



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. M-11348
This Certificate consists of 3 pages

This is to certify that the
Spark Arrestor
with type designations
Type 1, 1A, 2, 2A, 3 and OPA, HPA, SPA, BSA 25, BSA 35.

Holder of Certificate
Universal Silencer Europe Ltd
Hinckley, United Kingdom

is found to comply with
Det Norske Veritas' Rules for Classification of Ships
DNV's Offshore Standard DNV-OS-D101 "Marine and Machinery Systems and
Equipment"

Application
The spark arrestors are approved for areas where emission of exhaust gases is permitted
onboard ships and mobile offshore units classed by Det Norske Veritas

Place and date
Høvik, 2009-12-02
for DET NORSKE VERITAS AS

Tomas Heber Tronstad
Head of Section



Local Office
DNV Sheffield

This Certificate is valid until
2013-12-31

Hans-Kristian Eriksen
Surveyor

Notice: 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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: M-11348
File No.: 779.70
Case No. : 262.1-008527

Product description

The spark arrestors are of cyclone/centrifugal design and form a part of manufacturers exhaust silencers types.

Design:

- Type 1: End entry and exit, external dust box
- Type 1A: End entry and exit, internal dust box
- Type2: Offset side entry, exit through opposite end, external dust box
- Type 2A: Offset side entry, exit through opposite end, internal dust box
- Type 3: Offset side entry, exit through same end, external dust box

Places of Production

- 2 JCP a.s, Steti, Czech Republic
- Bell Steel Fabrications Ltd, Cricklade, United Kingdom
- Blagg & Johnson Ltd., Newark, United Kingdom
- Cummins Exhaust India Ltd, Daman, India
- Jiaxing Jiacheng Kinetic Energy of Facilities Co., Ltd, Zhejiang, China
- Shanghai Wanyin Machinery, Shanghai, China
- Technoflow Industries, Nasik, India
- Kerei Engineering, Singapore

Application/Limitation

The spark arrestors are approved for areas where emission of exhaust gases is permitted onboard ships and mobile offshore units classed by Det Norske Veritas.

Type Approval documentation

- The following drawings:
- 43120-E rev.B Type 1
- 43120-F rev.A Type 2
- 43120-G rev.A Type 3

Manufacturer's test report WC10977 dated 19/06/97, Back pressure and flow calculations.

Type OPA, HPA, SPA and BSA:

Drawings: 43115-B rev.B

Manufacturer's test report project SO273M dated 25/8/91



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Tests carried out

Type 1 etc:

Test of discharge of sparks acc. to SAE J 342, Jan. 1991 (Large Size Engines) and SAE J997 May 1995 (Test Carbon), test carried out 28th of May to 2nd of June 1997.

Type OPA etc.:

DNV Report dated 91-06-21 (Test requirement equivalent to EN-1834-1)

Marking of product

The product to be marked with manufacturer's name or trademark and type number identification

Certificate retention survey

For retention of the Type Approval, DNV surveyor shall perform survey every second year and before expiry date of this certificate to verify that the conditions of the type approval is complied with.

END OF CERTIFICATE



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. M-11347

This Certificate consists of 2 pages

This is to certify that the

Spark Arrestor
with type designations

**Standard non silencing spark arrestors: Part no. 25-
N001A/15A/02A/25A/03A/25A/04A/05A/06A**

Holder of Certificate

Universal Silencer Europe Ltd
Hinckley, United Kingdom

is found to comply with

Det Norske Veritas' Rules for Classification of Ships
DNV's Offshore Standard DNV-OS-D101 "Marine and Machinery Systems and
Equipment"

Application

The spark arrestors are approved for use on diesel engines in areas where emission of
exhaust gas is permitted onboard ships and mobile offshore units classed by Det Norske
Veritas.

Place and date

Høvik, 2009-12-02

for DET NORSKE VERITAS AS



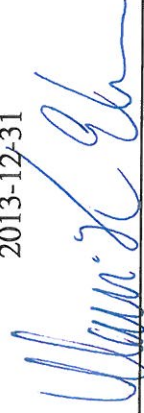
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Case No.: 262.1-008527

Product description

Centrifugal Type Spark Arrestors

Place of Production

Cummins Filtration Inc, Viroqua, Wisconsin, USA

Application/Limitation

The spark arrestors are approved for use on diesel engines in areas where emission of exhaust gas is permitted onboard ships and mobile offshore units classed by Det Norske Veritas.

Size of arrester to be chosen according to the maker's instructions.

Type Approval documentation

The following spark arrester drawings:

49110U Arrester model 25-N001A rev. N
49115U Arrester model 25-N015A rev. V
49120B Arrester model 25-N002A rev. K
49125A Arrester model 25-N025A rev. F
49130A Arrester model 25-N003A rev. H
49135A Arrester model 25-N035A rev. H
49140A Arrester model 25-N004A rev. H
49150A Arrester model 25-N005A rev. H
49160A Arrester model 25-N006A rev. H

Tests carried out

Test report statements from USDA.

Marking of product

The product to be marked with manufacturer's name or trademark and type number identification.

Certificate retention survey

For retention of the Type Approval, DNV shall perform a survey every second year and before expiry date of this certificate to verify that the conditions of the type approval are complied with.

END OF CERTIFICATE