

Calibration laboratory for measure temperature and humidity
Laboratoire de calibrage pour température et humidité

Integrated in the certified QM - system DIN EN ISO 9001
Intégré dans le système d'assurance qualité DIN EN ISO 9001

| | |
|--------------|----------------------|
| Chamber-No.: | 58566078510010 |
| WKD | |
| No.: | 43504 58566078510010 |

Calibration Certificate

Certificat de calibration

Object : **Klimaatkast**
 Objet

Manufacturer : **Vötsch Industrietechnik GmbH**
 Fabricant

Type : **VC4043**
 Type

Serial number : **58566078510010**
 No de série

Inv-No. : **-**
 Inventaire No.

Customer: **NSI**
 Client **Haakstraat 1A**
3740 Bilzen

Order No.: **-**
 Commande N°

This calibration certificate documents the traceability to national standards, which realize the units of measurement according to the International System of Units (SI).

The user is obliged to have the object recalibrated at appropriate intervals.

Ce certificat de calibration se réfère aux normes nationales pour les unités de mesure en accord avec le système international des unités de mesure (SI)

L'utilisateur est responsable du respect d'un délai adapté pour la recalibration.

Number of pages of the certificate: **2**
 Nombre de pages du certificat de calibration

Date of calibration : **08-02-2019**
 Date de la calibration

This calibration certificate may not be reproduced other than in full except with the permission of the WKD. Calibration certificates without signature and seal are not valid.

Ce certificat de calibration ne peut être copié que dans sa totalité. Les extraits ou modifications sont soumis à l'autorisation du WKD. Les certificats de calibration sans signature ne sont pas valables.

| | | | |
|----------------|------------------------|---|--|
| Seal Timbre | Create on Etabli le | Head of the service calibration department Chef du département service de calibration | Person in charge Responsable |
| | 8/02/2019 | Hr. Pascal De Vos Tel.: +32 53 68 10 10 Fax: +32 53 68 10 20 E-Mail: service@weisstechnik.be | Dimitri Broës Issued on: _____ Signature |

Calibration Certificate

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1. Object of Calibration

The calibration object **VC4043** is a test bench for the variable temperature and humidity.
For technical data please refer to the data sheet in the operating manual.

2. Calibration Procedure

Calibration was carried out by comparing the indications of the calibration object with the values "correct value" represented by the calibration devices/standards. The reference devices used are in valid relationship with nation / internation.

3. Place of Calibration

The calibration was accomplished locally at the customer.

4. Measuring Conditions

All measurements were made after a steady state condition of at least 1 hour/s.
After that 30 measurements at 1 min. intervals have been registered. The below reference (correct value) is the arithmetic mean.

Adjusted control of the test unit: psychrometric

5. Ambient Conditions

Temperature : 20 °C +/-5°K Humidity : 45 %r.F. +/-20%r.F Pressure : 1013 hPa +/-20hPa

6. Measuring Results

| Temperature/Climate | Object of calibration | | Reference | Deviation | | Measuring uncertainty |
|---------------------|-----------------------|---------------|---------------|----------------------|-------|-----------------------|
| Calibration size | Set points | Actual values | Correct value | Actual/correct value | | |
| 1.) Temperature: | -20,00 °C | -20,02 °C | -19,72 °C | -0,30 | K | 0,16 [K] |
| 2.) Temperature: | 40,00 °C | 40,06 °C | 40,00 °C | 0,06 | K | 0,18 [K] |
| Humidity: | 90,00 %r.H. | 89,75 %r.H. | 90,05 %r.H. | -0,30 | %r.H. | 1,64 [%r.H.] |
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7. Measuring uncertainty

The value stated is the extended measuring uncertainty, which is the product of the standard measuring uncertainty multiplied by the extension factor k=2. This uncertainty was established in accordance with DAkkS-DKD-3. The value of the measured variable has a probability of 95 % within the assigned range of values. Long term stability is not considered.

8. Used normals

Temperature with Physics 3000 Sensor No.: 2

222915 D-K-17099-01-00 2018-10

Climatic with psychrometer 1

22915 D-K-17099-01-00 12018-10

9. Spatial arrangement

The measurement was made in

Test space middle

10. Other

Recommended date for re-calibration:

februari 2020

11. Remarks