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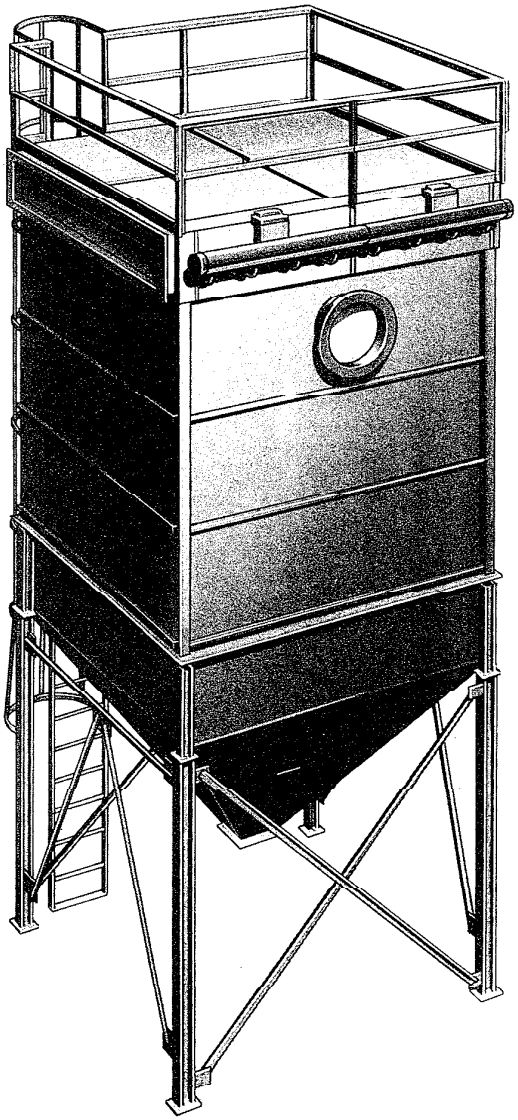


# FABRI-Pulse® MODEL C

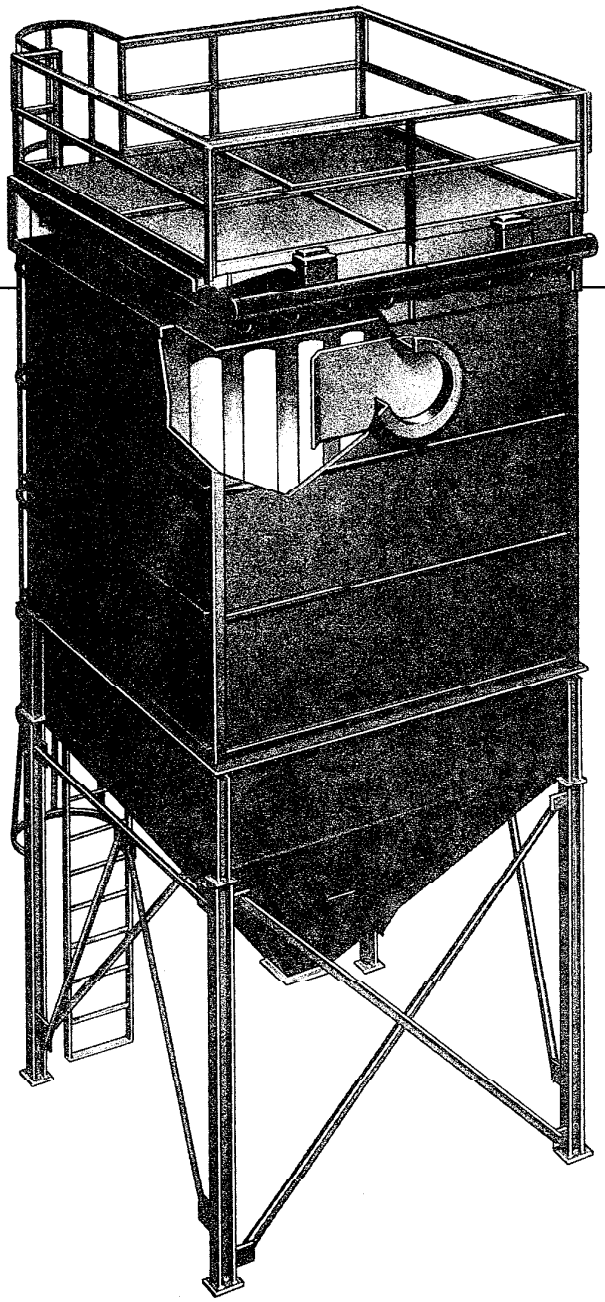
## PULSE-JET FABRIC DUST COLLECTORS

### INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

SERIAL NUMBER_____ SIZE_____

# FABRI-Pulse® MODEL C

## PULSE-JET FABRIC DUST COLLECTORS



The FABRI-Pulse Model C is a single compartment, continuous automatic, self-cleaning fabric pulse-jet dust collector. The dirty air stream enters the collector near the top of the housing, where an internal baffle deflects and evenly distributes the dust laden air. Dust laden air passes through the filter media with the dust being captured on the outside surface of the individual bags. Clean air migrates into an upper clean air plenum and is exhausted through the outlet. The filter tubes are periodically cleaned by bursts of compressed air which are injected down the inside of the bags. Only a portion of the total number of bags are cleaned at any one time. Bags that are not being cleaned continue to filter the air. This allows the unit to remain in operation at all times.

