

DIRECT-FIRED GAS AIR MAKE-UP UNITS



MODELS: AEHP / AEHV



Overview

AEHP | AEHV



Aerovent's AEHP Pioneer Series and AEHV Voyager Series cutting-edge, industrial direct-fired gas air make-up systems are unmatched in construction integrity, design flexibility, application versatility and operating economy. Aerovent also offers advanced manufacturing, superior service.

Aerovent's AEHP Pioneer Model is our basis of design for the complete AEH Series. Like the pioneers of the past who have made America great, the AEHP sets the standard of excellence for direct-fired gas heating and ventilating systems. The AEHP blend optimum functionality and reliability with a low first-cost.

Aerovent's AEHV Voyager Model takes off on what the Pioneer Model started and sets a new level for premium design and construction in direct-fired heating and ventilation systems. While retaining the operating performance and economical efficiency of the Pioneer, the innovative cabinetry design of the Voyager delivers a plethora of new user benefits.

Aerovent's AEH Series is also an optimum choice for "green building" design and construction. Environmental friendliness starts with its use of natural gas – one of the most abundant, economical and

cleanest burning fuels available. AEH Series then makes the most of it with almost 100% combustion efficiency, reduced fan motor horsepower for lower electrical cost and a variety of options for blending temperature indoor air with fresh outdoor air for even more savings.

AEH Series air make-up units offer an outstanding choice of models, with capacities up to 17,000 MBH and 130,000 CFM with an attractive range of standard and optional features. Two styles of cabinet construction are available. The horizontal and vertical unit configurations provide installation flexibility.

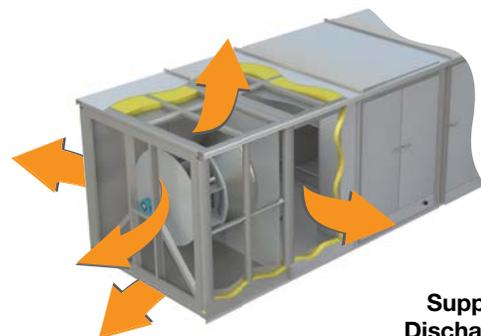
All Aerovent AEH Series Models are available with ETL Certification and built to current ANSI Z83.4 & Z83.18 design standards.



**Model AEHP
Horizontal System**

INSTALLATION FLEXIBILITY

AEH Series direct-fired gas systems, available as horizontal or upright units, provide maximum installation flexibility. Aerovent's plenum fan arrangement, modular design and construction integrity allow up to five different Supply Air (SA) discharge choices. Without the need for (or expense of) lengthy ductwork runs, space pressurization also opens up numerous options for unit installation locations on a facility. The exceptional operating efficiencies are never compromised.



**Supply Air (SA)
Discharge Choices**

AEH Series direct-fired gas systems offer a wide range of facility air management choices, as well as maximum installation flexibility. From the low first-cost AEHP Models to the robust AEHV Models, Aerovent delivers cutting-edge, state-of-the-art solutions.

Energy Savings

- 99.8% efficient burner
- 30:1 turndown burner capability
- Up to 40% less motor brake horsepower (vs. DWDI forward curved fans)

The Best Available Technology

- Two different models of construction to meet your design criteria
- Advanced components and controls
- Special solutions for design challenges

Multiple Sizes for Application Versatility

- Airflow capacities from 4,000 to 130,000 CFM
- Heating capacities from 200 to 17,000 MBH
- Horizontal and vertical systems provide low-cost, ductless installation flexibility

ETL Certification to ANSI Standards

- ANSI Z83.18a-2001 for 85/15 outside/return air models
- ANSI Z83.4a-2001 and CSA 3.7a-2001 for constant 100% or variable outside air models
- UL 1995 for models with fluid or steam coils



**Model AEHP
Vertical System**

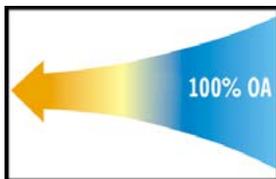


OUTSIDE AIR MODELS

Two variations of AEH Series 100% Outside Air Models are available.

"O" Option

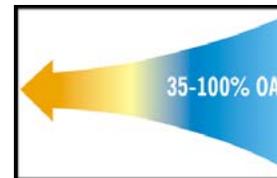
These units are 100% Outdoor Air with a constant discharge air volume. They supply direct replacement make-up air for air being exhausted from building.



"V" Option

When 100% outside air is needed, Variable Volume units add a significant capability for precisely controlling the Supply Air (SA) discharged into the space. SA volume can usually be reduced to a minimum of 35%, using two-speed motors, variable frequency drives (VFDs) or motorized dampers.

AEH Series "V" Option models are commonly used in paint booths, wastewater treatment plants and other applications in which recirculation of building or space air is not desirable. Another common application is "pressure-controlled space heating." Energy costs can be minimized with the variable air volumes and a burner turndown of up to 30 to 1. These models include a profile damper with a differential pressure switch, which maintains the correct air velocity across the burner profile opening.

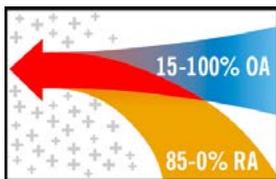


RETURN AIR MODELS

Three variations of AEH Series Return Air (RA) models are available. Each is designed to operate with a minimum of 15% Outside Air (OA), while a corresponding amount of Building Air is recirculated (RA).

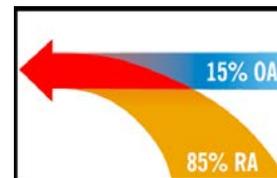
"M" Option

These units are capable of modulating between 15% and 100% OA and 85% to 0% RA. AEH Series "M" Option modulating models are commonly used for heating and ventilating applications. They provide a simple method for controlling building infiltration through the heating and ventilating equipment. The system reacts quickly by providing more outside air to the space when building doors are opened and closed or exhaust fans are cycled on and off.



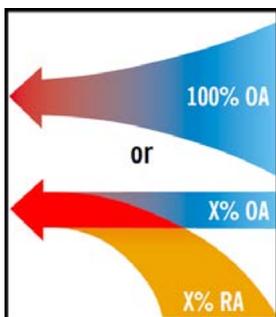
"F" Option

These units are designed for space heating only, with full-time air turnover. A two-position damper is on the outside air inlet only and the return air opening is fixed. The common air-mixing ratio is 15% OA to 85% RA, but other ratios are available. AEH Series "F" Option models are usually selected for applications requiring minimum ventilation but maximum heating efficiency.



"B" Option

These units are two-position OA/RA designs that can be in either a 100% OA operating mode or in a 15% OA – 85% RA mode. Different OA/RA blends are available (e.g., 50-50, 80-20, and so on). AEH Series "B" Option models are commonly used when total make-up air is needed during certain periods and minimal outside air is needed the rest of the time.

