

Customer:	General Distributing Company – Helena, MT		
Customer PO#:	198751		
AVANI SO#:	20799	Tested By:	
Serial #:	140901		
Ship Date / Install Date:	6/23/14		

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.





# General Safety Information MACHINE WARNING SIGNS



**A WARNING** 

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. Indicates a potentially hazardous situation which,

A CAUTION

death or serious injury. Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Used without the safety alert symbol ( ) indicates potentially hazardous situation which, if not avoided, may result in property damage.



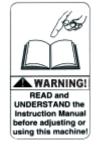
Warning of electric shock



Do not expose the equipment to rain or use in damp locations.







Do not use the equipment around flammable products, if not avoided, sparks can ignite vapors from flammable products. Read and understand all warnings and operating instructions before using this equipment. Failure to follow all instructions may result in electric shock, fire, and/or serious personal injury or property damage.



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UL Individual Control Boxes for Cartridge Collector and Blower





Cartridge Filter: Ø325mm x 1320mm x 16pcs (Ø12.8" x 52" x 16pcs)

Material: Polyester with TEFLON coating.

Filter Area:  $19m2 \times 16 = 304m2 (3271.04 \text{ ft2})$ 

Pleat Depth: 48mm

Horizontal Positioned Filters, Continuous Welded Seams, Gasket and Latched Doors, Powder Coated Paint and Reverse Jet Pulse Cleaning

#### Include:

- Filter Chamber

- Inlet Square Pipe (need dimensions)

- Fan/motor combinations

No. of Valves: 4

Compressed Air Requirement: 90 PSI Compressed Air Reservoir: 15.8 gallon

Inlet Air: 3/4"

Construction: 13 Gauge for panel; 11 Gauge Steel Cabinet

Max. Operating Temp.: 120°C

\*\*\*Custom Paint Color: Red RAL# 3001 – incl. fan and collector

(customer to confirm a metal paint sample to match)

Dimension (L x W x H): 102.2" x 106.4" x 157.4" (2593.5 x 2700.5 x 3996.1mm)

\*\*\*With Feet Underneath the machine.

\*\*\*pulse control box run off of 120V, 1-phase, no transformer inside pulse box. Pulse box located outside on the collector.



\*\*\*blower control box: 460V/ 60Hz / 3-phase, with transformer. Blower box located inside the building.



#### **General Safety Information**

#### (Continued)

**AWARNING** 

Use this product carefully to

effectively avoid any possible danger.

Observe the following safety
regulations to avoid bodily injury due
to electrocution during use.

Read this Manual carefully before operating the product and preserve the Operation Manual properly.

- 1. Keep work area clean and organized.
  - A disorderly working environment will cause inconvenience and danger during operation.
- 2. Check if the working environment is suitable for using the product.
  - Do not use the product in a humid environment.
  - Use the product in a good working environment to reduce risks.
  - Do not use the product in a flammable gas or liquid environment to avoid danger.
- 3. Keep other persons away from the

product, except for the operator, to avoid danger.

- Do not let children get close to the product. All wires used by the product shall be in a safe location to prevent children from touching them.
- 4. All tools shall be safely stored.
  - When the tools are not used, please store them in a dry place safely beyond the reach and access of children.
- 5. If the machine breaks down, contact a service technician. Do not attempt to repair and possibly damage the machine.
- 6. When using the product, be sure to put on a suit and mask.
- 7. Use the electrical wires correctly.
  - During use, do not drag the electrical wires forcefully. Do not use these wires if fraying or current leakage occurs to avoid injury to the operator.
- 8. Before replacing parts, shut off power to the machine.
  - Check that the switch is in "on" or "off" position. Do not attempt the replacement when the machine is running. To replace parts or filter

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.





material, make certain that the switch is "off".

9. Use the power cord correctly. The total length of power cord shall not exceed 10 feet to avoid low power due to a drop in voltage and to prevent a possible hazard.

#### **▲WARNING**

When connecting the product,

always follow the instructions in the Operation Manual to avoid injuries.

- 10. Care and Maintenance:
  - Confirm that the parts/accessories have been fully assembled and will not adversely affect the machine operation.
  - Check if the machine is operated properly.
  - Replace damaged parts or accessories according to the instructions of the Manual. If the said instructions are not specified in the Manual, have a professional technician carry out the maintenance or replacement.
  - Check that the electrical specifications of this machine meet safety requirements, and that the maintenance is carried out by a professional technician. Use original manufacturer's parts and accessories

to avoid injury.

 If a problem occurs, contact your dealer immediately.

# ADDITIONAL CARTRIDGE COLLECTOR SAFETY RULES

The Cartridge Collector can be dangerous if it is operated incorrectly. Therefore, the product must be used cautiously to avoid causing a hazard or damage. Unnecessary injuries may occur by failing to follow the instructions of the Safety Rules Manual. Be sure to put on protection equipment or suit that can protect your body, such as helmet and eye mask to avoid injuries from occurring. If any doubts or any unfitness occurs during use, be sure to stop the operation immediately. Keep in mind that the user shall be liable for using according to the specified safety rules and for operating the machine correctly.

- Read this Manual carefully before operating the product.
- Be sure to follow local electrical and safety regulations and observe the electrical safety standards practiced in the relevant area. All electrical wire connections and installation shall be carried out by a professional technician.
- 3. Do not operate the product near



flammable materials, as sparks may ignite these materials and cause an explosion. Please confirm there aren't any flammables near the working site to avoid hazard.

- 4. This product is suitable for collecting smoke and oil gas. Do not use it in collecting iron chips and dust at the same time to avoid producing sparks.
- Before replacement of parts or filter materials, be certain that the switch is disconnected.
- 6. Do not kink the power cord and keep it away from oil, chemicals or flammables.
- 7. Check that the voltage, phase count and grounding wire match the machine requirements.
- 8. When the fan blades are operated at high speed, do not reach hand near these blades to prevent finger from breaking or clothes/necktie from getting caught. Do not put the hand or foreign matter into the air inlet to avoid getting caught in the high-speed rotation of fan blades.
- When not in use, all air inlets of Cartridge Collector shall be covered.

#### Assembly

Do not connect the Cartridge Collector



before the assembly is

finished and you have read and understood all of the precautions stated in the Manual.

**NOTE**: For correct assembly, refer to the Assembly Procedure on pages 12-19.

#### **Installation**

#### **MOVING AND TRANSPORTATION**

The weight of this machine is about 5,295.5 lbs. It CANNOT be handled and transported without the help of lifting tools. For your safety, read all instructions carefully.

Do not move without the help of others



to avoid causing danger.

#### **ELECTRICAL INSTALLATION**

POWER CONNECTION

- Confirm that the power is properly connected under normal power supply condition. It is recommended to provide manual shutdown device before connecting power.
- 2. It is recommended to protect the control equipment with suitable grade of fuse, and the length of fuse and power cord shall not be over 10 feet.



#### **SHUTDOWN**

- 1. Disconnect power by manual method.
- 2. When stopping operation, check if the switch is under off status.

#### **EARTHING WIRE**

Connect yellow/green wires to the earthing wire power jack. Confirm that the earthing wire has been properly connected before connecting main power cord to the machine at all times.



Do not disconnect the wiring jack

#### before cutting off power!

#### **POWER INSTALLATION AND STORAGE**

The electrical power is configured as following. If conditions are beyond the scope stated below, then it is required to ensure that the power is well arranged and safe.

