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TVO Series
Vacuum Ovens

CASCADE™ TEK



TVO-2 • TVO-5
TVO-2-2 • TVO-5-2

Ideal for Industrial, Analytical, and General Laboratory Applications

Cascade TEK vacuum ovens are recommended for critical scientific and analytical use in laboratory and pilot plant product research. Typical applications include outgassing, curing, drying, baking, pre-heating, conditioning, and life cycle testing. Choose from two cabinet sizes, each with a glass viewing window, inert gas connection, and a variety of gasket material options.

TVO Ovens Features and Benefits

The TVO Series ovens are engineered for safe, accurate, and precise performance in demanding laboratory environments.



TVO-2

- + Recipe Control - Write 4 recipes with up to a total of 40 steps.
- + Temperature range approximately 15°C above ambient to 220°C for multiple applications.
- 1 Integrated Over Temperature Limit with digital set-point (OTL) to provide additional temp limit control.
- 2 Stainless steel interior construction for long life operation, easy cleaning.
- 3 Watlow PM9 Plus controller with Ramp and Soak Temperature control.
- 4 Inert gas inlet connection and valve.
- 5 Aluminum shelves are provided to maximize space usage and optimize conductivity.
- 6 Heating elements on 4 sides to increase temperature uniformity.
- 7 Digital Vacuum Gauge
- + Access Port (KF-25 Fitting)
- + Internationally certified CAN/CSA, UL, EN, IEC 61010, and compliant with CE.

MADE IN USA

Temperature and Vacuum Performance

Cascade TEK vacuum ovens are available in 110-120V, 50/60Hz or 220-240V, 50/60Hz configurations and achieve temperatures up to 220°C.

Heat-Up Rapid heat-up times to 220°C get your product to temperature faster than ever.

Vacuum Heavy duty construction allows for an impressive maximum permitted end vacuum of 10 mTorr.

Applications

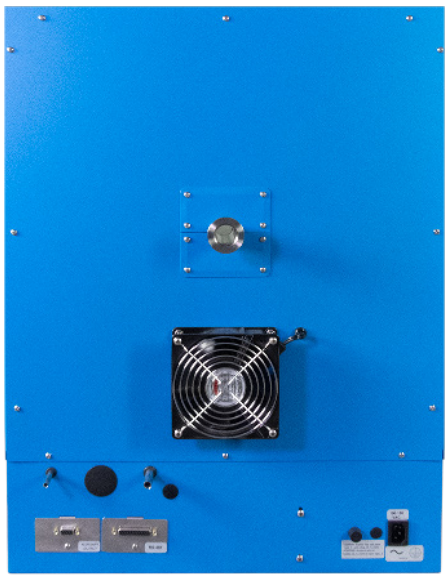
- Drying
- Outgassing
- Aging Tests
- Chemical Resistance Studies
- Vacuum Storage
- Moisture Removal
- Parts Cleaning
- Curing
- Bubble Removal
- Inert Atmosphere Processing



TVO-2



TVO-5



TVO-2

Control, Timer Program, and Monitoring

The Watlow PM9 Plus PID (proportional, integral, derivative) controller commands proportional power to the heating elements to provide the most accurate and responsive control. The control parameters are matched to the oven size to assure faster response to setpoint with minimal overshoot. The Watlow EZ-Zone supports custom recipe creation. Each recipe can support full ramp and soak control for custom applications. A total of 4 recipes with up to 40 steps can be used to configure the oven to your process.

Integrated Watlow Control Panel

All controls are centrally located on the main panel including power, Watlow PM9 Plus controller with integrated over-temperature limit and recipe control. The gauge panel allows easy access from the front of the unit to the manual vacuum and vent valves.

Main Power on/off switch

Green Display desired temp

Temp Controller displays temperature, set-point, and profile status

Red Display current temp

Built-In High Limit Control digital set-point

Up Temp

Down Temp

Up/Down Increment Key: Scroll up or down lists using the + or - keys Numeric Slider: Increase or decrease numeric parameters with the slider.



