



Cooled vacuum oven

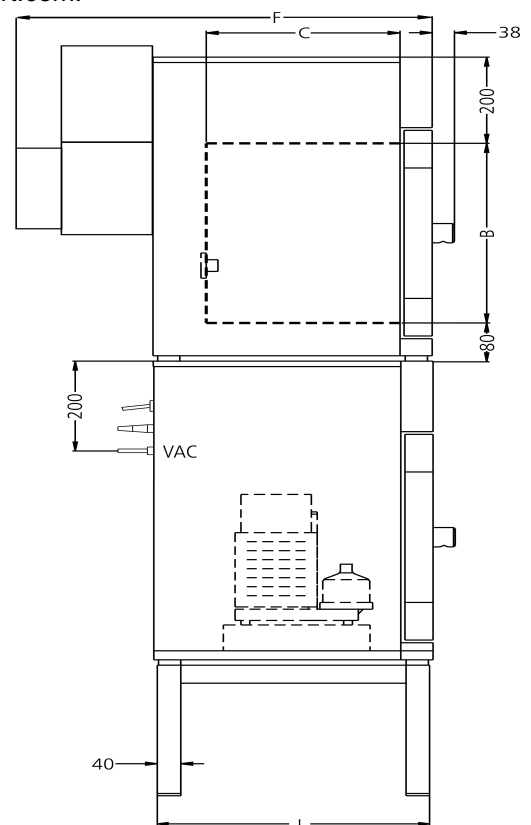
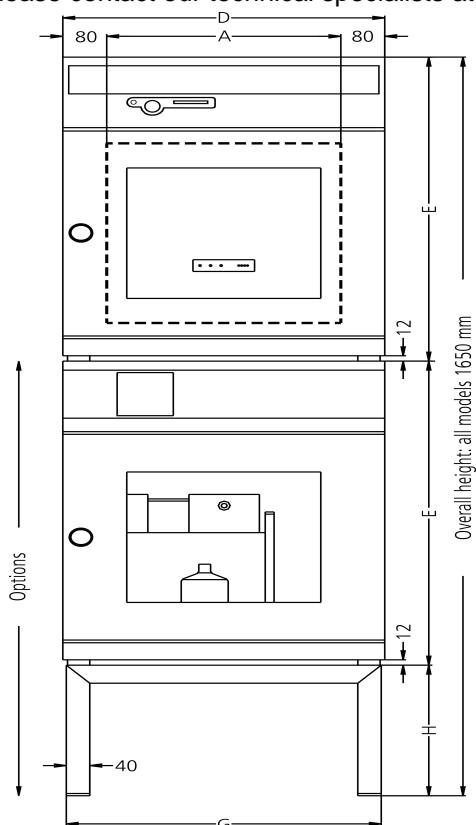
VO400cool

For gentle drying of bacteria and starter cultures or simulation of intercontinental flights.



The direct contact between the load and the heatable thermoshelves in the chamber of the vacuum oven ensures rapid and uniform temperature control of food, cosmetics, watches, books, PCBs or injection moulds, without the loss of heat.

On this page, you can find all the essential technical data on our vacuum drying oven. Our customer relations team will be pleased to help if you want further information. If you should require a customised special solution, please contact our technical specialists at myAtmoSAFE@memmert.com.



Temperature

Temperature range	from +5°C up to +90°C
resolution of display for actual values	0.1°C
resolution of display for setpoint values	0,1°C
resolution of display/setting accuracy	0.5°C

