CONAIR
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USERGUIDE

IMB-023B 1/94

Dust Collector

Sizes 1 and 2

⚠ **WARNING - Reliance on this Manual Could Result in Severe Bodily Injury or Death!**

This manual is out-of-date and is provided only for its technical information, data and capacities. Portions of this manual detailing procedures or precautions in the operation, inspection, maintenance and repair of the product forming the subject matter of this manual may be inadequate, inaccurate, and/or incomplete and cannot be used, followed, or relied upon. Contact Conair at info@conairgroup.com or 1-800-654-6661 for more current information, warnings, and materials about more recent product manuals containing warnings, information, precautions, and procedures that may be more adequate than those contained in this out-of-date manual.

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DUST COLLECTOR

We design equipment with the user's safety in mind. You can avoid the potential hazards identified on this machine by following the procedures outlined below and elsewhere in the User Guide.

⚠ ATTENTION: READ THIS SO NO ONE GETS HURT

⚠ WARNING: Improper installation, operation or servicing may result in equipment damage or personal injury.

This equipment should be installed, adjusted, and serviced by qualified technical personnel who are familiar with the construction, operation and potential hazards of this type of equipment.

All wiring, disconnects and fuses should be installed by qualified electrical technicians in accordance with electrical codes in your region.

Always maintain a safe ground. A properly sized conductive ground wire from the incoming power supply must be connected to the chassis ground terminal inside the electrical enclosure. Improper grounding can result in personal injury and erratic machine operation.

Do not operate the equipment at power levels other than what is specified on the the equipment serial tag and data plate.

⚠ WARNING: Electrical shock hazard

This equipment is powered by single-phase main voltage, as specified on the machine serial tag and data plate.

Always disconnect and lock out the incoming main power source before opening the electrical enclosure or performing non-standard operating procedures, such as troubleshooting or maintenance. Only qualified personnel should perform procedures that require access to the electrical enclosure while power is on.

⚠ **WARNING: Disconnect power and air sources.** Always disconnect the man power source and compressed air source before installing or servicing this equipment. This prevents the equipment from starting during servicing, which could cause personal injury from flying debris or moving parts.

⚠ CAUTION: Wear eye protection

We recommend that you use vacuum air for cleaning filters and other parts of this equipment. If you use compressed air to clean the equipment, you must wear eye protection and observe all OSHA and other safety regulations pertaining to the use of compressed air.

SECTION 1

DESCRIPTION

The basic dust collector system consists of four parts:

1. Floor stand mounting frame.

2. Filter chamber - contains the cartridge filter, vacuum valve, and solenoid. It is bolted to the floor stand as standard, but may be bolted to a wall, pump base, etc....

3. Three-way vacuum breaker valve - this valve is mounted within the filter section. Its function is to close to atmosphere during the conveying cycle and open at the end of the cycle allowing an in-rush of atmosphere air to flow through the filter with a shock wave effect. Fines and dust trapped are shaken loose from the filter cartridge leaves.

4. Collection chamber - on a manual dump unit, this will be a removable container for manually emptying the collected dust. On an automatic unload/reload unit, this is a two-chambered device that clamps on in place of the manual dump container. The top section is a conical hopper, with a conic unload valve. the bottom chamber is a conical also, containing a take-away tube and a solenoid air vent valve. During the vacuum load cycle, dust is collected in the upper section. At the end of the load cycle, dust is dropped into the bottom take-away section. When the next load cycle begins, the conic valve closes and the solenoid air vent valve opens, allowing dust to be sucked via a conveying line through a diverter "Y", back into the main receiving hopper. After 5 to 10 seconds, the solenoid valve closes, diverting all air to material conveying.

SECTION

2

INSTALLATION

LOCATION

When using the manual dump type, the dust collector is best located near the vacuum pump. When using the automatic unload/reload collector, it is better to locate it near the loader that is receiving the dust. NOTE: If neither location is convenient, then locate the collector anywhere along the vacuum line between the loader and pump assembly.

MOUNTING

Supplied as standard is a free standing frame to which the filter and collection chambers are bolted.

OPTIONAL MOUNTING

The dust collector may be mounted by the filter chamber to a wall, material storage bin, pump base assembly, or any number of other desired places. NOTE: The unit must be mounted in a vertical position to obtain proper dust separation and filtration.

