

# ARCA Mooring Leg Chain Connector



## ARCA Chain Connector

SBM Offshore has achieved a major break-through with its new technology for chain connectors to improve the integrity of mooring lines. The patented **Articulated Rod Connecting Arm (ARCA) Chain Connector** provides a new solution to ease the installation, inspection and repair of mooring lines.

With vessels now looking to be on station for up to 40 years there is a need to inspect chain connector articulations, which is currently very difficult as these are usually built into their supporting structure.

### Diverless Intervention – Improved Safety

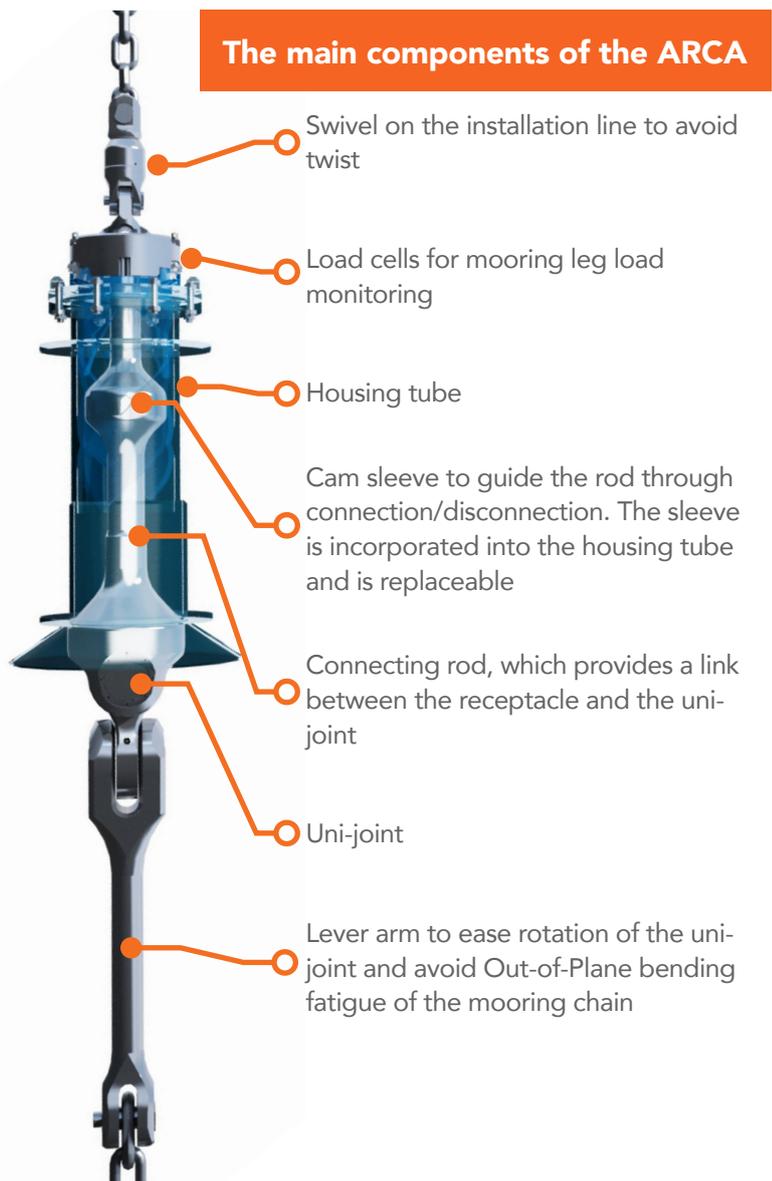
The ARCA development provides two key features:

- 1 A latching system based on a cam that is used to connect and disconnect the mooring legs without the intervention of divers, so eliminating a very hazardous offshore operation and thereby providing a significant safety improvement.
- 2 The placement of the articulations in the removable section of the connector, allowing them to be brought back to the surface for inspection and replacement if necessary.

As the articulations are removed from the turret chain table, the turret diameter can potentially be reduced, allowing for optimisation and cost reduction.

The ARCA therefore provides additional functionality for the chain connector by allowing for diverless connection/disconnection along with the ability to inspect and maintain the articulations and at the same time can achieve significant cost reductions, realised through the reduced turret diameter.

The ARCA has completed full scale prototype testing with 154 mm chain under 200 tonne pretension.



### Benefits of ARCA Chain Connector

- Allows operators to **avoid hazardous diving operations** by enabling diverless offshore connection and disconnection of the mooring legs.
- During integration at the shipyard, only the guide tube of the ARCA is integrated into the turret chaintable, and does not protrude below the chaintable in the manner of a standard chainstopper. This removes restrictions on the clearance needed below the vessel keel, when in dry dock or at quayside.
- Allows **inspection, maintenance and replacement** of the chain connector articulations, **improving the reliability** of the system and reducing the probability of mooring leg failure.
- No seafastening of the chain stopper is required for transit because only the housing tube is installed in the FPSO during the voyage. Consequently no diving is required to remove the sea fastening prior to hook-up of the mooring legs.
- Allows turret diameter to be reduced, bringing significant cost reduction.

