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.

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.
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.

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

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

**CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

**NOTICE** is used to address practices not related to personal injury that may result in damage to equipment.
Description
The Downflo Oval, Models DFO 2-4 and DFO 3-6 are continuous-duty dust collectors with oval, cartridge-style filters. The downward airflow design delivers high filtration efficiency while using less energy. Continuous-duty means no downtime. The filters are pulse-cleaned in sequence, one set at a time, without turning the unit off. Model DFO 2-4 is two filters wide by two filters high by one filter deep and Model DFO 3-6 is two filters wide by three filters high by one filter deep.

Designed to increase the versatility of the unit, standard options include top, front, and abrasion-resistant inlets, HEPA and ASHRAE afterfilter packs.

Purpose and Intended Use

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

Do not misuse or modify.

Downflo Oval collectors are widely used on nuisance dust where the load to the collector is less than five grains per cubic foot. Some typical applications include abrasive blasting, grinding, pharmaceuticals, powder paint applications, sand handling, and welding. Each application is different and selecting the correct filter for the application and type of dust collected is important. Contact Donaldson Torit for selection assistance.

- Ambient, extremely fine, and non-fibrous dust, typically are well served by use Ultra Web® filters which offer high efficiency and performance on fine particulate.
- Fibrous dusts often benefit from a cartridge with an open-pleat design, such as Fibra-Web®.
- Operations involving high temperature and high humidity may require special attention. Temperature, moisture content, and chemistry issues may require custom collector design.
- Hygroscopic dust such as fertilizer, salt, and sugar should be handled under a controlled, low humidity environment.
- Flammable or explosive dust may require customized collector design options.
- Applications with high hydrocarbon or high oil content may require special treatment or filter media.

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

- Basic Wind Speed & Exposure ..............90 mph, Exposure C
- Seismic Spectral Acceleration, $S$ .......... 1.5 g
- Seismic Spectral Acceleration, $S'$ .............. 0.6 g
- Installed Collector Base Elevation...............Grade II
- Compressed air, psig .......................... 60
- Housing rating, inches water gauge .............. $\pm$ 20
- Control power .................................. 120-Volt 50/60 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 dirty-air inlet. Airflow is directed downward through the collector and heavier particulate falls directly into the hopper. The cartridges remove fine particulate and clean, filtered air passes through the cartridge to the clean-air plenum and discharges through the clean-air outlet.

Filter cleaning is completed using pulse-jet technology. A solenoid and air diaphragm valve aligned to each filter provides the pulse cleaning. The cleaning sequence starts at the top filter and continues down through each filter. Remove, inspect, or change the filter cartridges from outside the unit by removing the filter access cover and sliding the filter out.
**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**

**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 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**

**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.

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

**CAUTION**

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 60-psig as component damage can occur.

All compressed air components must be sized to meet the system requirements of 60-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**

1. Lift cabinet.
2. Apply sealant to hopper flange.
3. Fasten hopper to cabinet.
4. Assemble legs and cross braces.
5. Lift unit and hopper into position over legs and lower slowly.
6. Fasten legs to unit securely.
7. Lift assembled unit to location.
8. Support and level unit.
9. Tighten all fasteners.
10. Remove crane.

- Angle not to exceed 30° from vertical (min 60° from horizontal)
- Do Not lift with this orientation

---

**Typical Installation**
Standard Equipment

Standard equipment consists of a collector cabinet, hopper, and legs. Basic assembly starts by attaching the hopper to the cabinet, then attaching the legs. A detailed instruction drawing, shipped with each collector, provides specific assembly and lifting instructions.

Hopper Installation

Assemble the standard or the optional steep-sided hopper following these instructions.

1. Stand the hopper on the discharge end.
2. Apply 1/4-in diameter rope-type sealant around the top flange toward the inside edge of the bolt pattern.
3. Lift the collector and position over the hopper and lower slowly.
4. Use drift pins to align holes.
5. Secure collector to hopper using 3/8-16 x 1 1/4-in bolts, flat washers, and nuts. Tighten all hardware securely. See Hopper Installation.