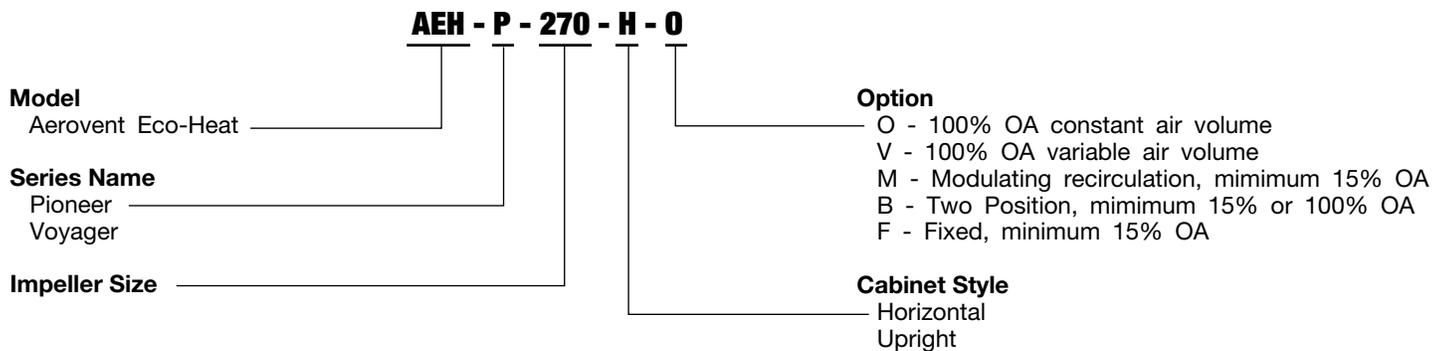




Model AEHV

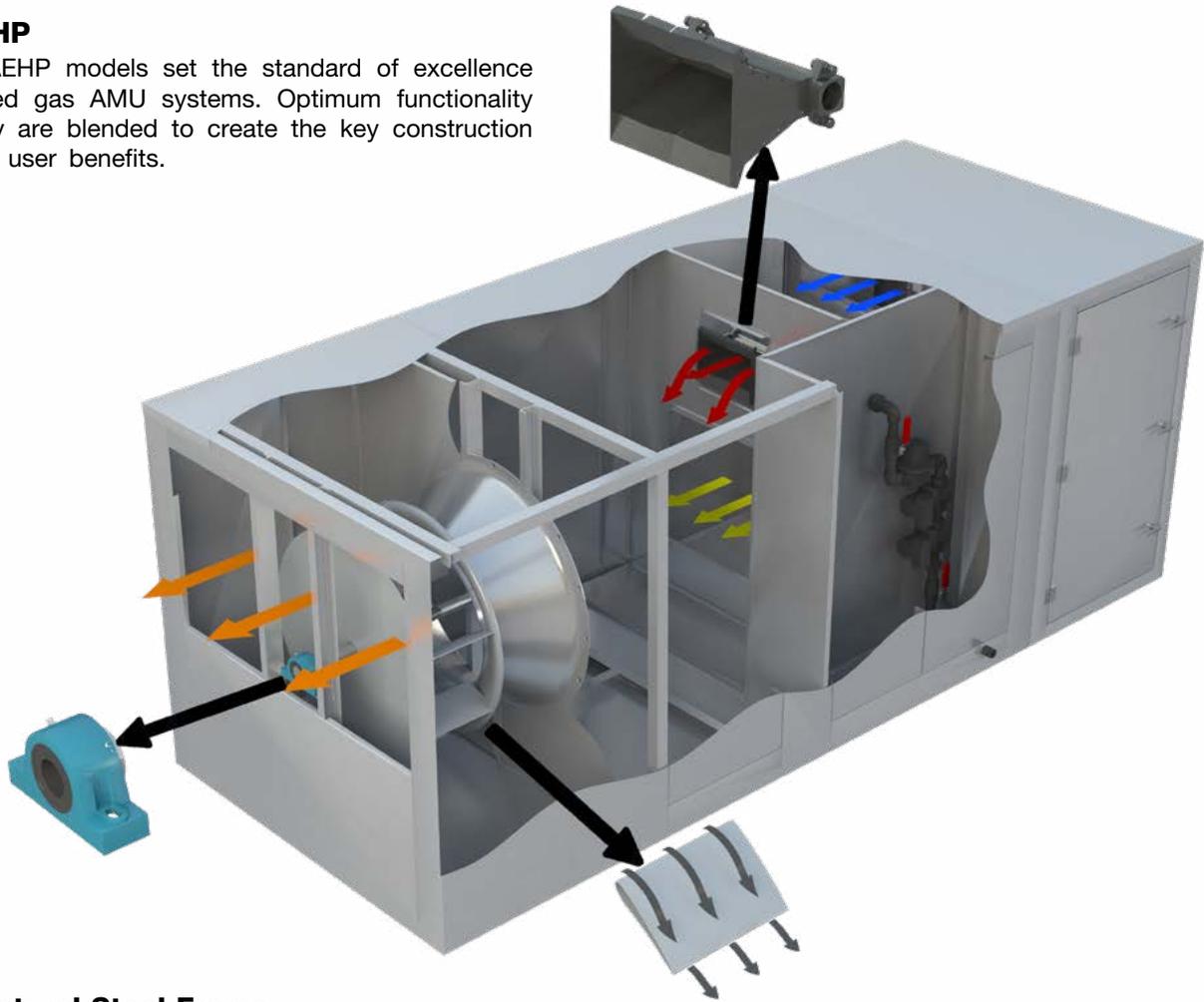
- Horizontal or Upright Cabinets
- Multiple Discharge Configurations
- Pitched Roofs (Away from Control Side)
- Rigid Construction with Structural Steel Frame Members (2" Tubular Steel Frame System on AEHV Models)
- Weather Resistant, Heavy-Gauge Aluminized Steel Construction (Fully-Welded 16-gauge on AEHP Models; Standing Seam 18-gauge on AEHV Models)
- Double-Wall Service Area Floors (AEHV Models)
- Multiple Hinged Access Doors (Double-Wall with Full Length Stainless Steel Piano Hinges on AEHV Models)
- Durable Two-Coat Machine-Enamel Paint Finish (Owner-Matched Colors at Additional Cost)
- Thermal-Overload Protection on Fan Motor Starters
- Non-Overloading, Backward Inclined Airfoil fan
- Spherical Roller Bearings (L₁₀ Minimum Life 100,000 Hours)
- Extended Lube Lines for Fan Bearings
- EPACT Compliant ODP Fan Motors
- Direct Drive, Shaft-Coupled Motorized Damper Actuators
- Recessed, Ventilated and Lighted Control Enclosures (Electrical and Gas)
- Circuit-Analyzer Lights in Main and Remote Control Panels
- 24/120-Volt Interconnect (Remote) Wiring
- 100% Efficient Burner with Interrupted Pilot
- Fixed Burner Profiles (Up to 30:1 Turndown Capability)
- UV Scanner and Remote Flame Reset
- High- and Low-Limit Temperature Controls
- High- and Low-Limit Airflow Switches
- Through-Door Fused Disconnect
- 100% Factory Testing (More Than 100 Quality Checks)

MODEL NOMENCLATURE



Model AEHP

Aerovent's AEHP models set the standard of excellence for direct-fired gas AMU systems. Optimum functionality and reliability are blended to create the key construction features and user benefits.



Rigid Structural Steel Frame

Mill-primed with grey oxide for strength, integrity, long life; includes fan, bearing and motor structural steel supports.

Durable, Heavy-Gauge Exterior Walls

Weather resistant exterior skin; completely welded 16-gauge aluminized steel.

Choice of Exterior Colors

Durable two-coat machine-enamel finishes; gray standard; owner-matched colors at additional cost.

Backward Inclined Airfoil Fan*

Non-overloading SWSI plenum fan, requiring up to 40% less brake horsepower for quiet, efficient, economical operation.

Spherical Roller Bearings*

L₁₀ minimum life 100,000 hours; extended lube lines enhance serviceability.

Direct-Fired Gas Burner Systems*

Pre-mix solid-state burners for low emissions, high efficiency; cast iron standard, cast aluminum optional; 30:1 turndown capability.

