

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Hoisting, Rotation and Pipehandling Equipment**

with type designation(s)

BX7 Elevator, SBX7 Elevator; PNs 50000580 - 50001270

Issued to

Varco BJ B.V.**Etten-Leur, Noord-Brabant, Netherlands**

is found to comply with

DNVGL-OS-E101 – Drilling facilities, Edition January 2018**Application :****The elevator is designed for lifting and suspending tubular goods.**Issued at **Høvik** on **2020-05-13**This Certificate is valid until **2025-05-12**.for **DNV GL**DNV GL local station: **Netherlands CMC**Approval Engineer: **Hallvard Thune Uglane**

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Per Esvall
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.



Reference Standards

API Spec 8C, Specification for Drilling and Production Hoisting Equipment (PSL1 and PSL2), 5th Edition

Product description

The BX7 elevator is a hydraulic operated double door elevator. The SBX7 elevator is a manually operated elevator with one door only. Both elevator types are equipped with replaceable bushings to handle various styles and sizes of tubular. The BX7 elevator will automatically close when the tubular hits the body bushing, while opening of the elevator is remote controlled.

Application/Limitation

Min. Design Temperature: -20 °C (-4 °F)
Max Hydraulic Pressure: 172 bar (2500 psi)

BX7

Load Rating: 18° : 1000 short tons (8898 kN)
45° : 1250 short tons (11125 kN)
90° : 1250 short tons (11125 kN)
Size Range: 5-1/2" – 10-3/4"

SBX7

Load Rating: 45° : 1250 short tons (11125 kN)
90° : 1250 short tons (11125 kN)
Size Range: 5-1/2" – 9-5/8"

Type Approval documentation

Tests carried out

BX7:

Destructive design verification test was carried out at the NOV Varco BJ facility in Etten Leur November 5th 2011. The test was witnessed by DNV Rotterdam. Test load was 3346.5 mT.

SBX7:

Design verification test with strain gauges was carried out at the NOV Varco BJ facility in Etten Leur March 20th 2013. The test was witnessed by DNV Rotterdam. Test load 2500 short Tons.

Tests to be carried out

Test procedures:

1. Each product is to be tested according to DNV GL's Offshore Standard DNVGL-OS-E101 "Drilling Facilities", January 2018, Ch.2, Sec.8, 4.1, including proof load test according to API Spec 8C, Ch 8.6.
2. Charpy impact testing shall be performed in accordance with DNVGL-OS-E101 "Drilling Facilities" Ch.2, Sec.2, 2.6.
3. Qualification of welders, welding- and heat treatment procedures shall be in accordance with DNVGL-OS-E101 "Drilling Facilities" Ch.2, Sec.8, 2.3 to 2.5.

PSL 2

4. PSL 2 units shall meet the stricter demands for materials, welding, quality control (NDE) and as described in Chapters 6, 7 and 8 respectively in API Spec 8C.

Other conditions/comments:

Marking of product

Job Id: **262.1-016960-2**
Certificate No: **TAD00001A2**

For tracability and compliance with API 8C, Sec. 10, each unit should as a minimum be marked with:

- API Spec 8C
- PSL number
- Load rating
- Component traceability
- Drillpipe size and style (if used for lifting drillpipes)

Periodical assessment

For retention of the Type Approval, DNV GL Surveyor shall perform a survey – every second year and before the expiry date of this certificate. This is in order to verify that the conditions for the type approval are complied with, ref. DNVGL-CP-0338, DNVGL Type approval scheme.

This certificate is a renewal and replaces the earlier issued Type Approval Certificate No. D-6262.

END OF CERTIFICATE