

**CDF MODULAR DUST COLLECTOR
OM 23478**

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 **WARNING**

Do not use this equipment until you have READ this MANUAL and YOU UNDERSTAND its contents. *

These WARNINGS are included for the health and safety of the operator and those in the immediate vicinity.

***If you are using a Clemco Distributor Maintenance and Parts Guide, refer to the orange warnings insert preceding the Index before continuing with the enclosed instructions.**

Electronic files include a Preface containing the same important information as the orange cover.

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INDUSTRIAL
Blast Facilities
by Clemco Industries Corp.

1.0 INTRODUCTION

1.1 Scope of Manual

1.1.1 This manual covers the assembly, installation, operation and maintenance of Clemco CDF Modular, Reverse Pulse Dust Collectors. Some equipment may vary slightly due to size and configuration. Drawings supplied with this manual apply to the specific dust collector provided. Use the drawings with the manual, to assemble the collector, and order replacement parts. The dust collector is one part of a blast system. This manual is to be used in conjunction with all other manuals provided with the equipment.

1.2 Safety Alerts

1.2.1 Clemco uses safety alert signal words, based on ANSI Z535.4-2011, to alert the user of a potentially hazardous situation that may be encountered while operating this equipment. ANSI's definitions of the signal words are as follows:



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

NOTICE

Notice indicates information that is considered important, but not hazard-related, if not avoided, could result in property damage.

CAUTION

Caution indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

WARNING

Warning indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ DANGER

Danger indicates a hazardous situation that, if not avoided, will result in death or serious injury.

1.3 Table of Contents

Introduction 1.0
 Scope of Manual 1.1
 Safety Alerts 1.2
 General Description 1.4
 Theory of Operation 1.5

Assembly and Installation 2.0
 Footing (Foundation 2.1
 Individual Module Assembly 2.2
 Connecting Modules Together 2.3
 Anchors 2.4
 Exhauster Assembly 2.5
 Ducting 2.6
 Electrical Connections 2.7
 External Grounding to Earth Ground 2.8
 Compressed Air Connections 2.9
 Install Filter Cartridges 2.10
 Dust Containers 2.11

Operation 3.0
 Access Doors 3.1
 Initial Start-up 3.2
 Operational Start-up 3.3
 Shutdown 3.4

Adjustments 4.0
 Pulse Pressure 4.1
 Pulse-Sequence Control Panel and Timer 4.2
 Exhauster Damper Setting, Recovery Application ... 4.3
 Exhauster Damper Setting, Room Ventilation 4.4

Preventive Maintenance 5.0
 Daily Maintenance 5.1
 Weekly Maintenance 5.2

Service Maintenance 6.0
 Replacing Filter Cartridge 6.1
 Season Filter Cartridge 6.2

Troubleshooting 7.0
 Collector not pulsing 7.1
 Some cartridges not pulsing 7.2
 Pulse is steady stream of air instead of quick pulse .. 7.3
 Exhauster not running 7.4
 Excessive differential pressure 7.5
 No reading on differential pressure gauge 7.6
 Dust emitting from exhauster 7.7

Accessories and Replacement Parts 8.0
 Conditioner Cartridge Pre-treat 8.1
 Differential Pressure Indication Panel 8.2
 Common Replacement Parts 8.3

1.4 General Description

1.4.1 CDF Dust Collector modules come in three body sizes, CDF-4, CDF-6 & CDF-8. The design of the modules are the same for each body size. Using the CDF-4 as the base-line, two racks (4 cartridges) are added to the top to make a CDF-6 module, which increases the body height accordingly; four cartridge racks are added on CDF-8 modules.

1.4.2 Each rack contains two cartridges. Each cartridge has 252 ft² of filter media and is nominally rated at 500 cfm, rating each rack at 500 ft² and 1000 cfm.

CDF-4: Each module comes with four cartridge racks for a total of eight cartridges. Each module is nominally rated at 4000 cfm.

CDF-6: Each module comes with six cartridge racks, for a total of twelve cartridges. Each module is nominally rated at 6000 cfm.

CDF-8: Each module comes with eight cartridge racks, for a total of sixteen cartridges. Each module is nominally rated at 8000 cfm.

1.4.3 All illustrations used in this manual show CDF-8 modules. Except where noted, assembly and operation are the same regardless of the body size. A typical general arrangement is shown in Figure 1.

1.5 Theory of Operation

1.5.1 The exhauster draws dust-laden air through the ducting from the ventilated area, and through the filter cartridges. As the air passes through the cartridges, dust accumulates on the outer surfaces. Cleaned air flows through the center of the cartridges, through the plenum, exhaust ducting, and out the exhauster. The accumulated dust is periodically released from the cartridges by a pulse of compressed air.

1.5.2 CDF Dust Collectors utilize reverse-pulse jet cartridge filters. Compressed air used for the pulse cleaning is released from the pulse manifold by quick-release diaphragm pulse valves. At regular timed intervals, the sequence timer sends a signal to one of the solenoid valves, releasing a pulse of air, which in turn opens the respective diaphragm valve. The momentary opening of the valve releases a burst of compressed air from the manifold to the clean-air side of the filter cartridges, thus reversing the air flow to remove accumulated dust.

1.5.3 Each solenoid and diaphragm valve is opened in sequence until all cartridges have been cleaned once, and then the cycle is repeated. If the switch on the

sequence panel is kept in the ON position; the sequence control panel energizes when the exhauster is turned ON, and stops when the exhauster is turned OFF.

1.5.4 The timers that control the ON and OFF time of the air pulse are located in the sequence control panel. The ON time should never be adjusted. The OFF time controls the length of time between each pulse. The shorter the OFF time, the more frequent the pulse cycles.

1.5.5 The differential-pressure gauge shows the pressure difference between the dirty and clean side of the filters. The gauge helps determine the proper setting for the timer OFF time. Refer to Section 4.2.

2.0 ASSEMBLY AND INSTALLATION

WARNING

Weight and bulk of the components require that erection and placement of the collector modules be performed by personnel experienced with handling structural steel, and able to safely operate material handling equipment needed to assemble the collector. Failure to recognize and avoid hazards associated with handling structural steel could result in death or serious injury.

NOTICE

All seams assembled on the job site must be sealed to weather-tight condition. Use mastic tape, caulking, or gaskets on all seams, as shown on the assembly drawings.

2.1 Footing (Foundation)

2.1.1 The modules must be installed on sound footing.

WARNING

Footings must be designed by a qualified engineer. Inadequate footing could result in hazardous shifting of the collector and ducting, which could result in death or serious injury.

