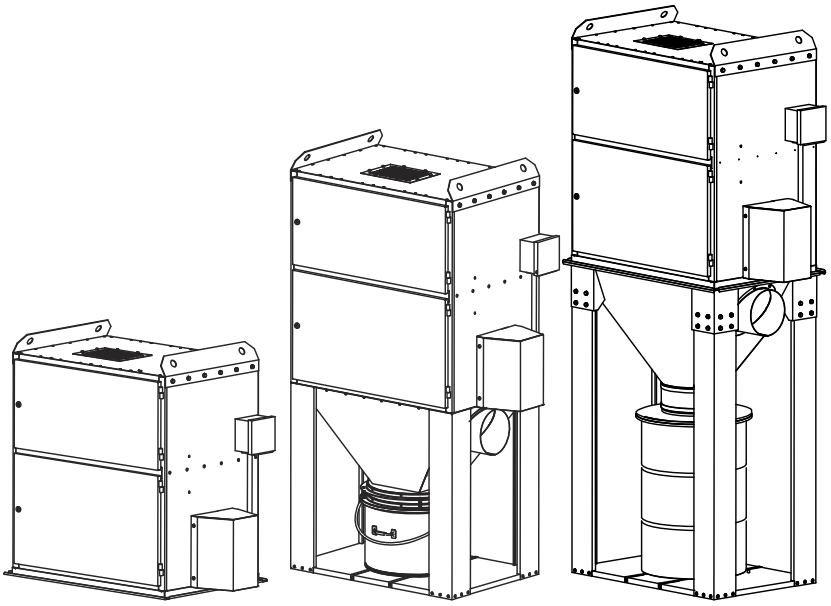
Donaldson
Torit®

Unimaster® Dust Collector

UMA 40, 70, 100, 150 and 250 Built After August 2005
UMA 450 and 750 Buiilt After March 2006

Installation and Operation Manual

Installation, Operation, and Service Information



UMA-H 250
Hopper Base

UMA-B 250
Bin Base

UMA-D 250
55-Gallon Drum Base

This manual is property of the owner. Leave with the unit when set-up and start-up are complete. Donaldson Company reserves the right to change design and specifications without prior notice.

Illustrations are for reference only as actual product may vary.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

English
Master Language

IOM AD3547701 (ENG)
Revision 2

⚠ WARNING Process owners/operators have important responsibilities relating to combustible dust hazards. Process owners/operators must determine whether their process creates combustible dust. If combustible dust is generated, process owners/operators should at a minimum:

- Comply with all applicable codes and standards. Among other considerations, current NFPA standards require owners/operators whose processes involve potentially combustible materials to have a current Hazard Analysis, which can serve as the foundation for their process hazard mitigation strategies.
- Prevent all ignition sources from entering any dust collection equipment.
- Design, select, and implement fire and explosion mitigation, suppression, and isolation strategies that are appropriate for the risks associated with their application.
- Develop and implement maintenance work practices to maintain a safe operating environment, insuring that combustible dust does not accumulate within the plant.

Donaldson recommends process owners/operators consult with experts to insure each of these responsibilities are met.

As a manufacturer and supplier of Industrial Filtration Products, Donaldson can assist process owners/operators in the selection of filtration technologies. However, process owners/operators retain all responsibility for the suitability of fire and explosion hazard mitigation, suppression, and isolation strategies. Donaldson assumes no responsibility or liability for the suitability of any fire and/or explosion mitigation strategy, or any items incorporated into a collector as part of an owner/operators hazard mitigation strategy.

Improper operation of a dust control system may contribute to conditions in the work area or facility that could result in severe personal injury and product or property damage. Check that all collection equipment is properly selected and sized for the intended use.

DO NOT operate this equipment until you have read and understand the instruction warnings in the Installation and Operations Manual. For a replacement manual, contact Donaldson Torit.

This manual contains specific precautionary statements relative to worker safety. Read thoroughly and comply as directed. Discuss the use and application of this equipment with a Donaldson Torit representative. Instruct all personnel on safe use and maintenance procedures.

Contents

⚠ DANGER **DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.**

⚠ WARNING **WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.**

⚠ CAUTION **CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.**

NOTICE **NOTICE is used to address practices not related to personal injury that may result in damage to equipment.**

Data Sheet

Model Number _____ Serial Number _____

Ship Date _____ Installation Date _____

Customer Name _____

Address _____

_____

Filter Type _____

Accessories _____

Other _____

Description

The Unimaster series dust collectors are self-contained, intermittent-duty dust collectors with bag-style filters. Three standard configurations—UMA-B, UMA-H, and UMA-D provide effective cleaning in a variety of industrial settings.

Most popular is Model UMA-B and ships complete with fan, easy-access filter assembly, multiple-inlet hopper and dust bin with quick-release sealer gear. Model UMA-H is a control unit with fan and filter assembly only. The housing has an open bottom and flanges to bolt directly to a dust container or hopper. Model UMA-D includes a fan, easy-access filter assembly, multi-inlet hopper and drum cover assembly to fit a standard 55-gallon drum.

Standard sizes range from 43 to 753 sq ft of filter area and features a UMA controller to control the filter cleaning operation. Other options include explosion relief vents, static grounding, weather hoods and caster frames.

Purpose and Intended Use

⚠ WARNING Misuse or modification of this equipment may result in personal injury.

Do not misuse or modify.

The Unimaster dust collectors are used to separate solid particulate from an airstream as part of a manufacturing process. It is an ideal choice for intermittent operations in plant processes. Several small units can be installed at dust generation sites throughout the plant resulting in total dust capture and flexibility. Some typical installations include blending/mixing, abrasive blasting, cleaning, cutting, drilling, grinding, milling, packing, polishing, sanding, and sawing.

⚠ WARNING Combustible materials such as buffing lint, paper, wood, metal dusts, weld fume, or flammable coolants or solvents represent potential fire and/or explosion hazards. Use special care when selecting, installing, and operating all dust, fume, or mist collection equipment when such combustible materials may be present in order to protect workers and property from serious injury or damage due to a fire and/or explosion.