- Ambient temperature: Between 41°F and 131°F. If the time is over 24 hours, then the ambient average temperature shall not be over 122°F.
- Humidity: Between 30% and 95%
- Altitude: 3,280 feet
- Moving and Storing: -13°F to 131°F.
   For short-time storage (less than 24 hours), the storage temperature can be up to 158°F.

#### Operation

#### PRIOR TO START UP

Purpose: The Cartridge Collector is specially suitable for treating the smoke generated during ordinary processing work, which can effectively collect and screen the smoke resulting from the work in maintaining the air quality of the working environment.

- Before starting the machine, be sure to read this Manual carefully.
- Before starting the machine, check if relevant safety protection measures have been taken according to the Manual.
- Before starting the machine, watch the motor turning direction according to the instruction of arrow direction.

#### **START UP**

- To ensure satisfactory performance for the Cartridge Collector, please confirm the air volume, power and the matching table of the Cartridge Collector.
- Connect power according to electrical installation procedure after installing the Cartridge Collector and the blower.
   Disconnect power according to electrical installation procedure when the machine is not used.



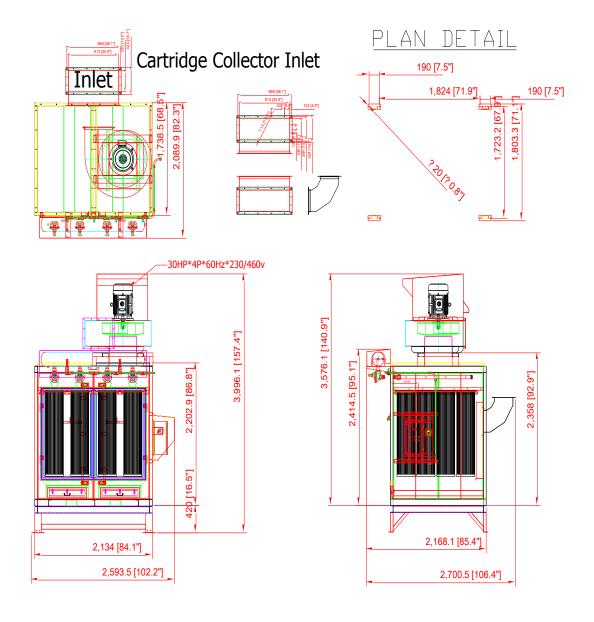
3. The Cartridge Collector shall be turned on and off by pushing I/O button. Under normal operation status, use such I/O button.

#### **Unpacking**

The machine should be unpacked carefully. Check if the machine and components are consistent with those indicated in the Parts List. If any doubt arises or when the components are incomplete, contact your dealer.



#### **Dimensions (in mm/inches)**

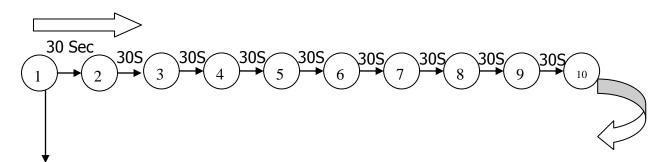




#### **Control Panel**

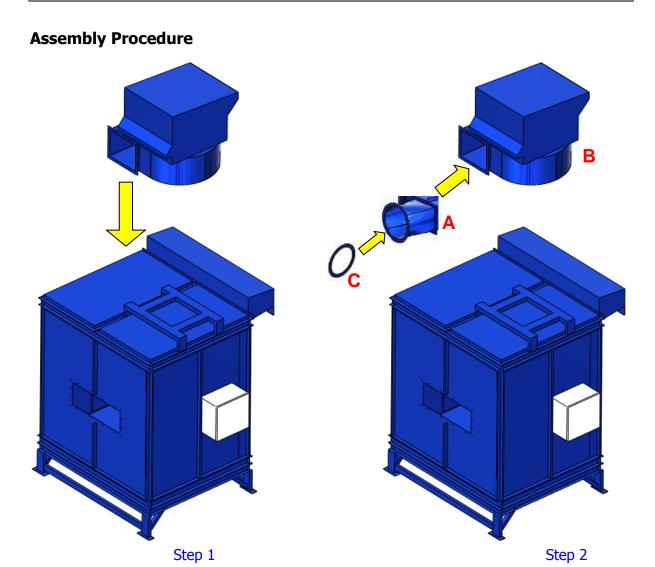
Time Setting for Valve (Pulse-Jet):

- 1. No. of Valves: 4
- 2. Pulse-jet Time for each Valve: 0.2 sec
- 3. Valve Interval: 30 seconds (pulse-jets first cycle when turning on the power and circulate in every thirty seconds).
- 4. Turn off ONLY the motor power and leave the main power on for approximately 1 hour until ALL cartridges are pulse-jet cleaned. This ensures the cartridge cleaning efficiency when you turn on the power next time.



Pulse-jet time: 0.2 sec





**Step 1**Assemble the Blowers to the Upper Section using:

Parts Name	Specification	Q'ty
Hex Screw	1/2"*3/4"	16
Flat Washer	1/2"*OD25*2T	16
Lock Washer	1/2"	16



#### Step 2

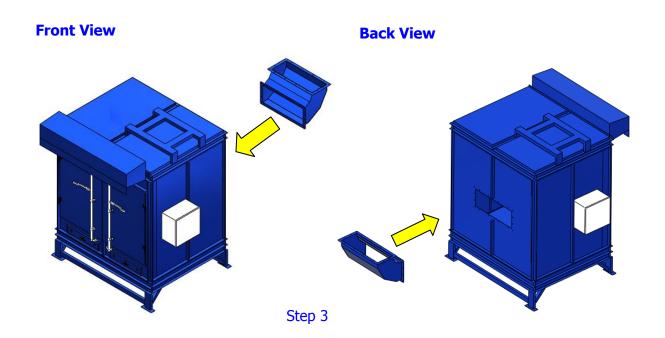
Assemble the Square to Round A to the Blower Housing B using:

Parts Name	Specification	Q'ty
Hex Screw	3/8"*1"	16
Flat Washer	3/8"*OD23*2T	32
Hex Nut	3/8"	16

Secure the Flanged Connection C to the Square to Round A End using:

Parts Name	Specification	Q'ty
Hex Screw	3/8"*1"	14
Flat Washer	3/8"*OD23*2T	28
Hex Nut	3/8"	14

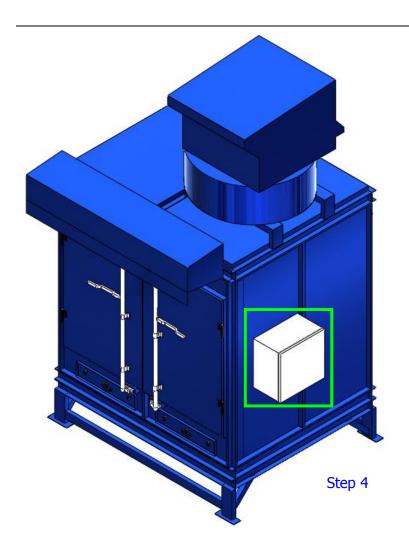




**STEP 3**Assemble the Inlet using:

Parts Name	Specification	Q'ty
Flat Washer	3/8"*OD23*2T	16
Lock Washer	3/8"	16
Hex Nut	3/8"	16

