

Donaldson  
Torit®

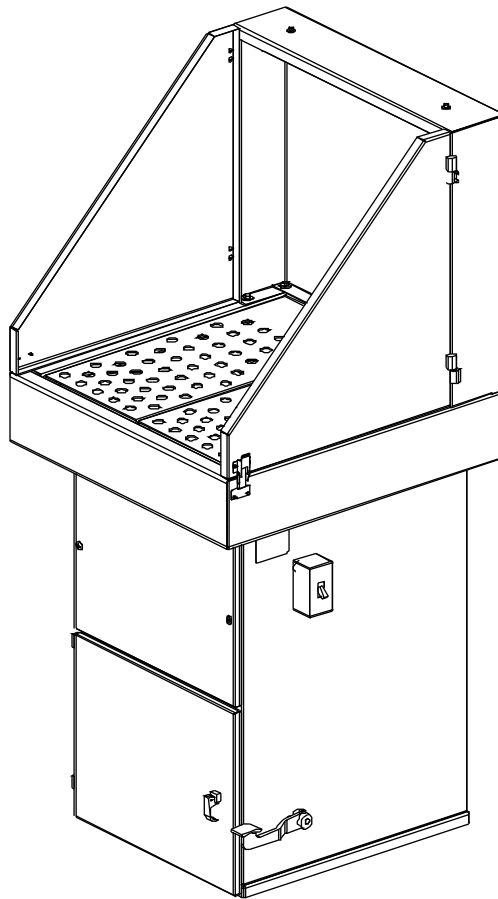


## Downdraft Bench

DB-800

### Installation and Operation Manual

Installation, Operation and Service Manual



This manual contains specific precautions related to worker safety. The hazard alert image denotes safety related instructions and warnings in this manual. **DO NOT** operate or perform maintenance on this collector until you have read and understood the instruction and warnings contained within this manual.

English  
Master Language

IOM 7568201 (ENG)  
Revision 3

## IMPORTANT NOTES

This manual has been supplied to assist with the installation, operation and maintenance for the collector purchased. Please read the manual before installing, operating, or performing maintenance on the collector as it contains specific precautions for worker safety. It is the owner's responsibility to ensure that this manual is available for use by installers, operators and maintenance personnel that will be working with this collector. This manual is the property of the owner and should be left with the collector when installation has been completed. **DO NOT** operate this collector until you have read and understood the instructions and warnings located in the installation and operation manual.

For additional copies of this manual, contact Donaldson Torit



**The Safety Alert Symbol indicates a hazardous situation which, if not avoided could result in death or serious injury. Obey all safety messages following this symbol to avoid possible injury or death. The possible hazards are explained in the associated text messages.**



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

***NOTICE***

**NOTICE** indicates a potential situation or practice which is not expected to result in personal injury, but which if not avoided, may result in damage to equipment.

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## Safety Communication



Improper operation of dust collectors and/or dust control systems may contribute to conditions in a work area or facility which could result in severe personal injury, and product or property damage. All dust collection equipment should be used only for its intended purpose and should be properly selected and sized for its intended use.

Process owners have important responsibilities relating to identifying and addressing potential hazards in their processes. When the potential for handling combustible dust exists within a process the process owner should include combustion hazards in their risk management activities and should comply with applicable codes and standards related to combustible dust.

Electrical installation must be performed by a qualified electrician.

This equipment is not designed to support site ducts, piping, or electrical services. All ducts, piping, or electrical services must be adequately supported to prevent injury and/or property damage.

Site selection must account for wind, seismic zone, and other load conditions.

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

## Combustible Dust Hazards

Among other considerations, the current NFPA standards require owners whose processes involve potentially combustible materials to have a current Dust Hazard Analysis, which can serve as the foundation for their process hazard mitigation strategy. Mitigation may include but is not limited to:

- Prevention of all ignition sources from entering any dust collection equipment.
- Selection and implementation of fire and explosion mitigation, suppression, and isolation strategies appropriate for the risks in their process.
- Development and use of work practices to maintain safe operating conditions, and to ensure combustible dust does not accumulate within their plant or process equipment.

