

CDC-1 Reverse Pulse Dust Collectors

Models 300, 600, and 900 CFM

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The products described in this material, and the information relating to these products, are intended for knowledgeable, experienced users. It is the responsibility of the user to insure that proper training of operators has been performed and a safe work environment is provided.

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1.0 INTRODUCTION

1.1 Scope of Manual

1.1.1 This manual covers the installation, operation, and maintenance of all models of the CDC-1 Reverse-Pulse Dust Collector. The dust collector is used with blast cabinets, reclaimers, and small recovery systems. These instructions also contain important information required for safe operation of the collector. Before operating the dust collector and other equipment used with the collector, all personnel involved with the operation must read this entire manual. Refer to the appropriate manual for operation of equipment used in conjunction with the dust collector.

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.

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1.4 General Description

1.4.1 CDC-1 dust Collectors are dry, reverse-pulse single-cartridge collectors, primarily used to ventilate abrasive blast cabinets and remove dust from exhausting air. Industrial models (same as cabinet models but provided with longer inlet hose) are used with sweep-in pneumatic recovery systems and also provide the air-wash for AWAC abrasive cleaners. CDC-1 dust collectors are available in three sizes.

- **300 cfm with 5" inlet** - used with a small-to-medium-size cabinet with a 300 cfm reclaimer.
- **600 cfm with 6" inlet** - used with a cabinet utilizing a 600 cfm reclaimer, and with the AWAC abrasive cleaner.
- **900 cfm with 7" inlet** - used with a cabinet or sweep-in pneumatic recovery system utilizing a 900 cfm reclaimer.

Figure 1 shows callouts of the dust collector components. Figure 4 shows typical arrangements when collector is used to ventilate a blast cabinet and Figure 5 shows the connection to an abrasive cleaner.

1.4.2 CDC-1 dust collectors are available with and without an exhauster assembly. CDC collectors without exhauster are for systems being converted from a dry filter or dust bag, and the user wishes to remove the exhauster from their reclaimer and install it on the CDC collector. The conversion is covered in Section 2.3; review that section before beginning the conversion, as some additional parts may be required.

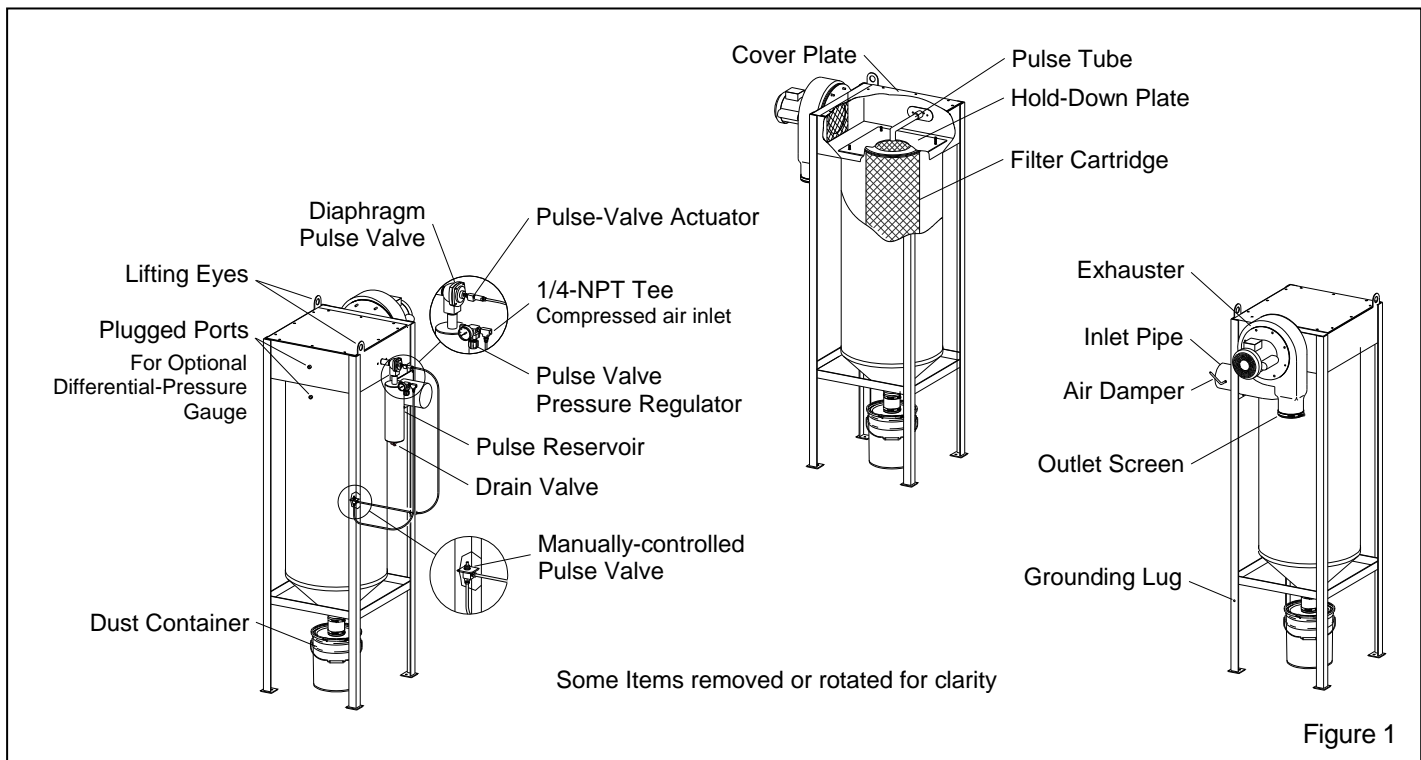
1.5 Theory of Operation

1.5.1 The exhauster is mounted on the clean-air side of the filter cartridge, and provides "pull-thru" (pulls air through the filter cartridge) air flow, rated at 300, 600 or 900 cfm depending on the dust collector model. The exhauster draws dust-laden air through a flexible duct hose from the reclaimer, into the lower side of the collector and through the filter cartridge. As air passes through the cartridge, dust accumulates on the outer surface. Cleaned air flows up through the center of the cartridge and out the exhauster.

1.5.2 Accumulated dust is released from the cartridge when a periodic pulse of high-velocity compressed air expand against the inner surface of the cartridge. The pulse occurs each time the operator presses the manually-controlled pulse valve. The dust particles fall away from the cartridge into the dust container for disposal.

NOTICE

Do not pulse new dust collectors or replacement cartridge until the cartridge is properly seasoned per Section 7.2. Pulsing unseasoned cartridges can cause premature cartridge failure and decrease efficiency of dust collector.



2.0 SET-UP and INSTALLATION

2.1 General Installation Notes

2.1.1 Select a location where compressed air and electrical service are available. The location must comply with OSHA and local safety codes. Ample space is required above the collector to install and change the filter cartridge. Refer to the following table for the collector height and the height required to change the filter cartridge.

Model	Collector Height Rounded to next .5"	Overall Height Needed to Change Cartridge
300 CFM	93.5 inches	130.5 inches
600 CFM	94 inches	131 inches
900 CFM	95.5 inches	148.5 inches

The height shown to change the cartridge does not include space needed to position lift equipment that may be required to handle a heavily-loaded cartridge.

2.1.2 Refer to Figure 4 and place the collector so the inlet flex hose has as few bends as possible. Determine the best location and position all units before making the final assembly. Doing so will make sure there are no placement issues during maintenance.

2.2 Set-Up

2.2.1 The dust collector is shipped lying down on its side; place the skid close to the collector's final position and remove all shipping restraints.

⚠ WARNING

Weight of an assembled dust collector varies slightly among models. A 900 cfm dust collector weighs approximately 500 lbs. Uprighting the collector and moving it into position should be performed by experienced personnel who are familiar with safety hazards associated with handling steel material of this sort, using only approved tools and hoists that are required for safe erection of this product.

2.2.2 Fasten a chain or sling through both lifting eyes; secure it to the lift equipment and lift the collector upright. Make sure the sling and lifting equipment are rated for the weight of the collector and that the operator is trained in handling the equipment. The collector weighs approximately 500 lbs.

