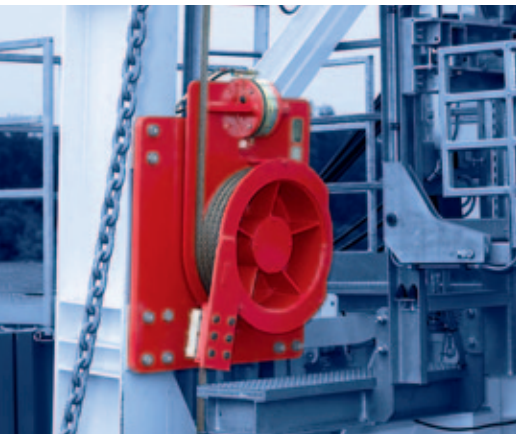




reliable. safe. efficient.

ALWAYS READY FOR YOUR BUSINESS

MECHANICAL DRILLING RIG EQUIPMENT





- Bentec rigs and drilling rig equipment
- Bentec branches



BENTEC

Advanced Technology for comprehensive drilling solutions.

With years of experience, Bentec is one of the world's leading manufacturers of high-quality drilling and workover rigs. Our portfolio includes mechanical and electrical main equipment and systems.

Bentec produces a full range of land rigs and drilling rig components and has been supplying packages that are successfully operating in all of the world's major oil fields.

Bentec designs and manufactures a wide range of durable, cost-effective and trouble-free drilling rigs and drilling rig components for harsh and hostile environments ranging from light units to heavy-duty ones with drawwork capacities of up to 3000 hp.

Bentec also provides comprehensive drilling solutions that include technically advanced, field-proven equipment integrated into systems. Our products increase drilling efficiency, enhance Health, Safety, and Environmental (HSE) programs, and maximize our customers' life cycle economics.

Bentec possesses an unparalleled capability in the design, manufacture, installation, commissioning, and aftermarket service for a wide variety of drilling systems and equipment.

We deliver high-grade mechanical drilling components like Top Drives, Drawworks, Drive Systems, Mud Pumps and Mud Treatment Equipment.

Our electrical equipment includes Power Control Rooms, infoDRILL, Anti Collision Systems, Soft Torque Rotary Systems, and Soft Pump Systems.

We specialize in designing and manufacturing customized solutions tailored to your individual requirements. Our engineers continue to develop innovative drilling rig systems that can withstand any environmental challenge.



BEN TEC SOLUTIONS "MADE IN GERMANY"

- Design and manufacture of drilling rigs for worldwide use
- Manufacture of mechanical and electrical main equipment and systems
- Service, repair and overhaul
- Spare parts supply and logistics
- Upgrades
- Recertification
- System integration and commissioning
- Global project management



TOP DRIVES

Bentec TOP DRIVES are specially designed for rough conditions and less rig down time. Suitable for onshore or offshore rigs.

AVAILABLE CAPACITIES:

275 ton
350 ton
500 ton
750 ton

UNIQUE FEATURES

- 25% more torque capacity than competitors
- 2 times more link tilt capacity than competitors
- Climate range: -45°C to +55°C
- Suitable for arctic & desert environment
- Suitable for onshore or offshore rigs
- Lowest possible noise emission
- HSE improvements / risk assessment
- Native pipehandling monitoring
- CE & ATEX conformity
- Optional with remote monitoring service

Bentec combined all of its experience from 20 years of commissioning, maintaining and repairing other top drives to develop a more reliable, robust and service-friendly product for safe drilling operations. The Bentec TOP DRIVES are exactly tuned to the needs of our customers: 25% more torque drive than others. Robustly and reliably built, even down to -45°C, reducing downtime and maintenance costs significantly.

The Bentec TOP DRIVES are AC-powered and developed for use as a portable or permanently installed unit on land and offshore applications. It also comes with a number of innovative features to significantly improve drilling results.

The Bentec TOP DRIVE system is driven by a variable frequency drive (VFD) control system for a wide range of torque and speed performance. The main components include an integrated swivel, a special high safety link tilt system, remote and manual IBOP valves, a back-up clamp for making and breaking connections, a guide beam for drill torque reaction, and an electrical service loop.

A compact, integrated hydraulic power unit mounted on the top drive eliminates the need for hydraulic service loops. The compact dimensions of Bentec TOP DRIVES ensure easy installation into existing or new rigs.