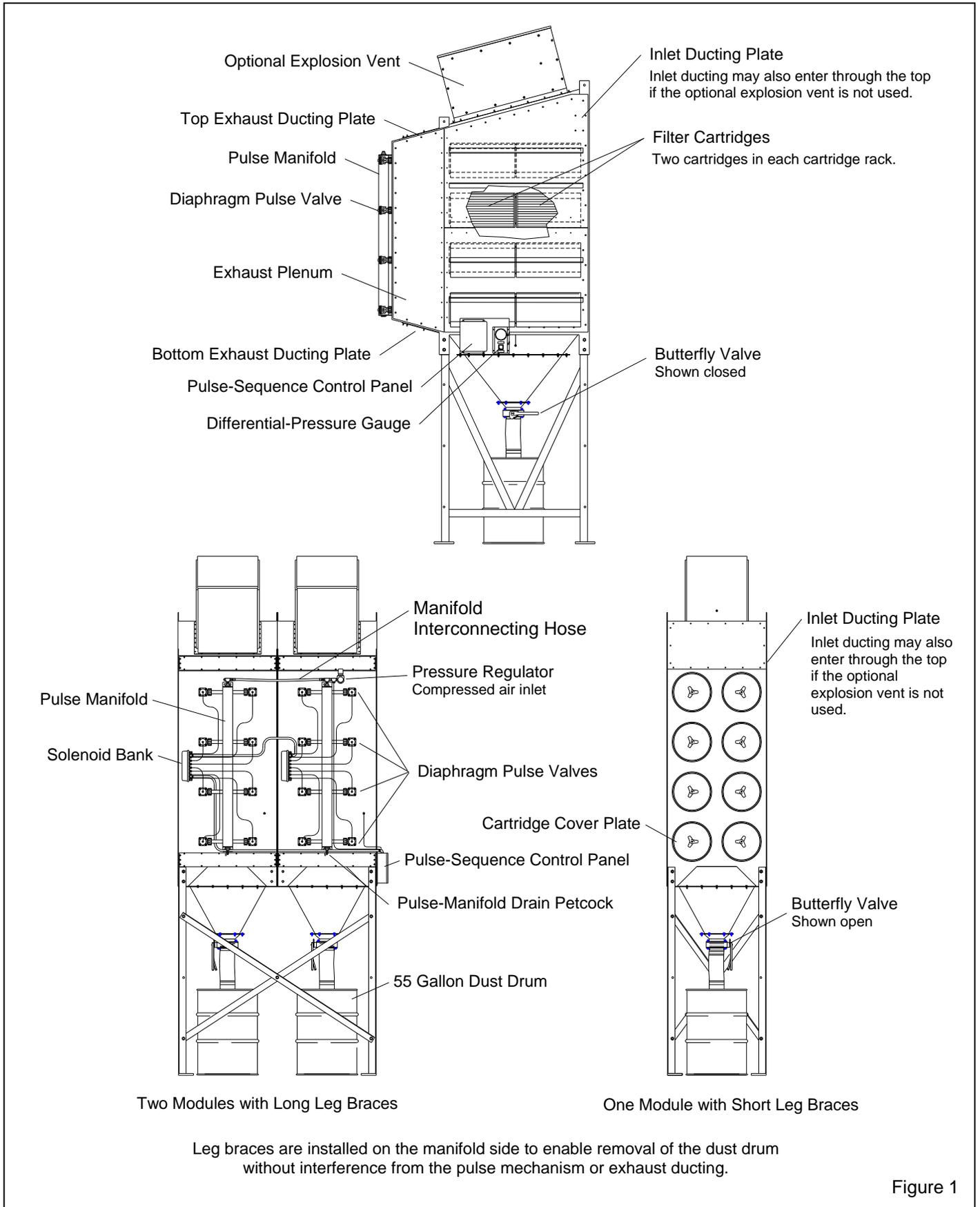


Figure 1

2.2 Individual Module Assembly

2.2.1 The modules require field erection of the structural legs and brace assembly, assembly of the hopper and body, plus accessories such as ladder, handrail, exhauster and ducting, and explosion vents.

2.2.2 Erect the collector modules as shown in the assembly drawings provided. Pay special attention to the orientation of the inlet and outlet duct openings, access doors, ladder, handrail, and exhauster location. The module with the pressure regulator on the pulse manifold is an end module; refer to the assembly drawing for its positioning. If the collector is part of a blast room or automated cabinet, use the general arrangement drawings for the placement of the components.

2.3 Connecting Modules Together

2.3.1 All fasteners to bolt modules together are accessible from the outside except for the bolts on the inside of the exhaust plenum (between the plenum and cartridge chamber).

2.3.2 Check the assembly drawings for the sealing material (mastic, weather-strip gasket, caulking, etc.), and make sure the correct sealing material is in place before bolting the modules together.

2.3.3 Connect side panels to the end modules using the seal and fasteners shown on the assembly drawings.

2.4 Anchors

WARNING

All anchors must be calculated and specified by a qualified engineer. Inadequate anchoring to the footing could result in hazardous shifting of the collector and ducting, which could result in death or serious injury.

2.4.1 Recheck orientation of the dust collector, blast room and recovery equipment, or other equipment the collector is ventilating. When satisfied that all are correctly positioned, anchor modules to the floor with anchors specified by a qualified engineer. **NOTE: If there is any doubt about the final positioning of the dust collector, do not remove the lifting equipment until the collector is fully assembled, connected to the mating equipment, and ready to be anchored.**

2.4.2 After the collector is firmly anchored, remove the lifting rigging.

2.5 Exhauster Assembly

NOTE: The exhauster is usually floor mounted, and requires ducting from the collector, and an exhaust stack with a damper adjustable from 0-80% closed. Some small, single module collectors may have the exhauster mounted on the collector body, and do not require additional ducting.

2.5.1 Anchor the exhauster into position. **NOTE:** Positioning of the exhauster must coincide with the placement of the outlet ducting. Use a temporary anchor until the ducting is in place.

2.5.2 Attach exhaust stack and damper assembly to the exhauster outlet.

2.6 Ducting

2.6.1 Clemco Industries Corp. does not usually supply inlet or exhaust ducting, but does provide a general arrangement drawing for suggested ducting. The top or bottom exhaust ducting plate, and inlet ducting plate may serve as a mounting flange, by cutting an opening and welding the ducting to the plate.

2.6.2 All ductwork must be designed and installed by qualified licensed contractors familiar with industrial ventilation practices, and must conform to applicable codes. Where state or local codes conflict with one another or with specifications by Clemco Industries Corp., the more stringent regulation shall be followed.

NOTICE

All ducts, joints, and connections must be tight. Any leaks will affect the overall performance of the system.

NOTICE

Ducting must be supported sufficiently to place no load on connecting equipment.

2.6.3 Exhaust Ducting. Figure 2

NOTICE

The joint between the duct and exhauster housing must be flexible, such as canvas or rubber with band clamps. The ducting must be self-supporting. NO LOAD IS TO BE APPLIED TO THE EXHAUSTER BY THE DUCTING.