2.3 Converting from Dry Filters and Dust Bags or Installing Reclaimer Exhauster on a CDC Dust Collector Ordered without Exhauster

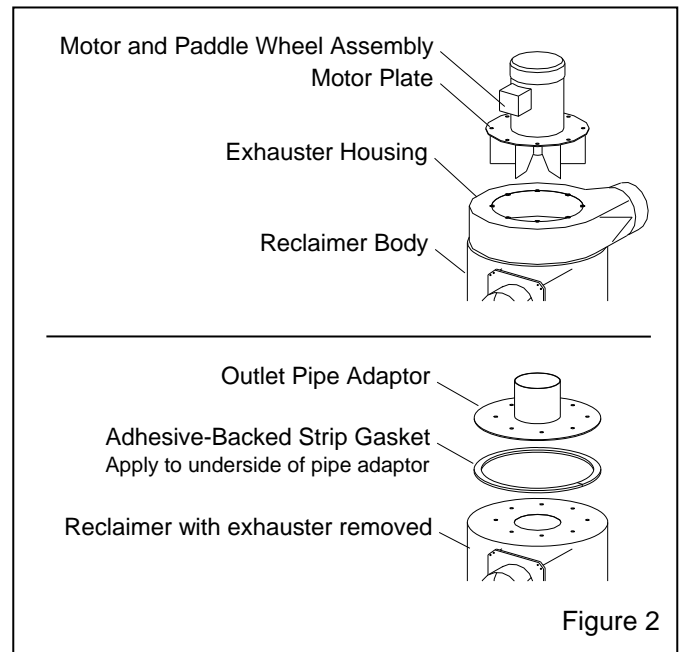
NOTE: If the CDC-1 collector is not replacing an existing dry filter or dust bag, or an exhauster is not being moved from an existing reclaimer to the CDC-1 collector, skip to Section 2.4.

2.3.1 When the CDC-1 collector is replacing a dry filter or dust bag, one of the following conversion kits are required to convert the reclaimer for use with the CDC dust collector. If the kit is not present, order from a Clemco distributor.

- for 300 cfm reclaimer 28962
- for 600 cfm reclaimer 28963
- for 900 cfm reclaimer 28964

2.3.2 Converting a Reclaimer to use a CDC Dust Collector

2.3.2.1 Refer to Figure 2 and remove the cap screws and washers securing the motor plate to the exhauster housing, and remove existing motor plate, motor, and paddle wheel as an assembly.



2.3.2.2 Working through the opening in the exhauster top, remove the cap screws and washers securing the exhauster housing to the reclaimer; then remove the housing. Some prying may be needed to break the seal of the gasket.

2.3.2.3 Remove all gasket material from the top of the reclaimer.

2.3.2.4 Peel a short section of backing from the strip gasket and apply the gasket around the perimeter on the underside of the outlet-pipe adaptor plate, peeling away the backing as needed. Make sure the ends of the gasket fit tightly together.

2.3.2.5 The gasket may have blocked some of the bolt holes; remove the gasket at each blocked hole.

2.3.2.6 The outlet adaptor pipe and mounting holes may not be concentric. Rotate the plate to make sure the outlet pipe, reclaimer outlet, and mounting holes are all aligned before bolting the plate to the reclaimer with fasteners provided.

NOTE: If the exhauster assembly will be installed on the CDC-1 dust collector, continue with Section 2.3.3; if the collector has an exhauster installed, skip to Section 2.4.

2.3.3 Mounting Exhauster Assembly to CDC Dust Collector, Refer to Figure 3

2.3.3.1 This section explains how to install an exhauster assembly on a CDC dust collector shipped without an exhauster.

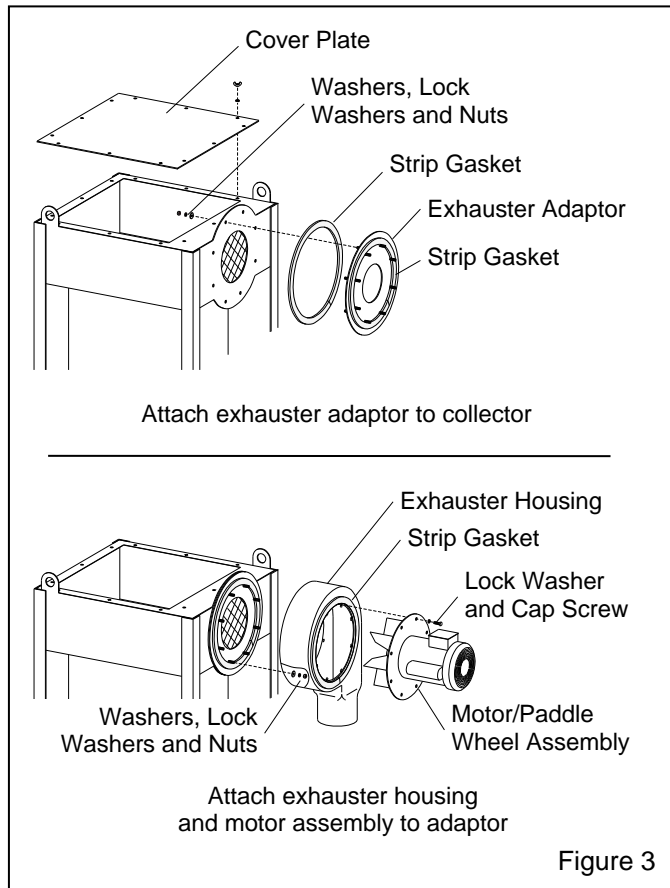


Figure 3

2.3.3.2 The motor plate, motor, and paddle wheel assembly should be separated from the exhauster housing as noted in Section 2.3.2.

2.3.3.3 Remove the cover-plate wing nuts and lock washers to remove the cover plate.

2.3.3.4 Peel a short section of backing from the strip gasket and apply the gasket around the outside of the studs on both sides of the exhauster adaptor, as shown in the upper section of Figure 3, peeling away the backing as needed. Make sure the ends of the gasket fit tightly together. **NOTE: An adaptor is not used on 900 cfm dust collectors; the exhauster housing bolts directly to the dust collector.**

2.3.3.5 The side of the adaptor with the larger bolt pattern faces the collector. Insert the studs into the mating holes in the collector and secure with washers, lock washers, and nuts. **NOTE: There is a notch on the edge of the adaptor; it is for manufacturing purposes, and it does not matter which direction the adaptor is rotated.**

2.3.3.6 Rotate the exhauster housing so the outlet faces down, then slide the housing onto the adaptor. Secure with washers, lock washers, and nuts.

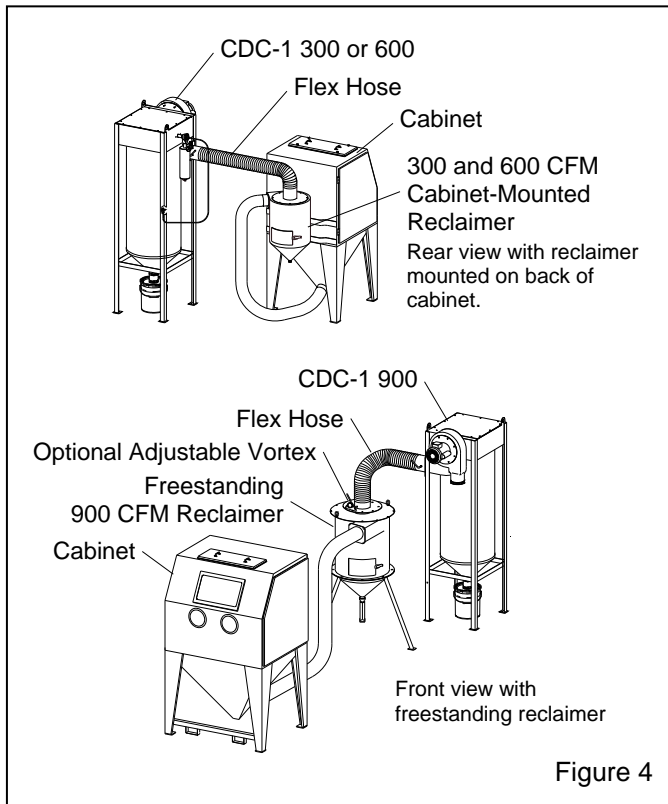
2.3.3.7 Insert the paddle wheel and motor assembly into the exhauster housing, align the motor plate bolt holes with those on the housing, then secure with lock washers and cap screws.

