



# Weiss M.C.S. Tailor-made Test Chambers

Temperature and Climate Test Chambers  
of modular Construction

## Weiss M.C.S. ... the concept

- Faster** – short delivery times
- Less expensive** – standardized components
- More flexible** – simple final installation
- More efficient** – top performance data

Weiss Umwelttechnik has extended its range of walk-in temperature and climate test chambers. Despite the standardized construction, we are now in a position to fulfil extensive customer requirements with the new **Weiss M.C.S.** series.

## Weiss M.C.S. ... fields of application

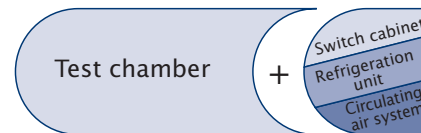
The **Weiss M.C.S.** can be employed for performing:

- Stability tests
- Temperature tests in the range –40 ... +80 °C
- Climate tests
- Temperature and alternating climate tests

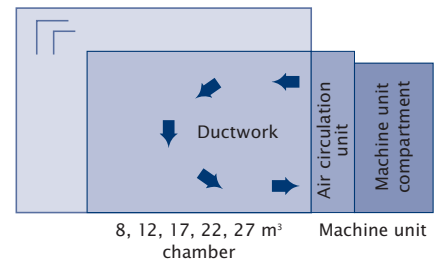
**Weiss M.C.S.** chambers comply with virtually all test standards, however, certain requirements may need clarification.

## Weiss M.C.S. ... the principle

The **Weiss M.C.S.** walk-in test chamber comprises a machine unit and a test chamber. The machine unit is assembled and tested in the assembly plant of Weiss Umwelttechnik GmbH before it is connected to the on-site test chamber. It is then calibrated and commissioned.



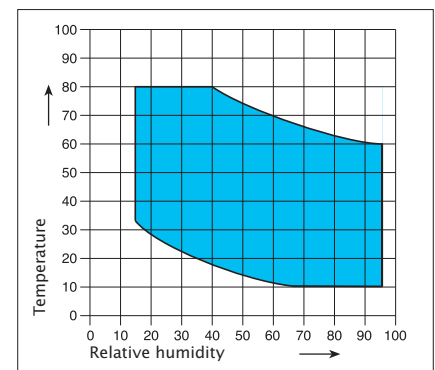
The test chamber is available in 5 standardized sizes (8, 12, 17, 22, 27 m<sup>3</sup>). The machine unit comprises a fan, refrigeration unit, humidification and heating equipment, switch cabinet and system control. Depending on the customer's requirements, we can configure the complete system.



Weiss M.C.S. configuration

For configuration purposes, we simply require the following data:

- Desired mode of operation (temperature or climate tests)
- Desired cooling or heating rate
- Desired test chamber size



Humidity diagram

## Technical data Weiss M.C.S.

Typ	WT/WK		8' MCS	12' MCS	17' MCS	22' MCS	27' MCS
Temperature range		°C	–40 ... +80				
Test space volume		m <sup>3</sup>	8	12	17	22	27
External dimensions (mm) <sup>1)</sup> (including machine unit and base frame)		H	2270 <sup>2)</sup>	2270 <sup>2)</sup>	2500 <sup>2)</sup>	2500 <sup>2)</sup>	2500 <sup>2)</sup>
		W	3580	4580	4680	5580	6580
		D	2300	2300	2700	2700	2700
Test space dimensions (mm) <sup>1)</sup>		H	2010	2010	2240	2240	2240
		W	1960	2960	3060	3960	4960
		D	2060	2060	2460	2460	2460
Clearance for installation (mm)			H 2250, W 1700, D 2600				
Floor load		N/m <sup>2</sup>	50000				
Wheel load		N	4000				
Performance range	Temperature	°C	–40 ... +80				
	Humidity	% r.h.	15 ... 95 (see humidity diagram)				
	Dew point	°C	+4 ... +59				
Temperature changing rates <sup>3)</sup>		K/min	1.7 ... 5.5 <sup>3)</sup>				
Temperature deviation in time		K	±0.1 ... ±0.5				
Temperature homogeneity spatial		K	±0.5 ... ±1.0				
Humidity deviation in time		% r.h.	±1.0 ... ±5.0				
Electrical connection			3/N/PE AC 400 V ±10 %, 50 Hz				
Cooling water connection			R 1" or R 1 1/2"				
Sound-pressure level (optional: sound proofed machine unit) <sup>4)</sup>		dB(A)	69 ... 72 (62 ... 65) <sup>4)</sup>				