Leg Installation

**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.

Leg sets for standard collector sizes are shown in the Rating and Specification Information. Reference Typical Foundation Anchor and leg assembly drawing shipped with the collector prior to starting assembly.

1. Prepare the foundation or support framing in the selected location. Locate and install anchors.
2. Position and assemble legs and cross braces as shown in Leg and Cross Brace Assembly.
3. Lift the cabinet and hopper assembly into position over the legs and lower slowly.

4. Use drift pins to align the holes in the collector with the holes in the legs. Attach each leg as shown using the hardware supplied. Do not tighten hardware at this time.

5. Recheck the position of the leg sets and cross braces.

6. Using a crane, lift the assembled unit onto the anchor bolts. Fasten each leg pad to the anchor bolts using flat washers, lock washers, and hex nuts provided by others. Do not tighten hardware at this time.

7. Level unit. Tighten all hardware on legs, cross braces, and foundation anchors.

**NOTICE**  
Tighten all hardware before removing crane to prevent personal injury or property damage.

---

**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**

Anchor should project a minimum of 1 3/4-in and account for nut, washer, base plate and shims/grout.

**Embedment depth**

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**All Leg Bolt Details:**

- Hex Bolt
- flat washer
- hex nut

---

**Leg and Cross Brace Assembly**
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 60-psig as component damage can occur.

All compressed air components must be sized to meet the system requirements of 60-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 pressure to a level suitable for the filters (60-psig). The pulse-cleaning controls are factory set to clean one or more filters every 10-seconds during a cleaning cycle.

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.
A 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.

Notes:
1. * Not included with standard unit.
2. Sprinkler taps not shown.
Solid-State Timer Installation

**WARNING**  Electrical installation, service or maintenance 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 installation, service, or maintenance work.

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

The solid-state timer is used to control the filter cleaning system. Available options include 3, 6, 10, 20, or 32-pin solenoid valve controls.

1. Using the wiring diagram supplied, wire the fan motor, fan-motor starter, solid-state timer, and solenoid valves. Use appropriate wire gauge for rated amp load as specified by local codes.

2. Plug the program lug into the pin that corresponds with the number of solenoid valves controlled for 3-10 PIN. For 20 and 32 PIN solenoid controls, set the switch positions on the DIP switch labeled LAST CHANNEL to the corresponding number of pulse valves using the chart printed on the timer board.

3. With power supply ON, check the operation of the timer and valves. The valves should open and close sequentially at factory set 10-second intervals.

4. If a gauge or similar device is used to control the solid-state timer, the jumper on the pressure switch portion of the timer should be removed. The solenoid valves pulse only when the differential pressure reaches the high-pressure setpoint. The valves will continue to pulse until the low-pressure setpoint is reached.

**NOTICE**  The solid-state timer voltage must match the voltage of the rating of the timer provided (typically 120 VAC, 240 VAC also available).

Do not mount the solid-state timer directly to the collector as mechanical vibration can damage the timer.

---

Solenoid Connection

The collector is equipped with electric solenoid valves (typically 120V) that controls the pulse-cleaning valves, which in turn clean the filters.

Solenoid enclosures are mounted near or on the collector’s compressed-air manifold.

Wire the solenoids to the solid-state timer following the wiring diagram supplied with the collector. Filter life and cleaning operation will be affected if not wired correctly.

Timer and Solenoid Specifications

Power to the solid-state timer is supplied to Terminals L1 and L2, which are intended to operate in parallel with the fan starter’s low-voltage coil. On fan start-up, power is supplied to the timer and the preset OFF time is initiated. At the end of the OFF time, the timer energizes the corresponding solenoid valve to provide the ON time cleaning pulse for one diaphragm valve and then steps to the next until all filters have been cleaned.

To pulse when the fan is OFF, install a toggle switch as shown on the Solid-State Timer Wiring Diagram. When the toggle switch is ON, the timer receives power and energizes the solenoid valves’ pulse-cleaning operation even though the fan is turned OFF.
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 to 1.5-sec minimum to maximum 60 to 66-seconds.

