

Reliable Motor Loader Conveying of Free-flowing Powders

The Conair PM Series of Powder Loaders effectively transfers powdered resins (down to 1 micron), with the convenience of a self-contained motor loader. Available in a range of sizes to fit user needs, the PM Series uses high capacity, pleated filters coupled with a compressed air accumulated blowback system, for long, maintenance-free operation.

A strong, long-life, built-in vacuum motor provides the vacuum conveying power for smooth powder transfer over moderate distances.



Model PM15

Self-contained motor loaders designed specifically for powders

Equipped with a compact filter chamber, the PM Series is easy to maintain. Quick release latches and utility connections allow easy, no-tools disassembly and filter cartridge(s) are conveniently mounted to a plate for quick removal.

An oversized compressed air accumulator and blowback timer deliver programmable blasts of air through the filter cartridge(s) at the end of each load cycle to eliminate material packing.

Each model includes a powerful vacuum motor, integrated into the quick-disconnect lid, simplifying removal and re-installation.

Loading, unloading and blowback control are provided by Conair's ELC-M control system.

▶ **Compact to work in limited space**

The motorized Powder Loader range can provide up to 56 ft² {5.2 m²} of filter area while short enough for installation in low headroom areas.

▶ **A range of sizes and options**

Powder Loaders can be fitted with a selection of line sizes and discharge valves, with options to facilitate the use of abrasive materials. A brushless vacuum motor is available on larger sizes.

▶ **Easy material change and cleaning**

All components disassemble quickly. No tools are needed for material changes or cleanout. The pull-out filter assembly eliminates the mess associated with "bag-style" Powder Loaders.

▶ **Long filter life with minimal dust**

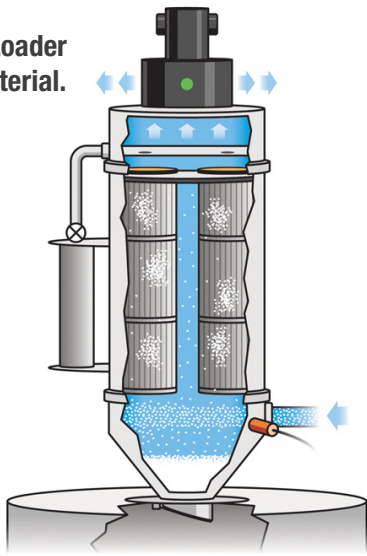
The special, easy-release surface of the cartridge filters provides long operating life without packing or degradation.

The programmable blowback system extends operating life and maximizes throughput. Filter cartridges are fully washable.



How it works

Powder Loader loads material.



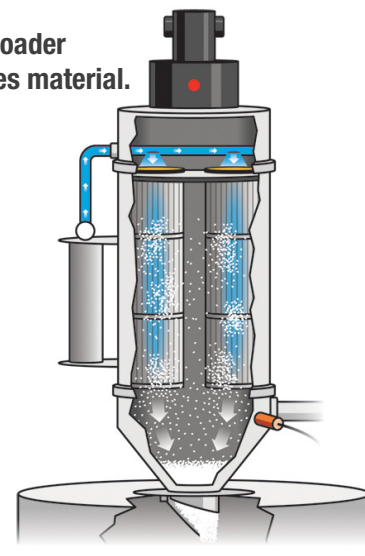
Loading

An integrated demand level switch on the discharge flapper (or separate demand level switch) initiates the start of the conveying cycle by turning on the vacuum motor, drawing air and material into the loader's lower chamber.

A filter guard directs material as it loads down into the cone of the loader. Pleated filter media in the upper chamber of the loader separates the material from the conveying air.

Note: The material flow path may be reinforced by an optional wear plate if the material being conveyed is abrasive. Once the fill sensor senses material has filled the lower chamber, the vacuum motor shuts off.

Powder Loader discharges material.



Unloading / Filter cleaning

Upon completion of loading, the discharge valve opens, allowing powdered resin to flow out of the loader.

