

FRESH AIR POWER VENTILATOR - LITE

Model: FAPV-L




READ THESE INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE PROCEEDING WITH THE INSTALLATION

This device **MUST** be installed by a qualified agency in accordance with the manufacturer's installation instructions. The definition of a qualified agency is: any individual, firm, corporation or company which either in person or through a representative is engaged in, and is responsible for, the installation and operation of HVAC appliances, who is experienced in such work, familiar with all the precautions required, and has complied with all the requirements of the authority having jurisdiction. Please retain these instructions after installation.

SAFETY CONSIDERATIONS

 **WARNING:** Identifies an Instruction which, If not followed, might cause serious personal injuries including possible death.

 **CAUTION:** Identifies an Instruction which, If not followed, may severely damage the unit and/or it's components.

 **LIMITATIONS:** For residential (domestic) installation only. Installation work and electrical wiring must be done by a qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction codes and standards.

WARNING

1. 120 Volts may cause serious injury from electric shock. Disconnect electrical power before starting installation or servicing, and leave the power disconnected until installation/service is completed.
2. Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer at the address or telephone number listed in the warranty.
3. Sharp edges may cause serious injury from cuts. Use care when cutting plenum openings and handling ductwork.
4. When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.
5. To reduce the hazards of electric shock or fire, do not perform any service to the system other than those stated in the operating manual instructions.
6. Do not modify the power connections in any way; if modified, a risk of electric shock, fire, or even damage to the unit may occur.
7. This unit is not designed to provide combustion and/or dilution air for fuel-burning appliances. Do not use the ventilation system to remove flammable fumes, hazardous or explosive materials, vapors, or gases or connect it directly to any appliances.
8. Always assess the ventilation system's operation and how it may interact with vented combustion equipment (e.g., Gas Furnace, Oil Furnace, Combustion, Appliances, etc.).
9. Do not use the ventilation system for outdoor applications.
10. Do not use for swimming pool/spa applications.
11. This ventilation system has a 3-prong plug-in, which will fit in a polarized outlet only one way to reduce the risk of electric shock.
12. This unit must be grounded. The power supply cord has a 3-prong grounding plug for your safety. It must be plugged into a mating 3-prong grounding receptacle, grounded in accordance with the national electrical code and local codes and ordinances. Do not remove the ground prong. Do not use an extension cord.
13. Do not pull or twist the power cord when disconnecting it from the ventilation system. Grasp the plug firmly, not the cord.
14. Do not modify the power plug in any way; if modified, risk of electric shock fire or even damage to the unit may occur.
15. Use a dedicated AC 120V outlet only.
16. Do not obstruct or cover the air intake or air outlet of the ventilation system.
17. Do not modify, repair, or disassemble this system. These tasks are to be performed by authorized serviced personnel only. Fire, electrical shock, and/or bodily injury may occur if these warnings are not followed.
18. To prevent injuries, do not operate the ventilation system while servicing or maintaining it. An impeller wheel is turning at a very high speed and must entirely stop rotating before accessing the inside of the unit.
19. It is recommended that you wear safety glasses and gloves when installing, servicing, or cleaning these units.
20. When applicable local regulations comprise more restrictive installation and/or certification requirements; these requirements prevail over those of this document, and the installer agrees to conform to them at his own expense.

WARNING

1. To Reduce The Risk Of Fire Or Electric Shock, Do Not Use This Fan With Any Solid-State Speed Control Device.
2. TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:
 - A. Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
 - B. Before servicing or cleaning the unit, turn the power off at the service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means it cannot be locked, a prominent warning device, such as a tag, can be securely fastened to the service panel.
3. To Reduce The Risk Of Fire, Electric Shock, Or Injury To Persons, Do Not Use Replacement Parts That Have Not Been Recommended By The Manufacturer (e.g., Parts Made At Home Using A 3D Printer).