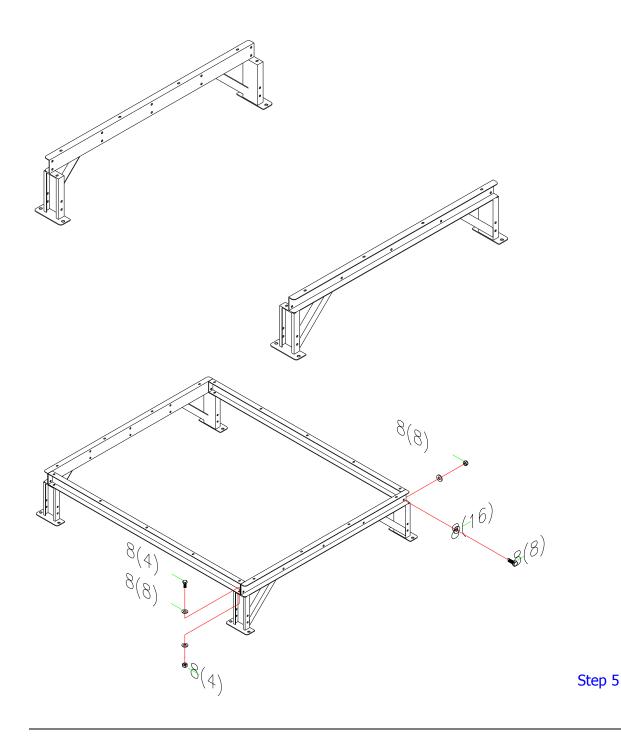




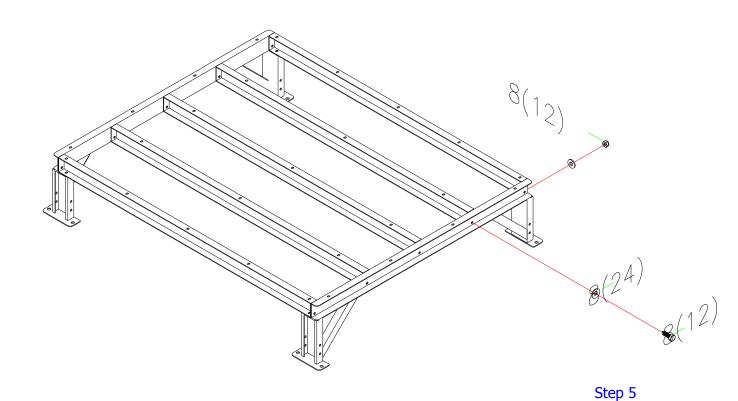
**Step 4**Assemble the Cartridge Collector Pulse Control Box Base, Supports and Cover using:

Parts Name	Specification	Q'ty
Hex Screw	3/8"*3/4"	6
Flat Washer	3/8"*OD23*2T	12
Hex Nut	3/8"	6





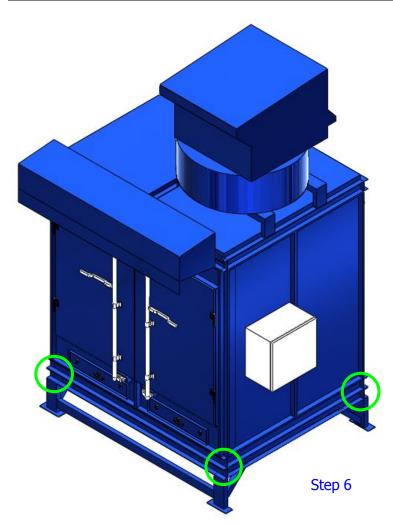




<u>Step 5</u>
Assemble the Feet Supports underneath using:

Parts Name	Specification	Q'ty
Hex Screw	1/2"*1"	28
Flat Washer	1/2"*OD25*2T	56
Hex Nut	1/2"	28

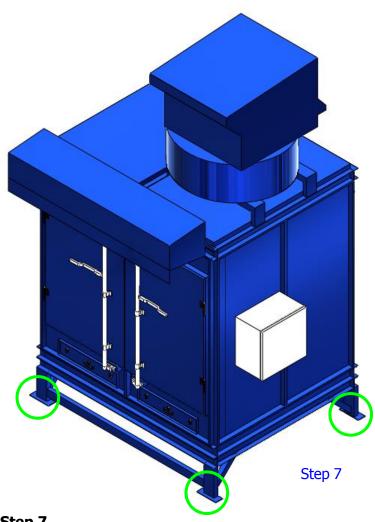




**Step 6**Assemble Machine Main Body & Feet Supports underneath using:

Parts Name	Specification	Q'ty
Hex Screw	1/2" *1"	32
Flat Washer	1/2"*OD25*2T	64
Hex Nut	1/2"	32





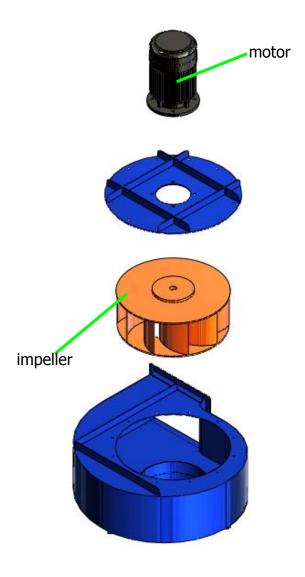
**Step 7**Fasten sleeve anchors for legs to field bolted if needed.

Parts Name	Specification	Q'ty
Sleeve Anchors	3/4" *4"	8

Assembly completed.



#### **Assembly Procedure for Fan/Motor Assembly**



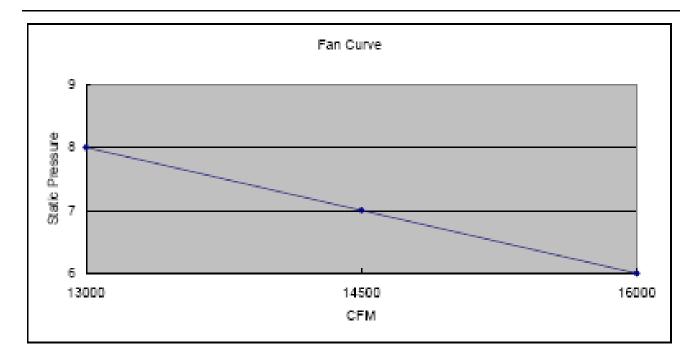


#### **Blower Curves**

#### SDC-30-16MDF DUST COLLECTOR

Model	Max statio pressure (inoh/H2O)	Max CFM	Нр	Volts	HZ	impeller	inlet
SDC-30- 16MDF DUST COLLECTOR	_	13000	30HP x 1 pc	460V	60		

SDC-30-	Static pressure (inch/H2O)	8	7	e	5
16MDF	CFM	13000	14500	16000	





# Repair Parts Illustration For Repair Parts, call +1-919-570-2862

24 hours a day - 365 days a year

Please provide following information:

- -Model number
- -Serial number (if any)
- -Part description and number as shown in parts list







