thermoscientific

Thermo Scientific Vacuum Ovens

Consistent performance, at a high degree

ThermoFisher SCIENTIFIC

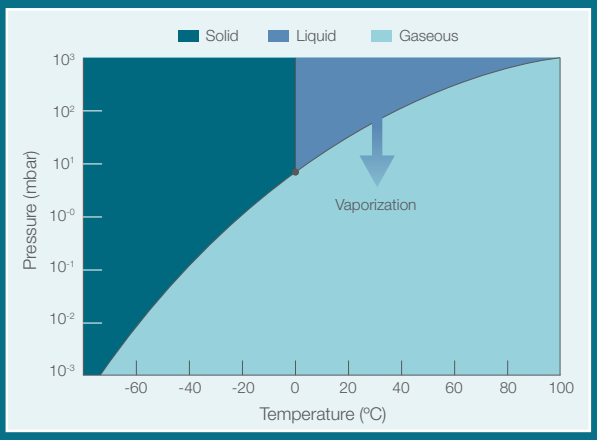
Thermo Scientific Vacuum Ovens

Drying processes are essential to various workflows in the laboratory and many times, vacuum drying is needed for delicate samples at low temperatures.

Offered with various temperature ranges and sizes, Thermo Scientific vacuum ovens are designed with safety, reliability and efficiency in mind—and offer features that tailor to your specific applications.

Typically used within the pharmaceutical, food, electronics, medical devices and aerospace industries—the Thermo Scientific vacuum ovens portfolio offers a variety of models to accommodate applications such as:

- 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



Why dry in a vacuum?

Using a vacuum for 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 – resulting in a more gentle drying process for delicate samples. The graph to the left illustrates that water will evaporate at a much lower temperature than 100°C, with lower pressure.

Fit a range of robust, yet delicate drying needs

with Thermo Scientific vacuum ovens

Thermo Scientific™ Vacutherm™ Vacuum Ovens | 5-12

provide precise and fast heating and heat transfer which helps minimize operation time. These vacuum ovens are compliant with the highest level of requirements for heating applications under a vacuum.
In short:

- Choice of temperature levels, jacket-heated and shelf heated – up to 400°C / 752°F
- Choice of microprocessor controls with single set point, temperature ramping capabilities, and timer functions
- Sophisticated safety concept with adjustable independent over-temperature control
- Access port available for validation with external temperature sensor

▶ Vacutherm Vacuum Ovens

Thermo Scientific™ Lindberg/Blue M Vacuum Ovens | 13-14

provide digital electronic control, built-in over-temperature protection, and a fully flexible vacuum/purge/release system for a range of applications including those that require elevated temperature in reduced atmosphere.

- Maximum temperature of 260°C / 500°F
- Digital microprocessor control with single set point and ramp to set point
- LED display of actual and set point temperature

▶ Lindberg Blue M Vacuum Ovens

Thermo Scientific™ Hi Temp Vacuum Ovens | 15

provide over-temperature protection for peace-of-mind at a high degree

- Maximum temperature: 280°C / 536°F
- Basic electronic control with dial thermometer or LED display
- Back-up thermostat for safety

▶ Hi Temp Vacuum Ovens

Thermo Scientific™ Vacuum Ovens | 16-17

provide an entry level option for everyday drying and heating applications in a reduced atmosphere. Features include:

- Maximum temperature: 220°C / 428°F
- Basic controls with choice of hydraulic bimetallic thermostat and LED

