

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Foam Proportioner**with type designation(s)  
**50P-100S**

Issued to

**Jiangsu Huayan Marine Equipment Co., Ltd.**  
**Jiangsu, China**

is found to comply with

**DNV GL class programme DNVGL-CP-0213 – Type approval – Fire safety equipment**  
**DNV GL statutory interpretations DNVGL-SI-0364 – SOLAS interpretations**  
**DNV GL rules for classification – Ships****Application :****Approved for use as foam proportioner in fixed foam fire-extinguishing systems.**  
**Product approved by this certificate is accepted for installation on all vessels classed by DNV GL.**Issued at **Hamburg** on **2018-04-23**This Certificate is valid until **2023-04-22**.DNV GL local station: **Nanjing**for **DNV GL**Approval Engineer: **Andrii Pishchanskyi**.....  
**Olaf Drews**  
**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

The foam proportioner is designed to mix a foam concentrate with water in order to form a foam solution. The main components and their material are as follows:

| Component         | Material              |
|-------------------|-----------------------|
| Water body        | HPB59-1 (brass alloy) |
| Orifice body      | HPB59-1 (brass alloy) |
| Connection flange | HPB59-1 (brass alloy) |
| Foam body         | HPB59-1 (brass alloy) |

The product parameters are as follows:

| Parameter                                                            | Value                                                            |
|----------------------------------------------------------------------|------------------------------------------------------------------|
| Mixing rate [%]                                                      | 3                                                                |
| Flowrate range [l/min]                                               | 1083 up to 1493 <sup>1)</sup> ;<br>2100 up to 3000 <sup>2)</sup> |
| Design pressure [bar]                                                | 8                                                                |
| Working pressure range [bar]                                         | 4 up to 8                                                        |
| Required overpressure on foam suction compared to water supply [bar] | 1                                                                |

### Notes

- 1) For use with PPC24 foam monitor;
- 2) For use with PPC48 foam monitor.

## Application/Limitation

Location and operation of foam proportioner is subject to case by case approval.

Each product supplied with it manual for installation, use and maintenance.

The housing of each foam proportioner shall be subjected to a hydrostatic testing at minimum 1.5 times the design pressure. No leakage is permitted.

Each foam proportioner shall be accompanied with:

1. Works certificate indicating materials used in the body, their mechanical and chemical properties and heat treatment;
2. Pressure test report.

Function testing of each foam proportioner shall be performed for each installation. The mixing ratio shall be specified in each application and within a range of 3% to 3.9%. For foam proportioners using foam concentrates of Newtonian type with kinematic viscosity equal to or less than 100cSt @ 0°C and density equal to or less than 1.1 kg/dm<sup>3</sup> this test can be performed with water instead of foam concentrate. In all other cases, foam and water shall be applied. The flow used in the test shall be representative for application and within the approved flow range.

Final acceptance of the foam system, including foam proportioner, is to be made based on full-scale test of the entire foam system.

## Type Approval documentation



Job Id: **262.1-025057-1**  
Certificate No: **TAF00000WM**

## **Tests carried out**

### **Marking of product**

The product is to be marked with name of manufacturer, type designation, year of manufacturing, minimum and maximum flow rates, proportioning rate(s), minimum and maximum pressures on the foam solution outlet and water flow arrow.

### **Periodical assessment**

The DNVGL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with the procedure described in the Class Programme DNVGL-CP-0338, Section 4.