#### **Repair Parts List**

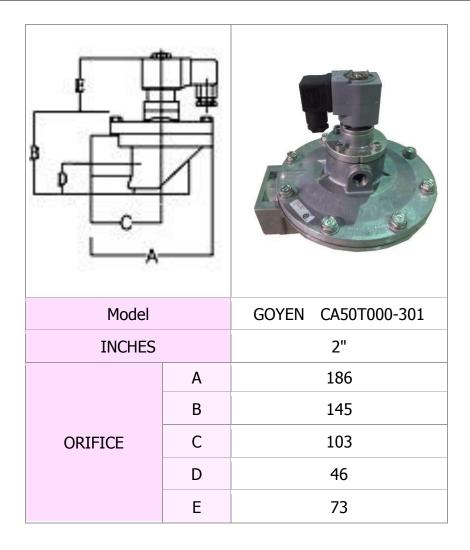
**Repair Parts List for Dust Collector** 

Reference Number	Description	Part Number	Quantity
1	Solenoid Valve	AVANI-SDC-30-16MDF-1	4
2	Door Locker	AVANI-SDC-30-16MDF-2	2
2-1	Door Locker Kit	AVANI-SDC-30-16MDF-2-1	2
2-2	Door Locker Kit	AVANI-SDC-30-16MDF-2-2	1
2-3	Door Locker Kit	AVANI-SDC-30-16MDF-2-3	2
2-4	Door Locker Kit	AVANI-SDC-30-16MDF-2-4	2
2-5	Door Locker Kit	AVANI-SDC-30-16MDF-2-5	1
2-6	Door Locker Kit	AVANI-SDC-30-16MDF-2-6	1
2-7	Door Locker Kit	AVANI-SDC-30-16MDF-2-7	1
3	Cartridge Filter	AVANI-SDC-30-16MDF-3	16
3-1	Filter Handle (left)	AVANI-SDC-30-16MDF-3-1	1
3-2	Filter Handle (right)	AVANI-SDC-30-16MDF-3-2	1
	Control Box for Air Pulse Solenoid		
4	Valves of the Large Cartridge	AVANI-SDC-30-16MDF-4	1
	Collector		
5	Feet	AVANI-SDC-30-16MDF-5	4
6	Blower and Motor	AVANI-SDC-30-16MDF-6	1
7	Control Box for Blower and Motor	AVANI-SDC-30-16MDF-7	1



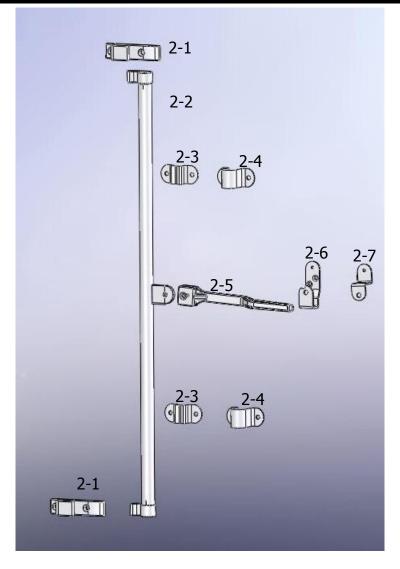
#### **Technical Data for Repair Parts**

Reference Number	Description	Part Number	Quantity
1	Solenoid Valve	AVANI-SDC-30-16MDF-1	4



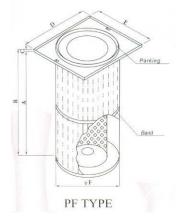


Reference Number	Description	Part Number	Quantity
2	Door Locker	AVANI-SDC-30-16MDF-2	2



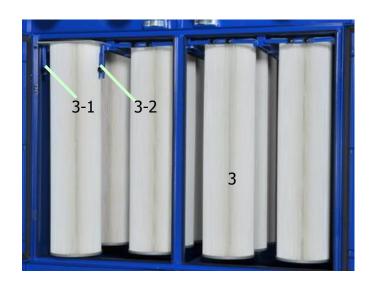


Reference Number	Description	Part Number	Quantity
3	Cartridge Filter	AVANI-SDC-30-16MDF-3	16



#### PF TYPE (Measurement m/m)

Diameter	Fold Depth	Α	В	С	D	E	F	Weight kg	Filtering Area M <sup>2</sup>
325	48	1307	1320	13	406	357	324	17	19

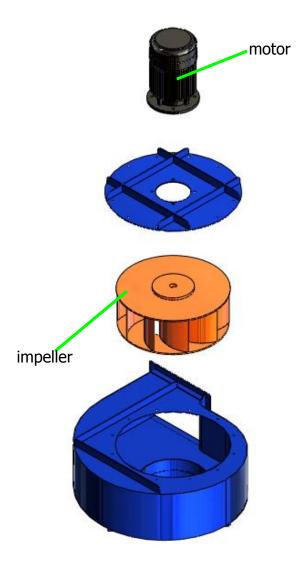


Reference Number	Description	Part Number	Quantity
4	Control Box for Air Pulse Solenoid Valves of the Large Cartridge Collector	AVANI-SDC-30-16MDF-4	1

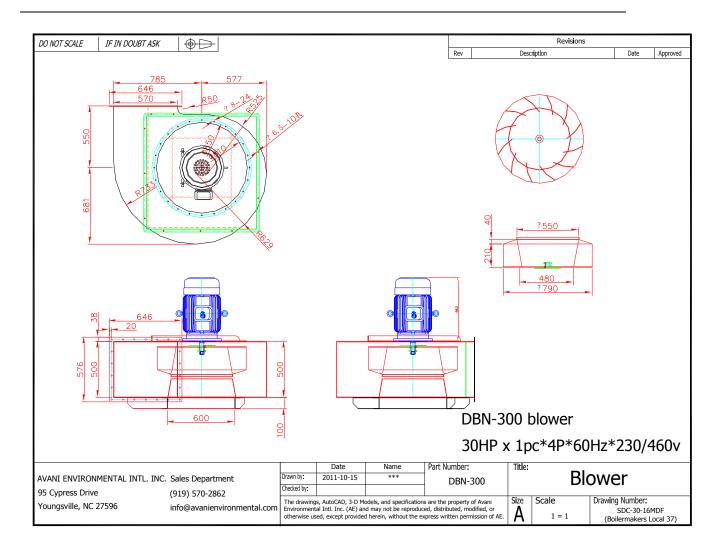
See appendix for wiring diagram.



Reference Number	Description	Part Number	Quantity
6	Blower and Motor	AVANI-SDC-30-16MDF-6	1







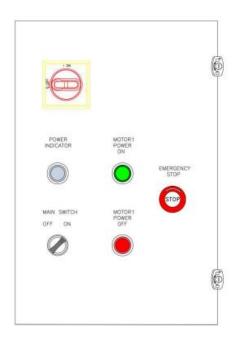
Reference Number	Description	Part Number	Quantity
7	Control Box for Blower and Motor	AVANI-SDC-30-16MDF-7	1

See appendix for wiring diagram.