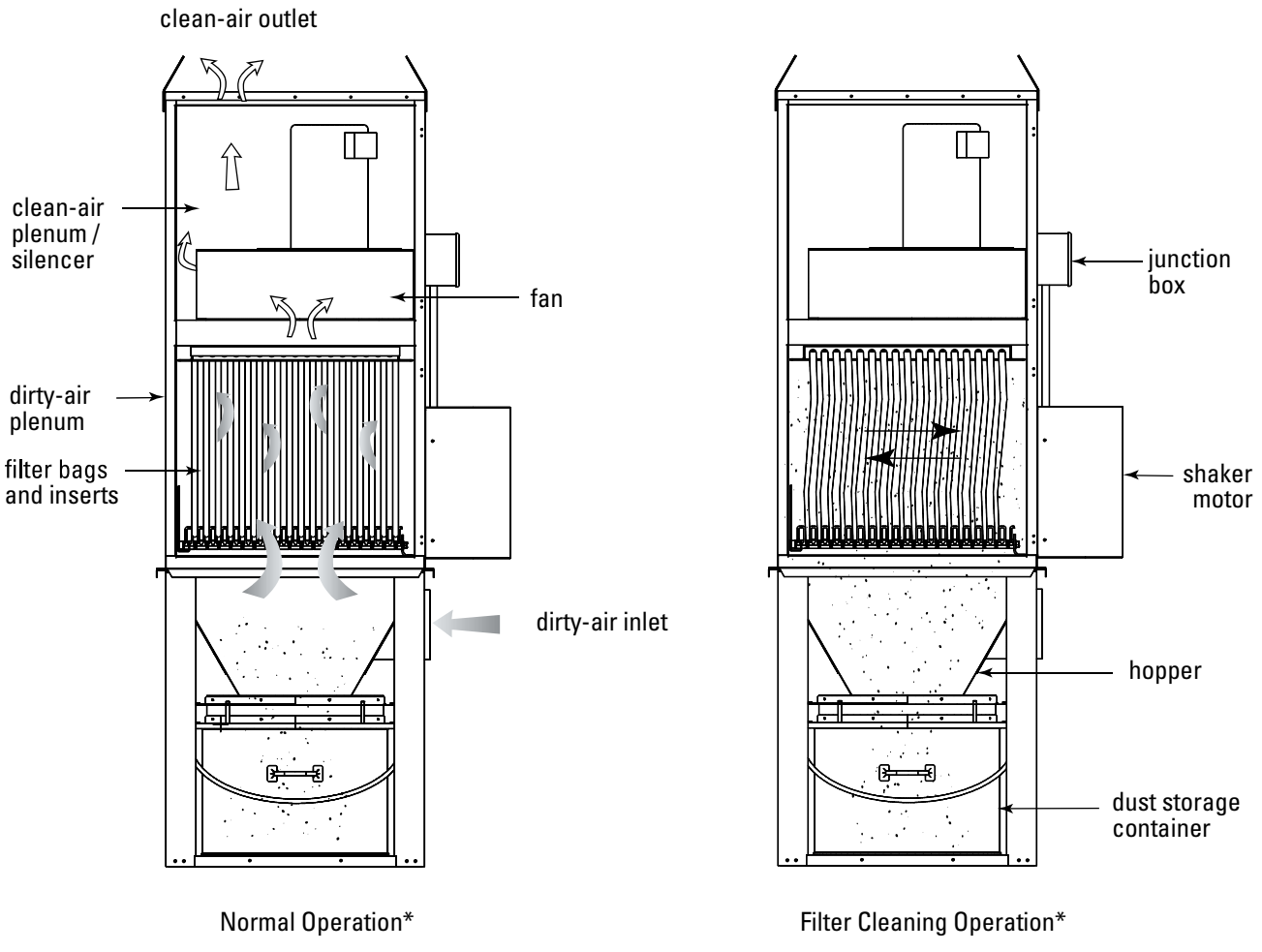
Consult and comply with all National and Local Codes related to fire and/or explosion properties of combustible materials when determining the location and operation of all dust, fume, or mist collection equipment.

Standard Donaldson Torit equipment is not equipped with fire extinguishing or explosion protection systems.

Operation

During normal operation, dust-laden air enters the unit through the dirty-air inlet. The velocity is reduced and natural pre-separation, caused by the effects of gravity, takes place and heavier particulate falls directly into the collection bin or hopper. Fine particles collect on the outside surface of the filter bag and clean, filtered air passes to the center of the bag and discharges through the clean-air outlet.

The Unimaster is an intermittent-duty collector, which means that cleaning starts when the fan is turned OFF and the appropriate fan run-down time is complete. The solid-state timer automatically starts the cleaning sequence 75-seconds after the fan is turned OFF. This is the fan run-down time. Power to controls must remain ON to operate the cleaning mechanism. The vibration motor starts and filter cleaning begins for a preset time of 30-seconds.



*Doors not shown on unit for illustrative purposes.

Unit Operation

Inspection on Arrival

1. Inspect unit on delivery.
2. Report any damage to the delivery carrier.
3. Request a written inspection report from the Claims Inspector to substantiate any damage claim.
4. File claims with the delivery carrier.
5. Compare unit received with description of product ordered.
6. Report incomplete shipments to the delivery carrier and your Donaldson Torit representative.
7. Remove crates and shipping straps. Remove loose components and accessory packages before lifting unit from truck.
8. Check for hardware that may have loosened during shipping.
9. Use caution removing temporary covers.

Installation Codes and Procedures

⚠CAUTION Codes may regulate recirculating filtered air in your facility. Consult with the appropriate authorities having jurisdiction to ensure compliance with all national and local codes regarding recirculating filtered air.

Safe and efficient operation of the unit depends on proper installation.

Authorities with jurisdiction should be consulted before installing to verify local codes and installation procedures. In the absence of such codes, install unit according to the National Electric Code, NFPA No. 70-latest edition and NFPA 91 (NFPA 654 if combustible dust is present).

A qualified installation and service agent must complete installation and service of this equipment.

All shipping materials, including shipping covers, must be removed from the unit prior to, or during unit installation.

NOTICE Failure to remove shipping materials from the unit will compromise unit performance.

Inspect unit to ensure all hardware is properly installed and tight prior to operating collector.

Installation

⚠CAUTION Site selection must account for wind, seismic zone, and other load conditions when selecting the location for all units.

Codes may regulate acceptable locations for installing dust collectors. Consult with the appropriate authorities having jurisdiction to ensure compliance with all national and local codes regarding dust collector installation.

Foundations or Support Framing

Prepare the foundation or support framing in the selected location. Foundation or support framing must comply with local code requirements and may require engineering.

Foundation and support framing must be capable of supporting dead, live, wind, seismic and other applicable loads. Consult a qualified engineer for final selection of foundation or support framing.

Anchorage

Anchors must comply with local code requirements and must be capable of supporting dead, live, wind, seismic and other applicable loads.

Anchor sizes shown are provisional, as final anchor sizing will depend on job site load conditions, collector location, foundation/framing design variables and local codes. Consult a qualified engineer for final selection of anchors.

Site Selection, Grade-Mounted Units

NOTICE When outdoor locations are selected, always mount motors with drain holes pointed down for proper drainage of moisture.

The unit can be used as a stand-alone collector or located in the top of storage silos and bins, or integrated into hoods for material handling equipment such as belt conveyors and bucket elevators.

Provide clearance from heat sources and avoid any interference with utilities when selecting the location for suspended units.

Portable units require no special installation accommodations.

Unit Location

⚠ WARNING Donaldson Torit equipment is not designed to support site-installed ducts, interconnecting piping, or electrical services. All ducts, piping, or electrical services supplied by others must be adequately supported to prevent severe personal injury and/or property damage.

When hazardous conditions or materials are present, consult with local authorities for the proper location of the collector.

⚠ CAUTION If combustible materials will be processed through this collector, local codes may require the collector be located either outside or adjacent to an exterior wall to accommodate devices related to a fire or explosion mitigation strategy. Consult local codes prior to installation.

Locate the collector to ensure easy access to electrical and compressed-air connections and routine maintenance.

Rigging Instructions

Suggested Tools & Equipment

Clevis Pins and Clamps	Lifting Slings
Crane or Forklift	Pipe Sealant
Drift Pins	Pipe Wrenches
Drill and Drill Bits	Screwdrivers
End Wrenches	Socket Wrenches
Adjustable Wrench	Spreader Bars

Torque Wrench (inch/lbs, 9/16-in Socket)

Hoisting Information

⚠ WARNING Failure to lift the collector correctly can result in severe personal injury or property damage.

Use appropriate lifting equipment and adopt all safety precautions needed for moving and handling the equipment.

A crane or forklift is recommended for unloading, assembly, and installation of the collector.

Location must be clear of all obstructions, such as utility lines or roof overhang.

Use all lifting points provided.

Use clevis connectors, not hooks, on lifting slings.

Use spreader bars to prevent damage to unit's casing.

Check the Specification Control drawing for weight and dimensions of the unit and components to ensure adequate crane capacity.

Allow only qualified crane operators to lift the equipment.

Refer to applicable OSHA regulations and local codes when using cranes, forklifts, and other lifting equipment.

Lift unit and accessories separately and assemble after unit is in place.

Use drift pins to align holes in section flanges during assembly.

Electrical Wiring

⚠ WARNING Electrical service or maintenance work must be performed by a qualified electrician and comply with all applicable national and local codes.

Turn power off and lock out electrical power sources before performing service or maintenance work.

Do not install in classified hazardous atmospheres without an enclosure rated for the application.

All electrical wiring and connections, including electrical grounding, should be made in accordance with the National Electric Code (NFPA No. 70-latest edition).

Check local ordinances for additional requirements that apply.

The appropriate wiring schematic and electrical rating must be used. See unit's rating plate for required voltage.

