Certificate No:
TAD00001HZ

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Marine Riser Equipment

with type designation(s)
Latch Assembly, BTR-MR, P/N: 02577300 Rev.A

Issued to
Weatherford Oil Tool GmbH
Langenhagen, Niedersachsen, **Germany**

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 **2023-02-08**
This Certificate is valid until **2028-02-07**.
DNV local unit: **Oslo Drilling Systems & Lifting Appliances**

Approval Engineer: **Pari Natarajan**

for **DNV**

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.

Design codes/standards used as references

- API Spec. 16RCD, “Specification for Drill Through Equipment – Rotating Control Devices”, 2nd Edition
- API Spec. 6A, “Specification for Wellhead and Christmas Tree Equipment”, 20th Edition
- API Spec. 16A, “Specification for Drill through Equipment”, 4th Edition
- API Spec. 16F, “Specification for Marine Drilling Riser Equipment”, 1st Edition.
- NACE, MR0175-2003/ISO 15156, Standard Material Requirements, Sulphide Stress Cracking Resistant Metallic Materials for Oilfield Equipment

Application/Limitation

Design Parameter	Value
Minimum ID	18-3/4”
Combined Load Rating (Bearing Assembly not Installed)	4,000 kips tension, 325 psi internal pressure with 0 ft-kips bending moment or 3,500 kips tension, 1,250 psi internal pressure with 0 ft-kips bending moment
Combined Load Rating During MPD Operations (7875 Bearing Assembly Installed)	3,500 kips tension, 2,000 psi internal pressure with 500 ft-kips bending moment.
Combined Load Rating During Conventional Drilling Operations (Protective Sleeve Installed)	3,500 kips tension, 1,160 psi internal pressure with 0 ft-kips bending moment.
SAF (stress amplification factor)	1.3 on RCD Body DIGS port with respect to 19” ID x 1.125” WT riser pipe
Test Pressure	3,000 psi
Maximum Static Pressure Rating	2,000 psi
Temperature Rating, Metallic	-4°F to 250°F
Temperature Rating, Non-metallic	See D000309276, Product Specification for Sealing Elements, for non-metallic temperature and pressure ratings
Hydraulic OS Rated Working Pressure	1200 psi
Service	Sour/H_2S
Designation of Systems; Equipment	Managed Pressure Drilling (MPD) systems; Rotating Control Device

Type Approval documentation

Marking of product

For traceability the following marking is to be carried out on each product:

1. Serial No.
2. Marking as specified in API references.
3. Additional marking at the manufacturer’s discretion

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.
- When DNV Product Certification is required, each component shall be surveyed during fabrication in accordance with the requirements for Category I equipment as defined in Offshore Standard DNV-OS-E101.

END OF CERTIFICATE