PAT-Drill 431 is a truck mounted drill rig powered by a deck engine mounted on a rail chassis to fit any suitable 6,500 kg GVW truck.

For down-the-hole-hammer and mud rotary drilling up to 200 m depth 100-165 mm diameter – according to tool selection.

Key Features:

- Mast operates with 3 m drill pipes.
- Mast slides when vertical to give clearance to set surface casing or suit drill pipe handling.
- Rig table 305 mm diameter opening.
- Flush drill pipe 76 mm diameter or 'open throat' 90 mm diameter for efficient deep mud
- Rotary head: 50 mm (2”) Air/Water pipe work & flanged drill pipe adaptor.
- Re-positionable levelling jacks give high ground clearance of vehicle mounting options.
- Optional 1,000 Kg. mast head winch for 3 m
TECHNICAL DATA & SPECIFICATION

RECOMMENDED HOLE RANGE (Depths to 200 m)
Medium & Hard rock, DTH-Hammer drilling:
(Needs a separated air compressor)
3” - 5” DTH-Hammer with the capacity to drill 4” - 6 1/2” (100-165 mm) diameter.
Soft formations, rotary ‘mud’ drilling:
(Needs a separated mud pump)
Drag bit 4” - 12” (100-305 mm) diameter.

TOP ROTATION HEAD
Single reduction gearbox, hydraulic motor driven, and variable rotation speed. Enable to swing-a-side for easily casing installation. 50 mm (2”) Air/water pipe work & flanged drill pipe adaptor inside diameter, sub joint 2 3/8 API Reg Mod
Gear box ratio 4.75 : 1
Speed 0 – 65 rpm
Max. torque 2,660 Nm

MAST
All steel work, 4.50 metres high, break-out table to open 305 mm diameter. Mast raised to vertical from storage position by a hydraulic cylinder through heavy duty chain. The mast is also equipped with 2 LED flood lights for night time operation.

FEED SYSTEM
Rotation head is raised and lowered by a hydraulic cylinder and heavy-duty transmission chain. Head travelling stroke 3.30 metres.
Pull up - Capacity: 4,900 kg
Max. speed: 15.00 metres/min

OPERATION CONTROL PANEL
4 levers controlling rotation head, pull and feed
2 regulators for rotation speed, pull/feed weight
4 system pressure gauges
Ridged mounted control panel

HYDRAULIC POWER PACK
Engine: 47 hp (35.0 kW) at 3000 rpm, 4 cylinders, YANMAR 4TNV88-DSA diesel engine, water-cooled, electric start.
Hydraulic system: Triple gear pump type, system pressure 250 bar max, 150 litres tank capacity.
Fuel tank: 40 litres

WATER/FOAM INJECTION PUMP
Triple piston pump driven by a hydraulic motor.
Motor speed: 450 rpm
Max. displacement: 10 litres/min
Max. working pressure: 30 bar

STABILISING JACK
4 jacks hydraulic, re-positional to adjust ground clearance.

AIR LUBRICATION SYSTEM
Fitted lubricator of Venturi-type for inject lubrication—fully adjustable flow control—for DTH-Hammer.
Max pressure: 40 bar
Oil tank capacity: 7 litres

PIPE RACK
Each side containing: (For 3 metre) 20 pcs. 76mm pipe

DRILL PIPE
Drill pipe length: 3 metres
Drill pipe diameter options: 60, 76 & 90 mm

TRUCK
HINO 300 Series Truck (GVW) 6,500 Kg capacity 3.05 m. cargo body length on 700 mm. over face chassis rails.
Suspension: Leaf springs and shock absorbers.
Trailer light: Fitted trailer lights with 7 pin plug connection to vehicle system. and standard hook for towing.
Wheels & Tyres: 6 x Radial 7.00-R16

DIMENSIONS
Overall length: (L) 5.3 m
Overall width: 1.95 m
Overall height: (H) 2.3 m
Weight (without drill pipes) 4,450 kg

* Optional 1000 kg mast head winch for 3m casing handling.