



Model from 2-8 to 4-128

CARTRIDGE DUST COLLECTOR

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Safety:

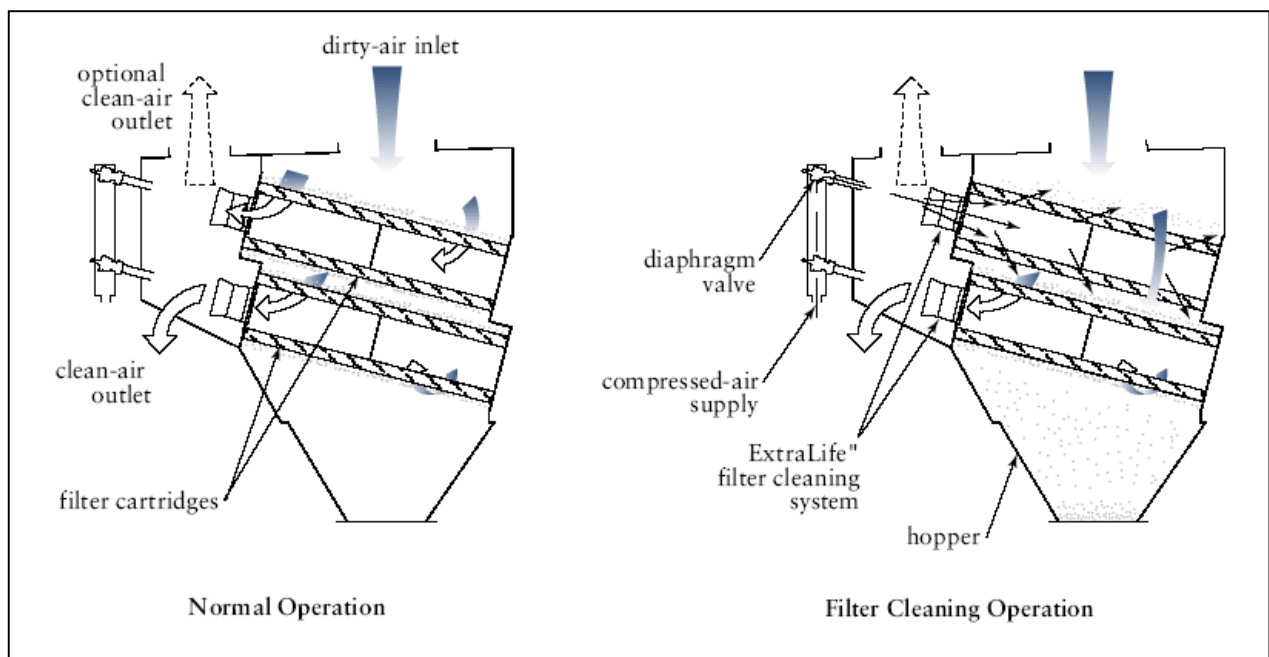
- 1, All electrical work must be carried out by a qualified licensed electrical trades person.
- 2, All lifting should be carried out using the 4 lifting points placed at the top front and top rear of the collector

Overview:

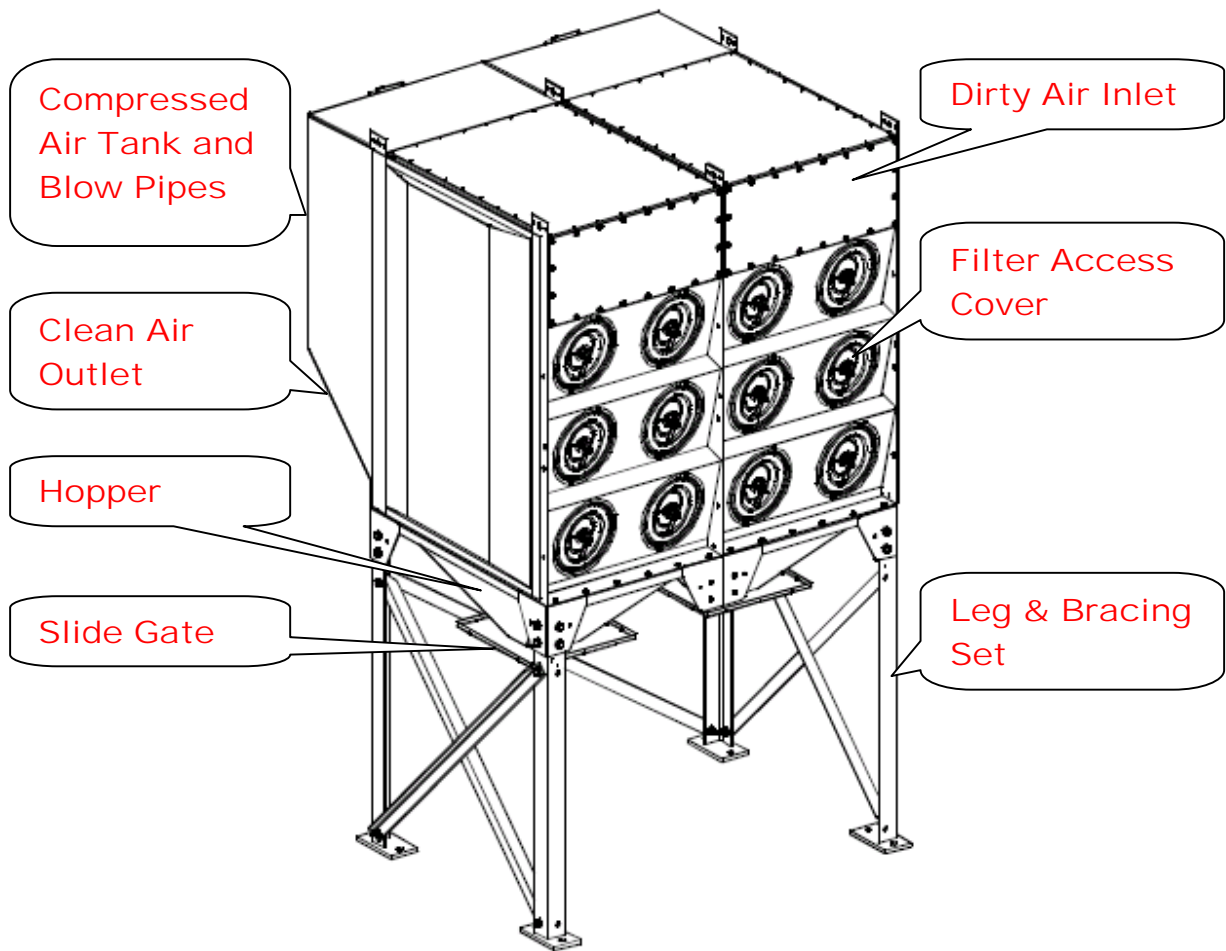
This document covers the dust collector and has been created in accordance with our products standard design and supply specifications. Please note your specific requirements may differ from that stated within, hence you must refer to your original specification requirements when consulting this document to ensure the correct procedures are followed.

The diagram below is for Visual appearance only and may not represent exactly the unit you have purchased.

Product Working Theory:



Product Overview:



Standard Parts list (If ordered)

The parts listed below are standard to a collector configuration, however all may not be supplied based on your specific requirements.

- 1 Dust Collector Chamber
- 2 Filters to suit model & specification (If Ordered)
- 3 Module Leg Set (If Ordered)
- 4 Hopper Kit (if Ordered)
- 5 Slide Gate Assemblies (if Ordered)
- 6 Drum Covers Kit (If Ordered)
- 7 Pulse Control Unit (Including Manual)

Standard Supplied configuration Dust Collector:

Your collector will be unless otherwise specified fitted out with the following features:-

- 1 Specified cartridge filters.
- 2 Pulse jets to accommodate reverse pulse cleaning of the Filters
- 3 Solenoid Valve packs
- 4 Independent air reservoir tanks for reverse pulse cleaning
- 5 Cover panels for all clean and dirty air apertures
- 6 Pulse on timer controller
- 7 Barbed Air Fitting (Fitted to Air Reservoir)

Installation:

This procedure is constructed on the basis that all items in the parts list were supplied, i.e. complete product, in the event your purchase was part supply only, please ignore elements not relevant to your requirements or circumstances

Once you have checked that all required parts have been supplied, or acquired by yourselves, proceed with the following steps:-

If this unit is of double module construction it will be supplied assembled as a complete single entity where ever possible; however site location access and transport would be two reasons for shipping to site separately.

At no stage place yourself under the raised assembly; all work should be carried out from outside the unit.