The performance data refer to 25 °C ambient temperature  
<sup>3)</sup> depending on the chamber size and machine equipment  
 We reserve the right to make any technical alterations.

<sup>1)</sup> deviating dimensions possible

<sup>2)</sup> including 20 mm ventilation

<sup>4)</sup> Free field, 1 m distance from the front, as per DIN 45635, part 1, accuracy class 2

## Standard version

- Entry door (H 1900 x W 900 mm)
- Observation window (H 600 x W 450 mm)
- Lighting (IP 65)
- Stainless steel floor
- Access ports (Ø 50 and Ø 125 mm)
- Control system SIMPAC\*
- 12" TFT-colour touch screen display
- Test specimen protection
- Water-cooled condenser
- Speed-controlled fans

### Additional features for the climate version

- Steam generation system
- Capacitive humidity measuring system
- Protection against condensation

## Options

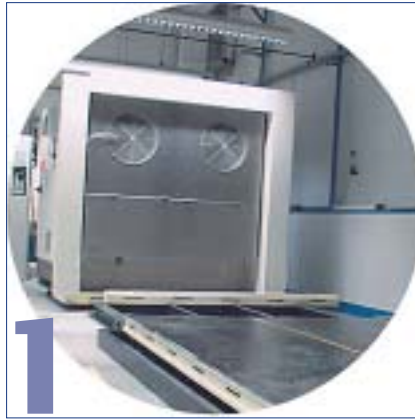
- Air-cooled condenser
- Software package SIMPATI\*
- LAN/Ethernet connection
- Demineralization unit
- Additional access ports
- Additional temperature sensors
- Additional observation window
- Data logger
- Sound-proof machine unit
- Special voltages
- Adjustable circulating air quantity (adjustable fan speed)
- Dehumidification during heating cycles

Further options on request.

## Installing and commissioning

The complete system is installed and commissioned on site. The connection parts of the test chamber are attached to the machine unit (Fig. 1). The prepared chamber floor can be seen in the illustration. When the machine unit and the chamber floor have been connected and aligned, the side panels of the chamber and ceiling elements (Fig. 2) can be mounted. The necessary electric consumers are connected in the switch cabinet e.g. internal chamber lighting (Fig. 3) and the installed system commissioned (Fig. 4).

A period of 1 – 3 workdays is required for installing and commissioning a Weiss M.C.S. system.



## Special features

- 12" TFT-colour touch screen display for easy input of fixed values and program operation with graphic representation of set and actual values, operating time and residual number of cycles including help functions
- Program memory for up to 100 programs with a total of 1000 program sections
- Software support of the 4 potential-free switching inputs and outputs
- Integrated threshold value monitoring system for temperature and humidity (humidity control only for climate version)
- Inspection system provides information on interruptions in operation and establishes the operating times and cycles of individual system components
- Serial interface RS 232 C, galvanically isolated for connection to a host computer system (e.g. notebook operating terminal) or for linking purposes
- Optional software package SIMPATI\* for recording and evaluating measurement results, monitoring the test system and linking several systems

## Advantages

- Low acquisition costs
- Test run and leakage test of machine unit before leaving the plant
- Short delivery and installation times
- Pre-tested air conditioning system, customer-friendly "Plug & play" installation.
- Excellent temperature and humidity constancies at high air circulation rates
- Small dimensioned machine unit
- Exchange of individual modules, quick availability of spare parts thanks to standardized components from series production
- Digital control system SIMPAC\*
- Extensive Weiss service network

# Test Systems for Professionals. Test the best...

## Open loop control

The 12" TFT-colour touch screen display and the software package SIMCONTROL\* stand for the highest level of operating convenience. Simulation programmes and test results are provided on the hard disc and can be replaced via Ethernet or an USB stick (option).

