Certificate no.:
TAD00001M1

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Kill and Choke Equipment

with type designation(s)
MPX-40D Drilling Chokes with 11.25" Dimensions, Manual & Hydraulic

issued to
National Oilwell Varco, L.P. - Rig Technologies Division - Creekmont
Houston, TX, USA

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 **2024-03-26**
This Certificate is valid until **2029-03-25**.
DNV local unit: **Houston, Approval CMC**

Approval Engineer: **Xiangwen Maggie Wang**

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 300,000 USD.

Product description

- Adjustable Choke Assy., Type: MPX 40D 3.06-15M, 11.25" x 11.25" Special Dimensions CRA, Manual, PX-EENL-3 PR2 2.00", P/N: 17943070-003
- Adjustable Choke Assy., Type: MPX 40D 3.06-15M, 11.25" x 11.25" Special Dimensions CRA, Hydraulic, PX-EENL-3 PR2 2.00", P/N: 17943068-003

Reference standards

- API 6A, *Specification for Wellhead and Tree Equipment*, 21st Edition
- API 16C, *Choke and Kill Equipment*, 3rd Edition
- NACE MR0175/ISO 15156, *Petroleum and Natural Gas Industries – Materials for Use in H_2S – Containing Environments in Oil and Gas Production*, 4th Edition

Application/Limitation

Design Parameter	Valve	Actuator
Maximum Working Pressure	15,000 psi	3,000 psi
Test Pressure	22,500 psi	4,500 psi
Minimum Design Temperature	-20º F	-20º F
Maximum Design Temperature	350º F	150º F
Service	Sour (H_2S service)	Standard
API 6A PSL	3	NA
API 6A PR	PR2F	PR1
Material Class	EE	AA; BB

Type Approval documentation

Note: (1) See material specifications for additional material requirements. (2) Charpy impact testing is not required on pressure controlling parts. However, Charpy impact testing is required on pressure controlling parts per 2.6.3.1 of OS-E101 if the valve is part of the BOP stack pressure-controlling components in contact with wellbore fluids or diverter valves.

Tests carried out

Doc. No.	Rev.	Description
D601005924-REP-001	01	TEST REPORT FOR TEST PROCEDURE - D991003570-MAN-001. ADJUSTABLE CHOKE ASSY MPX-40I. MANUALLY OPERATED TYPE. -20F THRU 350F. 15,000 PSI NITROGEN GAS / HYDROSTATIC.

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

For retention of the Type Approval, DNV's surveyor shall perform periodical assessment after 2 years (+/- 90 days) and after 3.5 years (+/- 90 days) in accordance with DNV's Class Programme DNV-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's local surveyor.
2. DNV ref.: A1445639.