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Highlighting technical features for
Thermo Scientific Vacutherm Vacuum Ovens

Key Features

- Three chamber sizes available: 25L, 53L, 128L
- Outstanding capabilities for fast and gentle drying
- Customizable options available to fit your application needs

Why choose a Vacutherm vacuum oven for your lab?

Dry up to six times faster than conventional units with a Thermo Scientific™ Vacutherm™ vacuum heating and drying oven.* Minimize operation time with outstanding heat transfer and fast heat up.**



MODELS

- Jacket-heated models, available with Kelvitron™ microprocessor control, operate up to 200°C
- Shelf heated models operate up to 300°C (400°C option offered), available with Digicon multi-channel controls which allow you to manage each shelf temperature separately

TYPICAL APPLICATIONS

Food industry

- Determination of the solid content of foods. Samples are typically dried under vacuum at around 60°C

~ **Our Solution:** Vacutherm VT6060 M or VT6130 M oven with standard pump and trap

Pharmaceutical industry

- Drying additives for pharmaceuticals. Samples are dried with pressure at 10-1mbar or forming gas at 60–80°C.

~ **Our Solution:** Vacutherm VT6060 P or VT6130 P oven with an oil-free pump

- Gentle drying of raw materials and determination of solid content. Samples are dried under vacuum at 60–80°C.

~ **Our Solution:** Vacutherm VT6060 M or VT6130 M oven with standard pump and trap

* Based on internal testing

** Based on previous models

Specifications and Ordering Information

Cat.No.	Model	Type	Capacity	Interior Dimensions W x H x D	Exterior Dimensions ¹ W x H x D	Rated Temp. ^{2,3}	Spatial temp. deviation ^{2,4}	Heat Output (at max. temp.)	Electrical ⁵	Weight
51014550	VT 6025	Jacket-heated no inert gas connection	25L (0.88 cu.ft.)	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.)	200°C	±4 (@200°C)	340 Wh/h	230V 50/60Hz, 1.3kW	58kg (128 lb.)
51014552	VT 6025	Jacket-heated	25L (0.88 cu.ft.)	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.)	200°C	±4 (@200°C)	340 Wh/h	230V 50/60Hz, 1.3kW	58kg (128 lb.)
51014553	VT 6025	Jacket-heated ⁶	25L (0.88 cu.ft.)	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.)	200°C	±4 (@200°C)	340 Wh/h	230V 50/60Hz, 1.3kW	58kg (128 lb.)
51014554	VT 6025	Jacket-heated with Digicon S ⁷	25L (0.88 cu.ft.)	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.)	200°C	±4 (@200°C)	340 Wh/h	230V 50/60Hz, 1.3kW	58kg (128 lb.)
51014539	VT 6060 M	Jacket-heated	53L (1.87 cu.ft.)	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.)	200°C	±4 (@200°C)	540Wh/h	230V 50/60Hz, 1.7kW	82kg (181 lb.)
51014542	VT 6060 P	Shelf-heated ⁸	53L (1.87 cu.ft.)	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.)	300/400°C	±3 (@200°C) ±7 (@300°C) ±9 (@400°C)	450 Wh/h	230V 50/60Hz, 1.6kW	90kg (198 lb.)
51014541	VT 6130 M	Jacket-heated	128L (4.52 cu.ft.)	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.)	200°C	±7 (@200°C)	870 Wh/h	230V 50/60Hz, 2.2kW	153kg (337 lb.)
51014543	VT 6130 P	Shelf-heated ⁸	128L (4.52 cu.ft.)	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.)	300/400°C	±4 (@200°C) ±7 (@300°C) ±9 (@400°C)	880 Wh/h	230V 50/60Hz, 3.0kW	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 Control range M: electronic controller from TA +15°C; control range P: electronic controller from TA +10°C; TA = Ambient temperature

⁴ Measured on the shelves

⁵ Other voltages on request

⁶ With digital pressure display and recorder output

⁷ Digicon S: analog temperature controller

⁸ Comes standard with Digicon multi-channel controller and rated temperature of 300°C; for 400°C: order option in addition, see next page

