



Consistent performance, at a high degree

Thermo Scientific Vacuum Ovens

thermo scientific

Gentle drying for delicate samples

Reliably and gently dry samples and fine materials at low temperatures with Thermo Scientific™ Vacuum Ovens. These ovens are well suited for a variety of heating applications in a reduced atmosphere, and where drying requires a lower temperature than standard drying ovens.

Under a vacuum, humidity evaporates below the usual boiling point of the liquid that needs to be removed. Applications that may benefit from this approach include:

- Moisture removal from food such as dairy products
- Moisture removal from sensitive products such as electronics
- Complex vacuum drying processes, with specific goals such as:
 - Prevention of oxidation
 - Removal of moisture residue by addressing capillary effects
- Defined heating protocols with temperature ramping under vacuum
- Storage of oxygen sensitive material in the presence of inert gas, e.g. nitrogen
- Tempering
- Solvent, epoxy and essential oil removal

Heat Transfer under vacuum

Heat transfer to samples in a vacuum is mainly reached via the shelving. Unlike in regular heating and drying ovens, there is no heat transfer via convection. A good contact of the samples with the shelving is therefore crucial for the heating and

drying effectiveness. If samples are in containers, it's important that the containers have a good temperature conductivity.

How to measure temperature in a vacuum oven

To measure the chamber temperature, the probe needs to have full contact with the shelf. For best results it is recommended to connect the probe with a piece of metal with high temperature conductivity.

Tips for inert gas applications

The use of inert gas atmosphere might be required to avoid oxidation processes, related to presence of oxygen. If the application requires replacing the vacuum with an inert gas, use only a non-combustible, nonflammable, non-corrosive gas –

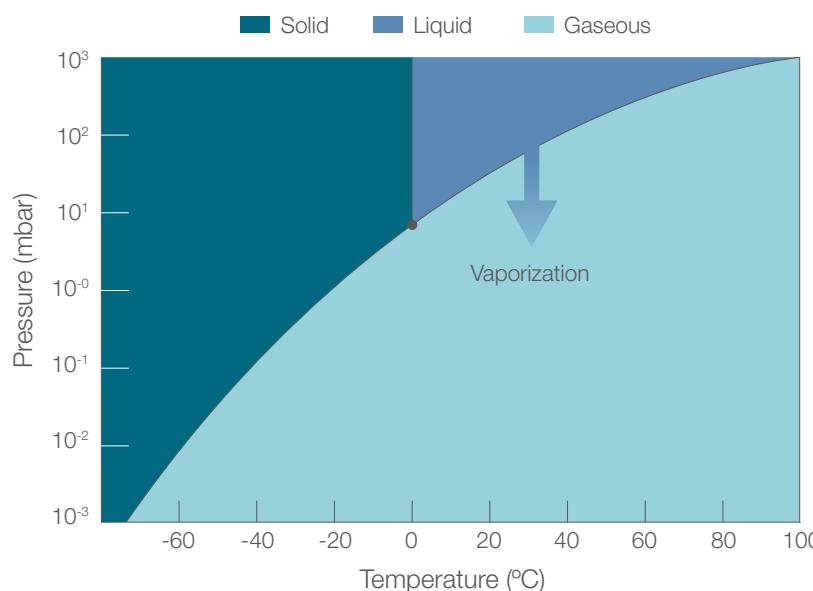
such as nitrogen or argon. Purging the chamber several times will help reduce the oxygen content to a minimum.

Note that vacuum ovens chambers are not made for positive pressure. The gas inflow therefore should be controlled, and conducted with low pressure.

Electrical plug configurations

High temperature in an oven requires significant power, often requiring a non-standard electrical connection.

Many of our ovens offer a choice of electrical configurations. Choose the model that best fits your needs and local circuit requirements.



The graph to the left illustrates that water will evaporate at a much lower temperature than 100°C, with lower pressure.

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Vacutherm Vacuum Ovens

Vacutherm Vacuum Ovens provide precise and fast heating and heat transfer up to 400°C, which helps minimize operation time. These vacuum ovens are designed to be compliant with the highest temperature requirements for heating applications under a vacuum. Starting with high quality models, application specific configurations can be implemented with a wide selection of equipment options.

Key features:

- 3 convenient chamber sizes from 25L to 128L
- Choice of jacket heated and shelf heated models:
 - Jacket-heated, Model M – all 3 sizes: temperature range: ambient +15°C to 200°C
 - Shelf heated, Model P – only 2 larger sizes: Temperature range: ambient +10°C to 300°C / 400°C. The shelves incorporate heating coils supplying direct heat transfer to the load
- Convenient control with digital display for single-setpoint, see options on page 6
- Upper limit cut-out for oven and sample protection
- Rapid ventilation valve for quick ventilation of the chamber
- Additional precision valve for gentle ventilation
- Inert gas connection for controlled atmosphere. A safety valve prevents overpressure inside the vacuum chamber
- DN 25 access port in the rear wall

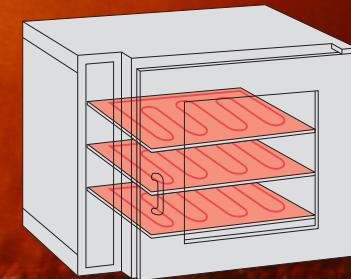
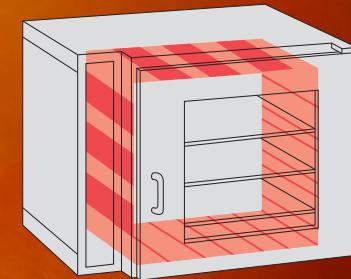


