

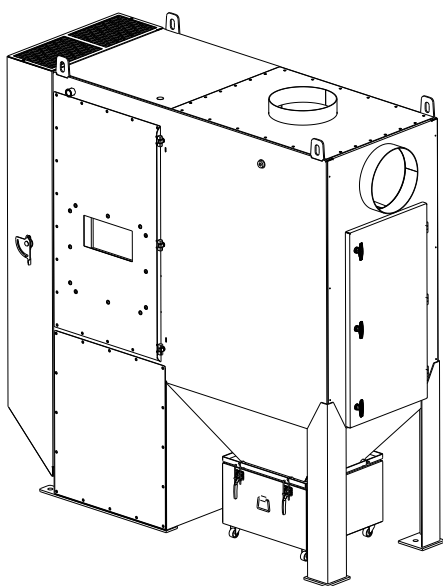


Torit® PowerCore®

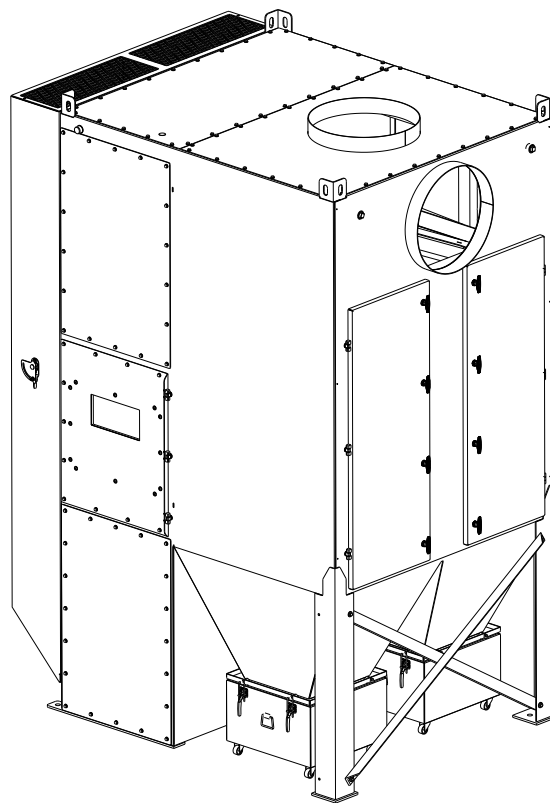
TG 2, 4, 6, 8, and 12

Installation and Operation Manual

Installation, Operation, and Service Information



TG 4



TG 12

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.

⚠ WARNING

Process owners/operators have important responsibilities relating to combustible hazards. Process owners/operators must determine whether their process creates combustible dust, fume, or mist. If combustible dust, fume, or mist 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, ensuring that combustible dust, fume, or mist 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.

Data Sheet

Model Number _____	Serial Number _____
Ship Date _____	Installation Date _____
Customer Name _____	
Address _____ _____	
Filter Type _____	
Accessories _____	
Other _____	

Contents

Description.....	1	Preliminary Start-Up Check	13
Purpose and Intended Use	1	Maintenance Information.....	14
Operation.....	3	Operational Checklist	14
Inspection on Arrival.....	4	Filter Removal and Installation.....	14
Installation Codes and Procedures	4	Dust Disposal	17
Installation.....	4	17-Gallon Dust Bin.....	17
Foundations or Support Framing	5	Exhaust Damper	17
Collector Location	5	Compressed Air Components.....	17
Site Selection	5	Optional Equipment.....	18
Rigging Instructions.....	5	HEPA Afterfilter Installation.....	18
Hoisting Information	5	Explosion Vent	18
Typical Installation.....	6	Sprinkler.....	19
Standard Equipment.....	7	Troubleshooting.....	20
Collector Anchoring.....	7	Service Notes.....	22
Provisional Anchor Bolt Recommendations.....	7		
Cleaning Controls	8		
Compressed Air Installation	10		
Electrical Wiring	11		
Solenoid Connection	11		
Timer and Solenoid Specifications.....	11		

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.

Description

The standard continuous-duty TG Series, Models TG2, 4, 6, 8, and 12, are a family of completely packaged, fully assembled, and pre-wired dust collectors on a remarkable small footprint. All-welded and designed with clean lines, the compact models integrate effortlessly with operational equipment. The TG Series collectors use rectangular filter packs with proprietary PowerCore filter media. Filter packs can be pulse-cleaned on- or off-line. The downward airflow design through the collector housing delivers high filtration efficiency while using less energy.

Included in the packaged design is a high-performance fan mounted in a separate compartment at the base of the unit for maximum noise control; integrated electrical controls with motor starter in an easy to reach location, installed energy-efficient Torit PowerCore Filter Packs with flame-retardant Ultra-Web media, a state-of-the-art ZERO-TURN Power Pulse cleaning system, integrated solenoid pilot valves, built-in exhaust silencer; built-in airflow damper; and dust discharge container. The filter housing offers completely tool-less serviceability.

Options include anti-static Ultra-Web media, various cleaning controls including low-voltage feedback relay, airflow controller and particulate sensor, high static and premium efficiency motors, HEPA afterfilters, several dust container options, explosion protection devices and spark management options.

Purpose and Intended Use

WARNING

Misuse or modification may result in severe personal injury and/or property damage.

Do not misuse or modify.

CAUTION

Unit configuration may not support the addition of explosion protection systems commonly used when filtering combustible dusts. Before using any filtration equipment you must understand the nature of your dust and any fire or explosion protection strategies you may intend to incorporate into your filtration equipment.

The TG Series collectors are equipped with a group of features tailored to the metal working industry. Typical point-of-use applications include laser cutting, plasma cutting, welding and some thermal spray applications.

Torit PowerCore TG Series dust collectors can be integrated with process equipment such as laser tables, plasma tables, welding, and spray booth equipment. Discuss the use, application, and integration of this equipment with a Donaldson Torit representative.