NOTICE

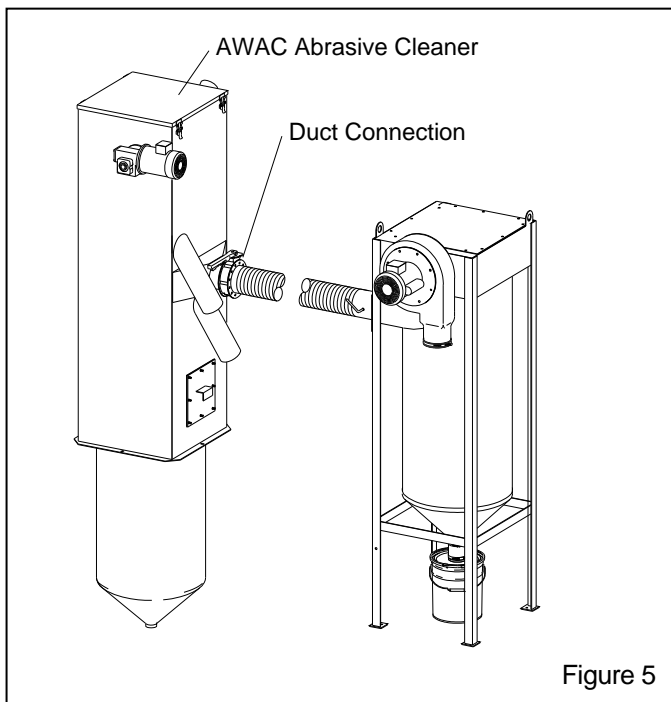
Turn the motor fan housing to make sure the paddle wheel does not rub on any mounting fasteners or housing. If rubbing does occur, remove the motor assembly and determine what caused the interference. Loosen the paddle wheel set screws and slide the paddle wheel up or down on the motor shaft as needed to eliminate the rubbing.

2.4 Positioning Dust Collector

2.4.1 Figure 4 shows typical arrangements and callouts when the dust collector is connected to a blast cabinet reclaimer. The collector may also connect to a 900 cfm reclaimer mounted on a blast machine used with a small pneumatic recovery system, as shown in the M-Section® Sweep-In Recovery Owner's Manual, stock no. 23647.



2.4.2 Figure 5 is a typical arrangement with a CDC-1 600 connected to an AWAC abrasive cleaner used with mechanical recovery systems. The dust collector provides air movement for the AWAC air-wash to remove fines (abrasive worn too fine for blasting purposes) from recyclable abrasive.



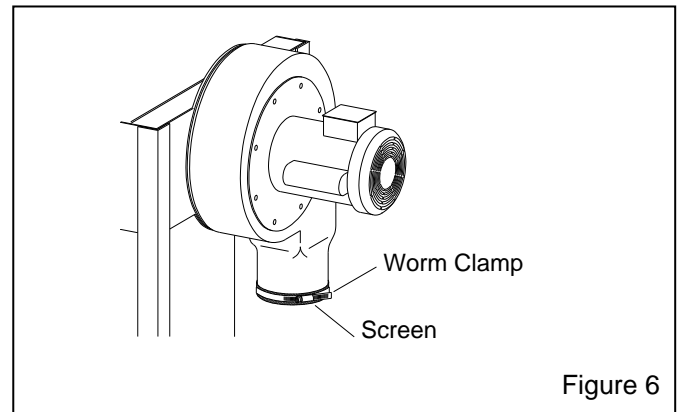
2.4.3 Position the collector in a convenient location that complies with OSHA and local safety codes. Provide ample space at the top to open the cover to access and replace the cartridge, and at the front or sides to remove the dust container.

2.4.4 Recheck orientation of the dust collector, blast cabinet and reclaimer, or other equipment the collector is servicing. When satisfied that all are correctly positioned, anchor the collector to the floor. **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.**

2.4.5 After the collector is firmly anchored, remove the lifting chain/sling.

2.5. Exhauster Outlet Screen, Figure 6

2.5.1 Place the formed outlet screen over the exhauster outlet and secure with the worm clamp provided.



NOTE: After the exhauster outlet screen is installed the remaining connections, compressed air service, and electrical service may be done in any sequence.

2.6 Flex Hose Connections

NOTE: Removing the wire from the first two or three inches of hose eases installation and creates a tighter seal. Use care not to damage the hose. Secure the hose with worm clamps. NOTE: The hose wire helps dissipate static in the conveying hose, and helps ground each segment. In order for the hose wire to dissipate static electricity, the wire must touch the metal of each segment.

2.6.1 Refer to Figure 4 when connecting flex hose to a reclaimer or Figure 5 when connecting to an AWAC abrasive cleaner, and connect the hose between the reclaimer or AWAC outlet and dust collector inlet pipe.

2.6.2 Cut the hose to length to provide a connection loose enough to avoid stretching the hose, but taut enough to prevent excessive sagging. Support the hose if needed.

2.7 Ground Dust Collector

2.7.1 To prevent static electricity build up, attach an external grounded wire from an earth ground to the grounding lug located on the dust collector leg.

2.8 Connect Compressed Air Supply, Figure 7

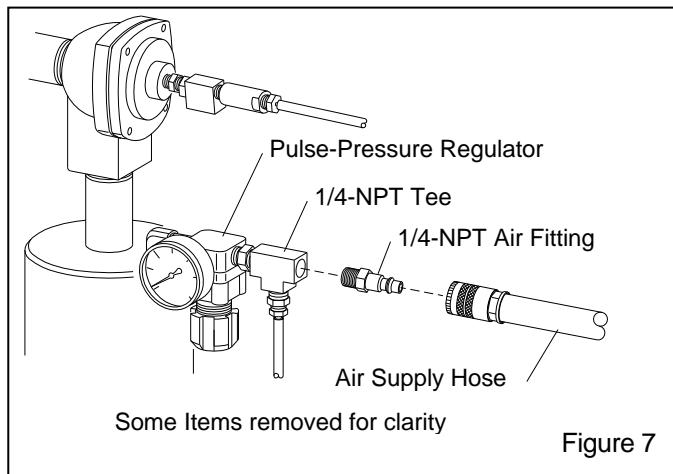
NOTE: For maximum filter life and efficiency, the pulse air source should be 30% relative humidity or less, and be free of any oil contaminants. If line air does not meet this requirement, an air dryer is recommended.

⚠ WARNING

Failure to observe the following before connecting the equipment to the compressed air source can cause serious injury or death from the sudden release of compressed air.

- **Lockout and tagout the compressed air supply.**
- **Bleed the compressed air supply line.**

2.8.1 Connect a 1/4-NPT air fitting, that is compatible with the air supply hose (refer to Paragraph 2.8.2), to the inlet tee on the pulse-pressure regulator. Note that the style of connections shown in Figure 7 is for reference only.



2.8.2 Install an isolation valve at the compressed-air source to enable depressurization for service. Connect a 1/4" ID or larger air line from the air source to the tee mounted on the pressure regulator. A smaller diameter hose may delay full pressure recovery time when doing multiple pulses.

2.9 Electrical Service

2.9.1 Electrical Installation Notes

⚠ WARNING

Shorting electrical components can result in serious electrical shocks, or equipment damage. Electrical power must be locked out and tagged out before performing any electrical work. All electrical work or any work done inside a control panel or junction box must be performed by a qualified electrician, and comply with applicable codes.

All wiring is to be provided by the user and it is to comply with applicable electrical codes.

Electrical requirements depend on the size and phase of the motor. Standard dust collectors are supplied as follows:

- 300 cfm, 1/2 HP, 115/208-230 V, 1 PH, 60 HZ
FLA 115/7, 208/3.4, 230/3.5.
- 600 cfm, 1 HP, 115/208-230 V, 1 PH, 60 HZ
FLA 115/12, 208/6.6, 230/6.2.
- 900 cfm, 2 HP, 208-230/460 V, 3 PH, 60 HZ
FLA 208/5.2, 230/4.8, 460/2.4.

