



DRILLING TECHNOLOGY

- Modular Design
- Small Footprint
- Fast Moving
(Containerized – CSC Approval)
- Functional Safety and
Anti-Collision-System
- Hands-Off-Technology
- Inclination Range
5° – 20° (Hydraulically Actuated)
- Low Noise Emission
- Load and Torque Cell

HORIZONTAL DIRECTIONAL DRILLING UNIT

HDD 350



Horizontal Directional Drilling Unit HDD 350

The HDD 350 Horizontal Directional Drilling Unit stands for a compact design in combination with high class components. The Drilling Unit, tailor-made for challenging HDD applications, comprises three components: The HDD Rig, the Hydraulic Power Unit and the Control Container. For fast and cost-effective transport, all components are installed or can be loaded in CSC-shipping containers. The floating mainshaft in the Rotary Drive allows simple Make Up/Break Out operations and protects the drill pipe threads. All displayed forces and torques are recorded and can be remotely limited. The measuring is done by an accurate load and torque cell, which is working on strain gauge technology. The load and torque cell is integrated in the mainshaft end.

HDD Rig

- Mainframe/Rack Length: 59.1 ft (18 m)
- Working Stroke Length: 42.6 ft (13 m)
- Carriage Travel System: Rack and Pinion
- Max. Push/Pull Force: 386 short tons (350 metric tonnes)
- Max. Travel Speed: 99 ft/min (30 m/min)
- Max. Torque: 79,848 ft-lbs. (96,000 Nm)
- Max. Rotation Speed: 90 rpm
- Inclination Range: Variable between 5° – 20°;
Outrigger is Hydraulically Actuated
- Make Up/Break Out Unit: max. Break Out Torque 151,290 ft-lbs. (205,000 Nm)
Opening 17 3/4" (450 mm)
Capable of Travelling Entire Rack Length
- Max. Tubular Length: 41 ft (12.5 m)
- Transport: Rig is Splittable with Front and Rear Sections Fitting into two 40' Open-Top Shipping Containers (CSC-Approval)
- Mainframe Weight: 100,300 lbs. (45,500 kg)
Front Section: 34,170 lbs. (15,500 kg)
Rear Section: 66,138 lbs. (30,000 kg)
- 40' Container Weight: 63,935 lbs. (29,000 kg) Front Section with Additional Equipment Packed
- 40' Container Weight: 75,400 lbs. (34,200 kg) Rear Section
- Force and Torque Limiter: by Load and Torque Cell in Mainshaft



Carriage with Hydraulic Make Up/Break Out Unit



Hydraulic Rear Outriggers



Hydraulic Power Unit HPU 350

Weights and Dimensions:

- Length: 20 ft (6,058 mm)
- Height: 9.5 ft (2,896 mm)
- Width: 8 ft (2,438 mm)
- Weight: 46,738 lbs. (21,200 kg)

Technical Details:

- Diesel Engine, Rated Power 1,050 hp (783 kW) at 1,800 rpm
- Hydraulic Pump for Rotation: max. Pressure 5,000 psi (345 bar), max. Flow 237 gpm (900 l/min), Closed Loop
- Hydraulic Pump for Push/Pull: max. Pressure 5,000 psi (345 bar), max. Flow 237 gpm (900 l/min), Closed Loop
- Hydraulic Pump for Break Out/Make Up Tong and Auxiliary Functions: max. Pressure 3,900 psi (270 bar), max. Flow 34 gpm (130 l/min), Open Loop
- Hydraulic Feed Pumps for Rotation and Push/Pull: max. Pressure 290 psi (20 bar), Flow each 47.5 gpm (180 l/min)
- Hydraulic Pump for Fan Drive: max. Pressure 3,000 psi (210 bar), Flow 30 gpm (115 l/min)
- Hydraulic Filter System High Pressure Filters for Open Loops, Feed Filters, Reverse-Flow Filters and Air Dryers; all Filters with Contamination Indicator
- Hydraulic Tank Capacity: 14.2 bbls (2.25 m³)
- Diesel Tank Capacity: 8.2 bbls (1.3 m³)
- Cooling System Automatically Controlled
- Noise Insulation on Walls and Roof, Noise Absorption Elements Installed on Air Inlets and Outlets
- Installed in 20' CSC High Cube Shipping Container

Control Container

Weights and Dimensions:

- Length: 20 ft (6,058 mm)
- Height: 8.5 ft (2,591 mm)
- Width: 8 ft (2,438 mm)
- Weight: 17,637 lbs. (8,000 kg)

Technical Details:

- Interior Layout: Insulation, Heater, Air Conditioner
- Data Acquisition/Control: Precise, Sensitive Control of all Functions; Limits for Push/Pull Forces and Torque can be Set and Adjusted Separately for Each Direction
- Data-Logger: Records and Stores all Operational Data and Alarms/Errors
- Drilling Logs Include the Electronic Recording of Push/Pull Forces and Torque
- Remote Data Transmission; Auto Driller
- Large Windows for 180° All Around View, Transport Protection
- Installed in 20' CSC Shipping Container

Applied Standards and Regulations

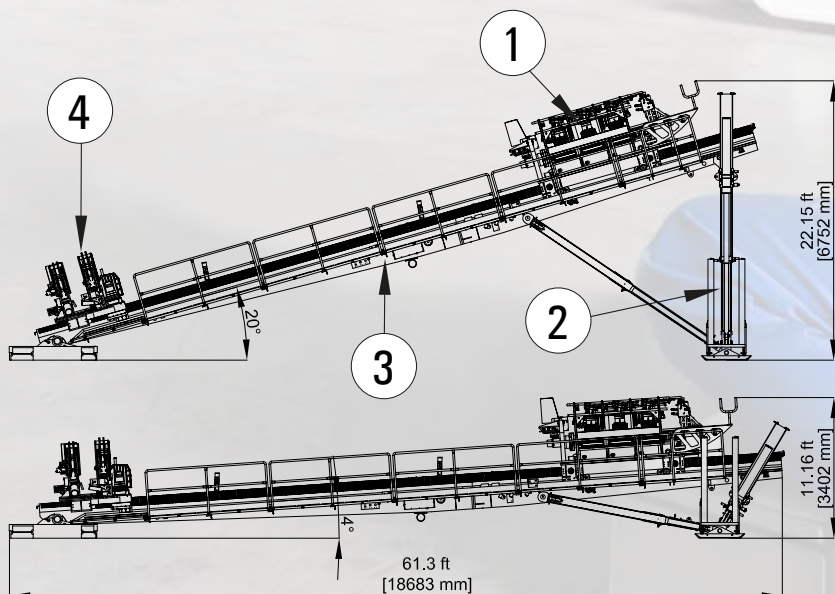
- According to European Standards and Regulations
- CE-Marking and Declaration of Conformity

Option

- Explosion-proof According 94/9 EC (ATEX)
- Upper Remote Kelly Cock (Internal Blow-Out-Preventer)
- Lower Manual Kelly Cock
- Pipehandling Crane
- Pipe Racks
- Downhole Equipment
- Well Control Equipment
- Heating and Leakage Monitoring of the Entire Hydraulic System
- Pipe Thruster Unit



Rig Side View – High and Low End Positions



Rig Component

1. Carriage with Rotary Drive
2. Rear Outrigger
3. Mainframe
4. Make Up/Break Out Unit