



Certificate No:
TAP00002BV

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Valve for Liquefied Gas

with type designation(s)
Cryogenic Lift Check Valves

Issued to

AMPO S.C.
Idiazabal, Guipuzcoa, Spain

is found to comply with

DNV rules for classification – Ships Pt.5 Ch.7 Liquefied gas tankers
DNV GL class programme DNVGL-CP-0186 – Type approval – Valves

Application :

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

Issued at **Høvik** on **2021-11-09**

This Certificate is valid until **2026-11-08**.

DNV local station: **Area NB/CMC Iberia**

for **DNV**

Approval Engineer: **Maheshraja Venkatesan**

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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.



Form code: TA 251

Revision: 2021-03

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Product description

Cryogenic lift check valves designed according to ASME B16.34 with butt welding ends according to ASME B16.25 Sch. 80S comprising of following variants:

<i>Sizes covered</i>	<i>Pressure rating</i>
1/2", 3/4", 1 1/2" and 2"	Class 150
1 1/2" and 2"	Class 600

Valve production testing standard: API 598

Material of construction:

<i>Part</i>	<i>Material grade</i>
Body	: ASTM A351 Cf8M/ CF3M
Bonnet	: ASTM A479 Gr. 316L
Disc	: ASTM A479 Gr. 316L
Body bonnet gasket	: Spiral wound 316 + graphite
Body bonnet stud bolt	: ASTM A320 B8M Cl.2

Application/Limitation

Valves covered by this certificate are approved to be used in LNG/LPG applications - Cryogenic Service.

Design temperature: -196°C to +50°C

Materials and material protection chosen for the specific system shall be suitable for the intended medium and environmental conditions. Valves of austenitic stainless steel shall not be used in direct contact with seawater.

The valves covered by this certificate are not to be considered fire safe and therefore shall not be installed wherever fire safe application is required; e.g. as shut off or quick closing valves.

Type Approval documentation

Tests carried out

Cryogenic leakage test

Production Testing and Certification

Production Testing and Certification for the actual intended application shall follow the latest applicable edition of the Rules (as mentioned on the front page of this certificate).

Marking of product

Minimum marking requirements shall be as outlined in the valve design standard.

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNV-CP-0338.