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DUST COLLECTOR (TOP REMOVAL – BAG & CAGE) INSTALLATION AND OPERATING INSTRUCTIONS

OPERATING PRINCIPLE (Figure 1, 2)

- A.** Solids laden air or gasses enter unit at hopper of housing inlet.
- B.** Air passes through filter media.
- C.** Solids are retained on filter surface.
- D.** Filtered air is exhausted through clean air plenum.
- E.** Cleaning cycle consists of a momentary blast of 100 psig compressed air.
 - Momentarily taking row of bags off stream through pressure reversal;
 - Flexing filter bags;
 - Solids are released to fall to hopper and through unloaded system.
- F.** Cycle timer is adjusted to maintain approximately 4" Δ P across filter bags.

INSTALLATION OF TOP REMOVAL BAG& CAGE FILTERS

- 1.** Insert the filter bag in the tubesheet (Figure 4A) by slowly feeding the bag through the hole using the seam as a guide to keep the bag straight. A twisted bag will hinder the insertion of the bag cage / venturi assembly. Care should be taken in dropping the filter bag through the hole making sure the fabric does not rub against the edge of the hole.
- 2.** Grip the open end of the filter bag and bend the stainless steel band that is sewn in the collar so it forms into a kidney shape configuration. (Figure 4B).
- 3.** Roll the bag collar into the hole of the tubesheet allowing it to snap into place (Figure 4C). Smooth the collar by hand, making sure the beads are uniformly in place above and below the tubesheet.
- 4.** Install cage through snap band all the way to the bottom so it sits on the tubesheet (Figure 4D)
- 5.** After a complete row of bags and cages have been installed, mount the blowpipe onto its supports (Figure 2). Fasten the blowpipe to the support angle at the far end of the collector, making sure the pulse pipe holes are directed downward. Attach and tighten the coupling on the opposite end of the blowpipe to complete the installation. Insert the blowpipe into the wall coupling far enough to clear the slotted support at the other end. Push into slot and then tighten wall coupling – hand tighten only (do not use a pipe wrench).

DIFFERENTIAL GAUGE OPERATION AND INSTALLATION

The differential pressure gauge provides the information which governs the setting of cleaning mechanism “off” time. Generally, the Dust Collector will operate at less than 4” W.G. differential pressure at a timer “off” time of 10-12 seconds preset at factory.

The differential gauge is supplied complete with fittings and tubing for hook up between the clean and dirty side of the dust collector. (Figure 5).

Upper Baghouse fitting should be connected to the lower part in the differential pressure gauge. Lower Baghouse fitting will connect to the upper part in the gauge.

CLEANING MECHANISM CONTROL AND WIRING

See timer and/ or control panel for wiring information.

START-UP CHECK LIST

- **Compressed Air** – A one to two inch supply line carrying 85 psig minimum should be connected. A ball valve is supplied on every header for purging moisture from the header.
- **Filter Media** – installed as shown in Fig.4
- **Differential pressure gauge or manometer** – installed as shown in Fig. 5
- **Timer Mechanism** – as shown in Diagram and that the fuse is ok.
- **Auxiliary Equipment** – Check to see that there are no foreign objects in rotation equipment and rotation of fan.
- **Duct work** – Check to see that all connections are tight

START-UP DUST CONTROL SYSTEMS

- Set the fan damper at about 60 to 70% closed.
- Start timer and be certain that the compressed air supply valve is open. On time of pulse should be set at 100-110 milliseconds preset at factory.
- Start main fan.
- After 20 minutes operation, open fan damper to desired setting. Observe differential pressure, if less than 2” W.G. increase valve “off” time 2 or 3 seconds at a time during the first 8 hours until the differential pressure is 3.5” to 4.0”.

SHUT DOWN

Dust Control Systems – Reverse start up procedure, shut down fan, then after 5 or 10 minutes delay, shutdown the timer and discharge system.

Wiring shown for 10 output timer – similar for 4, 6, and 22 position timers.

