

**DNV-GL**

MSA No:  
**MSA0000B2K**

## MANUFACTURING SURVEY ARRANGEMENT

Between "Manufacturer"  
**VDL Klima Belgium N.V.**  
**Hamont-Achel, Belgium**

and

"DNV GL"  
**DNV Belgium N.V.**  
**Antwerp**

Ref. Recognition Certificate: MSARC0000B2K

This Manufacturing Survey Arrangement (MSA) is applicable to  
**Pressure vessel - Water-Air Heat Exchangers type KDL**  
**Pressure vessel - Boxcoolers V-type**  
subject to testing and inspection for conformance with the requirements of DNV GL Rules, as stated herein.

The MSA implies that the manufacturer is authorised to perform the testing and inspection without the attendance of DNV GL and to prepare the certificates which will be validated by DNV GL.

The MSA is valid until **2021-06-30**

The MSA will, however, be invalid if the Recognition Certificate is invalid, or if the manufacturer's Quality System Certificate No. 12 100 44822 TMS is invalid.

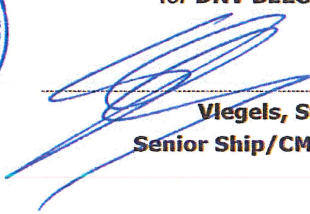
The MSA is governed by DNV GL's general terms and conditions. These may be provided upon request.

Issued at **Antwerp** on **2017-10-24**

for **VDL KLIMA BELGIUM N.V.**

  
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**Mr. Dick Van Gorp**  
**QC Responsible**

for **DNV BELGIUM N.V.**

  
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**Vlegels, Steven**  
**Senior Ship/CMC Surveyor**



## 1. Scope of Work

For the above mentioned product(s) to be certified for conformance with DNV GL Rules, the following conditions will come into force:

### 1.1 Reference Documents

- I. DNV GL Rules for Classification of Ships Part 4 Chapter 7: Pressure Equipment
- II. DNV GL Rules for Classification of Ships Part 4 Chapter 8: Electrical Equipment
- III. Quality System Certificate (QSC) No. 12 100 44822 TMS issued by TÜV SÜD
- IV. The Manufacturer's documented and accepted procedures for inspection and testing:
  - "Kwaliteitsbegeleiding Formulier KDL", F1.03-07 as amended
  - "Kwaliteitsbegeleiding Formulier Boxcooler", F1.34-02 07-03-16
  - Test procedure P4.07 as amended (opsteldatum 29/06)
  - "Collectionlist Certificates" (Form f4.05b-6-23-02-17)
  - Procedure for reporting of customer "complaints P404"
- V. Asbestos Declaration for VDL Klima Belgium "Asbest-vrij verklaring.pdf"

### 1.2 Approvals

This MSA does not exempt the manufacturer from obtaining approval of new products or re-approval when a new manufacturing process is introduced.

For class III pressure vessels intended for water and non-flammable hydraulic fluids, documentation needs not to be submitted for approval if the temperature of the fluid is less than 95°C.

Class I and Class II pressure vessels are explicitly excluded from the scope of this MSA.

The manufacturer declares that the products delivered under this MSA are 100% free from asbestos when delivered from the company.

### 1.3 Testing and Inspection

The verification of correct sampling of test specimen, mechanical testing and inspection are entrusted to the manufacturer on the basis of documented and accepted procedures and the use of qualified personnel familiar with the DNV GL Rules.

Testing shall be performed in accordance with procedure P4.07.

### 1.4 Assessments performed by DNV GL

Compliance with the conditions agreed in this MSA is subject to control and review by assessing as follows:

- a) Periodical assessments of the MSA function are to be made at intervals not exceeding 12 months, based on a mutually agreed schedule.
- b) Project-specific assessments or unscheduled spot checks may be made to ensure compliance of the products with Rule requirements.

For this purpose DNV GL shall at all reasonable times be given access to the manufacturing plant and to the relevant manufacturing documents and records.

#### **1.4.1 Agenda for the MSA assessments**

The agenda for the assessments will be proposed by DNV GL in the notification of the meeting.

The agenda may typically contain:

- a) Organisation, responsibilities and qualifications of relevant personnel.
- b) The efficiency of the implementation of the MSA.
- c) Operational procedures and instructions related to the MSA agreement.
- d) Manufacturing processes.
- e) Inspection and testing.
- f) Test records.
- g) Product marking and traceability and control of non-conforming product.
- h) Claims, question from clients and others.
- i) Review of possible problem areas raised from previous MSA assessments.
- j) Review of reports from Quality System Audits.
- k) Information to be updated.
- l) Statistical results from testing.
- m) News from DNV GL.

