

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Offshore Container**

with type designation(s)

PB9042GH - Offshore Container UN Cylinder Bundle - 16 Cylinders

Issued to

**David Ritchie (Implements) Ltd.
Forfar, Angus, United Kingdom**

is found to comply with

DNV GL standard DNVGL-ST-E271 – 2.7-1 Offshore containers, August 2017**IMO/MSC Circular 860****ISO 10855:2018 Offshore containers and associated liftings sets – Design, manufacture, testing, inspection and marking****ISO 10961 - Gas cylinders-Cylinder bundles-Design, manufacture, testing and inspection****International Maritime Dangerous Goods Code (IMDG)****European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)****Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID)****Application :****This offshore container is a gas cylinder bundle for different gasses as specified in****Application/Limitation****Max. gross mass (kg) 2120****Max. payload (kg) 570****Max. sling leg angle 45°****Enhancement factor 3.351**Issued at **Høvik** on **2019-05-15**This Certificate is valid until **2024-05-14**.for **DNV GL**DNV GL local station: **Aberdeen**Approval Engineer: **Nina Thorvaldsen Moberg****Inger-Helene Hals
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.



Manufactured by

Offshore frame manufacturer and assembly of bundle:

Manifold manufactured by:

David Ritche (Implements) Ltd. takes responsibility that both design and production are in compliance with the Standards and/or Regulations listed on page 1 of this type approval certificate.

Product description

This certificate is a renewal and extension for type approval certificate S-8031.

This offshore container is a gas cylinder bundle according to IMDG/ADR Code Chapter 6.2, with cylinders connected through a manifold. The container is approved for transport of gases as specified under Application/Limitation.

Max. external dimensions (LxWxH) : 1016 x 1016 x 1944 mm

Tare mass ¹⁾ : 1550 kg

¹⁾ tare mass has to be confirmed by weighing. The sum of the tare mass and the payload shall never exceed the max. gross mass as stated on the front page of this certificate.

Application/Limitation

Products accepted for carriage	: Air, Compressed	UN - 1002
	: Argon, Compressed	UN - 1006
	: Helium, Compressed	UN - 1046
	: Nitrogen, Compressed	UN - 1066
	: Oxygen, Compressed	UN - 1072
	: Compressed Gas N.O.S.	UN - 1956

Design temperature : -20 °C / +65 °C

Min. shackle bolt diameter : 22.0 mm

MAWP/test pr. (bar) ²⁾ : 300 / 450

²⁾ maximum allowable working pressure for the cylinder bundle shall not be higher than the maximum allowable working pressure for the cylinders.

Cylinders

Height : Maximum 1510 mm

Diameter (external) : 229 mm

Volume : Maximum 50 l

Weight : Maximum 67 kg

The DNV GL surveyor to witness important production and test events and issue Form no. 71.08a "Certificate for Offshore Container" for each container.

Production strength tests (All point lifting) to be carried out according to DNV GL 2.7-1 and after agreement with the DNV GL surveyor.

Each manifold shall be proof pressure tested, each bundle should be leak tested, according to ISO 10961:2012 Section. 7.3.

The certificates are only valid when the containers are fitted with a lifting set certified according to DNV GL 2.7-1.

Only certified gas bottles of the proper size and type are to be used in this frame.

Job Id: **262.1-017252-5**
Certificate No: **TAS000020J**

Service equipment shall be type approved according to one of the referenced standards in ADR/RID section 6.2.4.1, and bear the Π mark.

Type Approval documentation

Tests carried out

Prototype No. R25988 strength tested according to DNV GL 2.7-1 and RGR 1048 according to IMDG/ADR chapter 6.2 and ISO 10961.

Marking of product

Each container to be marked with:

- Data plates according to DNV GL / ISO requirements
- Container marking according to DNV GL / ISO requirements
- Bundle marking according to ISO 10961, Chapter 6 and IMDG Code ref. 6.2.2.10 (certification marks, operational marks and manufacturing marks)
- DNV GL emblem for offshore containers
- VL mark to be hard stamped on frame
- Manufacturer's Serial Number to be welded on frame

Periodical assessment

In order to maintain the validity of the type approval certificate, periodical assessments should be carried out according to DNVGL-CP-0338 at 2 and 3.5 year intervals. Periodical assessments will, when possible, be harmonised with other surveys and audits carried out.

END OF CERTIFICATE