2.9.2 Single-Phase Wiring for Blast Cabinets

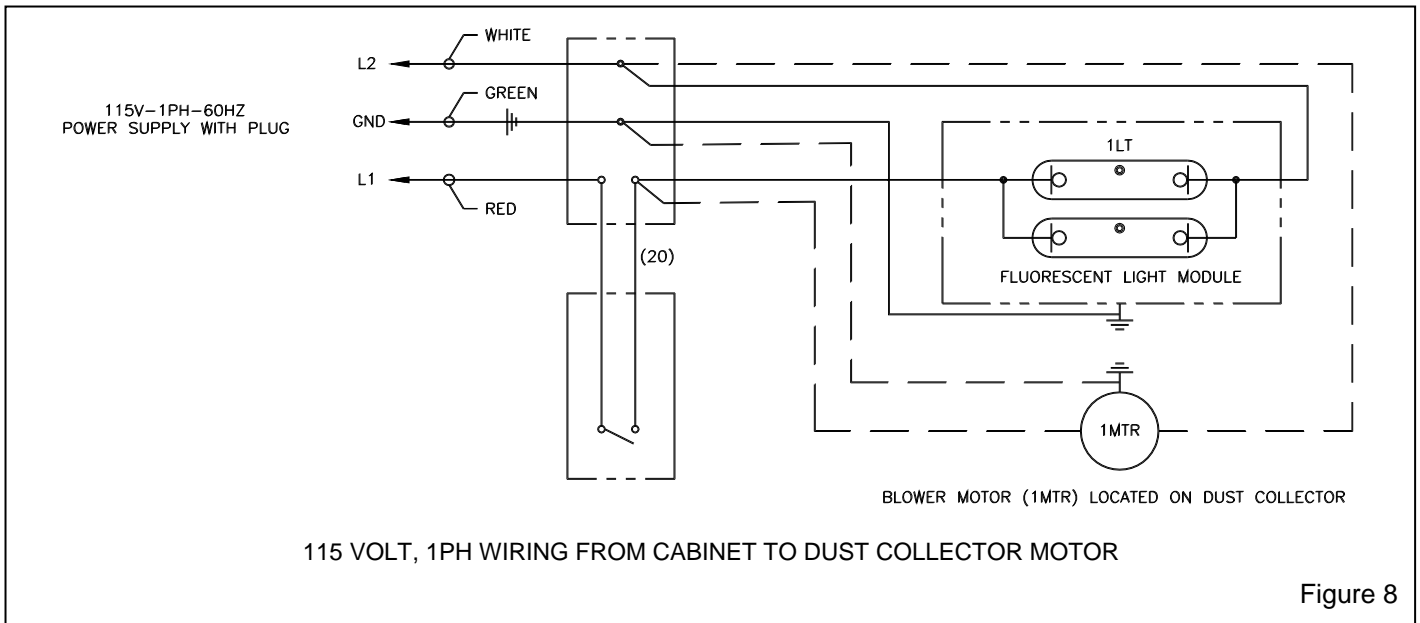
2.9.2.1 Refer to the wiring schematic in Figure 8. Wire the dust collector motor per instruction on the motor data plate to the junction box mounted on the cabinet. When wired as noted in Figure 8, the exhauster motor will start when the cabinet light switch is turned ON, and stop when the switch is turned OFF.

2.9.3 Three-Phase Wiring for Blast Cabinet

2.9.3.1 Refer to the wiring schematic stowed inside the control panel mounted on the cabinet. Wire from the users disconnect to the panel and from the panel to the dust collector motor, per instruction on the motor data plate.

2.9.4 Three-Phase Wiring for Recovery System

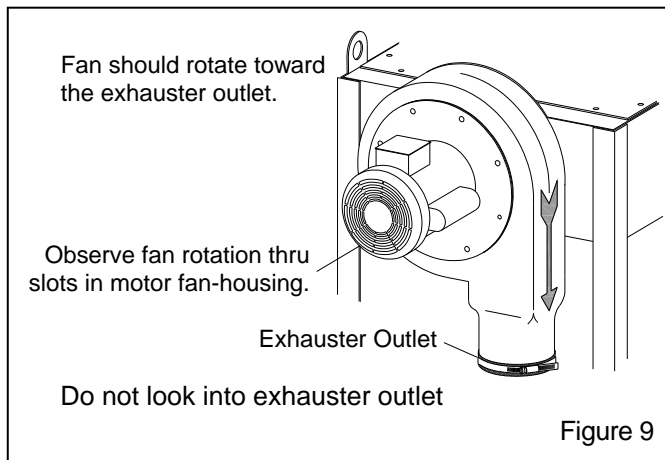
2.9.4.1 When the dust collector comes with a recovery system that includes a control panel (panels are generally not included unless ordered as a separate item), a wiring schematic is stowed inside the panel. Wire from the user's disconnect to the panel and from the panel to the dust collector motor per instruction on the motor data plate.



2.9.4.2 If a panel is not included, wire the motor as noted on the motor data plate using a user-supplied control panel. The collector motor should be wired to start in series with other system motors. Generally, the dust collector should start before other system components.

2.10 Check Motor Rotation

2.10.1 After wiring is completed, observe the warning below, and check the motor rotation. To check rotation, jog the starter (momentarily turn switch ON and OFF). This causes the motor to rotate slowly. Look through the slots in the motor fan-housing, where rotation of the fan can easily be observed. Proper rotation is indicated by the arrow on the exhaustor housing; the fan should rotate toward the exhaustor outlet as shown in Figure 9.



⚠ WARNING

Do not look into the exhaustor outlet while the paddle wheel is turning. Injury to the eye or face can occur from objects being ejected from the exhaustor.

2.11 Dust Container

2.11.1 Refer to Figure 10 and set the drum liner into the dust container. Drape the liner over the top edge of the container. Place the lid onto the container and latch the lock ring, making sure the lid and clamp are secure.

2.11.2 Place the dust container under the hopper and attach the flex hose between the collar on the bottom of the hopper and the collar on the container lid.

2.11.3 Secure both ends of the flex hose with worm clamps provided.

NOTICE

To prevent dust leaks, all flex hose connections made at the bottom of the hopper and the lid must be air tight to prevent dust leaks.

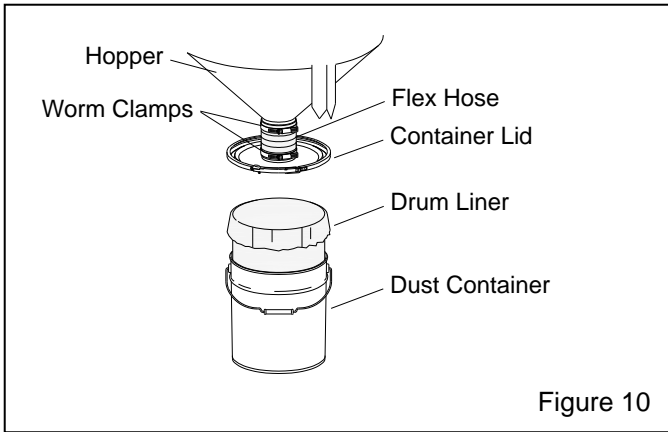


Figure 10

2.12 Install Filter Cartridge, Figures 11 and 12

NOTE: The filter cartridge is shipped loose to avoid damage during transportation.

⚠ WARNING

Fall Hazard: Follow OSHA Regulations in 29CFR1910 Subpart D and F, for fall protection when working above 4 feet.

2.12.1 Remove the cover plate wing nuts and lock washers to remove the cover plate.

2.12.2 Remove the two nuts, washers, and cap screws securing the pulse tube flange to the collector and slide the pulse tube off the pulse pipe as shown in the insert in Figure 11.

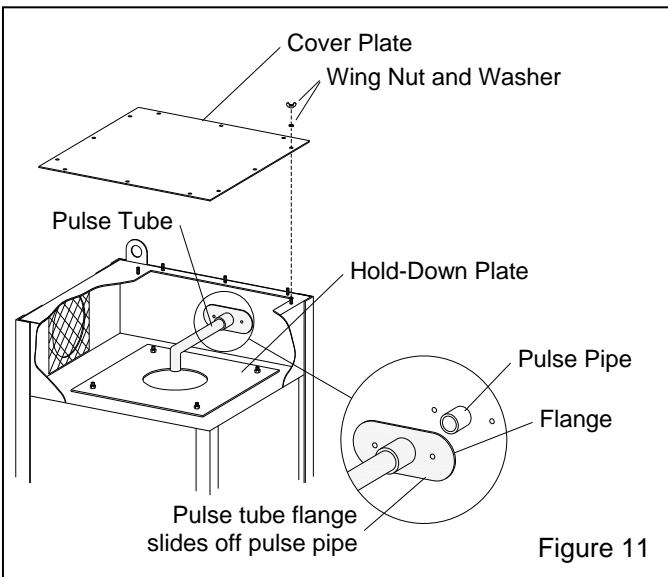


Figure 11

2.12.3 Remove the four hold-down plate nuts and washers and remove the hold-down plate.

2.12.4 Remove the filter cartridge from the shipping carton. **Do not remove the straps from around the 900 cfm cartridge, they help hold the pleats in place. There is no expanded metal on a 900 cfm cartridge.**

2.12.5 Make sure the top of the cartridge plate is clean, then lower the cartridge into the opening as shown in Figure 12 until the cartridge flange rests on the cartridge plate.

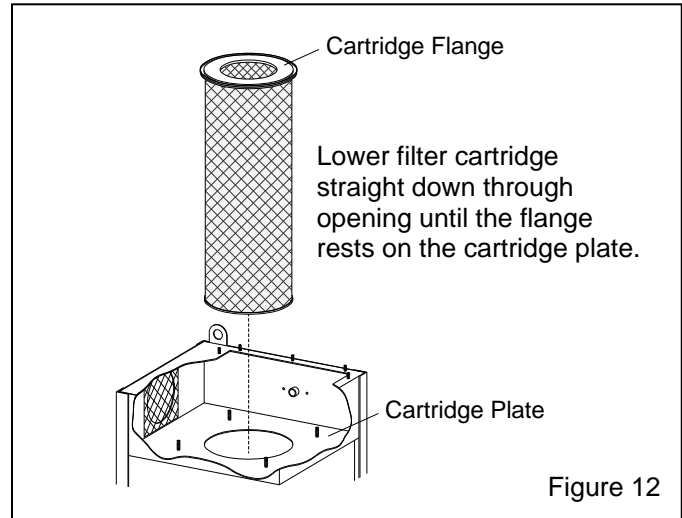


Figure 12

2.12.6 Reassemble the hold-down plate, pulse tube, and cover plate in reverse order.

3.0 OPERATION

⚠ WARNING

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

NOTICE

The dust collector access cover must be secured, and the dust container, cover, and flex hose must be secure when the dust collector is in operation.

