

# POWER PRECISION PERFORMANCE

COMMERCIAL & INDUSTRIAL AIR CURTAINS  
PRODUCT CATALOG // 2025

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## Heat Options Key

 U	Unheated	 HW	Hot Water	 DG	Direct Gas
 E	Electric	 ST	Steam	 IG	Indirect Gas

# Models

## Architectural

VESTIBULE EXCEPTION | EXPOSED

<b>ETA .....</b>	<b>9</b>	 U	 E	 HW	 ST
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VESTIBULE EXCEPTION | ABOVE CEILING

<b>CHA.....</b>	<b>21</b>	 U	 E	 HW	 ST
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VESTIBULE EXCEPTION | LOW PROFILE

<b>EVE .....</b>	<b>31</b>	 U	 E	 HW	 ST
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## Commercial

ECO-MOTOR | EXPOSED

<b>ECE .....</b>	<b>43</b>	 U	 E	 HW	 ST
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ECO-MOTOR | ABOVE CEILING

<b>ECC.....</b>	<b>53</b>	 U	 E	 HW	 ST
-----------------	-----------	--	--	---	---

AIR PURIFICATION

<b>UVC-Aire....</b>	<b>61</b>	 U	 E
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CUSTOMER ENTRY | VESTIBULE EXCEPTION

<b>CED.....</b>	<b>67</b>	 U	 E	 HW	 ST
-----------------	-----------	---	---	--	--

CUSTOMER ENTRY | ABOVE CEILING

<b>CLD.....</b>	<b>79</b>	 U	 E	 HW	 ST
-----------------	-----------	---	---	--	--

CLIMATE CONTROL

<b>ETD.....</b>	<b>89</b>	 U	 E
-----------------	-----------	---	---

CLIMATE CONTROL

<b>THS.....</b>	<b>95</b>	 HW	 ST
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CLIMATE CONTROL

<b>TIG.....</b>	<b>99</b>	 IG
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CLIMATE CONTROL

<b>TDG.....</b>	<b>105</b>	 DG
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## Commercial Cont.

COLD STORAGE   COOLER AIRE	
<b>CAC.....109</b>	<span>U</span>
COLD STORAGE   FREEZER AIRE	
<b>FAC-E.....113</b>	<span>E</span>
LOW PROFILE   VESTIBULE EXCEPTION	
<b>MP.....117</b>	<span>U</span> <span>E</span> <span>HW</span> <span>ST</span>
FOOD SERVICE/INSECT CONTROL   NSF-37   ETL LISTED	
<b>RBT.....127</b>	<span>U</span>
FOOD SERVICE/INSECT CONTROL   NSF-37 CERTIFIED   ETL LISTED	
<b>RMP.....131</b>	<span>U</span>
FOOD SERVICE/INSECT CONTROL   PASS-THROUGH WINDOWS	
<b>PTW.....135</b>	<span>U</span> <span>E</span>

## Specialty

CORROSIVE DUTY	
<b>LDC.....211</b>	<span>U</span>
CORROSIVE DUTY	
<b>HDC.....215</b>	<span>U</span>
HAZARDOUS DUTY	
<b>LDX.....219</b>	<span>U</span>
HAZARDOUS DUTY	
<b>HDX.....223</b>	<span>U</span>
REVOLVING DOOR	
<b>REV.....227</b>	<span>U</span> <span>E</span> <span>HW</span> <span>ST</span>

## Industrial

LIGHT INDUSTRIAL	
<b>TFD.....139</b>	<span>U</span> <span>E</span> <span>HW</span> <span>ST</span> <span>IG</span>
INDUSTRIAL	
<b>TSD.....153</b>	<span>U</span> <span>E</span> <span>HW</span> <span>ST</span> <span>IG</span> <span>DG</span>
INDUSTRIAL   EXTRA HIGH DOOR	
<b>EHD.....177</b>	<span>U</span> <span>E</span> <span>HW</span> <span>ST</span> <span>IG</span> <span>DG</span>
INDUSTRIAL   BIG POWERED AIRE	
<b>BPA.....199</b>	<span>U</span> <span>HW</span> <span>ST</span> <span>IG</span>
INDUSTRIAL   X-TREME POWERED AIRE	
<b>XPA.....205</b>	<span>U</span>



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TOLL-FREE (888) 321-2473  
FAX (724) 588-3371



SCAN TO ADD  
TO CONTACTS

# About Powered Aire

Powered Aire Inc. was founded in 1997 with the belief that a superior air curtain could be brought to the market at the same pricing, if not better, than those already in use. Over 17 years later, we have succeeded with our vision. Located in Greenville, PA, Powered Aire specializes in designing, engineering, and manufacturing a full line of competitively priced stainless steel commercial and industrial air curtains.

Our staff has over 100 years of combined experience. This, coupled with a continued pursuit of better products, cost-effectiveness and customer service enables us to stand out as a leader in the industry. We realize that our job does not end when a customer orders a unit. It is just beginning. We take pride in meeting and exceeding our customers' expectations, from engineering assistance in the design stage through installation and operation.

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# How Air Curtains Work

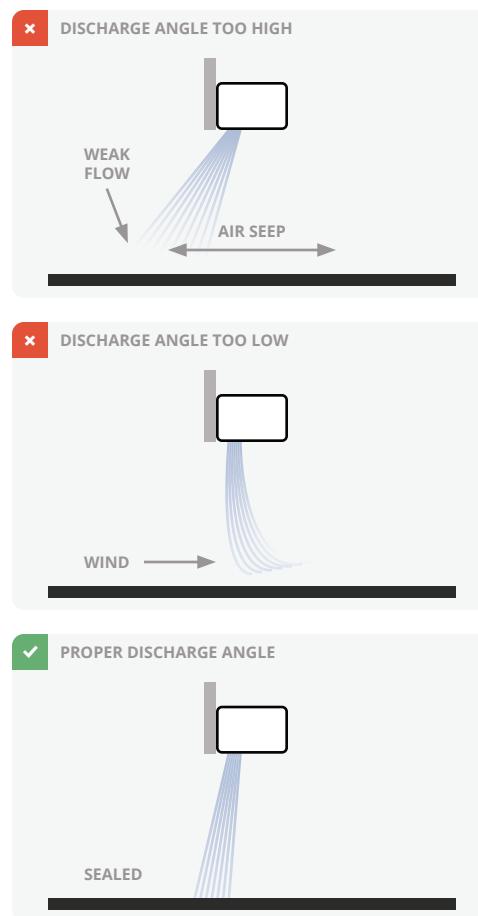
An air curtain is most often used to separate one environment from another. It does this by creating a "curtain" of moving air that is projected over the opening of a doorway. The wall of air acts as an invisible barrier that will not allow air to flow through it.

Typically, the air curtain is mounted over a doorway on the inside and the air is pulled into the intake of the unit. There it takes form to match the conditioned environment. This air is accelerated and forced through a narrow discharge along the length of the air curtain creating a laminar airflow. The discharge angle can be adjusted using the provided turning vanes to achieve optimum performance.

As the discharge angle increases, the air has to travel further until it hits the floor. Since the velocity of the air decreases as it gets further away from the air curtain, if the discharge angle is too large the air curtain won't be able to stop much wind from entering near the floor. If the discharge angle is too small, the air leaving the unit will not have enough horizontal force to stop a significant gust of wind from entering. Usually the ideal discharge angle for maximum wind-stopping capability is around fifteen degrees.

When the discharged air reaches the floor it splits, forcing some air outward and some inward. Therefore, when a unit is used for climate control, it should be placed on the opposite side of the doorway from that of the air that is to be kept out. For example, if it is winter and you are trying to keep cold outside air from entering a building, the air curtain would be placed on the inside so that it is blowing warm air. When the warm air hits the floor, some is leaked to the outside and some is blown back inside.

If the unit is on the other side of the opening, some of the cold air that needs to be kept out would be blown inside, defeating the purpose. If the unit is to be used for insect control, the air curtain can be mounted on the outside of the doorway as long as the discharge is adjusted so the air is blowing back toward the outside. In this situation it doesn't matter if some of the outside air is blown inside after it splits at the floor. This air should already be free of insects because they will not fit through the intake screen.



## SMOKE TEST

In these pictures from a smoke test conducted by Powered Aire Inc., the smoke simulates wind and/or air that infiltrates an opening through natural air movement processes.



When the air curtain is not operating, the smoke flows through the opening and rises.

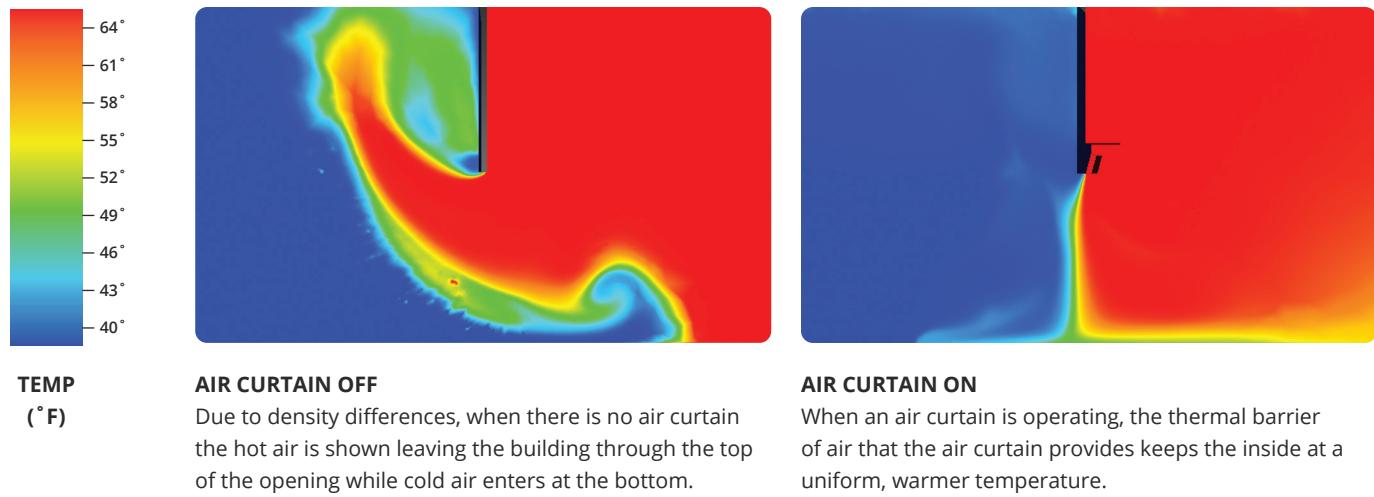


With the air curtain operating, the discharge of air forms a thermal barrier that deflects the smoke and prevents infiltration.

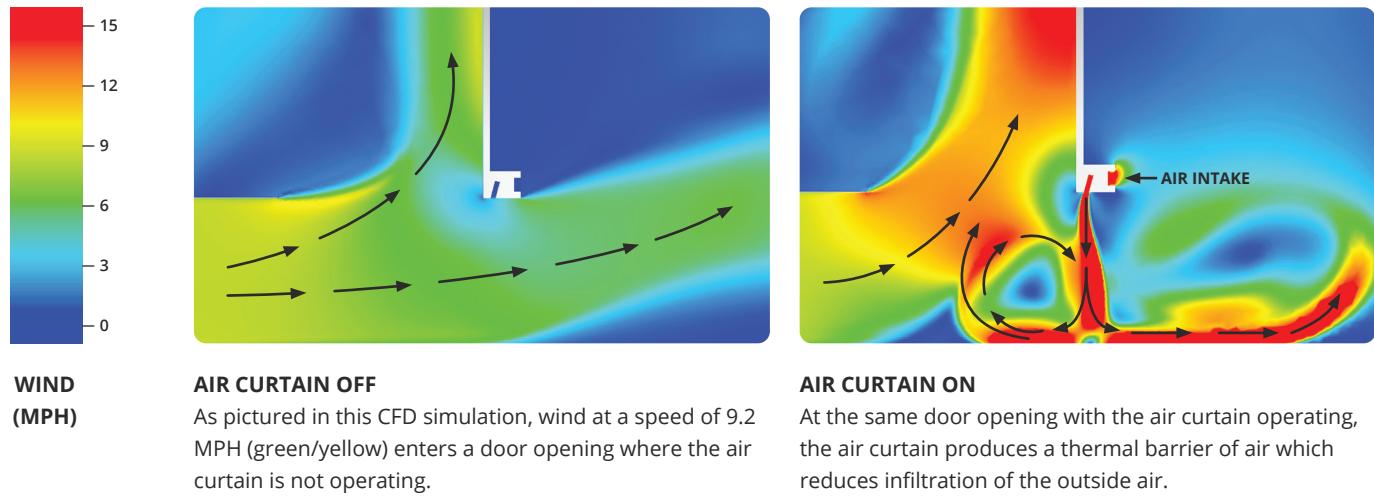
# Computational Fluid Dynamics

Computational Fluid Dynamics (CFD) is one of the branches of fluid mechanics that uses numerical methods and algorithms, rather than model experiments, to solve and analyze problems that involve fluid flows. Computers are used to perform the millions of calculations required to simulate the interaction of liquids and gases with surfaces defined by boundary conditions.

## Simulation of Temperature Without and With Air Curtain Operating



## Simulation of Velocity Without and With Air Curtain Operating Using Powered Aire's Model ETD Air Curtain on High Speed



# Air Curtain Basics

## SELECTION & PLACEMENT

- Air curtain selection is dependent on the width and height of the opening.
- For climate control we recommend that the air curtain be mounted on the inside of the opening. This way the unit is taking in and discharging inside air, which circulates back inside the building. The air curtain will also work for insect control when installed on the inside.
- Putting an air curtain on the outside is primarily for insect control, not climate control. The air curtain takes in outside air and discharges it. When the air hits the ground it splits, with some going out but also some going inside, which defeats the purpose of climate control.
- Typically, the air curtain is mounted above the opening.
- In order to maximize efficiency, the air curtain must cover the entire true opening.
- The air curtain discharge must have a free and clear path over the entire opening for optimum performance.

## OTHER CONSIDERATIONS

### Negative Air Pressure

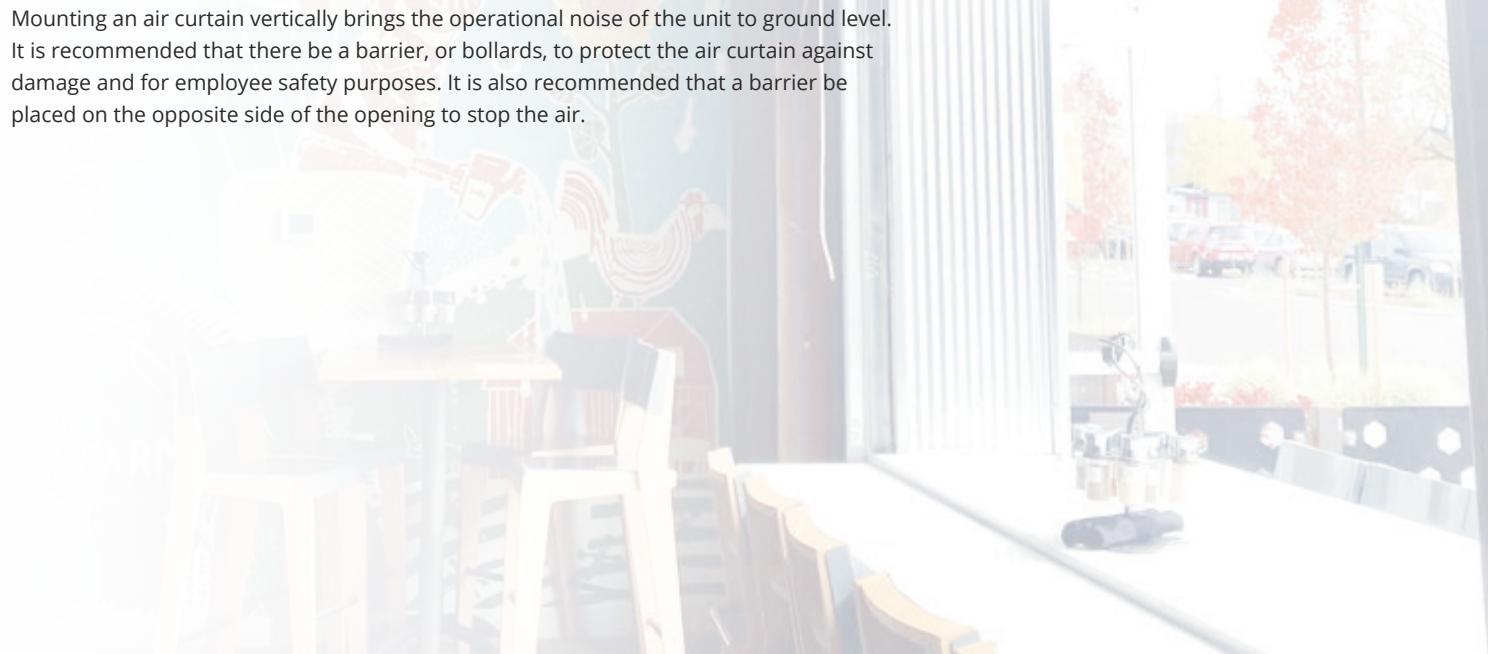
If a building has a negative air pressure due to mechanical exhaust, stack pressure, etc., the air curtain will not be as effective.

### Installation Issues

Take note of any obstacles above the opening, and how much room there is to the ceiling on the side of the opening where the air curtain will be mounted.

### Vertical installation

Mounting an air curtain vertically brings the operational noise of the unit to ground level. It is recommended that there be a barrier, or bollards, to protect the air curtain against damage and for employee safety purposes. It is also recommended that a barrier be placed on the opposite side of the opening to stop the air.

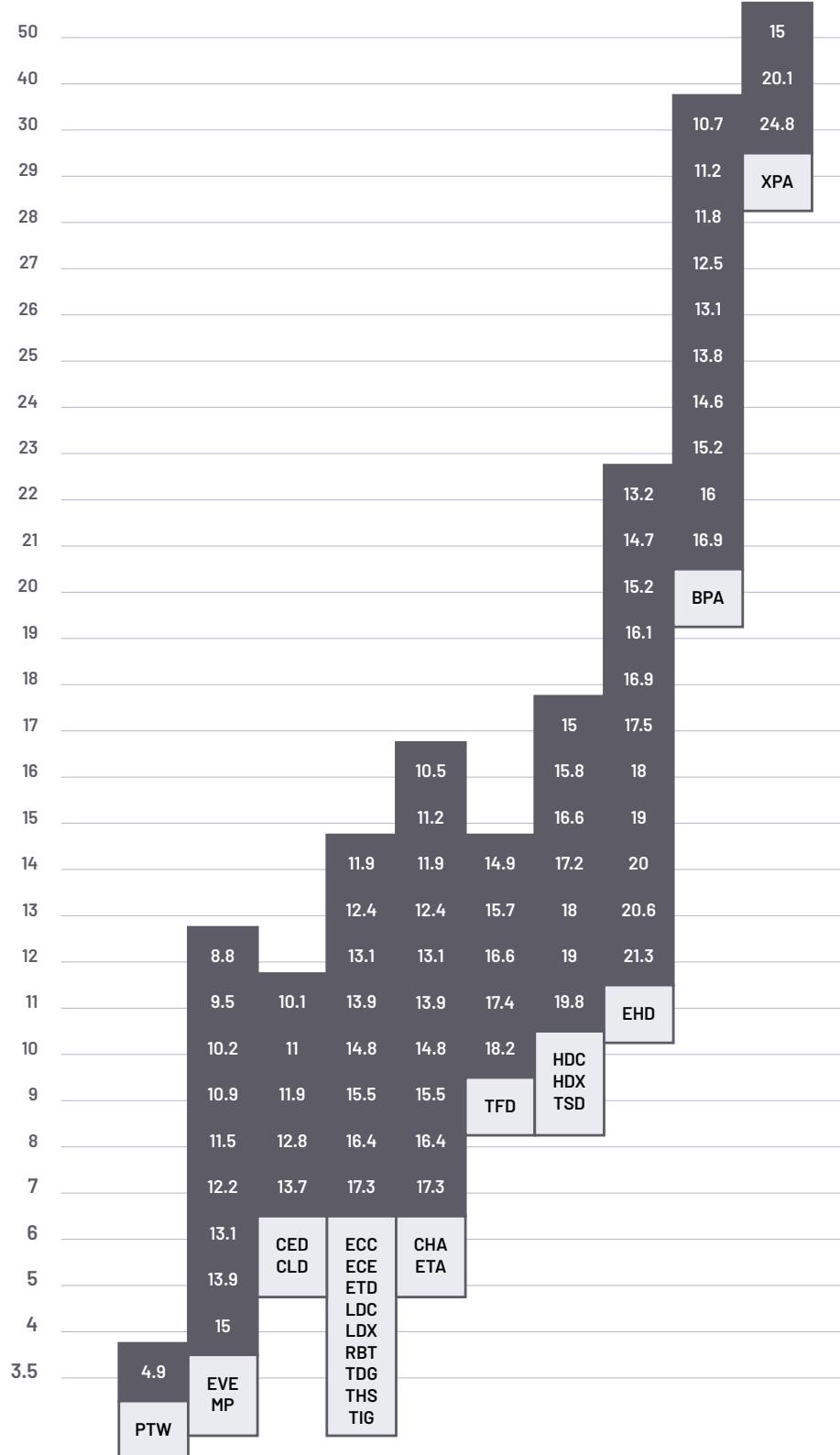


# Sizing Your Air Curtain

- ✓ Typically, the air curtain is mounted above the opening.
- ✓ In order to maximize efficiency, the air curtain must cover the entire true opening.
- ✓ The air curtain discharge must have a free and clear path over the entire opening for optimum performance.

Air Curtain  
Installation Heights (feet)

Wind Speeds (MPH)  
Stopped at Install Height • by Model



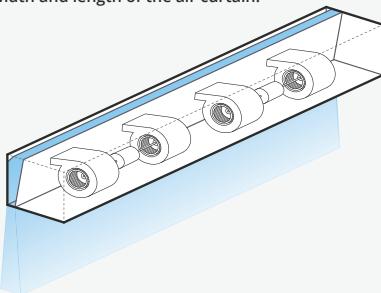
# The Powered Aire Advantage

## Powered Aire's Unique Plenum Design

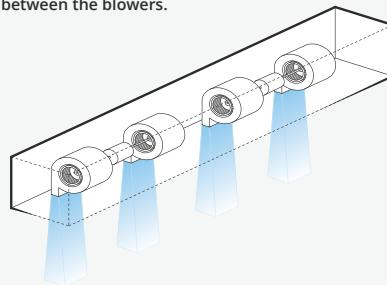
The use of plenums in our air curtains makes the air flowing out of the discharge more uniform across the entire length of the nozzle. Most of our competitors aim the discharge of each blower directly down and the air flows right out of the nozzle. These blowers cannot be placed directly beside each other since the return air enters from the sides. There are also motors in between the blowers spreading them out farther. When the blowers force air directly out of the discharge of the air curtain, there will be dead spots wherever there are spaces between the blowers.

In Powered Aire's units, the air coming out of the blowers is pointed toward the back of the air curtain. Here it fills a specially designed plenum. When the plenum is pressurized, the air is then forced out evenly across the entire length of the plenum discharge.

✓ Powered Aire aims the air from the blower towards the back of the air curtain, where it fills a plenum and is forced out evenly across the width and length of the air curtain.



✗ Other air curtain manufacturers aim the discharge of each blower down, resulting in dead spots wherever there are spaces between the blowers.



## Reduced Sound Level

Another benefit of this design is a reduction in the noise level. Some of the noise generated by the turbulent air being discharged from the blowers that can be heard in our competitors' models is absorbed by our plenum. The air discharged from the plenum is more evenly dispersed across a larger cross-section, drastically lowering the sound levels.

## Stainless Steel and Competitively Priced

Our standard construction is stainless steel (except for the above-ceiling Chameleon models which have a galvanized case and is not visible).

We still remain competitive with other manufacturers who make their units out of plastics, painted steel, or aluminum by avoiding costs associated with expensive molds, disposing of chemicals, maintaining a paint booth, extra labor, etc.

Along with being corrosion-resistant, stainless steel also gives our air curtains an aesthetically pleasing look. The reflective properties of the metal allow our air curtains to blend in with the architecture by mirroring the color of their surroundings.

## Flexible Mounting Options

Each of our air curtains comes with top and rear mounting holes for installation ease. Powered Aire also offers a full range of mounting brackets for use when there are obstacles to clear.

## Other Advantages

- Width ranging from 2ft. to 30 ft., and heights up to 50 ft. Consult factory for higher openings.
- ETL listed.
- Heavy duty direct drive motors for longer life.
- Motor/blower plate is all one removable assembly for ease of service.
- Units factory tested and shipped fully assembled
- Units crated and secured to wooden pallet for shipping
- Excellent customer service, field reps for assistance and an engineering office that will assist with technical questions.
- Models for commercial, industrial, material handling, overhead door, automatic door, food service and cold storage industries.



ETA

v4.2.1

# ETA



The architectural ETA blends style and performance into a versatile air curtain designed for retail, commercial, restaurant and other applications requiring the highest levels of aesthetics and performance. The ETA has been tested in accordance with the ANSI/AMCA 220 guidelines and can be used as an exception to costly, space-consuming vestibules. The ETA is offered in four finishes to better meet the architectural requirements of a building while providing core benefits of an air curtain, including temperature separation, insect control, energy savings and other traditional benefits.



## OPTIONS

### HEATING

Electric ..... pg 11  
Hot Water ..... pg 17  
Steam ..... pg 17

### FILTER

½" Cleanable

## AT A GLANCE

Single Incremental Widths

3' to 14'

Max Installation Height

14'

Heavy Duty Motors

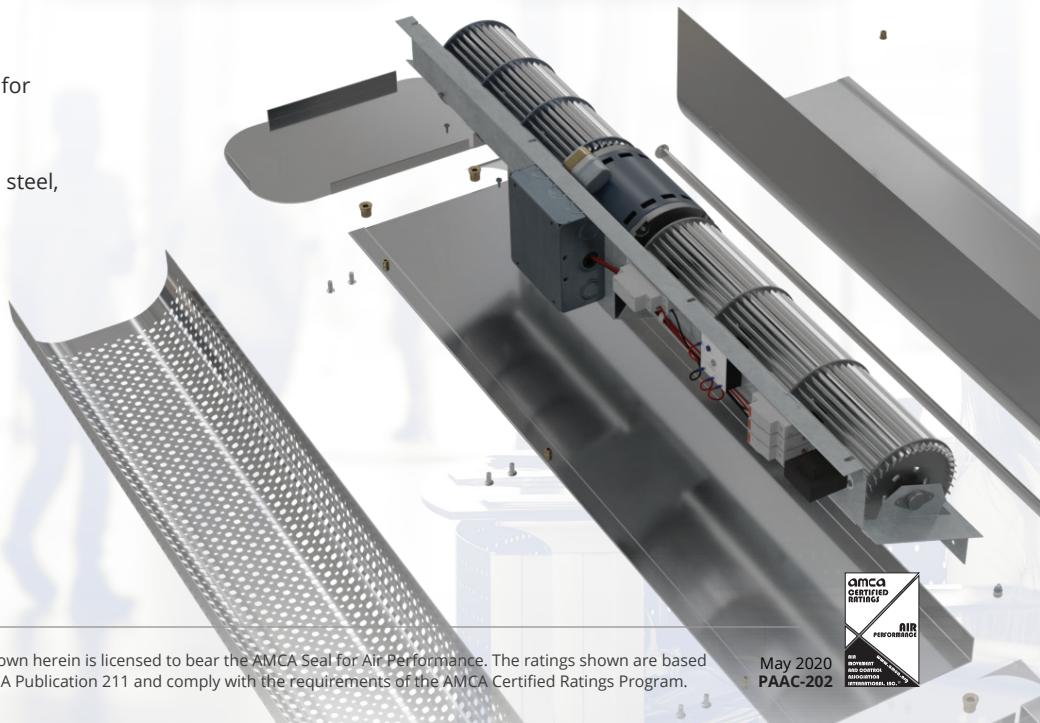
¾ HP

## KEY DESIGN FEATURES

- Meets ASHRAE 90.1 and IECC requirements for vestibule exception
- AMCA tested performance
- Outer cabinet available in brushed stainless steel, matte black, or gloss white
- ¾ HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)

## RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Filter (washable)



# ► ETA | PERFORMANCE

## ETA | Performance Table

MODEL	Nozzle Width (in.)	Max FPM at Nozzle	Average Outlet Velocity (FPM)	Airflow Rate (CFM)	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Weight (lbs)
ETA-1-36	36	5654	2060	1401	88%	0.76	1	3/4	90
ETA-1-42	42	5321	2022	1678	88%	0.84	1	3/4	97
ETA-1-48	48	5296	1849	1757	84%	0.86	1	3/4	104
ETA-1-60	60	5288	1619	2007	72%	0.94	1	3/4	117
ETA-2-72	72	5654	2060	2802	88%	1.52	2	3/4	169
ETA-2-84	84	5321	2022	3356	88%	1.68	2	3/4	187
ETA-2-96	96	5296	1849	3514	84%	1.72	2	3/4	203
ETA-3-108	108	5654	2060	4203	88%	2.28	3	3/4	245
ETA-3-120	118	5340	2033	4757	88%	2.44	3	3/4	274
ETA-3-132	133	5305	1860	4809	72%	2.46	3	3/4	290
ETA-4-144	145	5654	2060	5604	88%	3.04	4	3/4	338
ETA-4-156	157	5648	2040	6158	88%	3.20	4	3/4	356
ETA-4-168	169	5321	2022	6712	88%	3.36	4	3/4	374



For a unit over 14 feet long, consult factory.

## ETA | Velocity Projection Model

DISTANCE FROM NOZZLE	40"	80"	120"	160"	200"
ETA-1-36 Core Velocity (fpm)	1756	1175	944	797	639
ETA-1-42 Core Velocity (fpm)	1630	1003	890	708	610
ETA-1-48 Core Velocity (fpm)	1550	1046	808	677	523
ETA-1-60 Core Velocity (fpm)	1342	898	685	593	517

## ETA | Sound Levels

Measured 10 ft. from unit in a free field based on a 1 motor unit	63 dBA
---	--------

## ETA | Single Phase Motor Options

Voltages available	120	208/230	480	575	For dual speed motors, consult factory.
Amp draw per motor	8.0	3.6	2.0	1.5	For three phase motors, consult factory

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only.

Powered Aire Inc. certifies that the Model ETA Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

May 2020  
PAAC-202





ETA-E

v4.2.1

# ETA-E



The ETA-E electrically heated air curtain provides a heated option of the ETA. This air curtain has been tested in accordance with ANSI/AMCA 220 and meets the criteria to be used as an exception to vestibules. The ETA-E provides electric heat from its blower, helping to create a warmer interior climate and enhanced comfort for workers/customers. The unit is designed for all retail, grocery and office entryways as well as other applications that typically would require a vestibule. This commercial line's stainless-steel construction, stainless-steel intake screen, and 45-degree beveled edges give it a modern, aesthetically pleasing look.



## OPTIONS

### HEATING

Unheated ..... pg 9  
Hot Water ..... pg 17  
Steam ..... pg 17

### FILTER

½" Cleanable

## AT A GLANCE

### Single Incremental Widths

3' to 14'

### Max Installation Height

14'

### Heavy Duty Motors

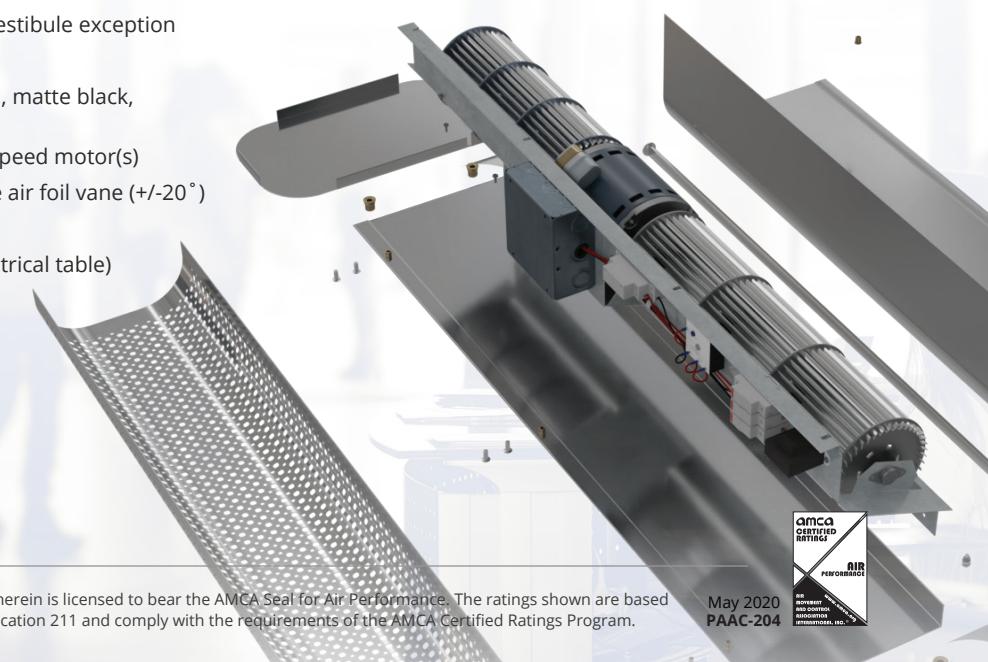
¾ HP

## KEY DESIGN FEATURES

- Meets ASHRAE 90.1 and IECC requirements for vestibule exception
- AMCA tested performance
- Outer cabinet available in brushed stainless steel, matte black, or gloss white
- ¾ HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Factory mounted single-stage electric heaters
- Single point power connection available (see electrical table)
- Alternate heater kW available (consult factory)

## RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Filter (washable)



# ► ETA-E | PERFORMANCE

## ETA-E | Performance Table

MODEL	Nozzle Width (in.)	Max FPM at Nozzle	Avg. Outlet Velocity (FPM)	Airflow Rate (CFM)	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Heater kW	Temp. Rise (°F)	Weight (lbs)
ETA-1-36E	36	5654	1845	1310	82%	0.68	1	3/4	10	24.4	95
ETA-1-42E	42	5321	1903	1503	83%	0.71	1	3/4	10	21.2	102
ETA-1-48E	48	5296	1514	1438	85%	0.72	1	3/4	10	22.2	109
ETA-1-60E	60	5288	1343	1665	79%	0.78	1	3/4	10	19.2	121
ETA-2-72E	72	5654	1845	2620	82%	1.36	2	3/4	20	24.4	177
ETA-2-84E	84	5321	1903	3006	83%	1.42	2	3/4	20	21.2	195
ETA-2-96E	96	5296	1514	2876	85%	1.44	2	3/4	20	22.2	210
ETA-3-108E	108	5654	1845	3930	82%	2.04	3	3/4	30	24.4	255
ETA-3-120E	118	5340	1886	4316	82%	2.1	3	3/4	30	22.2	284
ETA-3-132E	133	5305	1617	4285	79%	2.14	3	3/4	30	22.4	301
ETA-4-144E	145	5654	1845	5240	82%	2.72	4	3/4	40	24.4	354
ETA-4-156E	157	5648	1876	5626	82%	2.78	4	3/4	40	22.7	372
ETA-4-168E	169	5321	1903	6012	83%	2.84	4	3/4	40	21.2	390



For a unit over 14 feet long, or a non-standard electric heater, consult factory.

## ETA-E | Velocity Projection Model

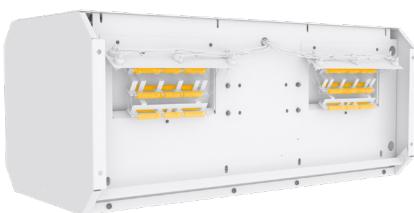
DISTANCE FROM NOZZLE	40"	80"	120"	160"	200"
ETA-1-36-E Core Velocity (fpm)	1133	1033	733	566	366

## ETA-E | Sound Levels

Measured 10 ft. from unit in a free field based on a 1 motor unit	63 dBA
---	--------

## ETA-E | Single Phase Motor Options

Voltages available	120	208/230	480	575	For dual speed motors, consult factory.
Amp draw per motor	8.0	3.6	2.0	1.5	For three phase motors, consult factory



### Performance Highlight

Heating elements are mounted inside the plenum, on the discharge side of the blowers. Here, heat won't affect motor life and the heaters are protected from dust that would accumulate on them if they were mounted on the air intake.

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only. Rated data shown are based on tests of units with heating elements present but not in use.

Powered Aire Inc. certifies that the Model ETA-E Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



## ► ETA-E | ELECTRICAL

### ETA-E | AMP Draw, Circuits & Breaker Size Table

\* With optional branch fusing for Single Point Power (SPP)

^ SPP by default

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

MODEL	AMP DRAW (Breaker Size)														
	208 / 1 / 60			240 / 1 / 60			208 / 3 / 60			240 / 3 / 60			480 / 3 / 60		
	Separate Supply Circuits		SPP*	Circuit 1		Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Circuit 1
1	2			1	2	1	2	3	1	2		1	2		
ETA-1-36E															
ETA-1-42E	27.6 (35)	24.0 (35)	51.6 (70)	45.3 (60)	31.4 (40)	-	-	-	27.7 (35)	-	^	14.0 (20)	-	^	11.5 (15)
ETA-1-48E															
ETA-1-60E															
ETA-2-72E															
ETA-2-84E	‡	-	‡	‡	35.0 (45)	27.8 (35)	-	62.7 (80)	31.3 (40)	24.1 (35)	55.4 (70)	28.1 (40)	-	^	23.1 (30)
ETA-2-96E															
ETA-3-108E															
ETA-3-120E	‡	-	‡	‡	38.6 (50)	27.8 (35)	27.8 (35)	94.0 (125)	46.9 (60)	36.1 (50)	83.0 (110)	42.1 (60)	-	^	34.6 (45)
ETA-3-132E															
ETA-4-144E															
ETA-4-156E	‡	-	‡	‡	‡	-	-	‡	‡	-	‡	32.1 (45)	24.1 (35)	56.2 (80)	46.2 (60)
ETA-4-168E															

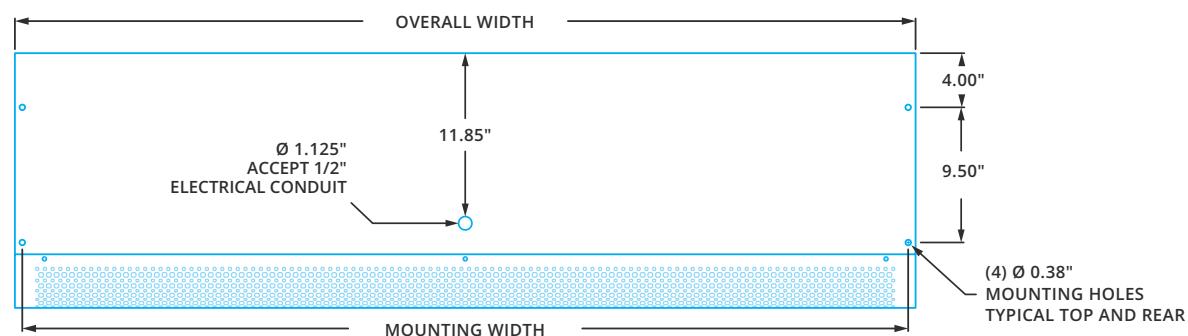
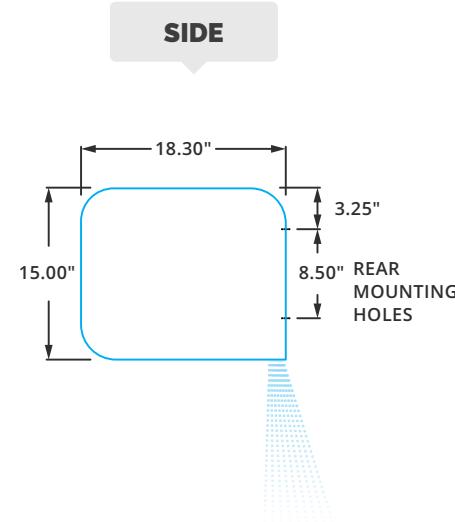


**Model ETA** | Top Mount (Threaded Rods)

## ► ETA & ETA-E | MECHANICAL DETAILS & DRAWINGS

### ETA & ETA-E | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
ETA-1-36 (E)	37	36	36.06
ETA-1-42 (E)	43	42	42.06
ETA-1-48 (E)	49	48	48.06
ETA-1-60 (E)	61	60	60.06
ETA-2-72 (E)	73	72	72.06
ETA-2-84 (E)	85	84	84.06
ETA-2-96 (E)	97	96	96.06
ETA-3-108 (E)	109	108	108.06
ETA-3-120 (E)	119	118	118.06
ETA-3-132 (E)	134	133	133.06
ETA-4-144 (E)	146	145	145.06
ETA-4-156 (E)	158	157	157.06
ETA-4-168 (E)	170	169	169.06



## ► ETA & ETA-E | INSTALLATION

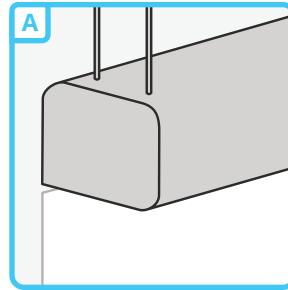


### IMPORTANT

- ✓ **NOTE:** The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/4 inch.
- ✓ Trained and experienced mechanic / electrician required.
- ✓ **WARNING:** Risk of electrical shock, can cause injury or death: Disconnect all remote electrical supplies before servicing.
- ✓ Units must be field wired in accordance with all applicable local, state, provincial and national codes, including wire size and materials.
- ✓ All hardware and brackets must be of sufficient strength to safely support air curtain.

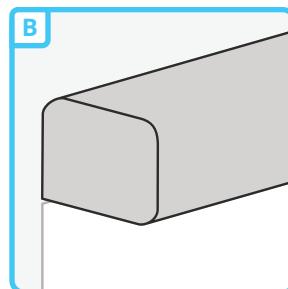
#### A TOP MOUNT

Unit has four 3/8 – 16 threaded inserts for installing one end of threaded rods. The other ends of the threaded rods can be attached to the ceiling. Threaded rod should not extend more than 3/4 inch into air curtain.

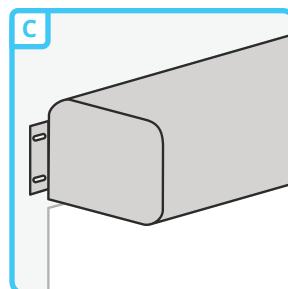


#### B WALL MOUNT

Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor/blower plate when installing. Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four slots in motor/blower plate.

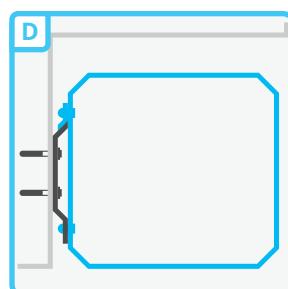


If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way. Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and push and rotate top in last.



#### C EXTENSION BRACKETS (WALL MOUNT)

Extension brackets bolt on to the back of the unit, utilizing the 4 original mounting holes, and allowing for external mounting of unit to wall. Brackets have elongated mounting slots that extend the mounting width by 2½ to 3½ inches.



#### D MB123 QUICK MOUNTING PLATE

The MB 123 consists of a plate with a universal hole pattern that is attached to the wall and a bar that is attached to the air curtain. The back side of our commercial air curtains have four standard mounting holes. The MB123 can be used when the holes do not line up with wall studs or other structural supports. With this mounting option, the weight of the unit does not have to be supported while the lags are being installed.

# Application Spotlight

## VESTIBULE EXCEPTION

**EXCEPTIONS: Vestibules are not required for the following:**

1. Buildings in Climate Zones 1 and 2.
2. Doors not intended to be used by the public, such as doors to mechanical or electrical equipment rooms, or intended solely for employee use.
3. Doors opening directly from a sleeping unit or dwelling unit.
4. Doors that open directly from a space less than 3,000 square feet (298 m<sup>2</sup>) in area.
5. Revolving doors.
6. Doors that have an air curtain with a velocity of not less than 6.56 feet per second (2 m/s) at the floor that have been tested in accordance with ANSI/AMCA 220 and installed in accordance with manufacturer's instructions. Manual or automatic controls shall be provided that will operate the air curtain with the opening and closing of the door. Air curtains and their controls shall comply with Section C408.2.3.
7. Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.

### Air Curtains for IECC Vestibule Exception

Beginning with the 215 version of the International Energy Conservation Code (IECC), the following change (noted in red) will take place with regard to vestibule requirements:

C402.4.7 Vestibules. All building entrances shall be protected with an enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior doors to open at the same time. The installation of one or more revolving doors in the building entrance shall not eliminate the requirement that a vestibule be provided on any doors adjacent to revolving doors.



ETA-HW



ETA-ST

# ETA-HW/ST


**MADE  
IN THE  
USA**

When requesting a quote for a Hot Water/Steam heated air curtain, please provide:

- Specifics of water/steam entering and exiting the air curtain.
- Location for water/steam supplies and returns (both on one side or one each side)

## OPTIONS

### HEATING

Unheated ..... pg 9  
 Electric ..... pg 11

### FILTER

1" Cleanable



## AT A GLANCE

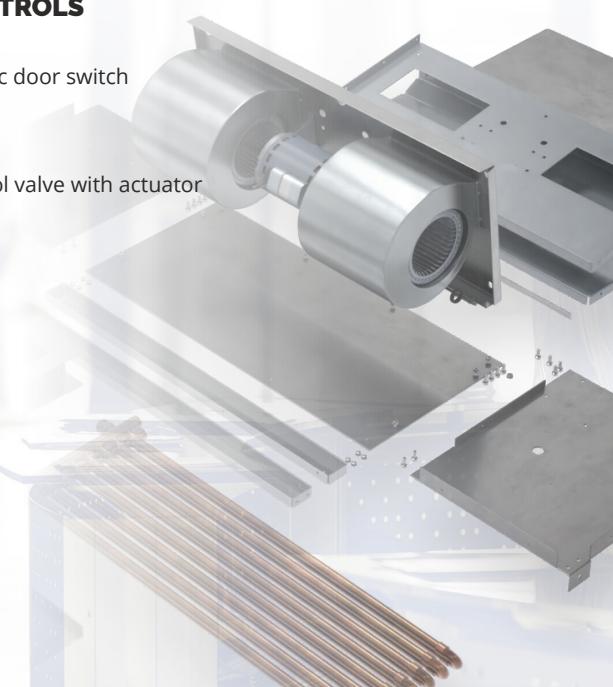
**Single Incremental Widths**
**3' to 14'**
**Max Installation Height**
**14'**
**Heavy Duty Motors**
**3/4 HP**

### KEY DESIGN FEATURES

- Outer cabinet available in brushed stainless steel, matte black, or gloss white
- 3/4 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Single length hot water coils up to 14 ft
- Single length steam coils up to 10 ft
- Custom coil selections available (consult factory)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Hot water or steam control valve with actuator
- Filter (washable)



## ► ETA-HW/ST | PERFORMANCE

### ETA-HW/ST | Performance Table

MODEL	Nozzle Width (in.)	FPM	CFM	Outlet Velocity Uniformity	Number of Motors	Motor HP	Hot Water	Steam	Weight (lbs)
							mbtu / Hour	mbtu / Hour	
							Temp. Rise (°F)	Temp. Rise (°F)	
ETA-1-36HW/ST	36	2060	1401	88%	1	3/4	52.2	34.2	113
ETA-1-48HW/ST	48	1849	1757	84%	1	3/4	69.8	36.5	145
ETA-1-60HW/ST	60	1619	2007	72%	1	3/4	78.6	35.9	180
ETA-2-72HW/ST	72	2060	2802	88%	2	3/4	105.9	34.7	249
ETA-2-84HW/ST	84	2022	3356	88%	2	3/4	127.3	34.8	281
ETA-2-96HW/ST	96	1849	3514	84%	2	3/4	138.9	36.2	306
ETA-3-108HW/ST	108	2060	4203	88%	3	3/4	163.8	35.7	365
ETA-3-120HW/ST	120	2033	4757	88%	3	3/4	185.3	35.7	406
ETA-3-132HW/ST	132	1860	4809	72%	3	3/4	194.2	37	470
ETA-4-144HW/ST	144	2060	5604	88%	4	3/4	222	36.3	491
ETA-4-156HW/ST	156	2040	6158	88%	4	3/4	243.6	36.3	530
ETA-4-168HW/ST	168	2022	6712	88%	4	3/4	265.2	36.2	560



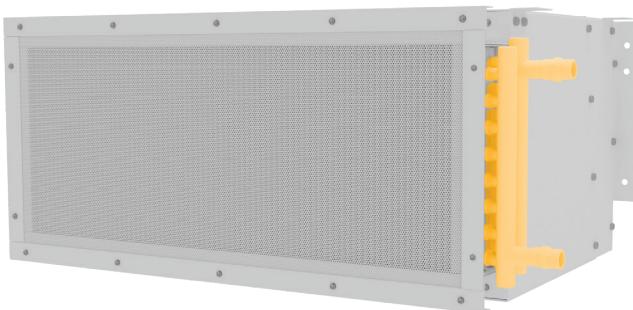
For other coil capacities consult factory. Heater data based on AMCA licensed values from unheated units.

### ETA-HW/ST | Sound Levels

Measured 10 ft. from unit in a free field based on a 1 motor unit 63 dBA

### ETA-HW/ST | Single Phase Motor Options

Voltages available	120	208/230	480	575	For dual speed motors, consult factory.
Amp draw per motor	8.0	3.6	2.0	1.5	For three phase motors, consult factory



### Performance Highlight

Made-to-order steam or hot water coil mounted to intake of air curtain. Coil consists of 5/8 in. O.D. copper tubes and aluminum fins. Coils certified to ARI standard 410.

## ► ETA-HW/ST | MECHANICAL DETAILS & DRAWINGS

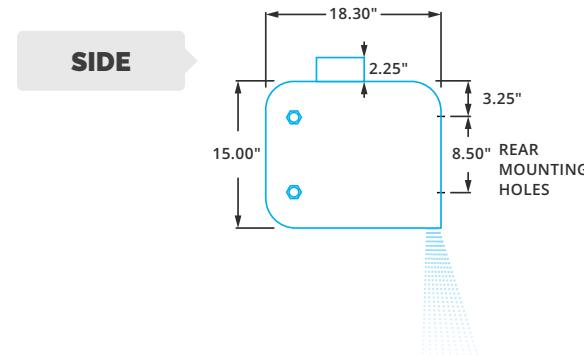
### ETA-HW/ST | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
ETA-1-36HW/ST	39	36	37.5
ETA-1-48HW/ST	51	48	49.5
ETA-1-60HW/ST	63	60	61.5
ETA-2-72HW/ST	75.07	72.07	73.57
ETA-2-84HW/ST	87.07	84.07	85.57
ETA-2-96HW/ST	99.07	96.07	97.57
ETA-3-108HW/ST	111.15	108.15	109.65
ETA-3-120HW/ST	123.15	120.15	121.65
ETA-3-132HW/ST	135.15	132.15	133.65
ETA-4-144HW/ST	147.22	144.22	145.72
ETA-4-156HW/ST	159.22	156.22	157.22
ETA-4-168HW/ST	171.22	168.22	169.22

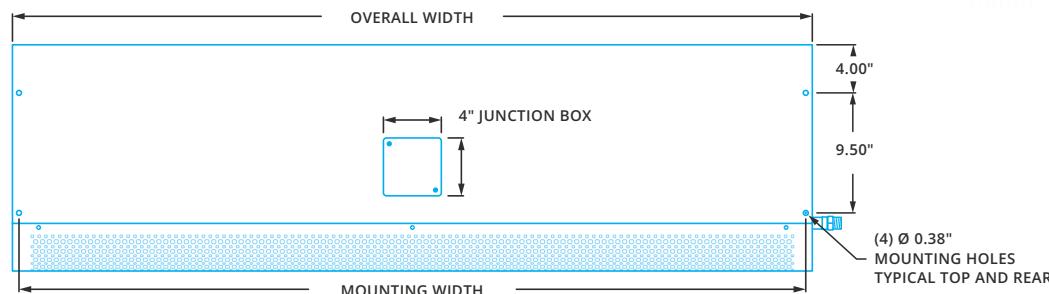


### NOTES

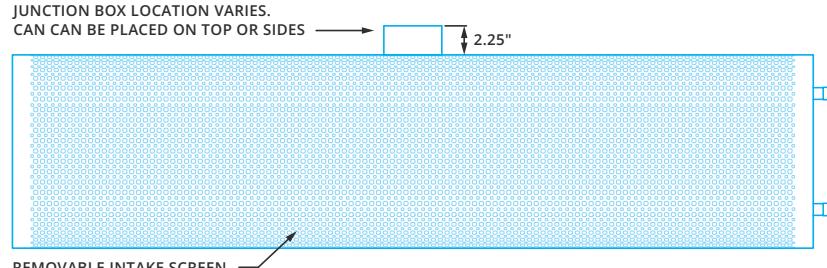
1. Installer responsible for structurally sound mounting of the unit.
2. Verify that overall dimensions will fit in the opening.
3. Coil connections shown on right hand side. Can be either right or left. Please specify.
4. Size steam trap (provided by others) by 3 times the manufacturer's recommended size for satisfactory operation.



TOP



FRONT



BOTTOM



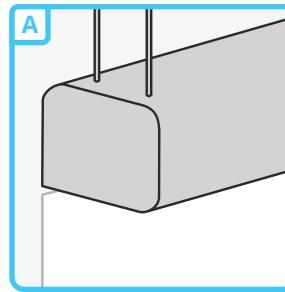
# ► ETA-HW/ST | INSTALLATION

## ! IMPORTANT

- ✓ **NOTE:** The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/2 inch.
- ✓ Trained and experienced mechanic / electrician required.
- ✓ **WARNING:** Risk of electrical shock, can cause injury or death: Disconnect all remote electrical supplies before servicing.
- ✓ Units must be field wired in accordance with all applicable local, state, provincial and national codes, including wire size and materials.
- ✓ All hardware and brackets must be of sufficient strength to safely support air curtain.

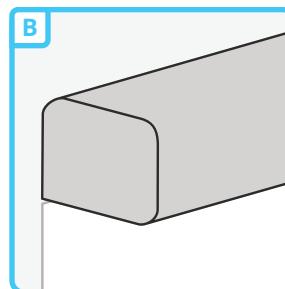
### A TOP MOUNT

Unit has four 3/8 – 16 threaded inserts for installing one end of threaded rods. The other ends of the threaded rods can be attached to the ceiling. Threaded rod should not extend more than 3/4 inch into air curtain.

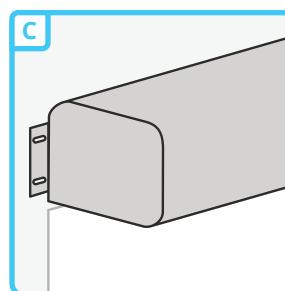


### B WALL MOUNT

Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor/blower plate when installing. Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four slots in motor/blower plate.

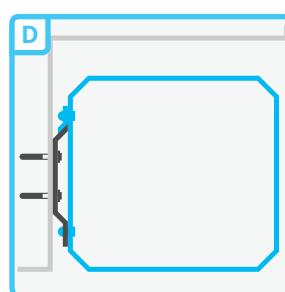


If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way. Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and push and rotate top in last.



### C EXTENSION BRACKETS (WALL MOUNT)

Extension brackets bolt on to the back of the unit, utilizing the 4 original mounting holes, and allowing for external mounting of unit to wall. Brackets have elongated mounting slots that extend the mounting width by 2½ to 3½ inches.



### D MB123 QUICK MOUNTING PLATE

The MB 123 consists of a plate with a universal hole pattern that is attached to the wall and a bar that is attached to the air curtain. The back side of our commercial air curtains have four standard mounting holes. The MB123 can be used when the holes do not line up with wall studs or other structural supports. With this mounting option, the weight of the unit does not have to be supported while the lags are being installed.



CHA

v4.2.1



ABOVE CEILING

May 2020  
PAAC-303

The CHA unheated air curtain has been tested in accordance with ANSI/AMCA 220 and meets the criteria for use as an exception to the vestibule requirement in Climate Zones 3 and above. It is specifically designed to be dropped into the ceiling above customer entryways where a standard air curtain is not desired.



## OPTIONS

### HEATING

Electric ..... pg 23  
 Hot Water ..... pg 27  
 Steam ..... pg 27

## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

14'

Heavy Duty Motors

3/4 HP

### KEY DESIGN FEATURES

- Meets ASHRAE 90.1 and IECC requirements for vestibule exception
- AMCA tested performance
- White decorative intake grille with hinged access panel (consult factory for custom finishes)
- 3/4 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Filter (washable)



# ► CHA | PERFORMANCE

## CHA | Performance Table

MODEL	NOZZLE WIDTH (in.)	AVERAGE OUTLET VELOCITY (FPM)	AIR FLOW RATE (CFM)	OUTLET VELOCITY UNIFORMITY	POWER RATING (kW)	NUMBER OF MOTORS	MOTOR HP	WEIGHT (lbs)
CHA-1-36	36	2757	1268	91%	0.61	1	3/4	145
CHA-1-48	48	2674	1765	91%	0.84	1	3/4	193
CHA-1-60	60	2396	1845	73%	0.87	1	3/4	242
CHA-2-72	72	2757	2356	91%	1.22	2	3/4	290
CHA-2-84	84	2708	3033	91%	1.45	2	3/4	338
CHA-2-96	96	2674	3530	91%	1.68	2	3/4	387
CHA-2-108	108	2520	3610	73%	1.71	3	3/4	435
CHA-3-108	108	2757	3804	91%	1.83	3	3/4	483
CHA-3-120	120	2608	4121	73%	2.06	3	3/4	532
CHA-3-132	132	2696	4798	91%	2.29	3	3/4	563
CHA-4-144	144	2757	5072	91%	2.44	4	3/4	580

CHA1-42 is not AMCA Certified

CHA-1-42	42	2716	1517	91%	0.73	1	3/4	169
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For a unit over 12 feet long, consult factory.

## CHA | Velocity Projection Model

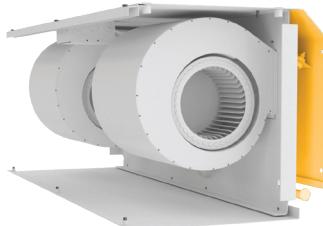
DISTANCE FROM NOZZLE	40"	80"	120"	160"	200"
CHA-1-36 Core Velocity (fpm)	1500	1053	839	722	536
CHA-1-48 Core Velocity (fpm)	1388	908	715	602	556
CHA-1-60 Core Velocity (fpm)	1217	770	603	523	467

## CHA | Sound Levels

Normal speed	63 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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## CHA | Single Phase Motor Options

Voltages available	120	208/230	480	575	For dual speed motors, consult factory.
Amp draw per motor	8.0	3.6	2.0	1.5	For three phase motors, consult factory



### Performance Highlight

Perfect for customer facing spaces in retail environments, the model CED positions the blowers pointing toward the back of the air curtain. Here they fill a specially designed plenum that when pressurized is more efficient and lowers the operational sound level.

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only. Rated data shown are based on tests of units with heating elements present but not in use.

Powered Aire Inc. certifies that the Model CHA Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



May 2020  
PAAC-303



CHA-E

v4.2.1

# CHA-E

ABOVE CEILING



The CHA-E electrically heated air curtain has been tested in accordance with ANSI/AMCA 220 and meets the criteria for use as an exception to the vestibule requirement in Climate Zones 3 and above. It is specifically designed to be dropped into the ceiling above customer entryways where a standard air curtain is not desired.

## OPTIONS

### HEATING

Unheated ..... pg 21  
Hot Water ..... pg 27  
Steam ..... pg 27

### FILTER

½" Cleanable

### GRILLE COLOR

The white grille is standard with this model. Consult factory for custom color or metal.



## AT A GLANCE

### Single Incremental Widths

3' to 12'

### Max Installation Height

14'

### Heavy Duty Motors

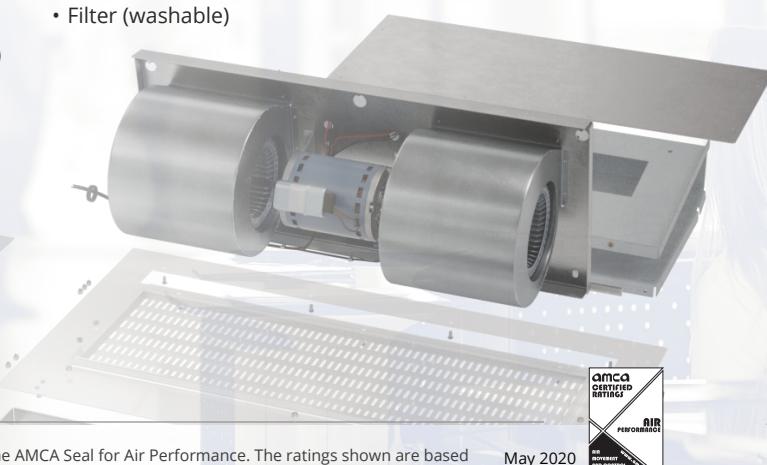
¾ HP

## KEY DESIGN FEATURES

- Meets ASHRAE 90.1 and IECC requirements for vestibule exception
- AMCA tested performance
- White decorative intake grille with hinged access panel (consult factory for custom finishes)
- 3/4 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Factory mounted single-stage electric heaters
- Single point power connection available (see electrical table)
- Alternate heater kW available (consult factory)

## RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Filter (washable)



# ► CHA-E | PERFORMANCE

## CHA-E | Performance Table

MODEL	Nozzle Width (in.)	Average Outlet Velocity (FPM)	Air Flow Rate (CFM)	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Heater kW	Temp. Rise (°F)	Weight (lbs)
CHA-1-36E	36	2443	1197	86%	0.59	1	3/4	10	26.7	160
CHA-1-48E	48	2338	1543	79%	0.7	1	3/4	10	20.7	213
CHA-1-60E	60	1923	1596	82%	0.73	1	3/4	10	20	267
CHA-2-72E	72	2443	2394	86%	1.18	2	3/4	20	26.7	320
CHA-2-84E	84	2383	2740	79%	1.29	2	3/4	20	23.3	373
CHA-2-96E	96	2338	3086	79%	1.4	2	3/4	20	20.7	427
CHA-2-108E	108	2107	3139	79%	1.43	3	3/4	20	20.3	480
CHA-3-108E	108	2443	3591	86%	1.77	3	3/4	30	26.7	533
CHA-3-120E	120	2401	3937	79%	1.88	3	3/4	30	24.3	587
CHA-3-132E	132	2367	4283	79%	1.99	3	3/4	30	22.4	584
CHA-4-144E	144	2443	4788	86%	2.36	4	3/4	40	26.7	640

## CHA1-42E is not AMCA Certified

CHA-1-42E	42	2390	1370	83%	0.65	1	3/4	10	23.3	187
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For a unit over 12 feet long, or a non-standard electric heater, consult factory.

## CHA-E | Velocity Projection Model

DISTANCE FROM NOZZLE	40"	80"	120"	160"	200"
CHA-1-36-E Core Velocity (fpm)	1044	833	711	530	363

## CHA-E | Sound Levels

Normal speed	63 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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## CHA-E | Single Phase Motor Options

Voltages available	120	208/230	480	575	For dual speed motors, consult factory.
Amp draw per motor	8.0	3.6	2.0	1.5	For three phase motors, consult factory



## Performance Highlight

Heating elements are mounted inside the plenum, on the discharge side of the blowers. Here, heat won't affect motor life and the heaters are protected from dust that would accumulate on them if they were mounted on the air intake.

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only. Rated data shown are based on tests of units with heating elements present but not in use.

