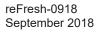






Advancing Ventilation[™]





The Whole Building Ventilation Standard

With houses and buildings being built as tightly as possible, we are plagued by unbalanced ventilation systems. This means we can have positive air pressure caused by exhausted air not being ventilated as fast as supply air comes in. Or, vice versa. There can be negative pressure with supply air not being brought in as fast as air is exhausted. This leads to too much moisture in the home or building and increased loads on the heating and cooling system. Poor ventilation can also cause unpleasant odors and buildup of contaminants such as radon, formaldehyde, and VOCs.



Ventilation is very important in an energy-efficient home. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) has established the 62.2 standard applies to all multi-family dwelling structures (in which the occupants are nontransient), regardless of height. These spaces include living rooms, bedrooms, kitchens, bathrooms, hallways, closets, store rooms, laundry rooms, garages, and basements. There are two components of the ASHRAE 62.2 standard that relate to ventilation fans: Whole Building Ventilation & Local Exhaust.



The 62.2 Standard (2016) Whole Building Ventilation requires that a home's living area should be ventilated at a CFM rate determined by adding 3% of the conditioned space floor area to 7.5 times the number of bedrooms plus one [formula: minimum required CFM = 0.03A + 7.5 (# bedrooms + 1)]. Mechanical ventilation is required in tight homes to meet the minimum CFM requirement.

Mechanical Ventilation for Whole Building Systems

There are four basic mechanical whole-house ventilation systems -- exhaust, supply, balanced, and energy recovery. Each system is briefly described in the following chart:

System	Description
Supply Ventilation System	 Fan used to pressurize the home, air leaks out of home through holes in the shell and exhaust fans Fresh air drawn in through air intake Air distributed using fan or duct system Ideal for hot or mixed climates
Exhaust Ventilation System	 Indoor air continuously exhausted to outdoors, typically by bathroom exhaust fan(s) Slightly depressurizes home Ideal for cold climates
Balanced Ventilation System	 Equal quantities of air brought into and exhausted out of the home Usually two fans, one for exhaust and one for supply Neither pressurizes or depressurizes the home Ideal for all climates
Energy Recovery	 Controlled ventilation of home that minimizes energy loss Heat Recovery Ventilator (HRV) or Energy Recovery Ventilator (ERV) Pre-heats air in the winter and pre-cools air in the summer Adds humidity in winter and removes humidity in summer

Solutions from S&P

S&P is the world's leading producer of air movement products. We offer solutions for all four basic mechanical whole-house ventilation systems. In this brochure we will introduce our solution for Supply Ventilation Systems and the supply side of a Balanced Ventilation System. Refer to our Exhaust Ventilation or Energy Recovery Brochures for information on other Whole Building Ventilation solutions.



reFresh for Supplying Outside Air

All-in-one units to introduce fresh air from the outside into the residence. The reFresh series is specifically engineered to meet building and energy codes that call for ASHRAE 62.2 CFM requirements. These units feature a high quality, efficient S&P backward inclined motorized impeller, heavy-duty galvanized construction, and integral metal duct collars designed for 6" round duct. The reFresh is designed for easy installation and maintenance, giving the homeowner the best IAQ solution in an all-in-one unit.



reFresh Specifications

- Economical and efficient solution to bring in fresh air
- Excellent option to meet IRC, IMC, IECC, and more
- Can be independent or integral to the HVAC system
- Compact housing, designed to fit in most locations

Housing/Duct Connections

- Low profile, galvanized, 26 ga, insulated housing
- Overall Dimensions (without control): RF8 - 8-1/2 x 9 x 19", RF10 - 10 x 10-1/2 x 22"
- Available with or without installed ES24V Control
- 6" round duct connectors
- Test port for easy air flow measurement
- 2" wide filter slot
- Integral backdraft damper (RF10 only)
- Integral mounting tabs allow mounting in any orientation
- 6' power cord standard (omit on UL 2043 licensed models)

Blower/Motor

- Backward inclined wheel
- AC or EC Motors
- Speed controllable motor
- 4 pole motor, permanently lubricated, thermally protected
- 120V, 60 Hz
- Internally mounted speed control to set required intake with High, Medium, and Low set points