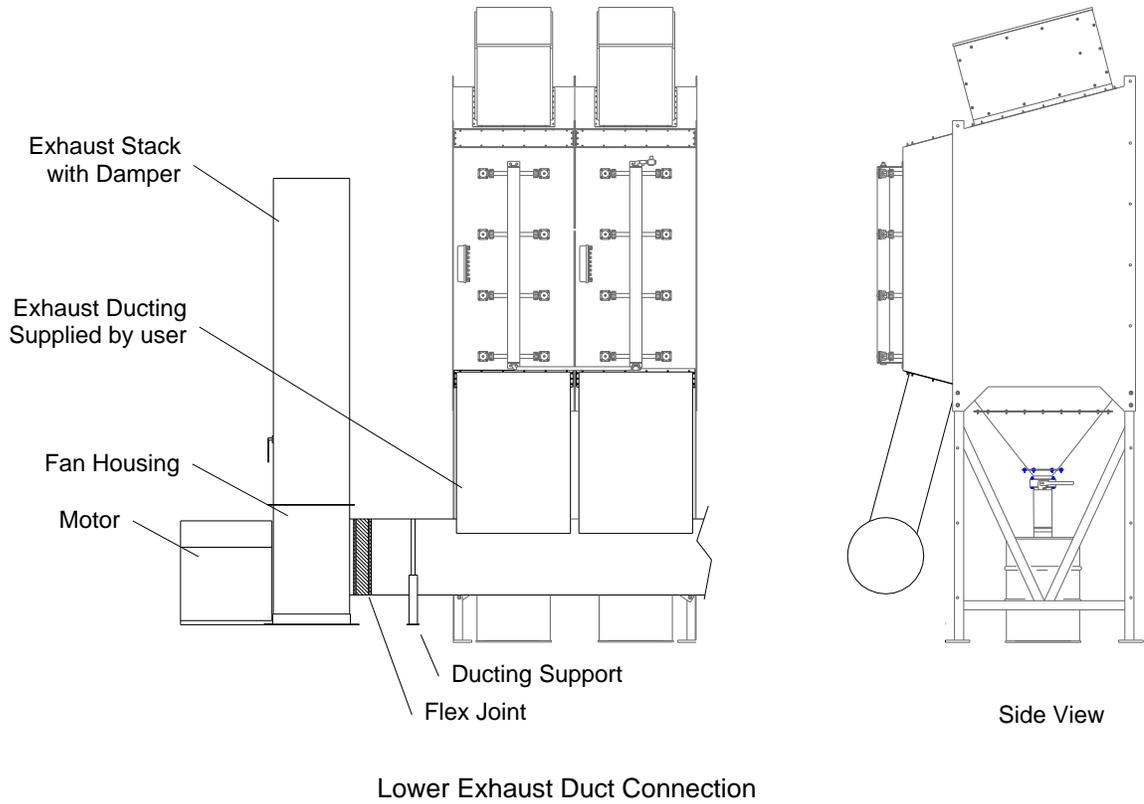
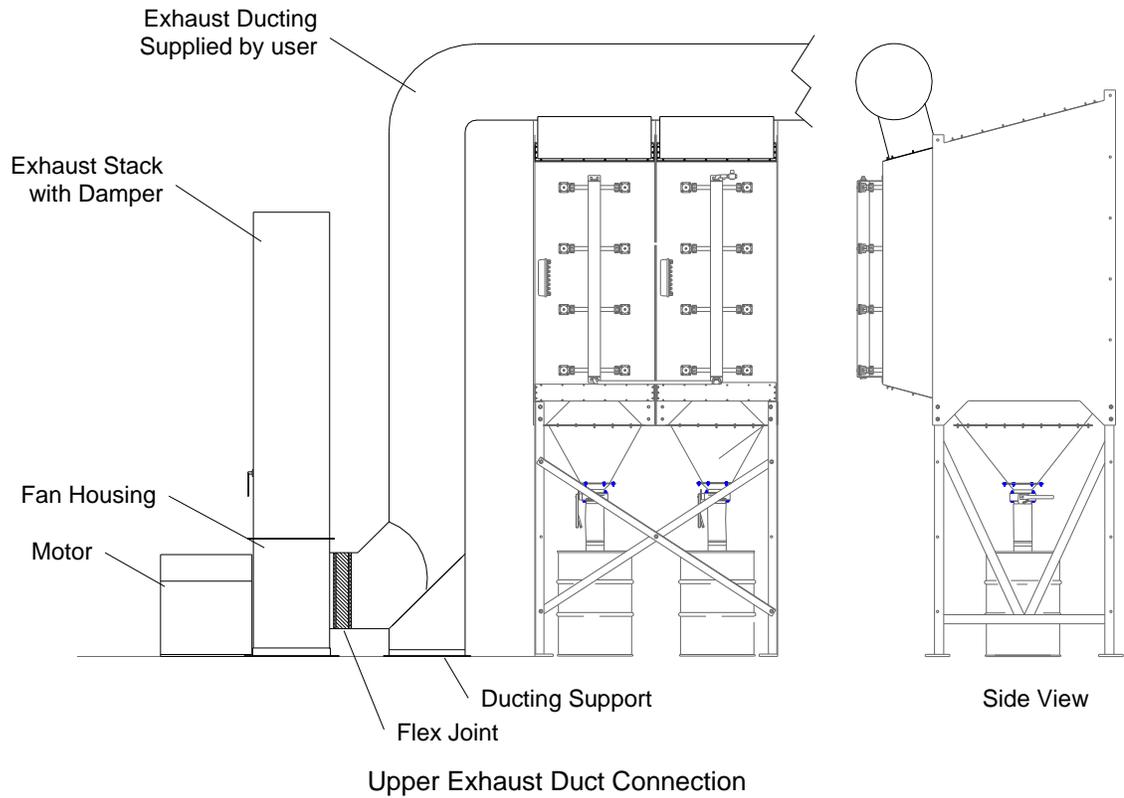


Figure 2

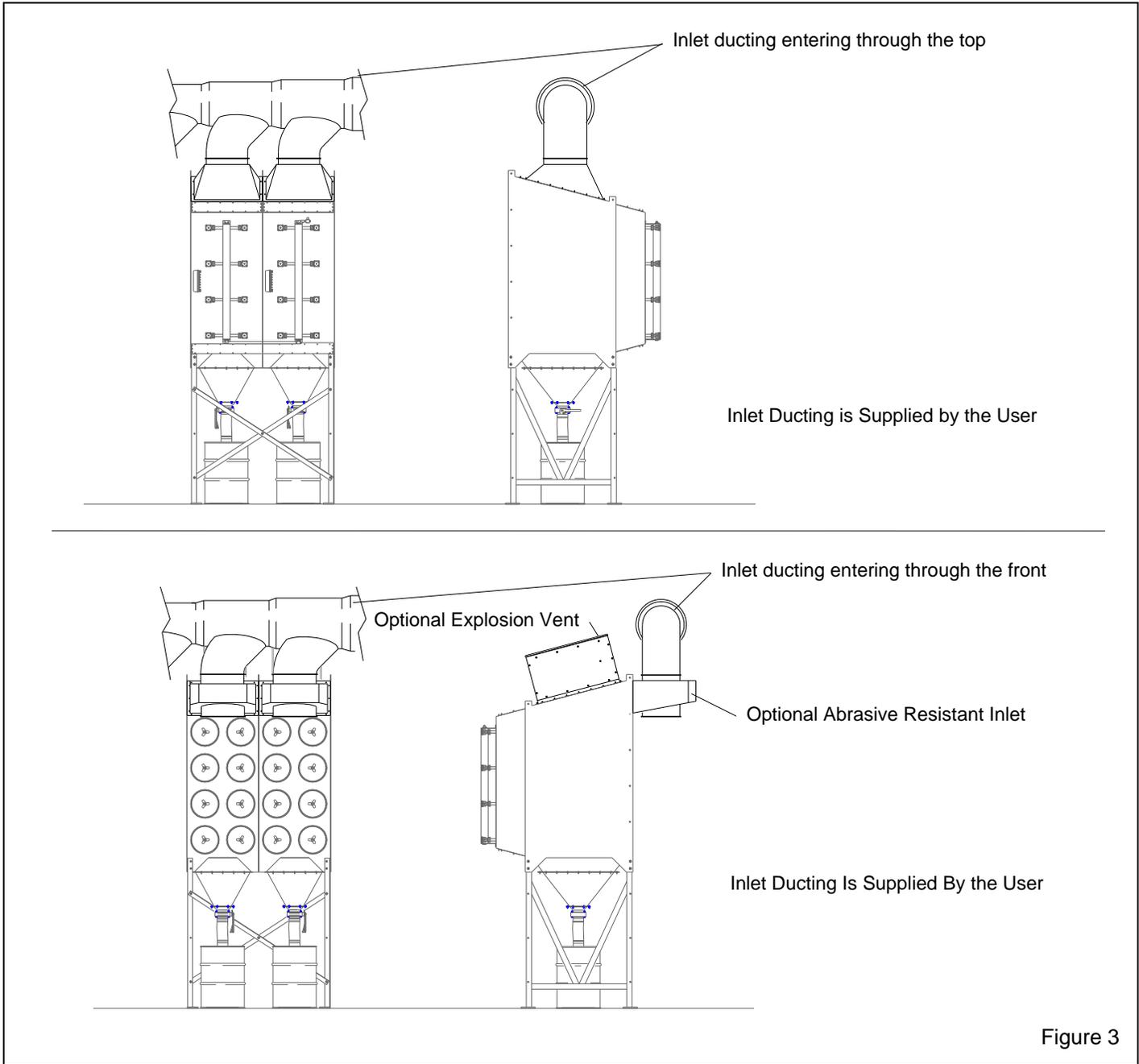


Figure 3

2.6.3.1 The illustrations in Figure 2 show typical exhaust ducting and exhauster arrangements. The illustrations are for reference only, and are not to be used to fabricate ducting.

