

DEEP DRILLING

DRILLING RIG VDD 200.1 COMPACT

- Modular construction
- Variable rig layout
- Low total height:
only 108 ft (33 m) incl. substructure
- Small footprint: approx. 989 m² (10,645 ft²) of
basic equipment
- Low noise emission
- Skiddable along the longitudinal axis
- Safety system DIN EN 61508



VDD 200.1 COMPACT SUPER SINGLE WITH AUTOMATIC PIPEHANDLING SYSTEM

Hydraulic Top Drive

Top drive (rotary unit) and drawworks (carriage) are integrated in a carriage system. The carriage system is moved along the mast by a rack and pinion system. Carriage loads and torque are transferred via the racks and the mast.

The top drive is equipped with a specially designed break/lock system which can prevent uncontrolled movement even in case of faulty lines or hoses as well as in breakdown of the hydraulic system.

Max. Depth

- 11,483 ft (3,500 m)

Mast

- Welded box type with two integrated gear racks on the sides
- Clear working height: 59.1 ft (18 m)
- Max. working load: 404,656 lbf (1,800 kN)
- Standard working load: 359,694 lbf (1,600 kN)
- Overall height incl. substructure: 108 ft (33 m)

Substructure

- 4 modules for 2 levels, height each 9.5 ft (2.9 m)
- 2 modules for rig floor, height each 9.5 ft (2.9 m)
- 1 auxiliary module for driller's cabin
- Footprint incl. clearance for cellar: 26.3 x 19.7 ft (8 x 6 m)
- Substructure opening: 9.9 ft (3 m)
- Height to bottom edge of rotary table support: 24.6 ft (7.5 m)
- Preventer stack lifting system: 2 x 44,063 lbf (2 x 196 kN)

Rotary Table

- Table opening: 37 ½" (957 mm)
- Static capacity: 404,656 lbf (1,800 kN)
- Max. rpm: 10 min⁻¹
- Max. torque: 33,190 ft-lbf (45,000 Nm)

Top Drive

- Manufacturer: MAX STREICHER GmbH & Co. KG aA
- Static capacity: 404,656 lbf (1,800 kN)

- Continuous torque: 40,000 Nm @ 113 rpm
- Max. rpm: 190 min⁻¹
- Make up/break out: max. 45,000 Nm
- Max. circulation pressure: 5,000 psi (345 bar)

Tubular Handling Equipment

Pipehandler

- Tubular sizes: 2 ½" to 20", up to range III

Iron Roughneck

- Manufacturer: NOV and completed with a remote positioning system
- Pipe diameter (OD): 4 ¼" to 8 ½"
- Max. make-up torque: 60,111 ft-lbf (81,500 Nm)
- Max. break-out torque: 80,026 ft-lbf (108,500 Nm)

Trip Time

- Up to 1,312 ft/h (400 m/h)

Power Generation

- 4 x 1,065 kVA AC generators
- 4 x MTU 18V/16V 2000 diesel engines
- Optional: transformer unit (10/15/20 kVA) to connect rig 100% to grid

Hydraulic System

- 2 redundant power packs for top drive, drawworks and for all auxiliary appliances (pipehandler, elevator, support crane, auxiliary winch, etc.)

Fuel Storage

- 1 fuel tank: 126 bbl (20 m³), with automatic refill system for generators
- Optional: 2 x 20 m³

Data Acquisition System

- Comprehensive system to acquire and digitally process all relevant drilling and operating parameters
- Remote diagnostic system for drilling rig

Blow Out Prevention Equipment (Example)

Stack Configuration

- Annular preventer spherical 13 ⅝" 5,000 psi
- Double ram preventer U-Type 13 ⅝" 10,000 psi (standard bonnets and large bore bonnets with tandem boosters)
- Single ram preventer U-Type 13 ⅝" 10,000 psi (standard bonnets)
- API certified suppliers

Accumulator Unit

- 5 - 8 stations
- 240 - 370 gallons (bottle volume)
- Working pressure: 3,000 psi
- 2 remote controls
- API certified suppliers

Degasser

- Poor boy degasser, vacuum degasser

Choke Manifold

- 11 - 15 gate valves (3 ⅛" 10,000 psi)
- Rated working pressure 10,000 psi
- One remote choke and one manual choke
- One remote panel

Drill Pipe

- Supplied as required by the customer (Range III)

Mud System

Mud Pumps

- 3 x STREICHER HHF 1000
- 10" stroke, 4 ½" to 6 ¾" piston
- Input power for each pump: E-Motor, 986 HP (735 kW)
- 3 centrifugal charging pumps, 60 HP (45 kW)

Mud Tanks

- 1 tank with integrated mixing unit 314.4 bbl (50 m³)
- 2 tanks 377.4 bbl (60 m³) and 188.7 bbl (30 m³) divided into 7 compartments 3 x 188.7 bbl (30 m³), 3 x 94.3 bbl (15 m³), 1 x 31.4 bbl (5 m³) variable use as active, mix and pill tanks
- 1 hopper (optional 2nd hopper)
- 2 mixing and transfer centrifugal pumps, 74 HP (55 kW)
- Optional volume expandable

Solids Control System

- 3 x 4-panel shale shakers
- 1 x flow-divider - Interfaces for 3rd party centrifuges

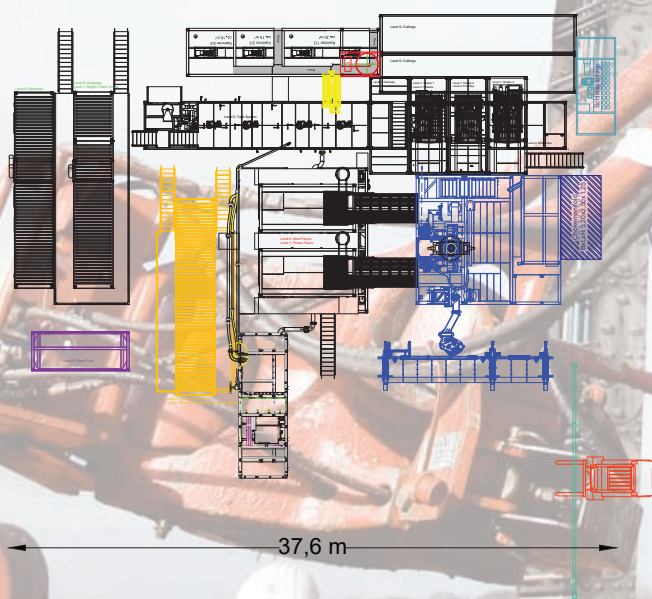
Air system

- 1 compressor: Atlas Copco GA 30C3
- Max. volume: 28.3 bbl (4.5 m³)
- Max. pressure: 188.5 psi (13 bar)

Special Features

- Operation of casing running / casing drilling tool
- Connection of hydraulic powered equipment into rig system
- Integration of coiled tubing system

Layout of Drilling Rig VDD 200.1 Compact



valid from 01/2020; subject to change