Certifications

- Meets codes: ASHRAE 62.2-2010, IRC 2012/2015, IMC 2012/2015, IECC 2015, CALGreen
- HVI certified performance with and without MERV13 filters
- RF10 models are AMCA Air and Sound Licensed with and without MERV13 filters
- Models with EC motors are ENERGY STAR[®] qualified
- cULus 507 listed for electrical reliability
- Only RF10 models with "-P" in the model name are UL 2043 listed, Suitable for Use In Air Handling Spaces



Model Overview

RF8 – Low Profile Model Features

- Low profile, galvanized, 26 ga., insulated housing
- 6" round duct connectors with test port for easy air flow measurement
- 2" wide filter slot for optional 8 x 8 x 2" filters
- Integral mounting tabs allow mounting in any orientation
- Backward inclined wheel
- Speed controllable, AC or EC motor, 120V, 60 Hz
- 4 pole, permanently lubricated, thermally protected motor
- Internally mounted speed control to set required intake with high, medium, and low set points
- 6' power cord
- EC motor models are ENERGY STAR® qualified
- HVI Certified performance with and without optional MERV13 Filters
- cULus 507 Listed

RF10 – Standard Size Model Features

- Galvanized, 26 ga., insulated housing
- 6" round duct connectors with test port for easy air flow measurement
- Integral backdraft damper
- 2" wide filter slot for optional 10 x 10 x 2" filters
- Integral mounting tabs allow mounting in any orientation
- Backward inclined wheel
- Speed controllable, AC or EC motor, 120V, 60 Hz
- 4 pole, permanently lubricated, thermally protected motor
- Internally mounted speed control to set required intake with high, medium, and low set points
- Models with and without 6' power cord
- EC motor models are ENERGY STAR® qualified
- AMCA Air and Sound licensed performance with and without optional MERV13 filters
- HVI Certified performance with and without optional MERV13 filters
- cULus 507 Listed
- Models with UL 2043 rating

		CFM @	.2" SP (HVI	Certified)*	ENERGY	UL	ES24V	Optional
Model #	Motor Description	Low Speed	Medium Speed	High Speed	STAR [®] qualified	2043 Listed	Control Included	Filter Size (inches)
RF8-120AC	115V/60HZ, AC	40	90	140	No	No	No	8x8x2
RF8-120AC-ES24V	115V/60HZ, AC	40	90	140	No	No	Yes	8x8x2
RF8-120EC	115V/60HZ, EC	40	90	130	Yes	No	No	8x8x2
RF8-120EC-ES24V	115V/60HZ, EC	40	90	130	Yes	No	Yes	8x8x2
RF10-160AC	115V/60HZ, AC	40	100	170	No	No	No	10x10x2
RF10-160AC-ES24V	115V/60HZ, AC	40	100	170	No	No	Yes	10x10x2
RF10-160EC	115V/60HZ, EC	40	100	170	Yes	No	No	10x10x2
RF10-160EC-ES24V	115V/60HZ, EC	40	100	170	Yes	No	Yes	10x10x2
RF10-160AC-P	115V/60HZ, AC	40	100	170	No	Yes	No	10x10x2
RF10-160AC-P-ES24V	115V/60HZ, AC	40	100	170	No	Yes	Yes	10x10x2
RF10-160EC-P	115V/60HZ, EC	40	100	170	Yes	Yes	No	10x10x2
RF10-160EC-P-ES24V	115V/60HZ, EC	40	100	170	Yes	Yes	Yes	10x10x2





reFresh Installation Options

S&P's reFresh units can be installed in any orientation, horizontal or vertical, and are suitable for the supply of both conditioned and un-conditioned airstreams.

Stand-alone Supply Fan

A reFresh fan can be installed as a supply fan, completely separate from the HVAC System. In this installation the reFresh unit supplies outside air to specific locations in the dwelling. The supply air ducts should be installed to all bedrooms and living areas. The use of filter is highly recommended to pre-filter the outside air before it enters the dwelling. Additionally, in cold climates S&P recommends using our DH6-120V in-line duct heater to pre-heat outside air in the winter.

Supply to Return Side of HVAC System (most popular installation)

The reFresh unit is installed between the outside of the dwelling and the return side of the HVAC System. Return air will be drawn in by the HVAC system while the reFresh unit will supply the required amount of air into the return side of the HVAC system. In most installations, the air will be filtered by the HVAC System eliminating the need for an optional filter in the reFresh unit. In cold climates S&P recommends using our DH6-120V in-line duct heater to ensure the outside air delivered to the HVAC system is never below the minimum temperature allowed by the manufacturer (generally 55°F).