Fitting Legs:

- 1, Use only appropriate capacity and size D shackles in the lifting points on the top of the unit. A spreader bar must be used to avoid stress across the double module unit. Lift to a suitable height to assembly the leg kit.
- 2, Take each leg in turn and bolt to the appropriate corners using the M16 x 40mm Galvanized bolts washers and nuts. Do not tighten until all associated leg parts are attached. All legs have the foot pad pointing inwards. The front legs have only one set of holes where as the rear legs have two. The center leg arrangements both front and back require the Longer bolts i.e. M16 x 65mm Long 4 off. Each set of cross bracing has one inside and one outside beam, between the beams at the center point is a packer plate to compensate for the thickness of the legs. (10mm)
- 3, Once all legs and bracing are attached, secure by tightening fully.

Anchoring the Collector

- 1, Lower the Dust Collector into your chosen location, Anchoring bolts may have been predrilled and set prior to arrival, however if not the foot pads have been drilled with 20mm dia holes for use of the appropriate Chemset or Dynabolts anchors. Use appropriate sizes for the mass and wind ratings in your local area.

Fitting the Hopper:

- 1, Apply a continuous bead of Butyl Rubber around the entire top edge of the hopper, ensure the bead is on the inside of the bolt holes, also adding a bead around each hole.
- 2, Ensuring the hopper is of the correct orientation offer it up to the mating flange of the dust collector, lightly secure in two opposing corners using the M8x 20mm Hex head bolts washers and nuts supplied. When in place insert the remaining bolt nuts and washers and tighten fully.
- 3, Remove any excess butyl rubber that may have squeezed out of the joint.
- 4, Repeat for the second hopper.

Fitting the Slide-gate:

- 1, Attach the slide-gate assembly to the bottom hopper flanges. Remove the middle 4 bolts, nuts and washer combinations from either side of the slide gate assembly; these are used to attach the slide gate to the hopper.
- 2, Apply a continuous bead of butyl rubber to the underneath of each hopper bottom flange, ensuring the bead is on the inside of the bolt holes, also apply a bead around each bolt hole.
- 3, Lift the slide gate into position in the correct orientation and using the previously removed fasteners secure in place. NOTE: there are no fasteners across the front and rear of the slide-gate; the spare holes in the flange are used for different orientations.
- 4, Wipe off any excess Butyl Rubber.
- 5, Repeat for the second Slide gate.

Fitting the Drum Covers

1, The drum covers are connected to the bottom of the slide gate with 350mm dia flexible duct, and secured each end with expandable hose clamps. The duct will require cutting to the correct length to suit the height of your collector bins. The drum covers are designed to fit your standard 44 gallon (215 Litre) drums. Note when cutting the flexible ducting allow sufficient for the drum cover to reach the drum top comfortably, but not to much as to suppress the amount of lift you will need on the cover when requiring to remove a full bin for emptying.

Pulse On Demand Controller:

There are many controllers on the market, and although we try to keep to one brand / model, occasionally we change to meet market needs and availability. You can be assured that any controller used with our product will be of a high standard and of reputable manufacture.

Your Controller will come with the following features:

- Weather proof enclosure
- Programmable Pulse settings
 - o Pulse Duration
 - o Pulse frequency
 - o High / low DP set points
- Appropriate number of Pilot Valve output relays
- Differential Pressure display

The controller should be mounted on the dust collector unit or adjacent to the collector on a separate structure, however it is advised the controller should be in close proximity of the collector for maintenance and adjustment purposes.

When mounting the controller ensure you avoid areas of high vibration or resonance, as this may affect electrical components and connections.

4 mm rubber tube will be provided to connect the Controller DP switch to the clean & dirty air pick up air fittings on the Dust Collector Chamber

Wiring the controller:

SAFETY: All electrical work must be carried out by a qualified electrical contractor.

Please read the wiring diagram supplied with the unit before commencing installation.

We will take an example of 4-32 unit controller install:

The 4-32 collector has two independent Air Reservoir tanks each respectively supplying air pulsing to their individual collector modules through 8 Pulse jets via 8 pilot valves.

- 1, The controller has a 240Vac input, this can be run independently or wired from the Fan control gear through a separate circuit.
- 2, Due to having two (2) 8 Way pilot valve packs located at the rear of the unit, i.e. one on each Air reservoir tank, it would be best to run two 9 core cables from the 24Vdc control box outputs. Each going to an 8 way valve pack.
- 3, You will require one core for each pilot valve plus one common to each pack.
- 4, When wiring the 24Vdc outputs to the pilot valve packs, this should be done in a sequential manner as follows:
 - Select either 8 way pilot valve pack to start wiring.
 - From the controller output 1 wire to the top Pilot valve in the pack.
 - From the controller output 2 wire to the second Pilot valve in the pack
 - Continue wiring in the same way until all 8 are wired.
 - Taking the second 8 way pilot valve pack start the process over.
 - From the controller output 9 wire to the top pilot valve in the pack
 - Work your way down as for the first pack.
- 6, The controller program is already preset with to the required functional parameters, the only adjustment required is the selection of how many outputs are being used.

