MILES
SAND & GRAVEL

OFFICE: 253.833.3705
FAX: 253.833.3746

400 Valley Ave NE
Puyallup, WA 98372-2516

May 29, 2024

Abi Roberts
Olympic Region Clean Air Agency
2940 Limited Lane NW
Olympia, WA 98502

Rochester NOC Dust Vent Replacement

Abi,

Miles Sand and Gravel is submitting a Notice of Construction (NOC) upon the request of the Olympic Region Clean Air Agency (ORCAA) for replacing two dust vents on an existing concrete batch plant located in at 19221 Sargent RD SW Rochester WA 98579.

The existing dust vents were replaced with modern Vince and Hagans Model VH 245JP Jet Pulse Dust Collector meeting the best available control technology standard. The NOC outlines the scope of work, the equipment to be used, and the anticipated environmental impact during operations.

Enclosed:

- Form 1 – Notice of Construction
- Form 12 – Baghouse
- Vince & Hagan Model VH-245JP O & M Manuel
- Vince & Hagan Model VH-245JP Brochure
- Check for Fee

Please reach out at if you need any additional information or questions at ryan.ransavage@miles.rocks or 253-377-1760

Sincerely,

Ryan Ransavage
Earth Resources Manager

OLYMPIC REGION CLEAN AIR AGENCY

2940 Limited Lane NW - Olympia, Washington 98502 - 360-539-7610 – Fax 360-491-6308

FORM 1- NOTICE OF CONSTRUCTION

TO CONSTRUCT - INSTALL - ESTABLISH OR MODIFY AN AIR CONTAMINANT SOURCE

Form 1 Instructions:

1. Please complete all the fields below. **This NOC application is considered incomplete until signed.**
2. If the application contains any confidential business information, please complete a Request of Confidentiality of Records (www.orcaa.org/forms).
3. Duty to Correction Application: An applicant has the duty to supplement or correct an application. Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application must, upon becoming aware of such failure or incorrect submittal, promptly submit supplementary factors or corrected information.

Business Name: Miles Sand & Gravel Company	**For ORCAA use only**
Mailing Address: 400 Valley Ave NE, Puyallup, WA 98372	File No: County No: Source No: Application No:
Physical Address of Project or New Source: 19221 Sargent Rd SW, Rochester, WA 98579	Date Received:
Billing Address: 400 Valley Ave NE, Puyallup, WA 98372	

Project or Equipment to be installed/established:

Two Vince Hagan VH-245 Dust Collectors for Concrete Batch Plant

Anticipated startup date: ___ / ___ / 2018 Is facility currently registered with ORCAA? Yes [x] No [ ]

This project must meet the requirements of the State Environmental Policy Act (SEPA) before ORCAA can issue final approval. Indicate the SEPA compliance option:

- [ ] SEPA was satisfied by _____ (government agency) on ___/___/___ (date) - Include a copy of the SEPA determination
- [ ] SEPA threshold determination by _____ (government agency) is pending - Include a copy of the environmental checklist
- [x] ORCAA is the only government agency requiring a permit - Include ORCAA Environmental Checklist
- [ ] This project is exempt from SEPA per _____ (WAC citation).

Name of Owner of Business: Walt Miles		Agency Use Only
Title: President		
Email: waltm@gravelpits.com	Phone: 253-833-3705	
Authorized Representative for Application (if different than owner): Ryan Ransavage		
Title: Earth Resources Manager		
Email: ryan.ransavage@miles.rocks	Phone: 253-377-1760	
I hereby certify that the information contained in this application is, to the best of my knowledge, complete and correct.		
Signature of Owner or Authorized Representative: (sign in Blue Ink)		
Ryan R	**Date:** 5/23/24	

IMPORTANT: Do not send via email or other electronic means. ORCAA must receive Original, hardcopy, signed application and payment prior to processing application.

OLYMPIC REGION CLEAN AIR AGENCY

2940 Limited Lane NW - Olympia, Washington 98502 - 360-539-7610 – Fax 360-491-6308

FORM 1D- Contact Information

Business Name	**FOR ORCAA USE**
Miles Sand & Gravel Company	**FILE #**
Physical Site Address (Street address, city, state, zip)	**CTY #**
	SRC #
400 Valley Ave NE, Puyallup, WA 98372	**Date Received**
Previous Business Name (if applicable)	
N/A	

Contact Information

Inspection Contact			
Name	Ryan Ransavage	Title	Earth Resources Manager
Phone	253-833-3705	Email	ryan.ransavage@miles.rocks
Billing Contact			
Name	Ryan Ransavage	Title	Earth Resources Manager
Phone	253-833-3705	Email	ryan.ransavage@miles.rocks
Emission Inventory Contact			
Name	Ryan Ransavage	Title	Earth Resources Manager
Phone	253-833-3705	Email	ryan.ransavage@miles.rocks
Complaint Contact			
Name	Ryan Ransavage	Title	Earth Resources Manager
Phone	253-833-3705	Email	ryan.ransavage@miles.rocks
Permit Contact			
Name	Ryan Ransavage	Title	Earth Resources Manager
Phone	253-833-3705	Email	ryan.ransavage@miles.rocks

The **inspection contact** is the on-site person responsible for the everyday operation of the site and is available for inspections.
The **billing contact** is the person invoices are sent.
The **emission inventory contact** is the person requests for emissions information and material use information are sent.
The **complaint contact** is the person who receives and responds to complaints received on-site and who is contacted regarding complaints ORCAA receives.
The **permit contact** is the person responsible for filling out permit applications and receiving approval from ORCAA.

OLYMPIC REGION CLEAN AIR AGENCY

2940 Limited Lane NW - Olympia, Washington 98502
Telephone: (360)-539-7610 – Fax: (360)-491-6308
www.orcaa.org

FORM 12

Fill out all the applicable equipment information requested below and submit the appropriate fees.

BAGHOUSE

General Information

Facility Name: Miles Sand & Gravel - Rochester	**Contact Person:** Ryan Ransavage **Phone Number:** 253-377-1760 **Email:** ryan.ransavage@miles.rocks
Facility Operating Schedule: 24 hrs/day, 7 days/wk, 52 wks/yr **Indicate days when operating:** [x] M [x] T [x] W [x] Thu [x] F [x] Sat [x] Sun	**Baghouse Operating Schedule:** 24 hrs/day, 7 days/wk, 52 wks/yr **Indicate days when operating:** [x] M [x] T [x] W [x] Thu [x] F [x] Sat [x] Sun

[x] New Unit Installation [ ] Modification	**Manufacturer:** Vince Hagan	**Model #** VH-245	**Serial #** 171001

Technical Specifications

Air Flow: Design ACFM 600 Operating ACFM 600 Temperature ambient °F max 200°F	**Particulate Control Efficiency:** Pressure Drop (inches of water) 0-8 Water Vapor Content (lbs/water/lbs dry air) _____ Fan Power (hp) No fan

Describe Filter Material:

Spun-bound polyester

Describe bag cleaning mechanism and cycle:

Pulse jet air activated with timer to operate when plant is operating.

Describe operation of baghouse, including use of safety bypasses, monitoring and maintenance schedules, and any other pertinent information relating to particulate emissions (use additional pages if necessary):

The baghouses are located on top of the cement/scm silos and operates during plant operation and cement offloading. The baghouse is triggered with a time relay. During cement or supplementary cementing materials offloading the gauge is checked to ensure pressure is within normal operating pressure for the system.

Particulate Emissions Data

Particulate Emissions:	Particulate Control Efficiency:
Inlet (gr/scf) _____	Filtering Velocity (acfm/ft^2 cloth) 2.45
Outlet (gr/scf) _____	Particulate Control Efficiency (%) 99.995% at 0.2-2 microns

Describe Particulate Emissions:

Emissions are from cement or other scm material within silos.

Micron Range	Inlet Loading (% of total)	Outlet Loading (% of total)
0 -5	_____%	_____%
5 – 10	_____%	_____%
Greater than 10	_____%	_____%

Other Information:

The following information is needed to complete the application:

1. Manufacturer brochure or technical fact sheet for filter material.
2. Scaled technical drawings of the baghouse including top, side and interior views.
3. Manufacturer brochure or technic fact sheet for baghouse.

Filing Fee: See https://www.orcaa.org/services/fee-schedules/ for an up-to-date list of fees

GENERAL REQUIREMENTS

1. **BACT for Particulate Control:** ORCAA may require demonstration of compliance based on measured stack grain loading in accordance to the procedures outlined in 40CFR Part 60 and in accordance with ORCAA's approved particulate source test procedures.

   1.1 Low Temperature Process Streams - Grain Elevators, Barley Processing, Forest Products Dust, Large Cabinet Shops:
   Particulate Limit: 0.01 gr/dscf
   Opacity Limit: 5% for entire process stream.

   These limits are appropriate for low temperature dust control when NOMEX bags are feasible.

   1.2 High Temperature Process Streams - Ceramics, Metal Dust:
   Particulate Limit: 0.01 gr/dscf
   Opacity Limit: 5% for entire process stream.

   1.3 Combustion Sources - Boilers, Asphalt Plants:
   Particulate Limit: 0.02 gr/dscf (back half included)
   Opacity Limit: 5% for entire process stream.

2. **Stack**: Emissions shall exit through a vertical stack at least 2 meters above the highest point of the baghouse. Permanent sampling ports and platforms shall be installed on the stack prior to commencement of operation. The sampling ports shall meet the requirements of 40, CFR Part 60, Appendix A, Method 1.

3. **Opacity Monitor (wood fired boilers):** Owners and operators of baghouses installed on wood fired boilers shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for continuously monitoring the boiler stack gas opacity prior to exiting to the atmosphere.

   3.1 The opacity CEMS shall be certified and installed in accordance 40CFR Part 60, Performance Specification 1 (appendix B).

   3.2 The opacity CEMS shall be equipped with a strip chart recorder or data acquisition system (DAS) capable of computing and recording stack gas opacity in three consecutive minute averages. The data acquisition system or strip chart recorder shall record and display opacity values to 0.5% opacity.

   3.3 Prior to installation of the CEMS, the owner or operator shall provide ORCAA a written manufacturers certificate of conformance with Performance Specification 1.

   3.4 An opacity CEMS quality assurance plan conforming with 40 CFR Part 60 Appendix F and the EPA publication "Recommended Quality Assurance Procedures for Opacity Continuous Emissions Monitoring Systems" (EPA 340/1-86-010) shall be developed and submitted to ORCAA for approval no later than 180 days after commencement of operation.

   3.5 The opacity CEMS shall be operational and tested for compliance with 40 CFR Part 60, Appendix B Performance Specification 1 no later than 90 days after initial startup.

4. **Other:** Other requirements include; 1) monitoring of pressure drop across baghouse, 2) bag monitoring and maintenance schedule, 3) full set of replacement bags on-site, 4) emission inventory reporting, and 5) excess emissions reporting.

VINCE HAGAN

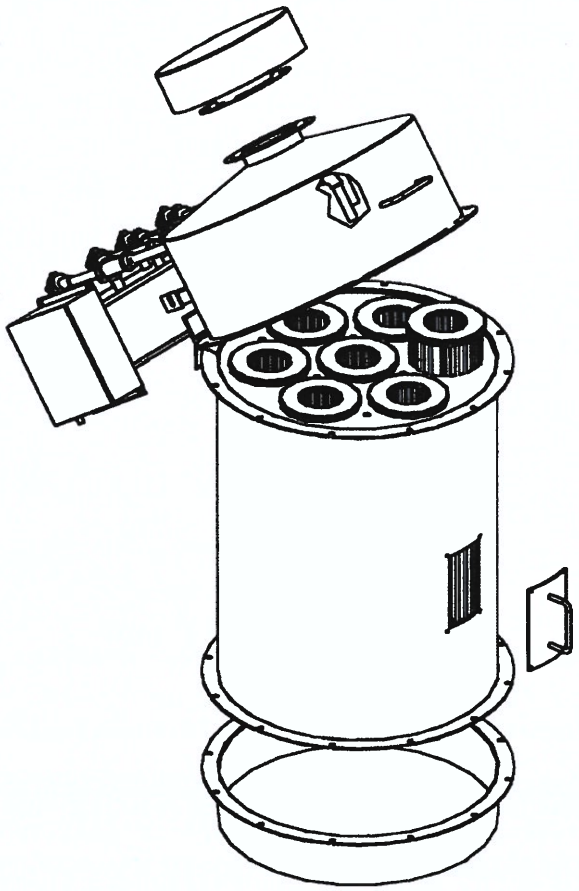
DEFINING BATCH PLANT EXCELLENCE.

MODEL VH-245JP

JET PULSE DUST COLLECTOR

OPERATION & MAINTENANCE MANUAL

PARTS LIST



MEMBER OF:

CONCRETE PLANT MANUFACTURERS BUREAU — CPMB

NATIONAL READY MIXED CONCRETE ASSOCIATION

PLANT MIXER MANUFACTURERS DIVISION — PMMD

P.O. BOX 655141 • DALLAS, TX 75265-5141 • 1601 N. WALTON WALKER 75211• (214) 330-4601 • (800) 354-3238 • FAX (214) 331-9177

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PLANT SAFETY

This Manual has been prepared and provided to you for your use solely in connection with your use of the equipment described herein. Use of this information for any other purposes is not authorized by The Vince Hagan Company and is strictly prohibited without our written consent. All information is subject to change without notice.

⚠ WARNING

All personnel involved in the operation, maintenance, repair or other use of this equipment must be properly trained with respect to such operation, maintenance, repair or other use. No person should operate, maintain, repair or otherwise use this equipment if such person is under the influence of alcohol, prescription drugs, or any other substance that may impair such person's perception or reflexes. All personnel involved in the operation, maintenance, repair or other use of this equipment must read this manual in its entirety. Failure to observe the foregoing precautions may result in serious injury or death.

