Subsea Connectors - 9603-PDS-0003-01

TRUNNION-LATCH™

TECHNICAL ADVANTAGES

Compared to conventional latch solutions the TRUNNION-LATCH offers important technical advantages to a project:

- High tension capacity
- High angle articulation greater than 20 degrees
- Negligible rotational stiffness
- Low stack-up height
- Automatic latching with manual secondary locking
- ROV operated unlock
- Visual positive lock /unlock confirmation
- Simple interface with riser and foundation components
- Integrated tension monitoring system

COMMERCIAL ADVANTAGES

Compared to conventional latch solutions TRUNNION-LATCH offers important commercial advantages to a project:

- Short delivery time (5-6 months typical)
- Significantly lower CAPITAL cost
- Provision of local content

SRP have developed a new product to meet the growing requirements of the deep water industry. The TRUNNION-LATCH is a highly effective, cost efficient and short schedule alternative to conventional rotational latches used on SLOR foundations and other free standing risers.

TRUNNION-LATCH combines a rugged, automatic latch with a robust universal joint whereby two axial bearings, mounted perpendicular to each other provide articulation, typically of +/-20 degrees.

TRUNNION-LATCH uses existing proven technology, components and materials. Most components are machined or fabricated from stock steel bar and plate materials. The design of the bearing and pin assembly is adopted from previous riser and mooring projects.

The design has been extensively developed and optimised using FEA methods and the latch mechanism proven through full scale testing.

In house bearing performance data has been generated using a custom designed bearing test rig that applies representative riser loads and motions to a bearing unit.

FUNCTIONALITY

A fabricated receptacle incorporates a simple but reliable dog locking mechanism to provide automatic latching when the male part is mated in the receptacle.

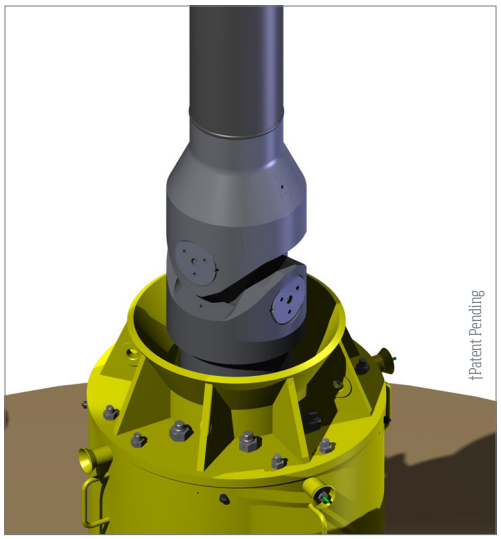
The design is purposefully robust to ensure that practical stabbing and operational loads can be reliably accommodated.

Latching can be easily conducted at a large angle without lock-up of the latch in the receptacle. This feature greatly simplifies the riser installation procedure.

Visual confirmation of the locking mechanism operation is provided. A secondary locking and manual release mechanism is incorporated in the design. This is operated by ROV using a standard API tooling interface.

Articulation is provided by advanced bearing materials design for 25 years operation.

The bearings provide low friction and the ability to accommodate riser deflections without significant bending moment, simplifying the design of interfacing components. The short stack-up height also simplifies the riser base arrangements and jumper spool off-take design by reducing relative motion at these critical interfaces.



SUBSEA RISER PRODUCTS