Powered Aire Inc. certifies that the Model CHA-E Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

May 2020  
PAAC-205



## ► CHA-E | ELECTRICAL

### CHA-E | AMP Draw, Circuits & Breaker Size Table

\* With optional branch fusing for Single Point Power (SPP)

^ SPP by default

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

MODEL	AMP DRAW (Breaker Size)																				
	208 / 1 / 60			240 / 1 / 60		208 / 3 / 60			240 / 3 / 60			480 / 3 / 60			575 / 3 / 60						
	Separate Supply Circuits		1	2	SPP*	Circuit 1		1	2	3	SPP*	Separate Supply Circuits		1	2	SPP*	Separate Supply Circuits		1	2	SPP*
CHA-1-36E																					
CHA-1-48E	27.6 (35)	24.0 (35)	51.6 (70)		45.3 (60)		31.4 (40)				^	27.7 (35)			14.0 (20)			11.5 (15)			
CHA-1-48E																					
CHA-1-42E																					
CHA-2-72E																					
CHA-2-84E	‡	-	‡	‡		35.0 (45)	27.8 (35)			62.7 (80)	31.3 (40)	24.1 (35)	55.4 (70)	28.1 (40)			^		23.1 (30)		
CHA-2-96E																					
CHA-2-108E																					
CHA-3-108E																					
CHA-3-120E	‡	-	‡	‡	‡	38.6 (50)	27.8 (35)	27.8 (35)	94.0 (125)	46.9 (60)	36.1 (50)	83.0 (110)	42.1 (60)			^		34.6 (45)			
CHA-3-132E																					
CHA-4-144E	‡	-	‡	‡	‡	‡	-	-	‡	‡	-	‡	32.1 (45)	24.1 (35)	56.2 (80)	46.2 (60)					



Model CHA | Above Ceiling

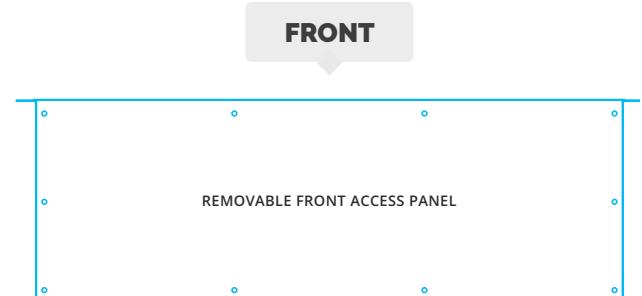
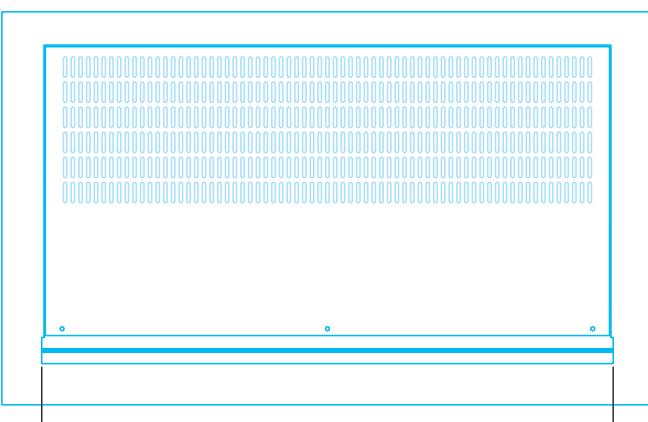
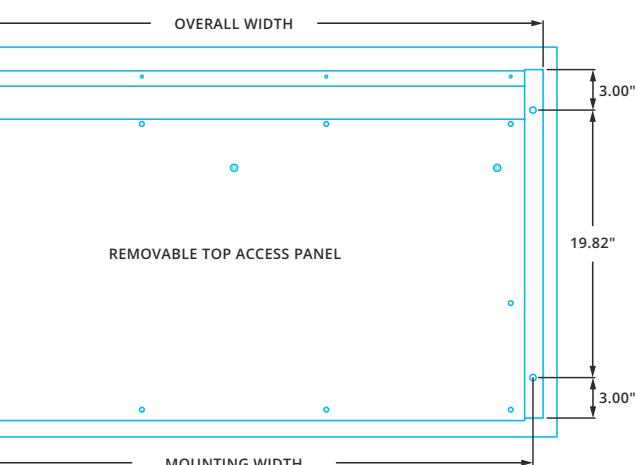
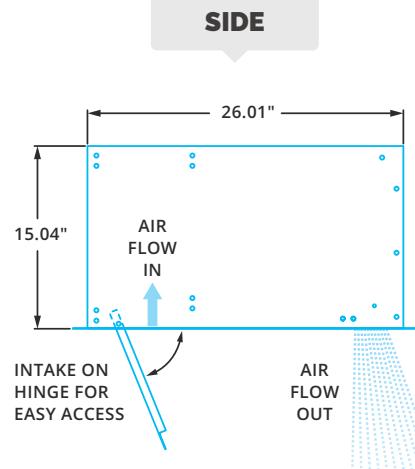


Model CHA | Above Ceiling

## ► CHA & CHA-E | MECHANICAL DETAILS & DRAWINGS

### CHA & CHA-E | Mechanical Information Table

MODEL	Overall Width	Nozzle Width (in.)	Mounting Width (in.)
CHA-1-36 (E)	39.8	36	38.3
CHA-1-42 (E)	44.7	42	43.2
CHA-1-48 (E)	51.8	48	50.3
CHA-1-60 (E)	63.8	60	62.3
CHA-2-72 (E)	75.8	72.07	74.3
CHA-2-84 (E)	87.8	84.04	86.3
CHA-2-96 (E)	100.6	96.07	99.1
CHA-2-108 (E)	112.6	108.07	111.1
CHA-3-108 (E)	112.6	108.15	111.1
CHA-3-120 (E)	124.6	120.15	123.1
CHA-3-132 (E)	136.6	132.15	135.1
CHA-4-144 (E)	148.6	144.22	147.1





CHA-HW



CHA-ST

# CHA-HW/ST



ABOVE CEILING

## OPTIONS

### HEATING

 Unheated ..... pg 21  
 Electric ..... pg 23

### FILTER

1/2" Cleanable

### GRILLE COLOR

The white grille is standard with this model. Consult factory for custom color or metal.



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

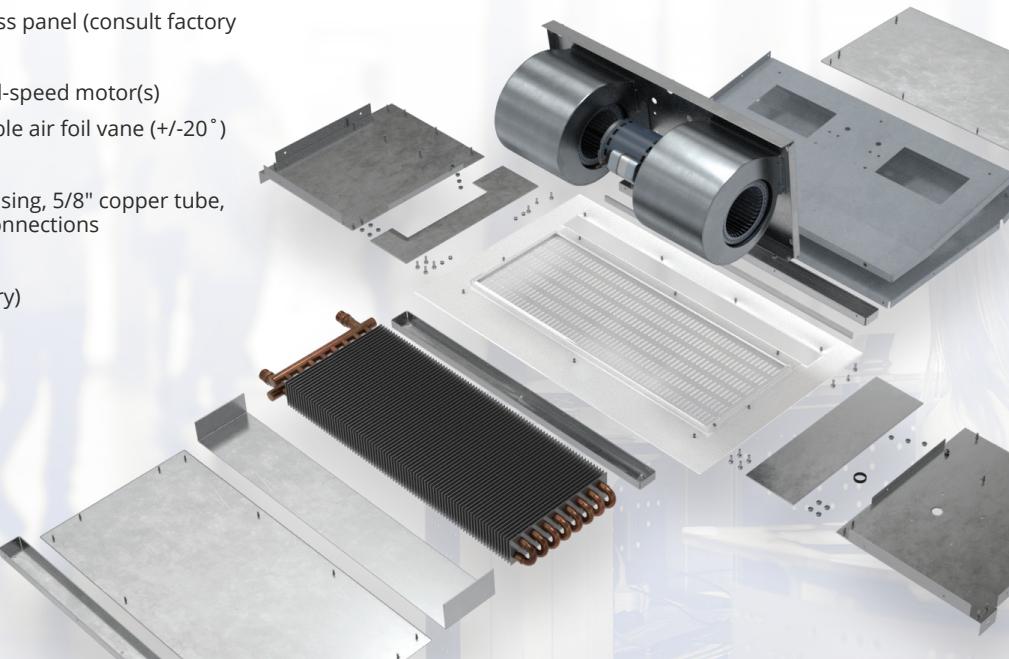
14'

Heavy Duty Motors

3/4 HP

### KEY DESIGN FEATURES

- White decorative intake grille with hinged access panel (consult factory for custom finishes)
- 3/4 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane ( $\pm 20^\circ$ )
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Custom coil selections available (consult factory)



### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Hot water or steam control valve with actuator
- Filter (washable)

# ► CHA-HW/ST | PERFORMANCE

## CHA-HW/ST | Performance Table

MODEL	Nozzle Width (in.)	FPM	CFM	Outlet Velocity Uniformity	Number of Motors	Motor HP	Hot Water		Steam			Weight (lbs)
							mbtu / Hour	Temp. Rise (°F)	mbtu / Hour	Temp. Rise (°F)		
CHA-1-36HW/ST	36	2757	1268	91%	1	3/4	54.5	36.3	53	35.4	113	
CHA-1-42HW/ST	48	2608	1521	91%	1	3/4	58	35.7	60.7	35.2	213.2	
CHA-1-48HW/ST	48	2674	1765	91%	1	3/4	69.7	36.2	70.2	36.5	145	
CHA-1-60HW/ST	60	2396	1845	73%	1	3/4	74	36.8	70.6	35.1	180	
CHA-2-72HW/ST	72	2757	2356	91%	2	3/4	104.2	34.8	108.7	36.2	249	
CHA-2-84HW/ST	84	2708	3033	91%	2	3/4	121.6	35.6	125.9	36.8	281	
CHA-2-96HW/ST	96	2674	3530	91%	2	3/4	139	36.1	142.9	37.1	306	
CHA-2-108HW/ST	108	2520	3610	73%	2	3/4	135.8	34.5	134.3	34.1	329	
CHA-3-108HW/ST	108	2757	3804	91%	3	3/4	161.4	35.9	164.1	36.5	365	
CHA-3-120HW/ST	120	2608	4121	73%	3	3/4	178.9	36.3	181.1	36.8	406	
CHA-3-132HW/ST	132	2696	4798	91%	3	3/4	196.3	36.7	198	37	470	
CHA-4-144HW/ST	144	2757	5072	91%	4	3/4	189.5	34.4	189.5	34.4	692	



For a unit over 12 feet long, consult factory. Heater data based on AMCA licensed values from unheated units.

## CHA-HW/ST | Sound Levels

Normal speed 63 dBA Measured 10 ft. from unit in a free field based on a 1 motor unit

## CHA-HW/ST | Single Phase Motor Options

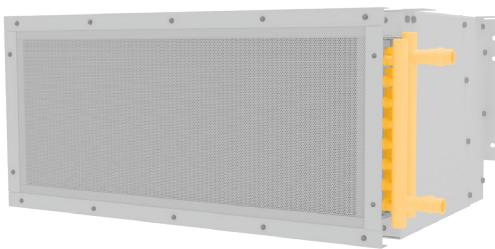
Voltages available	120	208/230	480	575	For three phase motors, consult factory
Amp draw per motor	8.0	3.6	2.0	1.5	



### NOTE

When requesting a quote for a Hot Water/Steam heated air curtain, please provide:

- Specifics of water/steam entering and exiting the air curtain
- Location for water/steam supplies and returns (both on one side or one each side)



### Performance Highlight

Made-to-order steam or hot water coil mounted to intake of air curtain. Coil consists of 5/8 in. O.D. copper tubes and aluminum fins. Coils certified to ARI standard 410.

## ► CHA-HW/ST | MECHANICAL DETAILS & DRAWINGS

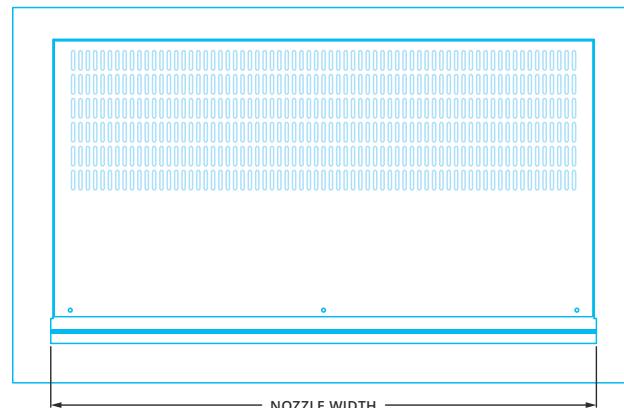
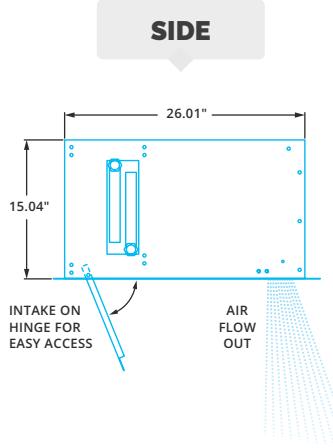
### CHA-HW/ST | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
CHA-1-36HW/ST	39.8	36	38.3
CHA-1-42HW/ST	44.7	42	43.2
CHA-1-48HW/ST	51.8	48	50.3
CHA-1-60HW/ST	63.8	60	62.3
CHA-2-72HW/ST	75.8	72.07	74.3
CHA-2-84HW/ST	87.8	84.07	86.3
CHA-2-96HW/ST	100.6	96.07	99.1
CHA-2-108HW/ST	112.6	108.07	111.1
CHA-3-108HW/ST	112.6	108.15	111.1
CHA-3-120HW/ST	124.6	120.15	123.1
CHA-3-132HW/ST	136.6	132.15	135.1
CHA-4-144HW/ST	148.6	144.22	147.1



### NOTE

1. Installer is responsible for structurally sound mounting of the unit.
2. Verify that overall dimensions will fit in the opening.
3. Size steam trap (provided by others) by 3x's the manufacturer's recommended size for satisfactory operation.
4. Coil connections are shown on right hand side, but they can be located on either right or left side of unit.



## ► CHA, CHA-E, CHA-HW/ST | INSTALLATION

### ! IMPORTANT

- ✓ Trained and experienced mechanic / electrician required.
- ✓ **WARNING:**  
Risk of electrical shock, can cause injury or death: Disconnect all remote electrical supplies before servicing.
- ✓ Units must be field wired in accordance with all applicable local, state, provincial and national codes, including wire size and materials.



### NOTE

For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{4}$  inch.

Unit has four 15/32 inch holes for installing one end of 7/16" threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.



#### STEP 1

Remove intake/discharge grille from bottom of air curtain. If ceiling is already in place, determine where air curtain location will be and cut a rectangular hole in the ceiling. The hole will be 1 inch longer and wider than the bottom length and width of the air curtain without the intake/discharge grille.



#### STEP 2

Suspend air curtain using threaded rods so that the bottom of the unit is centered within the cut out in the ceiling. There will be a 1/2 inch gap around the air curtain. Mount the unit so that the bottom is flush with the ceiling.



#### STEP 3

Attach the intake/discharge grille to the bottom of the air curtain. The grille is larger than the air curtain to cover the gaps between the air curtain and ceiling.



EVE

v4.2.1

# EVE

LOW PROFILE



Powered Aire's Elite Vestibule Exception, EVE, was developed to be used as an exception to vestibules. The unit has met all criteria per various codes and has been tested in accordance with the ANSI/AMCA 220 standard. The EVE merges aesthetics and performance into a fashionable, low-profile air curtain designed for front-entry applications. The EVE offers a stylish intake and a curved, contemporary silhouette. Available in brushed stainless steel, white powder coat or black powder coat, the EVE blends into a building's architectural design and layout while effectively creating a barrier that separates indoor and outdoor environments.

## OPTIONS

### HEATING

Electric ..... pg 33  
Hot Water/Steam ..... pg 37

### FILTER

1/2" Cleanable

### FINISHES

- Stainless Steel (shown)
- Black
- White



## AT A GLANCE

Single Incremental Widths

3' to 10'

Max Installation Height

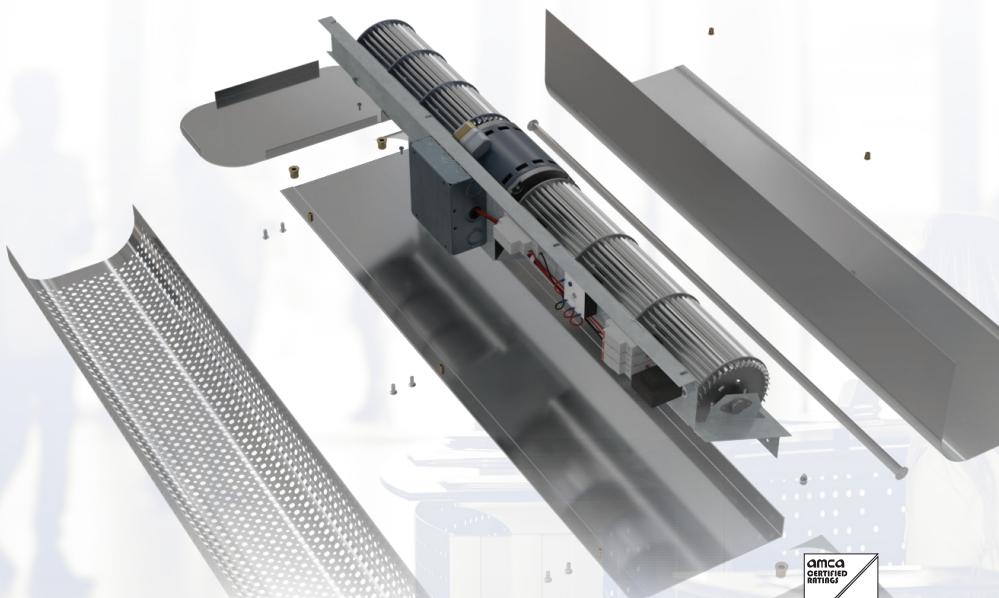
12'

Heavy Duty Motors

1/5 HP

### KEY DESIGN FEATURES

- Meets ASHRAE 90.1 and IECC requirements for vestibule exception
- AMCA tested performance
- Low-profile outer cabinet available in brushed stainless steel, matte black, or gloss white
- 1/5 HP ODP (Open Drip Proof) direct-drive variable-speed motor(s)
- Adjustable air foil vane (+/-20°)



### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- SmartTouch controller
- Filter (washable)



# ► EVE | PERFORMANCE

## EVE | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity (FPM)	Airflow Rate (CFM)	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Weight (lbs)
EVE-1-30	29	3050	1335	801	66%	0.22	1	1/5	42
EVE-1-36	35	3262	1348	984	84%	0.28	1	1/5	53
EVE-1-42	41	3269	1462	1243	84%	0.33	1	1/5	60
EVE-1-48	48	3256	1520	1474	85%	0.38	1	1/5	67
EVE-1-60	59	3218	1529	1865	84%	0.46	1	1/5	85
EVE-2-72	71	3262	1348	1968	84%	0.56	2	1/5	94
EVE-2-84	83	3269	1462	2486	84%	0.66	2	1/5	105
EVE-2-96	95	3256	1520	2948	85%	0.76	2	1/5	114
EVE-2-108	107	3242	1525	3339	84%	0.84	2	1/5	130
EVE-2-120	117	3218	1529	3730	84%	0.92	2	1/5	141



For a unit over 10 feet long, consult factory.

## EVE | Velocity Projection

DISTANCE FROM NOZZLE	40"	80"	120"	160"
EVE-1-36 Core Velocity (fpm)	1048	784	677	603

## EVE | Sound Levels

Measured 10 ft. from unit in a free field based on a 1 motor unit

53 dBA

## EVE | Single Phase Motor Options

Voltages available	120	208/230	480	575
Amp draw per motor	4.4	2.0	1.1	0.9



### Performance Highlight

The EVE unit is rounded for an aesthetically pleasing look and comes in various finishes to blend in with architectural designs.

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only.

Powered Aire Inc. certifies that the Model EVE Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



May 2020  
PAAC-701



EVE-E

v4.2.1

# EVE-E

LOW PROFILE



Powered Aire's Elite Vestibule Exception with electric heat, EVE-E, was developed to be used as an exception to vestibules. The unit has met all criteria per various codes and has been tested in accordance with the ANSI/AMCA 220 standard. The EVE-E merges aesthetics and performance into a fashionable, low-profile air curtain designed for front-entry applications. The EVE-E offers a stylish intake and a curved, contemporary silhouette. Available in brushed stainless steel, white powder coat or black powder coat, the EVE-E blends into a building's architectural design and layout while effectively creating a barrier that separates indoor and outdoor environments.

## OPTIONS

### HEATING

Unheated ..... pg 31  
Hot Water/Steam ..... pg 37

### FILTER

1/2" Cleanable

### FINISHES

- Stainless Steel
- Black (shown)
- White



## AT A GLANCE

Single Incremental Widths

3' to 10'

Max Installation Height

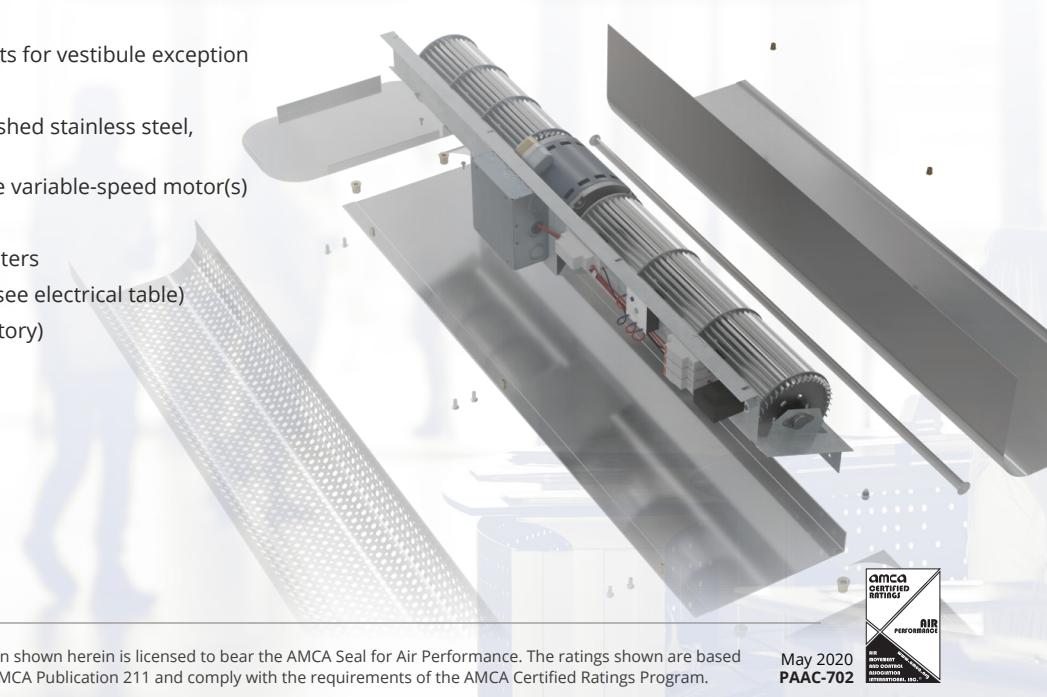
12'

Heavy Duty Motors

1/5 HP

### KEY DESIGN FEATURES

- Meets ASHRAE 90.1 and IECC requirements for vestibule exception
- AMCA tested performance
- Low-profile outer cabinet available in brushed stainless steel, matte black, or gloss white
- 1/5 HP ODP (Open Drip Proof) direct-drive variable-speed motor(s)
- Adjustable air foil vane (+/-20°)
- Factory mounted single-stage electric heaters
- Single point power connection available (see electrical table)
- Alternate heater kW available (consult factory)



# ► EVE-E | PERFORMANCE

## EVE-E | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity FPM	Airflow Rate (CFM)	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Electric Heat		Weight (lbs)
									Heater kW	Temp. Rise (°F)	
EVE-1-30E	29	3050	1243	746	66%	0.2	1	1/5	8	34	47
EVE-1-36E	35	3262	1316	961	87%	0.27	1	1/5	8	27	59
EVE-1-42E	41	3269	1294	1100	75%	0.29	1	1/5	8	23	69
EVE-1-48E	48	3256	1386	1344	85%	0.33	1	1/5	16	38	77
EVE-1-60E	59	3218	1406	1715	83%	0.54	1	1/5	16	30	91
EVE-2-72E	71	3262	1316	1922	87%	0.54	2	1/5	16	27	102
EVE-2-84E	83	3269	1294	2200	75%	0.58	2	1/5	24	35	115
EVE-2-96E	95	3256	1386	2688	85%	0.66	2	1/5	32	38	123
EVE-2-108E	107	3242	1397	3059	83%	0.87	2	1/5	32	33	139
EVE-2-120E	117	3218	1406	3430	83%	1.08	2	1/5	32	30	152



For a unit over 10 feet long, or a non-standard electric heater, consult factory.

## EVE-E | Velocity Projection

Distance From Nozzle	40"	80"	120"	160"
EVE-1-36E Core Velocity (fpm)	990	738	659	542

## EVE-E | Sound Levels

Measured 10 ft. from unit in a free field based on a 1 motor unit 53 dBA

## EVE-E | Single Phase Motor Options

Voltages available	120	208/230	480	575
Amp draw per motor	4.4	2.0	1.1	0.9



## Performance Highlight

The EVE unit is rounded for an aesthetically pleasing look and comes in various finishes to blend in with architectural designs.

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only. Rated data shown are based on tests of units with heating elements present but not in use.

Powered Aire Inc. certifies that the Model EVE-E Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



## ► EVE-E | ELECTRICAL

### EVE-E | AMP Draw, Circuits & Breaker Size Table

\* With optional branch fusing for Single Point Power (SPP) - REQUIRES A REMOTE ENCLOSURE

^ SPP By Default

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact factory.

MODEL	AMP DRAW (Breaker Size)									
	208 / 1 / 60		240 / 1 / 60		208 / 3 / 60 Separate Supply Circuits		240 / 3 / 60 Separate Supply Circuits		480 / 3 / 60	
	Circuit 1	Circuit 1	Circuit 1	Circuit 1	1	2	1	2	Circuit 1	Circuit 1
EVE-1-30E										
EVE-1-36E	40.5 (60)	35.3 (45)		24.2 (35)			21.2 (30)		10.7 (15)	8.9 (15)
EVE-1-42E										
EVE-1-48E	‡	‡		46.4 (60)			40.5 (60)		20.3 (30)	17.0 (25)
EVE-1-60E										
EVE-2-72E	‡	‡		47.3 (60)			42.5 (60)		21.4 (30)	17.9 (25)
EVE-2-84E	‡	‡		26.2 (35)	44.4 (60)	70.6 (90)	23.2 (30)	38.5 (50)	61.7 (80)	31.1 (40)
EVE-2-96E										
EVE-2-108E	‡	‡		47.3 (60)	43.3 (60)	90.6 (125)	42.5 (60)	38.5 (50)	81.0 (110)	40.7 (60)
EVE-2-120E										33.9 (45)



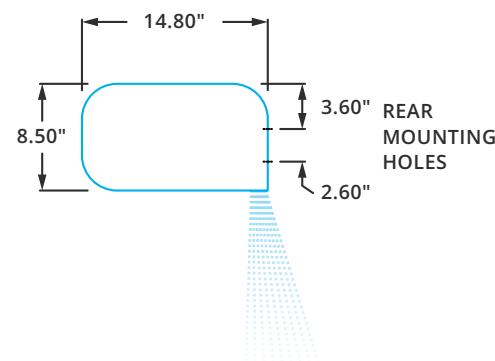
Elite Vestibule Exception Air Curtain | Entry

## ► EVE & EVE-E | MECHANICAL DETAILS & DRAWINGS

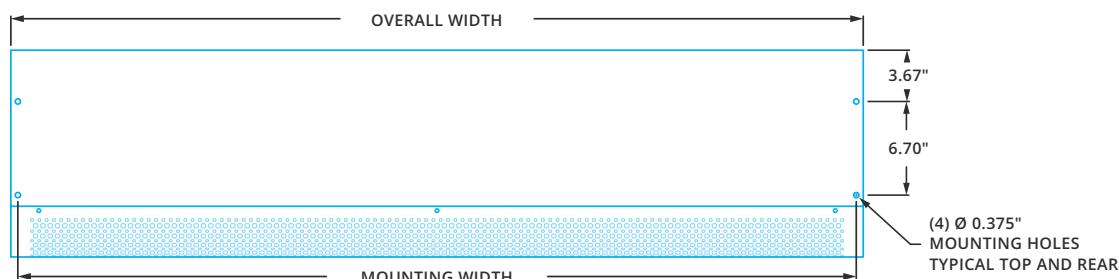
### EVE & EVE-E | Mechanical Information Table

MODEL	Overall Width (in.)	Mounting Width (in.)	Nozzle Width (in.)
EVE-1-30 (E)	31	30	29
EVE-1-36 (E)	37	36	35
EVE-1-42 (E)	43	42	41
EVE-1-48 (E)	49	48	47
EVE-1-60 (E)	61	60	59
EVE-2-72 (E)	73	72	71
EVE-2-84 (E)	85	84	83
EVE-2-96 (E)	97	96	95
EVE-2-108 (E)	109	108	107
EVE-2-120 (E)	119	118	117

SIDE



TOP



FRONT



BOTTOM





EVE-HW



EVE-ST

# EVE-HW/ST

LOW PROFILE

The EVE HW/ST offers the architecturally pleasing aesthetics found in all Elite Vestibule Exception (EVE) units but is fitted for applications where Hot Water or Steam is the primary source for heating. The valves protrude from the unit's side for easy connection to pre-existing pipes. The EVE HW/ST has been tested in accordance with the ANSI/AMCA 220 standard and can be used as an exception to vestibules in commercial applications including grocery stores, retail stores, restaurants, offices, and other new construction applications where a vestibule can be eliminated and replaced by an air curtain.

## OPTIONS

### HEATING

Unheated ..... pg 31  
Electric ..... pg 33

### FILTER

½" Cleanable

### FINISHES

- Stainless Steel (shown)
- Black
- White



## AT A GLANCE

Single Incremental Widths

3' to 10'

Max Installation Height

12'

Heavy Duty Motors

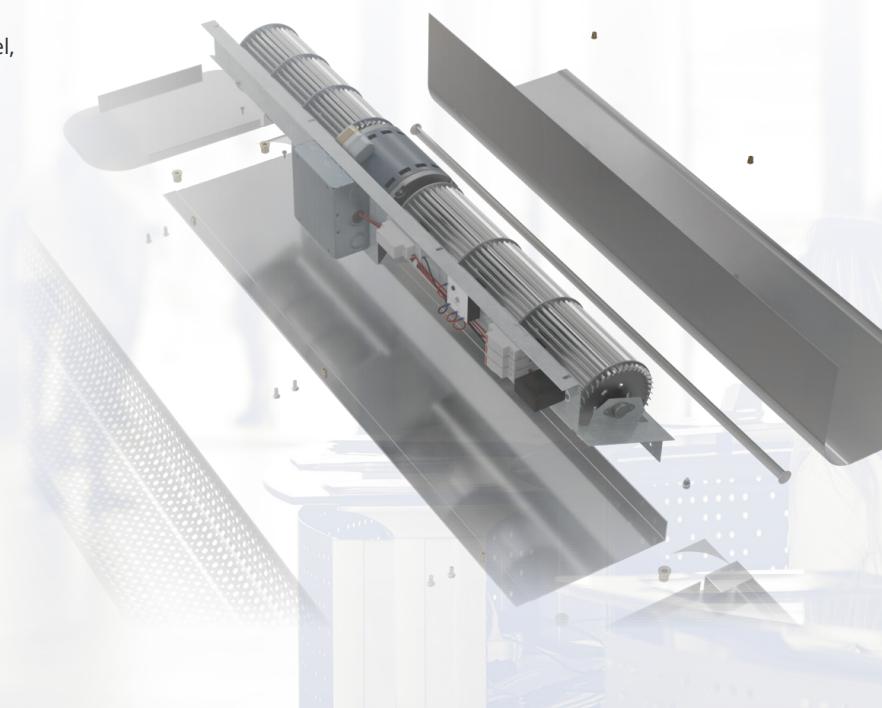
1/5 HP

### KEY DESIGN FEATURES

- Low-profile outer cabinet available in brushed stainless steel, matte black, or gloss white
- 1/5 HP ODP (Open Drip Proof) direct-drive variable-speed motor(s)
- Adjustable air foil vane (+/-20°)
- NEMA 12 control panel
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Custom coil selections available (consult factory)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- SmartTouch controller
- Hot water or steam control valve with actuator



## ► EVE-HW/ST | PERFORMANCE

### EVE-HW/ST | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity (FPM)	Airflow Rate (CFM)	Outlet Velocity Uniformity	Number of Motors	Motor HP	Weight (lbs)	Hot Water		Steam	
	mbtu / Hour								Temp. Rise (°F)	mbtu / Hour	Temp. Rise (°F)	
EVE-1-30 HW/ST	29	3050	1335	801	66%	1	1/5	42	38	35	30	34
EVE-1-36 HW/ST	35	3262	1348	984	84%	1	1/5	53	38	36	39	36
EVE-1-42 HW/ST	41	3269	1462	1243	84%	1	1/5	60	48	36	47	35
EVE-1-48 HW/ST	48	3256	1520	1474	85%	1	1/5	67	58	36	55	35
EVE-1-60 HW/ST	59	3218	1529	1865	84%	1	1/5	85	71	35	70	35
EVE-2-72 HW/ST	71	3262	1348	1968	84%	2	1/5	94	76	36	72	34
EVE-2-84 HW/ST	83	3269	1462	2486	84%	2	1/5	105	94	35	97	36
EVE-2-96 HW/ST	95	3256	1520	2948	85%	2	1/5	114	112	35	113	36
EVE-2-108 HW/ST	107	3242	1525	3339	84%	2	1/5	130	125	35	128	35
EVE-2-120 HW/ST	117	3218	1529	3730	84%	2	1/5	141	146	36	142	35



For a unit over 10 feet long, consult factory.

Designed for compact spaces such as the area above drive-thru windows or restaurant doors.

### EVE-HW/ST | Velocity Projection

DISTANCE FROM NOZZLE	40"	80"	120"	160"
EVE-1-36 Core Velocity (fpm)	1048	784	677	603

### EVE-HW/ST | Sound Levels

Measured 10 ft. from unit in a free field based on a 1 motor unit	53 dBA
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### EVE-HW/ST | Single Phase Motor Options

Voltages available	120	208/230	480	575
Amp draw per motor	4.4	2.0	1.1	0.9



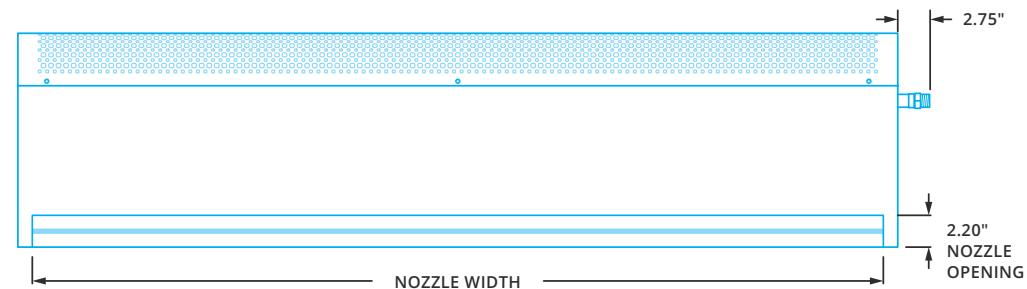
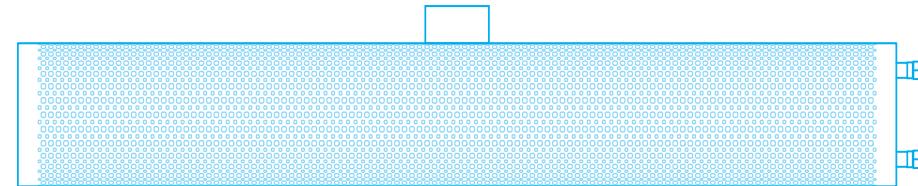
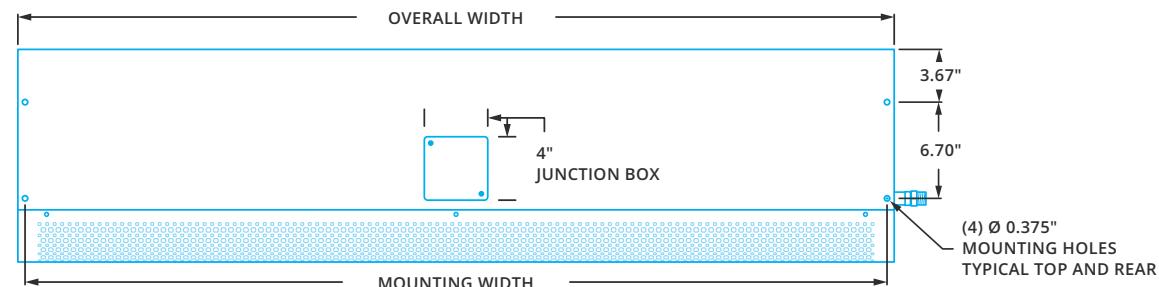
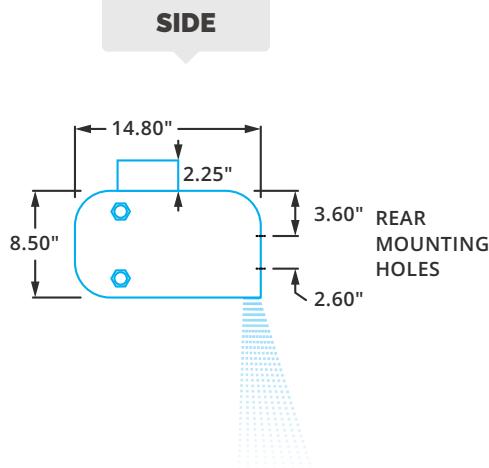
### Performance Highlight

The EVE unit is rounded for an aesthetically pleasing look and comes in various finishes to blend in with architectural designs.

## ► EVE-HW/ST | MECHANICAL DETAILS & DRAWINGS

### EVE-HW/ST | Mechanical Information Table

MODEL	Overall Width (in.)	Mounting Width (in.)	Nozzle Width (in.)
EVE-1-30 HW/ST	31	30	29
EVE-1-36 HW/ST	37	36	35
EVE-1-42 HW/ST	43	42	41
EVE-1-48 HW/ST	49	48	47
EVE-1-60 HW/ST	61	60	59
EVE-2-72 HW/ST	73	72	71
EVE-2-84 HW/ST	85	84	83
EVE-2-96 HW/ST	97	96	95
EVE-2-108 HW/ST	109	108	107
EVE-2-120 HW/ST	119	118	117



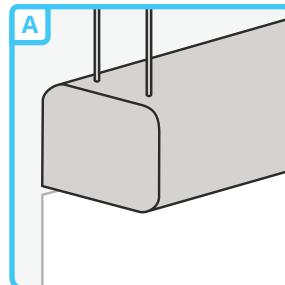
## ► EVE, EVE-E & EVE-HW/ST | INSTALLATION

### ! IMPORTANT

- ✓ **NOTE:** The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/2 inch.
- ✓ Trained and experienced mechanic / electrician required.
- ✓ **WARNING:** Risk of electrical shock, can cause injury or death: Disconnect all remote electrical supplies before servicing.
- ✓ Units must be field wired in accordance with all applicable local, state, provincial and national codes, including wire size and materials.
- ✓ All hardware and brackets must be of sufficient strength to safely support air curtain.

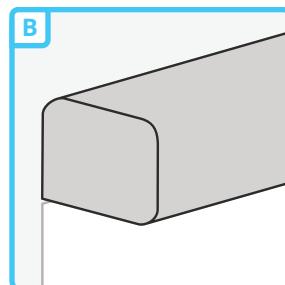
### A TOP MOUNT

Unit has four 3/8 – 16 threaded inserts for installing one end of threaded rods. The other ends of the threaded rods can be attached to the ceiling. Threaded rod should not extend more than 3/4 inch into air curtain.

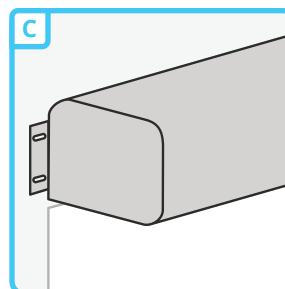


### B WALL MOUNT

Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor/blower plate when installing. Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four slots in motor/blower plate.

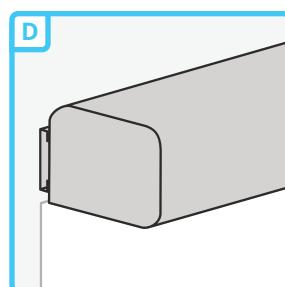


If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way. Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and push and rotate top in last.



### C EXTENSION BRACKETS (WALL MOUNT)

Extension brackets bolt on to the back of the unit, utilizing the 4 original mounting holes, and allowing for external mounting of unit to wall. Brackets have elongated mounting slots that extend the mounting width by 2½ to 3½ inches.



### D LP123 BRACKETS

Universal mounting slots are used to lag the bracket to the wall (bolts by others). 3/8" mounting bolts (supplied) are threaded into the holes located in all four corners of the back side of the air curtain, leaving 1/2" of the bolts exposed.

# Application Spotlight

## VESTIBULE EXCEPTION

### Vestibule Exception? Make it an Elite Vestibule Exception!

New vestibule exception rules have literally opened the door for air curtains to be used in place of costly, space-consuming vestibules in many building applications.

In a new world caused by the corona-virus pandemic which has reduced timeframes and budgets for many construction jobs, it's time to consider air curtains as a viable alternative to vestibules.

Meet Powered Aire's new **Elite Vestibule Exception (EVE)**, which was designed for use as an alternative to vestibules but equally at home as an aesthetically pleasing addition to customer entrances in any retail setting.

#### Available in three finishes

Stainless Steel • Black • White



**EVE**  
Unheated

**EVE-E**  
Electrically Heated



*Elite Vestibule Exception Air Curtain | Lobby*



*Elite Vestibule Exception Air Curtain | Entry*

# Application Spotlight

## AESTHETIC STYLING



*EVE Air Curtain | Stainless Steel Finish*

Air curtains blend seamlessly into the aesthetics and architectural styling of a building. Stainless steel housing, in-ceiling installation and quiet operation should all be considered when specifying an air curtain.

### EVE

Multiple Mounting Options  
Low Profile



### ETA

Multiple Mounting Options



### CHA

Ceiling Flush Mounted



### Heating Options

Powered Aire Air Curtains come with a variety of heating options to best meet the application and easily pair with the building's established heating method.



ECE



ECE-E

# ECE



The ECE from Powered Aire offers the core benefits of a traditional air curtain (temperature separation, insect control and the reduction of unwanted outside elements) along with energy saving technology designed to lessen the usage of a building's energy consumption (reduce energy bills). Powered Aire's ECo-Motor™ models feature electrically commutated (EC) motors that are significantly more energy efficient than traditional PSC motors. The motors are specifically designed for air curtain applications, with the time between motor activation and maximum speed less than 1 second.

## OPTIONS

### HEATING

Electric ..... ECE-E  
Hot Water ..... pg 49  
Steam ..... pg 49

### FILTER

½" Cleanable



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

14'

Heavy Duty Motors

¾ HP

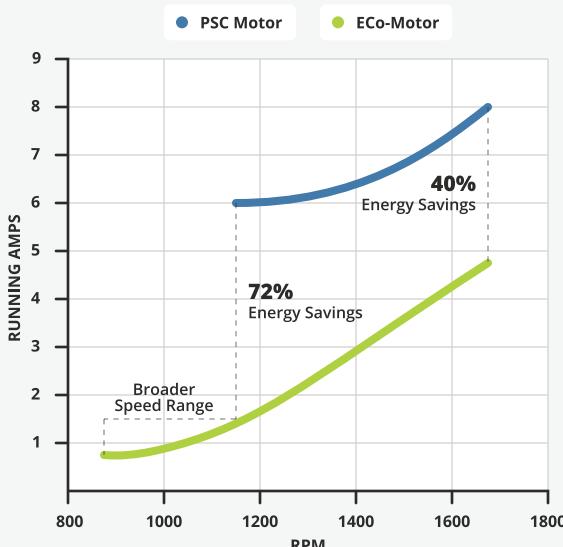
### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- ¾ HP EC (Electronically Commutated) direct-drive motor(s) with 2:1 speed turndown ratio and instantaneous startup
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Electric Only:** Factory mounted single-stage electric heaters
- Electric Only:** Single point power connection available (see electrical table)
- Electric Only:** Alternate heater kW available (consult factory)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Filter (washable)

### MEASURING EFFICIENCY



Data based on ¾ HP @ 120V

## ► ECE & ECE-E | PERFORMANCE

### ECE & ECE-E | Performance Table

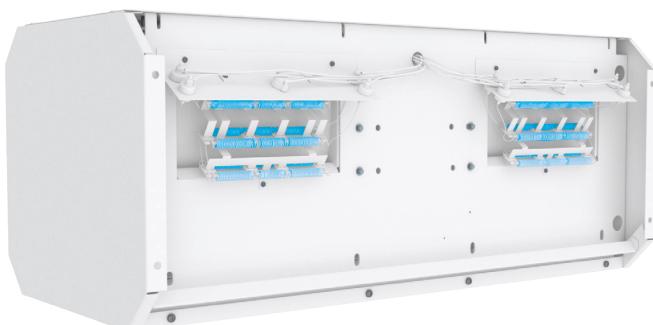
MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. FPM	Max. CFM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Electric Heat		Weight (lbs) Un/Heated
									Heater kW	Temp. Rise (°F)	
ECE-1-36 (E)	36	4218	3695	2899	2541	95%	1	3/4	10	13	90 / 95
ECE-1-42 (E)	42	4218	3169	3384	2532	93%	1	3/4	10	13	97 / 102
ECE-1-48 (E)	48	4218	2771	3867	2559	92%	1	3/4	10	13	104 / 109
ECE-1-60 (E)	60	4218	2218	4374	2528	91%	1	3/4	10	13	117 / 121
ECE-2-60 (E)	60	4218	3315	5050	3812	94%	2	3/4	15	13	147 / 155
ECE-2-72 (E)	72	4218	3696	5803	5082	95%	2	3/4	20	13	169 / 177
ECE-2-84 (E)	84	4218	3169	6766	5063	93%	2	3/4	20	13	187 / 195
ECE-2-96 (E)	96	4218	2773	7732	5081	92%	2	3/4	20	13	203 / 210
ECE-3-108 (E)	108	4218	3702	8702	7623	95%	3	3/4	30	13	245 / 255
ECE-3-120 (E)	118	4218	3174	9668	7614	94%	3	3/4	30	13	274 / 284
ECE-3-132 (E)	133	4218	2792	10853	7589	94%	3	3/4	30	13	290 / 301
ECE-4-144 (E)	145	4218	3696	11606	10164	95%	4	3/4	40	13	338 / 354

### ECE & ECE-E | Sound Levels

High Speed	63 dBA	Low Speed	56 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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### ECE & ECE-E | Single Phase Motor Options

Voltages available	120	208 - 240	277	480	575
Amp draw per motor	9.6	5.8	5.0	Neutral wire will need to be run to use the 277V motor. If not, a transformer will be required.	A transformer will be required.



### Performance Highlight

Heating elements are mounted inside the plenum, on the discharge side of the blowers. Here, heat won't affect motor life and the heaters are protected from dust that would accumulate on them if they were mounted on the air intake.

## ► ECE-E | ELECTRICAL

### ECE-E | AMP Draw, Circuits & Breaker Size Table

\* With optional branch fusing for Single Point Power (SPP)

^ SPP by default

‡ High amp draws may be prohibitive. ReduECE and custom kW available. Contact Factory.

+ With internally mounted transformer

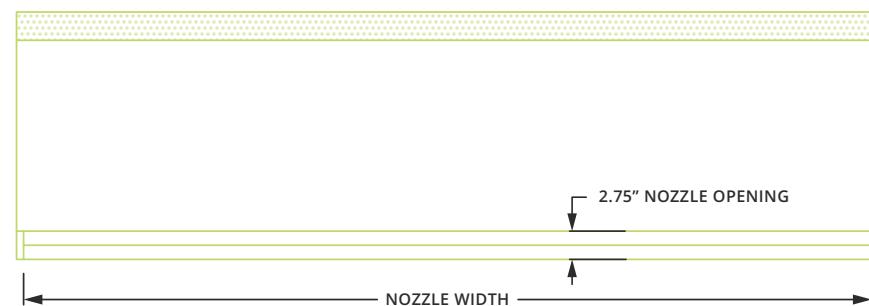
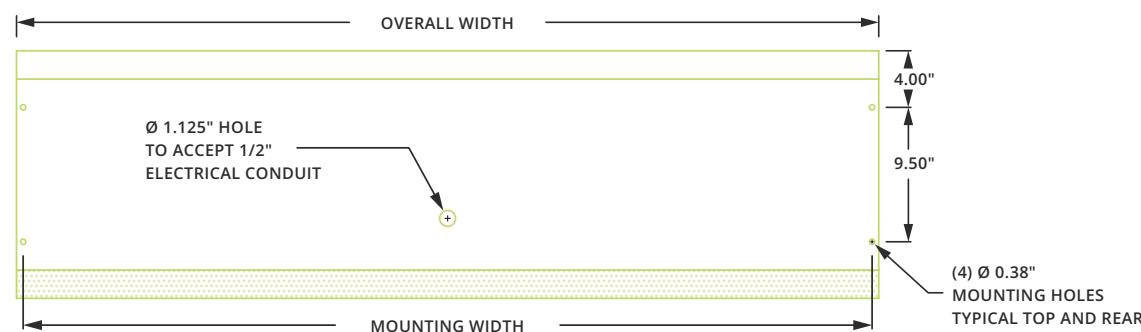
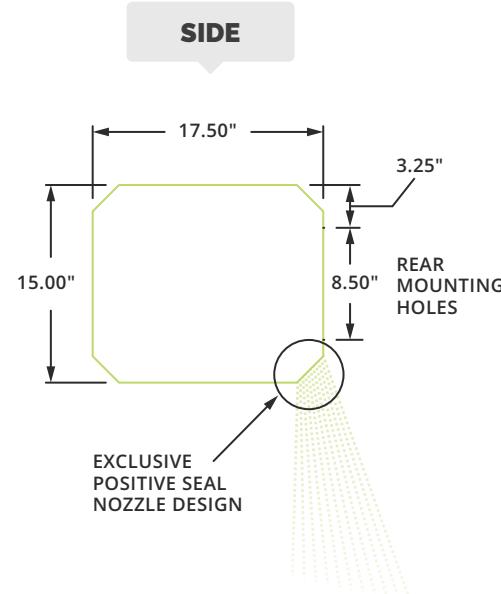
++ With motor transformer mounted in remote control panel

MODEL	AMP DRAW (Breaker Size)																							
	208 / 1 / 60			240 / 1 / 60			277 / 1 / 60			208 / 3 / 60			240 / 3 / 60			480 / 3 / 60 with Neutral			480 / 3 / 60 with Motor Transformer			575 / 3 / 60 with Motor Transformer		
	Separate Supply Circuits		SPP*	Circuit 1		Circuit 1	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*			
	1	2					1	2	3	1	2		1	2		1	2		1	2		1	2	
ECE-1-36E																			15.2 (20) ++			12.6 (20) ++		
ECE-1-42E	29.8 (40)	24.0 (35)	53.9 (70)	47.5 (60)	41.1 (60)	33.6 (45)				^	29.9 (40)		^	17.0 (25)		^								
ECE-1-48E																			15.2 (20) +			12.6 (20) +		
ECE-1-60E																								
ECE-2-60E	‡	-	‡	‡	‡	‡	41.6 (60)	11.6 (15)	-	53.2 (70)	47.7 (60)	-	^	28.0 (40)	-	^	n/a	-	-	n/a	-	-	-	
ECE-2-72E																			30.3 (40) ++			25.3 (35) ++		
ECE-2-84E	‡	-	‡	‡	‡	‡	39.4 (50)	27.8 (35)	-	67.1 (90)	35.7 (45)	24.1 (35)	59.7 (80)	34.1 (45)	-	^	30.3 (40) +			25.3 (35) +			^	
ECE-2-96E																								
ECE-3-108E																			46.5 (60) ++			38.8 (50) ++		
ECE-3-120E	‡	-	‡	‡	‡	‡	45.2 (60)	27.8 (40)	27.8 (40)	‡	47.7 (60)	41.9 (60)	89.6 (125)	33.0 (45)	18.0 (25)	51.1 (70)		46.5 (60) +		^	38.8 (50) +			^
ECE-3-132E																								
ECE-4-144E	‡	-	‡	‡	‡	‡	‡	-	-	‡	‡	-	‡	44.1 (60)	24.1 (35)	68.1 (90)	34.5 (45) ++	24.1 (35) ++	58.5 (80) ++	28.8 (40) ++	20.1 (30) ++	48.9 (70) ++		

## ► ECE & ECE-E | MECHANICAL DETAILS & DRAWINGS

### ECE & ECE-E | Mechanical Information Table

MODEL	Nozzle Width (in.)	Overall Width (in.)	Mounting Width (in.)
ECE-1-36 (E)	36	37	36.06
ECE-1-42 (E)	42	43	42.06
ECE-1-48 (E)	48	49	48.06
ECE-1-60 (E)	60	61	60.06
ECE-2-60 (E)	60	61	60.06
ECE-2-72 (E)	72	73	72.06
ECE-2-84 (E)	84	85	84.06
ECE-2-96 (E)	96	97	96.06
ECE-3-108 (E)	108	109	108.06
ECE-3-120 (E)	118	119	118.06
ECE-3-132 (E)	133	134	133.06
ECE-4-144 (E)	145	146	145.06



## ► ECE & ECE-E | INSTALLATION

**NOTE:** The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/2 inch.

### A WALL MOUNT

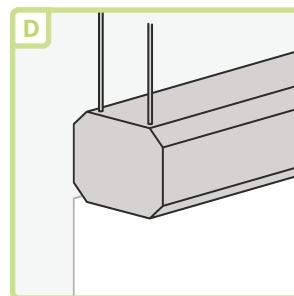
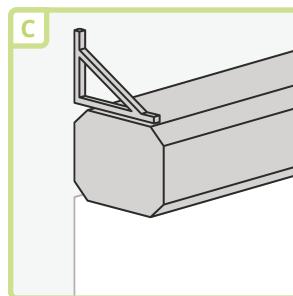
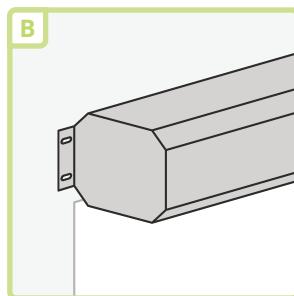
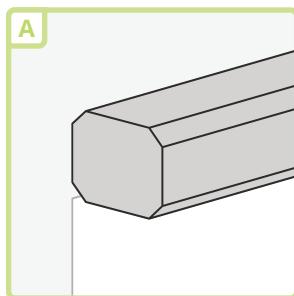
Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor-blower plate when installing.

Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four 7/8 inch holes in motor/blower plate.

If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way.

The electrical switches have a lever that slides in one direction to release the switch contacts from the switch body. All wires will then stay intact for easy installation when replacing the blower plate.

Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and rotate top in last.



### MB123 QUICK MOUNTING PLATE

Optional Installation (See page 240 for more detail)

#### Step 1

Attach top mounting bracket to back of air curtain using the upper mounting holes on back of unit.

#### Step 2

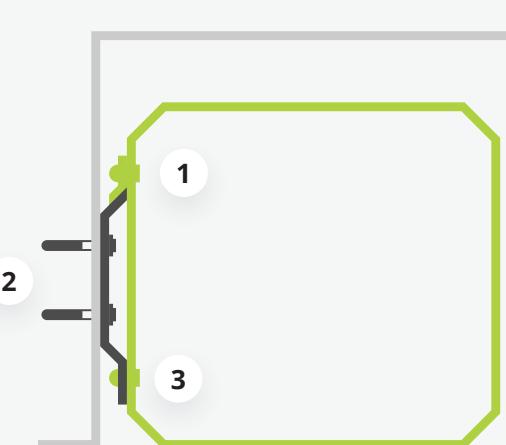
Attach the mounting bracket to the wall. Make sure there is sufficient room between mounting plate and ceiling to mount air curtain.

#### Step 3

Place air curtain over mounting bracket. The top and bottom brackets will lock into place supporting the weight of the air curtain. Attach the bottom bracket to the air curtain using the lower mounting holes.



When mounted, bottom of air curtain is to be flush with bottom of the door header.



# Application Spotlight

## ECo-Motor™

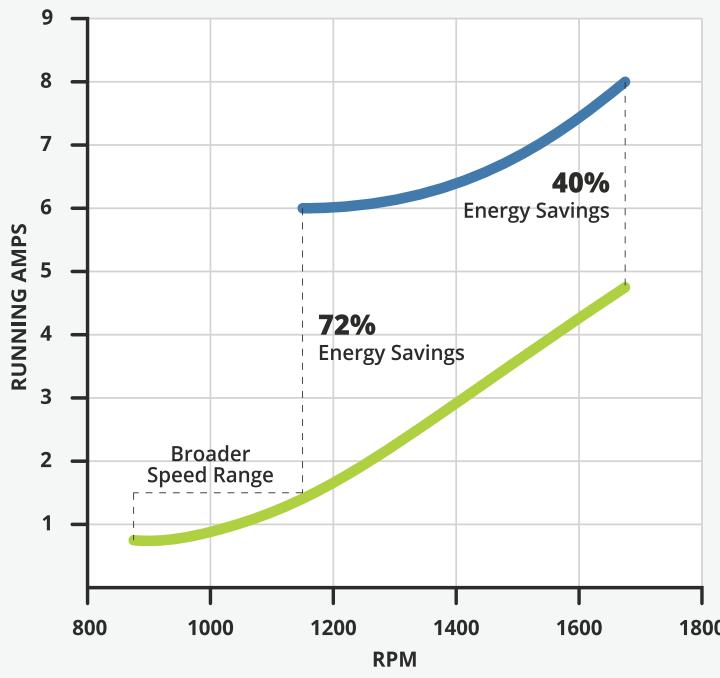


ECE-E | Top Mount (Threaded Rod)

### MEASURING EFFICIENCY

● PSC Motor

● ECo-Motor



### This is the Future in Air Curtain Technology

POWERED AIRE harnessed the power of electrically commutated (EC) motor technology by creating the ECo-Motor™. Designed specifically for air curtain applications, the ECo-Motor™ produces lightning fast startup time, significant energy savings, and expansive variable speed control. By combining green technology with an energy saving product, Powered Aire is changing the way the air movement industry designs, specifies, and perceives open doors.

Bringing EC motor technology to the air curtain industry was no easy task. The main issue being lag-time in the startup process. Traditional EC motors clock in between 5-7 seconds between activation and effective operating speed.

For air curtain applications where fans are interlocked with the opening of a door and the startup time determines effectiveness, this was simply unacceptable. That is until Powered Aire developed the ECo-Motor™, which effectively activates 5-7 times faster than a traditional ECM and twice as fast as a comparable PSC motor. The ECo-Motor™ offers several other major advantages over PSC motors including:

- ✓ Wider-Ranging Variable Speed Control
- ✓ Runs Cooler, Lasts Longer
- ✓ 40-72% Energy Savings

#### NOTE:

Motors are available in 120v and 280v. If supply voltage is different than this, either a separate 120v line would need to be run to the air curtain or a transformer could be supplied.

**ECo** Motor™





ECE-HW



ECE-ST

# ECE-HW/ST



Powered Aire's ECo-Motor™ models are designed to maximize employee/customer comfort while helping to reduce energy costs through the use of an advanced motor that optimizes performance. ECE-HW/ST features electrically commutated (EC) motors that are significantly more energy efficient than traditional PSC motors. The motors are specifically designed for air curtain applications, with the time between motor activation and maximum speed less than 1 second.

## OPTIONS

### HEATING

Hot Water.....ECE-HW  
 Steam.....ECE-ST  
 Unheated.....pg 43  
 Electric.....pg 43

### FILTER

1" Cleanable



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

14'

Heavy Duty Motors

3/4 HP

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1/2 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- NEMA 12 control panel
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Single length steam coils up to 10 ft
- Custom coil selections available (consult factory)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Hot water or steam control valve with actuator
- Filter (washable)

## ► ECE-HW/ST | PERFORMANCE

### ECE-HW/ST | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. FPM	Max. CFM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Hot Water		Steam		Weight (lbs)
ECE-1-36HW/ST	36	4218	3695	2899	2541	95%	1	3/4	97	35	108	39	113
ECE-1-48HW/ST	48	4218	2771	3867	2559	92%	1	3/4	102	37	108	39	145
ECE-1-60HW/ST	60	4218	2218	4374	2528	91%	1	3/4	100	36	114	41	180
ECE-2-72HW/ST	72.07	4218	3696	5803	5082	95%	2	3/4	194	35	202	36	249
ECE-2-84HW/ST	84.07	4218	3169	6766	5063	93%	2	3/4	205	37	210	38	281
ECE-2-96HW/ST	96.07	4218	2773	7732	5081	92%	2	3/4	194	35	215	39	306
ECE-2-108HW/ST	108.07	4218	2472	8216	5090	91%	2	3/4	192	35	198	36	329
ECE-3-108HW/ST	108.15	4218	3702	8702	7623	95%	3	3/4	283	34	292	35	365
ECE-3-120HW/ST	120.15	4218	3174	9668	7614	95%	3	3/4	307	37	305	37	406
ECE-3-132HW/ST	132.15	4218	2792	10177	7589	95%	3	3/4	307	37	326	39	470
ECE-4-144HW/ST	144.22	4218	3696	11606	10164	95%	4	3/4	388	35	390	35	491

### ECE-HW/ST | Sound Levels

High Speed 63 dBA      Low Speed 56 dBA      Measured 10 ft. from unit in a free field based on a 1 motor unit

### ECE-HW/ST | Single Phase Motor Options

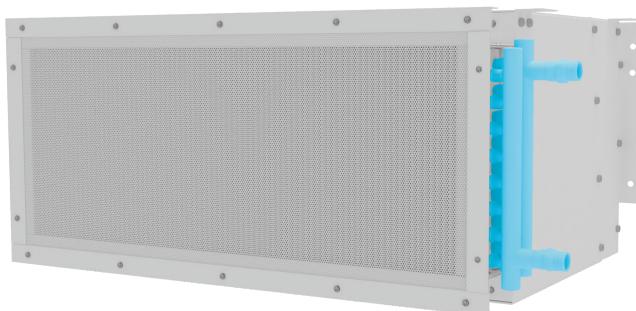
Voltages available	120	208 - 240	277	480	575
Amp draw per motor	9.6	5.8	5.0	Neutral wire will need to be run to use the 277V motor. If not, a transformer will be required.	A transformer will be required.



#### NOTE

When requesting a quote for a Hot Water/Steam heated air curtain, please provide:

- Specifics of water/steam entering and exiting the air curtain
- Location for water/steam supplies and returns (both on one side or one each side)



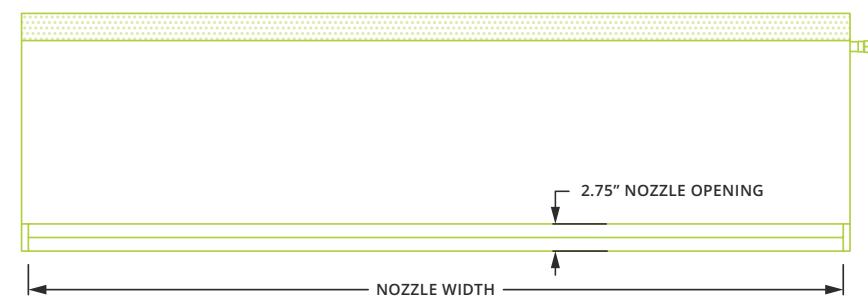
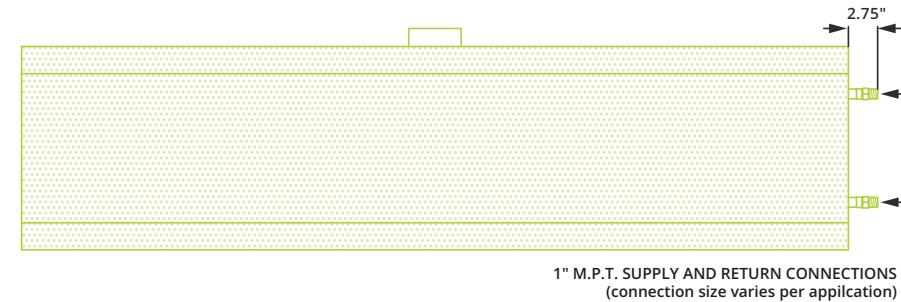
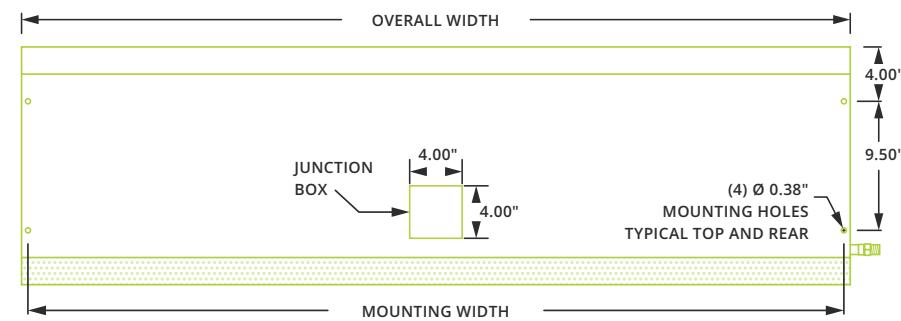
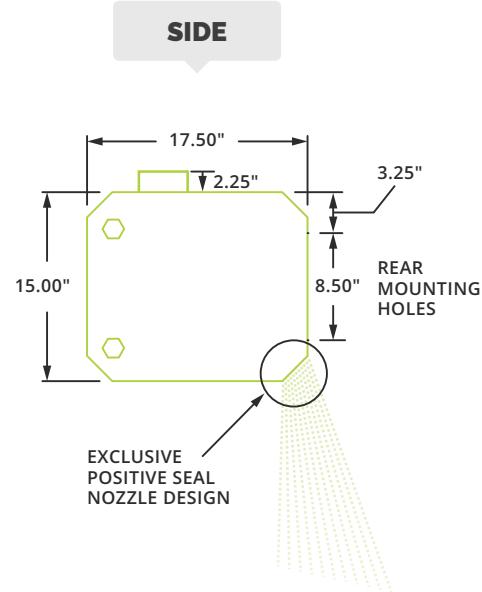
#### Performance Highlight

Made-to-order steam or hot water coil mounted to intake of air curtain. Coil consists of 5/8 in. O.D. copper tubes and aluminum fins. Coils certified to ARI standard 410.

## ► ECE-HW/ST | MECHANICAL DETAILS & DRAWINGS

### ECE-HW/ST | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
ECE-1-36HW/ST	37	36	36.06
ECE-1-42HW/ST	43	42	42.06
ECE-1-48HW/ST	49	48	48.06
ECE-1-60HW/ST	61	60	60.06
ECE-2-72HW/ST	73	72	72.06
ECE-2-84HW/ST	85	84	84.06
ECE-2-96HW/ST	97	96	96.06
ECE-3-108HW/ST	109	108	108.06
ECE-3-120HW/ST	119	118	118.06
ECE-3-132HW/ST	134	133	133.06
ECE-4-144HW/ST	146	145	145.06



## ► ECE-HW/ST | INSTALLATION

**NOTE:** The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/2 inch.

### A WALL MOUNT

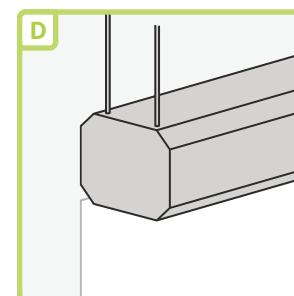
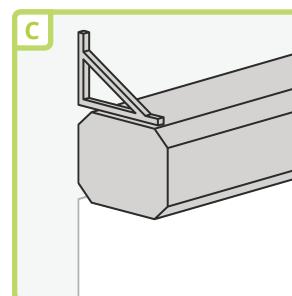
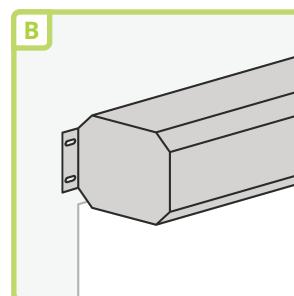
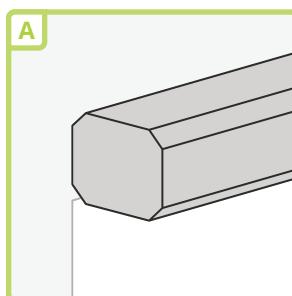
Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor-blower plate when installing.

Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four 7/8 inch holes in motor/blower plate.

If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way.

The electrical switches have a lever that slides in one direction to release the switch contacts from the switch body. All wires will then stay intact for easy installation when replacing the blower plate.

Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and rotate top in last.



### MB123 QUICK MOUNTING PLATE

Optional Installation (See page 240 for more detail)

#### Step 1

Attach top mounting bracket to back of air curtain using the upper mounting holes on back of unit.