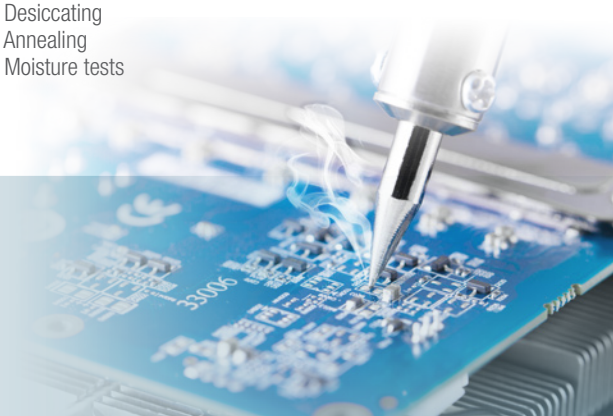
▶ Vacuum Ovens

Selector Guide

	Vacutherm	Lindberg/Blue M	Thermo Scientific High-Temp Models	Thermo Scientific Standard Models
Temperature range	ambient +10°C/ +15°C to 200°C / 300°C / 400°C	ambient +6°C to 260°C	ambient +10°C / 50°C to 280°C	ambient +5°C to 220°C
Available sizes	25 / 53 / 128L (0.88 / 1.87 / 4.52 cuft)	18.6 / 42.5 / 127.4L (0.65/ 1.5 / 4.5 cuft)	18.4 / 42.4L (0.65 / 1.5 cuft)	12.5 / 19.8 / 65L (0.44 / 0.7 / 2.3 cuft)
Temperature control and display	PID control, digital display	PID control, digital display	Electronic control, LED display / dial thermometer	Analog control, dial thermometer
Over-temperature protection	Adjustable over-temperature protection for sample safety (Class 2 according to DIN 12880 Part 1); overtemperature cut-out for protection of oven	Adjustable overtemperature protection	Overtemperature safety feature. LED indicator and maintenance at ~5°C above set temperature	Overtemperature cut-out for protection of oven
Shelving	Aluminum Shelves; trays as accessories	Aluminum shelves	Chrome-plated shelves	Stacking Aluminum shelves
Inert gas connection	Yes, with precision valve for gentle purging & overpressure protection	Yes	Yes	On larger models
Pressure display	Analogue (digital on option)	Analogue	Digital / Analogue	Analogue
Heating technology	Choice: Jacket heating and Shelf heating	Jacket heating	Jacket heating	Jacket heating
Material of inner chamber	Stainless steel, 1.4404 / 316L, electropolished	Stainless steel, 1.4301/ 304	Stainless steel, 1.4301/ 304	Stainless steel, 1.4301/ 304
Attainable vacuum	0.01 mbar	1.33 mbar	3.5 mbar	3.5 mbar
Vacuum leak rate	<0.01 mbar/sec	<0.01 mbar/sec	<0.01 mbar/sec	<0.01 mbar/sec
Timers / Programmability	Options for larger models: Various On/Off timers and programmable controls for temperature ramping	No	On/Off timer for 7 days on large models	No
Access port for external temperature probe	Yes	No	No	No
Other standard features	Implosion-tested double-pane safety glass window; rounded corners on sides; pressure release valve for gentle venting; electropolished interior for easy cleaning	–	On large models: 7 day on/off timer	–
Data output	As an option: temperature / pressure	No	No	No
Typcial user target	Pharma / Food, Other Industry, Research	Pharma / Food, Research	Research	Academia, Basic research
Calibration certificates (available as an option)	Yes	No	No	No
IQ/OQ documentation available	Yes	Yes	Yes	Yes
Sample applications	• Gentle drying of heat-sensitive materials • Fast drying • Residue-free drying of intricately designed parts • Elimination of oxidation associated with heat treatment • Targeted recovery of degassed products • Drying of powders • Drying at high temperatures	• Drying • Curing • Outgassing • Aging • Process control • Heating and drying in inert gas atmosphere	• Higher temperature drying / heating • General drying • Conditioning • Curing • Desiccating • Annealing • Moisture tests	• Drying • Curing • Vacuum embedding • Plating applications

Vacuum pumps note:
All vacuum ovens have standard connections for pumps – please refer to the information on the following product pages. Vacuum pumps are **not supplied** through Thermo Fisher Scientific with the vacuum ovens. To order a vacuum pump, please contact your vacuum pump supplier. We can provide recommended suppliers on request.

Exception: For convenience we offer 4 standard pumps along with the Vacutherm ovens – 230V-50Hz models only. See page 10 for details.



Thermo Scientific Vacutherm Vacuum Ovens

Vacutherm Vacuum Ovens meet precise heat treatment demands in a vacuum, from simple heating routines to complicated processes utilizing temperatures of up to 400°C. Starting with high quality models, application specific configurations can be implemented with a wide selection of equipment options.

Key features:

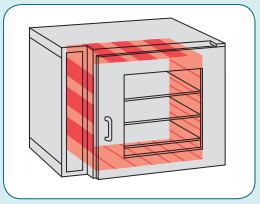
- 3 convenient chamber sizes from 25L to 128L
- Choice of jacket heated and shelf heated models:
  - >Jacket-heated, Model M – all 3 sizes: temperature range: ambient +15°C to 200°C
  - >Shelf heated, Model P – only 2 larger sizes: Temperature range: ambient + 10°C to 300°C / 400°C The shelves incorporate heating coils supplying direct heat transfer to the load.
- Convenient control with digital display for single-setpoint:
  - >Kelvitron™ microprocessor controller for jacket-heated ovens
  - >Digicon™ multi-channel controller for shelf-heated ovens, controlling temperature on each shelf (one setpoint)
- 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
- Stainless steel vacuum fittings, tubing and ball valve
- Certified safety (GS-mark)

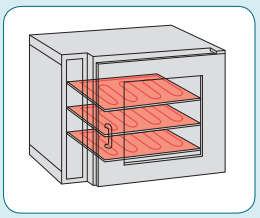
Models VT6060 and VT6130

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

Class 2 adjustable overtemperature protection is standard

Safety tested on site

Thermo Scientific has set new safety standards with Thermo Scientific Vacutherm vacuum ovens. A double-pane door made of safety glass helps to ensure implosion protection and is designed to add additional safety for the user.

Process safety

With heating systems that are designed to provide temperature uniformity and reproducible drying and heat treatment.

Time saving

Jacket- or shelf-heating results in reduced heating-up times. Process times are up to six times faster than in conventional drying ovens.

User comfort

With the inert gas connection incorporating a precision valve, process gas can be dispensed accurately. Drying times are therefore reduced and condensation is prevented. Furthermore, the precision valve can safely prevent blowing of powders when the vacuum chamber is ventilated.

Cleaning

The vacuum chamber has electropolished surfaces and rounded corners, and is therefore easy-to clean.

Corrosion resistance

The vacuum chamber is made of high quality stainless steel (1.4404 / 316L), electropolished for smooth surface with outstanding corrosion resistance.

Specials

Our Custom Projects department can customize Vacutherm vacuum ovens and offer specific models for flammable solvents: Please contact your Thermo Scientific Sales representative.