If the unit is not furnished with a factory-mounted disconnect, an electric disconnect switch having adequate amp capacity shall be installed in accordance with Part IX, Article 430 of the National Electrical Code (NFPA No. 70-latest edition). Check unit's rating plate for voltage and amperage ratings.

Refer to the wiring diagram for the number of wires required for main power wiring and remote wiring.

Standard Equipment

⚠CAUTION The collector has a high center-of-gravity and may overturn if not secured properly.

Secure the collector to the lifting device.

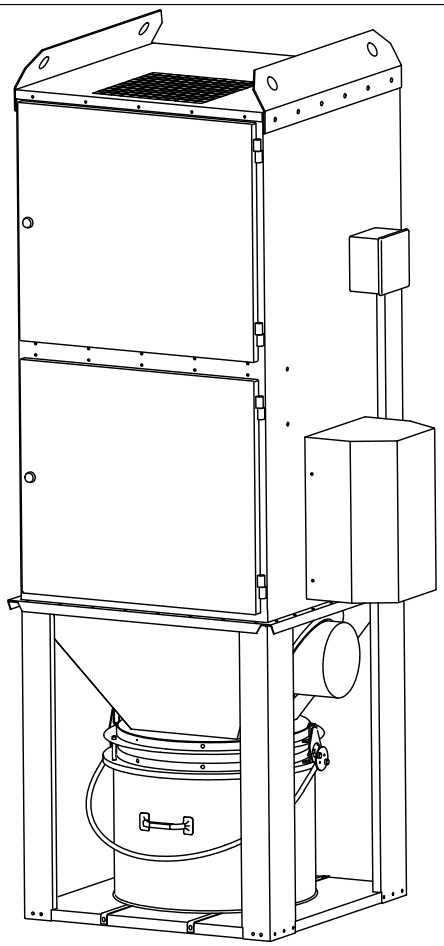
Use care when moving the unit.

Unimaster dust collectors are delivered partially assembled. Unit installation, optional equipment assembly, and electrical connections are completed at the job site.

Unit Installation

UMA-B 40 to 150

1. Prepare the foundation in the selected location. Install anchor bolts to extend a minimum of 2-inches above foundation unless otherwise indicated on the Specification Control drawing.
2. Lift unit into position over the anchor bolts and lower slowly.
3. Level unit horizontally and vertically, using steel shims under legs where required.
4. Secure unit to anchor bolts using customer-supplied hardware.



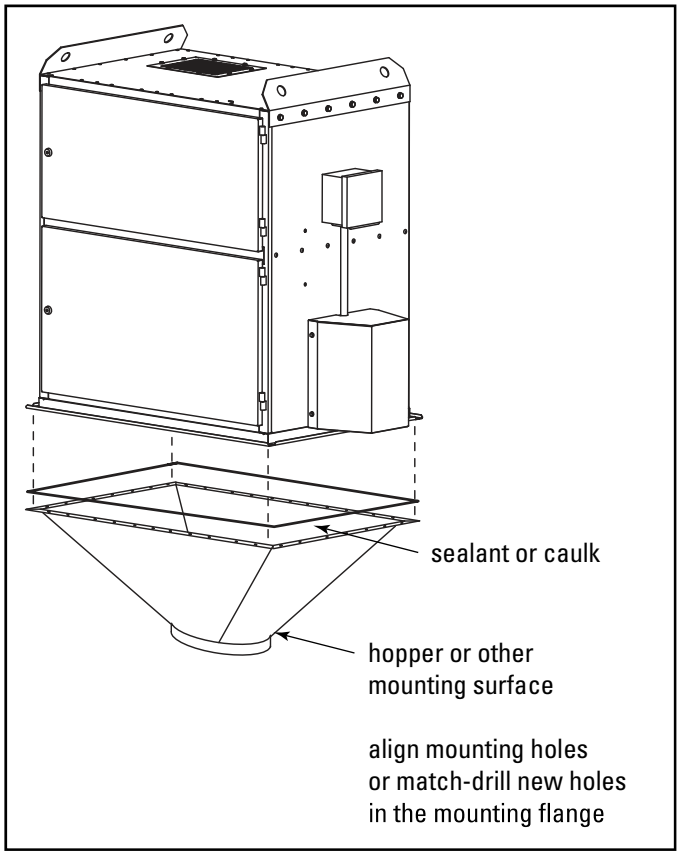
UMA-B 150
Bin Base

Typical Installation, UMA 40 to 150 Bin

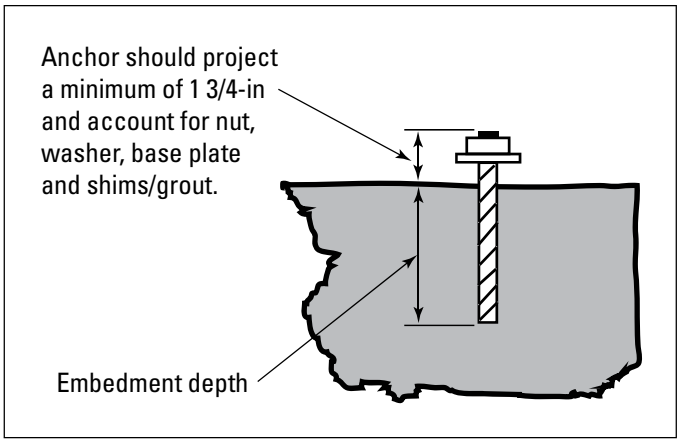
UMA-H

Note: Compare the position and spacing of the bolt pattern on the unit's mounting flange to the bolt pattern on the mounting surface.

1. Apply two strips of sealant or caulk to the mounting surface, one toward the inside of the bolt pattern and one toward the outside of the bolt pattern.
2. Lift unit into position over mounting surface and lower slowly.
3. Use drift pins to align holes.
4. Secure with bolts, washers, and hex nuts supplied. Tighten to form an airtight seal.



