

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Accumulators**

with type designation(s)

**Accumulator, Stainless Steel Piston Type, 26.25 Gallon Capacity
Dwg. No. 17A-9778, Rev. 03**

Issued to

**Tobul Accumulator
Bamberg SC, United States**

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 Page 2

This Certificate is valid until **2021-08-29**.

Issued at **Houston** on **2016-08-30**

DNV GL local station: **Approval CMC – Houston**

for **DNV GL**

Approval Engineer: **M. Kevin Mandeville Jr.**

**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.

Job Id:
Certificate No: **TAD00000FC**

The following design codes and standards were used as a reference:

ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, 2015 Edition

Product description

Accumulator, 26.25 Gallon Capacity, Stainless Steel body, Piston Style with retaining ring type heads

Application/Limitation

Design Parameter	Value	Equivalent
Max Internal Working Pressure	5,000psi	345 bar
Internal Hydrostatic Test Pressure	7,500psi	517 bar
Max External Working Pressure	Not Rated	
Design Temperature	200°F	93°C
MDMT	-20°F	-29°C
Corrosion Allowance	0in	0mm

Type Approval documentation

Tests carried out

Successful Hydrostatic Testing carried out on 24 August, 2016, on SN: 349170

Marking of product

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

1. Serial No.
2. Manufacturer's Name or Trademark
3. Additional marking at the manufacturer's discretion

Certificate Retention Survey

For retention of the Type Approval Certificate, DNV's surveyor shall perform a survey every second year in accordance with DNV GL's Class Programme for Type Approval, DNVGL-CP-0338.

Other conditions/comments

- Cylinder Castings are to be processed per ASME BPVC Section VIII, Division 1, appendix 7 and 8, for a quality factor of 90%.
- DNV Ref. Project No. PP155438-04

END OF CERTIFICATE