All Bentec TOP DRIVES can be delivered optionally with a VFD container and can be equipped with a Bentec Soft Torque System.

The Bentec TOP DRIVE system complies with the strictest standards for the drilling industry. The Bentec TOP DRIVE design conforms to the newest European CE design standards and international API standards to help our customers maintain a very high safety level. Bentec TD-750-HT is also available upon request.



GEAR-DRIVEN DRAWWORKS

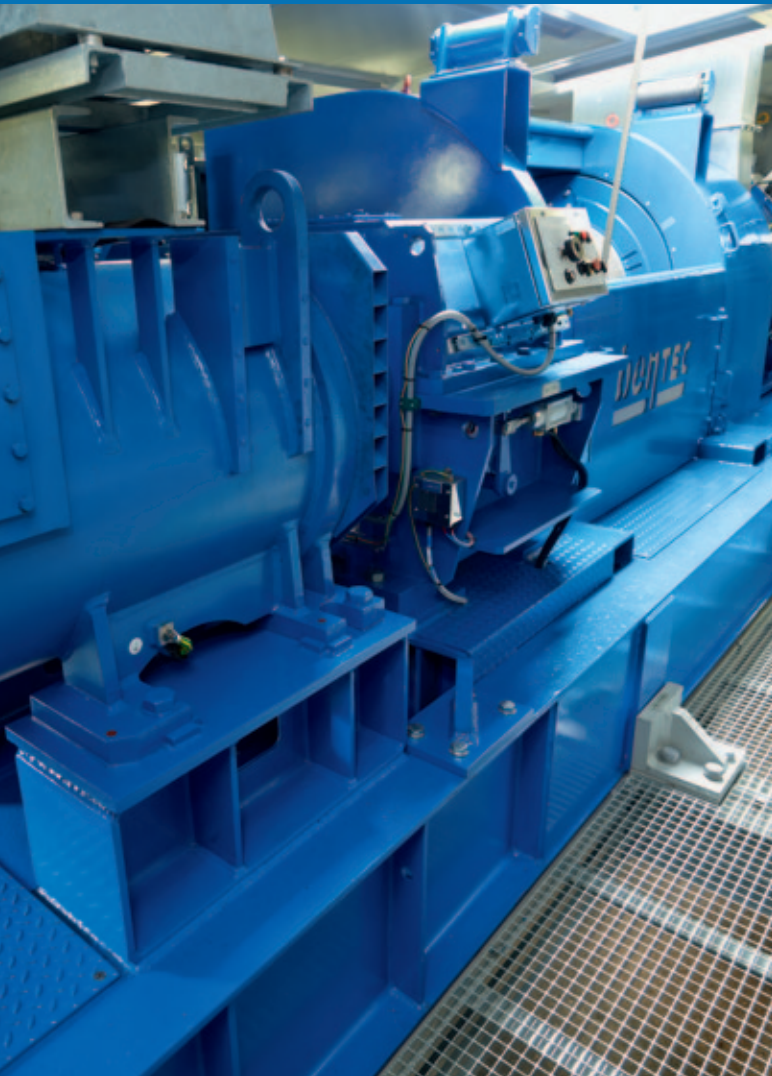
**Bentec gear-driven drawworks are modular, lightweight, small-dimensioned, quiet and easy to maintain.
Suitable for onshore or offshore applications.
Available with Bentec Feed-Off Control System.**

AVAILABLE CAPACITIES:

1000 hp / 3000 hp

GEAR-DRIVEN DRAWWORKS GENERAL FEATURES

- Control system for safe operation
- Temperature-controlled blowers reduce noise level
- No hydraulics
- No water
- Air-operated spring set disc brake (failsafe)
- Local control panel for safe cut and slip operation
- Components manufactured according to API 7K
- Climate range: -40°C to +55°C
- Suitable for onshore or offshore rigs
- CE conformity
- ATEX conformity on request



GEAR-DRIVEN DRAWWORKS UNIQUE FEATURES

TWO-SPEED

- Air-cooled eddy current brake

SINGLE-SPEED

- No eddy current brake
- Single-speed gearbox for small footprint and reduced weight

The Bentec GEAR-DRIVEN DRAWWORKS were developed to provide the market with more reliable technology and more hoisting performance. Their light weight and small dimensions make them ideal for frequent rig moves or limited offshore crane capacity. Due to our decades of experience in designing and manufacturing drilling equipment, the Bentec GEAR-DRIVEN DRAWWORKS are equipped with modern AC or DC motor technology developed in-house.

