

Drillmec HH-220.FA spec.



ICELAND DRILLING



ISO 9001
FM 534725



ISO 14001
EMS 567074



ISO 18001
OHS 567075



HH-220.FA – MAIN SPECIFICATIONS

Drillmec HH-220.FA

**Trailer mounted, fast moving, automatic,
hydraulic rotary drilling rig, Drillmec,
Mod: HH-220.FA**

Built 2004

Especially designed for Geothermal
applications

Built for quick drilling deep wells up to 3800
m with 5” range 3 DP.

VFD – Hydraulic Land Rig

Hook-load Capacity, 200 ton

Loads, in Transport between wells 65

Drilling Crew per shift 6

Rig mechanic 1



HH-220.FA – MAIN SPECIFICATIONS

Telescopic Mast

Telescopic section, sliding inside the main base section.

Working stroke	16 m
Static hook capacity	200 ton
Pull down capacity	20 ton
Max casing operation length	R3
Built as per API 4 F	



HH-220.FA – MAIN SPECIFICATIONS

Substructure

Clear Working height 5,9 m

Main frame is a steel trailer frame with four hydraulic stabilizers with 40 ton lifting capacity each, 2,1 m stroke and mechanical locking.

Trailer

Trailer is equipped with a 3” SAE king pin. Front neck 4 axles trailer with double wheel tires designed for EC and Icelandic road rules.



HH-220.FA – MAIN SPECIFICATIONS

Power swivel

Soilmec power swivel driven by 4 top-head hydraulic motors installed on a heavy duty power swivel body, assembled on a cradle sliding on mast guide.

The power swivel is completed with a patented service that can easily move complete power swivel from well center to mouse hole center controlled by main control panel.

ID full opening	76 mm (3")
Variable speed	0 to 200 rpm
Torque	3600 daNm
Max pull	200 ton
Max power	375 kw
Circ. pressure	350 bar



HH-220.FA – MAIN SPECIFICATIONS

Hydraulic Power-Pack

Two 500kW electric motors 600V 60Hz.
Load sensing hydraulic piston pumps for powering the rig.

The hydraulic system has one oil tank, 4400 lt capacity, with oil level alarm

Two air-oil cooler with 105 kW each exchange capacity

Auxiliary hydraulic power-pack, independently powered, assembled directly on rig trailer frame, driven by 30kW AC motor composed by:

One 30kW AC motor and one hydraulic piston pump

One oil tank 600 lt capacity with oil level alarm and oil heaters



HH-220.FA – MAIN SPECIFICATIONS

Independent driven rotary table

Max. rotation speed 60 rpm

Max torque 1.020daNm

Max full opening 698,5 mm

Automatic power slips

Drill pipe holding cap. 3 1/2"-5"

Drill collar holding cap.
6 1/2" - 7" - 8" - 11"

Tubing holding cap. 2 3/8"-2 7/8"

Casing holding cap. 7"-13 3/8"



HH-220.FA – MAIN SPECIFICATIONS

Automatic hydraulic power tongs

Max operating diameter 11”

Min operating diameter 2 7/8”

Max torque 18.000 daNm

Casing make-up

Casing make-up with double hook, allows the casing to be lifted and rotated with adjustable torque, as well as fluid circulation while running casing. All operated from drillers control cabin.



HH-220.FA

CASING MAKE-UP SYSTEM AND POWER SLIPS

Casing make-up

Casing make-up with double hook, allows the casing to be lifted and rotated with adjustable torque, as well as fluid circulation while running casing. All operated from drillers control cabin.

Casing device



Casing brought up to drill-floor



HH-220.FA CASING MAKE-UP SYSTEM AND POWER SLIPS

Casing lowered into casing slips



Hydraulic casing slips



HH-220.FA

AUTOMATIC PIPE HANDLING SYSTEM

Automatic pipe handling system

A fast operating automating pipehandling system, which allows easy and safe pipehandling.

The system is composed of a series of 14 sections.

