



Installation & Service Manual For Dust Cab Series Collectors

**MODELS
Dust Cab 800
Dust Cab 1500**

March 4th, 2004

Table of Contents

Disclaimer	3
Uncrating	4
Description & Operation	4
Optional Equipment	5
Applications - General	5
Applications (continued)	6
Installation	6
Electrical	7
Electrical Installation (Continued)	8
Figure 1 Wire Connection Diagram	8
Ordering Replacement Parts	9
Maintenance	10
Troubleshooting	11
Specifications	12
Limited Warranty	13

Dust Cab Series Filtration Collectors

Disclaimer

Although instructions and recommendations are included for installation of your **Dust Cab Series Collector** equipment, the manufacturer does not assume responsibility for the installation of this equipment nor shall he be held liable for direct or consequential damages resulting from improper installation, application, maintenance or use.

The immense variety of contaminants make it impossible to list all of the potential hazards that may be encountered with air pollution control systems. It is therefore important that the application of the equipment be discussed with an AER Control Systems representative or application engineer prior to use. Additionally, users should consult and comply with all National and Local Fire, Electrical and /or other appropriate codes when determining the application, location and operation of any air pollution control equipment.

Collection of combustible or explosive materials and collection on flame or spark-generating operations may require specific system configurations (contact AER Control Systems LLC. Applications Engineering Department for questions and/or design assistance). The combined collection of combustible or explosive materials and contaminants from spark or flame generating operations, with a common collector or duct system, is not recommended, unless special design provisions have been made to the system (sparks or flames resulting from such operations may ignite the combustible or explosive material). Under no circumstances should anyone be allowed to discard a lighted cigarette, other burning materials, or refuse into an inlet hood or the duct of the collection system. It is the responsibility of the end user to comply with all applicable national, state, and local fire and safety codes.

This manual should be read completely before attempting Operation or Maintenance of this equipment. All work should be performed by qualified personnel according to local requirements.

All data and dimensions in this manual have been thoroughly checked however, we cannot assume responsibility for possible errors or omissions. We reserve the right to change designs and/or specifications without notice.

WARNING

Failure to comply fully with the following instructions and local code requirements may increase your risk of physical injury due to fire, explosion or electrical shock.

Dust Cab Series Filtration Collectors

SECTION 1

Uncrating

1. Remove banding and cardboard shipping carton and packing.
2. Hoppers, Plenum Boxes, and Attenuators are typically labeled and packed with the unit to be installed, mounting hardware is included for mounting these items. Be sure to check all boxes for any miscellaneous parts or hardware items before discarding.
3. Inspect the exterior of the unit and accessories for shipping damage or shortages that may not have been noticed or recorded when the shipment was initially received; you have 30 days to notify AER Control Systems LLC. of any discrepancies. Contact the shipping company if any damage or shortages have occurred.

Description & Operation

The standard Dust Cab Series Collectors consist of a removable dust drawer, an envelope style flame retardant cotton sateen bag filter with a manual shake cleaning mechanism, and a blower/ motor with a built in silencer. The Dust Cab 800 Collector is designed for 800 CFM and uses a 1 HP, single phase motor. The Dust Cab 1500 is designed for 1500 CFM and uses a 3 HP, three phase motor. The filter area in the 800 is 55 square feet and the 1500 has 180 square feet of media. Inlet size is 4 inch on the 800 and 8 inch on the 1500.

Optional Accesories

1. HEPA Module - The HEPA Module is bolted on the rear of the Dust Cab 800 after the blower and uses a 12 inch x 24 inch x 12 inch deep HEPA filter rated for 99.97% efficiency at 0.3 micron particle size. The HEPA Module for the Dust Cab 1500 is a bolt on cabinet that is attached after the bag filter but before the motor/ blower and uses a 24 inch x 24 inch x 12 inch deep HEPA filter rated for 99.97% efficiency at 0.3 micron particle size..
2. Portable Caster Frame - The portable caster frame allows both the Dust Cab 800 and 1500 to be moved along the floor.
3. Filter Media Options - Polyester felt media is a good option if you need a more efficient filter bag for finer dusts. Other medias are available upon request.
4. Spark Trap - A bolt-on spark trap can be added to the inlet of the Dust Cab to reduce the amount of sparks entering the collector.

Dust Cab Series Filtration Collectors

SECTION 1

Optional Accessories continued

5. Downdraft Table Top - The downdraft table top is an add-on to the top of the Dust Cab 800 Collector to capture dust from grinding or deburring while working on a table top.
6. Hopper/Floor Stand - Hoppers and floor stands are available for the Dust Cab Series when an increase of dust storage is required. 30 gallon or 55 gallon drum kits are also optional.