Models VT6060 and VT6130

- Adjustable independent over-temperature controls Access port available for external temperature sensor and remote monitoring
- Stainless steel vacuum fittings, tubing and ball valve
- A double-pane door made of safety glass helps to ensure implosion protection and is designed to add additional safety for the user
- Certified safety (GS-mark)
- Made out of high quality stainless steel (1.4404/316L) for corrosion resistance and rounded corners help with ease-of-cleaning
- Our Custom Projects department can customize Vacutherm vacuum ovens and offer specific modifications. We have some special models available, which comply with European regulations for use with flammable solvents. Please contact your Thermo Scientific Sales representative.

Model M, Jacket Heating

- Rated temperature of 200°C The large direct contact heating elements are reinforced at the front to help ensure a homogeneous temperature across on the shelf.



Model P, Shelf Heating

- Rated temperature of 300/400°C
- Rapid heat-up times
- Direct heat transfer helps ensure short process times
- Each shelf is temperature controlled with over-temperature protection

Specifications for Vacutherm Vacuum Ovens

| Cat. No. | Model | Temperature range | Spatial temperature deviation ^{2, 3} | Heat output (at maximum temperature) | Internal dimensions W x H x D | External dimensions ¹ W x H x D | Number of shelves | Electrical | Plug type | Shipping weight |
|-------------------------------------------------------------------------------------------------|-----------|---------------------------------------------|-----------------------------------------------|--------------------------------------|-----------------------------------------------|-----------------------------------------------|-------------------|------------------------|-----------|--------------------|
| Jacket-heating models 25L, (0.88 cu.ft.) | | | | | | | | | | |
| Models with no inert gas connection / access port | | | | | | | | | | |
| 51014550 | VT 6025 | Ambient +15°C to 200°C | ±4 (@200°C) | 340 Wh/h | 300 x 275 x 307mm (11.8 x 10.8 x 12.1in.) | 480 x 600 x 450 mm (18.9 x 23.6 x 17.7in.) | 2 | 230V 50/60Hz, 1.3kW | CEE 7/7 | 58kg (128 lb.) |
| 51014551 | VT 6025 | Ambient +15°C to 200°C | ±4 (@200°C) | 340 Wh/h | 300 x 275 x 307mm (11.8 x 10.8 x 12.1in.) | 480 x 600 x 450 mm (18.9 x 23.6 x 17.7in.) | 2 | 120V 60Hz, 1.3kW | Nema 5-15 | 58kg (128 lb.) |
| Model with inert gas connection and access port | | | | | | | | | | |
| 51014552 | VT 6025 | Ambient +15°C to 200°C | ±4 (@200°C) | 340 Wh/h | 300 x 275 x 307mm (11.8 x 10.8 x 12.1in.) | 480 x 600 x 450 mm (18.9 x 23.6 x 17.7in.) | 2 | 230V 50/60Hz, 1.3kW | CEE 7/7 | 58kg (128 lb.) |
| Model with inert gas connection, access port, and digital pressure display with recorder output | | | | | | | | | | |
| 51014553 | VT 6025 | Ambient +15°C to 200°C | ±4 (@200°C) | 340 Wh/h | 300 x 275 x 307 mm (11.8 x 10.8 x 12.1in.) | 480 x 600 x 450 mm (18.9 x 23.6 x 17.7in.) | 2 | 230V 50/60Hz, 1.3kW | CEE 7/7 | 58kg (128 lb.) |
| Jacket-heating models 53L, (1.87 cu.ft.) | | | | | | | | | | |
| 51014539 | VT 6060 M | Ambient +15°C to 200°C | ±4 (@200°C) | 540Wh/h | 415 x 345 x 371 mm (16.3 x 13.6 x 14.6in.) | 744 x 576 x 570 mm (29.3 x 22.7 x 22.4in.) | 2 | 230V 50/60Hz, 1.7kW | CEE 7/7 | 82kg (181 lb.) |
| 51014540 | VT 6060 M | Ambient +15°C to 200°C | ±4 (@200°C) | 550Wh/h | 415 x 345 x 371 mm (16.3 x 13.6 x 14.6in.) | 744 x 576 x 570 mm (29.3 x 22.7 x 22.4in.) | 2 | 120V 60Hz, 1.4kW | Nema 5-15 | 82kg (181 lb.) |
| Shelf-heating models 53L, (1.87 cu.ft.) | | | | | | | | | | |
| 51014542 | VT 6060 P | Ambient +10°C to 300° (on option: 400°C) | ±3 (@200°C) ±7 (@300°C) ±9 (@400°C) | 450 Wh/h | 415 x 345 x 371 mm (16.3 x 13.6 x 14.6in.) | 744 x 576 x 570 mm (29.3 x 22.7 x 22.4in.) | 2 | 230V 50/60Hz, 1.6kW | CEE 7/7 | 90kg (198 lb.) |
| 51023263 | VT 6060 P | Ambient +10°C to 300° (on option: 400°C) | ±3 (@200°C) ±7 (@300°C) ±9 (@400°C) | 450 Wh/h | 415 x 345 x 371 mm (16.3 x 13.6 x 14.6in.) | 744 x 576 x 570 mm (29.3 x 22.7 x 22.4in.) | 2 | 120V 60Hz, 1.4kW | Nema 5-15 | 90kg (198 lb.) |
| Jacket-heating models 128L, (4.52 cu.ft.) | | | | | | | | | | |
| 51014541 | VT 6130 M | Ambient +15°C to 200°C | ±7 (@200°C) | 870 Wh/h | 495 x 489 x 529 (19.5 x 19.3 x 20.8in.) | 895 x 720 x 750 mm (35.2 x 28.3 x 29.5in.) | 3 | 230V 50/60Hz, 2.2kW | CEE 7/7 | 153kg (337 lb.) |
| 51023262 | VT 6130 M | Ambient +15°C to 200°C | ±7 (@200°C) | 870 Wh/h | 495 x 489 x 529 (19.5 x 19.3 x 20.8in.) | 895 x 720 x 750 mm (35.2 x 28.3 x 29.5in.) | 3 | 208V 60Hz, 1.8kW | Nema 6-15 | 150kg (331 lb.) |
| Shelf-heating models 128L, (4.52 cu.ft.) | | | | | | | | | | |
| 51014543 | VT 6130 P | Ambient +10°C to 300° (on option: 400°C) | ±4 (@200°C) ±7 (@300°C) ±9 (@400°C) | 880 Wh/h | 495 x 489 x 529 mm (19.5 x 19.3 x 20.8in.) | 895 x 720 x 750 mm (35.2 x 28.3 x 29.5in.) | 3 | 230V 50/60Hz, 3.0kW | CEE 7/7 | 164kg (362 lb.) |
| 51023264 | VT 6130 P | Ambient +10°C to 300° (on option: 400°C) | ±4 (@200°C) ±7 (@300°C) ±9 (@400°C) | 880 Wh/h | 495 x 489 x 529 mm (19.5 x 19.3 x 20.8in.) | 895 x 720 x 750 mm (35.2 x 28.3 x 29.5in.) | 3 | 208V 60Hz, 2.5kW | Nema 6-15 | 164kg (362 lb.) |