While unloading, the blowback system directs multiple, accumulated, high-power blasts of compressed air through the cartridge filter(s), pulsing them and blowing off collected material, dust and fines. The blowback action also encourages total material evacuation from the loader, into the hopper below.

Blowback is programmable to provide optimum cycles for maximum cleaning.

After unloading and blowback are complete, the loader either starts again or waits for another demand signal.

Options

- **Stainless steel construction**

Standard carbon steel construction can be substituted with 304 grade stainless steel (uncoated inside the loader and cosmetically powder coated on the outside).

- **Differential pressure gauge**

To Monitor the air passage of the filters to instantly determine powder compaction and the need to manually clean or replace the filter(s).

- **Wear plates**

Replaceable plates, installed inside the loader body, eliminate hopper wear-through when conveying abrasive or glass-filled materials. Available in either cold rolled steel or electroless nickel plating.

- **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 resins or any resin that may not flow easily.

- **Filter vent assembly**

The filter vent assembly provides a predictable exhaust path for blowback air to prevent pressurized air and dust from escaping through feed tubes or seams in the receiving vessel.



ELC Control



Loading control

Each on-demand loading sequence is clearly exhibited on the graphical control face with bright, simple LED lights. A "no-load" alarm light and buzzer are included.

ControlMate™ Pendant (optional)



ControlMate™ Pendant

The ControlMate pendant expands your loader's capabilities while providing convenient remote controls for your Powder Loader. The ControlMate includes a 15 foot connection cable and handy holster.

A helpful graphic and array of LEDs, illustrate expanded loading functions like ratio loading and line purging while a three-digit numeric display shows each functions setting as it is selected.

• Interchangeable programming

One pendant can be moved from one ELC control to another to program advanced settings. The same ControlMate pendant can even be used with Conair's ELC-16 central vacuum controls. **Note:** ControlMate pendants hold no program data, so one pendant can be freely used with the entire family of Conair ELC controls. Data, once programmed with the ControlMate, safely resides in each ELC control.

• Change up to 16 parameters


The additional loading functions available with the ControlMate Pendant include:

- On/Off
- Unload time
- Load attempts
- Ratio layers
- Ratio percentage
- Purge time
- Load time
- Blowback
- Priority demand
- Fill sensor logic
- Demand sensor logic
- Fill sensor present
- Load and hold
- Purge / Adjustable Purge Valve (APV)
- Ratio installed
- Blowback installed

Note: Some ControlMate functions require additional components for their operation, i.e.: Ratio Valve, Purge Valve.

ControlMate™ Function

01

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

02

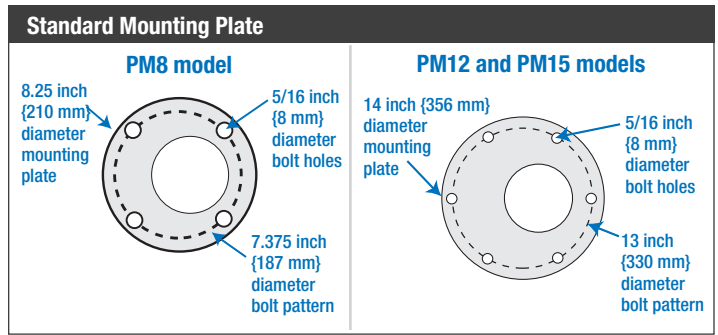
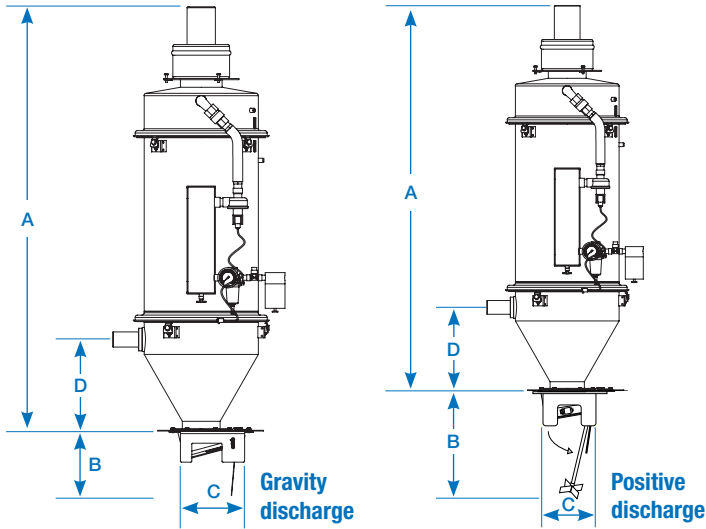
Use the (+) or (-) buttons located to the left of the Function button to change a loading parameter to your requirements.

