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## *Design, Manufacture and Supply of Earth Boring Machines and Equipment Ontwerp en Vervaardiging van Grond-boormasjiene en Toerusting*

### **TECHNICAL SHEET: SR050/2 DRILL RIG**

The **SR050/2** water-well/ reverse circulation drill rig is a robust, simple reliable and capable machine. This drill rig has no electronic systems that control any functions, thus eliminating untimely and unforeseen standing time due to dust ingression, thereby increasing machine availability, reliability and then of course production.

The derrick is fabricated from hollow drawn steel tube and hot-rolled sections. The feed cylinder has a 2.2 meter stroke and is coupled to an inner derrick, which carries the rotary head.

The rotary head is our SRD Gearbox type which was designed by Super Rock Drills and is manufactured in-house. Extra heavy-duty bearings, take all forces produced during drilling operations. The bull shaft on the air swivel has a 4.5" remet / 102 ARD or a 3.5" API thread to which the drill string is attached. A built-in shock absorber on the head minimizes vibration and shock loads to the machine and drill string. A hydraulic two-speed system is fitted as a standard to all machines. The rotary head is fitted to a carrier which runs on the outer sides of the derrick on four heavy duty blocks which almost eliminates all wear. Apart from reverse circulation drilling the rotary head can do open hole DTH hammer, mud rotary, air rotary, auger, tricone and RAB drilling.

Four hydraulic outriggers are fitted to the outer corners of the rig for easy and accurate levelling of the rig.

A single hydraulic cylinder is used to raise and lower the derrick. All hydraulic controls are fitted into a single panel in front of the operator, making the operation of the machine very easy and simple even for unskilled operators. A fingertip down feed valve is fitted to ensure even pressures during drilling operations.

The working table consists of removable half-moons combined with replaceable guide collars, which when removed, easily allows 250mm diameter tools to pass through. Guide bushes are supplied to suit the drill string.

The drill rig's power pack consists of a three-cylinder Kirloskar engine close coupled to our tried and tested hydraulic system. All necessary air, fuel and oil filters are included.