CAUTION

1. Read all instructions before beginning installation.
2. Improper installation may cause property damage or injury. Installation, service, and maintenance must be performed by a qualified service technician.
3. To avoid premature clogged filters, turn OFF the unit during construction or renovation.
4. Please read specification label on product for further information and requirements.
5. Be sure to duct air outdoor – Do not intake/exhaust air into spaces within walls or ceiling or into attics, crawl spaces, or garage.
6. Intended for residential installation only.
7. The ductwork is intended to be installed in compliance with all local and national codes that are applicable.

READ AND SAVE THESE INSTRUCTIONS

DIMENSIONAL DATA

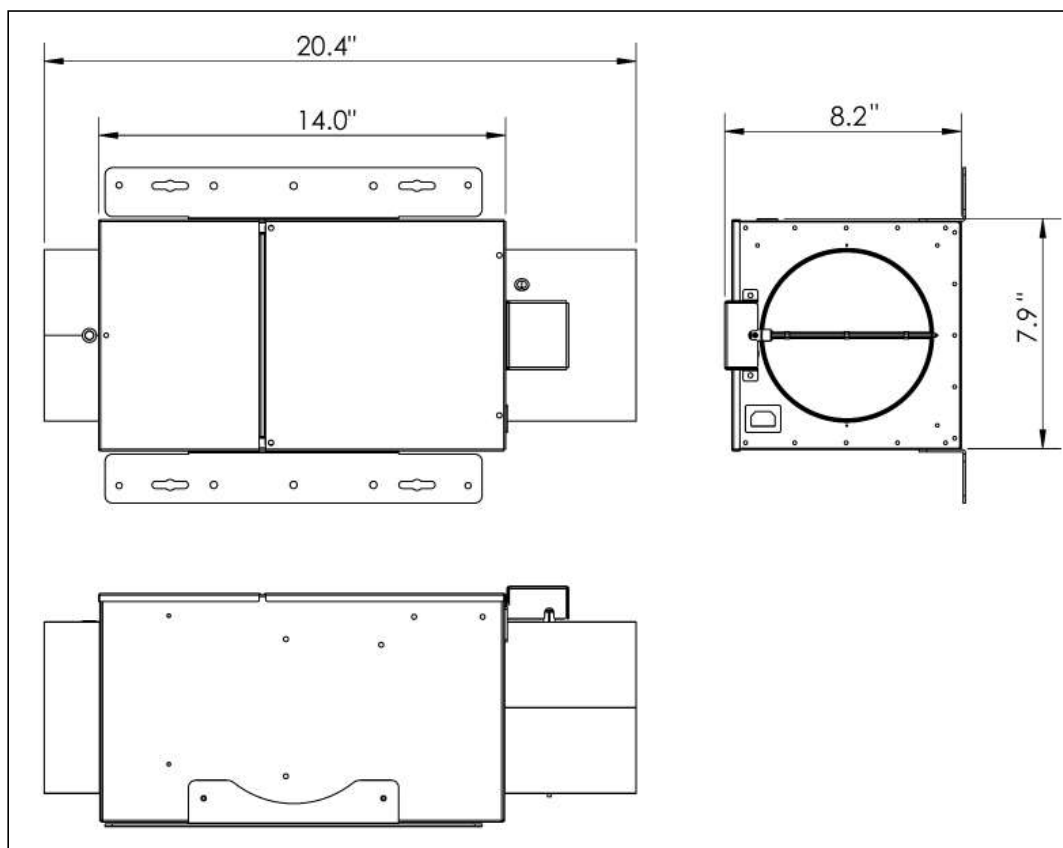


Figure 1 - FAPV-L Dimensions

CONTROL RECOMMENDATIONS

For best performance and to meet its intended use, pair with Field Controls FAVC and FCMC ventilation controllers. When properly installed and set, the FAPV-L and FCMC control will meet the mechanical ventilation requirements of:

- ASHRAE Standard 62.2-2010
- ASHRAE Standard 62.2-2013 & 2016

POWER SOURCE

ELECTRICAL OUTLET: Install a standard NEMA 5-15 receptacle suitable for the location, near where the ventilator will be installed. The ventilator comes equipped with a 6-foot power cord with a standard 3-prong plug.

