

TYPE EXAMINATION CERTIFICATE

This is to certify:

That the CO2 System Equipment

with type designation(s)
DD, ED, RD

Issued to

Minimax GmbH & Co. KG
Bad Oldesloe, Schleswig-Holstein, Germany

is found to comply with

VdS 2344:2014-07 Procedure for the testing, approval, certification and conformity assessment of products and systems for fire protection and security technologies
EN 12094-7:2000/A1:2005 Fixed firefighting systems – Components for gas extinguishing systems – Part 7: Requirements and test methods for nozzles for CO2 systems
VdS CEA 4010:1997-07 Nozzles for CO2 fire-fighting systems – Requirements and test methods
VdS 3179:2014-10 VdS Guidelines for Gas Extinguishing Systems – Room protection nozzles – Requirements and test methods

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

Issued at **Hamburg** on **2018-10-04**

This Certificate is valid until **2023-10-03**.

DNV GL local station: **Hamburg**

for **DNV GL**

Approval Engineer: **Andrii Pishchanskyi**

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



Job Id: **262.1-028784-1**
Certificate No: **TAF00000ZD**

Product description

Discharge nozzles for high-pressure and low-pressure CO2 fixed fire extinguishing systems.

DD nozzles with R1/2 connection; multiple bores 3.0 to 12.7mm
ED nozzles with R1/2 connection; multiple bores 3.0 to 5.4mm
ED nozzles with R3/4 connection; multiple bores 3.3 to 6.8mm
RD nozzles with R1/2 connection; bores 3.0 to 12.7mm
RD nozzles with R3/4 connection; bores 13.7 to 17.9mm

Application/Limitation

CO2 fire extinguishing systems of high-pressure and low-pressure type on board ships and offshore structures. Maximum working pressure of the nozzles is 60 bar. The manufacturer's instructions are to be observed.

Type Examination documentation

VdS Approval Certificate G392002 dated 2017-05-07
VdS Approval Certificate G393002 dated 2017-08-20
VdS Approval Certificate G393008 dated 2017-11-15

Tests carried out

VdS 2344:2014-07, VdS 3179:2014-10, EN 12094-7:2005, EN 12094-7:2000-12 and
VdS CEA 4010:1997-07

Marking of product

The CO2 nozzles are to be marked with the name of manufacturer and type designation.

Certificate Retention Survey

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.