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Heraeus

VACUUM HEATING AND DRYING OVENS

Gentle and safe



Quality Products – Lifetime Care

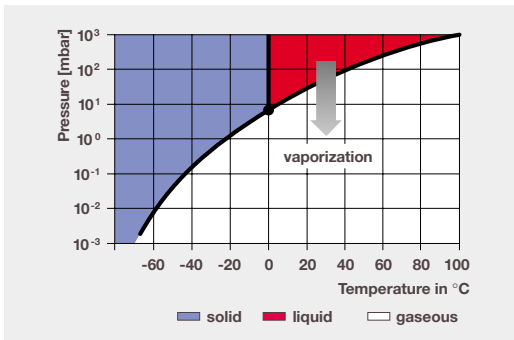
 Kendro®

VACUTHERM® 6000 – USER FRIENDLY AS NEVER BEFORE

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The intelligent, modular system: three sizes and two types of heating

Series 6000 vacutherm® ovens uncompromisingly meet all demands relating to heat treatment in vacuum, whether simple routines or complicated processes up to 400 °C are involved. Starting with high quality standard models, application specific configurations can be realised through selection from a wide range of equipment options.



Water: Lower pressure means lower boiling point

Vacuum applications offer many benefits:

- Gentle drying of heat sensitive materials
- Significantly reduced drying times
- Residue free drying of intricately designed parts
- Elimination of oxidation associated with heat treatment
- Safe drying of flammable solvents
- Targeted recovery of degassed products

High tech equipment

Safety tested

Kendro has set new safety standards with Heraeus® vacutherm® 6000 Vacuum Drying Ovens. With the double-pane door made of safety glass, for instance, implosion protection is guaranteed throughout the equipment's working life. The glass cannot become brittle or dull as with plastic. Special versions are available for drying applications that involve flammable solvents.



Process safety

With heating systems that have been tried and tested for decades, uniform and reproducible drying and heat treatment is ensured.



Time saving

Jacket- or shelf-heating results in reduced heating-up times. Process times are up to six times faster than in conventional Vacuum Drying Ovens.

User comfort

With the inert gas connection incorporating a precision valve, process gas is 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 electro-polished surfaces and rounded corners, and is therefore easy-to-clean.

Corrosion resistance

The vacuum chamber is made of high quality stainless steel (1.4571) with outstanding corrosion resistance.

Economic viability

With their high quality standard features, extreme reliability and state of the art safety concepts, vacutherm® ovens offer the best price/performance ratio.

GENTLE, FAST AND EXTREMELY VERSATILE

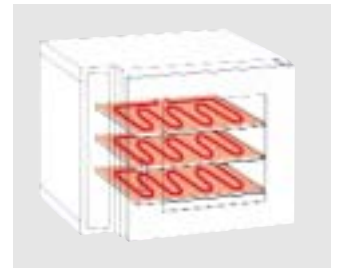
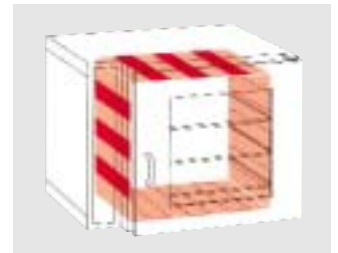
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A well thought-out concept – Heraeus® vacutherm® VT 6060 and VT 6130



MODEL M, JACKET HEATING

- Rated temperature of 200 °C
- The large direct contact heating elements are reinforced at the front and therefore compensate natural loss



MODEL P, SHELF HEATING

- Rated temperature of 300/400 °C
- Rapid heating-up times
- Direct heat transfer ensures short process times
- Separate temperature control and overtemperature protection for each shelf

Features

- Modular design
- Two types of heating
- Temperatures to 200, 300 and 400 °C
- Total volumes of 53 and 128 l

Standard features

- User friendly Kelvitron® t micro-processor controller for jacket heated ovens and Digicon® multi-channel Controller for shelf heated ovens
- Upper limit cut-out for oven and product protection
- Certified safety (GS-mark)
- Vacuum chamber made of stainless steel (1.4571), electropolished, 100 % rounded corners, easy-to-clean and corrosion resistant
- Stainless steel vacuum fittings, tubing and ball valve
- Analogue pressure display
- 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

Two types of heating

The vacutherm® 6000 series is available with two different types of heating:

- **model M, jacket heating:**
Heat transfer from the vacuum chamber via the shelves to the load
- **model P, shelf heating:**
The shelves incorporate heating coils. Heat is transferred directly to the load.