Thermo
SCIENTIFIC

Find the right Vacuotherm vacuum oven for your application needs



- Gentle drying of heat sensitive materials
- Significantly reduced drying times when compared to convectional oven without vacuum
- Drying of intricately designed parts
- Elimination of oxidation associated with heat treatment
- Targeted recovery of degassed products

DIAPHRAGM PUMPS					ROTARY VANE PUMPS
Vacuum Pumps		MD 12H	HMD 4C	HMZ 2C	RE 9H
Cat. No.		50040078	50028362	50028364	50028361
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 x 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		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	3.2	–	3.37
External dimensions (W x H x D)	mm	895 x 650 x 900	895 x 650 x 900	–	895 x 650 x 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

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
50048619	Stainless steel tray for VT6130
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
FACTORY INSTALLED OPTIONS	
Cat.No.	Options for Vacuotherm 6060 and 6130 M/P
51900284	RS 232 computer interface for Kelvicon controller
51900069	Digital pressure display
51900193	Pressure controller with solenoid valve
51900071	VITON door gasket for VT 6060 M
51900072	VITON door gasket for VT 6130 M
51900205	Daily program timer, mechanical
51900073	24 hour timer (20 h at 60 Hz)
51900008	Weekly program timer, mechanical
51900161	Weekly program timer, digital
51900074	Digital sample temperature display with flexible pt 100 temperature sensor and socket for external data recorder
51900209	Thermicon P temperature program controller (M-models only)
51900297	Eurotherm 2404/P4 temperature controller with RS232 interface (M-models only)
51900298	Eurotherm 2404/P4 temperature controller with RS 422/485 interface (M-models only)
51900081	Central monitoring connection
Cat.No.	DigiCon® S temperature controller with analog interface 0–20 mA/0–10 V
51900194	(200 °C): VT 6060 M and VT 6130 M
51900195	(300 °C): VT 6060 P and VT 6130 P
51900196	(400 °C): VT 6060 P
51900197	(400 °C): VT 6130 P
Cat.No.	Rated temperature of 400 °C, (door without inspection window)
51900079	for VT 6060 P
51900080	for VT 6130 P
Cat. No.	Vacuum chamber with rounded corners at the rear
51900075	for VT 6060 M
51900077	for VT 6060 P
51900076	for VT 6130 M
51900078	for VT 6130 P
Cat. No.	Options for Vacuotherm 6025
51900326	Precision control valve for standard model (order nos. 51014550 and 51014551 only)
51900284	RS232 computer interface

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Thermo
 SCIENTIFIC
 A Thermo Fisher Scientific Brand

Maximum Convenience by Advanced Digital Technology

DAIHAN NEW Generation Digital Precise Vacuum Oven

Excellent Thermal Conductivity! Gas Exchangeable! ThermoStable™ Vacuum Oven

In vacuum condition, the heat transfer is limited because the chamber has no air inside and heat transfer by air can't be done. That means, the most significant technology for Vacuum Ovens is how to achieve the High Thermal Conductivity in vacuum.

DAIHAN New Vacuum Ovens have the independent Vent and Vacuum lines. This structure is ideal for maintenance of vacuum condition and the gas exchange.

Also, the newly developed High Heat Conduction Mechanism maximizes the heat conductivity in vacuum.

The ergonomic designed Jog-Dial Controller and the World-first **Smart-Lab™ Controller** are also equipped to the new generation Vacuum Ovens.

Experiencing this **High Thermal Conductivity, ThermoStable™ OV**, nothing can be compared.



» Upgrade of Performance



• Available Gas Exchange

DAIHAN Vacuum Ovens have two independent tubing of Vent line and Vacuum line and each tubing is separately connected to the outer ports. This structure optimizes the gas exchange in the chamber.

Also, a new gas is inserted into the chamber through the Vent line located on the bottom and the inner air (gas) is simultaneously released through the Vacuum line located on the top. By doing that, the vacuum is maintained in the chamber while the gas is exchanged.