Control of standard components

Temperature	temperature measured through 4-wire Pt100 sensor
Vacuum	digital electronic pressure control through solenoid valves
Vacuum	setting accuracy 1 mbar
Vacuum	adjustment range from 5 mbar to 1100 mbar - digital (LED)
Vacuum	rapid air intake for door opening (door is blocked under vacuum) - programme reactivation at stored values
Vacuum	vacuum drying process (vacuum cycles) is continued after power failure
Vacuum	one programmable, digitally controlled inlet for air
Controller	digital display of all set parameters, such as temperature, weekdays, time, pressure, programme status and set-up values
Controller	LED-symbol for thermoshelf in operation
Controller	digital display of actual temperature
Timer	integrated timer for tempering and pressure (vacum) profiles of up to 40 ramps, parameters time, pressure and temperature (setpoint dependent) individually adjustable for each segment from 1 min. up to 99 hrs

Control technology

Calibration	three freely selectable temperature and pressure values
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Communication

Interface	USB-interface incl. Memmert software "Celsius" for programming and documentation of temperature and pressure
Documentation	integrated ring memory as data logger for GLP-conforming long-term documentation of all relevant parameters - 1024 kB
Documentation	programme stored in case of power failure
Programming	chip-card control incl. 1 MEMoryCard XL with 32 kB storage capacity (max. 40 ramps)
Programming	multifunctional programming via menu on 8-digit alphanumeric digital display (language to be chosen via set-up)

Safety

Temperature control	automatic overtemperature protection following the setpoint-value and switching the heating off at about 3°C above setpoint value in case of failure
Temperature control	additional digitally adjustable, electronic micro-processor overtemperature monitor TWW, protection class 3.3 - (max-value for overtemperature, min-value for undertemperature)
Temperature control	mechanical temperature limiter TB, protection class 1 according to DIN 12880 to switch off the heating approx. 20°C above nominal temperature
AutoSAFETY	additionally integrated over- and undertemperature protection "ASF", automatically following the setpoint value at a preset tolerance range, alarm in case of over- or undertemperature, heating is switched off in case of overtemperature
Autodiagnostic system	for fault analysis

Heating concept

VO direct heating	fuzzy-supported MLC (Multi-Level-Controlling) microprocessor controller adapting its performance to the volume (local temperature sensing)
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Standard equipment

Works calibration certificate	for +50°C/20 mbar
Interior	additional interior mountings of stainless steel, material 1.4404. consisting of mounting at the sides with guide bars for thermoshelves and on top (diffusor) to avoid turbulences when aerating
Interior	all tubings made of stainless steel, material no. 1.4571
Internals	1 thermoshelf of aluminum, material 3.3547 (ASTM B209) with integrated large-area heating and cooling, in lowest position (cannot be removed)

Stainless steel interior

Material	hermetically welded stainless steel interior of extremely corrosion-resistant stainless steel, material 1.4404
Volume	49 l
Dimensions	$w_{(A)} \times h_{(B)} \times d_{(C)}$: 385 x 385 x 330 mm
Max. number of internals	
Max. loading of chamber	20 kg
Max. loading per internal	0 kg

Textured stainless steel casing

Door	full-sight glass door, inside spring-loaded, 15 mm thick glazed panel in safety glass, outside with anti-splitter screen
Dimensions	$w_{(D)} \times h_{(E)} \times d_{(F)}$: 550 x 680 x 730 mm
Housing	rear zinc-plated steel

Electrical data

Voltage	230 V, 50/60 Hz
Electrical load	approx. 500 W

Ambient conditions

Ambient temperature	+5 °C to +40 °C
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Set Up	The distance between the wall and the rear of the chamber must be at least 15 cm. The clearance from the ceiling must not be less than 20 cm and the side clearance from the wall must not be less than 8 cm.
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Humidity rh	max. 80 %, non-condensing
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Overvoltage category	II
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Pollution degree	2
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Packing/shipping data

Transport information	The appliances must be transported upright
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Customs tariff number	8419 8998
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Country of origin	Federal Republic of Germany
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WEEE-Reg.-No.	DE 66812464
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Dimensions approx incl. carton	w x h x d: 830 x 1050 x 800 mm
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Net weight	approx. 89 kg
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Gross weight carton	approx. 112 kg
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Standard units are safety-approved and bear the test marks

