RUGGED, RELIABLE, ALL-PURPOSE CONVEYING

Milacron’s DustBeater vacuum material loaders provide flexibility in meeting the varying demands of conveying pelletized and regrind materials to a hopper, bin or processing machine.

The DB8 is ideal for lower-volume conveying up to 200 lbs/hr (90.7 kg/hr).

The DB12 provides a larger loader body, filter and vacuum motor for higher-volume conveying, up to 1000 lbs/hr (453.6 kg/hr).

Milacron’s DustBeater series, the most reliable loader line, is even better with the Easy Loading Control (ELC) and improved options to meet your demanding material transfer needs. The unit provides powerful conveying, is easy to set-up and simple to maintain. The latest generation offers an optional brushless motor for long motor life with no brush maintenance (DB12).

The optional ControlMate pendant allows you to load regrind along with virgin material, purge the conveying line, adjust blowback pulses and load and hold. Built-in security levels allow easy parameter viewing of simple day-to-day settings, yet secure the critical settings.

A choice of loader configuration allows direct loading to machine throats or hopper loading to bins and hoppers.

✓ Convey up to 1000 lbs/hr
A DB12 equipped with the 1.3 Hp brushless vacuum motor will convey up to 1,000 lbs/hr (453.6 kg/hr).

✓ Durable, powder-coated steel construction
This unit comes standard in carbon steel and is available in optional stainless steel.

✓ Choice of discharges
Select gravity discharge for hopper loading or direct feed to deliver materials straight to the machine throat.

✓ Easy maintenance
Plug-in connections, tool-less entry and a drop-in filter make this unit easy to maintain.

✓ Full-featured control
The Easy Loading Control (ELC) and optional ControlMate pendant govern all aspects of your DustBeater Loader including: load time, material demand, purge, ratio, and many other loading parameters.

SELF-CONTAINED VACUUM LOADERS
DUSTBEATER DB8 AND DB12 MODELS
SELF-CONTAINED VACUUM LOADERS

DUSTBEATER DB8 AND DB12 MODELS

HOW IT WORKS

Loading Control
The ELC-M displays a loader’s sequence within its conveying cycle with icons and associated LEDs. The control has precise, reliable electronics for operation, programming and alarms.

A signal from the loader’s demand switch indicates to the ELC-M on the loader that it requires material to be conveyed to satisfy its demand. The ELC-M sends a signal to the vacuum motor on the loader to energize and start a loading cycle. The material is then drawn in by the loader’s vacuum motor. If the hopper is filled, the demand switch will remain open (Fig. 1) and no further load cycles will be needed. However, if the demand was not satisfied and the demand switch closes (Fig. 2) the loader will continue with loading cycles until the demand is satisfied.

CONTROLMATE™ PENDANT (OPTIONAL)

ELC ControlMate™ Pendant
The ControlMate pendant consists of eight LEDs, a three-digit numeric display and three push buttons.

The ControlMate comes with an ethernet cable that supplies power and communications to the pendant from the main ELC control.

✓ Interchangeable programming - One optional pendant can be used to control all ELC controls within your system. The ControlMate pendant can be used with either the ELC-M or ELC-16.

✓ Change up to 16 parameters - Eight standard control parameters are accessible through User Level 1. An additional eight parameters are accessed through User Level 2. These additional parameters activate loading options such as: priority demand, fill sensor logic, demand sensor logic, fill sensor present, load and hold, purge/Adjustable Purge Valve (APV) installed, ratio installed, blow back installed.

✓ Easy-to-read display - Both the ControlMate pendant and the ELC control use icons and associated LEDs to symbolize various loading parameters.

Control Function
1. Push the Function button until the appropriate LED indicator is illuminated to change any loading parameter.

2. Use the (+) or (-) buttons located to the left of the Function button to change a loading parameter to your requirements.

3. Once your parameters are changed there is no need for further keys strokes, all parameters are instantly saved to the ELC control.

