

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Flexible Hoses of Metallic Material with permanently fitted couplings**with type designation(s)
PF-12

Issued to

Air Water Safety Service Inc.
Kobe Hyogo Pref, Japan

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems**DNV GL class programme DNVGL-CP-0184 – Type approval – Flexible hoses with permanently fitted couplings****Application :****Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.****Temperature range:** -60 °C to 55 °C**Max. working press.:** 108 bar**Sizes:** 15AIssued at **Høvik** on **2018-03-23**This Certificate is valid until **2022-12-31**.for **DNV GL**DNV GL local station: **Kobe**Approval Engineer: **Iselinn Vindstad**

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.



Product description

Corrugated stainless steel hose with double stainless steel braids and NPSM coupling.

Size: 15A

Material:

Corrugated tube, reinforcements, ring and base ring: SUS 304 acc. JIS.

Coupling with retaining ring: bronze, C3604 acc. JIS.

Application/Limitation

The hoses are approved only to be used as connection between bottles/valves and manifold for CO₂ - main fire extinguishing systems.

For elevated temperatures the maximum working pressure shall be reduced according to DNVGL-CP-0184 Sec.2 Table 1.

This certificate is valid for the specific assembly of hose and coupling type as specified, assembled and delivered by the holder (named as manufacturer) of this certificate.

The hoses are to be mounted in accordance with the manufacturer's instructions.

Threaded joints in CO₂ systems shall be allowed only inside protected spaces and in CO₂ cylinder rooms.

The hoses are not to be used in systems where pressure pulsations may occur.

The hoses are not to be used in systems subjected to cyclic loading.

The hoses must only be fitted on places where they are always accessible.

Type Approval documentation

Tests carried out

Burst test, pliability (bending) test, repeated assembly test, and gas leakage test.

Production testing

Every hose assembly shall be hydrostatically tested at a hydrostatic pressure of 1.5 times the maximum working pressure and shall be delivered with the manufacturer's pressure test report with reference to the type approval certificate.

Marking of product

For identification purposes the hoses are to be marked with:

- Manufacturers name or trade mark
- Type designation



Job Id: **262.1-002691-4**
Certificate No: **TAP000019V**

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.