Operating Temperature Range
-20° F to 130° F

Solenoid Valves
115-Volt at 19.7 watts each

Compressed-Air
Set compressed-air supply pressure to a level suitable for the filters (60-psig). The pulse-cleaning controls are factory set to clean one or more filters every 10-seconds during a cleaning cycle.

**NOTICE**
Do not increase supply pressure above 60-psig as component damage can occur.

---

**Solid-State Timer Typical Wiring Diagram**

Disconnected, fuses, low voltage blower starter, and 1TGS switch are customer-supplied.

Use wiring diagram provided with collector.
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 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.

   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. Set compressed-air supply pressure to a level suitable for the filters (60-psig).

11. Turn fan motor ON.

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 and procedures. Note the standard collector is not equipped with access platforms unless noted on the 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.

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

Do not operate with missing or damaged filters.

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.

Filter Removal and Installation

NOTICE Do not set compressed-air pressure above 60-psig as component damage can occur.

All compressed air components must be sized to meet the system requirements of 60-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.


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 airflow usually restores the filters to normal pressure drop.


5. Monitor dust disposal.
Filter Removal

1. Start at the top access port.
2. Remove access cover. For collectors without Bag-In/Bag-Out: remove access cover by lifting latch handle and lifting cover to remove from yoke. For collectors with Bag-In/Bag-Out: lift up access cover handle and while pushing in on cover, slide access cover to the side approximately 1-inch to remove access cover.

   If the access cover clamp fails to operate smoothly, apply a lubricant to the riveted pivot points and to the clamp rod where it passes through the outside of the cover. Wipe off overspray.
3. Break the seal between the filter cartridge and the sealing surface.
4. Rotate the cartridge slightly to the left to remove dust that may have accumulated on the top of the filter.
5. Slide each filter out the access port along the suspension yoke and dispose of properly.
6. Inspect and clean the sealing surface if necessary.

   Clean dust from gasket sealing area to ensure a positive filter gasket seal.
7. Check for any accumulation of dust in the storage area and remove as necessary.

Filter Installation

1. Slide the new filter cartridge onto each suspension yoke.

   Insert the filter, gasket end first.
2. Wipe cover gaskets clean and replace covers by attaching cover to yoke hook and firmly latching cover handle.

   Replaced access covers carefully by securing them using the handle provided. Keep fingers away from the sealing surface to avoid pinching.

   Check that access covers are seated and seal properly. Gaskets must be compressed to ensure a dust tight seal.
3. Turn electrical power and compressed air supply ON before starting collector.

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).

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 and Bag-In/Bag-Out Filter Access Cover Removal (Top View)

Filter Access Cover Removal (Side View)

Filter Replacement
Optional Equipment

Fan Blower

⚠️ WARNING ⚠️ Failure to lift the fan 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 fan.

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

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

⚠️ CAUTION ⚠️ To avoid personal injury and/or damage to equipment, ensure fan blowers are properly attached to equipment.

 NOTICE  The use of a damper or variable fan drive (VFD) is required to control airflow through the collector. Lack of a control damper or VFD will shorten filter life.

The collector can accept direct mounted fan blowers, Torit Backward Inclined (TBI) or Torit Radial Blade (TRB), to the top or side of the collector.

For complete information, see the most current version of the TBI or TRB Fan Installation, Operation and Maintenance manuals.

Side Mount TBI or TRB Fan Blowers
(For Units Built After July 2003)

⚠️ 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.

⚠️ CAUTION ⚠️ Mounting a fan blower on the side of a collector requires a side power adapter to support the weight of the fan blower.

Poorly installed fan blowers may separate from the collector resulting in personal injury and/or property damage.

1. Disconnect power supply.

2. Apply 1/4-in diameter rope-type sealant to the outside surface of the power adapter just outside the edge of the hole pattern.

3. Install the fan housing to the power adapter using the hardware supplied.

4. Install the motor and blower assembly to the fan housing using the original fan hardware and new sealant.

5. Connect power supply to the motor. Turn the fan motor ON then OFF to check motor rotation by referencing the rotation arrow on the blower.