RFV8 - reFresh Value Series

RFV8 Specifications

- · Economical and efficient solution to bring in fresh air
- Excellent option to meet IRC & IMC
- Can be independent or integral to the HVAC system
- Compact housing, designed to fit in most locations

Features

- Low profile, galvanized, 26 ga, housing
- Overall Dimensions (without control): RFV8 8-1/2 x 9 x 19"
- Factory installed ES24V Control
- 6" round duct connectors
- Test port for easy air flow measurement
- Integral backdraft damper
- Integral mounting tabs allow mounting in any orientation
- 6' power cord standard

Blower/Motor

- Backward inclined wheel
- AC motor
- 4 pole motor, permanently lubricated, thermally protected
- 120V, 60 Hz

Certifications

- Meets codes: ASHRAE 62.2-2010, IRC 2012/2015, IMC 2012/2015
- cULus 507 listed for electrical reliability



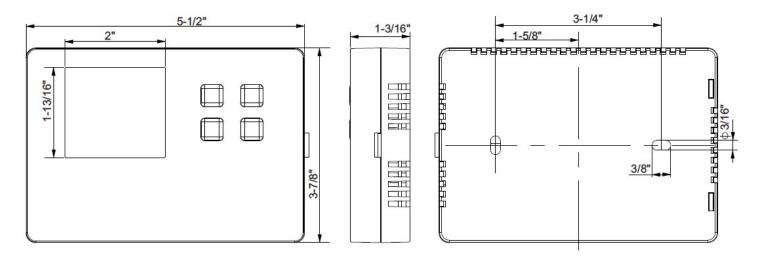
ES24V - Envirosense Ventilation Control Overview

This S&P exclusive control, can be used with our TD-MIXVENT, TD-SILENT, PV-POWERVENT, or TR-ERVs; when paired with the reFresh supply fans the ES24V provides fully controllable fresh air into a residence. With three modes (Off, On, and Eco-Mode) the ES24v ensures compliance with today's outside air codes.

- "Off" allows for manual override as required by the code
- "On" allows for continuous operation
- "Eco-Mode" allows homeowner to set humidity and/or temperature minimum and maximums. When min and max are sensed the fan will not bring in outside air. When the outside air is within the min and max range the fan will operate at the set time limit or continuously to meet the code requirements, i.e. 15 minutes every 4-hours
- Control is installed on the outside of RF8 units that end in "-ES24V".
- Control is installed inside the housing of RF10 units that end in "-ES24V"
- Compatible with TD-MIXVENT, TD-SILENT, PV-POWERVENT, SWF-SIDEWALL, and all TR ERVs.
- Transformer and relay are available for 120V compatibility.

Features

- Easy to read, back-lit LCD screen
- 24-volt control
- Simple setup with four-button interface
- Can be set to run supply fan continuously or intermittently or using Eco Mode to turn fan off at set temperature/humidity
- Measures outdoor temperature to stop ventilation at adjustable high and low outdoor temperature lockouts
- Measures outdoor humidity to stop ventilation at adjustable high and low humidity lockouts
- Control programming maintains ASHRAE 62.2-2010 even during high and low temperature limit lockouts
- Installation flexibility ability to override humidity and temperature control
- Inputs for optional duct heater and motorized damper





HVI Certified Performance



Models with AC Motors, No Filters

	Speed	0		CFM @	Statio	: Press	sure (i	nche	s w.g.)				Efficacy
Model	Speed Setting	Speed (RPM)	0	.1	.15	.2	.25	.3	.4	.5	Amps @ .2" SP	Watts @ .2" SP	(CFM/ Watts) @ .2" SP
	LS	1480	79	57	48	40	34	29	21	-	0.48	37.3	1.2
RF8-120AC	MS	2040	126	107	99	90	83	75	63	53	0.57	55.9	1.6
	HS	2500	167	154	147	140	133	126	113	100	0.63	74.1	1.9
	LS	1630	81	58	48	40	33	26	16	-	0.46	36.2	1.5
RF10-160AC	MS	2050	141	116	108	100	91	82	65	50	0.54	51.3	2.1
	HS	2600	203	186	178	170	163	156	143	130	0.61	72.5	2.5

