

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:

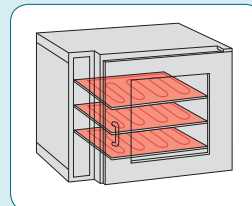
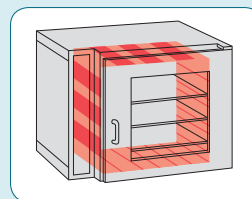
- 3 convenient chamber sizes from 25L to 128L
- Choice of jacket heated and shelf heated models:
 - >Jacket-heated, Model M – all 3 sizes: temperature range: ambient +15°C to 200°C
 - >Shelf heated, Model P – only 2 larger sizes: Temperature range: ambient + 10°C to 300°C / 400°C
The shelves incorporate 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

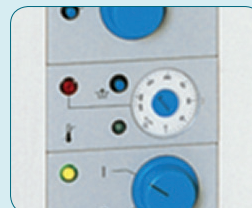
Model M, Jacket Heating

- 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

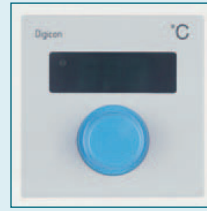
Optional temperature controllers – in place of standard Kelvitron controller:



Microprocessor controlled temperature controller

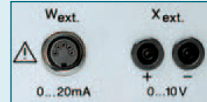
Eurotherm™ 2404/P4 for models M with:

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

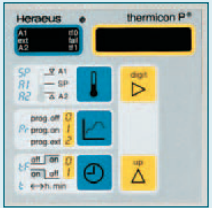


Digicon™ temperature controller with analog interface

- 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.

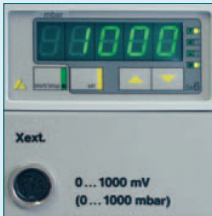


Microprocessor controlled temperature controller

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

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

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: IQQDOCE89003503 ; German: IQQDOCG89003503 ; French: IQQDOCF89003503	

Vacutherm Vacuum Ovens Ordering Information, continued

Some options are also available as retrofit kits and can 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



Small model VT6025

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



Vacuum chamber with two additional shelves