#### Step 2

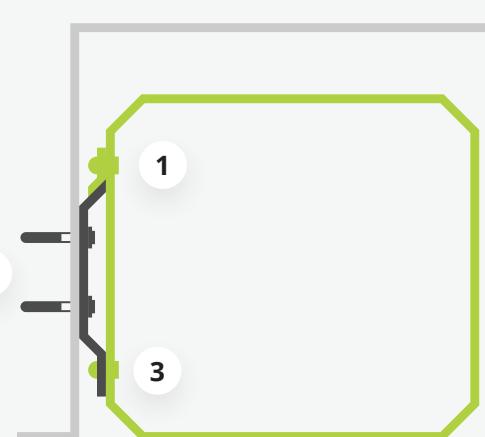
Attach the mounting bracket to the wall. Make sure there is sufficient room between mounting plate and ceiling to mount air curtain.

#### Step 3

Place air curtain over mounting bracket. The top and bottom brackets will lock into place supporting the weight of the air curtain. Attach the bottom bracket to the air curtain using the lower mounting holes.



When mounted, bottom of air curtain is to be flush with bottom of the door header.





# ECC

ABOVE CEILING



The ECC model air curtain is specifically designed to be dropped into the ceiling above customer entryways where a standard air curtain cannot be exposed.

## OPTIONS

### HEATING

Electric ..... ECC-E  
Hot Water ..... pg 57  
Steam ..... pg 57

### FILTER

1/2" cleanable

### GRILLE COLOR

The white grille is standard with this model. Consult factory for custom color or metal.



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

14'

Heavy Duty Motors

3/4 HP

### KEY DESIGN FEATURES

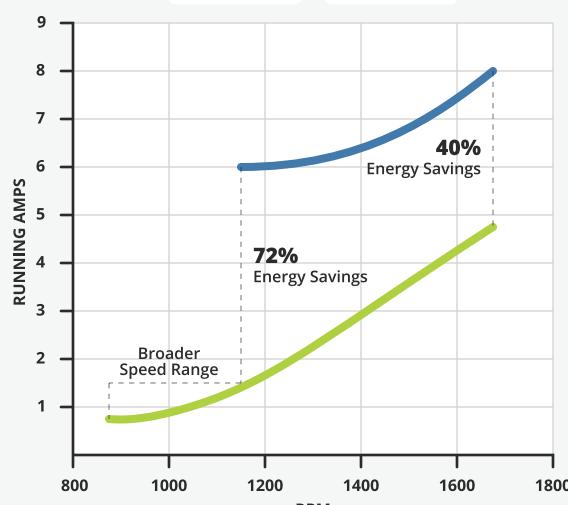
- White decorative intake grille with hinged access panel (consult factory for custom finishes)
- 3/4 HP EC (Electronically Commutated) direct-drive motor(s) with 2:1 speed turndown ratio and instantaneous startup
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Electric Only:** Factory mounted single-stage electric heaters
- Electric Only:** Single point power connection available (see electrical table)
- Electric Only:** Alternate heater kW available (consult factory)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Filter (washable)

### MEASURING EFFICIENCY

PSC Motor ECo-Motor



Data based on 3/4 HP @ 120V

## ► ECC & ECC-E | PERFORMANCE

### ECC & ECC-E | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. FPM	Max. CFM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Electric Heat		Weight (lbs) Un / Heated
									Heater kW	Temp. Rise (°F)	
ECC-1-36 (E)	36	4218	3695	2899	2541	95%	1	3/4	10	13	179 / 182
ECC-1-48 (E)	48	4218	2771	3867	2559	92%	1	3/4	10	13	195 / 204
ECC-1-60 (E)	60	4218	2218	4374	2528	91%	1	3/4	10	13	225 / 230
ECC-2-72 (E)	72.07	4218	3696	5803	5082	95%	2	3/4	20	13	358 / 364
ECC-2-84 (E)	84.07	4218	3169	6766	5063	93%	2	3/4	20	13	371 / 382
ECC-2-96 (E)	96.07	4218	2773	7732	5081	92%	2	3/4	20	13	384 / 397
ECC-2-108 (E)	108.07	4218	2472	8216	5090	95%	2	3/4	20	13	397 / 417
ECC-3-108 (E)	108.15	4218	3702	8702	7623	92%	3	3/4	30	13	537 / 546
ECC-3-120 (E)	120.15	4218	3174	9668	7614	95%	3	3/4	30	13	550 / 570
ECC-3-132 (E)	132.15	4218	2792	10177	7589	95%	3	3/4	30	13	563 / 584
ECC-4-144 (E)	144.22	4218	3696	11606	10164	95%	4	3/4	40	13	716 / 728



For a unit over 12 feet long, or a non-standard electric heater kW, consult factory.

### ECC & ECC-E | Sound Levels

High Speed 63 dBA      Low Speed 56 dBA      Measured 10 ft. from unit in a free field based on a 1 motor unit

### ECC & ECC-E | Single Phase Motor Options

Voltages available	120	208 - 240	277	480	575
Amp draw per motor	9.6	5.8	5.0	Neutral wire will need to be run to use the 277V motor. If not, a transformer will be required.	A transformer will be required.



### Performance Highlight

Heating elements are mounted inside the plenum, on the discharge side of the blowers. Here, heat won't affect motor life and the heaters are protected from dust that would accumulate on them if they were mounted on the air intake.

## ► ECC-E | ELECTRICAL

### ECC-E | AMP Draw, Circuits & Breaker Size Table

\* With optional branch fusing for Single Point Power (SPP)

^ SPP by default

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

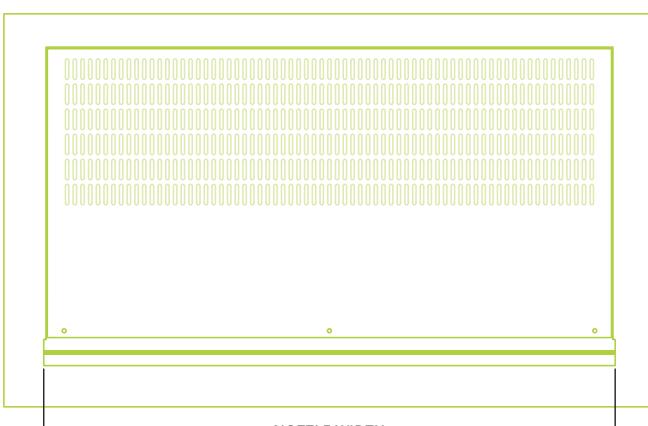
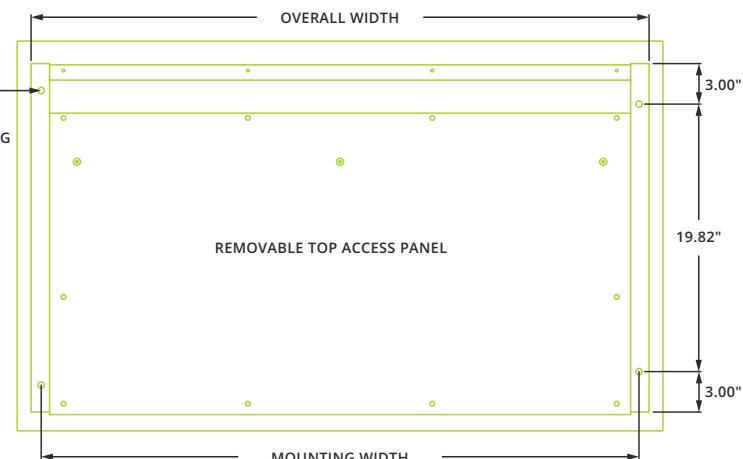
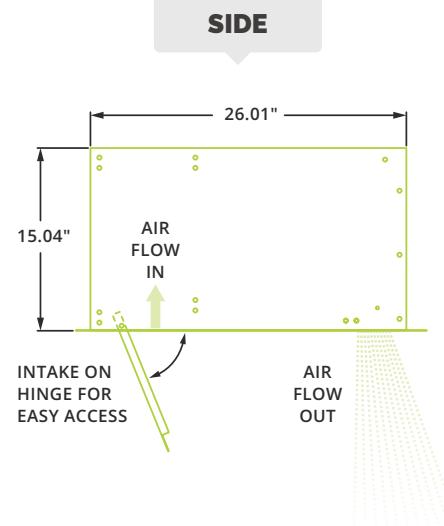
++ With motor transformer mounted in remote control panel

MODEL	AMP DRAW (Breaker Size)																480 / 3 / 60 with Motor Transformer			575 / 3 / 60 with Motor Transformer		
	208 / 1 / 60			240 / 1 / 60			277 / 1 / 60			208 / 3 / 60			240 / 3 / 60			480 / 3 / 60 with Neutral			480 / 3 / 60 with Motor Transformer			
	Separate Supply Circuits		SPP*	Circuit 1	Circuit 1	Separate Supply Circuits		SPP*	1	2	3	SPP*	1	2	SPP*	1	2	SPP*	1	2	SPP*	
	1	2				1	2		1	2	3		1	2		1	2		1	2		
ECC-1-36E																						
ECC-1-48E	29.8 (40)	24.0 (35)	53.9 (70)	47.5 (60)	41.1 (60)	33.6 (45)		^	29.9 (40)		^		17.0 (25)		^	15.2 (20) ++		^	12.6 (20) ++		^	
ECC-1-60E																						
ECC-2-72E																						
ECC-2-84E	‡	-	‡	‡	‡	39.4 (50)	27.8 (35)	-	67.1 (90)	35.7 (45)	24.1 (35)	59.7 (80)	34.1 (45)	-	^	30.3 (40) ++		^	25.3 (35) ++		^	
ECC-2-96E																						
ECC-2-108E																						
ECC-3-108E																						
ECC-3-120E	‡	-	‡	‡	‡	45.2 (60)	27.8 (40)	27.8 (40)	‡	47.7 (60)	41.9 (60)	89.6 (125)	33.0 (45)	18.0 (25)	51.1 (70)	46.5 (60) ++		^	38.8 (50) ++		^	
ECC-3-132E																						
ECC-4-144E	‡	-	‡	‡	‡	‡	‡	-	-	‡	‡	-	‡	44.1 (60)	24.1 (35)	68.1 (90)	34.5 (45) ++	24.1 (35) ++	58.5 (80) ++	28.8 (40) ++	20.1 (30) ++	48.9 (70) ++

## ► ECC & ECC-E | MECHANICAL DETAILS & DRAWINGS

ECC & ECC-E | Mechanical Information Table

MODEL	Nozzle Width (in.)	Overall Width (in.)	Mounting Width (in.)
ECC-1-36 (E)	36	39	37.5
ECC-1-48 (E)	48	51	49.5
ECC-1-60 (E)	60	63	61.5
ECC-2-72 (E)	72.07	75.07	73.57
ECC-2-84 (E)	84.07	87.07	85.57
ECC-2-96 (E)	96.07	99.07	97.57
ECC-2-108 (E)	108.07	111.07	109.57
ECC-3-108 (E)	108.15	111.15	109.65
ECC-3-120 (E)	120.15	123.15	121.65
ECC-3-132 (E)	132.15	135.15	133.65
ECC-4-144 (E)	144.22	147.22	145.72





ECC-HW



ECC-ST

# ECC-HW/ST

## ABOVE CEILING

The ECC model air curtain is specifically designed to be dropped into the ceiling above customer entryways where a standard air curtain cannot be exposed.



## OPTIONS

### HEATING

Hot Water ..... ECC-HW  
Steam ..... ECC-ST  
Unheated ..... pg 53  
Electric ..... pg 53

### FILTER

½" cleanable

### GRILLE COLOR

The white grille is standard with this model.  
Consult factory for custom color or metal.

## AT A GLANCE

### Single Incremental Widths

3' to 12'

### Max Installation Height

14'

### Heavy Duty Motors

¾ HP

## KEY DESIGN FEATURES

- White decorative intake grille with hinged access panel (consult factory for custom finishes)
- ¾ HP EC (Electronically Commutated) direct-drive motor(s) with 2:1 speed turndown ratio and instantaneous startup
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Custom coil selections available (consult factory)

## RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Hot water or steam control valve with actuator
- Filter (washable)

## ► ECC-HW/ST | PERFORMANCE

### ECC-HW/ST | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. FPM	Max. CFM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Hot Water		Steam		Weight (lbs)
ECC-1-36HW/ST	36	4218	3695	2899	2541	95%	1	3/4	97	35	108	39	206
ECC-1-48HW/ST	48	4218	2771	3867	2559	92%	1	3/4	102	37	108	39	224
ECC-1-60HW/ST	60	4218	2218	4374	2528	91%	1	3/4	100	36	114	41	255
ECC-2-72HW/ST	72.07	4218	3696	5803	5082	95%	2	3/4	194	35	202	36	402
ECC-2-84HW/ST	84.07	4218	3169	6766	5063	93%	2	3/4	205	37	210	38	415
ECC-2-96HW/ST	96.07	4218	2773	7732	5081	92%	2	3/4	194	35	215	39	430
ECC-2-108HW/ST	108.07	4218	2472	8216	5090	95%	2	3/4	192	35	198	36	455
ECC-3-108HW/ST	108.15	4218	3702	8702	7623	92%	3	3/4	283	34	292	35	598
ECC-3-120HW/ST	120.15	4218	3174	9668	7614	95%	3	3/4	307	37	305	37	615
ECC-3-132HW/ST	132.15	4218	2792	10177	7589	95%	3	3/4	307	37	326	39	630
ECC-4-144HW/ST	144.22	4218	3696	11606	10164	95%	4	3/4	388	35	390	35	794



For a unit over 12 feet long, consult factory.

### ECC-HW/ST | Sound Levels

High Speed 63 dBA      Low Speed 56 dBA      Measured 10 ft. from unit in a free field based on a 1 motor unit

### ECC-HW/ST | Single Phase Motor Options

Voltages available	120	208 - 240	277	480	575
Amp draw per motor	9.6	5.8	5.0	Neutral wire will need to be run to use the 277V motor. If not, a transformer will be required.	A transformer will be required.



### NOTE

#### When requesting a quote for a Hot Water/Steam heated air curtain, please provide:

- Specifics of water/steam entering and exiting the air curtain
- Location for water/steam supplies and returns (both on one side or one each side)



### Performance Highlight

Made-to-order steam or hot water coil mounted to intake of air curtain. Coil consists of 5/8 in. O.D. copper tubes and aluminum fins. Coils certified to ARI standard 410.

## ► ECC-HW/ST | MECHANICAL DETAILS & DRAWINGS

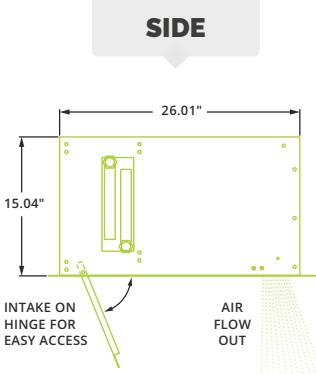
### ECC-HW/ST | Mechanical Information Table

MODEL	Nozzle Width (in.)	Overall Width (in.)	Mounting Width (in.)
ECC-1-36HW/ST	36	39	37.5
ECC-1-48HW/ST	48	51	49.5
ECC-1-60HW/ST	60	63	61.5
ECC-2-72HW/ST	72.07	75.07	73.57
ECC-2-84HW/ST	84.07	87.07	85.57
ECC-2-96HW/ST	96.07	99.07	97.57
ECC-2-108HW/ST	108.07	111.07	109.57
ECC-3-108HW/ST	108.15	111.15	109.65
ECC-3-120HW/ST	120.15	123.15	121.65
ECC-3-132HW/ST	132.15	135.15	133.65
ECC-4-144HW/ST	144.22	147.22	145.72

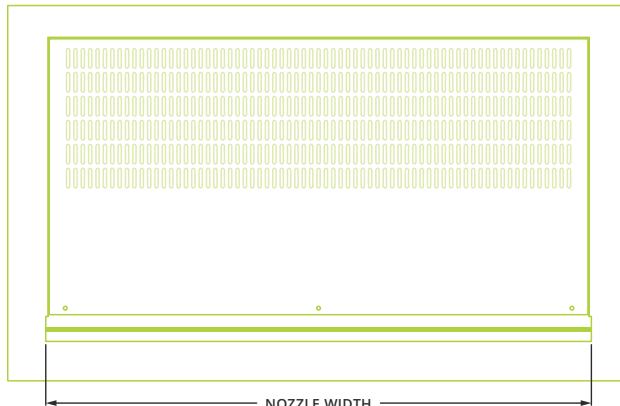


### NOTE

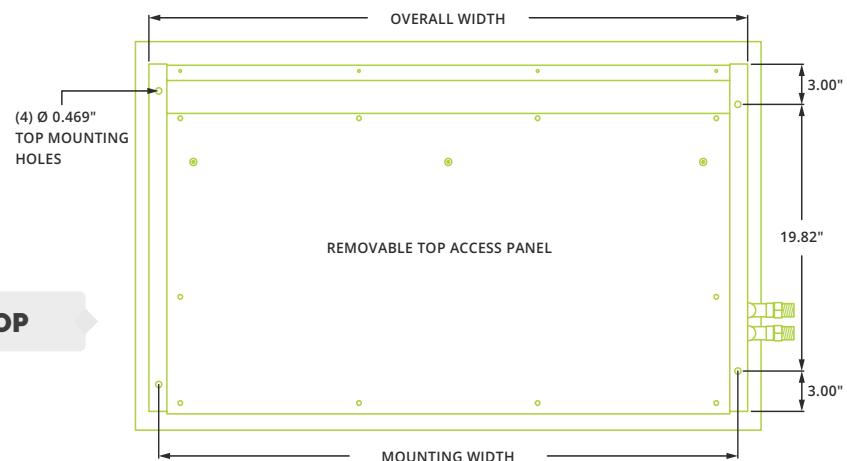
1. Installer is responsible for structurally sound mounting of the unit.
2. Verify that overall dimensions will fit in the opening.
3. Size steam trap (provided by others) by 3x's the manufacturer's recommended size for satisfactory operation.
4. Coil connections are shown on right hand side, but they can be located on either right or left side of unit.



### BOTTOM



### TOP



### FRONT



## ► ECC, ECC-E, ECC-HW/ST | INSTALLATION

### ! IMPORTANT

- ✓ Trained and experienced mechanic / electrician required.
- ✓ **WARNING:**  
Risk of electrical shock, can cause injury or death: Disconnect all remote electrical supplies before servicing.
- ✓ Units must be field wired in accordance with all applicable local, state, provincial and national codes, including wire size and materials.
- ✓ All hardware and brackets must be of sufficient strength to safely support air curtain.



### NOTE

For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{4}$  inch.

Unit has four 15/32 inch holes for installing one end of 7/16" threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.



#### STEP 1

Remove intake/discharge grille from bottom of air curtain. If ceiling is already in place, determine where air curtain location will be and cut a rectangular hole in the ceiling. The hole will be 1 inch longer and wider than the bottom length and width of the air curtain without the intake/discharge grille.



#### STEP 2

Suspend air curtain using threaded rods so that the bottom of the unit is centered within the cut out in the ceiling. There will be a 1/2 inch gap around the air curtain. Mount the unit so that the bottom is flush with the ceiling.



#### STEP 3

Attach the intake/discharge grille to the bottom of the air curtain. The grille is larger than the air curtain to cover the gaps between the air curtain and ceiling.



UVC



UVC-E

v4.2.1

# UVC-Aire



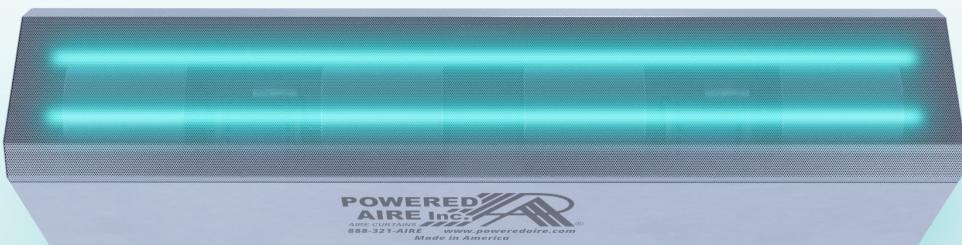
## UV-C light system for air purification

The UVC-Aire offers a variable speed air curtain in a stainless-steel case. ¾ HP motors run continuously on low speed to provide a constant stream of purified air. Low-speed operation of the unit has been proven to inactivate/kill up to 99% of Coronavirus pathogens passing through the air curtain. The UVC-Aire is ideal for healthcare, retail, gyms, restaurants and other facilities looking to provide an added layer of protection against airborne germs.

## OPTIONS

### HEATING

Electric. .... UVC-E



## AT A GLANCE

### UVC Light Wavelength

253.7nm

### COVID-19 Kill Rate

99.01 to 99.71%  
dependent on unit/speed

### For Door Widths Between

36" and 168"

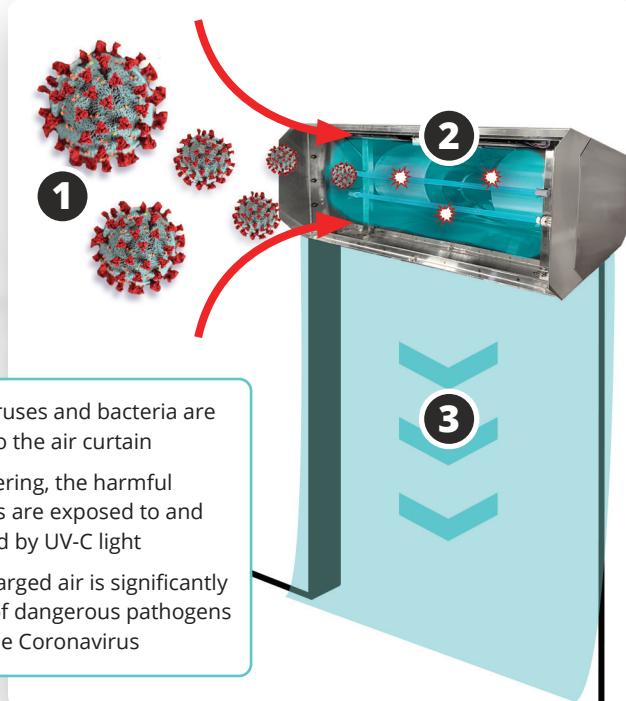
## KEY DESIGN FEATURES

- Unit runs continuously in sterilization mode (low speed), even when the door is closed, to provide constant air purification.
- Unit will ramp up to potentiometer-set speed when the door opens.
- Adjustable speed, ¾ HP ECO Motors offer up to 72% energy savings over PSC motors.
- Fully-assembled and available in full-foot increments from 36" up to 168" (emitters installed in the field).
- Includes unit-mounted cleanable filter and disconnect switch for safe and secure maintenance and emitter replacement.
- Environmental separation, temperature control, pest control and air purification.

## STANDARD CONTROLS

- Variable speed dial
- Thermostat, if electrically heated (Model UVC-Aire-E)
- Magnetic Door Switch for activation
- Time Delay Relay

1. Germs, viruses and bacteria are pulled into the air curtain
2. Upon entering, the harmful pathogens are exposed to and inactivated by UV-C light
3. The discharged air is significantly reduced of dangerous pathogens such as the Coronavirus



# ► UVC & UVC-E | PERFORMANCE

## UVC | Performance Table

MODEL	Nozzle Width (in.)	Max FPM at Nozzle	Average Outlet Velocity (FPM)	Airflow Rate (CFM)	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Weight (lbs)	Electric Heat		Coronavirus Inactivation Rate	Number of Emitters
UVC-1-36 (E)	36	5654	2060	1401	88%	0.76	1	3/4	110	10	13	99.01	2
UVC-1-42 (E)	42	5321	2022	1678	88%	0.84	1	3/4	118	10	13	99.15	2
UVC-1-48 (E)	48	5296	1849	1757	84%	0.86	1	3/4	125	10	13	99.56	2
UVC-1-60 (E)	60	5288	1619	2007	72%	0.94	1	3/4	139	10	13	99.71	2
UVC-2-72 (E)	72	5654	2060	2802	88%	1.52	2	3/4	193	20	13	99.44	2
UVC-2-84 (E)	84	5321	2022	3356	88%	1.68	2	3/4	212	20	13	99.26	4
UVC-2-96 (E)	96	5296	1849	3514	84%	1.72	2	3/4	231	20	13	99.62	4
UVC-3-108 (E)	108	5654	2060	4203	88%	2.28	3	3/4	275	30	13	99.63	4
UVC-3-120 (E)	118	5340	2033	4757	88%	2.44	3	3/4	306	30	13	99.61	4
UVC-3-132 (E)	133	5305	1860	4809	72%	2.46	3	3/4	336	30	13	99.61	4
UVC-4-144 (E)	145	5654	2060	5604	88%	3.04	4	3/4	388	40	13	99.48	4



For a unit over 12 feet long, or a non-standard electric heater kW, consult factory.

## UVC & UVC-E | Sound Levels

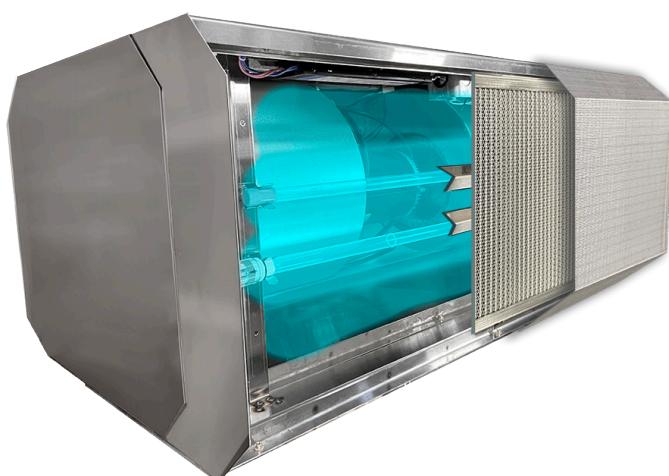
High Speed	63 dBA	Low Speed	56 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
------------	--------	-----------	--------	---

## UVC & UVC-E | Single Phase Motor Options

Voltages available	120	208 - 240	277	480	575
Amp draw per motor	9.6	5.8	5.0	Neutral wire will need to be run to use the 277V motor. If not, a transformer will be required.	A transformer will be required.

## UVC & UVC-E | Emitter Amp Draws

Voltages available	120	208 - 240	277	480	575
Amp draw per emitter	1.2	0.7	0.5	Neutral wire will need to be run to use the 277V motor. If not, a transformer will be required.	A transformer will be required.



## Performance Highlights

UVC-Aire™ – Powered Aire's air sanitation system proven to eliminate coronavirus and other viruses from the air.

- Up to 99 percent percent effectiveness against coronoavirus.
- Also available as extension to retrofit previously installed air curtains.
- Continuous air sterilization along with traditional air curtain benefits including environmental separation and temperature control.

## ► UVC-E | ELECTRICAL

### UVC-E | AMP Draw, Circuits & Breaker Size Table

\* With optional branch fusing for Single Point Power (SPP)

^ SPP by default

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

+ With internally mounted transformer

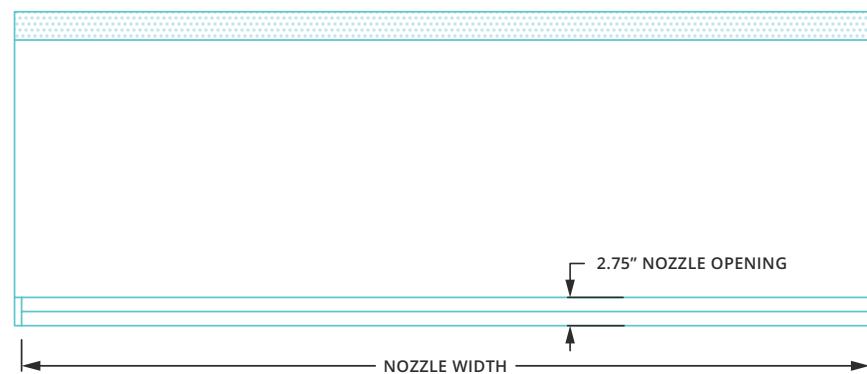
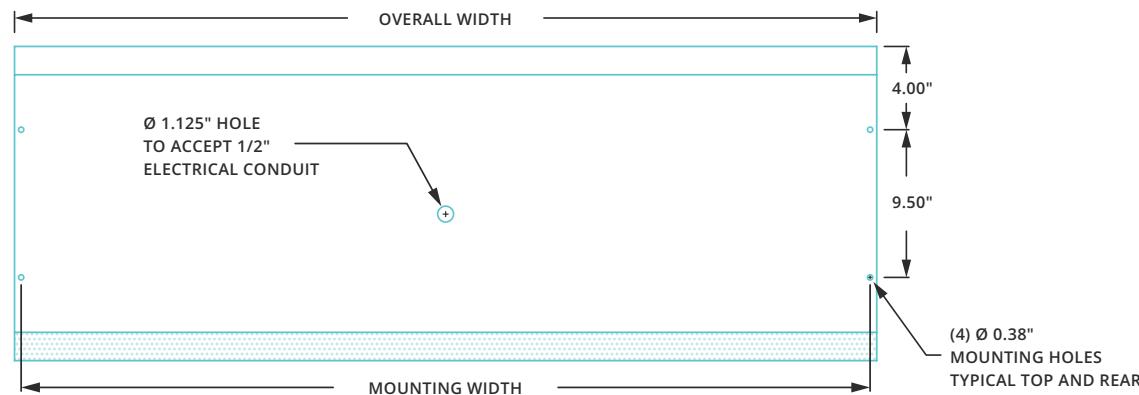
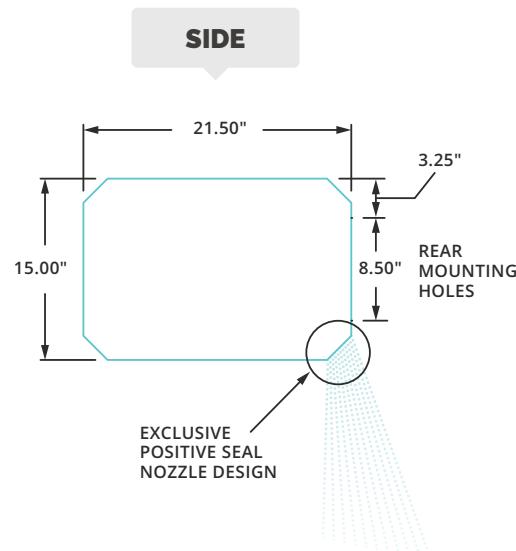
++ With motor transformer mounted in remote control panel

MODEL	AMP DRAW (Breaker Size)																								
	208 / 1 / 60			240 / 1 / 60			277 / 1 / 60			208 / 3 / 60			240 / 3 / 60			480 / 3 / 60 with Neutral			480 / 3 / 60 with Motor Transformer			575 / 3 / 60 with Motor Transformer			
	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Circuit 1		Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*		
	1	2		1	2	SPP*			1	2	3		1	2	3		1	2		1	2	SPP*	1	2	SPP*
UVC-1-36E																									
UVC-1-42E	31.2 (40)	24.0 (35)	55.3 (70)	28.0 (40)	20.8 (30)	48.9 (70)	42.1 (60)	35.0 (45)	-	-	-	^	31.3 (40)	-	-	-	18.0 (25)	-	-	15.2 (20)	(20)	++	12.6 (20)	++	
UVC-1-48E																									
UVC-1-60E																									
UVC-2-72E	‡	-	‡	‡	-	‡	‡		40.8 (60)	27.8 (35)	-	68.5 (90)	37.1 (50)	24.1 (35)	-	61.1 (80)	35.1 (45)	-	30.3 (40)	(40)	++	25.3 (35)	-	^	
UVC-2-84E	‡	-	‡	‡	-	‡	‡		42.2 (60)	27.8 (35)	-	69.9 (90)	38.5 (50)	24.1 (35)	-	62.5 (80)	36.1 (50)	-	30.3 (40)	(40)	+	25.3 (35)	-	^	
UVC-2-96E																									
UVC-3-108E																									
UVC-3-120E	‡	-	‡	‡	-	‡	‡		48.0 (60)	27.8 (35)	27.8 (35)	‡	44.3 (60)	24.1 (35)	24.1 (35)	‡	35.0 (45)	18.0 (25)	53.1 (70)	46.5 (60)	(60)	++	38.8 (50)	++	
UVC-3-132E																									
UVC-4-144E	‡	-	‡	‡	-	‡	‡		46.1 (60)	24.1 (35)	-	‡	‡	-	-	‡	46.1 (60)	24.1 (35)	70.1 (90)	36.6 (50)	24.1 (35)	60.6 (80)	30.5 (40)	20.1 (30)	50.6 (70)

## ► UVC & UVC-E | MECHANICAL DETAILS & DRAWINGS

UVC & UVC-E | Mechanical Information Table

MODEL	Nozzle Width (in.)	Overall Width (in.)	Mounting Width (in.)
UVC-1-36 (E)	36	37	36.06
UVC-1-42 (E)	42	43	42.06
UVC-1-48 (E)	48	49	48.06
UVC-1-60 (E)	60	61	60.06
UVC-2-72 (E)	72	73	72.06
UVC-2-84 (E)	84	85	84.06
UVC-2-96 (E)	96	97	96.06
UVC-3-108 (E)	108	109	108.06
UVC-3-120 (E)	118	119	118.06
UVC-3-132 (E)	133	134	133.06
UVC-4-144 (E)	146	146	145.06



## ► UVC & UVC-E | INSTALLATION

**NOTE:** The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/2 inch.

### A WALL MOUNT

Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor/blower plate when installing.

Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four 7/8 inch holes in motor/blower plate.

If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way.

The electrical switches have a lever that slides in one direction to release the switch contacts from the switch body. All wires will then stay intact for easy installation when replacing the blower plate.

Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and rotate top in last.

### B WALL MOUNT EXTENSION PLATES

Extension plates bolt onto the back of the unit, utilizing the 4 original mounting holes. Brackets have elongated mounting slots that extend the mounting width by 2-1/2 to 3-1/2 inches.

### C BRACKETS

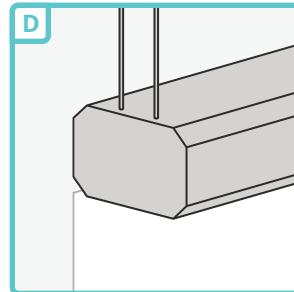
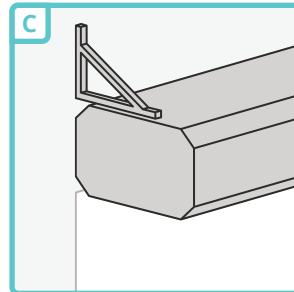
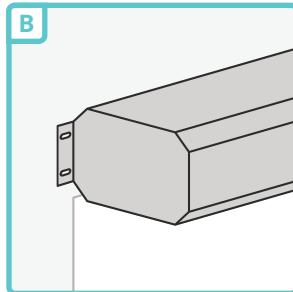
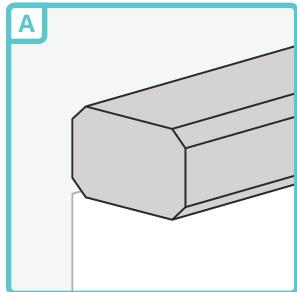
Mounting brackets (also called knee, angle or L-brackets) can be flush to the wall or constructed to account for a projection from the wall. For proper size brackets measure standoff distance from wall to back of where air curtain will be.

### D TOP MOUNT

Unit has four 3/8-16 threaded inserts for installing one end of threaded rods. The other ends of the threaded rods can be attached to the ceiling. Threaded rod should not extend more than 3/4 inch into air curtain.

### ! IMPORTANT INSTALLATION STEPS FOR UVC-AIRE

1. **UNIT SHOULD BE POWERED OFF BEFORE EMITTERS ARE INSTALLED. AVOID ANY DIRECT EXPOSURE TO EMITTERS.**
2. Emitters are shipped separately to reduce chance of damage. They should be opened and installed last. Gloves must always be worn when handling emitters.
3. Triangular "shields" are installed over emitters. These shields must be removed and reinstalled after emitters have been plugged into socket.
4. The emitters and sockets have arrows that will align when connecting.
5. Before powering unit, be sure that emitters, shields, filter and screen are installed.
6. Visually inspect unit for any gaps where light may escape from unit. Apply supplied silicone to cover gaps. This should also be done after unit is powered. Any visible gaps will require unit to be powered off, reopened and have gaps sealed.
7. Do not stand within 12" of unit while in use.



### MB123 QUICK MOUNTING PLATE

Optional Installation (See page 240 for more detail)

#### Step 1

Attach top mounting bracket to back of air curtain using the upper mounting holes on back of unit.

#### Step 2

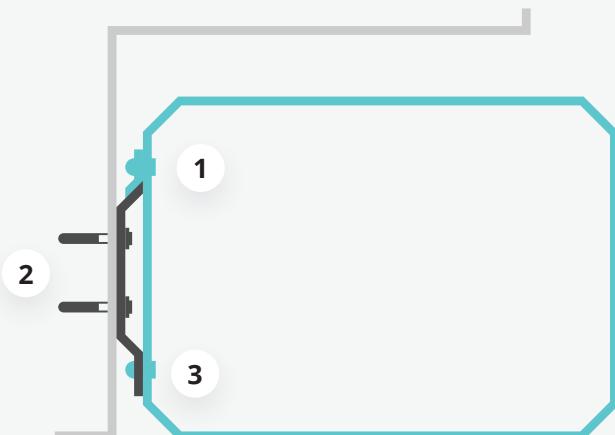
Attach the mounting bracket to the wall. Make sure there is sufficient room between mounting plate and ceiling to mount air curtain.

#### Step 3

Place air curtain over mounting bracket. The top and bottom brackets will lock into place supporting the weight of the air curtain. Attach the bottom bracket to the air curtain using the lower mounting holes.

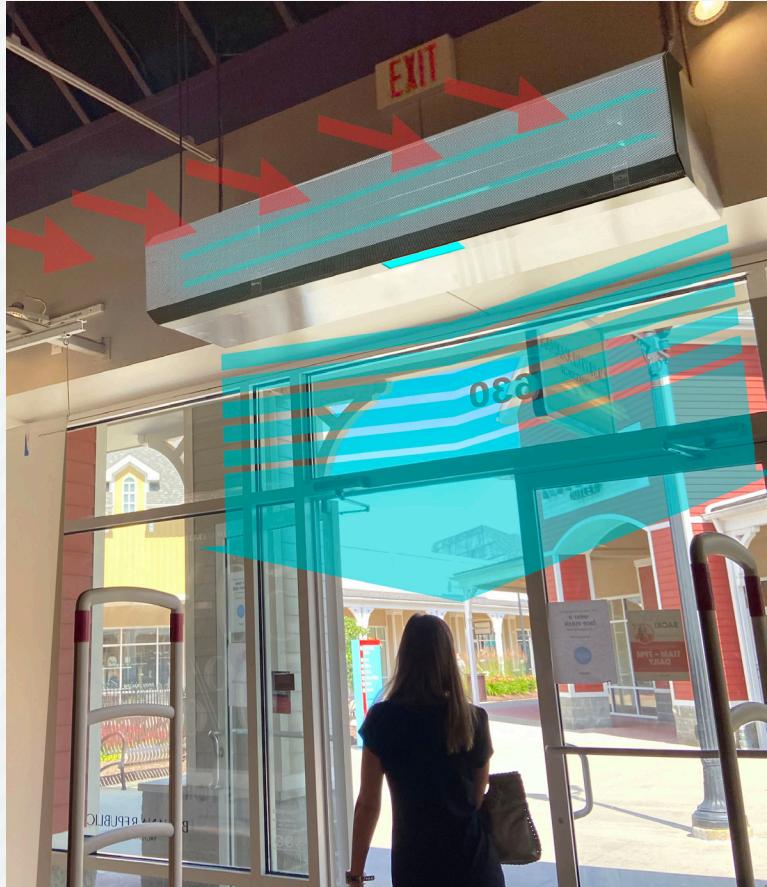


**When mounted, bottom of air curtain is to be flush with bottom of the door header.**



# Application Spotlight

## Air Purification



**UVC-Aire** | Top Mount (Threaded Rod)

### UV-C Light Air Purification from Powered Aire

- UV-C light kills up to 99 percent of all airborne coronavirus pathogens as they pass through the air curtain. . (rates vary by unit's size and speed setting).
- Releases no harmful ozone back into the air.
- UV-C lights inactivate bacteria and viruses without need for HEPA-based filtration, which only traps germs, without inactivating them.
- Ideal for healthcare, retail stores, restaurants, gyms and other facilities requiring a safe and effective method of separating environments, blocking insects, controlling climates and killing germs.
- Powered Aire's UVC-Aire uses the strongest output UVC emitters on the market to achieve the highest airborne inactivation rates possible.
- Available in stand-alone unit or as retrofit extension to fit previously installed air curtains.

**UVCAire™**  
BY POWERED AIRE



CED

v4.2.1

# CED



The Customer Entrance Door (CED) air curtain from Powered Aire is specially designed for high-traffic retail facilities where customer satisfaction is key. The CED creates a barrier to keep conditioned air inside the building and unconditioned/unwanted elements out. It also maximizes employee and customer comfort. The CED has a gentle airflow and its unique plenum design helps make it one of the quietest air curtains in the industry. The CED is capable of being used as an exception to vestibules, having met all the criteria set forth in various codes. It has also been tested in accordance with the ANSI/AMCA 220 Standard to be used as an exception to vestibules.

## OPTIONS

### HEATING

Electric ..... pg 69  
 Hot Water ..... pg 75  
 Steam ..... pg 75

### FILTER

½" Cleanable



## AT A GLANCE

Single Incremental Widths

3' to 14'

Max Installation Height

11'

Heavy Duty Motors

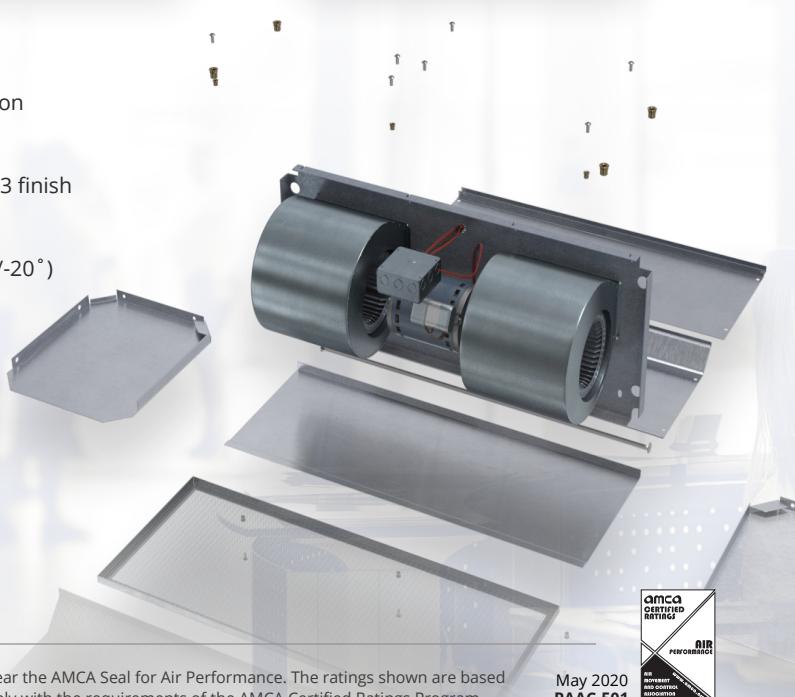
½ HP

### KEY DESIGN FEATURES

- Meets ASHRAE 90.1 and IECC requirements for vestibule exception
- AMCA tested performance
- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1/2 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Filter (washable)



## ► CED | PERFORMANCE

### CED | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity (FPM)	Airflow Rate (CFM)	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Weight (lbs)
CED-1-36	36	3000	1205	892	88%	0.25	1	1/2	83
CED-1-42	42	3000	1209	1040	90%	0.28	1	1/2	90
CED-1-48	48	3000	1131	1108	89%	0.28	1	1/2	97
CED-1-60	60	3000	998	1227	79%	0.29	1	1/2	111
CED-2-72	72	3000	1205	1784	88%	0.50	2	1/2	162
CED-2-84	84	3000	1209	2080	90%	0.56	2	1/2	182
CED-2-96	96	3000	1131	2216	89%	0.56	2	1/2	196
CED-3-108	108	3000	1205	2676	88%	0.75	3	1/2	239
CED-3-120	118	3000	1176	2892	88%	0.78	3	1/2	267
CED-3-132	133	3000	1111	3011	79%	0.79	3	1/2	276
CED-4-144	145	3000	1205	2568	88%	1.00	4	1/2	324
CED-4-156	157	3000	1208	3864	88%	1.06	4	1/2	342
CED-4-168	169	3000	1209	4160	90%	1.12	4	1/2	360



For a unit over 14 feet long, consult factory.

### CED | Velocity Projection

Distance From Nozzle	40"	80"	120"	160"
CED-1-36 Core Velocity (fpm)	996	746	636	574

### CED | Sound Levels

Measured 10 ft. from unit in a free field based on a 1 motor unit	53 dBA
---	--------

### CED | Single Phase Motor Options

Voltages available	120	208/230	480	<b>Note:</b> 575v is transformed down to 120v
Amp draw per motor	2.5	1.4	0.7	



### Performance Highlight

Perfect for customer facing spaces in retail environments, the model CED positions the blowers pointing toward the back of the air curtain. Here they fill a specially designed plenum that when pressurized is more efficient and lowers the operational sound level.

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only.

Powered Aire Inc. certifies that the Model CED Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



May 2020  
PAAC-501



CED-E

v4.2.1

# CED-E



The Customer Entrance Door with electric heat (CED-E) air curtain from Powered Aire is specially designed for high-traffic retail facilities where customer satisfaction is key. The CED-E creates a barrier to keep conditioned air inside the building and unconditioned/unwanted elements out. It also maximizes employee and customer comfort. The CED-E has a gentle airflow and its unique plenum design helps make it one of the quietest air curtains in the industry. The CED-E is capable of being used as an exception to vestibules, having met all the criteria set forth in various codes. It has also been tested in accordance with the ANSI/AMCA 220 Standard to be used as an exception to vestibules.

## OPTIONS

### HEATING

Unheated ..... pg 67  
 Hot Water ..... pg 75  
 Steam ..... pg 75

### FILTER

½" Cleanable



## AT A GLANCE

Single Incremental Widths

3' to 14'

Max Installation Height

11'

Heavy Duty Motors

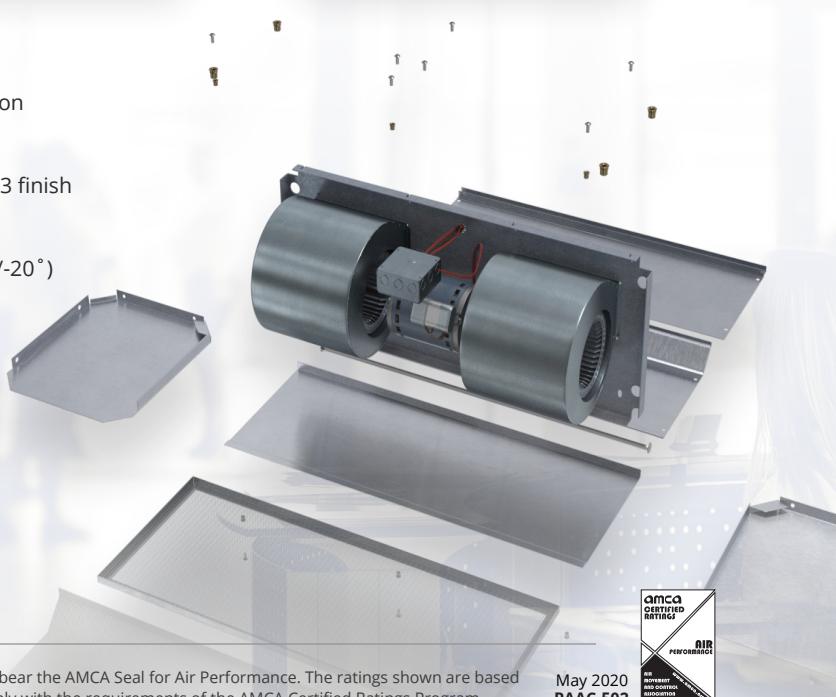
½ HP

### KEY DESIGN FEATURES

- Meets ASHRAE 90.1 and IECC requirements for vestibule exception
- AMCA tested performance
- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1/2 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Factory mounted single-stage electric heaters
- Single point power connection available (see electrical table)
- Alternate heater kW available (consult factory)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Filter (washable)



## ► CED-E | PERFORMANCE

### CED-E | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity (FPM)	Airflow Rate (CFM)	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Heater kW	Temp. Rise (°F)	Weight (lbs)
CED-1-36E	36	3000	1074	795	87%	0.24	1	1/2	10	40	88
CED-1-42E	42	3000	1030	886	96%	0.24	1	1/2	10	36	95
CED-1-48E	48	3000	987	967	94%	0.25	1	1/2	10	33	102
CED-1-60E	60	3000	822	1011	89%	0.25	1	1/2	10	32	113
CED-2-72E	72	3000	1074	1590	87%	0.48	2	1/2	20	40	172
CED-2-84E	84	3000	1030	1772	96%	0.48	2	1/2	20	36	192
CED-2-96E	96	3000	987	1934	94%	0.50	2	1/2	20	33	206
CED-3-108E	108	3000	1074	2385	87%	0.72	3	1/2	30	40	244
CED-3-120E	118	3000	1039	2557	87%	0.73	3	1/2	30	37	272
CED-3-132E	133	3000	9660	2601	87%	0.73	3	1/2	30	37	285
CED-4-144E	145	3000	1074	3180	87%	0.96	4	1/2	40	40	344
CED-4-156E	157	3000	1051	3362	87%	0.96	4	1/2	40	38	362
CED-4-168E	169	3000	1030	3554	96%	0.96	4	1/2	40	36	380



For a unit over 14 feet long, or a non-standard electric heater kW, consult factory.

### CED-E | Velocity Projection

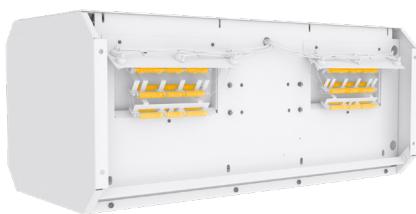
Distance From Nozzle	40"	80"	120"	160"
CED-1-36E Core Velocity (fpm)	859	675	542	437

### CED-E | Sound Levels

Measured 10 ft. from unit in a free field based on a 1 motor unit	53 dBA
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### CED-E | Single Phase Motor Options

Voltages available	120	208/230	480	<b>Note:</b>
Amp draw per motor	2.5	1.4	0.7	575v is transformed down to 120v



### Performance Highlight

Heating elements are mounted inside the plenum, on the discharge side of the blowers. Here, heat won't affect motor life and the heaters are protected from dust that would accumulate on them if they were mounted on the air intake.

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only. Rated data shown are based on tests of units with heating elements present but not in use.

Powered Aire Inc. certifies that the Model CED-E Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



May 2020  
PAAC-502

## ► CED-E | ELECTRICAL

### CED-E | AMP Draw, Circuits & Breaker Size Table

\* With optional branch fusing for Single Point Power (SPP)

^ SPP by default

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

MODEL	AMP DRAW (Breaker Size)														
	208 / 1 / 60			240 / 1 / 60			208 / 3 / 60			240 / 3 / 60			480 / 3 / 60		
	Separate Supply Circuits		SPP*	Circuit 1		Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Circuit 1
	1	2				1	2		1	2		1	2		
CED-1-36E															
CED-1-42E	25.4 (35)	24.0 (35)	49.4 (70)		43.1 (60)	29.2 (40)			^	25.5 (35)	-	^	12.7 (20)	-	10.6 (15)
CED-1-48E															
CED-1-60E															
CED-2-72E															
CED-2-84E	‡	-	‡	‡		30.6 (40)	27.8 (35)	58.4 (80)	26.9 (35)	24.1 (35)	51.0 (70)	25.6 (35)	-	^	21.3 (30)
CED-2-96E															
CED-3-108E															
CED-3-120E	‡	-	‡	‡		45.8 (60)	41.6 (60)	87.4 (110)	40.3 (60)	36.1 (50)	76.4 (100)	38.2 (50)	-	^	31.9 (40)
CED-3-132E															
CED-4-144E															
CED-4-156E	‡	-	‡	‡	‡	-	‡	‡	‡	-	‡	26.9 (35)	24.1 (35)	51 (70)	42.8 (60)
CED-4-168E															



Model CED | Wall Mount

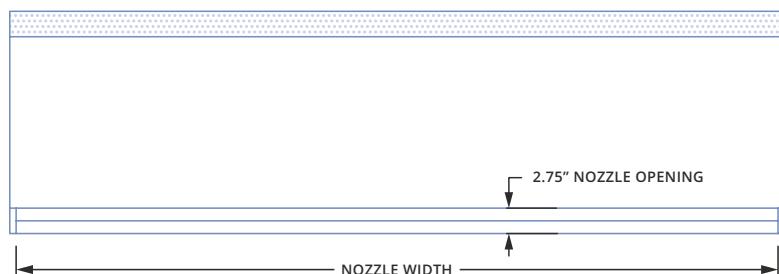
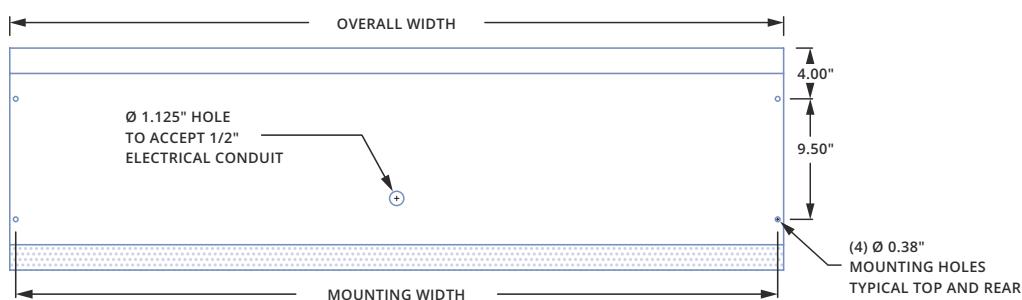
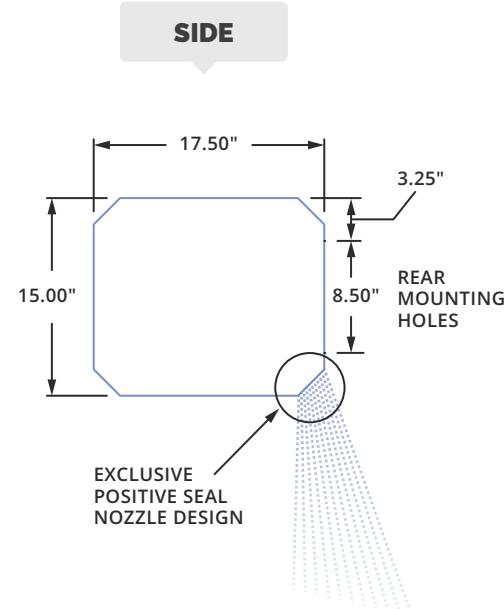


Model CED | Top Mount (Threaded Rods)

## ► CED & CED-E | MECHANICAL DETAILS & DRAWINGS

### CED & CED-E | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
CED-1-36 (E)	37	36	36.06
CED-1-42 (E)	43	42	42.06
CED-1-48 (E)	49	48	48.06
CED-1-60 (E)	61	60	60.06
CED-2-72 (E)	73	72	72.06
CED-2-84 (E)	85	84	84.06
CED-2-96 (E)	97	96	96.06
CED-3-108 (E)	109	108	108.06
CED-3-120 (E)	119	118	118.06
CED-3-132 (E)	134	133	133.06
CED-4-144 (E)	146	145	145.06
CED-4-156 (E)	158	157	157.06
CED-4-168 (E)	170	169	169.06



## ► CED & CED-E | INSTALLATION

**NOTE:** The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/2 inch.

### A WALL MOUNT

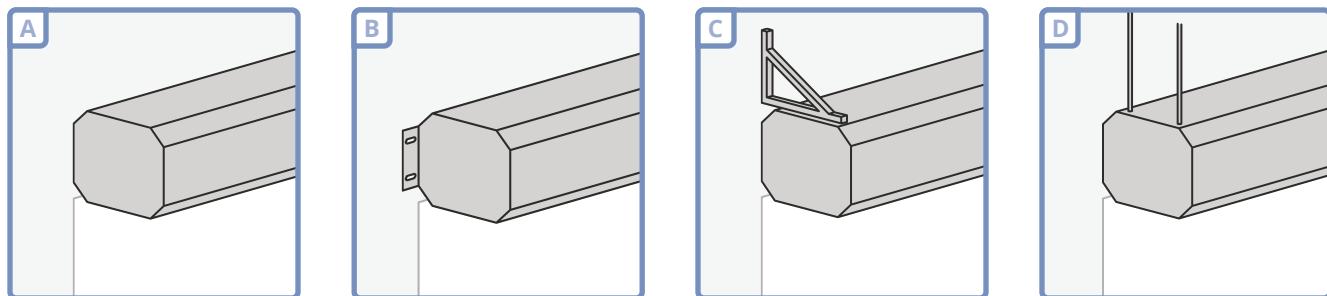
Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor-blower plate when installing.

Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four 7/8 inch holes in motor/blower plate.

If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way.

The electrical switches have a lever that slides in one direction to release the switch contacts from the switch body. All wires will then stay intact for easy installation when replacing the blower plate.

Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and rotate top in last.



### MB123 QUICK MOUNTING PLATE

Optional Installation (See page 240 for more detail)

#### Step 1

Attach top mounting bracket to back of air curtain using the upper mounting holes on back of unit.

#### Step 2

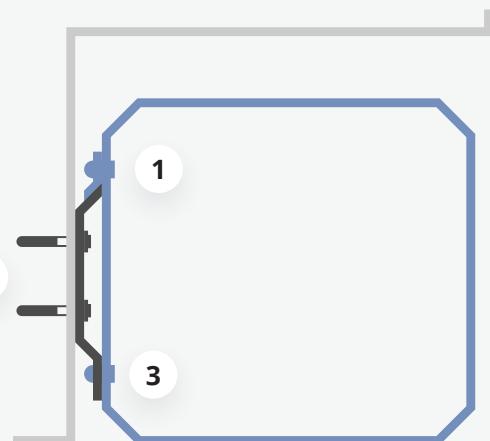
Attach the mounting bracket to the wall. Make sure there is sufficient room between mounting plate and ceiling to mount air curtain.

#### Step 3

Place air curtain over mounting bracket. The top and bottom brackets will lock into place supporting the weight of the air curtain. Attach the bottom bracket to the air curtain using the lower mounting holes.



**When mounted, bottom of air curtain is to be flush with bottom of the door header.**



# Application Case Study

## CUSTOMER ENTRY



**Model CED** | Custom Application



The facility called upon the expertise of high performance stainless steel air curtain manufacturer Powered Aire Inc., which knowing that an air curtain cannot stop this type of air movement, focused instead on tempering the cold air as it entered the hallway.

### Have a custom need?

Contact our factory office so we may assist you in finding the best solution.

**(888) 321-AIRE (2473)**

### Air Curtain Rx

#### THE PROBLEM

Like many medical facilities, this hospital in an urban U.S. city built a parking garage adjacent to its facility, and for added convenience to visitors and personnel constructed a walkway from one side to the other. However the hallway pictured above led from the parking garage to an open atrium several stories high. While aesthetically impressive, this expansive space led to a stack effect and the resulting negative pressure caused cold air to rush in every time the doors to the parking garage opened.

#### THE SOLUTION

- A CED-3-132E air curtain with 1/2 hp motors that provides a gentle flow of air designed specifically for pedestrian openings, and outfitted with custom 60 kw electric heating coils.
- A Hand/Off/Auto switch, that when in the Auto position enables activation of the air curtain when the door opens via a door switch. When the door closes, the fans continue to run for 15 minutes (adjustable). If the door re-opens within this time period the cycle resets.
- A thermostat to maintain the temperature in the walkway even when the doors are closed. If the door stays closed for 15 minutes, the fans turn off, but will re-engage when the temperature sensed by the thermostat drops below the set point. The heat the air curtain supplies mixes with the colder air coming from the parking garage resulting in more evenly tempered and comfortable air that flows into the atrium.

Air curtains are not designed to resolve negative air pressure, but can be designed to reduce the problems that negative air pressure creates.



CED-HW



CED-ST

# CED-HW/ST



CED-HW/ST (hot water or steam) heated air curtains are designed for high traffic retail facilities where employee and customer comfort are critical. The CED effectively blocks cold outdoor air from entering while providing a heated barrier that helps keep the area by the door warm and free of outside drafts. The CED-HW/ST model has a gentle airflow and its unique plenum design make it one of the quietest air curtains in the industry.

## When requesting a quote for a Hot Water/Steam heated air curtain, please provide:

- Specifics of water/steam entering and exiting the air curtain.
- Location for water/steam supplies and returns (both on one side or one each side)

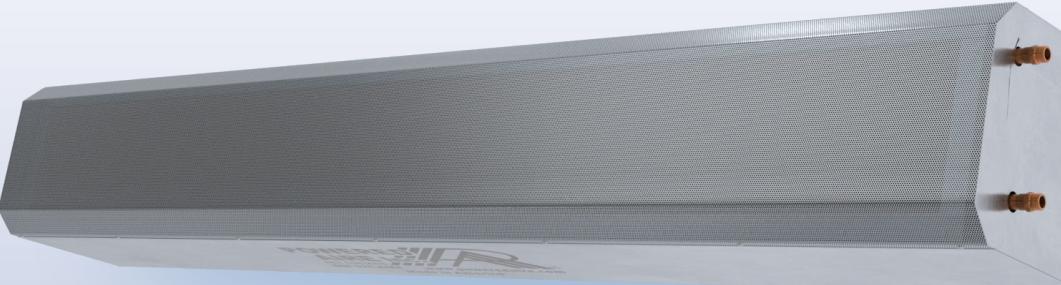
## OPTIONS

### HEATING

Unheated ..... pg 67  
Electric ..... pg 69

### FILTER

1" Cleanable



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

11'

Heavy Duty Motors

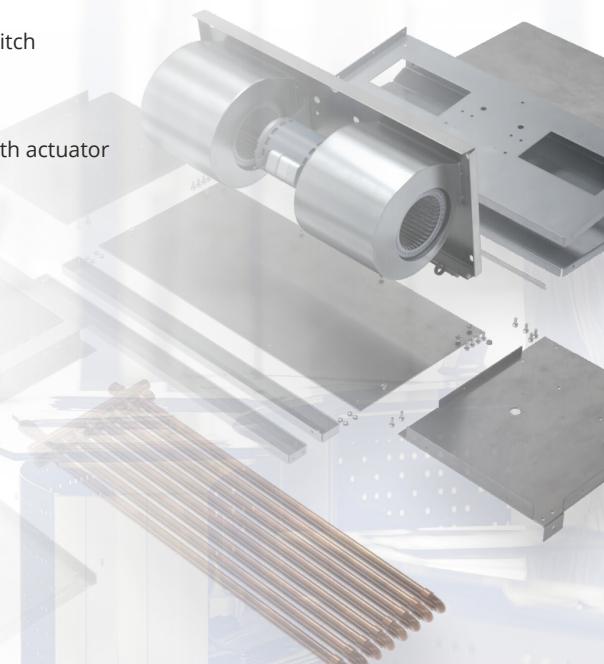
1/2 HP

## KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1/2 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Single length hot water coils up to 14 ft
- Single length steam coils up to 10 ft
- Custom coil selections available (consult factory)

## RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Hot water or steam control valve with actuator



## ► CED-HW/ST | PERFORMANCE

### CED-HW | Performance Table

Model	Nozzle Width	Max. FPM at Nozzle	Avg. FPM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Hot Water			Weight (lbs)
								mbtu/Hour	Temp. Rise (°F)		
CED-1-36HW	36	3000	1205	892	88	1	1/2	34.6	35.8	104	
CED-1-42HW	42	3000	1209	1040	90	1	1/2	40.0	35.4	114	
CED-1-48HW	48	3000	1131	1108	89	1	1/2	41.8	34.7	124	
CED-1-60HW	60	3000	998	1227	79	1	1/2	47.7	35.8	143	
CED-2-72HW	72	3000	1205	1784	88	2	1/2	70.5	36.4	200	
CED-2-84HW	84	3000	1209	2080	90	2	1/2	78.5	34.8	226	
CED-2-96HW	96	3000	1131	2216	89	2	1/2	87.0	36.2	246	
CED-3-108HW	108	3000	1205	2676	88	3	1/2	103.1	35.5	295	
CED-3-120HW	120	3000	1176	2892	88	3	1/2	112.4	35.8	328	
CED-3-132HW	132	3000	1111	3011	79	3	1/2	113.9	34.9	344	
CED-4-144HW	144	3000	1205	3568	88	4	1/2	99.6	35.7	399	
CED-4-156HW	156	3000	1208	3864	88	4	1/2	142.8	34.0	422	
CED-4-168HW	168	3000	1209	4160	90	4	1/2	154.2	34.2	446	

### CED-ST | Performance Table

Model	Nozzle Width	Max. FPM at Nozzle	Avg. FPM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Steam			Weight (lbs)
								mbtu/Hour	Temp. Rise (°F)		
CED-1-36ST	36	3000	1205	892	88	1	1/2	33.0	34.2	125	
CED-1-42ST	42	3000	1209	1040	90	1	1/2	39.7	35.2	138	
CED-1-48ST	48	3000	1131	1108	89	1	1/2	44.5	37.1	151	
CED-1-60ST	60	3000	998	1227	79	1	1/2	48.0	36.2	175	
CED-2-72ST	72	3000	1205	1784	88	2	1/2	70.6	36.5	238	
CED-2-84ST	84	3000	1209	2080	90	2	1/2	82.5	36.7	270	
CED-2-96ST	96	3000	1131	2216	89	2	1/2	83.4	34.8	295	
CED-3-108ST	108	3000	1205	2676	88	3	1/2	106.3	36.7	351	
CED-3-120ST	120	3000	1176	2892	88	3	1/2	115.4	36.8	389	
CED-3-132ST	132	3000	1111	3011	79	3	1/2	114.1	35.0	411	
CED-4-144ST	144	3000	1205	3568	88	4	1/2	141.4	36.6	471	



- For a unit over 12 feet long, consult factory.
- Performance values based off AMCA certified values of unheated CED air curtain.