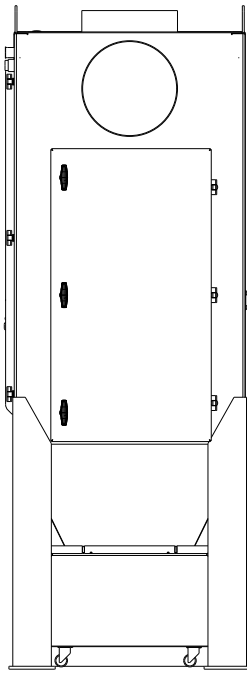
WARNING

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.

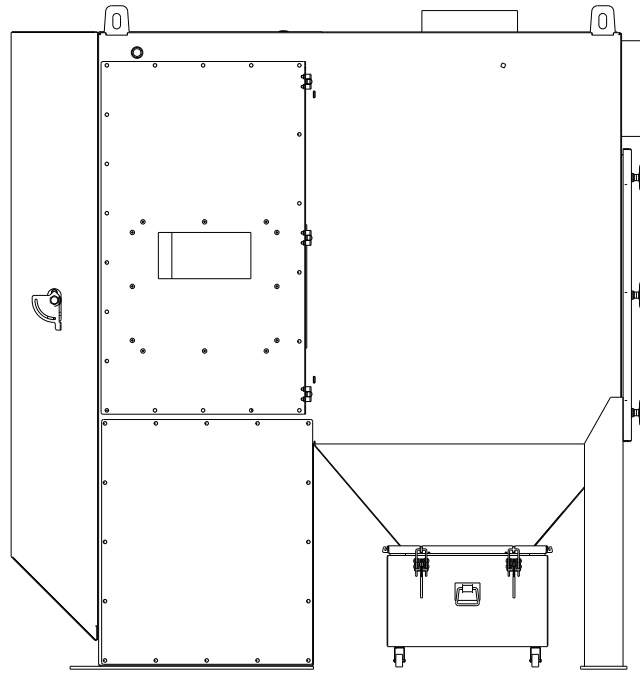
Consult and comply with all National and Local Codes related to fire and/or explosion properties of combustible materials when determining the location and operation of all dust, fume, or mist collection equipment.

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

Rating and Specification Information



Front View TG 4



Typical Side View TG 4

Collectors are rated for the following loads as calculated per relevant sections of the IBC 2012 code*:

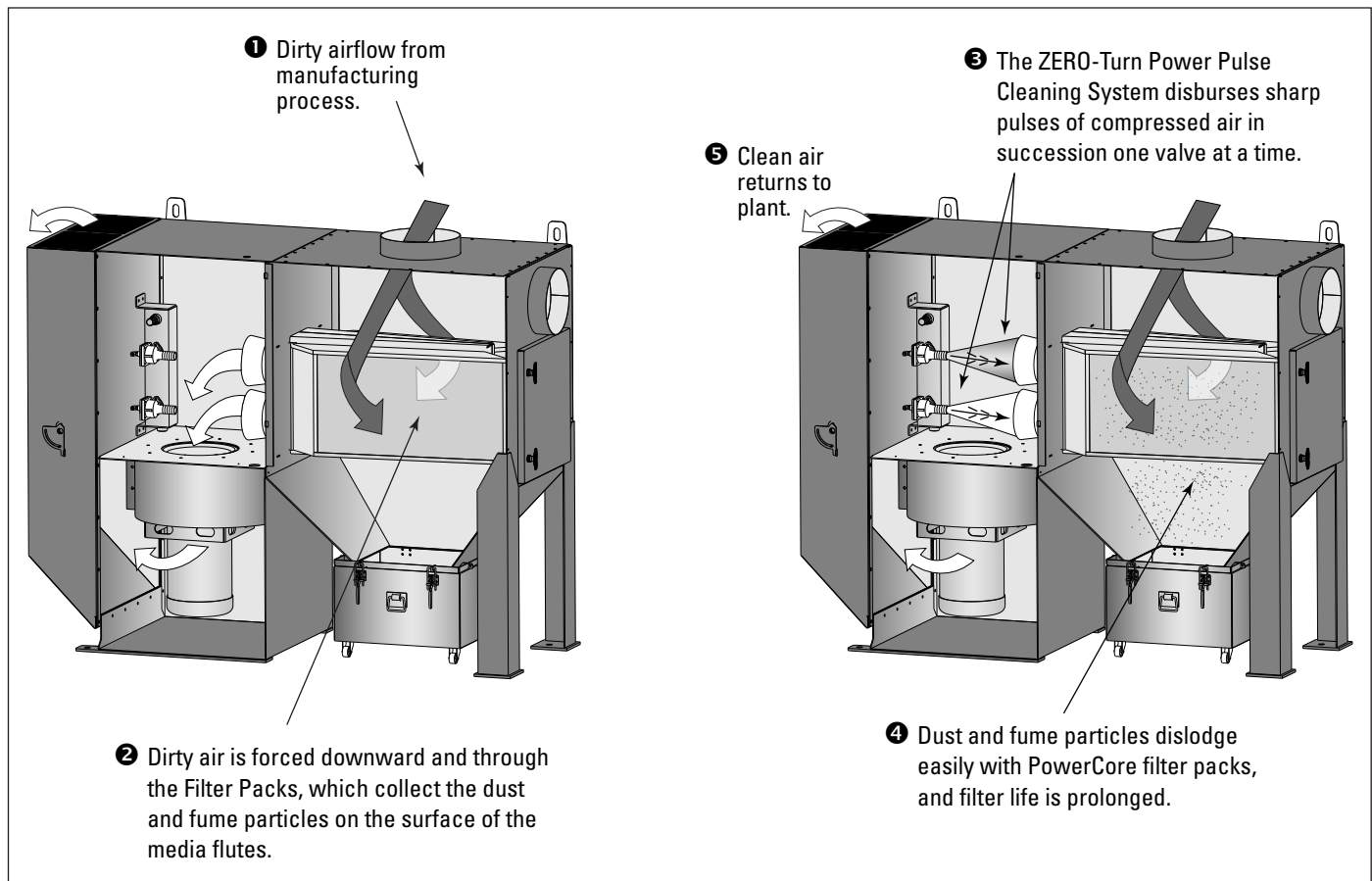
Basic Wind Speed & Exposure	115mph, Exp C
Seismic Spectral Acceleration, S _s	1.5 g
Seismic Spectral Acceleration, S ₁	0.6 g
Installed Collector Base Elevation	Grade
Risk Category	II
Compressed air, psig	90-100
Housing rating, inches water gauge (TG2, TG4)	-12
Housing rating, inches water gauge (TG6 through TG12)	-15
Control Power	208-Volt, 230/460-Volt, 575-Volt, 3PH, 60 Hz

*If collector was supplied with a Record Drawing, the specifications on the drawing will supersede the standard specifications above.