Wiring Notes

1. Operating Logic: Input power is applied to L1 and L2 at all times upon closure of the isolated control contacts the present “Off” time is initiated. At the end of the “Off” time, the control will energize a solenoid to provide the cleaning pulse and then transfer to the next solenoid. The cycle continues until the control contacts are opened.
2. Input: 105 to 135 VAC 50/60 Hz.
3. On pulse time width 50 – 500 milliseconds, “On Time” has been preset at factory do not adjust.
4. Recommended wire size No. 16 AWG.
5. Recommended on-off switch by customer to be installed near timer.

TROUBLESHOOTING CHECKLIST

VISIBLE EXHAUST DUST LOST	SOLUTION
Missing Bag – duct loss will be constant, not in synchronization with valve blasts.	Locate and replace missing bag.
Improperly installed bags. Loose clamp or bag tops not clamped between cage and venture collar.	Inspect bag connections. Retighten bag clamps.
Holes in bags. Can be from damage during installation, abrasion or worn out bags.	Inspect for worn or damaged bags.
Failure to clean plenum after bag failure	Always check plenum, clean if necessary before installing new bags.
LOSS OF COMPRESSED AIR	SOLUTION
Piping Leaks	Retighten fittings
Debris in diaphragm valve	Remove cover and clean
Dirt in solenoid plunger	Remove cover and clean
Electrical short	Refer to wiring diagram and check for proper connections.
HIGH DIFFERENTIAL PRESSURE	SOLUTION
Over Volume	Cut back on fan damper
Compressed air pressure below 75 psig	Check for system leaks, new usage or as above. Check compressed air valve assembly
Timer skipping one or more valves	See Timer diagram
SYSTEM VOLUME TOO LOW	SOLUTION
Fan running backwards	Correct fan rotation
High differential pressure	Review Section C above
TIMER PROBLEMS	SOLUTION
Timer does not operate	Check for faulty wiring-refer to wiring diagram.
Power “ON” indicator not lighted	Check wiring diagram with input/output terminals for short circuit. Check for blown fuse.
Timer operates, solenoids do not operate	Check wiring diagram for valve common open.
Timer operates one or more solenoids	Check valve continuity for faulty solenoid circuit. Check output light and voltage at terminal for faulty output terminal. Check solenoid valve, clean, repair or replace if necessary.
Improper timer sequence	Check valve “on” and “off” times.

ROUTINE MAINTENANCE:

A. INSPECTION

1. Daily – Check unit differential pressure.
2. Weekly – Check timer and solenoid valves for function. This is usually only listening to check uniform time interval between blasts.
3. Monthly – Lube fan, rotary valve and screw conveyor. Check seals for dust loss.
4. Quarterly – Inspect bags for “soft to hand” condition and uniform tightness of clamps.

B. REPAIRS

1. Filter bags – generally replacement.
2. Solenoid Valves – clean, repair or replace
3. Diaphragm Valves – clean repair or replace
4. Rotary Valves – Usually a matter of periodic seal and blade replacement.
5. Screw Conveyors – Periodic replacement of “V” belts and shaft seals. Inspect hanger bearings during filter bag change.
6. Fans – “V” belt tension and replacement of bearings if running rough.

C. SAFETY

Before entering any dust collector:

1. Run cleaning mechanism 10 minutes with the fan off to clean down filter bags.
2. Run solids out of hopper.
3. Lock out electrical power
4. On toxic operation purge collector housing and install blank in inlet duct.
5. Install catwalks and safety cables.
6. Secure access doors in open position or remove doors by lifting off of hinge pins.
7. Use buddy system.
8. Wear respirator.