### CED-HW/ST | Sound Levels

High Speed	53 dBA	Low Speed	51 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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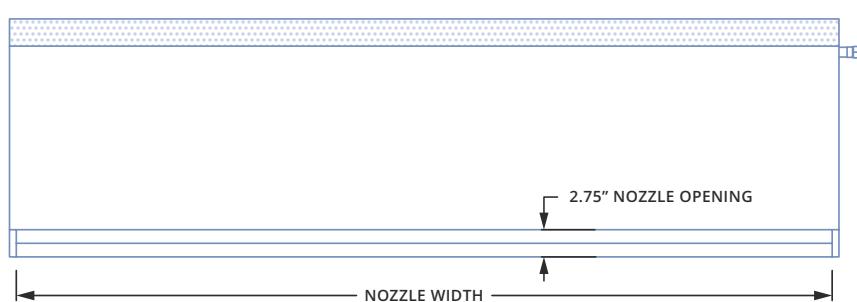
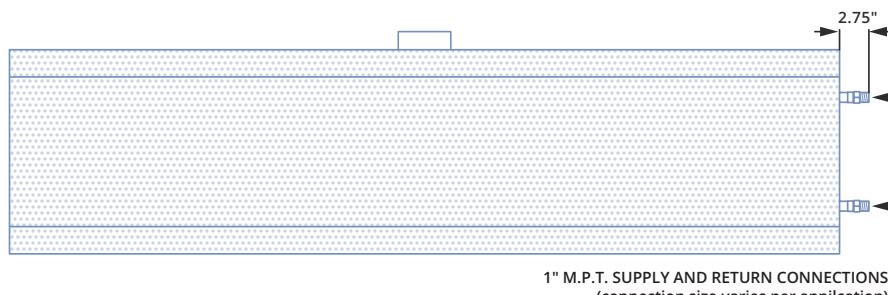
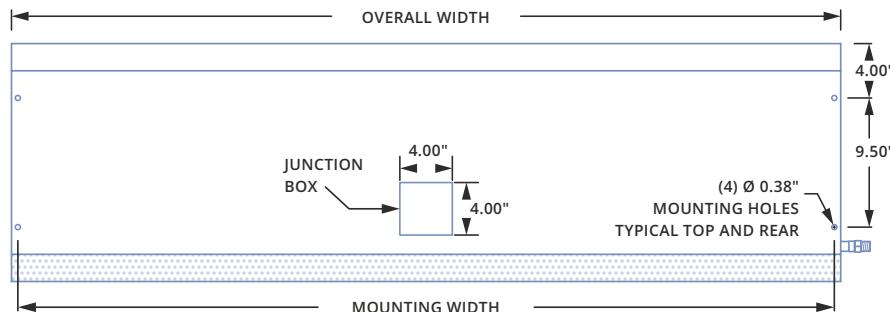
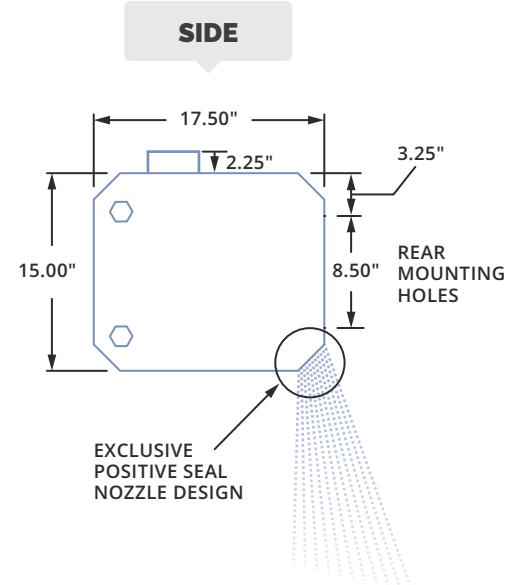
### CED-HW/ST | Single Phase Motor Options

Voltages available	120	208/230	480	Note: 575v is transformed down to 120v
Amp draw per motor	2.5	1.4	0.7	

## ► CED-HW/ST | MECHANICAL DETAILS & DRAWINGS

### CED-HW/ST | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
CED-1-36HW/ST	37	36	36.06
CED-1-42HW/ST	43	42	42.06
CED-1-48HW/ST	49	48	48.06
CED-1-60HW/ST	61	60	60.06
CED-2-72HW/ST	73	72	72.06
CED-2-84HW/ST	85	84	84.06
CED-2-96HW/ST	97	96	96.06
CED-3-108HW/ST	109	108	108.06
CED-3-120HW/ST	119	118	118.06
CED-3-132HW/ST	134	133	133.06
CED-4-144HW/ST	146	145	145.06
CED-4-156HW/ST	158	157	157.06
CED-4-168HW/ST	170	169	169.06



## ► CED-HW/ST | INSTALLATION

**NOTE:** The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/2 inch.

### A WALL MOUNT

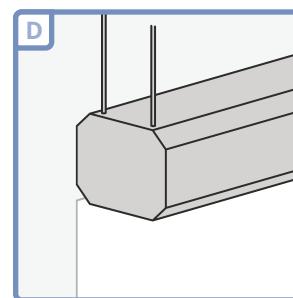
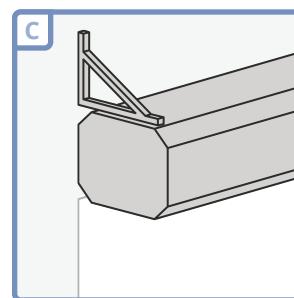
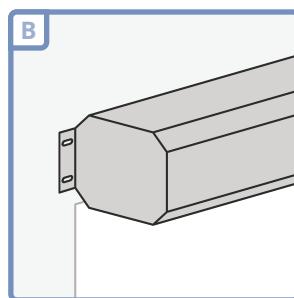
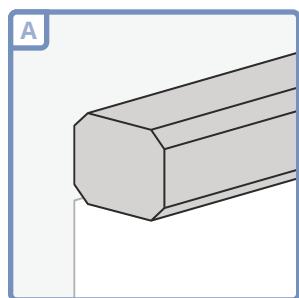
Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor-blower plate when installing.

Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four 7/8 inch holes in motor/blower plate.

If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way.

The electrical switches have a lever that slides in one direction to release the switch contacts from the switch body. All wires will then stay intact for easy installation when replacing the blower plate.

Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and rotate top in last.



### MB123 QUICK MOUNTING PLATE

Optional Installation (See page 240 for more detail)

#### Step 1

Attach top mounting bracket to back of air curtain using the upper mounting holes on back of unit.

#### Step 2

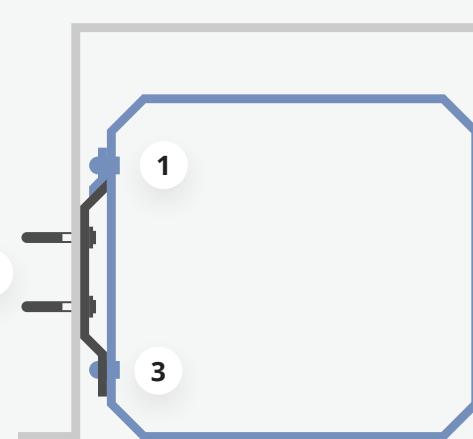
Attach the mounting bracket to the wall. Make sure there is sufficient room between mounting plate and ceiling to mount air curtain.

#### Step 3

Place air curtain over mounting bracket. The top and bottom brackets will lock into place supporting the weight of the air curtain. Attach the bottom bracket to the air curtain using the lower mounting holes.



When mounted, bottom of air curtain is to be flush with bottom of the door header.





CLD



CLD-E

# CLD

LIGHT DUTY

ABOVE CEILING



The Chameleon Light Duty (CLD) is specifically designed to be dropped into the ceiling above customer entry ways where a standard air curtain cannot be exposed. Like the CED, the Chameleon also has the least objectionable airflow.

## OPTIONS

### ELECTRIC HEAT

Electric ..... CLD-E

Hot Water ..... pg 83

Steam ..... pg 83

### FILTER

1/2" Cleanable

### CUSTOM GRILLES

The white grille is standard with this model.  
Consult factory for custom color or metal.



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

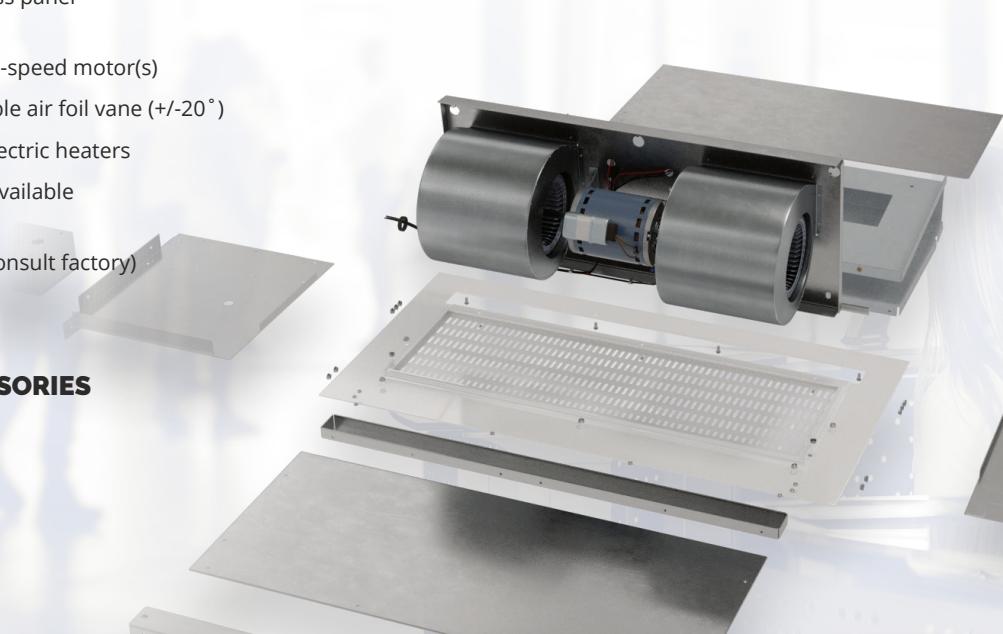
11'

Heavy Duty Motors

1/2 HP

### KEY DESIGN FEATURES

- White decorative intake grille with hinged access panel (consult factory for custom finishes)
- 1/2 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Electric Only:** Factory mounted single-stage electric heaters
- Electric Only:** Single point power connection available (see electrical table)
- Electric Only:** Alternate heater kW available (consult factory)



### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Filter (washable)

## ► CLD & CLD-E | PERFORMANCE

### CLD & CLD-E | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. FPM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Electric Heat			Weight (lbs) Un / Heated
								Heater kW	Temp. Rise (°F)		
CLD-1-36 (E)	36	3000	1205	892	88%	1	1/2	10	36		171 / 174
CLD-1-48 (E)	48	3000	1131	1108	89%	1	1/2	10	29		189 / 196
CLD-1-60 (E)	60	3000	998	1227	79%	1	1/2	10	26		220 / 224
CLD-2-72 (E)	72	3000	1205	1784	88%	2	1/2	20	36		342 / 348
CLD-2-84 (E)	84	3000	1209	2080	90%	2	1/2	20	31		355 / 365
CLD-2-96 (E)	96	3000	1131	2216	89%	2	1/2	20	29		370 / 379
CLD-3-108 (E)	108	3000	1205	2676	88%	3	1/2	30	36		513 / 522
CLD-3-120 (E)	120	3000	1176	2892	88%	3	1/2	30	33		530 / 547
CLD-3-132 (E)	132	3000	1111	3011	79%	3	1/2	30	32		545 / 559
CLD-4-144 (E)	144	3000	1205	3568	88%	4	1/2	40	36		684 / 696



- For a unit over 12 feet long, or a non-standard electric heater kW, consult factory.
- Performance values based off AMCA certified values of unheated CED air curtain.

### CLD & CLD-E | Sound Levels

High Speed 53 dBA      Low Speed 51 dBA      Measured 10 ft. from unit in a free field based on a 1 motor unit

### CLD & CLD-E | Single Phase Motor Options

Voltages available	120	208/230	480	Note: 575v is transformed down to 120v
Amp draw per motor	2.5	1.4	0.7	



### Performance Highlight

Heating elements are mounted inside the plenum, on the discharge side of the blowers. Here, heat won't affect motor life and the heaters are protected from dust that would accumulate on them if they were mounted on the air intake.

## ► CLD-E | ELECTRICAL

### CLD-E | AMP Draw, Circuits & Breaker Size Table

\* With optional branch fusing for Single Point Power (SPP)

^ SPP by default

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

MODEL	AMP DRAW (Breaker Size)														
	208 / 1 / 60			240 / 1 / 60		208 / 3 / 60			240 / 3 / 60			480 / 3 / 60		575 / 3 / 60	
	Separate Supply Circuits		SPP*	Circuit 1		Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	Circuit 1
1	2			1	2	1	2		1	2		1	2		
CLD-1-36E															
CLD-1-48E	25.4 (35)	24.0 (35)	49.4 (70)	43.1 (60)	29.2 (40)		^	25.5 (35)	-	^	12.7 (20)	-	^	10.6 (15)	
CLD-1-60E															
CLD-2-72E															
CLD-2-84E	‡	-	‡	‡	30.6 (40)	27.8 (35)	58.4 (80)	26.9 (35)	24.1 (35)	51.0 (70)	25.6 (35)	-	^	21.3 (30)	
CLD-2-96E															
CLD-3-108E															
CLD-3-120E	‡	-	‡	‡	45.8 (60)	41.6 (60)	87.4 (110)	40.3 (60)	36.1 (50)	76.4 (100)	38.2 (50)	-	^	31.9 (40)	
CLD-3-132E															
CLD-4-144E	‡	-	‡	‡	‡	-	‡	‡	-	‡	26.9 (35)	24.1 (35)	51 (70)	42.8 (60)	



**Model CLD** | Above Ceiling

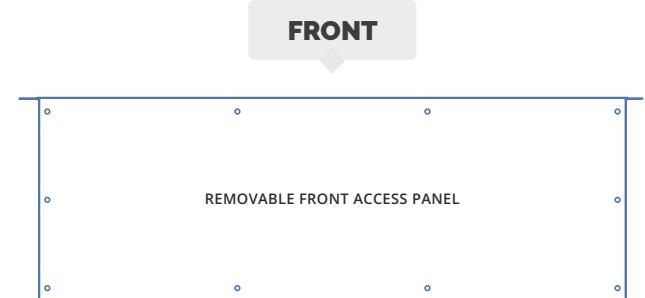
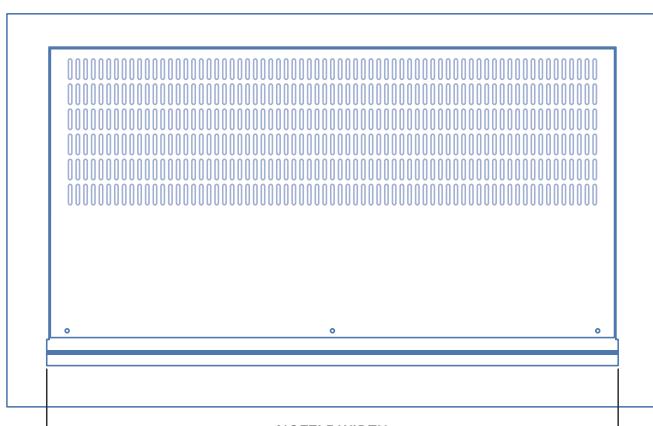
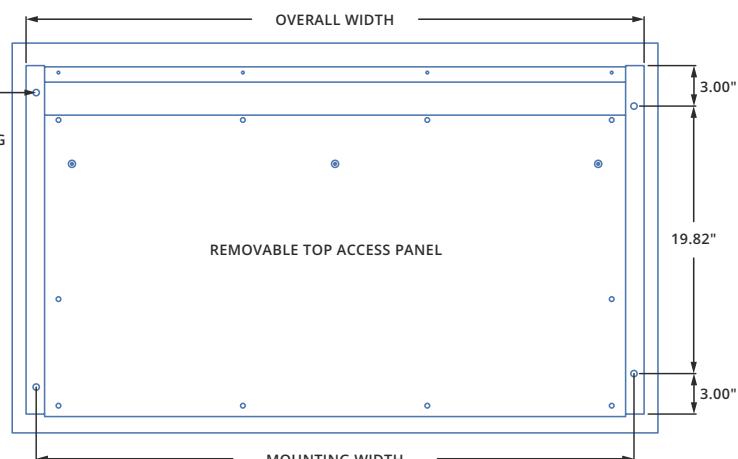
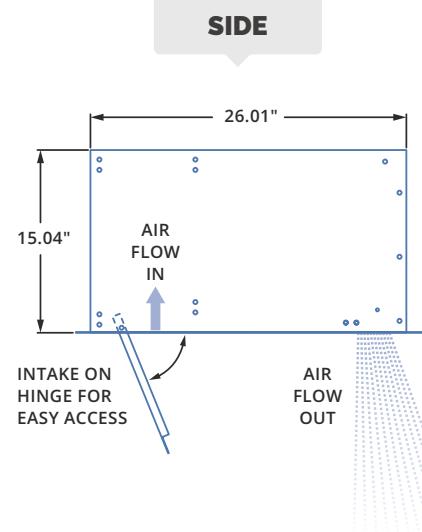


**Model CLD** | Above Ceiling

## ► CLD & CLD-E | MECHANICAL DETAILS & DRAWINGS

CLD & CLD-E | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
CLD-1-36 (E)	39	36	37.5
CLD-1-48 (E)	51	48	49.5
CLD-1-60 (E)	63	60	61.5
CLD-2-72 (E)	75.07	72.07	73.57
CLD-2-84 (E)	87.07	84.07	85.57
CLD-2-96 (E)	99.07	96.07	97.57
CLD-3-108 (E)	111.15	108.15	109.65
CLD-3-120 (E)	123.15	120.15	121.65
CLD-3-132 (E)	135.15	132.15	133.65
CLD-4-144 (E)	147.22	144.22	145.72





CLD-HW



CLD-ST

# CLD-HW/ST

LIGHT DUTY

ABOVE CEILING

The Chameleon is specifically designed to be dropped into the ceiling above customer entry ways where a standard air curtain cannot be exposed. Like the CED, the Chameleon also has the least objectionable airflow.

## OPTIONS

### HEATING

Hot Water ..... CLD-HW  
Steam ..... CLD-ST  
Unheated ..... pg 79  
Electric ..... pg 79

### FILTER

1/2" Cleanable

### CUSTOM GRILLES

The white grille is standard with this model.  
Consult factory for custom color or metal.



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

11'

Heavy Duty Motors

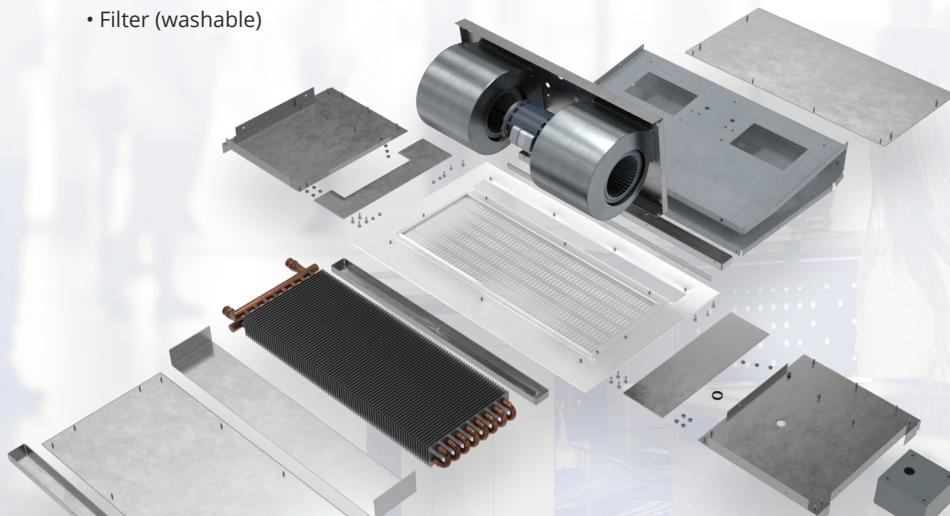
1/2 HP

### KEY DESIGN FEATURES

- White decorative intake grille with hinged access panel (consult factory for custom finishes)
- 1/2 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Custom coil selections available (consult factory)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- SmartTouch controller
- Hot water or steam control valve with actuator
- Filter (washable)



## ► CLD-HW/ST | PERFORMANCE

### CLD-HW/ST | Performance Table

Model	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. FPM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Hot Water		Steam		Weight (lbs)
								mbtu / Hour	Temp. Rise (°F)	mbtu / Hour	Temp. Rise (°F)	
CLD-1-36HW/ST	36	3000	1205	892	88%	1	1/2	33	34	32	32	196
CLD-1-48HW/ST	48	3000	1131	1108	89%	1	1/2	40	33	41	34	214
CLD-1-60HW/ST	60	3000	998	1227	79%	1	1/2	48	36	48	36	245
CLD-2-72HW/ST	72	3000	1205	1784	88%	2	1/2	66	34	65	33	392
CLD-2-84HW/ST	84	3000	1209	2080	90%	2	1/2	78	34	76	33	405
CLD-2-96HW/ST	96	3000	1131	2216	89%	2	1/2	86	35	83	35	420
CLD-3-108HW/ST	108	3000	1205	2676	88%	3	1/2	102	35	98	33	588
CLD-3-120HW/ST	120	3000	1176	2892	88%	3	1/2	112	35	107	34	605
CLD-3-132HW/ST	132	3000	1111	3011	79%	3	1/2	119	36	114	35	620
CLD-4-144HW/ST	144	3000	1205	3568	88%	4	1/2	137	35	131	34	784



- For a unit over 12 feet long, consult factory.
- Performance values based off AMCA certified values of unheated CED air curtain.

### CLD-HW/ST | Sound Levels

High Speed 53 dBA      Low Speed 51 dBA      Measured 10 ft. from unit in a free field based on a 1 motor unit

### CLD-HW/ST | Single Phase Motor Options

Voltages available	120	208/230	480	Note:
Amp draw per motor	2.5	1.4	0.7	575v is transformed down to 120v



### NOTE

#### When requesting a quote for a Hot Water/Steam heated air curtain, please provide:

- Specifics of water/steam entering and exiting the air curtain
- Location for water/steam supplies and returns (both on one side or one each side)

## ► CLD-HW/ST | MECHANICAL DETAILS & DRAWINGS

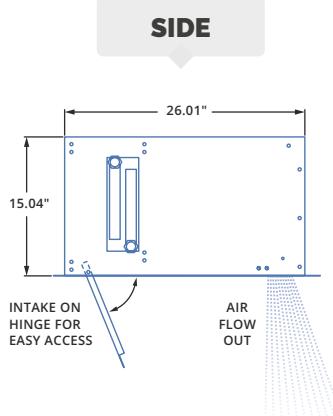
### CLD-HW/ST | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
CLD-1-36HW/ST	39	36	37.5
CLD-1-48HW/ST	51	48	49.5
CLD-1-60HW/ST	63	60	61.5
CLD-2-72HW/ST	75.07	72.07	73.57
CLD-2-84HW/ST	87.07	84.07	85.57
CLD-2-96HW/ST	99.07	96.07	97.57
CLD-3-108HW/ST	111.15	108.15	109.65
CLD-3-120HW/ST	123.15	120.15	121.65
CLD-3-132HW/ST	135.15	132.15	133.65
CLD-4-144HW/ST	147.22	144.22	145.72

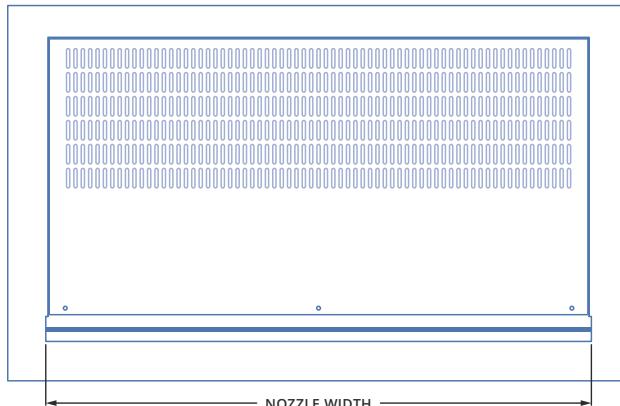


### NOTE

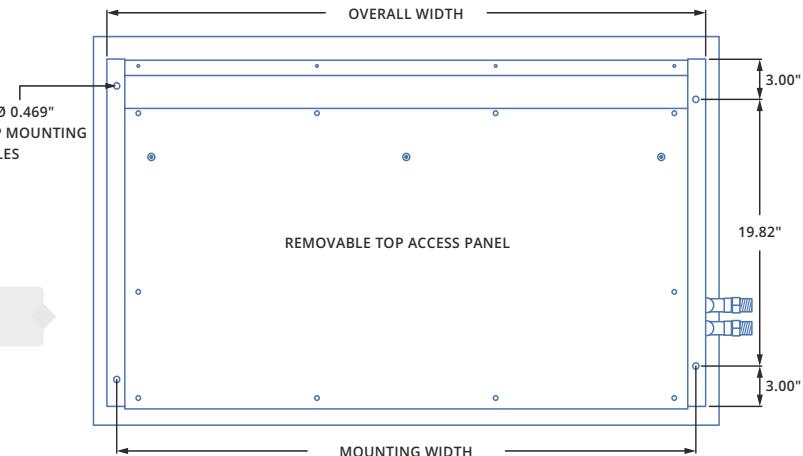
1. Installer is responsible for structurally sound mounting of the unit.
2. Verify that overall dimensions will fit in the opening.
3. Size steam trap (provided by others) by 3x's the manufacturer's recommended size for satisfactory operation.
4. Coil connections are shown on right hand side, but they can be located on either right or left side of unit.



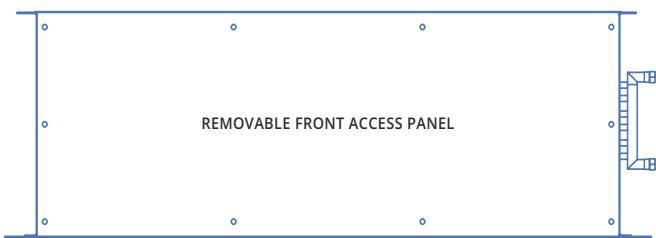
### BOTTOM



### TOP



### FRONT



## ► CLD, CLD-E, CLD-HW/ST | INSTALLATION

### ! IMPORTANT

- ✓ Trained and experienced mechanic / electrician required.
- ✓ **WARNING:**  
Risk of electrical shock, can cause injury or death: Disconnect all remote electrical supplies before servicing.
- ✓ Units must be field wired in accordance with all applicable local, state, provincial and national codes, including wire size and materials.
- ✓ All hardware and brackets must be of sufficient strength to safely support air curtain.



### NOTE

For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{4}$  inch.

Unit has four 15/32 inch holes for installing one end of 7/16" threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.



#### STEP 1

Remove intake/discharge grille from bottom of air curtain. If ceiling is already in place, determine where air curtain location will be and cut a rectangular hole in the ceiling. The hole will be 1 inch longer and wider than the bottom length and width of the air curtain without the intake/discharge grille.



#### STEP 2

Suspend air curtain using threaded rods so that the bottom of the unit is centered within the cut out in the ceiling. There will be a 1/2 inch gap around the air curtain. Mount the unit so that the bottom is flush with the ceiling.



#### STEP 3

Attach the intake/discharge grille to the bottom of the air curtain. The grille is larger than the air curtain to cover the gaps between the air curtain and ceiling.

# Application Spotlight

## CUSTOMER ENTRY

### Air Curtains with the Benefit of a Space Heater

Vestibules are intended to reduce infiltration of outside air into high-traffic customer entryways. They act as a buffer zone between two sets of doors. But cold air is cold air, even when it is trapped within a vestibule.

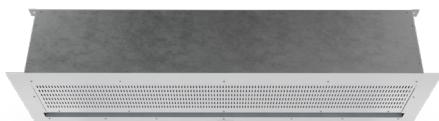
The best way to temper this air is by using an air curtain. An electrically or hot water / steam heated air curtain mounted on the inside of the exterior door will serve as the first line of defense against the cold air attempting to get in every time the door opens.

With an air curtain in place, customers will feel a gentle flow of warm air as they enter the door.

Powered Aire can wire its two-speed air curtains to operate on LOW SPEED as a space heater to add supplemental heat to the space via the thermostat signal, and HIGH SPEED from the door switch when a stronger barrier is required as an air curtain.



*Model CED*



*Model CLD*



**Custom Grilles for Model CLD**  
 See page 249 for more information.



*Model CED | Space Heater*



*Model CLD | Above Ceiling*

# Application Case Study

## CLIMATE CONTROL



**Pictured | EHD & ETD**



A door is up to 100% efficient when closed...and 0% efficient when open! Make open doors more efficient with air curtains from Powered Aire!

### Powered Aire Air Curtains Rev-up Energy Savings at Car Wash Manufacturer

An industry leader in providing full spectrum car wash equipment, chemicals and service in North America was in the process of obtaining its ISO certification and needed to solve insect and climate control issues at its loading dock area.

It was explained to this manufacturer that by incorporating Powered Aire Curtains over their loading dock doors they could reduce the infiltration of cold air in the winter and warm air in the summer, saving energy and adding to their employees' comfort. They were surprised to learn that by using an air curtain they could keep the temperature up to 10 degrees lower inside the dock area during the summer months.

It was also pointed out that when required, they could run the air curtain after the doors are closed to keep the dock levelers dry from rain and snow, thereby creating a safer condition for the dock attendants.

By incorporating an air curtain on their ground level door they could save energy as well. The results of an ROI analysis (available at [www.poweredaire.com](http://www.poweredaire.com)) showed them a payback of less than 2 years.

Another problem was insect control. Powered Aire air curtains allow them to protect their openings against the intrusion of flying insects. As further protection against flying insects, the company also installed an air curtain over their man door that is frequently left open.



ETD



ETD-E

# ETD



The ETD is used to stop cold or warm air from entering a climate controlled environment. The ETD is commonly used in correctional facilities, trash compactors (odor control), beer distributors, walk in coolers, airports, and loading dock doors. This commercial line's stainless steel construction, stainless steel intake screen, and 45 degree beveled edges give it a modern, pleasing look.

## OPTIONS

### HEATING

Electric.....ETD-E



## AT A GLANCE

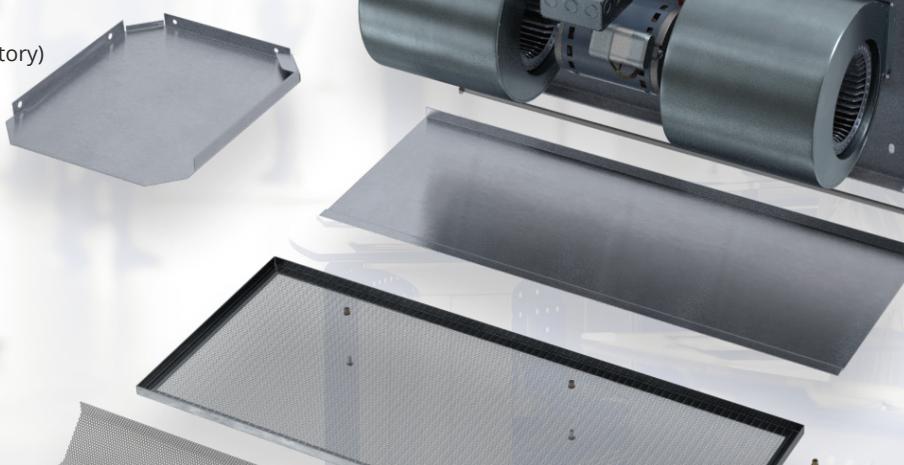
**Single Incremental Widths**
**3' to 12'**
**Max Installation Height**
**12'**
**Heavy Duty Motors**
**3/4 HP**

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 3/4 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Electric Only:** Factory mounted single-stage electric heaters
- Electric Only:** Single point power connection available (see electrical table)
- Electric Only:** Alternate heater kW available (consult factory)

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch
- Electric Only:** Heat On/Off selector switch
- Electric Only:** Digital thermostat



## ► ETD & ETD-E | PERFORMANCE

### ETD & ETD-E | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. FPM	Max. CFM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Electric Heat		Weight (lbs) Un / Heated
									Heater kW	Temp. Rise (°F)	
ETD-1-36 (E)	36	H 4218 L 2837	H 3695 L 2487	H 2899 L 1950	H 2541 L 1710	95%	1	3/4	10	H 13 L 19	90 / 95
ETD-1-42 (E)	42	H 4218 L 2837	H 3169 L 2133	H 3384 L 2276	H 2532 L 1696	93%	1	3/4	10	H 13 L 19	97 / 102
ETD-1-48 (E)	48	H 4218 L 2837	H 2771 L 1865	H 3867 L 2601	H 2559 L 1721	92%	1	3/4	10	H 13 L 19	104 / 109
ETD-1-60 (E)	60	H 4218 L 2837	H 2218 L 1493	H 4374 L 2792	H 2528 L 1703	91%	1	3/4	10	H 13 L 19	117 / 121
ETD-2-60 (E)	60	H 4218 L 2837	H 3315 L 2231	H 5050 L 3252	H 3812 L 2565	94%	2	3/4	15	H 13 L 19	147 / 155
ETD-2-72 (E)	72	H 4218 L 2837	H 3696 L 2488	H 5803 L 3903	H 5082 L 3420	95%	2	3/4	20	H 13 L 19	169 / 177
ETD-2-84 (E)	84	H 4218 L 2837	H 3169 L 2133	H 6766 L 4551	H 5063 L 3382	93%	2	3/4	20	H 13 L 19	187 / 195
ETD-2-96 (E)	96	H 4218 L 2837	H 2773 L 1866	H 7732 L 5201	H 5081 L 3417	92%	2	3/4	20	H 13 L 19	203 / 210
ETD-3-108 (E)	108	H 4218 L 2837	H 3702 L 2486	H 8702 L 5853	H 7623 L 5130	95%	3	3/4	30	H 13 L 19	245 / 255
ETD-3-120 (E)	118	H 4218 L 2837	H 3174 L 2134	H 9668 L 6503	H 7614 L 5127	94%	3	3/4	30	H 13 L 19	274 / 284
ETD-3-132 (E)	133	H 4218 L 2837	H 2792 L 1885	H 10853 L 7155	H 7589 L 5104	94%	3	3/4	30	H 13 L 19	290 / 301
ETD-4-144 (E)	145	H 4218 L 2837	H 3696 L 2488	H 11606 L 7806	H 10164 L 6840	95%	4	3/4	40	H 13 L 19	338 / 354



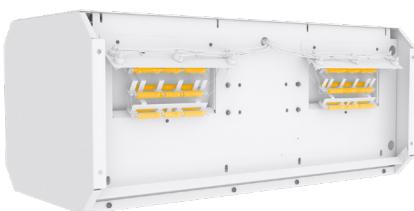
For a unit over 12 feet long, or a non-standard electric heater kW, consult factory.

### ETD & ETD-E | Sound Levels

High Speed	63 dBA	Low Speed	56 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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### ETD & ETD-E | Single Phase Motor Options

Voltages available	120	208/230	480	575	For three phase motors, consult factory
Amp draw per motor	8.0	3.6	2.0	1.5	



#### Performance Highlight

Heating elements are mounted inside the plenum, on the discharge side of the blowers. Here, heat won't affect motor life and the heaters are protected from dust that would accumulate on them if they were mounted on the air intake.

## ► ETD & ETD-E | ELECTRICAL

### ETD-E | AMP Draw, Circuits & Breaker Size Table

\* With optional branch fusing for Single Point Power (SPP)

^ SPP by default

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

MODEL	AMP DRAW (Breaker Size)																
	208 / 1 / 60			240 / 1 / 60		208 / 3 / 60			240 / 3 / 60		480 / 3 / 60			575 / 3 / 60			
	Separate Supply Circuits		SPP*	Circuit 1	Separate Supply Circuits		1	2	3	SPP*	Separate Supply Circuits		1	2	SPP*	Circuit 1	
ETD-1-36E																	
ETD-1-42E	27.6 (35)	24.0 (35)	51.6 (70)	45.3 (60)	31.4 (40)	-	-	-	^	27.7 (35)	-	-	14.0 (20)	-	^	11.5 (15)	
ETD-1-48E																	
ETD-1-60E																	
ETD-2-60E	‡	-	‡	‡	41.6 (60)	7.2 (15)	-	-	48.8 (70)	43.3 (60)	-	-	22 (30)	-	^	18.1 (25)	
ETD-2-72E																	
ETD-2-84E	‡	-	‡	‡	35.0 (45)	27.8 (35)	-	-	62.7 (80)	31.3 (40)	24.1 (35)	55.4 (70)	28.1 (40)	-	^	23.1 (30)	
ETD-2-96E																	
ETD-3-108E																	
ETD-3-120E	‡	-	‡	‡	38.6 (50)	27.8 (35)	27.8 (35)	94.0 (125)	46.9 (60)	36.1 (50)	83.0 (110)	42.1 (60)	-	-	^	34.6 (45)	
ETD-3-132E																	
ETD-4-144E	‡	-	‡	‡	‡	-	-	-	‡	‡	-	-	‡	32.1 (45)	24.1 (35)	56.2 (80)	46.2 (60)

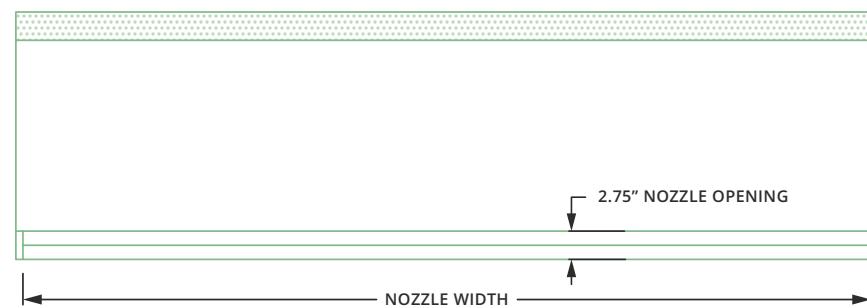
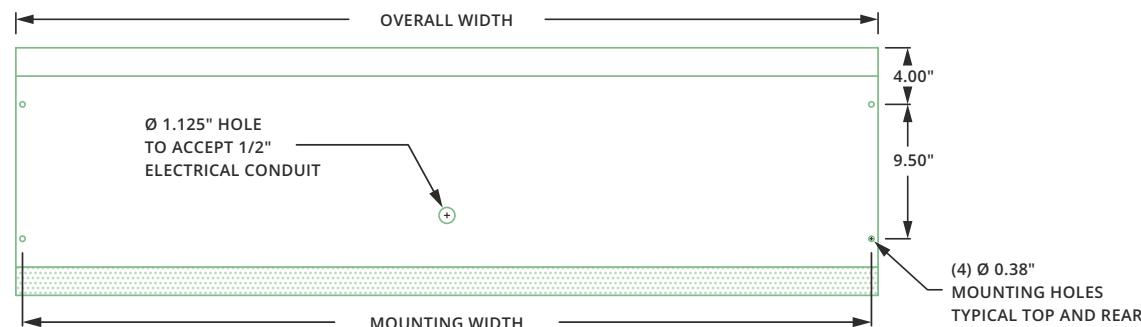
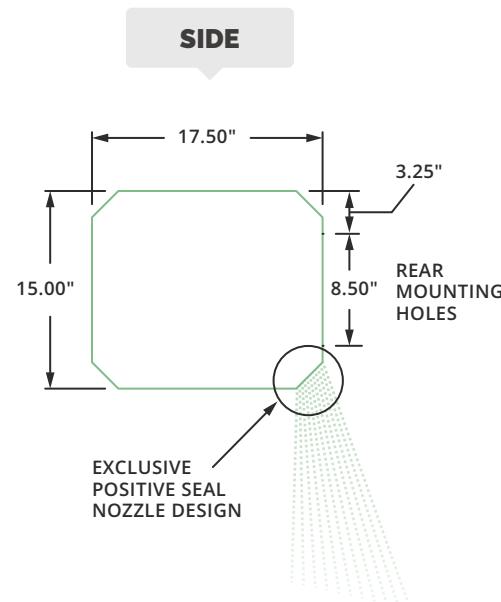


Model ETD | Top Mount, Brackets

## ► ETD & ETD-E | MECHANICAL DETAILS & DRAWINGS

ETD & ETD-E | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
ETD-1-36 (E)	37	36	36.06
ETD-1-42 (E)	43	42	42.06
ETD-1-48 (E)	49	48	48.06
ETD-1-60 (E)	61	60	60.06
ETD-2-60 (E)	61	60	60.06
ETD-2-72 (E)	73	72	72.06
ETD-2-84 (E)	85	84	84.06
ETD-2-96 (E)	97	96	96.06
ETD-3-108 (E)	109	108	108.06
ETD-3-120 (E)	119	118	118.06
ETD-3-132 (E)	134	133	133.06
ETD-4-144 (E)	146	145	145.06



## ► ETD & ETD-E | INSTALLATION

**NOTE:** The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/2 inch.

### A WALL MOUNT

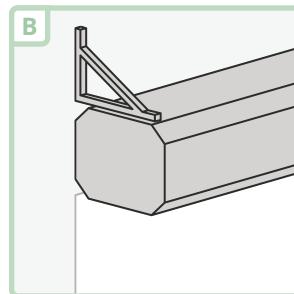
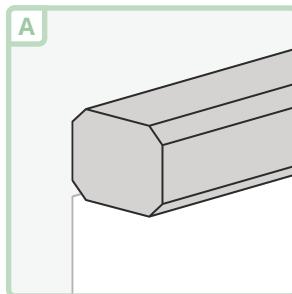
Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor-blower plate when installing.

Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four 7/8 inch holes in motor/blower plate.

If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way.

The electrical switches have a lever that slides in one direction to release the switch contacts from the switch body. All wires will then stay intact for easy installation when replacing the blower plate.

Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and rotate top in last.



### B BRACKETS

Mounting brackets (also called knee, angle or L-brackets) can be flush to the wall or constructed to account for a projection from the wall. For proper size brackets measure standoff distance from wall to back of where air curtain will be.

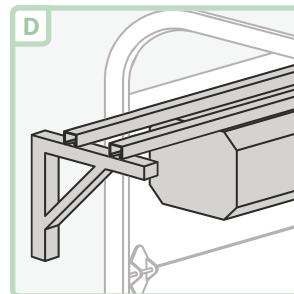
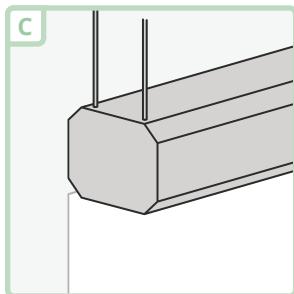
### C TOP MOUNT

Unit has four 3/8-16 threaded inserts for installing one end of threaded rods. The other ends of the threaded rods can be attached to the ceiling. Threaded rod should not extend more than 3/4 inch into air curtain.

Powered Aire does not supply threaded rods.

### D BRACKETS WITH UNISTRUT

The air curtain is supplied with two pieces of unistrut attached to the top, typically one foot longer at each end, to reach brackets that are mounted on surface outside of the door tracks. Please supply the standoff distance from wall to back of where the air curtain will be.



### MB123 QUICK MOUNTING PLATE

Optional Installation (See page 240 for more detail)

#### Step 1

Attach top mounting bracket to back of air curtain using the upper mounting holes on back of unit.

#### Step 2

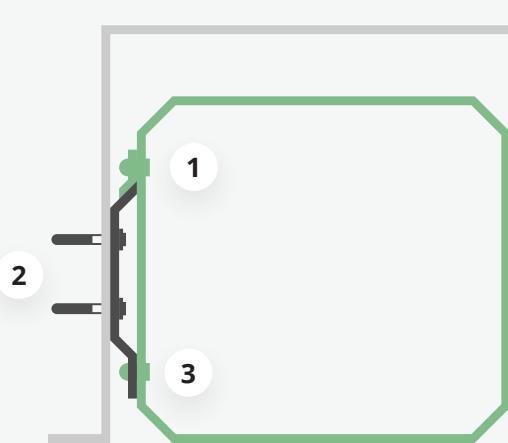
Attach the mounting bracket to the wall. Make sure there is sufficient room between mounting plate and ceiling to mount air curtain.

#### Step 3

Place air curtain over mounting bracket. The top and bottom brackets will lock into place supporting the weight of the air curtain. Attach the bottom bracket to the air curtain using the lower mounting holes.



When mounted, bottom of air curtain is to be flush with bottom of the door header.



# Application Case Study

## CLIMATE CONTROL



**Model ETD** | 10 ft. High Door

### Air Curtain Savings Surpass Customer's Expectations!

A Seattle business with two busy 9 ft. wide x 10 ft. high dock doors was hit with a \$2,361 monthly gas bill. Ouch!

After installing three air curtains built by Powered Aire Inc., a \$1,460 gas bill caused smiles all around. The company could sure put that \$901 in savings to use somewhere else, rather than see it float out the doors each time they opened.

The company has a wet sprinkler system that requires warehouse temperature be kept above 50°. After installing the two Model ETD-3-108 air curtains over the dock doors and one Model MP-1-36 air curtain over a man door in January, 2013, the coastal company kept a close eye on its gas bills.

The March bill saw the biggest savings from the same time in 2012, with January and February still showing significant savings.

"Our gas bills dropped \$400-500/month. That's fantastic! I had no idea the savings would be so great in a relatively mild climate," the company owner said.

Just like this company owner pointed out, the air curtains by Powered Aire exceeded the customer's expectations in a mild winter climate. Imagine what the savings would be in harsher winter climates! Find out by requesting Powered Aire's FREE, custom calculated Energy Savings Analysis.

DATE	Jan. 23, 2012	Feb. 16, 2012	Mar. 16, 2012
GAS BILL 2012	\$1,816	\$1,854	\$1,678
DEGREE DAYS*	24.8	21.6	20.9
DATE	Jan. 18, 2013	Feb. 14, 2013	Mar. 18, 2013
GAS BILL 2013	\$1,460	\$1,459	\$974
DEGREE DAYS*	24.8	19.3	16.3
SAVINGS	<b>\$356</b>	<b>\$395</b>	<b>\$704</b>

\* Below the standard temperature of 65° F, the temperature below which buildings need to be heated.



THS-HW



THS-ST

# THS-HW/ST

MADE  
IN THE  
USA

The THS-HW/ST (hot water or steam) air curtain provides a heated barrier of air that helps improve comfort and energy efficiency. This air curtain is ideal for climate control applications in retail, commercial and office settings. The highly efficient THS uses a plenum to provide consistent and equal coverage across the entire width of the door. It is ideal for hospitals, apartment buildings and other facilities relying on a hot water or steam based heat systems.

**When requesting a quote for a Hot Water/Steam heated air curtain, please provide:**

- Specifics of water/steam entering and exiting the air curtain.
- Location for water/steam supplies and returns (both on one side or one each side)



## OPTIONS

### HEATING

Hot Water ..... THS-HW  
 Steam ..... THS-ST

### FILTER

1" Cleanable

## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

12'

Heavy Duty Motors

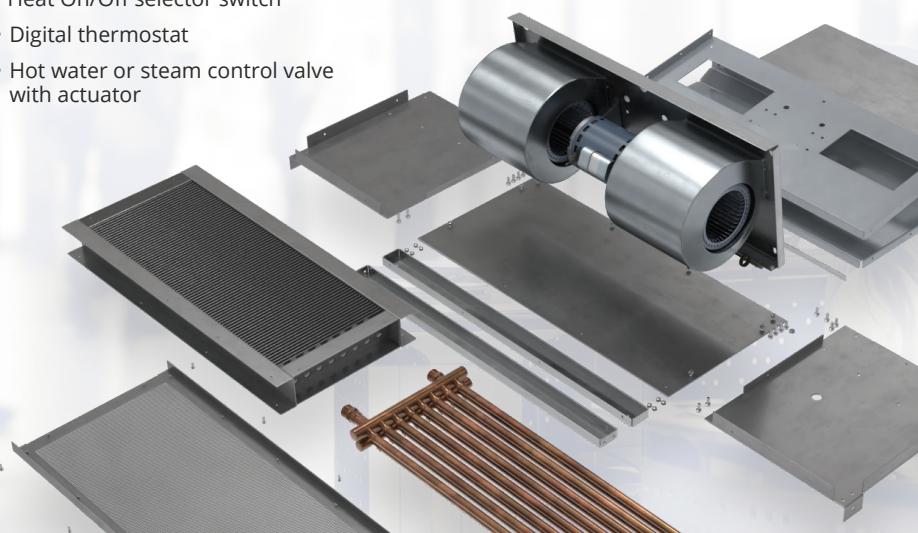
3/4 HP

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 3/4 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Single length hot water coils up to 14 ft
- Single length steam coils up to 10 ft
- Custom coil selections available (consult factory)

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat
- Hot water or steam control valve with actuator



# ► THS-HW/ST | PERFORMANCE

## THS-HW/ST | Performance Table

Model	Nozzle Width (in.)	Hot Water						Steam			Weight (lbs)		
		Max. FPM at Nozzle	Avg. FPM	Max. CFM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	mbtu / Hour	Temp. Rise (°F)			
THS-1-36HW/ST	36	H 4218 L 2837	H 3695 L 2487	H 2899 L 1950	H 2541 L 1710	95%	1	3/4	97	H 35 L 52	108	H 39 L 58	113
THS-1-48HW/ST	48	H 4218 L 2837	H 2771 L 1865	H 3867 L 2601	H 2559 L 1721	92%	1	3/4	102	H 37 L 54	108	H 39 L 58	145
THS-1-60HW/ST	60	H 4218 L 2837	H 2218 L 1493	H 4374 L 2792	H 2528 L 1703	91%	1	3/4	100	H 36 L 54	114	H 41 L 61	180
THS-2-72HW/ST	72	H 4218 L 2837	H 3696 L 2488	H 5803 L 3903	H 5082 L 3420	95%	2	3/4	194	H 35 L 52	202	H 36 L 54	249
THS-2-84HW/ST	84	H 4218 L 2837	H 3169 L 2133	H 6766 L 4551	H 5063 L 3382	93%	2	3/4	205	H 37 L 55	210	H 38 L 57	281
THS-2-96HW/ST	96	H 4218 L 2837	H 2773 L 1866	H 7732 L 5201	H 5081 L 3417	92%	2	3/4	194	H 35 L 52	215	H 39 L 58	306
THS-2-108HW/ST	108	H 4218 L 2837	H 2472 L 1661	H 8216 L 5520	H 5090 L 3421	95%	2	3/4	192	H 35 L 52	198	H 36 L 54	329
THS-3-108HW/ST	108	H 4218 L 2837	H 3702 L 2486	H 8702 L 5853	H 7623 L 5130	92%	3	3/4	283	H 34 L 51	292	H 35 L 52	365
THS-3-120HW/ST	120	H 4218 L 2837	H 3174 L 2134	H 9668 L 6503	H 7614 L 5127	95%	3	3/4	307	H 37 L 55	305	H 37 L 55	406
THS-3-132HW/ST	132	H 4218 L 2837	H 2792 L 1885	H 10177 L 7155	H 7589 L 5104	95%	3	3/4	307	H 37 L 55	326	H 39 L 59	470
THS-4-144HW/ST	144	H 4218 L 2837	H 3696 L 2488	H 11606 L 7806	H 10164 L 6840	95%	4	3/4	388	H 35 L 52	390	H 35 L 52	491



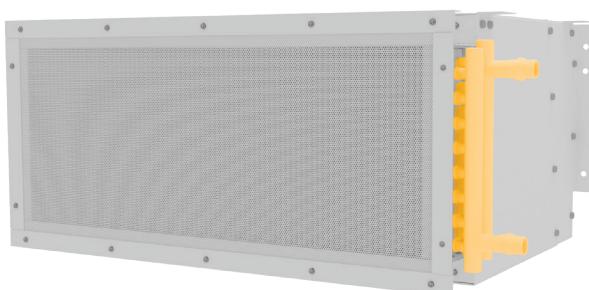
For a unit over 12 feet long, consult factory.

## THS-HW/ST | Sound Levels

High Speed	63 dBA	Low Speed	56 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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## THS-HW/ST | Single Phase Motor Options

Voltages available	120	208/230	480	575	For three phase motors, consult factory
Amp draw per motor	8.0	3.6	2.0	1.5	



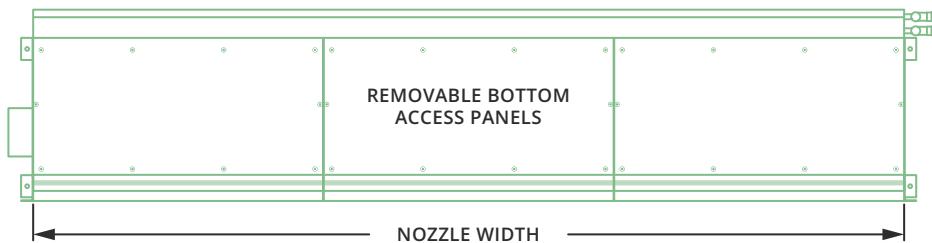
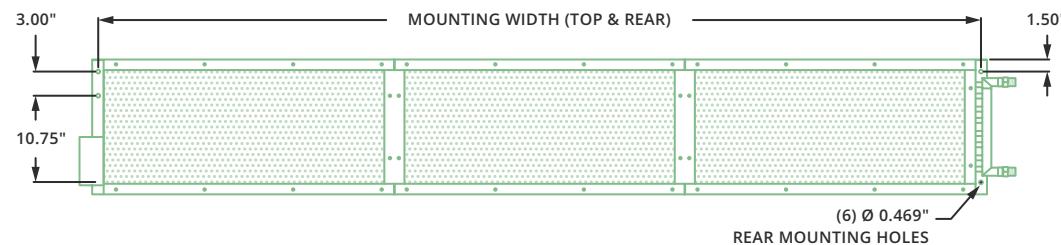
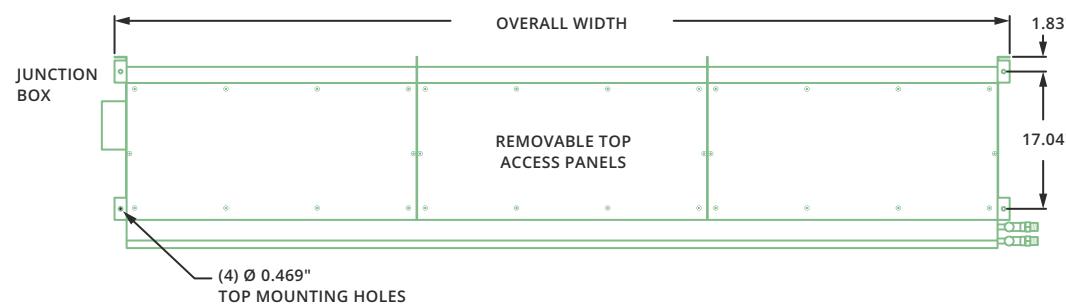
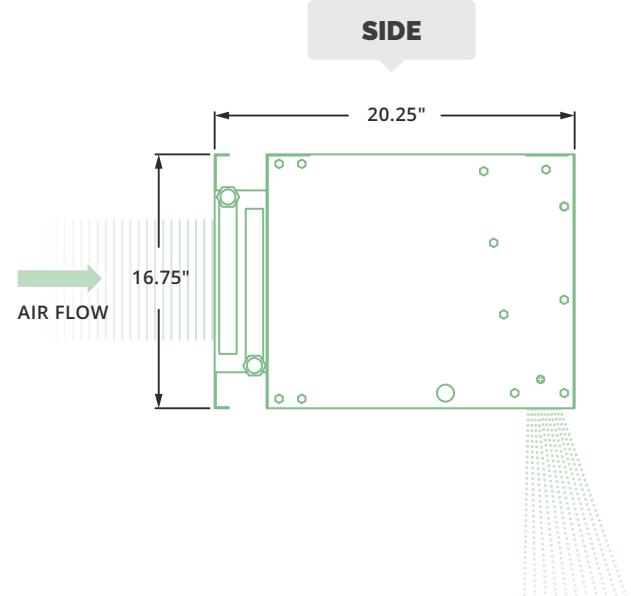
### Performance Highlight

Made-to-order steam or hot water coil mounted to intake of air curtain. Coil consists of 5/8 in. O.D. copper tubes and aluminum fins. Coils certified to ARI standard 410.

## ► THS-HW/ST | MECHANICAL DETAILS & DRAWINGS

### THS-HW/ST | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
THS-1-36HW/ST	39	36	37.5
THS-1-48HW/ST	51	48	49.5
THS-1-60HW/ST	63	60	61.5
THS-2-72HW/ST	75.07	72.07	73.57
THS-2-84HW/ST	87.07	84.07	85.57
THS-2-96HW/ST	99.07	96.07	97.57
THS-2-108HW/ST	111.07	108.07	109.57
THS-3-108HW/ST	111.15	108.15	109.65
THS-3-120HW/ST	123.15	120.15	121.65
THS-3-132HW/ST	135.15	132.15	133.65
THS-4-144HW/ST	147.22	144.22	145.72



## ► THS-HW/ST | INSTALLATION



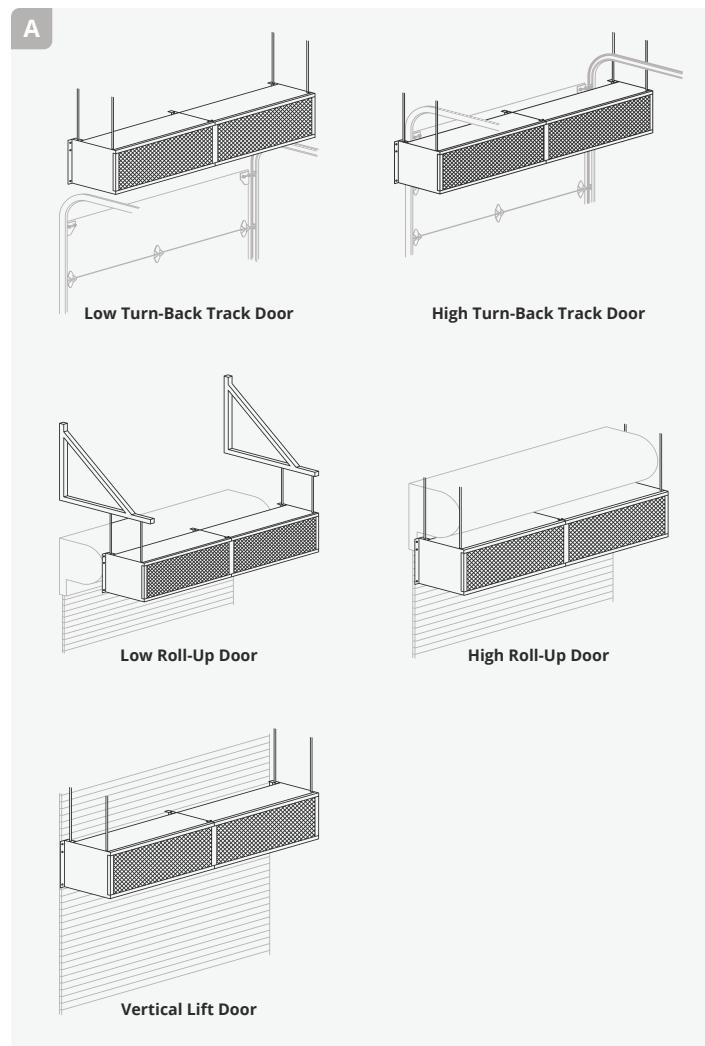
### NOTE

The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

### A TOP MOUNT

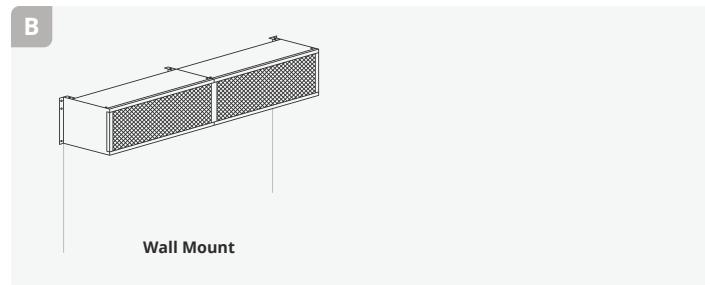
Unit has four 15/32 inch holes for installing one end of 7/16" threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.

\*Powered Aire does not supply threaded rods.



### B WALL MOUNT

Rear flanges of air curtain have six holes, for six 7/16 inch bolts or lags with washers. When wall mounting use all six holes.



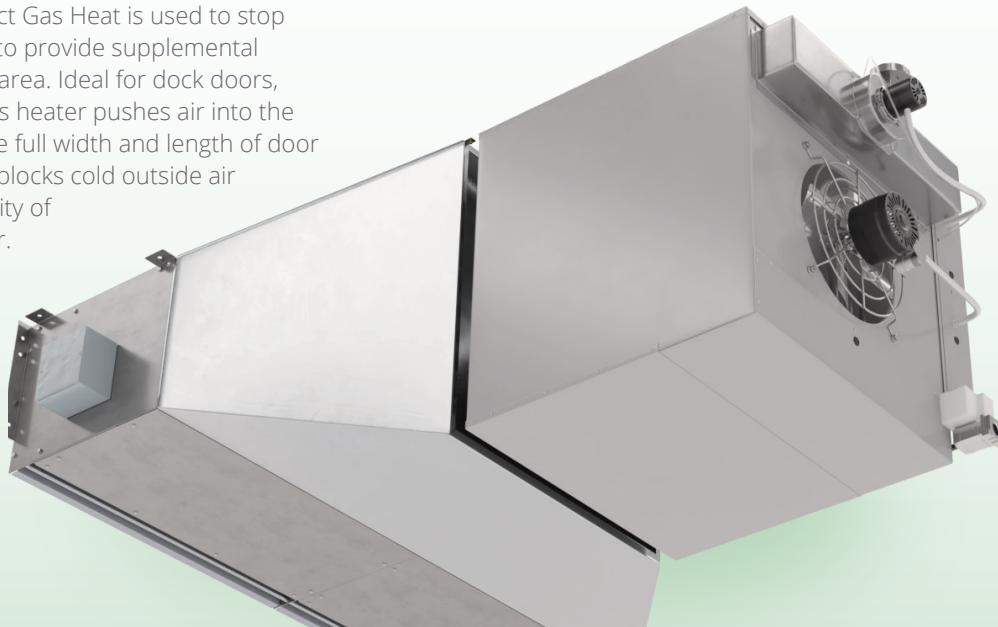


TIG

# TIG



The TIG model for Climate Control with Indirect Gas Heat is used to stop cold drafts from entering door openings and to provide supplemental heat around what can be a very cold working area. Ideal for dock doors, warehouses and busy industrial doors, the gas heater pushes air into the stainless steel duct transition and blankets the full width and length of door with a warm curtain of air. The TIG effectively blocks cold outside air and helps improve the comfort and productivity of those working around a busy warehouse door. The TIG provides a temperature rise of 34°F – 44°F to the ambient entering air, depending on the model.



## OPTIONS

### HEATING

Closed combustion heaters are available upon request.

## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

12'

Heavy Duty Motors

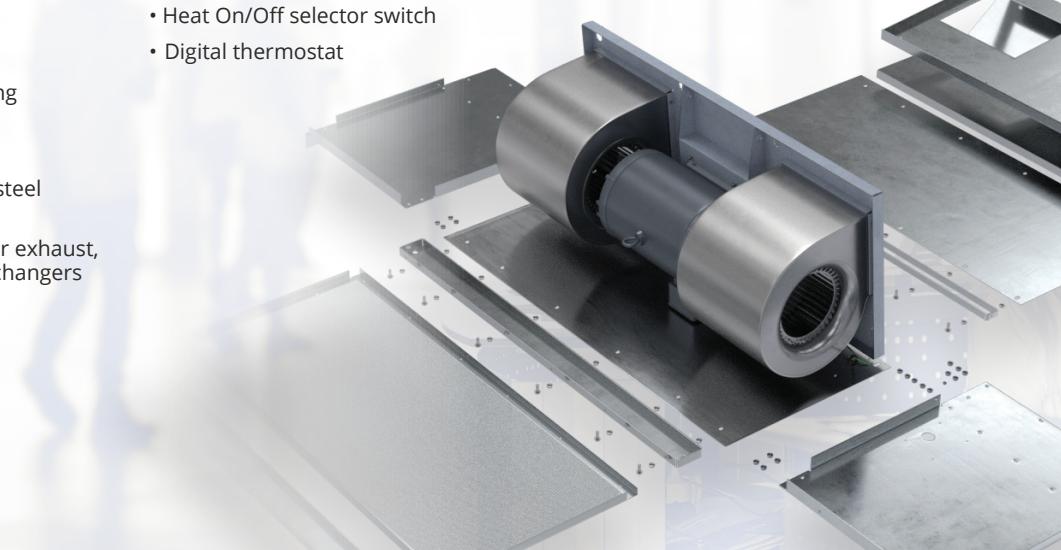
3/4 HP

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 3/4 HP ODP (Open Drip Proof) direct-drive dual-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel
- Factory mounted 18-gauge 304 stainless steel transition duct(s)
- AGA/CGA labeled gas heater(s) with power exhaust, direct spark ignition, and tubular heat exchangers
- Convertible open and closed combustion
- Natural gas or propane fuel types
- Standard single point power connection

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat



# ► TIG | PERFORMANCE

## TIG | Performance Table

MODEL	Nozzle Width (In.)	Max. FPM at Nozzle	Max. CFM at Nozzle	Avg. FPM at Nozzle	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Number of Heaters	Input mbtu / hr per Heater	Total Output mbtu / hr	Temp. Rise (°F)	Weight (lbs)
TIG-1-36	36	4218	2899	3695	2541	95%	1	3/4	1	150	120	44	250
TIG-1-48	48	4218	3867	2771	2559	92%	1	3/4	1	150	120	43	282
TIG-1-60	60	4218	4374	2218	2528	91%	1	3/4	1	150	120	44	337
TIG-2-72	72	4218	5803	3696	5082	95%	2	3/4	1	250	200	36	496
TIG-2-84	84	4218	6766	3169	5063	93%	2	3/4	1	250	200	37	526
TIG-2-96	96	4218	7732	2773	5081	92%	2	3/4	1	250	200	36	569
TIG-3-108	108	4218	8702	3702	7623	92%	3	3/4	1	350	280	34	638
TIG-3-120	120	4218	9668	3174	7614	95%	3	3/4	2	200	320	39	679
TIG-3-132	132	4218	10853	2792	7589	94%	3	3/4	2	200	320	39	833
TIG-4-144	144	4218	11606	3696	10164	95%	4	3/4	2	250	400	36	992



For a unit over 12 feet long, consult factory.