From each section tubulars are moved in or out automatically by means of rotating manipulator.

The manipulator is composed of an open face base structure with an rotating clamp that can rotate 360°. The clamp is completed of an arm that can be extended in order to pick up or pick down DP, and a guiding roller that keeps the DP locked during picking operations.

The guiding roller and clamp movement are simultaneous.



HH-220.FA – MAIN SPECIFICATIONS

Control panels

Main control panel:

mounted in dog-house with all controls for drilling operations, power engines, mud pumps, make-up and break-out automatic sequences, weight indicator etc.

Side control panel:

To control leveling jacks, rising and lowering of the mast, emergency stop, rope tensioning device, oil radiator operation.



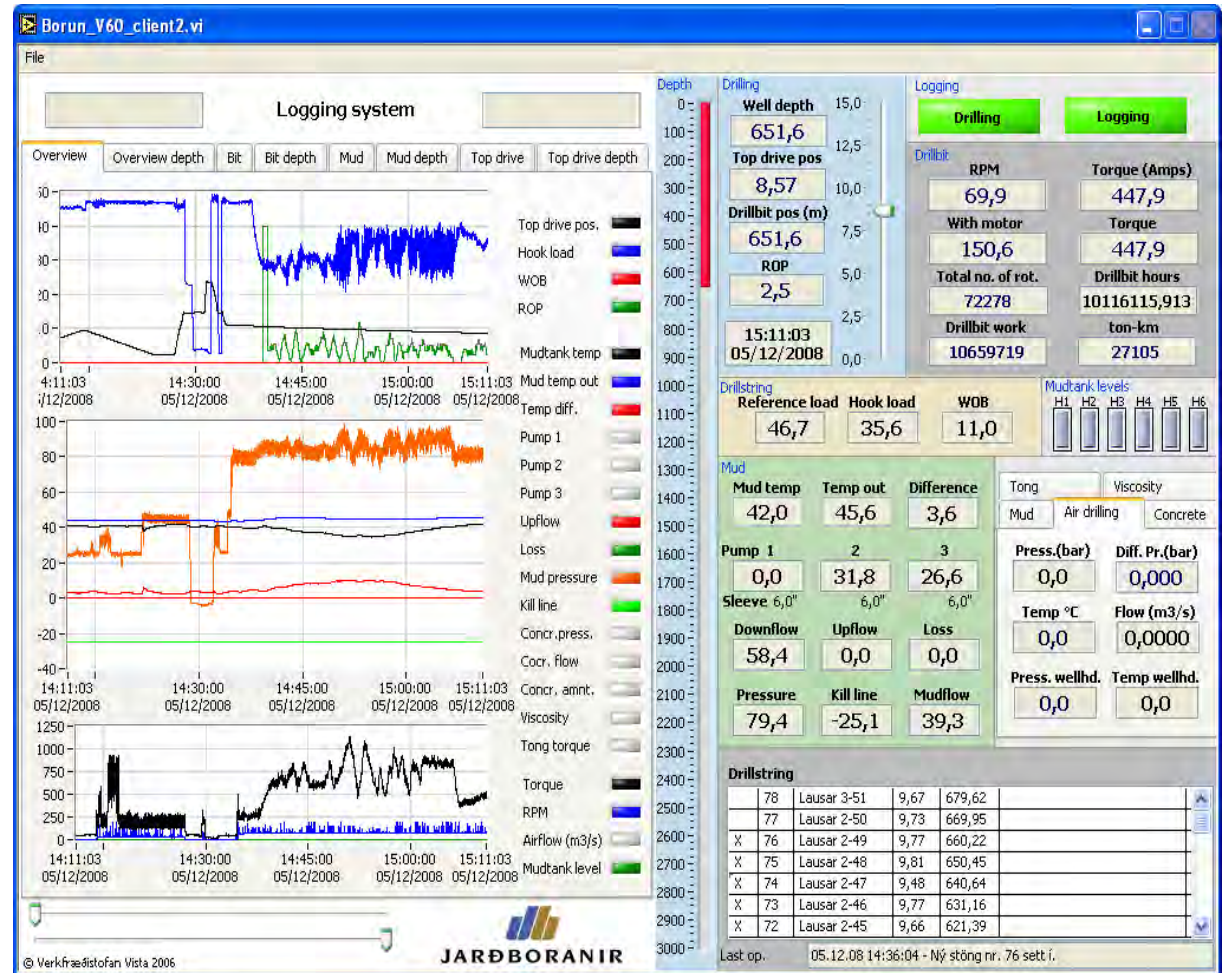
