



CONRAD®

| Combi 300 |

Combi 300 | "Combination drilling rig"

The Conrad Combi 300 is a combination drilling rig that is already often mounted on truck chassis or a crawler truck. Many wish to use this model on which the different drilling systems can be integrated jointly. The Combi 300 can be very broadly deployed due to its multifunctionality. The Combi 300 can be perfectly fitted out with specifically one drilling principle where modern techniques such as drill pipe manipulation, automatic insertion and extraction of drill pipes, having an automatic drilling process, etc., can be perfectly integrated. All drilling functions and driving the rig through remote radio control are part of the standard options. The Combi 300 can be fitted out based on customer specifications for straight flush drilling, reverse circulation/airlift drilling, percussion drilling, sonic drilling, coring and Down-The-Hole drilling.



Safety

The Conrad Combi 300 meets all applicable health and safety standards (requirements). Meeting the rig directive and, subsequently, implementing a CE mark accompanied by an EC declaration is not enough for us. Conrad Stanen has a safety inspection performed with regard to every rig by an independent inspection body appointed for this purpose before it is delivered to the customer. This ensures that you, the customer, will receive a guarantee regarding health, safety and quality standards.

Operator convenience/comfort

Conrad Stanen has translated a lot of experiences of drilling rig operators into the operating friendliness of its designs. This ensures that productivity is increased as a whole and that it is made more pleasant for the drilling rig operator to work with the rig.

A few examples of this are:

- Full drill pipe manipulation system that ensures that drill pipes no longer have to be inserted and extracted manually (no physical load)
- A semi or fully automatic facility for the above to ensure that manual control is limited to a minimum (operating comfort).
- Radio remote control for all important drilling functions and setting up the drilling rig (good visibility of the drilling process and surrounding area).
- Automatic greasing system.
- A high engine performance that increases productivity.

The drilling rig operator can set himself or herself up in the area of the rig with his or her radio control unit in a practical and safe manner. Inserting and extracting drill pipes takes place automatically and does not lead to physical loads. This also prevents the risk of body parts becoming trapped.

Photo on the left: The Conrad Combi 300 is unique due to its drilling method that can be flexibly converted from straight flush drilling to reverse circulation/airlift drilling by simply exchanging the drill pipe storage.



“Versatile and durable”

Environment-friendliness

Conrad Stanen has placed the environment high on its list of priorities. The following is standard on our rigs:

- Biodegradable hydraulic oil.
- Drip tray construction with drainage option so that the other oils do not end up in the environment when disasters occur.
- Noise-insulating enclosure around the diesel engine.
- Integration of a high-quality exhaust gas system that meets current and future regulations with regard to emissions and noise reduction.
- Reduction of the engine speed during work. This has resulted in the application of a powerful diesel engine that operates with an optimal speed that has a fuel-lowering and noise-reducing effect.
- The hydraulic transmission has been optimised with regard to performance and sustainability.

All in all, it is our intention to engineer and produce rigs that distinguish themselves with regard to power, speed, safety and operator comfort. The rigs can be deployed within the built-up area where the applicable environmental requirements apply.



Drilling methods

The Conrad Combi 300 can be assembled for one or a combination of the drilling principles described below.

Reverse circulation drilling | Reverse circulation drilling up to approx. 70 to 80 metres can be carried out with a reverse circulation pump and reverse circulation drilling bit diameters up to approx. 800 mm are feasible where the details will depend on the geological conditions.

Airlift | The airlift drilling principle by using a compressor is the appropriate method to continue the reverse circulation drilling with a hole diameter of approx. 800 mm to a depth of 225 metres, the details of which will depend on the geological conditions.

Straight flush drilling | Holes with a diameter of approx. 300 mm can be continued up to a depth of 275 metres by using a water, mud or foam circulation system with this drilling method, the details of which will depend on the soil conditions. When the correct drilling pipe is selected, shallower holes with larger diameters or deeper holes with smaller diameters are possible.

Percussion drilling | By equipping the Combi 300 with a rotary table and a stroke mechanism, percussion drilling is possible up to a depth of at least 100 metres with a max. casing diameter of 320 mm.

Auger drilling | By equipping the Combi 300 with an auger drill head, auger drilling with both hollow stem and full augers with a diameter of approx. 350 to 500 mm is possible.

Other drilling methods such as Down-The-Hole drilling, coring and sonic drilling are possible.



Technical specifications | Combi 300

Diesel engine Truck PTO	Power	135 / 200 kW Spec. truck
Drillmast	Length Safe working load Height under crown sheave	7,5 / 8,5 m 100 kN 6,8 / 7,8 m
Pull back/ Pull down system through hydraulic cylinder and steel cables	Stroke Pull back Pull down Lifting speed	5,2 / 6,2 m 85 kN 45 kN 0,6 m/sec
Drill head with two Hydraulic motors	Passage Torque/revolutions	125 mm / 150 mm 500/ 650 daN/m / 60 rpm 350 daN/ 120 rpm
Hydraulic hoisting winch	Line pull Steel cable Lifting speed	1500 daN 50m. Ø 10 mm 0,5 m/sec
Centrifugal mudpump (Hydraulically driven)	Rate Pressure	160 m ³ /hr 85 mwc
Suction pump (Hydraulically driven)	Rate Suction height	280 m ³ /hr 9 mwc
Compressor (Hydraulically driven)	Rate Pressure	5 m ³ /min 12 bar
Rotary table unit	Passage Torque Revolutions	320 mm 1500 daNm 20 rpm

These specifications can be changed in consultation based on customer requirements

Additional options that are possible:

- Different drill head models
- Different lit of spray pump models
- Drill pipe manipulation system
- Crown sheaves construction that can be rotated / extended
- Automatically operated drill pipe manipulator
- Automatically operated restart of drilling process
- Percussion device
- Larger pull back/pull down power and speed
- Different types of winches
- Winch cable push-out arm
- Other rotary table units
- Automatic greasing system
- Mast dump (mast height adjustment)