This bulletin contains the information necessary for the assembly, installation, operation and maintenance of the Model C FABRI-Pulse.

Read the entire manual and check each carton and crate against the shipping sheet (Form 1281) before beginning installation. Store the fabric bags and cages in a dry area until installation.

### SHIPMENT

The Model C FABRI-Pulse is packaged for domestic transit and shipped FOB factory. Notify your carrier immediately if there is any damage or discrepancy in the shipping papers.

### ASSEMBLY

Model C FABRI-Pulse dust collectors are shipped in major sub-assemblies requiring only

(1) Assembly of hopper section to housing section then to plenum assembly,

(2) field bolting of the legs and braces,

(3) connection of ductwork and/or the fan,

(4) connection of hopper discharge device(s),

(5) mounting and wiring of the control box,

(6) connection of compressed air supply,

(7) differential and air pressure gauge connections,

(8) and installation of the filter elements.

Detailed instructions are given in subsequent sections.

## General Information

Standard construction is 11 gauge housing and 10 gauge plenum and hopper, welded, hot rolled steel, braced for 16″ w.g. The 5.25″ diameter bags are arranged in a 7″ x 7″ spacing pattern. Bag support cages are galvanized steel. Venturis are galvanized steel and are integral to cages. Operating temperature is dependent on type of bag material specified. Inspection, maintenance and bag replacement is through hinged, roof-mounted access doors.

The cleaning cycle of the Model C FABRI-Pulse is controlled by a solid state timer located in a NEMA 4 enclosure. Both the frequency and duration of the cleaning pulse are controlled through the timer.

The standard Model C FABRI-Pulse includes factory installation of the surge tank, air valves, pulse pipes, and solenoid pilot valves.

The solid state pulse timer requires 120 volt power and 80 to 100 psig clean dry air must be supplied to the surge tank.

# Installation Instructions

### FOUNDATIONS AND ANCHORING

The foundation must be adequate to support the collector's operating weight which includes dust discharge device, wind load and snow load (if any), collected dust, and any optional equipment to be installed. Secure all anchor bolts to assure that the collector is firmly attached to the foundation. Base plates on columns may require grouting after leveling.

### SPACE REQUIREMENTS

**A minimum of 24 inches must be allowed on the sides of the collector without ladder or ductwork. The side where the access ladder is located requires a minimum space of 46 inches. More space may be required where inlet and outlet ductwork is located.**

### DUCTWORK

Connect the inlet duct to the inlet on the collector. Connect the clean air duct to the collector outlet. Ductwork should be of sufficient gauge to withstand the system design pressure and should be independently supported. Flexible connections must be provided between the collector's inlet and outlet flanges and process ducting.

The Model C FABRI-Pulse is not designed to support ductwork. Consult the Industrial Ventilation Manual for detailed construction guidelines.

### INLET DUCTWORK

Close coupling a duct elbow to the collector inlet may result in an uneven velocity profile. This condition could cause previously collected material to be re-entrained. Three to four duct diameters length of straight run will give an even air flow distribution at the inlet.

Inlet connections for the dirty air stream are located near the top of the dust collector. The maximum connection diameter is governed by the space available between stiffeners, and the number of connections required by the air volume to be handled. Refer to the installation drawing in the instruction envelope for number and size. Housing inlets are to be sized for 4000 FPM maximum velocity.

### COMPRESSED AIR CONNECTIONS

**Clean, dry** air at 80 to 100 psig pressure must be supplied to the compressed air manifold at the top of the dust collector. Use one of the 1½″ nipples at the bottom of either end of the manifold for this connection. The other nipple may be used to connect a condensate drain valve for periodic purging of any condensate which may collect in the manifold.

Compressed air must be clean, dry, and pressure regulated to prevent failure or plugging of the pulse valves. Compressed air filters are available which will remove minute particulate contaminants and some also remove coalesced liquids and discharge them automatically. A pressure regulator is needed to ensure that the compressed air supply does not exceed 100 psig. If the dust collector is located outdoors, care must be taken in choosing these devices and their locations so that their temperature limits are not exceeded.

A pressure gauge is supplied by AAF and should be installed in the compressed air supply line near the compressed air manifold. The pressure gauge should be positioned so that it can be read easily.

## EXPLOSION VENT

The optional explosion vent(s) available are factory installed. A guard to contain and prevent damage from a rapidly opening vent can be provided as a separate item for field installation. Explosion vents should be installed in accordance with local, national and all other applicable codes.

Hopper Discharge Device attach per manufacturer's instructions.

## ELECTRICAL CONTROLS AND WIRING

### CAUTION

Potential shock hazard. Disconnect power before servicing. Only qualified electrical personnel should work on this system.

The Model C FABRI-Pulse dust collector is normally supplied with NEMA 4 electrical solenoids and timer control (one control system per unit). Options available are NEMA 9 and pre-wiring to a single mounted junction box either NEMA 4 or 9.

On those units not factory pre-wired, control wiring must be field installed between the solenoid valves and the timer output terminals as shown on the electrical connection diagram.

The pulse timer panel (Fig. 1) has a set of normally jumpered terminals labeled "pressure switch" which are used only when an optional remote control device (called demand pulse option) is used. The metal jumper is removed and the "normally open" contacts of the optional pressure switch are then connected to the "PS" terminals — see wiring diagram provided with this option.