NOTICE

THESE INSTRUCTIONS DEAL WITH THE NORMAL INSTALLATION AND OPERATION OF THE EQUIPMENT DESCRIBED WITHIN. THE INSTRUCTIONS SHOULD NOT BE INTERPRETED TO ANTICIPATE EVERY POSSIBLE CONTINGENCY OR TO ANTICIPATE THE FINAL CONFIGURATION OF THE EQUIPMENT.

THE INFORMATION CONTAINED IN THIS MANUAL IS CONFIDENTIAL AND IS THE PROPERTY OF THE VINCE HAGAN COMPANY. THIS MANUAL HAS BEEN PREPARED AND PROVIDED TO YOU FOR YOUR USE SOLEY IN CONNECTION WITH YOUR USE OF THE EQUIPMENT DESCRIBED HEREIN. TRANSMISSION OF ALL OR ANY PART OF THIS INFORMATION TO OTHERS, OR USE OF THIS INFORMATION FOR ANY OTHER PUPOSES, IS NOT AUTHORIZED BY THE VINCE HAGAN COMPANY AND IS STRICTLY PROHIBITED WITHOUT OUR WRITTEN CONSENT. ALL INFORMATION CONTAINED HEREIN IS SUBJECT TO CHANGE WITHOUT NOTICE.

Please call The Vince Hagan Company if you do not understand these procedures or if you have any questions. Our toll free number is (800) 354-3238.

GENERAL SAFETY

Hard hats, steel-toed shoes, and adequate eye protection must be worn around powered equipment. Loose fitting or baggy clothing is dangerous and should not be worn around power equipment under any circumstances.

Keep all caution plates and warning stickers conspicuously posted and legible. Should caution plates become damaged, or obscured, replacements are available from our factory. (See sticker samples in this section)

Equipment must be shut down with a "Do Not Start" tag on the motor control panel(s) at all times when personnel are performing maintenance, adjustments or repairs (Refer to Lockout/Tag-out procedures).

Equipment must be connected to an external ground that meets local codes before power is applied.

Use a sturdy, well-built ladder to provide access to all areas that cannot be reached from the ground. Be sure the ladder is securely placed before climbing.

Shut off the air and drain the air pressure from the system before attempting to disconnect any air lines or fittings.

Remove all tools, rags, and other stray objects from the vicinity of the equipment before starting.

SAFETY FIRST - Production with safety, both equal, both important, and both everyone's responsibility.

REGARDLESS of the care used in the design and construction of this machinery, there are many points that cannot be completely safe guarded without interfering with its accessibility and efficient operation.

LOCKOUT/TAG-OUT PROCEDURE

ON ANY AND ALL ELECTRICAL APPLICATIONS, ALL ELECTRICAL WORK MUST BE DONE BY A QUALIFIED, LICENSED ELECTRICIAN.

RESPONSIBILITY: It shall be the customer's responsibility to provide and implement his or her own Lockout/Tag-out procedure.

The following is one example of a Lockout/Tag-out procedure. You should not rely on these procedures but must independently analyze your operations and use and supplement or otherwise customize procedures for use with your equipment.

PURPOSE:
This procedure establishes requirements for the lockout/tag-out of machines or equipment whenever maintenance, adjustment or repairs are done on such machines or equipment. The machine or equipment must be stopped, isolated from all potentially hazardous energy sources, and locked out before employees perform any maintenance, adjustment or repairs. Lockout/Tag-out shall be used wherever possible.

COMPLIANCE:
All employees and other persons must comply with the restrictions and limitations imposed upon them during the use of lockout/tag-out. The authorized employees are required to perform the lockout/tag-out in accordance with this procedure. All employees and other persons, upon observing a machine or piece of equipment, which is locked or tagged out to perform maintenance, adjustment or repairs, shall not attempt to start, energize, or use that machine or equipment.

SEQUENCE OF LOCKOUT/TAG-OUT:

1. Notify all affected employees and other persons that maintenance, adjustment or repairs are required on a machine or equipment and that the machine or equipment must be shut down and locked and tagged out to perform the maintenance, adjustment or repairs.

2. The authorized employee shall identify the type and magnitude of the energy that the machine or equipment utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy.

3. If the machine or equipment is operating shut it down by the normal stopping procedure.

4. De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).

5. Lock and tag out the energy isolating device(s) with assigned individual lock(s) and tag(s).

6. Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

7. Additional steps must be taken in order to ensure that the equipment is disconnected from the energy source(s). The isolation of the machine or equipment must be relieved by operating the normal operating control(s) or by testing to make certain the machine or equipment will not operate.

CAUTION: Return operating control(s) to neutral or "off" position after verifying the isolation of the machine or equipment.

8. The machine or equipment is now locked/tagged out.

RESTORING EQUIPMENT TO SERVICE:

When the maintenance, adjustments and repairs are completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken.

1. Check the machine or equipment and the immediate area around the machine or equipment to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.

2. Check the work area to ensure that all employees and other persons have been safely positioned or removed from the area.

3. Verify that the controls are in neutral.

4. Remove the lockout devices

5. Notify affected employees and other persons that the maintenance, adjustment or repairs is completed and the machine or equipment is ready for use.

CONFINED SPACE - ENTRY PERMIT REQUIREMENTS

The Occupational Safety and Health Administration (OSHA) have issued rules designed to protect employees who work in confined spaces. OSHA has set standards for entry into confined space, designated as permit - required confined space, that pose danger to employees entering due to hazards such as toxic, explosive, or asphyxiating atmosphere.

Items manufactured by the Vince Hagan Company have been evaluated as permit-required confined spaces due to the configuration or contents.

If employees are not to enter and work in confined spaces, employers are required by OSHA to take effective measures to prevent their employees from entering.

If employees are to enter permit-required spaces, the employer should develop a written permit space program in accordance to local confined space regulations as required by OSHA. This program shall be made readily available for employees and their representatives.

This information is intended to call your attention to the OSHA rules and is not intended to be exhaustive nor to substitute for your own research and consideration of the particular needs of your work force and locality.

You should consult your own safety personnel and consultants, as well as the applicable OSHA literature to develop a program, which meets the requirements and recognizes the circumstances of your own specific needs in the use and maintenance of the equipment.

GENERAL BATCH PLANT SAFETY

The following is one example of a SAFETY RULES LIST that can be used. You should not rely on these rules but you must independently analyze your operations and use and supplement or otherwise customize rules to your "site specific" equipment.

Most accidents are caused by someone's failure to follow simple and fundamental safety rules or precautions.

A careful operator is the best insurance against an accident.

Additional safety warnings will be found as they apply throughout this manual. We strongly urge you to take note of these warnings and follow them closely.

Be sure a caution plate or danger plate is posted on, or near, each motor starter so the operator will see it. We have posted caution plates to satisfy normal requirements. Check to be sure they meet all of your requirements. (Local state & federal)

Keep all caution plates, warning, and danger stickers posted and legible. Should these plates become damaged or obscured, replace them immediately. Replacements are available from our factory.

GENERAL BATCH PLANT SAFETY RULES

RESPONSIBILITY: It shall be the customer's responsibility to provide and implement their own plant safety rules and shall be responsible for all personnel at the work site.

1. Equipment must be shut down with a "DO NOT TURN ON" tag on the motor control panel with power turned off and locked out at times when personnel are performing maintenance or adjustments on it. Padlock and place key in your pocket before servicing this equipment.

2. Equipment must be connected to an external ground, which meets all local codes before power is applied.

3. Use a sturdy, well-built ladder to provide access to all areas that cannot be reached from the ground. Be sure the ladder is securely placed before climbing.

4. Shut off the air and drain the air pressure from the system before attempting to disconnect any air-lines or fittings.

5. Remove all tools, rags and other stray objects from the vicinity of the equipment before starting.

6. Install and sound an audible alarm, and be sure that all personnel are well clear before starting any equipment or components. Due to the varying conditions at the plant sites, it is left to the plant owner to select and install the warning systems.

7. When preparing to checkout or calibrate the scales using test weights, be sure that the test weight hangers are supported adequately from the weight hopper and be sufficiently strong to support all of the weight to be applied. Test weight hangers must be long enough to apply the test weights from the working area.

8. Be careful of your hands and feet when applying the test weights. A 50-pound test weight can severely injure a hand or foot if the weight is carelessly handled.

9. Report hazardous working conditions, defective tools or equipment, or unsafe acts promptly to your supervisor.

10. Wear hard hats, safety glasses and suitable type work shoes or hard sole shoes at all times.

11. Use safety goggles or welding shield when grinding, cutting, welding, chipping, sanding or chiseling.

12. Report any injury, however minor, immediately to your supervisor, and keep your supervisor informed as to your condition and medical treatment if treatment was necessary.

13. Never attempt to do any job if you are in doubt about the safety of yourself or others. Ask your supervisor for help if necessary.

14. Keep work area clean - free of grease, spare parts, tools, rags, etc.

15. Gloves will be worn when handling a piece of equipment whereby injury may occur.

16. No person will place hands on a cable passing through a sheave or being wound around a drum within a distance of 12 feet of the sheave or drum.

17. Never direct compressed air toward yourself or another person. Compressed air for cleaning shall not exceed 30 PSI.

18. Be sure all electrical tools and equipment is properly grounded.

19. Keep oxygen and gas cylinders upright and chained. Caps will be kept on tanks not in use.

20. When operating electrical switches, stand on insulated mat. Keep switch panel front closed - guard eyes against possible flash.

21. Do not enter silo, bin, hopper, batcher (scale) or tank without supervisor's knowledge, life belt and attended safety line.

22. Operate equipment with extreme caution around and on stockpiles.

23. No one will work on or from raised equipment unless it has been securely blocked.

24. Open flame heating units are strictly prohibited.

25. Do not run on or near the equipment - watch your step - keep firm footing and proper balance at all times.

26. Employees are required to notify their supervisor if they are taking prescription drugs that may affect their performance.

27. Employees are required to wear back support belts while working.

28. Make sure everyone is clear before starting or moving any machine or piece of equipment.

29. Do not repair, operate, or ride any machine or piece of equipment without authorization from your supervisor.

30. No person shall get on or off of moving equipment at any time.

31. No equipment or machinery will be repaired while engine is running unless operation of engine is necessary for adjustment.

32. Keep guards and protective devices in place at all times except for repairs or preventive maintenance. Lock out equipment before removing guards.

33. When making repairs to any equipment, disconnect will be tagged and locked out.

34. Do not wear loose clothing, torn sleeves, key chains, rings, bracelets, etc. that may get caught in machinery.

35. Outside contractors, performing work on the plant site property, will abide by all safety rules, including the lock out procedure and the wearing of proper safety equipment.

36. Hearing protection shall be worn in any high noise area.

37. There will be no parking of any vehicles in the working area of any heavy equipment or mobile equipment. Plant mobile equipment has right-of-way at all times.

38. When entering any building, other than office buildings, you will remain alert, checking for any overhead loads or swinging loads or moving equipment that may be operating within any particular building.

39. You shall not work on scaffolding or high work places without proper guardrails, toe boards or other proper fall protection except where precautions such as safety belt or harness or life line or lanyard are used.

40. All "No Smoking" signs must be strictly obeyed.

GENERAL BATCH PLANT ELECTRICAL SAFETY RULES

ON ANY AND ALL ELECTRICAL APPLICATIONS, ALL ELECTRICAL WORK MUST BE DONE BY A QUALIFIED, LICENSED ELECTRICIAN.

RESPONSIBILITY: It shall be the customer's responsibility to provide and implement their own plant safety rules and shall be responsible for all personnel at the work site.

1. Turn the MAIN power off before doing any work on the plant.

2. Make sure the MAIN power is turned off and lockout. Padlock the MAIN disconnect than place the key in your pocket.

3. Check and make sure the MAIN power is off.

Operation of electrically powered equipment can be as safe as or as hazardous as you make it. Proper maintenance and repairs will keep it safe. Follow these simple rules for your safety and for the safety of others in the vicinity.

1. All electrical equipment must be properly grounded in order to be operated safely.

2. Always turn the main power disconnect "off" and lockout. Padlock the main disconnect and place key in your pocket before servicing the equipment.

3. Never grease, adjust, or repair the machine without turning the power off.

4. Use only the proper size and style of fuses. Keep a supply on hand and never substitute pieces of metal.

5. Keep electrical cables in good condition at all times and keep them out of water.


DANGER
KEEP HANDS
CLEAR AT
ALL TIMES


DANGER
CONFINED SPACE
ENTER BY
PERMIT ONLY


WARNING
THIS MACHINE
STARTS
AUTOMATICALLY
QS3694 © EMED Co., Inc. • 1-800-442-3633 • www.emedco.com


CAUTION
—DO NOT—
OPERATE
WITHOUT GUARD


CAUTION
KEEP HANDS
CLEAR


CAUTION
KEEP OUT


CAUTION
WATCH HEAD


CAUTION
PINCH POINT

PELIGRO

MANTENER LAS
MANOS ALEJADAS

PRECAUCION

NO OPERAR
SIN EL PROTECTOR


PELIGRO
ESPACIO RESTRINGIDO
ENTRAR
CON AUTORIZACIÓN

VINCE HAGAN MODEL VH245JP
SILO TOP "JET PULSE" DUST COLLECTOR

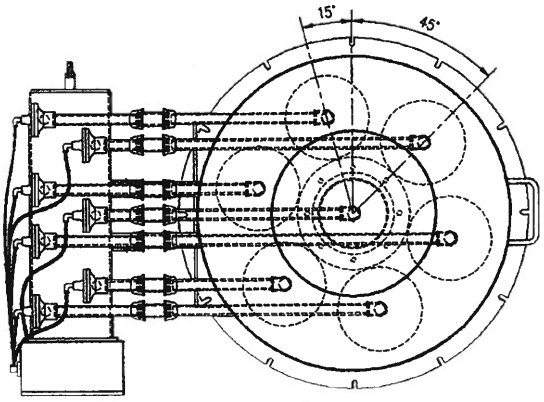
SPECIFICATIONS

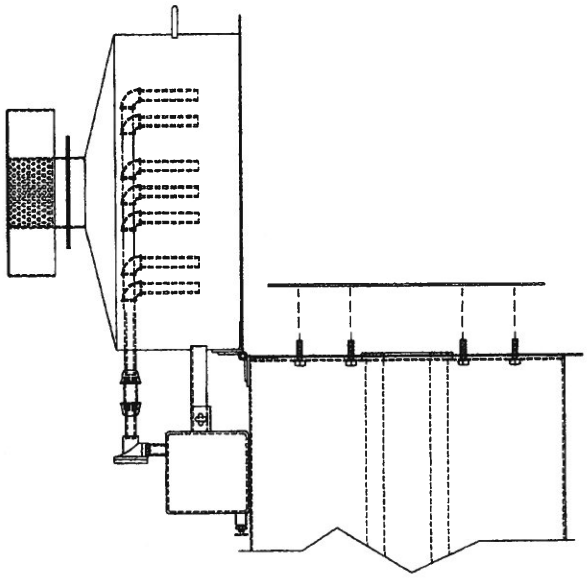
CLOTH FILTERING AREA.....245 SQ. FT.
NUMBER OF CARTRIDGES.....7
CARTRIDGE DIAMETER.....8.00" O.D.
CARTRIDGE LENGTH.....36"
CLOTH TYPE.....SPUN-BOUND POLYESTER
CLOTH WEIGHT.....8.1 OZ./ SQ.YD.
PERMEABILITY.....28-33 CFM/ SQ. FT. @ 0.5" WATER
TEMPERATURE LIMIT.....200 DEG. F
AIR VOLUME INTAKE.....600 CFM @ 0.5" WATER
EXHAUST OPENING SIZE..... 0.226 SQ. FT.
EFFICIENCY.....99.995 @ .2-2 MICRONS

Unit is complete with silo flange and top access hinged door. External air piping and wiring is not included. Equipment is painted standard HAGAN yellow unleaded machinery enamel. Electrical for 115V/1PH/60HZ power input.

