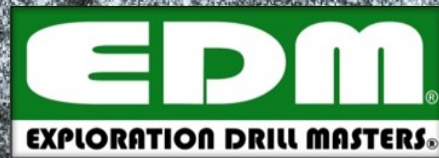


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EDM 1500 HP HELI RIG

Exploration Drill Masters Heli Portable Drill Rig



Exploration Drill Masters Chile S.A.

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INTRODUCTION

The EDM1500HP Heli Portable Drill rig has been designed as a high capacity drill, to operate in remote and difficult locations only accessible by helicopter. The EDM1500HP can be disassembled and moved in 16 lifts of 700kg (1543 lb) or less. The EDM1500HP is a high capacity diamond drill rig powered by two CAT C4.4 engines giving this Rig the power and ability to easily drill up to a 1500m (4920 ft) N+ hole. The EDM1500MP has been built with safety in mind and comes standard with many features not currently available on Heli Support Rigs these include , a rod spinner , rod spin guard with hydraulic cut-out to stop rotation the moment the spin guard is opened , wire line spooler and both a main winch and wire line winch over ride to prevent rods or the overshot accidentally being pulled through the drum . A unique feature of this rig is its ability to slew on the spot enabling the rig to drill multiple hole from the same platform on different azimuths. This Rig has been specifically designed to operate in remote locations and as such has been kept as simple as possible while maintaining a high performance and a very high level of safety for both the operators and crew.

SPECIFICATIONS

Diesel Engines

Two Cat C4.4 Tier 3
140HP@2200 rpm

Hydraulic pumps

Main Hydraulic Pump Danfoss 75cc/rev (4.58 in3/rev) Piston Pump
Secondary Hydraulic pump Danfoss 25cc/rev (1.5 in3/rev) double gear pump
200L (53 Gal) Hydraulic Tank

Hydraulic Valves

Main Hydraulic Valve Parker K220 Pilot operated
Secondary Hydraulic Valve Danfoss PVG32
Walvoil secondary Valves

Rig Base

Rig can be slewed +/- 30 degrees from the longitudinal axis of the base enabling multiple holes to be drilled from the same position

Water Pump

FMC (Bean) W1122BCD
140 LPM@7,000KPa
37GPM @ 1000PSI

Mast

Capable of angles from vertical to 45°
Dual direct mounted feed Cylinder
Main Winch mounted on top of mast.

Rotation Head Top Drive

160cc/rev (9.76 in3/rev) Motor
Hollow Floating spindle ID: 70mm – 3 1/2" API IF pin thread
Two speed, Low/High manual gear change
High Maximum displacement: 1188 lbft (1610 Nm) @681 rpm
High Minimum displacement: 646 lbft (875Nm) @1252 rpm
Low Maximum displacement: 4952 lbft (6713 Nm) @163 rpm
Low Minimum displacement: 2692 lbft (3650 Nm) @300 rpm

Head Traverse

Direct Driven by two hydraulic cylinders
Max speed up cylinder 610 mm/sec, (2 ft/s)
Max speed down cylinder 460 mm/sec (1.5 ft/s)
3.6m (11.8 ft) stroke with rotation head
Pull down 66.7kN (15,000 lbf)
Pullback 133.4 kN (30,000 lbf)

Main Hoist

Mounted on top of mast (Type Braden RW300)
Max pull 133.4 kN (30,000 lbf)
Max speed 60m/minute (197 ft/min)
Failsafe brake mechanism (spring applied, hydraulic release)
6 meter (20 ft) pull for diamond pipe and casing
Two speed winch motor
Winch limiter system to prevent rod being pulled into drum

Wire Line Winch Mounted on Deck

Capacity 6mm (1/4") rope: 1600m (5250 ft)
Max average pull from full to empty drum 16.4kN (3,680 lbf)
Max average speed from full to empty drum 7m/s (23 ft/s)
Automatic rope tracking device
Wireline override to prevent overshot being pulled over mast.

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Rod Break Out

EDM Rap spanner for N+, H+ and P+ casing
10850 Nm (8000 lbft) Breakout Torque

Rod Clamp and Slip Table

Hydraulic operated, self energising rod clamp (UDR Type)
Easy to remove jaws
Common jaws (B+, N+, H+ and P+ casing)

Rod Spinner

Hydraulic operated, rod spinner
Self adjusting jaws ranging from B+ to HWT
2980 Nm (2,200lbft) breaking torque
Adjustable torque control

Control Panel

Easy self explanatory layout
Lockout Levers for main functions
Easy access for basic maintenance and repairs

Hydraulic Connections

All Hydraulic and electrical connections use Multicoupler plates where possible for fast and correct hose and cable connection when moving the rig.

Rod Spin Guard

Cage off the rotating rods from operator
Hydraulically interlocked with rotation
Reduces rotation speed to 150 rpm when cage is opened

Theoretical Rated Depth Capacity Diamond Coring Q Series Pipe

B – 2265m (7430 ft)
N – 1740m (5708 ft)
H – 1180m (3870 ft)
P – 780m (2560 ft)

Dimensions

Platform Width 2850mm (9.35 ft)
Platform Length 4,750mm (15.6 ft)
Mast Length 8,500mm (27.9 ft)
Modules 16
Module Weight 700kg (1543 lb)

Modules

1. Engine 1
2. Engine 2
3. Hydraulic Tank and Pumps
4. Water Pump and Cooler
5. Rig Base
6. Mast Pivot Structure
7. Wire line Module
8. Control Panel , with valves
9. Lower Mast Section
10. Foot Clamps, Rod Spinner and Breakout
11. Upper Mast Section
12. Main Winch
13. Feed Cylinder Assembly
14. Head Carriage
15. Rotation Head
16. Sub Base

Safety Features

- Guards on all rotating equipment
- Emergency stops on control cabinet and on opposite side of machine
- Rod spin guard with hydraulic interlock. Reduces rotation to 150 rpm when opened.
- Heat guards on all exhaust manifolds and piping
- Murphy shut down system which protects the following
 - Low engine oil pressure
 - High engine temperature
 - Low hydraulic tank oil level, low coolant level
 - Hydraulic Rod Spinner
 - Winch Limiter
 - Wire line winch limiter

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STANDARD FEATURES

- Easy accessible control panel for general maintenance
- Clear easy to read and self explanatory controls
- Fully sealed electrical panel
- Hydraulic test points on all pumps, motors, and spool banks
- Battery isolation switch
- Fuel tank gauge
- Clearly labelled oil type and grades on all oil fill points
- All jaw sets from B+, N+, H+, P+.
- 10m of 2 inch suction hose with foot valve and cam lock connectors
- EDM products are designed with standard imperial materials. All threads are either UNC or UNF. All hydraulic valves bodies, pumps, motors use common SAE O-ring boss adaptors

WARANTY

1 Year / 5000 hrs



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