DNV·GL

Certificate No:
TAP00000C9

TYPE EXAMINATION CERTIFICATE

This is to certify:

That the Static Flame Arrester

with type designation(s)
Protego® BE/HR-E-DN-IIB3

Issued to
Braunschweiger Flammenfilter GmbH
Braunschweig, Germany

is found to comply with
EN ISO 16852:2010 Flame arresters – Performance requirements, test methods and limits for use
IMO MSC/Circ. 677 as amended by MSC/Circ. 1009 and MSC/Circ. 1324

Application :

Device for explosion proof venting of cargo tanks. Deflagration and endurance burning proof against gas/air-mixtures of explosion group IIB3 (MESG = 0.65mm) as well as endurance burning proof against alcohol/air-mixtures.

Sizes: DN80, DN100

Issued at **Hamburg** on **2016-05-23**

for **DNV GL**

This Certificate is valid until **2021-05-22**.
DNV GL local station: **Magdeburg**

Approval Engineer: **Hagen Markus**

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.

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Product description

The Protego® BE/HR-DN - IIB3 consists of a housing, a weather hood and the PROTEGO® flame arrester unit. During normal operation the metal weather hood is closed. In case of a flame burns on the flame arrester element surface, the fusible link, located in the center position, will melt and release the spring loaded weather hood to open position.

MATERIALS

Housing, Weather hood	Steel
	Stainless Steel
FLAMEFILTER® cage, FLAMEFILTER®, Spacer	Stainless steel
	Hastelloy

Further materials according to parts listP-06/1290-Z90 relating to the material check list.

Application/Limitation

Device for explosion proof venting of cargo tanks.
Deflagration and endurance burning proof against gas/air-mixtures of explosion group IIB3 (MESG equal or bigger 0.65) as well as endurance burning proof against alcohol/air mixtures according to EN ISO 16852.

Type Examination documentation

IBExU14ATEX2019X, IB-14-2-005:2014-01-20

Type Tests

According to EN ISO 16852:2010, IMO MSC/Circ. 677, MSC/Circ. 1009, MSC.1/Circ. 1324

Marking of product

- name and address of the manufacturer
- model
- flange
- serial number, date built
- the number of applicable International Standards
- type approval certificate number
- test certificate issued by classification society (if applicable)
- test pressure
- operational limits and further data

Retention Survey

For retention of the type approval certificate periodical assessments shall be carried out at production place(s).
The objective of the periodical assessment is to verify that the design and production conditions for the type approval have not been altered.
Main scope of the assessment:
— verification of the production and quality control system
— review of quality control documentation of recent deliveries
— review of the type approval documentation and that this is still the basis for the production
— review of design changes , pre- material and performance of the product
— verification of the product marking