



High Performance for all Climate Requirements

WK 3/0 Series of Climate Test Chambers



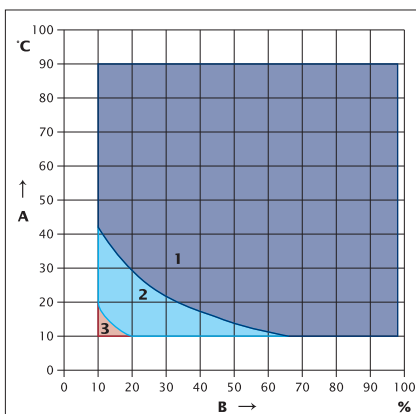
Weiss Umwelttechnik GmbH
Simulationsanlagen • Messtechnik



World climate zones simulated in the laboratory...



Climate working range



A = Test space temperature (°C)
 B = Relative humidity (% r.h.)
 1 = Standard working range
 2+3 = Dewpoint working range (option)



Developed and proven for stability climate tests ...

Various environmental impacts during manufacture, storage, transport and use can have a negative effect on the function and service life.

Our climate chamber WK 3/0 was designed to simulate different climates and/or seasonal climates and climate zones, in particular for long-term and accelerated stability tests.

The specimens which have to be exposed to a long-term test and/or an accelerated service life test played a primary role throughout the entire development and construction.

During the design and development phase of this chamber great importance was placed on energy-saving climate conditioning systems, maintenance-free temperature conditioning and humidification systems as well as comprehensive documentation.

Worth mentioning in this respect is the self-cleaning humidification measuring system which prevents contamination during long climate tests.

Stability tests as per the ICH guideline, climate tests in which the climate remains constant as per DIN 50 014 and IEC 60 068-2-3 and additional standards can be easily performed.

The WK 3/0 can also be used as a temperature test chamber.

The well-designed basic units together with numerous options allows for versatility.

The use of environmental friendly materials and production methods and the recycling of old units goes without saying.

The advantages at a glance ...

- 3.5" TFT-colour touch panel with simple, menu-guided user interfaces as a convenient interface with the operator (no programming knowledge necessary)



- SIMPATI* program tool on CD-ROM
- USB and Ethernet interface
- High-precision temperature and climate conditions due to auto-adaptive control
- Networking with other test systems possible
- Remote control and remote monitoring possible via intranet or internet
- Integrated service information system
- Low noise level
- Low energy consumption
- The systems are designed for extreme climates e. g. long-term tests 85 °C / 85 % r.h.
- Considerable increase in the service life of the psychrometer on account of self-cleaning humidity sensor
- Connection to shock-proof socket



... make environmental influences predictable

Reliable functioning thanks to technology and equipment ...

An airstream that is temperature conditioned and/or air conditioned precisely to the entered set values continuously flows through the test space and ensures an optimum spatial distribution of air and temperature.

The circulating air duct installed at the rear wall of the test chamber contains the modules required for conditioning the air.

Generously dimensioned axial fans with an external drive motor draw the air out of the test chambers. (The test chambers with a test space volume of 990 l and 1540 l have two circulating air fans each.) This circulating air then flows through a fin-type heat exchanger in which it is cooled if required. Special circuits prevent any undesired formation of condensate during air-conditioning operation and ensure the best possible constancies in terms of temperature and



humidity. An electrical heater installed behind the heat exchanger heats the circulating air. The stream of air then passes over a water bath; integrated heating elements ensure quick and precise heating of the water.

The humidity of the test space air is measured psychrometrically. Dry and wet thermometers are positioned one next to the other in the stream of circulating air. Depending on the climate the humidity sensor thermometer is wetted automatically and cleaned in the process. This considerably increases the service life.

The test chambers are designed in a modular system and are ready to be plugged in. The stainless steel test space is welded vapour-tight and easy to clean.

Its environmentally friendly insulation free of asbestos and CFC guarantees the best possible insulation values and, hence, the lowest possible operating costs.

The large observation window which is available as an option allows an optimum view of the test space.

Moreover, the test chambers are equipped with an adjustable safety cut-out against high and low temperatures (test specimen protection with separate sensor) according to EN 60 519-2. Any alarm is issued visually as well as acoustically. In addition, a potential-free contact is available.

Every electrical functional circuit is equipped with its own safety facility which shuts down the functional circuit affected or the entire test chamber in case of a malfunction.

The electrical system complies with the approved state of the art in the field, the safety regulation "Electrical Systems and Facilities" (BGV A3) as well as with the relevant VDE regulations. All test chambers fulfil the EMC, low-voltage and machinery directive.