HH-220.FA – RIG INSTRUMENTATION

Rig Instrumentation:

Automatic recording and monitoring of all major drilling parameters.

All drilling parameters are stored in a MS SQL-database and is accessible on the rig.

This display are also accessible live for our customers, over the Internet using a standard web browser.



HH-220.FA – RIG INSTRUMENTATION



HH-220.FA – MUD SYSTEM

MUD PUMPS

Two Drillmec 9T 1000

High pressure mud pumps.

Drillmec 9T 1000 is a 1000 hp triplex single acting piston pump according to API 7 standards.

Capacity, each pump with 7" liner:

Max volume: 37 l/sec

Max pressure : 185 kg/cm²

Max pressure with 5" liner: 350 kg/cm²



HH-220.FA – MUD SYSTEM

MUD SYSTEM:

TWO tank system with, especially designed for Geothermal operations.:

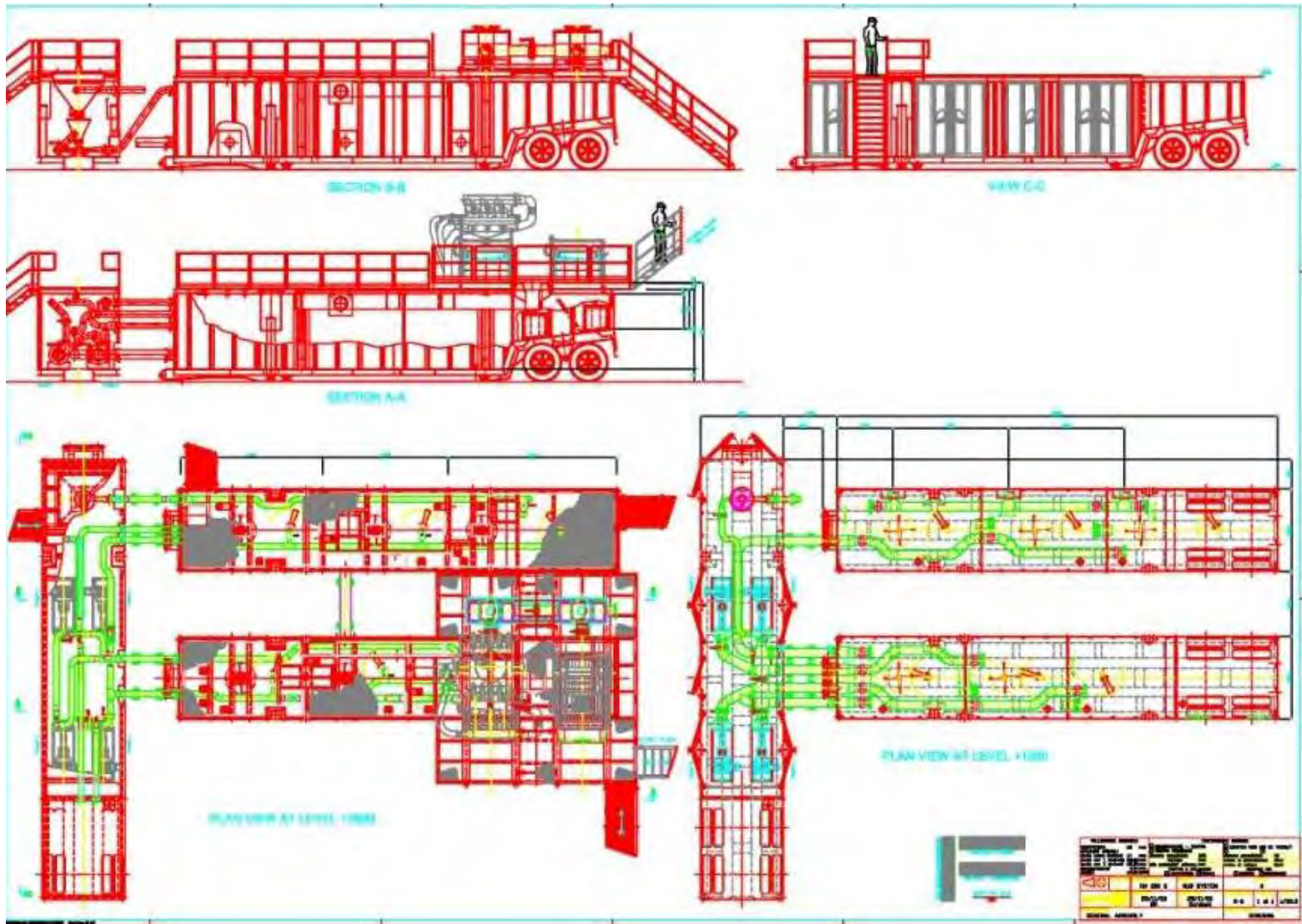
Mud treatment with Derrick Flo-line Cleaner 2000