VENTILATOR LOCATION AND ORIENTATION

⚠ WARNING – TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

1. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
2. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
3. Ducted fans used to exhaust contaminants must always be vented to the outdoors.

⚠ CAUTION

1. Mount the blower at least 3.3 feet (1.0 m) from any accessible opening of the duct.
2. FAPV-L should not be mounted and installed in hidden areas without supervision.

Choose a location for the ventilator that is within 6 feet of the power source which the ventilator will be hardwire connected.

Allow space for filter removal and service as shown in FIGURE 2.

The ventilator can be mounted in any orientation.

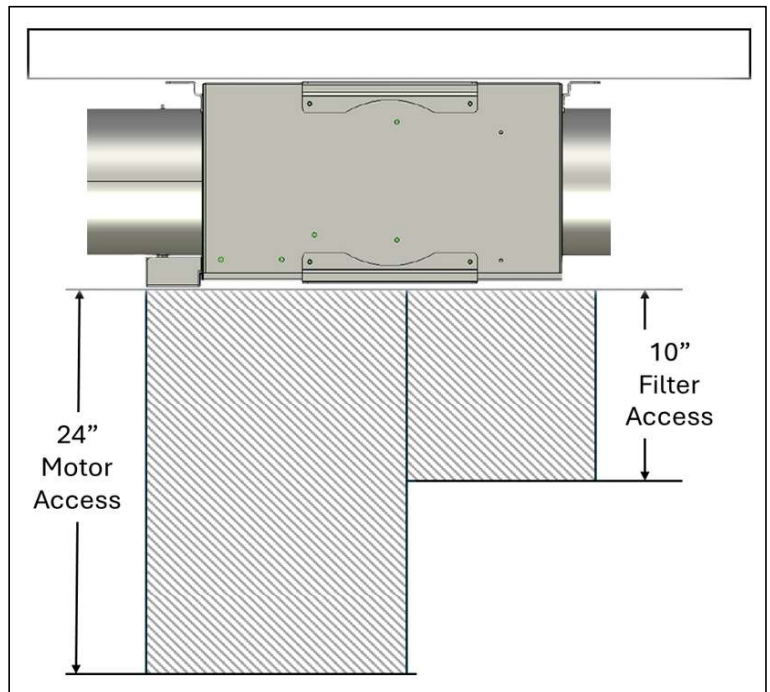


Figure 2 - FAPV-L Mounting Spacing

MOUNTING THE VENTILATOR

⚠ CAUTION: DISCONNECT ELECTRICAL POWER BEFORE BEGINNING INSTALLATION.

1. Attach the mounting brackets to the FAPV-L unit in any of the positions shown in Figure 3, using the supplied BM4x8 triangular thread screws. The brackets must either be on opposite sides or opposite ends of the FAPV-L fan unit for secure mounting.
2. **Mount the FAPV-L fan unit securely onto the mounting surface, wall studs, joists, rafters, or trusses using appropriate fasteners. See Figure 3.**

DO NOT fasten to drywall or thin panelling alone.