Operation

During normal operation, dust-laden air enters the unit through the top, front, or low drop-box inlet. Airflow is then directed downward through the collector and heavier particulate falls directly into the hopper. The filter packs remove fine particulate and clean, filtered air passes through the packs to the clean-air plenum and discharges through the clean-air outlet.

Cleaning is achieved with the Zero-Turn Power Pulse Cleaning System by reverse pulsing filter packs with controlled bursts of compressed air. Cleaning control is determined by pressure drop across the filter packs ("Delta P") or by manually initiating the controls to pulse continuously (when the collector is running). The cleaning sequence starts at the top filter packs and continues down through each filter pack set. Removal, inspection, and change-out of the filter packs is done from outside the unit by opening the filter pack access door, unclamping the right and left filter banks, and sliding the individual filter packs out.



Typical Collector Operation

Inspection on Arrival

1. Inspect collector upon 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 collector 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 collector from truck.
8. Check for hardware that may have loosened during shipping.
9. Use caution removing temporary covers.

Installation Codes and Procedures



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 collector 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 collector 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 collector prior to or during collector installation.

NOTICE

Failure to remove shipping materials from the collector will compromise collector performance.

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

Installation



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.

Turn compressed air supply OFF, bleed and lock out lines before performing service or maintenance work.



Site selection must account for wind, seismic zone, and other

load conditions when selecting the location for collectors.

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.

Collectors must be anchored in a manner consistent with local code requirements. Anchors must be sufficient to support dead, live, seismic, and other anticipated loads.

Consult a qualified engineer for final selection of anchorage.

NOTICE

Do not set compressed-air pressure above 100-psig as component damage can occur.

All compressed air components must be sized to meet the system requirements of 90-100-psig supply pressure.

The compressed-air supply must be oil and moisture free. Contamination in the compressed air used to clean filters will result in poor cleaning, cleaning valve failure, or poor collector performance.

Purge compressed air lines to remove debris before connecting to the collector's compressed air manifold.

The collector is suitable for either indoor or outdoor installations. Reference the Rating and Specification Information.

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.

Collector Location

WARNING

Donaldson Torit equipment is not designed to support site installed ducts, interconnecting piping, or electrical services. All ducts, piping, or electrical services 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

Dust collection equipment may reach peak sound pressure levels above 80 dB (A). Noise levels should be considered when selecting collector location.

Locate the collector to ensure easy access to electrical and compressed air connections, to simplify solids collection container handling and routine maintenance, and to ensure the straightest inlet and outlet ducts.

Site Selection

This collector can be located on a foundation or structural framing.

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

Portable collectors require special installation accommodations.

Note: Collectors with explosion vents are not available in portable configurations.

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 and/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 collector's casing.

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

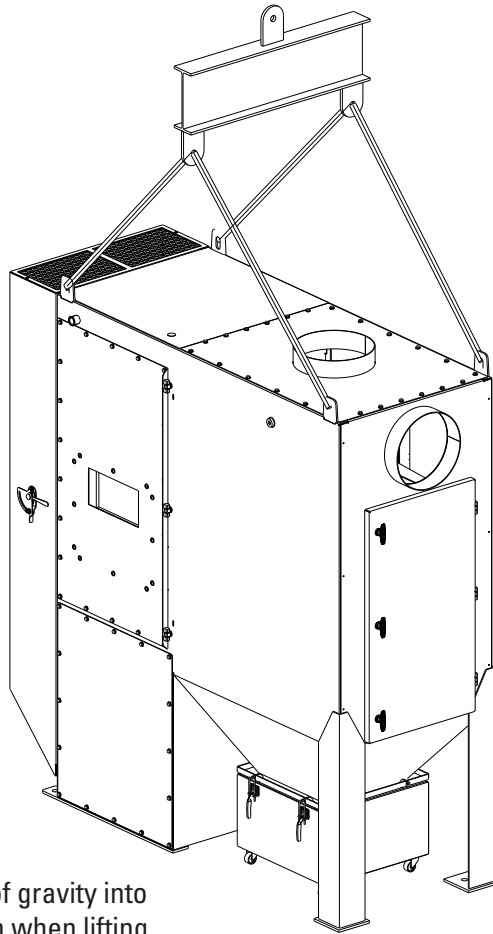
Allow only qualified crane or forklift operators to lift the equipment.

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

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

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

Typical Installation



CAUTION

unit.

Take center of gravity into consideration when lifting

Standard Equipment

Standard collectors include a fan, motor, control panel, 17-gallon dust container, and an exhaust silencer and damper. The unit is fully assembled and ready to connect to electrical supply, compressed air, and ductwork. A detailed drawing, shipped with each collector, provides weight, specifications, and unit dimensions including anchor bolt locations for the collector's base plate.

Collector Anchoring

⚠ WARNING

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 jobsite load conditions, collector location, foundation/framing design variables and local codes.

Consult a qualified engineer for final selection of suitable anchors.

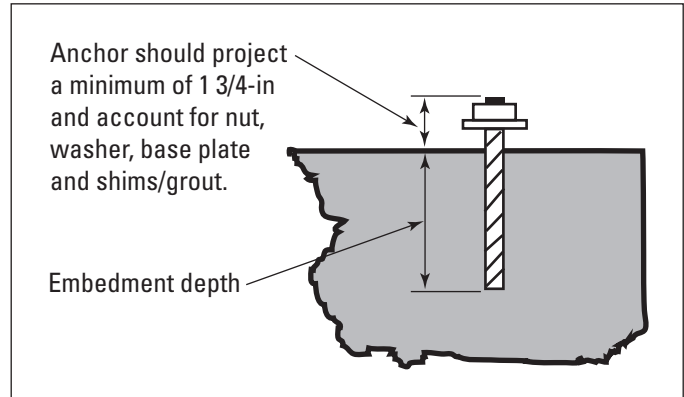
⚠ CAUTION

Tighten all hardware before removing crane to prevent personal injury and/or property damage.

