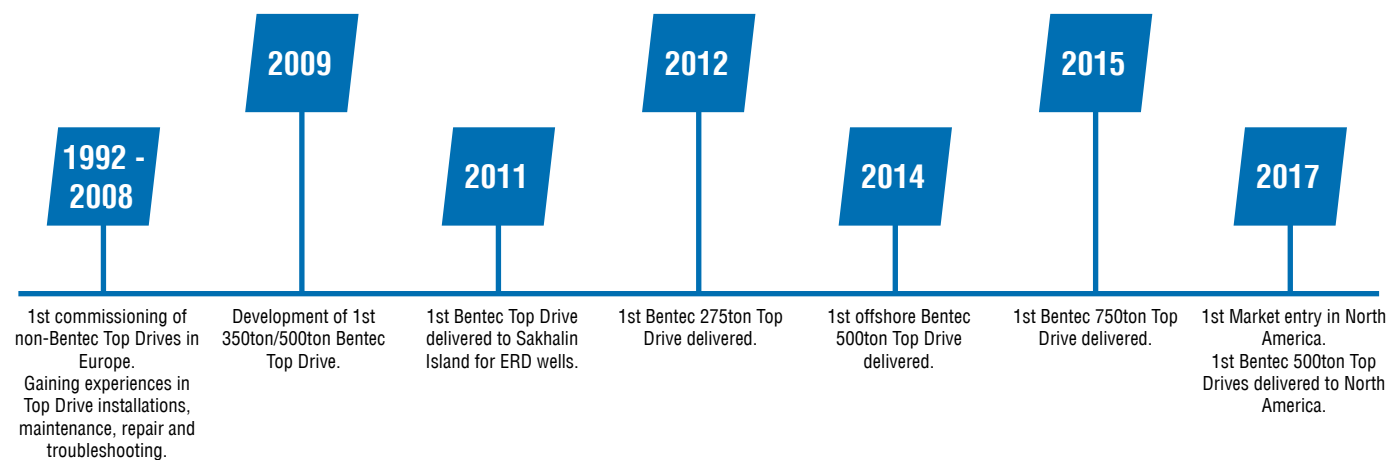


TOP DRIVES



Bentec TOP DRIVES are especially designed for rough conditions and to reduce rig downtime. Suitable for onshore or offshore rigs.



Bentec combined all of its experience it has gained in more than 20 years of commissioning, maintaining and repairing other Top Drives to develop a more reliable, robust and servicefriendly product for safe drilling operations.

The Bentec Top Drives are exactly tuned to the needs of our customers: They provide up to 30 % more continuous torque capacity than other Top Drives. More robust and reliable, even withstanding arctic temperatures, Bentec Top Drives reduce downtime and maintenance costs significantly.

The Bentec Top Drives are AC-powered and developed for use as a portable or permanently installed unit on onshore and offshore rigs. It also comes with a number of innovative features to significantly improve drilling performance.

The Bentec Top Drives are driven by a Variable Frequency Drive (VFD) controlled system for a wide range of torque and speed performance.

All Bentec Top Drives can be delivered with a VFD container and can be equipped with Bentec Drilling Enhancement Software like a Soft Torque Rotary System.

The main components include an integrated swivel, a special high safety link tilt and monitoring system, remote and manual IBOP valves, a backup clamp for making and breaking out connections, a guide beam for bearing the drill torque reaction and in-house produced service loops. A compact hydraulic power unit mounted onboard the Top Drive eliminates the need for hydraulic service loops. The compact dimensions of Bentec Top Drives ensure a fast and safe installation into existing or new rigs.

The Bentec Top Drives comply with the strictest standards for the drilling industry. Its design conforms to the latest API and European CE design standards to help our customers to maintain a very high quality and safety level.

Bentec Top Drives have always been designed to meet and exceed customers' expectations in terms of performance and reliability – therefore it all starts with the best possible integration into various mast designs. An essential part of these solutions is the flexibility to integrate Bentec Top Drives in many different mast/derrick configurations. Below is just a small choice of possible Top Drive arrangements meeting different mast configurations.



Integrated Rail Design

Top Drive guide rails are an integrated part of the mast structure eliminating lifts and transports during rig move.



