




**HEAVY DUTY  
ELECTRIC AND GAS  
VERTICAL AIR FLOW  
CABINET OVENS**

# Vertical Air Flow Cabinet Ovens

Vertical air flow cabinet ovens specifically designed for work loads where the heated air must pass upward through the load, such as open ended cylinders or hanging parts. Two sizes, 14.9 and 28.6 cubic feet, at temperatures up to 850°F.

## STANDARD FEATURES

-  **UL LISTED CONTROL PANEL**
- **Standard Cabinet Ovens from Grieve meet the requirements of National Fire Protection Association Standard 86, Industrial Risk Insurers, Factory Mutual and OSHA standards. For some applications, such as those involving flammable solvents or hazardous locations, the above organizations require additional safety devices.**
- **Controls**
  - Digital, microprocessor based, thermocouple actuated, indicating temperature controller.
  - Modulating burner on gas ovens.
  - Motor control push buttons and on-off heat switch
  - LED pilot lights
- **Safety Equipment — Electric Oven**
  - Adjustable, thermocouple actuated, manual reset excess temperature controller
  - Separate heating element control contactors
  - Recirculating blower air flow safety switch
- **Safety Equipment — Gas Oven**
  - Adjustable, thermocouple actuated, manual reset excess temperature controller
  - Electronic flame safeguard protection
  - 325 CFM powered forced exhauster for combustion venting
  - Exhauster air flow safety switch
  - Recirculating blower air flow safety switch
  - Purge timer
  - High gas pressure switch
  - Low gas pressure switch
  - Two pilot safety shutoff valves with leak test stations
  - Two main safety shutoff valves with leak test stations
  - Valve position indicator on main safety shutoff valves
- **Construction**
  - Adjustable opposed louvers on full coverage supply and return duct work
  - 304 stainless steel interior
  - Aluminized steel exterior with enamel finish
  - Brushed stainless steel control panel face
  - Built-in baffles prevent radiant heat
  - Exceptionally heavy duty doors and door frame with explosion venting latches
  - High temperature door gasket with stainless steel spring insert
  - Two (2) nickel plated wire shelves
  - Channel shelf supports prevent shelves tipping
  - Adjustable fresh air intake and exhaust dampers
  - High pressure recirculating blower
  - All welded construction
  - 10 lbs/cf density industrial rockwool insulation
  - 1 year limited warranty
- **Every oven fully assembled and individually factory tested**



**MODEL VA-700 GAS  
WITH STANDARD MODULATING BURNER SYSTEM**



**MODEL VB-550 ELECTRIC**

# SPECIFICATIONS

CAUTION: OVENS PROCESSING COMBUSTIBLE MATERIAL ARE REQUIRED BY NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 86 TO HAVE A FIRE SUPPRESSION SYSTEM. IF FLAMMABLE SOLVENTS OR VAPORS ARE PRESENT IN AN OVEN, OSHA REQUIRES CONFORMANCE WITH NFPA 86 WHICH DEFINES OVENS FOR THESE APPLICATIONS AS CLASS A OVENS. A POWERED FORCED EXHAUSTER AND OTHER NON-STANDARD SAFETY EQUIPMENT MUST BE ADDED. SEE BULLETIN TC-940 AND CONSULT FACTORY.

Model	Work Space		Outside* Dimensions (WxDxH)	Max Temp	Blower		Insulation	Doors	Heat Input		Operating Characteristics†				Approx Shipping Weight
	Dimensions (WxDxH)	Volume Cu Ft			CFM	HP			KW	BTU/HR	Control Accuracy	Oven Uniformity	Rise Time		
													Electric	Gas	
VA-550	26" x 26" x 38"	14.9	38" x 55" x 68"	550°F	700	1/2	6"	Single	7	50,000	±0.3%	±5°F	70 min	25 min	1380 lbs
VA-700	26" x 26" x 38"	14.9	42" x 59" x 72"	700°F	1000	1	8"	Single	9	75,000	±0.3%	±6°F	58 min	28 min	1750 lbs
VA-850	26" x 26" x 38"	14.9	42" x 59" x 72"	850°F	1000	1	8"	Single	15	100,000	±0.3%	±8°F	65 min	34 min	1850 lbs
VB-550	26" x 38" x 50"	28.6	38" x 67" x 80"	550°F	700	1/2	6"	Single	9	75,000	±0.3%	±5°F	47 min	24 min	1940 lbs
VB-700	26" x 38" x 50"	28.6	42" x 71" x 84"	700°F	1000	1	8"	Single	15	125,000	±0.3%	±6°F	50 min	27 min	2275 lbs
VB-850	26" x 38" x 50"	28.6	42" x 71" x 84"	850°F	1000	1	8"	Single	24	150,000	±0.3%	±8°F	55 min	33 min	2475 lbs

\*All Models—Control panel overhang 9" right side. Blower motor overhang 10" at rear on 550°F Models, 17" on 700°F and 850°F Models.  
Gas Models—Burner overhang 15" right side.