### CAUTION

To avoid permanent damage to the solid state control:

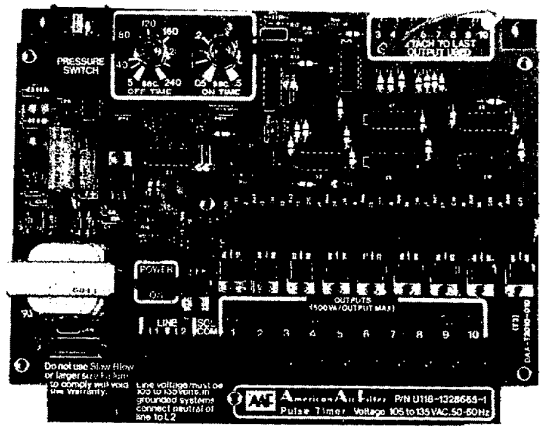
(1) DO NOT connect 120v to the "PS" terminals.

(2) DO NOT connect 120v to any of the "Output" terminals.

(3) DO NOT connect an "Output" terminal to ground. The fuse on the panel does not protect from a direct short.

Check to be sure the program wire (top right of timer panel shown) is connected to the correct program pin. To do this, make sure that the program wire/pin matches the wiring diagram. Power should be supplied to the solid state timer board across terminals L1 and L2 as shown on the connection diagram. When the power is energized the "Power On" light should illuminate and the unit should start pulsing. With the demand pulse option, the pressure switch settings must be "zero" to start pulsing. The collector should not be allowed to pulse for any extended time without compressed air being supplied to the collector. **Operation without compressed air can damage the solenoid valves.**

The pulse interval and duration are controlled by the solid state timer. The pulse interval is factory set at 30 seconds (field adjust to 10 seconds for demand pulse option), which is satisfactory for most installations. However, since dust loads, media velocity and other factors will vary from one installation to another, it may be necessary to readjust the pulse interval to meet individual requirements. Contact your AAF representative for assistance. The duration, preset at 60 milliseconds, is also adjustable. THE DURATION SHOULD NOT BE ADJUSTED WITHOUT CONSULTING YOUR AAF REPRESENTATIVE.




**PRINTED CIRCUIT PROGRAM TIMER CONTROL**

**FIG. 1**

## GAUGE INSTALLATION

A suitable pressure gauge for measuring collector pressure drop (or optional photohelic gauge/switch) must be installed before initial startup. Using appropriate tubing and connectors (copper or aluminum tubing is recommended), connect the gauge high pressure port to the static tap in the housing side (lower pressure tap); connect the gauge low pressure port to the static tap on the side of the clean air plenum (upper pressure tap).

## PLACEMENT

Be sure the legs and bracing are assembled correctly before placing the collector on the foundation. Precaution in handling the collector cannot be over emphasized. It is imperative that the collector be lifted using the lugs by those skilled in rigging, heavy equipment handling, and using spreader bars. Consult your AAF representative on questions regarding collector weights.

Level the collector after placing it on the foundation. Securely tighten all bolts to the leg base plates and grout.

## COLLECTOR ASSEMBLY PROCEDURE (Figure 2)

The enclosed shipping sheets (Form 1281) and assembly drawings will identify all the parts necessary for the construction. Where possible, an item number appears on the part and the parts can be identified by finding the corresponding item number on the shipping sheets and installation drawings.