The hermetic refrigeration circuits operate with environmentally friendly refrigerants free from chlorine without any ozone-depleting potential (CFC-free).

The 32-bit control and monitoring system of SIMPAC* ensures controlling of temperature and humidity.

The units are compatible with the SIMPATI* software package and can be integrated into their networking environment. (data logging operation in SIMPATI*).

Technical Data

Model	WK3-180/0	WK3-340/0	WK3-600/0	WK3-1000/0	WK3-1500/0	
Test space volume	l approx.	190	335	600	990	1540
Test space dimensions in mm	Height approx.	750	750	950	950	950
	Width approx.	580/540 ³⁾	580/540 ³⁾	800/760 ³⁾	1100/1060 ³⁾	1100/1060 ³⁾
	Depth approx.	450	765	800	950	1475
Exterior dimensions ¹⁾ in mm	Height approx.	1805	1805	2005	2005	2005
	Width approx.	780	780	1000	1300	1300
	Width ²⁾ approx.	875	875	1095	1395	1395
	Depth approx.	1385	1700	1750	1925	2450
	Depth ²⁾ approx.	1545	1860	1910	2085	2610
Temperature working range	°C	-10...+90	-10...+90	-5...+90	0...+90	0...+90
Temperature deviation – in time ⁷⁾		±0.1...±0.5 K				
Climate working range		+10...+90 °C				
Temperature deviation – in time ⁷⁾		±0.1...±0.3 K				
Temperature deviation – spatial ⁶⁾⁷⁾		±0.5...±1.0 K				
Dewpoint temperature range		+4...+89.5 °C				
Humidity working range		10...98 % r.h.				
Humidity deviation		±1...±3 % r.h.				
Heating rate ⁴⁾	K/min. approx.	1.0	1.0	0.6	0.5	0.4
Cooling rate ⁴⁾	K/min. approx.	0.3	0.3	0.3	0.2	0.2
Heat compensation at +20 °C		200 watt				
Electrical connection		1/N/PE AC 230 V ±10 %/50 Hz				
		shock-proof plug				
max. installed load	kW	2.3				
max. current consumption	A	10.0				
Sound pressure level ⁵⁾	dB(A)	<46				
Condenser		air-cooled				
Weight	kg	420	500	570	790	920

The performance data refer to an ambient temperature of +25 °C, 230 V nominal voltage, without specimens.

¹⁾ By dismantling components the external dimensions can be reduced

²⁾ Overall dimensions

³⁾ Width between the shelves

⁴⁾ According to IEC 60 068-3-5

⁵⁾ Measured at 1 m distance in front of the unit in 1,6 m height, free field measurement

⁶⁾ Based on the set point in a temperature range from minimum temperature to +150 °C

⁷⁾ As per IEC 60 068-3-6

We reserve the right to make technical alterations.

Test systems for professionals. Test the best ...



Standard design ...

- Digital measuring and control system SIMPAC*
- 3.5" TFT-colour touch panel
- SIMPATI* program tool on CD-ROM for convenient programming of control via PC
- Auto-adaptive control system
- Ethernet and USB interface
- Psychrometric humidity measurement with automatically wetted, self-cleaning sensor
- Refrigeration unit, air-cooled
- Ports Ø 50 mm and 125 mm in the left and right side panel
- Safety cut-out against high and low temperatures (protection of test specimen as per EN 60 519-2 adjustable, with separate sensor)
- Insertion rack
- Adjustable and vibration absorbing feet
- Automatic water supply without interrupting operation
- 4 potential-free outputs
- 4 inputs (24 V DC)
- Calibration of 2 temperature values and 2 climate values
- Large water container, easily accessible
- Humidity bath flushing for cleaning of the humidifier water

Further information, offices in Germany, subsidiaries and representatives worldwide are available at

www.weiss.info

Options

- Large observation window with lighting
 - SIMPATI* software package for Windows, as off XP
- A detailed leaflet is available upon request.



- Water-cooled version for cooling tower, chilled water or mains water
- Additional shelves for optimum loading of test space
- Additional ports 50, 80, 125 mm Ø
- Other voltages and frequencies
- Calibration in deviation to the standard
- Annual calibration possible
- Independent capacitive humidity sensor (temperature and humidity measurement) on a terminal 0 – 10 V
- Door hinged on right side
- Qualification documentation

Further options/special accessories, tailor-made for your special requirements, upon request.



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