Prepare the foundation or support framing in the selected location. Locate and install anchors.

Provisional Anchor Bolt Recommendations

1. Consider Hilti HIT-HY 200 Anchor System or equivalent. Quantity of anchor bolts should match the number of holes provided in the base plates.
2. Anchor diameter is typically 1/8-in less than baseplate hole diameter.
3. Corrosive environment or outdoor installation may require stainless steel anchors.



Typical Foundation Anchor

Cleaning Controls

There are 14 standard options that are offered with this collector.

Integrated Torit Delta P

- Manual Motor Control (Standard Control Feature)
- 24VDC Start/Stop and feedback relay, and Manual Motor Control

Integrated Torit Delta P Plus

- Manual Motor Control
- 24VDC Start/Stop and feedback relay, and Manual Motor Control

External Remote-Mount Torit Delta P

- Manual Motor Control
- 24VDC Start/Stop and feedback relay, and Manual Motor Control
- Manual Motor Control and Particulate Sensor
- Manual Motor Control and Airflow Controller (VFD)
- Manual Motor Control, Airflow Control (CFD), and Particulate Sensor

External Remote-Mount Torit Delta P Plus

- Manual Motor Control
- 24VDC Start/Stop and feedback relay, and Manual Motor Control
- Manual Motor Control and Particulate Sensor
- Manual Motor Control and Airflow Controller (VFD)
- Manual Motor Control, Airflow Control (CFD), and Particulate Sensor

The standard controller is the Integrated Torit Delta P with Manual Motor Starter.

Note: Reinforced collectors and collectors being located outside require external remote-mount controllers.

Delta P Control

The Torit Delta P Controller monitors the differential pressure between the clean and dirty air plenums, providing a visual display of the filter condition. It controls the pressure drop by turning the cleaning mechanism On and Off at the chosen limits. There are three (3) set points: High Pressure On, Low Pressure Off, and Alarm. The first two, High Pressure On and Low Pressure Off, control the filter cleaning system. The third, Alarm, provides a relay output to activate an external alarm supplied by others.

For complete information, see the most current version of the Delta P Installation, Operation, and Maintenance manual.



Delta P Control Display

Delta P Plus Control

The Torit Delta P Plus Controller monitors the differential pressure between the clean and dirty air plenums, providing a visual display of the filter condition. It controls the pressure drop by turning the cleaning mechanism On and Off at the chosen limits. There are three (3) set points: High Pressure On, Low Pressure Off, and Alarm. The first two, High Pressure On and Low Pressure Off, control the filter cleaning system. The third, Alarm, provides a relay output to activate an external alarm supplied by others.

The user can program the Delta P Plus Controller to pulse while the collector is running to maintain a relatively constant pressure drop across the filters, pulse only after the collector is shut down (after-shift cleaning), or a combination of both, cleaning while running as well as end of the shift.

For complete information, see the most current version of the Delta P Plus Installation, Operation, and Maintenance manual.



Delta P Plus Control Display

24VDC Motor Start with Feedback Relay

The 24VDC start relay allows a customer supplied piece of equipment to start the dust collector. This is accomplished by the customer's equipment sending a 24VDC signal to the collector controller which then activates the fan and pulsing systems. The low voltage feedback relay allows the dust collector controller to interlock with other customer supplied equipment by relaying the low voltage signal back to the sending equipment. The feedback occurs when the collector is running.

External Remote-Mounted Controls

Remote mounted controls are required when the unit is reinforced, the unit is being installed outdoors, or if particulate sensing or airflow control is required. Similar to the integrated controllers, the Torit Delta P and Delta P Plus are the options for pulse control. Locate the control panel as close to the collector as possible to minimize the length of tubesheet differential pressure tubing.

Particulate Sensor

The particulate sensor constantly samples the clean air exhaust air stream when the collector is on. In instances where a filter leak is detected the controller will stop the fan and pulsing, and turn on a visual warning beacon.

Airflow Controller

The airflow controller is used to maintain a constant duct static pressure loss, thus a constant air volume through the duct system. It compensates for variations in filter pressure drop such as during startup with new filter packs when the filter pack resistance is low, or towards the end of a filter pack's life when the pressure drop is higher.

The airflow controller varies the speed of the fan wheel to adjust to the required airflow. An energy savings can be realized when the application is not requiring maximum power.

Compressed Air Installation

WARNING

Turn compressed air supply OFF, bleed and lock out lines before performing service or maintenance work.

A safety exhaust valve should be used to isolate the compressed air supply. The safety exhaust valve should completely exhaust pressure in the collector manifolds when closed, should be capable of being interlocked with fire or explosion mitigation equipment and should include provisions to allow closed-position locking.

NOTICE

Do not set compressed-air pressure above 100-psig as component damage can occur.

All compressed air components must be sized to meet the system requirements of 90-100-psig supply pressure.

The compressed-air supply must be oil and moisture free. Contamination in the compressed air used to clean filters will result in poor cleaning, cleaning valve failure, or poor collector performance.