2.6.4 Inlet Ducting

2.6.4.1 The illustrations in Figure 3 show typical inlet ducting. The illustrations are for reference only, and are not to be used to fabricate ducting.

2.7 Electrical Connections

⚠ WARNING

Shorting electrical components could result in death, serious electrical shocks, or equipment damage. All electrical work, or any work done inside an electrical panel, must be performed by qualified electricians, and comply with applicable codes.

NOTE: Wiring schematics for the pulse-sequence panel, exhauster motor, control panel and other electrical accessories are included when accessories are furnished by Clemco Industries Corp. Refer to the Project Table of Contents for locations of the electrical wiring schematics.

2.7.1 The dust collector should be controlled by a separate switch to enable its operation before and after all other components in the system. Wire all other components to start in series to prevent overloading any component. The last segment in the system that the abrasive reaches should start first and stop last. A complete blast and recovery facility will have the dust collector start first, followed by the abrasive cleaner, bucket elevator, and floor recovery. Shutdown will be in reverse order.

2.7.2 Electrical connections are required for the exhauster motor and pulse-sequence control panel. Unless the collector is operated in conjunction with a Clemco-provided system control panel, a customer-supplied starter is also required. When the exhaust fan is connected, make sure it rotates in the direction of the scroll.

2.7.3 Sequence panel wiring must enter through the bottom of the panel to avoid potential leakage.

2.8 External Grounding to Earth Ground

2.8.1 To dissipate static electricity, attach an external grounded wire from an earth ground to the grounding lug located next to the sequence panel.

2.9 Compressed Air Connections

NOTICE

The air source for the filter pulse must be 35 to 50 degrees Fahrenheit dew point and be free of any oil contaminants. If line air does not meet this requirement, an optional air dryer is recommended. Moisture or oil contaminants in the pulse system will decrease cartridge life and filtering efficiency.

2.9.1 CDF-16 and larger dust collectors require an Interconnecting hose, to supply compressed air between pulse manifolds. Attach interconnecting hose(s) between each pulse manifold as shown in Figure 4.

2.9.2 A compressed-air line must be supplied to the pressure regulator located on the pulse-manifold inlet. The size of the line depends on the number of modules. The compressor and piping supplying air to the pulse manifold must be large enough to provide at least 3 cfm per cartridge. Purge the air-supply line to remove moisture or other foreign material before connecting it to the pulse manifold.

2.9.3 The air line should not be smaller in diameter than the manifold inlet at the regulator. Note that the connections shown in Figure 4 are typical; the actual connections should suit the application. Install unions as needed to enable removal of items for service or replacement. NOTE: The regulator is located on the pulse-manifold to safeguard against an unintentional change of the pressure setting. If there is no chance of unauthorized pressure changes, the regulator may be relocated to a more accessible location.

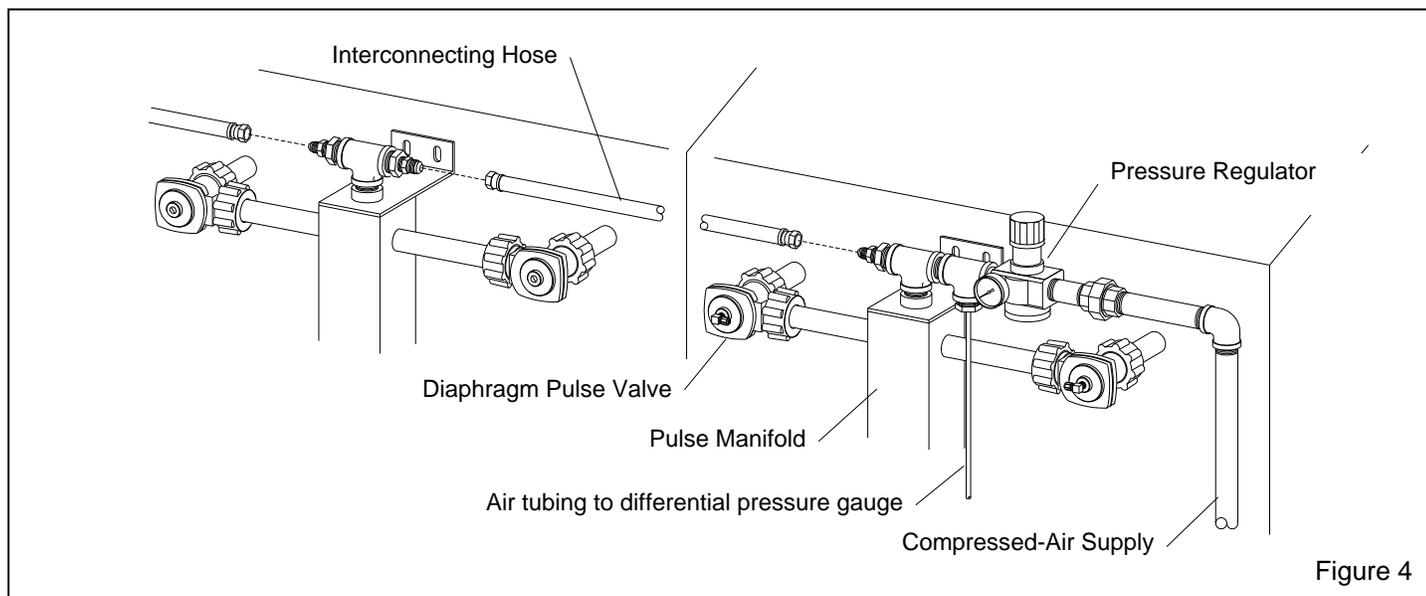
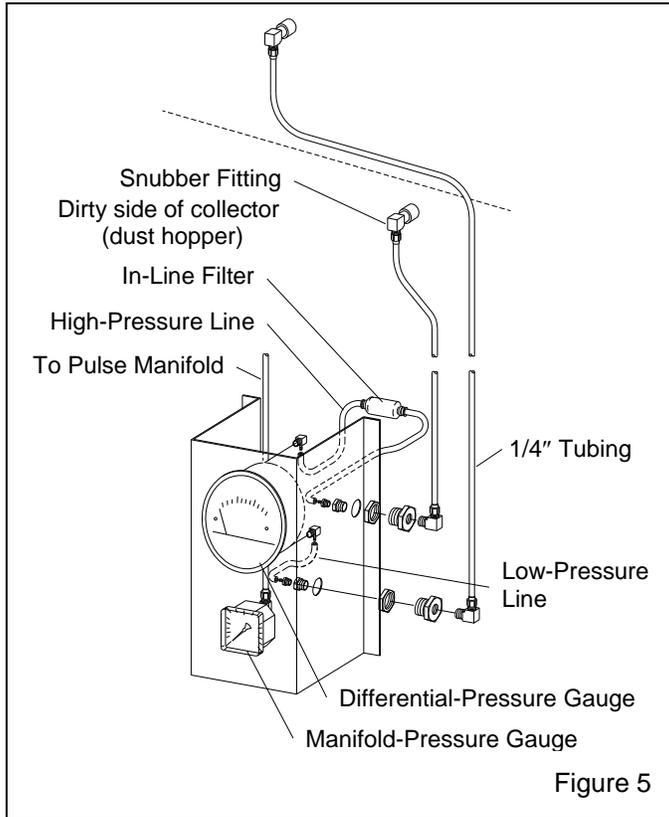


Figure 4

2.9.4 Make sure tubing is connected between the snubber fittings and differential-pressure indication-panel as shown in Figure 5.



