



TYPE APPROVAL CERTIFICATE

Certificate No:
TAM00000M1
Revision No:
1

This is to certify:

That the Spark Arrestor

with type designation(s)
Series SCU, Series SHU, Series SRU, Series SSU, Series SUH, Series SUC, Series SUR, Series SUI

Issued to
Miratech Prior Lake, Inc.
Prior Lake, MN, USA

is found to comply with
DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021
DNV class programme DNV-CP-0282 – Type approval – Spark arrestors
DNV rules for classification – Ships Pt.6 Ch.2 Propulsion, power generation and auxiliary systems

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 DNV.

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

Issued at **Houston** on **2023-09-07**

This Certificate is valid until **2028-09-06**.
DNV local station: **Certification & Inspection Services**

Approval Engineer: **Mark Miser**

for **DNV**

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Meinder van Mierlo
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 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

Centrifugal type spark arrestors:

- Series SCU
- Series SHU
- Series SRU
- Series SSU
- Series SUH
- Series SUC
- Series SUR
- Series SUI

Application/Limitation

The spark arrestors are approved for use in the exhaust line of diesel engines installed onboard ships or mobile offshore units classed by DNV, in areas where emission of exhaust gas is permitted.

Where an exhaust system also includes other features which significantly restricts the flow of gases, e.g. flame traps, restrictive silencers, or the engine manufacturer specifies an unusually low back pressure limit, or where specific noise reduction levels are specified, the type and size of the spark arrester shall be chosen according to manufacturer's instructions.

Manufacturer's installation guidelines shall be followed.

Design parameter limitations:

- Operating Media Temperature Limit, Aluminized and Carbon Steel, coated: 1200°F
- Operating Environmental Temperature Limit: Ambient Marine Environment
- Size Range of spark arrestors(s) is specified by Type Approval documentation.
- Rated Exhaust flow rate: 270 cubic feet/minute (vertical position) / 254 cubic feet/minute (horizontal position)**
**based on model SSUE-02 test result.

Type Approval documentation

Note: Other part numbers or updated revisions may be acceptable under this Certificate, provided critical aspects of the design remain the same. Changes shall be documented and approved (via Engineering Change Notice or similar) by the Manufacturer's Engineering and/or Quality Department as appropriate. DNV's local surveyor shall verify the change before issuance of the Product Certificate.

- Drawing SSUE-02
- Series SCU, EM Products catalog page 20 of 68, Aluminized steel, carbon steel, or 304 stainless steel construction
- Series SHU, EM Products catalog page 21 of 68, Aluminized steel, carbon steel, or 304 stainless steel construction
- Series SRU, EM Products catalog page 19 of 68, Aluminized steel, carbon steel, or 304 stainless steel construction
- Series SSU, EM Products catalog page 18 of 68, Aluminized steel, carbon steel, or 304 stainless steel construction
- Series SUI, catalog page 14 of 114, Aluminized steel, carbon steel, or 304 stainless steel construction
- Series SUR, catalog page 15 of 114, Aluminized steel, carbon steel, or 304 stainless steel construction
- Series SUC, catalog page 16 of 114, Aluminized steel, carbon steel, or 304 stainless steel construction
- Series SUH, catalog page 17 of 114, Aluminized steel, carbon steel, or 304 stainless steel construction

Tests carried out

1. Procedures related to testing, welding, NDT, etc. are to be reviewed/approved by DNV's local surveyor.
2. Reference reports in A0403993.
3. Test result per test specification 5100-1C, Spark Arresters for Internal Combustion Engines.

Marking of product

For traceability, the following markings shall be carried out on each product:

1. Manufacturer's name or trademark.
2. Type designation
3. Unique serialization (i.e. serial no.)
4. According to the manufacturer's specification(s)



Job Id: 262.1-007650-6
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Other comments/conditions

1. N/A

Periodical assessment

For retention of the Type Approval, DNV's surveyor shall perform periodical assessment after 2 years (+/- 90 days) and after 3.5 years (+/- 90 days) in accordance with DNV's Class Program DNV-CP-0338, Section 4.

END OF CERTIFICATE