The benefits of shelf heating

The direct energy transportation ensures rapid heating-up and process times. Drying process times can be reduced as much as 6 fold compared to standard drying methods.

vacutherm® 6000 Order numbers

| Type | Total volume | Order no. |
|-----------|----------------------------|-----------|
| VT 6060 M | 53 litres, jacket heating | 51014539 |
| VT 6130 M | 128 litres, jacket heating | 51014541 |
| VT 6060 P | 53 litres, shelf heating | 51014542 |
| VT 6130 P | 128 litres, shelf heating | 51014543 |

EVERYTHING THAT'S NEEDED

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Options and accessories for the unique vacuotherm® 6000



VT 6130 with direct measurement of sample temperature

Option for rated temperature of 400 °C

As an option the ovens vacuotherm® 6060 P and 6130 P can operate at temperatures up to 400 °C. These vacuum ovens come standard with a door without an inspection window.

Vacuum chamber with 100 % rounded corners

This model has rounded corners at the sides as well as at the rear of the vacuum chamber, making the inner casing even easier to clean.

VITON door gasket

Compared to standard door gaskets VITON provides increased resistance to highly caustic substances.

Accessories

For powders or granules, trays are available as accessories.

Accessories

| Accessories for vacuotherm® | Order no. |
|---|-----------|
| Support stand, 780 mm height for VT 6060 M/P | 50029890 |
| for VT 6130 M/P | 50029597 |
| Additional shelf (incl. 2 shelf supports) for VT 6060 M | 50043975 |
| for VT 6130 M | 50043976 |
| Tray for VT 6060 M/P made of stainless steel | 50048621 |
| for VT 6060 M/P made of aluminium | 50048620 |
| for VT 6130 M/P made of stainless steel | 50048619 |
| for VT 6130 M/P made of aluminium | 50048618 |
| Stainless steel vacuum connection kit for tubing with a diameter of 10 mm | 50046860 |

Options

| Options for vacuotherm® 6000 M/P | Order no. |
|--|-----------|
| RS 232 computer interface for Kelvicon® controller | 51900284 |
| Digital pressure display | 51900069 |
| Pressure controller with solenoid valve | 51900193 |
| VITON door gasket for VT 6060 M | 51900071 |
| VITON door gasket for VT 6130 M | 51900072 |
| Daily program timer, mechanical | 51900205 |
| 24 hour timer (20 h at 60 Hz) | 51900073 |
| Weekly program timer, mechanical | 51900008 |
| Weekly program timer, digital | 51900161 |
| Digital sample temperature display with flexible Pt 100 temperature sensor and socket for external data recorder | 51900074 |
| Thermicon® P temperature program controller (for M-models only) | 51900209 |
| Eurotherm 2404/P4 temperature controller with RS 232 interface (for M-models only) | 51900297 |
| Eurotherm 2404/P4 temperature controller with RS 422/485 interface (for M-models only) | 51900298 |
| Digicon® S temperature controller with analog interface 0-20 mA/0-10 V | |
| (200 °C): VT 6060 M and VT 6130 M | 51900194 |
| (300 °C): VT 6060 P and VT 6130 P | 51900195 |
| (400 °C): VT 6060 P | 51900196 |
| VT 6130 P | 51900197 |
| Rated temperature of 400 °C, (door without inspection window) | |
| for VT 6060 P | 51900079 |
| for VT 6130 P | 51900080 |
| Central monitoring connection | 51900081 |
| Vacuum chamber with rounded corners at the rear; | |
| for VT 6060 M | 51900075 |
| for VT 6060 P | 51900077 |
| for VT 6130 M | 51900076 |
| for VT 6130 P | 51900078 |
| Temperature recorder with flexible Pt 100 temperature sensor (not in combination with the 400 °C model) | 51900291 |

THOUGHT THROUGH IN THE FULLEST DETAIL

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vacuTherm® 6000 regulation and control modules

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



Temperature recorder

- Continuous temperature documentation on thermal paper
- No ribbon or ink required
- Paper roll sufficient for 14 days continuous use
- Recorder can be switched on and off as required
- For M-models only