#### **Appendix 1 - Electrical Circuit Diagram**

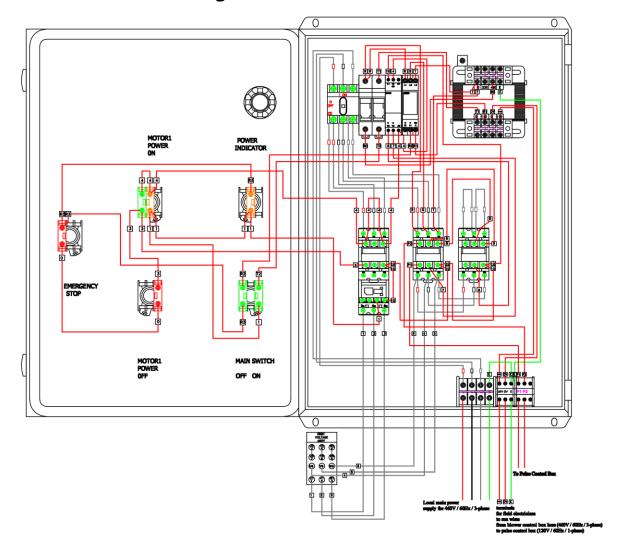
#### Main Electrical Components for SDC-30-16MDF Blower Control Box





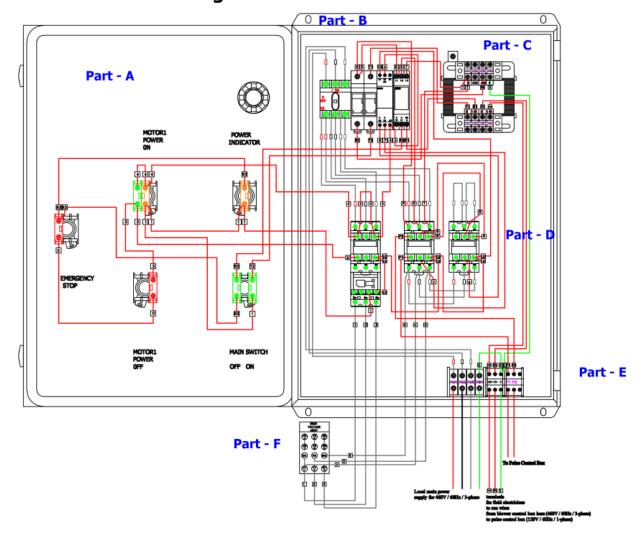


#### **Main Electrical Wiring for SDC-30-16MDF Blower Control Box**





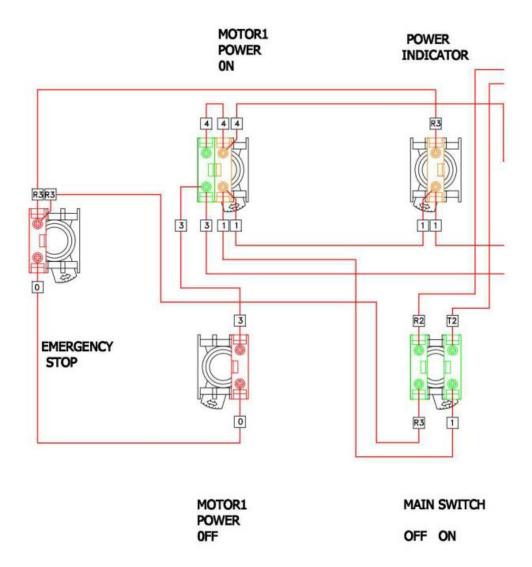
#### **Main Electrical Wiring for SDC-30-16MDF Blower Control Box**





#### Main Electrical Components for SDC-30-16MDF Blower Control Box

Part - A





#### **Main Electrical Components for SDC-30-16MDF Blower Control Box**

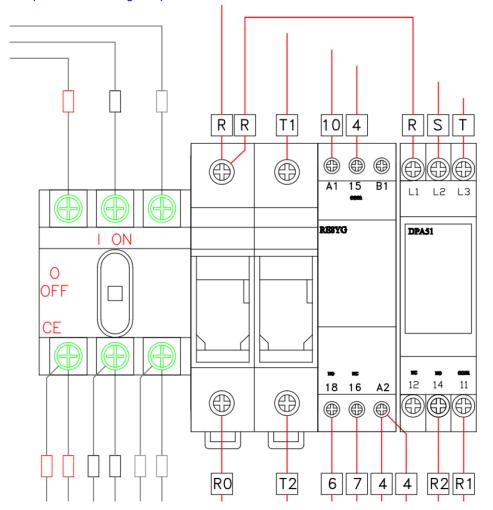
Part - B

Panel disconnect switch

Fuse bus

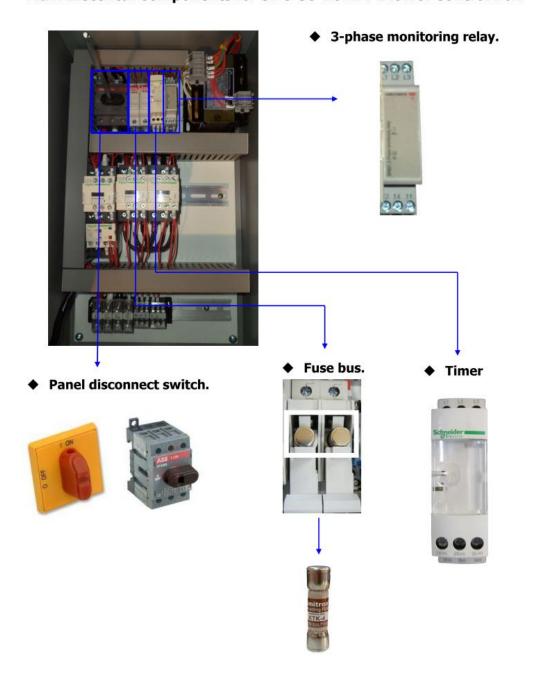
Timer

3-phase monitoring relay





#### Main Electrical Components for SDC-30-16MDF Blower Control Box

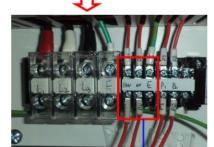




#### Main Electrical Components for SDC-30-16MDF Blower Control Box

 Connecting to the Blower control box.





Part - E

 Connecting to the pulse control box.

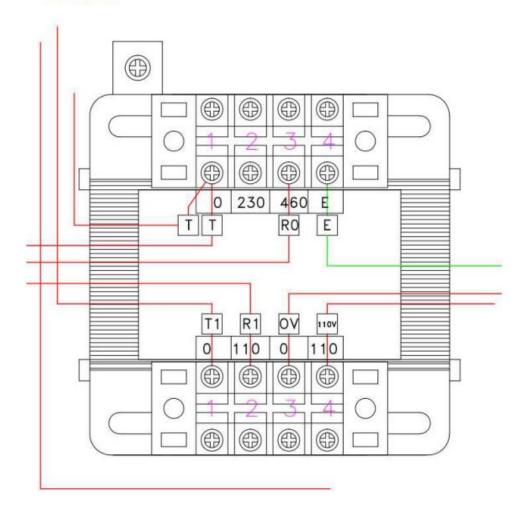






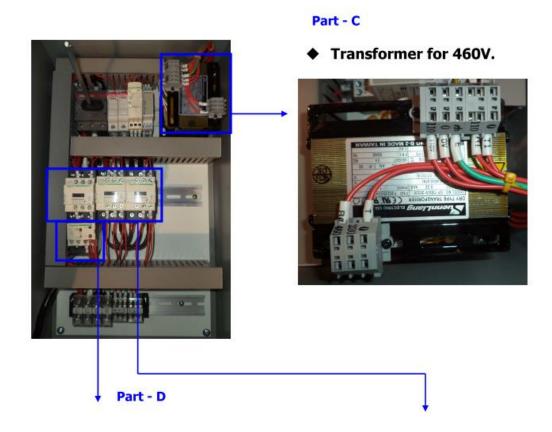
### Main Electrical Components for SDC-30-16MDF Blower Control Box

Part - C Transformer





### **Main Electrical Components for SDC-30-16MDF Blower Control Box**



◆ Thermal Relay for motor of 30HP.



