

BENCH MOUNTED ELECTRIC RECIRCULATING 1,300°F (700°C) TEMPERING OVENS

APPLICATIONS

The VB Series bench mounted electric recirculating cabinet ovens feature air recirculation for high temperature uniformity; simple, clean electric operation; a stainless-steel interior; and a precision PID digital control system. These are ideal for laboratory or small production uses such as tempering or annealing in heat-treating applications. They are rated to 1,300°F (700°C), with an option for 1,400° F (760°C) operation.



FEATURES

RECIRCULATION FOR UNIFORMITY +/-10°F

An alloy fan is mounted in the top. The motor is 1/6 H.P

STAINLESS-STEEL INTERIOR

The entire interior is made of stainless steel for heat and corrosion resistance. The liner is designed to expand and contract with the heat.

BENCH MOUNTED CASE CONSTRUCTION

The oven case is constructed of 10-, 14- and 16-gauge steel with an integrated bench stand. The case is primed with 800°F silicone paint and finished in machine enamel.

SEVEN INCHES OF INSULATION

There is 1" of 2,300°F ceramic fiber insulation backed up with 6" of mineral wool. All insulation is sandwiched between the interior liner and exterior of the oven. No asbestos is used.

INCOLOY ELEMENTS

The elements are incoloy sheathed elements that are rated for 1,600°F. They are easily replaced.

GASKETED DOOR

The door is pivoted on the left. A woven fiberglass tadpole gasket and adjustable latch seal the door tightly.

VARIOUS HEARTHES AND LOADING SYSTEMS

The standard hearth is a flat castable pad. Castable piers on centers for forklift loading are optional. An option for a convenient loading system is a serpentine alloy hearth tray that is loaded into the furnace with a hydraulically operated lifting cart. Other types such as alloy rollers are available.

DIGITAL PID CONTROL SYSTEM

The standard control is a Honeywell UDC 2500 digital PID 3 mode tuning control. All fuses, transformers, contactors and controls are housed in a NEMA 1 panel. (NEMA 12 panels with fused disconnects are optional.) Quiet, long-life solid-state contactors are standard. Thermocouples are inconel sheathed Type K. Thermocouple break protection is included. A Honeywell UDC 1200 digital high limit backup control with manual reset, backup contactors and separate thermocouple is included. A limit switch shuts off furnace power when the door is opened. Control voltage is transformed to 120 volts. The control circuit and each power branch circuit are fully fused. Single point power connection.

TESTING AND INSTRUCTIONS

The furnace is power tested to ensure proper watt ratings. A complete instruction manual includes easy startup instructions, theory of operation, maintenance instructions, parts list and a detailed troubleshooting guide. A ladder logic diagram and panel layout are prepared on CAD for easy readability.

WARRANTY

The furnace is warranted for one year except for elements and thermocouples, which are warranted for six months.

OPTIONS

- **JIC CONTROL OPTION:** This includes a NEMA 12 control cabinet, all oil tight switches and a panel mounted fused disconnect switch.
- **INERT ATMOSPHERE BLANKETING:** A flowmeter/regulator combination unit is provided that fits onto a compressed gas bottle. Nitrogen or argon can blanket the inside of the oven, although there will be some leakage around the fan shaft and door seal. Five to 10 volume changes per hour are typically required. If a program control is ordered, an event switch can be used to shut off gas with an optional solenoid.
- **RAMP/SOAK PROGRAM CONTROLS:** A variety are offered, including the 12 segment UDC 3200 program control.
- **TEMPERATURE RECORDERS:** Round and strip chart.
- **SCR POWER CONTROL:** This provides longer element life and more even heating. It also allows the oven to be used to 1,400°F.
- **SPRING LOADED EXPLOSION RELIEVING LATCH**
- **MANUAL OR POWERED VENTURI VENT:** A manual or air-powered venturi can be provided for venting the oven. Optional safety package for solvent use.
- **SHELVES AND SPECIAL HEARTHES:** Perforated stainless-steel shelves are available.
- **ANGLE IRON STAND:** A standard hearth height with optional stand is 32" from the floor. It includes levelling bolts.



This shows the interior of the VB124. You can see the fan and elements.

SPECIFICATIONS

Model Number	Working Dimensions			Inside Dimensions			Outside Dimensions			Stand K.W.	High K.W.	Load Weight	Ship Weight
	W	H	D	W	H	D	W	H	D				
VB 124	12	12	24	21	17	30	52	44	44	4.0	7.2	150	425
VB 126	12	12	36	21	17	42	52	44	56	6.0	10.8	225	675
VB 1824	18	18	24	27	23	30	58	50	44	6.0	10.8	300	600
VB 1836	18	18	36	27	23	42	58	50	56	8.0	14.4	450	900

Dimensions are in inches. Weight is in pounds. Working dimensions have an extra 1" clearance for all dimensions. 240 or 460 volts are normal; 208 volts will reduce power by 25%. Other voltages are optional. Single phase is normal, but all ovens can be supplied in three phase (although some models will have unbalanced phases). Note that larger-size ovens are available in the heavy-duty floor standing DV/DR SERIES oven line. Specifications are subject to change without notice.

20 Kent Road • PO Box 2129 • Aston, PA 19014 T: 610.459.9216 • F: 610.459.3689 • lffurnace.com • sales@lffurnace.com