Thermo Scientific Vacutherm Vacuum Ovens Specifications

Cat. No.	Model	Temperature Range	Spatial temp. deviation [2, 3]	Heat Output (at max. temperature)	Internal Dimensions W x H x D	External Dimensions[1] W x H x D	No. 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.)
Models 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.)
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	Nema 5-15	58kg (128 lb.)
Models with inert gas connection and digital pressure display with recorder output and Digicon S control with interface 0-20mA / 0-10V										
51014554	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	CEE 7/7	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 (230V, 50 / 60Hz models) and cCSAus (120V and 208V, 60Hz models)
Warranty: 2 years (parts and labor)

Build your own Vacutherm vacuum oven to suit your application needs

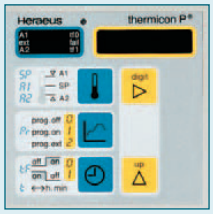
Available Vacutherm 6000 regulation and control modules

Optional temperature controllers – in place of standard Kelvitron controller:

Microprocessor controlled temperature controller

Eurotherm™ 2404/P4 for models M with:

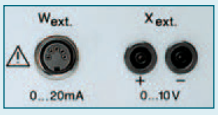
- Temperature program with a maximum of 16 program steps
- RS 232 or RS 485 computer interface, connection via sub-D plug



Microprocessor controlled temperature controller

Thermicon® P for models M with:

- Temperature program with a maximum of 9 program steps
- Integrated timer for on/off switching up to 99 h 59 mins.
- Defective temperature sensor indicator

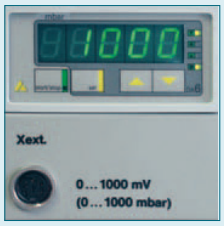


Digicon™ temperature controller with analog interface

- Digicon™ S for models P and M
- 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

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

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 options:

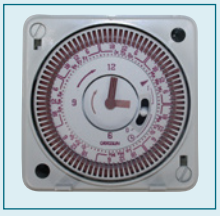
24 hour mechanical timer

- For on/off intervals within 24 hours

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

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



Weekly mechanical timer

- Automatic repetition of an on-off cycle over a period of 7 days; shortest switching interval 2 hr, 90 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:

Interior chamber with flexible Pt 100 temperature sensor in granulate sample

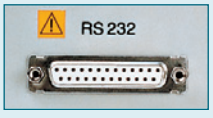
Digital load temperature display

- 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

Central monitoring

- Connection for max. 250 V/3 A

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



RS 232 interface for temperature registration

- Document temperature data
- No software provided

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

Vacutherm Vacuum Ovens Ordering Information

Options (factory installed):

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.

Factory installed options

Cat. No.	Options for Vacutherm 6060™ and 6130 M/P	Please order in conjunction with following equipment	Details
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	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	
51900205	Daily program timer, mechanical	51014539, 51014540, 51014541, 51014542, 51014543, 51023262, 51023263, 51023264	All timer options allow to program "on" and "off" cycles for the oven. Please only choose one of these options. Timer options cannot be combined with the digital sample temperature display.
51900073*	Digital 24 hour timer (20 hour at 60Hz)	51014539, 51014541, 51014542, 51014543	
51900008	Weekly program timer, mechanical	51014539, 51014540, 51014541, 51014542, 51014543, 51023262, 51023263, 51023264	
51900161	Weekly program timer, digital	51014539, 51014540, 51014541, 51014542, 51014543, 51023262, 51023263, 51023264	
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.
51900209	Thermicon™ P temperature program controller (for M-models only)	51014539, 51014540, 51014541, 51023262	Will replace standard Kelvitron control. Please only choose one of these options.
51900297	Eurotherm 2404/P4 temperature controller with RS 232 interface (for M-models only)	51014539, 51014540, 51014541, 51023262	
51900298	Eurotherm 2404/P4 temperature controller with RS 422/485 interface (for M-models only)	51014539, 51014540, 51014541, 51023262	
51900194*	Digicon S controller (200 °C): VT 6060 M and VT 6130 M	51014539, 51014541	
51900081*	Central monitoring connection	51014539, 51014541, 51014542, 51014543	Interface at rear of unit.
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	Please order in conjunction with desired base shelf-heated model
51900196	Digicon S (400 °C): VT 6060 P	51014542, 51023263	
51900197	Digicon S (400 °C): VT 6130 P	51014543, 51023264	
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	Rounded corners at rear of inner chamber make cleaning even easier.
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	
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
51900284	RS232 computer interface	51014550, 51014551, 51014552, 51014553,51014554	Interface at rear of unit.

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

Factory calibration certificates:	50044187	Calibration certificate for 150°C at center of the work space (factory supplied calibration certification)
	50044188	Calibration at an additional measuring point (max. 2) (factory supplied calibration certification)
IQ/OQ documents available:	English: IOQDOCE89003503 ; German: IOQDOCG89003503 ; French: IOQDOCF89003503	

Vacutherm Vacuum Ovens Ordering Information, continued

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

Accessories:

- Additional shelves
- Choice of stainless steel or aluminum trays for e.g. powders / granulate
- Support frames (height 780mm / 30.7 in.) for the two larger models

Accessories

Cat. No.	Description
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
50029597	Support frame, 780 mm height, for VT6130 M/P

Small model VT6025

Vacuum chamber with two additional shelves

Vacutherm Vacuum Pump Information

Vacuum pumps recommendation:

Our recommendation is to purchase vacuum pumps from a specialized vacuum pump supplier.

Thermo Scientific offers a small range of standard vacuum pumps to provide complete packages with our Vacutherm ovens. All pumps are supplied complete with all necessary tubing and fittings to connect to the vacuum oven.

Note: All pumps are 230V, and carry CE. They are not available in North America. Refer to your pump supplier for application specific pumps and other voltages.