3.1 Initial Start-Up

3.1.1 Pressurize the air supply line to the pulse regulator and check all pneumatic connections for leaks.

3.1.2 Turn pulse pressure to 20 psi (refer to Section 5.1 to adjust pressure), then refer to Figure 13 and press and release the manual pulse-valve plunger; the collector should pulse every time the plunger is momentarily pressed. **NOTE: Do not hold the plunger in;** holding the plunger in for more than a moment will NOT increase cleaning efficiency. Prolonged pressure on the plunger could cause dust leaks and needlessly consume compressed air.

3.1.3 After the operation is checked, adjust pulse pressure to 0 psi until the cartridge is seasoned per Section 7.2.

3.2 Operational Start-Up

NOTICE

Do not pulse a new dust collector or replacement cartridge until the cartridge is properly seasoned per Section 7.2. Pulsing unseasoned cartridges can cause premature cartridge failure and decrease the efficiency of dust collector.

3.2.1 Make sure the dust container lid is secure.

3.2.2 Pressurize the pulse reservoir and check reservoir pressure. Refer to Section 5.1 to adjust pressure.

3.2.3 Switch ON the lights and exhauster. If wired according to the cabinet schematic, the ON/OFF switch located on the cabinet performs both functions.

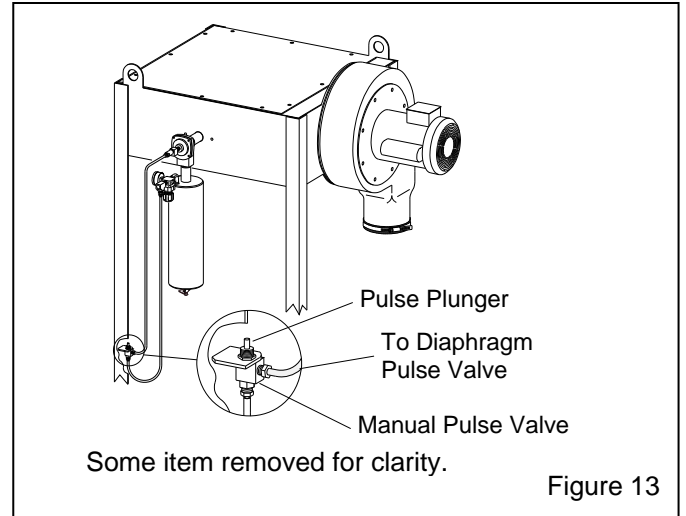
3.3 Pulsing (Cleaning) Dust Collector Cartridge

3.3.1 The filter cartridge pulses each time the manual pulse-valve plunger is pressed; refer to Figure 13. With the exhauster running, quickly press and release the plunger on the pulse valve. Several pulses may be needed to clean the cartridge; wait about 5 seconds between pulses. Rapid repetitive pulsing may cause dust leakage.

3.3.2 If the collector is used with a blast cabinet, begin pulsing the cartridge at least every half hour of blasting. If the collector is used with an AWAC, pulse every four hours, and before turning OFF the exhauster. Dusty blasting conditions will require more frequent pulsing. As the dust cake on the cartridge increase, more frequent pulsing is required.

The optional differential-pressure gauge continually monitors pressure drop across the cartridge. It tells at a glance the degree of dust accumulation on the cartridge. Refer to Field-installed Accessories in Section 9.2.

The optional auto-pulse kit automatically pulses the cartridge at timed intervals. Refer to Field-installed Accessories in Section 9.2.



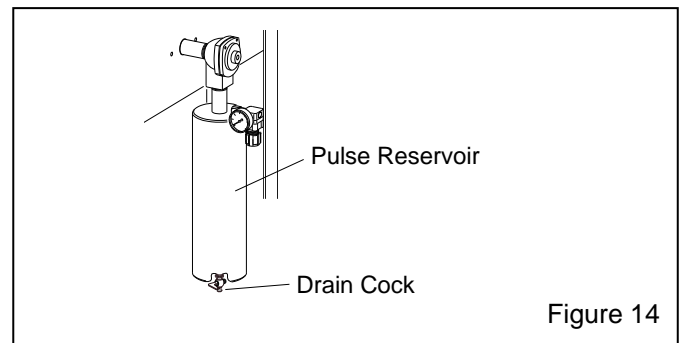
3.4 Shutdown

3.4.1 Allow the collector exhauster to run until all system components are cleared or empty (refer to the accessory components manual) and all ventilated areas are free of airborne dust.

3.4.2 Turn off the exhauster.

3.4.3 Shut off the pulse-regulator air supply.

3.4.4 Drain the pulse reservoir. The drain cock is mounted at the bottom of the reservoir, as shown in Figure 14. Drain whenever the air supply to the pulse regulator is turned off.



3.4.5 Empty dust container when it is no more than half-full. Refer to Section 6.1.

4.0 FIELD-INSTALLED OPTIONS

4.1 Floor Standing HEPA Filter, Figure 15

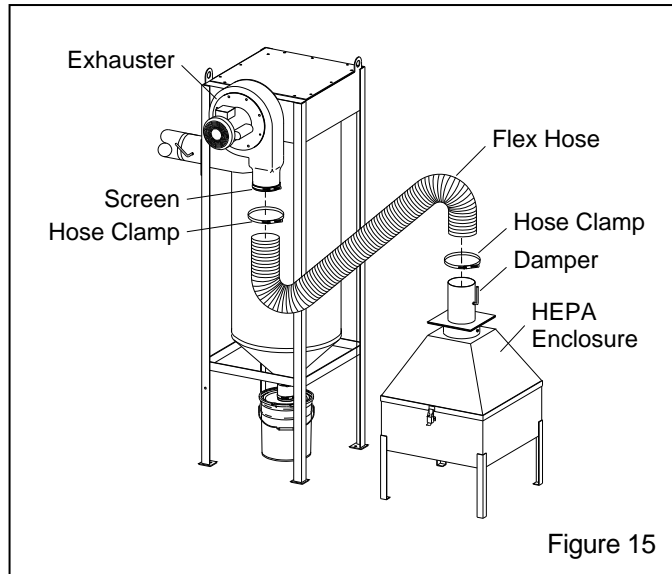
4.1.1 Place the HEPA enclosure at a convenient location next to the collector. Make sure there is room to remove the enclosure top and access the HEPA filter element, and to remove the dust-collector dust-container.

4.1.2 Remove the screen from the exhauster outlet.

4.1.3 Slide one end of the flex hose over the exhauster outlet and secure it with one of the provided hose clamps.

4.1.4 Slide the other end of the flex hose over the pipe on the HEPA enclosure (Shorten the flex hose as needed) and secure with a clamp.

