DNV·GL

Certificate No:
TAP000017A

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Plate Freezer

with type designation(s)
H7, H8, H9, H10, H11, H12, H20, H22, H24, H26, H28, H30, H32, H34, H36, H38

Issued to
A/S DYBVAD STÅLINDUSTRI
Dybvad Nordjylland, Denmark

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL rules for classification – Ships Pt.4 Ch.7 Pressure equipment

Application :

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

Temperature range:	**-60°C / +40°C**
Operating media:	**R22, R507, R404A, R717 (Ammonia)**
Design pressure:	**-1 bar / 22 bar**

Issued at **Høvik** on **2018-01-18**
This Certificate is valid until **2022-12-31**.
DNV GL local station: **Aalborg**

for **DNV GL**

Approval Engineer: **Mehdi Rowshan**

Marianne Spæren Marveng
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.

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Product description
Horizontal plate freezer designed according to EN13445:2014.

Pressure class: I for refrigerant group 2 (R717)
Pressure class: II for refrigerant group 1

Application/Limitation
The plate freezers are to be used with flexible hoses to be delivered with a type approval certificate for a maximum working pressure.

Each plate freezers are to be hydrostatic pressure tested to 1.5 times the design pressure.

Material certificates shall be in accordance with DNV GL ship Rules Pt.4 Ch.7 Sec.1 Table 5,6,7.

Friction welding shall be performed according to EN ISO 25239-4 :2012 with documented minimum strength in welding seam 0.6 Rm of the base metal.
For 6060 -T6: 0.6x215N/mm2=130N/mm2

Type Approval documentation

Tests carried out
Burst testing witnessed by DNVGL.

Marking of product
For traceability to this type approval the products are to be marked with:
- Manufacturer’s name or trade mark
- Type designation
- Maximum working pressure

Periodical assessment
For retention of the Type Approval, a DNV GL 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 DNVGL-CP-0338.