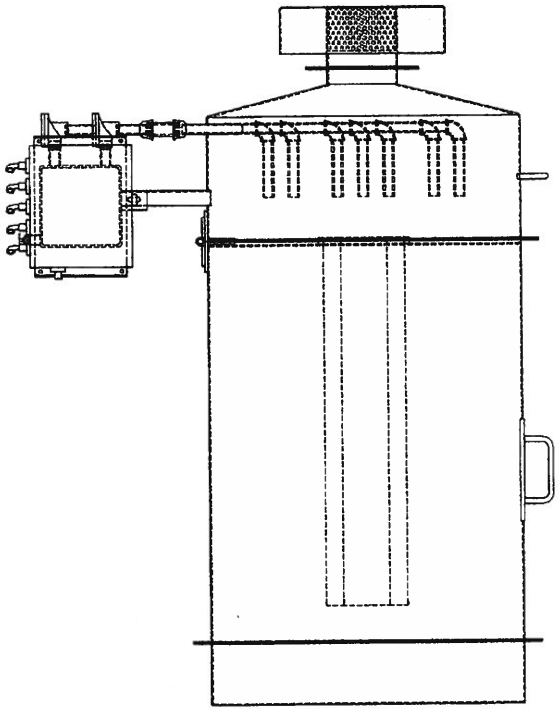
F:\SALES\PRICE\245JP.PRL7/28/00

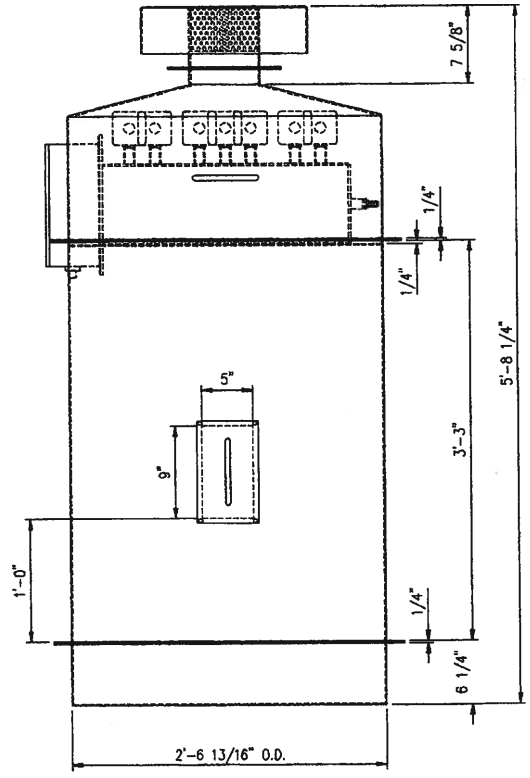
MODEL VH-245JP





CARTRIDGE REMOVAL





TOP REMOVAL DESIGN

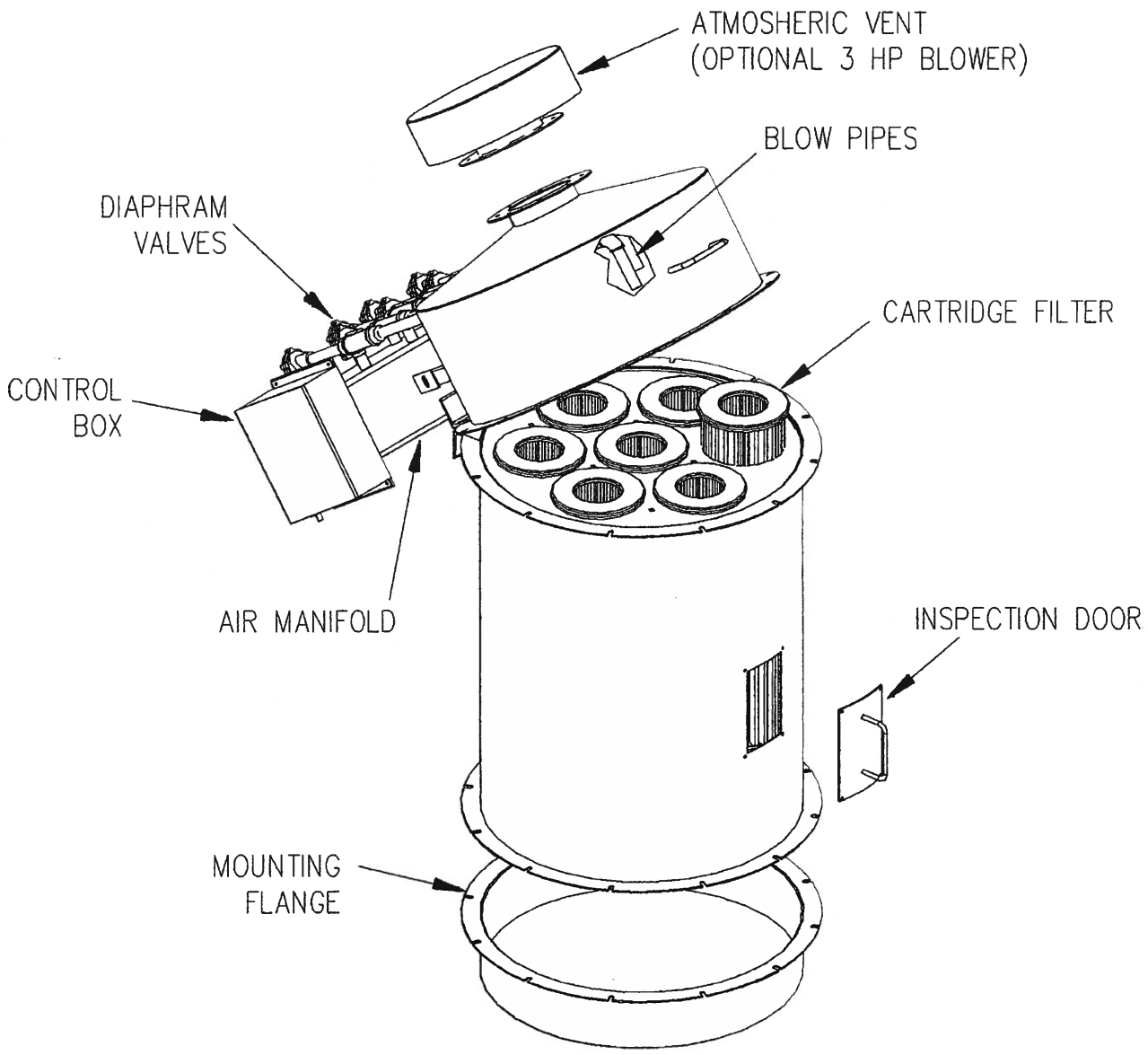


FIGURE 1

OPERATION AND MAINTENANCE MANUAL

1. INTRODUCTION

1.1 SHIPPING AND RECEIVING

1. Most dust collectors will be shipped in one (1) piece (Figure 1), with the clean air plenum, tubesheet, dusty air plenum.

2. All collector parts (i.e. filters, instrumentation, etc.) will be shipped assembled.

3. All exterior carbon steel surfaces of the unit, unless otherwise noted, will receive a single applied coat of a primer and paint. All interior surfaces will be primed.

4. Prior to accepting shipment, care must be taken to inspect all equipment received both for proper count and any damage. Any and all irregularities must be noted on carrier's copy of the shipping receipt to assist in settling any claims for damage or shortages. All equipment is shipped F.O.B. point of origin, whether on a collect or prepaid basis.

   ANY CLAIM FOR DAMAGE IN TRANSIT OR SHORTAGES MUST BE BROUGHT AGAINST THE CARRIER BY THE PURCHASER.

1.2 EQUIPMENT INSPECTION

1. Dust Collector Housing: Particular attention should be given to the sheet metal housing of the collector. The unit should be inspected for serious dents, cracks, and/or rips. A damaged housing may seriously affect the structural integrity of the collector as well as proper operation once in service. in addition, the unit should be checked against the certified drawings for correctness and any discrepancies should be noted immediately to Vince Hagan Co. Authorization of the manufacturer is required prior to any changes or correctness, otherwise the warranty could be void.

2. Dust Collector Components: A count should also be made of all items received and this should be verified against the carrier's manifest. Boxes should be inspected for rough handling which may result in hidden damage.

1.3 STORAGE PROCEEDURES

If the unit cannot be installed immediately, it should be stored in accordance with the following instructions:

A. If possible, the collector housing and parts should be stored indoors in a temperature and humidity controlled environment.

B. If sufficient indoor storage is not available, collector parts should be stored indoors, and collector housing outdoors in a weathertight shed or off the ground, securely protected with tarpaulin or heavy plastic weather covering.

C. When the dust collector is stored outdoors it must be placed off the ground on suitable shoring. All fasteners on access doors and parts should be secured to ensure weather tight closure.

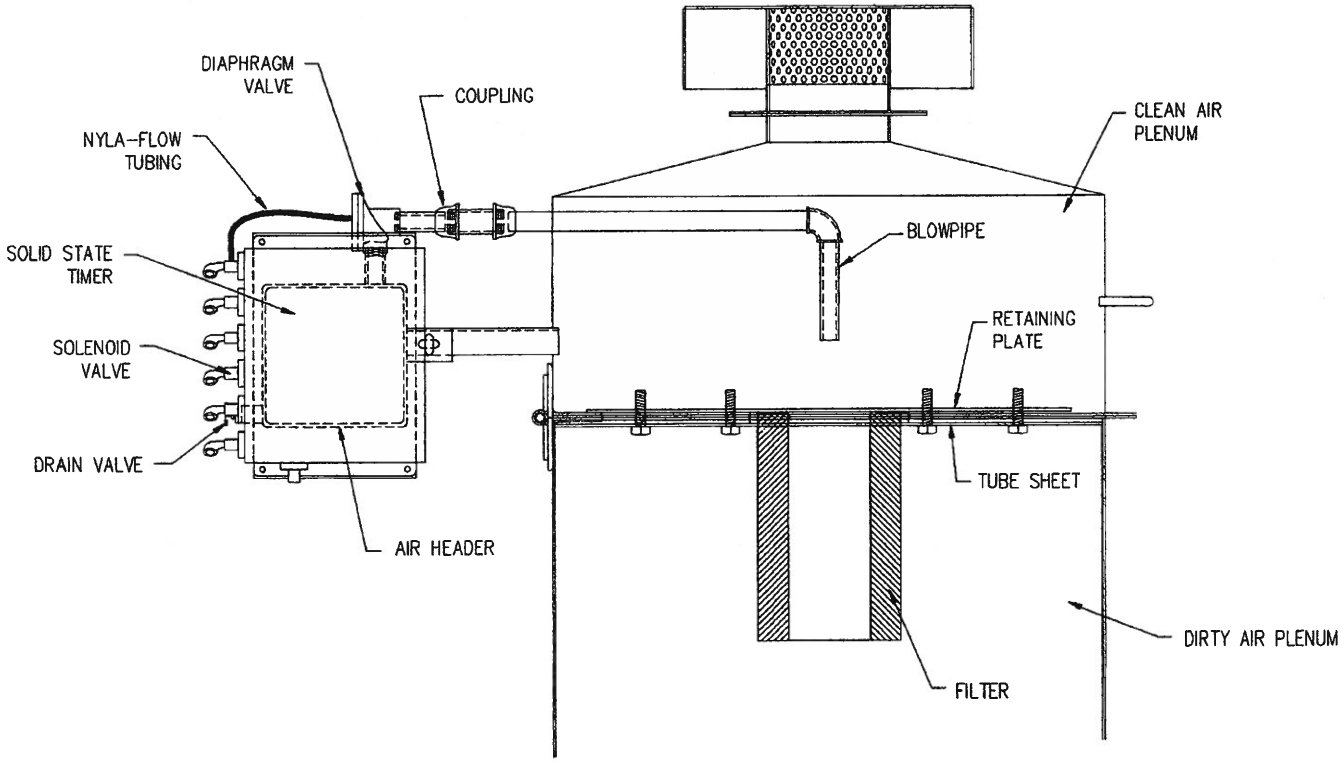

DIAPHRAGM VALVE
COUPLING
NYLA-FLOW TUBING
CLEAN AIR PLENUM
BLOWPIPE
SOLID STATE TIMER
RETAINING PLATE
SOLENOID VALVE
TUBE SHEET
DRAIN VALVE
AIR HEADER
DIRTY AIR PLENUM
FILTER

FIGURE 2A

D. On units to be stored unassembled and kept outdoors for any length of time, exposed tubesheets must be covered with heavy plastic or tarpaulin. The covering should wrap around the flange to ensure a watertight connection.

