DNV·GL

Certificate No:
TAD00000UE

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Blow out Preventer

with type designation(s)
Kellyguard Assembly, Single Crank, ref. P/N 3132170-15DNV,
Kellyguard Assembly, Double Crank, ref. P/N 3135767-DNV,
Kellyguard Assembly, Single Crank, ref. P/N 3132170-9DNV

Issued to
Hydril USA Distribution, LLC
Houston, TX, USA

is found to comply with
DNVGL-OS-E101 – Drilling facilities, Edition January 2018
DNVGL-SI-0166 – Verification for compliance with Norwegian shelf regulations, Edition July 2018

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL, when accompanied with a DNV GL Product Certificate (PC).

Issued at **Houston, TX** on **2019-03-29**
This Certificate is valid until **2024-03-28**.
DNV GL local station: **Certification & Inspection Services**

Approval Engineer: **Mark Miser**

for **DNV GL**

Christian Nilsen
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.

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Job Id: **262.1-018055-2**
Certificate No: **TAD00000UE**

Product description
A kelly guard valve is a full-opening valve in the drill-string used above or below the kelly to confine pressure in the drill-string.

Location(s) of Manufacture
Hydril Pressure Control S. de R.L de C.V., Veracruz, Mexico

References
API 7-1, "Specification for Rotary Drill Stem Elements", 1st Edition

Application/Limitation
General:

Maximum Allowable Working Pressure	: 15,000 psi (103.4 MPa)
Hydrostatic Test Pressure	: 22,500 psi (155.1 MPa)
Minimum Design Temperature	: -4 °F (-20 °C)
Maximum Design Temperature	: 180 °F (82 °C)
System/Equipment/Service	: Well Control Systems / BOP Equipment, Valve in the drill-string /Surface only
API Spec. 7-1 Service Class	: Class 1

3132170-15DNV:

Nominal Tool Joint Connection Size[1]	: XT-57 Pin & Box
Maximum Tension (@MWP)[2]	: 1,745,000 lbf
Maximum Torque (@MWP)[2,3]	: 78,000 ft·lbf

3135767-DNV:

Nominal Tool Joint Connection Size	: 8 5/8" REG Pin x WT84 Box
Maximum Tension (@MWP)[2]	: 2,565,000 lbf
Maximum Torque (@MWP)[2,3]	: 174,500 ft·lbf

3132170-9DNV:

Nominal Tool Joint Connection Size	: 6 5/8" FH Pin & Box
Maximum Tension (@MWP)[2]	: 2,600,000 lbf
Maximum Torque (@MWP)[2,3]	: 80,000 ft·lbf

Notes:
[1] The claimed rating of the premium end connection has not been evaluated by DNV GL for compliance with any applicable codes.

[2] All operating conditions for this product shall be within the limits specified in the Combined Loading Curves reported by the manufacturer in the design reports listed in this certificate in the "Type Approval Documentation, Calculations" section. Capacities of the KG Assemblies were reported to be limited by the pin and box end connections.

[3] The indicated maximum torque is evaluated at zero tension and pin yield limit, it is not specified as the recommended makeup torque.

Type Approval documentation

Tests carried out
The procedures listed below are to be reviewed/approved by DNV GL's local surveyor in addition to all others related to testing, welding, NDT, etc.

Test Procedures:

1.	X-1001487	Rev H	Hydril's Assembly & Test Procedure for Kellyguard
2.	3124088	Rev G	PRD, Assembly Procedure for Installing Inserts in Kellyguard Seats

Survey Reports:
1. MEAMX464/PP104037-1
2. MEAMX464/PP104037-2
3. PC HOU-11-4479

Marking of product

For traceability the following marking is to be carried out on each product:
1. Be reviewed & approved by the DNV GL local surveyor
2. Identify & differentiate each production unit (i.e. serial no.)
3. Establish traceability to product design and fabrication documentation
4. Marking as specified in API Spec 7-1, 1st Edition, Section 5.6
5. Additional marking at manufacturer's option

Other conditions/comments

1. All materials for main load bearing and pressure containing components shall be supplied with material certificates.
2. Functional testing and inspection to be carried out after final assembly to the satisfaction of DNV GL's local surveyor.

Periodical assessment

For retention of the Type Approval, DNV GL's surveyor shall perform a retention survey in accordance with DNV GL Type Approval Scheme DNVGL-CP-0338.

END OF CERTIFICATE