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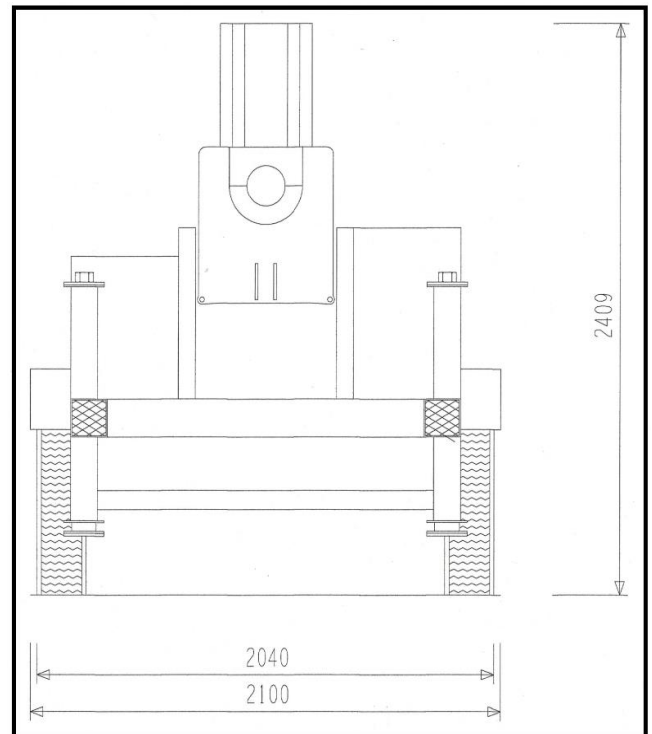
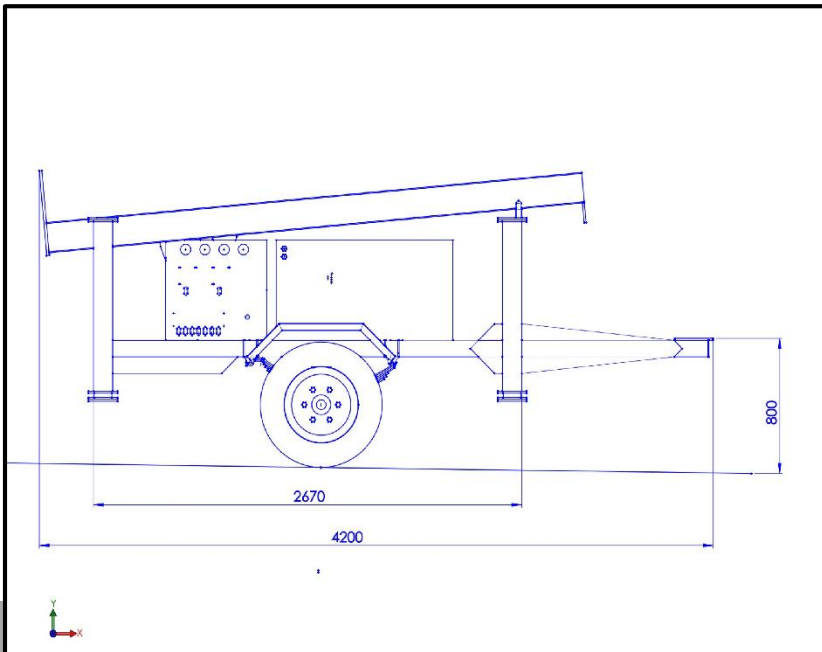
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<b>MAST</b>	<b>ROTARY HEAD</b>
<p>Fabricated from hollow drawn steel tube and hot-rolled sections. Telescopic design, direct cylinders couples the inner derrick to the outer derrick. No cables or chains are required.</p> <p>Mast Raising Cylinders - 1  Mast Locking Options - For vertical drilling  - Dump mast for angle drilling (Optional)  - Lock at various angles (5-degree increments)</p>	<p>Options</p> <ul style="list-style-type: none"> <li>- SRD Gearbox (Reduction type) 0-100 RPM</li> <li>- Spindle hole 80mm</li> <li>- Max torque options 4000-12000nm</li> <li>- Spindle thread options: <ol style="list-style-type: none"> <li>1. 102 ARD</li> <li>2. 4 1/2" Remet</li> <li>3. 3 1/2" Regular API</li> </ol> </li> <li>- Airbox/Reduction box</li> </ul>
<b>DRILLING PARAMETERS</b>	<b>FEED SYSTEM</b>
<p>Hole Diameter - 3" - 12"</p> <p>Depth Calculation(1) - Maximum depth using 25kg/m drill string will be 288m @ 20% safety margin</p> <p>Depth Calculation(2) - Maximum depth using 25kg/m drill string will be 200m @ 43% safety margin</p> <p>Single Pass - 2m</p> <p>Note: All calculations are based on 100% volumetric and mechanical efficiency.</p>	<p>Type - 2 x Telescopic direct cylinder</p> <p>Pull Back - 9 Ton</p> <p>Down Force - 3.4 Ton</p> <p>Stroke - 2200mm / 2.2m</p>
<b>RECOMMENDED COMPRESSOR CAPACITY</b>	<b>DECK ENGINE</b>
<p>Flow Rate - 600-1200 CFM</p> <p>Pressure - 14-23 Bar  (Depending on drill method)</p>	<p>Make - Kirloskar</p> <p>Engine Type - HA394</p> <p>Rating kW/HP - 34/46</p> <p>RPM - 1800</p>
<b>HYDRAULIC SYSTEM</b>	<b>DUST SUPPRESSION</b>
<p>Oil Type - Hydraulic 68</p> <p>Rig Pumps - 3-stage Gear Pump @ 200 Bar</p>	<p>Piston pump - 21l/min @ 200 Bar</p>
<b>HAMMER LUBRICATION</b>	<b>GENERAL SPECIFICATIONS</b>
<p>Type - Venturi system</p> <p>- 10 Litres</p>	<p>Lighting - LED Lights</p> <p>Emergency Stops</p> <p>Protection guards on all hot surfaces</p> <p>Lock-out protection</p>



<b>SRD GEARBOX CAPABILITIES</b>	<b>COOLING - HYDRAULICS</b>
Types <ul style="list-style-type: none"> <li>- Reverse Circulation (RC)</li> <li>- Open Hole DTH - Waterwells</li> <li>- Mud Rotary</li> <li>- Air Rotary</li> <li>- Auger</li> <li>- RAB Drilling</li> <li>- Air Core</li> </ul>	Oil cooler fitted <ul style="list-style-type: none"> <li>- 12v Electrical driven fan</li> </ul>
<b>RIG STABILIZATION</b>	<b>ROD BREAKING SYSTEM</b>
4 X Hydraulic outriggers <ul style="list-style-type: none"> <li>- Boxed</li> <li>- Bore 80mm</li> <li>- Stroke 900mm</li> </ul>	Options <ul style="list-style-type: none"> <li>- Manual keeper key</li> <li>- Hydraulic keeper key</li> <li>- Break-out cylinder &amp; spanner</li> </ul>
<b>WINCH (OPTIONAL)</b>	<b>MUD PUMP (OPTIONAL)</b>
Standard <ul style="list-style-type: none"> <li>- Fixed winch</li> </ul>	Standard <ul style="list-style-type: none"> <li>- 4x3x13 Centrifugal *Hydraulic Drive.</li> </ul> Optional <ul style="list-style-type: none"> <li>- Duplex, Triplex, Orbit.</li> </ul>
<b>AIR LINE SYSTEM</b>	<b>UNDERCARRIAGE OPTIONS</b>
All 2" steel & 2" rubber hoses rated @ 80 Bar pressure.	<ul style="list-style-type: none"> <li>- Trailer mounted; brake axle (single axle single tyre)</li> <li>- Rubber Track mount</li> <li>- Skid frame (airlift: drill rig in segments)</li> </ul>



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