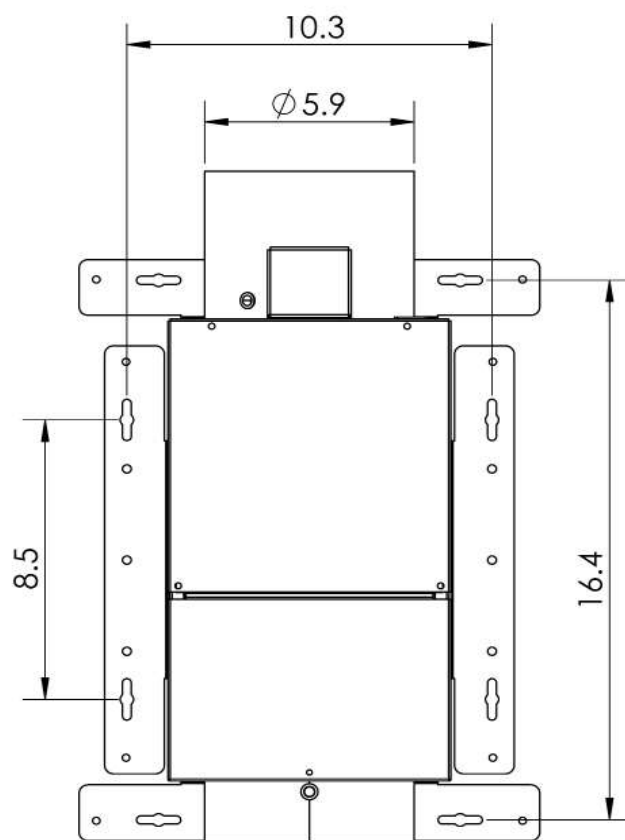


Figure 3: FAPV-L Mounting Dimensions

WIRING

The FAPV-L Fresh Air Ventilator can be wired to the normally open contacts of the ventilation output of a Field Controls FCMC or FAVC.

Select the wiring diagram that corresponds to the control to be used. Refer to FIGURES 5-8.

CAUTION: DO NOT APPLY LINE VOLTAGE TO THE VENT TERMINALS OF THE VENTILATOR.

The FAPV-L may be set up to operate continuously with a 120 VAC power source alone or intermittently as controlled by a ventilation controller with a 24 VAC output, such as the Field Controls model FAVC Ventilation Control or FCMC Fresh Command Multi-Family Controller.

NOTE: The FAPV-L will not respond to external controls if the unit is switched to continuous mode.

