# Vacuum Batch Dryers VBD Series

## Dry up to 1000 lb/hr in 1/6 the time with half the energy

The energy-saving design of these vacuum batch dryers are proven to dry resins in a fraction of the time and with 60% less energy than dual bed desiccant dryers.

**Highly Efficient Vacuum Process** Removes moisture content from resin.

### **Continuous Batch Drying Process**

Separate heating, vacuum and retention hoppers keep dry material ready for processing.

## **Circulated Dry Air**

-40°Dew point dry air constantly bleeds into vacuum and retention hoppers.

**Double Insulation** On all vessels ensures minimal heat loss.

Vertical Design Minimizes footprint.

### **Reduced Maintenance**

No desiccant to change and no filters to clean.

**"No-Stress" Drying** Means no material degradation.

## **Minimal Moving Parts**

No moving canisters.

### Plus

- Process temperatures from 160°F (70 °C) to 350°F (180 °C)
- Vacuum takeoff or gravity feed material discharge available
- > Wide range of voltages available
- > 5-Year warranty

VBD-1000

The VBD-150 offers the same fast and economical drying as the VBD-1000. It is mounted on a rigid frame with a footprint of only 5.5 sq. ft Large casters allow it to be quickly moved around the plant.

The vacuum vessel and retention hopper are easily removed for cleaning.







## VBD Vacuum Dryers utilize a **3-stage** continuous batch drying process

**Stage 1:** Material in the heating hopper is brought to set point by means of a centrifugal blower through a heating element. The requested heating temperature is adjusted on the control panel.

**Stage 2:** Upon reaching the desired set point, heated material is discharged from the heating hopper into the vacuum vessel. The vacuum is brought to 700mm Hg and held to a 20mm Hg differential for the set cycle time. The vacuum cycle typically lasts about 15 - 20 minutes so you have ready-to-process material in 30 - 40 minutes.

**Stage 3:** The dried material is discharged into an insulated retention/take-off hopper for consumption. A positive pressure heated dry air purge is maintained on the material.

## **VBD** Controller

## Simple is better - no confusing icons - only two screens to monitor

## The controller is a Motorola micro-processor

- Four buttons provide access for setting operation mode, adjusting dryer parameters and many additional program functions.
- Alarms are shown on the display and signaled by an alarm light and horn with silence function.
- Reports can be generated via a USB port to either a memory stick or printer.
- Program updates via flash memory using a standard USB memory device.







## VBD System Components





## **Specifications:**

Model	VBD-150		VBD-1000	
	U.S.	Metric	U.S.	Metric
Maximum Throughput	up to 200 lb/hr	up to 90 Kg/hr	up to 1000 lb/hr	up to 455 Kg/hr
Heating Hopper Volume	2 ft <sup>3</sup>	56 <i>l</i>	26 ft <sup>3</sup>	735 <i>l</i>
Vacuum Vessel Volume	1 ft <sup>3</sup>	28 <i>l</i>	10.5 ft <sup>3</sup>	297 <i>l</i>
<b>Retention Hopper Volume</b>	1.3 ft <sup>3</sup>	37 <i>l</i>	10.5 ft <sup>3</sup>	297 <i>l</i>
Max. Temperature	370°F	185°C	370°F	185°C
Power Supply	240, 480, 575V/3ph/60Hz 20 A Service	400V/3ph/50Hz 15 A Service	480V/3ph/60Hz 60 A Service	400V/3ph/50Hz 100 A Service
Process Heater	6 kW	6 kW	35 kW	35 kW
Blower	1.1 Hp, 105 scfm	.75 kW, 2973 ℓ/min	10 Hp, 600 scfm	7.5 kW, 16990 <i>l</i> /min
Compressed Air Pressure	80 psi	5.5 bar	80 psi	5.5 bar
Compressed Air Usage	4.0 scfm	113 <i>ℓ</i> /hr	20 scfm	560 <i>l</i> /hr
Product Weight	501 lb	228 Kg	2500 lb	1135 Kg



## Energy Usage Comparison VBD vs. Dual Bed



Note: "Compressed air generation electrical requirement" is the amount of electrical energy required to make the amount of compressed air that the unit consumes. It is based on 4 SCFM requiring 1.0 Hp (1.0 Hp being 746 watts of power).



## VBD-150 Options:

1 ft3 (28.3 l) Heating Hopper Extension: (Adds 12" / 305 mm to overall height)
12 lb Vacuum Loader: VL-12
High Temp Package: HHP-VR12/19-15
12 lb Vacuum Loader: GSL-12
High Temp Package: HHP-GSL12/19 High
Temperature Packages: For drying temps above 250°F up to 350°F

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VBD-150

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