Bentec also reduces the number of sensors to a useful level. The Bentec GEAR-DRIVEN DRAWWORKS need only electrical power and air. No water or hydraulics are necessary, which simplifies the drawworks significantly. Bentec provides many drawworks solutions to meet our customers' requirements for rigs, whether existing or newly built.

All of these advantages make the Bentec GEAR-DRIVEN DRAWWORKS the best choice. A drawworks is just a winch – but equipped with modern and reliable technology, it offers the best performance.

MUD PUMPS

Bentec mud pumps stand for new technology, more reliability and reduced maintenance.

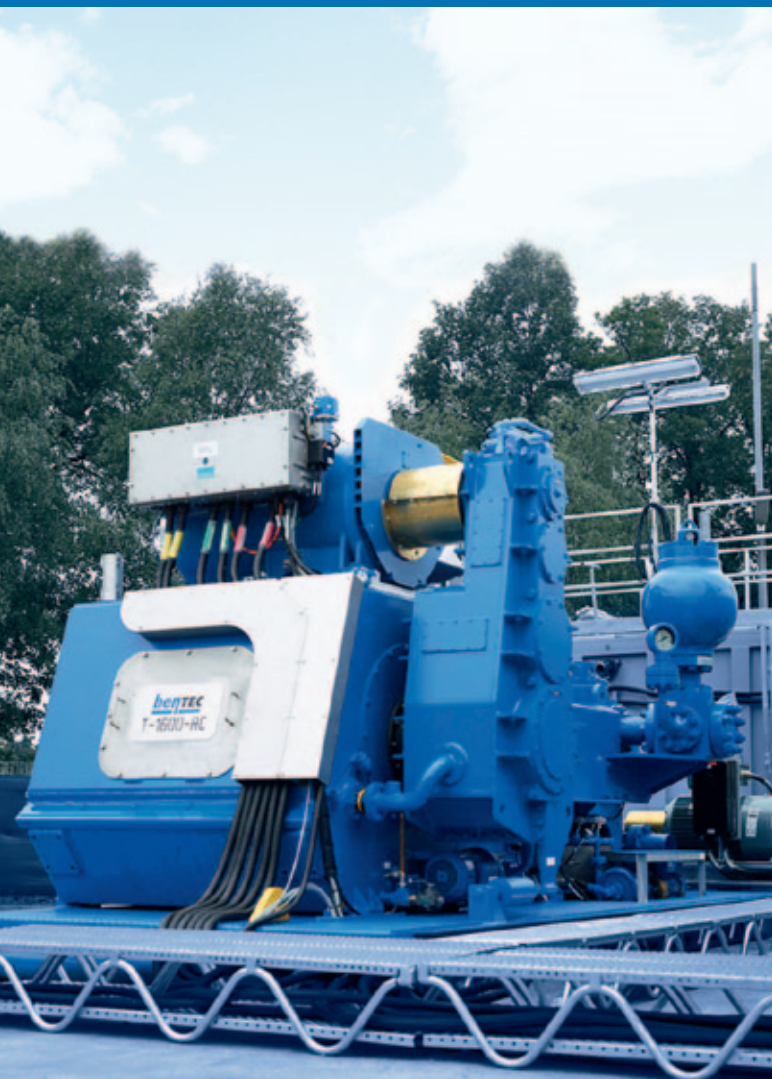
AVAILABLE CAPACITIES:

1600 hp / 5000 PSI

1600 hp / 7500 PSI

UNIQUE FEATURES

- Direct-driven external gearbox
- No internal gear
- Patented liner clamping
- Fast valve clamping
- Small footprint
- Usable for on- & offshore
- Climate range: -40°C to +55°C
- Components manufactured according to API 7K
- CE conformity



Bentec developed the idea of mud pumps completely new. The mud pumps are equipped with a direct-drive gearbox, a motor developed in-house, and state-of-the-art pump housing. There is no longer any need for an internal gear with all of its disadvantages today, and no more belt tensioning. Bentec mud pumps are reduced to the task they are made for - pump operations.