E. On factory insulated units that are stored outdoors no additional coverings are required since the insulation coversheet should provide adequate protection. If the unit is to be stored outdoors for more than one (1) month, prime painted areas should be covered by a tarpaulin or other weather cover as the prime paint, by itself, will not prevent rust spotting from occurring. Refer to specified paint manufacturer's coating schedule for specific instructions.

F. All equipment stored outdoors should be inspected periodically to monitor the integrity of the prime painted surfaces. Weather covers should be inspected for rips or tears.

2. CONNECTION REQUIRING SEALING: Upon receipt and storage at the jobsite, the following openings should be sealed:

A. Gas inlet and outlet
B. Dust discharge opening
C. Differential pressure
D. Electrical box conduit openings

3. STEEL:

All steel will be painted in accordance with the contract specifications. if only a shop prime paint is specified, it is recommended that a finish coat be applied within one (1) month. Refer to specified paint manufacturer's coating schedule for specific instructions.

The steel should be stored indoors to provide a controlled environment to prevent rust. Should indoor storage be unavailable, the steel can be stored outdoors above the ground on shoring. For a storage period of one (1) month, the steel can be unprotected from the elements. Beyond one (1) month, the steel must be covered with heavy plastic or tarpaulin. The equipment should be inspected periodically to monitor prime paint integrity and weather covers inspected for rips and tears.

2.0 ASSEMBLY OF DUST COLLECTOR

2.1 HOUSING ASSEMBLY

The Vince Hagan Co. model 245JP dust collector is shipped fully assembled.

2.2 AIR HEADER ASSEMBLY

Inspection of the air header assembly (Figure 2A) is essential to insure proper operation of the cleaning system when the dust collector is in operation. The following items should be checked:

A. Pull gently on the ¼" O.D. tubing to check tightness of fittings.

B. Visually inspect ¼" O.D. tubing for kinks or breaks.

C. Inspect solenoid valves to insure that the plugs have been removed from the exhaust ports.

D. Rock the solenoid valve bodies by hand. If a loose valve body is located, it may be tightened by re-moving the solenoid/timer box cover and securing the retainer.

After inspecting the air header assemblies and tightening any loose components, a compressed air source can be connected to the air header(s).

2.2.1 MOUNTING AIR HEADERS TO COLLECTOR

In the event the air header assembly is not shipped attached (due to shipping constraints) to the clean air plenum, the assembly will have to be performed in the field.

The following steps are to be performed for attaching the header to the dust collector:

A. Lift header into position onto clean air plenum.

B. Align diaphragm valve stub pipes with its respective blowpipe stub on the dust collector and begin fastening/tightening the connector (union or quickjoint connector).

C. once all of the blowpipes have been joined, position the air manifold so that valves line-up properly with the thru-the-wall pipes.

D. Position and fasten air manifold support bracket (when furnished).

E. Tighten the blowpipe connectors.

2.4 SOLID STATE SEQUENTIAL TIMER

Each pulse-jet dust collector is equipped with a solid state sequential timer that energizes a solenoid pilot valve thus triggering the momentary pulse of compressed air through a blowpipe and down into a row of filter bags.

One of four (4) timers is furnished with the dust collector and the model used is based on the quantity of solenoid valves incorporated on the collector. The following table presents dimensional and output information of the various timers.

		Dimensions		
Part Number	Max. No. Outputs	Length	Width	Max. Depth
0999-6029	3	6 3/4"	4 7/8"	2"
0999-6024	6	8 3/4"	6 7/8"	2"
0999-6025	10	8 3/4"	6 7/8"	2"
0999-6026	20	10 3/4"	8 7/8"	2"

The solid state timer, as illustrated in Figure 5, ten (10) output terminals are equipped with two (2) potentiometers, one to adjust the duration of time (ON-TIME) the solenoid valve is energized; the other to adjust the time interval (OFF-TIME) from one solenoid valve to the next.

The range of the "ON-TIME" controller is from 50 to 500 milliseconds with the recommended initial setting at 75 milliseconds. The "OFF-TIME" range is from 1.5 to 30 seconds, with a recommended initial setting at 7 to 8 seconds. The above recommended settings are to be considered starting points in the operation of the dust collector. Since there are many factors involved in determining the proper settings, i.e. dust loading, size distribution of the dust particles, agglomerating properties, and moisture content, fine tuning of the pulsing system should be made in the field once the unit is placed in operation. It should also be noted that increasing the "ON-TIME" and decreasing the "OFF-TIME" settings will increase the consumption of compressed air and possibly reduce the life expectancy of the filter bags.

Contact the main office for assistance in "fine-tuning" the controls of the dust collector.

2.4.1 ELECTRICAL WIRING OF THE SOLID STATE TIMER

In most instances, the solid state timer will be factory mounted with the solenoid valves pre-wired to the terminal strip of the timer board. Field hookup would only involve connecting a 105-132 VAC supply to line terminals "L1" and "L2" on the timer board (Figure 5). In grounded systems, the neutral of the line must be connected to terminal "L2".

In the event the timer ships loose for installation in the field by others, the same procedures as described above for furnishing line power to the timer will apply. In addition, the field electrician should run one (1) wire from each solenoid valve to the solenoid common ("SOL COM") on the board and the other wire from each solenoid should be connected to a numbered output terminal on the board. The first solenoid should be wired to the No.1 output terminal, the second solenoid to No.2 output terminal, and so on through to the last solenoid on the header(s). Do not skip terminals on the board.

Dust collectors with more solenoid valves than output terminals on the timer board may require more than (1) solenoid wired to a respective output terminal. As many as six (6) solenoids can be wired to any one output terminal on the board. In this instance, the timer will simultaneously energize a multiple number of pilot valves at any one time.

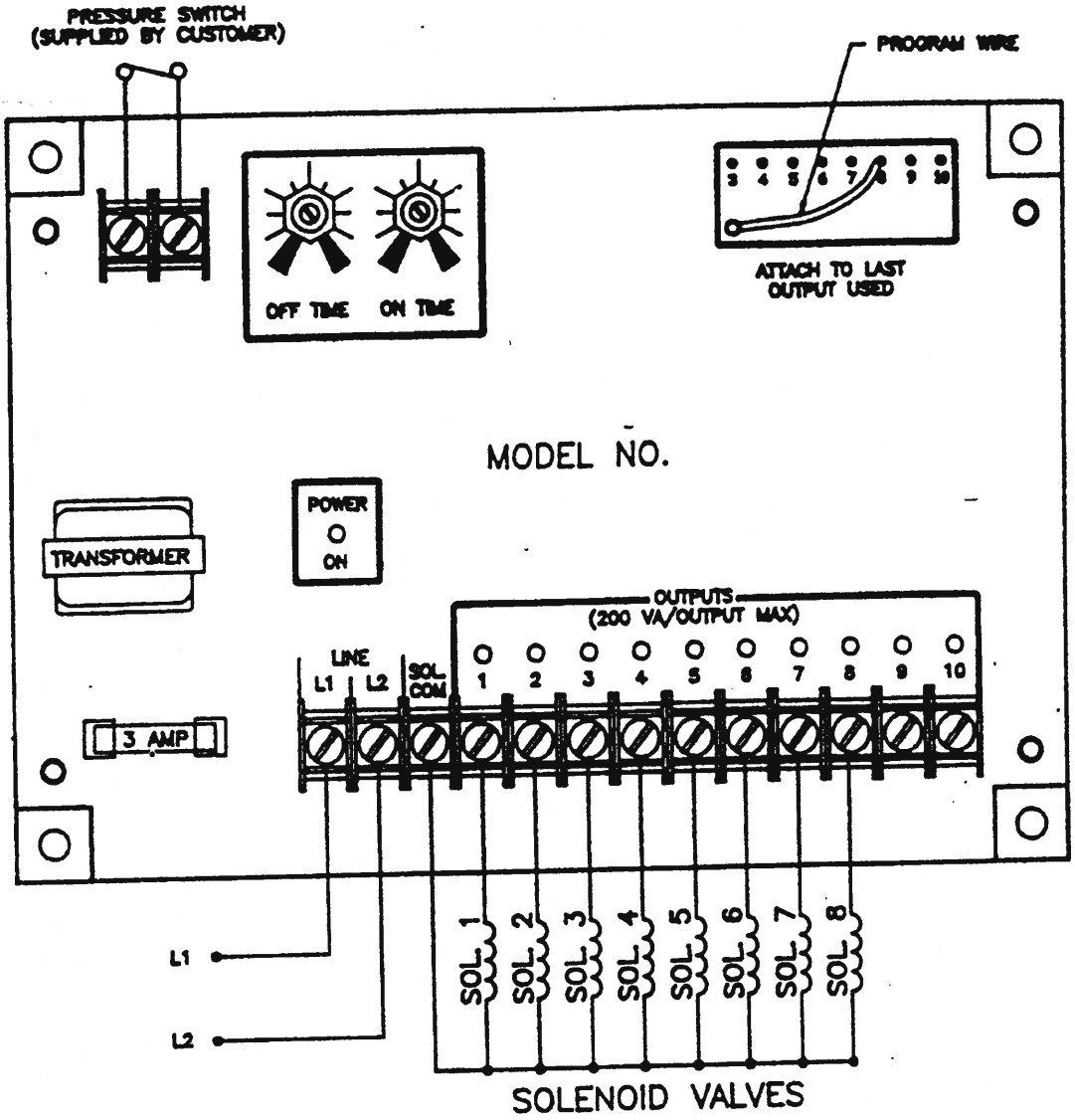
Whether all or a few terminals are used on the timer board, the program wire (Figure 5) must be attached to the last output used.

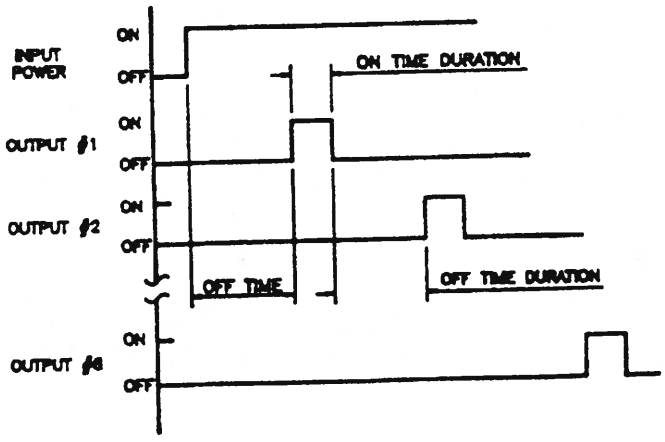
2.4.2 PULSE-ON-DEMAND CLEANING

Vince Hagan's time board is equipped with a set of terminals (Figure 5) to be able to wire a differential pressure switch that would energize and de-energize the timer board based on the differential pressure across the filter bags of the dust collector. The advantage of incorporating the differential pressure switch is that it minimizes the frequency of cleaning the filter elements thus reducing the volume of compressed air utilized and prolonging the life expectancy of the filter media.

The solid state timer furnished with each pulse-jet collector is factory equipped with a "jumper" mounted across these two (2) terminals. If the differential pressure switch option is not utilized, the jumper must

FIGURE 5





SPECIFICATIONS

TIME DELAY:

ON–TIME: ADJUSTABLE FROM 50–500 MILLISECONDS
OFF–TIME: ADJUSTABLE FROM 1.5–30 SECONDS

INPUT:

OPERATING VOLTAGE: 105–135 VAC, 50/60 HZ
POWER CONSUMPTION: 1.1 VA, PLUS LOAD

OUTPUT:

SOLID STATE SWITCH: 200 WATTS PER OUTPUT
PRESSURE SWITCH: OPEN CIRCUIT VOLTAGE OF APPROXIMATELY 5 VDC AND A SHORT CIRCUIT CURRENT OF APPROXIMATELY 25 mADC.

PROTECTION:

TRANSIENT VOLTAGE: 30 JOULE VARISTOR
SHORT CIRCUIT PROTECTION: 3 AMP. FUSE

be installed to close the contacts; otherwise, the timer will not function.

When the pulse timer is operated with the use of a differential pressure switch (PULSE-ON-DEMAND mode) the jumper is removed and the optional external switch is wired to the terminal block in accordance with the switch manufacturers wiring instructions. Once properly wired, the two (2) contacts are energized when a high differential pressure has been sensed by the external differential pressure switch. The solenoid valves will then be activated in sequence by the timer until the differential pressure drops below a set point, at which time the contacts are opened, the timer is de-energized, and pulsing stops. When the differential pressure contacts are re-energized, the pulsing will pick up from where it last left off and will continue again in sequence.

2.5 DIFFERENTIAL PRESSURE GAUGE

The differential pressure gauge kit includes the gauge, four (4) 1/4" brass fittings, 20'-0" of nyla-flow tubing, fastener hardware and a mounting plate.

The location of the gauge should be in an area free from excessive vibration and where ambient temperatures will not exceed 140 degrees F. The sensing lines may be run any necessary distance. The accuracy will not be affected but the response time will be slightly increased.

Once the gauge has been mounted, set the indicating pointer exactly on the zero mark, using the external zero adjust screw on the face of the gauge. Note that the zero check or adjustment can only be made with the high and low pressure taps both open to atmosphere.

The gauge is equipped with two (2) pairs of high and low pressure taps, one pair on the side and the other on the back. It is imperative that the pair of taps not in use are securely sealed.

After plugging the unused taps, tubing may be connected from the gauge to the dust collector. A 12" high loop should be made in the tubing that is connected to the dusty air plenum fitting to protect the gauge from dust when the filter bags are pulsed.

