

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pipe Fitting

with type designation(s)
3", 4", 4.5", 5" & 6" Hub Assembly

Issued to

Worldwide Oilfield Machine, Inc.
Houston, TX, USA

is found to comply with

DNVGL-OS-E101 – Drilling facilities, Edition January 2018

DNVGL-SI-0166 – Verification for compliance with Norwegian shelf regulations, Edition July 2018

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Houston** on **2020-07-08**

This Certificate is valid until **2025-07-07**.

for **DNV GL**

DNV GL local station: **Houston, Approval CMC**

Approval Engineer: **Xiangwen Maggie Wang**

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Meindert van Mierlo
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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



Product description

- WOM Hub Assembly WE40 5" 10,000 psi, P/N: WHC-E
- WOM Hub Assembly WD31 4.5" 10,000 psi, P/N: WHC-D31
- WOM Hub Assembly WF52 6" 5,000 psi, P/N: WHC-F
- WOM Hub Assembly WC25 4" 15,000 psi, P/N: WHC-C
- WOM Hub Assembly WD27 3" 15,000 psi, P/N: WHC-D27

Reference standards

- API 6A, Specification for Wellhead and Tree Equipment, 21st Edition
- API 16A, Specification for Drill Through Equipment, 4th Edition
- NACE MR0175/ISO 15156, 'Petroleum and Natural Gas Industries – Materials for Use in H₂S – Containing Environments in Oil and Gas Production', 3rd Edition

Application/Limitation

- Max. Working Pressure: 5,000 psi, 10,000 psi & 15,000 psi
- Test Pressure: 7,500 psi, 15,000 psi & 22,500 psi
- Design Temperature: -20 °F to 350 °F
- Service: H₂S
- Material Class: DD, EE
- Product Specification Level: 3, 3G
- Performance Requirement: 1

Type Approval documentation

Tests carried out

1. Pressure Test Certificate PTC No. 22719 WOM HUB ASSEMBLY WE40 P/N WHC-E
S/N IO00137431-1
2. Pressure Test Certificate PTC No. 22720 WOM HUB ASSEMBLY WC25 P/N WHC-C
S/N IO00137428-1
3. Pressure Test Certificate PTC No. 22718 WOM HUB ASSEMBLY WD27 P/N WHC-D27
S/N IO00137429-1
4. Pressure Test Certificate PTC No. 22717 WOM HUB ASSEMBLY WD31 P/N WHC-D31
S/N IO00137430-1
5. Pressure Test Certificate PTC No. 22716 WOM HUB ASSEMBLY WF52 P/N WHC-F
S/N IO00137432-1

Additional manufacturing locations

1. Worldwide Oilfield Machine Pvt. Ltd.
Gat No. 778, at Post Velu
Pune Satara Road
Tal. Bhor, Dist. Pune 412 205, India
2. Worldwide Oilfield Machine ME
Jebel Ali Free Zone (JAFZA) South
Plot# S61302,
Dubai, UAE

Marking of product

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

1. Serial No.
2. Manufacturer's name or trademark.
3. Additional Marking at manufacturer's discretion.

Periodical assessment

Job Id: **262.1-033860-1**
Certificate No: **TAD00001B4**

For retention of the Type Approval, DNV GL's surveyor shall perform periodical assessment after 2 years and after 3.5 years in accordance with DNV GL's Class Programme DNVGL-CP-0338, Section 4.

Other conditions/comments

1. Procedures related to testing, welding, NDT, and other quality control requirements are to be reviewed/approved by DNV GL's local surveyor.
2. Non-metallic materials shall be suitable for the intended service and shall be capable of sustaining the design pressures and temperatures. Non-metallic materials in wetted components shall be tested in order to ensure compatibility with all fluids that they will be exposed to during service, as specified.
3. DNV GL ref.: A0856969.

END OF CERTIFICATE