03

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



Specifications



Material / Vacuum Line Sizes	
Outer diameter in inches {mm}	
1.75 {44.5}	
2.00 {50.8}	

Model	PM8	PM12	PM12 (brushless)	PM15	PM15 (brushless)
Performance characteristics					
Vacuum motor	0.625 Hp 2-brush	0.875 Hp 4-brush	1.3 Hp brushless	0.875 Hp 4-brush	1.3 Hp brushless
Maximum throughput † lbs/hr {kg/hr}	200 {91}	450 {204}	750 {340}	550 {249}	1000 {454}
Maximum conveying distance ft {m}	50 {15.24}				
Loader maximum temperature °F {°C}	180 {82}		150 {66}	180 {82}	150 {66}
Receiver volume ft³ {liters}	0.14 {4.0}	0.5 {14.2}		1.0 {28.3}	
Air-to-cloth ratio cfm.ft² *	3:1				
Vacuum/material line sizes inches {mm}	1.5 - 2.0 {38 - 51}		1.75 - 2.0 {45 - 51}		
Electrical requirements	120 VAC @ 8 amps 220 VAC @ 4 amps	120 VAC @ 14 amps 220 VAC @ 7 amps	120 VAC @ 17 amps	120 VAC @ 14 amps 220 VAC @ 7 amps	120 VAC @ 17 amps
Dimensions inches {mm}					
Hopper diameter†	8.0 {203}	12.0 {305}		15.0 {381}	
A - Height above mounting plate†	44.9375 {1141.4}	52.3125 {1328.7}		55.75 {1416.1}	
B - Depth below mounting plate	5.5 {140}			8.375 {213}	
with positive discharge	NA			16.0 {406}	
C - Clearance hole diameter	6.63 {167}			12.0 {305}	
D - Height to center of material inlet	6.19 {157}	9.5 {241}		12.1875 {309.6}	
Approximate weight lb {kg}					
Installed weight	49.0 {22.2}	77.0 {34.9}		143.0 {64.9}	
Shipping weight	50 {23} 144.0 {65.3}	172.0 {78.0}		238.0 {107.9}	
Compressed air requirements (intermittent duty)					
Pressure	60 - 80 psi {4.1-5.5 bars}				
Consumption	2 ft³/min @ 80 psi {0.94 liters/sec. @ 6 bars}	8 ft³/min @ 80 psi {3.7 liters/sec. @ 6 bars}			
NPT Fitting	3/8 inch				
Filter					
Filter type	1 pleated polyester cartridge				
Total filter area	23 ft² {2.1 m²}	56 ft² {5.2 m²}		48 ft² {4.5 m²}	

Specification Notes

† The optional filter vent assembly changes the dimensions of the PM unit. Height above the mounting plate increases by 7.75 inches {196.9 mm} on all PM models.

‡ Throughput info based on a material bulk density of approximately 25-30 lbs/ft³.

Overall width increases to 19.625 inches {498.5 mm} for the PM8, 21.5 inches {546.1 mm} for the PM12, and 23.0 inches {584.2 mm} for the PM15.

All PM Loaders are shipped with 15 ft {4.572 m} of flex hose and a vertical feed tube.

Specifications may change without notice. Consult with a Conair representative for the most current information.

Application Notes

* Powder Loaders are not intended for materials such as pure carbon black, titanium oxide or any other difficult to handle material that requires an air-to-cloth ratio of less than 3:1.