24 hour timer

- For on/off intervals within 24 hours (not in combination with sample temperature display for VT 6060)



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



Digital load temperature display

- Temperature measured directly at load
- With flexible Pt 100 temperature sensor
- External temperature recorder can be connected



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



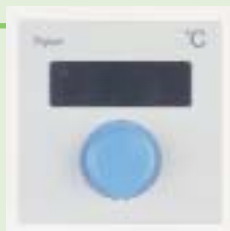
Central monitoring

- Connection for max. 250 V/3 A

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



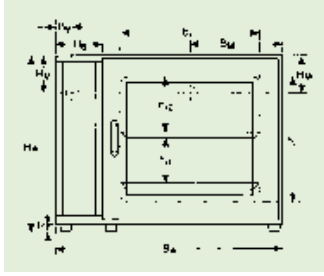
RS 232 interface for temperature registration



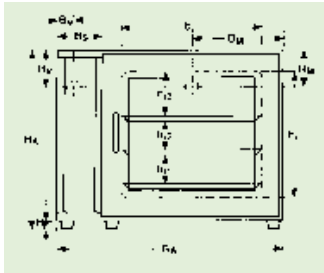
VACUTHERM® 6000 TECHNICAL DATA

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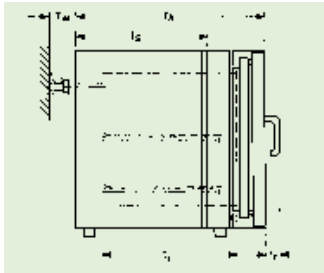
Dimensions



Front view
of model VT 6060



Front view
of model VT 6130



Side view
of models VT 6060 and VT 6130

| 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 | b _i | 415 | 495 | 415 | 495 |
| | | h _i | 345 | 489 | – | – |
| | | t _i | 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 |
| | | H _F | 24 | 24 | 24 | 24 |
| Feet height | | | 24 | 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 |
| T _W with models for flammable solvents | | T _{W BL} | 160 | 160 | 160 | 160 |
| Temperature¹⁾ | | | | | | |
| Rated temperature ¹⁾ | °C | | 200 | 200 | 300/400 | 300/400 |
| Spatial temperature deviation ²⁾ | | | | | | |
| at 200 °C | ± °C | | ± 4 | ± 6 | ± 3 | ± 4 |
| at 300 °C | ± °C | | – | – | ± 6 | ± 6 |
| at 400 °C | ± °C | | – | – | ± 7 | ± 7 |
| Temperature deviation | | | | | | |
| in time with electronic controllers | °C | | ≤ 0.5 | ≤ 0.5 | ≤ 0.5 | ≤ 0.5 |
| Heating-up time to 98 % of 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 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 | $\frac{\text{mbar} \times \text{l}}{\text{s}}$ | | <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 |
| Electrical input power | | | | | | |
| Voltage ⁵⁾ | V~(50/60 Hz) | | 230±10% | 230±10% | 230±10% | 230±10% |
| Power | kW | | 1.7 | 2.2 | 1.6 | 3.0 |
| Heat transfer to environment | | | | | | |
| at 200 °C | Wh/h ⁶⁾ | | 550 | 870 | – | – |
| at 300 °C | Wh/h ⁶⁾ | | – | – | 450 | 880 |

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 T_A + 15 °C; control range P: electronic controller from T_A + 10 °C; T_A = Ambient temperature

³⁾ Measured on the shelves

⁴⁾ Distributed load

⁵⁾ Other voltages on request

⁶⁾ In line with heat transfer to the environment

READY TO CONNECT

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Vacuum pumps for Vacuum Drying Ovens: high quality, power and a long life

HMD 8 three-step diaphragm pump

Standard pump for drying processes involving water and non-caustic vapours.

Features: condensate trap and drain cock. 100% oil free, requires little maintenance. Short pump-down times. Suitable for all vacuotherm® 6000 ovens.

HMD 4C three-step diaphragm pump

Chemical pump for drying processes involving caustic/corrosive

vapours. Fully lined with PTFE and other fluorinated hydrocarbons.

Functional design: integrated glass condensate trap and an emission condenser with cooling, supplied as standard. We recommend this pump for all vacuotherm® 6000 models in particular the BL versions for flammable solvents (see page 8).