Vacuum Valve controls vacuum port

Vacuum Gauge displays chamber vacuum level

Vent Valve controls inlet vent port



TVO Options and Accessories

	OPT #	TVO-2	TVO-5
Full Range Digital Vacuum Gauge	4	9990850	9990850
Vacuum Pump - Small, Dry	5	6700614	6700614
Vacuum Pump - Large, Dry	6	6700600	6700600
Vacuum Pump - Small, Dual Stage Rotary (Oil)	7	6700596	6700596
Vacuum Pump - Large, Dual Stage Rotary (Oil)	8	6700606	6700606
Connection Kit - Small, Dry, PVC	9	9990863	9990863
Connection Kit - Large Dry, High Conductance, High CFM	10	PVC: 9990828 SS: 9990841	PVC: 9990828 SS: 9990841
Connection Kit - Small, Oil, PVC	11	9990822	9990822
Connection Kit - Large, Oil, High Conductance, High CFM	12	PVC: 9990849 SS: 9990846	PVC: 9990849 SS: 9990846
Data-Logging - Paperless Recorder of Time, Temp, Vacuum Process	13	Contact us for more details	Contact us for more details
Computer Interface Cable (for Watlow EZ-Zone)	14	9900764	9900764
Calibration and Certificate for Temperature Controller & Data Logger	15	9990840	9990840
IDP7 Tip-Seal Replacement Kit	16	X3807-67000	X3807-67000
Factory Acceptance Testing (FAT)	16	8070534	8070534
IQ/OQ: Installation and Operation Qualification Manuals	16	9640090	9640090
Silicone Gasket (Standard)	-	9490542	9490544
Viton Gasket (Low Out Gassing)	-	3450670	3450671
Fluorosilicone Gasket (Acid Resistant)	-	3450611	3450612
IDP-15 Tip-Seal Replacement Kit	-	X3815-67000	X3815-67000

Options must be specified when ordering. Contact Cascade TEK for additional information.

TVO Specification Chart

MODEL NAME 110-120V	TVO-2	TVO-5
MODEL NAME 220-240V	TVO-2-2	TVO-5-2
Part ID 110V-120V (220-240V)	CTV222 (CTV222-EA)	CTV522 (CTV522-EA)
Interior Volume	1.67 cu.ft. (47.2 liters)	4.5 cu.ft. (127.4 liters)
Interior Dimensions W x D x H	12" x 20" x 12" 304 x 508 x 304 mm	18" x 24" x 18" 457 x 610 x 457 mm
Exterior Dimensions W x D x H	20.5" x 31.0" x 26.3" 521 x 788 x 667 mm	26.7" x 35.0" x 32.3" 679 x 889 x 821 mm

*Extra standard and reinforced shelves available. See Accessories.



TVO-5

Features

Ramp and Soak Temp Controller

Recipe Control

Manual Vacuum and Vent Valves

Integrated Over Temp Limit

Digital Vacuum Gauge

Glass Viewing Window

Multiple Gasket Materials

SS Structural Interior

Aluminum Shelves

Customization Options

Cascade TEK offers a variety of customization options for any application. With our impressive team of experts, Cascade TEK builds solutions to any problem.

Vacuum ovens provide the ultimate in product drying, outgassing, bake-out and moisture removal. Cascade TEK's vacuum ovens are in stock and made in the USA.

- Sold complete with pumps and connection kits
- Programmable temperature control & digital overtemp protection
- Accommodates nitrogen/inert gas purging/venting
- Customize & Automate Your Drying Process



Ask about simple push-button process automation, data-logging, out-gas analysis, traps or any other option you require.

Let Cascade TEK help you develop the most simple & efficient vacuum drying process for your parts. Cascade TEK products can be built to your process.

Cascade Technical Solutions LLC

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Specifications subject to change. PN: 0740599 - Made in USA 8/21

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