



Certificate No:  
**TAD00001KE**

# TYPE APPROVAL CERTIFICATE

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## This is to certify:

**That the Well Testing Equipment**

with type designation(s)

**ASSY, SPACER, 12.25 OD X 7.38 ID X 47.75 LG, 10K, P/N 100059563 REV. AL**

Issued to

**OneSubsea LLC - Houston**  
**Houston, TX, USA**

is found to comply with

**DNV-OS-E101 – Drilling facilities, Edition July 2021**

**DNV statutory interpretations DNV-SI-0166 – Verification for compliance with Norwegian shelf regulations, Edition July 2021**

## Application :

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.**

Issued at **Houston** on **2023-09-26**

This Certificate is valid until **2028-09-25**.

for **DNV**

DNV local unit: **Houston, Approval CMC**

Approval Engineer: **Pari Natarajan**

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**Mark Miser**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.  
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2022-12

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### Product description

- ASSY, SPACER, 12.25 OD X 7.38 ID X 47.75 LG, 10K, P/N 100059563 REV. AL
- File Code: S7SP-AA

### Manufacturing facility

- OneSubsea, Taubaté, São Paulo, Brazil

### Design codes/standards used as references

- API 6A, Specification for Wellhead and Tree Equipment, 21st Edition

### Application/Limitation

| Design Parameter                   | Value            |
|------------------------------------|------------------|
| Maximum Internal Working Pressure  | 10,000 psi       |
| Internal Test Pressure             | 15,000 psi       |
| Maximum Hanging Load at 10,000 psi | 400,000 lbf      |
| Maximum Hanging Load at 0 psi      | 1,000,000 lbf    |
| Minimum Design Temperature         | 32° F            |
| Maximum Design Temperature         | 325° F           |
| Corrosion Allowance                | 0.006 inch       |
| Service                            | H <sub>2</sub> S |

### Type Approval documentation

Note: Other part numbers or updated revisions may be acceptable under this Certificate, provided critical aspects of the design remain the same. Changes shall be documented and approved (via Engineering Change Notice or similar) by the Manufacturer's Engineering and/or Quality Department as appropriate. DNV local surveyor shall verify the change before issuance of the Product Certificate.

### Tests carried out

Production testing in accordance with FAT Test Procedure: 100466507 Rev. AB has been reviewed to be acceptable for type testing purposes.

### Marking of product

For traceability, the product shall be marked as per OSS spec SH710505 and FAT 100466507 page 7, part number and serial number.

### **Periodical assessment**

Periodical assessments for type approvals will be required after two years (+/- 90 days) and after three-and-a-half years (+/- 90 days) in accordance with DNV-CP-0338, Section 4.

### **Other Comments and Conditions**

- Procedures related to testing, welding, NDT, and other quality control requirements are to be reviewed/ approved by the DNV local surveyor.
- Manufacturing records are to be maintained in accordance with DNV-OS-E101 Ch.3 Sec. 3 [2].
- When DNV Product Certification is required, each product must be surveyed during fabrication in accordance with the requirements of Offshore Standard DNV-OS-E101 for Category I equipment.
- DNV Reference Project: A1422406

### **End of certificate**