Vacucenter™ is a vacuum pump cabinet fully equipped with a central power supply, a single main switch for both vacuum oven and pump - including a timer for tracking oil changes for the rotary vane pump. The vacuum oven can be placed on top of the cabinet.

Vacutherm oven model VT 6060

Vacuum pumps and Vacucenter™ Specifications

		Diaphragm pumps			Rotary vane pumps
Vacuum Pumps**		**MD 12H**	**HMD 4C**	**HMZ 2C**	**RE 9H**
Cat. No.		**50040078**	**50028362**	**50028364**	**50028361**
Description		Standard pump for drying (water / non-caustic vapours)	Three step chemical pump for drying (caustic / corrosive vapours)	Two-step pump with lower pump volume. Recommended for VT6025	Precision pump for low pressure applications (<1mbar). Ideal for heat treatment without liquids
Rated pumping capacity (Pneurop)	m^3/h	9.6	3.0	1.7	8.6
Total final pressure without gas ballast	mbar	2	2	10	0.1
Total final pressure with gas ballast	mbar	<10	<10	<20	6×10^{-1}
Water vapor compatibility	mbar	–	–	–	40
Capacity of trap	ml	725	500	500	500
Weight	kg	24	18	14	21.6
Dimensions with trap (w/h/d)	mm	240 x 300 x 610	241 x 500 x 338	241 x 326 x 336	260 x 232 x 460
Vacucenter™ with pump model		**MD 12H**	**HMD 4C**		**RE 9H**
Cat. No.*		**50044332**	**50044333**	**–**	**50044334**
Voltage	V3N~, 50/60 Hz	400	400	–	400
Max. rated power	kW	3.37	3.20	–	3.37
External dimensions (w/h/d)	mm	895/650/900	895/650/900	–	895/650/900
Total weight	kg	88	80	–	86
Protection class		I	I	–	I
Protection type		IP 20	IP 20	–	IP 20

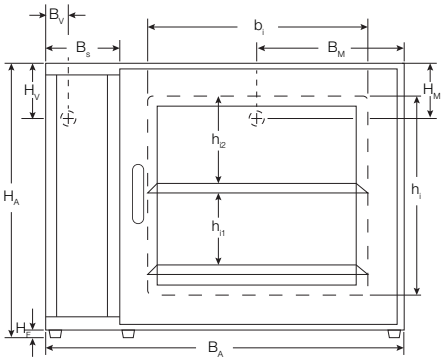
*In combination with VT 6060 or VT 6130
**Pumps not available in North America

All pumps are supplied complete with all necessary tubing and fittings to connect to the vacuum oven. Certifications: All pumps are CE certified

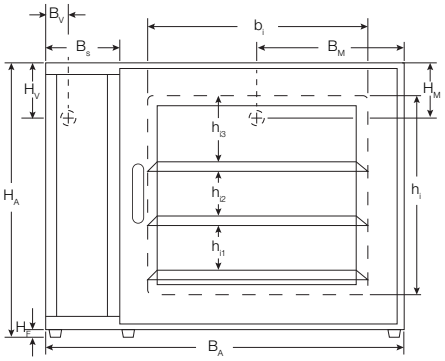
Vacucenter contains pump, oven model VT 6130P on top of unit

Vacutherm 6000 Technical Data

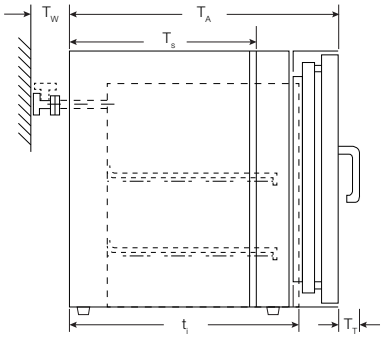
Vacutherm 6000			Jacket heating		Shelf heating	
			VT 6060 M	VT 6130 M	VT 6060 P	VT 6130 P
Total volume	l		53	128	53	128
Internal dimensions	mm	bi	415	495	415	495
		hi	345	489	–	–
		ti	371	529	371	529
		h_{i1}	124	124	119	119
		h_{i2}	155	124	140	119
		h_{i3}	–	158	–	146
Vacuum suction sockets	mm	B_V	53	53	53	53
		H_V	132	132	132	132
Vacuum measuring sockets	mm	H_M	132	132	132	132
		B_M	298	373	298	373
External dimensions	mm	B_A	744	895	744	895
		H_A	576	720	576	720
		T_A	570	750	570	750
Feet height		H_F	24[2]	24	24	24
Door handle depth		T_T	60	60	60	60
Control box width		B_S	149	149	149	149
Control box depth		T_S	400	580	400	580
Distance for options		T_W	80	80	80	80
T_W with inert gas connection		$T_{W\ Inert}$	160	160	160	160
Temperature[1, 2]						
Rated temperature[1]	°C		200	200	300/400	300/400
Spatial temperature deviation[3] at 200 °C	± °C		± 4	± 6	± 3	± 4
at 300 °C	± °C		–	–	± 7	± 7
at 400 °C	± °C		–	–	± 9	± 9
Temperature deviation in time	°C		<= 0.5	<= 0.5	<= 0.5	<= 0.5
Heating-up time to 98 % of [1, 3] 200 °C	min		75	140	25	25
300 °C	min		–	–	35	40
400 °C	min		–	–	50	60
Electrical protection						
Protection class			I	I	I	I
Protection type			IP 20	IP 20	IP 20	IP 20
Vacuum						
Vacuum connection with	DN		25	25	25	25
tube shaft Ø 20 mm						
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