Typical Installation, UMA-H



Typical Foundation Anchor

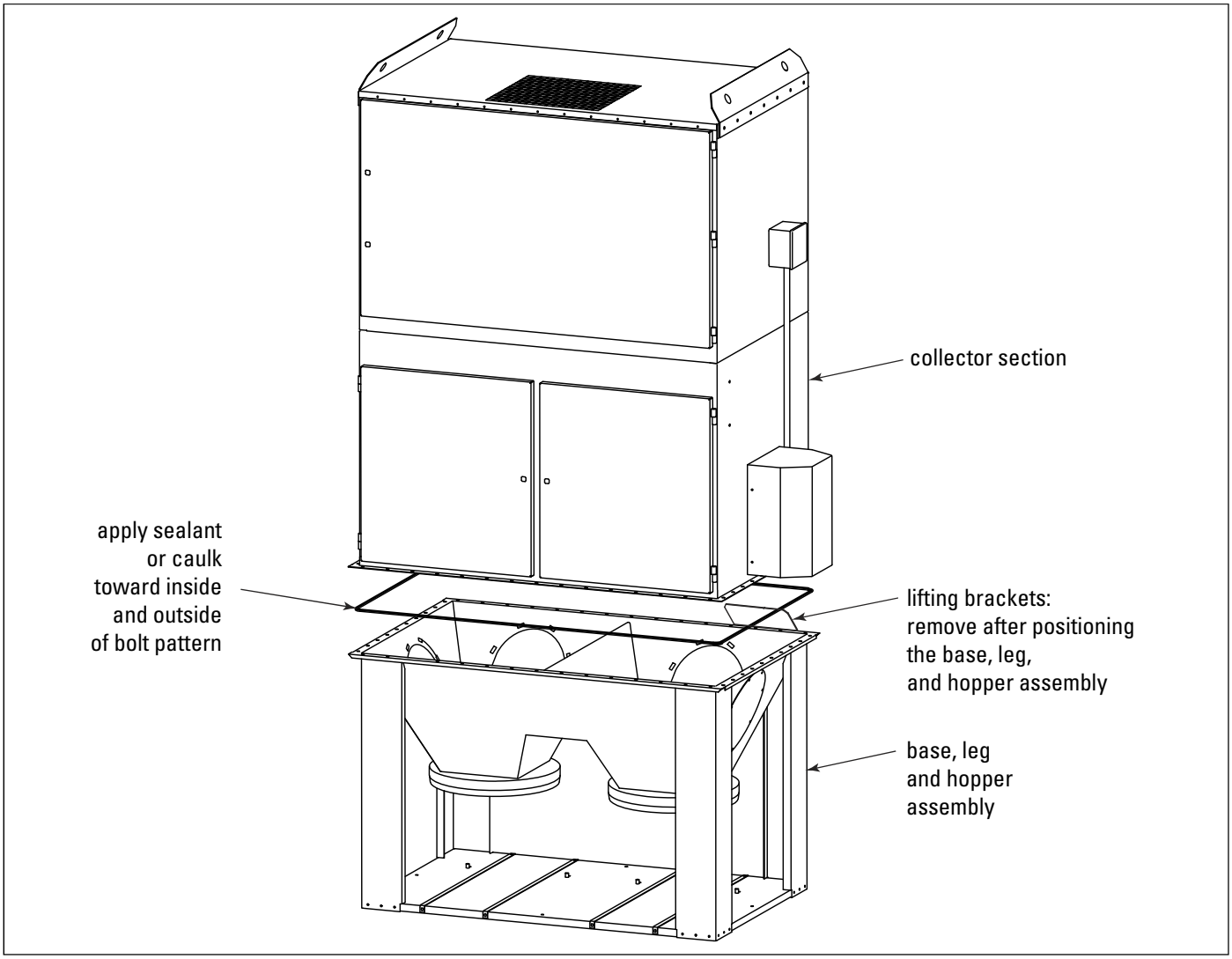
Provisional Anchor (per Rating and Specification Information)			
Model	Anchor	Embedment in 3000psi Concrete	Anchoring System or Equivalent
All	1-in diameter 304 SS threaded rod	9-in	Hilti HIT-RE 500-SD Epoxy Adhesive Anchoring System or equivalent

Notes:

1. Final anchor design should account for site conditions, local codes and design code considerations such as concrete edge distances and concrete strength.
2. Quantity of anchor bolts should match the number of holes provided in the base plates.

UMA-B 250 to 750, UMA-D, or Two-Piece Shipments

1. Prepare the foundation in the selected location. Install anchor bolts to extend a minimum of 2-inches above foundation unless otherwise indicated on the Specification Control drawing.
2. Lift base, leg, and hopper assembly into position over the anchor bolts and lower slowly.
3. Level unit horizontally and vertically, using steel shims under legs where required.
4. Secure unit to anchor bolts using customer-supplied hardware.
5. Remove the lifting brackets from the top of the base assembly.
6. Apply two strips of sealant or caulk to the hopper's top flange: one toward the inside of the bolt pattern and one toward the outside of the bolt pattern.
7. Lift collector section into position over the base assembly and lower slowly.
8. Use drift pins to align holes.
9. Secure with bolts, washers, and hex nuts supplied. Tighten to form an airtight seal.



Typical Installation, UMA-B 250 to 750, UMA-D, or Two-Piece Shipment

Inlet Assembly

All models are shipped with the inlet specified at the time of order. Side inlets are not interchangeable with back inlets. Contact Donaldson if additional changes are necessary.

1. Remove the inlet blank from the specified location.
2. Replace damaged sealant if necessary.
3. Secure inlet to unit using the hardware removed in Step 1.

Electrical Connection

⚠ WARNING Electrical service or maintenance work must be performed by a qualified electrician and comply with all applicable national and local codes.

Turn power off and lock out electrical power sources before performing service or maintenance work.

Do not install in classified hazardous atmospheres without an enclosure rated for the application.

The UMA controller operates the fan and shaker in the proper sequence to ensure effective filter cleaning. The controller contains an across-the-line fan starter and an across-the-line shaker motor starter.

1. Mount the controller in a convenient accessible location, free of vibration and temperature extremes.

NOTICE Do not mount the controller directly to the unit. Mechanical vibration can damage the control.

2. Using the wiring diagram supplied with the controller, connect the power lead from a customer-supplied disconnect switch to the terminal block inside the controller, complying with all applicable codes for motor branch circuits.

   Note: The national electric code requires all connections to the electrical enclosure be of the same rating.

3. Install conduit from the controller to the junction box located on the side of the collector. Use conduit and fittings compatible with the rating of the controller's enclosure.
4. Make the connections from the manual motor protector inside the controller to the terminal block in the junction box.

UMA Controller

The UMA Controllers are used with three-phase, 50- or 60-Hz power supplies or optional single-phase power, and suitable for fan motors rated to and including 30 horsepower.

Operation

Start

Press START button.

Fan contactor M1 is energized, timer module sets, and the fan motor starts. Average operating period for fan is 4 hours.

Clean

Press CLEAN button.

Fan contactor M1 is de-energized and the timer is energized.

After approximately 75-seconds, the shaker motor contactor M2 is energized and the shaker motor runs for approximately 30-seconds.

Shaker motor contactor is de-energized and the timer resumes inactive status.

Note: Before a cleaning cycle can start by pressing the CLEAN button, the M1 fan contactor must have been energized for at least 30-seconds.

In the event of a power supply failure during a cycle, an internal safety feature ensures the controller automatically resets ready for the fan to be restarted. Reapplying power does not require the cycle to be completed.

Input
105-135V/50-60Hz/1Ph

Output Solenoids
The load is carried and turned ON and OFF by the 200 watt maximum-load-per-output solid-state switch.

Pulse ON Time
Factory set at 100-milliseconds, or 1/10-second.

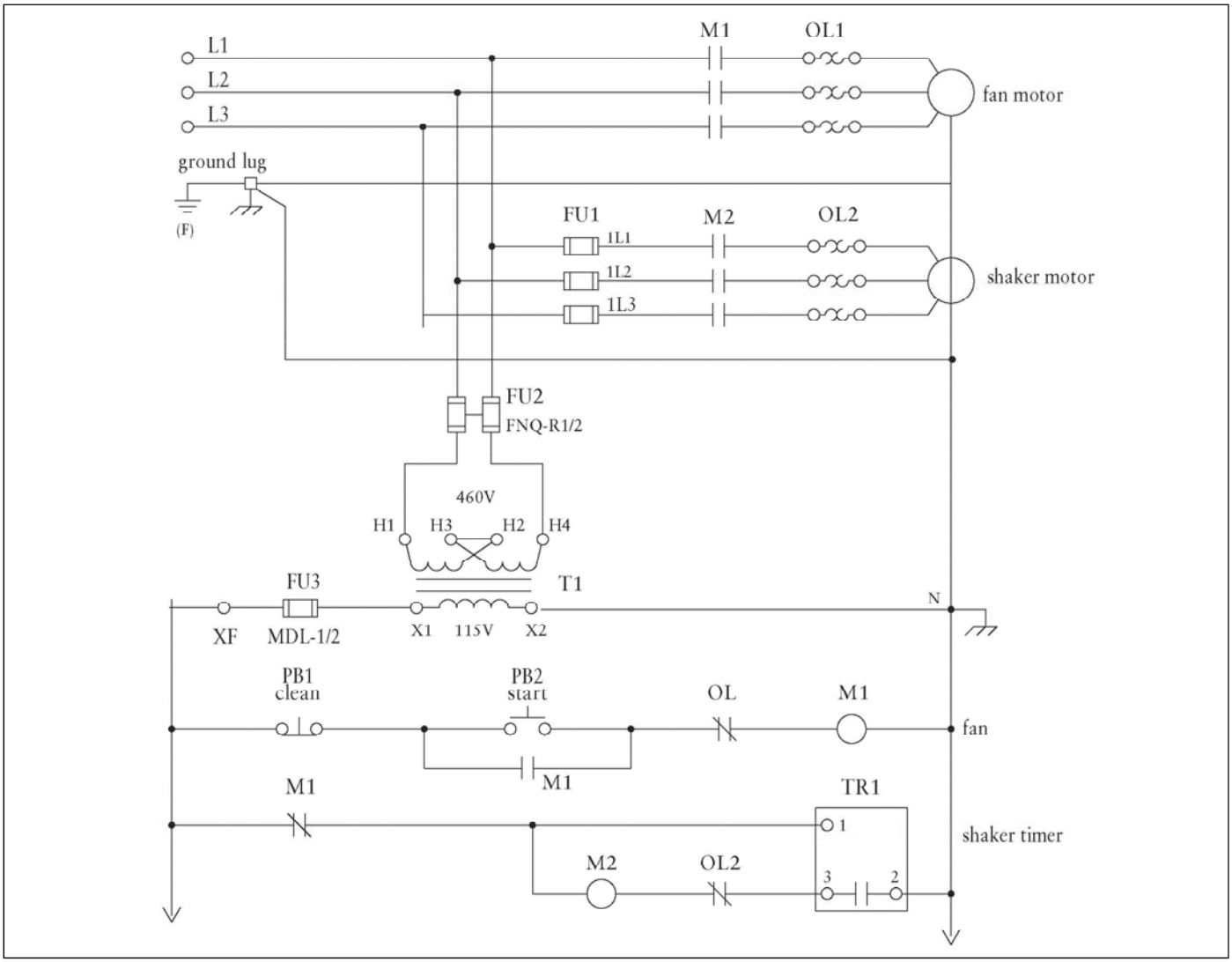
NOTICE Do not adjust pulse ON time unless the proper test equipment is available. Too much or too little ON time can cause shortened filter life.