Donaldson designs, manufactures, and sells industrial air filtration products for a wide variety of applications. Some applications may include processes or materials with inherent fire and explosion hazards. Donaldson is neither an expert nor a certified consultant in fire, spark, or explosion detection, suppression, or control. Donaldson does not provide engineering consulting services related to process or dust hazard analyses, or code and standard compliance. Complying with applicable codes and standards and managing the risks associated with the process or materials remains the responsibility of the process owner/operator. Donaldson may provide referrals to consultants, suppliers of equipment or services related to the detection and/or mitigation of sparks, fires and/or explosions, but Donaldson does not assume responsibility for any such referrals, nor does Donaldson assume any liability for the fitness of a mitigation strategy or product for a particular installation or application. The process owner's final selection of dust collectors and risk mitigation strategies should be based on the outcome of a Dust Hazard / Process Hazard Analysis performed by the process owner. Although early engagement of a dust collector supplier provides helpful insights on the availability and features of various products, process owners should consult with a combustible dust expert and/or a process safety expert before making actual product and mitigation strategy selections.

Donaldson recommends that all industrial air filtration system designs be reviewed and approved by an expert consultant who is responsible for the integrity of the system design and compliance with applicable codes and standards. It is the process owner's responsibility to understand the risks in their process and mitigate those risks in accordance with all applicable laws, regulations and standards, including those published by the NFPA. Donaldson also recommends that proper maintenance and housekeeping procedures and work practices be evaluated, developed, and followed to maintain any industrial air filtration products in safe operating condition.

Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the Donaldson products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, product specifications, and data (airflow, capacity, dimensions, or availability) are subject to change without notice, and may vary by region or country.

## Description

The Downdraft Bench, Model DB-800 is a self-contained, intermittent-duty dust collector with envelope-style filters. Designed as a workstation for grinding, polishing, hand sanding, and dry buffing applications, the DB-800 features cotton sateen filter bags, prewired controls, and a fluorescent light fixture.

Direct-drive, forward-curve fan provides 200-fpm minimum face velocity across the slotted-steel work surface designed to hold up to 50-lb per square foot. Hinged side panels open to accommodate larger work pieces and a manually operated filter shaker allows on-demand filter cleaning. Replace filters easily with the one-piece EZ Filter Pack™ and dispose of dust contained in the dust drawer from the front of the unit.

## Purpose and Intended Use



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

Do not misuse or modify.

The Downdraft Bench provides excellent efficiency on nuisance dust generated in industrial operations, such as grinding, buffing and polishing without rouge, and hand-sanding operations.

**Grinding:** The Downdraft Bench has a baffle that limits particles from directly impinging with the filter bags reducing the risk of bag damage.

**Buffing and Polishing:** Buffing and polishing operations without rouges.

**Hand Sanding:** Light-duty hand sanding only. Avoid applications with explosive dust or welding operations.

**Explosive Dust:** Not intended for use with explosive dust.

**Welding:** Not recommended for welding operations due to the natural tendency for weld fumes to rise and Downdraft Benches develop a downward airflow. Use the Donaldson Torit Weld Bench in these operations.

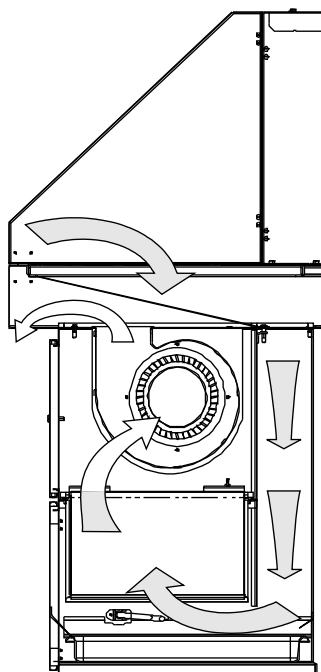
## Rating and Specification Information

General rating and specification information can be found in the product literature provided with the collector or available on the Donaldson website. For specific load values for a collector, see the Specification Control Drawing shipped with the collector.

