

Exploration Drill Masters Multipurpose Drill Rig

# EDM 140 O&G

TRACK MOUNTED



Safety – Efficiency - Trust



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### TRACK MOUNTED

#### Diesel Engine

Cummins QSM11 Tier III  
400HP@1800 rpm

#### Rotation Head Top Head Drive with floating spindle

Hollow Floating spindle ID: 40mm – 3 ½" API IF pin thread  
Two speed, Low/High manual gear change  
5-138 rpm low gear, 150-800 rpm high gear

#### Torque and rpm top head drive two speed gear box with 355cc Rexroth motor

High gear max. displacement of 355cc 2,964 ft-lbf/4,019 Nm (564rpm)  
High gear min. displacement of 180cc 1,188 ft-lbf/1,610 Nm (1250rpm)  
Low gear max. displacement of 355cc 12,360 ft-lbf/16,757 Nm (135rpm)  
High gear min. displacement of 180cc 4,952 ft-lbf/6,713 Nm (300rpm)

#### Drill Mast

Heavy Duty section mast structure  
Capable of angles from vertical to 45°  
2000mm mast dump  
Standard hydraulic mast cylinder with counter balance valves installed as standard for safety

#### Head Traverse

Driven by one hydraulic cylinder, 2:1 rope system  
Max speed up cylinder 365mm/sec, rope system 730mm/sec  
Max speed down cylinder 261mm/sec, rope system 522mm/sec  
7.6m stroke with rotation head  
Side racking rotation head to L/H side

#### Pull Down

30,000 Lbf

#### Pull Out

70,000 Lbf

#### Main Hoist

Mounted on top of mast (Type Braden RW500)  
Max pull 55,000 Lbf  
Max speed 55m/minute  
Failsafe brake mechanism (spring applied, hydraulic release)  
9 metre pull for diamond pipe and casing  
Load sensing winch motor for optimum operating speed

#### Draworks System (140,000lb pull force)

Powered by Braden PD21A winch, 23,000lb line pull

Failsafe brake mechanism (spring applied, hydraulic release)  
70T McKissick 3 sheave travelling block mounted an EDM swivel to the drillstring  
Maximum pull 140,000lb  
Rods can be rotated while being pulled  
6.6 metre pull for range 1 pipe and casing  
Able to be disconnected and lifted clear to enable use of main winch when diamond drilling

#### Jib Boom

Actuated by hydraulic hourglass worm for left/right  
Independent winch with lifting capacity of 1000kg

#### Primary Water Pump

FMC (Bean) L1118-SC  
65gpm@2,000psi  
Powered from rig hydraulic system

#### Secondary Water Pump

FMC (Bean) W1122BCD  
37gpm@1,000psi  
Powered from rig hydraulic system

#### Standpipe

3000psi, 3" Standpipe up RHS of mast for use with aux mud pumps  
Hammer unions top and bottom  
Ultrasonic flowmeter for accurate flow measurements

#### Rod Break Out

60" Adjustable Stillson wrench hydraulic cylinder mounted for hydraulic break out, hydraulically operated, hydraulically adjustable from control panel  
Metzke hydraulic spanner  
4" Hydraulic cylinder 25,000lb (push or pull) for use with casing tongs etc (Torque adjustable from console)  
Full set of Diaspan wrap spanner to suit B+ to P+ size drill pipe

#### Airdrill Rod Break Out

Adjustable makeup torque control  
4"-8-5/8" rotating breaker  
Max breakout torque 60,000 ft-lbf  
Max makeup torque 45,000 ft-lbf  
Makes rods to the correct torque and break rods

#### Jack Leg

Heavy Duty cylinder with pilot check valves  
Extra large pads for better ground stability

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### Rod Clamp and Slip Table

Hydraulic operated, self energising rod clamp  
Easy to remove jaws  
Common jaws from 44.5mm to 177.8mm (B+, N+, H+ and P+, PW)  
20" table opening with 12", 9" & 7" slip inserts

### Wire Line Winch Mounted on mast pivot plate

Capacity 8mm rope: 3000m  
Max average pull from full to empty drum 3,680Lbf  
Max average speed from full to empty drum 7m/sec  
Automatic rope tracking device  
Depth indicator read from control panel