The tubing (negative pressure dust collectors) to connect the differential pressure tap mounted below the tubesheet of the baghouse should be connected to the high pressure tap on the

gauge and the tubing for the tap above the tubesheet should be connected to the low pressure port on the differential pressure gauge.

3.0 EQUIPMENT START-UP PROCEDURES

3.1 START-UP CHECKLIST

Prior to starting up the dust collector, several areas of the unit should be inspected to insure proper operation.

1. Make sure the filter bag assemblies have been properly installed and that they hang straight with the bottoms not touching other bag assemblies or any part of the dust collector interior.

2. In top bag removal collectors, make sure the pulse pipe holes are centered over the filter bags and are directed down into the bag.

3. Access doors and ports should properly seat against housing frames and be securely bolted/fastened.

4. Operate any equipment connected to the dust discharge of the collector. Check the rotation of any motor driven equipment such as rotary airlocks or screw conveyors.

5. The solid state timer must be wired in accordance with Section 2.4 of this manual. In addition, the program wire must be attached to the last output terminal used.

6. Check the 1/4" tubing is connected between the diaphragm and solenoid valves to verify tightness and that the tubing is not crimped.

7. The compressed air system must be equipped to deliver clean, dry air to the pulsing air system of the collector. The compressed air piping leading to the dust collector must be purged prior to hooking up to the air header manifold. A shut off valve, pressure regulator and an in-line filter there is suitable air pressure at the air header. Filters recommends 90-100 PSIG

8. Once the compressed air supply is hooked up and delivering the specified pressure, the timer should be energized to verify proper operation of the pulse-jet cleaning system. Check that all solenoids are firing by placing a finger over the exhaust port of the valve and

noting any valves that do not fire or are stuck open, causing a continuous flow of air out of the exhaust port.

9. Make sure there is adequate compressed air delivery after each pulse by checking that the air manif old pressure reaches 90-100 PSIG before the firing of the next valve.

10. Start-up and check any auxiliary equipment associated with the dust collector, such as exhaust fans, level detectors, rotary airlooks, screw conveyors, following the vendors operation and installation manual.

3.2 START-UP INSTRUCTIONS

1. Energize the compressed air supply system. When the pressure gauge on the air header assembly reaches and stabilizes at 90-100 PSIG, the solid state sequential timer can be started.

2. Check that all access doors, ports and explosion doors are properly secured.

3. The main exhaust fan (optional) can now be started and brought up to speed. it should be noted there is very little differential pressure across a clean new filter element and this may require throttling (adjusting) the fan to prevent the fan motor from overloading.

4. Allow the dust laden air to enter through the collector. The collector should be started under partial load to allow the filter elements to become slowly and evenly coated with dust particles and prevent fine materials from passing through the pores of the filter media.

4.0 TROUBLESHOOTING THE DUST COLLECTOR

1. Pulsing - System, inspect the compressed air cleaning system as follows, to make sure that all of the filter bags are being pulsed clean:

   A. If none of the solenoid valves are operating, check the timer using the troubleshooting guide of this manual.

   B. check the air pressure at the header, it should recover to 90-100 PSIG before each pulse. If not, check to make sure that the compressed air supply system is in good operating condition, correctly sized, and supply lines are not too small or restricted. Listen for the sound of compressed air flowing continuously through one or more filters; an indication of a valve or valves "stuck" in the pulsing position. The usual causes for this condition are leaks in tubing to solenoid pilot valves, and dirt in the solenoid or diaphragm valves.

   C. Check that all solenoid pilot valves are firing in sequence by holding a finger over each solenoid exhaust port as described earlier.

   Note: Solenoid valves or diaphragm valves that do not operate properly may be serviced according to the instructions in "Troubleshooting the Pulsing Air System".

2. Water or Oil in Compressed Air. Inspect upper portions of the filter for dust caking, dampness, or oil. Any or all of these symptoms are indications of moisture or oil in the compressed air supply. Install equipment that will ensure a continuous supply of clean, dry, oilfree compressed air. See your compressor supplier for recommendations.

3. Filters Loaded with Dust. A condition known as blinding. If the dust is dry, see Paragraphs A thru D; if the dust is wet, see Paragraphs B and F.

   A. Dust Not Discharging from the Hopper. check hopper for overloading or bridging across the dust discharge. Correct by repairing dust discharge equipment, replacing with higher capacity equipment.

   B. Air Flow Too High, If the main air flow is too high to allow dust to drop off of the filter bags, an excessive pressure drop across the dust collector will result and dust will build up in the system. In many cases, this high pressure drop in turn leads to a reduction in the main air flow, so that it is necessary to remove the dust accumulation from the bags (and the rest of the system) before measuring the main air flow volume.

   Visually inspect the bags for heavy caking. if caking is evident, see the note below and take the necessary action to clean the bags.

   C. Particle Size and Dust Load. If possible, compare the dust particle size and loading with the original design specifications. Finer dust may cause a higher pressure drop. Do not hesitate to call the f actory if you need to discuss further this potential problem.

   D. Filter Cartridge Dimensions Changed. Chemical cleaning or washing the filter bags may alter the dimensions which could cause the bags to not properly fit on the support cages. If the bags are not correct dimensionally, insufficient flexure, during the cleaning cycle, can result, which will reduce the force required to loosen the caked dust.

   E. Water Leaks. inspect the dust collector housing for holes, cracks, or loose gasketing where water could enter the collector.

   F. Condensation. If moisture has been condensing inside the collector, check the dew point temperature of the incoming air stream. It may be necessary to insulate the collector.

   Note: Collectors that have had blinded or caked bags can possibly be put back into service by first running the pulsing air system for 15 to 30 minutes with a 3 second "off-time', setting.

4.2 EXTREMELY LOW PRESSURE DROP

Besides inspecting the filters for proper installation or holes or tears, the following items should also be considered:

1. Leaks in the Housing. Check the tubesheet and the dust collector housing for holes, cracks or loose gasketing that would permit air to bypass the dust collector or filters.

4.3 PRIMARY DUSTING

A continuous flow of dust out of the exhaust of the clean air plenum is considered a primary dusting problem. Several causes for this phenomenon are as follows:

1. Holes in the Filters or Incorrectly Installed.
   Inspect the filter assemblies for holes, rips, tears, or excessive wear. Make sure that the filters were installed correctly.

2. Check the tubesheet for holes, cracks or loose bolts that would permit dusty air to bypass the filters.

3. If primary dusting is noted, the problem should be investigated immediately. Dust in the clean air plenum can be blown back into the bags during pulse cleaning. The dust can be extremely abrasive and could seriously abrade holes in an entire set of filters in a very short time.

4.4 SECONDARY DUSTING

Puffs of dust that are noted in the exhaust of the clean air plenum after each cleaning pulse is a secondary dusting problem. This condition is normal with new filter bags, and should stop after the first several hours of operation.

Several other causes for this phenomenon are as follows:

1. Air Header Pressure Too High. Check the air header pressure gauge. If the pulsing air pressure is over 100 PSIG, filters may be flexing excessively and allowing fine dust to pass through the material.

2. Worn Filters. Inspect the filters for wear.

3. Residual Dust. If dust has gotten into the clean air plenum because of a dropped or torn filter, hole in tubesheet, etc., the pulsing air may stir up the dust and allow it to escape into the clean air exhaust after each pulse. Residual dust may also be driven down inside the filter by the pulsing air. If the filters are filled with several inches of dust, clean both the clean air plenum and the cartridge assemblies to avoid further problems.

4.5 SHORT FILTER LIFE

This is often a complicated problem to diagnose, and we recommend calling The Vince Hagan Company for advice. The following list may be helpful in performing some preliminary checks:

1. Temperature. Operating the gas temperature above the recommended limit of the filter material.

2. Chemical Attack. The filter media can degrade due to attack from certain chemicals in the dust or gases in the air stream.

3. High Moisture.. A high moisture content in the collector may cause certain filter materials to shrink or degrade. The process will be accelerated at elevated temperatures.

4. Localized Abrasion.. Premature wear can occur near the tops of the filters if the cartridge assemblies have been installed improperly or if an accumulation of dust on the clean side of the tubesheet has developed which may abrade the elements during the pulsing cycle. Localized abrasion can also occur near the bottom of the filters in the vicinity of the dust gas inlet. If this situation exists, an inlet baffle may be required to deflect the incoming gas stream if one does not already exist.

5. Filter Rubbing. Premature wear can occur if the filters are found rubbing against each other or against one of the interior walls of the unit. Check the plate that bolts down across the top of the filters, and make sure it is secure. This plate holds the filters down to create a seal with the tubesheet, and prevents the cartridges from moving side to side.

4.6 TROUBLE-SHOOTING THE TIMER

1. Check for mechanical damage.

2. If the "Power On" indicator is not on, check for 115 VAC power input. The "hot" line connection must be connected to terminal "LI", as this is the fused terminal.

3. Check for a blown fuse; if replacement is necessary, use only a 3 AMP standard 3AG fuse (1-1/4" long) Do not use slowblow type fuses.

4. Check wiring from timer to solenoids for an open or short circuit.

5. After performing steps 1-4, if the timer is still not functioning properly (no output voltage, sequencing problems, etc.), contact The Vince Hagan Company.

4.7 TROUBLE-SHOOTING THE PULSING AIR SYSTEM

4.7.1 PULSING FAILURE OF ALL OR ONE SOLENOID VALVE(S)

CAUSE: Timer inoperative.

REMEDY: Check the solid state timer per maintenance instructions in Section 2.4 and 4.6 of this manual. Verify that there is a 115 VAC pulse between each numbered terminal on the timer board and the solenoid common terminal. Repair or replace timer as required.

CAUSE: An open or short circuit in the wiring between the timer and solenoid valves.

REMEDY: Check continuity with an ohmmeter and repair as required.

4.7.2 PULSING VALVES FAIL TO OPEN

CAUSE: No pressure in air header manifold.

REMEDY: Verify the air compressor is delivering the proper volume of compressed air at the required pressure rating.

CAUSE: Low or no power to solenoid coil.

REMEDY: Check the continuity with an ohmmeter and repair as required.

CAUSE: Solenoid valve plunger jammed shut or orifice blocked.

REMEDY: Disassemble solenoid valve (Figure 6) and inspect for any foreign matter that may cause the problem. Clean housing with compressed air, being careful not to lose any parts.

CAUSE: secondary bleed hole blocked (double diaphragm valves only).

REMEDY: Disassemble diaphragm valve (Figure 6) and inspect for any foreign matter. Clean housing with compressed air being careful not to lose any parts.

CAUSE: Main and/or secondary diaphragm perforated.

REMEDY: Disassemble diaphragm valve and inspect the diaphragm(s) for tears or rips. Replace as required.

4.7.3 CONTINUOUS PASSAGE OF COMPRESSED AIR THROUGH ONE OR MORE BLOWPIPES

CAUSE: ¼" O.D. tubing or fittings are leaking or broken.

REMEDY: Inspect and repair as required.

CAUSE: Solenoid armature not seating properly (a steady flow of air from the solenoid exhaust port is felt).

REMEDY: Remove valve core from solenoid in question. Disassemble the valve core and remove any dirt, scale or rust f rom the body and f rom around the armature, Check for a smooth action and reassemble.

CAUSE: Main and/or secondary diaphragm valve spring broken or main and/or secondary diaphragm not properly seating or torn.

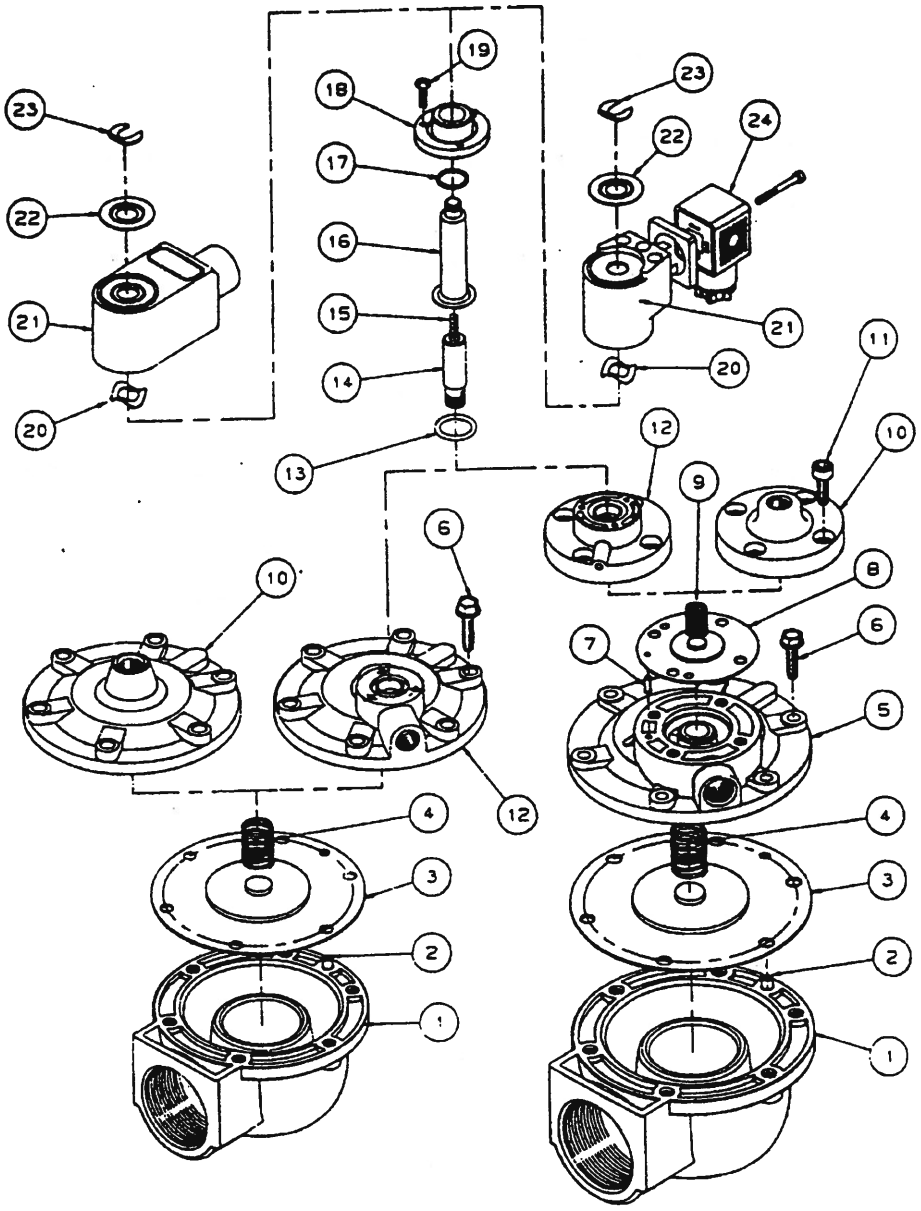
REMEDY: Disassemble and inspect the diaphragm valve in question as illustrated in Figure 6. Clean blocked holes with compressed air.