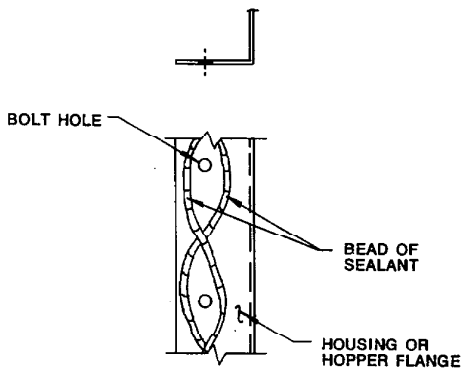
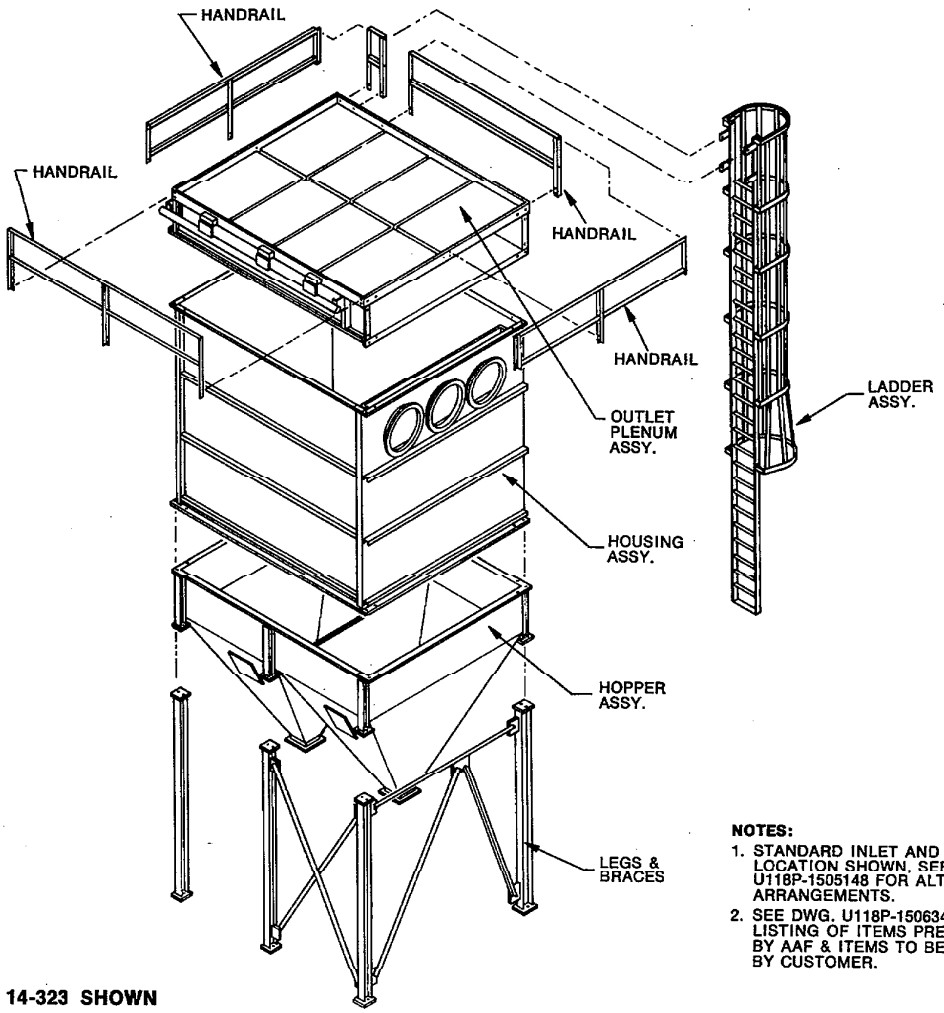



FIG. 3

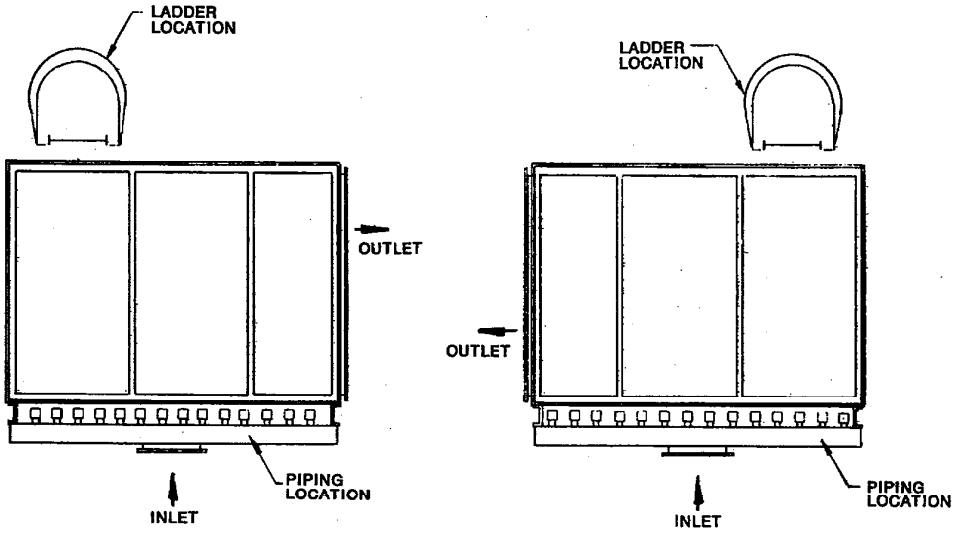
All hardware used in assembly comes in kits labeled with item numbers and the installation drawings specify the kit to be used.




NOTES:
1. STANDARD INLET AND OUTLET LOCATION SHOWN. SEE DWG U118P-1505148 FOR ALTERNATE ARRANGEMENTS.
2. SEE DWG. U118P-1506344 FOR LISTING OF ITEMS PRE-ASSEMBLED BY AAF & ITEMS TO BE ASSEMBLED BY CUSTOMER.