RPM Speed is Nominal

Models with AC Motors, with Optional MERV13 Filters

Model	Speed	Speed		CFM (@ Sta	tic Pr	essure	e (inche	es w.g.)	Amps @	Watts @	Efficacy (CFM/
Model	Setting	(RPM)	0	.1	.15	.2	.25	.3	.4	.5	.2" SP	.2" SP	Watts) @ .2" SP
	LS	1510	52	39	34	30	26	22	16	-	0.48	37.4	1.0
RF8-120AC	MS	2090	92	81	76	70	64	59	51	45	0.58	56.3	1.4
	HS	2530	129	119	115	110	106	101	92	81	0.63	73.3	1.6
	LS	1640	54	42	36	30	25	20	13	-	0.47	36.4	1.2
RF10-160AC	MS	2060	121	106	98	90	82	74	59	47	0.54	50.9	1.8
	HS	2590	172	160	155	150	144	139	127	114	0.61	72.5	2.2

RPM Speed is Nominal

Models with EC Motors, No Filters

Model	Speed	Speed	CF	•M @	Statio	c Pres	sure	(inch	es w.	g.)	Amps @	Watts @	Efficacy (CFM/
Widder	Setting	(RPM)	0	.1	.15	.2	.25	.3	.4	.5	.2" SP	.2" SP	Watts) @ .2" SP
	LS	1300	85	63	51	40	28	-	-	-	0.13	7.2	6.6
RF8-120EC	MS	1670	129	110	100	90	78	67	46	-	0.25	14.4	6.3
	HS	2100	159	145	137	130	122	115	97	77	0.45	27.6	4.9
	LS	1340	84	65	53	40	27	-	-	-	0.13	7.5	7.1
RF10-160EC	MS	1730	139	120	110	100	91	78	52	-	0.25	15.6	6.9
	HS	2300	201	185	177	170	163	155	139	121	0.54	34	5.1

RPM Speed is Nominal

Models with EC Motors, with Optional MERV13 Filters

Model	Speed	Speed		CFM (@ Sta	tic Pre	essure	e (inch	ies w.g	j.)	Amps @	Watts @	Efficacy (CFM/
Woder	Setting	(RPM)	0	.1	.15	.2	.25	.3	.4	5	.2" SP	.2" SP	Watts) @ .2" SP
	LS	1300	42	31	25	20	14	-	-	-	0.12	6.9	5.3
RF8-120EC	MS	1670	88	76	68	60	53	47	32	-	0.23	13.9	5.0
HS	2100	123	112	106	100	93	86	72	61	0.44	26.7	4.0	
	LS	1340	68	52	42	30	19	-	-	-	0.13	7.2	5.6
RF10-160EC	MS	1730	126	108	99	90	78	68	46	-	0.26	15.6	5.8
	HS	2300	176	162	156	150	143	136	121	105	0.56	35.5	4.2

RPM Speed is Nominal

RF10 - AMCA Certified Performance

Model	Speed	Speed	,		M @ Sta	atic Pres	ssure (ir	nches w	.g.)		Sones @ .2"	Amps @	Watts @
	Setting (RPM	(RPM)	0	.1	.15	.2	.25	.3	.4	.5	SP	.2" SP	.2" SP
	LS	1510	81	60	52	45	38	32	25	17	2.1	0.46	33.6
RF10-160AC	MS	1990	137	120	107	97	89	81	68	56	3.3	0.55	50.7
	HS	2540	208	196	188	180	172	163	148	134	5.2	0.61	70.9

RF10 Models with AC Motors. No Filters

RPM Speed is Nominal

RF10 Models with AC Motors, with Optional MERV13 Filters

Model	Model Speed Speed			CF	M @ Sta	atic Pres	ssure (ir	nches w	.g.)		Sones @ .2"	Amps @	Watts @
	Setting	Setting (RPM)	0	.1	.15	.2	.25	.3	.4	.5	SP	.2" SP	.2" SP
	LS	1600	63	52	46	40	35	32	26	19	2.3	0.46	34.3
RF10-160AC	MS	2000	105	91	83	77	70	65	55	46	3.7	0.54	47.7
	HS	2570	175	163	157	151	145	140	128	116	5.1	0.61	71.6

RPM Speed is Nominal

RF10 Models with EC Motors, No Filters

Model	Model Setting (RPM)	Speed		CF	M @ Sta	atic Pres	ssure (ir	nches w	.g.)		Sones @ .2"	Amps @	Watts @
		(RPM)	0	.1	.15	.2	.25	.3	.4	.5	SP	.2" SP	.2" SP
	LS	1330	111	88	77	64	48	26	-	-	1.5	0.12	8.2
RF10-160EC	MS	1730	152	133	124	114	103	93	70	39	3.4	0.23	15.7
	HS	2300	212	197	190	182	174	167	152	136	6.0	0.49	35.1

