

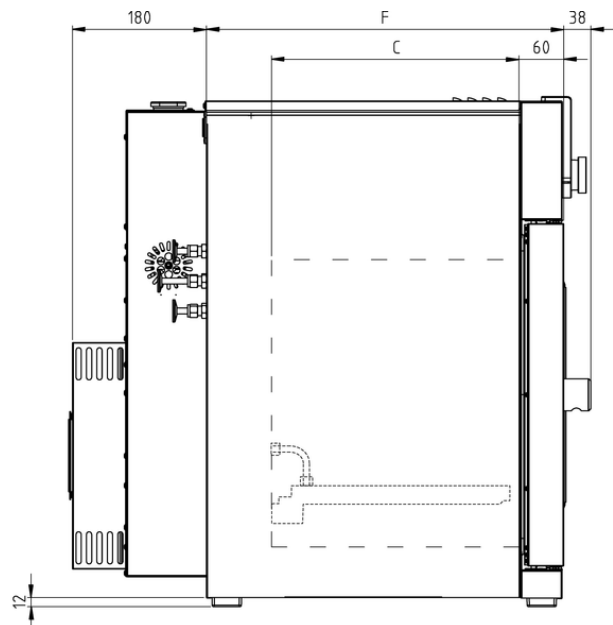
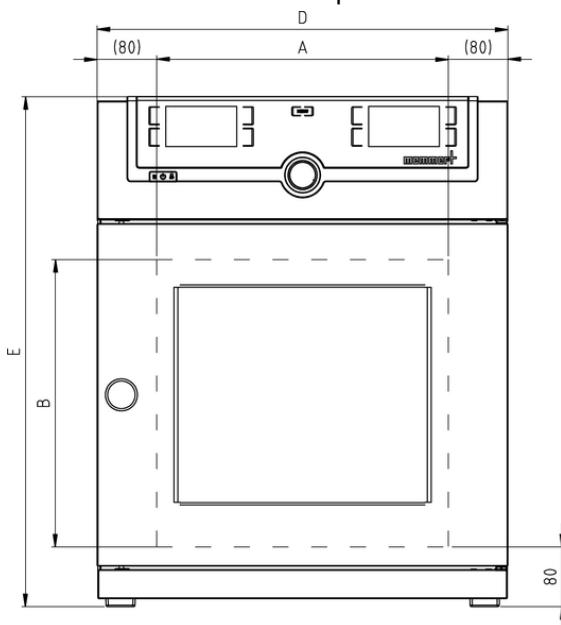
## Cooled vacuum oven VO29cool

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 molds, 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 customized special solution, please contact our technical specialists.



## Temperature

<b>Working temperature range</b>	from 5°C (at least 20 below ambient temperature) to +90°C
<b>Setting temperature range</b>	from +5°C up to +90°C
<b>resolution of display for actual values</b>	0.1°C
<b>resolution of display for setpoint values</b>	0,1°C

## Pressure (Vacuum)

<b>Vacuum range</b>	5 to 1100 mbar
<b>Pressure control</b>	Digital electronic pressure control for a speed-controlled vacuum pump. Tubing for vacuum, air and inert gas are made of material 1.4571 (ASTM 316 Ti). Programmable, digitally controlled inlet for air.
<b>Permitted final vacuum</b>	0.01 mbar
<b>Maximum leakage rate</b>	0.01 bar/h
<b>Pump control</b>	speed control, optimized rinsing procedures for the pump membranes as well as signal output for pump ON/OFF
<b>Connection</b>	Vacuum connection with small flange DN16, and gas inlet with small flange DN16

## Control technology

<b>adjustable parameters</b>	temperature (Celsius or Fahrenheit), pressure (vacuum), timer
<b>Language setting</b>	German, English, Spanish, French, Polish, Czech, Hungarian, Italian
<b>ControlCOCKPIT</b>	TwinDISPLAY. Adaptive multifunctional digital PID-microprocessor controller with 2 high-definition TFT-color displays.
<b>Timer</b>	Digital backwards counter with target time setting, adjustable from 1 minute to 99 days
<b>Function SetpointWAIT</b>	the process time does not start until the set temperature is reached

## Communication

<b>Interface</b>	Ethernet LAN, USB
<b>Documentation</b>	program stored in case of power failure
<b>Programming</b>	AtmoCONTROL software on a USB stick for programming, managing and transferring programs via Ethernet interface or USB port

## Safety

<b>Temperature control</b>	mechanical temperature limiter TB, protection class 1 according to DIN 12880 to switch off the heating approx. 10°C above nominal temperature
<b>AutoSAFETY</b>	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, compressor in case of undertemperature
<b>Autodiagnostic system</b>	integral fault diagnostics for temperature control
<b>Alarm</b>	visual and acoustic

## Heating concept

<b>Thermoshelves</b>	1 connection for thermoshelf in the rear
<b>VO cooling</b>	Peltier cooling unit ensures a surface temperature distribution with a maximum deviation of $\pm 1$ C across the entire temperature range
<b>VO direct heating</b>	fuzzy-supported MLC (Multi-Level-Controlling) microprocessor controller adapting its performance to the volume (local temperature sensing)

## Standard equipment

<b>Works calibration certificate</b>	for $+10^{\circ}\text{C}/20$ mbar
<b>Interior</b>	additional interior mountings of stainless steel, material 1.4404.
<b>Interior</b>	all tubings made of stainless steel, material no. 1.4571
<b>Internals</b>	Cooling- and heating-combination of aluminum, material 3.3547 (ASTM B209), with integrated cooling circuit as well as large-area heating including local temperature sensing (Pt100, 4-wire-circuit); individual overtemperature protection. Further data see stainless steel interior.

## Stainless steel interior

<b>Material</b>	hermetically welded stainless steel interior of extremely corrosion-resistant stainless steel, material 1.4404
<b>Volume (approx.)</b>	29 l / 1.02 cu. Ft.
<b>Dimensions (approx.)</b>	$w_{(A)} \times h_{(B)} \times d_{(C)}$ : 15.2" x 12" x 9.8"
<b>Max. loading of chamber</b>	44 lbs

## Textured stainless steel casing

<b>Dimensions (approx.)</b>	$w_{(D)} \times h_{(E)} \times d_{(F)}$ : 21.7" x 23.9" x 15. (d + 1.5" door handle)
<b>Door</b>	full-sight glass door, inside spring-loaded, 15 mm thick glazed panel in safety glass, outside with anti-splitter screen
<b>Housing</b>	rear zinc-plated steel

## Electrical data

<b>Voltage</b>	230 V ( $\pm 10\%$ ), 50/60 Hz
<b>Electrical load</b>	approx. 1.7 A @ 230 V

## Ambient conditions

<b>Ambient temperature</b>	$+5^{\circ}\text{C}$ to $+40^{\circ}\text{C}$
<b>Set Up</b>	The distance between the wall and the rear of the chamber must be at least 6". The clearance from the ceiling must not be less than 8" and the side clearance from the wall must not be less than 3".
<b>Humidity rh</b>	max. 80 %, non-condensing
<b>Overvoltage category</b>	II
<b>Pollution degree</b>	2

### Packing/shipping data

<b>Transport information</b>	The appliances must be transported upright
<b>Customs tariff number</b>	8419 8998
<b>Country of origin</b>	Federal Republic of Germany
<b>WEEE-Reg.-No.</b>	DE 66812464
<b>Dimensions approx incl. carton</b>	w x h x d: 33" x 42" x 32"
<b>Net weight</b>	approx. 150 lbs
<b>Gross weight carton</b>	approx. 200 lbs

**Standard units are safety-approved and bear the test marks**