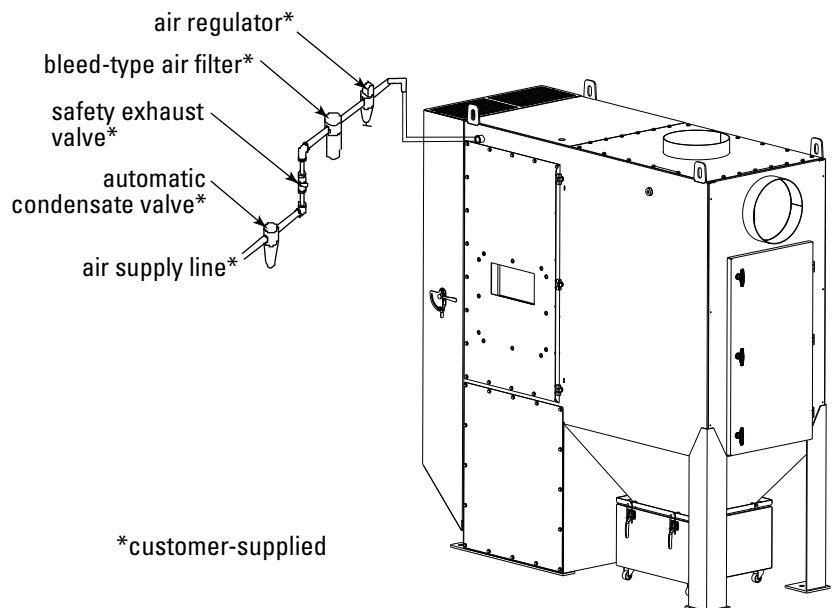
Purge compressed-air lines to remove debris before connecting to the collector's compressed-air manifold.

1. Remove the plastic pipe plug from the collector's air manifold and connect the compressed-air supply lines. Use thread-sealing tape or pipe sealant on all compressed-air connections.
2. Install a customer-supplied shut-off valve, bleed-type regulator with gauge, filter, and automatic condensate valve in the compressed-air supply line.
3. Set compressed-air supply to 90-psig. The pulse-cleaning controls are factory set to clean one filter pack every 10-seconds during each cleaning cycle on the TG2 through TG8 and two filter packs every 10-seconds on the TG12.

WARNING

Turn power off and lock out electrical power sources.

Turn compressed air supply OFF, bleed and lock out lines before performing service or maintenance work.



*customer-supplied

Compressed Air Installation

Electrical Wiring

WARNING

Electrical installation, 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 collector's rating plate for required voltage.

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 collector'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.

Solenoid Connection (external mounted controls only)

The collector is equipped with 115-Volt solenoid valves to control the pulse-cleaning valves, which clean the filters.

Weatherproof NEMA 4 enclosures with 3D2 solenoids or explosion proof NEMA 9 enclosures with 5D2 solenoids are mounted near the unit's compressed-air manifold.

If external remote-mounted controls were selected, connect solenoids to the solid-state timer following the wiring diagram supplied with the unit. Wire the solenoids so that pulsing occurs in a top to bottom fashion. Filter life and cleaning operation will be affected if not wired correctly.

Timer and Solenoid Specifications

Input

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

Pulse ON Time

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

Pulse OFF Time

Factory set at 10-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

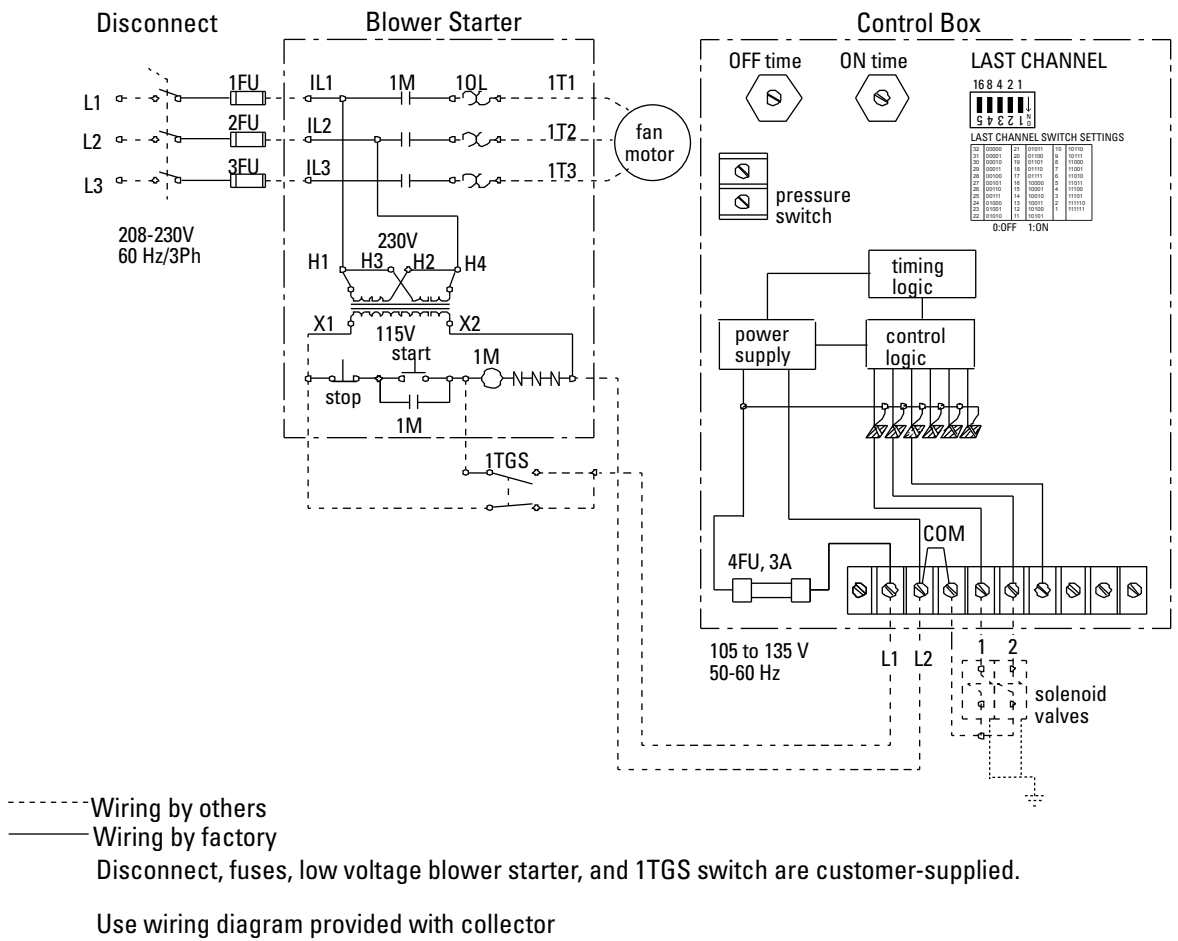
115-Volt at 19.7 watts each

Compressed-Air

Set compressed-air supply at 90-psig. The timer is factory set to pulse one valve every 10-seconds when pulsing is activated on the TG2 through TG8, and two valves on the TG12.