Any problems found should be handled as non-conformities in the QSC implemented corrective action system. Corrective actions will be re-assessed by DNV GL.

## **2. Reporting by manufacturer**

### **2.1 Manufacturing Records**

Records shall be made of the relevant manufacturing data and of the results of all specified testing and inspection activities.

### **2.2 Transmittal to DNV GL**

For each product or batch of products to be certified under this agreement, the manufacturer shall prepare an order thru the "my DNV GL" Customer Portal.

Following information shall be provided:

- Commercial information: internal purchase order, client, client reference
- Technical information: number and type indication of product(s), serial number(s)
- Design and test pressures
- Design temperatures
- Volume
- Reference to the applicable DNV GL Rules.
- Destination of the product(s)
- Reference to this MSA agreement
- Marking of the product with a unique DNV GL certificate number
- Completed and signed "Collectionlist Certificates"
- Copies of material certificates
- Drawing of product

The submitted information shall be retained by the manufacturer as quality records and the retention period is to be as stated in the Quality System Manual.

By including the reference to this MSA agreement in their documentation, the manufacturer is declaring full compliance with this MSA agreement.

### **2.3 Non-conformances**

The manufacturer is to report any deviation from the DNV GL Rules and from this MSA and obtain DNV GL's written acceptance of the deviation prior to dispatch of the product.



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#### **2.4 Information to DNV GL**

The manufacturer is to report any purchaser requirement, which may extend the scope defined in the DNV GL Rules. Any additional requirements outside of the DNV GL Rules are not covered by this MSA.

All customer complaints concerning products delivered under this MSA agreement shall be reported to the DNV GL local office. A procedure for reporting of customer complaints has to be established by the manufacturer and approved by DNV GL. It is up to DNV GL to decide if further involvement is necessary or not at that time. However, closing of customer complaints reported to DNV GL and corrective actions implemented by the manufacturer will be discussed under the MSA assessment.

### **3. Reporting by DNV GL**

#### **3.1 Issuance of DNV GL certificates**

DNV GL will create a product certificate based on the manufacturer's prepared order in the Customer Portal "my DNV GL". The digitally signed certificate will be sent to the manufacturer in pdf-format.

Following comments will be included in the product certificate for follow-up during installation of the equipment on-board:

- For KDL type: *"Where cooling of electrical equipment is arranged through air-water heat exchangers, these shall be arranged to prevent entry of water into the equipment, whether by leakage or condensation. Heat exchangers in high voltage equipment shall be of double tube type and shall be fitted with leakage alarm. (DNVGL-SHIP-RU-Pt4Ch8Sec3)"*
- For Boxcoolers : *"This boxcooler is designed for fitting in a separate watertight compartment. It shall be checked if the arrangement onboard is in compliance with DVNGL Rules for Boxcoolers, (Part3 Chapter10 Section 6 Paragraph 7.2)"*

#### **3.2 Information to manufacturer**

DNV GL will inform the manufacturer of new or amended rules and regulations which would affect the arrangements authorised.

Reserved certificate numbers to be used for certification based on this MSA agreement will be available to the manufacturer through the Customer Portal "my DNV GL".

#### **3.3 MSA assessments**

After each assessment a report will be prepared by DNV GL, and distributed to the involved parties.

### **4. Marking for Identification**

#### **4.1 Marking**

Products which have been satisfactorily tested and inspected shall be marked as required by the DNV GL Rules. The product is further to be marked with the DNV GL certificate number and a VL-stamp furnished by DNV GL. Only those products covered by this arrangement are permitted to be marked with this stamp.

#### **4.2 Handling of the VL-stamp(s)**

The manufacturer's signer of the MSA agreement is kept responsible for the VL-stamp(s) provided to them as part of this agreement, and the stamp(s) shall only be used by authorised personnel.

The VL-stamp(s) must not be transferred to subsidiary companies belonging to the same group or any other third party. The VL-stamp(s) shall be returned to DNV GL when the MSA agreement is invalid.

A worn out or damaged VL-stamp is to be returned to DNV GL who will supply a new stamp.

### **5. Monitoring and Administration of the MSA**

The DNV GL Antwerp Office is responsible for:

- 1) Follow up of the MSA through the periodical MSA assessments.
- 2) The regular contact with the manufacturer.
- 3) Review of orders.
- 4) Issuing DNV GL certificates.
- 5) Invoicing.