2.10 Install Filter Cartridges, Refer to Figure 6

NOTICE

Use extreme care when handling the cartridges. Minor dents could cause the cartridge to leak.

2.10.1 Slide two cartridges (gasket end first) over the support guide.

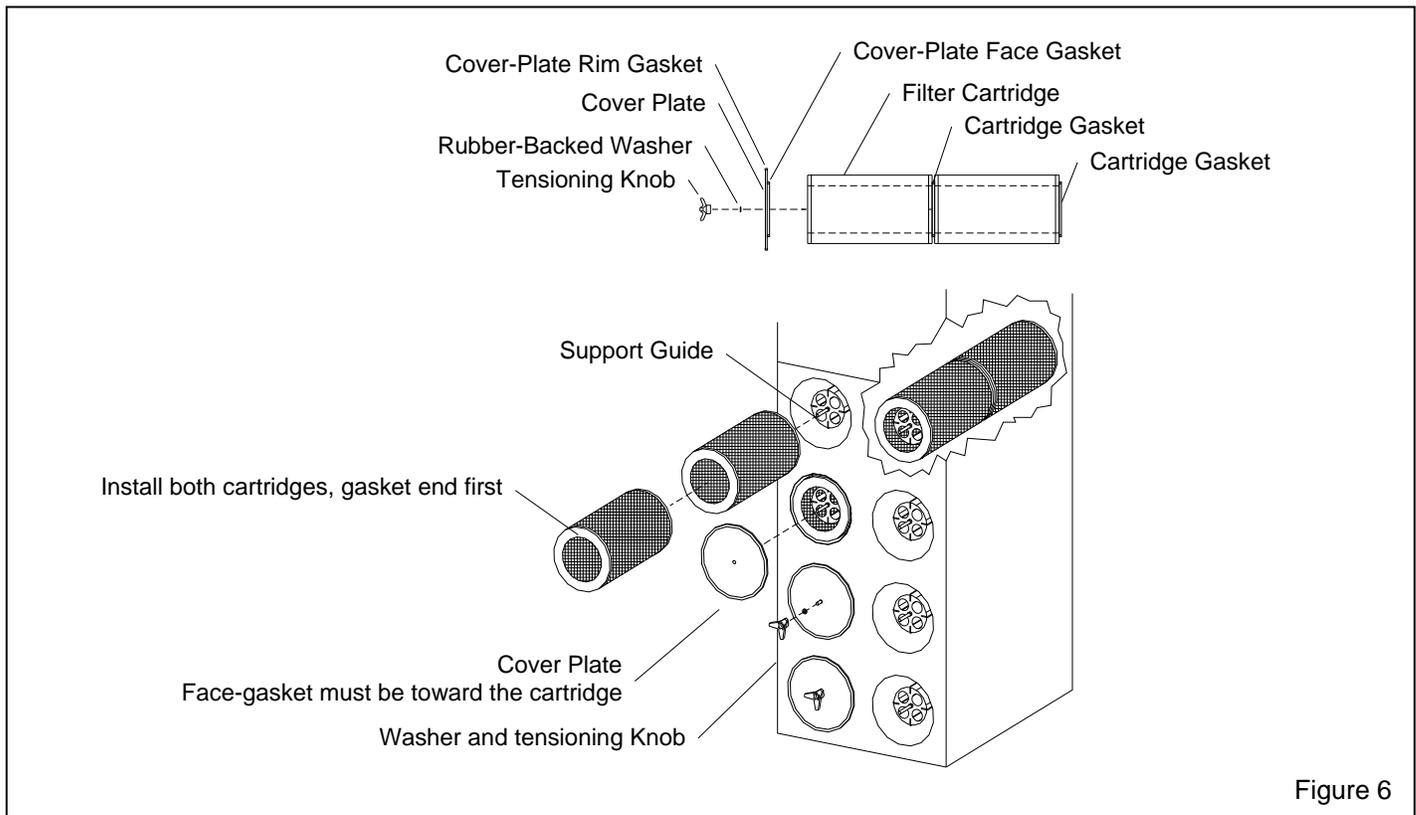
2.10.2 Place the cover plate (make sure the rim gasket is in place and the cartridge gasket is toward the inside) over the support rod.

2.10.3 Place the rubber-backed washer (rubber facing the cover plate) over the support rod.

2.10.4 Tighten the tensioning knob securely.

2.11 Dust Containers, Refer to Figure 7

2.11.1 Place a dust drum under each hopper and securely attach a lid to the drums. NOTE: Place the drums on a pallet if their removal will be with a forklift.



2.11.2 Attach a flex hose between the dust drum lid and pipe at the bottom of the butterfly dump-out valve. Secure with clamps.

NOTICE

All flex hose connections made at the bottom of the hopper and the lid must be airtight.

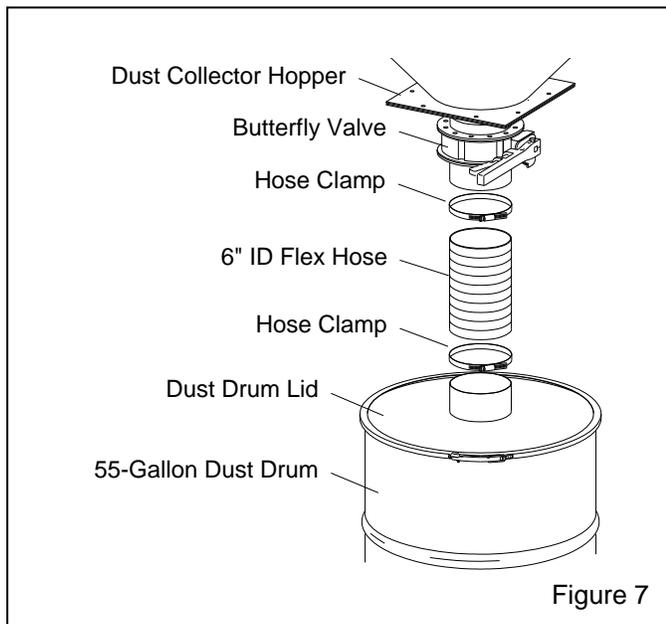


Figure 7

3.0 OPERATION

⚠ WARNING

All persons operating this equipment must be made aware of the hazards of abrasive blasting, and the handling of toxic materials, including lead and silica dust. Toxicity and health risk vary with the type of media and dust generated by blasting. Identify all material being removed by blasting, and obtain a Safety Data Sheet (SDS) for the blast media.

3.1 The dust collector access doors and cover plates must be closed, and the dump-out valves open, when the dust collector is in operation.

3.2 Initial Start-up

⚠ WARNING

Do not look into the exhauster outlet while the fan is turning. Injury to the eye or face could result from objects being ejected from the exhauster.

3.2.1 Check motor rotation by jogging the starter (momentarily turn switch ON and OFF). Doing so will cause the motor to rotate slowly. Look through the slots in the fan housing on the end of the motor where rotation of the fan can easily be observed. Proper rotation is indicated by the arrow on the exhauster housing. The fan should rotate toward the scroll.

NOTICE

Do not pulse new dust collectors or replacement cartridges until the cartridges are seasoned per Section 6.2. Pulsing unseasoned cartridges could cause premature cartridge failure or decrease the efficiency of dust collector.

3.2.2 With the sequence switch OFF, pressurize the pulse manifold to 100 psi and check pneumatic connections for leaks.

3.2.3 Turn pulse pressure to 20 psi and switch the pulse sequence ON. Check the air pulse and sequence of the diaphragm pulse valves, solenoids, and panel timer. After all items are checked, turn the sequence switch OFF. **Do not turn the sequence switch ON until the cartridges are seasoned per Section 6.2.**

3.3 Operational Start-Up

3.3.1 Make sure access doors are closed, and slide gates or dump-out valves are open.

3.3.2 Start the exhauster at the control panel.

3.3.3 Pressurize the pulse manifold and check the manifold pressure.

3.3.4 Check the differential-pressure gauge; if differential pressure is greater than 3" water column (W.C.), turn the sequence switch ON. Leave the switch OFF if the differential pressure is less than 2" above the initial reading. **NOTE: Optimal filtering efficiency is obtained with differential pressure between 3" and 5". Adjust pulse pressure (per Section 4.1) and pulse off time (per Section 4.2) as need to maintain 3" and 5" differential pressure.**

NOTICE

Do not turn the sequence switch ON until the cartridges are seasoned per Section 6.2.