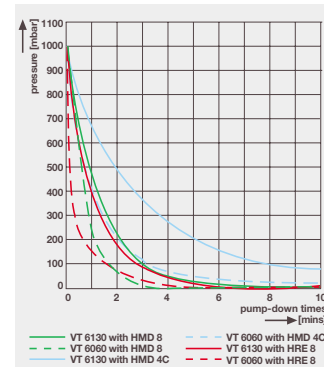
HMZ 2C two-step diaphragm pump

Features like HMD 4C but excluding emission condenser. Due to its low pump volume, we recommend it for model VT 6025.

HRE 8 one-step rotary vane pump

Precision vacuum pump designed for low pressure applications (<1 mbar).

Features: condensate trap and drain cock on the suction end, trap with integrated oil filter on the pressure end and permanent gas ballast. Suitable for all vacuotherm® 6000 ovens in particular for heat treatment without liquids.



Pump-down times

Vacuum pumps – Technical data and Order numbers

| Pumps | Diaphragm pumps | | | Rotary vane pumps | |
|--|-------------------|-----------------|-----------------|-------------------|----------------------|
| | HMD 8 | HMD 4C | HMZ 2C | HRE 8 | |
| Rated pumping capacity (Pneurop) | m ³ /h | 6.5 | 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 x 10 ⁻¹ |
| Water vapour compatibility | mbar | – | – | – | 40 |
| Capacity of trap | ml | 725 | 500 | 500 | 500 |
| Weight | kg | 26 | 18 | 14 | 24 |
| 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 |
| Order number | | 50040078 | 50028362 | 50028364 | 50028361 |

All Heraeus® pumps are equipped with the necessary components for connection to Heraeus® Vacuum Ovens.

ALL IN ONE

vacucenter® vacuum pump cabinet – the complete solution

vacuotherm® and vacucenter® – one system for any type of application

This fully equipped vacuum pump cabinet is designed for vacuotherm® 6060 and 6130 Vacuum Drying Ovens. Three types of vacuum pumps are available.

- Central power supply and single main switch for both vacuum oven and pump
- Hours counter for tracking oil changes for rotary vane pumps

vacucenter® is not designed for use in BL-versions (for flammable solvents).

vacucenter® vacuum pump cabinet – Technical data and order numbers

| vacucenter® with pump model | | HMD 8 | HMD 4C | HRE 8 |
|-----------------------------|----------------|-------------|-------------|-------------|
| 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 |
| Order number ¹⁾ | | 50044332 | 50044333 | 50044334 |

¹⁾ in combination with VT 6060 or VT 6130



A SAFE BET

Vacuum Drying Ovens for flammable solvents

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Heraeus® vacutherm® 6000 BL Vacuum Drying Ovens for safe drying of samples that contain flammable solvents offer a unique safety concept that, even in the case of unsupervised operation, provides optimum protection.

Features:

- Rated temperature of 200 °C/300 °C
- TÜV and GS tested
- Total volume of 53 and 128 l (25 l on request)



VT 6060 BL with shelf heating

Additional features

In addition to the standard version described before all ovens also feature a forced release of inertgas system which, in the event of a leakage, prevents the formation of explosive mixtures inside the vacuum chamber. Furthermore the heating elements are only activated once the pressure inside the vacuum chamber is below 80 mbar.

Safety concept

- Meets the requirements of Explosion Protection Guidelines
- Pressure related activation of the heating elements
- Precision control valve allows inert gas operation
- Forced release of inertgas in case of an accidental increase in pressure

Safe, user friendly operation

The VT 6000 BL's safety concept has no limitations to working temperatures. Elaborate calculations of working temperature – due to the composition of solvents are therefore not required.

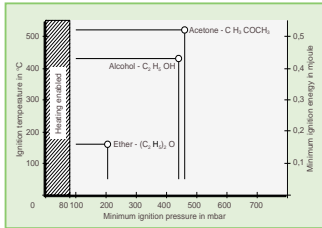
Technical data

The vacutherm® 6000 BL technical data are identical to those of the vacutherm® 6000 series, see table on page 6.

