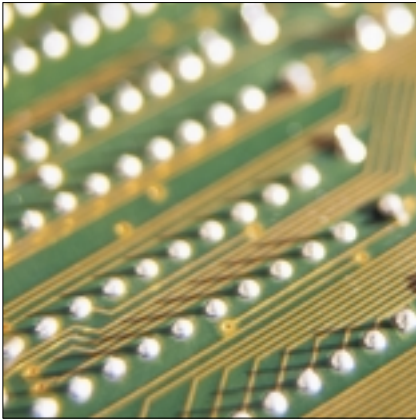




Constant Climates

WK 111 Series of Climate Test Chambers

World climate zones simulated in the laboratory ...



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 111 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 new model 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 111 can also be used as a temperature test chamber.

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

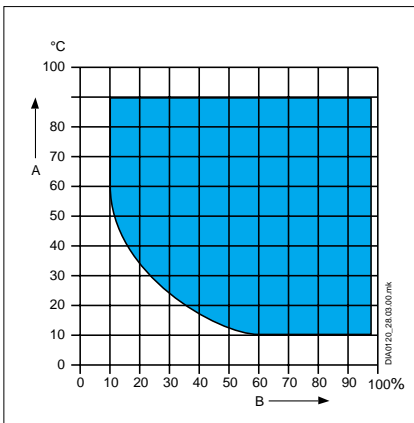
The use of environmental friendly materials and production methods and the recycling of old units goes without saying.

The advantages at a glance ...

- low power consumption
- extremely low sound pressure level
- factory-calibrated
- designed for extreme climates
- environmental friendly refrigerant
- water reservoir with level indicator and possibility of connection to central water supply for humidification water
- high and low temperature monitoring with separate sensors
- easy-to-clean test space of high gloss stainless steel
- psychrometric humidity measuring with self-cleaning humidity sensor
- graphics-compatible touch panel with simple, menu-guided operation – no knowledge of programming required
- single-phase connection
- wide humidity range



Climate working range



A = test space temperature (°C)
B = relative humidity (% r.h.)



... make environmental influences predictable

Reliable functioning thanks to technology and equipment

The vapor-tight welded high gloss stainless steel chamber is easy to clean.

The machine compartment containing a low noise compressor and an air-cooled condenser is situated below the test space.

The temperature conditioning and humidification elements required for the fast achievement of the desired climate values are located in the test chamber behind the air circulation panel.

The air is drawn out of the test chamber over the specimens via large-scale fans and routed via the heat exchanger and humidification system for conditioning.

The air is then rerouted to the test chamber via a special air circulation systems near the door.



The temperature and humidity sensors are located in the air flow direction before the air enters the test chamber, thus ensuring that the specimens are conditioned to the specified climate values.

A highly precise resistance thermometer Pt 100 as per 1/3 DIN is used for measuring the temperature and a 1/3 DIN resistance thermometer with cotton wick for measuring humidity. This ensures quick reaction times of the entire system.



All WK 111 climate test chambers are factory-calibrated.

The hermetically sealed refrigeration systems are filled with environmental friendly refrigerants.

Temperature and humidity are controlled by our **MINCON/32*** system. This control system is easy to operate. The detachable menu-guided, graphics-compatible touch panel enables extensive programs to be created, stored and reactivated.

Technical Data

Model		WK 111-180	WK111-340	WK 111-600	WK 111-1000	WK 111-1500
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 ⁵⁾	580/540 ⁵⁾	800/750 ⁵⁾	1100/1050 ⁵⁾	1100/1050 ⁵⁾
	Depth approx.	450	765	800	950	1475
Exterior dimensions ¹⁾ in mm	Height approx.	1775	1775	1975	1975	1975
	Width approx.	780	780	1000	1300	1300
	Width ²⁾ approx.	870	870	1090	1390	1390
	Depth ³⁾ approx.	1165	1480	1660	1855	2380
	Depth ⁴⁾ approx.	1375	1690	1870	2065	2090
Temperature-working range	°C	-10 ... +90	-10 ... +90	-5 ... +90	0 ... +90	+10 ... +90
Climate working range		← +10 ... +90 °C →				
Temperature deviation – in time		← ±0.1 ... ±0.3 K →				
Temperature deviation – spatial		← ±0.5 ... ±1.0 K →				
Dewpoint temperature range		← +4 ... +89 °C →				
Humidity working range		← 10 ... 98 % r.h. →				
Humidity deviation		← ±1 ... ±3 % r.h. →				
Heating rate ⁶⁾ K/min	approx.	0.6	0.6	0.5	0.4	0.4
Cooling rate ⁶⁾ K/min	approx.	0.3	0.3	0.2	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 →				
		← IP 54/IP 22 →				
Protection class		← IP 54/IP 22 →				
max. installed load	kW	← 2.3 →				
max. current consumption	A	← 10 →				
Sound pressure level, free-standing		← < 47 →				
1 m from the unit	dB (A)	← < 47 →				
Condenser		← air-cooled →				
Weight	kg	380	410	540	760	830

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

Basic design ...

- separate digitally adjustable temperature limiter for t_{\min} and t_{\max}
- control and program control **MINCON/32***
- touch panel, adjustable in height
- serial interface RS 232 C
- parallel printer interface for HP deskjet color and Epson printer
- automatic water replenishment
- 50 and 125 mm Ø ports
- one shelf
- calibration of 2 temperature values (+4 °C and +90 °C)
- calibration of 2 climate values (+25 °C/60 % r.h. and 40 °C/75 % r.h.)
- potential-free contact
- air-cooled refrigeration unit

¹⁾ By dismantling components the external dimensions can be reduced.

²⁾ With door handle and hinge

³⁾ Without touch panel

⁴⁾ With touch panel

⁵⁾ Width between the shelves

⁶⁾ As per IEC 60 068-3-5.

We reserve the right to make technical alterations.

Test systems for professionals. Test the best . . .



Options...

- software package SIMPAT[®]
- laptop control station with software
- printer for connection to the printer interface for documentation of actual values
- configuration modules for interface standards analog measuring card
- separate measuring sensors
- capacitive humidity sensor
- mobile design
- door with window
- additional port
- additional shelves
- different mains voltage and frequencies
- water demineraliser
- networking of max. 32 systems
- integration with old systems
- annual calibration
- qualification documentation

Further options on request.

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