Portable Design

Hanged-off portable rails in the mast with a torque reaction beam on the lower mast section enables highest flexibility and usage over multiple rigs.



Herringbone Design

Top Drive carriage is guided in the mast front legs to optimize rig moves by reducing lifts and rig move loads to a minimum.



Offshore Portable Design

The most successful land configuration adapted to an offshore derrick configuration to enable lowest investment costs.



Portable Rotated Design (Dual Rail)

The preferred solution to eliminate modifications at older mast designs capable to enable Top Drive operations.



Portable Rotated Design (Mono Rail)

The configuration of choice to avoid any mast modification on existing and narrow mast designs.

Top Drive



TD-250-C

Hoisting and Rotating	250 ton	227 t
Drilling Motor	AC-Induction Motor	AC-Induction Motor
Motor Rating	672 hp	500 kW
Working Height	222"	5.64 m
Weight	23,809 lbs	10.8 t
Gear	Helical Gear; 15:1	Helical Gear; 15:1
Max. Continuous Torque	35,200 ft-lbs	47,750 Nm
Speed at Max. Cont. Torque	100 rpm	100 rpm
Max. Speed	200 rpm	200 rpm
Max. Make & Break out Torque	44,254 ft-lbs	60,000 Nm
Static Brake Torque	51,500 ft-lbs	70,000 Nm
Mainshaft Quill ID	2-1/2"	63.5 mm
Working Pressure	7,500 PSI	517 bar
Min. Connection Range	2-1/2"	63.5 mm
Max. Connection Range	7-1/2"	191 mm
IBOP Connection	NC 50	NC 50
Cooling System	Local Blower	Local Blower
Hydraulic Power	Onboard	Onboard
Suitable Elevator Links	150, 250 and 350 ton API	150, 250 and 350 ton API
Min. Temperature	-49°F	-45°C
Max. Temperature	+131°F	+55°C
Footprint (Width x Depth)	55" x 63"	1.40 m x 1.60 m

TD-275-HT

Hoisting and Rotating	275 ton	250 t
Drilling Motor	AC-Induction Motor	AC-Induction Motor
Motor Rating	672 hp	500 kW
Working Height	225"	5,71 m
Weight	24,912 lbs	11.3 t
Gear	Helical Gear; 15:1	Helical Gear; 15:1
Max. Continuous Torque	35,200 ft-lbs	47,750 Nm
Speed at Max. Cont. Torque	100 rpm	100 rpm
Max. Speed	200 rpm	200 rpm
Max. Make & Break out Torque	51,500 ft-lbs	70,000 Nm
Static Brake Torque	51,500 ft-lbs	70,000 Nm
Mainshaft Quill ID	2-1/2"	63.5 mm
Working Pressure	7,500 PSI	517 bar
Min. Connection Range	2-1/2"	63.5 mm
Max. Connection Range	7-3/4"	197 mm
IBOP Connection	NC 50	NC 50
Cooling System	Local Blower	Local Blower
Hydraulic Power	Onboard	Onboard
Suitable Elevator Links	150, 250 and 350 ton API	150, 250 and 350 ton API
Min. Temperature	-49°F	-45°C
Max. Temperature	+131°F	+55°C
Footprint (Width x Depth)	55" x 74"	1.40 m x 1.88 m



