

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	safetec Brandes und Niehoff GmbH
Address	Kringelsburg 2a, Scharnebeck, 21379, Germany
Place of Production	safetec Brandes und Niehoff GmbH Kringelsburg 2a, Scharnebeck, 21379, Germany
Type	Control Systems
Description	Electrical Release Control System for Fixed Gas Fire-Extinguishing Systems, consisting of: CO2 Remote Release Panel CP-30 Module Cabinet MC2x.yyy Actuator for Section Valves Interface Module VBX Release Device for Cylinder Group Valves For detailed product description, pls. refer to appendix.
Trade Name	E-CO2
Application	Marine applications for use in environmental categories ENV 1 and ENV 2 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – 2002.

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Specified Standard	Manufacturer's specification FSS-Code (Chapter 5) EN 12094-1: 2003 IACS E10 Rev. 8: 2021
Ratings	Power supply: 110/230 VAC, 50/60 Hz Software versions: <ul style="list-style-type: none">- SW-CP30-STD Version 1.05.002- A303V2.03- A340V2.03- A361V2.03
Additional Tests	Dry heat test (70 °C / 16 h) Electric motor actuators and electromagnetic release device only: shock test (half-sine, ± 7 g, 18 ms, 40 shocks each direction and each axis)
Other Conditions	<p>For systems consisting of the listed components the final functional arrangement and application software are to comply with appropriate Lloyd's Register Rules and Regulations and shall be subject to project related Plan Approval Process, when installed on LR classed vessels. Documents and drawings for the actual application are to be provided according relevant LR Rules and Regulations.</p> <p>Requirements for the usage, placement and location of remote control(s) for the release of fire-extinguishing media inside cargo holds/spaces and machinery spaces and other technical rooms are the prerogative of the National Authority with which the ship is registered, and these items are not covered by this Type Approval.</p> <p>The E-CO₂ system is to be used with the listed type(s) of Section Valve Actuator(s) and electromagnetic Release Device(s) for Cylinder Group Valves only, refer to appendix of the Type Approval Certificate. In addition, the system pipe work including flexible hoses, pipes, valves, fittings and other system components are to be Lloyd's Register approved, in</p>

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accordance with Lloyd's Register Rules and Regulations, Part 5, Chapter 12.

The minimum operation temperature of -5 °C as specified by the manufacturer was neither tested nor supported by documentary evidence.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: 09/20030 (E3)

The Design Appraisal Document HPC1462162-22/HN/MK and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Appendix

DESCRIPTION

Electrical Release Control System for Fixed Gas Fire-Extinguishing Systems E-CO2, consisting of:

CO2 Remote Release Panel CP-30		
Control Module CM-030		(BG07.030)
Adapter Module ADP-130		(BG07.130)
Module Cabinet MC2x.yyy		
x	0 = Module Cabinet	(MC-308)
	1 = Module Cabinet	(MC-312)
yyy	a combination of the below modules acc. to project requirements	
	I/O Module(s) IO-6303	(BG06.303)
	I/O Module(s) IO-6340	(BG06.340)
	Output Module ACS-OUT48	(BG06.361)
	Optocoupler Module ACS-OPTO48-A	(BG06.960)
	Optocoupler Module ACS-OPTO48-R	(BG06.963)
	Relay Module ACS-REL16	(BG06.965)
	Safety Module SAFE-01	(BG07.400)
	Main/Emergency Power Supply Switch MEPS-01	(BG06.502)
	Power Supply Unit TRIO-UPS-2G/1AC/24DC/5	(E16.411)
	Power Supply Unit QUINT-PS/1AC/24DC/5	(E16.149)
	Energy Storage Device UPS-BAT/PB/24DC/4AH	(E19.054)
Motor Actuator for Section Valves		(VBxxx-MAR)
xxx	060, 110, 190, 270, 350	
Interface Module VBX		(BG07.420)
Electromagnetic Release Device for Cylinder Group Valves		(B04425103) (B04425131)