VACUUM LINE CONNECTIONS (See Figure 1)

The vacuum line from the loader connects to the central separating section tangential entry tube. The vacuum line to the pump connects to the 3-way vacuum breaker valve which is installed in the center of the filter chamber.

DUST RETURN LINE CONNECTION (See Figure 2)

For the automatic unload/reload type dust collector, a "Y" tube is included and should be installed as close as possible to the main material loader. Horizontal positioning of the diverter "Y" is best. The dust return line is 1-1/4" EMT and should be installed rigidly from the "Y" back to the bottom take-away section of the dust collector, where the connection should be made with a 2-3 foot section of flex hose.

INSTALLATION

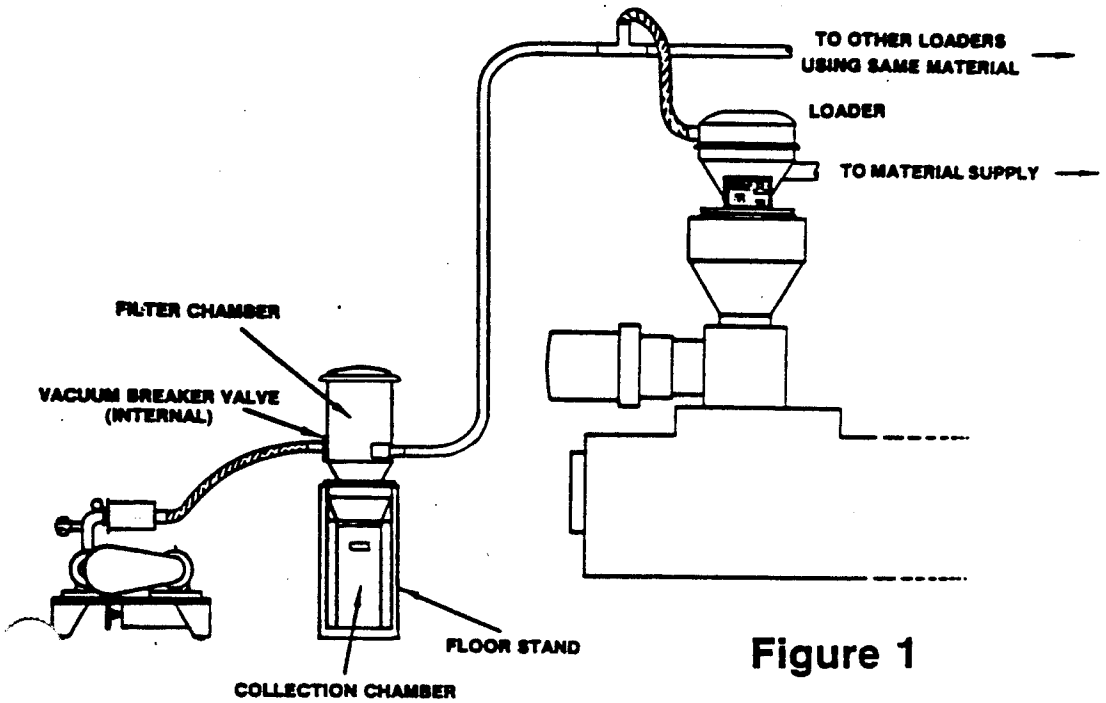

Figure 1

NOTE: Vacuum Pump shown above is 180° out of position.