Mud cooling and mixing unit

Capacity of mudsystem: 120 m³



HH-220.FA – MUD SYSTEM



HH-220.FA – PCR ROOM

Bentec Power Control Room specially designed for Drillmec HH-220.FA

The PCR-system is designed to operate:

- Three 1470 KVA Generator Sets CAT 3512B
- 1000 KW Hydraulic Package with two 500 KW 600V A.C. Motors
- Two 1000 hp Mud-pumps, each with one 800KW 600V A.C. motors.
- All PLC controlled.

Full protection on over voltage, under frequency and reverse power.



HH-220.FA – POWER PACK

Three 1470 KVA Generator Sets
Cat 3512B.

The Generator Sets are designed
for crane transportation mounted
on container skids, inside a silenced
container

Designed noise level: 85 dB@1m
Measured noise level: 45-50 dB@300 m



HH-220.FA – BOP EQUIPMENT

Size - Type - WP – Manufacturer

- 21 ¼” - Rotating Head – Washington
- 21 ¼” - Annular BOP – 2M - Shaffer
- 21 ¼” - Double LWS BOP- 2M- Shaffer

- 13 ⅝” - Rotating Head – Washington
- 13 ⅝” - Annular BOP – 3M - Shaffer
- 13 ⅝” - Double LWS BOP - 3M- Shaffer



HH-220.FA – ACCUMULATOR

ACCUMULATOR

R&T

140 l/m @ 210 bar.

With el driven triplex pump, two air operated pumps and 24 E-series standard bladder 42 liter bottles.