Specifications:

Controller (Check Wiring Diagram)

- Input Voltage 240Vav
- Pilot Valve Solenoid Voltage 24Vdc

Air Requirements:

- Clean, Dry Air supply (fit Filters as required)
- 90 PSI (6 Bar) (regulator required)
- 30 CFM

Collector Overall Sizes & Weights

- 4113mm (H) x 2040mm (W) x 2150mm (D) (approx)
- 4000Kg (Approx)

Controller Program Presets

- Pulse Duration 250 m/s
- Pulse Frequency 15 Seconds.

Filtration Values:

- Consult your original specifications as this can change from application to Application.

Maintenance:

(Note we provide a full service facility; please contact your supplier/agent for details)

Frequency of maintenance is completely dependant on the application of the equipment, i.e. filter media, Dust medium, Frequency of use, and loading

The information below should serve as a guide only. It is the responsibility of the customer and staff to assess maintenance duties / periods to suit the application.

When working on / maintaining / cleaning the following should be observed.

- Unit must be Electrically Isolated
- Suitable protective clothing, face mask / respirator must be worn relevant to the dust / material being handled.
- Ensure all covers / doors are replaced and secured before start up.

Daily Operation / Maintenance

- Check Reverse Jet cleaning system is pulsing
- Compressed air supply value must be maintained

Weekly Operation / Maintenance

- Check Differential Pressure values to ensure you are within limits.
- Check operation of Pulse Valves.

Monthly Operation / Maintenance

- Inspect fasteners especially, around the fan mounting point
- Inspect Access doors / panels and seals.
- Remove panel to clean air chamber and check to ensure there is no ingress of dust visible.
- Check Airline Filters for excessive moisture, and drain appropriately

Six-Monthly Operation / Maintenance

- Remove one filter to check its condition
- Check discharge holes in blow tubes in Clean air chamber

Annual Operation / Maintenance

- All previous inspections from daily to 6 Monthly operation / Maintenance
- Check Collector body for leakage or damage
- Remove Pulse valve covers and check diaphragms and / or seals for wear, replace if necessary.

Filter Replacement Procedure.

CAUTION: - Soiled Filter Cartridges must be handled and disposed of in a safe and environmentally friendly manner in accordance with current and local regulations to the materials being handled.

Removal:

- Starting with the top row and working across from side to side.
- Undo the handle on the front of the cartridge door cover in an anti-clockwise motion. When detached remove the door completely.
- Check the seal on the door to ensure it is in good conditions and still fully attached to the door.
- Check the front face of the filter for any signs of dust ingress across the face inside the seal area.
- Slide each cartridge out off the support yoke in turn (2 cartridges to each door)
- Dispose of cartridges appropriately. Initially place in a plastic bag and seal.
- When all cartridge filters are removed, check inside the chamber for dust ingress patterns around sealing points on the rear tube plate.

Replacement:

- This is basically a direct reversal of the above procedure, please note the following.
- Basically start anywhere ensuring you place two filters in each opening.
- When re-inserting the filter over the yoke, be very careful not to catch the filter element on the outside opening of the collector, this media will tear very easily, and once torn the filter is rendered useless.

- Once the filter is in position secure by screwing on the cartridge Cover door, ensure the outside seal of the door has its join at the bottom, and ensure the door is tighten fully and completely sealed around its periphery. Fault Finding

Reduced Volume or Excessive Back Pressure on Conveying System

**Incorrect Fan Rotation (fan running wrong way still delivers airflow but at reduced capacity)
(Where supplied)**

- Check rotation to direction arrow – alter electric wiring in the terminal box to correct

Blocked Cartridge Filters causing High DP

- Check compressed air supply - correct if req'd
- Check operation of Pulse Jets – repair / replace as req'd
- Check operation of solenoid valves
- Check operation of sequential controller – replace if faulty
- Check for air leakage from air receiver, hose, fittings, connections from and to pulse valves – repair / replace as req'd

On completion of the above operate the cleaning sequence with no airflow through Filters to remove dust and reinstate differential pressure. If condition recurs and all above are correct, reduce pulse interval. If design differential pressure cannot be maintained Filters are blocked, i.e. the pores are full and beyond recovery – replace.