Optional Equipment

Motor Starters

Custom Designs

Motor Voltages, Phase, & Cycles

Activated Carbon

SECTION 2

Applications - General

1. **Dust, smoke, & vapor - The Dust Cab Series Collectors are designed for the capture and removal of dust, smoke, & gas/vapor contaminants from a wide variety of manufacturing processes. The standard filter bag material is a cotton sateen. The cotton sateen bag is good for abrasive and coarse contaminants such as metals, wood, coarse talc and corn starch. An optional polyester felt bag is a more efficient filter on finer dusts such as ceramic, cast iron, plastics, graphite, fine talc, toner, and fiberglass. A twill bag is good for any dust contaminant that is slightly wet. If smoke is being generated in the process, a HEPA filter can be added to the Dust Cab Series Collectors. Activated carbon can be added as an option to collect gas/vapor contaminants.**
2. **Size - It is important that the proper size unit has been selected for the application. Too little airflow will not draw the contaminant into the filter and the unit will not becompletely effective. Too much airflow may result in loss of efficiency or the unit will pick up large or heavy solid particles increasing the frequency ofmaintenance or filter replacement. Questions regarding proper unit sizing should be directed to your local AER Control Systems representative or the main office (toll free 866-265-2372)**

Dust Cab Series Filtration Collectors

SECTION 2

Applications continued

3. Models - The two models for the Dust Cab are the 800 and the 1500. The 800 and the 1500 identifies the nominal airflow for the unit. If a HEPA filter is included then a H would be added to the model; for example Dust Cab 800H. A carbon filter would have a C to identify if the unit has carbon. If the Dust Cab 1500 is portable then a P would be after the 1500; for example Dust Cab1500P.
4. **Collars - Ducted source capture units are provided with inlet collars for attaching ductwork.**
5. Portable Units - The 800 and the 1500 are available with four casters for portability.

SECTION 3

Installation

Assembly and Installation Dust Cab Collectors

Standard Collectors are pre-assembled for the 800 and 1500 with exception to optional items such as hopper/stand, and drum kits. Standard collectors are free standing and are typically located in a central location near to the operations needing collection.

Dust Cab Series Filtration Collectors

SECTION 3

Installation continued

Electrical

1. Single phase 115V 60HZ units are standard prewired from the factory, and include an On/Off switch wired to the electric motor with a power cord for single phase power. Single phase 230V and three phase units are an option, but do not include a switch, cord, or plug. All three phase and 230V single phase units are wired for the input voltage specified on the purchase order.
2. Motors used on the Dust Cab series collectors are UL recognized and internal wiring is UL rated at 600 volts. Input power line protection is required for the motor and electrical components. Line load and current requirements are identified on the motor nameplate. Unless ordered with the machine, the power switch for operating the machine, any fusible disconnect, motor starter or controller are to be provided by the customer/user and located externally to the machine.
3. All connections to the non-standard units are made at the motor electrical box (three phase & 230V single phase). Wiring diagrams can be found on the motor nameplate or on the motor electrical box. Verify the incoming voltage and that the motor has been properly wired prior to connecting it to the machine.
4. Verify proper rotation of the blower motor. It will be necessary to view the blower wheel from the blower exhaust on the Dust Cab series unit to verify the rotation. Proper rotation is marked on the motor housing. The blower wheel should be rotating clockwise when viewed from the motor end of the wheel. Counterclockwise from the blower inlet cone side of the wheel. If opposite rotation is experienced, see Figure 2 for directions to switch rotation.

NOTE

A motor starter with overload protection must be provided by the User. Thermal overload heaters are installed in the external motor starter. Consult the starter manufacturer for recommended heater size for the installed motor.

Dust Cab Series Filtration Collectors

SECTION 3

Installation continued

Electrical

WARNING
Permanent damage to the motor will be sustained
if connected to voltages other than the normal
operating voltage for which the unit is pre-wired.