Damper Motor End Switch*

An end switch prevents fan and burner operation before the damper is in its full-open position. This switch is standard on Return Air models.

Flame Safeguard System*

Solid-state electronic system utilizes an ultraviolet (UV) scanner for fail-safe combustion monitoring and to ensure equipment safety and reliability; includes remote flame relay reset, which provides the capability to reset the flame relay at the remote control panel.

Advanced Gas & Electrical Controls*

Recessed control enclosures with hinged access doors; include control enclosure service lights.

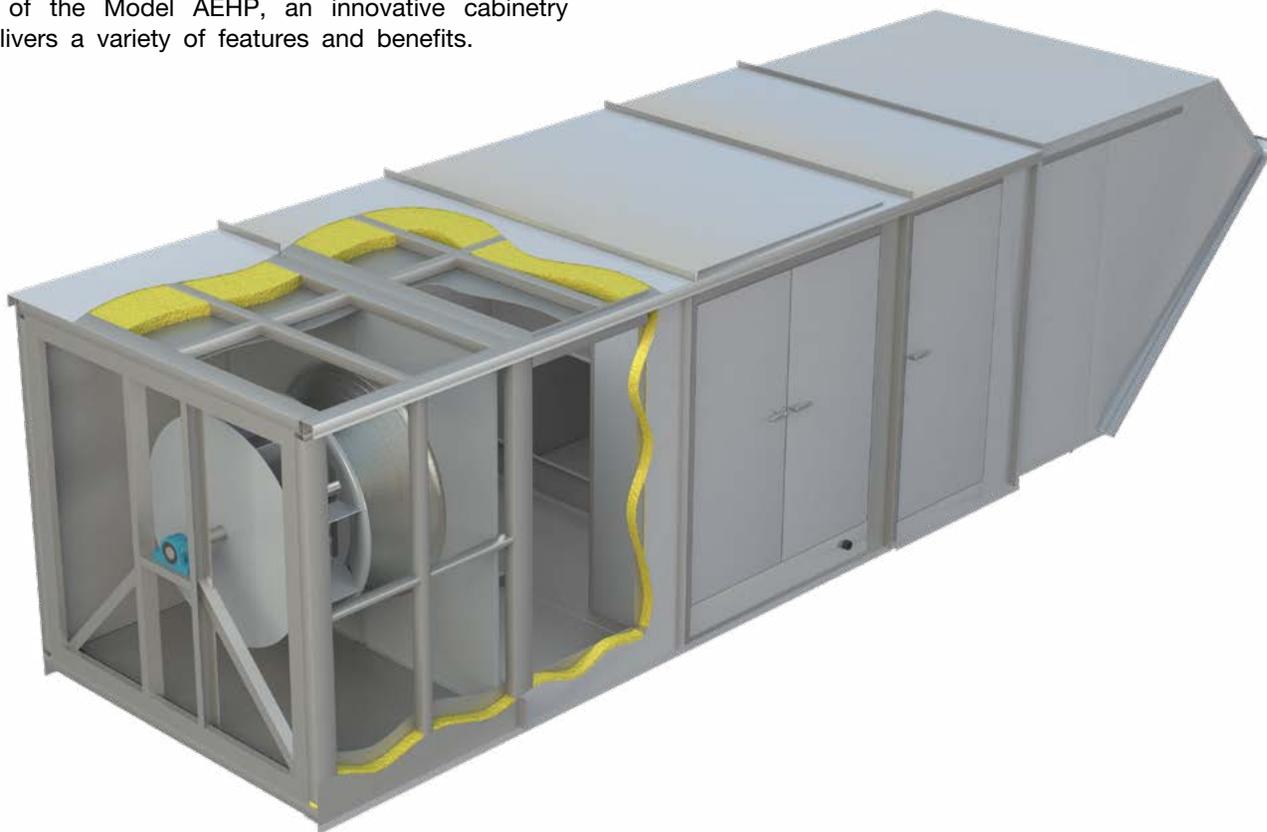
Low Energy Fan Motors*

Lower BHP required for specified airflow volumes due to airfoil plenum fan; rugged belt drives; thermal-overload protection.

* Common on Model AEHP and Model AEHV.

Model AEHV

Aerovent's AEHV models set a new benchmark for premium design and construction in direct-fired gas AMU systems. While retaining the operating performance and economical efficiency of the Model AEHP, an innovative cabinetry design delivers a variety of features and benefits.



Tubular Steel Frame

Robust two-inch tubular steel cabinet framing members with built-in thermal breaks and two-inch insulation available.

Standing-Seam Exterior Walls

Heavy-gauge aluminized steel; standing-seam construction adds aesthetics; choice of paint finishes and colors. Standard color is gray.

Unique Section-Locking System

For quicker and more precise in-field installation of operating sections on larger units.

Double-Wall Doors

Insulated, with positive latching mechanisms, full length stainless steel piano hinges and an aluminum extrusion frame.

Double-Wall Floors

Exceptional strength and durability in service areas for operating components (burner, motor and fan).

Pitched Roofs*

Standing-seam roofs are pitched away from the control side. (No standing seam on AEHP models.)

Motorized Dampers*

Direct drive, shaft-coupled, motorized damper actuators are standard on all motorized inlet, return air and discharge dampers.

Industry-Leading Return Air Models*

Return air models circulate a minimum of 15% fresh outside air; variable volume (100% OA) models available.

Discharge Diffuser Choices*

All models can be built with 1-, 3- or 4-way discharge diffusers with single- or double-deflection for airflow control.

* Common on Model AEHP and Model AEHV.

Mechanical Options & Accessories

Motorized Inlet Damper A 16-gauge galvanized steel damper can be provided. The damper will be driven by a two-position damper motor on 100% Outside Air models. On Return Air models, the OA modulating dampers will close upon unit shutdown and act as inlet dampers. Low-leak damper options, with blade and jamb seals, are also available.

Inlet Hood with Bird Screen This inlet hood is designed to minimize the ingestion of moisture, birds and possible airborne refuse.

Inlet Hood with 2" Aluminum Filters This hood has two-inch aluminum filters (in lieu of a bird screen) for additional protection against the ingestion of moisture and airborne contaminants.

Louvered Inlet Plenum This type of inlet plenum lowers the inlet air velocity, reducing moisture ingestion. (Recommended for units over 60,000 CFM.)

Outside Air (OA) V-Bank Filter Housing This filter housing would be mounted on the OA inlet of the unit. It can be provided with a variety of two-inch (2") filtering media options.

Mix Box Filter Section Available for RA models, allowing the filtration of both outside air and return air. It can be provided with a variety of two-inch (2") filtering media options.

Splash Plate A splash plate can be provided for economical redirection of the air flow on rooftop units with down discharges.

Discharge Diffusers Three-way, four-way and one-way discharge diffuser heads are available. Directional airflow control options include single- or double-deflection blades.

Insulation One inch (1") thick, 1.5# density neoprene-coated fiberglass insulation, glued and weld-pin fastened, can be added to Model AEHP. Two inch (2") thick fiberglass insulation can be added to Model AEHV. Either can be sandwiched between double-wall construction. One inch foil-faced fiberglass insulation is also available with 1.5# density.

Service Platform A service platform can be provided with a ladder and handrails to meet OSHA requirements.

Support Legs, Any Length Sturdy 10-gauge galvanized steel, enamel-painted support legs can be provided for all models.

Roof Curb A reinforced, aluminized steel roof curb provides for horizontal unit support.

