NIPPON KAIJI KYOKAI

COPY

# TYPE APPROVAL CERTIFICATE FOR CRANKCASE OIL MIST DETECTION ARRANGEMENTS

Certificate No. TA24002M

**This is to certify** that the undernoted products have been approved in accordance with the requirements specified in Chapter 6, Part 7 of "Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use" and the relevant Society's Rules.

This certificate is issued to

| | |
|---|---|
| Manufacturer: | **Schaller Automation Industrielle Automationstechnik GmbH & Co. KG** |
| Place of Manufacturing: | **Industriering 14, D-66440 Blieskastel, Saarland, Germany** |
| Product description: | **Oil Mist Detector System for Crankcase** |
| Model: | **VN87plus series** |
| Approval No.: | **08A042** |
| Valid until: | **16 November 2028** |

The details are described in the attached sheet(s).

Issued at Tokyo on 9 January 2024.

for S. Oishi
General Manager
Machinery Department

Note: The manufacturer, if desired, is requested to apply to the Society for renewal prior to the expiration date.

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Attached sheet -1/2 to the Certificate No. TA24002M

**Specification & documents:**

1. Particulars: Power supply: 24V DC (18-31.2V)
   Ex-Type: II (2G) [Ex op is IIB T4 Gb] for VN115/87plus EX

2. Detecting points: 10 tubes for VN215/87plus or 12 points for VN115/87plus (EX) and VN116/87plus

3. Components and reference drawings:

| Component | Type | Drawing |
|---|---|---|
| Oil mist detector | VN115/87plus | Dimension Dwg. DC050073 |
| Oil mist detector | VN116/87plus | Dimension Dwg. DC070056 |
| Oil mist detector | VN215/87plus | Dimension Dwg. DC070023 |
| Oil mist detector | VN115/87plus EX | Dimension Dwg. DC180164 |
| Siphon | Pipe Siphon | Dimension Dwg. DC271656 |
| Siphon block | VN180 | - |
| Siphon block | VN280 | Dwg. DC150934 |

4. Documentation and Test Reports:
   - Operation Manual No.11078 Rev.2.0 (01-2013)
   - Operation Manual Part-No.180081 Ver.1.1 (09-2015)
   - Operation Manual Part-No.180062 Ver.2.5 (08-2017)
   - Circuit Diag. No.21012340, 210145, 210651, 210652, 210653, 210955, 210956, 210957
   - CETECOM test report No.4-2912-01-01/07 (01-2008)
   - CETECOM test report No.4-2018-1-2/06 (05-2006)
   - CETECOM test report No.3-5679-1-1/08 (10-2008)
   - CETECOM test report No.1-8082/14-01-06
   - CETECOM test report No.1-8082/14-01-05-B
   - CETECOM test report No.1-8082/14-01-04
   - CETECOM test report No.1-8082/14-01-03
   - GSSO test report per IACS UR M67 (02-2007)
   - OMD Function test (09-2015)
   - OMD Function test IACS UR M67 Rev.2 (09-2015)
   - LAPP product information of internal flame retardant cable
   - Documents for software quality control
   - Document for software modification (Release Notes)
   - EMC Test Report No. 79917_05122019_VN87Plus (06.12.2019)
   - Statement of compliance with IACS UR E10 Rev.8 (05/12/2023)

**- To be continued -**

**Test items & approval conditions:**

1. Test items: Applied testing items are marked with X in accordance with the Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use as amended by IACS UR M67, UR E10 as applicable.

| ENVIRONMENTAL TESTS (IACS UR E10 Rev.8 basis) | | Mark |
|---|---|---|
| External examination | | X |
| Operation test and performance test | | X |
| Electric power supply failure test | | X |
| Power supply fluctuation test | Electric | X |
| | Pneumatic and Hydraulic | -- |
| Insulation resistance test | | X |
| High voltage test | | X |
| Pressure test (Pneumatic and Hydraulic) | | -- |
| Dry heat test (Temperature 70°C±2×16 hours) | | X |
| Damp heat test | | X |
| Vibration test (Acceleration 3-25Hz: ±1.6mm, 25-100Hz: ±4.0g) | | X |
| Inclination test | | -- |
| Cold test | | X |
| Salt mist test | | -- |
| Electrostatic discharge immunity test | | X |
| Radiated radio frequency immunity test | | X |
| Conducted low frequency immunity test | | X |
| Conducted high frequency immunity test | | X |
| Burst / Fast transient immunity test | | X |
| Surge immunity test | | X |
| Radiated emission test | | X |
| Conducted emission test | | X |
| Flame retardant test | | -- |

2. Approval condition:
   1) The product is not allowed to be installed in the bridge and on open decks.
   2) Where there are multi engine installations, each engine is to be provided with oil mist detection/monitoring and a dedicated alarm.

**- The End -**