NOTICE

Do not increase supply pressure above 100-psig. Component damage can occur.



Solid-State Timer Typical Wiring Diagram

Preliminary Start-Up Check

Instruct all personnel on safe use and maintenance procedures.

WARNING

Electrical work during installation, service or

maintenance 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.

Turn compressed air supply OFF, bleed and lock out lines 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 for proper rotation as noted on the fan and/or hopper discharge device housing.

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

To reverse rotation, three-phase power supply:
Switch any two leads on the motor junction box.

WARNING

Do not interchange a power lead with the ground wire. Severe personal injury and/or property damage may result.

3. All access panels should be sealed and secure.
4. Check that the dust container is properly sealed and clamped.

5. Check that fan exhaust damper is set to the fully-closed position.
6. Check and remove all loose items in or near the inlet and outlet of the collector.
7. Check that all remote controls and solenoid enclosures (if applicable) are properly wired and all service switches are in the OFF position.
8. Check that all optional accessories are installed properly and secured.
9. Turn power ON at source.
10. Turn the compressed-air supply ON. Adjust pressure regulator for 90-100 psig.
11. Turn 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.

12. Adjust airflow with the exhaust damper.

NOTICE

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

13. Turn powered hopper discharge devices ON.

Maintenance Information

Instruct all personnel on safe use and maintenance procedures.



WARNING

Use proper equipment and adopt all safety precautions needed for servicing equipment.

Use appropriate access equipment. The standard collector is not equipped with access platforms unless noted on specification drawings.

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.

NOTICE

Turn compressed air supply OFF, bleed and lock out lines before performing service or maintenance work..

Do not set compressed-air pressure above 100-psig as component damage can occur.

All compressed air components must be sized to meet the system requirements of 90-100 psig supply pressure.

The compressed-air supply must be oil and moisture free. Contamination in the compressed air used to clean filters will result in poor cleaning, cleaning valve failure, or poor collector performance.

Purge compressed air lines to remove debris before connecting to the collector's compressed air manifold.

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.

2. Periodically check the compressed air components and replace compressed air filters.

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.

3. 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.

4. Monitor exhaust.
5. 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 and/or property damage.

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

Turn compressed air supply OFF, bleed and lock out lines before performing service or maintenance work.



CAUTION

Do not operate with missing or damaged filters.

Do not climb on door, door frame, retention parts or filter components.

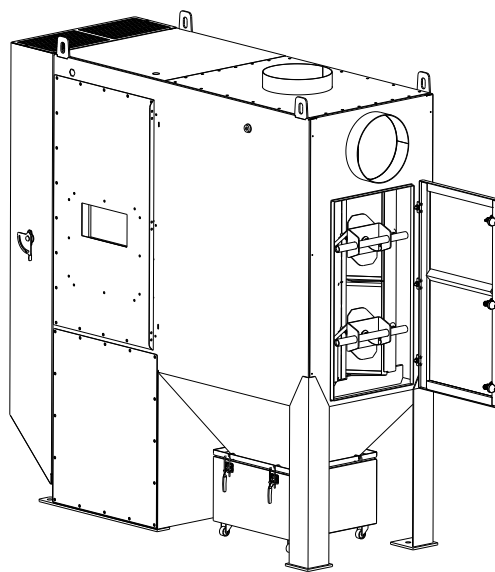
Use care when servicing the filters as there are rotating parts.

1. Turn power off to collector and bleed manifold pressure to 0-psig.
2. Open access door by turning handles counterclockwise and swinging door fully open.
3. Remove each locking pin.
4. Rotate each filter retention mechanism counterclockwise to decompress filters.
5. Detach right side arms and rotate them up and reinstall locking pins to hold arms in place.
6. Detach left side arms and let them rotate down and out of the way.
7. Open cradles fully to access filters.
8. Holding filter handle, push filter back towards the tubesheet and slide the filter towards the center to clear filter cradle. Remove old filter.
9. Install new filter by angling the back of the filter toward the outside of the collector and push filter towards the outside against cradle surface. Slide filter along the back wall of the cradle until the filter is fully inserted. Avoid sliding gasket along any surfaces during installation.
10. After all new filters are installed, close filter cradles by operating the filter retention mechanism in reverse order. Position the left side arm onto the left cradle pin. Remove locking pin from right side arm and position onto the right side cradle. Rotate filter retention mechanism clockwise to seal filters and reinstall locking pins.
11. Close door and secure latches.

NOTICE

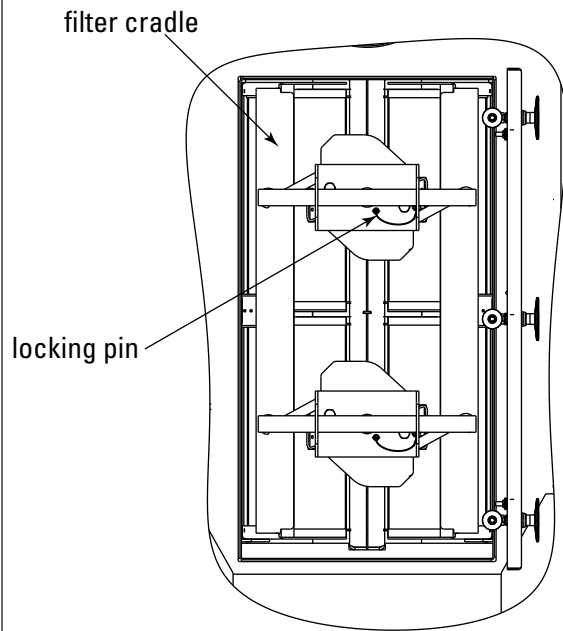
If filter retention mechanism is difficult to close, check that filter is seated properly in filter cradle (see Step 9).

