

PAT-Drill 431

A Truck Mounted Drilling Rig

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 separate 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 separate 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

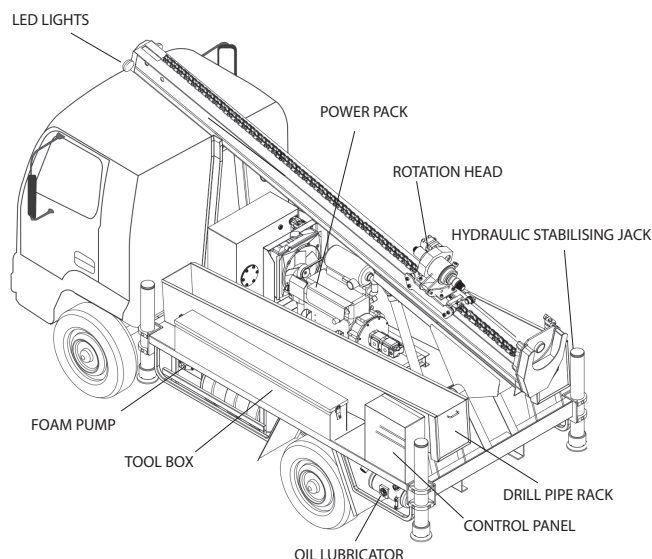
Rigid mounted control panel

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

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

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

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Promotion of Appropriate Technology Co.,Ltd. reserves the right to change these specifications without notice

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