Suspension Vibration Isolation Elastomer in-shear or spring-type vibration isolators, properly sized for the weight of the entire unit, can be provided for curb, post or suspended horizontal units.

Exhaust Cycle The addition of a discharge damper and controls facilitates operation of the supply air unit as an exhaust air unit when certain conditions exist (pressure, CO, CO₂, smoke or other).

Evaporative Cooling Evaporative media helps to control space humidity and provide occupant cooling and comfort.

Heating Coils Steam, Hot Water (HW) or Electric Resistance coils can be used with the gas direct-fired burner or sized to replace it.

Cooling Coils Chilled Water (CW) or Direct Expansion (DX) coils can be provided to add seasonal cooling to the unit.

High-Efficiency Filtering Various bag and cartridge filters, with 65% to 95% efficiencies, can be provided. HEPA filters are also available. Consult factory for specific details.

Electrical Control Options & Accessories

TEFC EPACT Motors The blower motor will be 1800 RPM, totally-enclosed and fan-cooled. The motor will have a T-frame, a minimum service factor of 1.15 and an adjustable slide base. The motor voltage rating will be specific to the application. Motors are available in standard or premium efficiency ratings. Also, Corro-duty, explosion-proof and 7E-TA (automotive spec) motors are available.

Electronic Time Clock A 24-hour, 7-day time clock allows automatic operation of the unit. The control sequence is user defined.

DDC Microprocessor Temperature Controls With the addition of microprocessor controls, each unit can be operated "stand-alone" or networked to a centrally located PC and/or modem. Various control systems are available. These controls provide the user with maximum flexibility in system operation, hardware configurations, software design and warranty.

Electrical Control Options (cont'd.)

Damper Control for Modulating ("M" Option)

By-Pass Models A building pressure switch is provided as standard equipment to control the blend of outside air and return air. The dampers modulate when more outside air is needed to maintain the slight positive pressure in the space. These controls can be provided with a manual override switch at the remote panel, interconnected with a time clock or other features.

Mild Weather Stat An outdoor thermostat is provided to automatically de-energize the burner when the outdoor air temperature reaches a certain, adjustable set point. The burner is re-energized when the outside air temperature drops below that set point.

Burner Alarm Horn This alert horn sounds whenever the burner loses flame in the heating mode.

Purge Timer, 30 Seconds This increases the purge time from the standard series time of 15 seconds.

Three-Phase Power Monitor This device activates upon phase loss or single-phasing, and it disengages the power supply from the fan motor preventing motor winding damage.

Smoke Detector This option can be user-installed in the supply air or return air ductwork, or unit-installed at the factory. It can be provided to interface with other system indicators and alarms, as needed.

Access Door Interlock This switch activates upon the opening of the fan section access door and interrupts power to the fan motor.

120V GFI Outlet and Light AEH models are equipped with standard 120V lighting in the recessed electrical and gas controls enclosures. This option adds a 15-amp GFI service outlet in the electrical enclosure.

Dirty (Clogged) Filter Indicator/

Alarm A pressure-sensing switch is used to monitor airflow filtering. The switch will energize a warning light (and/or alarm) when the filters need maintenance. This switch can be provided with a magnahelic gauge.

Magnahelic Gauge This type of gauge can be provided for certain user-specified control needs.

Photohelic Gauge This type of gauge can be provided in lieu of a building pressure switch to allow more finite adjustments.

CO Detector This detector allows a single- or dual-level CO set point. When the set point is reached, the device activates various control options such as outside or return air dampers, exhaust dampers, etc.

Gas Control Options & Accessories

FM/IRI Gas Manifold The gas manifold will be built in accordance with the requirements set forth by Factory Mutual/Industrial Risk Insurers.

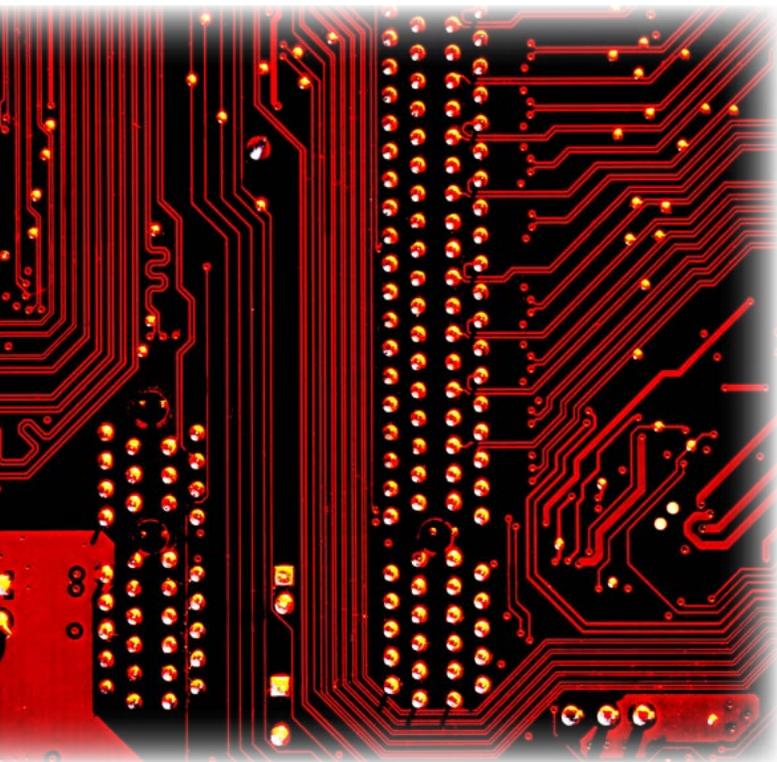
Natural Gas/Propane (LP) Changeover Switch

This switch at the remote panel allows the user to change from a natural gas supply to a propane gas supply. It includes a special gas valve.

High Gas Pressure Regulator A full lock-up regulator, with internal relief, is provided to allow reducing the unit gas supply pressure when inlet pressures are greater than 5 psi.

Low Gas Pressure Burner When gas supply pressure at the unit is at or below 10" w.c. and at or more than 6" w.c., a low-gas-pressure burner assembly may be provided. This will depend on the specific gas pressure and the MBH requirements. This alternate burner will be provided at no additional cost to the customer.





Microprocessor Controls

Standard and Optional Controls

Aerovent's standard control system for the AEH Series has a main control panel at the unit and a diagnostic remote control panel in the area being served. This basic fail-safe strategy monitors and precisely controls building pressurization and/or space temperature.

Maxitrol Series 14 discharge temperature controls are standard on 100% OA models; Series 44 controls on "F" option models. Maxitrol DFM digital space temperature controls are standard on "M" and "B" option Return Air models. The burner modulates up and down (30:1 turndown) to satisfy the temperature set point (selected at the remote control panel). Optional controls include advanced microprocessor systems for networking and total facility air management control.



