

Exploration Drill Masters Heli Portable Drill Rig

EDM 1500 HP HELI RIG



Safety – Efficiency - Trust

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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 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 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 , wireline spooler and both a main winch and wireline 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 Piston Pump
Secondary Hydraulic pump Danfoss 25cc double gear pump
200L 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

Rotation Head Top Head Drive

Hollow Floating spindle ID: 40mm – 3 ½" API IF pin thread
Two speed, Low/High manual gear change
4330 Lbft@190 rpm (Max. Break out torque)
675 Lbft@1250 rpm

Mast

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

Head Traverse

Driven by one hydraulic cylinder
Max speed up cylinder 730 mm/sec,
Max speed down cylinder 550mm/sec
3.3m stroke with rotation head
Pulldown 15,000 Lbf
Pullback 30,000 Lbf

Main Hoist

Mounted on top of mast (Type Braden RW300)
Max pull 30,000 Lbf
Max speed 60m/minute
Failsafe brake mechanism (spring applied, hydraulic release)
6 metre 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 ¼" rope: 1600m
Max average pull from full to empty drum 3,680Lbf
Max average speed from full to empty drum 7m/sec
Automatic rope tracking device
Wireline override to prevent overshot being pulled over mast.

Rod Break Out

Diaspan wrap spanner for N+, H+ and P+ casing

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
2,200Lbft breaking torque
Adjustable torque control

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Control Panel

Easy self explanatory layout
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

N – 1740m
H – 1180m
P – 780m

Dimensions

Platform Width 2850mm
Platform Length 4,750mm
Mast Length 8,500mm
Modules 16
Module Weight 700kg

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
- Anti slip grid mesh on all work platforms
- Hand rails on all work platforms
- Emergency stops on control cabinet and on all corners 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
- Wireline winch limiter

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

Warranty

1 Year / 5000 hrs

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Combined Hydraulic and Electrical Multicouplers used between modules for fast trouble free rig moves



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