

TYPE APPROVAL CERTIFICATE

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

with type designation(s)

4-way lifting sling assembly (PNs 50001110 & 50001140), 2-way lifting sling assembly (PNs 50001120 & 50001150), 2-way bowl lifter assembly (PNs 50001130 & 50001160)

Issued to

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

is found to comply with

DNVGL-OS-E101 – Drilling facilities, Edition January 2018**Application :****Lifting sling assemblies, with spreader bars approved for lifting of drilling equipment.**Issued at **Høvik** on **2018-04-10**This Certificate is valid until **2023-04-09**.DNV GL local station: **Rotterdam, Product
Certification /Verification**for **DNV GL**Approval Engineer: **Hallvard Thune Uglane**

**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.



Job Id: **262.1-015429-2**
Certificate No: **Error! Reference source not found.**

Reference Standards

DNVGL-ST-0378, Standard for offshore and platform lifting appliances, May 2016

Product description

Lifting sling assemblies, with spreader bars approved for lifting of drilling equipment, e.g. master bushings, casing spiders, bowls and rotary table adapter bushings. Not approved for lifting of loads with COG significantly far from center of tool.

Application/Limitation

Safe Working Load (SWL) 4-way sling:	2.8 short ton
Safe Working Load (SWL) 2-way sling:	1.4 short ton
Safe Working Load (SWL) 2-way bowl lifter:	1.4 short ton*
Minimum design temperature:	-20 °C
Maximum sling angle from vertical:	45°

* The bowl lifter is not approved for overhead lifting.

Type Approval documentation

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 load test according to DNVGL-ST-0378 Table 14-2.
2. Charpy impact testing shall be performed in accordance with DNVGL-OS-E101 "Drilling Facilities" Ch.2, Sec.2, 2.6.

Comments

- All loose gear as wires, chains, shackles and couplers are to be delivered with pertinent ILO-certificates.
- Tolerance of length of multilegged sling assemblies are to be carried out in compliance with a recognized standard, e.g. ISO 7531 : 1987.
- All end terminations of wire is to be performed in accordance with a recognized standard and by qualified personnel.

Marking of product

For tracability and compliance with DNVGL-ST-0378, Sec. 14.5.5, each sling set should as a minimum be marked with:

- SWL
- Component traceability
- Manufacturer's Name or Mark

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-5126.

END OF CERTIFICATE