Certificate no.:
TAM00001CF

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Explosion relief device

with type designation(s)
Bursting disc KSRPR with flame arrester KSEVPL

issued to
FDC Co. Ltd.
Gimhae-si, Gyeongsangnam-do, Korea, Republic of

is found to comply with
DNV rules for classification – Ships Pt.4 Ch.3 Sec.1 Reciprocating internal combustion engines

Application:

Explosion relief device at an exhaust pipe for a gas fuelled engine.

Issued at **Hamburg** on **2024-01-26**
This Certificate is valid until **2029-01-25**.
DNV local unit:

for **DNV**

Approval Engineer: **Sven Neddenien**

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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 300,000 USD.

Product description
Bursting disc KSRPR with flame arrester KSEVPL

Application/Limitation
Rapid explosion relief device at an exhaust gas pipe (between engine and outlet) for a gas fuelled engine which, is part of a multiple engine propulsion plant or is an auxiliary engine.
The installation orientation is vertical or horizontal.

KSRPR with KSEVPL	Free relief area	Opening pressure	Max. operating temperature
8″ (200A)	314 cm²	0.2 bar ±20 %	600 °C
16″ (400A)	1256 cm²	0.2 bar ±20 %	600 °C
28″ (700A)	3848 cm²	0.2 bar ±20 %	600 °C

Additional electronic equipment has to be type approved.

Type Approval documentation

Tests carried out
2023-08-01, Test report 23.0231-47, Flameless explosion relief device,
issued by Physical Technical Testing Institute, Ostrava-Radvanice, Czech Republic
(National Authority no. 210, EU Notified Body no. 1026)
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 KSPRP has to be replaced. The flame arrester KSEVPL has to be inspected according to the Instruction Manual and damaged parts have to be replaced if necessary.

END OF CERTIFICATE