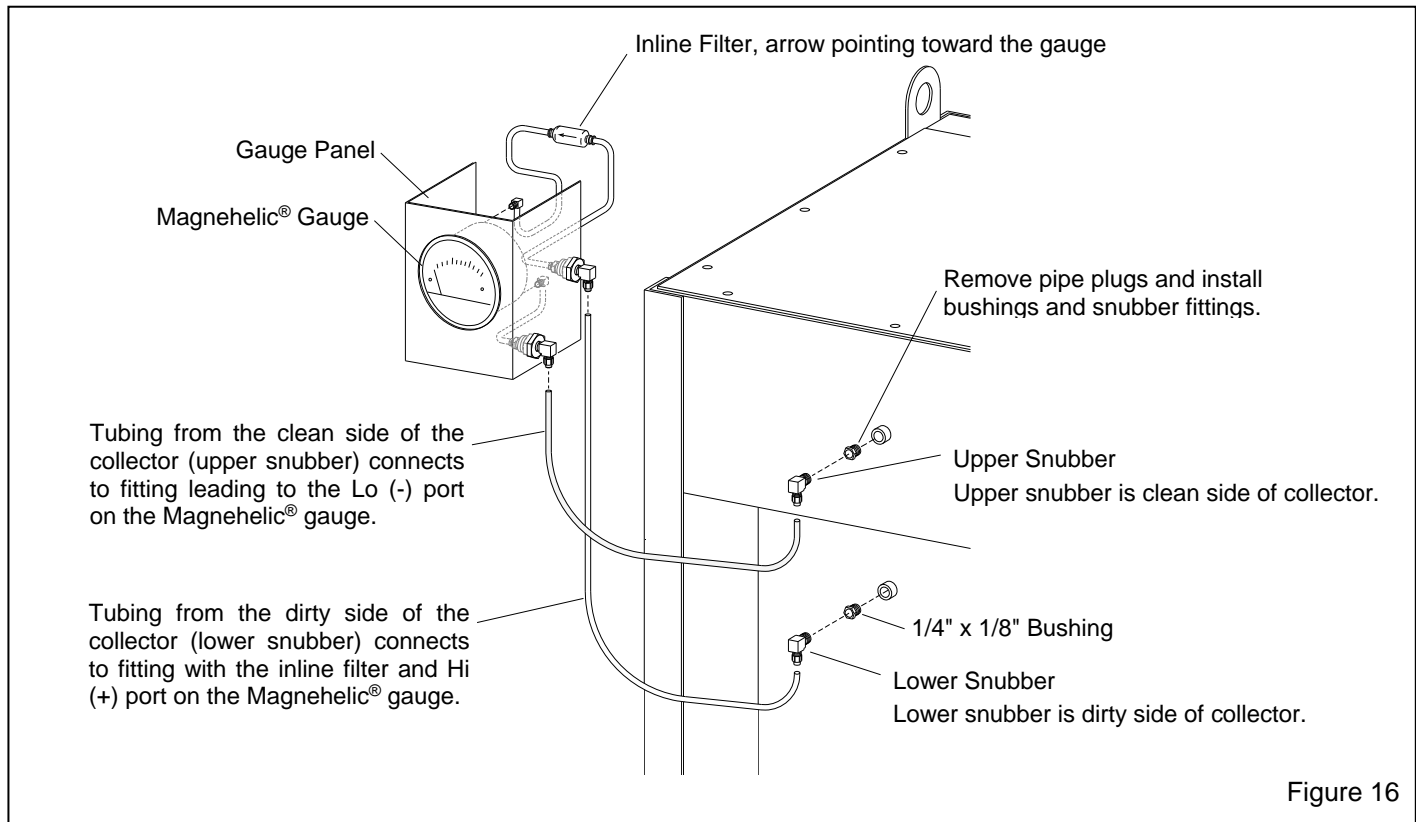
4.1.5 Fully open the HEPA damper (handle facing straight up or straight down), use the collector inlet damper to make adjustments as noted in Section 5.2.



4.2 Differential-Pressure Gauge Kit, Figure 16

The differential-pressure gauge measures pressure drop across the filter cartridge. The gauge is the best way to monitor cleaning efficiency and dust buildup on the cartridge.

4.2.1 The gauge panel, gauge, filter, and panel fittings come fully assembled; the bushings, snubber fittings, and tubing are loose. Mount the panel on the cabinet, dust collector, or at a location where it can be easily monitored. The kit includes 20 feet of tubing, allowing the panel to be mounted within ten feet of the dust collector connections, as shown in Figure 16.



4.2.2 Mounting holes are located on left side and at the bottom of the gauge panel. After selecting the location, match drill holes, and use nuts and cap screws to secure the panel. NOTE: Make sure the panel is close enough to the dust collector for ten feet of tubing to reach.

4.2.3 Remove 1/4" pipe plugs from the dust collector body, and install 1/4" x 1/8" bushings and snubber fittings as shown in Figure 16.

4.2.4 Remove the snubber fitting compression nut and slide it over the one end of the 1/4" tubing, insert the tubing into the fitting; tighten the compression nut to secure.

4.2.5 Cut the tubing to length and connect the other end to the fittings and gauge panel as shown in Figure 16; make sure the tubing ends are connected to the correct fitting, as shown in the illustration.

4.2.6 Refer to the Magnehelic® differential-pressure gauge manual provided for operation of the gauge. NOTE: Magnehelic® is a registered trademark of Dwyer Instruments, Inc.

4.3 Auto-Pulse Kit

4.3.1 Refer to the instructions provided with the pulse kit.

5.0 ADJUSTMENTS

5.1 Pulse Pressure

NOTICE

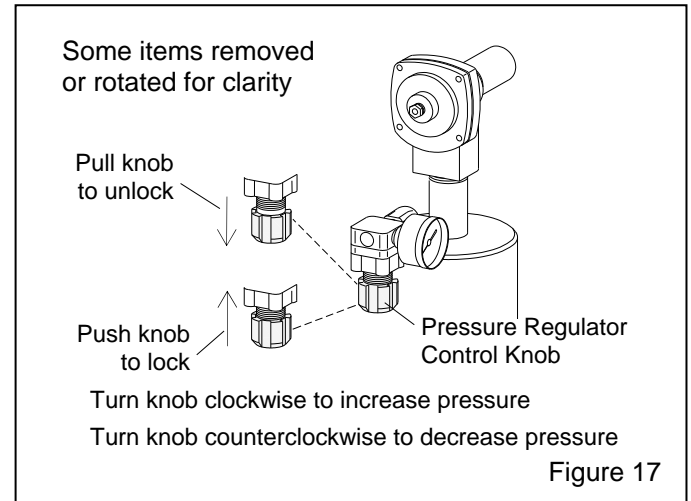
Do not pulse a new dust collector or replacement cartridge until the cartridge is properly seasoned per Section 7.2. Pulsing unseasoned cartridges can cause premature cartridge failure and decrease the efficiency of dust collector.

5.1.1 The pressure regulator and gauge are located on the pulse reservoir inlet, as shown in Figure 17. After the cartridge is seasoned per Section 7.2, adjust pressure to 60 psi.

5.1.2 To adjust pressure, pull the regulator knob out to unlock. Turn it clockwise to increase pressure or counterclockwise to decrease pressure. Once pressure is set, push the knob in to lock it and maintain the setting.

5.1.3 As dust accumulates on the filter cartridge; the dust cake thickens and reduces air flow, making it necessary to do additional pulsing, per Section 3.3, to remove excess dust.

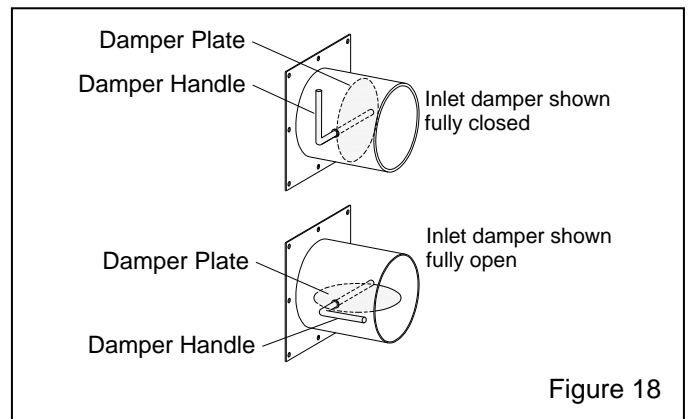
5.1.4 When pulsing alone does not adequately clean the cartridge, increase pulse pressure by 5-psi increments until the maximum of 90 psi is reached.



5.1.5 When the maximum pulse pressure of 90 psi is attained, and pulsing as described in Section 3.3 does not increase visibility or lower differential pressure below 4" water column (W.C.), replace the cartridge per Section 7.1.

5.2 Inlet Damper, Dust Collector

5.2.1 Refer to Figure 18 and adjust the inlet damper by rotating the handle. The damper plate lines up with the handle; when the handle is horizontal, the damper is fully open; when the handle is vertical, the damper is fully closed.



5.2.2 When used with cabinet and reclaimer: Adjust damper to attain static pressure as noted in the cabinet or reclaimer manual.

5.2.3 When used with AWAC abrasive cleaner: Set the damper to fully open and use the AWAC damper to make adjustments as noted in the AWAC Abrasive Cleaner manual.

6.0 DAILY 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 reservoir.

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

6.1 Inspect and Empty Dust Container

NOTICE

Inspect dust level in the dust container each time the collector is shut off and when adding new media to the cabinet. Empty the dust container when it is no more than half-full. Failure to monitor the dust level will overfill the collector, requiring extensive cleaning.

6.1.1 Empty the dust containers regularly. Start by checking the containers at least daily, and when adding media, then adjust frequency based on usage, contamination, and friability of the media.