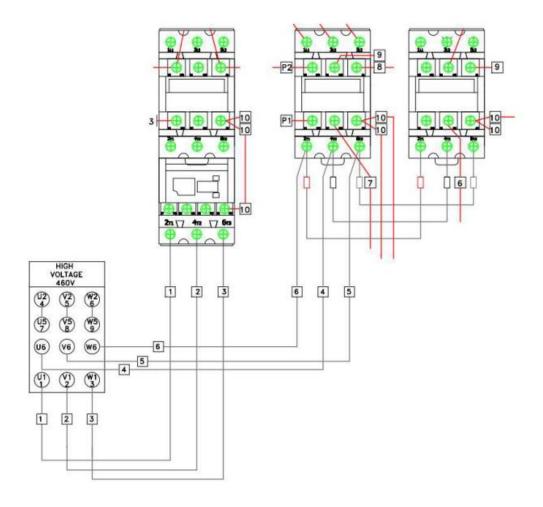
Magnetic contactor.





#### **Main Electrical Components for SDC-30-16MDF Blower Control Box**

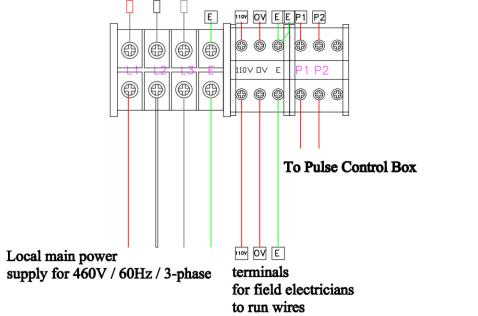
Part - F Connect to motor





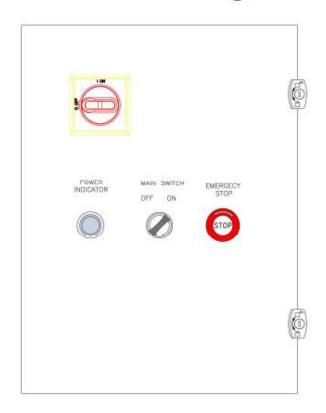
#### Main Electrical Components for SDC-30-16MDF Blower Control Box

#### Part-E: Connect to main power supply for 460V / 60HZ / 3-Phase



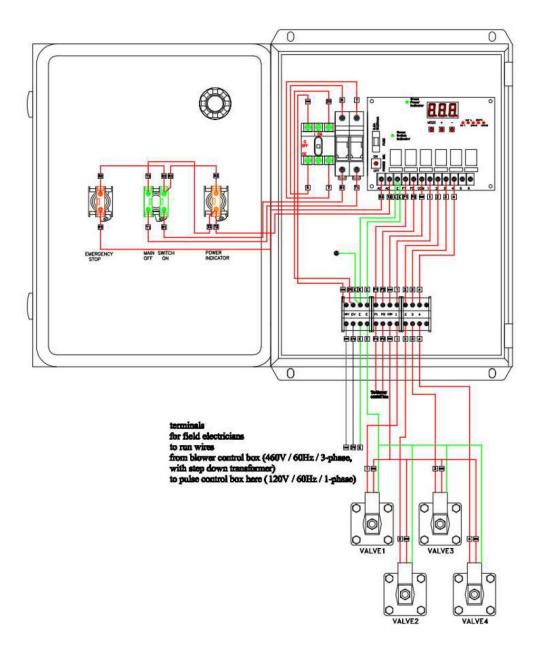
from blower control box here (460V / 60Hz / 3-phase) to pulse control box (120V / 60Hz / 1-phase)



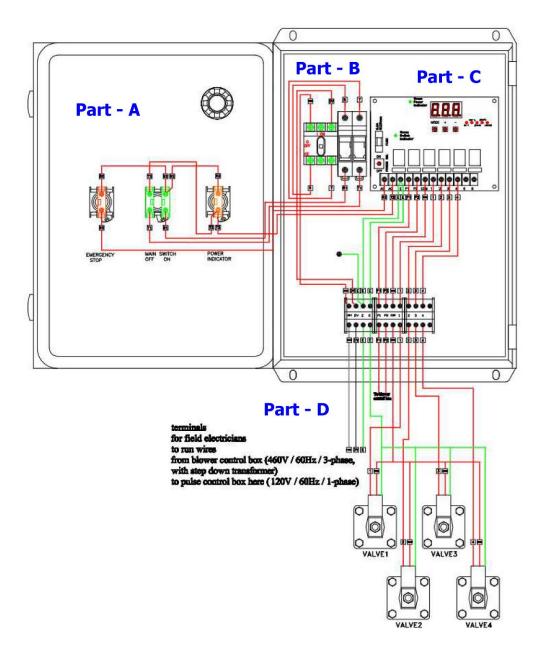




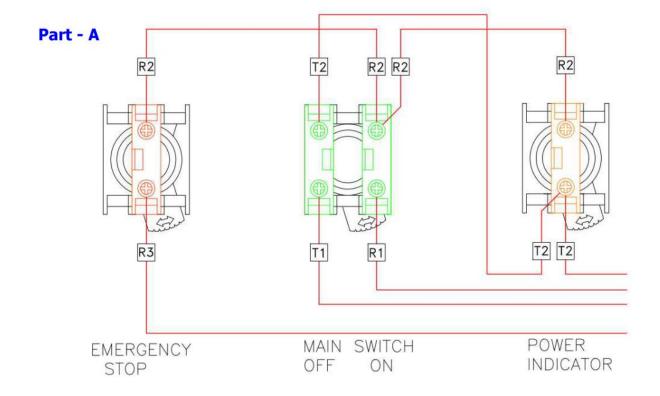




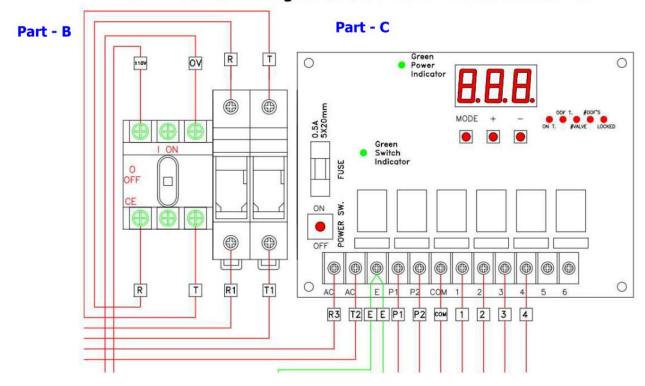






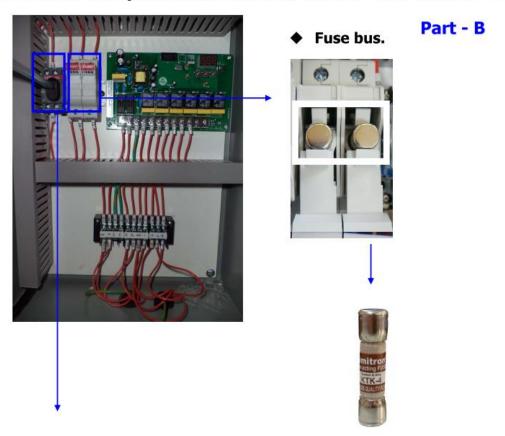








### **Main Electrical Components for SDC-30-16MDF Pulse Control Box**



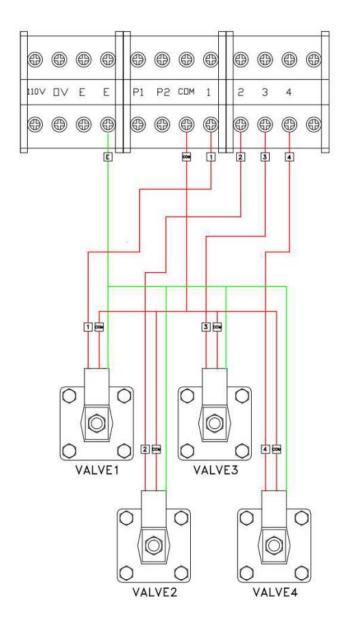
#### ♦ Panel disconnect switch.





