



Technical Specification

PRD AUTOLOADER



A robust deep hole drilling rig with a pull up force of 14100 kg capable of drilling 6 ½" diameters up to 450 m depth. Drilling hole size range from 6 ½" to 14".

Note: The images provided here are for reference only and do not depict the exact specification outlined in this document.





Appllication	Domestic Water Wells
Capacity	Hole Diameter : 165 - 356 mm (6 1/2" - 14")
	Maximum Depth : 450 m @ 6 1/2" (165 mm) diameter
Drilling Method	DTH and Rotary Drilling
Prime Mover*	Rig hydraulic system is powered from Truck Engine with PTO option through Transfer Gearbox arrangements
Platform Structure	Heavy I and C section welded steel structure covered with 5mm chequered plate
	Strong structural steel twin tubular box type construction
Mast Assembly	Mast Overall Length : 7750 mm
	Rotary Head Travel : 6130 mm
	Rod Handling : 5 m
	Centralizer Opening : 16" (406 mm)
Mast Raising Cylinder	Mast is raised and lowered by single hydraulic cylinder
Feed System	1 x Double acting hydraulic cylinder with 1:3 rope reeving system
	Pull Up Force : 14100 kgf (31020 lb.f) @ 210 bar
	Pull Down Force : 8600 kgf (18920 lb.f) @ 210 bar
	Pull Up Speed : 30 m/min
	Pull Down Speed : 50 m/min
Rotary Head Assembly (Top Head Drive)	Fabricated steel body with spur gear reduction and oil bath lubrication type gearbox along with top air entry and spindle thread connection of API 2 7/8 IF driven by single hydraulic motor.
	Maximum Torque : 4500 Nm
	Rotation Speed : 0 - 100 rpm Fine controlled





Hydraulics

2 x Fixed displacement pump for Feed and Rotation
1 x Fixed displacement pump for Mud pump
3 x Fixed displacement pump for Hydraulic cooler, Auxiliary operations and Micro feed
2 x Fixed displacement pump for Auto Rod handling operations

Maximum System Pressure : 3045 psi (210 bar)

Hydraulic Oil Cooler : 120 gpm

Hydraulic Tank Capacity : 600 litres

Control Panel

Swing out - Centralized control panel is at rear end of the equipment for convenient view of drill table provided with all necessary gauges, control system and emergency switch. Locking arrangement is provided for the safety of control panel

Separate control panel is provided for Rod Handling system to operate manually.

Levelling Jacks

4 x Hydraulic levelling jacks are provided for quick setting and levelling with heavy duty telescopic guides. Locking check valves for safety with adequate capacity to withstand load

Automatic Rod Changer

Automatic rod handling system for easy loading & unloading of drill pipes from the deck. The rod changer unit is controlled by a PLC system and has a provision to handle the rod changer manually. Deck can accommodate 40 rods of 5 m length which makes 200 m of drill pipe.

Rod Breakout

Hydraulic operated V type Jaw system is provided to hold and breakout the Rods.





Water / Foam Injection Pump	<p>Hydraulic operated water injection triplex pump with necessary fittings, pressure regulator, flow regulator check valve and suction filter are provided</p> <p>Maximum Flow : 80 lpm</p> <p>Maximum Pressure : 40 kg/sq.cm</p>
Airline Lubricator	<p>A positive acting venturi type inline lubricator is provided for injecting oil to the down hole hammer.</p> <p>Tank capacity : 15 litres</p>
Winch	<p>Winch on mast : 2 ton swing type winch to handle casing pipes</p>
Mud Pump Option*	<p>Hydraulic driven Centrifugal Mud Pump Discharge : 3000 lpm Total Head : 80 mtr</p> <p>Hydraulic operated PRD 150 Mud Pump (6" x 6") Stroke : 6" (152 mm) Liner size diameter : 6" (152 mm) Displacement (Max recommended) : 1039 lpm Maximum working Pressure : 217 psi (15.76 kg/sq.cm)</p>
Additional Fitments	<p>Night Lights, Tool box, Hammer stand, Fuel tank for compressor</p>
User Manual	<p>Manual for Operation, Maintenance and Spare Parts</p>
Truck Option*	<p>MAN 6x4 / 6x6 HINO 6x4 / 6x6 SINOTRUK Howo 6x4 / 6x6 Min 25 - 30 ton GVW Truck</p>
Mounting Option*	<p>Truck / Crawler / Skid</p>





Recommended Air Compressor*

Make

ELGI / Atlas Copco / Doosan

Compressor capacity

1100 cfm-300 psi (21 bar)

1200 cfm-330 psi (24 bar)

To be mounted on a separate carrier

Optional Attachments

ICE Package

- Real time fuel monitoring system
- Drilling progress monitoring
- Drill efficiency indicator
- Bit load sensing system
- GPS location monitoring system
- Power breakout system
- Digital display in control panel
- Centralized hydraulic test station
- Real time hydraulic system status
- Remote access through mobile app
- Fire extinguisher and hose reel
- Adaptable for all water well rig models

Winch on mast : 2 ton

Hammer Opener : Hydraulic operated hammer device

Mine safety features

**Combinations will vary according to our Design feasibility*







Happy Drilling Forever with PRD Rigs