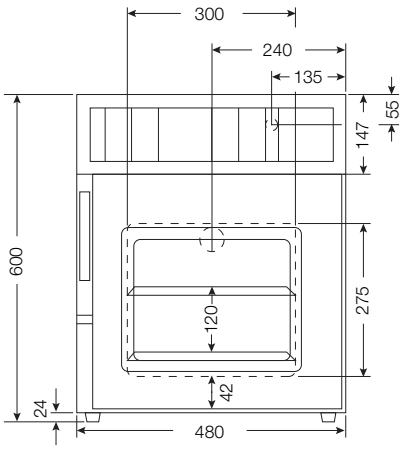
[4] Distributed load

[5] In line with heat transfer to the environment

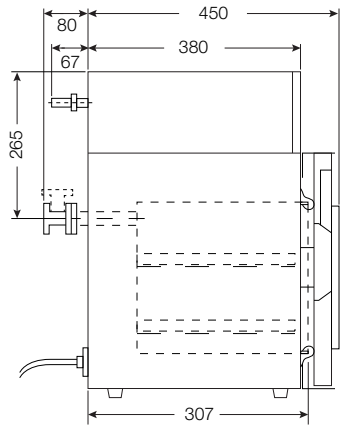
VT 6025 Technical Data

VT 6025 Technical Data		
Total volume	l	25
Internal dimensions	mm (w/h/d)	300/275/307
Internal height above shelf	mm	120
External dimensions mm	(w/h/d)	480/600/450
Shelves	number (max.)	2 (4)
Usable area	mm (w/d)	270/250
Weight (empty)	kg	58
Total permissible load	kg	40
Max. load/shelf[1]	kg	20
Electrical power		
Heat transfer to environment at 200 °C[2]	Wh/h	340
Temperature		
Rated temperature[3]	°C	200
Spatial temperature deviation at 200 °C[4]	± °C	± 4
Temperature deviation in time at 200 °C	± °C	<0.5
Heating-up time to 98 % of 200 °C[4, 5]	min	<100
Electrical protection		
Protection class		I
Protection type		IP 20
Vacuum		
Max. final vacuum mbar	(hPa)	$1x10^{-2}$
Leak rate	$\frac{mbar \times l}{s}$	$< 1x10^{-2}$

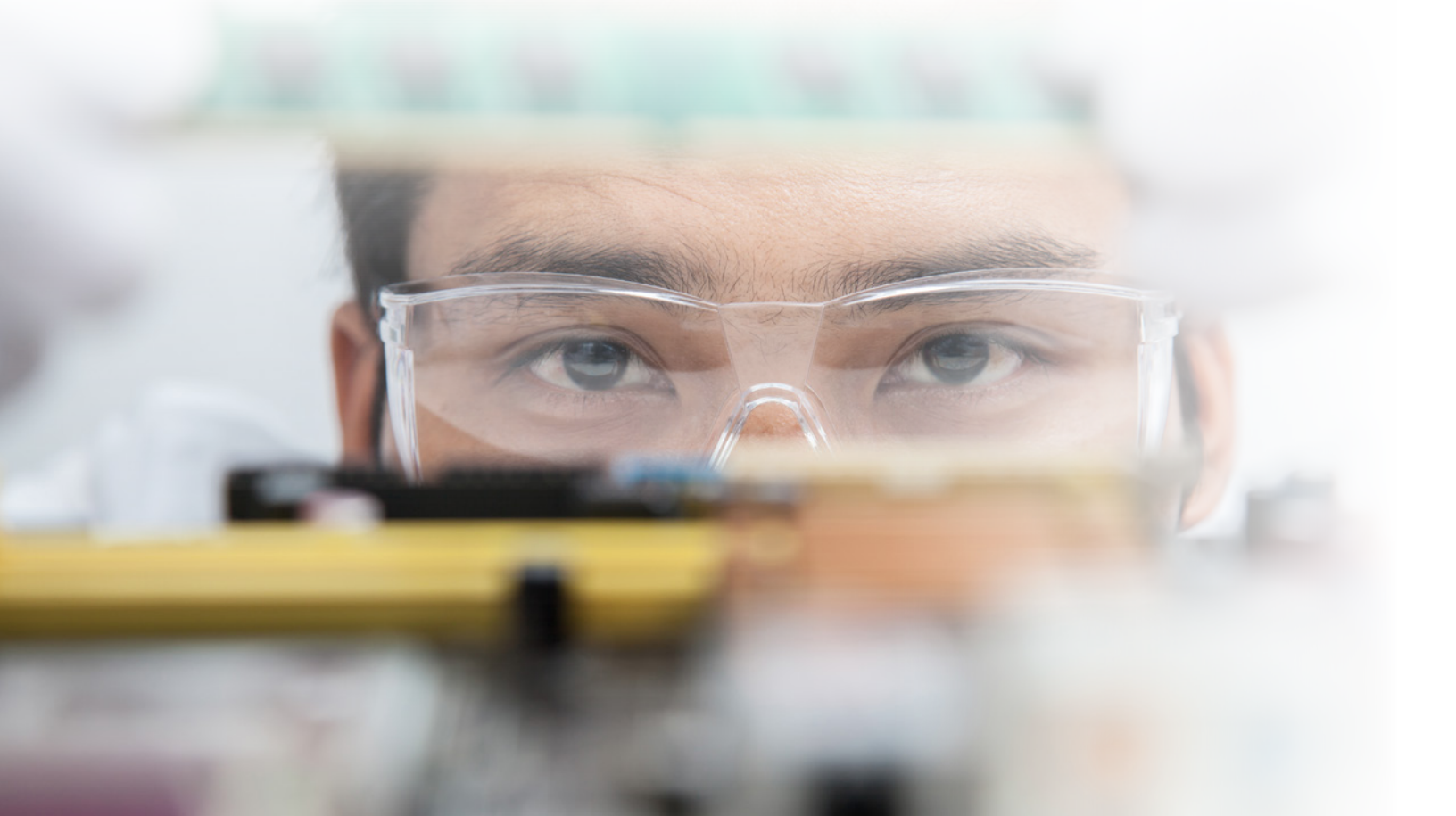
[1] Distributed load
[2] In line with heat transfer to the location
[3] Control range with electronic controller from TA+ 15 °C; TA = ambient temperature
[4] Measured on the shelves
[5] The values stated apply to the empty oven and vacuum operation (measured in acc. with DIN 12880, part 2)