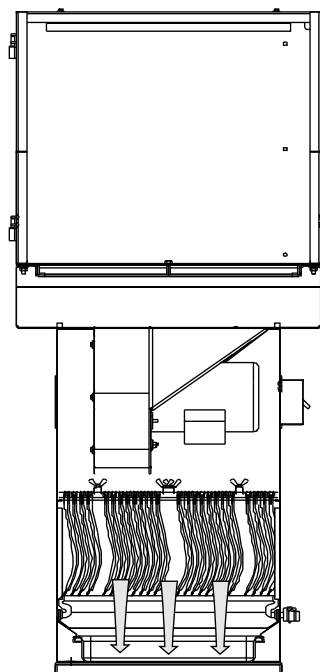
## Operation

During normal operation, dust-laden air enters the DB-800 through the slotted-steel work surface. Heavy particulate falls into the dust drawers and fine particulate collects on the outside surface of the filter bags. Clean, filtered air passes through the center of the EZ Filter Pack™ into the clean-air chamber, and discharges through the clean-air outlet.

The DB-800 is an intermittent-duty collector, which means that filter cleaning cannot start until the fan is turned OFF and fan rotation has stopped. Pushing down on the hand- or foot-operated shaker pedal and releasing rapidly six times completes manual filter cleaning. The releasing action causes the dust cake to fracture and fall into the dust storage area.



Normal Operation



Filter Cleaning Operation

### 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 all power before performing service or maintenance work.

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

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.

The collector is suitable for indoor 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

### CAUTION

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.

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.

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

## Site Selection

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

The DB-800 is a self-contained collector and requires no special installation accommodations.

## Hoisting Information

### CAUTION

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

Lift collector from the bottom.

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

A crane or forklift and qualified operator are recommended for unloading, assembly, and installation of the collector.

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

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.

## Standard Equipment

Standard equipment consists of a self-contained collector housing the filters, blower, clean- and dirty-air chambers and dust drawers.

## Electrical Wiring

### CAUTION

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 all power 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.



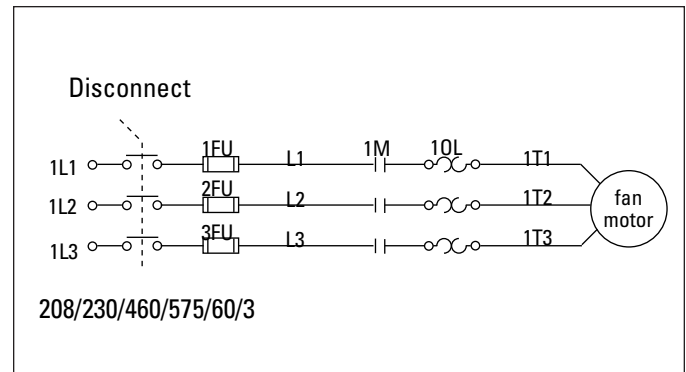
1. Make the electrical connections to the customer-supplied safety disconnect switch, blower, and blower starter.
2. Turn power ON at source.
3. Turn the blower motor ON then OFF to check for proper rotation by referencing the rotation arrow located on the blower housing. A blower running in the wrong direction will still deliver approximately 40% of its rated air volume making proper rotation extremely important.

To reverse rotation, single-phase power supply:

Follow manufacturer's instructions on the motor's nameplate.

To reverse rotation, three-phase power supply:

Turn electrical power OFF at source and switch any two leads on the output-side of the fan-motor starter.