¹ Depth without handle and wall distance. Dimensions: handle 70 mm, wall distance 80 mm

² The values stated apply to the empty oven and vacuum operation in acc. with DIN 12880, part 2

³ Measured on the shelves

Pump connection: DN 25 – 25.4 mm / 1.0 in

Inert gas connection: inner diameter 4 mm / 0.16 in

Vacuum operation to 20 mbar can be obtained using a single stage mechanical pump with a free air capacity of at least 35 liters per minute.

Ordering Alerts: Please choose correct electrical model for your country

Certifications: CE, GS (230V, 50 / 60 Hz models) and cCSAus (120V and 208V, 60Hz models)

Warranty: 2 years (parts and labor)

Build your own Vacutherm Vacuum Oven to suit your needs

Available regulation and control modules for Vacutherm 6000 ovens

Control options

Standard control jacket-heated models:

- Single setpoint Jumo control
- Large display of set and actual temperature



Optional control jacket-heated models: (please add separate order code to base model)

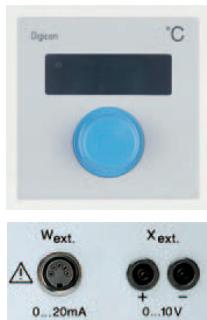
- Programmable Jumo control, allows to save 1 program with up to 24 temperature steps (soaking or ramping)
- Data interface RS485 for temperature logging included

Standard control shelf-heated models:

- Single setpoint Digicon™ S control
- Digital display of set or actual temperature
- External setting of preset value 0...20 mA
- External temperature registration 0...10 V
Connection via plug in accordance with DIN 41524

Digicon temperature controller with analog interface

- Digicon S for shelf-heated models P only
- Digital display of set or actual temperature
- External setting of preset value 0...20 mA
- External temperature registration 0...10 V
- Connection via a plug in accordance with DIN 41524



Pressure control option

Pressure controller with solenoid valve

- Digital pressure display from 1 to 1400 mbars
- Pressure range is controlled via two pre-selected set points with a stainless steel solenoid valve
- Pressure can be controlled from 5 to 1400 mbars
- Recorder connection 0...1V for pressure documentation



Note: this option is not available for the North American voltage models.

Timer option

Weekly* digital program timer

- Programs on and off cycles based on actual time (e.g. 'On' at 06:00 hours and 'Off' at 2:00 hours); shortest switching interval 10 min; 16 hour power reserve in case of power failure



Note: timer functions cannot be combined with the digital load temperature display.

*also available as a daily digital program timer (except for 120V and 208V models)

Monitoring options

Digital load temperature display

- Temperature measured directly at load
- Temperature of load shown at front control panel of oven with flexible Pt 100 temperature sensor
- External temperature recorder can be connected



RS 485 interface for temperature logging

- Document temperature data
- No software provided



Note: for order information and availability of each option by oven model see next page

Ordering information

Our Vacutherm product line offers a variety of options to accommodate specific requirements. Available control options, timer functions, and monitoring support are shown below. The order table below provides information on availability by model. Please note that each listed option can be ordered only with one of the listed equipment skus.