Special Solutions

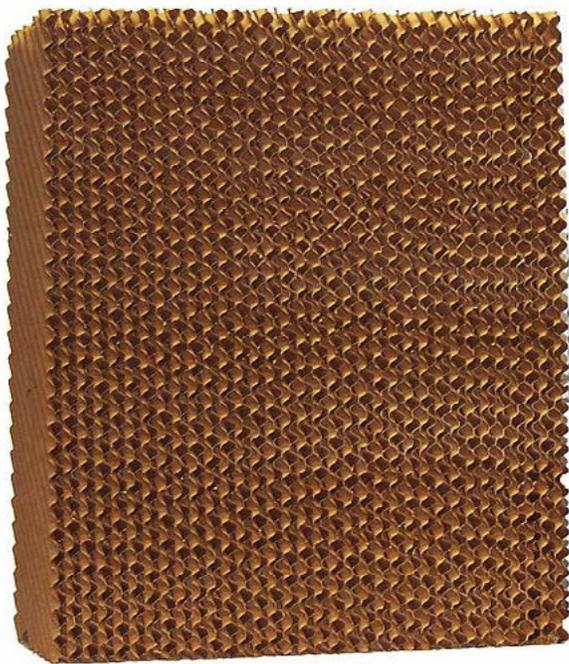
Aerovent's innovative and versatile AEH Series design technology offers almost limitless system configurations. Key operating options include:

Humidification – Direct evaporative media can be used on AEH Series units for space humidification and area cooling. Grains of moisture are added to the discharge air stream, increasing space humidity content. A cooling effect is achieved by the evaporation of the water from the saturated media, which reduces the dry bulb temperature. Other options for humidification include steam and water atomization.

DX Evaporator Coil or Chilled Water Cooling – Direct expansion (DX) evaporator coils or Chilled Water (CW) coils can be used with Aerovent's standard burner system to provide seasonal cooling. Or, they can be used alone for cooling only.

Hot Water and Steam Heating – Hot water coils and steam coils can be used for heat generation, especially in facilities having ample process heat or boiler systems. Such coils can replace the burner system or be included with a burner to provide fuel flexibility and operating choices.

Electric Coil Heating – In some applications, where electricity is plentiful and relatively inexpensive, electric resistance heating coils may be used. Today's high-efficiency coils are available in a range of kilowatt capacities, complete with safety devices such as fusing, airflow switches and high-limit thermal cutouts.



Evaporative Media

Static Pressure Drops for Base Cabinets¹

	HORIZONTAL MODEL INCHES W.C.	HORIZONTAL MODELS INCHES W.C.
O or V (100% OA)	0.90	0.95
M (85/15 Modulating) ²	1.05	1.10
B (85/15 Two-Position) ²	0.95	1.00
F (85/15 Fixed Air Rotation) ²	0.95	1.00

Static Pressure Drops for Options/Accessories

DESCRIPTION	INCHES W.C.
Inlet Hood with Bird Screen	0.05
Louvered Inlet Plenum	0.13
Inlet Plenum Base	0.06
Filtered Inlet Hood (Includes 2" Aluminum Mesh Filters) ³	0.10
Motorized Inlet Damper	0.10
Motorized Discharge Damper	0.15
3-Way Single-Deflection Diffuser (Horiz. Blades)	0.20
3-Way Double-Deflection Diffuser (Horiz. and Vert. Blades)	0.25
4-Way Single-Deflection Diffuser (Horiz. Blades)	0.20
4-Way Double-Deflection Diffuser (Horiz. and Vert. Blades)	0.25
Discharge Plenum	0.10
Side Access Filter Section (2" 30% Pleated) ³	0.30
Side Access Filter Section (2" Aluminum Mesh) ³	0.15
Side Access Filter Section (1.5" Dust-Lock) ³	0.20
Filter/Mix Box (2" 30% Pleated) ³	0.30
Filter/Mix Box (2" Aluminum Mesh) ³	0.15
Filter/Mix Box (1.5" Dust-Lock) ³	0.15
Evaporative Cooling Section (with 6" Thick Media)	0.15
Evaporative Cooling Section (with 12" Thick Media)	0.30
Typical CW or DX Coil Box ⁴	0.60 - 0.90
Typical Steam or HW Coil Box ⁴	0.30 - 0.40

NOTES:

1. Base cabinet static pressure drops are calculated using 25°F entering air temperature and 90°F exiting air temperature. They are also calculated using a radial discharge (side, up or down) with at least 3 feet of straight duct. Static pressure drops for filter sections, inlet hoods and other options and accessories must be added.
2. Includes static pressure drops for dampers.
3. This includes the initial static pressure drop of "clean" filters.
4. Consult factory for exact coil losses in your application.

Important: On units with a filter option, the filters should be changed when the filter pressure drop reaches 0.60" w.c. Consult factory for change recommendations on high efficiency filtering options.

Total Static Pressure Drop: After adding the losses from the base cabinet and options/accessories, also add project-specific ductwork losses. These are typically found in the owner specification.

Static Pressure Drops for Discharge Configurations

DESCRIPTION	INCHES W.C.
Axial Discharge (with 3-feet of Straight Duct Minimum)	0.15
Axial Discharge (without a Plenum or 3-feet Straight Duct)	0.20
Radial Discharge (without a Plenum or 3-feet Straight Duct)	0.10

Maximum MBH Capacities¹

MODEL	100% OA MODELS ²		RETURN AIR MODELS ³	
	NATURAL GAS	LP GAS	NATURAL GAS	LP GAS
P182	795	635	665	610
P200	1,060	850	885	810
P270 - V270	1,720	1,380	1,440	1,320
P300 - V300	2,250	1,805	1,885	1,725
P365 - V365	2,915	2,335	2,440	2,235
P402 - V402	3,975	3,190	3,325	3,050
P445 - V445	4,640	3,720	3,880	3,555
P490 - V490	5,305	4,250	4,435	4,065
P542 - V542	6,630	5,315	5,545	5,080
P600 - V600	7,955	6,380	6,655	6,100
P660 - V660	9,945	7,975	8,315	7,625
P730 - V730	11,270	9,035	9,425	8,640
P807 - V807	13,925	10,635	11,645	10,165
P890 - V890	17,240	12,760	14,420	12,200

NOTES:

1. Maximum MBH capacities listed are based on a unit operating at 750-foot elevation and an outside air (OA) temperature of 10°F.
2. On 100% Outside Air (OA) models, selections are limited to the lesser of the maximum MBH shown or a temperature rise of 125°F for natural gas or 95°F for propane (LP) gas.
3. On Return Air (RA) models, selections are limited to the lesser of the maximum MBH shown or a temperature rise of 100°F for natural gas or 90°F for propane (LP) gas.