A drillers remote control R & T



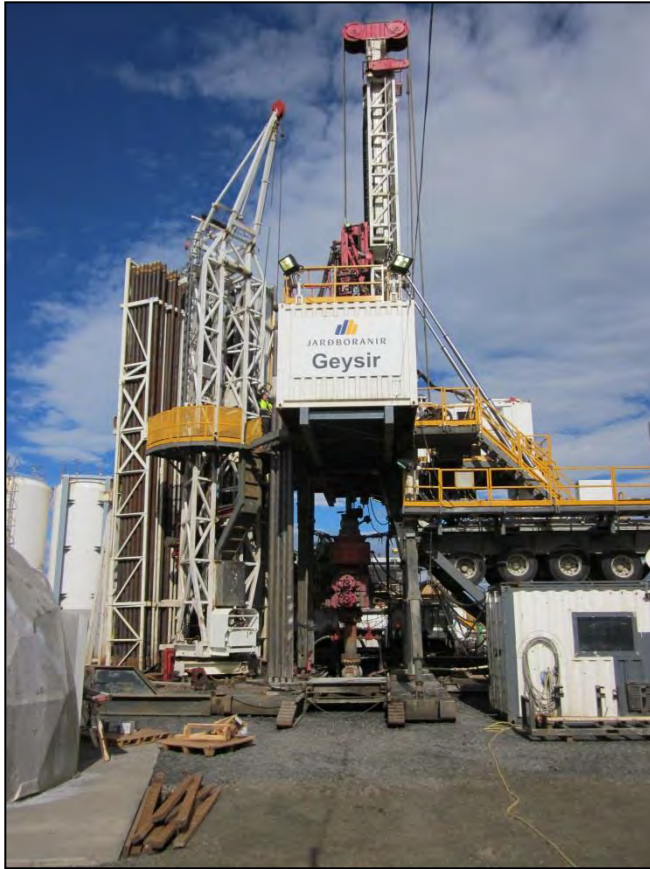
Drillmec HH-220.FA Trailer mounted rig



Drillmec HH-220.FA



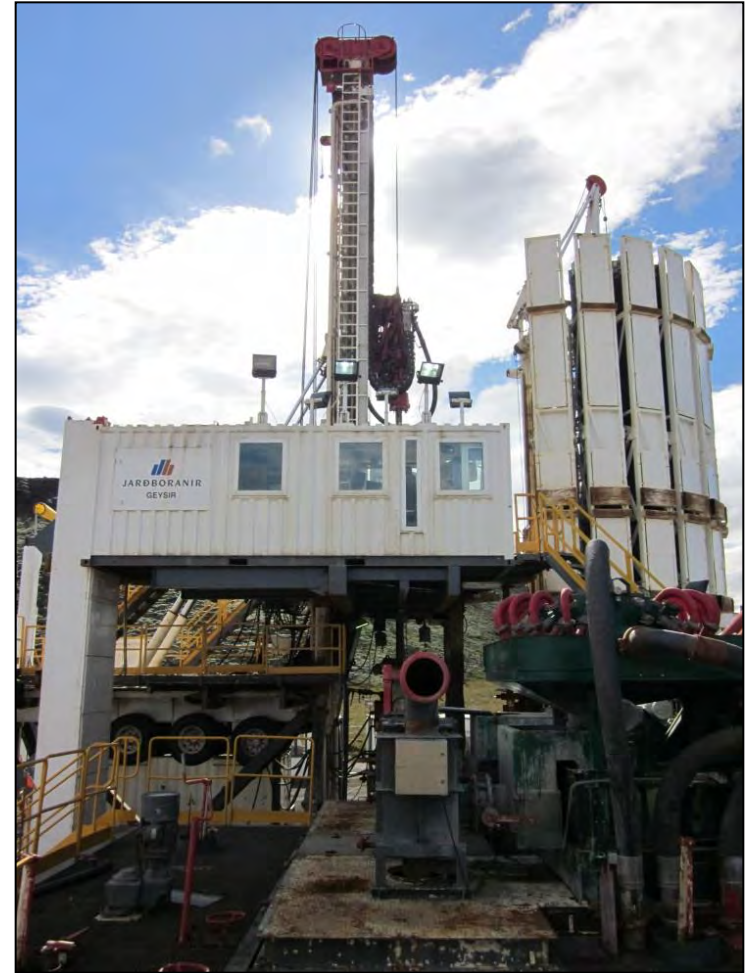
Drillmec HH-220.FA



Drillmec HH-220.FA



Drillmec HH-220.FA



Drillmec HH-220.FA



Drillmec HH-220.FA



Drillmec HH-220.FA



Drillmec HH-220.FA



Drillmec HH-220.FA Pipehandler



Drillmec HH-220.FA Mud system



Drillmec HH-220.FA

Drilling crew office facilities



Drillmec HH-220.FA

Drilling crew office facilities