FIG. 2 SIZE 14-323 SHOWN

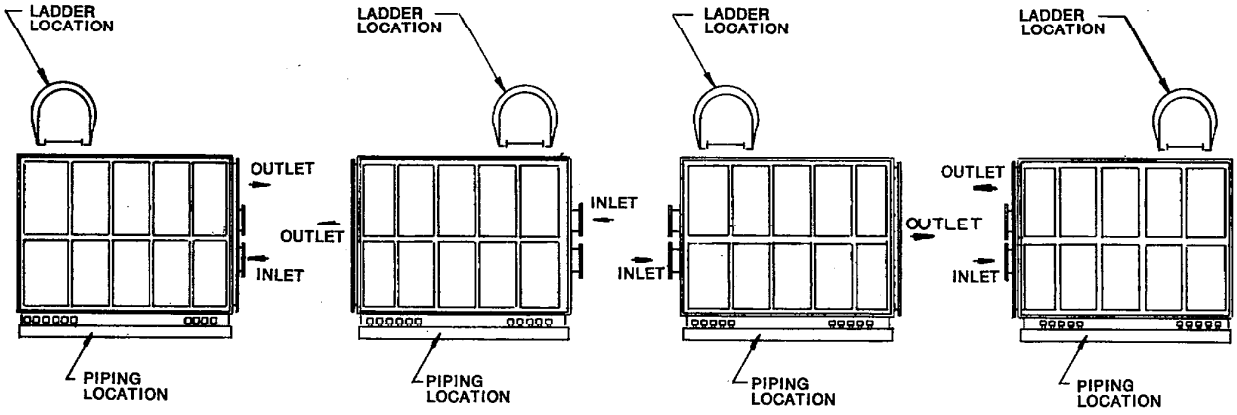
SIZES 80 THRU 128




STANDARD INLET STANDARD OUTLET

STANDARD INLET ALTERNATE OUTLET

SIZES 153 THRU 323




STANDARD INLET STANDARD OUTLET

STANDARD INLET ALTERNATE OUTLET

ALTERNATE INLET STANDARD OUTLET

ALTERNATE INLET ALTERNATE OUTLET

FIG. 4

ALL JOINTS BETWEEN HOUSING AND CLEAN AIR PLENUM AND BETWEEN HOUSING AND HOPPER MUST BE AIR TIGHT. All bolted connections must be sealed with the sealing compound provided. Reference Figure 3 for the recommended procedure for applying sealer to a housing flange. Use this procedure for all bolted joints.

All collectors are shipped as three major subassemblies: clean air plenum with surge tank assembly, housing assembly and hopper assembly (which includes stub legs). Various loose parts as described in previous sections are shipped separately.

General erection procedure:

a. Assemble legs, horizontal braces, X-braces and V-braces to customer prepared foundation using hardware furnished in kit form. Refer to erection drawings in the instruction envelope.

b. Adjust legs, braces and foundation bolts to obtain plumb, square and level structural support. (Final torquing of bolts to be done later.)

c. Bolt hopper assembly into place on structural supports using hardware furnished, making certain that hopper is correctly oriented. CAUTION — When lifting hopper assembly, it is recommended that spreader bars be used and that load be equally distributed on all lifting lugs.

d. Recheck hopper flange for level making whatever adjustments are necessary to obtain level hopper flange "end to end" and "side to side". Torque all connection bolts per recommendations of AISC and grout foundation bolts.

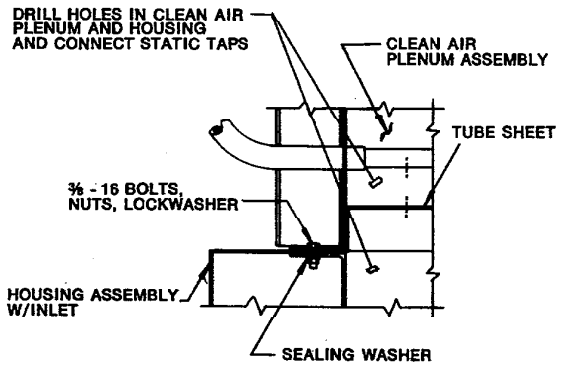
e. Apply sealant (furnished) around hopper flange making certain that all bolt holes are circled, Figure 3. Lift housing into place on hopper flange, making certain that inlet is correctly oriented, see Figure 4, (again, using spreader bars, etc.). Install and securely tighten flange bolts.

f. Apply sealant (furnished) around top of housing flange making certain that all bolt holes are circled. Lift outlet plenum assembly into place on housing flange (again, using spreader bars) making certain that outlet and surge tank location are in accordance with required collector arrangement, see Figure 4. Install and securely tighten flange bolts.

## LADDER AND HANDRAIL ASSEMBLY

It is necessary to install the access ladder and handrails after the assembly of the collector. The first step is to raise the handrails into place and secure them with bolts at the posts. The kickplates are integral to the outlet plenum assembly and are already fastened into place. Refer to the installation drawings for details.

The access ladder assembly is complete with a safety cage and mounting brackets. Match drill and bolt or weld the ladder to the collector housing as shown in the installation drawing. The lower portion of the ladder assembly has two mounting brackets which attach to the housing and a lower mounting bracket which bolts to the hopper/housing flange. Ladder mounting brackets may be bolted or field welded to the collector.




