

Drilling Rig 1500HP - Equipment Limits



Crown Block - Drillmec

Crown block capacity 900,000 lbs (408 metric ton) Fastline sheave 60" (1,524 mm) - Qty 1
Working sheave 60" (1,524 mm) - Qty 5 Deadline sheave 60" (1,524 mm) - Qty 1 Groove 1.3/8"

Derrick DM-760

Maximal hook load 345 metric ton (760,000 lbs) with 12lines.

Nominal drilling depth 3500m - 5000 m
Diameter of drilling steel wire rope 35 mm (1 3/8") Effective height 43.3 m

Drilling line
35 mm (1 3/8") ETPS 6x19S IWRC

Top Drive ETD-500

MAX BREAK-OUT TORQUE 73 750 LBS X FT (100 000 NM)
STATIC BRAKE TORQUE 92 200 LBS X FT (125 000 NM)
QUILL ID AND WP 3" (76.2 MM)-7500 PSI (517 BAR) WP
LINK TILT LIFTING CAPACITY 5500 LBS (2500 KG) @ 4.6 FT (1.4 M)
GEARBOX RATIO 10.508:1
TEMPERATURE RANGE -10°C -55°C

Top Drive ETD-500

LOAD RATING CAPACITY 1 000 000 LBS (453 M. TON)
POWER RATING 1 150 HP (857 KW)
DRILLING TORQUE (CONTINUOUS) 51 630 LBS X FT (70 000 NM)
DRILLING SPEED 15 RPM
MAX SPEED 220 RPM

DRAWWORKS Drillmec MAS 6000 AC

Power Rating..... 1500 HP
Max. Line Pull..... 100,000 lb
Drilling Line Diameter..... 1 3/8"
Auxiliary Brake..... Baylor 7040 Eddy Current

SUBSTRUCTURE

Substructure is designed in two sections: setback section is raised with mast, and raworks section is self elevating by raising system and drawworks. Casing load capacity : 760,000 lbs (345 metric ton) Setback load capacity : 450,000 lbs (204 metric ton) Simultaneous capacity : 1,210,000 lbs (549 metric ton) Height from ground floor : 26 ft (7,924 mm) Clear height under rotary beams : 21 ft (6,400 mm)

Rotary table
o Opening 953 mm (37 1/2")
o Max rpm 270 rpm
o Max load on table 590 metric ton (1300,000 lbs)

SETBACK CAPACITY

Casing load capacity: 760,000 lbs (345 metric ton)
Setback load capacity: 450,000 lbs (204 metric ton)
Drill pipe capacity:
- 5" OD DP with 6" OD T.J. R2 200 Triple Stands
Drill collar capacity:
- 9 1/2" OD DC 7 Triple Stands

Mud Pumps 12T1600

Horizontal design, manufactures as per API SPEC 7K

Rated input 1600 Hp (1193 kW) at 120 SPM

Stroke 12"

Max stroke per minute 120 SPM

Continuous stroke range 40-120 SPM

Piston diameter range 4.1/2" - 7.1/2"

Max delivery 3127 l/min (826 GPM) with 7.1/2" piston at 120 SPM

Discharge pressure at max delivery 206 bar (2987 psi) with 7.1/2" piston

Max Discharge pressure 345 bar (5000 psi) with 4.1/2" piston

Delivery at max discharge pressure 1125 l/min (2976 GPM) with 4.1/2" piston at 120 SPM

Gear ratio 3.171

Valve pot size 7

Technical data (90% pump mechanical efficiency - 100% pump volumetric efficiency)

ROTOR SIZE (IN)	ROTOR SPEED (RPM)	RATED INPUT 1600 HP @ 120 SPM		GEAR RATIO 3.171		12T1600 PERFORMANCE DATA SHEET										
		HP	KW	HP	KW	100 GPM	150 GPM	200 GPM	250 GPM	300 GPM	350 GPM	400 GPM	450 GPM	500 GPM	550 GPM	
120	1600	1440	1054	826	791	719	669	620	573	538	444	366	297	239	189	146
110	1466	1320	977	757	707	658	613	568	525	494	407	336	272	217	168	128
100	1333	1200	886	688	643	599	557	516	477	440	370	303	247	196	149	111
90	1200	1080	800	606	565	527	487	450	415	384	320	261	207	157	112	81
80	1066	960	714	550	514	479	445	413	382	356	294	240	189	142	101	73
70	933	840	643	491	459	429	399	371	344	321	264	215	167	123	88	64
60	800	720	548	432	404	379	354	330	307	287	235	191	146	107	77	56
50	667	600	441	361	337	315	293	273	254	238	191	151	113	82	59	43
40	533	480	346	275	257	241	224	210	195	181	141	111	82	59	43	32