Pulse OFF Time
Factory set at 10-seconds, adjustable from 1.5-sec minimum to maximum 30-seconds.

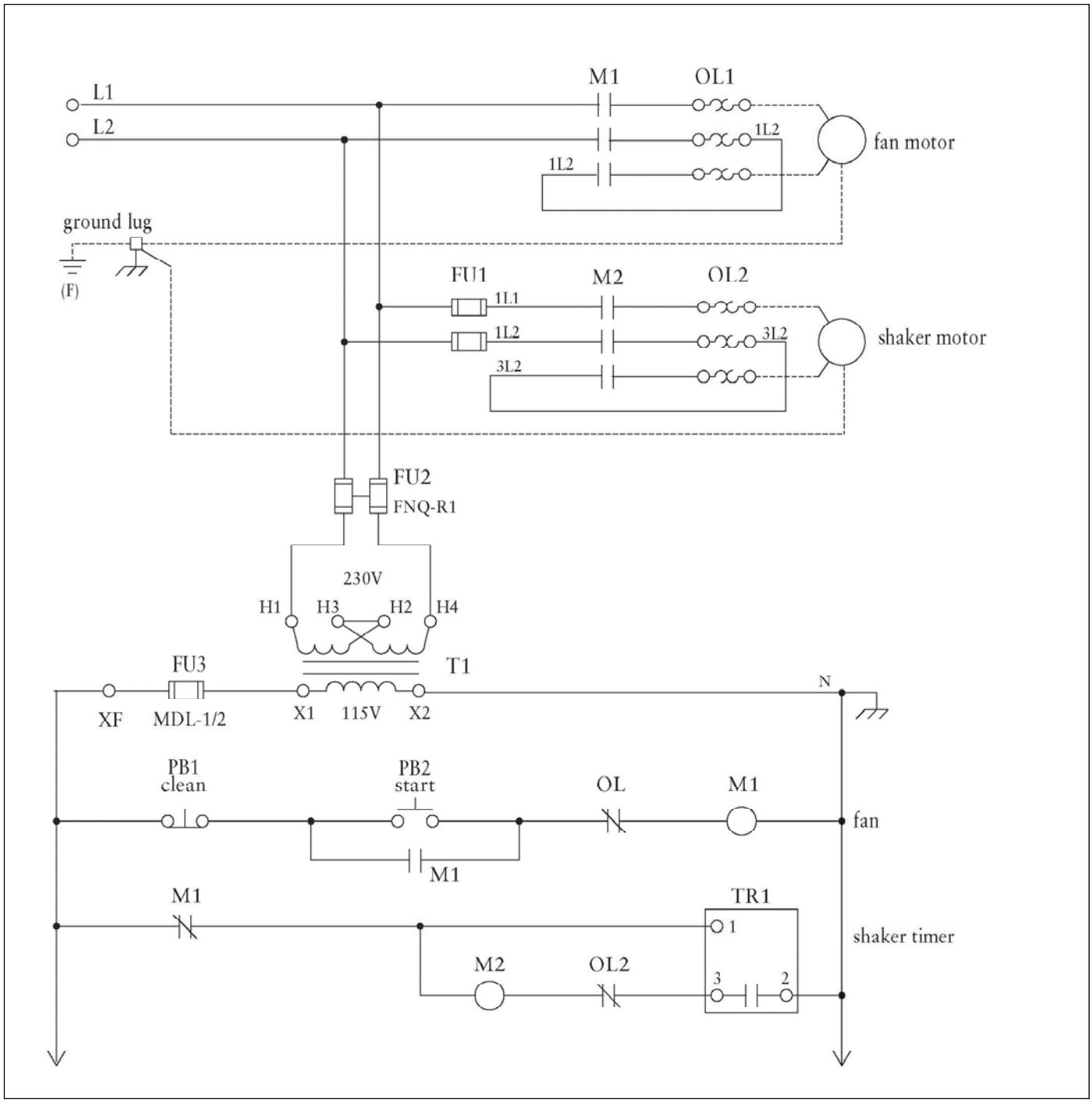
Operating Temperature Range
-20° F to 130° F

Transient Voltage Protection
50 kW transient volts for 20-millisecond duration once every 20 seconds, 1% duty cycle.

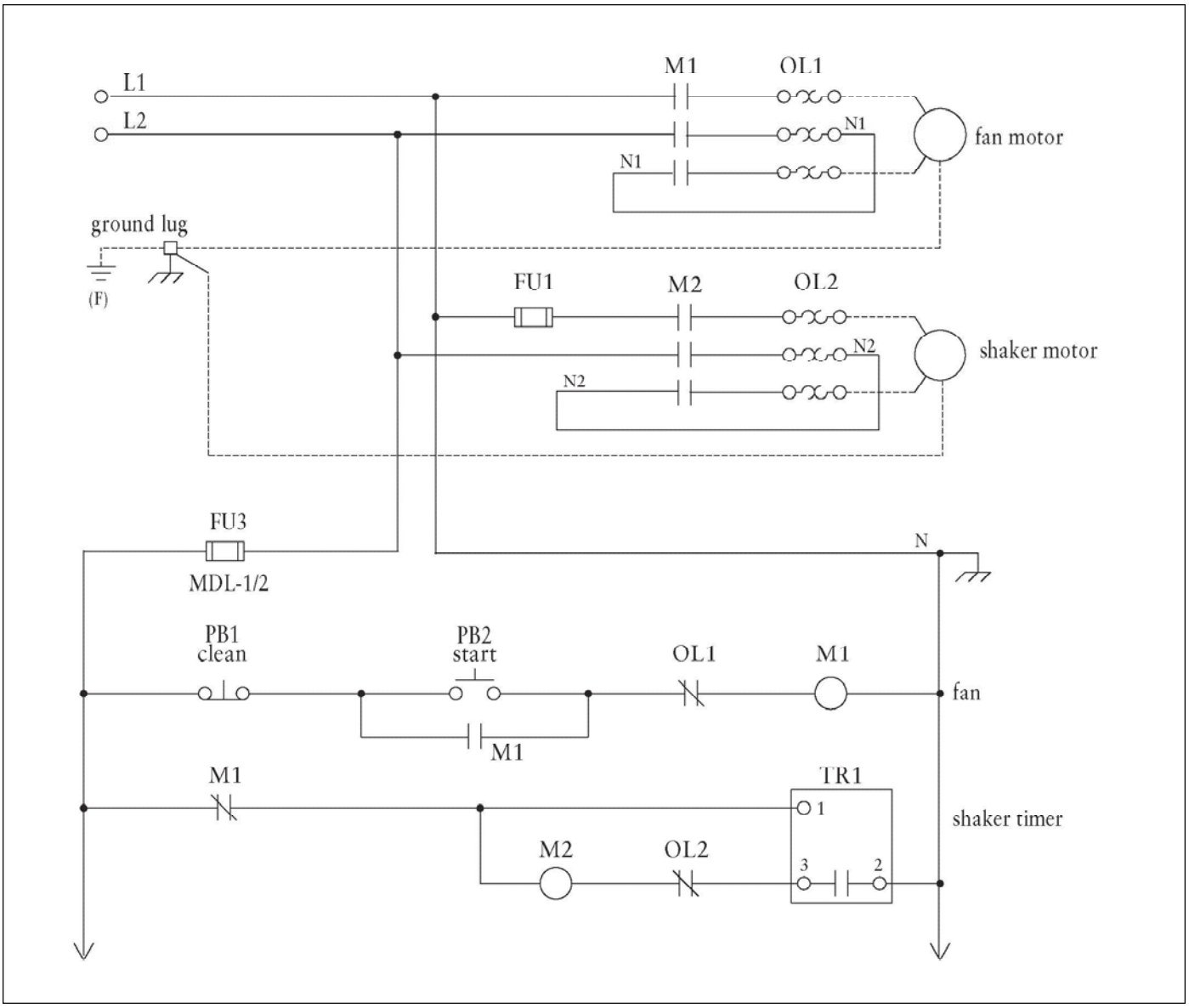
Solenoid Valves
115-Volt at 19.7 watts each