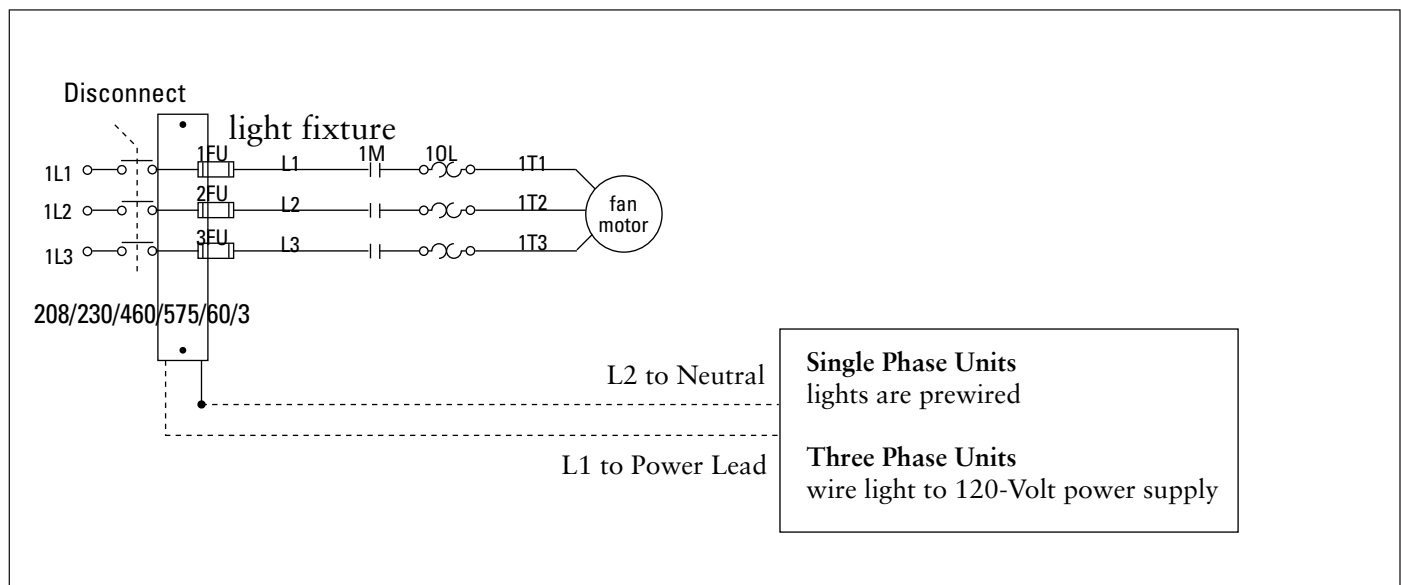
Motor Starter Wiring Diagram

### Industrial Light, Three-Phase Units

1. Wire the light fixture to a 120-Volt power supply.
2. Install customer-supplied fluorescent bulbs.

### Hinged Side Panels

The DB-800 is equipped with right and left, lift-off hinged side panels. Open or remove panels when working with items too large or awkward for the work surface. Keep the panels closed under normal operating conditions.



Light Fixture Wiring

## Preliminary Start-Up Check

Instruct all personnel on safe use and maintenance procedures.

### CAUTION

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 all power 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.

1. Check all electrical connections for tightness and contact.
2. Check for proper rotation on all motors as described below.

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.

### CAUTION

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. Check and remove all loose items in or near the inlet and outlet of the collector.
4. Check that all remote controls are properly wired and all service switches are in the OFF position.
5. Check that all optional accessories are installed properly and secured.
6. Turn power ON at source.
7. Turn fan motor ON.

## Start-Up

1. Turn power ON at source.
2. Turn collector ON.
3. When airflow diminishes, turn the collector OFF and shake the filters as shown in the Filter Pack Maintenance section.

## Maintenance Information

Instruct all personnel on safe use and maintenance procedures.

### CAUTION

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 all power before performing service or maintenance work.

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

## Operational Checklist

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

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

2. Monitor pressure drop across filters.

Abnormal changes in pressure drop may indicate a change in operating conditions and possibly a fault to be corrected.

3. Monitor exhaust.
4. Monitor dust disposal.

## Filter Removal and Installation

### CAUTION

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 all power before performing service or maintenance work.

Do not operate with missing or damaged filters.

## Filter Pack Maintenance

1. Clean the filters once each day depending on load circumstances.
2. Shut off fan.
3. Allow fan to coast down.
4. Depress the cleaning pedal or handle.
5. Release to allow cleaning pedal or handle to drop rapidly.
6. Repeat step 4 six to eight times.
7. Allow dust to settle.
8. Open filter access door and remove any dust which has now accumulated in the dust drawer.
9. Close the filter access door.
10. A good practice is to clean filters at break, lunch, and end of day.

## EZ Filter Pack Removal

1. Remove upper door and open lower door.



Step 1

2. Loosen the filter pack slide latch wing screws and move the slide latches away from the gasket by sliding them inward. Note, this is easier when the filter pack is supported with one hand on the bottom side.



Step 2

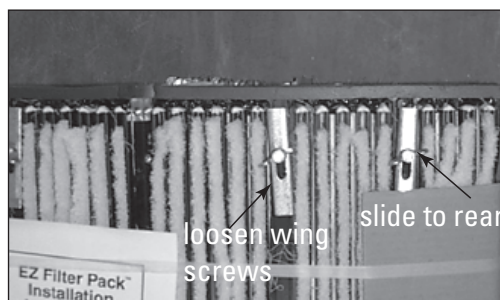
3. Remove the center support bar by unscrewing the wing screws on each end. Note, this is easier when the filter pack is supported with one hand on the bottom side.



