

## Vacuum oven

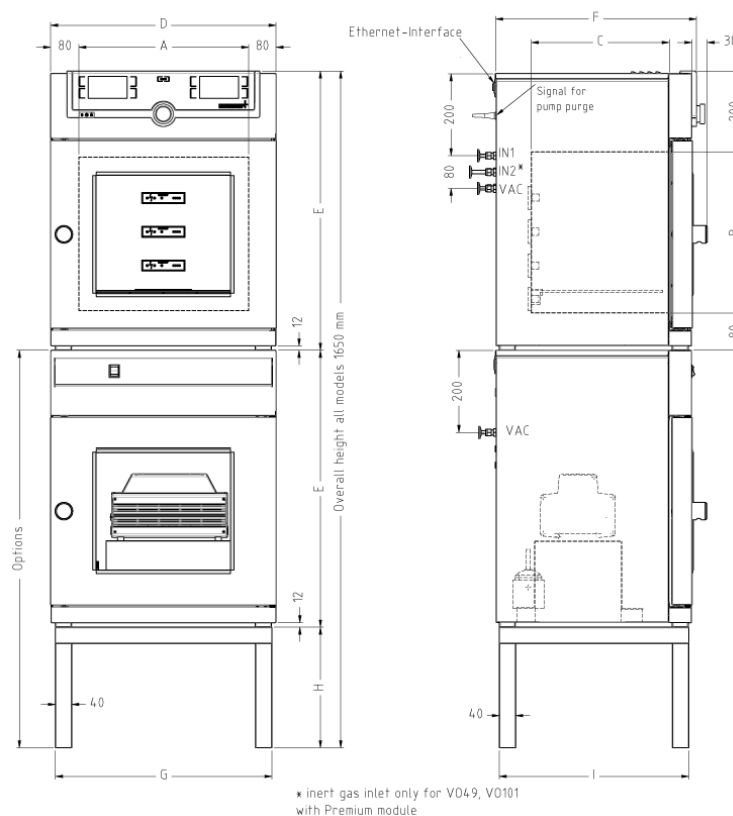
### VO29

Digital pressure control ensures rapid and gentle vacuum drying, its speed-controlled vacuum pump (accessory) saves around 70% energy.



The direct contact between the load and the heatable and removable thermoshelves in the chamber of the Memmert vacuum oven VO 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 [sales@memmert.com](mailto:sales@memmert.com).



## Temperature

<b>Setting accuracy temperature</b>	up to 99.9 °C: 0.1 / from 100 °C: 0.5
<b>Setting temperature range</b>	+20 to +200 °C
<b>Temperature sensor</b>	temperature measured through 4-wire Pt100 sensor individually for each thermoshelf
<b>Working temperature range</b>	min. 5°C above ambient up to +200°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, optimised 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 fresh air supply

## Control technology

<b>adjustable parameters</b>	temperature (Celsius or Fahrenheit), pressure (vacuum), programme time, time zones, summertime/wintertime
<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-colour 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>	programme stored in case of power failure
<b>Programming</b>	AtmoCONTROL software on a USB stick for programming, managing and transferring programmes 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>VO direct heating</b>	fuzzy-supported MLC (Multi-Level-Controlling) microprocessor controller adapting its performance to the volume (local temperature sensing) for each thermoshelf
<b>Thermoshelves</b>	1 connection for thermoshelves in the rear

## Standard equipment

<b>Works calibration certificate</b>	for +160°C at 20 mbar pressure for each supplied thermoshelf together with the vacuum oven
<b>Internals</b>	1 thermoshelf of aluminum, material 3.3547 (ASTM B209) with integrated large-area heating

## Stainless steel interior

<b>Material</b>	hermetically welded stainless steel interior of extremely corrosion-resistant stainless steel, material 1.4404
<b>Interior</b>	additional interior mountings of stainless steel, material 1.4404 (removable for cleaning), consisting of mounting at the sides with guide bars for thermoshelves and on top (diffusor) to avoid turbulences when aerating
<b>Volume</b>	29 l
<b>Dimensions</b>	$w_{(A)} \times h_{(B)} \times d_{(C)}$ : 385 x 305 x 250 mm
<b>Max. number of internals</b>	2
<b>Max. loading of chamber</b>	40 kg
<b>Max. loading per internal</b>	20 kg

## Textured stainless steel casing

<b>Dimensions</b>	$w_{(D)} \times h_{(E)} \times d_{(F)}$ : 550 x 607 x 400 mm (d +38mm 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>	Electrical load (maximally equipped) at 230 V, 50/60 Hz
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## Ambient conditions

<b>Ambient temperature</b>	+5 °C to +40 °C
<b>Set Up</b>	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.
<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: 660 x 870 x 590 mm
<b>Net weight</b>	approx. 55 kg
<b>Gross weight carton</b>	approx. 76 kg

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