Step 2

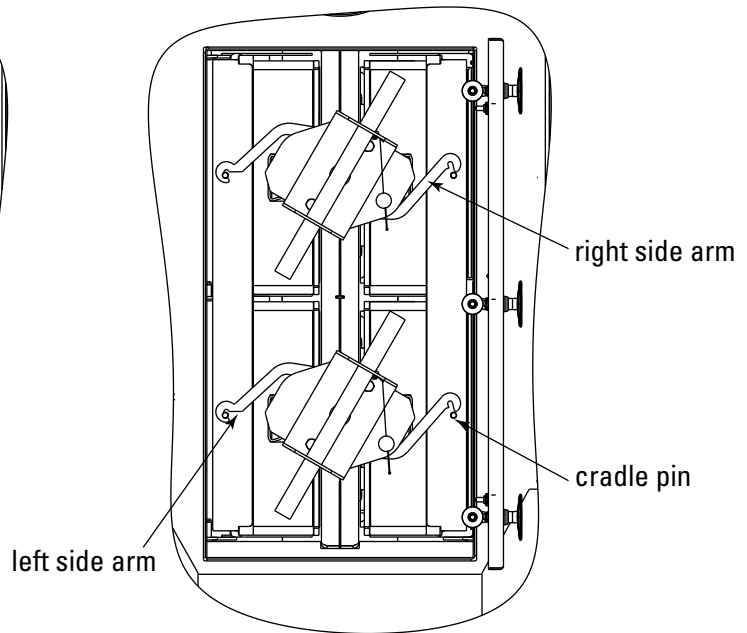


Filter Removal and Replacement

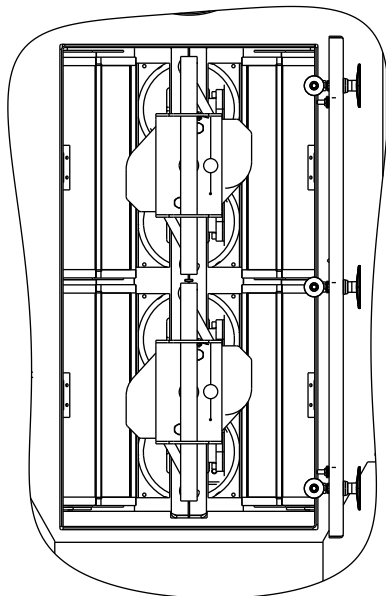
Step 3



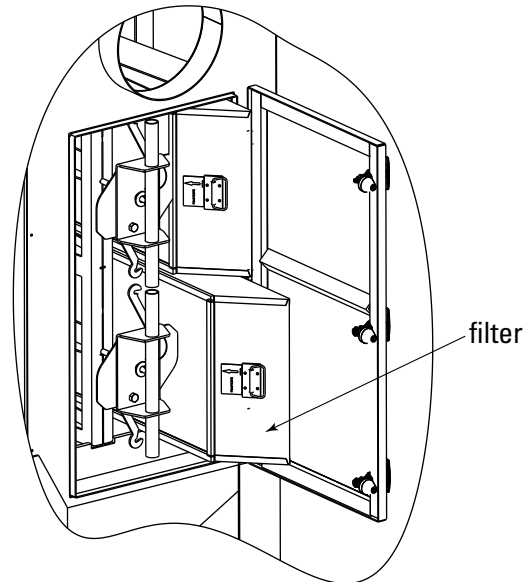
Step 4



Steps 5, 6, and 7



Steps 8 and 9



Filter Removal and Replacement

Dust Disposal

1. Empty dust container(s) (drum or bin) as necessary to minimize dust in the hopper.
2. If the optional 55-gallon drum attachment is used, empty when dust container is 2/3 full.
3. If optional slide gate is used, close gate before servicing dust container.



Sharp edge of slide gate may result in personal injury while closing the slide gate. Keep hands clear when operating the slide gate.

4. Check integrity of gasket under drum cover.
5. Replace or reinstall dust container and open gate (if applicable).

17-Gallon Dust Bin

A 17-gallon pail pack is standard with all models. Four rigid clamps secure the bin to the hopper flange.

For dust removal:

1. Unlatch the four clamps to lower the dust bin.
2. Roll dust bin out from the collector.
3. Dispose of dust.
4. Reinstall the dust bin and reclamp to the collector.

Exhaust Damper

An exhaust damper can be adjusted to regulate or limit airflow when unit is in operation. Before start-up, set the exhaust damper to the fully-closed position as shown below. Adjustments to airflow can be made by loosening the wing nut and sliding the handle to open or close the damper. When replacing filters, reset the damper to the fully-closed position and then open to reestablish desired airflow.

Compressed Air Components

1. Periodically check the compressed air components and replace damaged or worn components as necessary.
2. Drain moisture following the manufacturer's instructions.
3. With the compressed-air supply ON, check the cleaning valves, solenoid valves, and tubing for leaks. Repair or replace as necessary.

Optional Equipment

HEPA Afterfilter Installation

The optional HEPA afterfilter is designed to capture small particulate and is attached to the units clean-air outlet.

1. Turn supply power OFF.
2. Remove the bolts from the top back roof panel.
3. Position the HEPA mounting frame on top of the clean-air outlet aligning existing hole pattern.
4. Mark and match-drill the front flange holes in the roof panel using a 0.266-in diameter drill bit.
5. Apply 1/4-in diameter rope-type sealant toward the inside of bolt pattern.
6. Position the HEPA mounting frame on the top panel aligning the bolt patterns.
7. Bolt in place using the hardware supplied and the hardware removed in Step 2.
8. Position HEPA filter on mounting frame and secure with latches.
9. Reset exhaust damper to fully closed position.
10. Turn unit ON.
11. Adjust airflow using the airflow control damper.

Explosion Vent

WARNING

Personal injury, death, and/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 personal injury and/or property damage.

The risk of personal injury and/or property damage 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.

NOTICE

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.