INTERNAL WIRING DIAGRAM

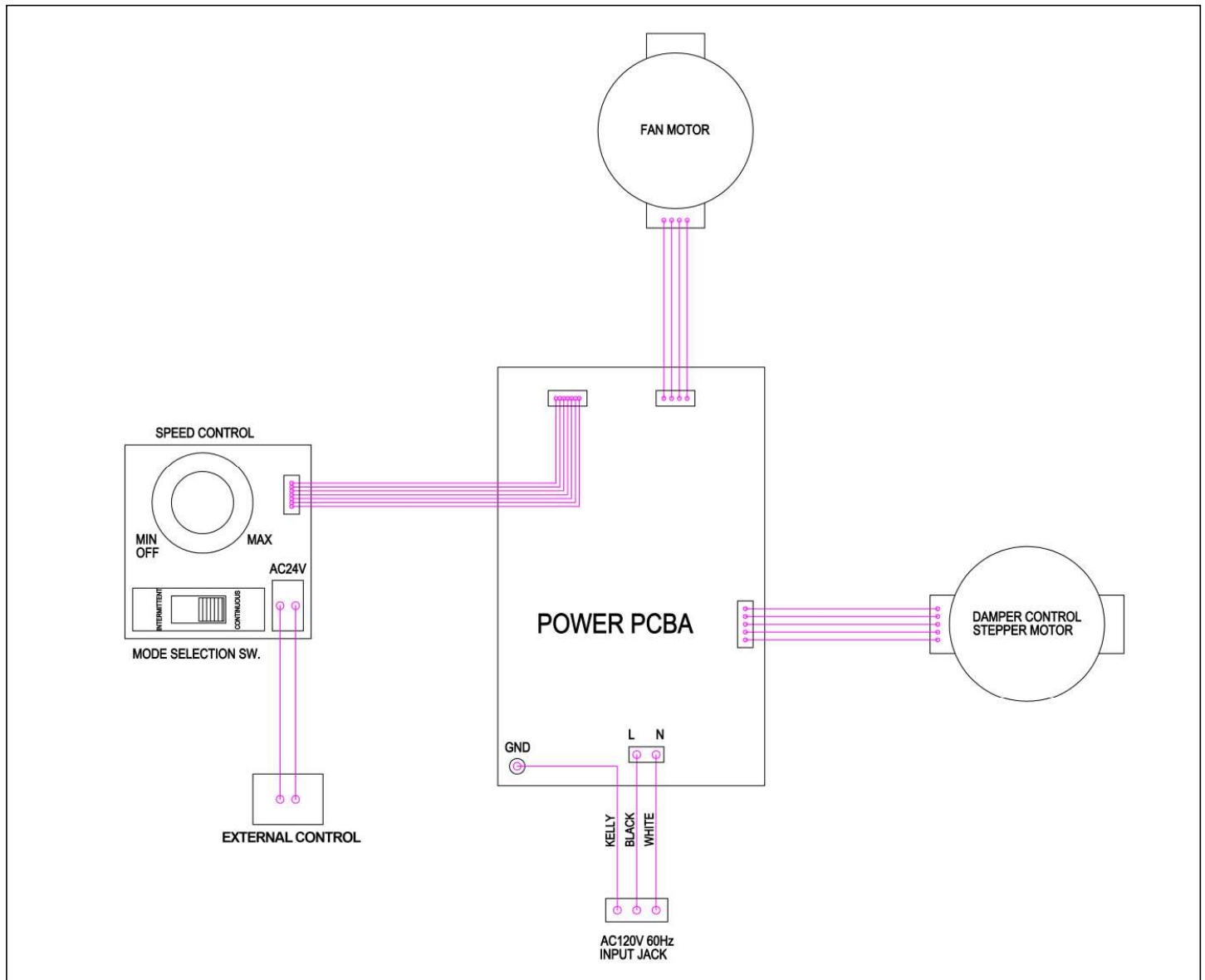


Figure 4: Internal Wiring Diagram

EXTERNAL CONTROL WIRING DIAGRAMS

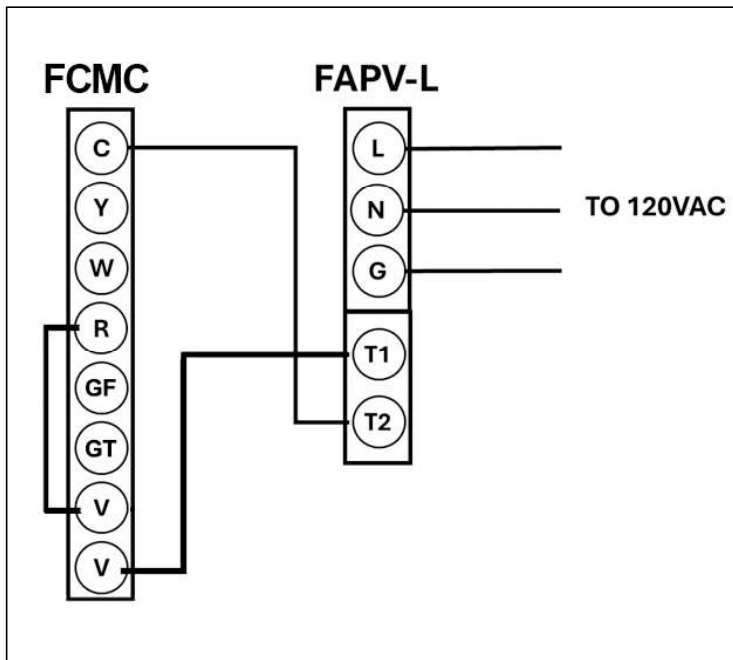


Figure 5:
Wire Diagram: FCMC and FAPV-L Intermittent
Operation Controlled by 24VAC output
Ventilation Controller

