Certificate No:
TAS000033M

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Offshore Container

with type designation(s)
PB8965G - 48 cylinder offshore bundle
PB8965GA - 48 cylinder offshore bundle

Issued to
NIPPON GASES OFFSHORE LIMITED
Aberdeen, **United Kingdom**

is found to comply with
DNV GL standard DNVGL-ST-E271 – 2.7-1 Offshore containers, January 2021
ISO 10855-1:2018 Offshore containers and associated liftings sets – Part 1: Design, manufacture and marking of offshore containers
IMO/MSC Circular 860
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)
ISO 10961 - Gas cylinders-Cylinder bundles-Design, manufacture, testing and inspection

Application :

This offshore container is an UN gas cylinder bundle for different gasses as specified in Application/Limitation

Type	Max. gross mass (kg)	Max. payload (kg)	Max. sling leg angle	Enhancement factor
PB8965G - 48 cylinder offshore bundle	**6400**	**1865**	**45°**	**1.740**
PB8965GA - 48 cylinder offshore bundle	**6400**	**1730**	**45°**	**1.740**

Issued at **Høvik** on **2021-06-11**
This Certificate is valid until **2026-06-10** .
DNV local unit: **Aberdeen Verification**

Approval Engineer: **Igor Antonijevic**

for **DNV**

Zeinab Sharifi
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.

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 300,000 USD.

Manufactured by

Nippon Gases Offshore Limited, 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 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) : 2090 x 1820 x 1832 mm
Tare mass[1] : 4535 kg (PB8965G)
4670 kg (PB8965GA)

[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 Proper shipping name (PSN)	UN Number
OXYGEN, COMPRESSED	1072
NITROGEN, COMPRESSED	1066
ARGON, COMPRESSED	1006
HELIUM, COMPRESSED	1046
COMPRESSED GAS, N.O.S.	1956
COMPRESSED GAS, OXIDIZING, N.O.S.	3156

Design temperature: -20 °C
Min. shackle bolt diameter: 24.91 mm
MAWP/test pressure[2]: 300 / 450 bar (PB8965G)
350 / 525 bar (PB8965GA)

Cylinders
Height: 1415 – 1422 mm (PB8965G)
1390 mm (PB8965GA)
Diameter (external): 229 mm
Volume: 46.3 – 46.6 l (PB8965G)
44.5 l (PB8965GA)
Tare mass: 63 – 67.2 kg (PB8965G)
69.1 kg (PB8965GA)

Manifolds
Design approval number 18-OSL-ST-7013 (PB8965G)
20-OSL-ST-9010 (PB8965GA)

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

DNV surveyor has to witness important production and test events and issue Form no. 71.08a “Certificate for Offshore Container” for each container, and any additional certificate as required by the competent authority.

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

Each manifold shall be proof pressure tested, each bundle shall 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 2.7-1 and the gas bottles are certified by authorised body.

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

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 tested according to the requirements.

Marking of product

Each container to be marked with:

- Data plates according to DNV / ISO requirements
- Container marking according to DNV / 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 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-SE-0284 at 2 and 3.5 year intervals. Periodical assessments will, when possible, be harmonised with other surveys and audits carried out.

END OF CERTIFICATE