**CROSS-SECTION OF HOUSING FLANGE DIRECTLY ABOVE HOUSING INLET**

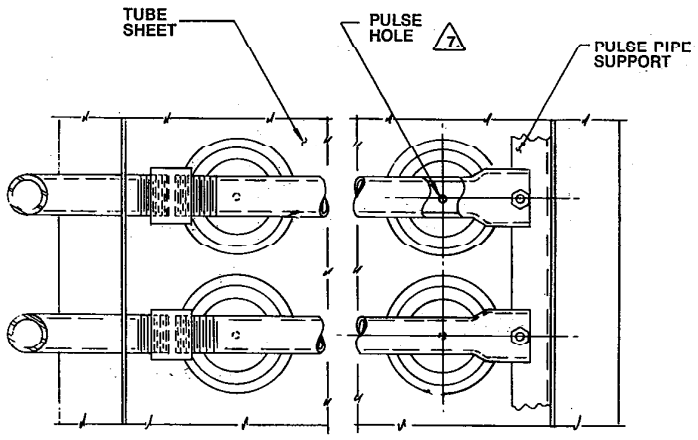
**FIG. 5**

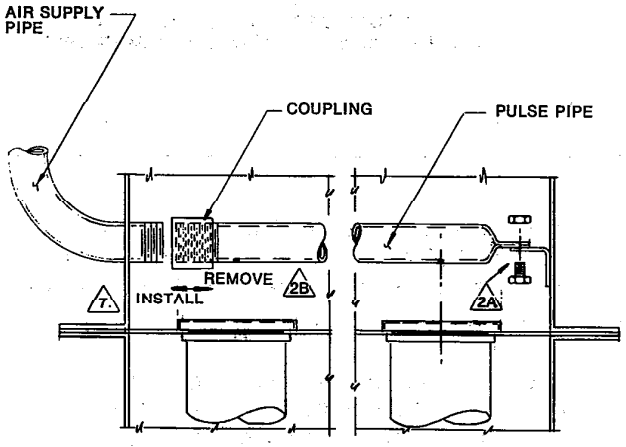
## COMPRESSED AIR PIPING

Figure 5 illustrates the NEMA 4 arrangement of the diaphragm valves, solenoid valve assemblies, and compressed air manifold. For more detail and for the NEMA 9 arrangement, refer to the assembly drawings. All piping to the surge tank is completed at the factory. The only requirement will be to connect an air supply to the 1½" pipe coupling at the desired end of the surge tank.

## PRESSURE DROP GAUGE

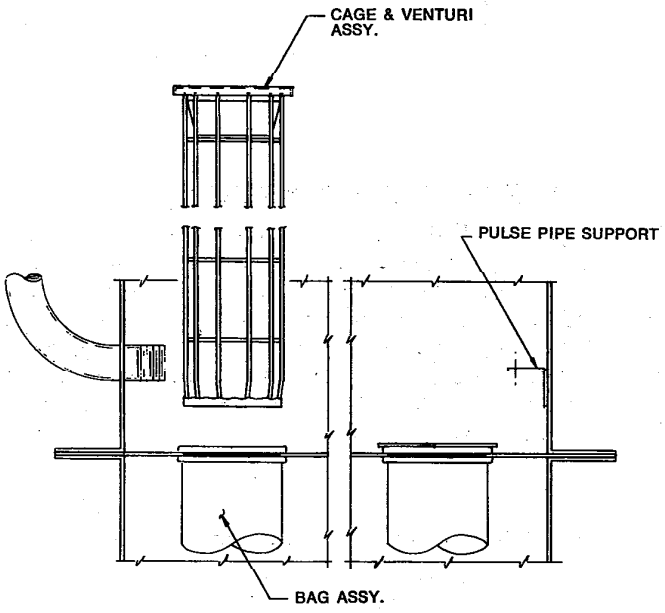
Install the pressure drop gauge and static taps. This gauge is to be located in an accessible location. One static tap must be above tube sheet (in the clean air plenum) and the other below the tube sheet (in the housing). See Figure 5. This gauge will measure the pressure drop across the bags.

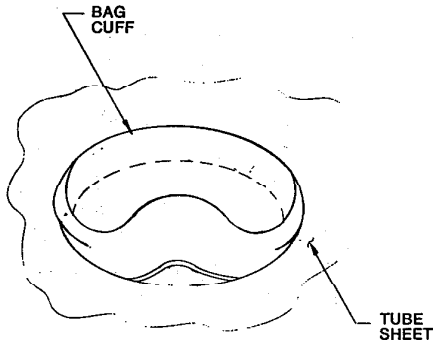



**FOR INITIAL INSTALLATION OR SERVICE**

1. OPEN ROOF DOORS FOR ACCESS TO BAGS (NOTE: BE SURE TO SECURE DOORS TO HANDRAIL WITH CHAIN BEFORE SERVICING).
2. REMOVE PULSE-PIPES AS FOLLOWS:
   A. REMOVE CAP SCREW & LOCK NUT FROM END OF PULSE PIPE.
   B. SCREW COUPLING ONTO PULSE PIPE UNTIL IT DISENGAGES FROM AIR SUPPLY PIPE, AND THEN REMOVE PULSE PIPE.
3. IF PERFORMING SERVICE:
   A. REMOVE CAGE/VENTURI ASSY.
   B. REMOVE BAG BY COLLAPSING BAG CUFF INTO HALF MOON SHAPE AS SHOWN AND LIFTING OUT.
   NOTE: ON INITIAL INSTALLATION, CAGE/VENTURI ASSEMBLIES AND BAGS ARE SHIPPED LOOSE.
4. INSTALL NEW BAG AS FOLLOWS:
   A. INSERT CLOSED END OF BAG THRU TUBE SHEET HOLE UNTIL BAG CUFF IS NEAR TUBE SHEET.
   B. COLLAPSE BAG CUFF INTO HALF MOON SHAPE AND INSERT AS SHOWN.
   C. SNAP BAG CUFF INTO POSITION MAKING SURE CENTER GROOVE OF CUFF SEALS PROPERLY AT TUBE SHEET.
5. INSERT CAGE/VENTURI ASSEMBLY INTO THE INSTALLED BAG. THE CAGE TOP SHOULD FIT SNUGLY ON TOP THE BAG CUFF.
6. REPEAT STEPS 4 AND 5 AS REQUIRED UNTIL ALL BAGS AND CAGE/VENTURI ASSEMBLIES ARE IN PLACE.
7. RE-INSTALL PULSE ASSEMBLIES BY REVERSING STEP 2 AND VERIFY THAT PULSE HOLES ARE POINTED DOWN AND CENTERED OVER BAGS.
8. SHUT ROOF DOORS AND SECURE LATCHES.