Air Leak in System

- Air takes the easiest path causing volume reduction – check unit / hopper / vessel / ductwork (if fitted) for leaks – seal as req'd.

Dust Discharge from Air Outlet

Incorrectly fitted Filter(s)

- Check seating of Filters seal on pad plate – correct as req'd ensuring good seal

Worn / Damaged Filter(s)

- Visually inspect – Replace as req'd

Excessive Vibrations

Fan & Motor (where supplied)

- Visually inspect for damage / dust build up – remove as req'd
- Check impellor attachment to motor shaft - motor mounting – repair / replace as req'd
- If nothing evident contact us or your supplier

NOTE: Impellor will require dynamic balancing following any repairs!

General Vibration

- Check for loose panels in the vicinity of noise – re-affix as req'd

Loss of Compressed air

Malfunctioning Solenoid & Damaged Diaphragm

- Check Solenoid / diaphragms on pulse valves
- Loss of air accompanied by “Hiss” – identify vicinity of faulty item and repair / replace as req'd

Pulse Sequence will not operate

Inadequate electrical supply

- Check correct supply available

Incorrectly wired

- Check Wiring against wiring diagram – correct as req'd

Control Circuit fuse failed

- Check for cause and replace fuse

Sequence control card burnt out

- Check cause and replace card

Fan will not start (Where Supplied)

Inadequate electrical supply

- Check correct supply available

Overload tripped

- identify and reset

Panel / starter wired incorrectly

- check against wiring diagram – rectify

Back up fuses failed

- Check cause of failure and replace

NOTE: Correctly sized HRC motor rated fuses must be fitted

Fan Contactor coil burnt out

- Replace coil.

Fan Runs for only short time before overload trips (Where Supplied)

As per overload trip above

Loose Connection

- Check connections – tighten as req'd

Insufficient Voltage at Starter

- Determine cause and remedy

Incorrect overload or load setting

Check overload relay against motor full load – reset / replace as req'd

Warranty:

All products are supported by a 10 year structural guarantee, providing the failure mode can be associated to poor workmanship and/or materials used. This only applies to the structure of the unit not ancillary parts.

All ancillary parts, such as:-

- Controller
- Pulse Jets
- Pilot valves

Are subject to a 12 month warranty again based on proof of poor workman ship or materials.

All warranties will be void if the above specifications are not met or maintained. i.e.

- Documented & maintained Maintenance Plan
- Clean & Dry Air supply
- Regulated Air pressure
- CFM Capacity Maintained
- Correct Applied Voltages with appropriate protection
- Correct Controller settings
- Original Filter Specifications.

Commissioning: Unit: _____ **Serial Number** _____

On completion of install / Supply the following list of operations must be carried out, and where applicable values stated in regard readings & Settings.

Structural:

- | | | |
|----------------------------------|------------------------------|-----------------------------|
| All Panels in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Correct fasteners Used | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| All fasteners in place and tight | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Finish:

- | | | |
|--|------------------------------|-----------------------------|
| Paint work in good condition, any scratches repaired | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Excess Sealants cleaned off | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Air leak Checks:

- | | | |
|---|------------------------------|-----------------------------|
| Air Reservoir tanks | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Pulse Jet Fittings | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Chamber to hopper joint | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Hopper to Slide gate joint | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Cartridge Filter Door covers seals external | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Cartridge Filter Door internal seals | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Cartridge Filter – Tube plate seals | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Clean air Panels (Spare) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Dirty Air panel / Plenum | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Clean Air Panel Plenum or Fan Mounting | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

System Set & Run Values:

Approximate CFM _____

Airline Pressure _____(Bar)

Filters Fitted YES / NO

Filter Type _____

Controller Type / Model _____

Pulse Duration _____ms

Pulse Frequency _____Seconds

Pulse Sequencing YES / NO

Differential Pressure on startup _____KPA

Duct Velocity _____M/Second

System Static Pressure _____PA

Sign Off:

Company Name: _____

Site Location of Install: _____

Client

Print Name _____ Print Name: _____

Sign _____ Sign _____

Date ____/____/____ Date: ____/____/____

Information herein given without warranty: Machine design is constantly under review, and alterations to specifications may be implemented at anytime without notice.