

ARCTIC RIGS

Withstanding extreme environmental conditions. Superior and safe drilling performance.

CLUSTER SLIDER GENERAL FEATURES

- Climate: Arctic -45°C to +40°C
- Drawworks capacities: 1,250 hp–2,000 hp
- Hook load capacities: 550,000 lbs–1,000,000 lbs / 250 t–450 t
- Drilling depth capacities: Up to 19,700 ft / up to 6,000 m

- GOST certified
- HAZOP risk assessment
- CE equipment
- Testing & commissioning



CLUSTER SLIDER™ HR 5000

Rating: 1,500 hp / 350 t

Static hook load: 770,000 lbs @ 12 lines / 350 t

Design drilling depth: 16,400 ft / 5,000 m

UNIQUE FEATURES

- Cantilever mast
- Swing up substructure
- Operation on cluster and single well locations
- Full winterization package (driller's cabin, drill floor, setback area, drilling support modules)
- Optional with double train units or single train unit
- Less NPT with Bentec TOP DRIVE
- Field approved equipment

TECHNICAL DATA

ARCTIC RIGS – CLUSTER SLIDER™ HR 5000

The Bentec CLUSTER SLIDER™ HR 5000 is a 1,500 hp ARCTIC RIG drilling system for operating in harsh deep temperature environments such as those found in Siberia. The system is designed to operate on cluster locations, with a full winterization package incorporated into the design.

The rig design incorporates modern and high performing items. Particular focus is set on creating a safe and well protected working area. Components that require a certain level of maintenance are easily accessible and well illuminated.

All direct drilling related sub-systems are installed on a rail track, allowing fast skidding in one direction. The skidding movement is predetermined in one direction on each location to match the pad layout and well head positions. Repositioning the drilling rig and its auxiliary components is fast and reduces overall set-up time. The rig contains a mast with 350 t load capacity and a swing up substructure. Additional equipment such as mud separation systems, mud tank systems, mud pumps, air compressors and a heating system are installed on trolleys, winterized by isolated sandwich panels. These trolleys move with the mast and substructure during rig skidding. The move from pad to pad requires a certain degree of disassembly, transportation and re-erection. The rig can move in a 40 km radius within 18 days if weather and road conditions allow.

TECHNICAL DATA

MAST

| | |
|--------------------------------|--|
| Manufacturer: | Bentec |
| System: | Open face, self-elevating cantilever mast, erected with drawworks and raising line |
| Mast free height: | 152.00 ft (46.33 m) |
| Mast base: | 30.00 ft (9.10 m) |
| Hook load capacity @ 12 lines: | 770,00 lbs (350 t) |
| Racking capacity: | Approx. 16,400 ft (5,000 m) |

SUBSTRUCTURE

| | |
|---------------------------------|--|
| Manufacturer: | Bentec |
| System: | Swing up substructure, erected with drawworks and raising line |
| Height of drill floor: | 35.00 ft (10.70 m) |
| Height underneath rotary table: | 30.00 ft (9.14 m) |
| Rotary capacity max.: | 770,00 lbs (350 t) |
| Setback load max.: | 500,000 lbs (225 t) |

DRAWWORKS

| | |
|----------------------|---------------------|
| Manufacturer: | Bentec |
| Type: | DW-E-1500-AC |
| Power rating: | 1,500 hp (1,100 kW) |
| Drill line diameter: | 1 3/8" (35 mm) |
| Max. line pull: | 87,100 lbs (39.5 t) |

IRON ROUGHNECK

| | |
|---------------|---|
| Manufacturer: | Original Equipment Manufacturer Controls by Bentec |
|---------------|---|

As per customer request the rig can be manufactured with double train units for smaller locations (drilling support module and drilling rig as single units) or with single train units (both units on one skidding track).

The power supply of the rig can come from the main power lines or be self-generated with generator sets. Hot air blowers on the rail track provide sufficient heat to cope with the extremes of the Siberian climate. The support system block can be heated either by an air heater or by the secondary disposed heat from the diesel engines.

The equipment fitted to the rig is suitable for performance drilling. The Bentec TOP DRIVE is specially designed for rough conditions and less rig down time.

The rig is built in compliance with the rules and regulations of the Russian mining authorities. The Bentec rig is GOST certified and the rig can be operated following initial commissioning without delays for additional licensing.

Due to this modular design this rig type can be tailored to customers' requirements.

TOP DRIVE

| | |
|-----------------|---------------------------|
| Manufacturer: | Bentec |
| Type: | TD-500-HT |
| Load capacity: | 500 ton / 454 t |
| Electric motor: | 1,030 hp (758 kW) |
| Output torque: | 46,500 ft-lbs (63,000 Nm) |

POWER GENERATION

| | |
|--------------------------|-------------------------------|
| Manufacturer: | Bentec |
| Engine type: | 4 x CAT 3512B (or equivalent) |
| Generator type: | 4 x CAT SR4 (or equivalent) |
| Emergency generator set: | 1 x CAT C15 / SR4 |

POWER CONTROL ROOM

| | |
|---------------|---------------------------------------|
| Manufacturer: | Bentec |
| Type: | Variable frequency drive 690 V, 50 Hz |

MUD PUMPS

| | |
|-----------------|---|
| Manufacturer: | Bentec |
| Type: | 2 x MP-T-1600-AC |
| Electric motor: | 1,600 hp (1,200 kW) AC |
| Max. pressure: | 5,000 PSI (350 bar) 7,500 PSI (500 bar) on request |

MUD TANK SYSTEM

| | |
|---------------------|-------------------------------|
| Manufacturer: | Bentec |
| Type: | Rectangular tanks |
| Active mud volume: | As per customer specification |
| Reserve mud volume: | As per customer specification |

SOLIDS REMOVAL SYSTEM

| | |
|------------------------|-----------------------------------|
| Manufacturer: | Original Equipment Manufacturer |
| Shale shaker: | 1 x triple unit |
| Desander: | 2 x 10" cones |
| Desilter: | 20 x 4" cones |
| Drilling mud degasser: | Bentec type DMD 1-250 |
| Mud gas separator: | Bentec 48" vertical type MGS V 48 |