### Foremost 1500 Rod handler

Fully remote controlled run from rig  
Able to handler pipe from 2 7/8 – 8 5/8  
Able to handler pipe to 1500lbf  
12,000 ft-lbf breakout torque capacity

### Control Panel

Easy self explanatory layout  
Easy access for basic maintenance and repairs  
Fully sealed control panel with all electrical instrumentation  
Digital Readout showing:

- Hook load\*
- Rotation torque\*
- Bit weight\*
- Water pump flows and pressure
- Rate of penetration
- Rotation speed

\*Requires Pason torque and tension Sub

### Mud Mixing Circuit

2x30 LPM pump independent from all other function, with flow control, and quick release connectors

### Hydraulics

Parker pump, Rexroth winch & rotation motors, Parker CVG main valve, Danfoss PVG32 auxiliary valves, Sun cartridge

### Rod Spin Guard

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

### Dimensions

Platform Width 3,000mm  
Jack leg centres 5,500mm  
Mast Length 14,500mm  
Overall Height 4,600mm

### Track frame assembly

Recondition Caterpillar 330L  
Remote control tramping  
1000L fuel tank

### Theoretical depth capacities

Rod Capacities (m)				
	Rod Weight kg/m	Depth Capacity (Winch)	Depth Capacity (Head)	Depth Capacity (Drawworks)
NQ Drillpipe	7.8	3197	4069	9370
HQ Drillpipe	11.5	2169	2760	6355
HWT Casing	17.4	1433	1824	4200
PWT Casing	21.43	1164	1481	3410
4.5" Remet	31	804	1024	2358

Casing Capacities (m)					
Casing Size OD	Coupler OD	WPF Lbs.	Depth Capacity (Winch)	Depth Capacity (Head)	Depth Capacity (Drawworks)
4.500	5.000	11.60	1445	1839	4235
5.000	5.563	15.00	1118	1422	3275
5.500	6.050	17.00	986	1255	2890
6.625	7.390	20.00	838	1067	2456
7.000	7.656	23.00	729	928	2136
8.625	9.625	28.00	599	762	1755
9.625	10.625	36.00	466	593	1365
10.750	11.750	45.50	368	469	1080
11.750	12.750	54.00	310	395	910
13.375	14.375	61.00	275	350	805

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#### Safety Features

- Guards on all rotating equipment
- Anti slip grid mesh on all work platforms
- Hand rails on all work platforms
- Emergency stops in control cabinet and on both sides of machine
- 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, coolant level
- 24 volt, 100amp alternator to enable high quality additional work lights
- Two certified 10kg fire extinguishers

#### Standard Features

- Easy accessible control panel for general maintenance
  - Clear easy to read and self explanatory controls
  - Warning horn to alert drill crew
  - Central grease point for wireline and top sheave wheels
  - Easy accessible oil drain station for engine, hydraulic tank, FMC pump
  - Fully sealed electrical panel
  - Hydraulic test points on all pumps, motors, and spool banks
  - Additional work light plug outlet station
  - Lockable diesel tank fill points
- Additions for RC Drilling Capacity
- Hammer oiler
  - Hydraulic operated air on/off and vent valves
  - 1500psi rated 2" air hose with certified hoses socks on all high pressure air lines
  - Battery isolation switch
  - Fuel tank gauge
  - Clearly labelled oil type and grades on all oil fill points
  - Level bubbles mounted on platform and mast
  - Tool box
  - Two additional available spool banks, one with detent, one spring centre for additional mud mixing systems, casing jacks, etc
  - All jaw sets from B+, N+, H+, P+.
  - Stillson wrench for hydraulic break out, 48" inch
  - 10m of 2 inch suction hose with foot valve and cam lock connectors
  - First 250 and 500 hr service kit
  - Flashing light, and standard mine site lighting
  - Mast ladder
  - Rig platform access ladders and steps
  - Large fully adjustable offside platform
  - 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

#### Optional Features

- Reverse circulation kit
- Additional sealed lockable Tool Box
- Additional work lights
- Hydraulic boost kit for high altitudes (Prevents hydraulic pump cavitation)
- Fully silenced, and enclosed deck for quite and cleaner machine
- 6 inch tradesmen vice
- 1500 hr service kit
- Remote spare parts kit
- Clients colour choice
- Fire suppression unit
- Rod spinner