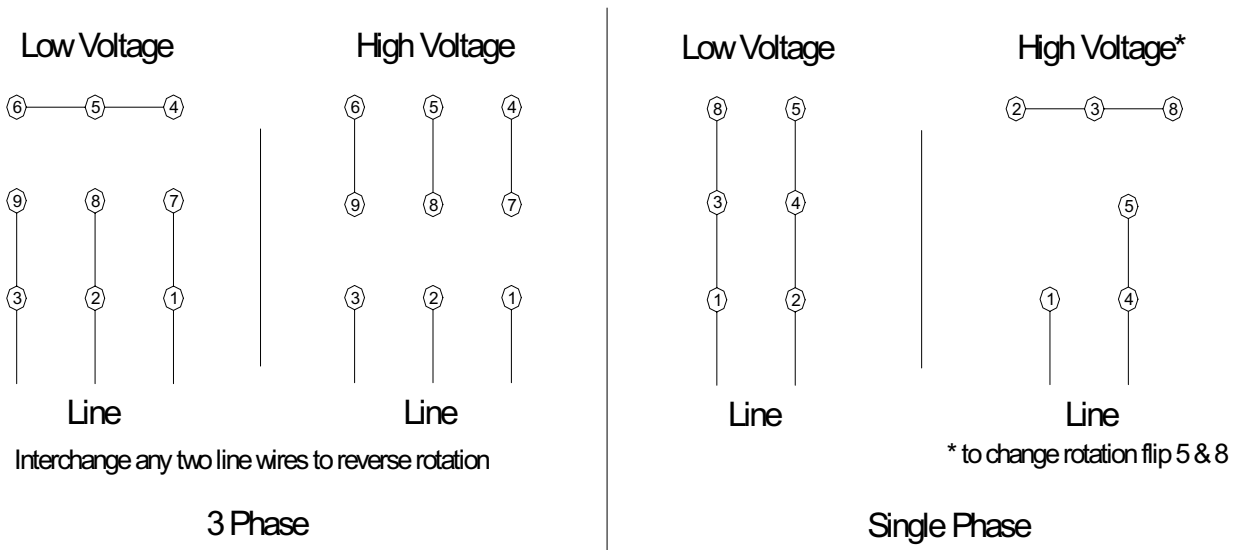


Figure 1 Wire Connection Diagram

Dust Cab Series Filtration Collectors

SECTION 4

Ordering Replacement Parts

Information required for prompt delivery of replacement parts will be:

1. Model and Serial Number
2. Part Number and Description

Contact your local AER Control Systems LLC. distributor for replacement parts. Use either our toll free telephone number or our website www.aercontrolsystem.com to obtain the nearest AER Control Systems LLC. distributor's name and telephone number.

1-866-265-2372

Description	Part Number
Miscellaneous Hoses and Clamps	
4" x 10' Neoprene/Polyester Flexhose	1051-01
6" x 10' Neoprene/Polyester Flexhose	1051-02
8" x 10' Neoprene/Polyester Flexhose	1051-06
Hose Clamp 4" Bridge	1050-10
Hose Clamp 6" Bridge	1050-11
Hose Clamp 8" Bridge	1050-12
Miscellaneous Filters	
Dust Cab 800 Cotton Sateen Bag	
Dust Cab 800 Polyester Felt Bag	
Dust Cab 1500 Cotton Sateen Bag	
Dust Cab 1500 Polyester Felt Bag	
HEPA Filter 12" x 24" x 12", 99.97% @ .3 microns	
HEPA Filter 24" x 24" x 12", 99.97% @ .3 microns	
Miscellaneous Motors and Electrical	
1 HP Motor, 1 PH, 3450 RPM for Dust Cab 800 Units	
1 HP Motor, 3 PH, 3450 RPM for Dust Cab 800 Units	
3 HP Motor, 3 PH, 3450 RPM for Dust Cab 1500 Units	
On/Off Switch	1206-01

Dust Cab Series Filtration Collectors

SECTION 5

Maintenance

Operation & Maintenance

Eventually the filter bag will become loaded with dust and the design airflow or suction will diminish. To clean the filter bags shake the handle on the side of the cabinet, this will wrap the underside of the filter bags dropping the dust off the bags into the drawer. Shake the bags every four hours, more often if the dust loading is heavy. If the dust does not release from the bags then the dust is either wet and sticky or the dust is so small that it does not have any weight to fall off the outside surface of the bag filters.

Lubrication or other routine periodic preventative maintenance is not required. All that is needed is an occasional check of fasteners, hoses and clamps and a general visual check of the unit to make sure that nothing has gone wrong. Periodic replacement of the bag filters is required when necessary. Always empty the dust storage before it fills completely. Do NOT allow the dust to collect to the point where it begins to touch the bottom of the filter bags, since this would result in the dust being re-entered into the air stream, re-depositing on the filters and shortening their life. If a hopper and stand is supplied Do NOT use the hopper as a dust storage device!

Dust Cab Filter Replacement 800 & 1500

The pressure drop across the bag filters will eventually reach a point at which the airflow and suction are too low. At this time, the bag filters should be replaced as follows:

1. Shut off electrical power to the blower and control box.
2. Open the bag filter access door on the front of the filter bag cabinet.
3. Unscrew the nuts from the four bag filter lifting bolts, two on either side of the filter. The bag filter support frame will drop down allowing the bag filter to slide out of the support rails inside the cabinet.
4. Slide the bag filter out on the rails. Remove the filter for inspection or replacement.
5. Reinstall the bag filter by sliding the filter into the cabinet on the rail. Tighten the four nuts on the bolts to lift the support frame and the bag filter into a knife edge inside the cabinet compressing the gasket on the filter frame to seal the bag. Make sure the gasket on the filter frame is hitting the knife edge inside the cabinet.
6. Close the bag filter access door.