3.4 Shutdown

3.4.1 Allow the system to run until all system components are empty (refer to the accessory component operation manuals) and all areas ventilated are free of airborne dust.

3.4.2 Turn OFF the exhauster.

3.4.3 Shut OFF the air supply to the pulse manifold.

3.4.4 Drain pulse manifolds. The drain cock is mounted at the bottom of each manifold. Refer to Figure 1. Drain whenever the air supply is turned OFF.

3.4.5 Close the dust-hopper dump-valves, and empty all dust receptacles.

4.0 ADJUSTMENTS

4.1 Pulse Pressure

4.1.1 The pulse pressure regulator is located on the manifold inlet. Start the pulse cycle with the pressure at 70 psi. An additional manifold pressure gauge is mounted on the differential-pressure panel to enable monitoring pressure from ground level. The panel is usually mounted on the back, right side of the collector. Refer to Figure 1 and Figure 5.

4.2 Pulse-Sequence Control Panel and Timer

4.2.1 The toggle switch mounted on the sequence control-panel cover enables or disables the pulse sequencing. If the switch is ON, the pulse sequence will

automatically start whenever the dust collector exhauster is started. If the switch is OFF, the pulse sequence will not occur. The switch should be left OFF (no pulse) until the cartridges are seasoned per Section 6.2.

4.2.2 The timer is factory set at 40 seconds OFF and approximately 15/100 of a second ON. Every 40 seconds, one filter rack is pulsed in sequence until all filters have gone through a cycle.

4.2.3 As the filters cake with dust, the pulse may not clean them well enough to bring the differential pressure within the optimal range of 3" to 5". A pressure reading higher than 5" is an indication that more frequent pulse is needed. When the differential-pressure gauge shows a constant pressure difference greater than 5", adjust the OFF time setting to 20 seconds. **DO NOT ADJUST ON TIME.** Increasing ON time will consume more air, but will NOT increase cleaning efficiency.

4.2.4 When the frequency of the pulse cycles will not lower the differential pressure to less than 5" or if a decrease in the efficiency is noted, increase pulse pressure by 10 psi and reset the OFF time to 40 seconds. Continue to alternate OFF time and pressure (each time pressure is increased reset OFF time to 40 seconds) by 10-psi increments until the maximum of 100 psi and 20 second OFF time is reached.

4.2.5 When the frequency of the pulse cycles and higher pulse pressure will not lower the differential pressure below 5.5, or when cfm drops enough to decrease ventilation, the filter cartridges should be replaced. Reset the timer OFF time to 40 seconds, and set pulse pressure to 70 psi. Refer to Section 6.1.

4.3 Exhauster Damper Setting, Recovery Applications

4.3.1 Refer to the reclaimer manual for damper settings when the dust collector is used for recovery. **NOTE:** When the collector is used for recovery and ventilation, there is a separate damper for the reclaimer.

4.4 Exhauster Damper Setting, Room Ventilation

4.4.1 Set the exhaust damper to match the ventilation requirements (feet per minute) for which the blast enclosure is designed. This information is on the General Arrangement Drawing for Clemco supplied blast rooms.

5.0 PREVENTIVE MAINTENANCE

WARNING

Prior to doing any maintenance or opening the dust collector, the employer must meet OSHA standards required but not limited to 29CFR 1910 for

- Appropriate Respirator
- Protective Clothing
- Toxic and Hazardous Substances
- Fall Protection

Toxicity and health risk vary with type of dust generated by blasting. Identify all material that is being removed by blasting, and obtain a Safety Data Sheet (SDS) for the blast media. Waste dust in the collector can cause serious injury or death through inhalation, absorption, or consumption. The employer shall meet all OSHA requirements including those for: confined space, combustible dust, fall protection, and hazard communication.

WARNING

Make sure the following conditions are met before performing any maintenance on the collector.

- Turn OFF compressed air supply and drain air from pulse manifolds.
- Lockout and tagout electrical power.

Failure to observe the above warnings can result in serious injury from the sudden release of trapped compressed air.

5.1 Daily Maintenance

5.1.1 Empty dust drums.

NOTE: Check dust drum(s) daily until the dust collection rate is determined. At that time, setup a program to empty the drums **before they are 2/3 full. Dust should never accumulate in the hoppers.**

5.1.1.1 Close the butterfly valve by pulling the release lever toward the handle and turn the handle horizontal. Loosen the clamp ring and remove the drum lid. Remove the drum from under the collector and empty the dust into a suitable container. Replace the lid and make sure the lid clamp ring is secured.

5.1.1.2 Open the butterfly valve by turning the handle to the vertical position.

5.1.2 Check the exhaust air during a pulse cycle.

5.1.2.1 If dust discharges from the exhauster, filters are leaking or damaged. Check immediately. To determine which module is leaking, remove the exhaust ducting plate and check the inside of the air plenum for dust trails. NOTE: A small amount of dust egress is normal for a short period of time when cartridges are new.

5.1.3 Check the differential-pressure gauge at least once daily, and more often under dusty conditions. Turn the sequence switch ON or OFF as necessary to maintain optimal differential pressure (3" to 5"). If the reading is continually high (greater than 5"), adjust pressure per Section 4.1 and/or sequence timing per Section 4.2.

5.2 Weekly Maintenance

5.2.1 Check the inside of the collector for moisture. If moisture is caused by leaks, repair immediately.

5.2.2 Clean the differential-pressure gauge in-line filter located behind the gauge panel. Refer to Figure 5.

6.0 SERVICE MAINTENANCE

WARNING

Prior to doing any maintenance or opening the dust collector, the employer must meet OSHA standards required but not limited to 29CFR 1910 for

- Appropriate Respirator
- Protective Clothing
- Toxic and Hazardous Substances
- Fall Protection

Toxicity and health risk vary with type of dust generated by blasting. Identify all material that is being removed by blasting, and obtain a Safety Data Sheet (SDS) for the blast media. Waste dust in the collector can cause serious injury or death through inhalation, absorption, or consumption. The employer shall meet all OSHA requirements including those for: confined space, combustible dust, fall protection, and hazard communication.

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Make sure the following conditions are met before performing any maintenance on the collector.

- Turn OFF compressed air supply and drain air from pulse manifolds.
- Lockout and tagout electrical power.

Failure to observe the above warnings can result in serious injury from the sudden release of trapped compressed air.

6.1 Replacing Filter Cartridge

NOTE: The recommended changeover pressure is 5.5" W. C. on the differential pressure gauge. Replace cartridges when pulse pressure is at maximum of 100 psi, sequence OFF time is 20 seconds, and pressure remains higher than 5.5".

6.1.1 Lock out and tag out the compressed air supply and electrical power.

6.1.2 Empty the hoppers and dust receptacles.

6.1.3 Remove the knob and rubber-backed washer securing the cover plate. When removing filter cartridges, remove one set at a time. Start at the top and work down.

6.1.4 Rotate the cartridge 180° to remove dust from the top, and remove the cartridges. A small amount of sideward force may be necessary to loosen the seal of the cartridge gaskets. NOTE: Contain dust by sliding a durable plastic bag over the cartridge as it is removed.

6.1.5 When all cartridges are removed, clean the inside of the collector to remove loose dust or hardened dust clods, particularly from the cartridge sealing surface, and the clean-air side (back) of the cartridge sheet.