6.1.2 Turn off the exhauster and release the lid lock ring from the dust container as shown in Figure 19.

6.1.3 Pry off the lid from the container (the lid's flexible inlet hose allows easy removal), and remove the container.

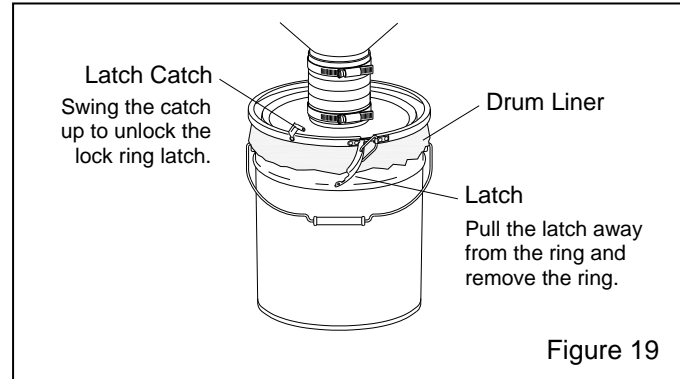


Figure 19

6.1.4 Tie-off or otherwise seal the top of the liner and remove it from the container. Dispose of the sealed liner into a suitable disposal receptacle.

NOTE: Blasting media is usually non-toxic; however, some materials being removed by the blast process may be toxic. Obtain SDS sheets for the media and identify all material removed by the blast process. Check with proper authorities for disposal restrictions.

6.1.5 Place a new liner inside the container and drape it over the top edge. Reattach the container to the lid and latch the lock ring, making sure the lid and clamp are secure. Replacement liners are shown in Section 9.4, Figure 22.

6.2 Check Exhaust Air for Dust

6.2.1 Dust discharge at the exhauster indicates a leaking or damaged filter cartridge. Check immediately. NOTE: A small amount of dust egress is normal for a short time when the cartridge is new before it is seasoned.

6.3 Cartridge Pulsing

6.3.1 Pulse the cartridge at least every half hour of cabinet blasting and before turning OFF the exhauster as noted in Section 3.3. Dusty blasting conditions and dust loading on the cartridge will require more frequent pulsing.

7.0 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.

 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 reservoir.

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

7.1 Replacing Filter Cartridge
 Refer to Section 2.12 for reference.

 WARNING

NO DUST IS SAFE TO BREATHE.

The inhalation of airborne dust can cause injury and lead to serious respiratory illness and death. Always wear approved respiratory protection when servicing the dust collector, while handling filter bags and cartridges, and when emptying the dust container.

7.1.1 Lockout and tagout the compressed air supply and electrical power.

7.1.2 Close the air supply valve and bleed all air from the pulse reservoir.

7.1.3 Empty the dust container.

 WARNING

Fall Hazard: Follow OSHA Regulations, in 29CFR1910 Subpart D and F, for fall protection when working above 4 feet.

Lifting Hazard: Dust cartridges may exceed 50 pounds when dirty. Follow good material and lifting practices when changing filters.

7.1.4 Remove cover nuts and remove the top access cover.

7.1.5 Remove the two nuts and bolts securing pulse tube, and remove the tube from the top of the collector.

7.1.6 Remove the four nuts and washers securing to cartridge hold-down plate and then remove the plate.

7.1.7 Remove filter cartridge. A small amount of force may be necessary to loosen the seal of the filter gasket.

7.1.8 After the filter is removed, clean the top side of the cartridge plate to remove loose dust or hardened dust clods, particularly from the cartridge-sealing surface.

7.1.9 Lower the cartridge into the opening until the cartridge flange rests on the cartridge plate.

7.1.10 Reassemble the hold-down plate and pulse tube.

7.1.11 Inspect the gasket on the cover plate. Replace the gasket if it is worn or damaged. Replace the cover plate and secure.

7.1.12 Season new cartridge per Section 7.2.

7.2 Seasoning Cartridge

7.2.1 New cartridges must be seasoned before starting pulsing. Cartridge is 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.

7.2.2 Operate the cabinet without pulsing for about two hours, or until visibility decreases, whichever comes first. At that time, turn the pulse regulator to 60 psi and begin pulsing as noted in Section 3.3. **NOTE: For AWAC applications operate the AWAC for about two days before pulsing.**

8.0 TROUBLESHOOTING

⚠ WARNING

Shut down the collector immediately if dust discharges from the exhauster. Check the cartridge to make sure it is seated and not worn or damaged. Prolonged breathing of abrasive dust and blasting by-product dust can 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 to be removed by blasting, and obtain a safety data sheet (SDS) for the blast media.

8.1 Collector not pulsing

8.1.1 Check the pulse-pressure gauge. If pressure is low, check the compressed air supply; look for leaks or a closed supply valve.

8.1.2 Check function of the pulse-pressure regulator located on the pulse reservoir inlet; make sure it has not been turned down or turned off.

8.1.3 The 3-way manual pulse valve may be faulty. No air should escape from the valve when the plunger is not pressed, a short burst of air should escape from the plunger when it is pressed. If it does not function accordingly, replace the valve.

8.1.4 Refer to Figure 20 and check the diaphragm pulse valve and actuator assembly as follows.

8.1.4.1 Remove the pilot actuator from the 3-way pulse valve. Press in on the 3-way valve plunger; the cartridge should pulse when the plunger is pressed, and stop when it is released.

- If the cartridge does pulse, the diaphragm pulse valve and 3-way valve are functioning; proceed to Section 8.1.4.2.
- If it does not pulse, listen for a short spurt of air coming from the exhaust port when the plunger is pressed.
 - If it does spurt air, the problem is likely in the diaphragm pulse valve. Inspect the diaphragm for wear or damage.
 - If it does not spurt air, the 3-way valve is not functioning. Replace the 3-way valve.

NOTE: The 3-way pulse valve on the diaphragm valve and the 3-way manual pulse valve on the collector leg are identical. If there is doubt as to whether either 3-way valve is functional, the valves may be tested by swapping one with the other.

8.1.4.2 Hold the pilot actuator and press and release the plunger on the manual pulse valve. Observe the piston through the open end of the actuator; the piston should snap toward the disc at the end of the actuator each time the plunger is pressed, and return each time the plunger is released.

- If the actuator piston operates as noted, the problem is not the manual pulse valve or actuator. Inspect the 3-way and diaphragm valve per Section 8.1.4.1.
- If the actuator does not operate as noted, remove the urethane tubing from the actuator and press and release the manual pulse valve.
 - If air escapes from the tubing when the manual valve is pressed, the problem is in the actuator. Replace the actuator.
 - If no air escapes from the tubing when the manual valve is pressed, there is a blockage in the tubing or the problem is with the manual pulse valve. Inspect the tubing for a blockage and inspect the manual pulse valve per Section 8.1.3.

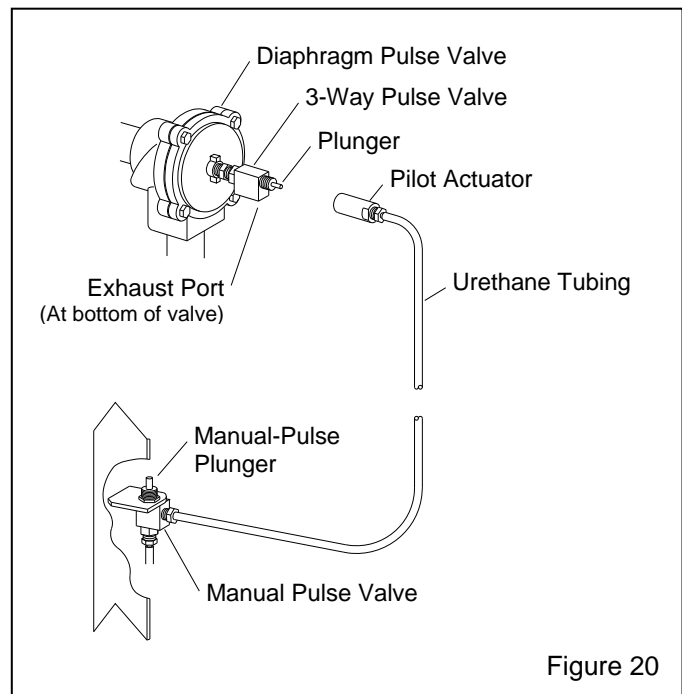


Figure 20

8.2 Pulse is a steady stream of air instead of a quick pulse.

8.2.1 The pulse valve diaphragm may be damaged. Continuous air flow into the dust collector typically means the diaphragm is leaking; remove the four cap screws on the diaphragm pulse valve and inspect the diaphragm. If damaged, replace it.