Dust Cab Series Filtration Collectors

SECTION 6

Troubleshooting

If after performing the above TROUBLE SHOOTING the unit fails to perform to specifications, contact your AER Control System's Representative for further assistance. In the unlikely event local help is unavailable, contact the factory for engineering assistance.

Problem	Cause	Solution
Motor Fails to Start	No Power To Unit (indicator light is not lit.)	Check overload heaters in starter and fuses, replace or reset if necessary. Check for proper wire connections to and from the starter and collector.
	Power to unit (indicator light is lit.)	Check wires from input electrical box on the collector to the motor. Check motor wiring. Check to see if motor is faulty.
Low airflow and/or suction	Blower is running backwards	Check rotation of blower. If running backwards, interchange 2 of the 3 input power leads (3 phase motors only).
	Filter bags are not being cleaned	Shake filter bags.
	Obstruction in ducting	Check ducting for blockage. Check for dampers in the duct system, they may be closed. Improper duct design.
Contaminant blowing out of the collector exhaust	Hole in the filter bag	Replace filter bag.
	Filter bag not properly installed	Check that filter bag frame is oriented so that it lines up with knife edge inside the cabinet Check the seal on top of filter bag gasket.

Specifications

Specifications	Dust Cab 800	Dust Cab 1500
Nominal Airflow - CFM	800	1500
Available External pressure - IN. H2O	3	3
Filters - Qty.	1	1
Total Filter Area - Sq. Ft.	55	180
Motor - HP	1.0	3.0
Motor Temp. Max - C	40	40
Blower/Motor Type	Direct/ TEFC	Direct/ TEFC
Inlet	1 std. up to 2 available	1
Speed	3450 RPM	3450 RPM
HP	1.0	3.0
Voltage	115/230 - 190/380//230/460	190/380//230/460
Frequency - Hz	50/60	50/60
Phase	1/3	3
Frame - NEMA	56H/56	56C
Power Factor	81/76	89
Efficiency	66/75.5	82.5
Start Current Amps (60Hz)	76/38 - 22/11	65.8/32.9
Full Load Amps (60Hz)	11/5.5 - 3.6/1.8	7.6/3.8
Insulation Class - Min.	B	F
Enclosure	TEFC	TEFC
Service Factor	1.25	1.5
Duty Cycle	Continuous	Continuous
Bearing Grease	Exxon POLYEX EM	Exxon POLYEX EM
Specification	UL & CSA Approved	UL & CSA Approved



Limited Warranty

AER Control Systems LLC warrants all products sold only to purchasers for use in business or for resale, against defects in workmanship or materials under normal use, for one (1) year after the date of purchase from AER Control Systems LLC. Misapplication of the product, decomposition by reaction or chemical action and wear caused by abrasion will not constitute, or be considered as a defect. Warranty is void if the product has been subject to damage, unreasonable use, neglect, improper service, improper installation, or other causes not arising from defects in original materials or workmanship. Any part that is determined to be defective in material or workmanship and returned to an AER Control Systems LLC distributor or authorized service facility, as AER Control Systems LLC designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at AER Control Systems LLC's option. AER Control Systems LLC shall not be liable for any incidental or consequential cost, expenses, or damages resulting from any failure, defect, or malfunction of this product, liability is expressly disclaimed. AER Control Systems LLC's liability in all events is limited to and will not exceed, the purchase price of the product. Title and risk of loss pass to the buyer on delivery to the common carrier. If a product is damaged in transit, the recipient MUST make note of the damage upon receipt of the product and file a claim with the carrier. AER Control Systems LLC will make a good faith effort for prompt correction or other adjustment, with respect to any product that proves to be defective within the warranty period.

Collection of combustible or explosive materials and collection on flame or spark-generating operation any require specific system configurations (contact AER Control Systems LLC's Applications Engineering Department for questions and/or design assistance). The combined collection of combustible or explosive materials and contaminants from spark or flame generating operations, with a common collector or duct system, is not recommended, unless special design provisions have been made to the system (sparks or flames resulting from such operations may ignite the combustible or explosive material). Under no circumstances should anyone be allowed to discard a lighted cigarette, other burning materials, or refuse into an inlet hood or the duct of the collection system. It is the responsibility of the end user to comply with all applicable national, state, and local fire and safety codes. AER Control Systems LLC's liability for consequential and incidental damage resulting from a fire or explosion is expressly disclaimed.

Installation of suitable overload protection such as a motor starter, according to NEC guidelines, is required. Failure to provide proper overload protection will void warranty coverage on electrical components in the system. (Combination motor starters with fusible disconnect packages are available through your local AER Control Systems LLC representative). To ensure optimum collector performance, always use AER Control Systems LLC replacement filters.