4. Allow the filter pack to collapse in the center and remove it by guiding it out the bottom side of the sealing frame.

## EZ Filter Pack Installation

1. Remove banded EZ Filter Pack from box. Do not remove bands.
2. Fully loosen wing screws.
3. Move slide latches to the rear—away from gasket.



Steps 1-3

4. Insert banded EZ Filter Pack over shaker bar.



Step 4

5. Rest banded EZ Filter Pack on shaker bar.



Step 5

6. Cut and remove bands and cardboard protectors.



Step 6

7. Insert one hand midway under each side of the EZ Filter Pack. Push EZ Filter Pack to bottom of cabinet filter frame.



Step 7

8. Important - place one hand under center of EZ Filter Pack. Holding EZ Filter Pack against bottom of cabinet ledge, push each slide latch over cabinet ledge.

Do not tighten wing screws at this time.



Step 8

9. Adjust EZ Filter Pack for good fit. Finger tighten wing screws.



Step 9

10. Remove support bar from box.



Step 10

11. Place support bar over center of EZ Filter Pack



Step 11

12. Insert small wing screws through holes in support bar. Hand tighten all wing screws.



Step 12

13. Inspect filter seal.  
14. Insert clean dust pan.  
15. Install and close doors.



Steps 13-15

## Dust Disposal

### **NOTICE**

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

Empty the dust drawer when it is 2/3 full. Remove dust that has settled to the bottom of the collector.

1. Turn power OFF.
2. Manually clean or allow the automatic filter shaker to clean the filters.
3. When the cleaning cycle is complete, open the filter access door.
4. Reach inside the opening, grasp the dust drawer edge and pull the dust drawer out of the collector.
5. Dispose of properly.



## Optional Equipment

### Magnehelic® Gauge

The Magnehelic is a differential pressure gauge used to measure the pressure difference between the clean- 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.

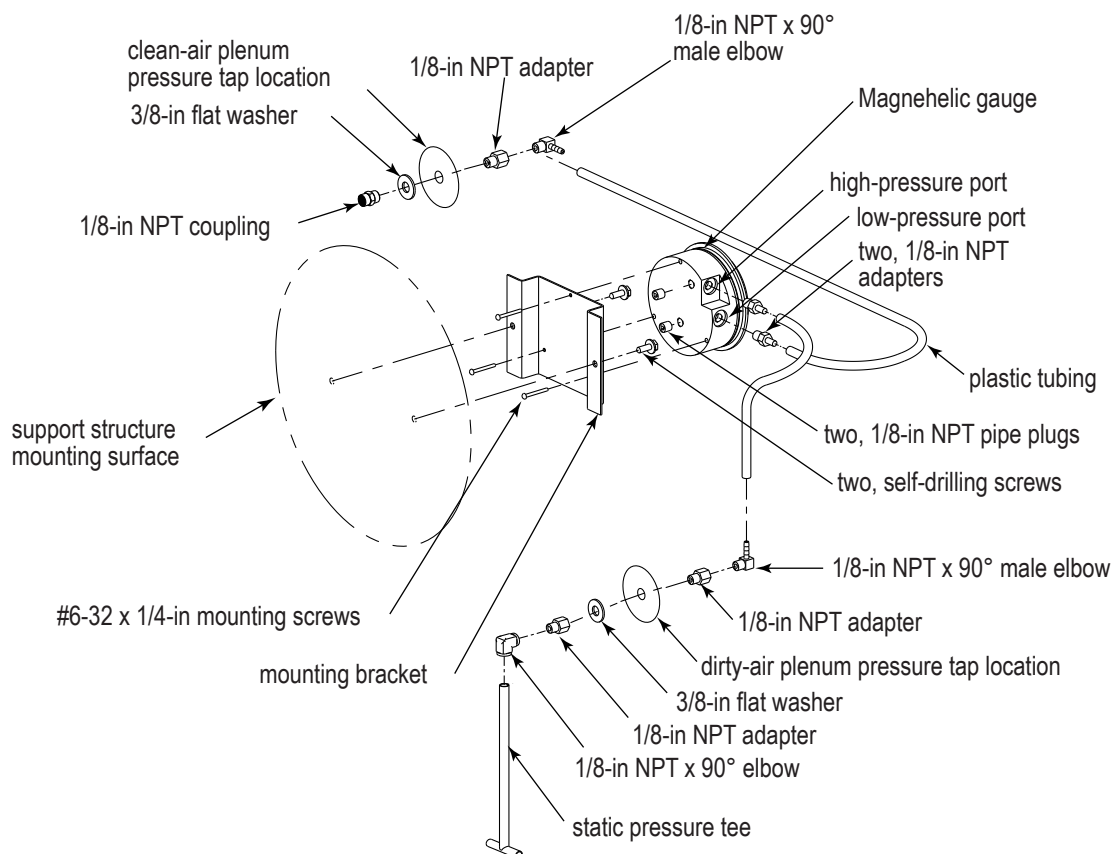
1. Choose a convenient, accessible location on or near the collector for mounting that provides the best visual advantage.