Ordering information for factory installed options

| Cat. No. | Options for Vacutherm 6060 and 6130 M/P | Please order in conjunction with following equipment | Details |
|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 51901481 | RS485 computer interface for Jumo controller | 51014539, 51014540, 51014541, 51023262 | For running temperature programs: X programs, up to 24 program steps each, contains ethernet interface for data logging |
| 51901472 | Programmable control | 51014539, 51014540, 51014541, 51023262 | Save one program with up to 24 program steps, this option contains RS485 interface for data logging at the rear of the unit. |
| 51900284 | RS 232 computer interface for Kelvitron™ controller | 51014539, 51014540, 51014541, 51023262 | Interface at rear of unit. |
| 51900069* | Digital pressure display | 51014539, 51014541, 51014542, 51014543 | Instead of standard analog pressure display. |
| 51900193* | Pressure controller with solenoid valve and digital pressure display | 51014539, 51014541, 51014542, 51014543 | Digital pressure controller - contains digital pressure display |
| 51900071 | VITON™ door gasket for VT 6060 M | 51014539, 51014540 | Compared to standard door gaskets VITON provides increased resistance to highly caustic substances. (installation by trained technician) |
| 51900072 | VITON door gasket for VT 6130 M | 51014541, 51023262 | |
| 51900073* | Digital 24 hour timer (20 hour at 60Hz) | 51014539, 51014541, 51014542, 51014543 | All timer options allow to program "on" and "off" cycles for the oven. Please only choose one of these options. |
| 51900161 | Weekly program timer, digital | 51014539, 51014540, 51014541, 51014542, 51014543, 51023262, 51023263, 51023264 | Timer options cannot be combined with the digital sample temperature display. |
| 51900074 | Digital sample temperature display with flexible Pt 100 temperature sensor and socket for external data recorder | 51014539, 51014540, 51014541, 51014542, 51014543, 51023262, 51023263, 51023264 | Display and connection at front control panel. Sensor has to be inserted in oven via access port at rear of unit. Cannot be combined with timer option. |
| Cat. No. Extended rated temperature, Digicon S temperature controller, analog interface 0-20mA / 0-10V included | | | |
| 51900195 | Digicon S (300 °C): VT 6060 P and VT 6130 P | 51014542, 51014543, 51023263, 51023264 | |
| 51900196 | Digicon S (400 °C): VT 6060 P | 51014542, 51023263 | Please order in conjunction with desired base shelf-heated model. |
| 51900197 | Digicon S (400 °C): VT 6130 P | 51014543, 51023264 | With the 400° C option, the oven comes without inspection window. |
| Cat. No. Vacuum chamber with rounded corners at the rear (note: round corners on both sides are standard in all models) | | | |
| 51900075 | Vacuum chamber with rounded corners at the rear for VT 6060 M | 51014539, 51014540 | |
| 51900077 | Vacuum chamber with rounded corners at the rear for VT 6060 P | 51014542, 51023263 | |
| 51900076 | Vacuum chamber with rounded corners at the rear for VT 6130 M | 51014541, 51023262 | Rounded corners at rear of inner chamber make cleaning even easier. |
| 51900078 | Vacuum chamber with rounded corners at the rear for VT 6130 P | 51014543, 51023264 | |
| Cat. No. Options for Vacutherm 6025 | | | |
| 51900326 | Precision control valve for standard model | 51014550, 51014551 | Note: Precision valve is standard on all other models |
| 51901481 | RS485 computer interface for Jumo controller | 51014550, 51014551, 51014552, 51014553 | Interface at rear of unit. |
| 51901472 | Programmable control | 51014550, 51014551, 51014552, 51014553 | Save one program with up to 24 program steps, this option contains RS485 interface for data logging at the rear of the unit. |

*Option only available for 230V-50/60Hz models - not available for North American voltages

Accessories

Some options are also available as retrofit kits and can be be installed in the field. Please contact our service department for details.

| Cat. No. | Description | Dimensions and weight |
|----------|------------------------------------------------------------------------------|----------------------------------------------------------------|
| 50028403 | Additional shelf for VT6025 (incl. Shelf supports) | - |
| 50043975 | Additional shelf for VT6060 M (incl. Shelf supports) | - |
| 50043976 | Additional shelf for VT6130 M (incl. Shelf supports) | - |
| 50048621 | Stainless steel tray for VT6060 M/P | - |
| 50048619 | Stainless steel tray for VT6130 M/P | - |
| 50048620 | Aluminum tray for VT6060 M/P | - |
| 50048618 | Aluminum tray for VT6130 M/P | - |
| 50046860 | Stainless steel vacuum connection kit for tubing, 10mm diameter (all models) | - |
| 50029890 | Support frame, 780 mm height, for VT6060 M/P | WxDxH 734x465x780mm / 8.9x18.3x30.7in. Weight: 14.5kg / 32lb |
| 50029597 | Support frame, 780 mm height, for VT6130 M/P | WxDxH 885x645x780mm / 4.8x25.4x30.7in. Weight: 16.5kg / 36.4lb |

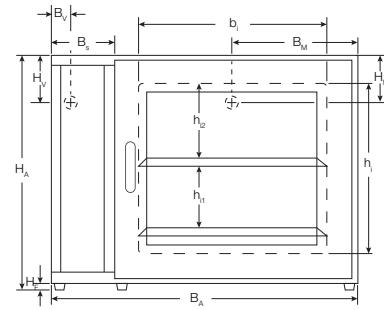
IQ/OQ documents available:

English: IOQDOCE89003503
German: IOQDOCG89003503
French: IOQDOCF89003503

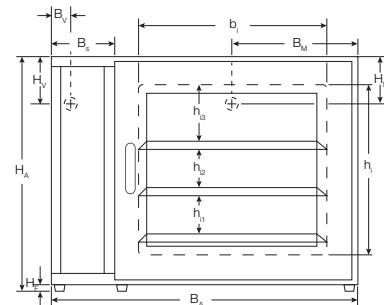
Please ask for calibration services. We can provide calibration certificates ex factory, for measurements in middle of workspace or additional measuring point.