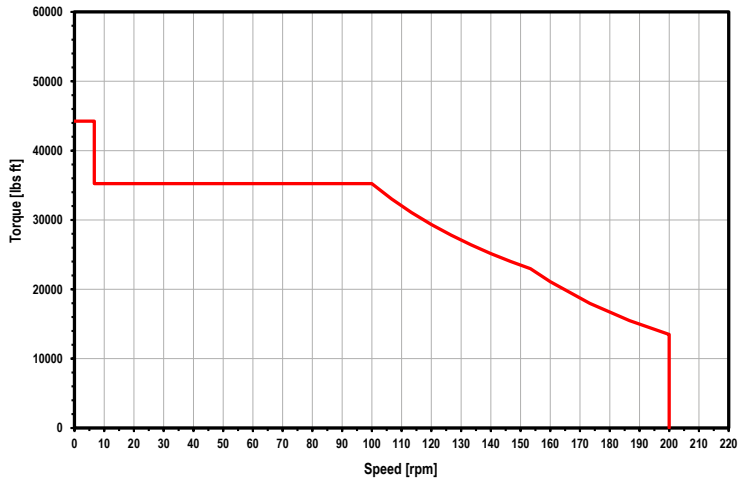
Key Features

- 672 hp single motor
- 250 ton API-8C
- 35,200 ft-lbs cont. torque @ 100 rpm
- 44,254 ft-lbs make & break torque
- temperature range -45°C / +55°C
- lowest noise emissions
- available drilling enhancement software:
 - Soft Torque Systems
 - Remote Access

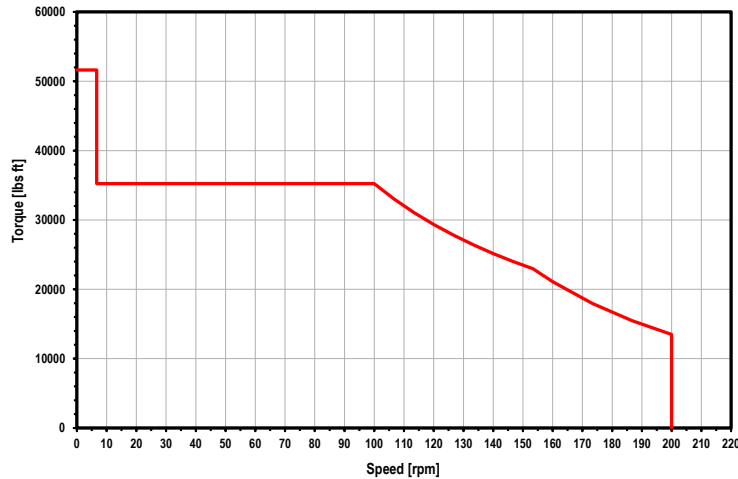
Benefits

- flexible design: TDS can be used as portable or fixed installation
- various carriage solutions available to meet any mast configuration
- fully retrofittable into existing rigs

Performance Curve TD-250-C @ 55°C ambient



Performance Curve TD-275-HT @ 55°C ambient



Key Features

- 672 hp single motor
- 275 ton API-8C
- 35,200 ft-lbs cont. torque @ 100 rpm
- 51,500 ft-lbs make & break torque
- temperature range -45°C / +55°C
- integrated link-tilt monitoring
- lowest noise emissions
- available drilling enhancement software:
 - Soft Torque Systems
 - Remote Access

Benefits

- flexible design: TDS can be used as portable or fixed installation
- various carriage solutions available to meet any mast configuration
- fully retrofittable into existing rigs

Top Drive

TD-350-HT

TD-500-XT

Top Drive



Hoisting and Rotating	350 ton	317 t
Drilling Motor	AC-Induction Motor	AC-Induction Motor
Motor Rating	1,030 hp	758 kW
Working Height	250"	6.35 m
Weight	34,613 lbs	15.7 t
Gear	Helical Gear; 14:1	Helical Gear; 14:1
Max. Continuous Torque	46,500 ft-lbs	63,000 Nm
Speed at Max. Cont. Torque	115 rpm	115 rpm
Max. Speed	230 rpm	230 rpm
Max. Make & Break out Torque	73,760 ft-lbs	100,000 Nm
Static Brake Torque	77,440 ft-lbs	105,000 Nm
Mainshaft Quill ID	3"	76.2 mm
Working Pressure	7,500 PSI	517 bar
Min. Connection Range	2-1/2"	63.5 mm
Max. Connection Range	8-1/2"	216 mm
IBOP Connection	NC 61	NC 61
Cooling System	Local Blower	Local Blower
Hydraulic Power	Onboard	Onboard
Suitable Elevator Links	250, 350 and 500 ton API	250, 350 and 500 ton API
Min. Temperature	-49°F	-45°C
Max. Temperature	+131°F	+55°C
Footprint (Width x Depth)	65.4" x 61.2"	1.66 m x 1.55 m

