Certificate no.:
TAD00001R4

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Coupling

with type designation(s)

issued to

Sivilingeniør E.J.Wiig AS
Paradis, **Norway**

is found to comply with
DNV-OS-E101 – Drilling facilities, Edition July 2024

Application:

See page 2

Issued at **Høvik** on **2024-12-10**
This Certificate is valid until **2029-12-09**.
DNV local unit: **Haugesund**

for **DNV**

Approval Engineer: **Ole Osuldsen**

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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

Reference Standards

- ASME VIII Boiler and Pressure Vessel Code, Division 2, 2013 Edition
- ASME VIII Boiler and Pressure Vessel Code, Division 3, 2015 Edition

Product description

This swivel is intended to be used on hydraulic supply hoses in orderv to prevent twisting of the hoses. Typical use is on traditional MOU or Drillships with hydraulic lines to riser tensioner, compensator cylinders etc.

Application/Limitation

Hydraulic Hose Swivel, Size 6" and 8", WP 23 Mpa w/ISO 6461 end connection

Maximum Working Pressure, WP	23 MPa (230 Bar)
Maximum Test Pressure	34.5 MPa (345 Bar)
Temperature range	-20 deg C to + 150 deg C
Corrosion & erosion allowance	0 mm
Material	UNS 17400 Type 630 Condition 1150, H1150D, DBH 1150; ASTM A564/A564M-04 or similar
Minimum Yield Strength at +150 deg C	666 MPa
Maximum allowable tension (in addition to Working Pressure)	200 kN
Maximum allowable bending moment	20 kNm
Rotation limitations	Unlimited, normally within +/- 5 deg
Environment	Marine atmosphere
Service	Hydraulic oil

Type Approval documentation

Tests to be carried out on each product

1. Functional testing shall be performed for the assembly, in the presence of a DNV Surveyor, in accordance with DNV-OS-E101, Ch.2 Sec.8.
2. Charpy impact testing to be conducted in accordance with DNV-OS-E101 Ch.2 Sec.2.
3. Non-destructive examination methods, extent and acceptance criteria shall be in accordance with DNV-OS-E101 Ch.8 Sec.3.

Marking of product

This swivel shall as a minimum be marked in accordance with DNV-OS-E101, October 2013, Chapter 2, Section 8, 2.2 marking.

Other conditions/comments

- This Type Approval only covers the body of the 6” and 8” Hydraulic Swivel. Any variants and modifications of the standard ISO 6461 slip-on flange with retaining ring, are NOT covered by this Type Approval and will need a separate DNV approval before being installed on a DNV classed MOU.

- This document may be used as part of the documentation required to comply with European Union (EU) Directives referenced in PSA's Acts, regulations and provisions for the petroleums activities. It should however be noted that the scope covered by this document does not necessarily cover all aspects required to issue the EU Declaration of Conformity and to affix the CE-mark. It is the manufacturer's/operator's responsibility to ensure compliance with
relevant EU Directives.

- This Type Approval is only valid for the load spectrum specified in the calculations provided by the manufacturer, or for less demanding load spectrums.

Certificate Retention Survey

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years and after 3.5 years 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