6.1.6 Inspect the cover-plate-rim seal, and replace if it is hardened or damaged.

6.1.7 Install new cartridges per Section 2.10.

6.1.8 Reset timer OFF time to 40 seconds, and set pulse pressure to 70 psi.

6.1.9 Turn the sequence panel OFF and season cartridges per Section 6.2.

6.2 Seasoning Cartridges

NOTE: Filter cartridges must be seasoned before the initial start-up and each time the cartridges are replaced.

6.2.1 New cartridges must be seasoned before starting the pulse cycle. Cartridges are seasoned by letting a layer of dust (dust cake) develop on the outer surface of the filter media. The dust cake protects the filter cartridge and enhances the filtering efficiency; it is the dust cake that actually does the filtering. Use one of the following methods to season the cartridges.

6.2.2 Seasoning without pre-treat conditioner

6.2.2.1 Operate the dust collector without pulsing (sequence switch turned OFF) until the dust collector differential pressure is 2" above the initial reading, after the exhauster is adjusted to the correct cfm as noted in Section 4.3 or 4.4.

6.2.2.2 After the differential pressure is reached, set the pulse sequence timer per Section 6.2.4 and turn the sequence switch ON to start the pulse.

6.2.3 Seasoning with pre-treat conditioner

6.2.3.1 Before conditioning the filter cartridges, the following conditions must be met:

1. All cartridges must be installed and the cover plates tightly secured.
2. The sequence switch turned OFF to prevent pulsing.
NOTE: Do not turn the sequence switch ON again until the differential-pressure gauge reads 2" above the initial reading, as noted in Paragraph 6.2.3.5.
3. Make a note of the exhauster damper setting, and then set it to 50% open.

6.2.3.2 The recommended treatment is 10 lbs. per 1000 ft² (two cartridge racks {4 cartridges}) of filter material. Conditioner comes 40 lb. sacks. Make sure enough conditioner is on hand to treat the cartridges as follows:

Model	Filter Area	Lb. of Conditioner
CDF-4	2000 sq. ft.	40 lbs. (one 40 lb. sack*)
CDF-6	3000 sq. ft.	40 lbs. (one 40 lb. sack*)
CDF-8	4000 sq. ft.	40 lbs. (one 40 lb. sack)
CDF-12	6000 sq. ft.	80 lbs. (two 40 lb. sack*)
CDF-16	8000 sq. ft.	80 lbs. (two 40 lb. sacks)

Use conditioner proportionately for larger collectors.

* It does not impair cartridge efficiency by adding additional conditioner. Once the container is open, use all the conditioner rather than store an opened container.

6.2.3.3 Start the exhauster and feed the conditioner up stream of the collector into the ventilation system, such as ducting access port, blast room outlet baffle or reclaiming inlet or access door. Feed the conditioner slow enough so it does not fall out of the air stream at the intake point.

NOTICE

Do NOT shut OFF the exhauster for six hours after the treatment or the conditioner may dislodge from the cartridge media.

6.2.3.4 Reset the damper to 100% open if the collector is new or to the original setting if replacing cartridges.

6.2.3.5 Begin operation of the system **but do NOT turn the sequence switch ON until the differential-pressure gauge reads is 2" above the initial reading**, after the exhauster is adjusted to the correct cfm as noted in Section 4.3 or 4.4. After the 2" difference in pressure is reached, turn the sequence switch ON to start the pulse cycle.

6.2.4 Set Pulse Sequence Timer

6.2.4.1 After the differential pressure is reached, set the pulse pressure to 70 psi per Section 4.1, and set the timer OFF time to 40 seconds per Section 4.2.

7.0 TROUBLESHOOTING

⚠ WARNING

Shut down the collector immediately when dust emits from the exhauster. Check to make sure filters are correctly seated and not worn or damaged. Prolonged breathing of abrasive dust and blasting by-product dust could result in serious lung disease or death. Short term ingestion of toxic dust such as lead, poses an immediate danger to health. Identify all materials that are to be removed by blasting, and obtain a Safety Data Sheet (SDS for the blast media.

7.1 Collector not pulsing

7.1.1 Check the manifold-pressure gauge. If pressure is low, check the compressed-air supply; look for a closed supply valve.

7.1.2 Check function of the pressure regulator located on the pulse-manifold inlet.

7.1.3 Make sure the sequence switch located on the panel cover is ON.

7.1.4 Check the fuse in the sequence control panel. Replace as necessary.

7.1.5 Have a qualified electrician check for electrical malfunction; check the supply voltage to pulse sequence board. Check outlet voltage to solenoids.

7.2 Some cartridges not pulsing

7.2.1 Solenoid defective. Have a qualified electrician check supply voltage to solenoids.

7.2.2 Check the diaphragm pulse valves.

7.2.3 Check for blockage in the tubing between the diaphragm pulse valve and solenoid assembly.

7.3 Pulse is a steady stream of air instead of a quick pulse

7.3.1 Check for a leak or split in the tubing between the diaphragm pulse valve and solenoid assembly.

7.3.2 Solenoid remaining in open position. Have a qualified electrician check for electrical malfunction, clean, or replace.

7.4 Exhauster not running

7.4.1 Exhauster overload could be tripped. Have a qualified electrician reset and check for overload.

7.4.2 Make sure that the main disconnect is in the ON position.

7.4.3 Motor faulty. Have a qualified electrician check for electrical malfunction.

7.5 Excessive Differential Pressure

7.5.1 Valves may not be pulsing properly. See 7.1.

7.5.2 The differential-pressure gauge lines may be plugged with dust. Check and clean.

7.5.3 The in-line dust filter may be blocked. Check and replace.

7.5.4 Snubber fitting blocked with dust. Clean or replace. Refer to Figure 5.

7.5.5 The sequence OFF time may need adjusting. Refer to Section 4.2.

7.5.6 Manifold pressure may need to be increased refer to Section 4.2.4 and 4.2.5.

7.5.7 The filter cartridges may need to be replaced. See Section 4.2.5 and 6.1.

7.6 No reading on differential-pressure gauge

7.6.1 Check to make sure the low-pressure and high-pressure lines are not reversed. Refer to Figure 5.

7.7 Dust emitting from exhauster

7.7.1 Damaged filter cartridge. Check for wear or damage on the filter material, dented ends, and damaged gaskets.

7.7.2 Loose cover plates. Make sure the cover plate tensioning knobs are tight.

7.7.3 Cartridges not seasoned. Refer to Section 6.2.

8.0 ACCESSORIES and REPLACEMENT PARTS

Refer to assembly drawings for replacement parts for specific dust collectors. Any replacement parts that do not have a stock number should be ordered by referencing the PRJ (project) number, drawing number, part description, location, and quantity.