#### Main Electrical Components for SDC-30-16MDF Pulse Control Box

Part-D: Connect to main power supply for 460V / 60HZ / 3-Phase





### Main Electrical Components for SDC-30-16MDF Pulse Control Box



Sequential Controller (Front).



Sequential Controller (Back).





Main Electrical Components for SDC-30-16MDF Pulse Control Box



G H II

MGCGSVJ J ACHTERWANA AND DELLERWANA AND DEL

- ♠ A : Power Indicator.
- ♦ B : Power Indicator.
- ♦ C : Fuse.
- D : Power Terminal.
- ♠ E : Grounding.
- ♦ F: Valves.
- G: Mode.
- ♦ H: Digits Adding Button.
- I : Digits Decreased Button.
- J: Digits shown.
- K: Air Pulse Jet Sprayed Length.
- L: Pulse Jet Intervals.
- ♠ M : Number of Valves.
- N : Settings completed.
- P1: Run Switch (Air pulse jet
- P2: operating and setting, please refer to the instrustion on the following pageP1./ P2.)

O: Air Pulse Jet Cleanses Cartridges after Machine Stops Operation. (Preserved function).

# Please find illustration by next page for

Air pulse jet operation & setting



#### Main Electrical Components for SDC-30-16MDF Pulse Control Box

#### **Air Pulse Jet Timer Setting Procedure**

As you turn on the power, the "PWR" (Power Indicator) will light up.

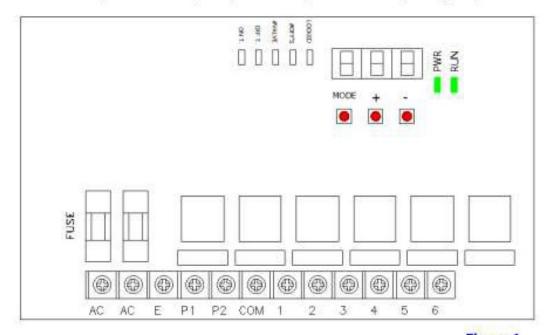


Figure 1

When the blower/fan starts up, the "RUN" (Switch Indicator) will light up. The Air pulse jet will begin to operate and clean the cartridge filters.

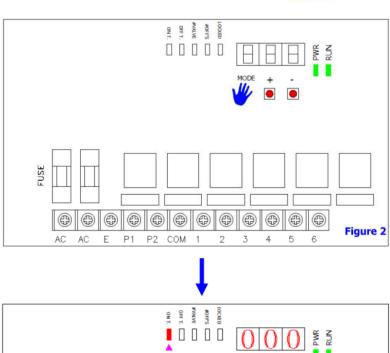
The Air pulse jet will clean the cartridge filters for one circulation after the blower/fan is shut down.

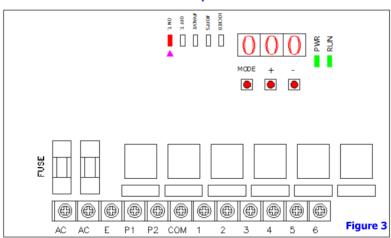
The setting above for the Air pulse jet is done by the following procedure:



#### Main Electrical Components for SDC-30-16MDF Pulse Control Box

- Set the time of air pulse jet for each valves :
  - Press MODE (figure 2). The "ON T." will flash up that represents it is in the air pulsing time setting mode (pink triangle) (figure 3).



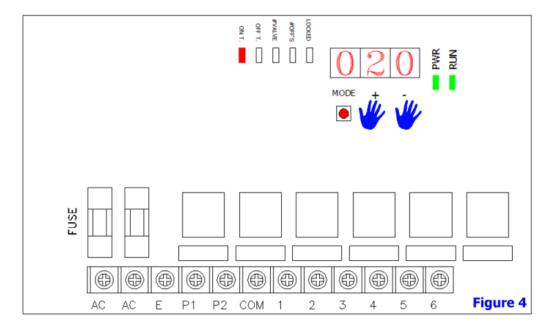


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#### Main Electrical Components for SDC-30-16MDF Pulse Control Box

- Press "+" or "-"to adjust the time of the air pulsing for each valves (figure 4).
- The parameter of the air pulsing time was preset on 0.2 sec.
- The time scope for the air pulsing : 0.01 sec ~ 9.99 sec.

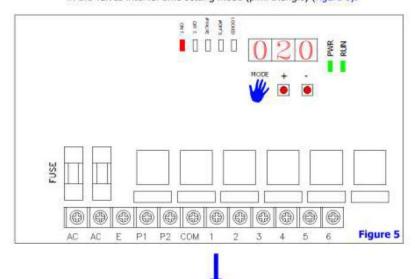


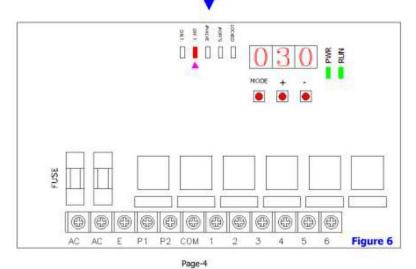


#### Main Electrical Components for SDC-30-16MDF Pulse Control Box

#### **Air Pulse Jet Timer Setting Procedure**

- Valves interval time setting :
  - Press MODE (figure 5). The "OFF T." will flash up that represents it is in the valves interval time setting mode (pink triangle) (figure 6).





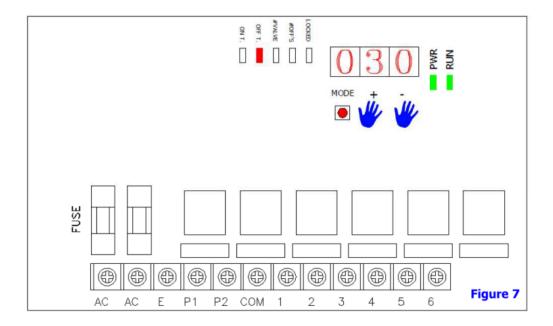


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#### Main Electrical Components for SDC-30-16MDF Pulse Control Box

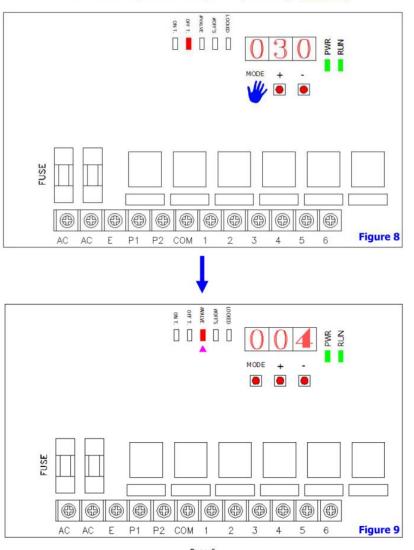
- Press "+" or "-" to adjust the valves interval time (figure 7).
- The parameter of the valve interval time was preset on 30 sec.
- The scope of the valve interval time : 1 sec. ~999 sec.





