

## Technical Specification

### PRD SPEED STAR



**A super performer bore hole drilling rig with a pull up force of 10000 kg capable of drilling 6 ½" diameters up to 363 m depth. Drilling hole size range from 6 ½" – 12".**

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

<b>Application</b>	Domestic Water Wells
<b>Capacity</b>	Hole Diameter: 165 - 305 mm (6 ½" - 12")
	Maximum Depth: 363 m
<b>Drilling Method</b>	DTH and Rotary Drilling
<b>Prime Mover*</b>	Rig hydraulic system is powered from Truck Engine with PTO option through Transfer Gearbox arrangements or suitable Deck Engine - 180 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: 8000 mm
	Rotary Head Travel: 7050 mm
	Rod Handling: 5 m
	Drill rod size: 4 ½" OD (114 mm)
	Centralizer Opening: 13" (330 mm)
<b>Mast Raising Cylinder</b>	Mast is raised and lowered by single hydraulic cylinder
<b>Feed System</b>	1 x Double acting hydraulic cylinder with 1:3 rope reeving system
	Pull Up Force: 10000 kgf (22000 lb.f) @ 210 bar
	Pull Down Force: 7300 kgf (16060 lb.f) @ 210 bar
	Pull Up Speed: 39 m/min
	Pull Down Speed: 58 m/min
<b>Rotary Head Assembly (Top Head Drive)</b>	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: 4020 Nm

	Rotation Speed: 0 - 100 rpm Fine controlled
<b>Hydraulics</b>	<p>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.</p> <p>Maximum System Pressure: 3045 psi (210 bar)</p> <p>Hydraulic Oil Cooler: 70 gpm</p> <p>Hydraulic Tank Capacity: 600 litres</p>
<b>Control Panel</b>	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.
<b>Levelling Jacks</b>	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.
<b>Breakout Wrench</b>	Hydraulic operated breakout wrench provided for fast breaking of rod joints
<b>Water / Foam Injection Pump</b>	<p>Hydraulic operated water injection triplex pump with necessary fittings, check valve and suction filter are provided.</p> <p>Maximum Flow: 80 lpm</p> <p>Maximum Pressure: 40 kg/sq.cm</p>
<b>Single Rod Changer</b>	Manually operated single rod changer to couple drill pipe to Rotary head
<b>Winch</b>	Hydraulic operated auxiliary winch to load drill pipe into rod changer with a lifting capacity of 1 ton.

<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: 15 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> 1100 cfm - 300 psi (21 bar) 1200 cfm - 330 psi (24 bar)</p>
<b>Mud Pump</b>	<p>Hydraulic operated PRD 150 Mud Pump (6" x 6")</p> <p>Stroke: 6" (152 mm)</p> <p>Liner size diameter: 6" (152 mm)</p> <p>Displacement (Max recommended): 1039 lpm</p> <p>Maximum working Pressure: 217 psi (15.26 kg/sq.cm)</p>
<b>Additional Fitments</b>	<p>Night Lights, Tool box, Hammer stand, Fuel tank for compressor</p>
<b>User Manual</b>	<p>Manual for Operation, Maintenance and Spare Parts</p>
<b>Truck Option*</b>	<p>SINOTRUK Howo 6x4 / 6x6 Ashok Leyland 2518 6x4 MAN 6x4 / 6x6</p>

**Mounting Option\***

Truck / Crawler / Skid

**Optional Attachments**

Hammer opener: Hydraulic operated hammer device

Rod Carousel: 4 Carousel rod changer

GPS and fuel monitoring system

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