Typical Wiring Diagram, Three-Phase Power Supply



230-Volt, Single Phase Power Supply Wiring Diagram



115-Volt, Single Phase Power Supply Wiring Diagram

Preliminary Start-Up Check

Instruct all personnel on safe use and maintenance procedures.

⚠ WARNING Electrical work during installation must be performed by a qualified electrician and comply with all applicable national and local codes.

Turn power off and lock out electrical power sources before performing service or maintenance work.

Check that the collector is clear and free of all debris before starting.

Do not install in classified hazardous atmospheres without an enclosure rated for the application.

Optional fans over 600 lbs must be independently supported.

1. Check all electrical connections for tightness and contact.
2. Check that hopper discharge is open and the storage container is sealed, if equipped. Excess airflow to the blower will cause electrical failure.
3. Motor and fan should typically be wired for clockwise rotation when viewed from the back of the motor. Check for proper rotation as noted on the fan housing.

   To reverse rotation, single-phase power supply: Follow manufacturer's instructions on the motor's nameplate.

   To reverse rotation, three-phase power supply: Turn electrical power OFF at source and switch any two leads on the motor junction box.

⚠ WARNING Do not interchange a power lead with the ground wire. Severe damage or personal injury may result.

4. All access panels should be sealed and secure.
5. Check that the dust container is properly sealed and clamped.
6. Check that exhaust damper is set to the fully-closed position.
7. Check and remove all loose items in or near the inlet and outlet of the unit.
8. Check that all remote controls and solenoid enclosures (if applicable) are properly wired and all service switches are in the OFF position.
9. Check that all optional accessories are installed properly and secured.
10. Turn power ON at source.
12. Turn blower fan motor ON.

⚠ WARNING Do not look into fan outlet to determine rotation. View the fan rotation through the back of the motor.

Check that the exhaust plenum is free of tools or debris before checking blower/fan rotation.

Stand clear of exhaust to avoid personal injury.

13. Adjust airflow with the exhaust damper.

NOTICE Excess airflow can shorten filter life, cause electrical system failure, and blower motor failure.

Typical Start-Up Sequence

Press the Start button on the controller panel to start the unit.

Typical Shut-Down Sequence

1. Press the Clean button on the controller.
2. The fan stops when fan run-down cycle is complete.
3. The cleaning cycle starts and when finished, the unit turns OFF.

Maintenance Information

Instruct all personnel on safe use and maintenance procedures.

⚠ WARNING Use proper equipment and adopt all safety precautions needed for servicing equipment. Electrical service or maintenance work must be performed by a qualified electrician and comply with all applicable national and local codes.

Turn power off and lock out electrical power sources before performing service or maintenance work.

Do not install in classified hazardous atmospheres without an enclosure rated for the application.

Operational Checklist

1. Monitor the physical condition of the collector and repair or replace any damaged components.

   Routine inspections will minimize downtime and maintain optimum system performance. This is particularly important on continuous-duty applications.

   Drain moisture following the manufacturer's instructions. With the compressed air supply ON, check the cleaning valves, solenoid valves, and tubing for leaks. Replace as necessary.

2. Monitor pressure drop across filters.

   Abnormal changes in pressure drop may indicate a change in operating conditions and possibly a fault to be corrected. For example, prolonged lack of compressed air will cause an excess build-up of dust on the filters resulting in increased pressure drop. Cleaning off-line with no flow usually restores the filters to normal pressure drop.

3. Monitor exhaust.

4. Monitor dust disposal.

Filter Removal and Installation

⚠ WARNING Use proper safety and protective equipment when removing contaminants and filters.

Dirty filters may be heavier than they appear.

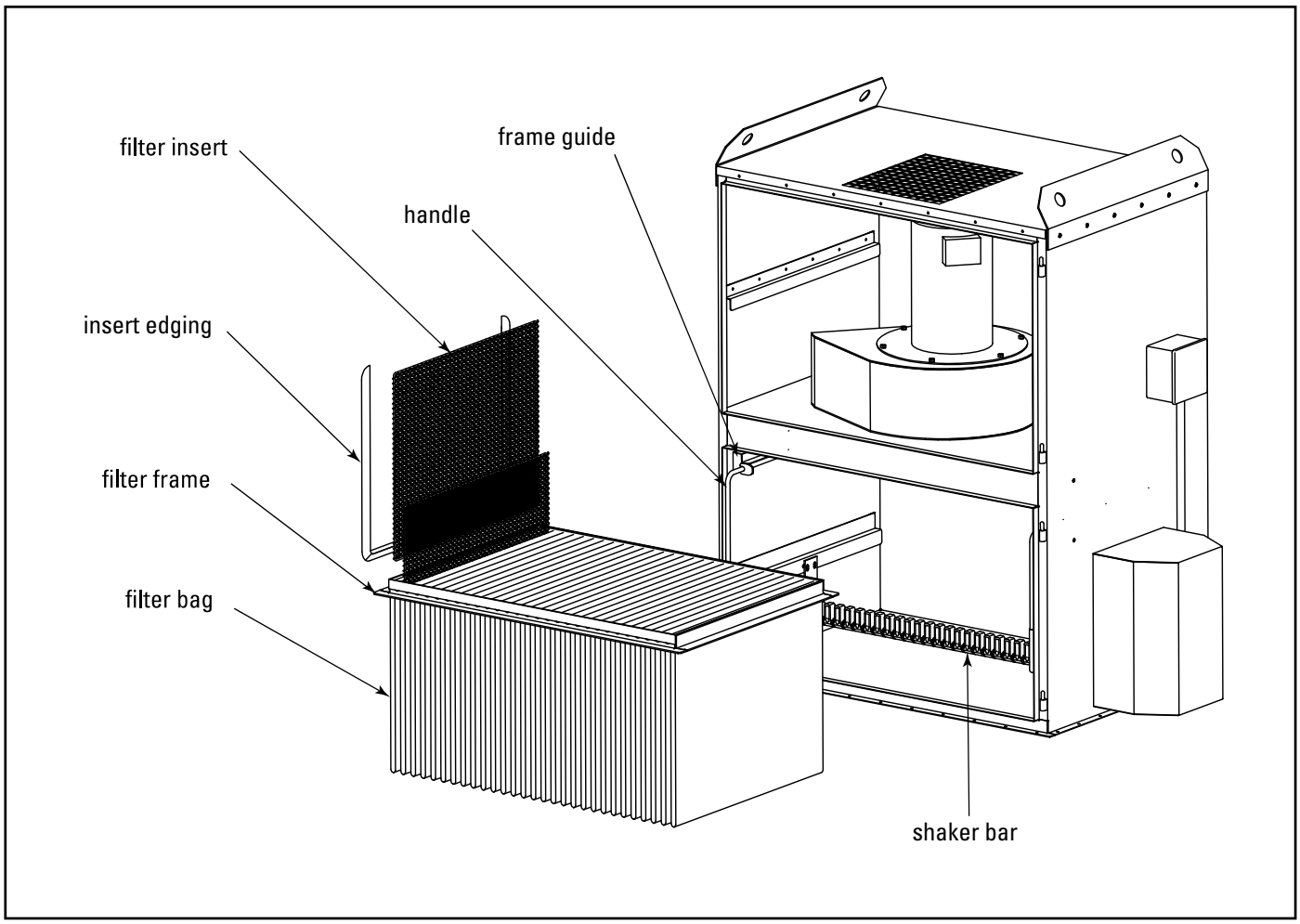
Use care when removing filters to avoid personal injury.