8.1 Conditioner, Cartridge Pre-Treatment
40 lb. sack23771

8.2 Differential-Pressure Indication Panel
Figure 8

Item	Description	Stock No.
(-)	Indication panel assembly, includes the mount and items with an asterisk (*)	15663
1.*	Gauge, pressure	19150
2.*	Gauge, differential-pressure	10188
3.	Snubber fitting	15786
4.*	Filter, in-line dust	23415
5.*	Fitting, 1/8" NPT straight x 1/8" barb	11732
6.*	Fitting, 1/8" NPT-F x 1/4" tubing	15703
7.*	Elbow, 1/8" x 90° brass st.	03993
8.*	Fitting, 1/8" NPT elbow x 1/8" barb	11733
9.*	Fitting, 1/4" NPT elbow x 1/4" tubing	03428
10.*	Tubing, 1/8" urethane; specify ft. req.	12475
11.*	Fitting, 1/4" NPT female bulkhead	05605
12.*	Bushing, 1/4" NPT x 1/8" NPT brass	02010
13.	Tubing, 1/4" OD; specify feet required	15892

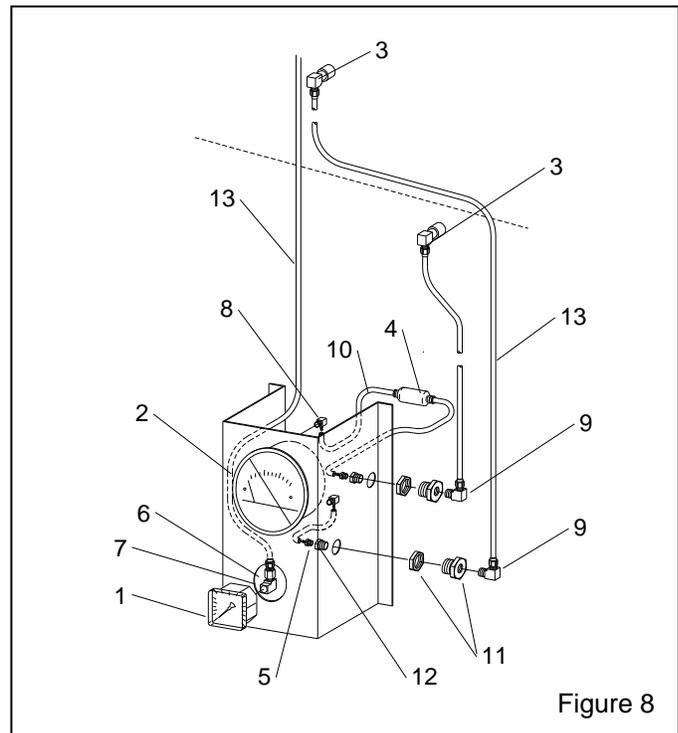


Figure 8

8.3 Common Replacement Parts, Figure 9

Item	Description	Stock No.
1.	Valve, 1" diaphragm pulse	10392
(-)	Repair kit for 1" pulse valve (above)	21600
2.	Cover plate, cartridge	23695
3.	Seal, cover plate rim	23742
4.	Gasket, cover plate face	23715
5.	Cartridge, filter, 14" x 26"; (2 required per rack)	23744
6.	Knob, 3-arm tensioning	23741
7.	Washer, rubber-backed	23739
8.	Solenoid assembly, 5-valve bank	15743
	6-valve bank	15742
	8-valve bank	15744
9.	Solenoid, individual replacement for 5 & 8 solenoid bank (15743 & 15744)	24198
	for 6-solenoid bank (15742).....	27044
10.	Tubing, 1/4" OD; specify feet required	15892
11.	Clamp, 6-1/2"	00750
12.	Hose, 6" flex; 1 ft. required	12452

13.	Fitting, 1/8" NPT elbow x 1/4" tubing	15787
14.	Fitting, 1/4" NPT straight x 1/4" tubing	11737
15.	Petcock, 1/4" drain	01993
16.	*Regulator, 1/2" pressure w/gauge	01902
17.	Fitting, 1/2" NPT x 1/2" male 37°	11351
18.	Hose end, 1/2" barb x 1/2" female swivel	15002
19.	Hose, 1/2" ID air; 4 ft. required	12472
20.	Gauge, 1/8" cbm pressure (replacement)	01908
21.	Bushing, 1/4" x 1/8" brass, (not shown)	02010
22.	Circuit board, pulse-sequence (not shown) six-output board	15745
	ten-output board	15746
23.	Gasket, 3/16" x 1" adhesive backed; specify feet required	00186
24.	Valve, 5" butterfly	21289
25.	Gasket, 5" butterfly valve; 2 required	21455
26.	Lid, 55-gallon drum w/6" hose pipe	06633
27.	Lock ring, 55-gallon lid	06634

* Used with up to size CDF-24 dust collector. For larger size collectors, refer to the parts/assembly drawing provided with the dust collector.

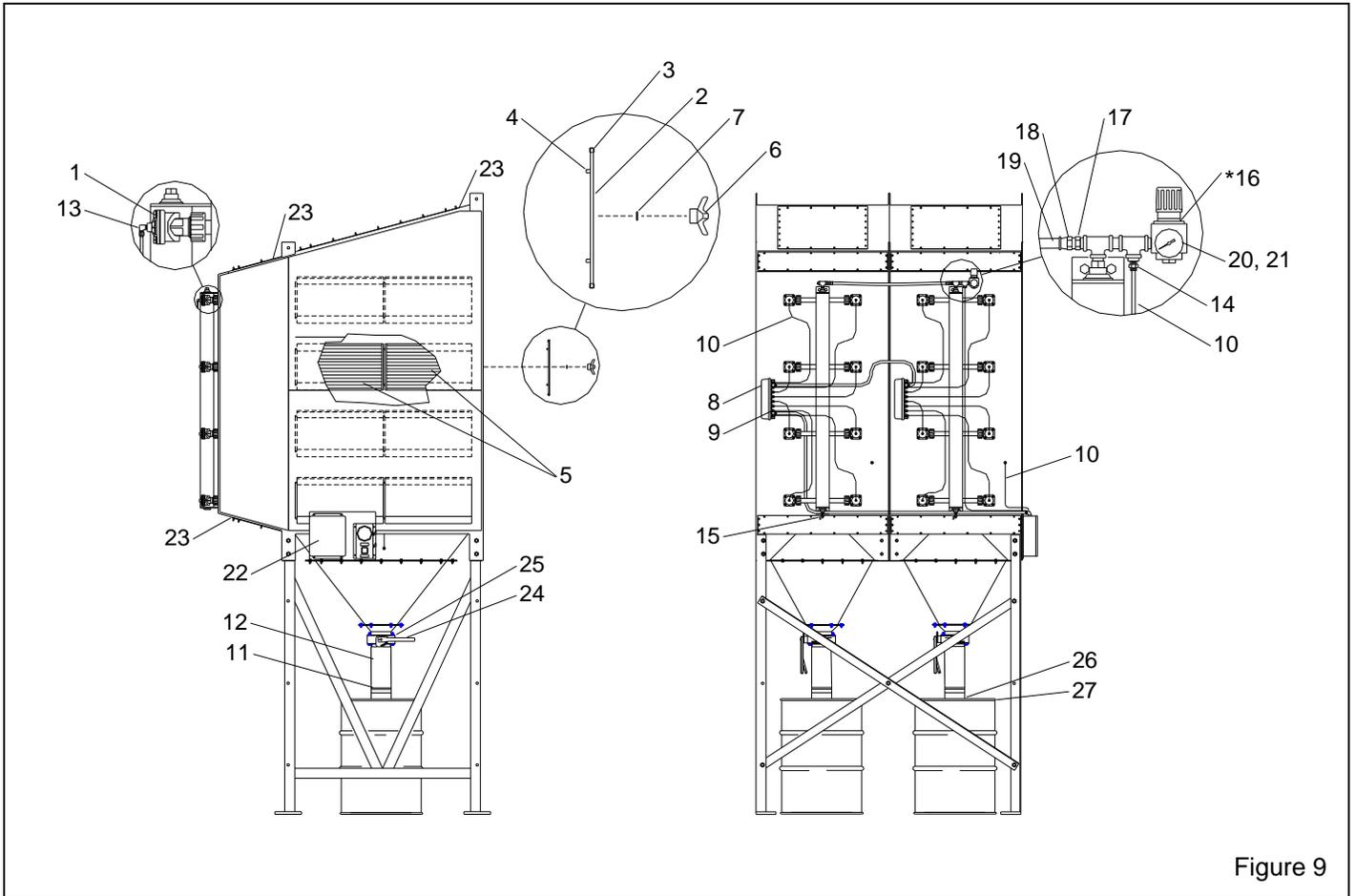


Figure 9