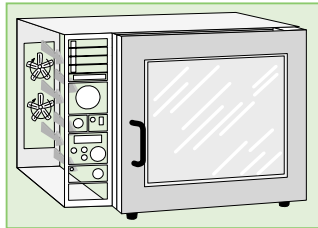
TECHNICAL FEATURES

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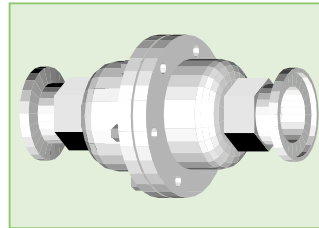
vacutherm® 6000 BL: safety first



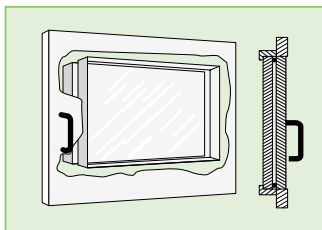
Pressure related activation of heating at < 80 mbar. Forced release of inert gas of the vacuum chamber in the case of accidental increase of pressure above 130 mbar.



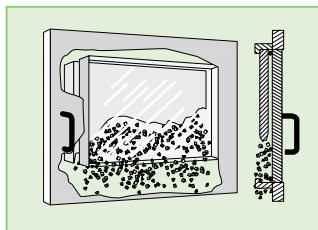
Permanent ventilation of the control panel area through two independently operating fans, to prevent solvent leakage. There is no need of permanent feed with gas.



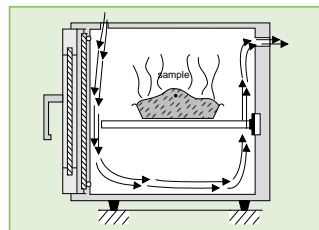
The optional flame filter prevents the spread of flames to protect the vacuum oven from sources of ignition. The flame filter is recommended for applications with solvents with ignition temperatures of < 21 °C.



Double pane door made of safety glass.



Tested implosion protection of the double pane sliding door, in accordance with GS approval.



Inert gas connection for gentle ventilation and for operation with process gases.

vacutherm® 6000 BL Order Numbers

| Units | | Order no. |
|--------------|--|-----------|
| VT 6060 M-BL | 230 V ~, 50/60 Hz, jacket heating, 200 °C, 53 l | 51014546 |
| VT 6130 M-BL | 230 V ~, 50/60 Hz, jacket heating, 200 °C, 128 l | 51014547 |
| VT 6060 P-BL | 230 V ~, 50/60 Hz, shelf heating, 300 °C, 53 l | 51014548 |
| VT 6130 P-BL | 230 V ~, 50/60 Hz, shelf heating, 300 °C, 128 l | 51014549 |

| Options | | Order no. |
|-------------------------|---|-----------|
| Calibration Certificate | Certificate of calibration for 150 °C at centre of the vacuum chamber | 50044187 |
| | Calibration at an additional measuring point (max. 2) | 50044188 |

| Accessories | | Order no. |
|---|--|-----------|
| Flame filter | | 50042626 |
| Support frame, 780 mm height | for VT 6060 M/P-BL | 50029890 |
| | for VT 6130 M/P-BL | 50029597 |
| Additional shelves | including shelf supports | |
| | for VT 6060 M-BL | 50043975 |
| | for VT 6130 M-BL | 50043976 |
| Tray | for VT 6060 M-BL made of stainless steel | 50048621 |
| | for VT 6060 M-BL made of aluminium | 50048620 |
| | for VT 6130 M-BL made of stainless steel | 50048619 |
| | for VT 6130 M-BL made of aluminium | 50048618 |
| Stainless steel vacuum connection kit for tubing with a diameter of 10 mm | | 50046860 |
| HMD 4C diaphragm pump | | 50028362 |

GOOD THINGS COME IN SMALL PACKAGES

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VT 6025 – the compact Vacuum Drying Oven

The stainless steel vacuum chamber – which is welded from the outside – is electropolished and therefore exceptionally resistant to corrosion. All parts that come into contact with media are made of stainless steel.

Features

- Total volume of 25 l
- Temperatures to 200 °C
- Compact design

Standard model features

- Jacket heating
- Kelvitron® microprocessor temperature controller with digital temperature display
- Analogue pressure display
- Upper limit cut-out (class 2)
- Stainless steel (1.4571) vacuum chamber
- Ventilation valve

Comfort oven

The comfort model is designed for applications in chemical-pharmaceutical laboratories.

