

**GENERAL DESCRIPTION:**

**CE-certificated Horizontal drill rig:**

Directional drill with 90 ton pullback capacity, suitable for the following type of rods

- with automatic loader and 88.9 mm rod basket, 115 mm length tool joint, 4.5 m useful length 3 ½" API regular thread
- without automatic loader, diameters up to 127 mm and tool joint 6 5/8" length 4.5 m.

The rig has two key switches for limiting pullback and rotation torque, in particular:

			pos 1	pos 2
A	Pullback selector	Limitation of N	700.000	900.000
B	Torque selector	Limitation of Nm	20.000	30.000

**FEATURES:**

- **Best quality components** with no compromising in placing cost over efficiency
- **Rapid response safety systems** on both hydraulic system and diesel engine.
- **Static and dynamic scaling** of rig structure.



Images are purely indicative and may differ from actual design. Data, images and illustrations are subject to amendment without prior notice.

### RIG BODY

The welded steel rig frame has an integrated crawler track and hydraulic oil tank. The main pumps are splined to the engine flywheel shaft. The supplementary engine power port feeds an additional hydraulic pump to allow installation of extra rig services. The distributor bank is located on the rig side to guarantee easy access.

The diesel power pack is installed in a longitudinal position. The diesel engine compartment is fitted with acoustic insulating panelling: **the drill rig is soundproofed to the level required for compliance with the CE noise emission directive.** The electric battery is conveniently positioned in a box on the engine compartment exterior to facilitate access.

<b>Weight</b> <b>(basic rig dry weight, no optionals)</b>	<b>kg</b>	<b>≈32.500</b>
--	-----------	----------------

### CONTROLS:

All rig functions are powered hydraulically by the valve banks on the rig body, accessible from a side panel.

The valve banks are electrically servo-controlled from the control cabin with a device for memorizing in the work phase.

#### Rig and engine controls

- Battery
- Low oil pressure
- High water temperature (engine overheating)
- Low fuel level
- High hydraulic oil temperature
- Low hydraulic oil level
- Rpm counter / hour counter
- Acoustic alarm
- Engine throttle

#### Instrument panel

- Rotary rotation pressure gauge
- Thrust/pullback pressure gauge
- Mud pump delivery and pressure display



### Rig functions

- Emergency stop
- Cabin rotation
- Rod counter
- Thrust/pullback
- Rotary torque
- Fixed clamp
- Jointbreaker clamp
- Loader activation
- Horn
- Rig in operation warning light
- Cabin heating / fan
- Track radio control
- Cigarette lighter
- 24 DC plug

### Track controls

Left / right track

### Positioning controls

The operator can control:

- Mast drilling angle
- Rear stabilizers
- Clamps



**ENGINE:**

**CATERPILLAR: Diesel-hydraulic power unit**

The rig is powered by a hydraulic power unit which runs off a CATERPILLAR C9 (Euro 3) diesel engine. The variable displacement pump has Load Sensing control.



Maximum power (SAE J1349)	kW/hp	442/325
Rpm	rpm	2.200
Oil flow rate	L	400
Max pressure	bar	350
Cooling system	L	heat exchanger
Oil tank capacity	L	500

**CRAWLERS**

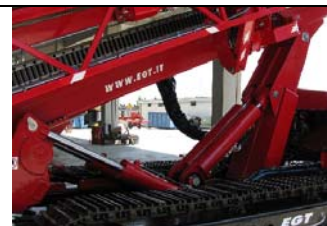
The 30t crawler with steel track shoes is integrated into the rig body, whose structure includes side compartments, diesel engine and soundproofed panelling around the engine. Crawler drive is provided by 2 hydraulic motors coupled to epicycloid reduction gears, with negative parking brake.




Crawler length	mm	4.000
Crawler wheel base	mm	2.500
Track width	mm	500
Max speed	km/h	1,5

**MAST SUPPORT**


Two hydraulic rams allow variation of angle of operation in a range between 12-22°



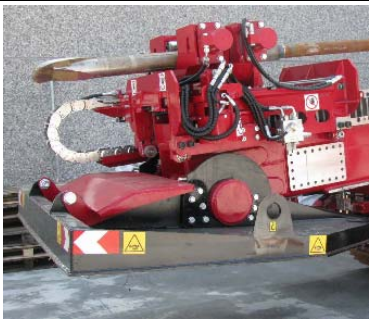
### MAST

<p>The rotary trolley is installed on a rack and pinion and is moved by 6 hydraulic motors- The mast has a front dozer for anchoring in the ground (using stakes, reinforced concrete foundations, etc, at user's cost and charge)</p>		
Max pullback at max speed	N @ m/min	700.000 @ 2,5
Thrust at max speed	N @ m/min	700.000 @ 2.5
Rotary stroke	mm	≈ 5.500
Angle of operation	degrees	12-22
Rotary stroke travel time with 500 kN pullback	sec	5 (circa)
Max rotary travel speed @ max pullback	m/min @ N	35 @ 50.000

### R003000RH ROTARY

<p>Cable and reel winder + tensioner system, commanded from the control cabin, with slip ring assembly and repetition of the contacts in the cabin.</p>					
Performance	1st speed	Nm	30.000	rpm	29
	2nd speed	Nm	15.000	rpm	60

### CLAMPS

<p>The clamp set consists of fixed and jointbreaker clamps, mechanically open to allow access to the front area. The clamp position can be varied with the drilled holes.</p> <p>The clamp group can slide along the entire rotary stroke, driven by the reduction gears which are coupled to the hydraulic motors.</p>		
Standard min-max clamping diameter	mm	76 - 220
Clamping force	N	200.000
Break out torque	Nm	50.000



### ILLUMINATION KIT

Three low voltage lamps are fitted on the cabin roof to provide illumination on rig body and clamps zone.  
 DC power source for lamp (to be supplied by user) on the cabin and in the rear rig section.



### RADIO REMOTE CONTROL

The radio control allows remote control of L/R rotation and thrust-pullback functions.



### MUD PUMP

The skid-mounted triplex mud pump runs off the rig hydraulic system.

Max delivery	L/ min	500
Max pressure	bar	60

### STRIKE ALARM FOR UNDERGROUND POWER CABLES

The rig has a strike alarm in case the drilling string hits an underground power cable.



### ACCESSORIES AVAILABLE ON REQUEST

The following items can be added to the standard drill rig dressing **upon request**. In some cases the components are REPLACED by alternative items.

**N.B. Installation of different combinations of the various available options may affect the performance data declared for each individual optional accessory.**

### AUTOMATIC ON-BOARD ROD LOADER

An automatic rod loader system is provided to improve rod loading operations. The system includes a storage area for 2 x 21 rod-capacity baskets, totalling 42 rods) and two sets of rod grippers on special supports, which pick up the rod to be loaded on the drilling axis.

The rod store must be disassembled for transport.

Supply includes 6 x 21 rod-capacity baskets.



Rod capacity	number	21 + 21
Max rod length	m	4,50
Rod diameter	mm	88,90
Tool joint diameter	mm	115,00