The control is carried out by 32-Bit-I/O-system SIMPAC\*. Set point and actual values are shown graphical.

The units have an online service function. With the remote control and monitoring the units can be reached outside by simply accessing the unit webserver via the network or by activating the internet.



12" TFT-colour touch screen display

## Controlled environmental conditions with SIMPATI\*

The evaluation and documenting of testing performances and also the integration of measuring data of the customer guarantee a high standard of quality.

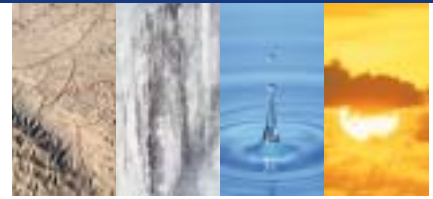
SIMPATI\* networks up to 99 testing systems with a PC. The archiving of all parameters of chamber configurations is thus ensured.

SIMPATI\* integrates itself into your PC-network and enables the operation with your Internet Browser from other PC's without needing special software.

In addition to the normal messages on the screen and the entry in the report file, e-mails can be generated which are sent to different addresses. Recipient of e-mails may be the PC in the office, an operation and control centre or a mobile telephone.

SIMPATI\* uses an existing mail-server and supports SMTP.

Further details can be found in our leaflet SIMPATI\*.



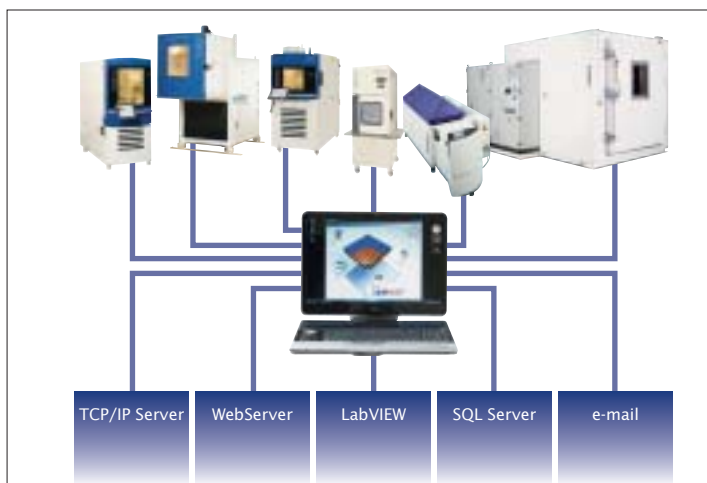
A complete product range for temperature and climate testing is available, with test space volumes of approx. 34 litres to 2160 litres and working ranges of -75 ... +180 °C and 10 ... 98% r. h.

In addition, we also offer an extensive selection of proven test systems for simulating exposure to weather, temperature shock, corrosion and long-term testing for research, development, quality assurance and production.

As one of the leading manufacturers of simulation systems worldwide, Weiss Umwelttechnik offers the entire range of high-quality test equipment: from economical series devices to walk-in systems process-integrated systems built to customer specification.

A high-performance after-sales service ensures the optimal support for our customers and high operational safety of the systems. Decades of experience in the various fields of application and an intensive exchange of information with our customers throughout the world all serve to guarantee good co-operation.

If you value know-how, service and all-round safety, ask Weiss Umwelttechnik.



Further information, technical field offices in Germany, subsidiaries and agencies worldwide can be found at

[www.weiss.info](http://www.weiss.info)



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