Front view of model VT 6025



Side view of model VT 6025



Thermo Scientific 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 improved safety, quality, convenience and high-drying performance. In addition, exterior options and accessories are available to meet individual lab requirements.

Key features:

- 3 common chamber sizes from 18.6L to 127.4L
- 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 or 0.75in. (1.9cm) thick in 4.5 cu. ft. model; 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. Largest model (VO1824 series) include mechanical latches.
- Models with clean stainless steel outer finish available; solid outer door over inner window door is standard on stainless steel exterior models.

Vacuum and gas control – above door

Model VO1824A-1, closed door

Model VO1824A-1, open door

Lindberg/Blue M Vaccuum Ovens

Cat. No.	Control Details / Display	Temp. Range	Temp. Resolution/ Uniformity	Interior D x W x H	Exterior L x W x H	No. 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 × 23 × 23cm (14 × 9 × 9in.)	58 × 46 × 66cm (23 × 18 × 26in.)	3	Painted Steel	120V 50/60Hz 750w	Nema 5-15	68kg (150 lb.)
VO914C-1	PID control; single setpoint; dual digital display	Ambient +6° to 260°C	±1°C/ ±3.5°C	36 × 23 × 23cm (14 × 9 × 9in.)	58 × 46 × 66cm (23 × 18 × 26in.)	3	Painted Steel	208/240V 50/60Hz 750w	Nema 6-15	68kg (150 lb.)
VO914SA-1	PID control; single setpoint; dual digital display	Ambient +6° to 260°C	±1°C/ ±3.5°C	36 × 23 × 23cm (14 × 9 × 9in.)	58 × 46 × 66cm (23 × 18 × 26in.)	3	Stainless 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 × 31 × 31cm (18 × 12 × 12in.)	66 × 53 × 74cm (26 × 21 × 29in.)	3	Painted Steel	120V 50/60Hz, 1250w	Nema 5-15	113kg (250 lb.)
VO1218C-1	PID control; single setpoint; dual digital display	Ambient +6° to 260°C	±1°C/ ±3.5°C	46 × 31 × 31cm (18 × 12 × 12in.)	66 × 53 × 74cm (26 × 21 × 29in.)	3	Painted Steel	208/240V 50/60Hz 1250w	Nema 6-15	113kg (250 lb.)
VO1218SA-1	PID control; single setpoint; dual digital display	Ambient +6° to 260°C	±1°C/ ±3.5°C	46 × 31 × 31cm (18 × 12 × 12in.)	66 × 53 × 74cm (26 × 21 × 29in.)	3	Stainless Steel	120V 50/60Hz, 1250w	Nema 5-15	113kg (250 lb.)
Capacity 127.4L (4.5 cu. ft.)										
VO1824A-1	PID control; single setpoint; dual digital display	Ambient +6° to 260°C	±1°C/ ±3.5°C	61 × 46 × 46cm (24 × 18 × 18in.)	81 × 69 × 89cm (32 × 27 × 35in.)	3	Painted Steel	120V 50/60Hz 1500w	Nema 5-15	147kg (325 lb.)
VO1824C-1	PID control; single setpoint; dual digital display	Ambient +6° to 260°C	±1°C/ ±3.5°C	61 × 46 × 46cm (24 × 18 × 18in.)	81 × 69 × 89cm (32 × 27 × 35in.)	3	Painted Steel	208/240V 50/60Hz 1500w	Nema 6-15	147kg (325 lb.)
VO1824SA-1	PID control; single setpoint; dual digital display	Ambient +6° to 260°C	±1°C/ ±3.5°C	61 × 46 × 46cm (24 × 18 × 18in.)	81 × 69 × 89cm (32 × 27 × 35in.)	3	Stainless Steel	120V 50/60Hz, 1500w	Nema 5-15	147kg (325 lb.)
VO1824HPC-1	PID control; single setpoint; dual digital display	Ambient +6° to 260°C	±1°C/ ±3.5°C	61 × 46 × 46cm (24 × 18 × 18in.)	81 × 69 × 89cm (32 × 27 × 35in.)	2	Painted Steel	208/240V 50/60Hz 3000w	Nema 6-15	147kg (325 lb.)

Pump connection: 25.4 mm / 1.0 in
Alternative pump connection: 9.5 mm / 0.38 in.
Inertgaz connection: inner diameter 6.4 mm / 0.25 in
Vacuum operation to 20 mbar can be obtained using a singlestage mechanical pump with a free air capacity of 35 liters per minute.