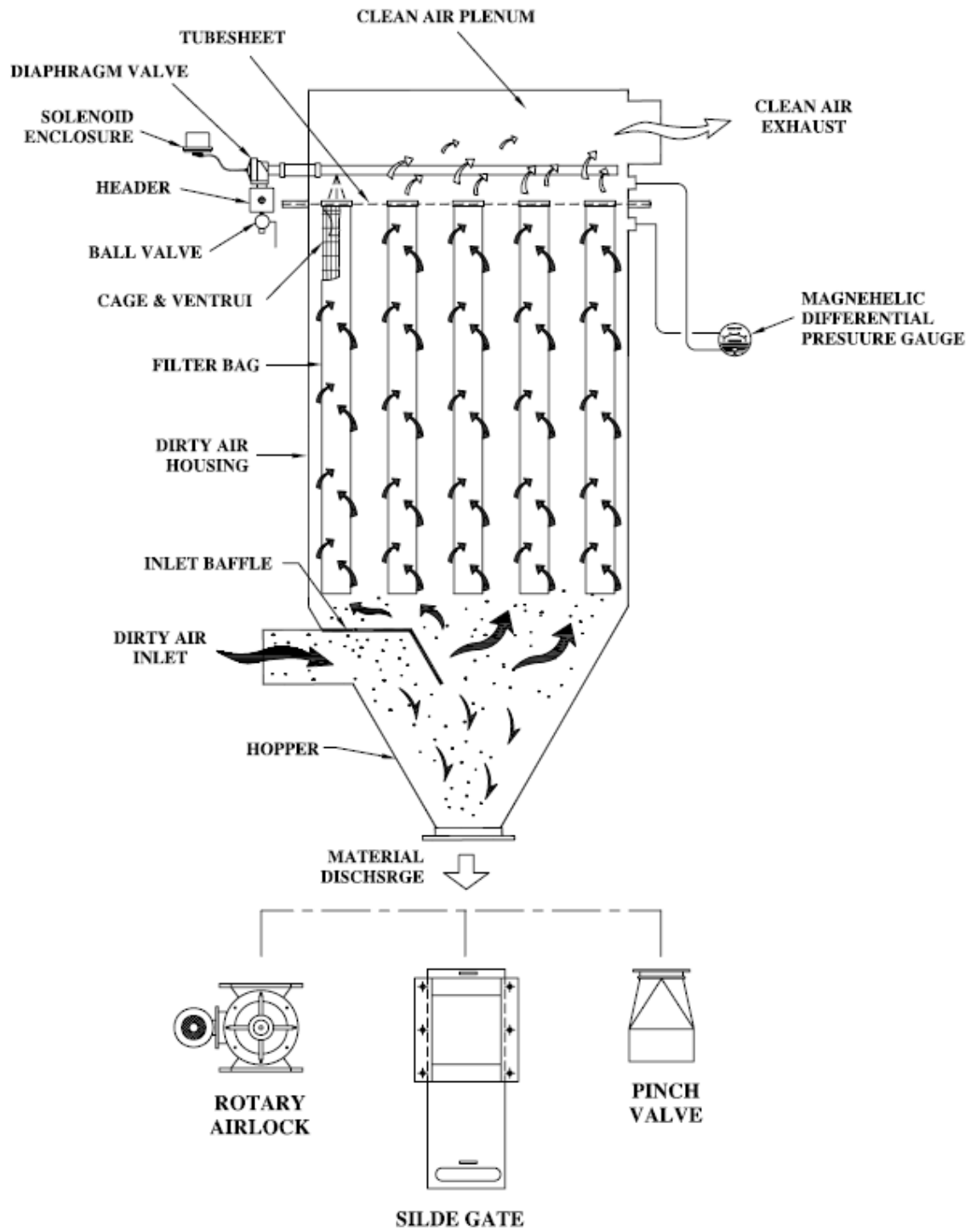


Figure 1 Operating Principle

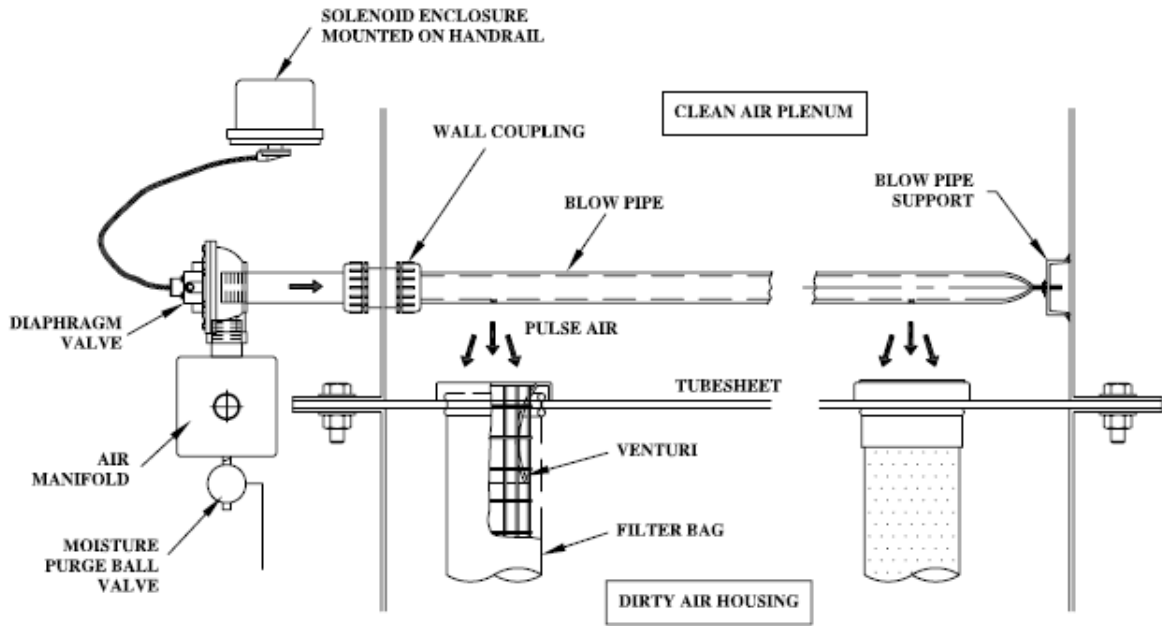


Figure 2 Operating Principle