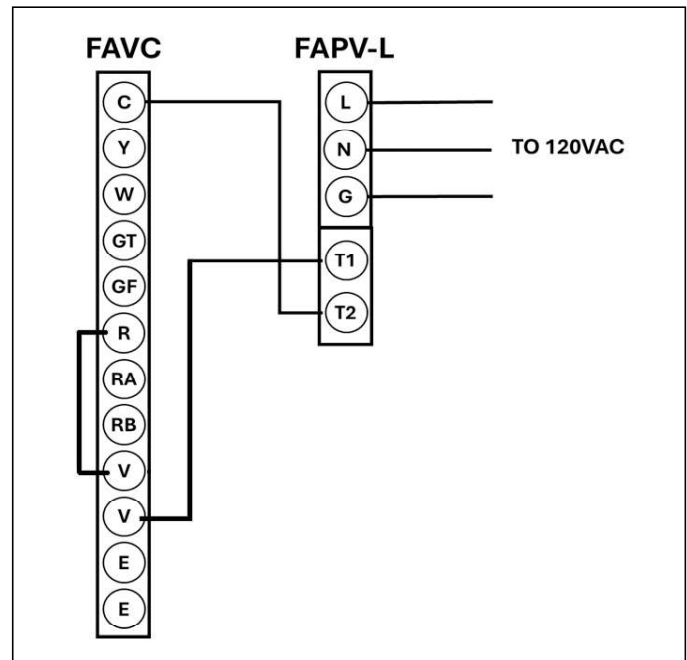


Figure 6:
Wire Diagram: FAVC and FAPV-L Intermittent Oper-
ation Controlled by 24VAC output
Ventilation Controller

TESTING

After all ducting and wiring is complete, plug in the ventilator, restore power to the system and make sure the switch controlling the outlet into which the ventilator is plugged (if applicable) is turned on.

1. Apply 24VAC to the ventilator via your control. (Depending on which control is used this may not happen instantly upon turning on).
2. The ventilator blower will start, and the integral damper will also open.
3. Adjust the ventilation control to the desired setting.

AIRFLOW RATE ADJUSTMENT

After all ducting and wiring are complete, connect power to the ventilator, and make sure the switch controlling the outlet into which the ventilator is plugged into is turned on.

1. Restore power and turn on the electrical disconnect switch if installed.
2. Engage the ventilator fan by either switching to Continuous mode or if in Intermittent, having the external control call for the ventilator.
3. Adjust the FAPV-L fan unit speed control knob to the Max setting.
4. Take air flow readings by the preferred methods and adjust the FAPV-L speed control knob until the desired air flow rate or inlet collar static pressure is obtained.

AIRFLOW PERFORMANCE

Use the table below to determine the CFM the FAPV-L will deliver at the system's static pressure.

FAPV-L	Speed Setting	CFM @ Static Pressure (inches w.g.)								Amps @ .2" SP	Watts @.2" SP	Efficacy (CFM/Watt) @.2" SP
		0	0.1	0.15	0.2	0.25	0.3	0.4	0.5			
No Filter	MS	91	78	67	54	32	-	-	-	0.18	10	5
	HS	-	160	148	140	134	125	114	100	0.49	30	5
MERV 6 Washable	MS	80	70	60	41	28	8	-	-	0.17	10	4
	HS	140	137	130	125	119	109	101	81	0.48	29	4
MERV 8	LS	28	10	-	-	-	-	-	-	-	-	-
	MS	-	76	65	53	40	20	-	-	0.18	11	5.0
	HS	-	149	139	139	129	119	109	90	0.55	34	4.1
MERV 13	LS	21	6	-	-	-	-	-	-	-	-	-
	MS	85	66	50	39	26	8	-	-	0.17	10	4.0
	HS	140	130	123	115	110	105	88	70	0.58	36	3.2

TROUBLESHOOTING

SYMPTOM	POSSIBLE REASON	CORRECTION
FAPV-L does not turn on	No power to the outlet which the FAPV-L is plugged in.	Turn on the switch or breaker that controls power to the outlet.
	No power to the hardwire connection.	Turn on the switch or breaker that controls power to the source.
	Internal speed control set to OFF	Open unit and turn control to ON
	No completed circuit between VENT terminals and the wall controls	Wire the control to the ventilator as show in the wiring diagrams on page 5.
Fan runs but does not blow air	Object obstructing the inlet duct	Check for obstruction of inlet air hood and remove.
Fan motor hums but does not run	Object obstructing fan blade	Check for obstruction of the fan blade and remove
Damper does not open	Object blocking damper gate	Open unit to determine if object obstructing gate and remove.