**BAG INSTALLATION OR REMOVAL VIEW**

**FIG. 6**

## BAG, CAGE & VENTURI ASSEMBLY, AND PULSE PIPE INSTALLATION

The bag, cage and venturi assembly, and pulse pipe assembly is illustrated in Figure 6. Be sure the inlet and outlet ductwork is connected before installation of the bags. Always handle the filter bags with care and keep them dry. CAUTION — During reinstallation of pulse pipes, check to see that holes in the pipe align over the center of the venturi and point downward.

## ROOF DOORS

After the bags, cage and venturi assemblies, and pulse pipes have been installed, unchain and close the roof doors. Rotate the clips between adjacent doors to the vertical position, install the metal strips and tighten wing knobs. Ensure that all doors are fully sealed. You are now ready to start the collector. Review the instructions thus far in this bulletin and inspect the collector to be sure everything is assembled correctly. Make sure that bolted joints and connections are properly tightened.

## Initial Start-up Instructions

1. Check the compressed air lines to be sure they are connected to the manifold. Turn on the compressed air supply and adjust the pressure to 80 to 100 psig.
2. Check the bag(s) to assure they are in sealed position in the collector. Close the door(s) and secure tightly.
3. Be sure that the hopper discharge device is operating properly.
4. Energize the solid state timer panel. The "on" light inside the enclosure will be lit.
5. Listen for the firing of the diaphragm valves and pilot solenoid to determine that they are working properly. (Momentarily set demand pulse pressure switch to zero to check pulsing, and then reset at 3″ to 5″ w.g.).
6. BEFORE INTRODUCING ANY DUST TO THE COLLECTOR, TURN THE POWER OFF TO THE TIMER PANEL.
7. Start the fan with the fan damper or duct blast gates partially open. At the same time observe the magnehelic (or photohelic) gauge. This gauge indicates the pressure drop across the dust cake and fabric. Rising pressure on the gauge shows that dust is being collected on the bag. When the gauge shows 3″ to 5″ w.g., the fan damper or duct blast gates may be opened to the full normal position. Simultaneously, the power should be turned on to the timer panel.
8. Check the magnehelic gauge again. It should read a minimum of 3″ to 5″ w.g. with slight fluctuations each time a pulse occurs. If the pressure drop is not 3″ to 5″ w.g., the factory preset pulse interval of 30 seconds must be changed. Decrease the interval for high pressure readings and increase the interval for low pressure readings. Should it not be possible to maintain the nominal 3″ to 5″ w.g., consult your AAF representative. DO NOT ADJUST THE PULSE DURATION BEFORE CONSULTING AN AAF REPRESENTATIVE.
9. The procedure should also be followed after rebagging the unit.

## Operating Instructions

An understanding of the design and operating principle of the FABRI-Pulse is essential for effective operation and maintenance. Knowledge of the collector nomenclature is necessary so that parts can be easily identified and located.

The FABRI-Pulse is a single compartment, continuous automatic, self-cleaning cloth pulse-jet dust collector. The dirty air enters the collector through an inlet located on the side of the housing. As the dirty air passes through the filter media, the dust is deposited on the outside surface of the individual filter bags. The cleaned air leaves the filter media and rises through the inside of the bags to the clean air plenum and is exhausted through the outlet.

The filter bags are periodically cleaned by bursts of compressed air that are injected down the inside of the bags. Since only a few of the bags are cleaned at one time the unit remains in continuous operation. The collected dust falls into the hopper after each pulse.

Hoppers are designed to receive the dust and are not for storage. The recommended practice is to continuously empty the hopper by means of a rotary lock and/or screw conveyor, or by some other discharge device. When flat bottom hoppers or barrels are used, they must be emptied on a periodic basis to prevent dust reintrainment. Reintrainment will decrease collector efficiency, reduce bag life, and result in increased operating pressure.

## Maintenance

1. **Daily** — Record the collector pressure drop daily for at least the first 30 days of operation. Adverse operating conditions can be detected by a change in pressure drop. A magnehelic or photohelic gauge is supplied by AAF. This gauge will provide the pressure drop reading across the dust cake and fabric. After start-up, the pressure drop will gradually rise to its normal operating level which will be about 3″ to 5″ w.g.
2. **Monthly** — A regular inspection of the filter bags should be made at least every 30 days. Any faulty or worn tubes must be replaced to prevent damage to the collector. The compressed air line reg-

ulator, dryer and filter should be checked for proper operation. Also inspect the dust discharge device on the hopper outlet for proper operation.

3. **Six months** — Ducts leading to and from the collector should be inspected for dust build-up at least once every six months. In addition, the following inspections should be made:
   a. Examine the fabric tubes for wear with special attention to seams and stitching.
   b. Examine internal componets for wear.
   c. Inspect all joints for evidence of air or dust leakage.
   d. Check for evidence of moisture or dust build-up within the collector.
   e. Check all electrical apparatus for proper operation.
   f. Check to see if the diaphragm and solenoid valves are pulsing when energized by the timer.
   g. Check discharge gas condition for signs of dust.
   h. Explosion vents.