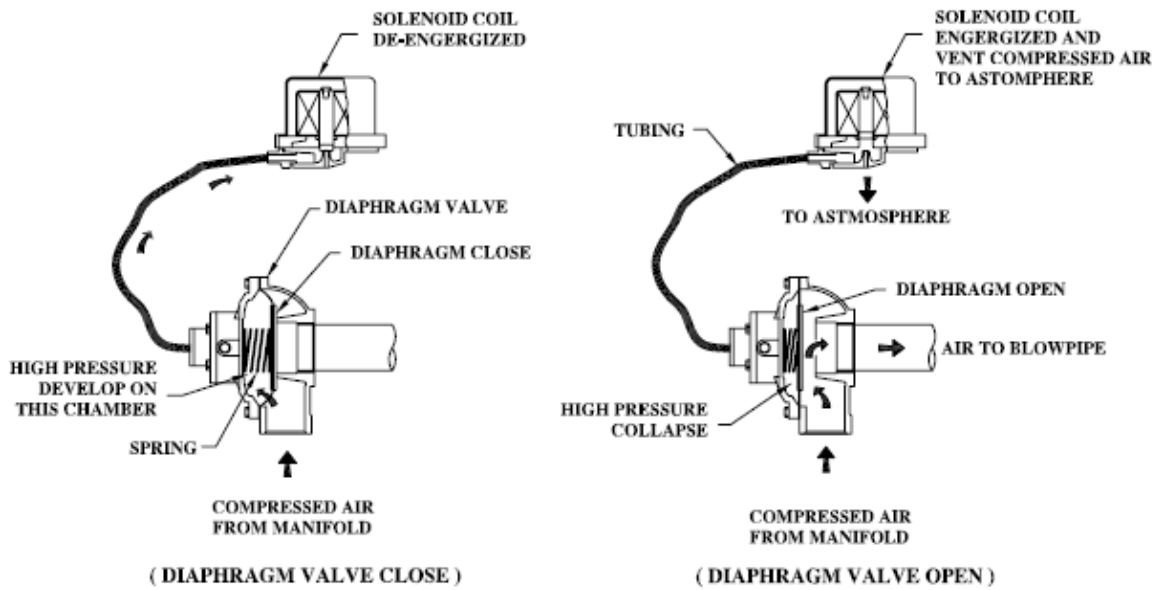


Figure 3 Solenoid Operational Diaphragm

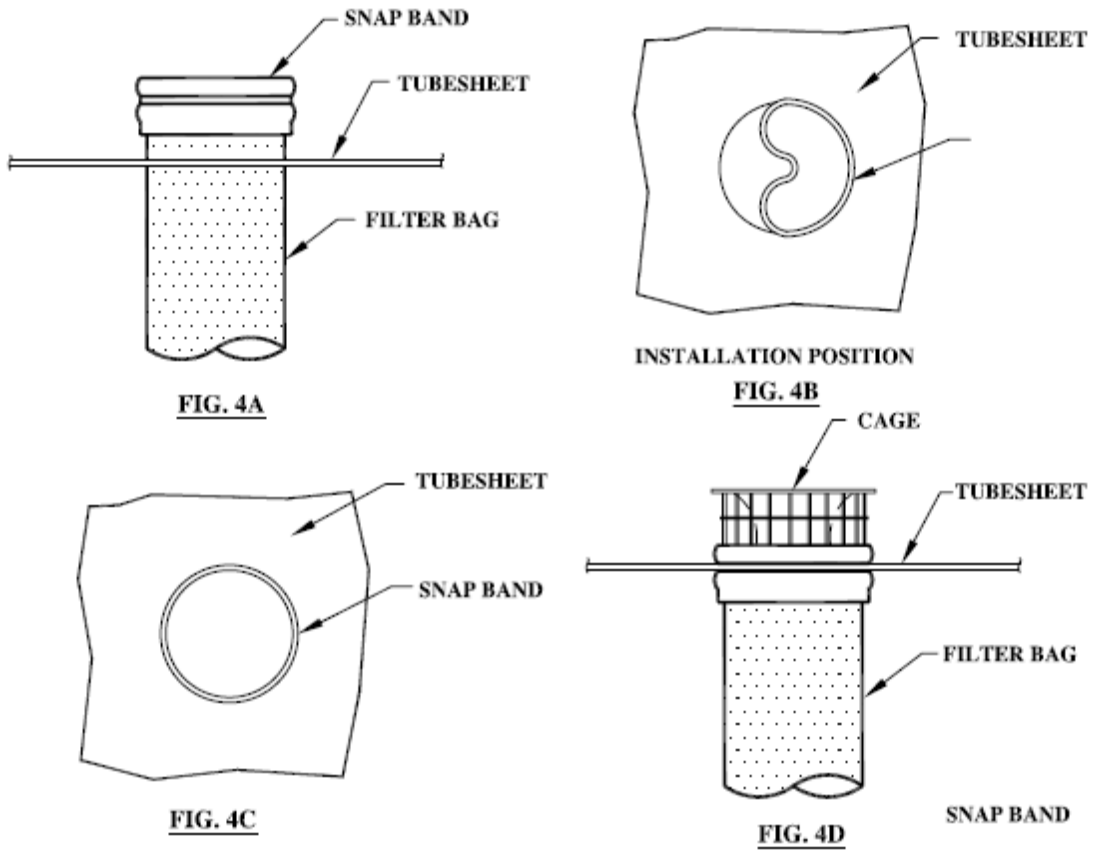


Figure 4 Bag and Cage Installation

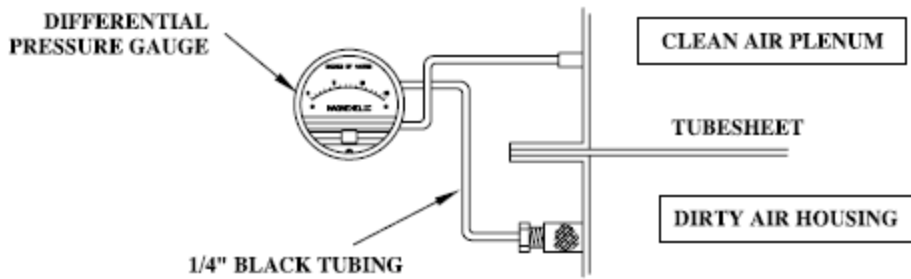


Figure 5 Magnehelic Pressure Gauge Installation