Model Selection, Fan and Motor Requirements

CFM	MODEL	MOTOR AND FAN REQUIREMENTS @ TOTAL STATIC PRESSURE SHOWN																OUTLET VELOCITY ² (FPM)
		1.25"		1.50"		1.75"		2.00"		2.50"		3.00"		3.50"		4.00"		
		HP	BHP	HP	BHP	HP	BHP	HP	BHP	HP	BHP	HP	BHP	HP	BHP	HP	BHP	
4,000	P182	2	1.39	2	1.60	2	1.81	3	2.02	3	2.46	3	2.93	5	3.41	5	3.91	1,058
6,000		3	2.73	3	3.00	5	3.30	5	3.60	5	4.20	5	4.81	<u>7.5</u>	<u>5.43</u>	<u>7.5</u>	<u>6.06</u>	1,588
6,000	P200	3	2.35	3	2.65	3	2.95	5	3.25	5	3.87	5	4.51	7.5	5.16	7.5	5.82	1,588
8,000		5	3.99	5	4.38	5	4.76	7.5	5.14	<u>7.5</u>	<u>5.93</u>	<u>7.5</u>	<u>6.72</u>	<u>7.5</u>	<u>7.50</u>	<u>10</u>	<u>8.35</u>	2,117
7,000	P270 / V270	2	2.00	3	2.38	3	2.76	5	3.15	NA	NA	NA	NA	NA	NA	NA	NA	955
10,000		5	3.28	5	3.75	5	4.22	5	4.70	7.5	5.69	7.5	6.71	10	7.78	10	8.88	1,364
13,000		7.5	5.11	7.5	5.69	7.5	6.28	7.5	6.87	10	8.07	<u>10</u>	<u>9.29</u>	<u>15</u>	<u>10.54</u>	<u>15</u>	<u>11.82</u>	1,773
13,000	P300 / V300	5	4.38	5	4.98	7.5	5.59	7.5	6.20	7.5	7.46	<u>10</u>	<u>8.76</u>	15	10.10	15	11.51	1,156
15,000		7.5	5.57	7.5	6.25	7.5	6.93	10	7.62	10	9.02	15	10.46	<u>15</u>	<u>11.93</u>	<u>15</u>	<u>13.42</u>	1,333
17,000		7.5	7.00	10	7.76	10	8.52	10	9.28	<u>15</u>	<u>10.84</u>	<u>15</u>	<u>12.42</u>	<u>15</u>	<u>14.02</u>	<u>20</u>	<u>15.61</u>	1,511
17,000	P365 / V365	7.5	5.51	7.5	6.28	7.5	7.07	10	7.87	10	9.58	15	11.36	15	13.20	20	15.11	1,511
19,500		7.5	6.95	10	7.78	10	8.64	10	9.52	15	11.32	15	13.26	20	15.26	20	17.31	1,733
22,000		10	8.73	10	9.60	15	10.53	15	11.48	15	13.45	20	15.50	<u>20</u>	<u>17.59</u>	<u>20</u>	<u>19.80</u>	1,956
22,000	P402 / V402	8	7.40	10	8.37	10	9.37	15	10.39	15	12.52	15	14.76	20	17.03	20	19.42	1,460
26,000		10	10.00	15	11.07	15	12.18	15	13.31	20	15.66	20	18.11	25	20.63	<u>25</u>	<u>23.27</u>	1,725
30,000		15	13.40	15	14.56	20	15.70	20	16.96	<u>20</u>	<u>19.54</u>	<u>25</u>	<u>22.20</u>	<u>25</u>	<u>24.95</u>	<u>30</u>	<u>27.79</u>	1,991
30,000	P445 / V445	15	10.94	15	12.21	15	13.52	15	14.85	20	17.63	25	20.50	25	23.52	<u>30</u>	<u>26.63</u>	1,500
32,500		15	12.78	15	14.06	20	15.44	20	16.85	20	19.76	25	22.79	<u>30</u>	<u>25.89</u>	<u>30</u>	<u>29.16</u>	1,625
35,000		15	14.83	20	16.22	20	17.59	20	19.08	25	22.12	<u>30</u>	<u>25.21</u>	<u>30</u>	<u>28.56</u>	<u>40</u>	<u>31.89</u>	1,750
35,000	P490 / V490	15	12.36	15	13.86	20	15.40	20	16.98	25	20.20	25	23.69	30	27.27	40	30.95	1,750
37,500		15	14.01	20	15.59	20	17.20	20	18.85	25	22.27	30	25.78	30	29.53	<u>40</u>	<u>33.36</u>	1,875
40,000		20	15.99	20	17.48	20	19.19	25	20.91	25	24.46	30	28.17	<u>40</u>	<u>31.95</u>	<u>40</u>	<u>35.95</u>	2,000
40,000	P542 / V542	15	13.39	20	15.15	20	16.95	20	18.82	25	22.67	30	26.74	40	30.94	40	35.28	1,565
45,000		20	16.48	20	18.39	25	20.33	25	22.33	30	26.47	40	30.74	40	35.27	<u>40</u>	<u>39.90</u>	1,761
50,000		25	20.28	25	22.20	25	24.31	30	26.45	40	30.86	40	35.45	<u>50</u>	<u>40.10</u>	<u>50</u>	<u>45.07</u>	1,957
50,000	P600 / V600	20	16.97	20	19.15	25	21.39	25	23.69	30	28.44	40	33.49	40	38.70	50	44.07	1,744
55,000		25	20.11	25	22.43	25	24.81	30	27.25	40	32.31	49	37.53	50	43.06	<u>50</u>	<u>48.73</u>	1,918
60,000		25	23.85	30	26.19	30	28.72	40	31.30	40	36.63	50	42.18	<u>50</u>	<u>47.84</u>	<u>60</u>	<u>53.84</u>	2,092
60,000	P660 / V660	25	20.22	25	22.83	30	25.53	30	28.31	40	34.04	50	40.10	50	46.37	60	52.85	1,654
65,000		25	23.38	30	26.04	30	28.87	40	31.78	40	37.82	50	44.08	60	50.67	<u>60</u>	<u>57.93</u>	1,791
70,000		30	26.84	30	29.63	40	32.61	40	35.66	50	41.97	50	48.54	60	55.31	<u>75</u>	<u>62.39</u>	1,929
75,000	P730 / V730	40	30.78	40	33.62	40	36.76	40	39.96	50	46.52	60	53.38	<u>75</u>	<u>60.28</u>	<u>75</u>	<u>67.71</u>	2,067
75,000		30	25.64	30	28.88	40	32.22	40	35.66	50	42.73	60	50.26	60	58.02	75	66.01	1,852
80,000		30	28.76	40	32.15	40	35.63	40	39.20	50	46.61	60	54.29	75	62.37	<u>75</u>	<u>70.68</u>	1,976
85,000	P807 / V807	40	32.18	40	35.74	40	39.36	50	43.07	60	50.75	60	58.57	75	67.01	<u>100</u>	<u>75.63</u>	2,099
85,000		30	27.54	40	31.31	40	35.22	40	39.12	50	47.66	60	56.37	75	65.47	75	74.89	1,702
92,500		40	31.78	40	35.77	40	38.87	50	44.09	60	52.76	75	62.03	75	71.57	100	81.35	1,852
100,000	P890 / V890	40	36.56	50	40.78	50	45.09	50	49.52	60	58.70	75	68.17	100	78.20	<u>100</u>	<u>88.49</u>	2,002
105,000 ¹		50	40.26	50	44.44	50	48.91	60	53.47	75	62.92	75	72.77	100	82.90	<u>100</u>	<u>93.52</u>	2,102
95,000	P890 / V890	30	29.30	40	33.66	40	38.08	50	42.81	60	52.55	75	62.72	75	73.71	100	84.29	1,589
110,000		40	37.17	50	41.95	50	46.86	60	51.93	75	62.38	75	73.47	100	84.92	100	96.73	1,840
120,000		50	43.39	50	48.40	60	53.66	60	59.00	75	70.07	100	81.52	100	93.60	<u>125</u>	<u>106.01</u>	2,007
130,000 ¹		60	50.72	60	55.83	75	61.34	75	66.95	100	78.56	100	90.66	<u>125</u>	<u>103.05</u>	<u>125</u>	<u>116.11</u>	2,174

NOTES:

1. Denotes 100% OA units ONLY, the Maximum CFM for P or V 80 Recirculation models is 100,000.
2. Denotes 100% OA units ONLY, the Maximum CFM for P or V 89 Recirculation models is 120,000.
3. Italic & Underlined Selections Require a Class II Fan. CF = Consult Factory N/A = Not Available.
4. All BHPs listed include drive losses, Fan performance based on 750 Ft. elevation and 90° F discharge temperature.
 ABOVE DATA IS SUBJECT TO CHANGE WITHOUT NOTICE. CONSULT FACTORY FOR SPECIFIC APPLICATIONS.

Gas Manifold Sizing & Selection

AEH Series gas manifolds are sized using the sizing chart, which determines the manifold size based on the inlet gas pressure and calculated burner output. Draw a vertical line from the Burner Output until it intersects any of the manifold size curves, then draw a horizontal line to the left to determine Minimum Gas Pressure. If the vertical line does not intersect a manifold size curve, select the next largest size (to the right).