ControlMate User Level 1 Parameters
- On/Off
- Load Attempts
- Ratio Percentage
- Load Time
- Blowback

ControlMate User Level 2 Parameters
- Unload Time
- Ratio Layers
- Purge Time

DIRECT FEED CONFIGURATION
Mount directly to a machine throat with a direct feed glass hopper (3 sizes available). An air-tight seal at the throat is required, or an isolator valve may be included. Quick-disconnect clamps allow easy loader removal for thorough cleaning. A simple grate magnet may also be included in the cast base for catching tramp metal.

DISCHARGE VALVE CONFIGURATION
The gravity discharge valve uses a non-contact, magnetic reed switch to signal loader demand. Stand-offs provide a rugged guard to prevent discharge damage. The huge opening eliminates material bridging. A positive discharge air-operated discharge valve is also available.
**FEATURES**

- **TUBING CONNECTIONS**
  - DustBeaters are built for a lifetime of service, so common wear components are designed for easy replacement. Tubing stubs are threaded and may be easily replaced in the event of damage, extreme wear or even for changing line sizes.

- **EASY LOADING CONTROL (ELC)**
  - Individually mounted Easy Loading Controls (ELC) operate the loader’s vacuum pump when it receives a signal from the demand switch to start a conveying cycle.

- **EASY FILTER CLEAN/CHANGE**
  - The lid may be easily removed from the loader with no tools. The reinforced dacron disc filter simply drops into place. All connections are quick-disconnect for fast maintenance and easy service.

**OPTIONS**

**A Broad Choice of Options Stretch the Value of your DustBeater Purchase**

- **Brushless Motor**
  - No maintenance. Longer life. Higher throughput. These new motors incorporate technology that transforms the incoming power into fast acting magnetic pulses that interact with the motor armature to create rotation faster than ever possible with traditional brush architecture. Provides near-frictionless motor performance, similar to, but far exceeding the performance of traditional three-phase motors. (DB12 only).

- **Sound Shield**
  - The sound shield option bolts into place easily with no loader modification. This is a very effective option for both the new brushless as well as traditional brush motors.

- **Volume Fill Sensor**
  - Provides automatic shut-off of the loader’s vacuum sequence when the loader is full. An alarm message is displayed on the control if not satisfied during the vacuum sequence.

- **Ratio Valve**
  - Dual inlet, single outlet material valve allows the loading of a second material (usually regrind) in approximate, layered percentages along with virgin material. May be installed on loader inlet or remotely. See the Ratio Valve specification sheet for more information.

- **Wear Plates**
  - T-1 tool steel plates, installed inside the loader body, radically reduce hopper wear when conveying highly abrasive materials like glass-filled compounds. Wear plates may be easily replaced, if needed.

- **Magnets**
  - An airtight, Drawer Magnet may be added below any direct feed DustBeater to trap ferrous metal. Or, a low cost Grate Magnet may be inserted directly into the glass hopper of the direct feed receiver to save head room.

- **Stainless Steel Material Contact**
  - Provides stainless steel in place of carbon steel. The 304 grade stainless steel is uncoated internally (in material contact areas), but powder coated externally for optimum cosmetic appearance.

- **Remote Demand Sensor**
  - To trigger the operation of the loader (demand) from a location other than directly below the loader, a remote demand sensor may be used. Useful on oversized drying hoppers to sense through a window (6 foot cable provided) or when off-loading a granulator (30 foot cable provided). Extension cables are also available.

- **Positive Discharge Valve**
  - Provides a pneumatically driven discharge valve on the bottom of the loader in the event that gravity will not sufficiently open the standard flapper after loading. Useful for very light materials or when high CFM drying hoppers are being loaded. (DB12 only).
## SPECIFICATIONS