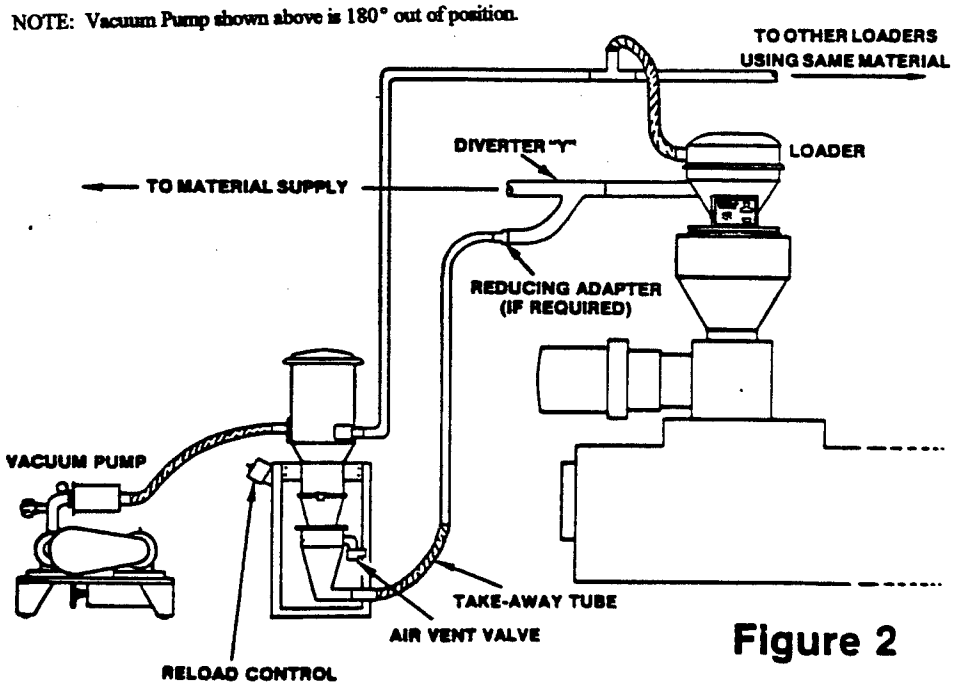

Figure 2

SECTION

2

INSTALLATION

COMPRESSED AIR CONNECTIONS

Connect a compressed air line (80 - 100 psi) to the inlet of the solenoid valve which is located on the mounting plate of the filter chamber. An air line is connected from the solenoid to the vacuum breaker valve within the filter chamber. If the automatic unload/reload section is used, a line will also be run to the solenoid valve mounted on the outside of the reload control. Compressed air must be filtered free of moisture. Automatic unload/reload units come equipped with compressed air filters. NOTE: Do not connect compressed air to the 3/4" solenoid air vent valve located on the bottom section of the automatic unload/reload dust collector.

ELECTRICAL CONNECTIONS

Proper operation of the dust collector depends upon its internal vacuum valve opening whenever the vacuum pump is energized. Electrical connection is provided by the three conductor cable connected to the dust collector. This cable should be connected to the vacuum pump control enclosure to provide simultaneous operation of the dust collector with the pump. On Selectronic 4 systems, connection can be made at the terminal strip in the pump control, terminals number 2, 7, and ground, corresponding to cable colors white, black, and green respectively. On manual dump dust collectors, the electrical cable comes from the solenoid valve junction box on the filter chamber frame. On automatic unload/reload collectors, the cable is attached to the reload control enclosure, which distributes power to the various solenoids for the auto reload function of the dust collector. NOTE: When installing the collector on systems other than Conair Selectronic 4, 100 volt power should be supplied to the collector simultaneous to to pump "ON"; preferrably from the 100 volt control voltage for the pump motor starter.

OPERATION

MANUAL UNLOAD TYPE

The internal 3-way vacuum valve is energized simultaneously with the vacuum pump. This allows a vacuum to be drawn through the collector, tubing , and loader, starting the conveying cycle. During the conveying cycle, dust laden air enters the filtering section of the dust collector, where the dust enters the filtering section of the dust collector, where the dust is separated from the air stream tangentially. This dust is deposited in the manual dump container below the filter chamber.

NOTE: **IT IS EXTREMELY IMPORTANT THAT THIS BOTTOM CONTAINER IS EMPTIED PERIODICALLY AND THAT IT NOT BE ALLOWED TO OVERFILL, WITH DUST BACKING UP INTO THE TOP FILTER SECTION. IF THIS HAPPENS, INEFFECTIVE SEPARATION AND PREMATURE CLOGGING WILL OCCUR.**

At the end of the load cycle, the 3-way vacuum valve is de-energized closing off the vacuum line and venting to atmosphere. This causes a reverse flow of atmospheric air to rush through the cartridge filter. Fines and dust trapped during the conveying cycle are blown off the cartridge filter before the next conveying cycle.

AUTOMATIC UNLOAD/RELOAD TYPE

This consists of two conical sections clamped to the collector in place of the manual dump container. The upper chamber is a small conical receiver containing an air operated conic valve at its base. The lower chamber contains a take-away and air vent valve. The 3-way vacuum breaker valve operation is the same as described for manual collectors (above).

