BT-3500 TENDER DRILLING UNIT

SELF-ERECTING TENDER ASSISTED DRILLING

The BT-3500 is a new generation semi-submersible Tender Drilling Unit, taking self-erecting Tender Assisted Drilling (TAD) to harsher environments and deeper water with higher efficiency and operability than previous generations.

Due to its improved hydrodynamic performance compared with competing units, the BT-3500 will take TAD to a new level for various host platforms, such as a fixed jackets, Spars and TLPs.

The TAD concept means that only the modularized Mast Equipment Package (MEP) is located on the host platform, while the remaining parts of the drilling equipment and the supporting facilities are integrated on the Tender Drilling Unit, which during drilling operations is moored alongside the host platform and connected by a telescopic gangway. The MEP is transported by the Tender Drilling Unit which uses the onboard cranes to erect it on the host platform.

TAD brings, among other things, the following advantages to a field-development:

- **Reduced weights** for the topside and host platform hull/jacket, as part of the drilling facilities, supporting utilities and related loads are arranged on the Tender Drilling Unit.

- **Reduced loads** on the mooring systems of floating platforms (i.e. Spars and TLPs), thereby increasing their water depth capability.

- **Larger storage capacity** for drilling consumables due to the ample volume and variable load characteristics of the Tender Drilling Unit.

- **Improved safety** as accommodation facilities for drilling crew and others are located off-platform on the Tender Drilling Unit.

- **Safer evacuation** in case of an emergency situation on the host platform is provided by the telescopic gangway to the Tender Drilling Unit. The tender can then be moved away from the platform by a controlled release of the mooring lines.
### General
- **Class**: A1 Column Stabilized Drilling Unit
- **Rules and regulations**: IMO MODU Code, IMO SOLAS, IMO MARPOL, IMO Load Line
- **Operational areas**: Brazil, Gulf of Mexico, South East Asia, West of Africa
- **POB**: 140 people (in 1+2 man cabins)
- **Heli deck**: Sikorsky S-61N and S-92, CAP 437

### Design Criteria
- **Water depth, self-contained mooring**: 250 m
- **Water depth, pre-set mooring**: 2,000 m
- **Maximum drilling depth**: 10,000 m
- **Environmental criteria**: 10-year GOM hurricane, 100-year Brazil storm

### Main Dimensions
- **Length over all**: abt. 83.0 m
- **Beam over all**: abt. 77.3 m
- **Height to box bottom**: 24.7 m
- **Height to upper deck**: 31.2 m
- **Columns (4)**: Horizontal section 12.4 x 13.7 m
- **Draughts**:
  - Operation: 16.0 m
  - Survival: 12.5 m
  - Transit: 7.5 m
- **Displacement**: Operation 21,550 tonnes

### Payload Capacities
- **Deck and column payload, operation/survival**: 4,420 tonnes
- **Total payload, operation/survival**: 5,820 tonnes
- **Total payload, transit**: 2,900 tonnes

