

TYPE EXAMINATION CERTIFICATE

This is to certify:**That the Low-expansion foam water sprinklers and spray nozzles**with type designation(s)
MX5-FW and MXD-FW21

Issued to

Minimax GmbH & Co. KG
BAD OLDESLOE, Germany

is found to comply with

DNV GL rules for classification – Ships**DNV GL rules for classification – Naval vessels****DNV GL rules for classification – Yachts****DNV GL rules for classification – Inland navigation vessels****DNV GL offshore standards**

Application :**Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**Issued at **Hamburg** on **2017-05-17**This Certificate is valid until **2022-05-16**.for **DNV GL**DNV GL local station: **Hamburg**Approval Engineer: **Michael Kämpf**

Antje Fleischhauer
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 Examination Certificate and not to the approval of equipment/systems installed.



Product description

Low-expansion foam water sprinklers and spray nozzles for local protection for use in fixed low-expansion foam fire extinguishing systems on board ships and offshore structures.

Sprinklers of type MX5-FW-CUP 1/2"-K...-...°C-XCrNi Spray nozzles of type MXD-FW21-CUP 1/2"-K...-XCrNi	
Nominal release temperature of sprinklers (RTI > 80)	57, 68, 79, 93, 141 °C
K-factor for sprinklers / nozzles	28, 40, 57, 80, 115
Installation method	Upright (U) or Pendent (P)
Foam expansion ratio	5-8
Operating pressure	1-12 bar
Max. coverage area (K40, K57 P)	9 m ²
Max. coverage area (other than K40 and K57 P)	12.25 m ²
Material	Stainless steel

Application/Limitation

The low-expansion foam water sprinklers or spray nozzles may be used in fixed low-expansion foam fire extinguishing systems on board ships and offshore structures, e.g. for protection of cargo tank decks, fire risk objects in machinery spaces i.a.w. FSS Code Chapter 6 para 4 (not subject to SOLAS II-2/10.5.6) or similar fire hazards.

The sprinklers/nozzles and the associated piping and control equipment are subject to plan approval and inspection in each case.

Type Examination documentation

Tests carried out

Tested/certified in accordance with VdS 2100 (1988-05) and VdS 2344 (2012-07)

Marking of product

The sprinklers/nozzles are to be marked with the name of the manufacturer and type designation.

Periodical assessment

The DNVGL 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.