

PAT-Drill

301

Modular Drilling Rig

The oldest PAT model and still in constant production – and has many design refinements through its 25 years. With a 'stand alone' mast unit it can be simply transported and man handled onto drill sites – some with tight access. Rig is powered by a stand alone power pack with a heavy duty Diesel engine or lightweight petrol option.

Ideal application sedimentary mud drilled holes to 100m depth 100 - 200mm diameter.



PAT-Drill 301 is a compact and portable hydraulic drilling rig for both DTH-Hammer and rotary drilling. Boreholes in soft and hard rock formations can be drilled to depths exceeding 100 metres. Typically it is loaded into the tray of a pick-up truck for transport between sites.

In its modular format it remains one of the lightest drilling packages in its depth capacity in the world and can meet many specialist needs – manhandled up mountains for horizontal well drilling, compact air cargo movement where road transport is not an option or local mounting on hydraulic excavator arms and similar configurations.



RECOMMENDED HOLE RANGE

Medium & Hard rock, DTH-Hammer drilling operation:
3" - 5" model DTH-Hammer with capacity to drill
4" - 6 1/2" (100-165 mm) diameter
Soft formations, rotary drilling operation:
Drag bit 4" - 8" (100-200 mm) diameter

TOP ROTATION HEAD

Single reduction gearbox, hydraulic motor driven, and variable rotation speed. Able to swing-a-side for easy casing installation. Swivel spindle 40 mm inside diameter, sub joint 2 3/8 API Reg Mod	
Gear box ratio	3.875 : 1
Speed	0 – 55 rpm
Max. torque	1980 Nm

MAST

All steelwork, 3.15 metres high, break-out table to open 200 mm. diameter. Mast raised to vertical from storage position by a hydraulic cylinder. The mast is also equipped with 2 floodlights for night time operation

FEED SYSTEM

Rotation head is raised and lowered by a hydraulic cylinder and heavy-duty transmission chain. Head travelling stroke: 2.25 metres	
Pull up - Capacity	2300 kg
Max. speed	19.5 metres/min
Pull down - Capacity	3480 kg
Max. speed	14.5 metres/min

OPERATION CONTROL PANEL

4 levers: controlling rotation head, pull and feed
2 regulators for rotation speed and pull/feed weight
4 system pressure gauges

HYDRAULIC POWER PACK

Engine: 20 hp (15 Kw) at 2800 rpm, 3 cylinders, YANMAR diesel engine, water-cooled, electric start
Hydraulic system: double gear pump type, system pressure 250 bar max, 70-litres tank capacity
Fuel tank: 25 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

2 Rear jacks Hydraulic driven
2 Front jacks Manually operated jack

AIR LUBRICATION SYSTEM

Fitted lubricator of Venturi-type for drip lubrication-fully adjustable flow control-for DTH-Hummer	
Max pressure	20 bar
Oil tank capacity	6 litres

PIPE RACK

Each side containing 12 pcs. 76mm pipe
15 pcs. 60mm pipe

DRILL PIPE

Drill pipe length	2 metres
Drill pipe diameter	60/76 mm.
Thread 2 3/8 API Reg Mod	

TRAILER

Towing Standard towing eye (ball optional)
Brake system mechanical break for overrun parking and auto reverse
Suspension 2 leaf springs and 2 shock absorbers
Trailer light Fitted trailer lights with 7 pin plug connection to vehicle system
Tyres 700-R15, 8 PLY

DIMENSIONS

Overall length :	4,030 mm.
Overall width :	1,690 mm.
Overall height :	1,750 mm.
Weight (without drill pipes)	1,450 Kg