4.7.4 UNABLE TO BUILD AIR HEADER PRESSURE

CAUSE: Main or secondary diaphragm not properly seating or broken main valve spring.

REMEDY: Disassemble and inspect the diaphragm valve in question for any wear.

CAUSE: Air supply line to air header or air compressor not properly sized.



Item	Description	Qty
1	Body	1
2	Bleed Pin	1
3	Diaphragm	1
4	Spring	1
5	Cover (CA)	1
6	Hexagonal Screw	4 or 8
7	Secondary Bleed Pin	1
8	Secondary Diaphragm	1
9	Secondary Spring	1
10	Secondary Cover (RCA)	1
11	Socket Screw	4
12	Cover (CA)	1
13	O-Ring	1
14	Plunger	1
15	Spring	1
16	Ferrule	1
17	O-Ring	1
18	Ferrule Retainer	1
19	Screw	3
20	Tension Spring	1
21	Coil-(QR/QD)	1
22	Label	1
23	Clip	1
24	Din Socket	1

FIGURE 6

REMEDY: Verify that the proper volume of compressed air is being delivered to the air manifold of the baghouse. The correct volume is indicated on the dust collector drawing provided for each specific project.

The Vince Hagan Company offers a full-line of equipment and services related to the control of particulate matter. In addition to engineering and manufacturing air pollution control equipment and systems, we have the capability of mechanically installing the equipment and maintaining it after it has been put in use. Our qualified field crews provide a full range of services encompassing such tasks as:

- Mechanical Installation of Equipment
- Filter Bag Change-Outs
- Equipment Repair and Renovation
- System Gas Flow and Static Pressure Analysis
- Start-up Engineering Services
- System Evaluation and Baghouse Trouble-Shooting

OPERATION AND MAINTENANCE MANUAL

The Vince Hagan Company's warehouse facility stocks a full line of replacement parts for the equipment they manufacture as well as their competitor's(MikroPul, Flex-Kleen, American Air Filter, Wheelabrator, Pangborn and others). Some of the replacement parts that are inventoried are as follows:

- Filter Bags for Pulse-Jet, Shaker and Reverse Air Units
- Valve Repair Kits
- Support Cages of Various Types of Construction and Style
- Solenoid Valves
- Diaphragm Valves
- Tensioning Tools
- Cartridge Filter Elements
- Fittings and Tubing
- Solid State Timers
- Gasket Material
- Bag Cups
- Venturis
- Caps, Hook and Spring Assemblies for Reverse Air Units
- Air Slide Material
- Gauges and Switches
- Pre-Coat/Filter Aide

For further information regarding the services Vince Hagan Company can provide at your facility or for pricing and availability of replacement and spare parts....

CALL: 1-214-330-4601

FAX: 1-214-331-9177

VINCE HAGAN COMPANY
1601 NORTH WALTON WALKER
DALLAS, TEXAS 75211

MAINTENANCE

A dust collector itself is not a suitable site for lockout/tagout protection. Lockout devices should be installed on the energy supply prior to the dust collector. The usual energy supplies are electricity and compressed air.

A scheduled inspection and maintenance program is recommended to ensure efficient and uninterrupted baghouse operation. An accurate log of inspection dates and maintenance work should be maintained. A periodic review of the log will disclose whether the equipment is functioning as it should and, if not, will point to the cause of the malfunctions.

The Hagan Jet Pulse Baghouse requires little maintenance; however, the following daily and monthly inspection is recommended to assure best performance and full compliance with local environmental regulations.

DAILY

1. Outlet should be observed to be certain there are no visible emissions.
2. Drain air manifold.
3. Drain air filter.

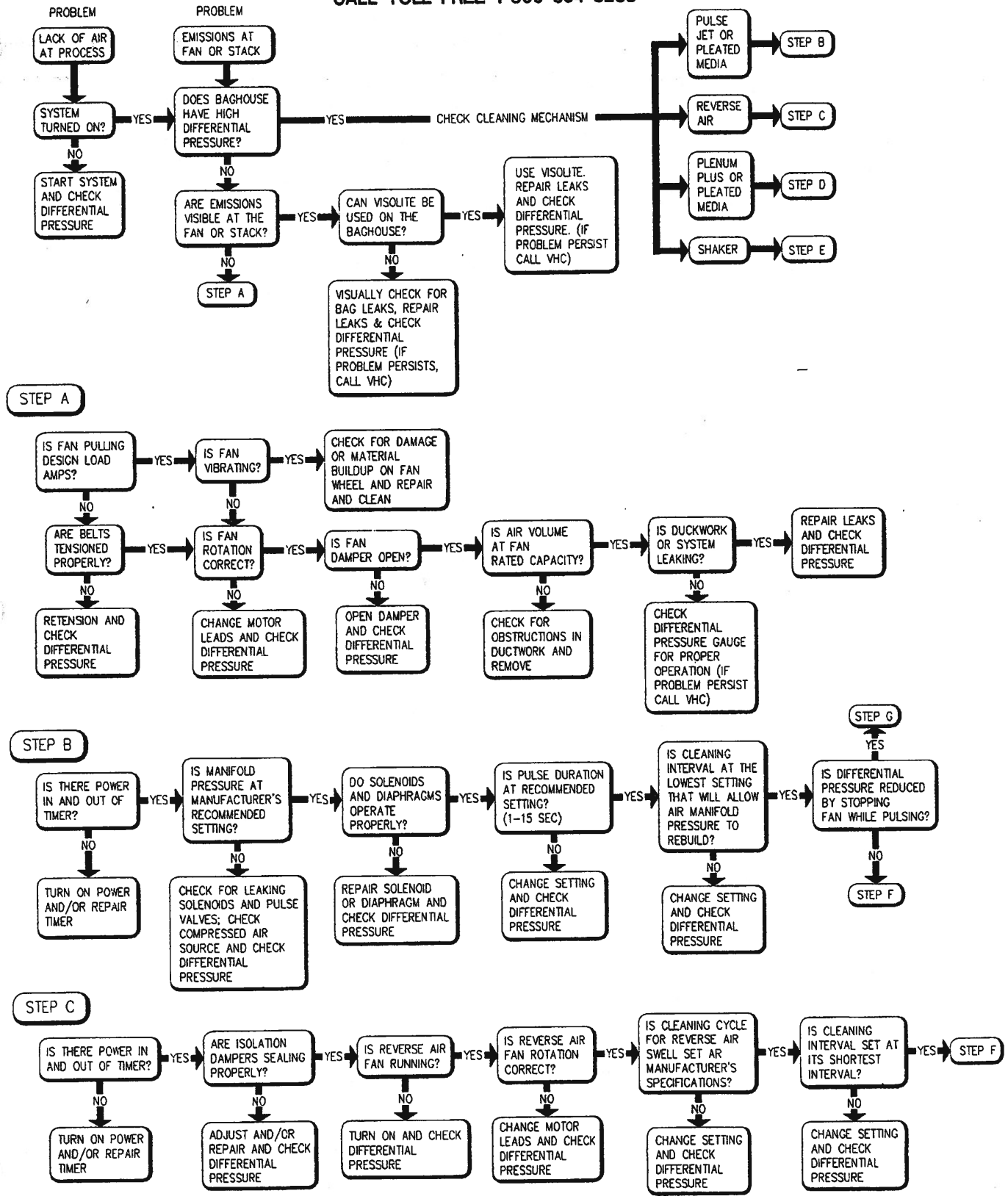
MONTHLY

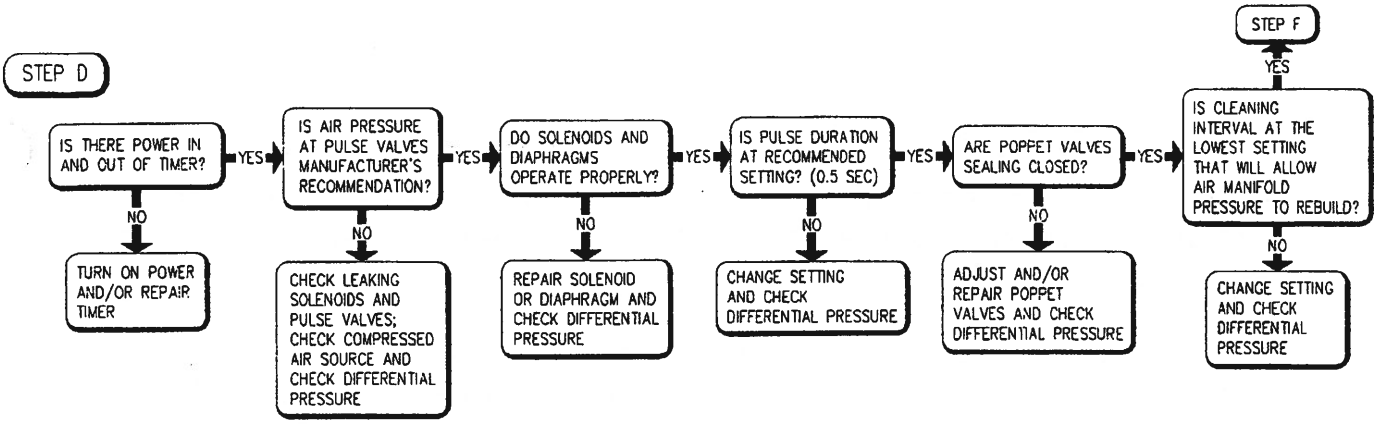
1. Filters
    a. Check for signs of wear.
    b. Leaking filters with holes to be replaced immediately.
    c. "Soft to hand" condition and uniformly tight.
    d. When filters show general signs of wear, replace all at the same time.
    e. Solenoid valves to be checked for operating properly.
    f. Diaphram valves to be checked as in "e".
2. Inspect all fasteners to be sure none have loosened.

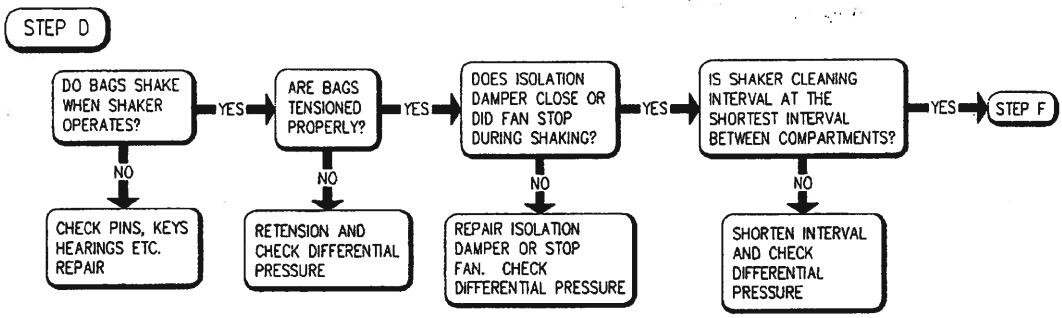
SAFETY INFORMATION

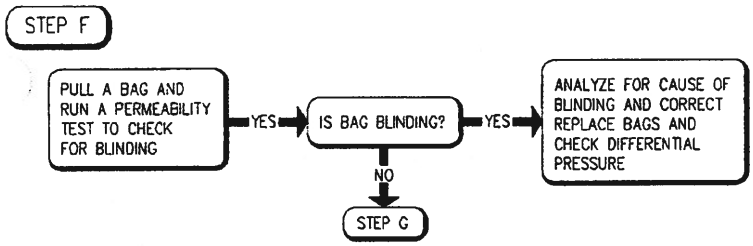
The Hagan Collector, like other industrial equipment, must be operated and maintained in accordance with our instructions and sound engineering practices. The user of this equipment must always be aware of the physical and chemical properties of the dust particles being collected. Materials or processed presenting hazards must be identified by you, the user, so that you can request specific safety features be built into the dust collector. Even though no hazard may originally exist, the user must still be alert to changes in the dust or process. Also, be certain to heed the Lockout/Tagout precaution at the top of this section.