8.2.2 The 3-way pulse valve may be stuck in pulse (plunger in) position, inspect 3-way pulse valve per Paragraph 8.1.3.

8.3 Exhauster not running

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

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

8.3.3 Make sure there is electrical power to the motor. Have a qualified electrician check for electrical malfunction

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

8.4 Dust discharges from exhauster.

8.4.1 Check for loose or damaged filter cartridge.

8.4.2 Filter cartridge not seasoned. Refer to Section 7.2.

9.0 REPLACEMENT PARTS

9.1 Replacement Dust Collectors

9.1.1 Dust collectors for cabinet use
(5-ft. flex hose included)

300 cfm Dust collector	
with 1/2 HP, 115-v/1/60 exhauster	28254
without exhauster	28251
600 cfm Dust collector	
with 1 HP, 115-v, 1 PH, standard exhauster	28255
without exhauster	28252
with 1 HP, 230/460-v/3/60 exhauster option	28240
900 cfm Dust collector	
with 2 HP, 230/460-v/3/60 standard exhauster ..	28256
without exhauster	28253
with 2 HP, 115/230-v/1/60 exhauster option	28453

9.1.2 Dust collectors for industrial use

For Sweep-In M-Sections®

(7" ID x 8-ft 4-in flex hose included)

900 cfm Dust collector with 2 HP, 230/460-v/3/60 exhauster	29055
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For AWAC abrasive cleaner

(6" ID x 10-ft flex hose included)

600 cfm Dust collector	
with 1 HP, 115-v, 1 PH exhauster	29056
600 cfm Dust collector	
with 1 HP, 230/460-v/3/60 exhauster.....	29057

9.2 Field-Installed Accessories

Conversion kit to convert push-thru reclaimer to pull-thru. (needed to convert from dry filter to CDC-1) Remove exhauster from reclaimer and install conversion kit.

- Kit without externally adjustable vortex
Includes pull-thru outlet adaptor pipe, gasket, and fasteners.

for 300 cfm reclaimer	28962
for 600 cfm reclaimer	28963
for 900 cfm reclaimer	28964
- Kit with externally adjustable vortex
Includes pull-thru adjustable vortex, gasket, and fasteners.

for 600 cfm reclaimer	28629
for 900 cfm reclaimer	28630

HEPA Filter assembly, floor-standing

Includes HEPA, flex hose, and clamps	
300 cfm	28974
600 cfm	23625
900 cfm	23626

Differential-pressure gauge kit 23356

Sound suppressor assembly, with sound foam

300 cfm	special order
600 cfm, 6"	28458
900 cfm, 7"	28459

Sound foam, adhesive-backed, per sq. ft.

4 sq. ft. required, trim to fit	12484
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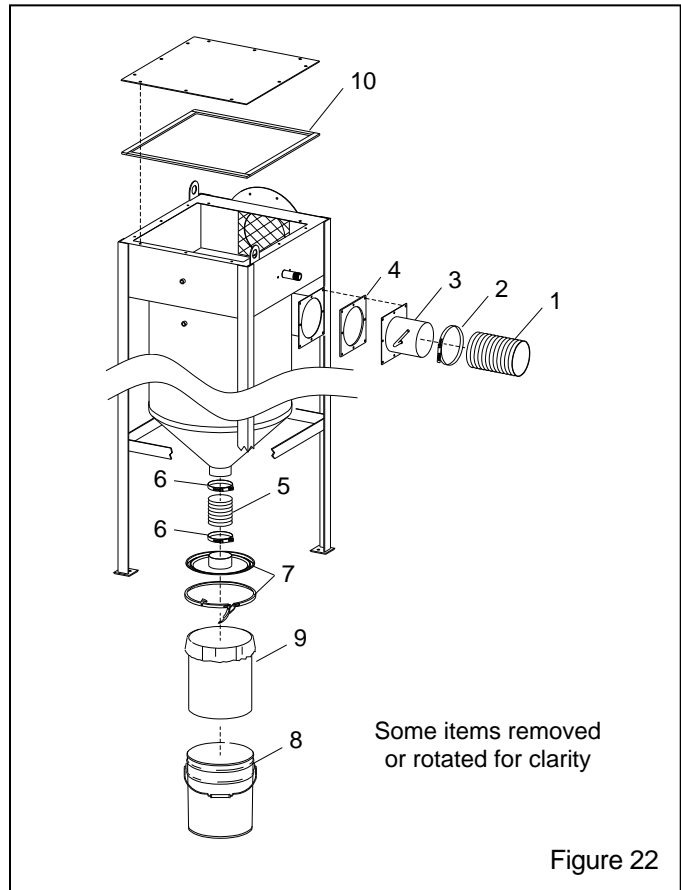
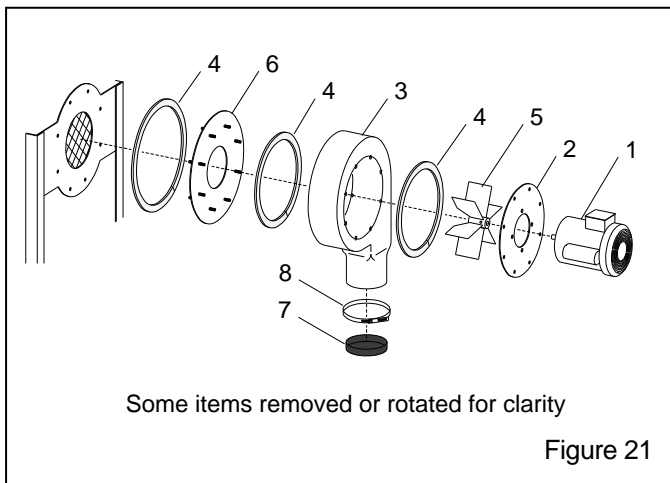
Auto-pulse kit, pulses at timed intervals..... 28936

9.3 Exhauster Assembly, Figure 21

Item	Description	Stock No.
1.	Motor, 3450 RPM	
	300 cfm, 1/2 HP, 115-V, 1 PH	12308
	600 cfm, 1 HP, 115-V, 1 PH	12314
	600 cfm, 1 HP, 230-V, 3 PH	12310
	900 cfm, 2 HP, 230-V, 3 PH	12309
2.	Plate, motor mount	
	300 cfm	12003
	600 cfm	12004
3.	Housing, exhauster	
	300 cfm	12273
	600 cfm	12272
4.	Gasket, 5/16" x 1" adhesive-backed, specify feet required	00187
	300 cfm	12333
	600 cfm	12334
5.	Paddle wheel	
	300 cfm	12333
	600 cfm	12334
6.	Adaptor plate, exhauster	
	300 cfm	28245
	600 cfm	28246
7.	Screen, exhauster outlet	
	300 cfm	25092
	600 cfm	27054
8.	Clamp, 8-1/2"	11576

9.4 Enclosure and Dust Container Assembly, Figure 22

Item	Description	Stock No.
1.	Hose, unlined flex, per foot, standard lengths are:	
	5-ft. with cabinet collectors	
	8-ft 4-in (9-ft) with Sweep-In M-Section	
	10-ft. w/AWAC (2 x 2 and 3 x 3 recovery system)	
5"	ID for 300 cfm	12449
	6" ID for 600 cfm	12452
	7" ID for 900 cfm	12448
2.	Clamp, hose	
	5-1/2" for 300 cfm	11578
	6-1/2" for 600 cfm	00750
3.	Inlet adaptor w/damper	
	5" OD for 300 cfm	28247
	6" OD for 600 cfm	28248
7"	OD for 900 cfm	14273
	Gasket, inlet adaptor	11763
5.	Hose, 4" ID flex, per foot, 1-ft minimum	12466
6.	Clamp, 4"	11577
7.	Lid and lock ring, dust container	23419
8.	Drum, 5-gallon dust	28250
9.	Liners, drum, package of 5	28621
10.	Gasket, 5/16" x 1" adhesive-backed, per ft., 8 feet required	00187



9.5 Cartridge and Pulse Assembly, Figure 23

Item	Description	Stock No.
(-)	Service kit, 1" diaphragm pulse valve	21600
1.	Valve, 1" diaphragm pulse	19578
2.	Filter cartridge	
	300 and 600 cfm, 13" x 36"	15781
	900 cfm, 13" x 52"	28259
3.	Regulator, 1/4"-NPT pressure w/gauge	12050
4.	Gauge, 1/4" cbm, (replacement)	11830

5.	Valve, 3-way	12202
6.	Fitting, straight, 1/8"-NPT x 1/8" barb	11732
7.	Nipple, 1/4"-NPT hex	02808
8.	Elbow, 1/4"-NPT brass st.	02027
9.	Petcock (drain), 1.4"-NPT	01993
10.	Tubing, 1/8" ID urethane twinline, per foot, 5 feet required	19577
11.	Nipple, 1/8" NPT hex	01962
12.	Actuator, air pilot	19123
13.	Tee, 1/4"-NPT brass	02025