#### Main Electrical Components for SDC-30-16MDF Pulse Control Box

- ◆ The valve quantities setting :
  - Press MODE (figure 8) . The "#VALVE" will flash up that represents it is in the valve quantities setting mode (pink triangle) (figure 9).

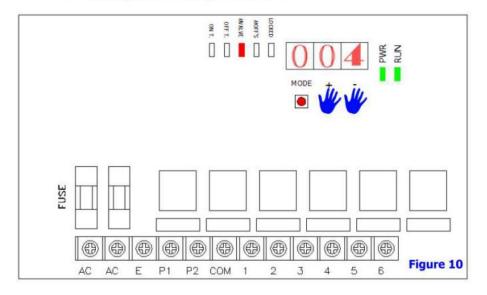


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### Main Electrical Components for SDC-30-16MDF Pulse Control Box

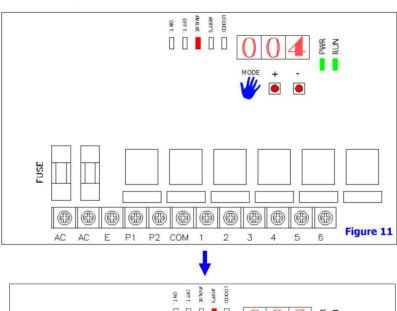
- Press "+" or "-" to adjust the valve quantities (figure 10).
- The parameter of the valve quantities was preset on 3.
- The scope of the valve quantities : 1~6.

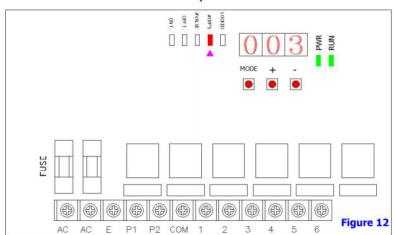




#### Main Electrical Components for SDC-30-16MDF Pulse Control Box

- Set the circulation of the air pulse jet that cleans cartridge filters after stopping operation :
  - Press MODE (figure 11). The "#OFF'S" will flash up that represents it is in the circulation of the air pulsing setting mode (pink triangle) (figure 12).



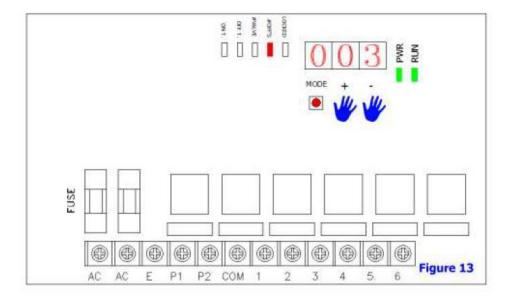


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#### Main Electrical Components for SDC-30-16MDF Pulse Control Box

- Press "+" or "-" to adjust the circulation of the air pulsing that cleans cartridge filters after stopping operation (figure 13).
- The parameter for the circulation of the air pulsing was preset on 3.
- The scope for the circulation of the air pulsing : 0~25.

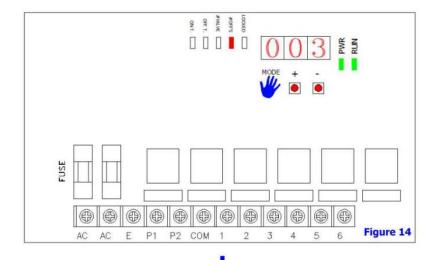


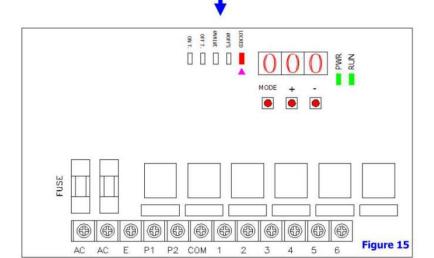


#### Main Electrical Components for SDC-30-16MDF Pulse Control Box

#### **Air Pulse Jet Timer Setting Procedure**

- Setting completed:
  - Press MODE (figure 14) . The "LOCKED" will flash up that represents all parameters setting completed (figure 15).





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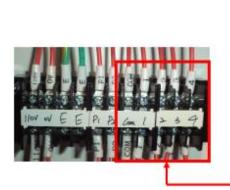
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#### Main Electrical Components for SDC-30-16MDF Pulse Control Box



 Connecting to the blower control box.

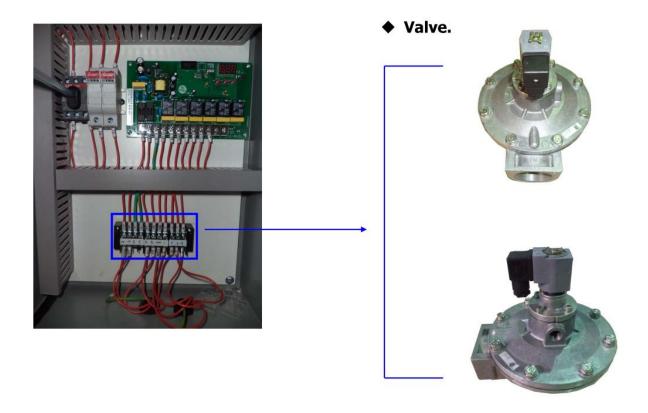




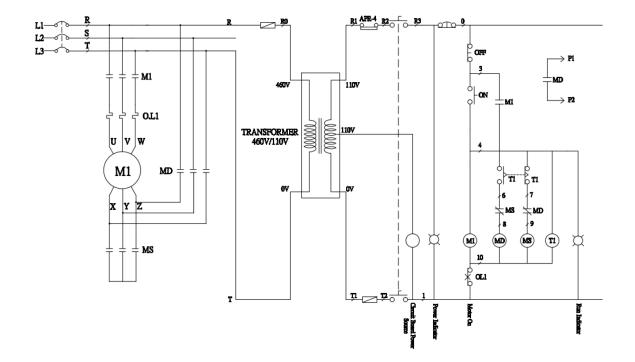




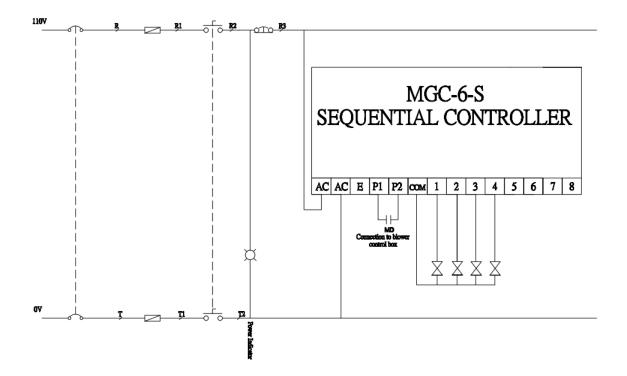
### **Main Electrical Components for SDC-30-16MDF Pulse Control Box**













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