RPM Speed is Nominal

RF10 Models with EC Motors, with Optional MERV13 Filters

Model		Speed		CF	M @ Sta	atic Pres	ssure (ir	nches w	.g.)		Sones @ .2"	Amps @	Watts @
	Setting (RPM)	0	.1	.15	.2	.25	.3	.4	.5	SP	.2" SP	.2" SP	
	LS	1330	90	72	60	49	25	12	-	-	1.4	0.12	7.5
RF10-160EC	MS	1730	127	113	104	95	86	77	56	24	3.7	0.22	15.7
	HS	2300	182	169	162	156	150	144	131	116	5.0	0.48	35.8

RPM Speed is Nominal

Performance certified is for installation type D: Ducted inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances.



S&P USA Ventilation Systems, LLC., Div. of Soler & Palau Ventilation Group, certifies that the Models RF10 shown herein are licensed sound to bear the AMCA Seal. The ratings shown are based on test and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirement of the AMCA Certified Ratings Program.

RFV8 Model with AC Motors

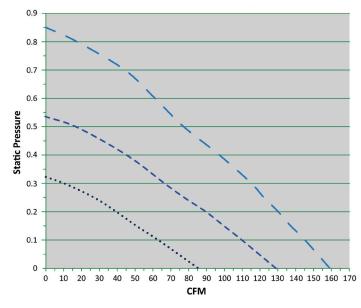
Model	Speed		CF	M @ Sta	atic Pres	ssure (ir	nches w	.g.)		Amps @	Watts @
incusi	(RPM)	0	.1	.15	.2	.25	.3	.4	.5	.2" SP	.2" SP
RFV8-120AC-ES24V	2560	179	161	153	145	138	131	116	101	0.62	76.5

RPM Speed is Nominal

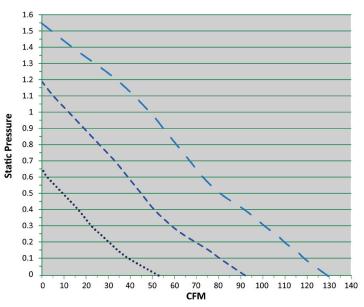
RF8-120AC, No Filter

1.6 1.5 1.4 1.3 1.2 1.1 1 9.0 8.0 8.0 9.0 9.0 9.0 1 0.5 0.4 0.3 0.2 0.1 0 0 10 20 30 40 50 60 80 90 100 110 120 130 140 150 160 170 180 70 CFM

