

Constant Climates ...

Vötsch
Industrietechnik



with Climatic Test Chambers
Series VC³ 0...

Optimize and secure your product quality ...

Function and service life of systems or components are influenced by varying climatic conditions during transport, storage or use.

The resistance of material, even packing against environmental influences is becoming increasingly important. The behaviour of e.g. chemical substances under diverse climatic conditions and the simple question: Will the bonded joint hold? are vital issues.

If what you are looking for is quality, then the Vötsch climatic test cabinets will put you one step ahead. The series for constant climate has a timeless yet smart appearance.

The climate is created reliably and exactly to your requirements as often and as long as you wish. Long-term tests in climatic test cabinets are the shortest method of optimising and securing the quality of your products.

Optimised, tested basic modules, ensure that the required temperature and climatic test values are complied with even during long-term tests, e.g. thanks to the self-cleaning humidity measurement system. A true precision wonder which provides test results that leave no question of doubt.

Stability tests as per ICH guidelines, constant climate tests as per DIN 50014 & IEC 60 068-2-3, ...-56, ...-67 and ...-78 can be performed problem-free.

The climatic test cabinet VC³ 0... can also be used as a temperature test cabinet.

With this series, we ensure yet again the best possible degree of efficiency which in other words means extremely low energy consumption.

The well-equipped systems and striking features together with the possibility of further extensions, mean that the climatic test cabinets have a wide range of application.

The use of environmental friendly materials and production methods, e.g. solvent-free powder coating as well as recycling of old systems underlines our sense of responsibility towards the environment.

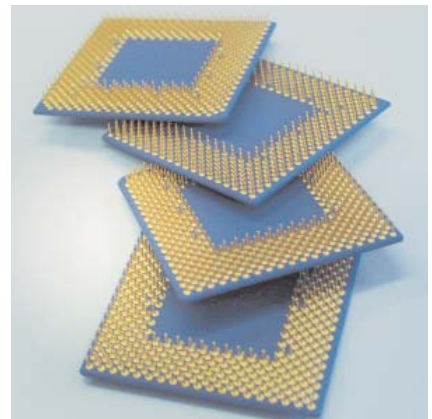
The high gloss polished, vapour-tight stainless steel container is fully adapted to its function. It is both corrosion resistant and easy-to-clean.

Even full in action, you can hardly hear the working test chamber.

The performance of the climatic test chamber is additionally confirmed with a factory calibration certificate.

Special features

- Extremely low noise level
- 1-phase electrical connection
- Low energy consumption
- Safety to test specimens thanks to independent temperature measurement
- Easy to clean stainless steel test space
- Wide humidity range - extreme climate
- Calibrated test system



... with the climatic test chambers VC³ 0...



Qualification Documentation

For the VC³ 0... series and the software S!MPATI*, we provide FDA conform qualification documentation.



Technical Data for the series VC³ 0...

Type		VC ³ 0018	VC ³ 0034	VC ³ 0060	VC ³ 0100	VC ³ 0150
Test space volume approx.	litres	190	335	600	990	1540
Performance for temperature tests						
Temperature range	°C	-10/+90	-10/+90	-5/+90	0/+90	0/+90
Temperature deviation in time ¹⁾	K	±0.1 to ±0.5				
Temperature homogeneity in space, relative to the set value	K	±0.5 to ±1.0				
Temperature rate	Heating K/min	1.0	1.0	0.6	0.5	0.4
of change ²⁾	Cooling K/min	0.3	0.3	0.3	0.2	0.2
Heat compensation at +20 °C	W	200 (to +50 °C)				
Temperature calibration values	°C	+4 and +90				
Performance for climatic tests						
Temperature range	°C	+10 to +90				
Temperature deviation in time ¹⁾	K	±0.1 to ±0.3				
Temperature homogeneity in space, relative to the set value ⁴⁾	K	±0.5 to ±1.0				
Humidity range	%	10 to 98				
Humidity deviation in time ¹⁾	%	±1.0 to ±3.0				
Climatic calibration values acc. to ICH		+25 °C / 60 % RH and +40 °C / 75 % RH				
Test space dimensions	Width mm	580	580	800	1100	1100
	Depth mm	450	765	800	950	1475
	Height mm	750	750	950	950	950
External dimensions (can be reduced by dis-mounting of components)	Width mm	870	870	1100	1400	1400
	Depth mm	1550	1860	1960	2155	2680
	Height mm	1800	1800	1995	1995	1995
Sound pressure level approx. ³⁾	dB(A)	46	46	46	46	46
Rated power	kW	2.3	2.3	2.3	2.3	2.3
Electrical connection		1/N/PE AC 230 V ± 10 %, 50 Hz				

Performance values refer to +25 °C ambient temperature.

¹⁾ measured in the middle of test space. ²⁾ in accordance with IEC 60068-3-5. ³⁾ measured in 1 m distance from the front and in 1.6 m height at free field measurement according to EN ISO 11201.

⁴⁾ with humidity values > 20 % RH

We reserve the right of changes in construction resulting from technical progress. Some of the illustrated systems contain optional extras.



Operation, configuration and options ...

Computer Integrated Control

Our test chambers are equipped with an integrated control system **SIMPAC*** with a 3.5" colour touchpanel in the front to facilitate operation, monitoring and documentation.

Control is also governed by the 32 Bit I/O system.

A web server allocates test and diagnosis information.

Online service

The units have got an online service function.

Remote control and monitoring

Units can be reached and controlled from practically anywhere in the world by simply accessing the unit webserver in the intranet via the network or enabling in the internet.

Standard equipment ...

- Highly efficient 32 Bit control and monitoring system **SIMPAC***
- 3.5" colour touchpanel
- Adjustable software temperature limiter min./max.
- Independent, adjustable temperature limiter t_{min} / t_{max}
- Humidity input and display in % RH
- USB and ethernet interface
- Potential-free contact for switching-off of test specimen
- Air-cooled refrigeration unit
- Psychrometric humidity measuring system
- Water reservoir with warning signal
- Preparation for automatic water replenishment
- Calibration of 2 temperature and 2 humidity values
- Entry ports NW 50 mm (left) and 125 mm (right)
- 1 stainless steel shelf
- Cleaning device for humidifier bath

Options ...

- Software **SIMPATI***
- Analogue transducer card I/O
- Capacitive humidity measurement system
- Independent sensor for temperature and humidity measuring
- Interface IEEE 488
- Interface RS 232
- Networking (RS 485 interface)
- Entry ports and notchs
- Door with window
- Door with window and 2 handholes with gloves
- Demineralisation unit
- Mobile design
- Special voltage
- Qualification documentation

Special designs ...

We plan and manufacture tailor-made solutions to meet all requirements.



Colour touchpanel



Special rooms for long-term tests in the chemical industry



Special rooms for performing stability tests on drugs as per ICH guidelines

Vötsch

Industrietechnik

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Environmental Simulation

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