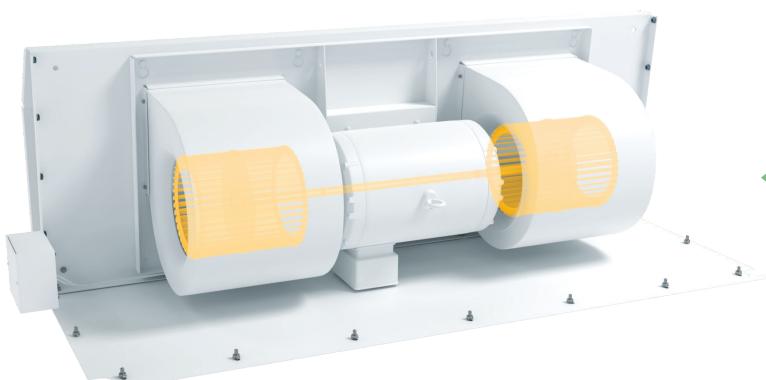
## TIG | Sound Levels

High Speed 63 dBA

Measured 10 ft. from unit in a free field based on a 1 motor unit

## TIG | Single Phase Motor Options

Voltages available	120	208/230	480	575	For three phase motors, consult factory
Amp draw per motor	8.0	3.6	2.0	1.5	



### Performance Highlight

The air curtain is direct drive, which avoids misalignment of couplers and outboard bearings and eliminates periodic belt replacement.

## ► TIG | MECHANICAL DETAILS & DRAWINGS (1 HEATER)

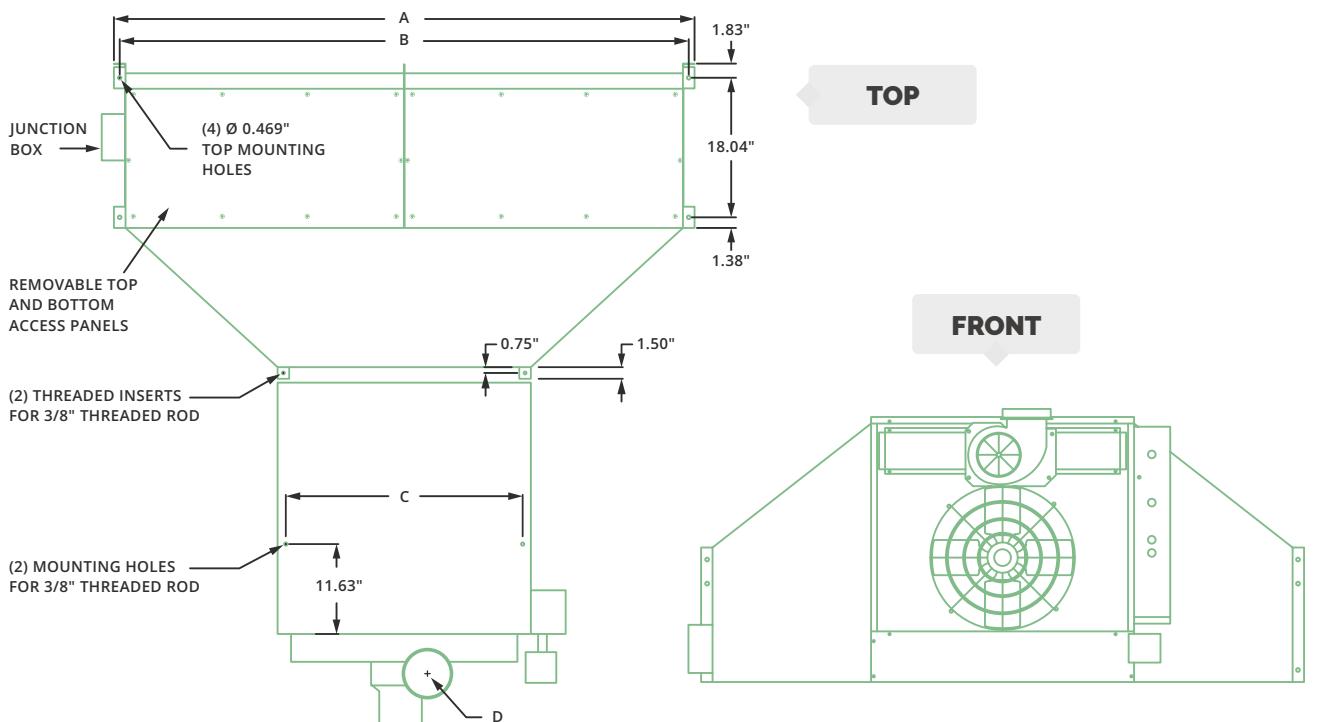
### TIG | 1-Heater Mechanical Information Table

MODEL	Air Curtain Width - A (in.)	Mounting Width - B (in.)	Hanging Width - C (in.)	Flue Ø - D (in.)	Heater Size	Gas Inlet
TIG-1-36	39.00	37.50	18.63	5	150	0.5
TIG-1-48	51.00	49.50	18.63	5	150	0.5
TIG-1-60	63.00	61.50	18.63	5	150	0.5
TIG-2-72	75.07	73.57	30.63	5	250	0.75
TIG-2-84	87.07	85.57	30.63	5	250	0.75
TIG-2-96	99.07	97.57	30.63	5	250	0.75
TIG-3-108	111.15	109.65	48.63	5	350	0.75

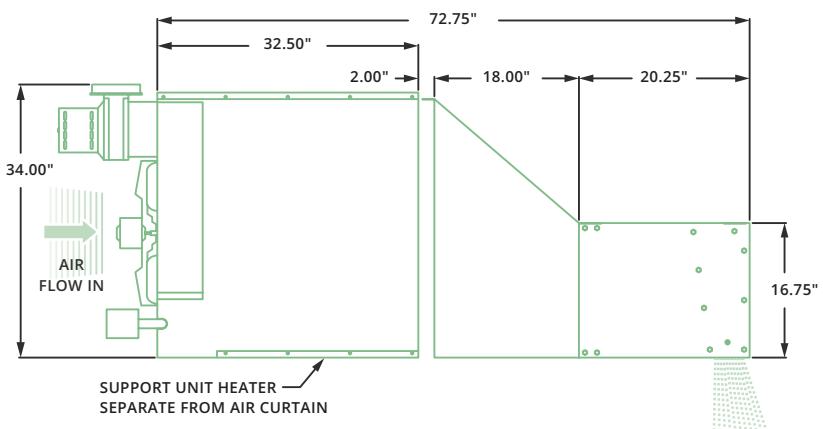


### NOTES

1. Heater independently supported 2 inches away from duct transition.
2. Duct transition bolted to air curtain and will need to be supported.
3. Installer responsible for structurally sound mounting of the unit.
4. Verify that overall dimensions will fit in the opening.
5. Air curtain to be installed so that the air stream is unobstructed.



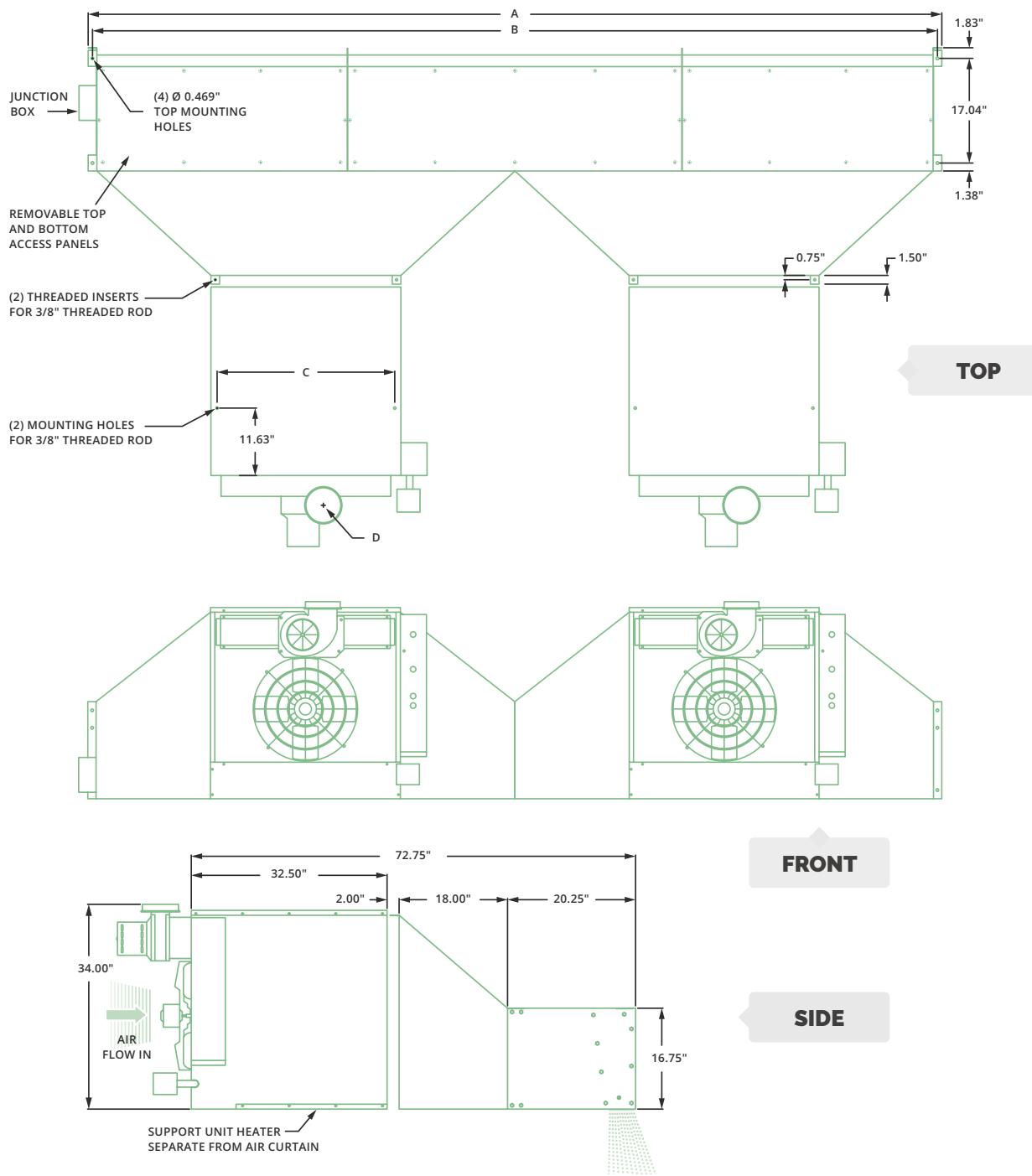
### SIDE



## ► TIG | MECHANICAL DETAILS &amp; DRAWINGS (2 HEATER)

TIG | 2-Heater Mechanical Information Table

MODEL	Air Curtain Width - A (in.)	Mounting Width - B (in.)	Hanging Width - C (in.)	Flue Diameter - D (in.)	Heater Size	Gas Inlet
TIG-3-120	123.15	121.65	30.63	5	2 x 200	0.5
TIG-3-132	135.15	133.65	30.63	5	2 x 200	0.5
TIG-4-144	147.22	145.72	30.63	5	2 x 200	0.5



## ► TIG | INSTALLATION

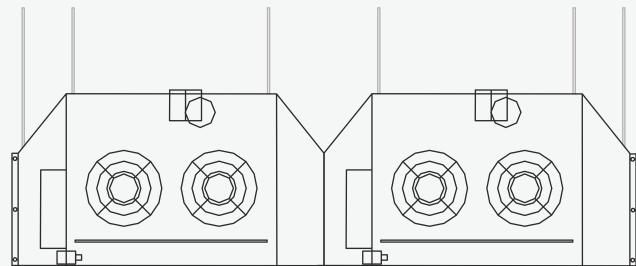
### MOUNTING

- Unit will be suspended with threaded rods. Air curtain has two holes on each end for installing one end of threaded rods.
- Model TIG requires 7/16" threaded rod. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold unit, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.
- Each transition duct has two 3/8 - 16 spotnuts
- Each heater has two or four 3/8 - 16 spotnuts depending on the model.
- The other ends of the threaded rods can be attached to the ceiling.
- Additional mounting holes are provided on larger units for buildings where structural support is not adequate for supporting the air curtain from ends only.

### POSITIONING

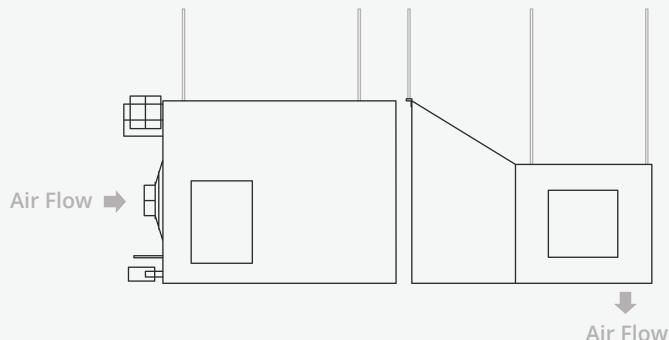
- Heater is to be mounted separately, 2" from air curtain/transition assembly.

#### FRONT



#### SIDE

Support unit heater separate from air curtain



# Application Spotlight

## CLIMATE CONTROL



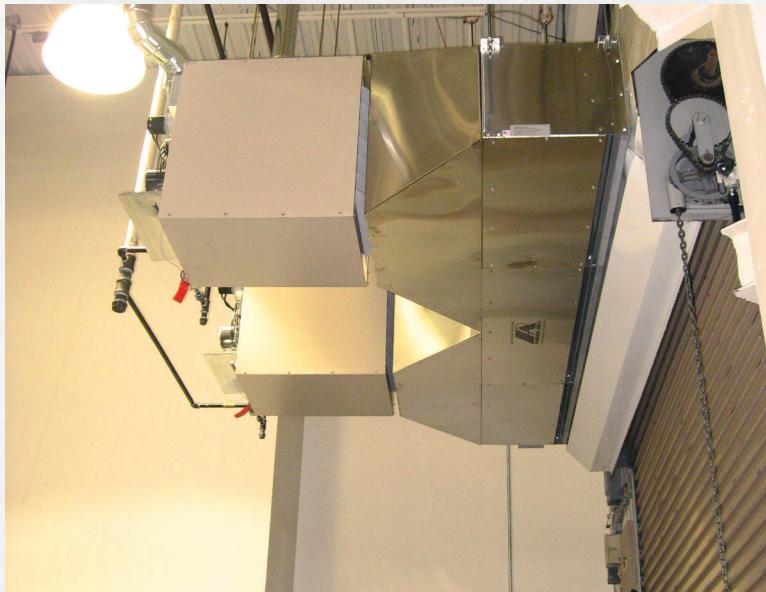
*Indirect Gas Air Curtain | Custom Application*

### Custom Applications for Indirect Gas Heated Air Curtains

Powered Aire's indirect gas heated air curtains can be used for all types of design applications.

Let Powered Aire's engineering staff help you keep doorways comfortably warm while still providing 70% to 80% efficiency against infiltration.

See CUSTOM APPLICATIONS on page 227 for more ways we've solved problems for our clients and their needs.



*Indirect Gas Air Curtain | Custom Application*



TDG

# TDG



The TDG is a direct-gas fired, heated air curtain used for climate control and to stop cold drafts from entering door openings in industrial settings including dock doors, loading docks and other delivery doors. The TDG pulls air across the flame of the direct gas heater, blanketing the full length and width of the door with warm air. The effective climate control gained by the TDG results from a discharge temperature of 105° F, even if the entering air temperature is 0° F. The TDG provides a maximum temperature rise of 105° F. This unit is commonly used where temperature is critical to maintain. It also boosts employee comfort and productivity around doors where excessive cold air can make work more difficult.

**NOTE**

Direct Gas Fired Air Curtain must be ducted to the outside for 100% fresh air.



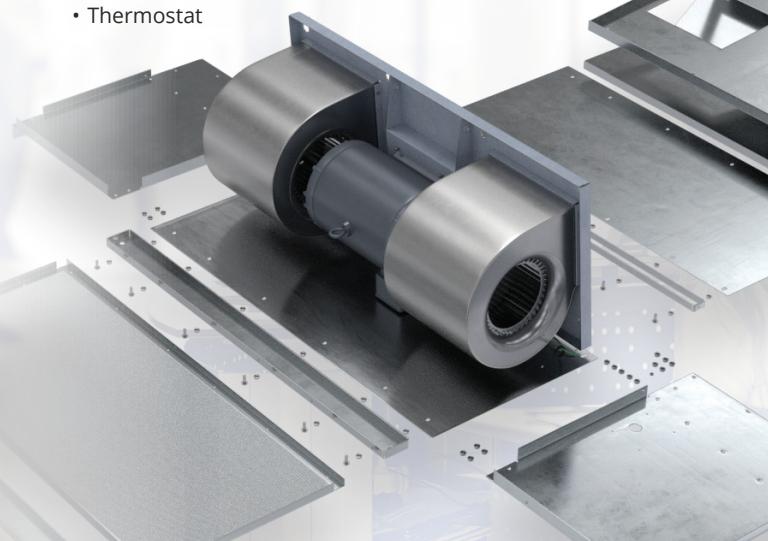
## AT A GLANCE

**Single Incremental Widths**
**6' to 12'**
**Max Installation Height**
**12'**
**Heavy Duty Motors**
**3/4 HP**
**KEY DESIGN FEATURES**

- All weight bearing structural support is 14-gauge stainless steel. Case equipped with stainless steel access panels for inspection, cleaning or removal of motor blower assembly.
- Heavy duty 3/4 HP motors. 1630 rpm each.
- Direct gas heater equipped with a temperature sensor that controls the heater output by way of modulating gas valve. An airflow switch along with a motor contactor will ensure that the burner will not fire without the fans spinning. In case of flame failure, the flame safety relay energizes the alarm lockout relay shutting down the entire system. The system will only restart if the flame safety relay is manually reset.
- Units equipped with proof of closure on the main gas valve, as well as high and low gas pressure switches.
- Direct gas fired panels are mounted to the unit and contain a 24-volt control transformer, flame safety relay, temperature sensor, air flow sensor and modulating gas valve controls.
- Top and bottom access panels to replace or service motors or blowers without lowering entire unit or bottom half of unit. The motor/blower plate comes out as an entire piece.
- Control panel included

**RECOMMENDED CONTROLS**

- HAND / OFF / AUTO switch
- Magnetic Door Switch for activation
- Built-in time delay relay
- Thermostat



## ► TDG | PERFORMANCE

### TDG | Performance Table

MODEL	Nozzle Width (In.)	Max. FPM at Nozzle	Max. CFM at Nozzle	Avg. FPM at Nozzle	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Heater Output mbtu / hr	Max. Output Temp. (°F)	Weight (lbs)
TDG-2-72	72	4218	5803	3696	5082	95%	2	3/4	576	105	499
TDG-2-84	84	4218	6766	3169	5063	93%	2	3/4	574	105	547
TDG-2-96	96	4218	7732	2773	5081	92%	2	3/4	576	105	593
TDG-3-108	108	4218	8702	3702	7623	92%	3	3/4	865	105	593
TDG-3-120	120	4218	9668	3174	7614	95%	3	3/4	864	105	655
TDG-3-132	132	4218	10853	2792	7589	94%	3	3/4	861	105	775
TDG-4-144	144	4218	11606	3696	10164	95%	4	3/4	1,153	105	858



For a unit over 12 feet long, consult factory.

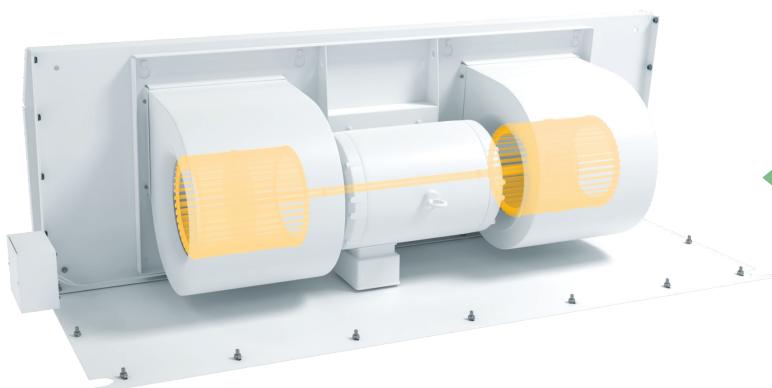
### TDG | Sound Levels

High Speed 63 dBA

Measured 10 ft. from unit in a free field based on a 1 motor unit

### TDG | Single Phase Motor Options

Voltages available	208	240	480	575	For three phase motors, consult factory
Amp draw per motor	3.0	2.8	1.5	1.1	



#### Performance Highlight

The air curtain is direct drive, which avoids misalignment of couplers and outboard bearings and eliminates periodic belt replacement.

## ► TDG | MECHANICAL DETAILS & DRAWINGS

### TDG | Mechanical Information Table

MODEL	Overall Width - A (in.)	Mounting Width - B (in.)	Intake Width - C (in.)
TDG-2-72	75.07	73.57	73
TDG-2-84	87.07	85.57	73
TDG-2-96	99.07	97.57	73
TDG-3-108	111.15	109.65	96
TDG-3-120	123.15	121.65	96
TDG-3-132	135.15	133.65	96
TDG-4-144	147.22	145.72	120



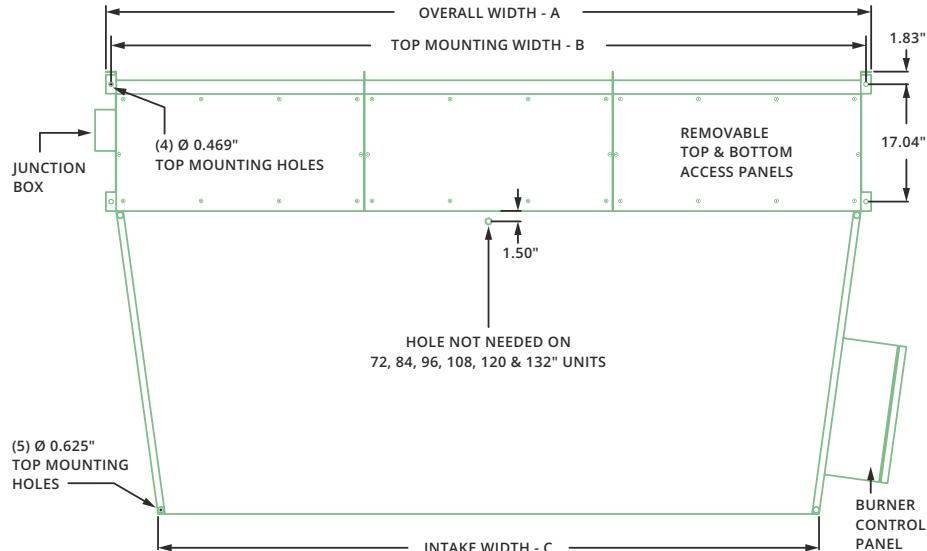
### NOTES

1. Installer responsible for structurally sound mounting of the unit.
2. Verify that overall dimensions will fit in the opening.
3. 1 PSI minimum gas inlet; 5 PSI max.

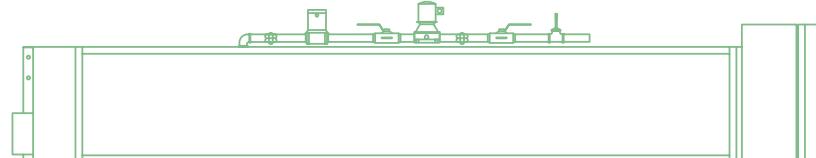
#### IMPORTANT

Direct gas fired air curtain must be ducted to the outside for 100% fresh air.

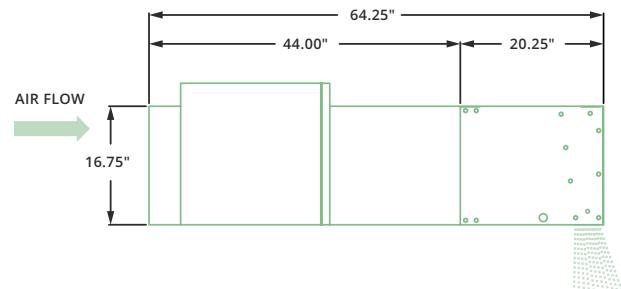
TOP



FRONT



SIDE



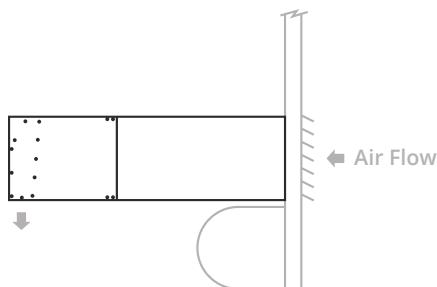
## ► TDG | DUCTING

### ! IMPORTANT

This air curtain must be ducted to the outside for 100% fresh air.  
These are examples of how the TDG Direct Gas air curtain can be ducted.

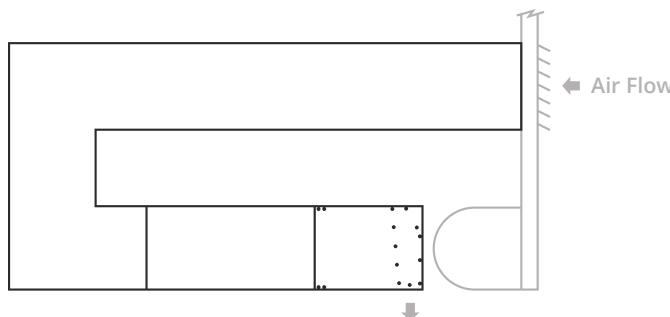
#### REVERSE MOUNTED

Direct Gas Unit in-taking outside air



#### U-DUCTED

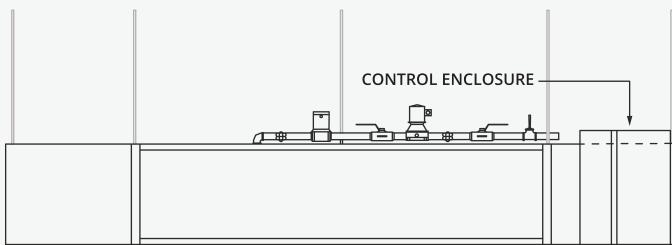
Direct Gas Unit U-ducted to outside



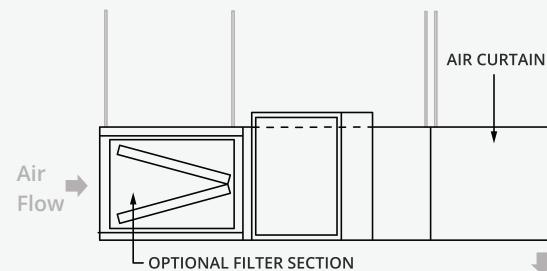
## ► TDG | INSTALLATION

- Unit will be suspended with threaded rods. Air curtain has two holes on each end for installing one end of threaded rods.
- Model TDG requires 7/16" threaded rod. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold unit, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.
- The burner and filter section has five 5/8" holes on top and bottom of unit.
- The other ends of the threaded rods can be attached to the ceiling.
- The rods in the front of the unit will go through the entire unit and be secured from the bottom.
- Additional mounting holes are provided on larger units for buildings where structural support is not adequate for supporting the air curtain from ends only.
- Unit must be ducted to the outside to burn 100% fresh air.

#### FRONT



#### SIDE





# CAC

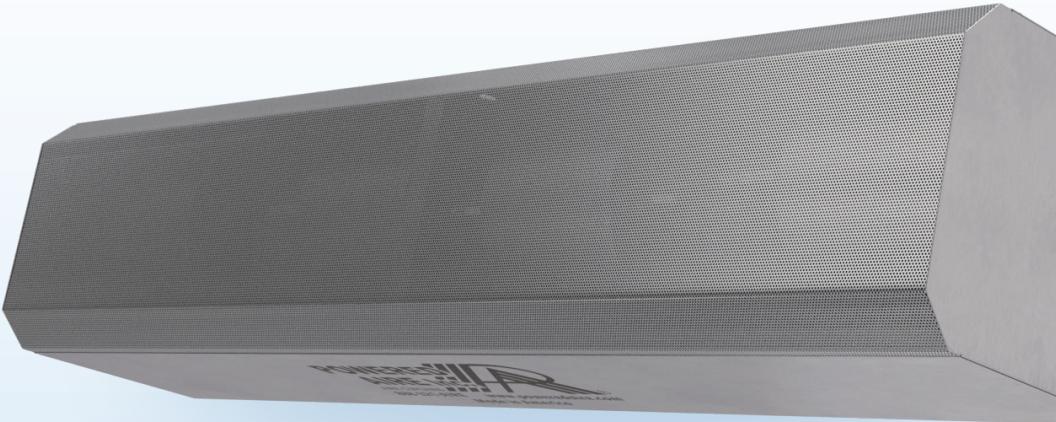


The two-speed Cooler Aire Curtain™ is used to reduce moisture buildup on doors and floors in a cold storage environment. When used with a hard panel door, the Cooler Aire Curtain™ may be supplied with a timer to keep the air curtain running for a set period of time after the door closes. When used with a high speed fabric door, the Cooler Aire Curtain™ may be supplied with an Aire Controller™ to cycle the operation of the air curtain on and off during times when the door is not in use to keep the door panel dry.

## OPTIONS

### FILTER

1/2" Cleanable



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

14'

Heavy Duty Motors

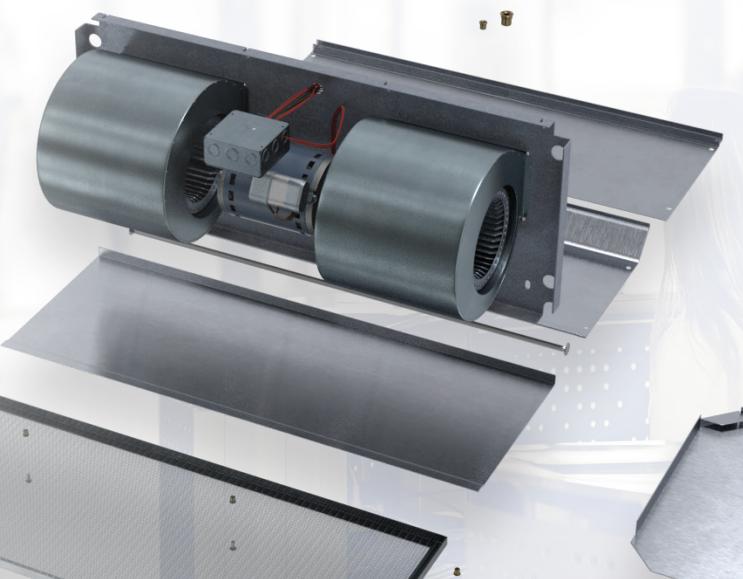
3/4 HP

## KEY DESIGN FEATURES

- Stainless steel case is 18 gauge 304 stainless steel in a number three finish.
- Heavy duty 3/4 HP motors. 1630 rpm each. Dual speed.
- Galvanized fans.
- Air intake screen is perforated stainless steel with mill grain finish.
- High efficiency discharge plenum with directional air foil vane factory set to facilitate deflection of air stream +/- 20°.
- More than a timer, it's an - Aire Controller™  
The Aire Controller™ provides strategically timed heat and fan functions for around-the-clock protection from moisture, frost and ice buildup on hard panel and high-speed fabric doors. Offers preset and adjustable functions.

## RECOMMENDED CONTROLS

- Magnetic door switch for activation
- Dry contacts to interlock with door controller



## ► CAC | PERFORMANCE

### Cooler Aire Curtain™ | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. FPM	Max. CFM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Weight (lbs)
CAC-1-36	36	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 3695 <b>L</b> 2487	<b>H</b> 2899 <b>L</b> 1950	<b>H</b> 2541 <b>L</b> 1710	95%	1	3/4	90
CAC-1-42	42	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 3169 <b>L</b> 2133	<b>H</b> 3384 <b>L</b> 2276	<b>H</b> 2532 <b>L</b> 1696	93%	1	3/4	97
CAC-1-48	48	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 2771 <b>L</b> 1865	<b>H</b> 3867 <b>L</b> 2601	<b>H</b> 2559 <b>L</b> 1721	92%	1	3/4	104
CAC-1-60	60	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 2218 <b>L</b> 1493	<b>H</b> 4374 <b>L</b> 2792	<b>H</b> 2528 <b>L</b> 1703	91%	1	3/4	117
CAC-2-60	60	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 3315 <b>L</b> 2231	<b>H</b> 5050 <b>L</b> 3252	<b>H</b> 3812 <b>L</b> 2565	94%	2	3/4	147
CAC-2-72	72	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 3696 <b>L</b> 2488	<b>H</b> 5803 <b>L</b> 3903	<b>H</b> 5082 <b>L</b> 3420	95%	2	3/4	169
CAC-2-84	84	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 3169 <b>L</b> 2133	<b>H</b> 6766 <b>L</b> 4551	<b>H</b> 5063 <b>L</b> 3382	93%	2	3/4	187
CAC-2-96	96	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 2773 <b>L</b> 1866	<b>H</b> 7732 <b>L</b> 5201	<b>H</b> 5081 <b>L</b> 3417	92%	2	3/4	203
CAC-3-108	108	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 3702 <b>L</b> 2486	<b>H</b> 8702 <b>L</b> 5853	<b>H</b> 7623 <b>L</b> 5130	95%	3	3/4	245
CAC-3-120	118	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 3174 <b>L</b> 2134	<b>H</b> 9668 <b>L</b> 6503	<b>H</b> 7614 <b>L</b> 5127	94%	3	3/4	274
CAC-3-132	133	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 2792 <b>L</b> 1885	<b>H</b> 10853 <b>L</b> 7155	<b>H</b> 7589 <b>L</b> 5104	94%	3	3/4	290
CAC-4-144	145	<b>H</b> 4218 <b>L</b> 2837	<b>H</b> 3696 <b>L</b> 2488	<b>H</b> 11606 <b>L</b> 7806	<b>H</b> 10164 <b>L</b> 6840	95%	4	3/4	338



For a unit over 12 feet long, consult factory.

### CAC | Sound Levels

High Speed	63 dBA	Low Speed	56 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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### CAC | Single Phase Motor Options

Voltages available	120	208 / 230	480	575	For three phase motors, consult factory
Amp draw per motor	8.0	3.6	2.0	1.5	



### Performance Highlight

The model CAC positions the blowers pointing toward the back of the air curtain. Here they fill a specially designed plenum that when pressurized creates a true curtain of air without gaps. Additionally, it is more efficient and lowers the operational sound level.

## ► CAC | MECHANICAL DETAILS & DRAWINGS

### CAC | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
CAC-1-36	37	36	36.06
CAC-1-42	43	42	42.06
CAC-1-48	49	48	48.06
CAC-1-60	61	60	60.06
CAC-2-60	61	60	60.06
CAC-2-72	73	72	72.06
CAC-2-84	85	84	84.06
CAC-2-96	97	96	96.06
CAC-3-108	109	108	108.06
CAC-3-120	119	118	118.06
CAC-3-132	134	133	133.06
CAC-4-144	146	145	145.06

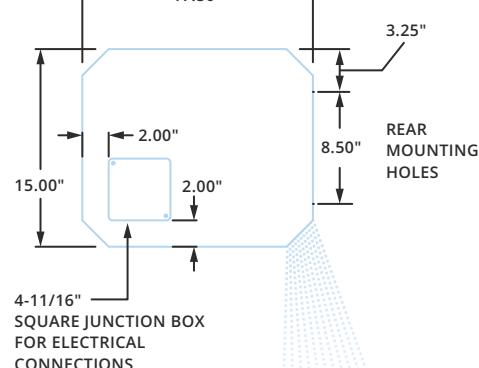


### NOTE

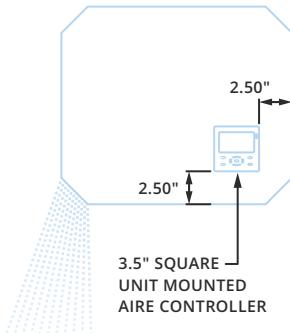
Powered Aire recommends that the junction box be installed on the same side of the opening as the door motor. The Air Controller™ will be on the opposite side. When placing an order, please include on the purchase order whether the door motor is on the left or right side of the opening.

\*The drawing below is for a door motor on the right side of the opening.

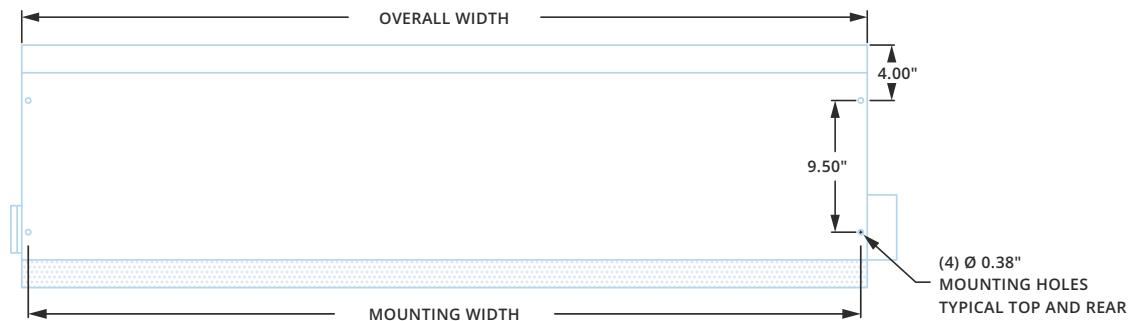
**RIGHT\***



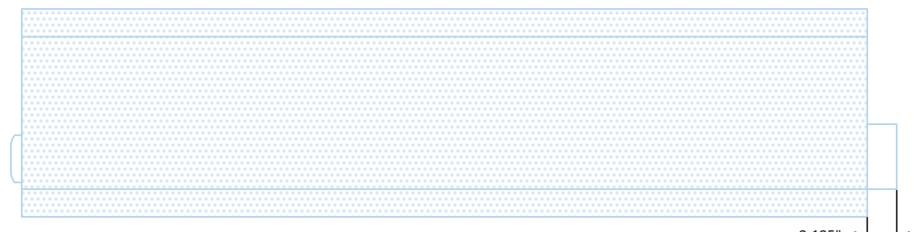
**LEFT**



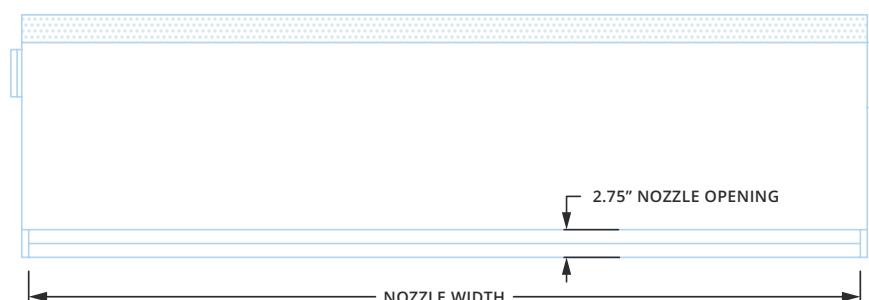
**TOP**



**FRONT**

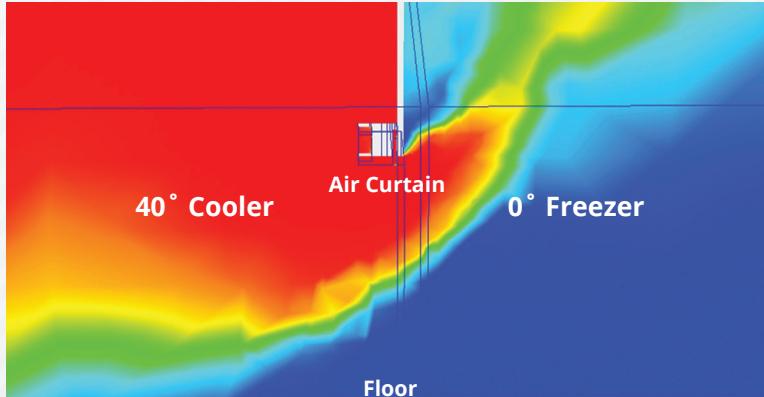


**BOTTOM**



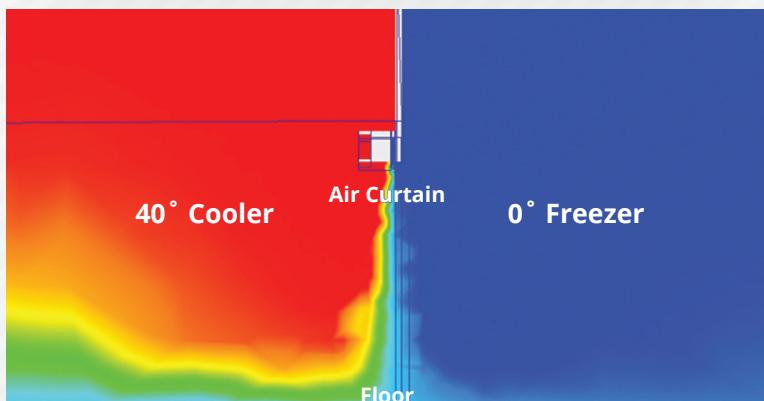
# Application Spotlight

## COLD STORAGE



### Air Curtain Off

Under normal air density exchange, the warm air enters through the top half of the door opening while the cold air flows out the bottom half. Once the warm air enters the freezer it condenses and creates the frost and ice typically found on the door header, wall and ceilings in these types of applications.



### Air Curtain On

When a Freezer Aire Curtain™ is operating in front of an open cold storage door, the warm air is entrained into the air curtain's stream. When the discharge air reaches the floor the air is forced back into the warm side as seen by the illustration.

### Reduce Frost Build-up at Cooler/Freezer Door Openings

Does ice or frost form on the wall or ceiling inside your freezer door opening?

Does moisture and frost form on your cooler/freezer high speed fabric door?

Are your doors difficult to open due to ice?

Are wet and icy floors creating slippery and unsafe conditions for your forklifts and personnel?

Are strip doors not a good solution because of safety and performance issues?

Are frost and ice causing you health and safety problems?

Then, a Freezer Aire Curtain™ is the solution when your primary door is open!

### What About Refrigeration?

Powered Aire's non-heated aire curtains are also ideal for refrigerated loading dock doors. It's your first line of defense to keep warm, humid air and insects out of your dock area.

See model CAC (pg. 89)

\*Air flow simulation 10 seconds after freezer door opens.



# FAC-E



The two-speed Freezer Aire Curtain™ is used to help solve problems at freezer door openings that result from extreme temperature differences from one side to the other. The Freezer Aire Curtain™ helps to prevent fog from forming when the door opens, moisture and frost on door panels and ice buildup on the door header. The Freezer Aire Curtain™ is constructed of durable stainless steel and operation is by the Aire Controller™.

## OPTIONS

### FILTER

1/2" Cleanable



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

14'

Heavy Duty Motors

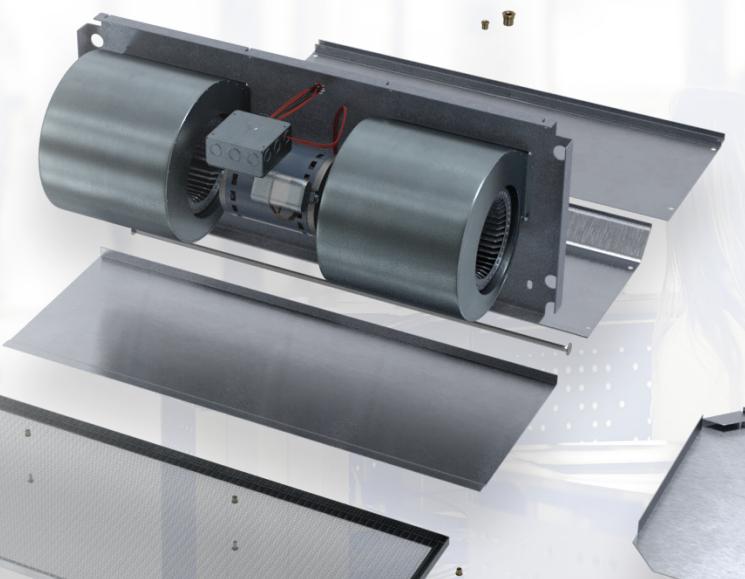
3/4 HP

## KEY DESIGN FEATURES

- Stainless steel case is 18 gauge 304 stainless steel in a number three finish.
- Heavy duty 3/4 HP motors. 1630 rpm each. Dual speed.
- Galvanized fans.
- Air intake screen is perforated stainless steel with mill grain finish.
- High efficiency discharge plenum with directional air foil vane factory set to facilitate deflection of air stream +/- 20°.
- Heating elements are mounted inside the plenum, on the discharge side of the blowers, to ensure that heat won't affect motor life and the heaters are protected from dust that would accumulate on them if they were mounted on the air intake.
- More than a timer, it's an - Aire Controller™ The Aire Controller™ provides strategically timed heat and fan functions for around-the-clock protection from moisture, frost and ice buildup on hard panel and high-speed fabric freezer doors. Offers preset and adjustable functions.

## RECOMMENDED CONTROLS

- Magnetic door switch for activation
- Dry contacts to interlock with door controller



## ► FAC-E | PERFORMANCE

### Freezer Aire Curtain™ | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. FPM	Max. CFM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Electric Heat		Weight (lbs)
									Heater kW	Temp. Rise (°F)	
FAC-1-36E	36	H 4218 L 2837	H 3695 L 2487	H 2899 L 1950	H 2541 L 1710	95%	1	3/4	10	H 13 L 19	95
FAC-1-42E	42	H 4218 L 2837	H 3169 L 2133	H 3384 L 2276	H 2532 L 1696	93%	1	3/4	10	H 13 L 19	102
FAC-1-48E	48	H 4218 L 2837	H 2771 L 1865	H 3867 L 2601	H 2559 L 1721	92%	1	3/4	10	H 13 L 19	109
FAC-1-60E	60	H 4218 L 2837	H 2218 L 1493	H 4374 L 2792	H 2528 L 1703	91%	1	3/4	10	H 13 L 19	121
FAC-2-60E	60	H 4218 L 2837	H 3315 L 2231	H 5050 L 3252	H 3812 L 2565	94%	2	3/4	15	H 13 L 19	155
FAC-2-72E	72	H 4218 L 2837	H 3696 L 2488	H 5803 L 3903	H 5082 L 3420	95%	2	3/4	20	H 13 L 19	177
FAC-2-84E	84	H 4218 L 2837	H 3169 L 2133	H 6766 L 4551	H 5063 L 3382	93%	2	3/4	20	H 13 L 19	195
FAC-2-96E	96	H 4218 L 2837	H 2773 L 1866	H 7732 L 5201	H 5081 L 3417	92%	2	3/4	20	H 13 L 19	210
FAC-3-108E	108	H 4218 L 2837	H 3702 L 2486	H 8702 L 5853	H 7623 L 5130	95%	3	3/4	30	H 13 L 19	255
FAC-3-120E	118	H 4218 L 2837	H 3174 L 2134	H 9668 L 6503	H 7614 L 5127	94%	3	3/4	30	H 13 L 19	284
FAC-3-132E	133	H 4218 L 2837	H 2792 L 1885	H 10853 L 7155	H 7589 L 5104	94%	3	3/4	30	H 13 L 19	301
FAC-4-144E	145	H 4218 L 2837	H 3696 L 2488	H 11606 L 7806	H 10164 L 6840	95%	4	3/4	40	H 13 L 19	354



For a unit over 12 feet long, or a non-standard electric heater, consult factory.

### FAC-E | Sound Levels

High Speed 63 dBA      Low Speed 56 dBA      Measured 10 ft. from unit in a free field based on a 1 motor unit

### FAC-E | Single Phase Motor Options

Voltages available	120	208 / 230	480	575	For three phase motors, consult factory
Amp draw per motor	8.0	3.6	2.0	1.5	



### Performance Highlight

Heating elements are mounted inside the plenum, on the discharge side of the blowers. Here, heat won't affect motor life and the heaters are protected from dust that would accumulate on them if they were mounted on the air intake.

## ► FAC-E | ELECTRICAL

### Freezer Aire Curtain™ | AMP Draw, Circuits & Breaker Size Table

\* With optional branch fusing for Single Point Power (SPP)

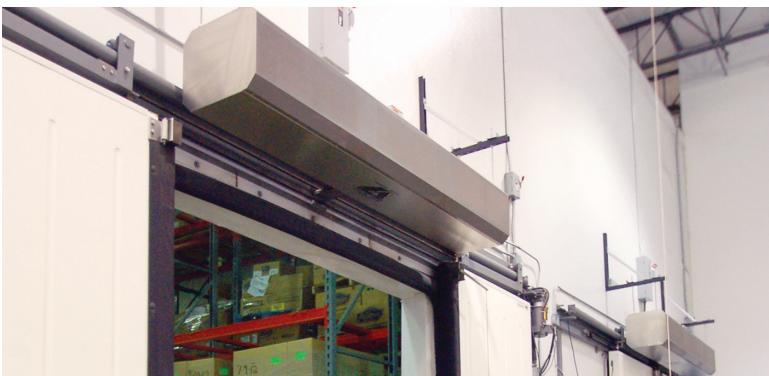
^ SPP by default

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

MODEL	AMP DRAW (Breaker Size)															
	208 / 1 / 60			240 / 1 / 60		208 / 3 / 60			240 / 3 / 60			480 / 3 / 60			575 / 3 / 60	
	Separate Supply Circuits		SPP*	Circuit 1		Separate Supply Circuits			SPP*	Separate Supply Circuits		SPP*	Separate Supply Circuits		SPP*	
	1	2			Circuit 1	1	2	3		1	2		1	2		
FAC-1-36E																
FAC-1-42E	27.6 (35)	24.0 (35)	51.6 (70)		45.3 (60)	31.4 (40)	-	-	^	27.7 (35)	-	^	14.0 (20)	-	^	11.5 (15)
FAC-1-48E																
FAC-1-60E																
FAC-2-60E	‡	-	‡	‡	‡	41.6 (60)	7.2 (15)	-	48.8 (70)	43.3 (60)	-	^	22 (30)	-	^	18.1 (25)
FAC-2-72E																
FAC-2-84E	‡	-	‡	‡	‡	35.0 (45)	27.8 (35)	-	62.7 (80)	31.3 (40)	24.1 (35)	55.4 (70)	28.1 (40)	-	^	23.1 (30)
FAC-2-96E																
FAC-3-108E																
FAC-3-120E	‡	-	‡	‡	‡	38.6 (50)	27.8 (35)	27.8 (35)	94.0 (125)	46.9 (60)	36.1 (50)	83.0 (110)	42.1 (60)	-	^	34.6 (45)
FAC-3-132E																
FAC-4-144E	‡	-	‡	‡	‡	‡	-	-	‡	‡	-	‡	32.1 (45)	24.1 (35)	56.2 (80)	46.2 (60)

**Model FAC-E**

—  
Top Mount,  
with Brackets



# ► FAC-E | MECHANICAL DETAILS & DRAWINGS

## FAC-E | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
FAC-1-36E	37	36	36.06
FAC-1-42E	43	42	42.06
FAC-1-48E	49	48	48.06
FAC-1-60E	61	60	60.06
FAC-2-60E	61	60	60.06
FAC-2-72E	73	72	72.06
FAC-2-84E	85	84	84.06
FAC-2-96E	97	96	96.06
FAC-3-108E	109	108	108.06
FAC-3-120E	119	118	118.06
FAC-3-132E	134	133	133.06
FAC-4-144E	146	145	145.06

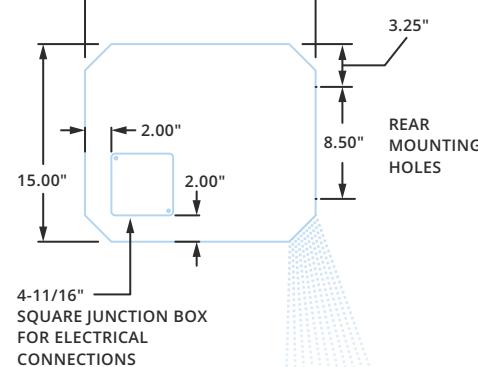


## NOTE

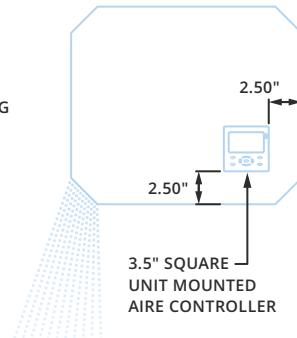
Powered Aire recommends that the junction box be installed on the same side of the opening as the door motor. The Air Controller™ will be on the opposite side. When placing an order, please include on the purchase order whether the door motor is on the left or right side of the opening.

\*The drawing below is for a door motor on the right side of the opening.

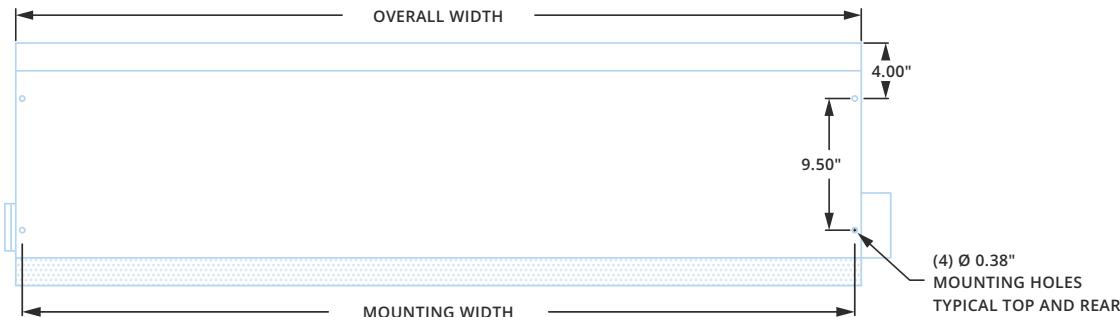
RIGHT\*



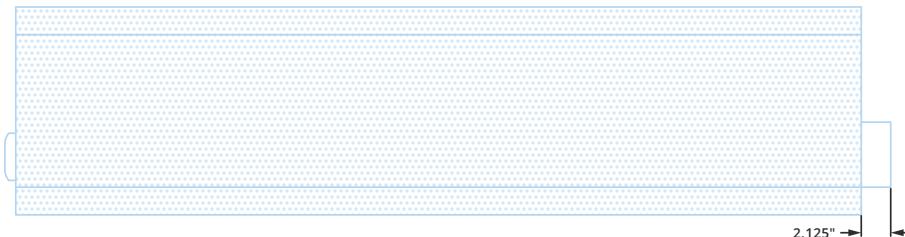
LEFT



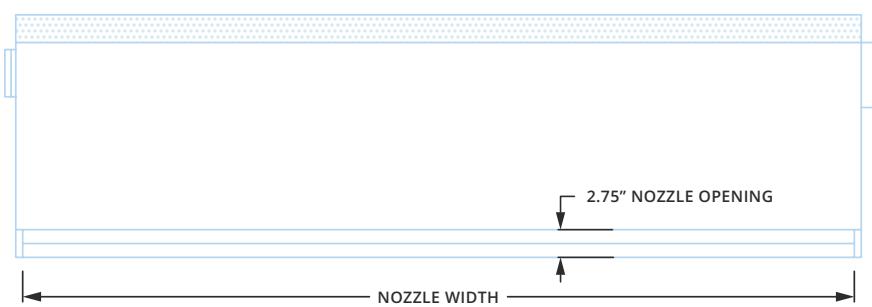
TOP



FRONT



BOTTOM





MP

v4.2.1

# MP



The Mini-Power's (MP) compact low-profile design is ideal for entrances where space is limited. The MP air curtain from Powered Aire has met all criteria to be used as an exception to vestibules as well as being tested in accordance with the ANSI/AMCA 220 standard. The MP model is often seen in toll booths (for fume control), zoos/amusements parks, food trucks, cannabis grow houses, restaurants (to separate smoking and nonsmoking sections) and offices.

## OPTIONS

### HEATING

Electric ..... pg 119  
 Hot Water ..... pg 123  
 Steam ..... pg 123

### FILTER

½" Cleanable (Unheated only)



## AT A GLANCE

Single Incremental Widths

30" to 10'

Max Installation Height

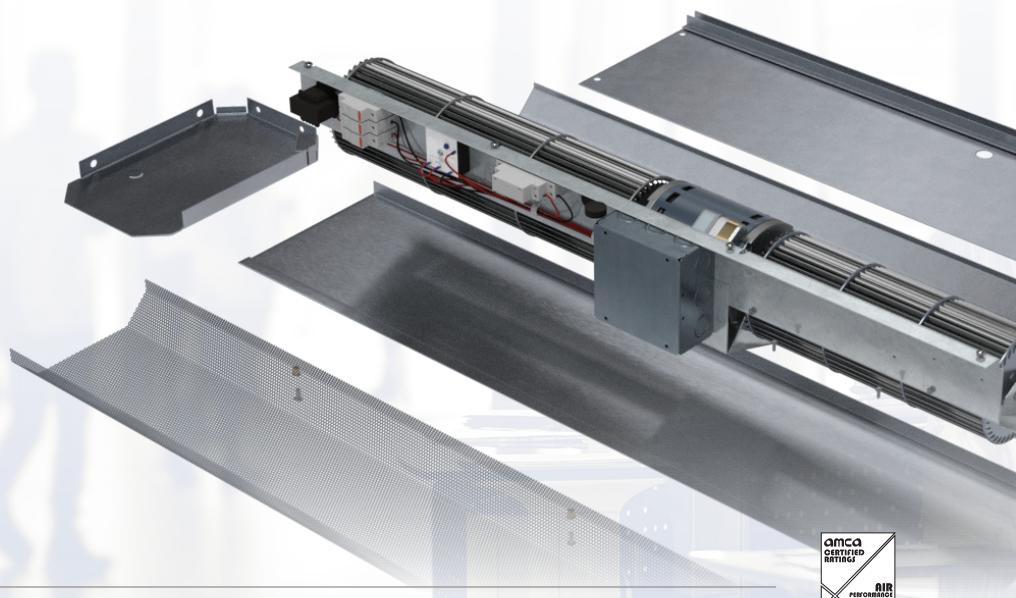
10'

Heavy Duty Motors

1/5 HP

### KEY DESIGN FEATURES

- Meets ASHRAE 90.1 and IECC requirements for vestibule exception
- AMCA tested performance
- Low-profile outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1/5 HP ODP (Open Drip Proof) direct-drive variable-speed motor(s)
- Adjustable air foil vane (+/-20°)



### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- SmartTouch controller
- Filter (washable)



## ► MP | PERFORMANCE

## MP | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity (FPM)	Airflow Rate (CFM)	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Weight (lbs)
MP-1-30	29	3050	1335	801	66%	0.22	1	1/5	42
MP-1-36	35	3262	1348	984	84%	0.28	1	1/5	53
MP-1-42	41	3269	1462	1243	84%	0.33	1	1/5	60
MP-1-48	48	3256	1520	1474	85%	0.38	1	1/5	67
MP-1-60	59	3218	1529	1865	84%	0.46	1	1/5	85
MP-2-72	71	3262	1348	1968	84%	0.56	2	1/5	94
MP-2-84	83	3269	1462	2486	84%	0.66	2	1/5	105
MP-2-96	95	3256	1520	2948	85%	0.76	2	1/5	114
MP-2-108	107	3242	1525	3339	84%	0.84	2	1/5	130
MP-2-120	117	3218	1529	3730	84%	0.92	2	1/5	141



For Hot Water or Steam heat, consult factory.

## MP | Velocity Projection

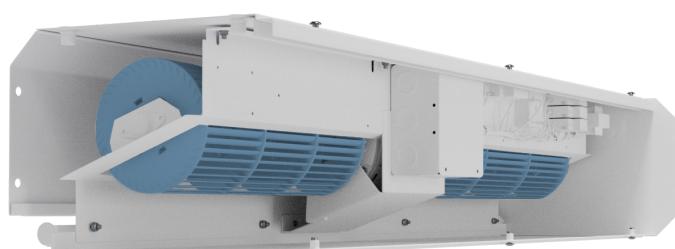
Distance From Nozzle	40"	80"	120"	160"
MP-1-36 Core Velocity (fpm)	1048	784	677	603

## MP | Sound Levels

Measured 10 ft. from unit in a free field based on a 1 motor unit

## MP | Single Phase Motor Options

Voltages available	120	208/230	480	575
Amp draw per motor	4.4	2.0	1.1	0.9



## Performance Highlight

This unit can fit a larger diameter tangential blower wheel than competitors' models to increase performance without increasing size. The motor/blower plate comes out of the unit as an entire piece and the electrical connections can be made on the top or sides of the unit for more versatility.

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only.

Powered Aire Inc. certifies that the Model MP Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

May 2020  
PAAC-601





MP-E

v4.2.1

# MP-E

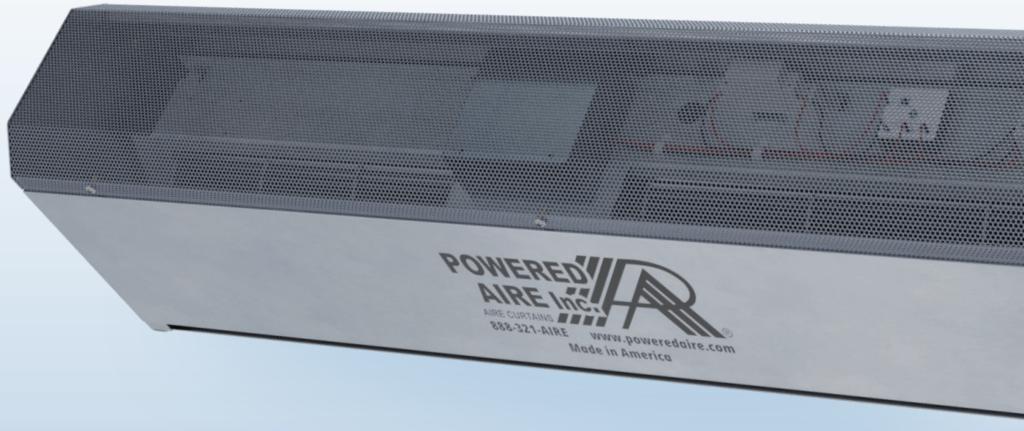


The Mini-Power's with electric heat (MP-E) compact low-profile design is ideal for entrances where space is limited. The MP air curtain from Powered Aire has met all criteria to be used as an exception to vestibules as well as being tested in accordance with the ANSI/AMCA 220 standard. The MP-E model is often seen in toll booths (for fume control), zoos/amusements parks, food trucks, cannabis grow houses, restaurants (to separate smoking and nonsmoking sections) and offices.

## OPTIONS

### HEATING

- Unheated ..... pg 117
- Hot Water ..... pg 123
- Steam ..... pg 123



## AT A GLANCE

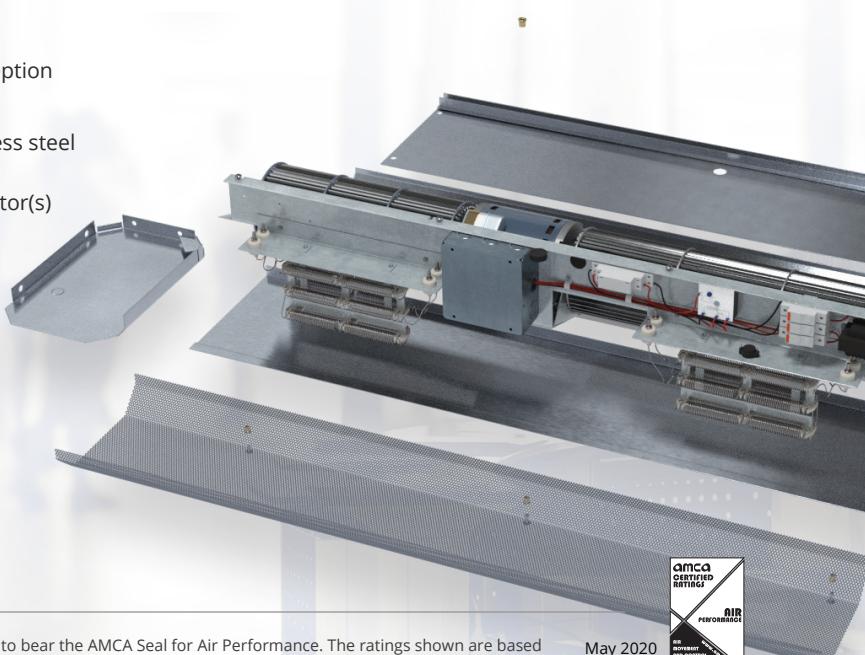
**Single Incremental Widths**
**30" to 10'**
**Max Installation Height**
**10'**
**Heavy Duty Motors**
**1/5 HP**

### KEY DESIGN FEATURES

- Meets ASHRAE 90.1 and IECC requirements for vestibule exception
- AMCA tested performance
- Low-profile outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1/5 HP ODP (Open Drip Proof) direct-drive variable-speed motor(s)
- Adjustable air foil vane (+/-20°)
- Factory mounted single-stage electric heaters
- Single point power connection available (see electrical table)
- Alternate heater kW available (consult factory)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- SmartTouch controller
- Filter (washable)



## ▶ MP-E | PERFORMANCE

## MP-E | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity FPM	Airflow Rate (CFM)	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Heater kW	Temp. Rise (°F)	Weight (lbs)
MP-1-30E	29	3050	1243	746	66%	0.20	1	1/5	8	34	47
MP-1-36E	35	3262	1316	961	87%	0.27	1	1/5	8	27	59
MP-1-42E	41	3269	1294	1100	75%	0.29	1	1/5	8	23	69
MP-1-48E	48	3256	1386	1344	85%	0.33	1	1/5	16	38	77
MP-1-60E	59	3218	1406	1715	83%	0.54	1	1/5	16	30	91
MP-2-72E	71	3262	1316	1922	87%	0.54	2	1/5	16	27	102
MP-2-84E	83	3269	1294	2200	75%	0.58	2	1/5	24	35	115
MP-2-96E	95	3256	1386	2688	85%	0.66	2	1/5	32	38	123
MP-2-108E	107	3242	1397	3059	83%	0.87	2	1/5	32	33	139
MP-2-120E	117	3218	1406	3430	83%	1.08	2	1/5	32	30	152



For Hot Water or Steam heat, consult factory.

## MP-E | Velocity Projection

Distance From Nozzle	40"	80"	120"	160"
MP-1-36E Core Velocity (fpm)	990	738	659	542

## MP-E | Sound Levels

Measured 10 ft. from unit in a free field based on a 1 motor unit

53 dBA

## MP-E | Single Phase Motor Options

Voltages available	120	208/230	480	575
Amp draw per motor	4.4	2.0	1.1	0.9



## Performance Highlight

This unit can fit a larger diameter tangential blower wheel than competitors' models to increase performance without increasing size. The motor/blower plate comes out of the unit as an entire piece and the electrical connections can be made on the top or sides of the unit for more versatility.