Hoisting and Rotating	500 ton	454 t
Drilling Motor	AC-Induction Motor	AC-Induction Motor
Motor Rating	1,140 hp	850 kW
Working Height	250"	6.35 m
Weight	34,613 lbs	15.7 t
Gear	Helical Gear; 14:1	Helical Gear; 14:1
Max. Continuous Torque	52,000 ft-lbs	70,580 Nm
Speed at Max. Cont. Torque	115 rpm	115 rpm
Max. Speed	230 rpm	230 rpm
Max. Bake & Break out Torque	73,760 ft-lbs	100,000 Nm
Static Brake Torque	77,444 ft-lbs	105,000 Nm
Mainshaft Quill ID	3"	76.2 mm
Working Pressure	7,500 PSI	517 bar
Min. Connection Range	2-1/2"	63.5 mm
Max. Connection Range	8-1/2"	216 mm
IBOP Connection	NC 61	NC 61
Cooling System	Local Blower	Local Blower
Hydraulic Power	Onboard	Onboard
Suitable Elevator Links	250, 350 and 500 ton API	250, 350 and 500 ton API
Min. Temperature	-49°F	-45°C
Max. Temperature	+131°F	+55°C
Footprint (Width x Depth)	65.4" x 61.2"	1.66 m x 1.55 m



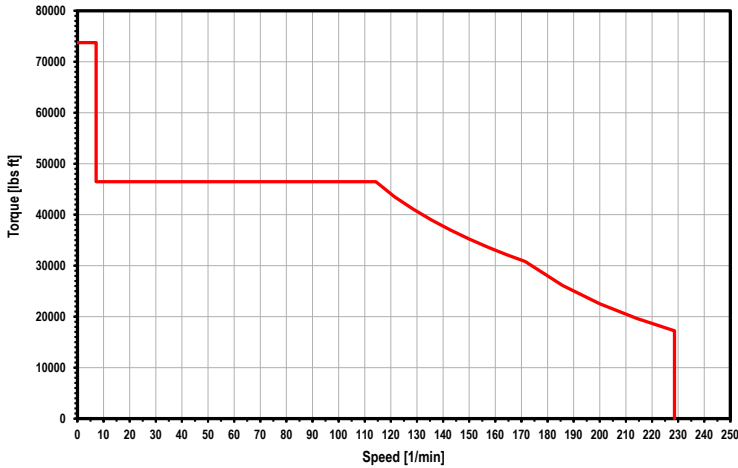
Key Features

- 1,040 hp single motor
- 46,500 ft-lbs cont. torque @ 115 rpm
- 73,760 ft-lbs make & break torque
- temperature range -45°C / +55°C
- integrated link-tilt monitoring
- lowest noise emissions
- available drilling enhancement software:
 - Soft Torque Systems
 - Remote Access

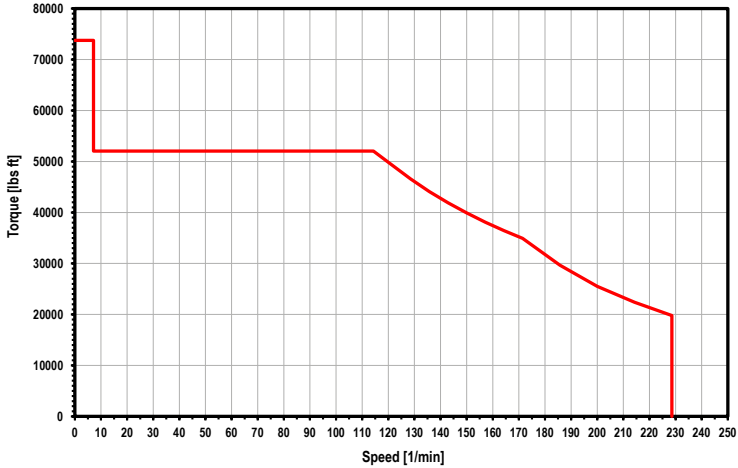
Benefits

- flexible design: TDS can be used as portable or fixed installation
- various carriage solutions available to meet any mast configuration
- fully retrofittable into existing rigs

