Certificate no.:
TAM00001EW

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Explosion relief device

with type designation(s)
Rupture discs: BT-SKEDPHT-FSASL, BT-SKSTARHTIPU-FSASL, BT-SKSFDHT-FSASL
Flame arresters: Q-Rohr-3-DFE, Q-Rohr-3-DFE-SP

issued to
Rembe GmbH
Brilon, Nordrhein-Westfalen, Germany

is found to comply with
DNV class programme DNV-CP-0338 – Type approval – Type approval scheme

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Hamburg** on **2025-07-29**
This Certificate is valid until **2030-07-28**.
DNV local unit: **Essen**

for **DNV**

Approval Engineer: **Sven Neddenien**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description
Rapid explosion relief device with bursting disc and flame arrester.

Application/Limitation
Explosion relief device at an exhaust gas pipe (between engine and outlet) for an engine using gas or low-flashpoint fuel as fuel. The engine is part of a multiple engine propulsion plant or is an auxiliary engine.

Design

Bursting disc	Flame arrester	Sizes DN
BT-SKEDPHT-FSASL	Q-Rohr-3-DFE	1400, 1300, 1200, 1100, 1000, 900, 800, 700, 600, 500, 400, 300, 200
BT-SKSFDHT-FSASL	Q-Rohr-3-DFE	1400, 1300, 1200, 1100, 1000, 900, 800, 700, 600, 500, 400, 300, 200
BT-SKSFDHT-FSASL	Q-Rohr-3-DFE-SP	600, 700
BT-SKSTARHTIPU-FSASL	Q-Rohr-3-DFE	1400, 1300, 1200, 1100, 1000, 900, 800, 700, 600, 500, 400, 300, 200
BT-SKSTARHTIPU-FSASL	Q-Rohr-3-DFE-SP	600, 700

Free relief area

Sizes DN	Free relief area
200	380 cm²
300	840 cm²
400	1300 cm²
500	2000 cm²
600	2900 cm²

Sizes DN	Free relief area
700	4000 cm²
800	5200 cm²
900	6600 cm²
1000	8200 cm²
1100	9900 cm²

Sizes DN	Free relief area
1200	11800 cm²
1300	13800 cm²
1400	15900 cm²

Maximum temperature and bursting pressure

Bursting disc	Maximum temperature	Bursting pressure
BT-SKEDPHT-FSASL	550 °C	≤ 0.5 bar ± 20 %
BT-SKSFDHT-FSASL	550 °C	≤ 0.5 bar ± 20 %
BT-SKSTARHTIPU-FSASL	600 °C	≤ 0.5 bar ± 20 %

Additional electronic equipment has to be type approved.

Type Approval documentation

Tests carried out
2025-04-17, Prüfbericht, Projektnummer 25280025, Revision 00
issued by Rembe Research + Technology Center GmbH, Brilon, Germany
Tests have been performed in compliance with IACS UR M82.

Marking of product
The product is to be marked with manufacturer’s name or trademark and type identification.

Periodical assessment
Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate. The objective of the Periodical Assessment is to verify that the conditions for the Type Approval are not altered since the Type Approval certificate was issued. In case where the Type Approved product is manufactured at other companies, the Periodical Assessment shall verify that the Type Approval applicant has a quality control system for consistent production at their licensees/subcontractors. Furthermore, a Periodical Assessment shall be carried out randomly at these companies.

Other conditions
After an explosion the bursting disc has to be replaced. The flame arrester has to be inspected according to the Instruction Manual and damaged parts have to be replaced, if necessary.

END OF CERTIFICATE