

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Hoisting, Rotation and Pipehandling Equipment

with type designation(s)

TorkDrive Compact Casing-Running and Drilling Tool

Issued to

Weatherford Oil Tool GmbH

Langenhagen Niedersachsen, Germany

is found to comply with

DNVGL-OS-E101 – Drilling plant, Edition July 2015

DNVGL-SI-0166 – Verification for compliance with Norwegian shelf regulations, Edition July 2015

Application :

See next page

This Certificate is valid until **2021-06-30**.

Issued at **Høvik** on **2016-08-26**

DNV GL local station: **Magdeburg**

Approval Engineer: **Hallvard Thune Uglane**

for **DNV GL**

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.

Reference Standards

API Spec. 8C, fifth edition, 2012
NORSOK R-002, Lifting equipment, 2nd edition, Sept.2012

Product description

The TorkDrive tool is used to make-up casing connections, lower the string and run casing into hole while rotating. The TorkDrive is equipped with link tilt bails, using a single joint elevator, the link tilt bails can pick up casing joints from the drill floor and place them under the TorkDrive.

Application/Limitation

Rated Load (API 8C)	500 short tons (4449kN)
Safety Factor	2.25
Max. Torque	60,000 ft ·lbf
Max. Push Down	10 short tons (89kN)
Rated Load (API 8C) for bails	5 short tons (44.5kN)
WLL (NORSOK R-002) for bails	3.85 short tons (34.2kN)
Max. angle for bails	7°
Min. angle for bails	-3.5°
Casing range	9 5/8" to 14"
Product Specification Level	PSL 1
Max. Hydraulic Pressure	210 bar
Min. Design Temperature	-40°C
Area Classification	Zone 1

Type Approval documentation



Job Id: **262.1-012313-2**
Certificate No: **TAD00000E5**

Other conditions and comments

- Charpy impact testing to be conducted at or below minimum design temperature, according to API 8C, section 6.3.
- Each product are to be surveyed during fabrication in accordance with the requirements for equipment of Category I as defined in DNV's Offshore Standard DNVGL-OS-E101 Drilling Plant, followed by issuance of Product Certificate Form No. 20.92a. Fabrication records are to be maintained in accordance with DNVGL-OS-E101 Ch.3, Sec.3, 2.
- Qualification of welding procedures and qualification of welders shall be in accordance with DNVGL-OS-E101, Ch.2, Sec.6 and DNV-OS-C401 Ch.2, Sec.1.

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Tests to be carried out

Proof Load Test shall be performed in accordance with API Spec. 8C, clause 8.6.
Tests shall be performed for both main tool and the bails.

Marking of product

Each item shall be marked according to API Spec 8C, section 10, including at least:

- Name of manufacturer
- Rated load capacity
- Part no.
- Serial no.
- PSL no.
- SR2 -40°C

Certificate Retention Survey

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, DNV GL type approval scheme.

This certificate is replacing Type Approval Certificate D-4316.

END OF CERTIFICATE