To change rotation on three phase collectors, turn power supply OFF and switch any two leads on the output side of the fan motor starter.

⚠️ WARNING ⚠️ Do not interchange a power lead with the ground wire. Severe personal injury and/or equipment damage may result.
55-Gallon Drum Pack

The drum pack is designed to fit a customer-supplied, standard 55-gallon drum and provides easy access for dust removal and disposal. A flexible hose connects the drum cover hopper. Placing a pallet under the drum allows heavier materials to be moved quickly using a forklift or pallet jack. If a pallet is used, the length of flexible hose may need to be shortened.

1. Place 1/4-in diameter rope-type sealant between the hopper flange and the drum cover mounting flange toward the inside edge of the bolt pattern.
2. Fasten using the bolts, washers, and nuts supplied.

3. Attach the drum cover to the 55-gallon drum.
4. Use latches to secure the cover to the drum, if equipped.

Drum Cover Pack with Gate Valve

Drum Cover Pack without Gate Valve
5-Gallon Pail Pack

The pail pack includes a 5-gallon pail and provides easy access for dust removal and storage.

1. Apply sealant to the hopper flange or the pail cover mounting plate flange toward the inside edge of the bolt pattern.
2. Fasten the pail pack to the hopper using the bolts, washers, and nuts supplied.
3. Place pail beneath sealer mechanism.
4. Tighten clamps on either side by pulling down.
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 collector 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 gauges.
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.
**Photohelic® Gauge**

**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.

The Photohelic combines the functions of a differential pressure gauge and a pressure-based switch. The gauge function measures the pressure difference between the clean-air and dirty-air plenums and provides a visual display of filter condition. The high-pressure tap is located in the dirty-air plenum and a low-pressure tap is located in the clean-air plenum. The pressure-based switch function provides high-pressure ON and low-pressure OFF control of the filter cleaning system.

1. Choose a convenient, accessible location on or near the collector for mounting that provides the best visual advantage.

2. Mount the gauge to the remote panel or door using the mounting ring, retaining ring, and four #6-32 x 1 1/4-in screws. Do not tighten screws. Connect two, 1/8-in NPT x 1/4-in OD male adapters to the gauge’s high- and low-pressure ports. Tighten screws.

3. On the back of the gauge, remove four #6-32 x 5/16-in screws and plastic enclosure. Set aside. Add two jumper wires supplied by customer. Remove the jumper from the pressure switch located on the timer board, if equipped. Using the 3/4-in conduit opening, wire the gauge as shown. Reassemble and fasten enclosure securely.

4. 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.

5. Zero and maintain the gauge as directed in the manufacturer’s Operating and Maintenance Instructions provided.

6. To install the Photohelic Gauge mounted in a NEMA 4, Weatherproof Enclosure, follow Steps 4 and 5.
Photohelic Gauge Installation
Delta P Control

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

Description

The Delta P Controller monitors the differential pressure between the clean-air and dirty-air plenums, providing a visual display of the filter condition. When combined with a pulse timer, it manages 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.

Operation

Normal

The Delta P Controller monitors the pressure in the clean-air and dirty-air air plenums while the collector is running. The blower draws air through the filters, creating a pressure drop. The Delta P Controller measures the pressure drop and provides a visual display in inches water gauge or metric (SI) collectors of daPa.

Filter Cleaning

When the pressure drop across the filters reaches the High Pressure On setpoint, the controller closes an output relay allowing a timer to trigger the cleaning valves sequentially. When the controller senses that the pressure drop has decreased to the Low Pressure Off setpoint, the relay opens and the cleaning cycle stops. This sequence continues as long as the collector is in use, maintaining the pressure drop within a narrow range.

