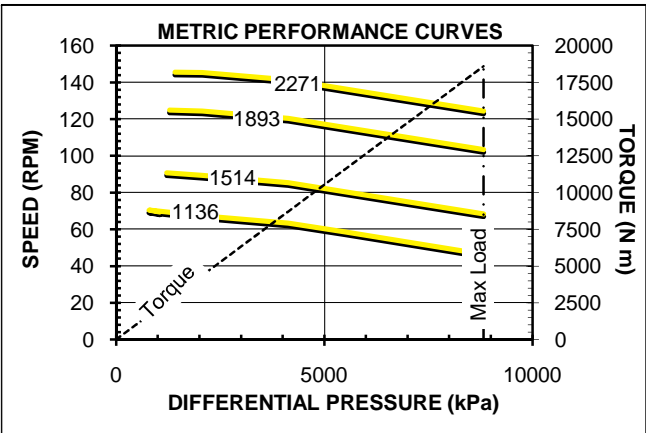
6 1/2" (165 mm) 7-8 5.7 Stage HR



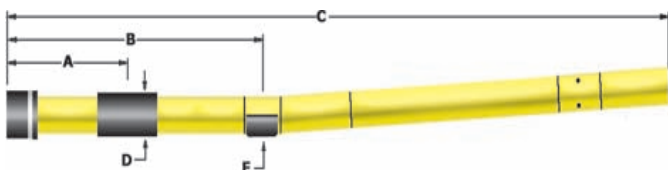
Maximum Pump Rate	600 gpm	2271 Lpm
Revolutions per unit volume	0.242 rev/gal	0.064 rev/L
Pressure at full Load	1,280 psi	8,840 kPa
Torque at full load	13,720 ft lb	18,600 N m



Drilling Fluid Flow (GPM)	300	400	500	600
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	151	176	187	205
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (PSI)	1129	1104	1093	1075



Drilling Fluid Flow (L/min)	1136	1514	1893	2271
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	1041	1213	1289	1413
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (kPa)	7784	7612	7536	7412



	Imperial		Metric	
A. Distance to stabilizer	22	inch	559	mm
B. Box to Bend	76	inch	1,930	mm
C. Overall Length	227	inch	5,766	mm
D. Thread Prot. Diameter	7.19	inch	183	mm
E. Kick Pad Diameter	7.00	inch	178	mm

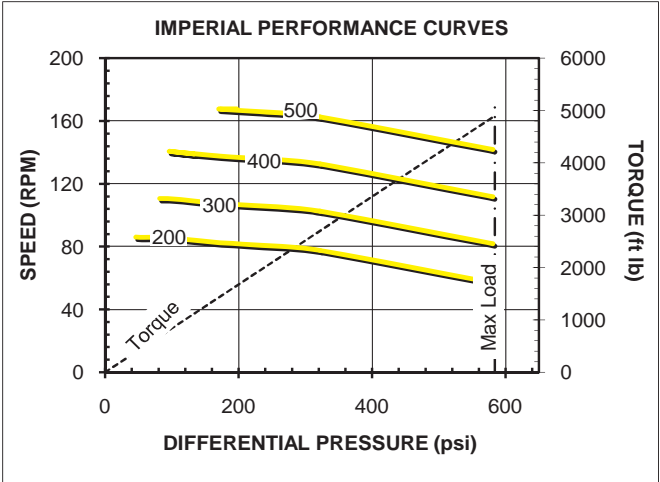
Top Connection	AS PER REQUEST				
Bottom Connection	4 1/2" Reg		4 1/2" Reg		
Weight	425	lb	189	daN	
Maximum Flow Rate	500	gpm	0.61	m ³ /min	
Maximum Torque	960	ft-lb	1,302	N-m	
Maximum Power	49	hp	37	kW	
Maximum Weight on bit	Dynamic	87,300	lb	38,800	daN
	Static	247,000	lb	109,000	daN
Maximum Allowable Pull	218,500	lb	97,000	daN	
Pull to Yield Motor	475,000	lb	212,000	daN	

Build Rate (degrees/100ft(30 m))				
Bend Settings (degrees)	Hole Sizes (in, mm)			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"
	200 mm	216 mm	223 mm	251 mm
0.26	0.01	0.00	0.00	0.00
0.52	2.71	0.11	0.93	0.00
0.78	5.41	2.81	1.77	0.00
1.03	8.01	5.41	4.37	0.32
1.27	10.51	7.90	6.86	2.71
1.50	12.90	12.29	9.25	4.56
1.72	15.19	12.58	11.54	6.85
1.93	17.37	14.77	13.72	9.03
2.12	19.35	16.74	15.70	11.01
2.30	21.22	18.62	17.57	12.88
2.60	24.35	21.74	20.70	16.00
2.82	26.64	24.06	22.99	18.30
2.95	28.00	25.39	24.36	19.65
3.00	28.65	25.91	24.87	20.17

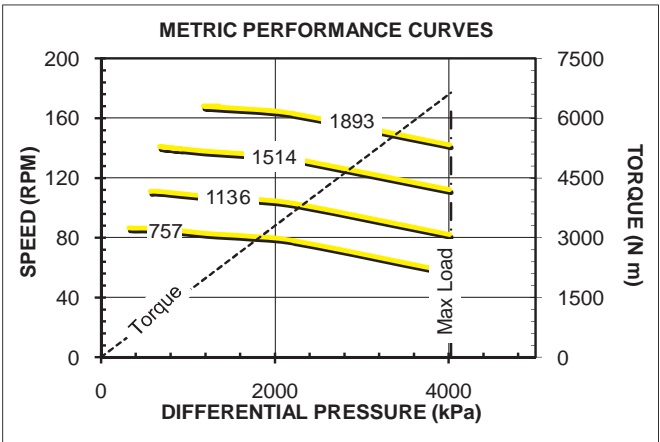
6 1/2" (165 mm) 8-9 3.0 Stage



Maximum Pump Rate	500	gpm	1,893	Lpm
Revolutions per unit volume	0.340	rev/gal	0.090	rev/L
Pressure at full Load	584	psi	4,027	kPa
Torque at full load	4,900	ft lb	6,644	N m



Drilling Fluid Flow (GPM)	200	300	400	500
Pressure Drop Across Motor with No Load (off-bottom pressure) (PSI)	49	85	136	200
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (PSI)	535	499	448	384



Drilling Fluid Flow (L/min)	757	1136	1514	1893
Pressure Drop Across Motor with No Load (off-bottom pressure) (kPa)	338	586	938	1379
Maximum Allowable Differential Pressure (on-bottom minus off-bottom pressure) (kPa)	3689	3440	3089	2648

