GEO

Electric Drill Rig for the Geothermal Industry

Adapted from Information by Fraste S.p.A.

As projects around the world search for ways to decrease emissions, the demand for electric-powered equipment is on the rise. Electric solutions make it possible to produce electricity from renewable sources and with very low or near zero emissions.

Fraste has recorded a constant increase in the demand for drilling rigs powered by alternative energy forms. So, the company decided to take up the challenge of designing a drill rig capable of being powered by any source of electricity for one of its long-standing Dutch customers.

The company selected one of the most popular rigs in their line of quality rigs to come up with a scalable system which could be implemented to all models of smaller or larger size. The model paving the way for electrification at Fraste is a classic, a top model for more than 20 years, the FRASTE Multidrill XL MAX 170.

One of the uses for the electric XL MAXe will be for drilling wells for geothermal installations. It is equipped with a centrifugal mud pump, drilling mast suitable for the use of 16-foot rods with 12 tons pull up, double clamp, and a 2-speed rotary head.

The automatic loader of the drilling rods, the Manipulator, is a must, which makes this rig extremely safe and productive.

The customer requested the rig be powered by an independent battery pack which can be recharged with electricity from renewable sources. However, this solution presented logistical problems, related to the handling of the batteries; so, Fraste's team of designers made the machine compatible with other more conventional power sources such as generators powered by natural gas or fuel cells. This feature makes the machine adaptable to different market demands.

In addition, with a view to facilitating site logistics, the drill rig was equipped with a battery pack onboard. This powers a 30-kilowatt electric motor dedicated to the movement and positioning of the rig. This technical solution is extremely advantageous as it allows the loading / unloading and positioning of the machine without any connection to external energy sources. It is also a safer system as there are no live cables during its handling.

The rig's 90-kilowatt electric engine allows the same performance as the 129-kilowatt heat engine mounted on the standard version.

Thanks to the greater energy efficiency of the electric motors, it has been possible to reduce the installed power while maintaining the same level of performances as a machine driven by a heat engine.

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SEDC
SHALLOW EXPLORATION DRILLERS CLINIC

May 1-3, 2023 ~ The 2003 **SEDC** (Shallow Exploration Drillers Clinic) will be hosted by the Montana Department of Transportation at the Copper King Hotel and Convention Center in Butte, Montana.

Each year, the **SEDC** event offers information about the latest new techniques and technologies while also sharing tried-and-true methods for those the drilling industry. Vendor set up and registration begins on Monday. Tuesday kicks off with opening remarks at 8:00 am, followed by educational seminars, field demonstrations, and a trade show throughout the day. On Wednesday, seminars and the trade show continue.

www.shallowdrillers.com

For more information, contact Jonathan Neace at jneace@mt.gov or Michelle Wheat at miwheat@mt.gov

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