Alarm

The Alarm setpoint is set to a higher setting than the High Pressure On setpoint used to start the filter cleaning cycle. It indicates situations when the cleaning system cannot reduce the pressure drop due to cleaning system failure, lack of compressed air, or the end of the filter’s useful life. There is a time delay prior to setting the Alarm to prevent nuisance trips. The Delta P Controller also provides an input connection for a remote alarm reset.
**Delta P Plus Control**

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

**Description**

The Delta P Plus Controller monitors the differential pressure between the clean-air and dirty-air plenums, providing a visual display of the filter condition. When combined with a pulse timer, it manages 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.

**Operation**

**Normal**

The Delta P Plus Controller monitors the pressure on both sides of the tubesheet while the collector is running. As air flows through the filters, the resistance of the media and collected dust creates a pressure difference or “drop” between the dirty and clean air plenums. The Delta P Plus Controller measures the pressure drop and provides a visual display in inches water gauge or metric (SI) collectors of daPa.

**Filter Cleaning**

The Delta P Plus Controller offers three filter cleaning options.

1. **Differential Pressure Cleaning (DFF)** - When the pressure drop across the filters reaches the Controller’s High Pressure On setpoint, the Controller closes an output relay allowing a sequential timer to trigger the cleaning valves. When the Controller senses that the pressure drop has decreased to the Low Pressure Off setpoint, the relay opens and the cleaning cycle stops. This sequence continues as long as the collector is in use, maintaining the pressure drop within a narrow range.

2. **Downtime Cleaning (DTC)** - The Delta P Plus Controller monitors the collection system. When the pressure drop exceeds the Low Pressure Off setpoint and then approaches zero again, the Delta P Plus Controller runs a delay timer to allow the blower to come to a stop and then engages the cleaning mechanism for a preselected time.

3. **Combined Differential and Downtime Cleaning (ALL)** - The Delta P Plus Controller combines the two functions described above; maintaining the pressure drop in a narrow band and downtime cleaning the filters when the collector is shut down. The downtime cleaning function can be toggled On or Off from the keyboard.

**Alarm**

The Alarm setpoint is set to a higher setting than the High Pressure On used to start the filter cleaning cycle. It indicates situations when the cleaning system cannot reduce the pressure drop due to cleaning system failure, lack of compressed air, or the end of the filter’s useful life. There is a time delay prior to setting the Alarm to prevent nuisance trips. The Delta P Plus Controller also provides an input connection for a remote Alarm reset.

![Delta P Plus Control Display](image-url)
Damper Installation

A damper can be added to the power pack outlet to limit and regulate airflow when unit is in operation.

Radial Blade

1. Apply 1/4-in diameter bead of sealant toward the inside edge of the bolt pattern on both sides of the spacer ring.
2. Position the spacer ring on the unit’s clean-air outlet and align bolt patterns.
3. Apply silicone sealant, supplied with blower, around the blower outlet.
4. Slide the damper collar over the blower outlet and secure using four equally spaced self-drilling screws supplied.
5. Loosen the wing nut on the damper and adjust from 30 to 50% closed.

Backward Inclined

1. Apply sealant around the inside edge of the bolt pattern on the power pack outlet.
2. Fasten damper to the blower outlet using the hardware provided.

Exhaust Grid Installation

Radial Blade

1. Fit the exhaust grid over the radial blade outlet or the damper assembly, if equipped.
2. Fasten using three self-drilling screws supplied.

Backward Inclined

1. Attach flanges to the backward inclined outlet using the fasteners supplied.
2. Fasten exhaust grid to flanges using the supplied fasteners.
**Plenum Silencer**

**Radial Blade and Backward Inclined**

1. Apply 1/4-in diameter rope-type sealant towards the outside edge of the bolt pattern on the clean-air outlet.

2. Position the silencer mounting base aligning the bolt patterns of the collector and the mounting base.

3. Apply 1/4-in diameter rope-type sealant towards the outside edge of the bolt pattern on the silencer mounting base.

4. Install the blower housing, align holes, and secure using the supplied hardware.

5. Assembly the remaining power pack components as described in Power Pack Assembly on Page 12.

6. Attach the plenum silencer to the base using self-threading bolts with washers.

7. Route rigid or flexible conduit from the junction box on the motor to the outside wall of the silencer to house wiring.