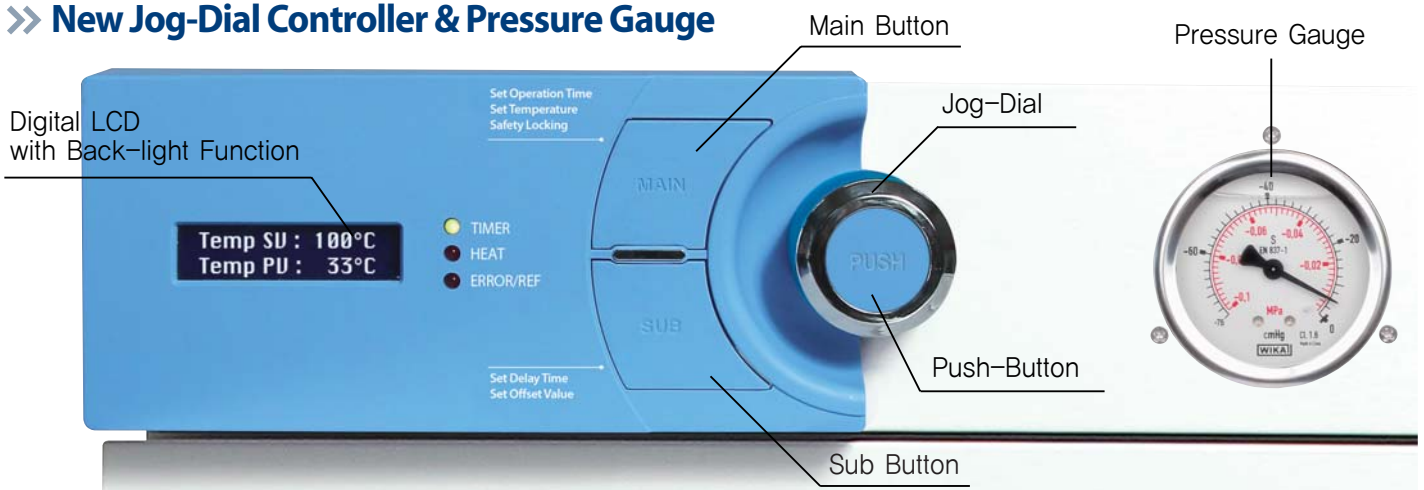


• High Heat Conduction

The unique High Heat Conduction Mechanism realizes the best performance of Heat Transfer in the vacuum environment that has no heat transfer by air.

The brackets attached on the sides of chamber, is directly assembled to the shelves. This structure enhances heat transfer to samples placed on shelves. The various sized flasks or beakers can be put in the chamber by simple disassembly of shelves.

» New Jog-Dial Controller & Pressure Gauge



DAIHAN ThermoStable™ OV Precise Vacuum Ovens, Highly Safety Viewing Window, 18.6-/30-/69-Lit., up to 200°C NEW with 2 × Al-Shelves, Digital Fuzzy Control, Superior Temp. & Vacuum Accuracy, Highly Safety Viewing Window, 10~750 mmHg

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Suitable for Drying, Baking, Conditioning, Curing, Out-Gassing Solids and Liquids, Vacuum Embedding, Moisture Testing, Plating and Aging Test
- Very Easy and Convenient for Vacuuming and Venting, Easy to read Vacuum Gauge
- Highly Safety Viewing Window (Tempered Safety Glass+ Polycarbonate Window)
- Patented Jog-Dial Control System and Back-Light LCD
- UL/CUL Certified ■ CE Certified
- PL(Product Liability) Insurance

- * Digital Fuzzy Control System Implementing Superior Temperature Accuracy
- * RS232C Interface for Remote Monitoring and Controlling with PC
- * Superior Uniformity and Stability * Storage Function : Alarm & Timer
- * High Quality Door Sealing : High Temperature Grade Silicone Molded Gasket
- * Over Temperature & Over Current Protection and Sensor Error Detection
- * Locking Mode Supported for Experimental Safety (Input to Jog-Dial can be disabled)