Example: Gas Pressure = 12.5" w.c.
 Burner Output = 3,250,000 BTUH
 Select a two-inch (2") manifold

Note: If you cannot get a low enough gas pressure by selecting a larger manifold to meet your project requirements, consult factory for "Low Pressure Alternatives." For inlet gas pressures below 6" w.c., consult factory. Pressures above 1 psi (28" w.c. = 1 psi) are considered 1 psi for manifold sizing and selection.

Burner Output Sizing (Nominal)

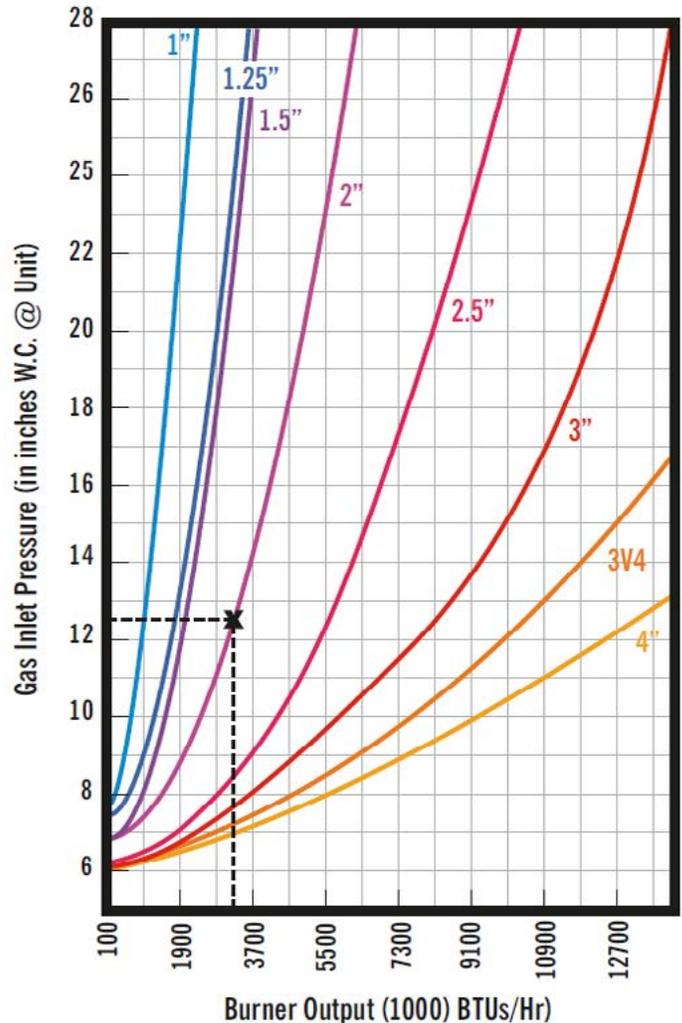
Approximate burner output on an AEH Series unit is calculated based on the desired CFM capacity and discharge temperature rise:
CFM x 1.14 x Temperature Rise (ΔT) = BTUH

Example: 14,000 CFM unit with a 76 ΔT ... 14,000 x 1.14 x 76 = 1,212,600 BTUH (or 1,213 MBH)

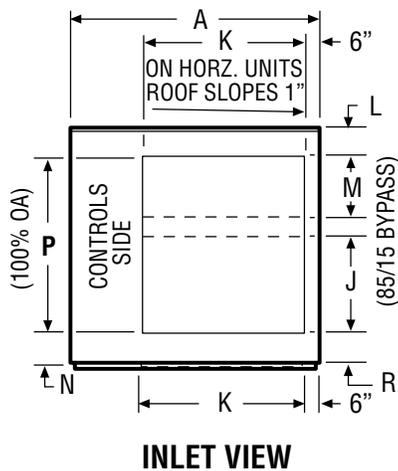
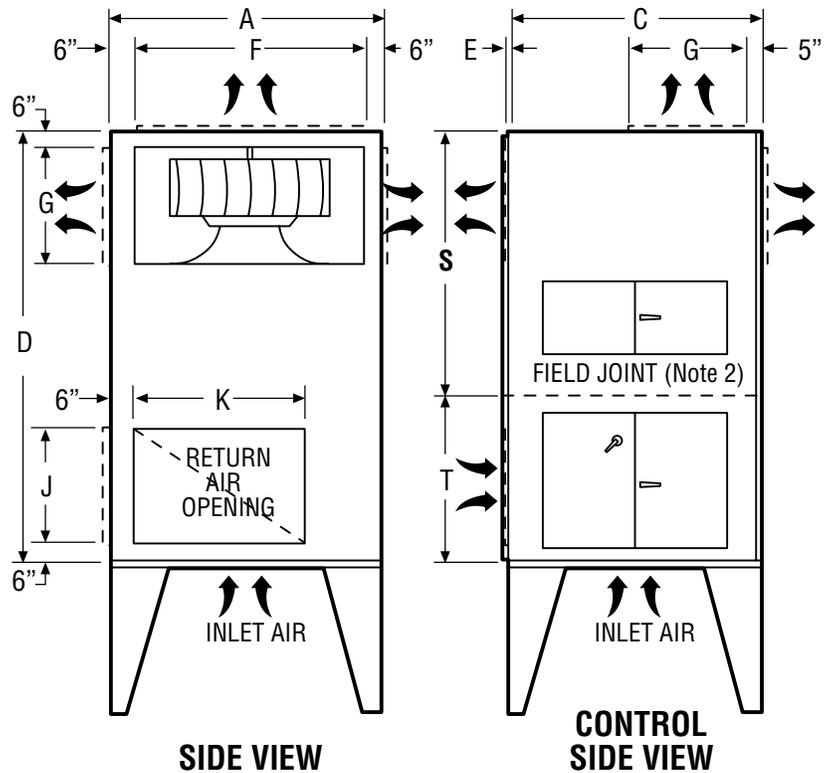
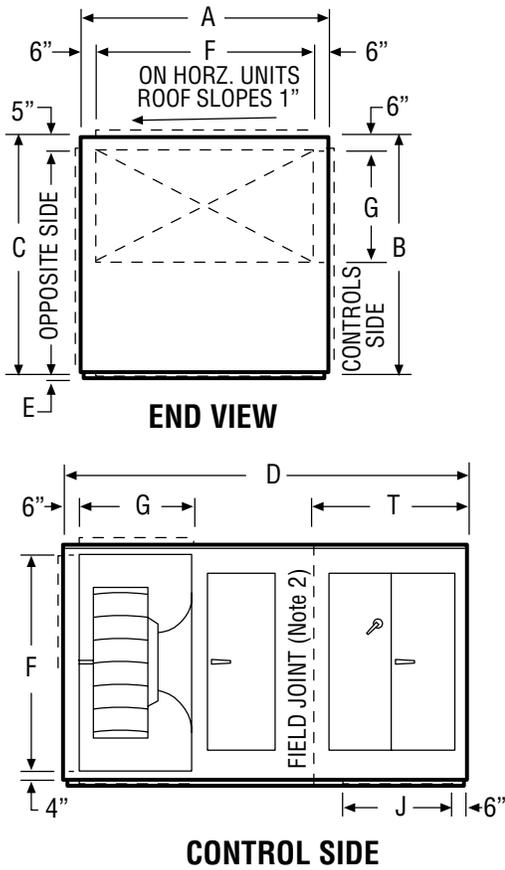
Note: Actual BTU capacities will be calculated by Aerovent at the time of order, based upon temperature rise and project specifics, using the following formula:

$$BTU = \frac{CFM \times \rho \times C_p \times 60 \times \Delta T}{0.92}$$

ρ = air density at fan C_p = specific heat
 ΔT = temp. rise



Horizontal Cabinets | Upright Cabinets



SIZE	A	B	C	D	E	F	G	J
270	56	53	52	118	2	44	24	27
300 & 365	66	63	62	126	2	54	30	34
402	74	71	70	130	2	62	35	44
445 & 490	84	81	80	140	2	72	40	49
542	92	89	88	153	3	80	46	54
600	98	95	94	160	3	86	48	60
660	107	104	103	180	3	95	55	68
730	118	115	114	180	3	106	55	68
807	128	125	124	200	3	116	62	68
890	135	132	131	214	3	123	70	74