Vacutherm 6000 Technical Data

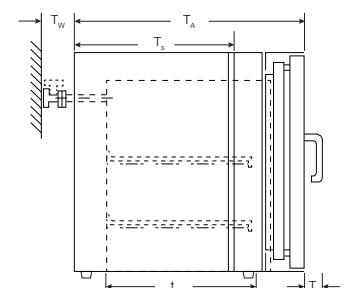
| | | Jacket heating | | Shelf heating | |
|------------------------------------------------------|-------------------|----------------------------------------------------|--------------------------------------|----------------------------------------|------------------------------------|
| | | VT 6060 M | VT 6130 M | VT 6060 P | VT 6130 P |
| Total volume | l | 53 | 128 | 53 | 128 |
| Internal dimensions | mm | bi hi ti h_{11} h_{12} h_{13} | 415 345 371 124 155 — | 495 489 529 124 124 158 | 415 — 371 119 140 — |
| Vacuum suction sockets | mm | B_V | 53 | 53 | 53 |
| Vacuum measuring sockets | mm | H_M | 132 | 132 | 132 |
| External dimensions | mm | B_M | 298 | 373 | 298 |
| Feet height | mm | B_A | 744 | 895 | 744 |
| Door handle depth | mm | H_A | 576 | 720 | 576 |
| Control box width | mm | T_A | 570 | 750 | 570 |
| Control box depth | mm | H_F | 24 ² | 24 | 24 |
| Distance for options | mm | T_T | 60 | 60 | 60 |
| T_w with inert gas connection | mm | B_S | 149 | 149 | 149 |
| Temperature ^{1,2} | °C | T_s | 400 | 580 | 400 |
| Rated temperature ¹ | °C | T_w | 80 | 80 | 80 |
| Spatial temperature deviation ³ at 200 °C | °C | T_w Inert | 160 | 160 | 160 |
| at 300 °C | ± 4 | | 200 | 200 | 300/400 |
| at 400 °C | — | | ± 6 | ± 3 | ± 4 |
| Temperature deviation in time | °C | | — | ± 7 | ± 7 |
| Heating-up time to 98 % of ^{1,3} 200 °C | min | <= 0.5 | <= 0.5 | <= 0.5 | <= 0.5 |
| 300 °C | min | 75 | 140 | 25 | 25 |
| 400 °C | min | — | — | 35 | 40 |
| Electrical protection | | — | — | 50 | 60 |
| Protection class | | | | | |
| Protection type | | IP 20 | IP 20 | IP 20 | IP 20 |
| Vacuum | | | | | |
| Vacuum connection with tube shaft Ø 20 mm | DN | 25 | 25 | 25 | 25 |
| Measuring connection | DN | 25 | 25 | 25 | 25 |
| Max. final vacuum | mbar (hPa) | 1x10 ⁻² | 1x10 ⁻² | 1x10 ⁻² | 1x10 ⁻² |
| Leak rate | mbar x l/s | <1x10 ⁻² | <1x10 ⁻² | <1x10 ⁻² | <1x10 ⁻² |
| Shelves | no. (max.) | 2 (4) | 3 (5) | 2 (2) | 3 (3) |
| Usable area | mm W/D | 400/312 | 480/470 | 400/297 | 465/417 |
| Weight (empty) | kg | 82 | 153 | 90 | 164 |
| Permissible total load | kg | 40 | 60 | 40 | 60 |
| Max. load of shelf ⁴ | kg | 20 | 20 | 20 | 20 |
| Heat transfer to environment at 200 °C | Wh/h ⁵ | 550 | 870 | — | — |
| Heat transfer to environment at 300 °C | Wh/h ⁵ | — | — | 450 | 880 |



Front view of model VT 6060



Front view of model VT 6130



Side view of models VT 6060 and VT 6130

Notes:

- Shelf positions are not flexible due to the specific heating technology in vacuum ovens, with heat transfer via the shelving.
- The shelves in shelf-heated models cannot be removed.

¹ The values stated apply to the empty oven and vacuum operation in acc. with DIN 12880, part 2)

² Control range M: electronic controller from TA + 15 °C; control range P: electronic controller from TA + 10 °C; TA = Ambient temperature

³ Measured on the shelves

⁴ Distributed load

⁵ In line with heat transfer to the environment

Technical data for Vacutherm 6025 Vacuum Ovens

| | |
|------------------------------------------------------|---------------------------------------------------------------------|
| Total volume | 25 L |
| Internal dimensions | 300/275/307 mm (w/h/d) |
| Internal height above shelf | 120 mm |
| External dimensions mm | 480/600/450 (w/h/d) |
| Shelves | 2 (4) number (max.) |
| Usable area | 270/250 mm (w/d) |
| Weight (empty) | 58 kg |
| Total permissible load | 40 kg |
| Max. load/shelf ¹ | 20 kg |
| Electrical power | |
| Heat transfer to environment at 200 °C ² | 340 Wh/h |
| Temperature | |
| Rated temperature ³ | 200 °C |
| Spatial temperature deviation at 200 °C ⁴ | ± 4 ± °C |
| Temperature deviation in time at 200 °C | < 0.5 ± °C |
| Heating-up time to 98 % of 200 °C ^{4,5} | < 100 min |
| Electrical protection | |
| Protection class | I |
| Protection type | IP 20 |
| Vacuum | |
| Max. final vacuum mbar | 1x10 ⁻² (hPa) |
| Leak rate | < 1x10 ⁻² $\frac{\text{mbar} \times \text{l}}{\text{s}}$ |