Filter Removal

1. Turn power to unit OFF. Open and remove the filter access door.
2. Lower the retention handles in the bag chamber.
3. Slide the filter assembly out through the filter access door.
4. Remove filter inserts from filter bags. Check for broken mesh or worn material especially at the area of filter bag damage. Replace inserts as necessary.

Filter Installation

1. Insert the filter bag into the filter frame placing individual filter pockets between the locating bars, and fold filter bag collar over the top flange.
2. Place insert edging around sides and bottom edges of each filter insert.
3. Insert one filter insert into each pocket of the filter bag.
4. Slide the filter assembly on the frame guides until the bottom corners of the filter bags contact the shaker bar.
5. Insert bag pockets into the shaker bar slots.
6. Push the filter assembly into the unit and check that all pockets are firmly seated in the shaker bar.
7. Lift retention handles.
8. Replace and secure the filter access door.



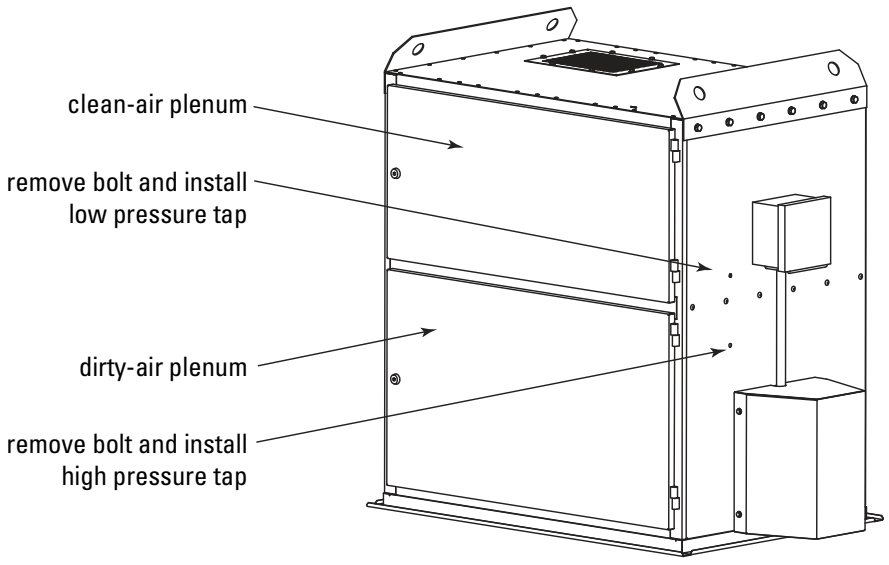
Filter Removal and Installation

Optional Equipment

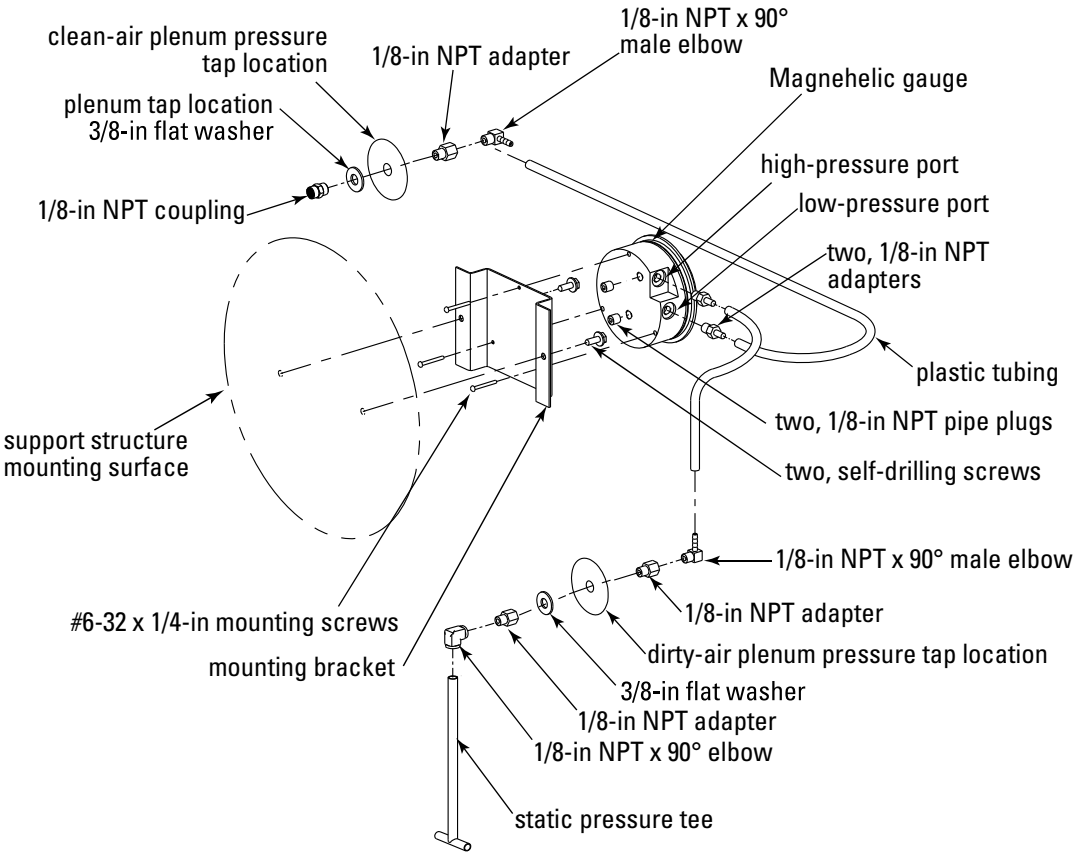
Magnehelic®Gauge

The Magnehelic is a differential pressure gauge used to measure the pressure difference between the clean-air and dirty-air plenums and provides a visual display of filter change requirements. The high-pressure tap is located in the dirty-air plenum and the low-pressure tap is located in the clean-air plenum.

1. Choose a convenient, accessible location on or near the unit for mounting that provides the best visual advantage.
2. Plug the pressure ports on the back of the gauge using two, 1/8-in NPT pipe plugs supplied. Install two, 1/8-in NPT male adapters supplied with the gauge into the high- and low-pressure ports on the side of the gauge.
3. Attach the mounting bracket using three, #6-32 x 1/4-in screws supplied.
4. Mount the gauge and bracket assembly to the supporting structure using two, self-drilling screws.
5. Thirty-five feet of plastic tubing is supplied and must be cut in two sections. Connect one section of tubing from the gauge's high-pressure port to the pressure fitting located in the dirty-air plenum. Connect remaining tubing from the gauge's low-pressure port to the fitting in the clean-air plenum. Additional tubing can be ordered from your representative.
6. Zero and maintain the gauge as directed in the manufacturer's Operating and Maintenance Instructions provided.