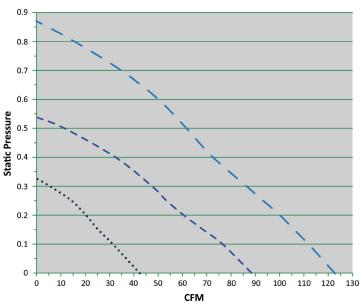
RF8-120EC, No Filter



RF8-120AC, MERV 13 Filter

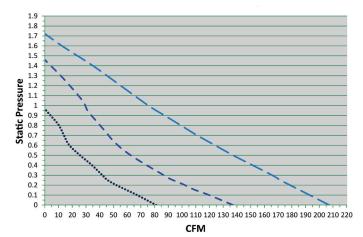


RF8-120EC, MERV 13 Filter

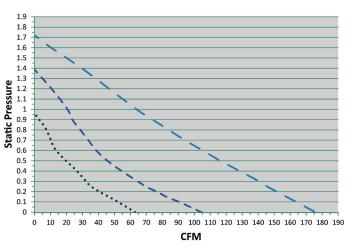


Catalog Performance High Speed Mid Speed Low Speed

RF10-160AC, No Filter

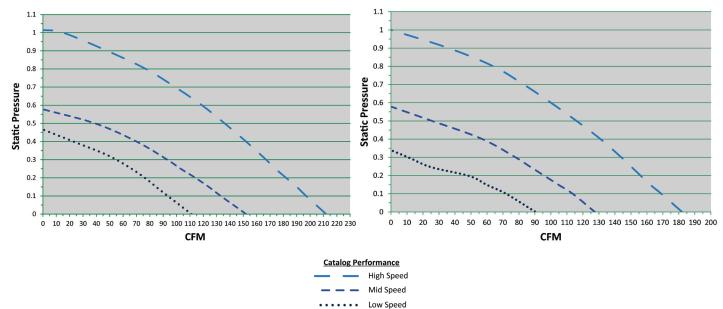


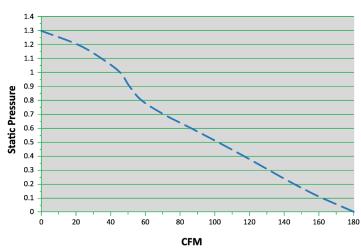
RF10-160AC, MERV 13 Filter



RF10-160EC, No Filter

RF10-160EC, MERV 13 Filter

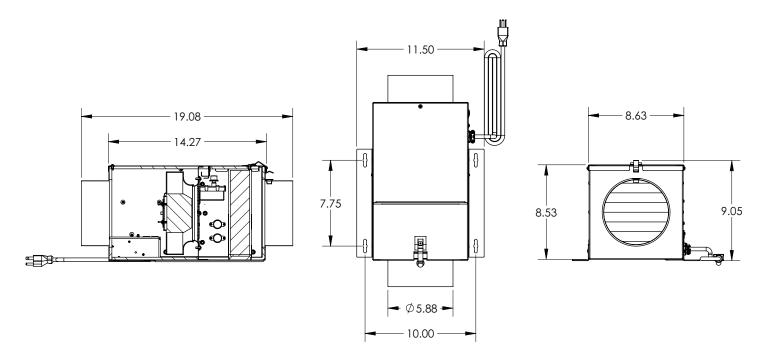




RFV8-120AC-ES24V

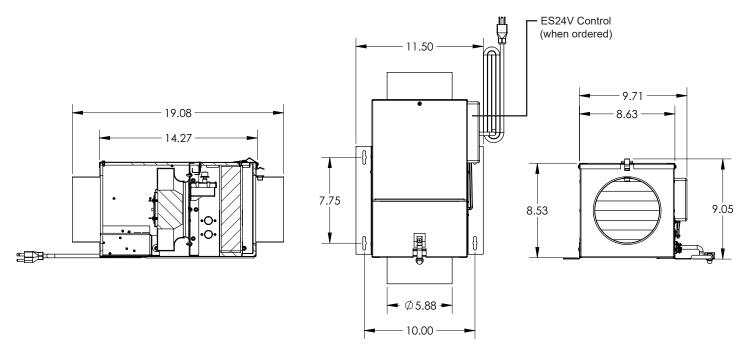
Dimensions

RF8-120AC and RF8-120EC



RF8-120AC-ES24V and RF8-120EC-ES24V

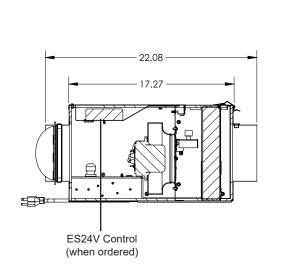
(ES24V control mounted on exterior of RF8 units)

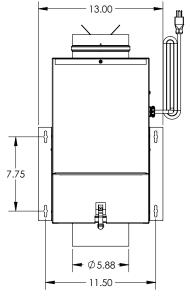


Dimensions

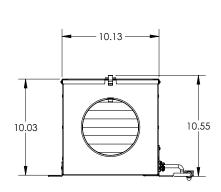
RF10-160AC, RF10-160EC, RF10-160AC-ES24V, RF10-160EC-ES24V

(ES24V is mounted on interior of RF10 unit)

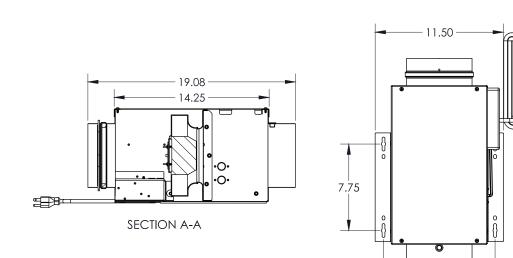


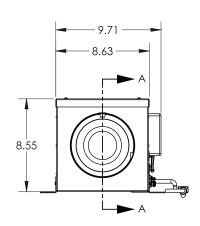


🗕 Ø 5.88 🛏 10.00



RFV8-120AC-ES24V





Outside Air Accessories

MD6 – Motorized Damper

This normally closed, power open, 24V motorized damper for 6" round duct. The MD6 can be used to bring fresh air in through a forced-air system.