### DB Series Self-contained Vacuum Loaders

<table>
<thead>
<tr>
<th>LOADER MODEL</th>
<th>DB8</th>
<th>DB12</th>
<th>DB12*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacuum motor</td>
<td>5/8 Hp - 2 brush</td>
<td>7/8 Hp - 4 brush</td>
<td>1.3 Hp brushless</td>
</tr>
<tr>
<td>Maximum injection mold machine size</td>
<td>500 tons</td>
<td>1000 tons</td>
<td>2000 tons</td>
</tr>
<tr>
<td>Maximum extruder size inches (mm)</td>
<td>2 (50.8)</td>
<td>3 (76.2)</td>
<td>4 (101.6)</td>
</tr>
<tr>
<td>Recommended throughput lbs/hr</td>
<td>200 (91)</td>
<td>500 (227)</td>
<td>1000 (454)</td>
</tr>
<tr>
<td>Maximum conveying distance ft (m)</td>
<td>50 (15.24)</td>
<td>75 (22.86)</td>
<td>120 (36.58)</td>
</tr>
<tr>
<td>Loader maximum temperature rating °F (°C)</td>
<td>180 (82)</td>
<td>180 (82)</td>
<td>150 (66)</td>
</tr>
<tr>
<td>Loader diameter inches (mm)</td>
<td>8 (203)</td>
<td>12 (304)</td>
<td></td>
</tr>
<tr>
<td>Loader volume ft³ (liters)</td>
<td>0.14 (4.0)</td>
<td>0.5 (14.2)</td>
<td></td>
</tr>
<tr>
<td>Material/vacuum line size inches (mm) OD</td>
<td>1.75 (44.45) OD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available voltages 50/60 Hz</td>
<td>120/220 VAC</td>
<td>120/220 VAC</td>
<td>120 VAC</td>
</tr>
<tr>
<td>Amps @ 120 VAC</td>
<td>8</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>Amps @ 220 VAC</td>
<td>4</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>Compressed air requirements</td>
<td>80 psi (5.52 bar), 2 ft³/min (0.067 m³/min), NPT fitting: 3/8 in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filter area in² (cm²)</td>
<td>50 (322.6)</td>
<td>113 (729)</td>
<td></td>
</tr>
<tr>
<td>Filter type</td>
<td>Reinforced polyester disc</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Hopper Loading Configuration

<table>
<thead>
<tr>
<th>LOADER MODEL</th>
<th>DB8</th>
<th>DB12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions inches (mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A - Height above mounting plate †</td>
<td>16 (406)</td>
<td>22 (559)</td>
</tr>
<tr>
<td>B - Depth below mounting plate</td>
<td>5.5 (140)</td>
<td>9 (229)</td>
</tr>
<tr>
<td>with positive discharge</td>
<td>NA</td>
<td>16 (406)</td>
</tr>
<tr>
<td>C - Height to center of material inlet</td>
<td>6.2 (157.5)</td>
<td>9.5 (241)</td>
</tr>
<tr>
<td>Mounting details</td>
<td>See FIG. 1</td>
<td>See FIG. 2</td>
</tr>
<tr>
<td>Installed weight lb (kg)</td>
<td>27 (12)</td>
<td>49 (22)</td>
</tr>
<tr>
<td>Shipping weight lb (kg)</td>
<td>50 (22)</td>
<td>65 (29)</td>
</tr>
</tbody>
</table>

### Direct Feed Configuration

<table>
<thead>
<tr>
<th>LOADER MODEL</th>
<th>DB8</th>
<th>DB12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions inches (mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A - Height above mounting plate †</td>
<td>27.8 (706.1)</td>
<td>33.3 (845.8)</td>
</tr>
<tr>
<td>B - Height to center of material inlet</td>
<td>18 (457.2)</td>
<td>22.5 (596.9)</td>
</tr>
<tr>
<td>Add for isolator valve</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mounting details</td>
<td>See FIG. 3</td>
<td></td>
</tr>
<tr>
<td>Installed weight lb (kg)</td>
<td>52 (24)</td>
<td>54 (25)</td>
</tr>
<tr>
<td>Shipping weight lb (kg)</td>
<td>80 (36)</td>
<td>84 (38)</td>
</tr>
</tbody>
</table>

### Specification Notes:

* Available with brushless motor as standard
† Throughputs beyond the recommended ratings should not be attempted unless you are conveying virgin material from close distances. Higher throughputs could result in shortened brush and/or filter life. For higher throughputs, consult Milacron for a quote on central vacuum loaders.
‡ Add 3 inches (76.2 mm) to height if using sound shield option.
§ At 35 lbs. per ft³ (15.88 kg/m³) all DustBeaters are shipped with 10 ft. (3.048 m) of flex hose and a vertical feed tube.

Specifications can change without notice. Contact your Milacron representative for the most current information.