Geomachine

GM2000

A new era in deep energy well drilling is here

The world’s first well-drilling rig for deep energy wells

Heat from the ground, quickly and more cost effectively

- Product development is based on Geomachine's decades of experience in designing drill and energy well rigs, as well as TKP Group's expertise in the manufacture of mobile work machines and DTH drilling equipment.
- The most important driver in product development has been return on investment for the customer. In addition to the machine, the customer also receives comprehensive support in commissioning, operation, service and maintenance as well as spare parts.

Carriage

- Weight: 39 ton
- Width: 2,99 m
- Height in transport position: 3,7 m
- Length: 15,2 m
- Engine: Cummins B6.7 Stage V
- Power: 243 kW
- Crawler mounted: 600 mm x 3325 mm
- Driving force: 225 kN
- Speed: 2.6 km/h
- Ground clearance: 350 mm
- Service free stable upper carriage
- 4 Hydraulic support feet

Boom

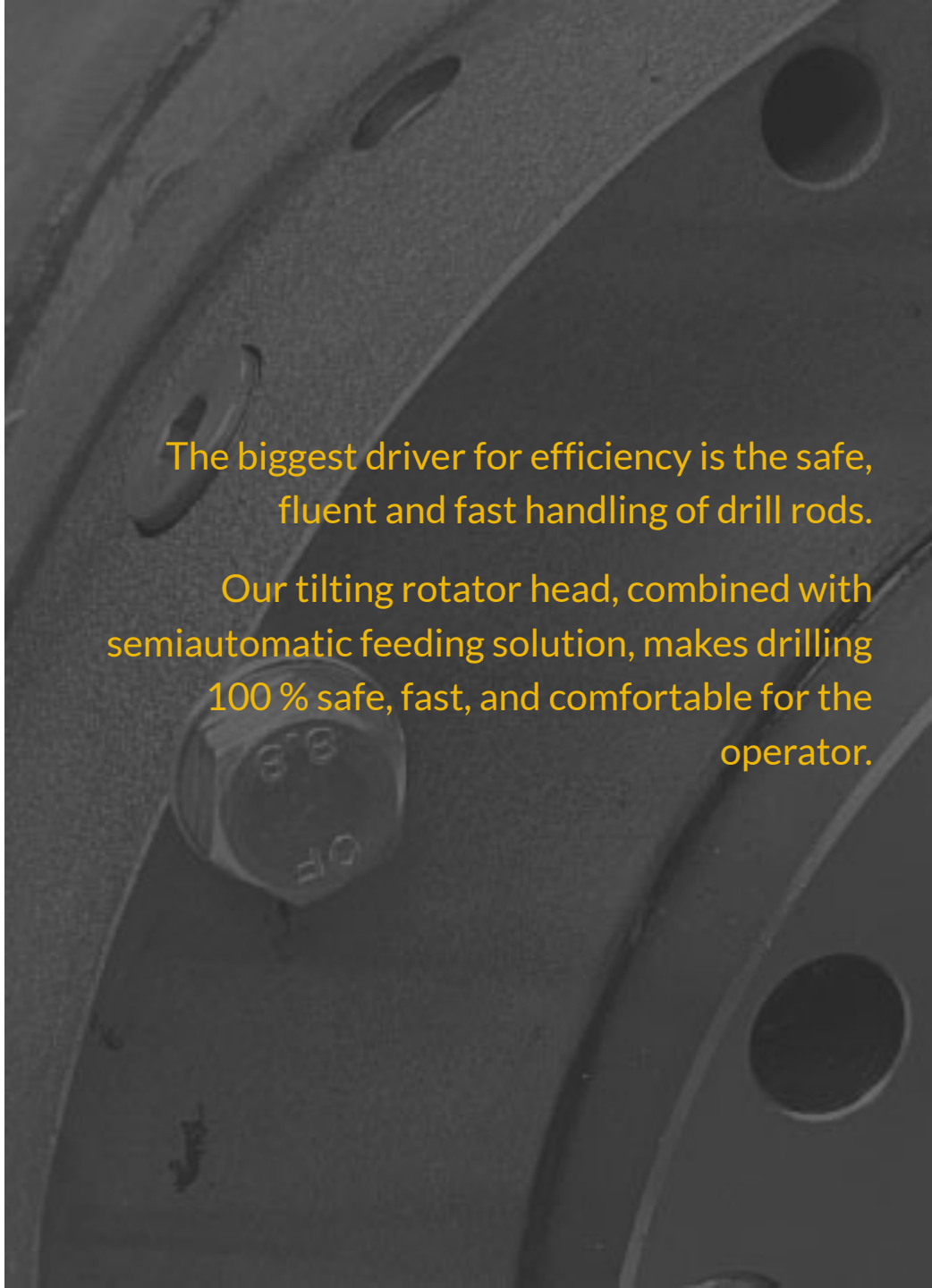
- Hydraulic drill table movement using chains
- Lifting capacity: 60 ton
- Feed force: 20 ton
- Drill table movement: 10,5 m
- Movement speed: 1 m/s
- Drill rod length: 9 m
- Boom adjustment: -0,6 m… +0,4 m
- Mechanic locking of boom

The main driver in boom design has been to provide the lifting force required for heavy drilling equipment, as well as a drilling speed that beats the competition.

All competing solutions are modified multipurpose drill rigs that have huge feed force but limited lifting capacity. GM2000 has been specifically developed for DTH drilling so the boom structure has been optimised to provide the required lifting force.

Drill rod handling

- Rotator head max torque: 12/14 kNm
- RPM maximum: 100
- Rod feeding from front with tilting rotator unit
- Hydraulic double clams to enable automatic rod loading and dissolving
- Hydraulic cylinders to release drill bits and to disassemble hammer



The biggest driver for efficiency is the safe, fluent and fast handling of drill rods.

Our tilting rotator head, combined with semiautomatic feeding solution, makes drilling 100 % safe, fast, and comfortable for the operator.

Gear

- Winch (2 ton)
- Wax generator
- Hydraulic generator for welding
- Hydraulic water pump
- Hydraulic compressor
- Bus controlled system with remote control
- Data logger

From operator to controller

- GM introduces ground investigation drill rig control and monitoring technology to DTH drilling
- Our goal is a drilling process that is not dependent on the user's knowledge and experience, but one where the system controls and adjusts the drilling values and handles the rod automatically.
- Our vision is to change the role of the person using the machine from operator to process controller

Collection and use of information

- Using the GM Tracker, drilling progress can be recorded and tracked graphically. Values monitored include:
- Feed and rotation speed, feed force and torque
- Fuel consumption, drilling pressure and air volume (if the Geomachine compressor is used as the air source)
- The solution enables real time comparison and adjustment of drilling parameters to find optimal drilling values
- Subsequent analysis of data over multiple drilling sites and equipment choices to find the most economical values

www.geomachine.fi