The Maguire Vacuum Batch Dryer (VBD), exclusively available from Summit Systems, is proven to dry plastics 6 times faster than conventional dryers at 85% less energy usage.

**Features & Benefits**

- **Improved design** obsoletes moving canisters and minimises moving parts
- **Continuous batch drying** process
- -40° dew point air is bled into vacuum and retention hoppers
- Vertical design - **minimal footprint**
- Double insulation on all vessels guarantees **no heat loss**
- **Reduced maintenance** – no desiccant to change or filters to clean
- Faster drying for **improved production planning**
- “No stress” material drying – means **no material degradation**
- Process temperatures from **70°C to 180°C**
- **Vacuum take-off** or gravity feed material discharge available
- Backed by the same **5-year warranty** as all Maguire products

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 1.7sqm. Large casters allow it to be quickly moved around the plant.
Vacuum Batch Dryer

**Dryers**

**Process**

The VBD uses 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 and 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 signalled 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.

A four line twenty-character backlit display shows mode of operation, temperature, elapsed cycle time, vacuum level and much more.

“CHANGE” buttons navigate menus and make adjustments. Also used to silence the alarm.

A second 4 digit 2.5cm LED display is used for Set and Actual Temperature.

“ENTER” selects the highlighted menu option.

“SELECT” button toggles the display between four different screens of information.

Control panel power - powers the control panel to “ON” (main power must be “ON”). Also used to exit or cancel out of any menu option.
Vacuum Batch Dryer

**Vacuum Generator** Maintains vacuum at 700mm Hg ± 20mm Hg to ensure that moisture is drawn out of the polymer. (Location back side of the enclosure).

**Heating Hopper** Insulated stainless steel hopper for drying temperatures up to 175°C.

**Alarm light**

**Variable Frequency Drive**
Used to optimise blower speed. (Optional on VBD-150).

**Insulated Vacuum Vessel** with cleanout port.

**Insulated Retention Hopper** for dried material.

**High Efficiency Centrifugal Blower**

**Mezzanine Mount** is standard. (Optional floor-mount sub-frame assembly is shown with 2 fork lift pockets).

**Coalescing Filters**
Removes moisture from compressed air supply.

**Dry Air Membrane**
Provides dry air purge for vacuum vessel and dry air blanket of the retention hopper.
Vacuum Batch Dryer

**Dryers**

<table>
<thead>
<tr>
<th>Model</th>
<th>VBD-150</th>
<th>VBD-1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Throughput</td>
<td>to 68</td>
<td>to 455</td>
</tr>
<tr>
<td>Heating Hopper Volume (l)</td>
<td>56</td>
<td>735</td>
</tr>
<tr>
<td>Vacuum Vessel Volume (l)</td>
<td>28</td>
<td>297</td>
</tr>
<tr>
<td>Retention Hopper Volume (l)</td>
<td>37</td>
<td>297</td>
</tr>
<tr>
<td>Max Temperature (°C)</td>
<td>185</td>
<td>185</td>
</tr>
<tr>
<td>Power Supply (V/ph/Hz, A)</td>
<td>400/3/50, 15</td>
<td>400/3/50, 100</td>
</tr>
<tr>
<td>Process Heater (kW)</td>
<td>6</td>
<td>35</td>
</tr>
<tr>
<td>Blower (kW, l/min)</td>
<td>0.75, 2,973</td>
<td>7.5, 16,990</td>
</tr>
<tr>
<td>Compressed Air Pressure</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Compressed Air Usage (l/hr)</td>
<td>113</td>
<td>560</td>
</tr>
<tr>
<td>Product Weight (kg)</td>
<td>228</td>
<td>1,135</td>
</tr>
</tbody>
</table>

**Energy Usage Comparison**

**VBD vs. Dual Bed**

<table>
<thead>
<tr>
<th>Drying</th>
<th>VBD</th>
<th>DUAL BED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nylon @ 80°C</td>
<td>38.9</td>
<td>81.8</td>
</tr>
<tr>
<td>PET @ 150°C</td>
<td>52.8</td>
<td>130.2</td>
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</tbody>
</table>

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).

**Maguire 5-Year Warranty**

Maguire Products offers one of the most comprehensive warranties in the plastics industry. We warrant all Maguire equipment to be free from defects in material and workmanship for 5 years from the date of delivery. In addition, we are committed to satisfying our customers in whatever manner is deemed most expedient to overcome any problems they may have in connection with Maguire equipment.