8. Install the top of the silencer using the supplied hardware.

9. Loosen the wing nut on the damper and adjust from 30 to 50% closed.

**Exhaust Silencer**

**Backward Inclined Only**

1. Attach flanges to the power pack outlet using the supplied bolts, washers, and nuts.

2. Apply sealant to the flange and attach silencer to flange. Tighten all hardware.

3. Loosely assemble the silencer’s support brackets.

4. Align the pivoting support brackets to extend a minimum of 30-inches from the collector and mark the drill locations.

5. Drill pilot holes with a 0.339-inch bit.


7. If a gap exists between the silencer and the damper, install the panel filter using the screws provided.
HEPA or ASHRAE Afterfilter Installation

The afterfilter plenum is mounted on top of the unit and the blower is positioned inside the plenum.

1. Apply sealant around the clean-air outlet toward the outside edge of the bolt hole pattern located on the top of the collector.
2. Position the afterfilter plenum mounting base aligning the bolt patterns.
3. Apply sealant to the plenum mounting base toward the outside edge of the bolt pattern.
4. Install the blower housing, align bolt holes, and fasten securely in place using hardware supplied with the power pack.
5. Assemble the remaining power pack components as described in Power Pack.
6. Apply sealant to the inside perimeter of the mounting base. Install the plenum to the mounting base using self-threading bolts with washers.
7. Install 1/2-in conduit using the holes on the back of the afterfilter plenum. Flexible or rigid conduit can be used.
8. Apply sealant to the plenum’s top flange and use self-treading bolts and washers to secure the plenum top to the plenum.
9. Install the afterfilters in the afterfilter frames. Install HEPA filters with the gasket toward the inside of the frame. Install ASHRAE filters with the airflow direction arrow pointing outside.
10. Position the clamp straps and tighten the wing screws securely.
**Abrasion-Resistant Inlet Collar**

1. Remove the unit’s front cover plate. Remove excess sealant from opening.

2. Apply 1/4-in sealant around the opening toward the inside-edge of the bolt pattern.

3. Align the holes on the inlet collar with the holes in the unit and secure using 3/8-16 x 1-in bolts and flat washers supplied.
**Cold Climate Kit**

**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.

A cold climate kit provides heat to the pulse valves to prevent cold weather freeze up. The basic kit, for use in applications that have a moderate amount of moisture in the compressed-air supply, consists of a small heating element and thermostat installed in the solenoid enclosure. The basic kit is factory-installed and supplied with the appropriate solenoid wiring instructions.

A heavy-duty kit is available for applications that have moderate-to-high amounts of moisture in the compressed-air supply and consists of the basic kit plus a heat cable to deliver heat to the large pulse valves. This kit is customer-installed and detailed installation instructions are provided.

1. Install the power connection kit on the heat cable following the manufacturer’s instructions.
2. Start with the upper right-hand valve, wrap heat cable around the valve as shown in Detail A. Pull heat cable tight.

**NOTICE** Double wrap between round coupling and square valve cover.

3. Position a 3-in hose clamp around the double wrapped heat cable and tighten securely.
4. Wrap remaining valves the same way.
5. Drill a 1-in diameter hole in the back of the junction box. Assemble the power connection kit following the manufacturer’s instructions.
7. Wrap 6-ft of pipe insulation tape around each heat-cable wrapped valve. Wrap the entire valve, double wrapping the hose-clamped heat cable. Secure with cable ties.

---

**Heavy-Duty Cold Climate Kit**

- Tie cable cold weather
- Tie cable 1-5 diameter
- Enclosure elect NEMA 4 and clamp hose 8-in
- Cable heat
- Clamp hose 3-in
- Double wrap between round coupling and square valve cover
- Step 2
- Step 3
- 3-in hose clamp
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.

