Company calibration **WKD**

SERVICE Vötsch TEAM

Calibration laboratory for measure temperature and humidity
Kalibrierlaboratorium für die Messgröße Temperatur und Feuchte

Integrated in the certified QM - system DIN EN ISO 9001
Eingebunden im zertifizierten QM - System DIN EN ISO 9001

Chamber-No.:	58566078510010
WKD	
No.: 40224 58566078510010	

Calibration Certificate

Kalibrierschein

Dieser Kalibrierschein dokumentiert die Rückführung auf nationale Normale zur Darstellung der Einheiten in Übereinstimmung mit dem internationalen Einheitensystem (SI).

Für die Einhaltung einer angemessenen Frist zur Wiederholung der Kalibrierung ist der Benutzer verantwortlich .

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 appropirate intervals.

Object : Gegenstand	**climatic chamber**
Manufacturer: Hersteller	Vötsch Industrietechnik GmbH
Type : Typ	VC4034
Serial number : Fabrikat / Serien Nr.	58566078510010
Inv-No. : Inventar-Nr.	-
Customer: Auftraggeber	NSI BVBA Haakstraat 1A B-3740 Bilzen
Order No.: Auftrags - Nr.	-
Number of pages of the certificate: Anzahl der Seiten des Kalibrierscheines	2
Date of calibration: Datum der Kalibrierung	15.02.2010

Seal Stempel	Create on Erstell am	Head of the service calibration department Leiter der Service Kalibrierabteilung	Person incharge Bearbeiter
WERKSKALIBRIERDIENST WEISS TECHNIK	15.02.10	Mr. Reinelt Phone: +49(06408)84-6343 Fax.: +49(06408)84-8043 E-Mail: t.reinelt@wut.com	Jan De Deyn Issued on: Signature

Calibration Certificate

Chamber-No.:	58566078510010
WKD	
No.: 40224 58566078510010	

1. Object of Calibration

The calibration device VC4034 is a test chamber for the size 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 normal / 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 2 hour/s.
After that five measurements at 5 min. intervals have been registered. The below reference (correct value) is the arithmetic mean.

Adjusted regulation of the testing equipment: psychometric

5. Ambient Conditions

Temperature: 19 °C +/-5K Humidity: 45 %r.F. +/-20%r.F Pressure: 1002 hPa +/-20hPa

6. Measuring Results

Temerature/climate	Object of calibration				Reference		Deviation		Measuring uncertainty	
Calibration size	Set points		Actual values		Correct value		Actual/correct value			
1.) Temperature:	-20	°C	-20,00	°C	-19,55	°C	-0,45	K	0,20	[K]
2.) Temperature:	40	°C	40,00	°C	40,10	°C	-0,10	K	0,20	[K]
Humidity:	90	%r.F	90,00	%r.F	89,94	%r.F	0,06	%r.F	1,50	[%r.F]

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 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 WVPH 500 Sensor No.: 1-2 6652-DKD-K-19501

9. Spatial arrangement

The measurement was made in **middel of testspace**

10. Other

Recommened date for re-calibration: **02.2011**

11. Remarks

12. Conformity declaration :
The measured deviations lie within the tolerance for Set point at temperature +/-1K and for the humidity +/-3 %r.F., measured in Test space center.

Weiss Umwelttechnik GmbH * Simulationsanlagen Messtechnik * D-35447 Reiskirchen-Lindenstruth * Telefon (06408)84-0 Fax (06408)84-8718

SERVICE Vötsch TEAM

Maintenance Certificate

Unit:	**climatic chamber**
Type:	**VC4034**
Series No.:	**58566078510010**
Order No.:	**-**
Customer:	**NSI BVBA**
Department:	**Labo**
Street:	**Haakstraat 1A**
Postcode, Place:	**B-3740 Bilzen**
Inventory No.:	**-**

Maintenance of the above unit has been carried out in accordance with the **VDMA-Standard Sheets Nos.: 24176 and 24186** and all necessary adjustments have been checked and corrected as necessary.
All values measured are within the tolerances specified by **Weiss Umwelttechnik GmbH**.

In the framework of maintenance excluding calibrated measuring instruments are used. These are checked regularly with reference standards of the enterprise. These reference standards are guaranteed by external re calibration and documented by means of a DKD-calibration certificate.

Remarks: None

Recommended date for next maintenance: 02.2011

Person responsible for maintenance: Jan De Deyn

Maintenance carried out on: 15.02.2010

Company:
Weiss Umwelttechnik GmbH
Simulationsanlagen Messtechnik
Service-Center
D-35447 Reiskirchen-Lindenstruth
Telefon (06408)84-0 Fax (06408)84-8718

Issued on: 15.02.10

Checked:

Signature

CKB-F/02	**Leak Detection Registration**

Weiss Technik Belgium - Service Begijnenmeers 63 1770 Liedekerke T +32 (0)53 68 10 10

Performed by	Jan De Deyn
Date	15.02.10

Customer

Company Name	NSI BVBA
Address	Haakstraat 1A
	3740 Bilzen
Contact person	Karin Schepers

Document N°	JDD121
Additional to Service Report :	JDD/9

Installation

Description	climatic chamber
Type	VC4034
Serial N°	58566078510010
Constr.Year	2006

Refrigeration Circuits

#	Function	Refrigerant Type	Charged Weight		Stabilisation Pressure		Cooling		
							Air	Water	Cascade
1	cooling	R404A	2,5	kg	7,5	bar	X		
2				kg		bar			
3				kg		bar			

Leak test performed on circuit : ☑ # 1 ☐ # 2 ☐ # 3

☑ During Maintenance ☐ After Repair ☐ Leak Indication ☐ New Equipment

Procedures / Methods

☑ *Electronic Probe*

Type	TIF ZX-1E
Ser. N°	354

☐ *UV-Light*

☑ *Pressure Test*

Start Pressure	20	bar
Test Time (hh : mm)	0:45	
End Pressure	20	bar

☑ *Leak Seak Spray*

☐ *Open Flame Test*

☐ *Vacuum Test*

Start Pressure		mbar
Test Time (hh : mm)		
End Pressure		mbar

Results

☑ No Leak Detected

☐ Leak Detected

Comments

Actions to Take

☐ Immediate repair possible

☐ Leak controle after repair O.K. ?

☐ Immediate repair not possible

☐ Planned date for repair

☐ Recuperation of refrigerant in storage cilinder ☐ Yes ☐ No

Next Leak Control (Recommended)

☐ 1 month ☐ 3 months ☐ 6 months ☑ 1 year ☐ Other

Summary of used refrigerant

#	Type	Charged (kg)	Temporary Recovery (kg)	Recovery for disposal (kg)

Signatures ☑ Customer : ☑ Technician :