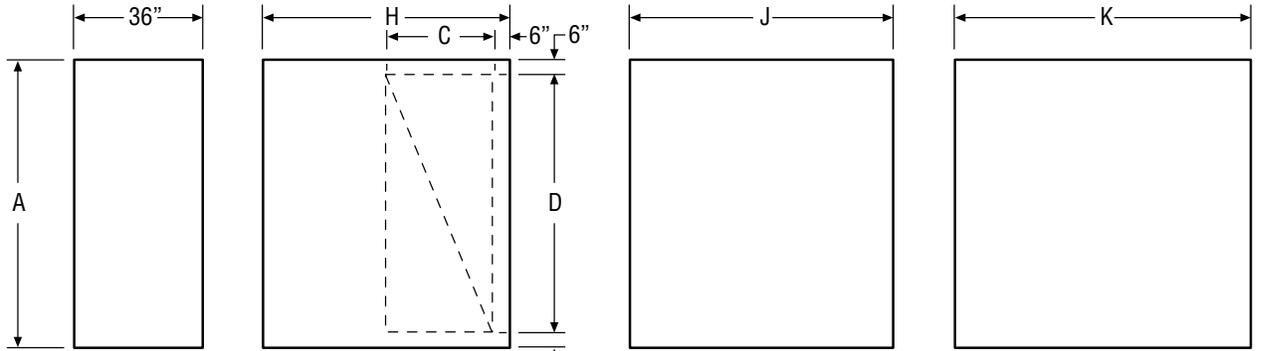
SIZE	K	L	M	N	P	R	S	T
270	34	6	5	10	32	7	-	-
300 & 365	44	7	6	9	44	7	-	-
402	48	5	8	9	52	8	-	-
445 & 490	58	7	9	9	62	8	-	-
542	64	6	10	9	70	8	-	-
600	70	8	11	8	78	8	-	-
660	79	7	12	9	85	9	100	80
730	90	11	12	9	96	9	100	80
807	98	13	12	8	108	12	120	80
890	105	13	13	8	115	12	128	86

NOTES:

1. Dimensions are in inches and are subject to change without notice.
2. Field Joint shown on 'Control Side' drawings is for Sizes 66 thru 89.
3. In Upright Cabinets (Model AEHV), standing seam siding adds 1-1/2" to Dimensions B, C and D; also adds 3" to Dimension A and Dimension E is always 3".

Options & Accessories

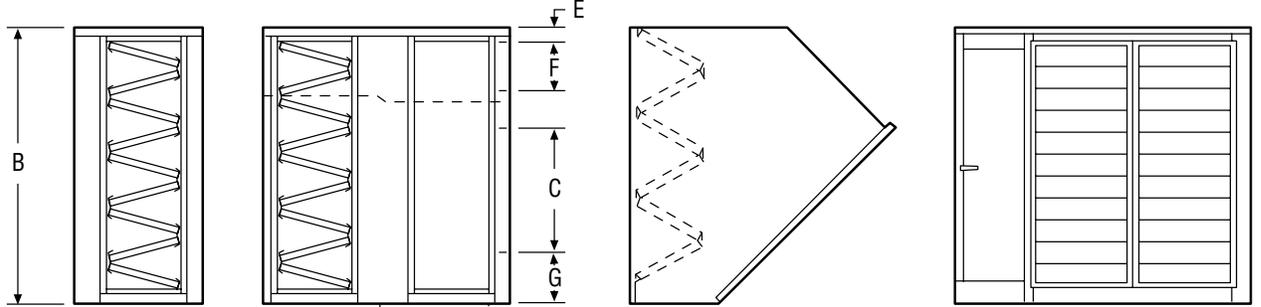
PLAN VIEW



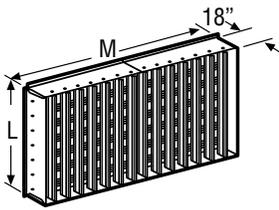
O.A. Filter Section Filter Mixbox Section

Inlet Hood (Filters Optional)

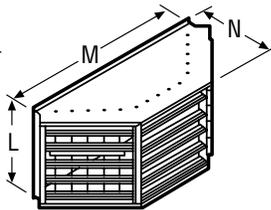
Louvered Inlet Plenum



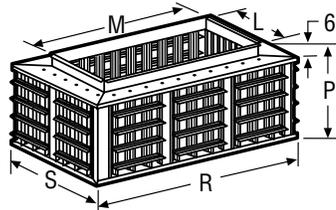
SIDE VIEW



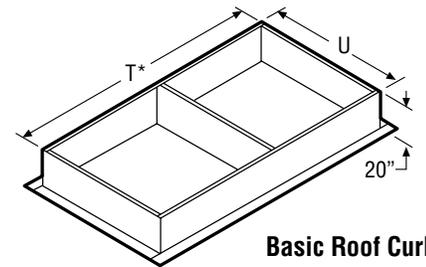
1-Way Discharge Head



3-Way Discharge Head



4-Way Discharge Head



Basic Roof Curb

SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T*	U
270	56	53	23	44	7	5	7	59	74	68	24	44	28 1/8	22 1/8	71	51	113	51
300 & 365	66	63	30	54	7	5	9	66	74	76	30	54	31	28 1/8	81	57	121	61
402	74	71	34	62	8	6	13	70	74	82	35	62	33 3/8	32 1/8	89	62	125	69
445 & 490	84	81	40	72	9	7	11	76	84	88	40	72	36 1/4	36 1/8	99	67	135	79
542	92	89	44	80	8	8	12	80	98	92	46	80	38 5/8	40 1/8	107	73	148	87
600	98	95	49	86	8	9	11	85	98	100	48	86	40 3/8	44 1/8	113	75	155	93
660	107	104	57	95	8	10	11	93	98	106	55	95	43	46 1/8	122	82	175	102
730	118	115	58	106	8	10	13	94	98	108	55	106	46 1/4	52 1/8	133	82	175	113
807	128	125	58	116	9	10	13	94	110	108	62	116	49 1/8	54 1/8	143	89	195	123
890	135	132	64	123	9	11	15	100	110	132	70	123	51 1/4	57 1/8	150	97	209	130

NOTES:

1. Dimensions are in inches and are subject to change without notice.

* Dimensions shown are for basic curb only. Consult factory for curb size if options (mixbox, louver plenum, etc.) are added to unit.

**WALL MOUNTED FANS | TUBEAXIAL & VANEAXIAL FANS | CENTRIFUGAL FANS & BLOWERS
ROOF VENTILATORS | AIR HEATERS & COOLERS | AIR MAKE-UP | FIBERGLASS FANS | CUSTOM FANS**



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