- The vacuum chamber is seamlessly welded from the inside
- Inert gas connection for precise release of non-flammable, non-toxic gases (VDI 2046) with precision valve and overpressure safety valve
- DN 25 access port in the rear wall comes standard with comfort ovens

Further equipment options

Additional options for pressure and temperature documentation are available to meet requirements for ISO 9000, GLP/GMP, etc.



Standard VT 6025

VT 6025 Order Numbers

| Units | | | Order no. |
|---------|--|-------------------------------|-----------|
| VT 6025 | Standard model | 230 V, 50/60 Hz ¹⁾ | 51014550 |
| VT 6025 | Comfort oven with inert gas connection | 230 V, 50/60 Hz ¹⁾ | 51014552 |
| VT 6025 | Comfort oven with inert gas connection and digital pressure display with recorder output | 230 V, 50/60 Hz ¹⁾ | 51014553 |
| VT 6025 | Comfort oven with inert gas connection and digital pressure display with recorder output and Digicon® S temperature controller with interface 0 – 20 mA/0 – 10 V | 230 V, 50/60 Hz ¹⁾ | 51014554 |

¹⁾ Other voltages on request.

Options/Accessories for VT 6025 Vacuum Drying Oven

| | | |
|---------------------------|-------------------------------|----------|
| Precision control valve | (only for order no. 51014550) | 51900326 |
| Additional shelf | (incl. shelf supports) | 50028403 |
| RS 232 computer interface | | 51900284 |



Vacuum chamber with two additional shelves

VT 6025 TECHNICAL DATA

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| VT 6025 | | |
|---|--|------------------------|
| 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 | | |
| Rated voltage ²⁾ | V~(50/60 Hz) | 230 ± 10% |
| Rated power | kW | 1.3 |
| Power consumption (empty) at 200 °C ³⁾ | Wh/h | 340 |
| Temperature | | |
| Rated temperature ⁴⁾ | °C | 200 |
| Spatial temperature deviation at 200 °C ⁵⁾ | ± °C | ± 4 |
| Temperature deviation in time at 200 °C | ± °C | <0.5 |
| Heating-up time to 98 % of 200 °C ⁶⁾ | min | <100 |
| Electrical protection | | |
| Protection class | | I |
| Protection type | | IP 20 |
| Vacuum | | |
| Max. final vacuum | mbar (hPa) | 1 x 10 ⁻² |
| Leak rate | $\frac{\text{mbar} \times \text{l}}{\text{s}}$ | < 1 x 10 ⁻² |

¹⁾ Distributed load

²⁾ Other voltages on request

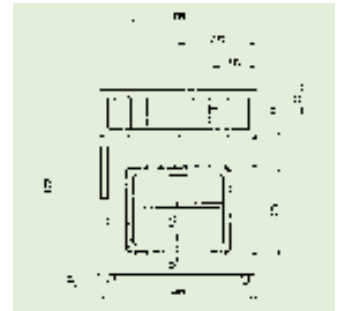
³⁾ In line with heat transfer to the location

⁴⁾ Control range with electronic controller
 from T_A+ 15 °C; T_A = ambient temperature

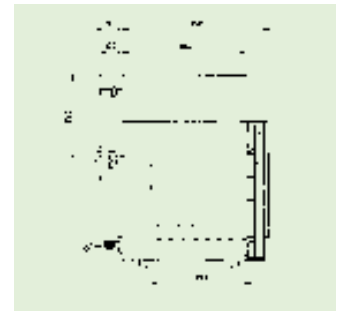
⁵⁾ Measured on the shelves

⁶⁾ The values stated apply to the empty oven and vacuum operation (measured in acc. with DIN 12880, part 2)

Dimensions



VT 6025 front view



VT 6025 side view

EACH TO HIS OWN

Challenge our Customer Projects Department!

In addition to the extensive features provided by our standard equipment, we offer project related solutions.

An example:

Vacuum soldering and vacuum tempering equipment

Fully and partly automatic vacuum soldering and tempering equipment with directly heated and cooled sample shelves, suitable for soldering in an inert gas atmosphere using a non flammable form gas N₂/H₂ 95/5 % or for heat treatment under vacuum.

- Customer specific equipment modifications
- Precise soldering with exact reproducibility
- Excellent operation and process safety
- Low oxygen partial pressure
- Negligible protective gas-consumption
- Small footprint

