



Certificate no.:
TAD00001SX

TYPE APPROVAL CERTIFICATE

This is to certify:

that the **Marine Riser Equipment**

with type designation(s)

**CTG-5000, OFFSHORE BEARING, CORE ASSEMBLY PN: 23-10000, Rev.1,
OFFSHORE BEARING ASSEMBLY, CORE PN: NT-090-01 Rev.2**

issued to

**Frontier International, LLC
Houston, TX, USA**

is found to comply with

DNV-OS-E101 – Drilling facilities, Edition July 2024

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

Application:

Products covered by this Type Approval Certificate are permitted for installation on vessels classed by DNV, provided each product is accompanied by a valid DNV Product Certificate (PC) issued in accordance with applicable DNV rules and standards.

Issued at **Houston** on **2025-12-04**

This Certificate is valid until **2030-12-03**.

for **DNV**

DNV local unit: **Certification & Inspection Services**

Approval Engineer: **Pari Natarajan**

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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 USD 300 000.

Design codes/standards used as references

- API 16RCD, Specification for Rotating Control Devices, 3rd Edition

Application/Limitation

Design Parameter	Value
Through Bore Size	9"
Metallic Temperature Rating	T-0 (0°F to 250°F)
Non-metallic Temperature Rating	XX (40 °F to 180 °F)
Static Pressure Rating	5,000 psi
Dynamic Pressure Rating	1,500 psi @ 120 RPM 800 psi @ 160 RPM
Stripping Pressure Rating	1,000 psi
Maximum Rotary Speed	300 RPM
Retained Fluid Rating	Sour (H2S)
Designation of Systems; Equipment	Managed pressure drilling (MPD); Rotating control device

Type Approval documentation

Tests carried out

- Review design validation test records per Table 3, API 16RCD.

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

For retention of the Type Approval, DNV surveyor shall perform a retention survey every second year in accordance with DNV Type Approval Scheme DNV-CP-0338.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com/>

Other conditions/ comments

- Procedures related to testing, welding, NDE, and other quality control requirements are to be reviewed/approved by DNV local surveyor.
- Products requiring DNV certification shall be inspected during fabrication per DNV-OS-E101 Category I requirements

End of Certificate