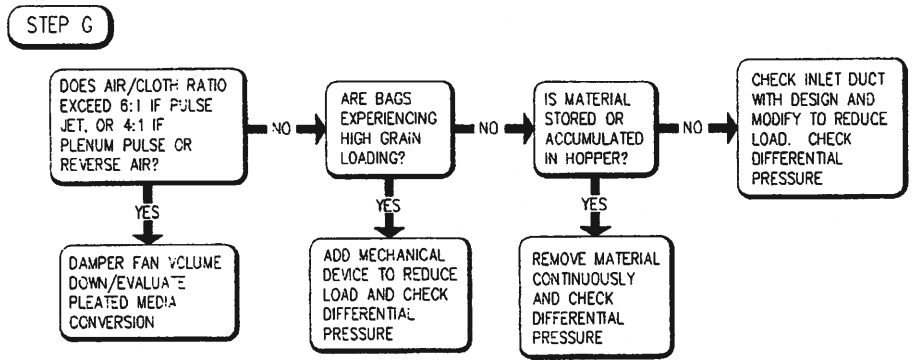
THE VINCE HAGAN BAGHOUSE
TROUBLESHOOTING CHART
CALL TOLL FREE 1-800-354-3238




STEP D
IS THERE POWER IN AND OUT OF TIMER?
YES
NO
TURN ON POWER AND/OR REPAIR TIMER
IS AIR PRESSURE AT PULSE VALVES MANUFACTURER'S RECOMMENDATION?
YES
NO
CHECK LEAKING SOLENOIDS AND PULSE VALVES; CHECK COMPRESSED AIR SOURCE AND CHECK DIFFERENTIAL PRESSURE
DO SOLENOIDS AND DIAPHRAGMS OPERATE PROPERLY?
YES
NO
REPAIR SOLENOID OR DIAPHRAGM AND CHECK DIFFERENTIAL PRESSURE
IS PULSE DURATION AT RECOMMENDED SETTING? (0.5 SEC)
YES
NO
CHANGE SETTING AND CHECK DIFFERENTIAL PRESSURE
ARE POPPET VALVES SEALING CLOSED?
YES
NO
ADJUST AND/OR REPAIR POPPET VALVES AND CHECK DIFFERENTIAL PRESSURE
IS CLEANING INTERVAL AT THE LOWEST SETTING THAT WILL ALLOW AIR MANIFOLD PRESSURE TO REBUILD?
YES
NO
CHANGE SETTING AND CHECK DIFFERENTIAL PRESSURE
STEP F


STEP D
DO BAGS SHAKE WHEN SHAKER OPERATES?
YES
NO
CHECK PINS, KEYS HEARINGS ETC. REPAIR
ARE BAGS TENSIONED PROPERLY?
YES
NO
RETENSION AND CHECK DIFFERENTIAL PRESSURE
DOES ISOLATION DAMPER CLOSE OR DID FAN STOP DURING SHAKING?
YES
NO
REPAIR ISOLATION DAMPER OR STOP FAN. CHECK DIFFERENTIAL PRESSURE
IS SHAKER CLEANING INTERVAL AT THE SHORTEST INTERVAL BETWEEN COMPARTMENTS?
YES
NO
SHORTEN INTERVAL AND CHECK DIFFERENTIAL PRESSURE
STEP F


STEP F
PULL A BAG AND RUN A PERMEABILITY TEST TO CHECK FOR BLINDING
YES
IS BAG BLINDING?
YES
ANALYZE FOR CAUSE OF BLINDING AND CORRECT REPLACE BAGS AND CHECK DIFFERENTIAL PRESSURE
NO
STEP G


STEP G
DOES AIR/CLOTH RATIO EXCEED 6:1 IF PULSE JET, OR 4:1 IF PLENUM PULSE OR REVERSE AIR?
NO
YES
DAMPER FAN VOLUME DOWN/EVALUATE PLEATED MEDIA CONVERSION
ARE BAGS EXPERIENCING HIGH GRAIN LOADING?
NO
YES
ADD MECHANICAL DEVICE TO REDUCE LOAD AND CHECK DIFFERENTIAL PRESSURE
IS MATERIAL STORED OR ACCUMULATED IN HOPPER?
NO
YES
REMOVE MATERIAL CONTINUOUSLY AND CHECK DIFFERENTIAL PRESSURE
CHECK INLET DUCT WITH DESIGN AND MODIFY TO REDUCE LOAD. CHECK DIFFERENTIAL PRESSURE

GLOSSARY

These terms are commonly used in the air pollution control equipment industry and are not intended as complete scientific definitions.

Abrasion Resistance
Ability of a fiber or fabric to withstand surface wear.

Abrasion - Flex
Fabric weakness created by repeated fiber bending.

Abrasion - Surface
Fabric wear on the surface created by particulate erosion, rubbing or scuffing.

Acid Gas Scrubber
Process equipment where an alkaline solution is introduced into the gas stream in a finely atomized spray. It reacts with gas stream constituents to be scrubbed, creating neutralized particles that have absorbed acids and can be collected.

ACFM
Actual cubic feet of gas per minute. The volume of the gas flowing per minute at the operating temperature, pressure and composition.

Agglomeration, Particle
Multiple particles joining or clustering together by surface tension to form larger particles, usually held by moisture, static charge or particle architecture.

Air - To - Cloth Ratio
The ratio between ACFM flowing through a filter and the square feet of filter area available.

Baffle
A device usually consisting of a plate or series of plates which evenly distribute airflow and dust within a dust collector to protect filter bags from direct impingement of dust.

Baghouse
An air filtration structure utilizing fabric filter bags for the purpose of removing solid particulate from the gas stream; dust collector.

Biomass
A fuel source based on vegetation remnants.

Bleedthrough
Particulate migration through the interstices of the filter bag fabric.

Blinding
Fabric blockage by dust, fume, or liquid not being discharged by the cleaning mechanism, resulting in a reduced gas flow or increased pressure drop across the media.

Blowpipe
Pipe connected to the pulsing system, holes distribute cleaning air to bag rows in pulse-jet units.

Bridging
Material handling problem characterized by the particulate forming a cavity over the discharge or opening of a hopper or storage vessel.

GLOSSARY

Bursting Strength
General: A material's ability to resist rupture by pressure. Specific: Force required to rupture a fabric by distending it with the force applied at right angles to the fabric plane under specified conditions. Usually expressed in pounds per square inch.

Can Velocity
In a dust collector with the filter elements suspended from the tubesheet, can velocity is the upward air stream speed calculated at the horizontal cross-sectional plane of the collector housing that passes through the bottom surface of the filters.

Canopy
A system component that captures heat, smoke and particulate and conducts them into the exhaust ductwork hood.

Cell Plate (Tubesheet)
A steel plate or casting to which the open end of the filter bags are connected. Separates the clean air and dirty air plenums of the baghouse.

Clean Air Plenum
The baghouse area through which gases are directed, located on the clean side of the bags above the tubesheet in a pulse-jet baghouse.

Collection Efficiency
A measure of dust collector ability to remove particulate from the inlet gas expressed in percent.

Combination Fabric
A woven fabric containing both filament and spun yarn of the same or different fibers. The filament yarn is normally used lengthwise for strength and spun crosswise to provide surface area.

Construction
Basic design description determines the weave pattern in woven textiles or the composition and manufacturing method in felted media.

Core Yarn
Used in filtration with fiberglass yarn. Spun or texturized yarns are twisted around a filament (core) yarn, adding yarn strength and stability.

Coronizing
A heat cleaning process for fiberglass fabric to burn off the starches (used in processing) usually at temperatures of 1000 degrees F for a short duration.

Corrosion
Chemical attack on metallic surfaces, usually caused by moisture and/or acid dewpoint excursions.

Count of Cloth
The number of ends, (length-longitudinal yarns) and picks (cross-horizontal yarns) per inch in a woven fabric.

Curing
In finishing fabrics, the process by which resins or plastics are set in or on textile materials, usually by heating.

GLOSSARY

Degradation
The loss of desirable physical properties of a textile material due to some process or physical, chemical or thermal phenomenon.

Denier
A weight-per-unit-length measure of any linear material. The sizing of yarns used in woven fabrics including scrims are designated by denier.

Dew Point
The temperature at which condensation begins to form as a gas is cooled.

Diaphragm Valve
A compressed air valve operated by a pilot solenoid valve used to clean the filters in pulse-jet collectors.

Differential Pressure (AP)
The change in pressure or the pressure drop across a component or device located within the airstream; the difference between static pressures measured at the inlet and outlet of a component or device.

Dimensional Stability
The ability of a fabric to retain finished dimensions under stress at operating conditions. This stability is imparted to a fabric by either chemical treatment, mechanical means, construction or blends.

Door Seal
Various types of gaskets used on door or door frames to prevent inleakage of outside air by creating air-tight connection between door and frame.

Dustcake
Desired dust buildup on fabric to filter incoming gases and keep particulate on fabric surface.

Dust Loading
The weight of solid particulate suspended in an air (gas) stream, usually expressed in terms of grains per cubic foot, grams per cubic meter or pounds per thousand pounds of gas.

Elongation
Increase in fiber length or deformation from stretching. Measured as percentage of original length.

Emissions
Particulate escape through or around baghouse into the atmosphere.

End
An individual warp yarn; runs the length of fabric.

Fan
A device for moving air and dust through the system. If the fan is on the dusty side of the baghouse pushing the dusty air through the baghouse, it is called a positive system. If the fan is on the clean air side of the baghouse pulling the dusty air into the baghouse, it is called a negative system. (80% of all baghouses are negative systems.)

Felt (Needled)
A fabric produced by using barbed needles to interlock carded fibers and, if applicable, a woven base fabric.

GLOSSARY

Fiber
Type and/or grade of fibers used in media.

Fill Yarn
An individual yarn which interlaces with the warp yarn at right angles in a woven fabric. Also known as a pick or filling pick.

Filter Drag
The ratio of differential pressure across the filters (AP, inches W.C.) to velocity through the filters (air-to-cloth ratio, FPM).

Filter Media
The permeable barrier employed in the filtration process; the fabric on which the filter cake is built.

Finish, Finishing
Physical (mechanical) or chemical fabric treatment to impart a desired surface property.

Fire Retardant
Fabrics treated with special chemical agents or finishes to make them retardant or resistant to burning. Many fabrics achieve this property by using fibers that have this property built directly into the polymer.

Glazed Finish
A smooth, shiny surface applied with a hot roller on felted fabrics for the purpose of enhanced dustcake release(eggshell finish).

Grain Loading
The amount of particulate by weight in a given volume of air. (Grains/cu. ft.); 1 lb. = 7000 grains.

Greige (Grey, Griege, Gray) Goods
Cloth, regardless of color, that has been woven in a loom, but has received no dry or wet finishing operations.

Heat Set Finish
Heat finishing treatment that will stabilize many man-made fibers so that there will be minimal change in shape or size.

Heat Stabilized
A term to describe fiber or yarn heat treated to reduce the tendency of the fiber to shrink or elongate under load at elevated temperature.

Hood
The component of a system that captures heated air/gases, smoke and particulate; located at pickup point (see canopy).

Hopper
Dust collector section located below tubesheet and under bags. It is utilized for accumulation of dust drop out from the incoming airstream and from the filters after cleaning.

Impaction
A method of particle collection in which the particle carried by a gas stream collides with a fiber and has enough inertial force so it does not deflect along with the gas stream.

GLOSSARY

Impingement
The physical contact of gas laden flow against a filter media. Typically referring to an abrasive wear caused by this impact.

Inch of Water
A unit of pressure equal to the pressure exerted by a column of liquid water one inch high at standard conditions (70 degrees F @ sea level); 27.7 inches of water equals 1 PSI; usually expressed as inches water gauge (W.G.) or inches water column (W.C.)

Inclined Manometer
An instrument using a liquid column, set at an incline to increase sensitivity and pressure reading accuracy. It is normally used to measure velocity pressures in a duct.

Inlet Baffle (see Baffle)

Inside Collection
Particles are collected on the inside surface of the bag (most reverse air and all shaker baghouses).

Interstices
The opening between the interlacings of the warp and filling yarns; i.e., the voids in the fabric.

Lot
Unit of production or group of other units or packages taken for sampling or statistical examination.

Lubricant
An oil, emulsion, or the like, applied to fibers to prevent damage during textile processing, or to knitting yarns to make them more pliable.

Magnehelic 0 Gauge
An instrument used to measure the differential pressure drop in a baghouse.

Manometer
A U-shaped tube filled with a specific liquid. The difference in height between the liquid in each leg of the tube gives directly the difference in pressure on each leg of the tube. Used to monitor differential pressure.

Maximum Operating Temperature
Continuous operating temperature at which fabric will perform without deteriorating prematurely.

Micron
A unit of length, 1/1000 of one millimeter (1/24,000 of an inch) here used as a measurement of the largest diameter of a particle; 74 microns are equal to a 200 mesh opening.

Monofilament
A single filament made from man-made fibers such as acetate, rayon, nylon, polyester, acrylic, et. al.

Mullen Burst Test
A measurement of force needed to burst a given area of paper or cloth under fluid flow conditions, expressed as the pressure per square inch that will burst a two inch diameter test specimen.

GLOSSARY

Multifilament
A yarn consisting of many continuous filaments or strands; opposite of monofilament, or single strand.

Negative Pressure Baghouse
A system where fan is located after the baghouse on the clean air side, pulling air through the system.

Null
The period during the cleaning sequence in which neither cleaning nor on-line filtering is occurring, causing a static environment to allow dust to drop into hopper or discharge area.

OEM
Original equipment manufacturer.

Opacity
The visual density of stack emissions.

Outside Collection
Particles collected on the outside of the filter. (Pulse-jet/plenum baghouses and some reverse air).

Particulate
Any solid or liquid material in the atmosphere.

Permeability
A measure of fabric porosity or openness, expressed in cubic feet of air per minute per square foot of fabric at a 0.5" w.c. pressure differential.

pH
A value indicating the acidity or alkalinity of a material. A pH of 7.0 is neutral; less than 7.0 is acid; and more than 7.0 is basic.

Photohelic 0 Gauge
An instrument used to measure differential pressure and control it with adjustable set points for the desired operational differential pressure.

Pick
A single filling thread carried by one trip of the filling yarn insertion device (shuttle) across a loom. The picks interlace with the warp ends to form a woven fabric.

Pitot Tube
Device consisting of two tubes used to measure velocity pressure. One tube measures total air stream pressure, the other measures static pressure. When both tubes are connected across a differential pressure measuring device, static pressure is compensated and velocity pressure only is measured.

Plied Yarn
A yarn formed by twisting together two or more single yarns in one operation.

Porosity
The percent of open areas per unit volume of fabric.

Poppet Valve
A valve utilized tao isolate compartments and/or allow for reverse air flow through individual compartments. Typically constructed of a flat wafer plate assembled on the end of the shaft of an air cylinder which drives the wafer (poppet) into position.

Positive Pressure Baghouse
A system with a fan located prior to the baghouse on the dirty side, pushing air through the system.