# Trouble Shooting

## 1. HIGH PRESSURE DROP READING

### IMPROPER TIMER OPERATION

Check the wiring, fuses, and setting of pulse duration and interval. DO NOT ADJUST THE PULSE DURATION WITHOUT CONSULTING AN AAF REPRESENTATIVE.

### INSUFFICIENT COMPRESSED AIR

Check the air supply to be sure the compressor is providing 80 to 100 psig. Check for a plugged filter in the compressed air line.

### SOLENOID PILOT VALVE MALFUNCTION

Listen to be sure the solenoids are firing. Check for momentary air venting each time it fires. Clean or replace if necessary.

### LEAKY DUST DISCHARGE DEVICE

A leaking rotary lock, screw conveyor, slide gate, etc. can overload a FABRI-Pulse by preventing dust discharge. This will cause high pressure drop, excessive bag wear and reduced air volume.

### CONDENSATION

High humidity will create blinded bags which results in excessive pressure drop. Run the cleaning mechanism with the fan off and program timer on to release the dust cake. If condensation is a recurring problem, pre-processing warm-up and post-processing purge periods of 15 to 30 minutes each may help. Exterior insulation may also be necessary. Sources of moisture may come from leaky process ductwork, moisture in the process gas stream, or moisture in the compressed air system.

### STATIC ELECTRICITY

Static electric build-up can cause a high pressure drop. Increase the humidity if possible, using discretion to avoid creating condensation. Grounded bags may also be required.

### COLLECTOR OVERLOADS

Too much air or too much dust will create high pressure drops across the collector. Check the fan speed, system design, pre-cleaners and the damper position. Also be sure the dust load and air volume are those the system was designed to handle.

## 2. VISIBLE DISCHARGE

### IMPROPERLY INSTALLED OR DAMAGED BAGS

Check for holes or rips in bags. Replace damaged bags. Reseal bags as necessary.

### IMPROPER SEALING OF THE CARTRIDGE

Vacuum dust from the clean air side of the collector. Inspect the cartridge seal. Clean or replace the seal if it is damaged.

### INSUFFICIENT DUST CAKE

The unit could be pulsing too often resulting in over cleaning. Check to see if the pressure drop is at least 3″. Increase pulse interval until the unit is operating stably at 3″ pressure drop minimum. DO NOT ADJUST PULSE DURATION WITHOUT CONSULTING AN AAF REPRESENTATIVE.

## 3. INSUFFICIENT HOOD CONTROL

### INCORRECT FAN ROTATION

The incorrect rotation of the fan will not provide the system static pressure or air volume required.

### FAN V-BELT SLIPPAGE

Tighten the V-belts if necessary. Replace broken or stretched belts.

### LEAKS

Leaking ductwork, access doors, explosion vents, dust discharge devices, or housing will cause insufficient suction at the pick-up point. Seal any leaks.

### CLOSED AIR PASSAGES

Clogged ducts, closed dampers or closed gates will shut off the air flow.

### UNDERSIZE DUCTS

Undersize ducts will create excessive pressure losses for which the fan may not have been sized. Duct size should be reviewed considering the design specifications and fan selection.

## 4. FABRIC BAG PROBLEMS

### OVER TEMPERATURE

Operating temperatures should not exceed specified maximum.

### HUMIDITY

Humidity can blind bags. Moisture will result in denser dustcake build-up or will cement dust to the bag. Drawing dry air through collector may dry the dust enough to allow the collector to clean with the fan off. If this doesn't work the bags must be dry cleaned or new bags installed.

### DUST CHARACTERISTICS

Each bag material is selected for specific physical and chemical characteristics which are compatible with the gas stream composition and temperature.

### DUST BUILD-UP HOPPERS

Dust build-up into the bag area will result in excessive abrasion on the bags. The build-up may be caused by a malfunction of the discharge device or condensation in the hopper. A vibrator or hopper heaters with insulation may have to be added to the hoppers.

### BIG WEAR ON THE INSIDE

Dirt on clean side of bags will wear the bags out from inside. This could be the result of a broken bag, or incorrect bag installation or an improper tube sheet seal. Vacuum the clean air side, replace the bag, correct the seal and reseal the cartridge. Do not blow dirt inside the bags. If the bags have dust inside them, vacuum them out.

## REPLACEMENT PARTS

| Part No. | Description | Recommended Spares |
|---|---|---|
| 2341881-1 | Diaphragm Valve Repair Kit | 10% Number Required |
| 2338481 | Pilot Valve Repair Kit (Nema 4) | 10% Number Required |
| 2341899-1 | Pilot Valve Repair Kit (Nema 9) | 10% Number Required |
| 118-1328665-1 | Printed Circuit Program Timer | 1 Timer |

### WARNING

Efficient fan sizing includes an allowance for pressure drop across filter media with a thin residual dust cake as the normal operating condition. During the initial dust caking period for NEW media, unit airflow may have to be restricted to avoid fan motor overload. Partial blank-off of the inlet or outlet will do. Fan motor amperage readings will indicate need and adequacy.

DO NOT OPERATE FAN FOR EXTENDED PERIODS WITHOUT IMPOSING THE PRESSURE DROP INDUCED BY CONDITIONED MEDIA OR CHECKING FAN MOTOR AMPERAGE.

**For Certified AAF Parts**
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