Warranty: 2 years (parts and labor)
Certification: UL (models VO914A-1, VO914SA-1, VO1218A-1, VO1218SA-1 only)

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

Thermo Scientific Accessories for Lindberg/Blue M Vacuum Ovens

- Floor stand, cabinet style with door ->see picture, shelf, latch and lockable casters
- Connection kit – only needed 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

Catalog No	Description	For use with
6718	White Floor Stand	All Lindberg/Blue M vacuum ovens
6723	Stainless-steel Floor Stand	All Lindberg/Blue M vacuum ovens
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
305993H01	Silicone replacement gasket (red)	VO1824 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
34637H01	Buna-N silicone-free gasket, for temperatures up to 150°C only	VO1824 Series
IQ/OQ documents available:	English: IOQDOCE89003503 ; French: IOQDOCF89003503	

White floor stand

Buna-N silicone-free gasket

Pump/gas connection on the back of the unit

Thermo Scientific Hi-Temp Vacuum Ovens

Thermo Scientific Hi-Temp vacuum ovens are ideal for vacuum heating applications like high temperature drying, conditioning, curing, desiccating, annealing, moisture tests – even at elevated temperatures.

Features include:

- Two convenient sizes: Small and large model, 18L (0.65 cuft) and 42.4L (1.5 cuft)
- Temperature range: Ambient +10°C / 50°C to 280°C
- Radiant warm wall heaters mounted on the outside conserve chamber working space and help eliminate potential hazards of open wire heaters
- Compression fittings on the side of the unit accept 6.4mm (0.25in.) outer diameter hard tubing for pump and air connections
- Vacuum and air lines of corrosion-resistant stainless-steel tubing optimize chamber cleanliness and long-term performance
- Durable exterior is powder-coated heavy-gauge steel
- Glass window in the door allows for sample viewing
- Two adjustable chrome-plated shelves help improve heat conduction or transfer to samples; easily removable for cleaning

Small model 3625A

Large model 3628A

Small models 3625A and 3625A-1

- Dual-electronic control system with dial thermometer (no display)
- For operational convenience, all controls and indicators are located on the front panel: power switch and three indicators, purge gas and vacuum control valves, a 0-to-30-inch vacuum gauge and a temperature control

Large models 3628A and 3628A-1

- Single set point controller
- Seven-day programmable timer that cycles oven on or off up to eight times per day with automatic temperature/vacuum control in real time steps
- Dual displays provide constant day/time and temperature/pressure updates every 5 seconds
- Purge and vacuum valves conveniently located under the control panel
- Can hold up to eight shelves

Cat. No.	Control Details / Display	Temp. Range	Temp. Uniformity	Interior Dimensions D x W x H	Exterior Dimensions L x W x H	Electrical	Plug type	Shipping Weight
18.4L (0.65 cu. ft.)								
3625A	Dual-electronic with thermometer	Ambient +10° to 280°C	±1.0°C at 100°C, 25ft.Hg	29 × 25.4 × 25.4cm (11.5 × 10 × 10in.)	44 × 46 × 58cm (17.5 × 18 × 23in.)	120V 50/60Hz, 1000w, 8.5A	Nema 5-15	48kg (90 lb.)
3625A-1	Dual-electronic with thermometer	Ambient +10° to 280°C	±1.0°C at 100°C, 25ft.Hg	29 × 25.4 × 25.4cm (11.5 × 10 × 10in.)	44 × 46 × 58cm (17.5 × 18 × 23in.)	240V 50/60Hz, 1000w; 4.2A	Nema 6-15	48kg (90 lb.)
42.4L (1.5 cu. ft.)								
3628A	Digital single setpoint with 2 displays for temperaturer and pressure	50° to 280°C	±5°C at 100°C, 25ft.Hg	46 × 30 × 30cm (18 × 12 × 12in.)	66 × 58 × 56cm (26 × 23 × 22in.)	120V 50/60Hz, 1800w, 14.7A	Nema 5-15	92.9kg (205 lb.)
3628A-1	Digital single setpoint with 2 displays for temperature and pressure	50° to 280°C	±5°C at 100°C, 25ft.Hg	46 × 30 × 30cm (18 × 12 × 12in.)	66 × 58 × 56cm (26 × 23 × 22in.)	240V 50/60Hz, 1800w, 7.4A	Nema 6-15	92.9kg (205 lb.)

Pump connection: 6.4 mm / 0.25in
Air / inert gas connection: 6.4 mm / 0.25in
Vacuum operation to 20 mbar can be obtained using a single stage mechanical pump with a free air capacity of 35 liters per minute.

Shelf for 3625 models: 02340
Shelf for 3628 models: 52002-DB
Warranty: 1 year (parts and labor)
Certification: none
Ordering alert: Products not available in Europe – no CE.

Calibration certificates:	260049	Certifies calibration at specified temperature
	260029	Provides information and serial numbers of test equipment use for end of line test
Conformance certificate:	260043	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 ; French: IOQDOCF89003503	

Thermo Scientific Standard Vacuum Ovens

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

Features:

- 3 convenient chamber sizes: 12.5L (0.44 cuft), 19.8L (0.7 cuft), 65.1L (2.3 cuft)
- Temperature Range: Ambient +10° to 220°C
- Hydraulic thermostat temperature control with dial thermometer (5° C increments); medium and large units available 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 – use of vacuum grease is recommended
- Vacuum and air lines are corrosion-resistant stainless-steel tubing for optimum chamber cleanliness and long-term performance
- Two removable stacking aluminum shelves
- Powder-coated heavy-gauge steel exterior for durability
- Radiant warm-wall heating system helps optimize uniformity and conserve chamber space; 3in.(7.6cm) glass wool insulation prevents heat loss