**NOTICE**  Consult with local authorities when installing fire control systems on dust collection equipment.
## Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Probable Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fan blower and motor do not start</strong></td>
<td>Improper motor wire size</td>
<td>Rewire using the correct wire gauge as specified by national and local codes.</td>
</tr>
<tr>
<td></td>
<td>Not wired correctly</td>
<td>Check and correct motor wiring for supply voltage. See motor manufacturer’s wiring diagram. Follow wiring diagram and the National Electric Code.</td>
</tr>
<tr>
<td></td>
<td>Collector not wired for available voltage</td>
<td>Correct wiring for proper supply voltage.</td>
</tr>
<tr>
<td></td>
<td>Input circuit down</td>
<td>Check power supply to motor circuit on all leads.</td>
</tr>
<tr>
<td></td>
<td>Electrical supply circuit down</td>
<td>Check power supply circuit for proper voltage. Check for fuse or circuit breaker fault. Replace as necessary.</td>
</tr>
<tr>
<td></td>
<td>Damaged motor</td>
<td>Replace damaged motor.</td>
</tr>
<tr>
<td><strong>Fan blower and motor start, but do not stay running</strong></td>
<td>Incorrect motor starter installed</td>
<td>Check for proper motor starter and replace if necessary.</td>
</tr>
<tr>
<td></td>
<td>Access doors are open or not closed tight</td>
<td>Close and tighten access doors. See Filter Installation.</td>
</tr>
<tr>
<td></td>
<td>Hopper discharge open</td>
<td>Check that dust container is installed and properly sealed.</td>
</tr>
<tr>
<td></td>
<td>Damper control not adjusted properly</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Electrical circuit overload</td>
<td>Check that the power supply circuit has sufficient power to run all equipment.</td>
</tr>
<tr>
<td><strong>Clean-air outlet discharging dust</strong></td>
<td>Filters not installed correctly</td>
<td>See Filter Installation.</td>
</tr>
<tr>
<td></td>
<td>Filter damage, dents in the end caps, gasket damage, or holes in media</td>
<td>Replace filters as necessary. Use only genuine Donaldson replacement parts. See Filter Installation.</td>
</tr>
<tr>
<td></td>
<td>Access cover(s) loose</td>
<td>Tighten access doors securely. See Filter Installation.</td>
</tr>
<tr>
<td><strong>Insufficient airflow</strong></td>
<td>Fan rotation backwards</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Access doors open or not closed tight</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Fan exhaust area restricted</td>
<td>Check fan exhaust area for obstructions. Remove material or debris. Adjust damper flow control.</td>
</tr>
<tr>
<td></td>
<td>Filters need replacement</td>
<td>Remove and replace using genuine Donaldson replacement filters. See Filter Removal and Installation.</td>
</tr>
<tr>
<td>Problem</td>
<td>Probable Cause</td>
<td>Remedy</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>--------</td>
</tr>
<tr>
<td>Insufficient airflow continued</td>
<td>Lack of compressed air</td>
<td>See Rating and Specification Information for compressed air supply requirements.</td>
</tr>
<tr>
<td></td>
<td>Pulse cleaning not energized</td>
<td>Use a voltmeter to check the solenoid valves in the control panel. Check pneumatic lines for kinks or obstructions.</td>
</tr>
<tr>
<td></td>
<td>Dust storage area overfilled or plugged</td>
<td>Clean out dust storage area. See Dust Disposal.</td>
</tr>
<tr>
<td></td>
<td>Pulse valves leaking compressed air</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Solid-State timer failure</td>
<td>Using a voltmeter, check supply voltage to the timer board. Check and replace the fuse on the timer board if necessary. If the fuse is good and input power is present but output voltage to the solenoid is not, replace the timer board. See Solid-State Timer Installation.</td>
</tr>
<tr>
<td></td>
<td>Solid-State timer out of adjustment</td>
<td>See Solid-State Timer and Solid-State Timer Wiring Diagram.</td>
</tr>
<tr>
<td>No display on the Delta P Controller</td>
<td>No power to the controller</td>
<td>Use a voltmeter to check for supply voltage.</td>
</tr>
<tr>
<td></td>
<td>Fuse blown</td>
<td>Check the fuse in the control panel. See wiring diagram inside the control panel. Replace if necessary.</td>
</tr>
<tr>
<td>Display on Delta P Controller does not read zero when at rest</td>
<td>Out of calibration</td>
<td>Recalibrate as described in Delta P Maintenance Manual.</td>
</tr>
<tr>
<td></td>
<td>With collector discharging outside, differential pressure is present from indoor to outdoor</td>
<td>Recalibrate with the pressure tubing attached as described in the Delta P Maintenance Manual.</td>
</tr>
<tr>
<td>Delta P Controller ON, but cleaning system does not start</td>
<td>Pressure tubing disconnected, ruptured, or plugged</td>
<td>Check tubing for kinks, breaks, contamination, or loose connections.</td>
</tr>
<tr>
<td></td>
<td>Not wired to the timing board correctly</td>
<td>Connect the pressure switch on the timer board to Terminals 7 and 8 on TB3.</td>
</tr>
<tr>
<td></td>
<td>Faulty relay</td>
<td>Using a multimeter, test relay for proper closure. Replace if necessary.</td>
</tr>
</tbody>
</table>
## Troubleshooting