MAINTENANCE

Typically, the FAPV-L filter needs to be serviced every 6 months. However, it is recommended that the filter be checked after the first three months following installation to determine whether more or less frequent cleaning will be necessary.

1. Filter maintenance (6 month intervals)

- A. Remove the power from the unit.
- B. Remove the thumb screw securing the filter door to the housing and open the door (FIGURE 7).
- C. Remove the filter from the ventilator (FIGURE 8).
- D. IF Washable Filter - Use water to rinse the filter and shake the excess moisture off the filter.
- E. Replace the filter in the ventilator, close and secure the filter door, and screw in the thumb screw to secure the door.

WASHABLE FILTER	MERV 8 or MERV 13
Clean the filter with running water or a vacuum cleaner.	Remove, trash, and replace with a new filter.

2. Supply air flow inspection (6 month interval recommended)

Check the intake grill once per year and clean it if required.

3. Air ductwork maintenance (once in 5 years)

Clean the air ducts periodically.

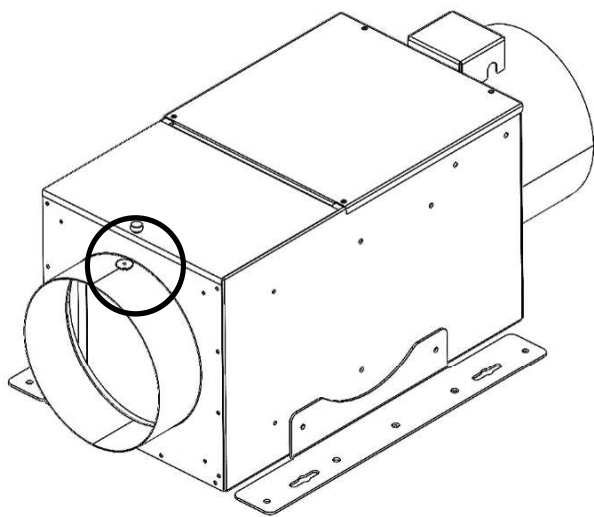


Figure 7:
Unscrew the thumb screw to remove the access door

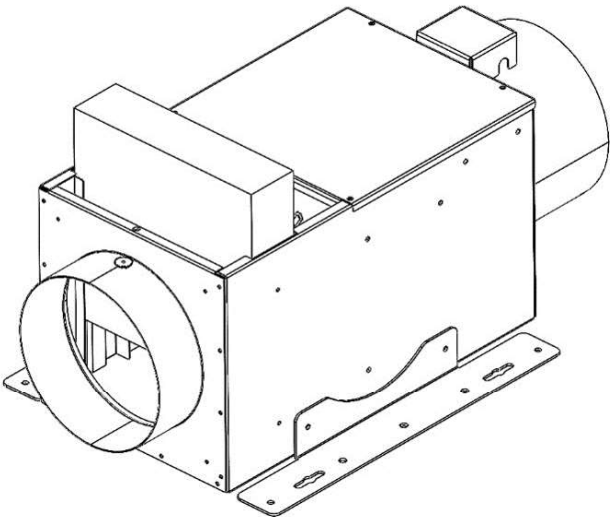


Figure 8:
Remove the access door to the access filter

REPLACEMENT AND RELATED PARTS

DESCRIPTION	FC P/N
Filter, Washable	602619205
Filter, MERV 8 8X8, FAPV-L	602619208
Filter, MERV 13 8X8, FAPV-L	602619213
Fresh Command Multi-Family Ventilation Control (FCMC)	602612300
Fresh Air Ventilation Control (FAVC)	602600100

Replacement filters can be purchased through a distributor. Visit the Field Controls website to find locations near you.

**This manual may be downloaded and printed from the Field Controls website:
www.fieldcontrols.com**

WARRANTY

**For warranty information about this or any Field Controls product, visit:
www.fieldcontrols.com**

**Field Controls Customer Service
252.522.3031**



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AIR TREATMENT

COMBUSTION



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