Bentec mud pumps are light-weight and have a small footprint. The 1,600 hp AC-powered motor is top-mounted. The pump is available with 5,000 or 7,500 PSI fluid ends and all of its parts subject to wear and tear meet API standards and are available worldwide. A handling crane makes it easy to handle the fluid end components. Furthermore, Bentec uses patented liner and valve clamping technology to reduce the maintenance time significantly. A quick-change liner and piston system serves for easy maintenance. A special feature of the Bentec mud pump is the side-mounted gear drive. This design eliminates the need for any chain or belt tensioning systems. The two-stage helical gear feeds directly into a forged/welded crankshaft, which is balanced and provides quiet and vibration-reduced operation.

Liner cooling and gear oiler systems are included; a supercharge pump and a noise reduction package can be installed upon request. Especially for noise-sensitive environments like offshore or densely populated locations, the Bentec mud pump is the right choice. Along with the supply of mud pumps, Bentec acts as a system supplier. Pumps can be delivered together with a Bentec Power Control System and the Bentec Soft Pump System.

MECHANIZED CATWALK SYSTEMS/MCS

Reduce manual pipe handling.

UNIQUE FEATURES

- Increased safety for the drilling crew
- Easy remote operation – directly from the drill floor
- Low noise emission
- Easy installation
- Easy transport



The Bentec MECHANIZED CATWALK SYSTEM (MCS) simplifies and speeds up pipe handling from the pipe rack to the drill floor. By lifting the pipes to the drill floor, they can be directly picked up by an elevator, sparing the need for time-consuming interim storage in the mouse hole.

Personnel on the drill floor operate the MCS by remote control panel, eliminating any risk to their safety.

Moving and transporting the MCS is easy – by just splitting the system into one main and two elevator units. Electronic controls are installed in one container or alternatively incorporated into the existing power control room.

Bentec's all-encompassing service includes training operating crews on commission.

HYDRAULIC CATHEAD

Rig floor equipment for smooth and adjustable make-up loads.

UNIQUE FEATURES

- Remote control module enables pressure regulation
- Cylinder operation from a safe and convenient location on the rig
- Simple hydraulic circuit ensures trouble free performance
- Simplified design allows long time between maintenance intervals
- Climate range: -40°C to +55°C
- Suitable for onshore or offshore rigs
- CE conformity
- ATEX conformity on request



This useful rig floor equipment provides smooth, adjustable make-up loads. Due to its hydraulic operation, the Bentec Cathead eliminates electrical hazards. The system can be powered by an independent hydraulic power unit (HPU) or integrated into a centralized hydraulic unit (CHPU).

The pulling force provided by the Bentec Cathead ensures correct and sufficient make-up and break-out torque for drill pipe, drill collars, bit connection, or other applications.

DEADLINE ANCHOR

Standard deadline anchors of different sizes and capacities as left-hand and right-hand design. Custom-made deadline anchors are also available.

AVAILABLE CAPACITIES:

60000–100000 pounds deadline pull

UNIQUE FEATURES

- Heavy-duty, high-grade structural steel
- Tapered roller anti-friction bearings
- Bronze wireline clamp
- Machined grooved drum
- Left-hand models available
- Deadline anchor manufactured according to API 8C
- CE conformity
- ATEX conformity on request



Designed to be used with compression load cells, the Bentec DEADLINE ANCHORS are made from high-grade structural steel for operation in harsh work environments from -40°C up to $+55^{\circ}\text{C}$.

The Bentec DEADLINE ANCHORS are designed, fabricated and tested in Bentec's own yard with its high-quality manufacturing standard and in accordance with API 8C.

TRAVELING BLOCK

Compact design to enhance performance and operability.

UNIQUE FEATURES

- Heavy duty, high grade structural steel
- Flame hardened grooves
- High quality tapered roller bearings for sheaves
- Shaft with individual grease passage to each roller bearing
- Traveling Block manufactured according to API 8C
- Climate range: -45°C to +55°C
- CE conformity
- ATEX conformity on request



Bentec designs and manufactures a large range of traveling blocks to meet your specific drilling requirements. Sufficient weighting ensures fast free fall. Compact and streamlined design eliminates interference with mast or derrick components. Long service life is achieved through quality fabrication and careful selection of components.

Apart from our standard range of products, low temperature design is available on request.

