

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Kelly Valve**with type designation(s)
BTG 6.5/8" x 2.13/16" - NC 50 15000 psi

Issued to

ITAG Valves & Oilfield Products GmbH
Celle, Germanyis found to comply with
DNVGL-OS-E101 – Drilling facilities, Edition January 2018**Application :****See next page**Issued at **Høvik** on **2018-04-03**This Certificate is valid until **2023-04-02**.DNV GL local station: **Hamburg Verification**for **DNV GL**Approval Engineer: **Andreas Sigvardsson**

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.



Codes and standards used as reference

- API Spec 7-1, 1st Edition, March 2006
- API RP 7G, 16th Edition, May 2000, Addendum 2 September 2009
- ASME VIII Div.2, 2017 Edition

Product description

Kelly Valve, BTG 6.5/8" x 2.13/16", NC 50, 15000 psi, Class 2

Class 2

Body and any stem seal shall hold internal pressure equal to the shell test pressure. Stem seal shall hold external pressure at a low pressure of 1.7 MPa (250 psi) and at a minimum high pressure of 13.8 MPa (2000 psi). Closure seal shall hold pressure from below at a low pressure of 1.7 MPa and at a high pressure equal to the maximum rated working pressure. Closure seal shall hold pressure from above at a low pressure of 1.7 MPa and at a high pressure equal to the maximum rated working pressure.

Application/Limitation

- Working pressure: 103.5 N/mm² / 15,000 psi
- Test pressure: 155.1 N/mm² / 22,500 psi
- Make-up torque: 50,643 Nm / 37,352 ft lbs
- Torque to yield_{1a} : 84,404 Nm / 62,253 ft lbs
- Torque to yield (S=1.3): 64,926 Nm / 47,887 ft lbs
- Threads: Tension to yield: 6,693 kN / 1,504,107 lbs
- Body: Tension to yield: 2,900 kN / 651,946 lbs
- Body: Tension to yield (S=1.3): 2,231 kN / 501,497 lbs
- Operation torque: 730 Nm / 538 ft lbs
- Service: Surface and downhole
- Corrosion/Erosion allowance: 1 mm
- Gas tight
- Thread NC 50
- Min. Design Temperature, body: -20°C
- Min. Design Temperature, seals: -10°C
- Max. Design Temperature +90°C

Type Approval documentation

Design Verification Test

Design verification test for stem-seal external pressure of BTG Class 2 valve: "ITAG general informations DSSV test", dated 1997-11-10.

Tests to be carried out on each individual product

- Charpy testing shall be performed in accordance with API Spec 7-1, 5.2.3.
- Each product is to be tested according to DNV's Offshore Standard DNVGL-OS-E101 "Drilling Plant", Ch.2, Sec.8 and API Spec 7-1 Section 5.4.
- NDE/NDT procedures shall be performed in accordance with DNVGL-OS-E101 "Drilling Plant" Ch.2, Sec.8.
- Pressure testing to be performed in accordance with Ch.2, Sec.8 in DNVGL-OS-E101.

Marking of product

Job Id: **262.1-028382-1**
Certificate No: **TAD00000X5**

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

- Part No.
- Serial No.
- Rated Pressure capacity
- Manufacturers Name or Mark
- Marking as specified in API Spec 7-1

Other conditions and comments

- The Kelly valves shall be inspected according to manufacturers specifications, including MPI, after each well or every 5-7 months.
- Fatigue has not been considered in this Type Approval. The fatigue analysis is the ultimate responsibility of the user.
- The design selection of the valve shall meet the requirement of the Allowable Load Chart specified in the design report.
- Each product is to be surveyed during fabrication in accordance with the requirements for equipment of Category I as defined in DNV GL's Offshore Standard DNVGL-OS-E101 Drilling Plant, followed by issuance of Product Certificate. If the intended installation is DNV classed, then this automatically means DNV Product Certificate. Fabrication records are to be maintained in accordance with DNVGL-OS-E101 Ch.3, Sec.3, 1.1.4.
- This document may be used as part of the documentation required to comply with European Union (EU) Directives referenced in PSA's Acts, regulations and provisions for the petroleum activities. It should however be noted that the scope covered by this document does not necessarily cover all aspects required to issue the EU Declaration of Conformity and to affix the CE-mark. It is the manufacturer's/operator's responsibility to ensure compliance with relevant EU Directives.

Certificate Retention Survey

For retention of the Type Approval, DNV GL's representative shall carry out biennial Product Audits in accordance with DNV GL Type Approval Scheme DNVGL-CP-0338, Chapter 4, dated Oct 2015.

END OF CERTIFICATE