†Accuracy as percent of controller span. Uniformity at 50°F below maximum temperature. Rise Time in minutes to 50°F below maximum temperature. Tests run with empty oven and minimum exhaust. Performance will vary with load and application. See Bulletin TC-920 for additional details.

## STANDARD EQUIPMENT

### • All Models

- 208 volts, 3-phase, 60 Hz
- 230 volts, 3-phase, 60 Hz
- 460 volts, 3-phase, 60 Hz
- Other electrical characteristics available

Two (2) reinforced 200 lbs uniformly distributed load capacity, nickel plated wire shelves; shelf support channels on 3" centers. 304 stainless steel interior with carbon steel blower and plated hardware. Trilite Green enamel painted aluminized steel exterior.

These electric or gas models come in two sizes. They feature full vertical air flow for processing at temperatures to 850°F. Used where least restriction to free air passage is in the vertical direction. Heated air is supplied at the bottom of the work space and sweeps upward through the work load. Ideal for hanging long parts or for applications requiring heated air to pass both around the outside and through the middle of parts such as open ended cylinders.

- **VA Series**—14.9 cubic feet, holds 12 shelves
- **VB Series**—28.6 cubic feet, holds 16 shelves

Due to vertical air flow, a large number of shelves or dense shelf loading will restrict air flow and may adversely affect oven operation.

### • Electric Models

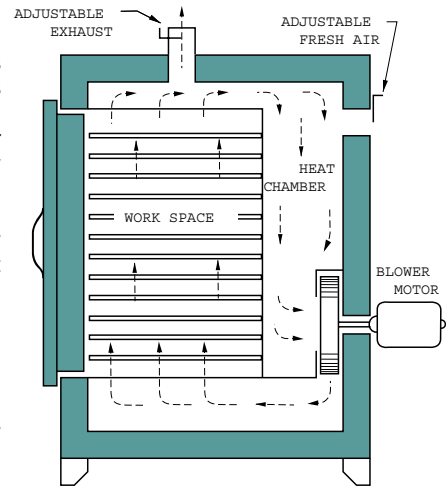
Each features completely wired, side access UL listed control panel enclosing terminals for incoming power, temperature controllers, push buttons and pilot lights. Motor starter and heating element contactors electrically interlocked to shut off heaters if power to blower is interrupted and to permit operation of blower without heat for cooling. Incoloy sheathed tubular heating elements. Exhaust outlet 4" diameter.

### • Gas Models

- 1,000 BTU natural gas at 6" water column pressure, 1" NPT inlet
- Other gas characteristics available

Control panel as detailed above and safety devices as listed on the front of this bulletin. Automatic pre-ignition purge period and push button electric ignition contributes to ease of operation. Modulating gas burner is protected with electronic flame safety relay.

Circulation Diagram (Side View)



Heated air is provided at the bottom and pulled upward through shelves and load.

## ADDITIONAL EQUIPMENT AVAILABLE\*

- **Additional Shelves**, 200 lbs distributed load per shelf, 800 lbs maximum oven load, specify oven model when ordering.
- **Programmable Temperature Controller**, microprocessor based, digital indicating, thermocouple actuated, in lieu of standard controller . . . . . **PTC3**
- **Recording Thermometer**, thermocouple actuated, 24-hour, 10" diameter circular chart used in conjunction with standard controller . . . . . **RT**
- **Programmable Recording Temperature Controller**, microprocessor based, thermocouple actuated, digital display, 24-hour, 10" diameter circular chart, in lieu of standard controller . . . . . **PRTC3**

- **Digital Timing Temperature Controller**, microprocessor based, digital indicating, incorporates 99 hour 59 minute timer, starts timing when temperature reaches set point and shuts down oven at end of set time . . **DTS3**
- **Shut Down Timer**, with continuous "hold" feature; 1, 5, 10 or 30 hour range . . . . . **SDT**
- **Batch Timer**, for uniformly timing batch operations. Continuous alarm with door interlock; alarms at end of preset time period until door is opened or timer reset; 1, 5, 10 or 30 hour range . . . . . **BT**
- **304 Stainless Steel Components**, including blower wheel, hardware and two stainless steel expanded metal shelves, specify oven model when ordering.

- **Automatic Door Switch**, turns off blower and heat when door is opened. Restores blower and heat on electric models, blower only on gas models, when door is closed . . . **ADS**

- **Roof Mounted Powered Forced Exhausters** with exhauster air flow safety switch†

Capacity	HP	Outlet Diameter	Height
80 CFM‡	1/8	4"	16"
130 CFM	1/3	4"	20"
325 CFM	1/3	6"	23"
650 CFM	1/2	6"	23"

†Gas ovens include 325 CFM exhauster. Electric ovens may require additional heat input. ‡550°F Models only

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\*See Bulletin TC-960 for modifications and other optional equipment.