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only. Rated data shown are based on tests of units with heating elements present but not in use.

Powered Aire Inc. certifies that the Model MP-E Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

May 2020  
PAAC-602



## ► MP-E | ELECTRICAL

### MP-E | AMP Draw, Circuits & Breaker Size Table

\* With optional branch fusing for Single Point Power (SPP) - REQUIRES A REMOTE ENCLOSURE

^ SPP By Default

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact factory.

MODEL	AMP DRAW (Breaker Size)									
	208 / 1 / 60		240 / 1 / 60		208 / 3 / 60		240 / 3 / 60		480 / 3 / 60	575 / 3 / 60
	Circuit 1	Circuit 1	Circuit 1	Circuit 1	1	2	1	2	Circuit 1	Circuit 1
MP-1-30E										
MP-1-36E	40.5 (60)	35.3 (45)	24.2 (35)	-	^	21.2 (30)	-	^	10.7 (15)	8.9 (15)
MP-1-42E										
MP-1-48E	‡	‡	46.4 (60)	-	^	40.5 (60)	-	^	20.3 (30)	17.0 (25)
MP-1-60E										
MP-2-72E	‡	‡	47.3 (60)	-	^	42.5 (60)	-	^	21.4 (30)	17.9 (25)
MP-2-84E	‡	‡	26.2 (35)	44.4 (60)	70.6 (90)	23.2 (30)	38.5 (50)	61.7 (80)	31.1 (40)	25.9 (35)
MP-2-96E										
MP-2-108E	‡	‡	47.3 (60)	43.3 (60)	90.6 (125)	42.5 (60)	38.5 (50)	81.0 (110)	40.7 (60)	33.9 (45)
MP-2-120E										



Consult factory for disconnects on electrically heated MP air curtains.



Model MP | Entry Door

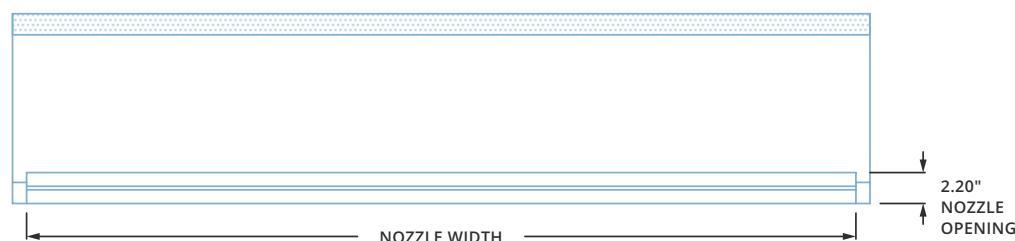
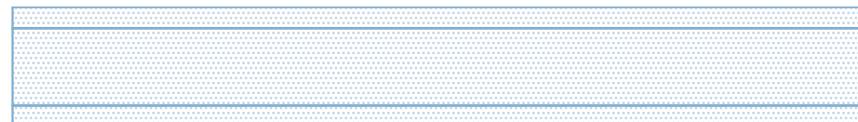
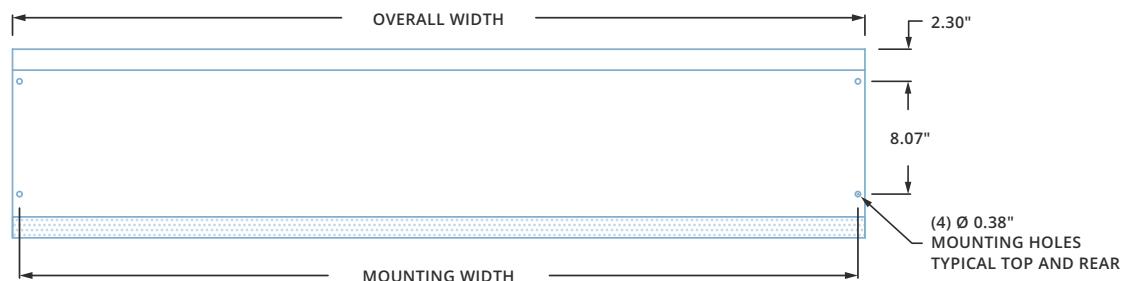
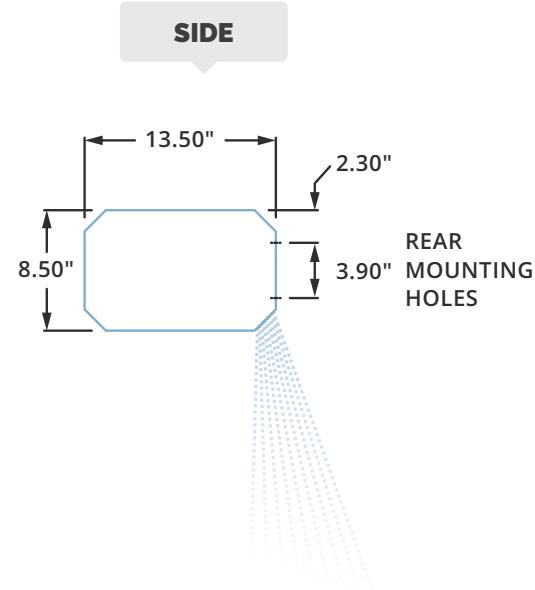


Model MP | Restaurant

## ► MP & MP-E | MECHANICAL DETAILS & DRAWINGS

### MP & MP-E | Mechanical Information Table

MODEL	Overall Width (in.)	Mounting Width (in.)	Nozzle Width (in.)
MP-1-30 (E)	31	30	29
MP-1-36 (E)	37	36	35
MP-1-42 (E)	43	42	41
MP-1-48 (E)	49	48	47
MP-1-60 (E)	61	60	59
MP-2-72 (E)	73	72	71
MP-2-84 (E)	85	84	83
MP-2-96 (E)	97	96	95
MP-2-108 (E)	109	108	107
MP-2-120 (E)	119	118	117





MP-HW



MP-ST

# MP-HW/ST


**MADE IN THE USA**

The MP HW/ST offers the same features and functions as all MP units (compact size, easy-to-install, low profile) but is available with Hot Water and Steam fittings to connect with buildings using hot water or steam as the primary source of heat. The MP HW/ST meets all the necessary criteria to be used as an exception to vestibules (ANSI/AMCA 220 Standard) in new construction and retrofit applications for offices, restaurants, hospitals, grocery stores and other applications where a vestibule can be eliminated.

## OPTIONS

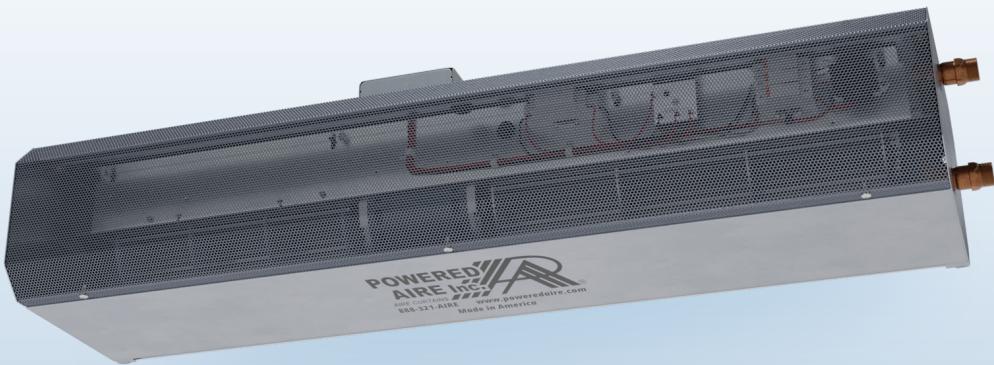
### HEATING

Unheated ..... pg 117

Electric ..... pg 119

### FILTER

½" Cleanable (Unheated only)



## AT A GLANCE

Single Incremental Widths

30" to 10'

Max Installation Height

10'

Heavy Duty Motors

1/5 HP

### KEY DESIGN FEATURES

- Low-profile outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1/5 HP ODP (Open Drip Proof) direct-drive variable-speed motor(s)
- Adjustable air foil vane (+/-20°)
- NEMA 12 control panel
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Custom coil selections available (consult factory)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- SmartTouch controller
- Hot water or steam control valve with actuator



## ▶ MP-HW/ST | PERFORMANCE

## MP-HW/ST | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity (FPM)	Airflow Rate (CFM)	Outlet Velocity Uniformity	Power Rating	Number of Motors	Motor HP	Weight	Hot Water		Steam	
										mbtu / Hour	Temp. Rise (°F)	mbtu / Hour	Temp. Rise (°F)
MP-1-30 HW/ST	29	3050	1335	801	66%	0.2	1	1/5	42	38	35	30	34
MP-1-36 HW/ST	35	3262	1348	984	84%	0.3	1	1/5	53	38	36	39	36
MP-1-42 HW/ST	41	3269	1462	1243	84%	0.3	1	1/5	60	48	36	47	35
MP-1-48 HW/ST	48	3256	1520	1474	85%	0.4	1	1/5	67	58	36	55	35
MP-1-60 HW/ST	59	3218	1529	1865	84%	0.5	1	1/5	85	71	35	70	35
MP-2-72 HW/ST	71	3262	1348	1968	84%	0.6	2	1/5	94	76	36	72	34
MP-2-84 HW/ST	83	3269	1462	2486	84%	0.7	2	1/5	105	94	35	97	36
MP-2-96 HW/ST	95	3256	1520	2948	85%	0.8	2	1/5	114	112	35	113	36
MP-2-108 HW/ST	107	3242	1525	3339	84%	0.8	2	1/5	130	125	35	128	35
MP-2-120 HW/ST	117	3218	1529	3730	84%	0.9	2	1/5	141	146	36	142	35

## MP-HW/ST | Velocity Projection

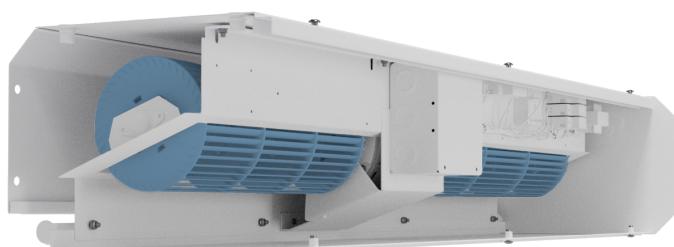
Distance From Nozzle	40"	80"	120"	160"
MP-1-36 Core Velocity (fpm)	1048	784	677	603

## MP-HW/ST | Sound Levels

Measured 10 ft. from unit in a free field based on a 1 motor unit	53 dBA
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## MP-HW/ST | Single Phase Motor Options

Voltages available	120	208/230	480	575
Amp draw per motor	4.4	2.0	1.1	0.9



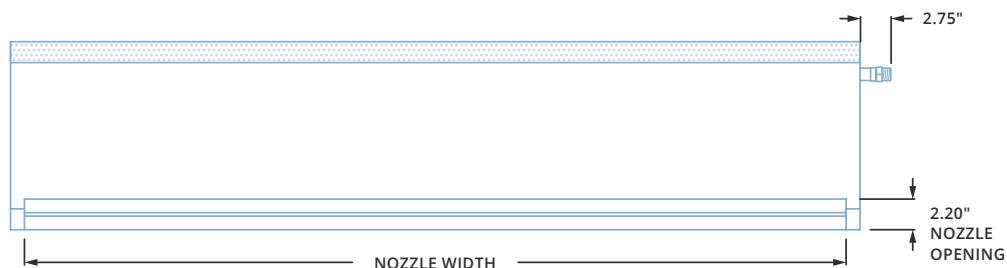
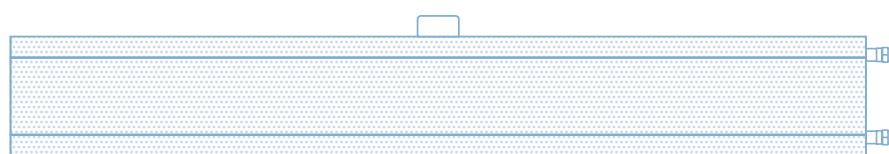
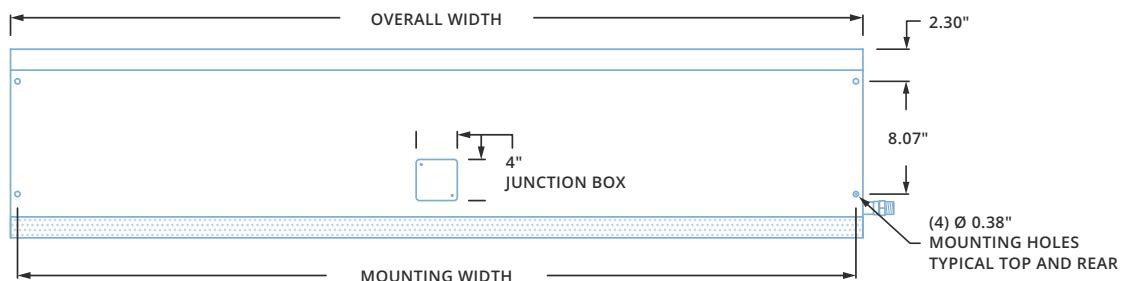
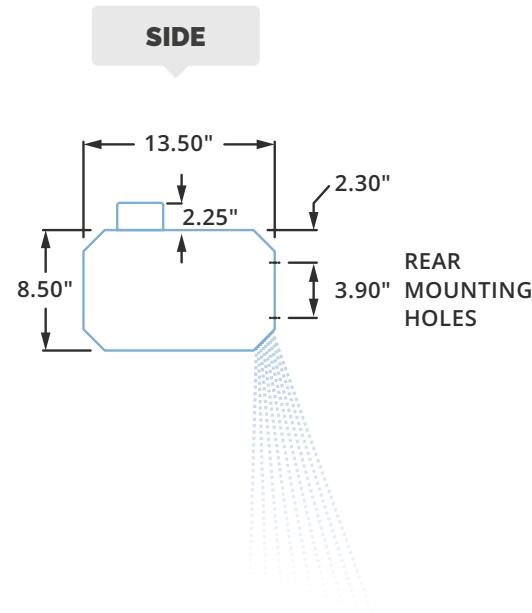
## Performance Highlight

This unit can fit a larger diameter tangential blower wheel than competitors' models to increase performance without increasing size. The motor/blower plate comes out of the unit as an entire piece and the electrical connections can be made on the top or sides of the unit for more versatility.

## ► MP-HW/ST | MECHANICAL DETAILS & DRAWINGS

### MP-HW/ST | Mechanical Information Table

MODEL	Overall Width (in.)	Mounting Width (in.)	Nozzle Width (in.)
MP-1-30 HW/ST	31	30	29
MP-1-36 HW/ST	37	36	35
MP-1-42 HW/ST	43	42	41
MP-1-48 HW/ST	49	48	47
MP-1-60 HW/ST	61	60	59
MP-2-72 HW/ST	73	72	71
MP-2-84 HW/ST	85	84	83
MP-2-96 HW/ST	97	96	95
MP-2-108 HW/ST	109	108	107
MP-2-120 HW/ST	119	118	117



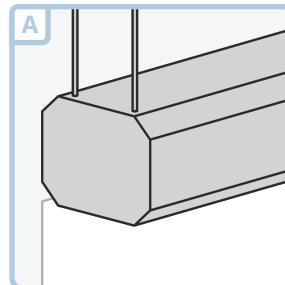
## ► MP, MP-E & MP-HW/ST | INSTALLATION

### ! IMPORTANT

- ✓ **NOTE:** The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/2 inch.
- ✓ Trained and experienced mechanic / electrician required.
- ✓ **WARNING:** Risk of electrical shock, can cause injury or death: Disconnect all remote electrical supplies before servicing.
- ✓ Units must be field wired in accordance with all applicable local, state, provincial and national codes, including wire size and materials.
- ✓ All hardware and brackets must be of sufficient strength to safely support air curtain.

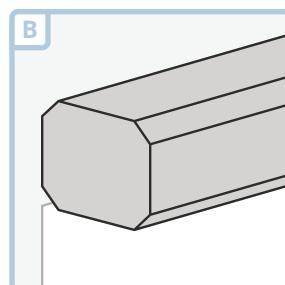
### A TOP MOUNT

Unit has four 3/8 – 16 threaded inserts for installing one end of threaded rods. The other ends of the threaded rods can be attached to the ceiling. Threaded rod should not extend more than 3/4 inch into air curtain.

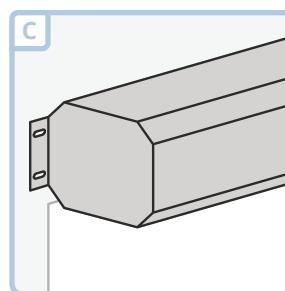


### B WALL MOUNT

Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor/blower plate when installing. Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four slots in motor/blower plate.

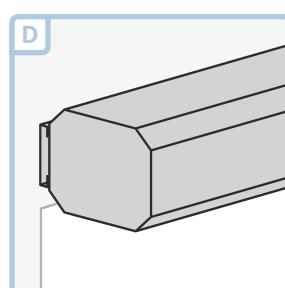


If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way. Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and push and rotate top in last.



### C EXTENSION BRACKETS (WALL MOUNT)

Extension brackets bolt on to the back of the unit, utilizing the 4 original mounting holes, and allowing for external mounting of unit to wall. Brackets have elongated mounting slots that extend the mounting width by 2½ to 3½ inches.



### D LP123 BRACKETS

Universal mounting slots are used to lag the bracket to the wall (bolts by others). 3/8" mounting bolts (supplied) are threaded into the holes located in all four corners of the back side of the air curtain, leaving 1/2" of the bolts exposed.



RBT

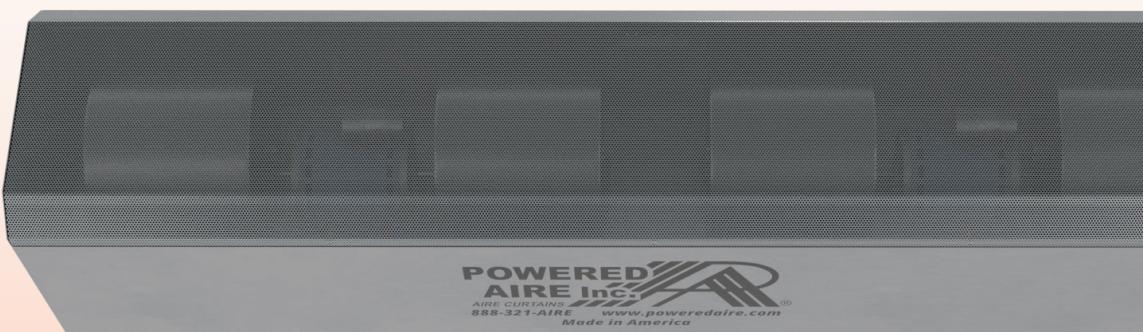
# RBT

NSF-37 CERTIFIED

ETL SANITATION LISTED

LISTED FOR INDOOR /  
OUTDOOR USE

The RBT is the restaurant industry's go-to insect control air curtain.



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

7'

Heavy Duty Motors

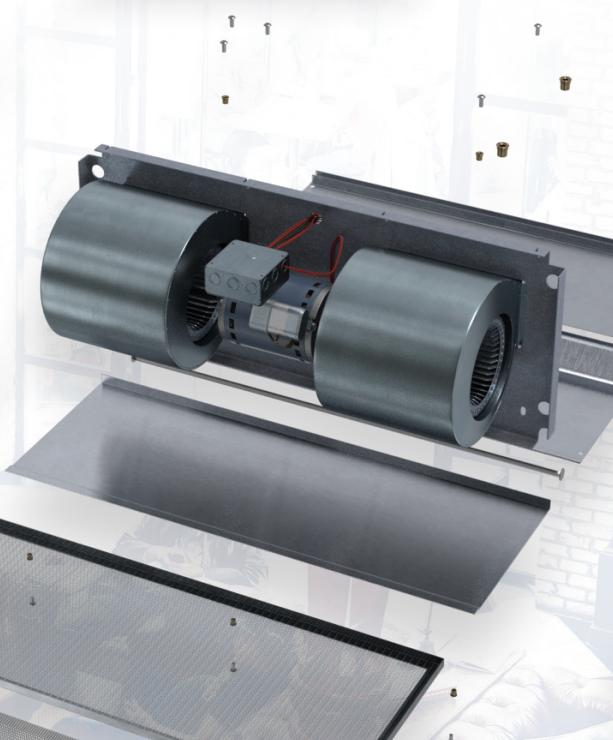
3/4 HP

### KEY DESIGN FEATURES

- ETL Sanitation certified to NSF Standard 37
- USDA and FDA compliant
- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 3/4 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Filter (washable)



## ► RBT | PERFORMANCE

### RBT | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. FPM	Max. CFM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Weight (lbs)
RBT-1-36	36	4218	3695	2899	2541	95%	1	3/4	90
RBT-1-42	42	4218	3169	3384	2532	93%	1	3/4	97
RBT-1-48	48	4218	2771	3867	2559	92%	1	3/4	104
RBT-1-60	60	4218	2218	4374	2528	91%	1	3/4	117
RBT-2-60	60	4218	3315	5050	3812	95%	2	3/4	147
RBT-2-72	72	4218	3696	5803	5082	95%	2	3/4	169
RBT-2-84	84	4218	3169	6766	5063	93%	2	3/4	187
RBT-2-96	96	4218	2773	7732	5081	92%	2	3/4	203
RBT-3-108	108	4218	3702	8702	7623	95%	3	3/4	245
RBT-3-120	118	4218	3174	9668	7614	94%	3	3/4	274
RBT-3-132	133	4218	2792	10853	7589	95%	3	3/4	290
RBT-4-144	145	4218	3696	11606	10164	95%	4	3/4	338



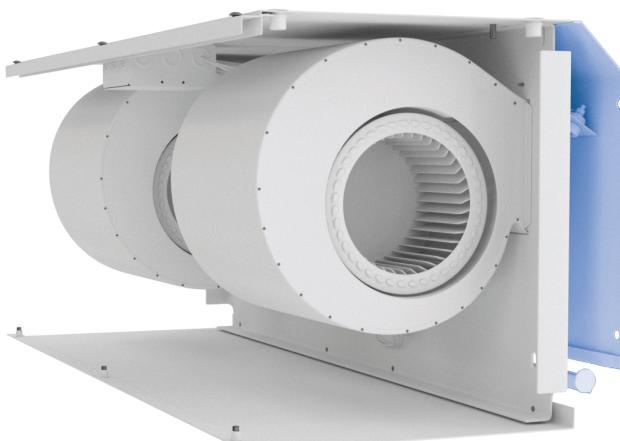
For a unit over 12 feet long, consult factory.

### RBT | Sound Levels

Normal Speed 63 dBA Measured 10 ft. from unit in a free field based on a 1 motor unit

### RBT | Single Phase Motor Options

Voltages available	120	208/230
Amp draw per motor	8.0	3.6



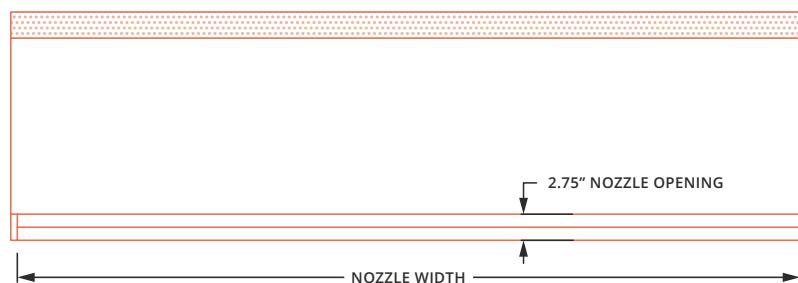
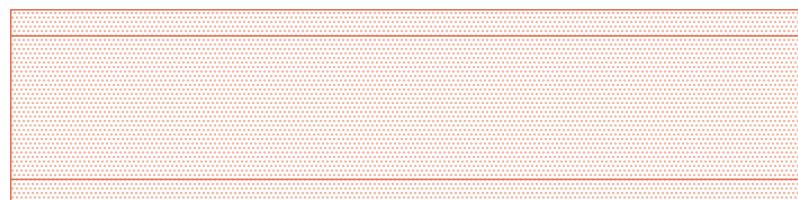
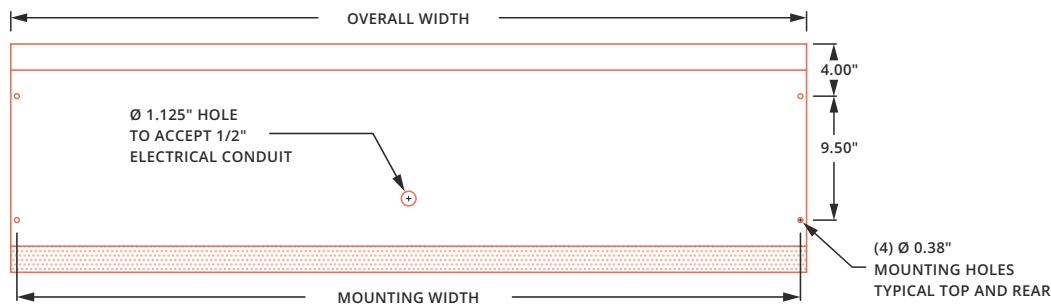
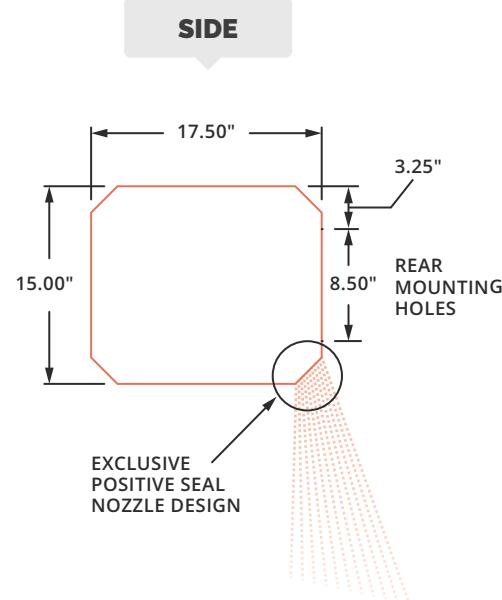
### Performance Highlight

Both important and perfect for insect control, the blowers are pointed toward the back of the air curtain. Here they fill a specially designed plenum. When the plenum is pressurized, the air is then forced out evenly across the entire length of the plenum discharge leaving no gaps in the curtain of air.

## ► RBT | MECHANICAL DETAILS & DRAWINGS

### RBT | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width (in.)
RBT-1-36	37	36	36.06
RBT-1-42	43	42	42.06
RBT-1-48	49	48	48.06
RBT-1-60	61	60	60.06
RBT-2-60	61	60	60.06
RBT-2-72	73	72	72.06
RBT-2-84	85	84	84.06
RBT-2-96	97	96	96.06
RBT-3-108	109	108	108.06
RBT-3-120	119	118	118.06
RBT-3-132	134	133	133.06
RBT-4-144	146	145	145.06



## ► RBT | INSTALLATION



### NOTE

NSF Sanitation certified for up to 7 ft. high openings. The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/2 inch.

#### A WALL MOUNT

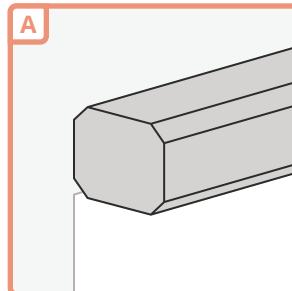
Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor-blower plate when installing.

Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four 7/8 inch holes in motor/blower plate.

If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way.

The electrical switches have a lever that slides in one direction to release the switch contacts from the switch body. All wires will then stay intact for easy installation when replacing the blower plate.

Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and rotate top in last.



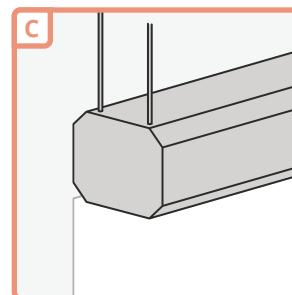
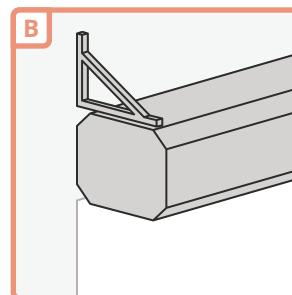
#### B BRACKETS

Mounting brackets (also called knee, angle or L-brackets) can be flush to the wall or constructed to account for a projection from the wall. For proper size brackets measure standoff distance from wall to back of where air curtain will be.

#### C TOP MOUNT

Unit has four 3/8- 16 threaded inserts for installing one end of threaded rods. The other ends of the threaded rods can be attached to the ceiling. Threaded rod should not extend more than 3/4 inch into air curtain.

\*Powered Aire does not supply threaded rods.



#### MB123 QUICK MOUNTING PLATE

Optional Installation (See page 240 for more detail)

##### Step 1

Attach top mounting bracket to back of air curtain using the upper mounting holes on back of unit.

##### Step 2

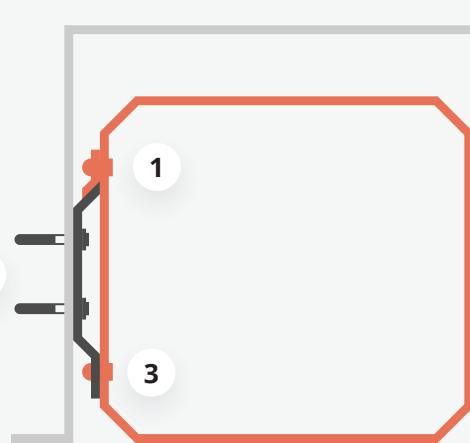
Attach the mounting bracket to the wall. Make sure there is sufficient room between mounting plate and ceiling to mount air curtain.

##### Step 3

Place air curtain over mounting bracket. The top and bottom brackets will lock into place supporting the weight of the air curtain. Attach the bottom bracket to the air curtain using the lower mounting holes.



When mounted, bottom of air curtain is to be flush with bottom of the door header.





RMP

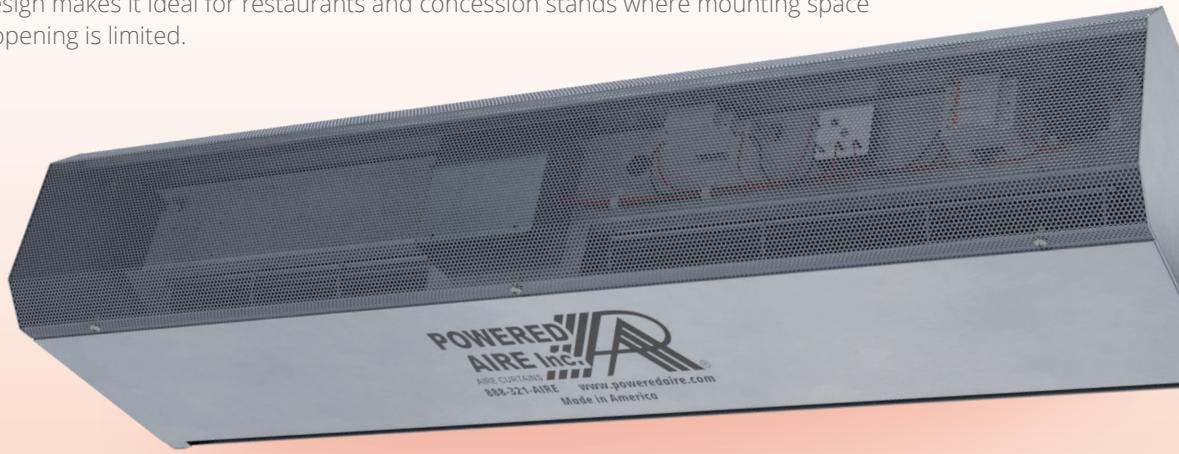
# RMP

NSF-37 CERTIFIED

ETL SANITATION LISTED



The RMP is a low-profile, single-speed air curtain designed for insect control. Its durable stainless steel case combined with a compact design makes it ideal for restaurants and concession stands where mounting space above the door, window, or opening is limited.



## AT A GLANCE

Single Incremental Widths

3' to 10'

Max Installation Height

10'

Heavy Duty Motors

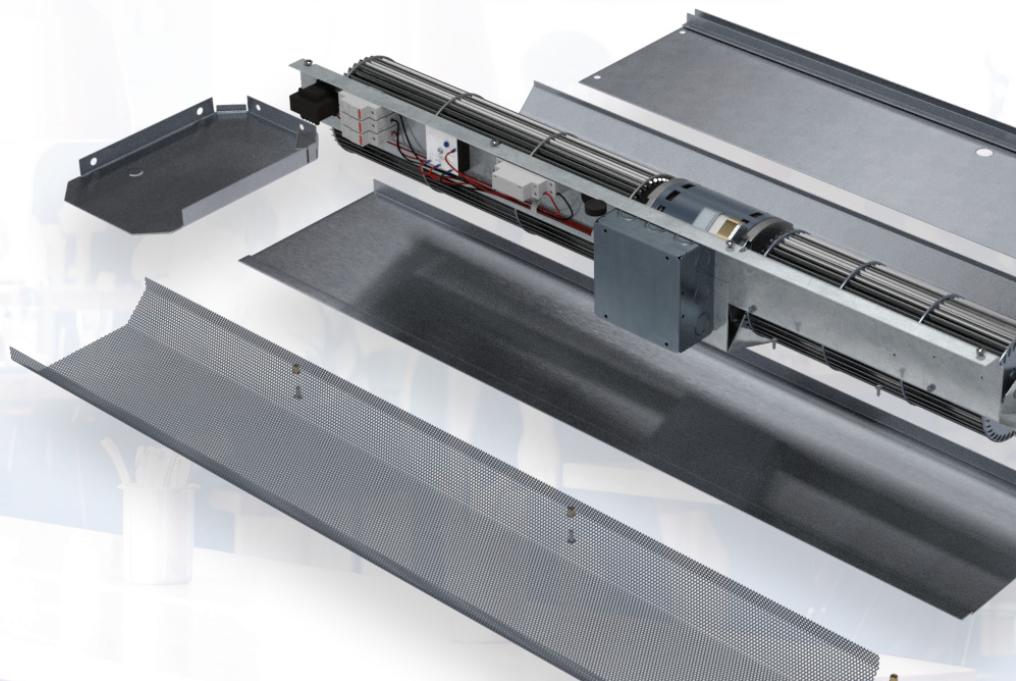
1/5 HP

### KEY DESIGN FEATURES

- ETL Sanitation certified to NSF Standard 37
- USDA and FDA compliant
- Low-profile outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1/5 HP ODP (Open Drip Proof) direct-drive variable-speed motor(s)
- Adjustable air foil vane (+/-20°)

### RECOMMENDED CONTROLS & ACCESSORIES

- Activation by 24V magnetic door switch
- Filter (washable)



## ► RMP | PERFORMANCE

### RMP | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. FPM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Weight (lbs)
RMP-1-30	29	3050	2045	897	92%	1	1/5	42
RMP-1-36	35	3050	2142	1178	95%	1	1/5	53
RMP-1-42	41	3050	2086	1339	95%	1	1/5	60
RMP-1-48	47	3050	2045	1500	92%	1	1/5	67
RMP-1-60	59	3050	1928	1767	92%	1	1/5	85
RMP-2-72	71	3050	2142	2356	95%	2	1/5	94
RMP-2-84	83	3050	2087	2678	95%	2	1/5	105
RMP-2-96	95	3050	2045	3005	95%	2	1/5	114
RMP-2-108	107	3050	2142	3534	95%	2	1/5	130
RMP-2-120	117	3050	2103	3856	95%	2	1/5	141



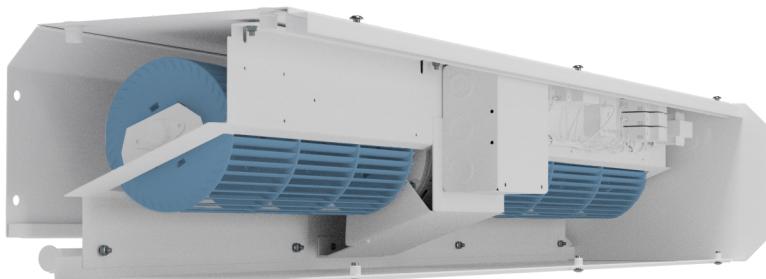
For a unit over 10 feet long, consult factory.

### RMP | Sound Levels

High Speed 53 dBA Measured 10 ft. from unit in a free field based on a 1 motor unit

### RMP | Single Phase Motor Options

Voltages available	120	208/230	480	575
Amp draw per motor	4.0	2.0	1.1	0.9



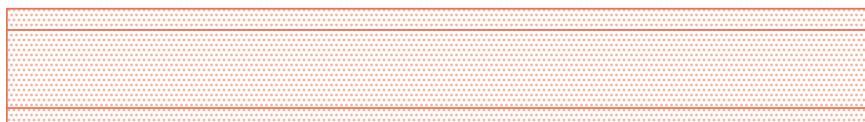
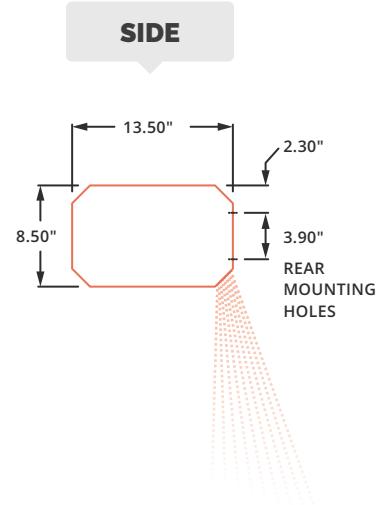
### Performance Highlight

This unit can fit a larger diameter tangential blower wheel than competitors' models to increase performance without increasing size. The motor/blower plate comes out of the unit as an entire piece and the electrical connections can be made on the top or sides of the unit for more versatility.

## ► RMP | MECHANICAL DETAILS & DRAWINGS

### RMP | Mechanical Information Table

MODEL	Overall Width (in.)	Mounting Width (in.)	Nozzle Width (in.)
RMP-1-30	31	30	29
RMP-1-36	37	36	35
RMP-1-42	43	42	41
RMP-1-48	49	48	47
RMP-1-60	61	60	59
RMP-2-72	73	72	71
RMP-2-84	85	84	83
RMP-2-96	97	96	95
RMP-2-108	109	108	107
RMP-2-120	119	118	117



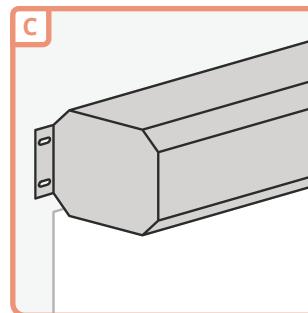
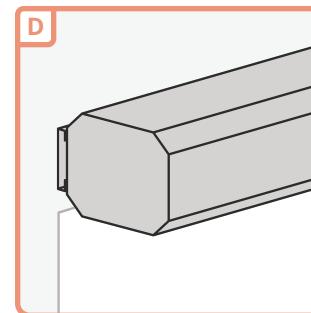
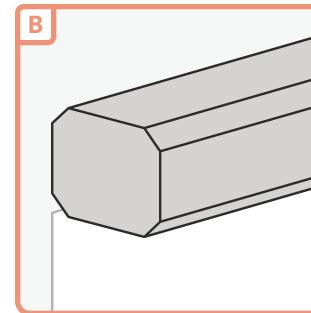
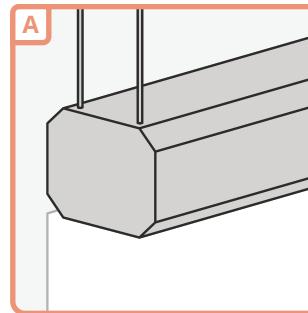
## ► RMP | INSTALLATION

### ! IMPORTANT

- ✓ Trained and experienced mechanic / electrician required.
- ✓ NOTE: The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall 1/2 inch.
- ✓ **WARNING:** Risk of electrical shock, can cause injury or death: Disconnect all remote electrical supplies before servicing.
- ✓ Units must be field wired in accordance with all applicable local, state, provincial and national codes, including wire size and materials.
- ✓ All hardware and brackets must be of sufficient strength to safely support air curtain.
- ✓ The unit is to be installed such that the bottom of the air curtain is no more than 10 ft. above the finished floor in order to comply with the NSF/ANSI 37 standard. The air curtain shall be at least as wide as the opening to be protected.

#### A TOP MOUNT

Unit has four 3/8 – 16 threaded inserts for installing one end of threaded rods. The other ends of the threaded rods can be attached to the ceiling. Threaded rod should not extend more than 3/4 inch into air curtain.



#### B WALL MOUNT

Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension and ratchet will negate the need to remove the motor/blower plate when installing. Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four slots in motor/blower plate.

If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way. Remove 7/16 whizlock nuts holding plate in place, and slide plate out, rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and push and rotate top in last.

#### C EXTENSION BRACKETS (WALL MOUNT)

Extension brackets bolt on to the back of the unit, utilizing the 4 original mounting holes, and allowing for external mounting of unit to wall. Brackets have elongated mounting slots that extend the mounting width by 2 1/2 to 3 1/2 inches.

#### D LP123 BRACKETS

Universal mounting slots are used to lag the bracket to the wall (bolts by others). 3/8" mounting bolts (supplied) are threaded into the holes located in all four corners of the back side of the air curtain, leaving 1/2" of the bolts exposed.



# PTW



The PTW is specifically designed to stop outside air and vehicle fumes from infiltrating a drive-thru window.

## OPTIONS

### HEATING

Electric..... pg 137

### ACTIVATION

Door switch kit



## AT A GLANCE

### Unit Width

26.5"

### Max Installation Height

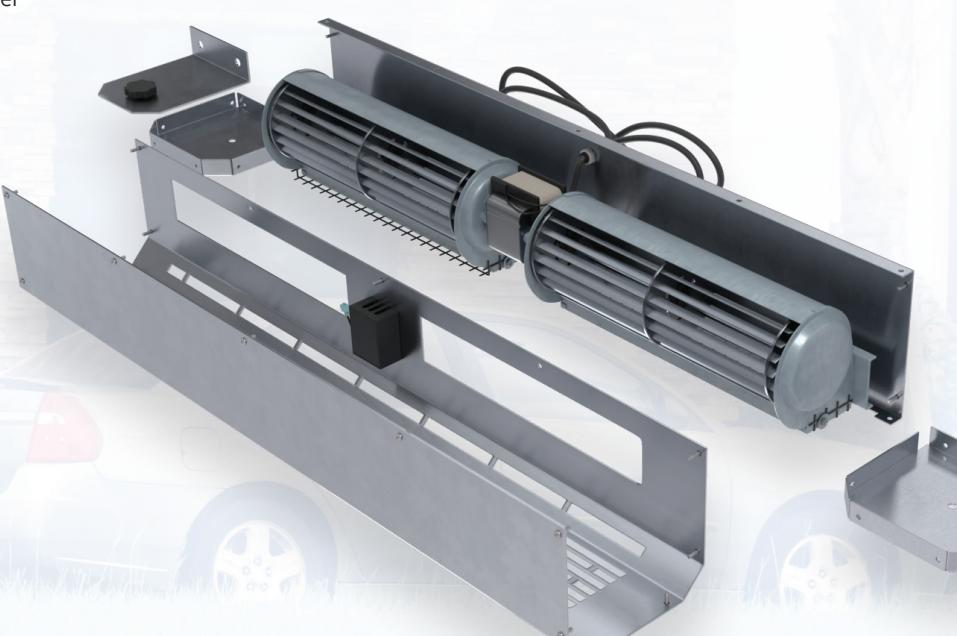
3'6"

### Motor

107w

## KEY DESIGN FEATURES

- 20 gauge 304 stainless steel outer case with a number three finish.
- 107 watt motor.
- Unit mounted variable speed dial.
- 120 volt power cord plugs into standard receptacle.
- Swivel mounting brackets allow for rear or top mounting and also allow for adjustment of the discharge angle.
- Easy installation



## ► PTW | PERFORMANCE

### PTW | Performance Table

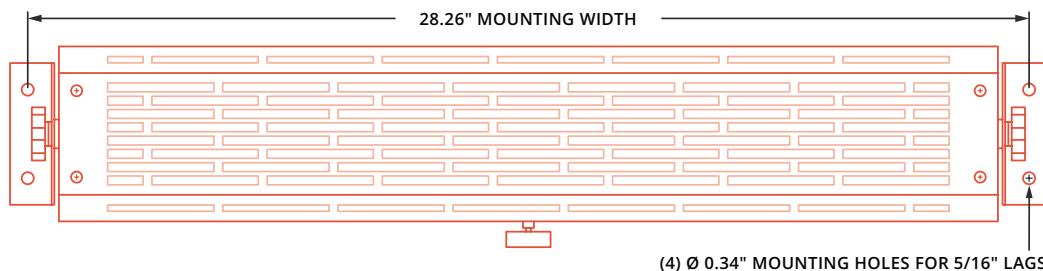
MODEL	Avg. Velocity at Nozzle on highest speed (FPM)	Air Flow Rate at Nozzle on highest speed (CFM)	Motor Power (Watts)	Amp Draw	Weight (lbs)	Sound Level (Measured 10' away from unit in a free field on highest speed)
PTW-24	1653	363	107	1.7	13	50 dba

## ► PTW | MECHANICAL DRAWINGS & INSTALLATION

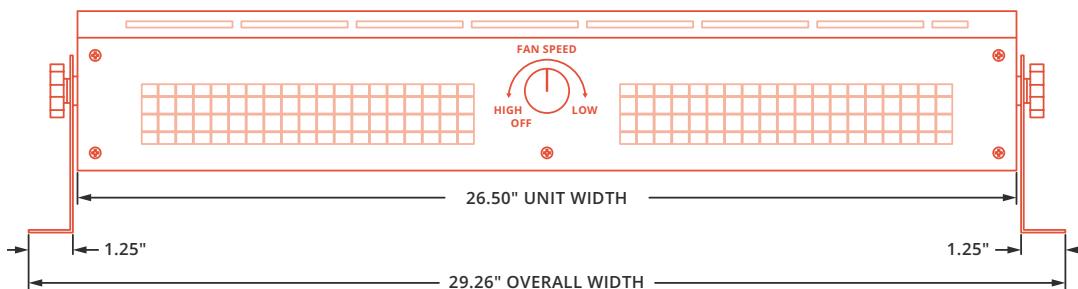
TOP



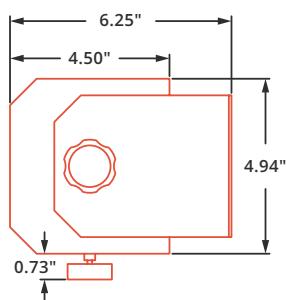
FRONT



BOTTOM



SIDE



### INSTALLATION

(4) Ø 0.34" Mounting Holes for 5/16" Lags



PTW-E

v4.2.1

# PTW-E



The PTW is specifically designed to stop outside air and vehicle fumes from infiltrating a drive-thru window.

## OPTIONS

### HEATING

Unheated ..... pg 135

### ACTIVATION

Door switch kit



## AT A GLANCE

Unit Width

28.5"

Max Installation Height

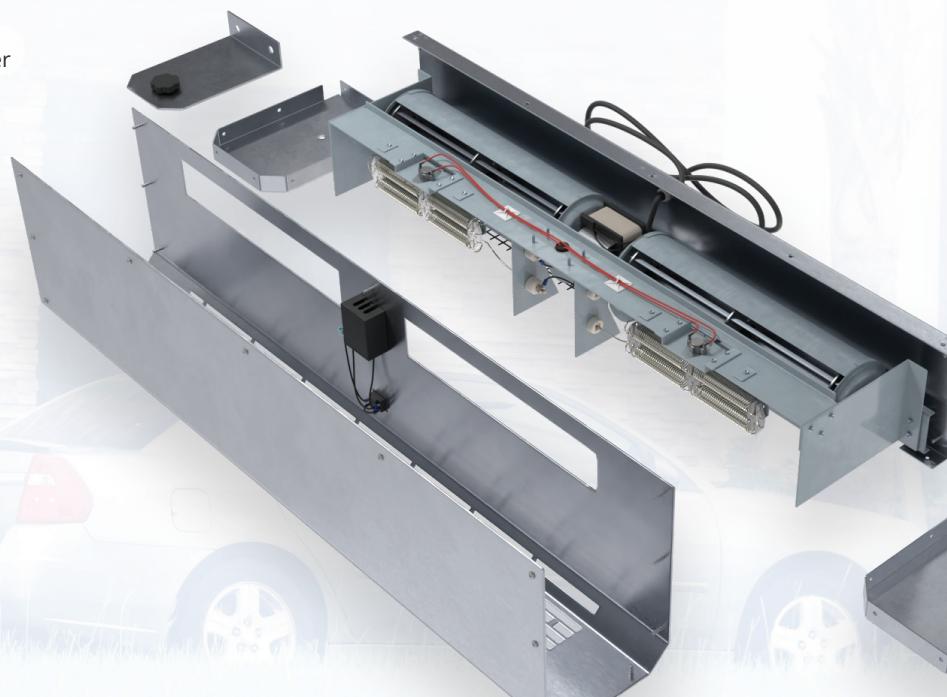
3'6"

Motor

107w

### KEY DESIGN FEATURES

- 20 gauge 304 stainless steel outer case with a number three finish.
- 107 watt motor.
- Unit mounted variable speed dial, with FAN / OFF / HEAT switch.
- 120 volt power cord plugs into standard receptacle.
- Swivel mounting brackets allow for rear or top mounting and also allow for adjustment of the discharge angle.
- Easy installation



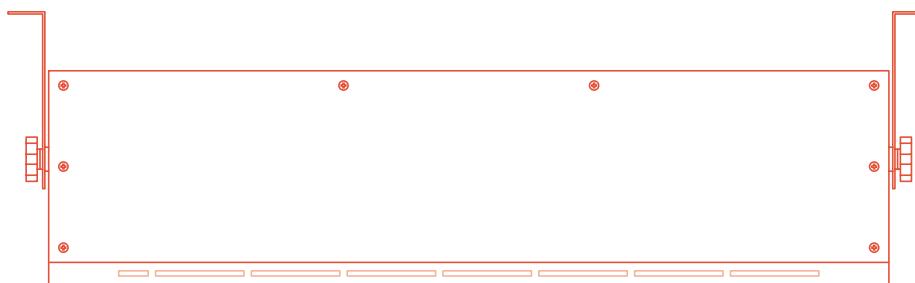
## ► PTW-E | PERFORMANCE

### PTW-E | Performance Table

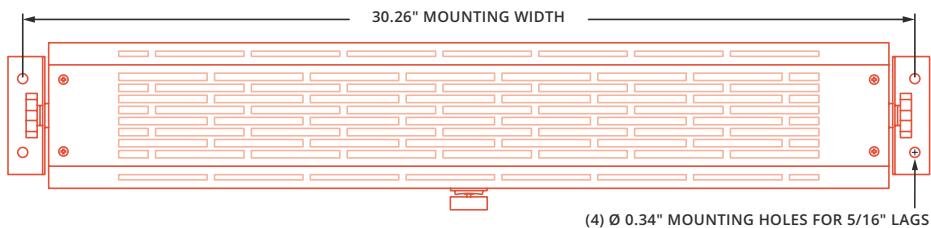
MODEL	Avg. Velocity at Nozzle on highest speed (FPM)	Air Flow Rate at Nozzle on highest speed (CFM)	Motor Power (Watts)	Electric Heating Capacity	Temp. Rise (° F) on highest speed	Amp Draw	Weight (lbs)	Sound Level (Measured 10' away from unit in a free field on highest speed)
PTW-24E	1653	363	107	1.2 kW	10.6° F	11.2	21	50 dba

## ► PTW-E | MECHANICAL DRAWINGS & INSTALLATION

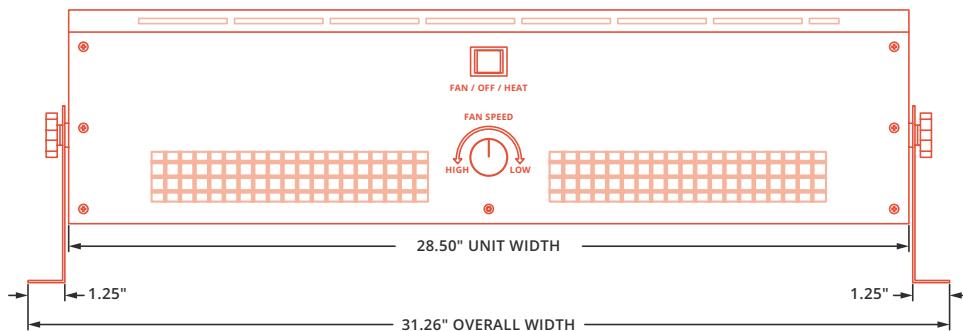
TOP



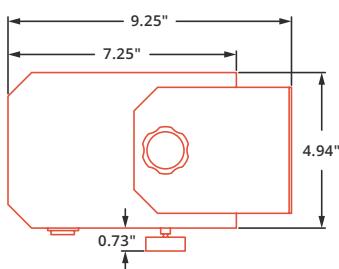
FRONT



BOTTOM



SIDE



### INSTALLATION

(4) Ø 0.34" Mounting Holes for 5/16" Lags



TFD

# TFD

LIGHT INDUSTRIAL

 December  
 2023  
 PAAC-501

 MADE  
 IN THE  
 USA

The TFD is typically used over medium sized dock doors, or openings in an industrial environment. Available in unheated, hot water heated, steam heated, indirect gas fired (closed combustion heaters are available), and direct gas fired versions.



## OPTIONS

### HEATING

- Electrical . . . . . pg 143
- Hot Water . . . . . pg 147
- Steam . . . . . pg 147
- Indirect Gas . . . . . pg 149

### FILTER

1" Cleanable (Unheated, Hot Water and Steam Units)

## AT A GLANCE

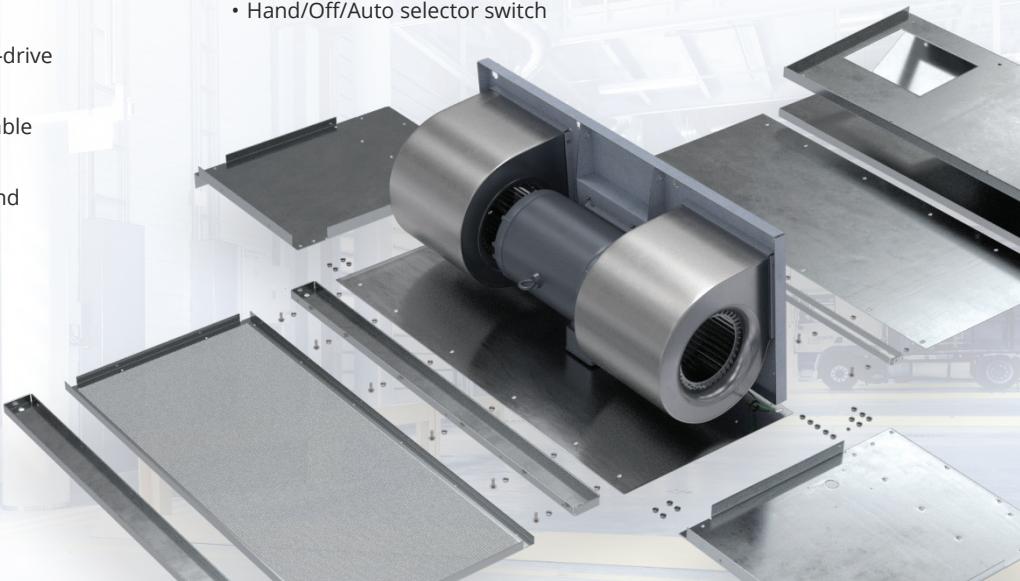
**Single Incremental Widths**
**3' to 14'**
**Max Installation Height**
**14'**
**Heavy Duty Motors**
**1.5 HP**

### KEY DESIGN FEATURES

- AMCA tested performance
- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1.5 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/- 20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch



## ▶ TFD | PERFORMANCE

## TFD | Performance Table

Model	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity FPM	CFM at Nozzle	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Sound Pressure (dBA)*	Sound Power [LWA] (dBA)‡	Weight (lbs.)
TFD-1-36	36	4500	3108	2331	92.0%	1.2	1	1.5	73	87	119
TFD-1-48	48	4500	3565	2565	94.0%	1.3	1	1.5	76	90	152
TFD-1-60	60	4500	2146	2682	73.0%	1.3	1	1.5	69	82	188
TFD-2-72	72	4500	3108	4662	92.0%	2.4	2	1.5	76	90	256
TFD-2-84	84	4500	2798	4896	92.0%	2.6	2	1.5	79	93	290
TFD-2-96	96	4500	2565	5130	94.0%	2.6	2	1.5	79	93	316
TFD-2-108	108	4500	2332	5247	73.0%	2.6	2	1.5	79	93	342
TFD-3-108	108	4500	3108	6993	92.0%	3.6	3	1.5	77	92	378
TFD-3-120	120	4500	2891	7227	92.0%	3.7	3	1.5	80	95	420
TFD-3-132	132	4500	2713	7461	92.0%	3.8	3	1.5	80	95	489
TFD-4-144	144	4500	3108	9324	92.0%	4.8	4	1.5	79	93	509
TFD-4-156	156	4500	2941	9558	92.0%	4.9	4	1.5	82	96	522
TFD-4-168	168	4500	2798	9792	92.0%	5.0	4	1.5	82	96	534

\*dBA levels are not licensed by AMCA International

dBA levels calculated from sone values supplied by AMCA based on spherical free field at 5 ft.

‡ The A-weighted sound power ratings shown have been calculated per AMCA Standard 301

Values shown are for total LwA sound power levels for Installation Type A: free inlet, free outlet.



For a unit over 14 feet long, consult factory.

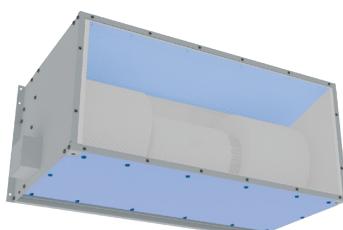
For Top Intake, consult factory.

## Velocity Projection Model (Model TFD-1-36)

Distance from Nozzle	40 in.	80 in.	120 in.	160 in.	200 in.
Core Velocity (fpm)	2029	1525	1353	1180	1071

## TFD | Three Phase Motor Options

Voltages available	120	208	240	480	575
Amp draw per motor	NA	5.0	4.6	2.6	1.9



## Performance Highlight

The TFD has top and bottom access panels to replace or service motors or blowers without lowering entire unit or bottom half of unit. With hot water and steam heat these access panels enable service to the unit without removing the coils.

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection, sound power, and power rating at free delivery only.

Powered Aire Inc. certifies that the Model TFD Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

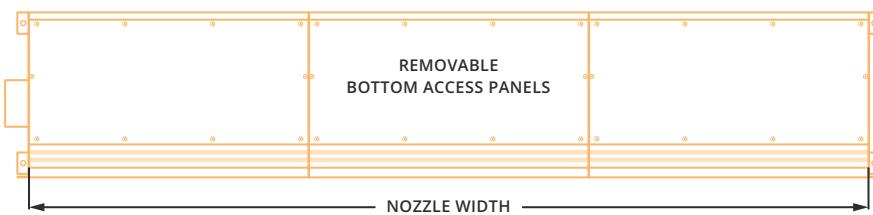
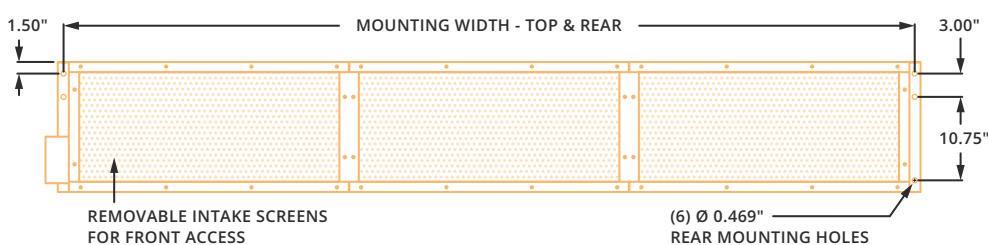
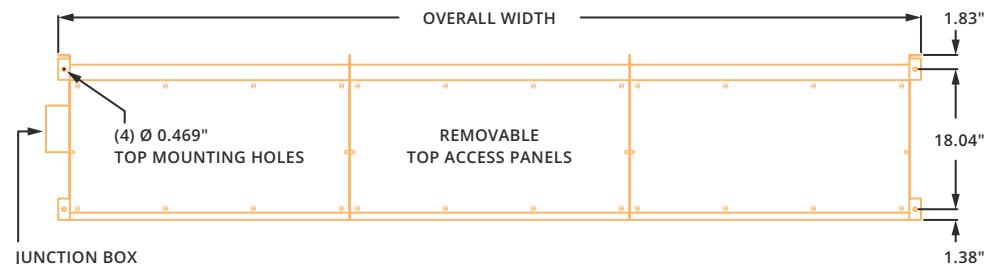
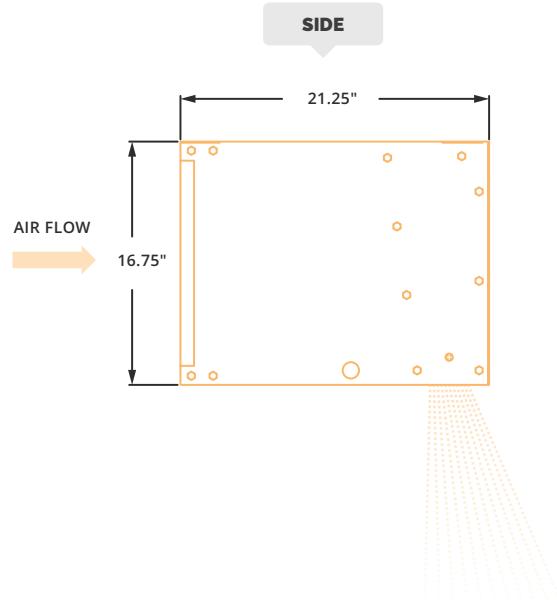
December  
2023  
PAAC-501



## ► TFD MECHANICAL DETAILS & DRAWINGS

### TFD | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width Rear and Top (in.)
TFD-1-36	39	36	37.5
TFD-1-48	51	48	49.5
TFD-1-60	63	60	61.5
TFD-2-72	75.07	72.07	73.57
TFD-2-84	87.07	84.07	85.57
TFD-2-96	99.07	96.07	97.57
TFD-2-108	111.07	108.07	109.57
TFD-3-108	111.15	108.15	109.65
TFD-3-120	123.15	120.15	121.65
TFD-3-132	135.15	132.15	133.65
TFD-4-144	147.22	144.22	145.72
TFD-4-156	159.22	156.22	157.72
TFD-4-168	171.22	168.22	169.72



## ► TFD, TFD-E & TFD-HW/ST | INSTALLATION



### NOTE

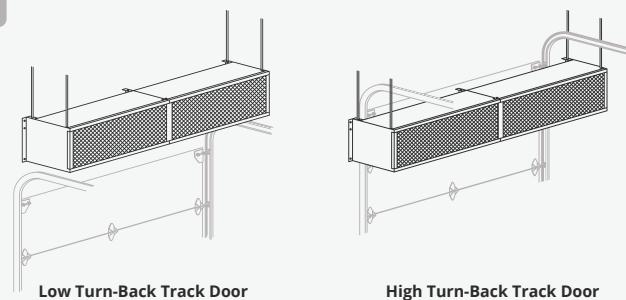
The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{4}$  inch.

#### A TOP MOUNT

Unit has four 15/32 inch holes for installing one end of 7/16" threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.

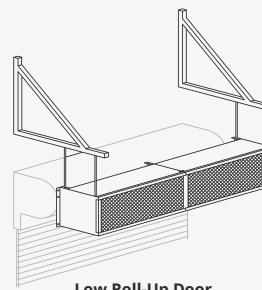
\*Powered Aire does not supply threaded rods.

#### A

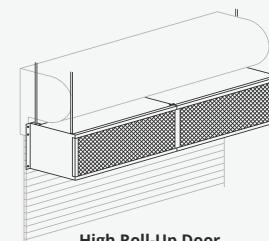


Low Turn-Back Track Door

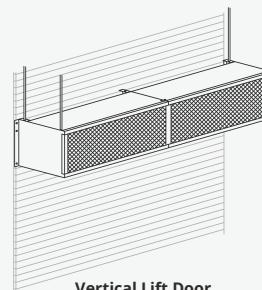
High Turn-Back Track Door



Low Roll-Up Door



High Roll-Up Door

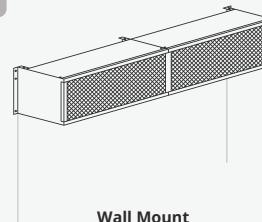


Vertical Lift Door

#### B WALL MOUNT

Rear flanges of air curtain have six holes, for six 7/16 inch bolts or lags with washers. When wall mounting use all six holes.

#### B



Wall Mount



TFD-E

# TFD-E

LIGHT INDUSTRIAL

MADE  
IN THE  
USA

The TFD-E is the go-to air curtain for industrial doors ranging between 10 and 14 feet. This versatile air curtain can be used to cover openings on dock doors, shipping doors, delivery doors or other areas needing to separate environments. With the addition of electric heat, the TFD-E effectively blocks cold winter air from entering through an open door while also helping improve employee comfort and prevent the buildup of ice water around the door.

The TFD-E air door is manufactured as a single unit that can be joined together to cover openings up to 14' wide. To streamline access, the TFD-E has top and bottom panels that expedite the service process. All industrial units are direct drive, which avoids misalignment of couplers and outboard bearings and eliminates periodic belt replacement. The motor/blower plate comes out as an entire piece and all parts on the outside of the unit are constructed of stainless steel.