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<tr>
<td><strong>Pulse cleaning never stops</strong></td>
<td>Pressure switch not wired to the timer board correctly</td>
<td>Connect the pressure switch on the timer board to Terminals 7 and 8 on TB3.</td>
</tr>
<tr>
<td></td>
<td>Pressure switch terminals on the timer board jumpered</td>
<td>Remove jumper wire on Solid-State Timer board before wiring to the Delta P Control.</td>
</tr>
<tr>
<td></td>
<td>High Pressure On or Low Pressure Off setpoint not adjusted for system conditions</td>
<td>Adjust setpoints to current conditions.</td>
</tr>
<tr>
<td></td>
<td>Pressure tubing disconnected, ruptured, plugged, or kinked</td>
<td>Check tubing for kinks, breaks, contamination, or loose connections.</td>
</tr>
<tr>
<td><strong>Alarm light is ON</strong></td>
<td>Alarm setpoint too low</td>
<td>Adjust to a higher value.</td>
</tr>
<tr>
<td></td>
<td>Excess pressure drop</td>
<td>Check cleaning system and compressed air supply. Replace filters if filters do not clean down.</td>
</tr>
<tr>
<td></td>
<td>Pressure tubing disconnected, ruptured, plugged, or kinked</td>
<td>Check tubing for kinks, breaks, contamination, or loose connections.</td>
</tr>
<tr>
<td><strong>Delta P arrow keys to not work</strong></td>
<td>Improper operation</td>
<td>Press and hold one of the three setpoint keys to use arrow keys.</td>
</tr>
<tr>
<td></td>
<td>Programming keys disabled</td>
<td>Remove the Program Disable jumper from Terminals 3 and 4 on TB2.</td>
</tr>
<tr>
<td><strong>Cleaning light is ON, but cleaning system not functioning</strong></td>
<td>Improper wiring</td>
<td>Check wiring between the Delta P Control and the timer board, and between the timer board and solenoid valve coils.</td>
</tr>
<tr>
<td></td>
<td>Defective solenoids</td>
<td>Check all solenoid coils for proper operation.</td>
</tr>
<tr>
<td></td>
<td>Timer board not powered</td>
<td>Check power ON light on timer board’s LED display. If not illuminated, check the supply voltage to the timer board. Check the fuse on the timer board. Replace if necessary.</td>
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<td>Timer board defective</td>
<td>If LED is illuminated, observe the output display. Install a temporary jumper across the pressure switch terminals. Output levels should flash in sequence. Check output using a multimeter set to 150-Volt AC range. Measure from SOL COM to a solenoid output. The needle will deflect when LED flashes for that output if voltage is present. If LED’s do not flash, or if no voltage is present at output terminals during flash, replace the board.</td>
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# Service Notes

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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.

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PO Box 1299
Minneapolis, MN 55440-1299
U.S.A.

800-365-1331 USA
800-343-3639 within Mexico
+52 (449) 300 24 42 Latin America
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.