

Equipment
for Laboratories ...

Vötsch
Industrietechnik



VTL & VCL
for Temperature and Climatic Tests

Temperature and Climatic Test Chambers ...



Compact, quiet, yet powerful units are required to tackle special laboratory conditions that include limited space, even smaller specimens and the need to conduct tests directly at the workplace.

Temperature and climatic testing aims to prove the resistance capability of test specimens to the environmental influences of temperature and temperature, combined with humidity (climatic testing).

As tests concentrate on the durability of materials and substances under extreme conditions, as well as malfunctions of component. The VTL & VCL series of temperature and climatic test chambers are ideally suited to such applications. Reductions in the effectiveness of substances can be detected at an early stage and thus already eliminated in the development phase.

These systems have a volume of 34 l, 64 l and 100 l respectively and provide an optimum solution where space is limited. Please refer to the "Technical Data" table for the most important technical details.

Main Features

- Visually attractive with large windows
- Compact, with optimised test chamber volumes
- Powerful and quiet, suitable for a broad range of applications involving temperature and relative humidity
- Easy handling and a variety of options
- Equipped with the powerful MINCON/32, a 32 bit control and communication system
- Values and conditions are input and indicated on the "MINCONTROL" control terminal equipped with a LCD display.



... Especially Developed for Laboratories



Type	VTL Temperature VCL Climatic	--- VCL 0003	VTL VCL 4003	VTL VCL 7003	--- VCL 0006	VTL VCL 4006	VTL VCL 7006	--- VCL 0010	VTL VCL 4010	VTL VCL 7010	
Test space volume	ca. l	34	34	34	64	64	64	100	100	100	
Performance for temperature tests											
Temperature range	°C	+10 to +180	-40 to +180	-70 to +180	+10 to +180	-40 to +180	-70 to +180	+10 to +180	-40 to +180	-70 to +180	
Temperature deviation in time	K	±0.3 to ±1									
Temperature deviation in space	K	±1.0 to ±2.5									
Temperature gradient ¹⁾	K	2 to 4									
Temperature rate of change ¹⁾											
Heating	K/min	1.5	2.0	2.5	1.5	2.0	2.5	1.5	2.5	2.5	
Cooling	K/min	3.5	4.0	3.0	3.5	4.0	3.0	3.0	3.5	3.0	
Heat compensation max.	W	--	800	550	--	800	550	--	1100	700	
Calibrated values		+23 °C and +80 °C									
Performance for climatic tests - only VCL											
Temperature range	°C	+10 to +95									
Humidity range	%	10 to 98									
Humidity deviation in time	%	±3 to ±5									
Temperature deviation in time	K	±0.1 to ±0.5									
Temperature deviation in space	K	±0.5 to ±1.5									
Temperature gradient ¹⁾	K	1 to 3									
Calibrated values		+23 °C / 50 % RH and +95 °C / 50 % RH									
Test space dimensions	Width	mm	350	350	350	470	470	470	490	490	490
	Depth	mm	300	300	300	345	345	345	380	380	380
	Height	mm	310	310	310	400	400	400	540	540	540
External dimensions	Width	mm	630	630	630*	700	700	700	750	750	750
	Depth VTL	mm	--	790	790	--	800	800	--	960	960
	Depth VCL	mm	960 ²⁾	960 ²⁾	790	970 ³⁾	970 ³⁾	800	1100 ⁴⁾	1100 ⁴⁾	1100 ⁴⁾
	Height	mm	980	980	1740	1070	1070	1840	1210	1210	1210
With optional base frame	Height	mm	1740	1740	Standard	1840	1840	Standard	1940	1940	1940
With optional base frame	Depth	mm	790	790	Standard	800	800	Standard	960	960	960
Sound pressure level ⁵⁾	dB(A)	56	56	59	56	56	59	56	56	59	
Weight	kg	110	110	130	120	120	140	170	190	210	
Rated power	kW	1.8	1.8	2.5	1.8	1.8	2.5	2.7	3.0	3.5	
Electrical connection		1/N/PE AC 230 V ±10 %, 50 Hz, 16 A									

The performance values refer to +25 °C ambient temperature - ¹⁾ in accordance with IEC 60068-3-5

²⁾ with optional base frame the depth will be reduced to 790 mm, ³⁾ with optional base frame the depth will be reduced to 800 mm,

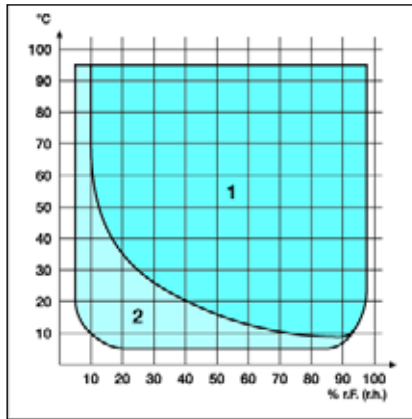
⁴⁾ with optional base frame the depth will be reduced to 960 mm,

⁵⁾ 1 m distance from the front at free field measurement according to DIN 45635, part 1, accuracy class 2.

Standard equipment and options ...



MINCONTROL terminal and independent adjustable temperature limiter



Humidity diagram
1 Standard
2 Extended humidity range with external dryer

Standard equipment

- 32-bit MINCON with MINCONTROL terminal
- Potential-free contact for switching-off of test specimens
- Independent adjustable temperature limiter t_{min}/t_{max}
- Psychrometric humidity measuring sensor (only VCL)
- Interface RS 232
- Large observation window
- Test space illumination
- 1 Entry port 50 mm Ø
- 1 Shelf
- Air-cooled refrigeration unit
- Steam-humidification (only VCL)
- Calibration of 2 temperature and 2 humidity values (only VCL) with Certificate

Options

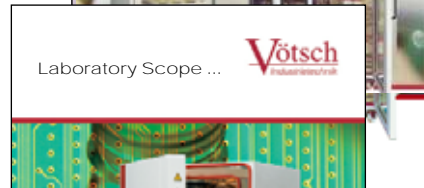
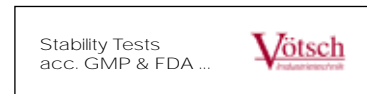
- Color Touch panel
- Software **SIMPATI***
- Temperature measuring on test specimen
- Capacitive humidity sensor
- Interface IEEE 488
- Networking (RS 485 interface)
- Ethernet Interface
- Centronics Interface
- Compressed air dryer
- Additional entry ports
- Additional shelves
- Base frame with wheel
- Automatic water supply
- Demineralization unit (only VCL)
- Special voltage

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

Special designs ...

We design and manufacture tailor-made solutions to meet even the most demanding all requirements.

Other brochures for laboratory applications ...



... VT & VTM
 Temperature Test Chambers



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Environmental Simulation

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