



## Technical Specification

### PRD MAX DRILL 4000



**A super performer bore hole drilling rig with a pull up force of 42200 kg capable of drilling 6 ½" diameter up to 1350 m depth. Drilling hole size range from 6 ½" to 20".**

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





<b>Application</b>	De-watering holes De-watering and monitoring holes in the mines Cathodic protection
<b>Capacity</b>	Hole Diameter : 165 - 508 mm (6 ½" - 20") Maximum Depth : 1350 m @ 165 mm (6 ½") diameter
<b>Drilling Method</b>	DTH and Rotary Drilling
<b>Prime Mover*</b>	Rig hydraulic system is powered from separate Deck Engine 430 hp
<b>Platform Structure</b>	Heavy I and C section welded steel structure covered with 5mm chequered plate
<b>Mast Assembly</b>	Strong structural steel twin tubular box type construction Mast Overall Length : 10000 mm Rotary Head Travel : 7500 mm Rod Handling : 6 m Centralizer Opening : 16 "(406 mm ) Expandable : 24" (610 mm) Split type
<b>Mast Raising Cylinder</b>	Mast is raised and lowered by two hydraulic cylinders
<b>Mast Dumping</b>	Mast is provided with forward dumping arrangement
<b>Feed System</b>	2 x Double acting hydraulic cylinder with 1:2 double rope reeving system Pull Up Force : 42200 kgf (92840 lb.f) @ 210 bar Pull Down Force : 18500 kgf (40700 lb.f) @ 210 bar Pull Up Speed : 42 m/min Pull Down Speed : 70 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 bottom entry mud swivel having ID: 90 mm spindle thread connection of API 6 5/8 IF driven by double hydraulic motor.

Maximum Torque : 13700 Nm

Rotation Speed : 0 - 120 rpm Fine controlled

**Hydraulics**

2 x Variable displacement piston pump for Feed and Rotation  
1 x Fixed displacement pump for Auxiliary operations  
1 x Fixed displacement pump for Hydraulic cooler  
Pilot operated proportional control valve for Feed and Rotation

Maximum System Pressure : 3480 psi (240 bar)

Hydraulic Oil Cooler : 120 gpm

Hydraulic Tank Capacity : 950 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.

**Levelling Jacks**

4 x Hydraulic levelling jacks are provided for quick setting and levelling with heavy duty telescopic guides  
2 x Additional manual jacks are provided at rear end for stability while drilling  
2 x Additional manual jacks are provided to support Mast  
Locking check valves for safety with adequate capacity to withstand load

**Breakout Wrench**

Hydraulic operated breakout wrench is provided for fast breaking of rod joints





<b>Water / Foam Injection Pump</b>	<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 : 100 lpm</p> <p>Maximum Pressure : 40 kg/sq.cm</p>
<b>Single Rod Changer</b>	<p>Manually operated single rod changer to couple drill pipe to Rotary head</p>
<b>Winches</b>	<p>Hydraulic operated auxiliary winch to load drill pipe into rod changer with a lifting capacity of 1 ton.</p> <p>Winch on mast : 2 ton swing type winch to handle casing pipes.</p>
<b>Welding Machine</b>	<p>Hydraulic driven semi brushless welding alternator is provided for welding casing pipes</p> <p>Recommended Weld rod size : 2.5 mm to 5 mm only</p> <p>Weld current : 300 amps @ 60% duty cycle</p> <p>Optional single phase : 6.0 kVA @ 220v, 50 Hz</p>
<b>Airline Lubricator</b>	<p>A positive acting venturi type inline lubricator is provided for injecting oil to the down hole hammer.</p> <p>Tank capacity : 20 litres</p> <p>Working pressure : 350 psi</p>
<b>Recommended Air Compressor*</b>	<p><u>Make</u> ELGI / Atlas Copco / Doosan</p> <p><u>Compressor capacity</u> 1200 cfm - 330 psi (24 bar) 1500 cfm - 400 psi (27 bar) 1350 cfm - 365 psi (25 bar) / 425 psi (29 bar)</p>





<b>Mud Pump</b>	Engine operated PRD 250 Mud Pump (10" x 7") Stroke : 10" (254 mm) Liner size diameter : 7 " (178 mm) Displacement (Max recommended) : 1980 lpm Maximum working pressure : 292 psi (20.53 kg/sq.cm)
<b>Additional Fitments</b>	Night Lights, Tools box, Hammer stand
<b>User Manual</b>	Manual for Operation, Maintenance and Spare Parts
<b>Truck Option*</b>	MAN 6x4 / 6x6 SINOTRUK Howo 6x6 / 8x4 Min 30 ton GVW Truck
<b>Mounting option*</b>	Truck / Crawler / Skid / Trailer
<b>Optional Attachments</b>	<u>ICE Package</u> <ul style="list-style-type: none"><li>• Real time fuel monitoring system</li><li>• Drilling progress monitoring</li><li>• Drill efficiency indicator</li><li>• Bit load sensing system</li><li>• GPS location monitoring system</li><li>• Power breakout system</li><li>• Digital display in control panel</li><li>• Centralized hydraulic test station</li><li>• Real time hydraulic system status</li><li>• Remote access through mobile app</li><li>• Fire extinguisher and hose reel</li><li>• Adaptable for all water well rig models</li></ul>
	Winch on mast : 6 ton
	Hammer Opener : Hydraulic operated hammer opening device
	Rod Carousel : 4 Carousel rod changer
	Mine safety features

*\*Combinations will vary according to our Design feasibility*





**Happy Drilling Forever with PRD Rigs**