SECTION

3

OPERATION

At the beginning of the load cycle, the timer, located in the dust collector control box is energized, opening the air vent valve. This timer should be set for 5 - 10 seconds. During this time, dust, deposited in the lower chamber from the previous cycle, is conveyed back to the loader through the diverter "Y" (See Figure 2). At the end of 5 - 10 seconds the air vent valve closes, diverting 100% vacuum to the main material flow. During the rest of the vacuum load cycle, dust is being deposited in the upper section. At the end of the load cycle, this dust is dumped through the conic valve into the take-away section. When the vacuum pump is energized the conic valve closes and the solenoid air vent opens and the load cycle is repeated.

NOTE: When an auto unload/reload type dust collector is installed in a multiple loader conveying system, it is very important for the loader receiving the carryover dust from the dust collector will accumulate to the point of clogging the filter chamber. To prevent this, the bottom auto unload/reload chambers should be replaced with a manual dump container to collect the separated dust. The manual dump containers will require periodic emptying.

MAINTENANCE

FILTER CHAMBER

Located in the filter chamber is a dry cartridge type filter. Regular filter servicing is required. Time between servicing depends on the pound/hour capacity of the loading system and the type of material used. Some indications of when to clean or change filter are an increase in the normal conveying vacuum, surging or line blockage or a significant increase in load time (by 20 seconds or more).

Servicing should include a check of the rubber gaskets, all vacuum connections and cleaning the filter element:

1. Clean, compressed air can be directed to the filter, blowing between the paper folds to remove dust and accumulated fines. Then, use a vacuum cleaner to remove loosened dust.

2. CAUTION: Do not use heavy blasts of air because the paper can be fractured.

3. Inspect the paper element for damage, holes, etc... before re-installing. For replacement filters - See Spare parts list.

COLLECTING SECTION

Manual Dump - It is extremely important that this container does not overfill, as dust will back up into the separating section and clog the cartridge filter. Daily emptying, or as required, will prevent this. Make sure the seal is in place when re-installing container.

Automatic Unload/Reload - Since this unit is designed to unload dust from the collector automatically with each loader cycle, it is only important to check these two chambers periodically for residue build-up that might block off the conic valve discharge area or take-away tube. Take apart and clean with compressed air or vacuum cleaner. When re-assembling, check that gaskets and seals are in place.

SECTION

5

TROUBLESHOOTING

DIFFICULTY	PROBABLE CAUSE	CORRECTIVE ACTION
Sluggish conveying, excessive load time, higher than normal conveying vacuums.	Clogged Filter	Clean filter (replace if necessary)
Excessive load time, low vacuum.	Vacuum leak in material, vacuum, or dust return lines	Seal O'ring couplings, check hose clamps.
	3-Way vacuum valve leaking.	Increase air pressure 80 - 100 psi, clear obstructions.
Excessive filter clogging.	3-Way vacuum valve inoperative or ineffective	Check air pressure; is solenoid valve being energized? Are conveying vacuums in the 10 - 12" Hg. range?
	Excessive dust carryover from loader.	See troubleshooting guide loader instructions.
Clogged separating section.	Build-up of dust in collector container.	Empty container and clean filter.
	Build-up of dust in automatic take-away section.	Dis-assemble both bottom sections and clean.
Build-up of dust in bottom two sections of automatic unload/reload type collector.	Vent air solenoid failure.	Check for 110 V. signal, check diaphragm for dirt -- clean and reassemble valve.
	Timer failure	Check electrical circuit, increase unload time.

We're Here to Help

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

How to Contact Customer Service

To contact Customer Service personnel, call:

From outside the United States, call: 814-437-6861

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department. Standard rates include an on-site hourly rate, with a one-day minimum plus expenses.

Before You Call ...

If you do have a problem, please complete the following checklist before calling Conair:

- ❒ Make sure you have all model, serial and parts list numbers for your particular equipment. Service personnel will need this information to assist you.
- ❒ Make sure power is supplied to the equipment.
- ❒ Make sure that all connectors and wires within and between loading control and related components have been installed correctly.
- ❒ Check the troubleshooting guide of this manual for a solution.
- ❒ Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- ❒ Check that the equipment has been operated as described in this manual.
- ❒ Check accompanying schematic drawings for information on special considerations.

Additional manuals and prints for your Conair equipment may be ordered through the Customer Service or Parts Departments for a nominal fee.

EQUIPMENT GUARANTEE

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

PERFORMANCE WARRANTY

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

WARRANTY LIMITATIONS

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.