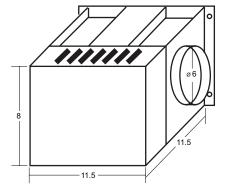
Round Duct Size (Inches)	Frequency	Voltage	Current	Number of Speeds	RPM	Ins Class	Duty	Rated Ambient (°C)
6	60HZ	24	0.3 A	1	6	A	Int	40
	1-3/8	9-7/8		9 9 9	4			

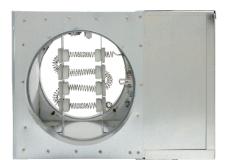
DH6-120V Inline Duct Heater

This 120V inline duct heater for 6" round duct is designed for both horizontal and vertical mounting. The DH6-120V has a heating element which converts electricity into heat through Resistance – the process by which the passage of an electric current thru a conductor (wire) releases heat. The resulting heat is transferred by convection providing there is a temperature difference.

- · Auto reset thermal cutoff to prevent coil element overheating
- Additional manual reset thermal cutoff to prevent housing overheating
- Airflow sensor to modulate the heating capacity according to the airflow
- High grade nickel-chrome open coil elements, assuring long heater life
- Proportional temperature sensor to maintain the user-set air temperature
- Galvanized steel housing
- Electronic temperature controller to modulate the heating load per the user settings, minimizing the operating cost
- Single point electrical connection to terminal block for easy installation and wiring

Round Duct Size (Inches)	Performance	Phase	Frequency	Voltage	Power	Current	Minimum Air Flow
6	32-108°F/ 0-42°C	1	60 Hz	120	1 kW	8.33 a	30 CFM





Other Outside Air Products



PC Premium Bathroom Fans and Accessories

S&P's Premium CHOICE Series gives you maximum flexibility to create the ventilation system that you need. The simplicity of S&P's PC fans is in the options. While other premium fans come as lighted fans or humidity sensing fans; with a speed control or humidity sensor built-in, our Premium CHOICE fans give you the flexibility to choose your grille and control separately. Our fans even allow you to change your mind after you install them! Our Premium CHOICE fans come with standard grilles and you have the option of a lighted grille or motion sensing grille. You pick the fan model, the grille and the controls you need. The CHOICE is yours!



TD-Mixvent – In-line Mixed Flow Duct Fan

The TD-MIXVENT series are in-line duct fans specially designed to maximize the airflow performance with minimal noise levels in a small, compact housing. This makes the TD-MIXVENT series the ultimate solution for small to medium sized ventilation installations which require a high airflow to pressure ratio and occupy minimum space (e.g., false ceiling voids, cabinets and many other limited space environments).



TD-Silent – In-line Mixed Flow Duct Fan

The TD-SILENT fans are extremely quiet, low profile "Mixed-flow" fans manufactured in tough reinforced plastic material, a two speed controllable 115V 60Hz motor and an external connection box. Sound waves are directed through the perforated inner skin and absorbed by a layer of soundabsorbent insulation. These fans are fitted with rubber gaskets on the inlet and outlet to facilitate installation, absorb vibrations, and provide a virtually air-tight seal.



Energy Recovery Ventilators

To protect the health of your family, your home, or your building, improving indoor air quality is key. Energy Recovery Ventilators (ERVs) solve ventilation problems by moderating extremes in ventilation temperature and in humidity. They improve indoor air quality and lessen the load on air handling units for a more efficient system. Stale room air is exhausted and fresh outdoor air is brought back into the structure. The airstreams are physically separated so there is no mixing or contamination of the fresh air.



MD6-ES24VK – Outside Air Motorized Damper & Envirosense Ventilation Control Kit

A kit combining both MD6 and ES24V. The control can command the central HVAC blower to help distribute the fresh air through the existing ductwork if necessary.

Other Outside Air Accessories



CAR – Metal Backdraft Damper

Backdraft dampers are designed with galvanized steel collars and have lightweight aluminum damper blades. They are spring loaded for positive closure.



FT247 – Programmable Fan Timer

S&P offers the FT247 with easy programming for your bathroom fan ventilation needs. Simply set what time you want the fan to turn on and off and what day or days you want the fan to run.



FB-Filter Box

A filter box for 4", 5", and 6" inch ducts with MERV8 Filters.



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