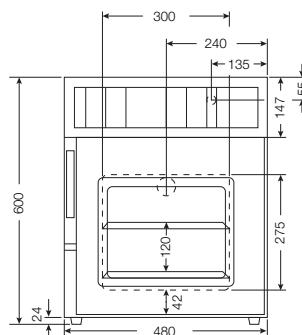
¹ Distributed load

² In line with heat transfer to the location

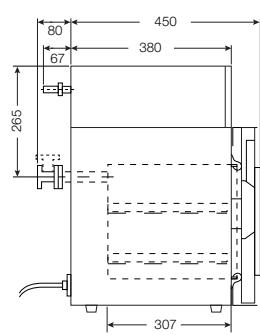
³ Control range with electronic controller from TA+ 15°C; TA = ambient temperature

⁴ Measured on the shelves

⁵ The values stated apply to the empty oven and vacuum operation (measured in acc. with DIN 12880, part 2)



Front view of model VT 6025



Side view of model VT 6025



Lindberg/Blue M Vacuum Ovens

Developed for industrial, life science, and general laboratory uses requiring higher performance standards than conventional ovens, Lindberg/Blue M vacuum ovens feature digital controls, laboratory grade cabinet construction and operational features which offer safety, quality, convenience, and high-drying performance. In addition, exterior options and accessories are available to meet individual lab requirements.

Key features:

- Two chamber sizes 18.6L and 42.5L
- Temperature range: ambient +6°C to +260°C;
- Heating technology: Jacket heating
- Single setpoint digital microprocessor control, with one ramp to setpoint
- Simultaneous LED display of setpoint and actual temperature with push-button view
- Independent over-temperature safety system factory set with reset push-button
- 25.4 mm / 1 in. manifold at rear of unit connects to pump (not included) or in-house vacuum source, can also be used as port
- Alternative 3/8 in / 9.5mm vacuum connection included
- 1/4 in / 6.4mm inert gas connection for non-flammable, non-corrosive inert gases and separate vent port located on back
- Vacuum, gas and inlet valves conveniently located on front

- Vacuum capability: 1.33 mbar
- Viewing windows: 0.5in. (1.3cm) thick in two smaller capacity models; permit observation of work in progress without loss of heat
- Aluminum shelves for fast heat transfer; removable
- High-temperature silicone gasket for a positive seal; Buna N seals available for applications below 150°C that require no silicone
- Magnetic latch door seal.



Vacuum and gas control – above door



Model VO914A-1



Specifications for Lindberg/Blue M Vacuum Ovens

| Cat. No. | Control details / display | Temperature range | Temperature resolution / uniformity | Interior dimensions D x W x H | Exterior dimensions L x W x H | Number of shelves | Finish | Electrical | Plug type | Shipping weight |
|-------------------------------|----------------------------------------------------|----------------------|-------------------------------------|----------------------------------|----------------------------------|-------------------|---------------|---------------------|-----------|-----------------|
| Capacity 18.6L (0.65 cu. ft.) | | | | | | | | | | |
| VO914A-1 | PID control; single setpoint; dual digital display | Ambient +6° to 260°C | ±1°C/ ±3.5°C | 36 x 23 x 23cm (14 x 9 x 9in.) | 58 x 46 x 66cm (23 x 18 x 26in.) | 3 | Painted Steel | 120V 50/60Hz 750w | Nema 5-15 | 68kg (150 lb.) |
| Capacity 42.5L (1.5 cu. ft.) | | | | | | | | | | |
| VO1218A-1 | PID control; single setpoint; dual digital display | Ambient +6° to 260°C | ±1°C/ ±3.5°C | 46 x 31 x 31cm (18 x 12 x 12in.) | 66 x 53 x 74cm (26 x 21 x 29in.) | 3 | Painted Steel | 120V 50/60Hz, 1250w | Nema 5-15 | 113kg (250 lb.) |

Pump connection: 25.4 mm / 1.0 in

Alternative pump connection: 9.5 mm / 0.38 in.

Inert gas connection: inner diameter 6.4 mm / 0.25 in

Vacuum operation to 20 mbar can be obtained using a singletage mechanical pump with a free air capacity of 35 liters per minute.

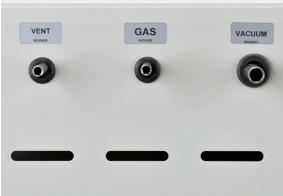
Warranty: 2 years (parts and labor)

Certification: All models carry UL (no cUL)

Ordering Alert: Products not available in Europe – no CE.

