

Convey Bulk Material From Railcars to Silos Economically

Easily achieve high capacity conveying performance for bulk unloading from railcars to silos without the high cost of conventional vacuum/pressure units in the same pounds-per-hour range.

Conair's Cycling Loader works on a simple principle that delivers thousands of pounds per hour over long distances with one hopper and one pump, but without pump reversal and without using a rotary feeder. A series of trouble-free flapper valves and a four-way air flow reversing valve make the Cycling Loader a convenient, self-contained system that alternately uses the vacuum hopper as a pressure hopper. One 25 horsepower Positive Displacement Pump provides both the vacuum and the pressure power by the action of the reversing valve.



Cycling Loader
(Cycling Bulk Railcar Unloading)

Thousands of Pounds Per Hour; Long Distances

With throughput rates up to 12,000 lbs/hr, the Cycling Loader conveys material efficiently and inexpensively. You get the control, interconnecting hose, piping, valves, and material injector in one compact package, ready to use in any location, and easy to move around when necessary. The whole assembly can have fork truck pockets for easy transport, or can even be mounted on a wheeled cart for mobile use.

The vacuum/pressure pump pulls material from the railcar into the vacuum/pressure hopper. When the level control monitor detects that the hopper is filled to a predetermined level, a four-way valve reverses the air flow, without stopping the pump. Pressurized air is pumped into the hopper, cleaning the filter and forcing material into a pressurized air-stream through an adjustable material injector, located at the base of the hopper. Once the hopper and line are clear of material, the system repeats the cycle until the railcar unloading is complete.

▶ Simple and efficient

Get the same high-capacity performance and simple operation without the high cost of conventional vacuum/pressure units.

▶ Industrial performance

Delivers thousands of pounds per hour over long distance. Throughput rates up to 12,000 lbs/hr {5443 kg/hr}.

▶ Compact and mobile

Prepackaged system provides both vacuum and pressure cycles with a single, non-reversing pump.

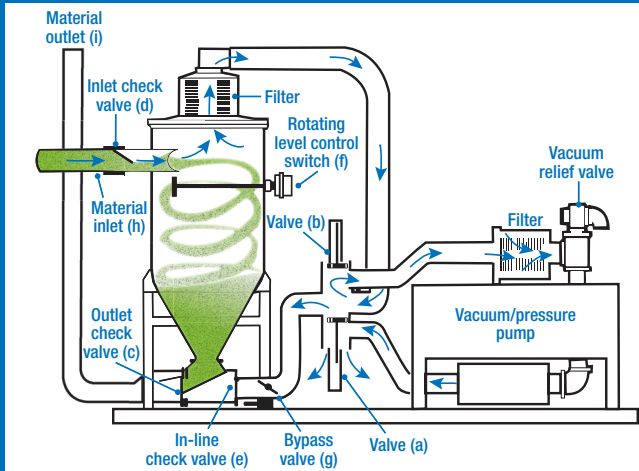
▶ Turn-key operation

The Cycling Loader comes ready to use, equipped with controls, interconnecting hose, piping and valves.

▶ Safe, solid, reliable

Conair has been manufacturing Cycling Loaders for over 40 years. Cycling Loaders have been and continue to be the favorite solution for customers who need a reliable and economical method to quickly and safely convey material over long distances.

How it Works

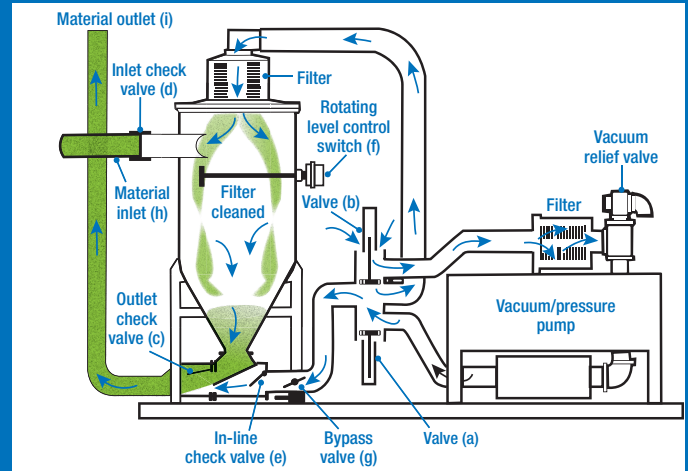


Vacuum cycle

Material unloading from the bulk railcar

1. Valve (A) open (vented to atmosphere)
2. Valve (B) closed
3. Outlet check valve (C) closed (by vacuum)
4. Inlet check valve (D) open (by vacuum)
5. In-line check valve (E) closed

Material is pulled by vacuum into the loading hopper until material stops rotating level control. When the vacuum cycle ends, the pressure cycle starts.



Pressure cycle

Material loaded into the storage silo

1. Valve (A) closes (vacuum pump exhaust now supplies pressure to push material)
2. Valve (B) opens and becomes the air intake for the vacuum pump
3. Outlet check valve (C) opens (by pressure)
4. Inlet check valve (D) closed (by pressure)
5. In-line check valve (E) opened

Air, at 5-6 PSI, is piped into the hopper and the secondary air tube to push material up into the silo. Reverse pressure automatically cleans the hopper air filter during the pressure cycle. When the fill line is purged, the unit switches back to the vacuum cycle.

Typical Installation

Comparative Loading Rates



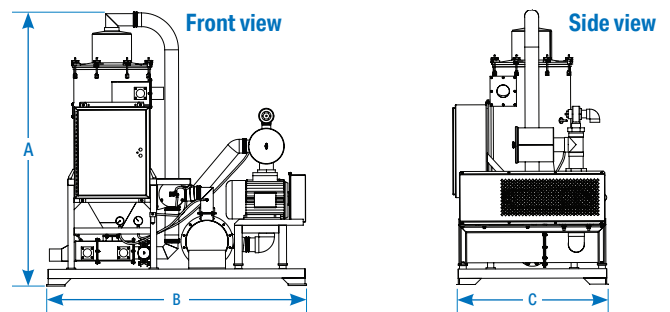
Distance "D"	Loading Rate*
100 ft {31 m}	10,000 - 12,000 lbs/hr {4536 - 5443 kg/hr}
300 ft {91 m}	9,000 - 10,000 lbs/hr {4082 - 4536 kg/hr}
500 ft {152 m}	8,000 - 9,000 lbs/hr {3629 - 4082 kg/hr}

* Lesser distance on vacuum side will increase loading rate.
Rates based on free flowing pelletized materials weighing 35 lbs/ft³.

Specification Notes

† FLA data for reference purposes only. Does not include any options or accessories on equipment. For full FLA detail for power circuit design of specific machines and systems, refer to the electrical diagrams of the equipment order and the nameplate applied to the machine.
Specifications may change without notice. Consult with a Conair representative for the most current information.

Specifications



Cycling Loader	
Performance characteristics	
Hopper capacity	ft ³ {liter}
Vacuum pump	Hp {kW}
Operating pressure	psi {bar}
Compressed air requirement	1 cfm @ 60 PSI {4.1 bar}
Material tubing	inches {mm}
Dimensions inches {mm}	
A - Height	90.0 {2286.0}
B - Width	84.0 {2133.6}
C - Depth	48.0 {1219.2}
Approximate weight lb {kg}	
Shipping	1300 {590}
Voltage Full load amps [†]	
230 V/3 phase/60Hz	58
460 V/3 phase/60Hz	29