Sprinkler

CAUTION

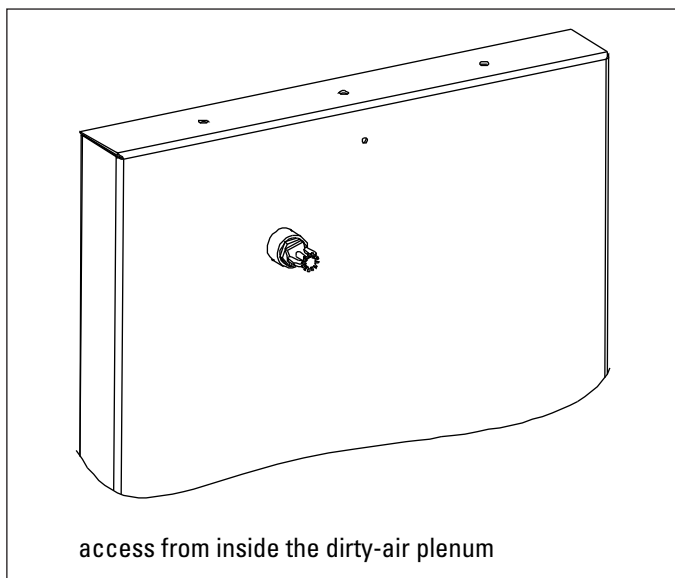
Sprinklers can place a large quantity of water in the dust collector when activated. Provide adequate drainage to remove water. Excess water weight can cause the leg structure to collapse.

Fire control sprinklers are available for models operating under negative pressure. Donaldson Torit supplied sprinklers require a minimum of 15-psig water pressure which will produce a discharge per sprinkler head of 17 gallons per minute.

NOTICE

Consult with local authorities when installing fire control systems on dust collection equipment.

1. Remove or open the filter access covers to access the sprinkler tap located in the dirty-air plenum.
2. Apply pipe sealant to the threads of the pipe reducer located on the sprinkler assembly.
3. Thread sprinkler assembly onto the 1-in diameter sprinkler tap.
4. Tighten securely.



Sprinkler

Troubleshooting

Problem	Probable Cause	Remedy
Fan blower 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.
	Collector 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.
Fan blower and motor start, but do not stay running	Incorrect motor starter installed	Check for proper motor starter and replace if necessary.
	Access doors are open or not closed tight	Close and tighten access doors. See Filter Installation.
	Damper control not adjusted properly	Check airflow in duct. Adjust damper control until proper airflow is achieved and the blower motor's amp draw is within the manufacturer's rated amps.
	Electrical circuit overload	Check that the power supply circuit has sufficient power to run all equipment.
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.
Insufficient airflow	Fan rotation backwards	Proper fan rotation is clockwise from the top of the collector. The fan can be viewed through the back of the motor. See Preliminary Start-Up Check.
	Access doors open or not closed tight	Check that all access doors are in place and secured. Check that the hopper discharge opening is sealed and that dust container is installed correctly.
	Fan exhaust area restricted	Check fan exhaust area for obstructions. Remove material or debris. Adjust damper flow control.
	Filters need replacement	Remove and replace using genuine Donaldson replacement filters. See Filter Removal and Installation.

Troubleshooting

Problem	Probable Cause	Remedy
Insufficient airflow continued	Lack of compressed air	See Rating and Specification Information for compressed air supply requirements.
	Pulse cleaning not energized	Use a voltmeter to check the solenoid valves in the control panel. Check pneumatic lines for kinks or obstructions.
	Pulse valves leaking compressed air	Lock out all electrical power to the collector and bleed the compressed air supply. Check for debris, valve wear, pneumatic tubing fault, or diaphragm failure by removing the diaphragm cover on the pulse valves. Check for solenoid leaks or damage. If pulse valves or solenoid valves and tubing are damaged, replace.
No display on the Delta P Controller	No power to the controller	Use a voltmeter to check for supply voltage.
	Fuse blown	Check the fuse in the control panel. See wiring diagram inside the control panel. Replace if necessary.
Display on Delta P Controller does not read zero when at rest	Out of calibration	Recalibrate as described in Delta P Maintenance Manual.
Delta P Controller ON, but cleaning system does not start	Pressure tubing disconnected, ruptured, or plugged	Check tubing for kinks, breaks, contamination, or loose connections.
	High Pressure On or Low Pressure Off setpoint not adjusted for system conditions	Adjust setpoints to current conditions.
Delta P Controller arrow keys do not work	Improper operation	Press and hold one of the three setpoint keys to use arrow keys.
Pulse cleaning never stops	Pressure switch not operating correctly	Check pressure switch inside the control panel.
	High Pressure On or Low Pressure Off setpoint not adjusted for system conditions	Adjust setpoints to current conditions.
	Pressure tubing disconnected, ruptured, plugged, or kinked	Check tubing for kinks, breaks, contamination, or loose connections.
Alarm light is ON	Alarm setpoint too low	Adjust to a higher value.
	Excess pressure drop	Check cleaning system and compressed air supply. Replace filter packs if filter packs do not clean down.
	Pressure tubing disconnected, ruptured, plugged, or kinked	Check tubing for kinks, breaks, contamination, or loose connections.

Service Notes

[illegible]

Service Notes

[illegible]

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 and Donaldson built Afterfilters 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. To ensure proper operational performance of the equipment, use only genuine Donaldson replacement parts. 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.



Parts and Service

For genuine Donaldson replacement filters and parts, call the Parts Express Line. For faster service, have unit's model and serial number, quantity, part number, and description available.

Donaldson Company, Inc.
Torit
PO Box 1299
Minneapolis, MN 55440-1299
U.S.A.

800-365-1331 USA
800-343-3639 within Mexico

donaldsontorit@donaldson.com
donaldsontorit.com

Donaldson Company, Inc. is the leading designer and manufacturer of dust, mist, and fume collection equipment used to control industrial-air pollutants. Our equipment is designed to help reduce occupational hazards, lengthen machine life, reduce in-plant maintenance requirements, and improve product quality.

© 2009 Donaldson Company, Inc.
Printed in USA

IOM AD3964901 (ENG), Revision 4
May 2015