

# FirstSubsea Deployment Tool

First Subsea's range of Ballgrab® deployment tools can be designed to withstand any load capacity and to suit any application. Based on ball and taper technology, the tools feature a unique failsafe design ensuring the tools cannot be released under load, making them ideal for every lifting, handling and deployment operation. In addition, it avoids the need for floating ropes, pad eyes and shackles, enabling considerable savings in vessel time during deployment operations. Accessories can be added to the deployment tool at the clients request e.g. subsea camera to aid installation.

## Ball and Taper

First Subsea's Ballgrab® connectors have a proven history with over 700 systems being supplied into a multitude of markets for subsea mooring, case running, pipe recovery, internal lifting, riser connections and tendon lift tools. Our class leading connectors are based on ball and taper technology, which ensures their suitability for any application involving gripping, pulling and holding connections under load.



600T Manifold Deployment Tool

Ball and taper connection technology, in its simplest form, is the action of balls held securely in tapers machined into the connector's mandrel. The balls are free to move up and down the taper, however when the balls grip the item to be held, they grasp it in direct proportion to the load applied.

Utilising ball and taper technology, First Subsea's Ballgrab® connectors can be used in a wide variety of scenarios.

## Features

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|-----------------|--|
| Design Code:    | DNV Standard for Certification No. 2.22 Lifting Appliances   |
| Working Load:   | 1T to greater than 1500T (Bespoke design available)  |
| Classification: | Supplied in accordance with offshore mooring chain regulations such as ABS, BV, DNV and or Lloyds  |
| Insertion:      | Horizontal or Vertical   |
| Typical Uses:   | <ul style="list-style-type: none"><li>• Deployment and release of heavy loads</li><li>• Piles and subsea structure handling</li><li>• FPSO STP &amp; STL Buoy handling</li></ul> |



4 Inch Cocoon Deployment Tools

Typical applications of deployment tools are; buoy handling and deployment, pile deployment, subsea decommissioning and lifting of subsea structures such as manifolds and well heads.

## Typical Projects

- 4 Inch Cocoon Deployment
- 30 Inch Pile Deployment
- Manifold Deployment
- World FPSO Depth Mooring Record
- STP Buoy Deployment
- World Depth Mooring Record

Subsea 7 (Client Shell)  
Husky WhiteRose (Canada)  
Bombax Charguaramas, Trinidad  
Cascade Chinook (GoM)  
Maersk Pergrino, Brazil  
Perdido Spar (GoM)

10T  
200T  
600T  
660T  
1200T  
1800T



## Testing

The Ballgrab® deployment connector is designed, manufactured and tested to comply with "DNV for Lifting Appliances". At our head offices based in Lancaster UK, we have upgraded our test facilities to 2,600T to ensure we stay the class leading supplier for offshore projects. For any onshore application, our tools are CE marked and certified to guarantee a high class product.

## Case Study - FPSO Submerged Turret Production (STP) Mooring

Maersk Peregrino FPSO offshore Brazil is situated in 100m (328 ft) water depth in the Campos basin block BM-C-7 section of the Peregrino field. The FPSO's STP buoy is held in place by 10 mooring lines, each attached using Ballgrab® subsea mooring connectors.

Pulling the STP buoy into the FPSO was achieved using a Ballgrab® deployment tool connected to a Ballgrab® receptacle within the top of the buoy. Prior to the FPSO arrival, the 1200T rated deployment tool was attached to the pull-in rope, and lowered into the receptacle on the STP buoy by the installation vessel Maersk Attender. Once the FPSO was in position, the buoy, held 22 m (72 ft) below the surface, was pulled into the vessel's moon pool. Following the successful installation of the STP buoy, the FPSO was permanently moored at its location.

In the event the FPSO has to move off-station, the Ballgrab® deployment tool can be used to lower the STP into the water for subsequent recovery when the FPSO returns.



The First Subsea range of Ballgrab® deployment tools offer a quick and simple method for handling lifting and deployment operations offshore. Our class leading products are tried, tested and proven in service in a wide range of applications meaning there is always a Ballgrab® for you.

# FirstSubsea

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