Accessories for Lindberg/Blue M Vacuum Ovens

- Connection kit (needed only if fittings, clamps, and hose are not supplied with the pump)
- Silicone replacement gaskets
- Buna-N silicone-free gaskets, for silicone-free applications, for temperatures up to 150°C only

| Cat. No. | Description | For use with | |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------|
| 118961 | Connection Kit – includes NW fittings, centering rings, connectors, vacuum clamps and hose to connect vacuum pump to oven. | All Lindberg/Blue M vacuum ovens |  |
| 305994H01 | Silicone replacement gasket (red) | VO914 Series | |
| 305992H01 | Silicone replacement gasket (red) | VO1218 Series | |
| 118974 | Buna-N silicone-free gasket, for temperatures up to 150°C only | VO914 Series | |
| 118977 | Buna-N silicone-free gasket, for temperatures up to 150°C only | VO1218 Series | |
| IQ/OQ documents available: | English: IQQDOCE89003503; French: IQQDOCF89003503 | |  |

Buna-N silicone-free gasket

Pump/gas connection on the back of the unit

Thermo Scientific Standard Vacuum Ovens

Our basic vacuum ovens line offers a maximum temperature of 220°C, and is ideally suited for applications like drying, curing, vacuum embedding and plating applications.

Key features:

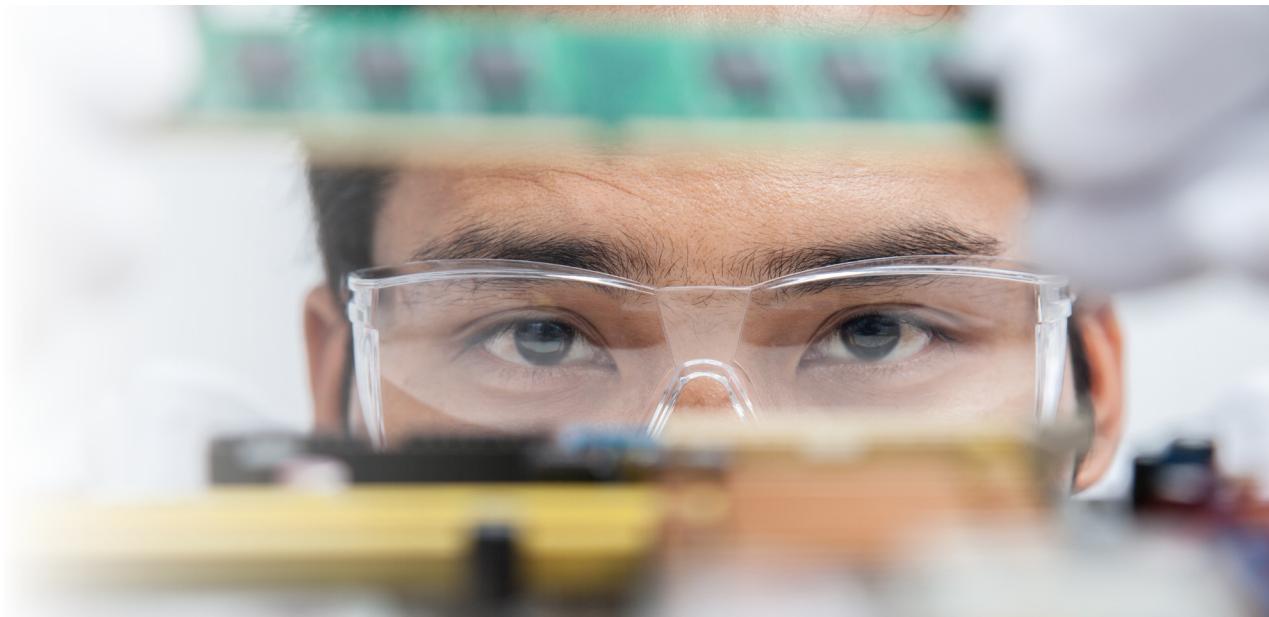
- Two convenient chamber sizes: 19.8L (0.7 cuft), 65.1L (2.3 cuft)
- Temperature Range: Ambient +10° to 220°C
- Hydraulic thermostat temperature with LED display (1°C increments)
- Polycarbonate safety shield protects door glass
- Silicone door gasket and positive latch door maintain seal at all vacuum levels
- Vacuum and air lines are corrosion resistant stainless-steel tubing
- Powder-coated heavy-gauge steel exterior for durability and includes two removable aluminum stacking shelves
- Radiant warm-wall heating system helps optimize uniformity
- Front-mounted three-way valve for evacuation, venting and purging of inert gases



Model 3608-5 w LED



Model 3618-5 w LED



Specifications for Thermo Scientific Standard Vacuum Ovens

| Cat. No. | Control details / display | Temperature range | Temperature uniformity | Temperature resolution | Interior dimensions D x W x H | Exterior dimensions L x W x H | Number of shelves | Electrical | Plug type | Shipping weight |
|-------------------------------------|-----------------------------------------------------|----------------------|--------------------------|------------------------|-------------------------------------|----------------------------------------|-------------------|-------------------------------|-----------|--------------------|
| Capacity 19.8L (0.7 cu. ft.) | | | | | | | | | | |
| 3608-5 | Hydraulic thermostat / LED display w 1°C increments | Ambient +5° to 220°C | ±6.0°C at 150°C, 25in.Hg | ±1.0°C | 30 x 25 x 25cm (12 x 10 x 10in.) | 40 x 50 x 41cm (16x19.8 x 16.25in.) | 2 | 120V 50/60Hz, 600w, 5A | Nema 5-15 | 59kg (130 lb.) |
| Capacity 65.1L (2.3 cu. ft.) | | | | | | | | | | |
| 3618-5 | Hydraulic thermostat / LED display w 1°C increments | Ambient +5° to 220°C | ±5.0°C at 100°C 25in.Hg | ±1.0°C | 51 x 36 x 36cm (20 x 14 x 14in.) | 64 x 64 x 56cm (25 x 25 x 22in.) | 2 | 120V 50/60Hz, 1600w, 13.3A | Nema 5-15 | 134kg (295 lb.) |

