Certificate No:
TAD00001HW

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Marine Riser Equipment

with type designation(s)
Assembly, Annular Isolation Device, AID, 02550360 Version D.4

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. 16A, Specification for Drill-through Equipment, 4th Edition
- API Spec. 16F, Specification for Marine Drilling Riser Equipment, 1st Edition
- API Spec. 16C, Specification for Choke and Kill Equipment, 2nd Edition
- API Spec. 6A, Specification for Wellhead and Christmas Tree Equipment, 20th Edition

Application/Limitation

Design Parameter	Value
Nominal Bore Size	18 ¾ in
API 16A Performance Requirement Level	PR1
API 16A Rated Working Pressure	2,000 psi
API 16A Metallic Temperature Rating	-4°F to 250°F
API 16A Non-metallic Temperature Rating	FGG
- Low Temperature Limit	40°F
- Continuous Elevated Temperature Limit	-
- Extreme Temperature Limit	150°F
Maximum Tension of AID Intermediate Connection	4,000 kips
Maximum Combined Load Rating	3,500 kips at 2,000 psi
Corrosion allowance	0.1” on ID
Hydraulic Operating Pressure	2,250 psi
SAF (AID Bolted connection)	
- AID piston closed while servicing RCD	3.7
- AID piston open while normal operations of RCD	3.2
Retained Fluid Rating	Sour (H_2S)
Alloy Steel Aux Line Carriers	
- Rated working pressure	15,000 psi
- Design temperature rating	0°F to 250°F
Stainless Steel Aux Line Carriers	
- Rated working pressure	5,000 psi
- Design temperature rating	0°F to 180°F
Aux lines - Load Sharing	No
Designation of Systems, Equipment	Managed Pressure Drilling (MPD) systems, Annular Preventer

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 manifold 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