Certificate no.:
**TAD00001NU**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**that the Accumulators**

with type designation(s)
**Gas Bottle, Carbon Steel, 50 Litres, Model GB500-250-SDD-0063**

issued to
## Parker Hannifin Manufacturing Ltd
**Deeside, Flintshire**, **United Kingdom**

is found to comply with

**DNV-OS-E101 – Drilling facilities, Edition July 2024**
**DNV statutory interpretations DNV-SI-0166 – Verification for compliance with Norwegian shelf regulations, Edition July 2021**

## Application:

**See Page 2**

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.**

Issued at **Houston** on **2024-12-18**
This Certificate is valid until **2029-12-17**.
DNV local unit: **UK & Ireland CMC & VMC**

for **DNV**

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

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

## The following design codes/standards were used as a reference:
ASME *Boiler and Pressure Vessel Code*, Section VIII, Div. 1, 2023 Ed.

## Product description
Cylindrical Gas Bottle, 200mm bore diameter, 50L capacity, model GB500-250-SDD-0063

## Application/Limitation

| Design Parameter | Value |
|---|---|
| Maximum Allowable Working Pressure | 250 bar |
| Hydrostatic Test Pressure | 358 bar |
| Minimum Design Metal Temperature | -20°C |
| Design Temperature | 80°C |
| Corrosion Allowance | 0mm |
| Service | Standard |

*Note: Not rated for external gage pressure. However, this does not prevent subsea use, provided that the internal pressure remains above the external pressure*.

## Type Approval documentation

## Tests carried out
Type test performed on serial numbers 72349386-1 through -6 per test procedure FC1023 on 2024-05-23.

## Marking of product
For traceability to this Type Approval Certificate the products are as a minimum to be marked as follows:
1. Manufacturer's name and trademark
2. Serial Number
3. Additional marking at manufacturer’s option
4. As required in ASME BPVC, Section VIII, Div. 1, 2023 Edition

## Periodical assessment
For retention of the Type Approval Certificate, a DNV surveyor shall perform a periodical assessment after two and three-and-a-half years from the date of issuance per the DNV Class Programme for Type Approvals, DNV-CP-0338.

Other Comments/Conditions
1. DNV Project Reference A1498659
2. NDE in accordance with Mandatory Appendices 7 and 8 to be carried out for the quality factor of 1 on the shell casting.

END OF CERTIFICATE