If collector is equipped with factory-installed pressure taps, skip to Step 5.

2. Before drilling, place a piece of non-combustible cloth over the filter opening in the clean-air plenum to protect them from drilling chips.
3. Place a piece of wood behind the drill location in the dirty-air plenum to protect the filters from damage by the drill bit.
4. Mount the pressure tap hardware on the clean-air plenum panel and the dirty-air plenum.
5. Plug the pressure ports on the back of the gauge using two, 1/8-in NPT pipe plugs supplied. Install two, 1/8-in NPT male adapters supplied with the gauge into the high- and low-pressure ports on the side of the gauge.
6. Attach the mounting bracket using three, #6-32 x 1/4-in screws supplied.
7. Mount the gauge and bracket assembly to the supporting structure using two, self-drilling screws.
8. 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.
9. Carefully remove the cloth protecting the filters. Close access doors and tighten securely by hand.
10. Zero and maintain the gauge as directed in the manufacturer's Operating and Maintenance Instructions provided.

### Work Surface Rubber Mat

An optional 5/8-inch thick nitrile-rubber mat is available for the Downdraft Bench. Used to protect the work piece during buffing or grinding operations, the mat is oil, grease, alkali and acid resistant, and suitable for aircraft components.



Magnehelic Gauge Installation



## Troubleshooting

Problem	Probable Cause	Remedy
<b>Fan blower and motor do not start</b>	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.
<b>Fan blower and motor start, but do not stay running</b>	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.
	Inlet too large for collector rating	Contact installer of dust collection equipment.
<b>Insufficient airflow</b>	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.
	Dust storage area overfilled or plugged	Clean out dust storage area. See Dust Disposal.
	Collapsed or plugged duct	Clean duct of all debris. Replace collapsed duct.
	Improper duct sizing	Contact installer of dust collection equipment.
	EZ Filter Pack plugged	Shake filter packs a minimum of once a day. Brush or manually clean filter packs plugged with sticky or fibrous material. Replace filter packs that do not clean properly by shaking. See EZ Filter Pack Installation.
	Manual shaker mechanism malfunctioning	Check that the roll pin is in place. Replace if necessary.

## Product Information (Process Owner to complete and retain for your records)

Model Number \_\_\_\_\_ Serial Number \_\_\_\_\_

Ship Date \_\_\_\_\_ Installation Date \_\_\_\_\_

Filter Type \_\_\_\_\_

Collected Dust \_\_\_\_\_

Dust Properties: Kst \_\_\_\_\_ Pmax \_\_\_\_\_ MIE \_\_\_\_\_ MEC \_\_\_\_\_

Accessories \_\_\_\_\_

Other \_\_\_\_\_

\_\_\_\_\_

## Service Notes

[illegible]

## Donaldson Industrial Air Filtration Warranty

Donaldson warrants to the original purchaser only that the Goods will be free from defects in material and manufacture for the applicable time periods stated below: (1) Major structural components for a period of ten (10) years from the date of shipment; (2) Non-Structural, Donaldson-built components and accessories including Donaldson Airlocks, TBI Fans, TRB Fans, Fume Collector products, Donaldson built electrical control components, and Donaldson-built Afterfilter housings for a period of twelve (12) months from date of shipment; and (3) Donaldson-built filter elements for a period of eighteen (18) months from date of shipment.