### Storage Capacities
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Volume</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Liquids</strong></td>
<td>Mud pits in upper hull</td>
<td>1,180 m³</td>
<td>7,400 bbls</td>
</tr>
<tr>
<td></td>
<td>Secondary mud in pontoons</td>
<td>0-445 m³</td>
<td>0-2,800 bbls</td>
</tr>
<tr>
<td></td>
<td>Brine</td>
<td>160-380 m³</td>
<td>1,000-2,400 bbls</td>
</tr>
<tr>
<td></td>
<td>Base oil</td>
<td>160-380 m³</td>
<td>1,000-2,400 bbls</td>
</tr>
<tr>
<td></td>
<td>Drill water</td>
<td>2,130 m³</td>
<td>13,400 bbls</td>
</tr>
<tr>
<td></td>
<td>Fuel oil</td>
<td>1,520 m³</td>
<td>9,560 bbls</td>
</tr>
<tr>
<td></td>
<td>Potable water</td>
<td>710 m³</td>
<td>4,460 bbls</td>
</tr>
<tr>
<td><strong>Bulk</strong></td>
<td>Bulk cement</td>
<td>296 m³</td>
<td>10,450 cu ft</td>
</tr>
<tr>
<td></td>
<td>Bulk barite/bentonite</td>
<td>296 m³</td>
<td>10,450 cu ft</td>
</tr>
<tr>
<td></td>
<td>Total bulk storage</td>
<td>592 m³</td>
<td>20,900 cu ft</td>
</tr>
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### Major Equipment
- **Tender Drilling Unit**
  - **Power generation**: 5 x 2,200 kWe
  - **Mooring system**: 10 x 80 mm wires plus 4 hawser winches for TLP cross mooring
  - **Mud pumps**: 3 x 2,200 Hp @ 7,500 psi
  - **Main crane**: 170 tonnes @ 46 m, max radius 64 m
  - **Auxiliary crane**: 26 tonnes @ 20 m, max radius 44 m
  - **Telescopic gangway**: 36 m ± 6 m, aluminum bridge
  - **Mast Equipment Package**
    - **Dry weight**: 1,100 tonnes
    - **Max operating weight**: 2,300 tonnes
    - **Skidding system**: Lift & Roll Systems, X/Y skidding
    - **Drilling mast**: 1,300 kips static hook-load, 152 ft clear working height, self-erecting bootstrap type
    - **Setback**: 570 tonnes at quads, 450 tonnes at trebles
    - **Pipe handling**: Mechanized handling of range 2 and 3 tubulars. Off-line stand-building
    - **Pipe transfer**: Hi-line system
    - **Top drive**: 750 sh tons hook-load x 1,150 Hp
    - **Drawworks**: 3,000 Hp
    - **Rotary table**: 49½” diameter
    - **BOP stack**: 18¾ BOP, 3 rams @ 10,000 psi, one annular @ 5,000 psi
    - **Mud treatment**: Gumbo buster, 5 shale shakers, degasser, cuttings dryer and 2 centrifuges
ATLANTICA TENDER DRILLING BUILDS TWO BT-3500 UNITS AT DSIC OFFSHORE

Atlantica Tender Drilling (formerly BassDrill) is a Houston based integrated drilling contractor founded to develop and operate a fleet of purpose built Tender Drilling Units.

In 2014 Atlantica Tender Drilling delivered its first semi-submersible Tender Drilling Unit BassDrill Beta to Petrobas. The Unit will perform drilling operations at the P-61 Tension Leg Platform at the Papa-Terra Field Development offshore Brazil.

In 2013, a second unit, Atlantica Delta, was contracted by Total Congo for use on the Moho Nord development offshore Congo. The unit will be delivered Q2 2015. Both units are built by DSIC Offshore.

DSIC Offshore is one of China’s leading turnkey EPC contractors for offshore construction. It is the offshore arm of Dalian Shipbuilding Industry Corporation, one of the world’s largest shipyard groups, which has the longest offshore construction history and track record in China. It has delivered ships and offshore projects to international clients since the mid-eighties.

DSIC Offshore has over the years successfully delivered more than 30 offshore projects including jack-ups, semi-submersibles and FPSOs to international and domestic clients. In 2009 DSIC Offshore moved to a dedicated new offshore construction yard, which includes a 180 x 120 m drydock. DSIC has delivered the BT-3500 BassDrill Beta and is currently constructing Basso Technology designed BT-3500 Atlantica Delta semi-submersible and Atlantica Gamma Heavy Tender Barge (BT-HTB).
Bassoe Technology focuses on marine and offshore engineering services including development and design of floating and mobile offshore units, such as semis, drill ships, tender drilling units and accommodation units.

Bassoe Technology has developed a large portfolio of innovative floating and mobile offshore units characterized by an emphasis on operational performance, efficiency and capacities while at the same time challenging size.

With a background from the shipbuilding and offshore engineering industry in Gothenburg, Sweden, our engineers have long experience in design and construction of offshore drilling units for harsh environment and floating production semis for both North Sea and GOM operations.

Bassoe Technology has designed for construction four semi-submersible units, two tender assist drilling barges and one ultra deep water drill ship.

Designs also include wind energy applications for offshore locations. The wind measurement mast located on the Bassoe Technology designed jack-up platform is an example of utilizing existing experience for new applications.

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Bassoe Technology is an independent designer of advanced mobile offshore units. Since 2013 owned by CIMC Offshore, with the largest semi-submersible drilling rig manufacturing center in China – Yantai CIMC Raffles Shipyard.