## OPTIONS

### HEATING

Electric, Hot Water, Steam, Indirect Gas



## AT A GLANCE

Single Incremental Widths

3' to 14'

Max Installation Height

14'

Heavy Duty Motors

1.5 HP

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1.5 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel
- Factory mounted single-stage electric heaters
- Single point power connection available (see electrical table)
- Alternate heater kW available (consult factory)

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch(s)
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat



# ► TFD-E | PERFORMANCE

## TFD-E | Performance Table

Model	Nozzle Width (in.)	Electric Heat											
		Max. FPM at Nozzle	Avg. Outlet Velocity FPM	CFM at Nozzle	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Sound Pressure (dBA)*	Sound Power [LWA] (dBA)	Heater KW	Temp Rise (°F)	Weight (lbs.)
TFD-1-36E	36	4800	3108	2331	92.0%	1.2	1	1.5	73	87	20	27	141
TFD-1-48E	48	4800	3565	2565	94.0%	1.3	1	1.5	76	90	20	25	181
TFD-1-60E	60	4800	2146	2682	73.0%	1.3	1	1.5	69	82	20	24	225
TFD-2-72E	72	4800	3108	4662	92.0%	2.4	2	1.5	76	90	40	27	300
TFD-2-84E	84	4800	2798	4896	92.0%	2.6	2	1.5	79	93	40	26	342
TFD-2-96E	96	4800	2565	5130	94.0%	2.6	2	1.5	79	93	40	25	375
TFD-2-108E	108	4800	2332	5247	73.0%	2.6	2	1.5	79	93	40	24	409
TFD-3-108E	108	4800	3108	6993	92.0%	3.6	3	1.5	77	92	60	27	445
TFD-3-120E	120	4800	2891	7227	92.0%	3.7	3	1.5	80	95	60	26	494
TFD-3-132E	132	4800	2713	7461	92.0%	3.8	3	1.5	80	95	60	25	570
TFD-4-144E	144	4800	3108	9324	92.0%	4.8	4	1.5	79	93	80	27	598
TFD-4-156E	156	4800	2941	9558	92.0%	4.9	4	1.5	82	96	80	26	618
TFD-4-168E	168	4800	2798	9792	92.0%	5.0	4	1.5	82	96	80	26	638

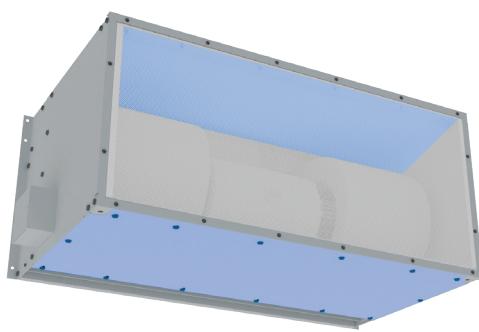
\*Calculation based on spherical free field at 5 ft.



For a unit over 14 feet long, consult factory.  
For Top Intake, consult factory.

## TFD-E | Three Phase Motor Options

Voltages available	120	208	240	480	575
Amp draw per motor	NA	5.0	4.6	2.6	1.9



### Performance Highlight

The TFD-E has top and bottom access panels to replace or service motors or blowers without lowering entire unit or bottom half of unit. With hot water and steam heat these access panels enable service to the unit without removing the coils.

## ► TFD-E | ELECTRICAL

### TFD-E | Electrical Table

Model	KW	208/3/06					SPP	240/3/60					SPP
		Separate Supply Circuits						Separate Supply Circuits					
	1	2	3	4	5		1	2	3	4			
TFD-1-36E													
TFD-1-48E	17	47.2 (60)	5 (15)	-	-	-	52.2 (70)	-	-	-	-	-	45.5 (60)
TFD-1-60E													
TFD-2-72E													
TFD-2-84E	34	47.2 (60)	47.2 (60)	10 (15)	-	-	104.4 (150)	45.5 (60)	45.5 (60)	-	-	-	91.0 (125)
TFD-2-96E													
TFD-2-108E													
TFD-3-108E													
TFD-3-120E	51	47.2 (60)	47.2 (60)	47.2 (60)	15 (20)	-	‡	45.5 (60)	45.5 (60)	45.5 (60)	-	-	‡
TFD-3-132E													
TFD-4-144E													
TFD-4-156E	68	47.2 (60)	47.2 (60)	47.2 (60)	47.2 (60)	20 (30)	‡	45.5 (60)	45.5 (60)	45.5 (60)	45.5 (60)	-	‡
TFD-4-168E													

Model	KW	480/3/06			SPP	575/3/06			SPP
		Separate Supply Circuits				Separate Supply Circuits			
	1	2	3		1	2			
TFD-1-36E									
TFD-1-48E	20	-	-	-	26.4(35)	-	-	-	21.8 (30)
TFD-1-60E									
TFD-2-72E									
TFD-2-84E	40	23.8 (30)	29.0 (40)	-	52.8 (70)	-	-	-	44.0 (60)
TFD-2-96E									
TFD-2-108E									
TFD-3-108E									
TFD-3-120E	6	47.6 (35)	31.6 (40)	-	80.1 (125)	39.8 (50)	25.6 (35)	-	65.4 (90)
TFD-3-132E									
TFD-4-144E									
TFD-4-156E	80	47.6 (35)	23.8 (30)	34.2 (45)	106.8 (150)	39.8 (50)	47.4 (60)	-	87.2 (125)
TFD-4-168E									

\*With optional branch fusing for Single Point Power (SPP)

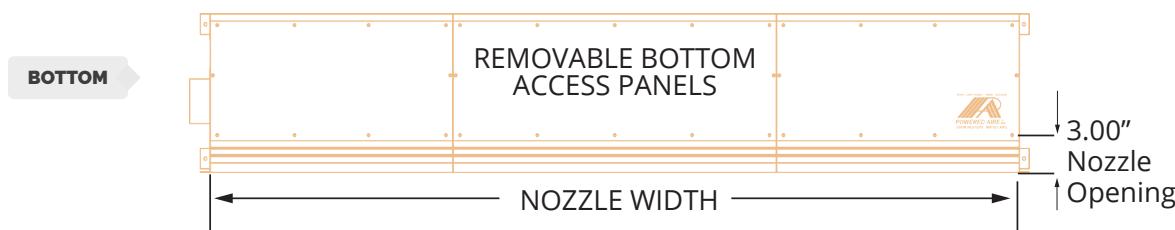
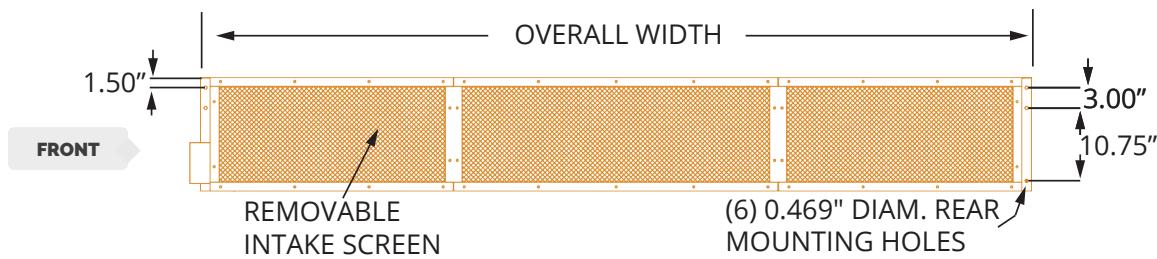
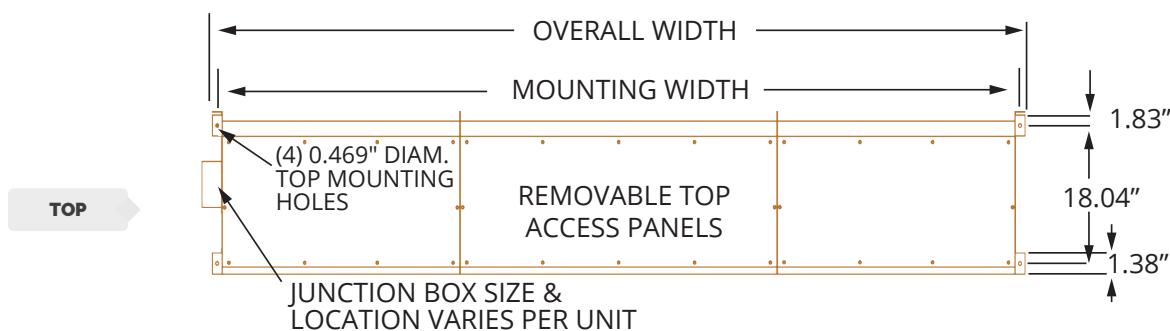
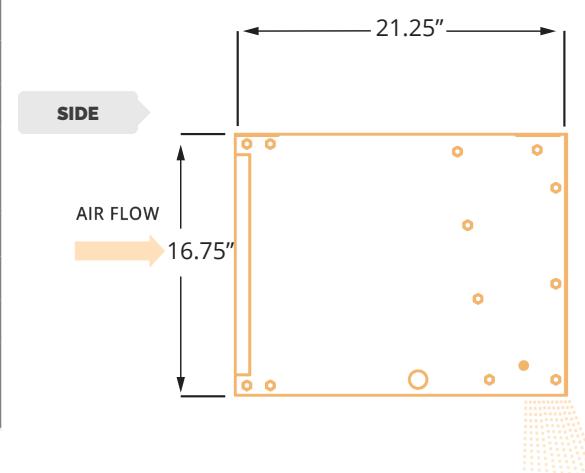
\*\*Consult factory for additional voltages

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

## ► TFD-E | MECHANICAL DETAILS & DRAWINGS

### TFD-E | Mechanical Information Table

MODEL	Overall Width* (in.)	Nozzle Width (in.)	Mounting Width Rear and Top (in.)
TFD-1-36E	39	36	37.5
TFD-1-48E	51	48	49.5
TFD-1-60E	63	60	61.5
TFD-2-72E	75.07	72.07	73.57
TFD-2-84E	87.07	84.07	85.57
TFD-2-96E	99.07	96.07	97.57
TFD-2-108E	111.07	108.07	109.57
TFD-3-108E	111.15	108.15	109.65
TFD-3-120E	123.15	120.15	121.65
TFD-3-132E	135.15	132.15	133.65
TFD-4-144E	147.22	144.22	145.72
TFD-4-156E	159.22	156.22	157.72
TFD-4-168E	171.22	168.22	169.72





TFD-HW



TFD-ST

v4.2.1

## ► TFD-HW/ST | PERFORMANCE

### TFD-HW/ST | Performance Table

Model	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity FPM	CFM at Nozzle	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Sound Pressure (dBA)*	Sound Power [LWA] (dBA)	Hot Water		Steam		Weight (lbs.)
											mbtu/ Hour	Temp. Rise (°F)	mbtu/ Hour	Temp. Rise (°F)	
TFD-1-36HW/ST	36	4500	3108	2331	92.0%	1.2	1	1.5	73	87	85	34	90	36	165
TFD-1-48HW/ST	48	4500	3565	2565	94.0%	1.3	1	1.5	76	90	100	36	95	34	182
TFD-1-60HW/ST	60	4500	2146	2682	73.0%	1.3	1	1.5	69	82	103	36	101	35	212
TFD-2-72HW/ST	72	4500	3108	4662	92.0%	2.4	2	1.5	76	90	180	36	179	36	335
TFD-2-84HW/ST	84	4500	2798	4896	92.0%	2.6	2	1.5	79	93	184	35	187	35	346
TFD-2-96HW/ST	96	4500	2565	5130	94.0%	2.6	2	1.5	79	93	183	33	192	35	360
TFD-2-108HW/ST	108	4500	2332	5247	73.0%	2.6	2	1.5	79	93	196	35	205	36	382
TFD-3-108HW/ST	108	4500	3108	6993	92.0%	3.6	3	1.5	77	92	256	34	266	35	500
TFD-3-120HW/ST	120	4500	2891	7227	92.0%	3.7	3	1.5	80	95	274	35	268	34	516
TFD-3-132HW/ST	132	4500	2713	7461	92.0%	3.8	3	1.5	80	95	291	36			526
TFD-4-144HW/ST	144	4500	3108	9324	92.0%	4.8	4	1.5	79	93	346	34			665
TFD-4-156HW/ST	156	4500	2941	9558	92.0%	4.9	4	1.5	82	96	364	35			681
TFD-4-168HW/ST	168	4500	2798	9792	92.0%	5.0	4	1.5	82	96	381	36			692

\*Calculation based on spherical free field at 5 ft.

\*\*Contact factory for availability


 For a unit over 14 feet long, consult factory.  
 For Top Intake, consult factory.

### TFD-HW/ST | Three Phase Motor Options

Voltages available	120	208	240	480	575
Amp draw per motor	NA	5.0	4.6	2.6	1.9

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1.5 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Single length hot water coils up to 14 ft
- Single length steam coils up to 10 ft
- Custom coil selections available (consult factory)

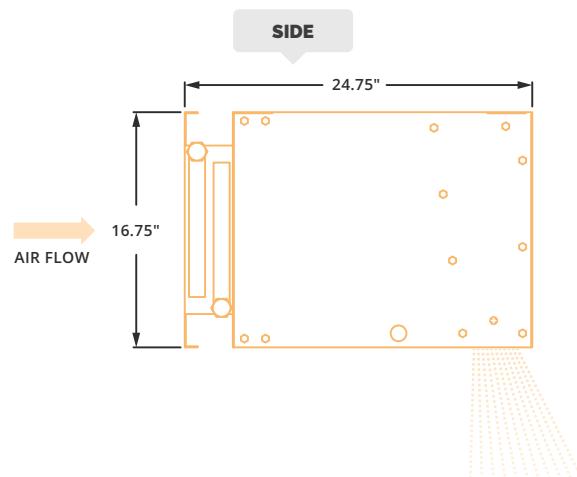
### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat
- Hot water or steam control valve with actuator

## ► TFD-HW/ST | MECHANICAL DETAILS & DRAWINGS

### TFD | Mechanical Information Table

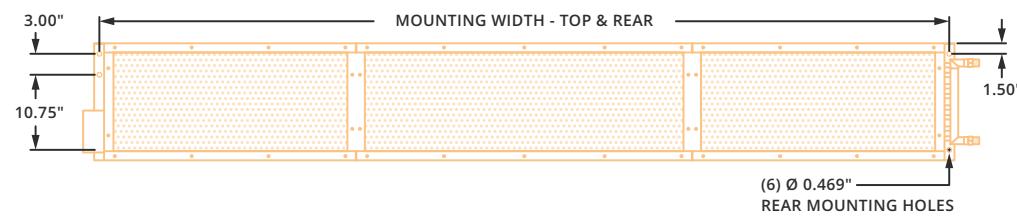
MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width Rear and Top (in.)
TFD-1-36	39	36	37.5
TFD-1-48	51	48	49.5
TFD-1-60	63	60	61.5
TFD-2-72	75.07	72.07	73.57
TFD-2-84	87.07	84.07	85.57
TFD-2-96	99.07	96.07	97.57
TFD-2-108	111.07	108.07	109.57
TFD-3-108	111.15	108.15	109.65
TFD-3-120	123.15	120.15	121.65
TFD-3-132	135.15	132.15	133.65
TFD-4-144	147.22	144.22	145.72
TFD-4-156	159.22	156.22	157.72
TFD-4-168	171.22	168.22	169.72



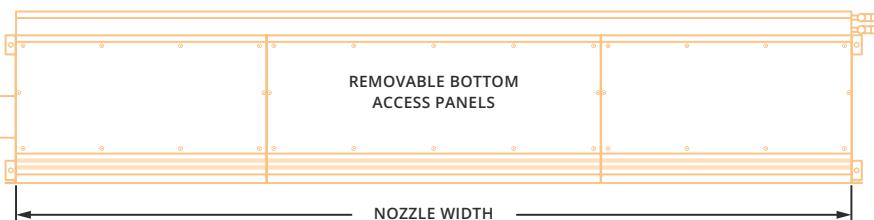
TOP



FRONT



BOTTOM





## ► TFD-IG | PERFORMANCE

### TFD-IG | Performance Table

Model	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity FPM	CFM at Nozzle	Outlet Velocity Uniformity	Power Rating (kW)	Number of Motors	Motor HP	Sound Pressure & Sound Power (dBA)*	Number of Heaters	Input mbtu/hr per Heater	Output Total mbtu/hr	Temp. Rise (°F)	Weight (lbs.)
TFD-1-36IG	36	4500	3108	2331	92.0%	1.2	1	1.5	73	1	100	80	32	279
TFD-1-48IG	48	4500	3565	2565	94.0%	1.3	1	1.5	76	1	100	80	29	330
TFD-1-60IG	60	4500	2146	2682	73.0%	1.3	1	1.5	69	1	100	80	28	408
TFD-2-72IG	72	4500	3108	4662	92.0%	2.4	2	1.5	76	1	200	160	32	605
TFD-2-84IG	84	4500	2798	4896	92.0%	2.6	2	1.5	79	1	200	160	20	647
TFD-2-96IG	96	4500	2565	5130	94.0%	2.6	2	1.5	79	1	200	160	29	698
TFD-2-108IG	108	4500	2332	5247	73.0%	2.6	2	1.5	79	1	200	160	28	748
TFD-3-108IG	108	4500	3108	6993	92.0%	3.6	3	1.5	77	2	150	240	32	813
TFD-3-120IG	120	4500	2891	7227	92.0%	3.7	3	1.5	80	2	150	240	31	825
TFD-3-132IG	132	4500	2713	7461	92.0%	3.8	3	1.5	80	2	150	240	30	1048
TFD-4-144IG	144	4500	3108	9324	92.0%	4.8	4	1.5	79	2	200	320	32	1163
TFD-4-156IG	156	4500	2941	9558	92.0%	4.9	4	1.5	82	2	200	320	31	1252
TFD-4-168IG	168	4500	2798	9792	92.0%	5.0	4	1.5	82	2	200	320	30	1294

\*Calculation based on spherical free field at 5 ft.



For a unit over 14 feet long, consult factory.  
 For Top Intake, consult factory.

### TFD-IG | Three Phase Motor Options

Voltages available	120	208	240	480	575
Amp draw per motor	NA	5.0	4.6	2.6	1.9

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 1.5 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel
- Factory mounted 18-gauge 304 stainless steel transition duct(s)
- AGA/CGA labeled gas heater(s) with power exhaust, direct spark ignition, and tubular heat exchangers
- Convertible open and closed combustion
- Natural gas or propane fuel types
- Standard single point power connection

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat

## ► TFD-IG | INSTALLATION

Unit will be suspended with threaded rods. Air curtain has two holes on each end for installing one end of threaded rods, each transition duct has two 3/8 – 16 spotnuts, and each heater has two or four 3/8 – 16 spotnuts depending on the model. The other ends of the threaded rods can be attached to the ceiling.

Heater is to be mounted separately, 2" from air curtain/transition assembly. Model TFD-IG requires 7/16" threaded rod. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold unit, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely. Additional mounting holes are provided on larger units for buildings where structural support is not adequate for supporting the air curtain from ends only.



## ► TFD-IG | MECHANICAL DETAILS & DRAWINGS (1 HEATER)

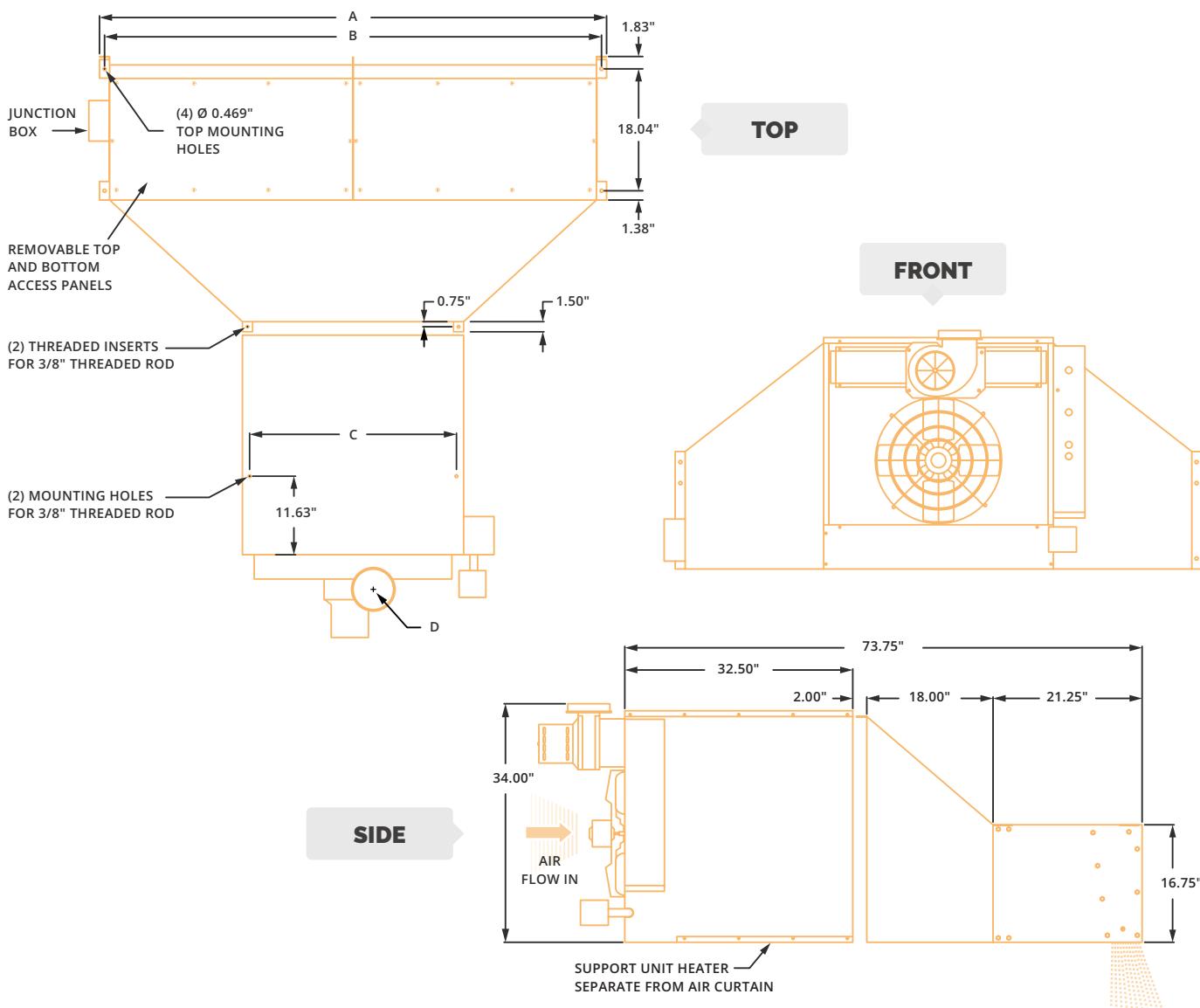
### TFD-IG | 1-Heater Mechanical Information Table

MODEL	Air Curtain Width - A (in.)	Mounting Width - B (in.)	Hanging Width - C (in.)	Flue Diameter - D (in.)	Heater Size	Gas Inlet (in.)
TFD-1-36IG	39	37.5	18.63	5	150	0.5
TFD-1-48IG	51	49.5	18.63	5	150	0.5
TFD-1-60IG	63	61.5	18.63	5	150	0.5
TFD-2-72IG	75.07	73.57	48.63	6	300	0.75
TFD-2-84IG	87.07	85.57	48.63	6	300	0.75
TFD-2-96IG	99.07	97.57	48.63	6	300	0.75
TFD-2-108IG	111.07	109.57	48.63	6	300	0.75



### NOTES

1. Installer responsible for structurally sound mounting of the unit.
2. Verify that overall dimensions will fit in the opening.
3. Air curtain to be installed so that the air stream is unobstructed.

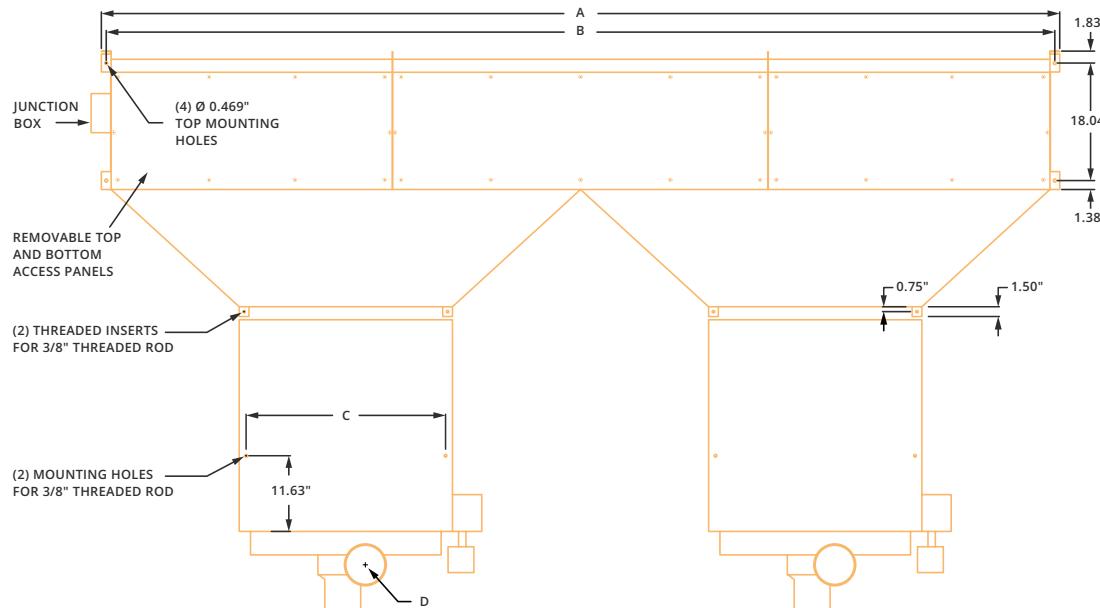


## ► TFD-IG | MECHANICAL DETAILS &amp; DRAWINGS (2 HEATER)

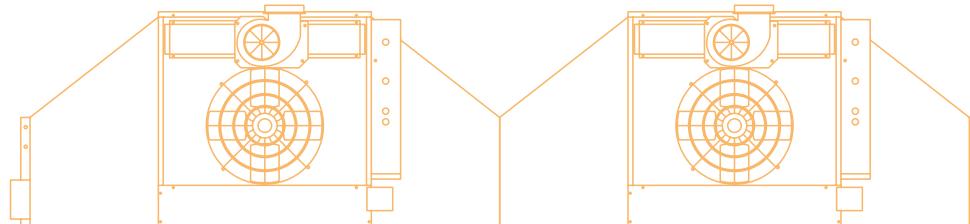
TFD-IG | 2-Heater Mechanical Information Table

MODEL	Air Curtain Width - A (in.)	Mounting Width - B (in.)	Hanging Width - C (in.)	Flue Diameter - D (in.)	Heater Size	Gas Inlet (in.)
TFD-3-108IG	111.15	109.65	30.63	5	2 x 200	0.5
TFD-3-120IG	123.15	121.65	30.63	5	2 x 200	0.5
TFD-3-132IG	135.15	133.65	30.63	5	2 x 200	0.5
TFD-4-144IG	147.22	145.72	30.63	5	2 x 250	0.75
TFD-4-156IG	159.22	157.72	30.63	5	2 x 250	0.75
TFD-4-168IG	171.22	169.72	30.63	5	2 x 250	0.75

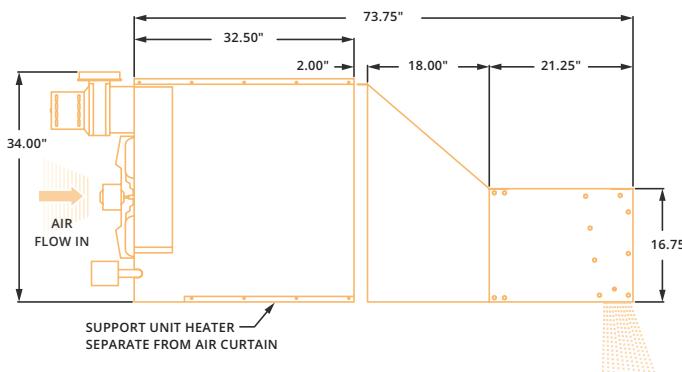
TOP



FRONT



SIDE





TSD

v4.2.1

# TSD



The TSD is typically used over dock doors, ground level doors or large openings in an industrial environment. All industrial units are direct drive, which avoids misalignment of couplers and outboard bearings and eliminates periodic belt replacement.

Powered Aire, Inc. certifies model TSD shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only. (May 2016)

## OPTIONS

### HEATING

Electric . . . . .	pg 157
Hot Water . . . . .	pg 163
Steam . . . . .	pg 163
Indirect Gas . . . . .	pg 167
Direct Gas . . . . .	pg 173



## AT A GLANCE

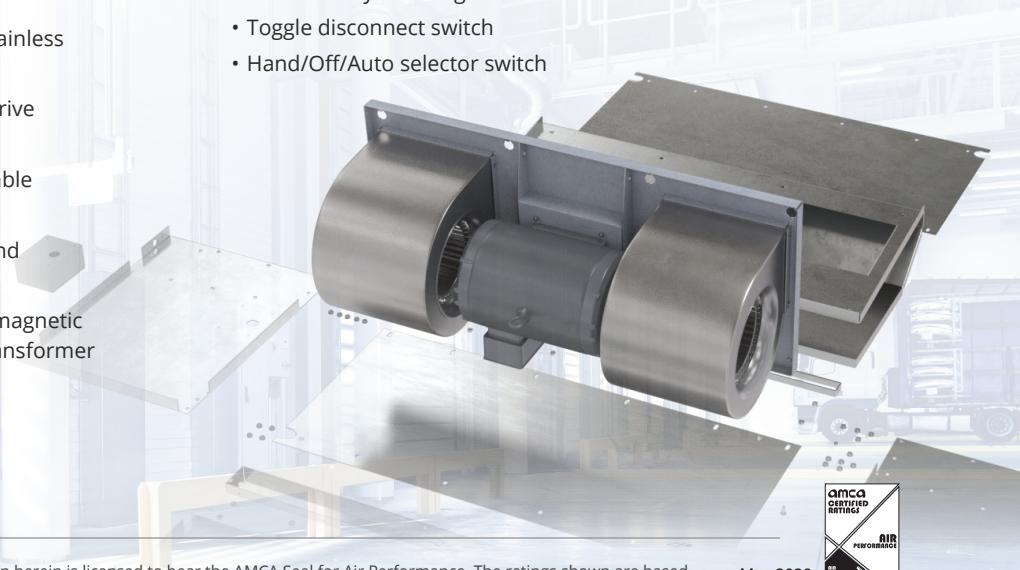
**Single Incremental Widths**
**4' to 30'**
**Max Installation Height**
**17'**
**Heavy Duty Motors**
**3 HP**

### KEY DESIGN FEATURES

- AMCA tested performance
- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 3 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/- 20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel with factory installed magnetic motor starter, overload relays, and control transformer

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch



# ► TSD | PERFORMANCE

## TSD | Performance Table

Model	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity FPM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Weight (lbs.)
TSD-1-48	48	6200	3209	4268	95.10%	1	3	342
TSD-1-60	60	5800	3006	4855	92.00%	1	3	380
TSD-1-72	72	5900	2891	5579	86.30%	1	3	400
TSD-2-96	96	6200	3209	8536	95.10%	2	3	681
TSD-2-108	108	6200	3108	9123	92.00%	2	3	719
TSD-2-120	120	5800	3006	9710	92.00%	2	3	757
TSD-2-132	132	5900	2943	10434	86.30%	2	3	777
TSD-2-144	144	5900	2891	11158	86.30%	2	3	797
TSD-3-144	144	6200	3209	12804	95.10%	3	3	1020
TSD-3-156	156	6200	3141	13391	92.00%	3	3	1058
TSD-3-168	168	6200	3074	13978	86.30%	3	3	1078
TSD-3-180	180	6200	3200	15608	86.30%	3	3	1116
TSD-3-192	192	6200	3145	16332	86.30%	3	3	1136
TSD-4-192	192	6200	3209	17072	95.10%	4	3	1359
TSD-3-204	204	5900	2925	16013	86.30%	3	3	1174
TSD-4-204	204	6200	3158	17072	92.00%	4	3	1397
TSD-3-216	216	5900	2891	16737	86.30%	3	3	1194
TSD-4-216	216	6200	3108	18246	86.30%	4	3	1417
TSD-4-228	228	6200	3057	18833	86.30%	4	3	1455
TSD-4-240	240	6200	3295	21560	86.30%	4	3	1475
TSD-5-240	240	6200	3209	21340	95.10%	5	3	1698
TSD-4-252	252	6200	2977	20144	86.30%	4	3	1513

## TSD | Velocity Projection Model (Model TSD-1-48)

Distance From Nozzle	40 in.	80 in.	120 in.	160 in.	200 in.
Core Velocity (fpm)	3020	2060	1710	1420	1225

## TSD | Sound Levels

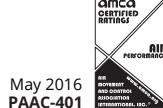
High Speed	69 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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## TSD | Three-Phase Motor Options

Voltages available	208	240	480	575
Amp draw per motor	13.1	12.2	6.1	5.0

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only. Rated data shown are based on tests of units with heating elements present but not in use.

Powered Aire Inc. certifies that the Model TSD Air Curtain shown herein is licensed to bear the AMCA Seal for Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



May 2016  
PAAC-401

## ► TSD | MECHANICAL DETAILS



### Mechanical Drawings

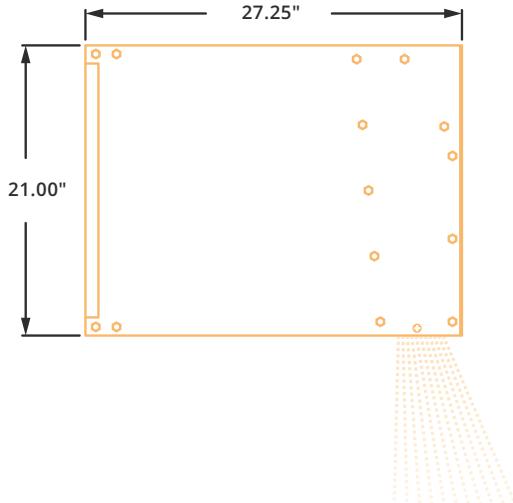
TSD Mechanical Drawings can be found on the next page, Page 156.

#### TSD | Mechanical Information Table

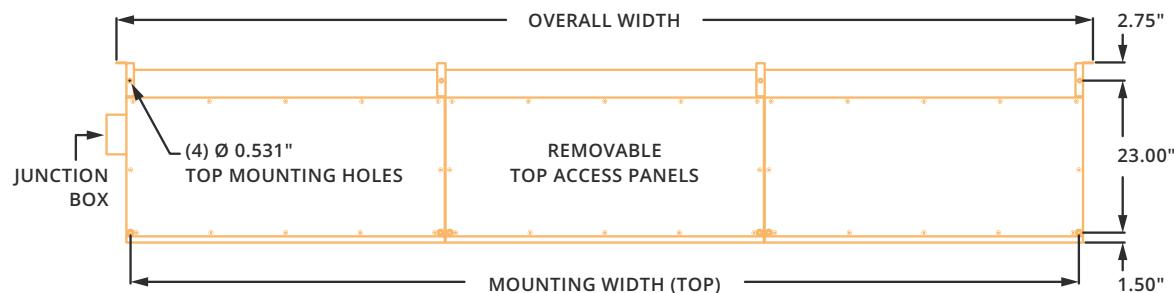
MODEL	Overall Width (in)	Nozzle Width (in)	Mounting Width Rear (in)	Mounting Width Top (in)	MODEL	Overall Width (in)	Nozzle Width (in)	Mounting Width Rear (in)	Mounting Width Top (in)
TSD-1-48	51	48	49.5	47	TSD-4-264	267.36	264.36	265.86	263.36
TSD-1-60	63	60	61.5	59	TSD-5-264	267.48	264.48	265.98	263.48
TSD-1-72	75	72	73.5	71	TSD-4-276	279.36	276.36	277.86	275.36
TSD-2-96	99.12	96.12	97.62	95.12	TSD-5-276	279.48	276.48	277.98	275.48
TSD-2-108	111.12	108.12	109.62	107.12	TSD-4-288	291.36	288.36	289.86	287.36
TSD-2-120	123.12	120.12	121.62	119.12	TSD-5-288	291.48	288.48	289.98	287.48
TSD-2-132	135.12	132.12	133.62	131.12	TSD-6-288	291.6	288.6	290.1	287.6
TSD-2-144	147.12	144.12	145.62	143.12	TSD-5-300	303.48	300.48	301.98	299.48
TSD-3-144	147.24	144.24	145.74	143.24	TSD-6-300	303.6	300.6	302.1	299.6
TSD-3-156	159.24	156.24	157.74	155.24	TSD-5-312	315.48	312.48	313.98	311.48
TSD-3-168	171.24	168.24	169.74	167.24	TSD-6-312	315.6	312.6	314.1	311.6
TSD-3-180	183.24	180.24	181.74	179.24	TSD-5-324	327.48	324.48	325.98	323.48
TSD-3-192	195.24	192.24	193.74	191.24	TSD-6-324	327.6	324.6	326.1	323.6
TSD-4-192	195.36	192.36	193.86	191.36	TSD-5-336	339.48	336.48	337.98	335.48
TSD-3-204	207.24	204.24	205.74	203.24	TSD-6-336	339.6	336.6	338.1	335.6
TSD-4-204	207.36	204.36	205.86	203.36	TSD-7-336	339.72	336.72	338.22	335.72
TSD-3-216	219.24	216.24	217.74	215.24	TSD-5-348	351.48	348.48	349.98	347.48
TSD-4-216	219.36	216.36	217.86	215.36	TSD-6-348	351.6	348.6	350.1	347.6
TSD-4-228	231.36	228.36	229.86	227.36	TSD-7-348	351.72	348.72	350.22	347.72
TSD-4-240	243.36	240.36	241.86	239.36	TSD-5-360	363.48	360.48	361.98	359.48
TSD-5-240	243.48	240.48	241.98	239.48	TSD-6-360	363.6	360.6	362.1	359.6
TSD-4-252	255.36	252.36	253.86	251.36	TSD-7-360	363.72	360.72	362.22	359.72
TSD-5-252	255.48	252.48	253.98	251.48					

## ► TSD | MECHANICAL DRAWINGS

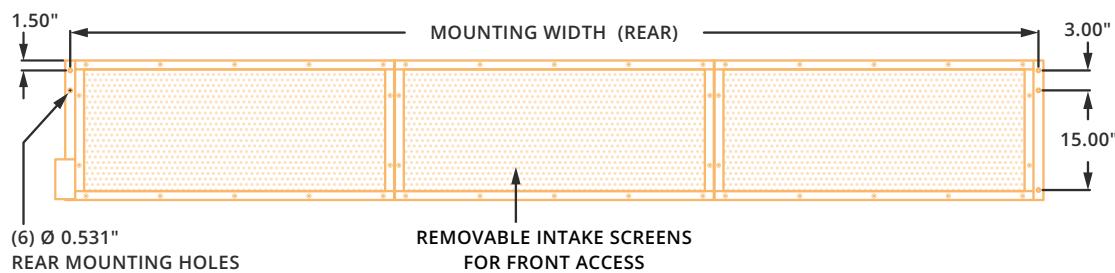
SIDE



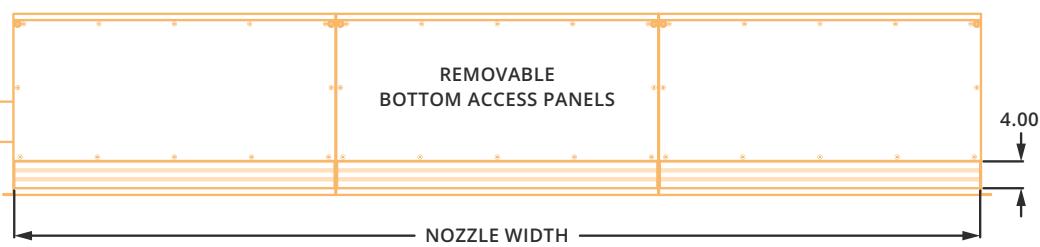
TOP



FRONT



BOTTOM





TSD-E

# TSD-E


**MADE  
IN THE  
USA**

The TSD-E is an electrically heated air curtain designed to provide complete coverage (as well as electric heat) over dock doors, delivery doors and warehouse doors. This industrial-focused air curtain is ideal for doors with openings typically between 12 and 17 feet. With the complement of electric heat, the TSD Air Door effectively blocks cold winter air, helping to create a warmer working area on and around dock/delivery doors while also preventing the infiltration of dust, insects and fumes.

The TSD-E includes a direct-drive motor that helps ensure a maximum operating life by eliminating the need to replace belts or the chance of coupler misalignment. The unit is also designed with ease-of-installation in mind, arriving as a single unit. The TSD-E features automatic and manual limit switches for over temperature protection, Airflow switches that prevent heating element operation when fans are off, and customizable heating KWs.



## OPTIONS

### HEATING

Unheated, Hot Water, Steam, Direct Gas, Indirect Gas

## AT A GLANCE

### Single Incremental Widths

4' to 30'

### Max Installation Height

17'

### Heavy Duty Motors

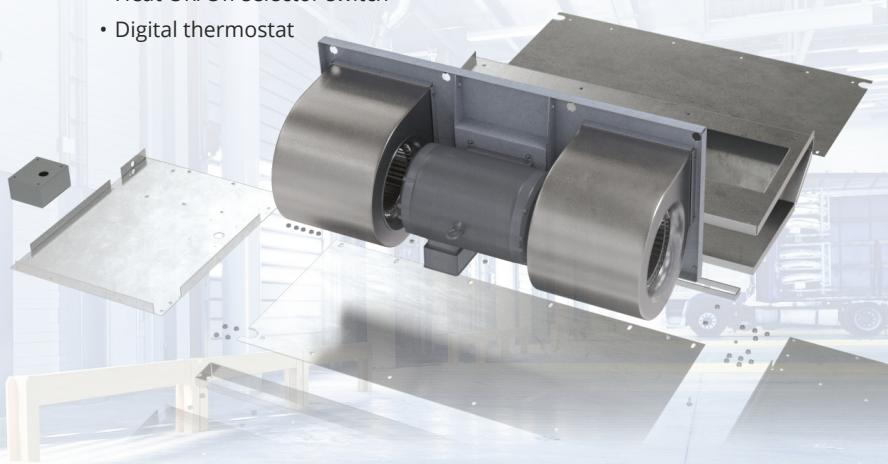
3 HP

## KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 3 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel with factory installed magnetic motor starter, overload relays, and control transformer
- Open coil multi-stage heating elements with factory mounted panel(s)
- Single point power connection available (see electrical table)
- Alternate heater kW available (consult factory)

## RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch(s)
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat



# ► TSD-E | PERFORMANCE

## TSD-E | Performance Table

Model	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity FPM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Electric Heat		
								Heater KW	Temp Rise (°F)	Weight (lbs.)
TSD-1-48E	48	6200	3209	4268	95.10%	1	3	40	30	380
TSD-1-60E	60	5800	3006	4855	92.00%	1	3	40	26	428
TSD-1-72E	72	5900	2891	5579	86.30%	1	3	40	23	458
TSD-2-96E	96	6200	3209	8536	95.10%	2	3	80	24	758
TSD-2-108E	108	6200	3108	9123	92.00%	2	3	80	28	806
TSD-2-120E	120	5800	3006	9710	92.00%	2	3	80	26	854
TSD-2-132E	132	5900	2943	10434	86.30%	2	3	80	24	883
TSD-2-144E	144	5900	2891	11158	86.30%	2	3	80	23	912
TSD-3-144E	144	6200	3209	12804	95.10%	3	3	120	30	1135
TSD-3-156E	156	6200	3141	13391	92.00%	3	3	120	28	1183
TSD-3-168E	168	6200	3074	13978	86.30%	3	3	120	27	1213
TSD-3-180E	180	6200	3200	15608	86.30%	3	3	120	24	1261
TSD-3-192E	192	6200	3145	16332	86.30%	3	3	120	23	1290
TSD-4-192E	192	6200	3209	17072	95.10%	4	3	160	30	1513
TSD-3-204E	204	5900	2925	16013	86.30%	3	3	120	24	1338
TSD-4-204E	204	6200	3158	17072	92.00%	4	3	160	30	1561
TSD-3-216E	216	5900	2891	16737	86.30%	3	3	120	23	1368
TSD-4-216E	216	6200	3108	18246	86.30%	4	3	160	28	1591
TSD-4-228E	228	6200	3057	18833	86.30%	4	3	160	27	1639
TSD-4-240E	240	6200	3295	21560	86.30%	4	3	160	23	1668
TSD-5-240E	240	6200	3209	21340	95.10%	5	3	200	30	1891

## TSD-E | Velocity Projection Model (Model TSD-1-48)

Distance From Nozzle	40 in.	80 in.	120 in.	160 in.	200 in.
Core Velocity (fpm)	3020	2060	1710	1420	1225

## TSD-E | Sound Levels

High Speed	69 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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## TSD-E | Three-Phase Motor Options

Voltages available	208	240	480	575
Amp draw per motor	13.1	12.2	6.1	5.0

## ► TSD-E | MECHANICAL DETAILS



### Mechanical Drawings

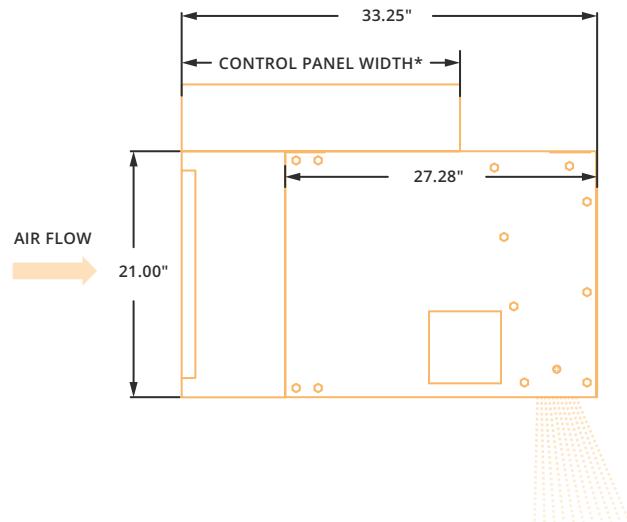
TSD Mechanical Drawings can be found on the next page, Page 160.

#### TSD-E | Mechanical Information Table

MODEL	Overall Width* (in)	Nozzle Width (in)	Mounting Width Rear (in)	Mounting Width Top (in)	MODEL	Overall Width* (in)	Nozzle Width (in)	Mounting Width Rear (in)	Mounting Width Top (in)
TSD-1-48E	51	48	49.5	47	TSD-4-264E	267.36	264.36	265.86	263.36
TSD-1-60E	63	60	61.5	59	TSD-5-264E	267.48	264.48	265.98	263.48
TSD-1-72E	75	72	73.5	71	TSD-4-276E	279.36	276.36	277.86	275.36
TSD-2-96E	99.12	96.12	97.62	95.12	TSD-5-276E	279.48	276.48	277.98	275.48
TSD-2-108E	111.12	108.12	109.62	107.12	TSD-4-288E	291.36	288.36	289.86	287.36
TSD-2-120E	123.12	120.12	121.62	119.12	TSD-5-288E	291.48	288.48	289.98	287.48
TSD-2-132E	135.12	132.12	133.62	131.12	TSD-6-288E	291.6	288.6	290.1	287.6
TSD-2-144E	147.12	144.12	145.62	143.12	TSD-5-300E	303.48	300.48	301.98	299.48
TSD-3-144E	147.24	144.24	145.74	143.24	TSD-6-300E	303.6	300.6	302.1	299.6
TSD-3-156E	159.24	156.24	157.74	155.24	TSD-5-312E	315.48	312.48	313.98	311.48
TSD-3-168E	171.24	168.24	169.74	167.24	TSD-6-312E	315.6	312.6	314.1	311.6
TSD-3-180E	183.24	180.24	181.74	179.24	TSD-5-324E	327.48	324.48	325.98	323.48
TSD-3-192E	195.24	192.24	193.74	191.24	TSD-6-324E	327.6	324.6	326.1	323.6
TSD-4-192E	195.36	192.36	193.86	191.36	TSD-5-336E	339.48	336.48	337.98	335.48
TSD-3-204E	207.24	204.24	205.74	203.24	TSD-6-336E	339.6	336.6	338.1	335.6
TSD-4-204E	207.36	204.36	205.86	203.36	TSD-7-336E	339.72	336.72	338.22	335.72
TSD-3-216E	219.24	216.24	217.74	215.24	TSD-5-348E	351.48	348.48	349.98	347.48
TSD-4-216E	219.36	216.36	217.86	215.36	TSD-6-348E	351.6	348.6	350.1	347.6
TSD-4-228E	231.36	228.36	229.86	227.36	TSD-7-348E	351.72	348.72	350.22	347.72
TSD-4-240E	243.36	240.36	241.86	239.36	TSD-5-360E	363.48	360.48	361.98	359.48
TSD-5-240E	243.48	240.48	241.98	239.48	TSD-6-360E	363.6	360.6	362.1	359.6
TSD-4-252E	255.36	252.36	253.86	251.36	TSD-7-360E	363.72	360.72	362.22	359.72
TSD-5-252E	255.48	252.48	253.98	251.48	*Overall width will vary due to added width of control panel, which is custom per unit				

## ► TSD-E | MECHANICAL DRAWINGS

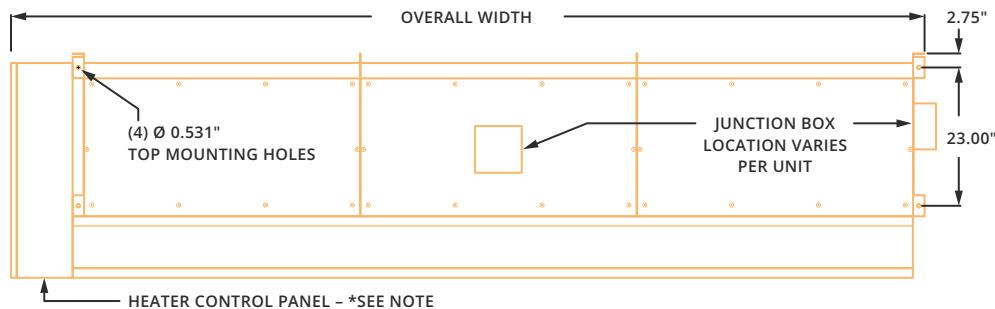
SIDE



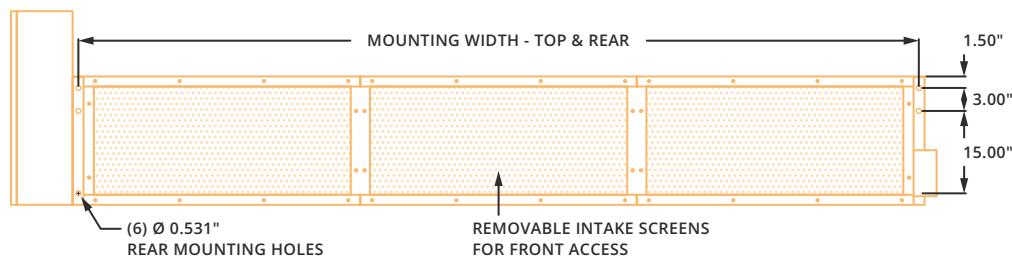
### CONTROL PANEL NOTE

\* Heater Control Panel dimensions vary per unit. In certain sizes, the control panel may increase the overall depth, width and/or height

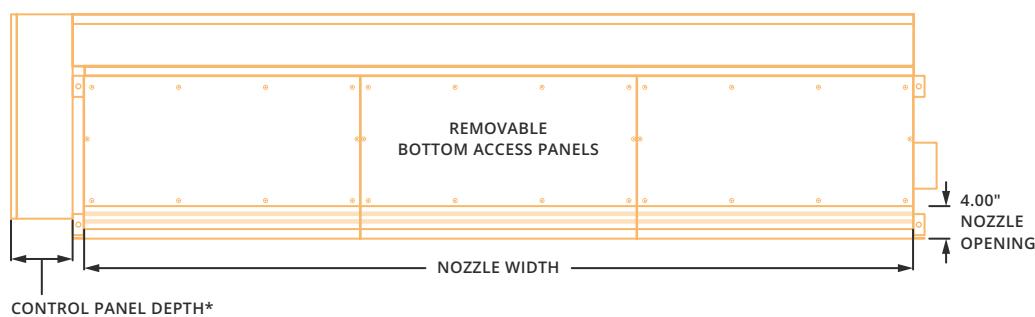
TOP



FRONT



BOTTOM



## ► TSD-E | ELECTRICAL

### TSD-E | Electrical Table

MODEL	KW	480/3/06				575/3/06			
		Separate Supply Circuits			SPP*	Separate Supply Circuits			SPP*
		Heat 1	Heat 2	Motors		Heat 1	Heat 2	Motors	
TSD-1-48E	40								
TSD-1-60E	40	48.1 (70)		6.1 (15)	54.2 (80)	40.2 (60)		3.9 (15)	44.1 (60)
TSD-1-72E	40								
TSD-2-96E	80								
TSD-2-108E	80	96.2 (125)		12.2 (20)	108.4 (150)	80.3 (110)		7.8 (15)	88.1 (125)
TSD-2-120E	80								
TSD-2-132E	80	48.1 (70)	48.1 (70)	12.2 (20)	108.4 (150)	40.2 (60)	40.2 (60)	7.8 (15)	88.1 (125)
TSD-2-144E	80								
TSD-3-144E	120								
TSD-3-156E	120								
TSD-3-168E	120								
TSD-3-180E	120	72.2 (100)	72.2 (100)	18.3 (30)	‡	60.2 (80)	60.2 (80)	11.7 (20)	132.2 (175)
TSD-3-192E	120								
TSD-3-204E	120								
TSD-3-216E	120								
TSD-4-192E	160								
TSD-4-204E	160								
TSD-4-216E	160	‡	‡	‡	‡	‡	‡	‡	‡
TSD-4-228E	160								
TSD-4-240E	160								
TSD-5-240E	200	‡	‡	‡	‡	‡	‡	‡	‡

\* With optional branch fusing for Single Point Power (SPP)

^ Consult factory for additional voltages

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

## ► TSD & TSD-E | INSTALLATION



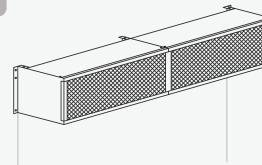
### NOTE

The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

### A WALL MOUNT

Rear flanges of air curtain have six holes, for six 1/2 inch bolts or lags with washers. When wall mounting use all six holes.

**A**



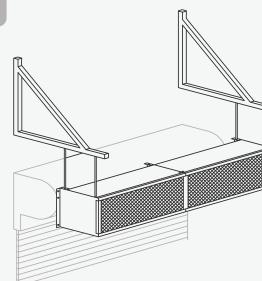
Wall Mount

### B MOUNTING BRACKETS

Mounting brackets (also called knee, angle or L-brackets) can be flush to the wall or constructed to account for a projection from the wall. For proper size brackets measure standoff distance from wall to back of where air curtain will be.

If required, angle iron or steel tubing can be attached to the top of the air curtain, typically one foot longer at each end, to reach brackets that are mounted outside of the door system.

**B**



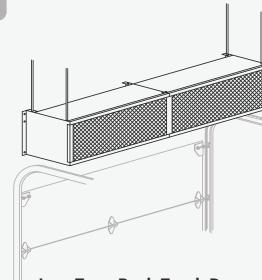
Low Roll-Up Door

### C TOP MOUNT

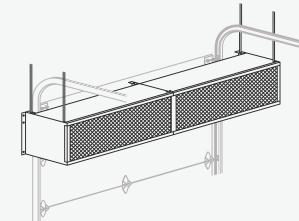
Unit has four 17/32 holes for installing one end of 1/2 inch threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely. Additional mounting holes are provided on larger units for buildings where structural support is not adequate for supporting the air curtain from ends only.

\*Powered Aire does not supply threaded rods.

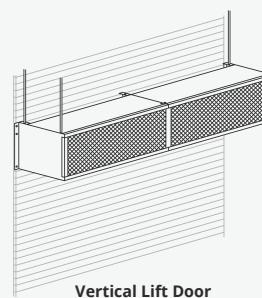
**C**



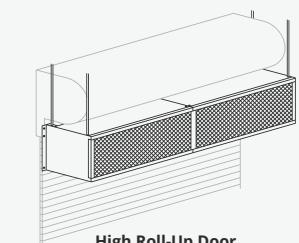
Low Turn-Back Track Door



High Turn-Back Track Door



Vertical Lift Door



High Roll-Up Door



TSD-HW



TSD-ST

# TSD-HW/ST



The TSD is typically used over dock doors, ground level doors or large openings in an industrial environment. All industrial units are direct drive, which avoids misalignment of couplers and outboard bearings and eliminates periodic belt replacement.

## OPTIONS

### HEATING

Unheated . . . . .	pg 153
Electric. . . . .	pg 157
Indirect Gas. . . . .	pg 167
Direct Gas. . . . .	pg 173



## AT A GLANCE

Single Incremental Widths

4' to 30'

Max Installation Height

17'

Heavy Duty Motors

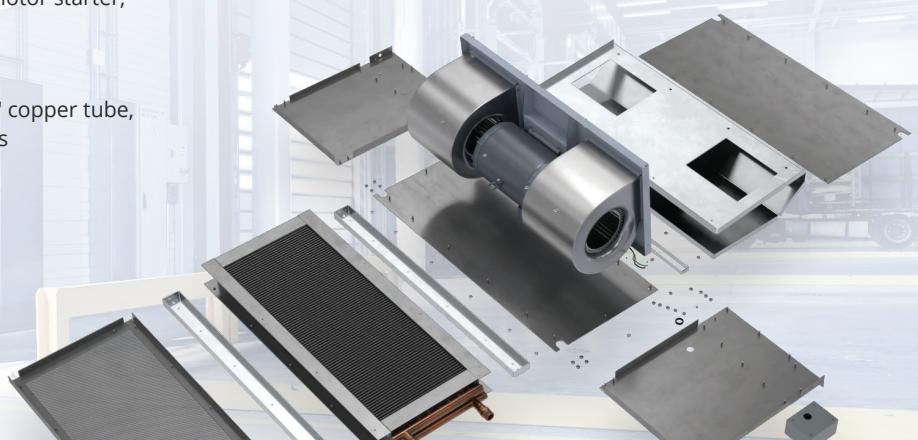
3 HP

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 3 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel with factory installed magnetic motor starter, overload relays, and control transformer
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Single length hot water coils up to 14 ft
- Single length steam coils up to 10 ft
- Custom coil selections available (consult factory)

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat
- Hot water or steam control valve with actuator



## ► TSD-HW/ST | PERFORMANCE

TSD-HW/ST | Performance Table

Model	Hot Water		Steam		Weight (lbs.)
	mbtu/Hour	Temp. Rise (°F)	mbtu/Hour	Temp. Rise (°F)	
TSD-1-48HW/ST	164.3	35.5	160.9	34.8	416
TSD-1-60HW/ST	185.4	35.0	181.0	34.2	473
TSD-1-72HW/ST	220.3	36.2	213.3	35.1	511
TSD-2-96HW/ST	324.2	35.0	323.0	34.9	829
TSD-2-108HW/ST	358.0	36.2	352.3	35.7	886
TSD-2-120HW/ST	367.8	34.8	365.0	34.5	942
TSD-2-132HW/ST	401.2	35.3	396.7	34.9	981
TSD-2-144HW/ST	434.5	35.7	428.1	35.2	1019
TSD-3-144HW/ST	492.5	35.4	495.0	35.7	1242
TSD-3-156HW/ST	515.9	35.5	516.0	35.6	1299
TSD-3-168HW/ST	529.0	34.9	513.8	34.0	1337
TSD-3-180HW/ST	593.2	35.0	598.6	35.4	1394
TSD-3-192HW/ST	629.0	35.0	631.2	35.7	1432
TSD-4-192HW/ST	648.4	35.0	646.0	34.9	1655
TSD-3-204HW/ST	610.8	35.1	604.0	34.8	1489
TSD-4-204HW/ST	665.2	35.9	663.8	35.9	1712
TSD-3-216HW/ST	643.0	35.6	634.0	35.0	1527
TSD-4-216HW/ST	716.0	36.2	704.6	35.7	1750
TSD-4-228HW/ST	715.0	35.0	733.2	36.0	1807
TSD-4-240HW/ST	735.6	34.8	730.0	34.5	1845
TSD-5-240HW/ST	825.2	35.6	798.8	34.6	2068



INFO

For additional **performance information** on TSD-HW/ST, reference performance table on page 154.

### TSD | Velocity Projection Model (Model TSD-1-48)

Distance From Nozzle	40 in.	80 in.	120 in.	160 in.	200 in.
Core Velocity (fpm)	3020	2060	1710	1420	1225

### TSD-HW/ST | Sound Levels

High Speed 69 dBA Measured 10 ft. from unit in a free field based on a 1 motor unit

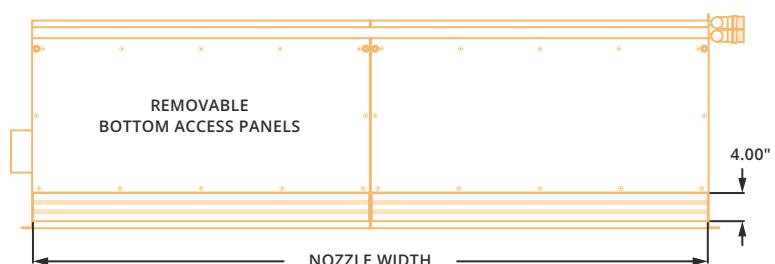
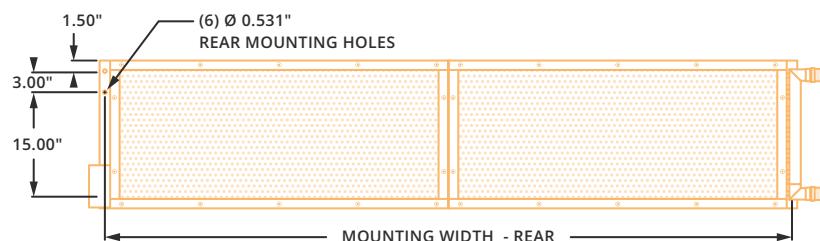
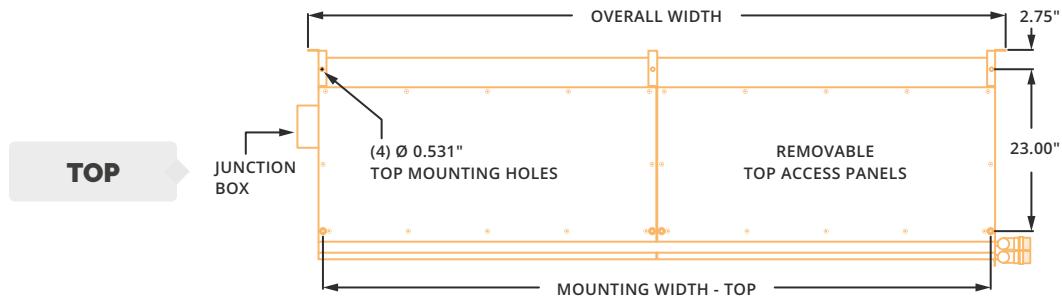
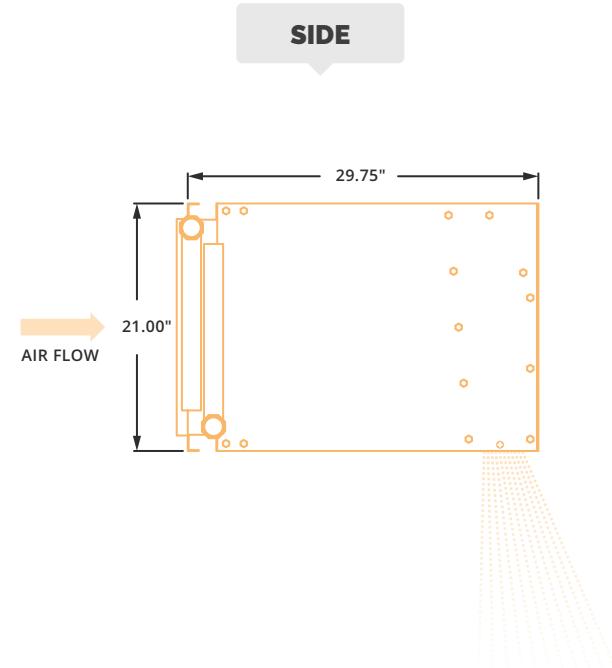
### TSD-HW/ST | Three-Phase Motor Options

Voltages available	208	240	480	575
Amp draw per motor	13.1	12.2	6.1	5.0

## ► TSD-HW/ST | MECHANICAL DETAILS & DRAWINGS

TSD-HW/ST | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width Rear (in.)	Mounting Width Top (in.)
TSD-1-48HW/ST	51	48	49.5	47
TSD-1-60HW/ST	63	60	61.5	59
TSD-1-72HW/ST	75	72	73.5	71
TSD-2-96HW/ST	99.12	96.12	97.62	95.12
TSD-2-108HW/ST	111.12	108.12	109.62	107.12
TSD-2-120HW/ST	123.12	120.12	121.62	119.12
TSD-2-132HW/ST	135.12	132.12	133.62	131.12
TSD-2-144HW/ST	147.12	144.12	145.62	143.12
TSD-3-144HW/ST	147.25	144.25	145.75	143.25
TSD-3-156HW/ST	159.25	156.25	157.75	155.25
TSD-3-168HW/ST	171.25	168.25	169.75	167.25
TSD-3-180HW/ST	183.25	180.25	181.75	179.25
TSD-3-192HW/ST	195.25	192.25	193.75	191.25
TSD-4-192HW/ST	195.37	192.37	193.87	191.37



## ► TSD-HW/ST | INSTALLATION



### NOTE

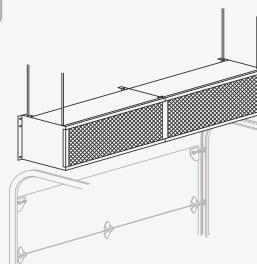
The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

#### A TOP MOUNT

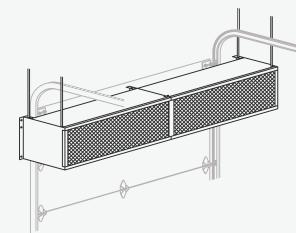
Unit has four 15/32 inch holes for installing one end of 7/16" threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.

\*Powered Aire does not supply threaded rods.

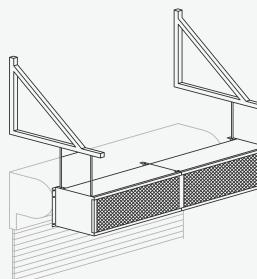
#### A



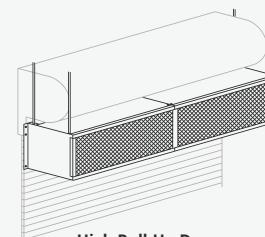
Low Turn-Back Track Door



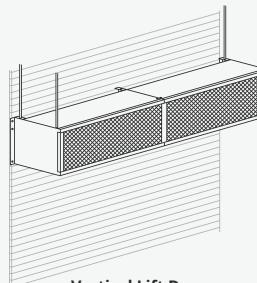
High Turn-Back Track Door



Low Roll-Up Door



High Roll-Up Door

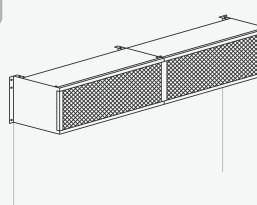


Vertical Lift Door

#### B WALL MOUNT

Rear flanges of air curtain have six holes, for six 7/16 inch bolts or lags with washers. When wall mounting use all six holes.

