Certificate no.:
TAD00001ST

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Pipe Fitting

with type designation(s)
Swivel 2 9/16" 5K/10K

issued to
DF Wiig AS
Paradis, **Norway**

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:

See next page.

Issued at **Høvik** on **2025-11-19**
This Certificate is valid until **2030-11-18**.
DNV local unit: **Stavanger**

Approval Engineer: **Ole Osuldsen**

for **DNV**

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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.

Product description

-Heavy duty hydraulic hose swivel size 2 9/16” 5000 Psi API BX 154 hubs 10K.

Reference standards

API 16C Choke and Kill Equipment 2021
API 6A 2018 , Wellhead & Christmas tree equipment
API 6X 2019 Design calculations for pressure equipment 2023
API 16 A Specification for Drill Through Equipment 2023
DNV RP-C203, 2021
NACE MR0175/ISO 15156

Application/Limitation

The approval is valid for the fields of application and operational limitations as follows:

Product & Size	Hydraulic Hose Swivel 2 9/16” 5 K API Spec 16A BX 154 10K Hubs
Pressure class	5000 psi /345 bar
Test Pressure	7.500 psi /517 bar
Design Temperature	-20 °C to +121 °C
Max axial tension	30 kN Wave and inertia loads
Max bending moment	20 kNm Sum of side loads by wave and caternary
Rotation speed	+/- 15 degrees per 10s.
Service	Hydraulic fluid , mineral oil, emulsion fluid.
Hubs	PN E10444; 16BX pr API 16A 2 9/16”10K PN E10692; 16BX pr API 16A 2 9/16”5K

Type Approval documentation for the 2 9/16” Hydraulic Hose Swivel

Tests carried out on the final prototypes with serial numbers 1326.

The following test reports describe tests carried out on the prototype swivels. All test reports have been witnessed and signed by a DNV Surveyor:

Other Conditions and comments

- Each product is to be surveyed during fabrication in accordance with the requirements for equipment of Category I as defined in DNV's Offshore Standard DNV-OS-E101 Drilling facilities, Ch.3, Sec.3, followed by issuance of a Product Certificate. Fabrication records are to be maintained in accordance with DNV-OS-E101, Ch.3, sec. 3.2..
- Scaling has been evaluated and performed in accordance with API 16 C sect A.5.2.2.2.2
- Charpy impact testing to be performed at minimum design temperature according to DNV-OS-E101, Ch. 2, Sec. 2 [2].
- Pressure testing shall be performed in accordance with DNV-OS-E101 Ch 2 Sec 8, 3.3 Pressure testing.
- Function testing at rig as installed equipment at rig shall be performed in accordance with DNV-OS-E101 Ch 2 Sec 8 3,5.

Marking of product

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

- Manufacturer's name and trademark
- Serial Number
- Swivel size
- Pressure rating
- Temperature rating

Documentation to be accompanied with each product/delivery

- DNV Product Certificate if delivered to a vessel with DNV DRILL or DRILL(N) notation
- Maintenance/ User Manual

Certificate Retention Survey

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to 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

END OF CERTIFICATE