Small 3606 Models

- Top-mounted independent evacuation and venting vacuum fittings

Medium and large 3608 and 3618 Models

- Front-mounted three-way valve for evacuation, venting and purging of inert gases (e.g. Nitrogen or Argon) with vacuum fittings on the front of the unit

Small model 3606

Medium model 3608-5 w LED

Large model 3618-5 w LED

Thermo Scientific Standard Vacuum Ovens Specifications

Cat. No.	Control details / Display	Temp. Range	Temp. Uniformity	Temp. Resolution	Interior Dimensions D x W x H	Exterior Dimensions L x W x H	No. of Shelves	Electrical	Plug type	Shipping Weight
Capacity 12.5L (0.44 cu. ft.)										
3606	Hydraulic thermostat / dial thermometer w 5°C increments	Ambient +5° to 220°C	±2.2°C at 100°C 25in.Hg	±1.5°C	30 × 20 × 20cm (12 x 8 x 8in.)	41 × 43 × 44cm (16 × 17 × 17in.)	2	120V 50/60Hz, 600w, 5A	Nema 5-15	50kg (110 lb.)
3606-1CE	Hydraulic thermostat / dial thermometer w 5°C increments	Ambient +5° to 220°C	±2.2°C at 100°C 25in.Hg	±1.5°C	30 × 20 × 20cm (12 x 8 x 8in.)	41 × 43 × 44cm (16 × 17 × 17in.)	2	240V 50/60Hz 600w 2.5A	Nema 6-15	50kg (110 lb.)
Capacity 19.8L (0.7 cu. ft.)										
3608	Hydraulic thermostat / dial thermometer w 5°C increments	Ambient +5° to 220°C	±6.0°C at 150°C 25in.Hg	±15°C	30 × 25 × 25cm (12 x 10 x 10in.)	40 × 50 × 41cm (16× 19.8 × 16.25in.)	2	120V 50/60Hz, 600w, 5A	Nema 5-15	59kg (130 lb.)
3608-1CE*	Hydraulic thermostat / dial thermometer	Ambient +5° to 220°C	±6.0°C at 150°C, 25in.Hg	±1.5°C	30 × 25 × 25cm (12 x 10 x 10in.)	40 × 50 × 41cm (16× 19.8 × 16.25in.)	2	240V 50/60Hz 600w 2.5A	Nema 6-15	59kg (130 lb.)
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 × 25 × 25cm (12 x 10 x 10in.)	40 × 50 × 41cm (16×19.8 × 16.25in.)	2	120V 50/60Hz, 600w, 5A	Nema 5-15	59kg (130 lb.)
3608-6CE*	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 × 25 × 25cm (12 x 10 x 10in.)	40 × 50 × 41cm (16×19.8 × 16.25in.)	2	240V 50/60Hz 600w 2.5A	Nema 6-15	59kg (130 lb.)
Capacity 65.1L (2.3 cu. ft.)										
3618	Hydraulic thermostat / dial thermometer w 5°C increments	Ambient +5° to 220°C	±5.0°C at 100°C 25in.Hg	±1.5°C	51 × 36 × 36cm (20 x 14 x 14in.)	64 × 64 × 56cm (25 × 25 × 22in.)	2	120V 50/60Hz, 1600w, 13.3A	Nema 5-15	134kg (295 lb.)
3618-1CE*	Hydraulic thermostat / dial thermometer w 5°C increments	Ambient +5° to 220°C	±5.0°C at 100°C 25in.Hg	±1.5°C	51 × 36 × 36cm (20 x 14 x 14in.)	64 × 64 × 56cm (25 × 25 × 22in.)	2	240V 50/60Hz 1600w 6.7A	Nema 6-15	134kg (295 lb.)
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 × 36 × 36cm (20 x 14 x 14in.)	64 × 64 × 56cm (25 × 25 × 22in.)	2	120V 50/60Hz, 1600w, 13.3A	Nema 5-15	134kg (295 lb.)
3618-6CE*	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 × 36 × 36cm (20 x 14 x 14in.)	64 × 64 × 56cm (25 × 25 × 22in.)	2	240V 50/60Hz 1600w 6.7A	Nema 6-15	134kg (295 lb.)

* Model is CE certified

Calibration certificates:	
260049	Certifies calibration at specified temperature
260029	Provides information and serial numbers of test equipment use for end of line test
Conformance certificate:	
260043	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.

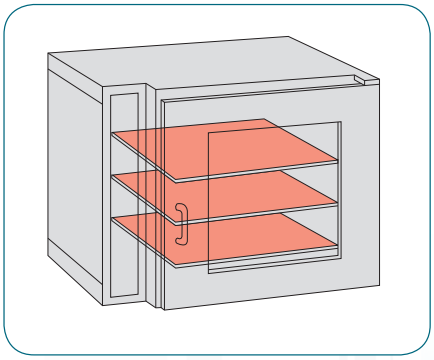
Shelf for 3606 models: 810-387-00
Shelf for 3608 models: 810-439-00
Shelf for 3618 models: 810-440-00

Warranty: 1 year (parts and labor)
Certification: 4 models CE marked as noted in spec table. All other models carry cCSAus

Vacuum Ovens | Technical Know-how

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.



Heat transfer under vacuum is always via the shelf.

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 chart specifies the plug pictures that correspond to the pictures in the ovens spec tables.

US plug: Nema 5-15	
US plug: Nema 6-15	
EU plug: CEE 7/7	

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