Specification

Model	ThermoStable OV-20	ThermoStable OV-30	ThermoStable OV-70	
Capacity	18.6 Lit.	30 Lit.	70 Lit.	
Vacuum Range	10 ~ 750 mmHg			
Temp.	Range / Sensor	Ambient +5°C to 200°C / PT100		
	Accu./ Uniformity	± 0.5°C at 100°C / ± 2.0°C at 100°C		
Heating Power/Consumption	300W×2ea	300W×2ea	400W×4ea	
Heat-up Time	50 min. to 100 °C, 90 min. to 150 °C			
Timer & Alarm	99hr 59min (with delay / Continuous run.), Error status & Timer-end			
Display	Digital LCD with Back Light			
Controller	Digital Fuzzy Controller with Jog-Dial Switch (Turn & Push)			
Resolution	Control : ±1.0°C, Display : ±1.0°C			
Shelves	Included 2ea Aluminum Shelves			
Safety Circuit	Over Temp. and Over Current Protector, Sensor Error Detector, Leakage Breaker			
Material	Internal : Stainless steel (# 304), External : Powder Coated steel, Window : Tempered Safety Glass 12T, Poly Carbonate 5T for Safety			
Others	Storage Function (Temp and Timer) Locking Mode (Jog-Dial Input Disabled)			
Dimension (w×d×h)	Interior (mm)	265×290×265	300×330×300	400×435×400
	Exterior (mm)	472×443×542	507×483×577	570×588×677
Vacuum Inlet Valve Size	od. 10 mm			
Net Weight	48 kg	56 kg	82 kg	
Packing Size (w×d×h) (mm) & Gross Weight		572×660×840	710×762×970	780×826×1,030
		67 kg	76 kg	114 kg
Power Consumption	600 W	600 W	1.7 kW	
Power Supply & Cord Plug*	1 Phase, AC 120V, 60Hz or AC 230V, 50 / 60Hz			

* Other Specifications are available upon Customer's Request.

Ordering Information

DH.WOV03020	Vacuum Oven, 230V, 18.6 Lit., "ThermoStable OV-20"
DH.WOV03030	, 30 Lit., "ThermoStable OV-30"
DH.WOV03070	, 70 Lit., "ThermoStable OV-70"
DH.WOV04020	Vacuum Oven, 120V, 18.6 Lit., "ThermoStable OV-20"
DH.WOV04030	, 30 Lit., "ThermoStable OV-30"
DH.WOV04070	, 70 Lit., "ThermoStable OV-70"

Spare Aluminum Shelves

DH.WOV11020	(1) Standard Shelf, Aluminum, "OVS020", w295×d285×h98mm, for 18.6 Lit.
DH.WOV11030	, "OVS030", w295×d285×h98mm, for 30 Lit.
DH.WOV11070	, "OVS070", w395×d395×h130mm, for 70 Lit.

Validation (IQ, OQ) Service

DH.WOV31020	Validation Service(IQ, OQ), "OVV020", for "ThermoStable OV-20"
DH.WOV31030	, "OVV030", for "ThermoStable OV-30"
DH.WOV31070	, "OVV070", for "ThermoStable OV-70"



Precise Vacuum Oven "ThermoStable OV-30"

※ See page 161 for the Optional Vacuum Pumps

WiseRemote® Remote Control Software

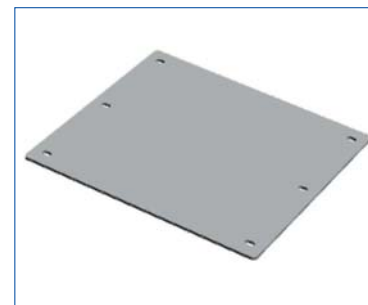
Connection of **Wisd** Temperature Devices with Interface RS232C to a PC Export Recorded Data (Excel Spreadsheet)



Main Screen



RS232C Cable & Software



(1) Standard Shelf, Aluminum (Included)