GLOSSARY

Precoat
Material added to the air stream on initial process startup to aid in establishing a initial dustcake on the filter bags.

Pressure Drop
A measure of the resistance the gas stream encounters as it flows through the baghouse. May refer to pressure differential across the cloth, across the baghouse, or the pressure drop across the entire system. Commonly referred to as Delta P (AP); see differential pressure.

Process Collector
A collector off manufacturing or processing equipment to capture product typically lost as emissions.

PSI
Pounds per square inch; a unit of pressure; 1 psi equals 27.7" water gauge or 2.04" mercury (Hg).

Pulse Cycle
On a pulse-jet baghouse, the interval of time between one pulsing of a row of bags and the next pulsing of the same row.

Pulse Duration (On-time)
The length of time a pulse lasts, generally described as the length of time the electrical signal holds the solenoid pilot valve open. However, due to mechanical losses, the time the diaphragm is open will vary.

Pulse Interval (Off-time)
Elapsed time between pulses in a pulse-jet collector.

Pulse-Jet Baghouse
A baghouse using short intermittent bursts (pulses) of compressed air to clean dust/particulate from filter bags that are supported by cages. The particulate is collected on the outside of the filter bags.

Radiation Cooling
A method of reducing exhaust gas stream temperature which involves the use of long uninsulated ducts that allow the gas stream to cool as heat radiates from the duct walls.

Re-entrainment
The phenomenon whereby dust is collected from the air stream and is then returned to the air stream. It occurs when dust is cleaned from a bag and then caught again by an upward moving air stream which re-deposits it on a bag.

Resistance
In airflow, caused by friction of the air against any surface or by changing the momentum of the gas.

Reverse Air Baghouse
A collector where cleaning is accomplished by stopping the dirty gas flow into a compartment and backwashing the compartment with a low pressure airflow. Particulate is usually collected on the inside of filter bags and removed by allowing bag collapse.

GLOSSARY

Rotary Airlock Valve
An air-sealed star wheel with material buckets designed to provide an air tight seal between the inlet and discharge sides of the valve.

Satin Weave (Sateen)
The weave produces a fabric with a characteristically smooth surface by employing a greater number of yarns in the set of threads that form the face of the fabric surface.

Screw Conveyor
A revolving screw operating in a fixed trough for conveying material through the system from one point to another.

SCFM
Standard cubic feet per minute. The volume of gas flow per minute at standard temperature and pressure conditions (70 degrees F at sea level).

Scouring
Process of removing the starches and lubricants applied to fabric to protect it during weaving. Fabrics that have been scoured are generally softer and better withstand cleaning action.

Scrim
An open mesh, plain-weave cloth used as the base in some felted fabrics.

Scrubber
Any device in which a contaminant, solid or gaseous, is removed from a gas stream by impacting it with liquid droplets. (Types include spray towers, packed towers, cyclone scrubbers, jet scrubbers, venturi scrubbers and impingement scrubbers.)

Sequential Controller
Enclosure that contains the primary timer board used for activating the baghouse cleaning system at a preset timed sequence. May also contain a gauge to display differential pressure.

Shaker Baghouse
A baghouse where cleaning is accomplished by manually or automatically shaking the bags. The particulate is collected on the inside of the bags.

Silicone Finish
A treatment of filter bags to help provide a slick finish for improved dustcake release.

Singeing (Singed Finish)
The process of burning off fibers protruding from fabric surface by passing it over a flame or heated copper plates, singeing gives the fabric a smoother surface which aids in dustcake release, particularly in applications where moisture is a problem.

Slide Gate
A material discharge device consisting of a plate held in place by a flanged frame and sealed with gaskets. When the hopper above the slide gate needs to be emptied, the plate is slid open and the material discharges. Used for intermittent dumping where dust loads are light. Also used interchangeably with "blast gate" a similar device used as a damper to regulate airflow in a duct.

GLOSSARY

Solenoid Valve
Often times referred to a a "pilot valve", it is an electromechanical plunger energized to either a "normally closed" or "normally open" position to allow for relief of air pressure. The solenoid valve is normally used to activate a compressed air device.

Spray Tower Cooler
A tower or cylinder into which a hot gas stream enters and water is sprayed. As the water evaporates, the gas stream is cooled to the desired exit temperature.

Spun Yarn
A yarn consisting of fibers of regular or irregular staple length usually bond together by twisting, providing more surface area for particulate capture.

Tensile Strength
The force required to pull apart the fabric; this is designated by the measure of resistance to a testing machine (in pounds) that a fabric provides before the material breaks. The test strip width depends on the type of fabric.

Texturized (Bulked) Yarn
Filament glass yarn that has been processed by high pressure air passing through the yarn to open up the yarn bundle, providing more surface area.

Thermal Stability
Refers to the maximum amount of shrinkage or elongation that could be experienced when a fabric is exposed to operating temperatures on the upper edge of its temperature range.

Timer
Relative to the baghouse, the timer is the electrical mechanism that activates the cleaning cycle; often referred to as the timer panel or the controller. It can be a modern style printed circuit board, a PLC, or an old style cam timer.

Trickle Valve
A device for continuous removal of collected dust where the hopper is under negative pressure. The valves hinged flap gate is kept closed by a counter-weight until collected material builds up sufficient weight to overcome the counterweight.

Tubesheet (Cell Plate)
The steel plate to which the open ends of bags and cages are connected; separates the clean air and dirty air sections of the baghouse.

Twill Weave
Warp yarns floating over or under at least two consecutive picks from lower left to upper right, with the points of intersection moving one yarn outward and upward or downward on succeeding picks, causing diagonal lines in the cloth. It is one of the three basic weaves, the others being plain and satin (see Satin). Twills are the predominant weave patterns used in filtration because of the surface area it offers.

U-Tube Cooler
A system where the gas stream is cooled by drawing air through a series of tubes.

GLOSSARY

U-Tube Manometer (see Manometer)

Venturi
A cone-shaped device located at top of each filter in pulse-jet dust collectors which creates a negative pressure at the top of the venturi to help pull additional volume of air down into the filter element during pulsing.

Warp
The yarns which run vertically or lengthwise in woven goods.

Water Gauge (W.G.) see "Inch of Water".

Weaving
The process of forming a fabric on a loom by interlacing the warp (lengthwise yarns) and the filling (crosswise yarns) with each other.

Weight
Normally indicated as the average weight per square yard of fabric. There is always a manufacturing tolerance on either side of this average weight which may range from 3% to 8% depending on the product. Example: A 16 oz. polyester felt has a weight tolerance of +/- 1 oz.

Wet Process Dust Collector
A dust collector system that sprays a water mist into the particulate-laden gas stream. The moisture increases particle weight and causes particulate agglomeration, allowing the dust to drop out and clean the air.

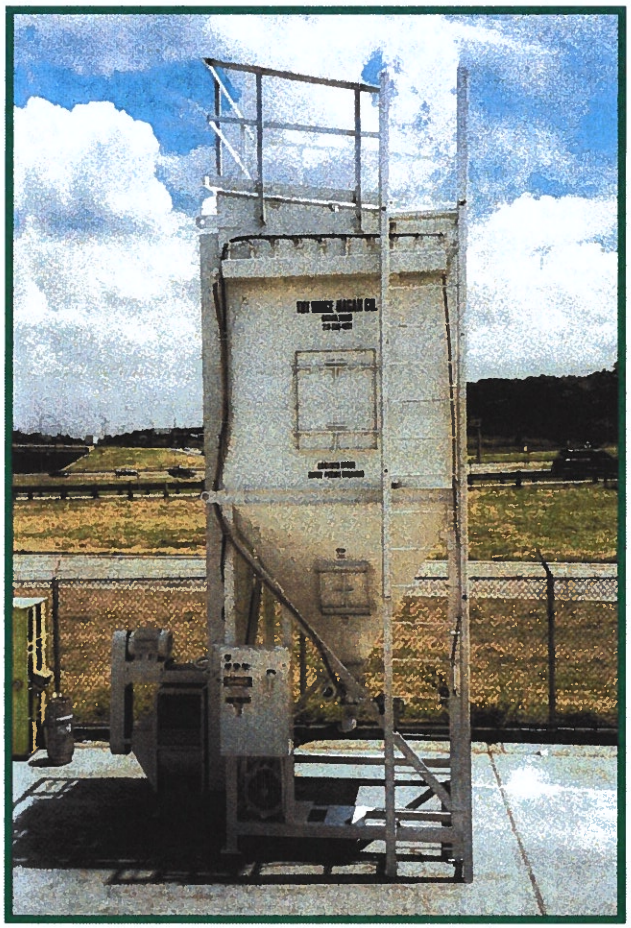
Yarn Construction
Indicates the number of single yarns and the number of strands combined to form a plied yarn.

Yarn Size (Denier or Count)
A relative measure of fineness or coarseness of yarn. The smaller the number in sewn yarns, the coarser the yarn. The higher the denier of a filament yarn, the coarser (heavier) the yarn.

THE VINCE HAGAN CO.

DUST COLLECTOR	REQ'D
1. DRAWINGS - D0245A01, D0245P01, D0245A02	1
2. ¾" FULL QUICK DISPLG	15
3. FILTER CARTRIDGE - ET-0803	7
4. ¼" DRAIN VALVE	1
5. 10 POINT TIMER BOARD	1
6. ¼" SOLENOID VALVE	7
7. ¾" DIAPHRAM VALVE	7
8. 90 DEGREE STREET ELBOW	7
9. ¼" TUBE CONNECTOR @ 90 DEGREE	7
10. ¼" TUBE CONNECTOR	7
11. ¼" SLEEVE	14
12. ¼" HOSE @ 10 FT.	2

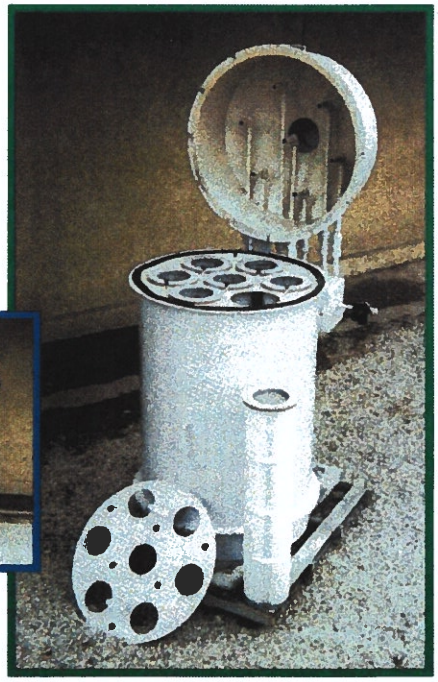
SERIOUS DUST CONTROL

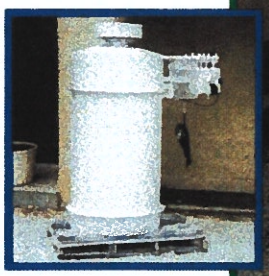


1094

VH-1094JP Jet-Pulse Dust Collector

- Simple to maintain
- Efficient
- Continuous cleaning without operator assistance
- Installation available
- Automatic reclaim system available





VH-245JP Jet-Pulse Dust Collector

- Simple to maintain
- Efficient
- Washable cartridges
- Hinged top for easy cartridge replacement

245

Call now : 1-800-354-3238

THE VINCE HAGAN CO.

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214-330-4601 • Fax: 214-331-9177
www.vincehagan.com • vhco@airmail.net

MODEL JP "JET PULSE" CENTRAL DUST COLLECTORS

SPECIFICATIONS
Jet-Pulse Dust Collector

Model	Cloth Area (Sq. Ft.)	No. of Bags	ACFM	Blower H.P.	A/C Ratio
VH-700JP	700	64	4,200	7.5	6:1
VH-1083JP	1083	99	6,500	15	6:1
VH-1094JP	1094	100	6,500	15	6:1
VH-1203JP	1203	110	7,200	15	6:1

Hagan Jet-Pulse Filter Bag

Efficiency	99.8% At 1 Micron
Cloth Type	Polyester Felt
Cloth Weave	Polyester .08 (Nom.)
Permeability	30 to 40 CFM/Sq. Ft. @ /.5 w.g.
Bag Weight	16 + 1 Oz./Sq. Ft.
Construction	Needle punched scrim supported
Bag Length	84"
Bag Diameter	6"

Silo Top "Jet Pulse" Dust Collector

SPECIFICATIONS
Model VH-245JP

Cloth Filtering Area	245 Sq. Ft.
Number of Cartridges	7
Cartridge Diameter	8.00" O.D.
Cartridge Length	36"
Cloth Type	Spun-Bound Polyester
Cloth Weight	8.1 Oz./Sq. Yd.
Permeability	28-33 CFM/Sq.Ft. @ 0.5" Water
Temperature Limit	200 DEG.F
Air Volume Intake	600 CFM @ 0.5" Water
Exhaust Opening Size	0.226 Sq. Ft.
Efficiency	99.995 @ .2 - 2 Microns

Call now : 1-800-354-3238
THE VINCE HAGAN CO.
P.O. Box 655141 • Dallas, TX 75265-5141
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Olympic Region Clean Air Agency
2940 B Limited Land NW
Olympia WA 98502

VOID AFTER 90 DAYS

AUTHORIZED SIGNATURE

Security features. Details on back.

⑈137190⑈ ⑆121000248⑆ 4138928775⑈

MILES SAND & GRAVEL COMPANY / 400 VALLEY AVE NE • PUYALLUP • WA 98372-2516

137190

VENDOR ID	NAME	PAYMENT NUMBER	CHECK DATE	
6182	Olympic Region Clean Air Agenc	0240676	05/29/2024	137190

OUR VOUCHER NUMBER	YOUR VOUCHER NUMBER	DATE	AMOUNT	AMOUNT PAID	DISCOUNT	WRITE-OFF	NET
DW146742	ROCHESTER 24-05	05/29/2024	$786.00	$786.00	$0.00	$0.00	$786.00
			$786.00	$786.00	$0.00	$0.00	$786.00

COMMENT