Performance Curve TD-350-HT @ 55°C ambient



Performance Curve TD-500-XT @ 55°C ambient



Key Features

- 1,140 hp single motor
- 500 ton API-8C
- 52,000 ft-lbs cont. torque @ 115 rpm
- 73,760 ft-lbs make & break torque
- temperature range -45°C / +55°C
- integrated link-tilt monitoring
- lowest noise emissions
- available drilling enhancement software:
 - soft Torque Systems
 - remote Access

Benefits

- flexible design: TDS can be used as portable or fixed installation
- various carriage solutions available to meet any mast configuration
- fully retrofittable into existing rigs

Top Drive

TD-750-HT



Hoisting and Rotating	750 ton	680 t
Drilling Motor	AC-Induction Motor	AC-Induction Motor
Motor Rating	1,609 hp	1,200 kW
Working Height	279"	7.09 m
Weight	57,250 lbs	26 t
Gear	Helical Gear; 10.6:1	Helical Gear; 10.6:1
Max. Continuous Torque	73,760 ft-lbs	100,000 Nm
Speed at Max. Cont. Torque	115 rpm	115 rpm
Max. Speed	270 rpm	270 rpm
Max. Make & Break out Torque	118,000 ft-lbs	160,000 Nm
Static Brake Torque	93,670 ft-lbs	127,000 Nm
Mainshaft Quill ID	3-3/4"	95.3 mm
Working Pressure	7,500 PSI	517 bar
Min. Connection Range	4"	101.6 mm
Max. Connection Range	9-1/2"	241.3 mm
IBOP Connection	NC 70	NC 70
Cooling System	Local Blower	Local Blower
Hydraulic Power	Onboard	Onboard
Suitable Elevator Links	350, 500 and 750 ton API	350, 500 and 750 ton API
Min. Temperature	-49°F	-45°C
Max. Temperature	+131°F	+55°C
Footprint (Width x Depth)	87" x 74"	2.2 m x 1.88 m

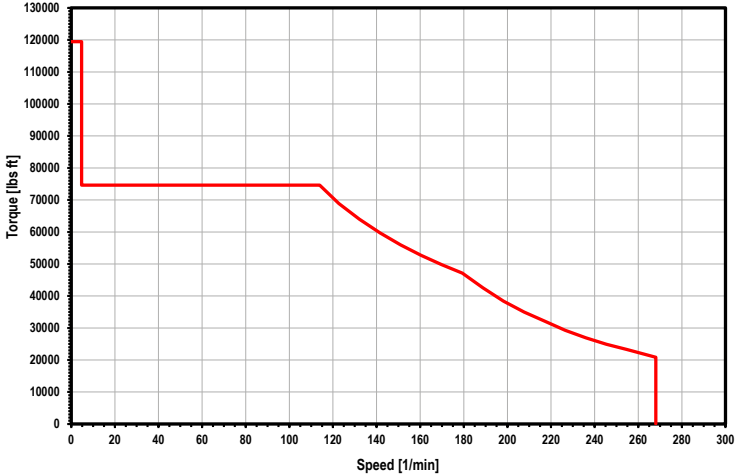
Key Features

- 1,609 hp single motor
- 750 ton API-8C
- 73,760 ft-lbs cont. torque @ 115 rpm
- 118,000 ft-lbs make & break torque
- temperature range -45°C / +55°C
- integrated link-tilt monitoring
- lowest noise emissions
- available drilling enhancement software:
 - soft Torque Systems
 - remote Access

Benefits

- flexible design: TDS can be used as portable or fixed installation
- various carriage solutions available to meet any mast configuration
- fully retrofittable into existing rigs

Performance Curve TD-750-HT @ 55°C ambient



Bentec Top Drives are especially designed for rough conditions and to reduce rig downtimes.



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Bentec GmbH Drilling & Oilfield Systems
Deilmannstraße 1
48455 Bad Bentheim
Germany
Phone: +49 (0)5922 72 80
Fax: +49 (0)5922 72 457
Internet: www.bentec.com
E-Mail: sales@bentec.com

LLC Bentec Tyumen, Russia
2 km from Stary Tobolsky Trakt 8 a
625014 Tyumen
Russia
Phone: +7 (0)3452 6839 00
Fax: +7 (0)3452 6839 26
Internet: www.bentec.ru
E-Mail: tyumen@bentec.com

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