Magnehelic Gauge Pressure Tap Location



Magnehelic Gauge Installation

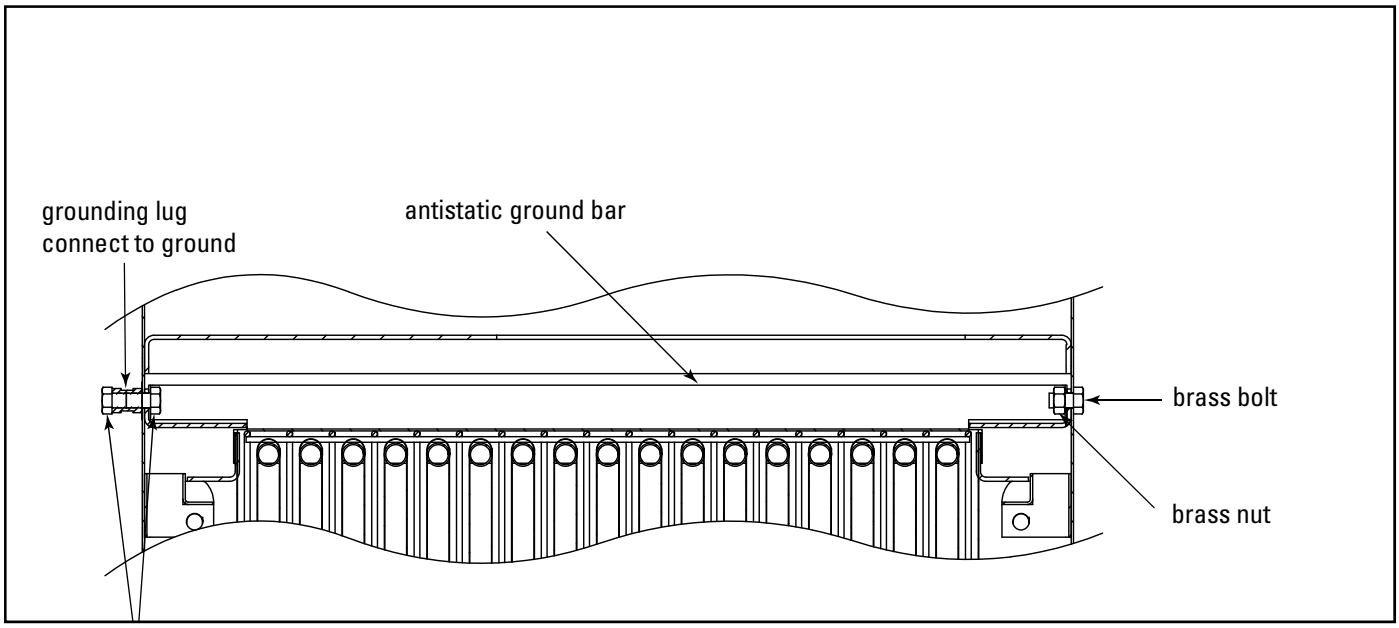
Caster Base

Models UMA 40 to 250 must be lifted into the optional caster frame.

Static Grounding

Units using antistatic filter bags must be properly grounded.

1. If the collector is ordered with antistatic filter bags, the grounding lug and internal components are factory installed.
2. Connect the grounding boss to ground using the grounding lug provided.



Static Grounding

Explosion Vent

⚠ WARNING Personal injury, death, or property damage can result from material discharge during venting.

The material discharged during the venting of an explosion must be safely directed outdoors away from areas occupied by personnel to reduce risk of damage to property and personal injury.

The risk of damage or injury can be minimized or avoided by locating vented equipment outside buildings and away from normally occupied areas.

Explosion vents should be inspected regularly to confirm physical and operational condition. Replace any damaged parts immediately.

Standard explosion vents are intended for outdoor installations only.

Remove all shipping materials, including covers, from the explosion relief vents prior to installation. Failure to remove shipping covers will seriously compromise explosion vent operation.

Explosion venting calculations are based on formulas from NFPA-68 for outdoor applications only, with no duct or obstructions on the explosion vent panel.

Contact Donaldson Torit for assistance in calculating specific venting requirements for equipment.

Troubleshooting

Problem	Probable Cause	Remedy
Power pack fan and motor do not start	Improper motor wire size	Rewire using the correct wire gauge as specified by national and local codes.
	Not wired correctly	Check and correct motor wiring for supply voltage. See motor manufacturer's wiring diagram. Follow wiring diagram and the National Electric Code.
	Unit not wired for available voltage	Correct wiring for proper supply voltage.
	Input circuit down	Check power supply to motor circuit on all leads.
	Electrical supply circuit down	Check power supply circuit for proper voltage. Check for fuse or circuit breaker fault. Replace as necessary.
Partial loss of suction	Filters plugged	Check that the dust container is not full and that the equipment served is operating. Turn fan OFF and allow the controller to perform several complete cleaning cycles. Remove filter bag, vacuum outside surface, and reinstall. Replace damaged or torn filter bags.
	Motor speed low	Check all supply voltage, phase, and motor connections.
	Fan rotation backward	Check and correct. See Preliminary Start-Up.
Total loss of suction	Blower motor stopped	Check motor starter overloads, fuses, and interlocks. Check motor connections.
	Filters plugged	Check that the dust container is not full and that the equipment served is operating. Turn fan OFF and allow the controller to perform several complete cleaning cycles. Remove filter bag, vacuum outside surfaces, and reinstall. Replace damaged or torn filter bags.
	Obstructed ductwork	Check and remove obstructions.
Clean-air outlet discharging dust	Filters not installed correctly	See Filter Installation.
	Filter damage, dents in the end caps, gasket damage, or holes in media	Replace filters as necessary. Use only genuine Donaldson replacement parts. See Filter Installation.
	Access cover(s) loose	Tighten access doors securely. See Filter Installation.

The Donaldson Torit Warranty

Donaldson warrants to the original purchaser that the major structural components of the goods will be free from defects in materials and workmanship for ten (10) years from the date of shipment, if properly installed, maintained and operated under normal conditions. Donaldson warrants all other Donaldson built components and accessories including Donaldson Airlocks, TBI Fans, TRB Fans, Fume Collector products, Donaldson built electrical control components and Donaldson built Afterfilter housings for twelve (12) months from date of shipment. Donaldson warrants Donaldson built filter elements to be free from defects in materials and workmanship for eighteen (18) months from date of shipment. Donaldson does not warrant against damages due to corrosion, abrasion, normal wear and tear, product modification, or product misapplication. Donaldson also makes no warranty whatsoever as to any goods manufactured or supplied by others including electric motors, fans and control components. After Donaldson has been given adequate opportunity to remedy any defects in material or workmanship, Donaldson retains the sole option to accept return of the goods, with freight paid by the purchaser, and to refund the purchase price for the goods after confirming the goods are returned undamaged and in usable condition. Such a refund will be in the full extent of Donaldson's liability. Donaldson shall not be liable for any other costs, expenses or damages whether direct, indirect, special, incidental, consequential or otherwise. The terms of this warranty may be modified only by a special warranty document signed by a Director, General Manager or Vice President of Donaldson. Failure to use genuine Donaldson replacement parts may void this warranty. THERE EXIST NO OTHER REPRESENTATIONS, WARRANTIES OR GUARANTEES EXCEPT AS STATED IN THIS PARAGRAPH AND ALL OTHER WARRANTIES INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHETHER EXPRESS OR IMPLIED ARE HEREBY EXPRESSLY EXCLUDED AND DISCLAIMED.

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FILTRATION SOLUTIONS

Parts and Service

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