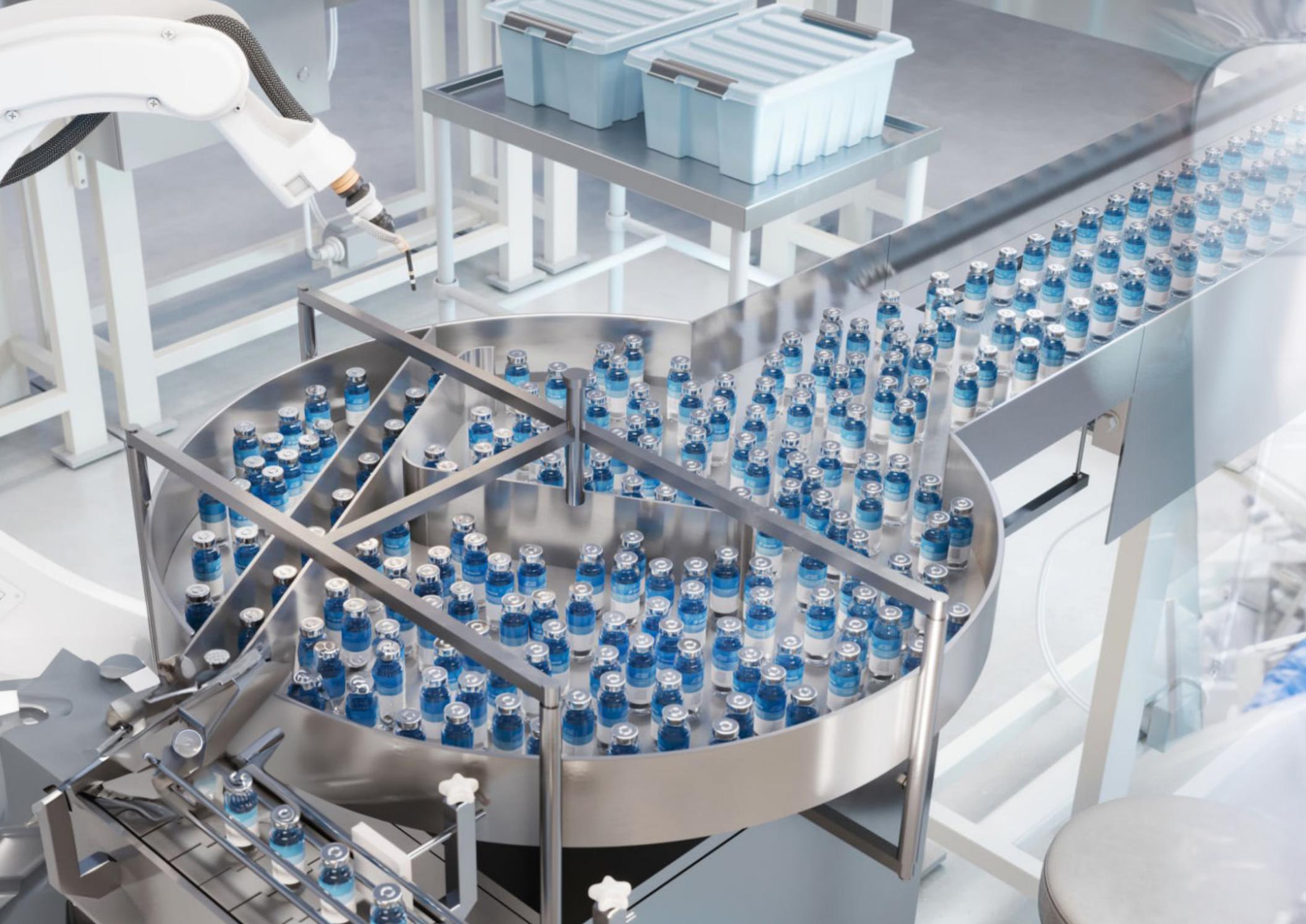
| | |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Calibration certificates | 260049 Certifies calibration at specified temperature |
| Conformance certificates | 260029 Provides information and serial numbers of test equipment use for end of line test |
| IQ/OQ documents available: | Certifies that a specific product serial number has been tested at end of line and conforms to all of the testing performed |

IQ/OQ documents available: English: IOQDOCE89003503; German: IOQDOCG89003503; French: IOQDOCF89003503

Pump connection: 6.4 mm / 0.25in
 Vent (can be used for inertgaz connection): 6.4 mm / 0.25in
 Vacuum operation to 20 mbar can be obtained using a singlestage mechanical pump with a free air capacity of 35 liters per minute.
 Warranty: 1 year (parts and labor)
 Certification: All items were tested to UL/CSA 61010-1 2nd Edition.

Shelf for 3608 models: 810-439-00
 Shelf for 3618 models: 810-440-00







■ Learn more at thermofisher.com/vacuumovens

For Laboratory Use. It is the customer's responsibility to ensure that the performance of the product is suitable for customer's specific use or application.

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