Buyer is solely responsible for determining if goods fit Buyer's particular purpose and are suitable for Buyer's process and application. Seller's statements, engineering and technical information, and recommendations are provided for the Buyer's convenience and the accuracy or completeness thereof is not warranted. If, after Seller receives written notice, within the warranty period, that any goods allegedly do not meet Seller's warranty, and Seller, in its sole discretion, determines that such claim is valid, Seller's sole obligation and Buyer's exclusive remedy for breach of the foregoing warranty or any Seller published warranty, will be, at Seller's option, either: (i) repair or replacement of such goods or (ii) credit or refund to Buyer for the purchase price from Seller. In the case of repair or replacement, Seller will be responsible for the cost of shipping the parts but not for labor to remove, repair, replace or reinstall the allegedly defective goods. Refurbished goods may be used to repair or replace the goods and the warranty on such repaired or replaced goods shall be the balance of the warranty remaining on the goods which were repaired or replaced. Any repair or rework made by anyone other than Seller is not permitted without prior written authorization by Seller, and voids the warranty set forth herein. Seller warrants to Buyer that it will perform services in accordance with the Sales Documents using personnel of required skill, experience and qualifications and in a professional and workmanlike manner in accordance with generally recognized industry standards for similar services. With respect to any services subject to a claim under the warranty set forth above, Seller shall, in its sole discretion, (i) repair or re-perform the applicable services or (ii) credit or refund the price of such services at the pro rata contract rate and such shall be Seller's sole obligation and the exclusive remedy for breach of the foregoing warranty on services. Products manufactured by a third party ("Third Party Product") may constitute, contain, be contained in, incorporated into, attached to or packaged together with, the goods. Buyer agrees that: (a) Third Party Products are excluded from Seller's warranty in this Section 7 and carry only the warranty extended by the original manufacturer, and (b) Seller's liability in all cases is limited to goods of Seller's design and manufacture only. EXCEPT FOR SELLER'S WARRANTY OF TITLE TO THE GOODS, SELLER EXPRESSLY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES WHATSOEVER, WHETHER, EXPRESSED OR IMPLIED, ORAL, STATUTORY, OR OTHERWISE, INCLUDING BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY AND ANY WARRANTIES ARISING FROM TECHNICAL ADVICE OR RECOMMENDATIONS, COURSE OF DEALING OR OF PERFORMANCE, CUSTOM OR USAGE OF TRADE. Seller's obligations do not cover normal wear and tear or deterioration, defects in or damage to any goods resulting from improper installation, accident or any utilization, maintenance, repair or modification of the goods, or any use that is inconsistent with Seller's instructions as to the storage, installation, commissioning or use of the goods or the designed capabilities of the goods or that, in its sole judgment, the performance or reliability thereof is adversely affected thereby, or which is subjected to abuse, mishandling, misuse or neglect or any damage caused by connections, interfacing or use in unforeseen or unintended environments or any other cause not the sole fault of Seller, and shall be at Buyer's expense. Seller's warranty is contingent upon the accuracy of all information provided by Buyer. Any changes to or inaccuracies in any information or data provided by Buyer voids this warranty. Seller does not warrant that the operation of the goods will be uninterrupted or error-free, that the functions of the goods will meet Buyer's or its customer's requirements unless specifically agreed to, or that the goods will operate in combination with other products selected by Buyer or Buyer's customer for its use.

The terms of this warranty may only be modified by a special warranty document signed by a Director, General Manager or Vice President of Donaldson. To ensure proper operational performance of your equipment, use only genuine Donaldson replacement parts.

**This Product is provided subject to and conditioned upon Donaldson's Terms of Sale ("Terms"), a current copy of which is located at [termsofsale.donaldson.com](http://termsofsale.donaldson.com). These Terms are incorporated herein by reference. By purchasing or using this Product, the user accepts these Terms. The Terms are available on our website or by calling our customer service line at 1-800-365-1331.**

Significantly improve the perf  
replacement filters and parts.

dson Torit

**Important Notice**

Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, product specifications, availability and data are subject to change without notice, and may vary by region or country.



Donaldson.



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