#### B



Wall Mount



TSD-IG

v4.2.1

# TSD-IG

1, 2 &amp; 3 HEATERS

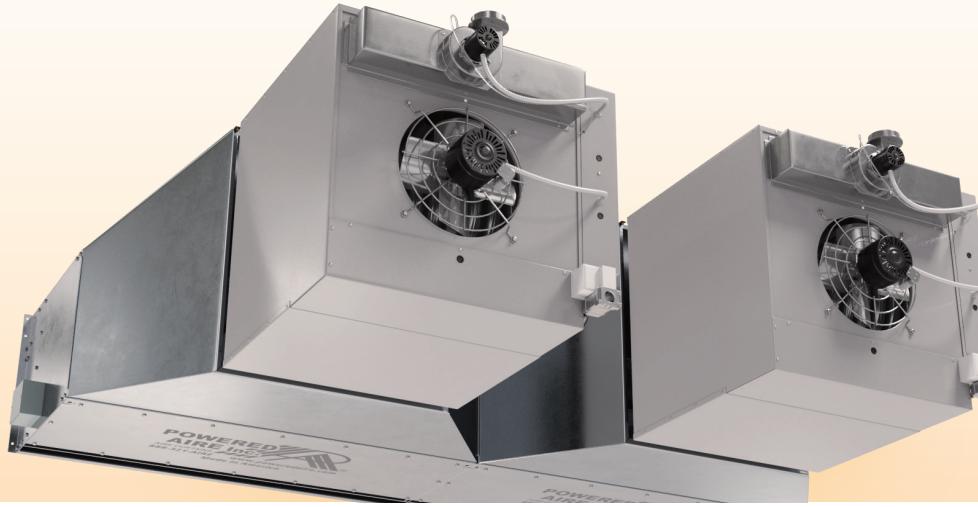


The Indirect Gas Fired air curtain works like your typical home gas furnace. The flame heats a tube, the air flows over the tube and the heated air is discharged. This air curtain will provide up to a 35°F temperature rise at the threshold. Not only will this model prevent cold air from infiltrating the opening, it will help keep door hinges from freezing, keep the floor dry, help keep employees comfortable and promote safety and productivity.

## OPTIONS

### HEATING

Unheated . . . . .	pg 153
Electric. . . . .	pg 157
Hot Water. . . . .	pg 163
Steam . . . . .	pg 163
Direct Gas. . . . .	pg 173



## AT A GLANCE

Single Incremental Widths

4' to 20'

Max Installation Height

17'

Heavy Duty Motors

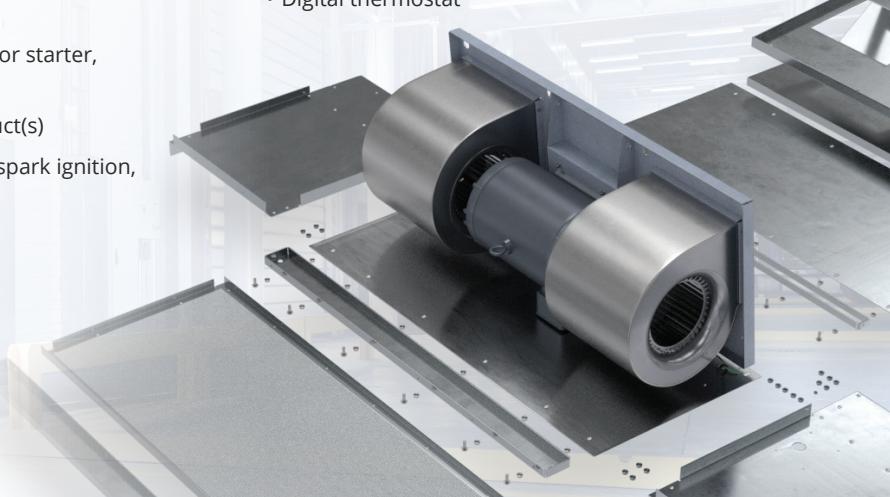
3 HP

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 3 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel with factory installed magnetic motor starter, overload relays, and control transformer
- Factory mounted 18-gauge 304 stainless steel transition duct(s)
- AGA/CGA labeled gas heater(s) with power exhaust, direct spark ignition, and tubular heat exchangers
- Convertible open and closed combustion
- Natural gas or propane fuel types
- Standard single point power connection

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat



## ► TSD-IG | PERFORMANCE

TSD-IG | Performance Table

Model	Number of Heaters	Input mbtu/hr per Heater	Total Output mbtu/hr	Temp. Rise (°F)	Weight (lbs.)
TSD-1-48IG	1	200	160	34.7	597
TSD-1-60IG	1	250	200	38.2	635
TSD-1-72IG	1	250	200	33.2	670
TSD-2-96IG	1	400	320	34.7	1191
TSD-2-108IG	1	400	320	32.5	1229
TSD-2-120IG	2	250	400	38.2	1267
TSD-2-132IG	2	250	400	35.5	1287
TSD-2-144IG	2	250	400	33.2	1337
TSD-3-144IG	2	250	400	29.0	1560
TSD-3-156IG	2	350	560	38.8	1628
TSD-3-168IG	2	350	560	37.1	1648
TSD-3-180IG	2	350	560	33.3	1686
TSD-3-192IG	2	350	560	31.8	1706
TSD-4-192IG	2	400	640	34.7	1929
TSD-3-204IG	2	400	640	37.0	1744
TSD-4-204IG	2	400	640	34.7	1967
TSD-3-216IG	2	400	640	35.4	1764
TSD-4-216IG	2	400	640	32.5	2272
TSD-4-228IG	3	350	840	41.3	2310
TSD-4-240IG	3	350	840	36.1	2330
TSD-5-240IG	3	350	840	36.5	2553

### TSD | Velocity Projection Model (Model TSD-1-48)

Distance From Nozzle	40 in.	80 in.	120 in.	160 in.	200 in.
Core Velocity (fpm)	3020	2060	1710	1420	1225

### TSD-IG | Sound Levels

High Speed	69 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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### TSD-IG | Three-Phase Motor Options

Voltages available	208	240	480	575
Amp draw per motor	13.1	12.2	6.1	5.0

### INFO

For additional **performance information** on TSD-IG, reference performance table on page 154.

## ► TSD-IG | MECHANICAL DETAILS & DRAWINGS (1 HEATER)

### TSD-IG | 1-Heater Mechanical Information Table

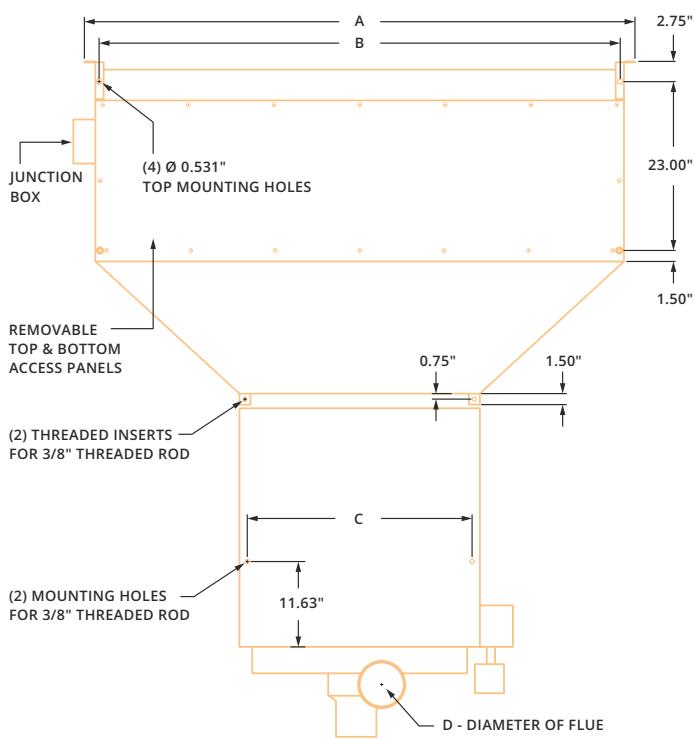
MODEL	Air Curtain Width - A (in.)	Mounting Width - B (in.)	Hanging Width - C (in.)	Flue Diameter - D (in.)	Heater Size	Gas Inlet (in.)
TSD-1-48IG	51	47	30.63	5	200	0.5
TSD-1-60IG	63	59	30.63	5	250	0.75
TSD-1-72IG	75	71	30.63	5	250	0.75
TSD-2-96IG	99.13	95.13	48.63	6	400	0.75
TSD-2-108IG	111.13	107.13	48.63	6	400	0.75



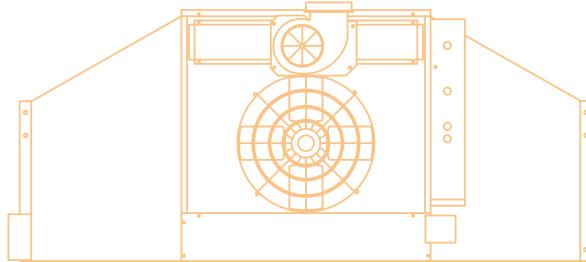
### NOTES

1. Verify that overall dimensions will fit in the opening.
2. Adequacy of support structure to be verified by a professional structural engineer.
3. Air curtain to be installed so that the air stream is unobstructed.

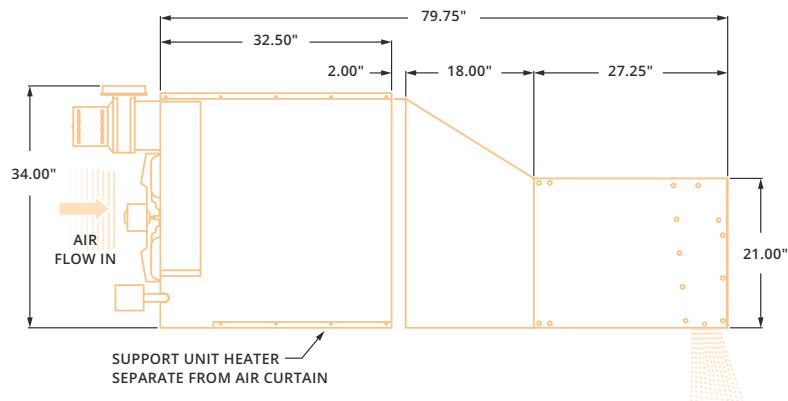
### TOP



### FRONT



### SIDE



## ► TSD-IG | MECHANICAL DETAILS &amp; DRAWINGS (2 HEATER)

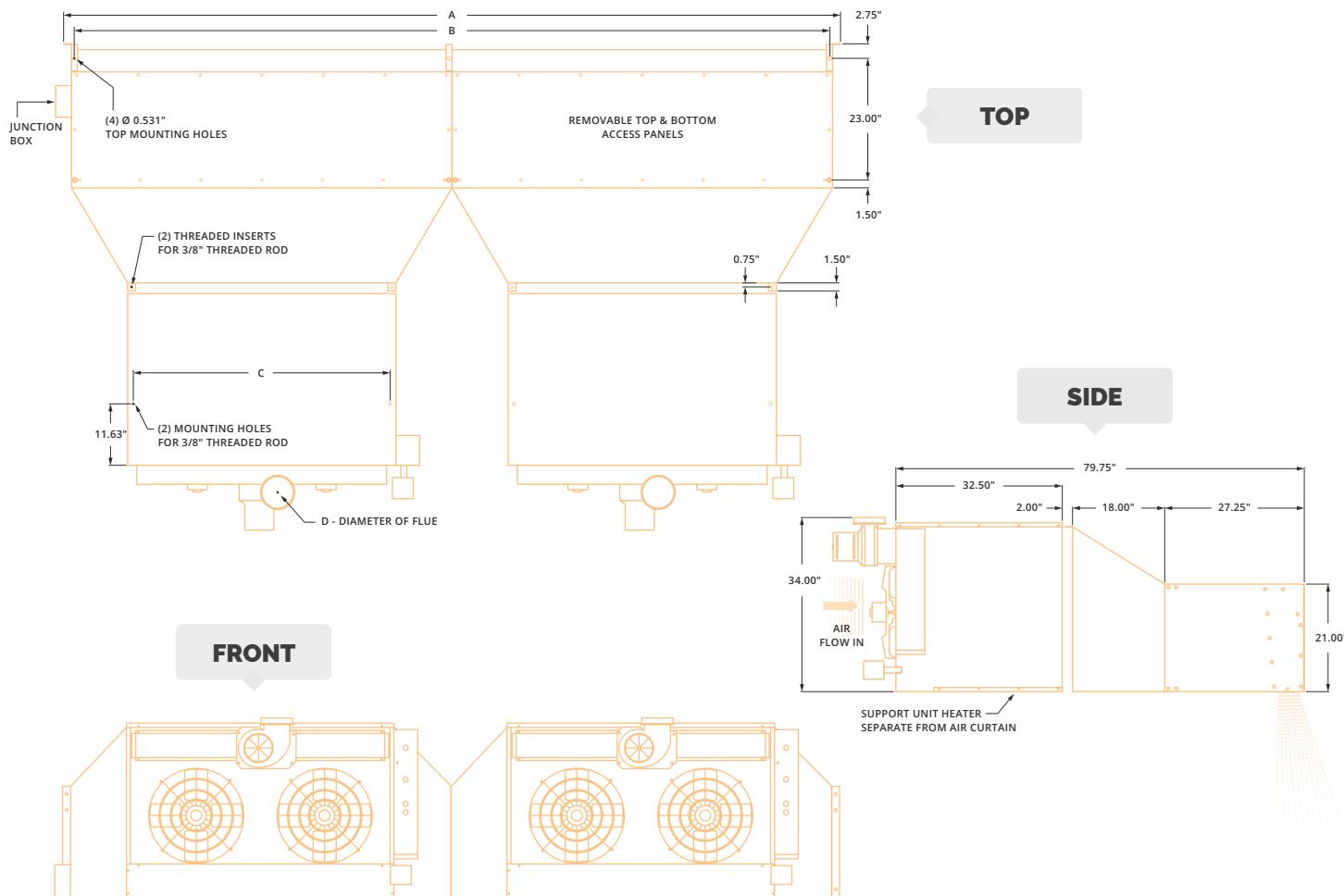
## TSD-IG | 2-Heater Mechanical Information Table

MODEL	Air Curtain Width - A (in.)	Mounting Width - B (in.)	Hanging Width - C (in.)	Flue Diameter - D (in.)	Heater Size	Gas Inlet (in.)
TSD-2-120IG	123.13	119.13	30.63	5	2 x 250	0.75
TSD-2-132IG	135.13	131.13	30.63	5	2 x 250	0.75
TSD-2-144IG	147.13	143.13	30.63	5	2 x 250	0.75
TSD-3-144IG	147.25	143.25	30.63	5	2 x 250	0.75
TSD-3-156IG	159.25	155.25	48.63	6	2 x 350	0.75
TSD-3-168IG	171.25	167.25	48.63	6	2 x 350	0.75
TSD-3-180IG	183.25	179.25	48.63	6	2 x 350	0.75
TSD-3-192IG	195.25	191.25	48.63	6	2 x 350	0.75
TSD-4-192IG	195.38	191.38	48.63	6	2 x 400	0.75
TSD-3-204IG	207.25	203.25	48.63	6	2 x 400	0.75
TSD-4-204IG	207.38	203.38	48.63	6	2 x 400	0.75
TSD-3-216IG	219.25	215.25	48.63	6	2 x 400	0.75
TSD-4-216IG	219.38	215.38	48.63	6	2 x 400	0.75



## NOTES

1. Verify that overall dimensions will fit in the opening.
2. Adequacy of support structure to be verified by a professional structural engineer.
3. Air curtain to be installed so that the air stream is unobstructed.



## ► TSD-IG | MECHANICAL DETAILS & DRAWINGS (3 HEATER)

### TSD-IG | 3-Heater Mechanical Information Table

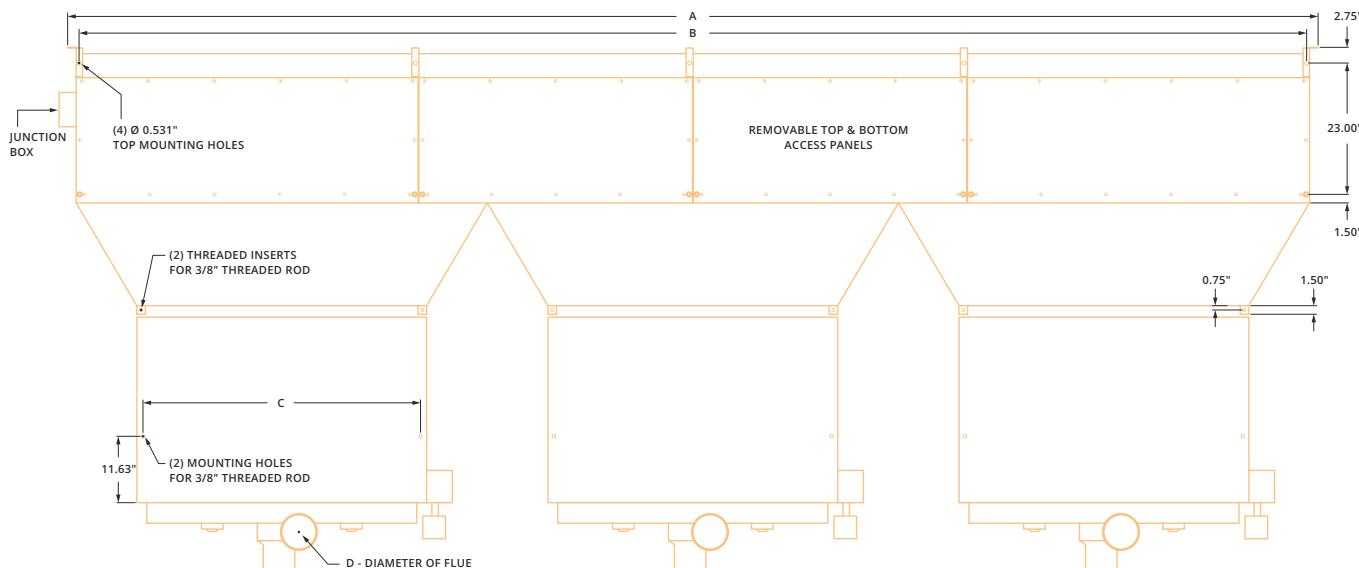
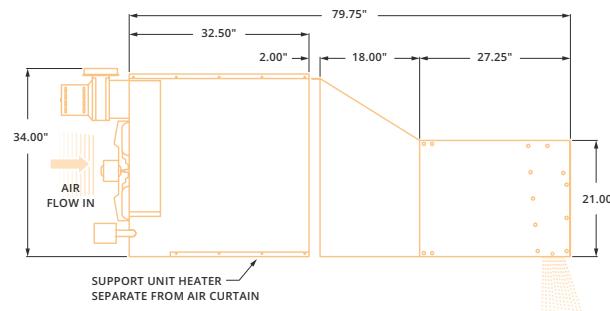
MODEL	Air Curtain Width - A (in.)	Mounting Width - B (in.)	Hanging Width - C (in.)	Flue Diameter - D (in.)	Heater Size	Gas Inlet (in.)
TSD-4-228IG	231.38	227.38	48.63	6	3 x 350	0.75
TSD-4-240IG	243.38	239.38	48.63	6	3 x 350	0.75
TSD-5-240IG	243.5	239.5	48.63	6	3 x 350	0.75



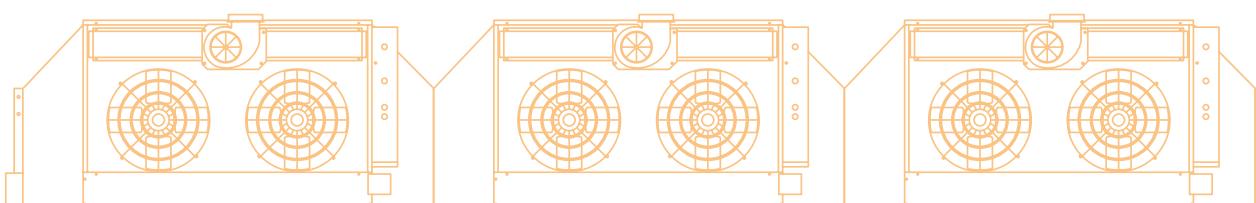
### NOTES

1. Verify that overall dimensions will fit in the opening.
2. Adequacy of support structure to be verified by a professional structural engineer.
3. Air curtain to be installed so that the air stream is unobstructed.

SIDE



TOP



FRONT

## ► TSD-IG | INSTALLATION

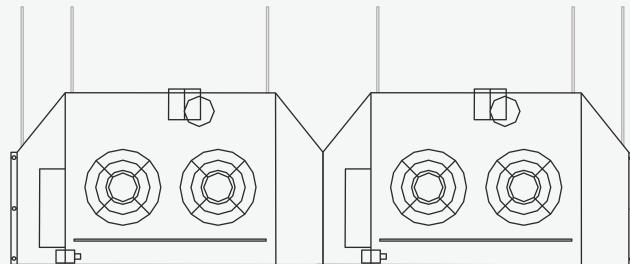
### MOUNTING

- Unit will be suspended with threaded rods. Air curtain has two holes on each end for installing one end of threaded rods.
- Model TSD-IG requires 7/16" threaded rod. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold unit, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.
- Each transition duct has two 3/8 – 16 spotnuts
- Each heater has two or four 3/8 – 16 spotnuts depending on the model.
- The other ends of the threaded rods can be attached to the ceiling.
- Additional mounting holes are provided on larger units for buildings where structural support is not adequate for supporting the air curtain from ends only.

### POSITIONING

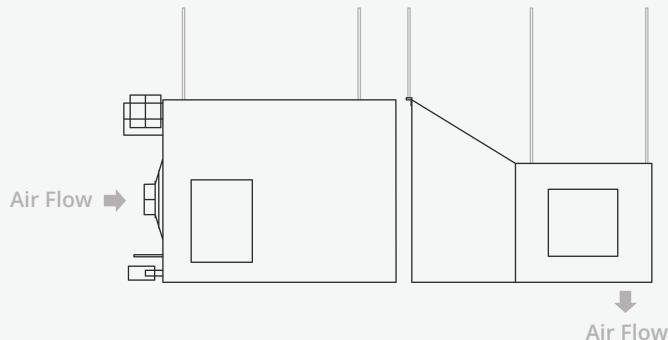
- Heater is to be mounted separately, 2" from air curtain/transition assembly.

#### FRONT



#### SIDE

Support unit heater separate from air curtain





TSD-DG

# TSD-DG

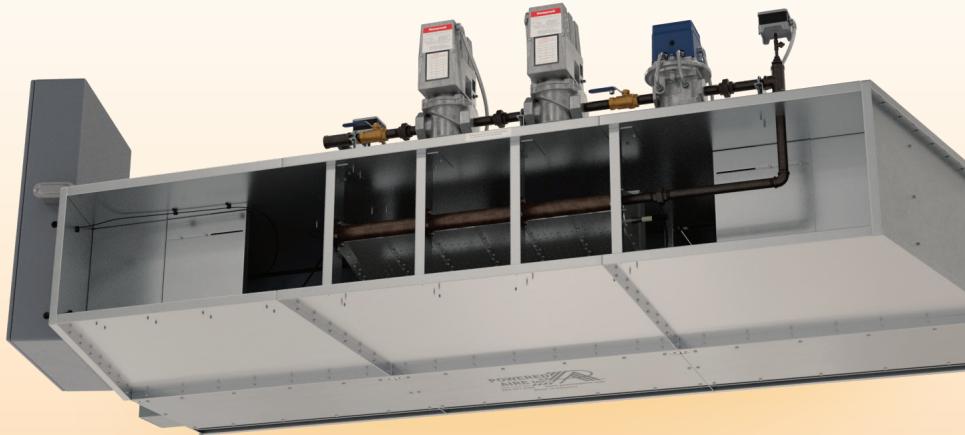


The Direct Gas Fired model provides the most heat of any air curtain in the Powered Aire product line. With the Direct Fired air curtain, the intake air goes directly through the flame prior to being discharged. This air curtain will provide up to a 105°F instant temperature rise at the threshold. Not only will this model prevent cold air from infiltrating the opening, it will help keep door hinges from freezing, keep the floor dry, help keep employees comfortable and promote safety and productivity. Certain codes apply; contact factory for details.

## OPTIONS

### HEATING

Unheated . . . . .	pg 153
Electric . . . . .	pg 157
Hot Water . . . . .	pg 163
Steam . . . . .	pg 163
Indirect Gas . . . . .	pg 167



## AT A GLANCE

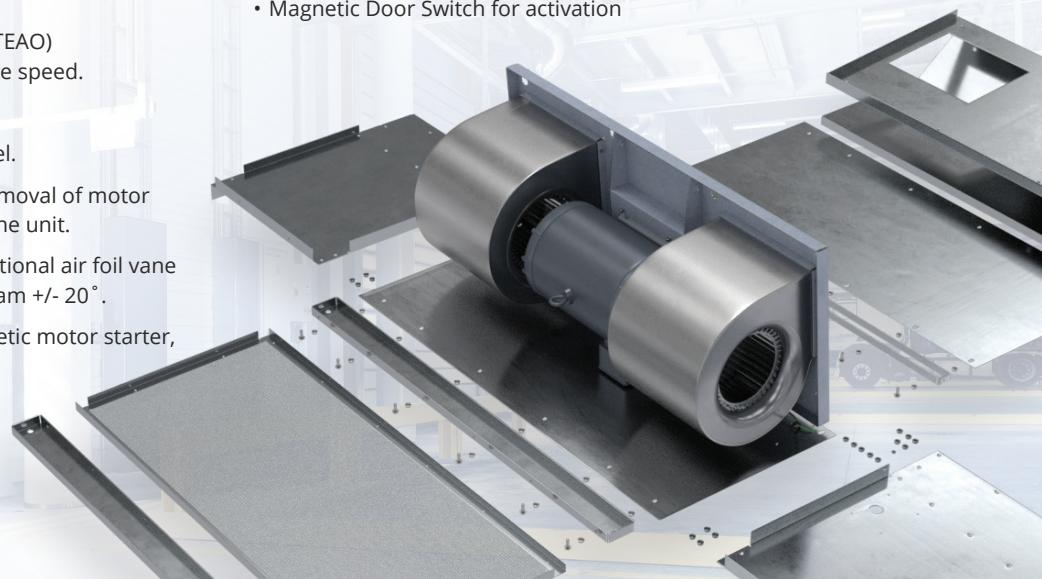
**Single Incremental Widths**
**8' to 16'**
**Max Installation Height**
**17'**
**Heavy Duty Motors**
**3 HP**

### KEY DESIGN FEATURES

- All weight bearing structural support is made of formed 11-gauge stainless steel and galvanized steel. Outer casing is constructed of 16-gauge stainless steel.
- Heavy duty 3 HP Total Enclosed Aire Over (TEAO) motors at 1160 rpm each, 50/60 cycle. Single speed.
- Galvanized fans.
- Air intake screen is perforated stainless steel.
- Access panels for inspection, cleaning or removal of motor blower assembly, without having to lower the unit.
- High efficiency discharge plenum with directional air foil vane factory set to facilitate deflection of air stream +/- 20°.
- Includes NEMA 12 control panel with magnetic motor starter, overload relays and control transformer.

### RECOMMENDED CONTROLS

- Panel mounted HAND / OFF / AUTO switch
- Thermostat
- Magnetic Door Switch for activation



## ► TSD-DG | PERFORMANCE

### TSD-DG | Heating Information Table

Model	Heater Output mbtu / hr	Max. Output Temp. (°F)	Weight (lbs)
TSD-2-96DG	1042	105	1301
TSD-2-108DG	1077	105	1389
TSD-2-120DG	1111	105	1477
TSD-2-132DG	1194	105	1547
TSD-2-144DG	1277	105	1607
TSD-3-144DG	1564	105	1830
TSD-3-156DG	1598	105	1918
TSD-3-168DG	1681	105	1998
TSD-3-180DG	1715	105	2086
TSD-3-192DG	1798	105	2156
TSD-4-192DG	2085	105	2379



INFO

For additional **performance information** on TSD-DG, reference performance table on page 154.

### TSD | Velocity Projection Model (Model TSD-1-48)

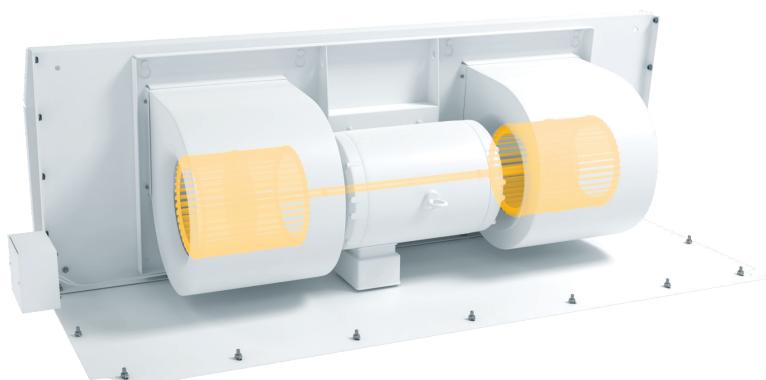
Distance From Nozzle	40 in.	80 in.	120 in.	160 in.	200 in.
Core Velocity (fpm)	3020	2060	1710	1420	1225

### TSD-DG | Sound Levels

High Speed	69 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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### TSD-DG | Three-Phase Motor Options

Voltages available	208	240	480	575
Amp draw per motor	13.1	12.2	6.1	5.0



### Performance Highlight

The air curtain is direct drive, which avoids misalignment of couplers and outboard bearings and eliminates periodic belt replacement.

## ► TSD-DG | MECHANICAL DETAILS & DRAWINGS

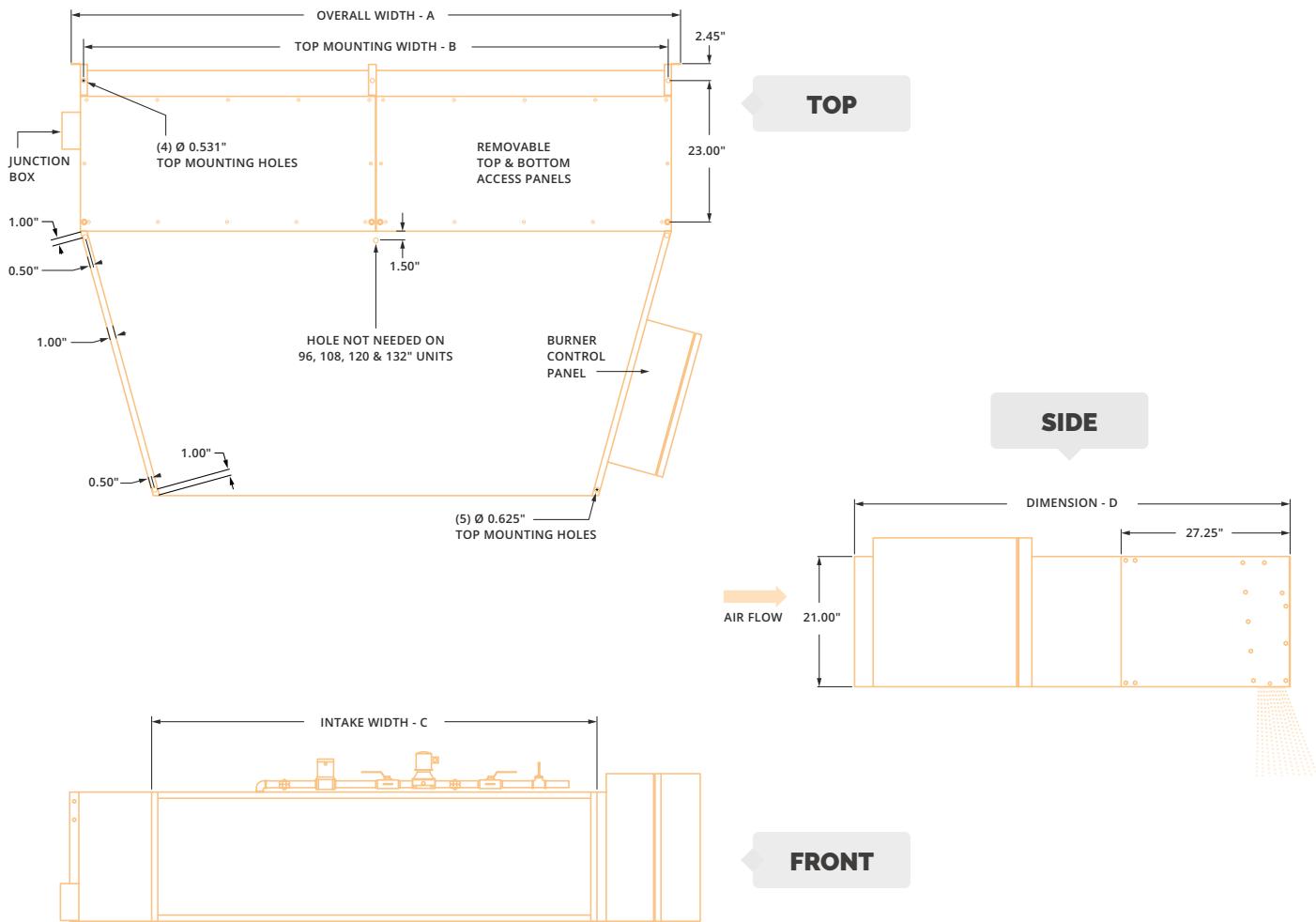
### TSD-DG | Mechanical Information Table

MODEL	Overall Width - A (in.)	Mounting Width - B (in.)	Intake Width - C (in.)	Dimension - D (in.)
TSD-2-96DG	99.13	95.13	72.06	70.25
TSD-2-108DG	111.13	107.13	72.06	70.25
TSD-2-120DG	123.13	119.13	84.44	70.25
TSD-2-132DG	135.13	131.13	84.44	70.25
TSD-2-144DG	147.13	143.13	96.44	70.25
TSD-3-144DG	147.25	143.25	96.44	70.25
TSD-3-156DG	159.25	155.25	96.44	88.25
TSD-3-168DG	171.25	167.25	96.44	88.25
TSD-3-180DG	183.25	179.25	107.81	88.25
TSD-3-192DG	195.25	191.25	107.81	94.25
TSD-4-192DG	195.38	191.38	107.81	94.25



### NOTES

1. Verify that overall dimensions will fit in the opening.
2. Adequacy of support structure to be verified by a professional structural engineer.
3. 1 PSI minimum gas inlet; 5 PSI maximum.



## ► TSD-DG | DUCTING

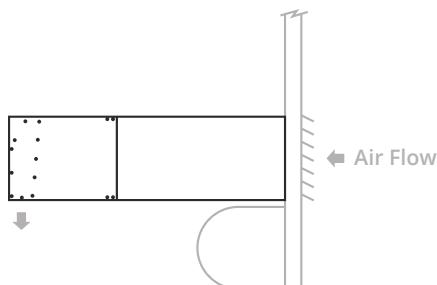
### ! IMPORTANT

This air curtain must be ducted to the outside for 100% fresh air.

These are examples of how the TSD-DG Direct Gas air curtain can be ducted.

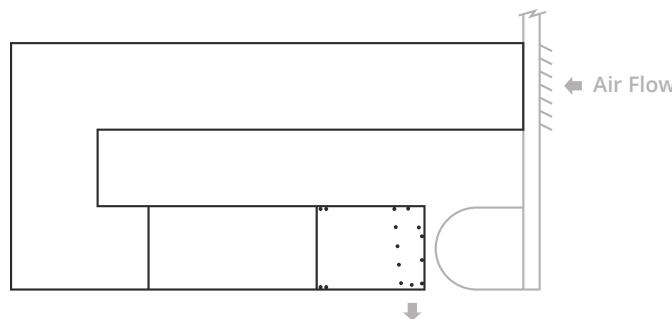
#### REVERSE MOUNTED

Direct Gas Unit in-taking outside air



#### U-DUCTED

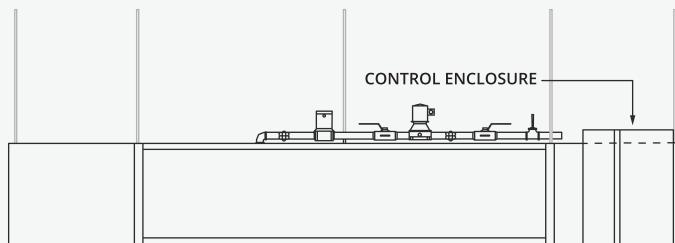
Direct Gas Unit U-ducted to outside



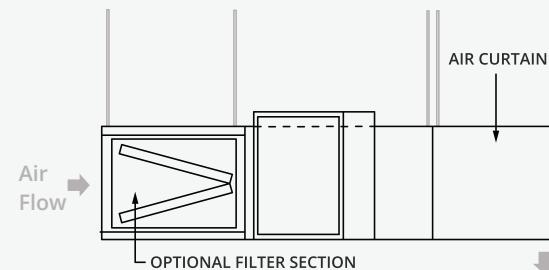
## ► TSD-DG | INSTALLATION

- Unit will be suspended with threaded rods. Air curtain has two holes on each end for installing one end of threaded rods.
- Model TSD-DG requires 7/16" threaded rod. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold unit, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.
- The burner and filter section has five 5/8" holes on top and bottom of unit.
- The other ends of the threaded rods can be attached to the ceiling.
- The rods in the front of the unit will go through the entire unit and be secured from the bottom.
- Additional mounting holes are provided on larger units for buildings where structural support is not adequate for supporting the air curtain from ends only.
- Unit must be ducted to the outside to burn 100% fresh air.

#### FRONT



#### SIDE





EHD

v4.2.1

# EHD

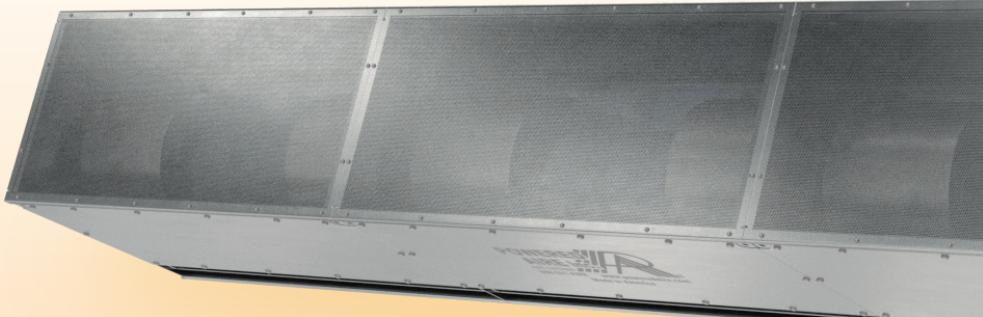

**MADE  
IN THE  
USA**

The Extra High Door (EHD) is used in industrial settings at large door openings. EHD units are manufactured in single increments that can be provided up to 30 ft. wide. The EHD has top and bottom access panels to replace or service motors or blowers without lowering entire unit or bottom half of unit. All industrial units are direct drive, which avoids misalignment of couplers and outboard bearings and eliminates periodic belt replacement. The motor/blower plate comes out as an entire piece and all parts on the outside of the unit are constructed of stainless steel.

## OPTIONS

### HEATING

Electric . . . . .	pg 181
Hot Water . . . . .	pg 186
Steam . . . . .	pg 186
Indirect Gas . . . . .	pg 189
Direct Gas . . . . .	pg 195



## AT A GLANCE

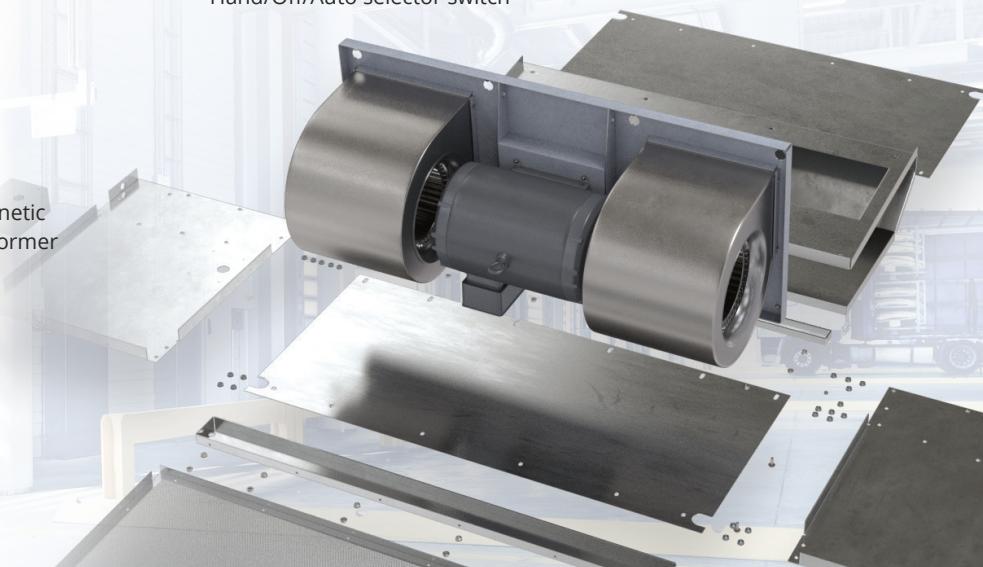
**Single Incremental Widths**
**4' to 20'**
**Max Installation Height**
**22'**
**Heavy Duty Motors**
**5 HP**

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 5 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel with factory installed magnetic motor starter, overload relays, and control transformer

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch



## ► EHD | PERFORMANCE

### EHD | Performance Table

MODEL	Door Width (ft)	Nozzle Width (in.)	Max. FPM at Nozzle	Max. CFM at Nozzle	Avg. FPM at Nozzle	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Weight (lbs)
EHD-1-48	4	48	6572	6994	5499	6305	95%	1	5	387
EHD-1-60	5	60	6572	9924	4358	7480	94%	1	5	420
EHD-1-72	6	72	6572	12854	5128	9256	94%	1	5	440
EHD-2-96	8	96	6572	15926	4842	12977	95%	2	5	748
EHD-2-108	9	108	6572	17888	4600	13769	94%	2	5	781
EHD-2-120	10	120	6572	19848	4358	15750	94%	2	5	814
EHD-2-132	11	132	6572	21291	4842	16120	95%	2	5	834
EHD-2-144	12	144	6572	23891	4842	19168	95%	2	5	854
EHD-3-156	13	156	6572	25850	4681	20257	94%	3	5	1145
EHD-3-168	14	168	6572	27812	4520	22825	94%	3	5	1180
EHD-3-180	15	180	6572	29772	4358	23004	94%	3	5	1210
EHD-3-192	16	192	6572	30355	4842	23335	95%	3	5	1227
EHD-3-204	17	204	6572	31114	4358	23400	94%	3	5	1248
EHD-3-216	18	216	6572	31850	4600	24570	95%	3	5	1268
EHD-4-228	19	228	6572	37736	4842	28329	94%	4	5	1615
EHD-4-240	20	240	6572	39696	4358	29120	95%	4	5	1645



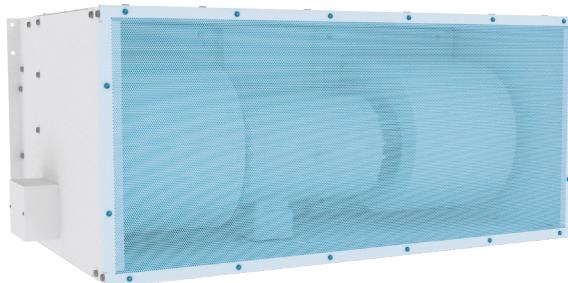
For a unit over 20 feet long, consult factory.

### EHD | Sound Levels

High Speed	71 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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### EHD | Three Phase Motor Options

Voltages available	208	240	480	575
Amp draw per motor	17	15.8	7.9	6.3



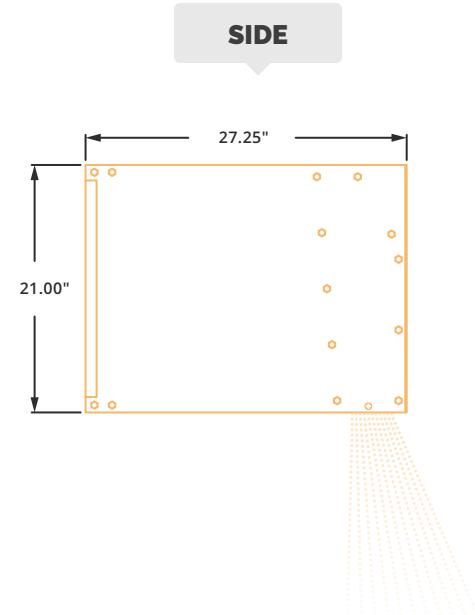
#### Performance Highlight

This unit can also be made with a top air intake.  
(front air intake shown in image)

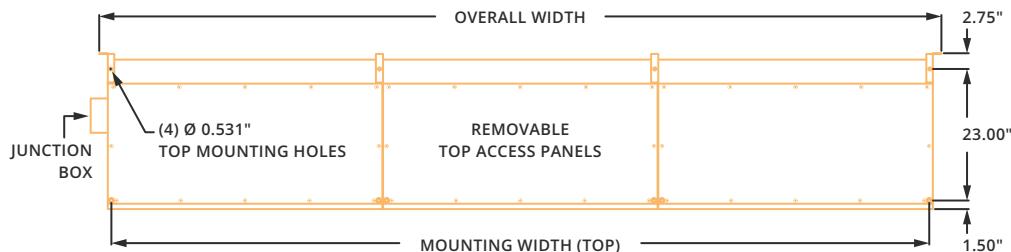
## ► EHD | MECHANICAL DETAILS & DRAWINGS

### EHD | Mechanical Information Table

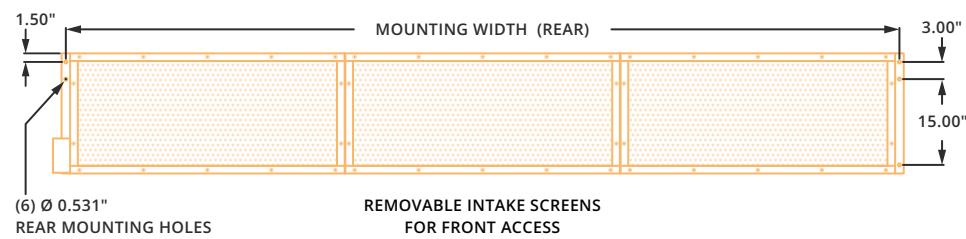
MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width Rear (in.)	Mounting Width Top (in.)
EHD-1-48	51	48	49.5	47
EHD-1-60	63	60	61.5	59
EHD-1-72	75	72	73.5	71
EHD-2-96	99.12	96.12	97.62	95.12
EHD-2-108	111.12	108.12	109.62	107.12
EHD-2-120	123.12	120.12	121.62	119.12
EHD-2-132	135.12	132.12	133.62	131.12
EHD-2-144	147.12	144.12	145.62	143.12
EHD-3-156	159.24	156.24	157.74	155.24
EHD-3-168	171.24	168.24	169.74	167.24
EHD-3-180	183.24	180.24	181.74	179.24
EHD-3-192	195.24	192.24	193.74	191.24
EHD-3-204	207.24	204.24	205.74	203.24
EHD-3-216	219.24	216.24	217.74	215.24
EHD-4-228	231.36	228.36	229.86	227.36
EHD-4-240	243.36	240.36	241.86	239.36



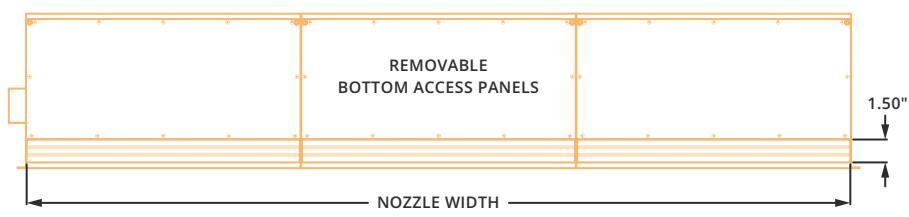
TOP



FRONT



BOTTOM



## ► EHD & EHD-E | INSTALLATION



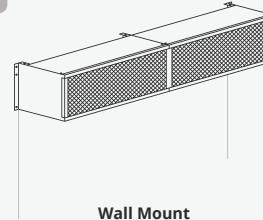
### NOTE

The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

### A WALL MOUNT

Rear flanges of air curtain have six holes, for six 1/2 inch bolts or lags with washers. When wall mounting use all six holes.

**A**



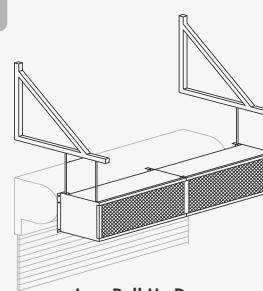
Wall Mount

### B MOUNTING BRACKETS

Mounting brackets (also called knee, angle or L-brackets) can be flush to the wall or constructed to account for a projection from the wall. For proper size brackets measure standoff distance from wall to back of where air curtain will be.

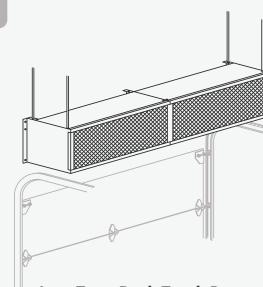
If required, angle iron or steel tubing can be attached to the top of the air curtain, typically one foot longer at each end, to reach brackets that are mounted outside of the door system.

**B**

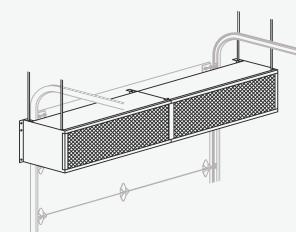


Low Roll-Up Door

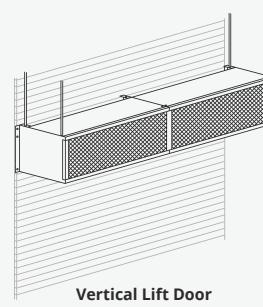
**C**



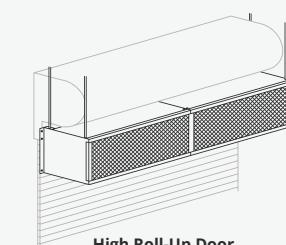
Low Turn-Back Track Door



High Turn-Back Track Door



Vertical Lift Door



High Roll-Up Door

\*Powered Aire does not supply threaded rods.



EHD-E

# EHD-E

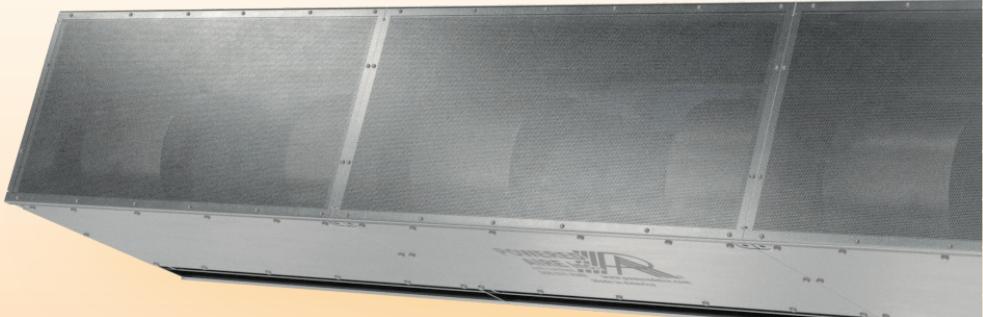
MADE  
IN THE  
USA

The Extra High Door (EHD) electrically heated air curtain provides unmatched performance and benefits for industrial door openings. The addition of electric heat ensures that cold outside remains outside while the heated blast of air helps maintain temperatures on and around the door. The EHD-E is manufactured in single increments and the air curtain can be paired to cover openings up to 30 feet wide. Like all EHD models, access panels are located at the top and bottom of the unit for easy maintenance and adjustments. All industrial units are direct drive, which avoids misalignment of couplers and outboard bearings and eliminates periodic belt replacement. The motor/blower plate comes out as an entire piece and all parts on the outside of the unit are constructed of stainless steel.

## OPTIONS

### HEATING

Unheated . . . . .	pg 177
Hot Water . . . . .	pg 186
Steam . . . . .	pg 186
Indirect Gas . . . . .	pg 189
Direct Gas . . . . .	pg 195



## AT A GLANCE

Single Incremental Widths

4' to 20'

Max Installation Height

22'

Heavy Duty Motors

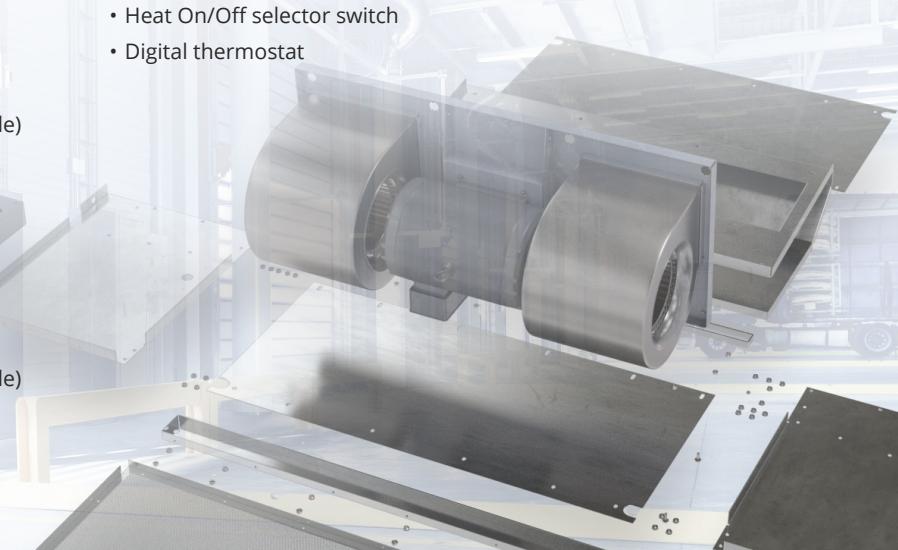
5 HP

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 5 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Single point power connection available (see electrical table)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel with factory installed magnetic motor starter, overload relays, and control transformer
- Open coil multi-stage heating elements with factory mounted panel(s)
- Single point power connection available (see electrical table)
- Alternate heater kW available (consult factory)

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch(s)
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat



# ► EHD-E | PERFORMANCE

## EHD-E | Performance Table

Model	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity FPM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Electric Heat			Weight (lbs.)
								Heater KW	Temp Rise (°F)		
EHD-1-48E	48	6572	5499	6305	95.00%	1	5	40	20	425	
EHD-1-60E	60	6572	4358	7480	94.00%	1	5	40	17	468	
EHD-1-72E	72	6572	5128	9256	94.00%	1	5	40	14	498	
EHD-2-96E	96	6572	4842	12977	95.00%	2	5	80	20	825	
EHD-2-108E	108	6572	4600	13769	94.00%	2	5	80	18	868	
EHD-2-120E	120	6572	4358	15750	94.00%	2	5	80	16	911	
EHD-2-132E	132	6572	4842	15120	95.00%	2	5	80	17	940	
EHD-2-144E	144	6572	4842	19168	95.00%	2	5	80	13	969	
EHD-3-156E	156	6572	4681	20257	94.00%	3	5	120	19	1270	
EHD-3-168E	168	6572	4520	22825	94.00%	3	5	120	17	1315	
EHD-3-180E	180	6572	4358	23004	94.00%	3	5	120	17	1355	
EHD-3-192E	192	6572	4842	23335	95.00%	3	5	120	16	1381	
EHD-3-204E	204	6572	4358	23400	94.00%	3	5	120	16	1412	
EHD-3-216E	216	6572	4600	24570	95.00%	3	5	120	15	1442	
EHD-4-228E	228	6572	4842	28239	94.00%	4	5	160	18	1799	
EHD-4-240E	240	6572	4358	29120	95.00%	4	5	160	17	1838	



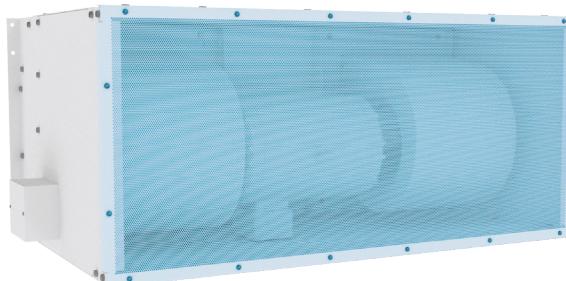
For a unit over 20 feet long, consult factory.

## EHD | Sound Levels

High Speed 71 dBA Measured 10 ft. from unit in a free field based on a 1 motor unit

## EHD | Three Phase Motor Options

Voltages available	208	240	480	575
Amp draw per motor	17	15.8	7.9	6.3



### Performance Highlight

This unit can also be made with a top air intake.  
(front air intake shown in image)

## ► EHD-E | ELECTRICAL

### EHD-E | Electrical Table

Model	kW	480/3/06			575/3/06			SPP*	
		Separate Supply Circuits			Separate Supply Circuits				
		Heat 1	Heat 2	Motors	Heat 1	Heat 2	Motors		
EHD-1-48E	40								
EHD-1-60E	40	48.1 (70)	-	7.9 (15)	56.0 (80)	40.2 (60)	-	5.6 (15)	
EHD-1-72E	40								
EHD-2-96E	80								
EHD-2-108E	80	96.2 (125)	-	15.8 (20)	112.0 (150)	80.3 (110)	-	11.2 (15)	
EHD-2-120E	80								
EHD-2-132E	80	48.1 (70)	48.1 (70)	15.8 (20)	112.0 (150)	40.2 (60)	40.2 (60)	11.2 (15)	
EHD-2-144E	80								
EHD-3-156E	120								
EHD-3-168E	120								
EHD-3-180E	120	72.2 (100)	72.2 (100)	23.7 (30)	‡	60.2 (80)	60.2 (80)	16.8 (25)	
EHD-3-192E	120								
EHD-3-204E	120								
EHD-3-216E	120								
EHD-4-228E	160	‡	‡	‡	‡	‡	‡	‡	
EHD-4-240E	160								

\*With optional branch fusing for Single Point Power (SPP)

^Consult factory for additional voltages

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

# ► EHD-E | MECHANICAL DETAILS & DRAWINGS

## EHD-E | Mechanical Information Table

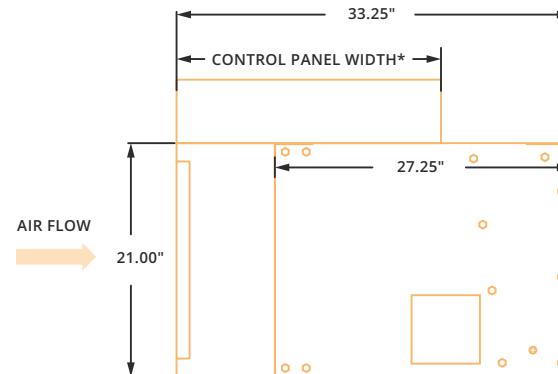
MODEL	Overall Width (in)	Nozzle Width (in)	Mounting Width Rear (in)	Mounting Width Top (in)
EHD-1-48E	51	48	49.5	47
EHD-1-60E	63	60	61.5	59
EHD-1-72E	75	72	73.5	71
EHD-2-96E	99.12	96.12	97.62	95.12
EHD-2-108E	111.12	108.12	109.62	107.12
EHD-2-120E	123.12	120.12	121.62	119.12
EHD-2-132E	135.12	132.12	133.62	131.12
EHD-2-144E	147.12	144.12	145.62	143.12
EHD-3-156E	159.24	156.24	157.74	155.24
EHD-3-168E	171.24	168.24	169.74	167.24
EHD-3-180E	183.24	180.24	181.74	179.24
EHD-3-192E	195.24	192.24	193.74	191.24
EHD-3-204E	207.24	204.24	205.74	203.24
EHD-3-216E	219.24	216.24	217.74	215.24
EHD-4-228E	231.36	228.36	229.86	227.36
EHD-4-240E	243.36	240.36	241.86	239.36



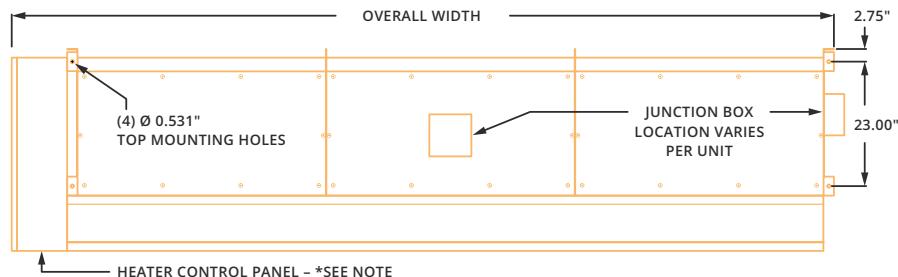
## CONTROL PANEL NOTE

\* Heater Control Panel dimensions vary per unit. In certain sizes, the control panel may increase the overall depth, width and/or height

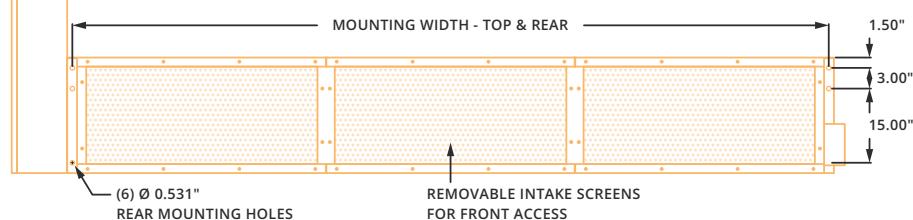
### SIDE



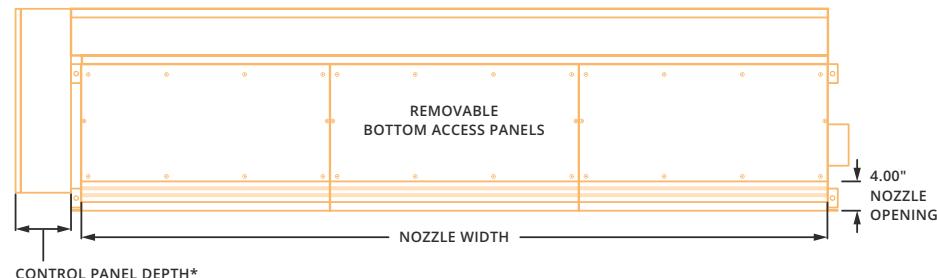
### TOP



### FRONT



### BOTTOM



# Application Spotlight

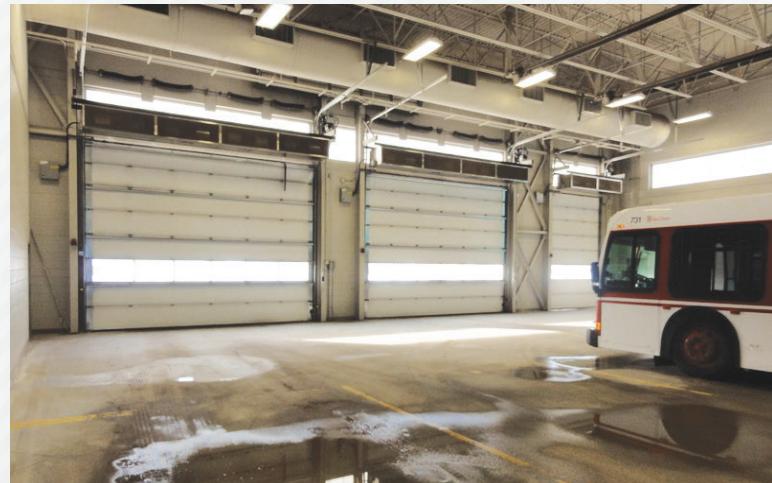
## INDUSTRIAL

### Big Building, Big Doors, Great Protection with Powered Aire Curtains

Wind measurements, temperature and site conditions were all important considerations when Powered Aire Inc. was selected to provide EHD model air curtains for the Red Deer Civic Yards in Alberta, Canada.

The city's transit line is one of several departments located at the Civic Yard, where it takes thousands of square feet to house, clean, wash and maintain a fleet of city buses under one roof. The facility is heated to facilitate all these operations, since outside temperatures range from -40 to +30 F on a typical Red Deer fall, winter or spring day, with winds to match.

Powered Aire's engineering department utilized its state-of-the-art Computational Fluid Dynamics (CFD) design software to determine the specific feet per minute (FPM), cubic feet per minute (CFM) and nozzle width the air curtains would require for maximum all-season effectiveness.



*Model EHD | Top Mount; Brackets; High Turn-Back Track Door.*



*Model EHD | Top Mount; Brackets; High Turn-Back Track Door.*



EHD-HW



EHD-ST

Scan for complete  
model information  
and downloads

888-321-AIRE (2473)  
PoweredAire.com

**POWERED**  
**AIRE** Inc.  
AIRE CURTAINS

v4.2.1

## ► EHD-HW/ST | PERFORMANCE

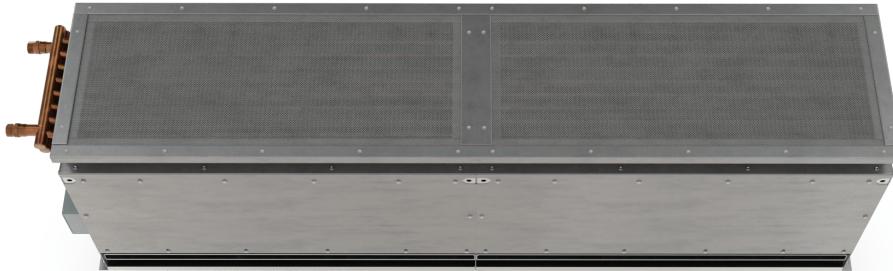
### EHD-HW/ST | Heating Information Table

MODEL	Hot Water		Steam		Weight (lbs)
	mbtu / Hour	Temp. Rise (°F)	mbtu / Hour	Temp. Rise (°F)	
EHD-1-48HW/ST	234	34	302	44	463
EHD-1-60HW/ST	278	35	365	46	515
EHD-1-72HW/ST	333	33	434	43	560
EHD-2-96HW/ST	509	36	608	43	895
EHD-2-108HW/ST	555	37	645	43	955
EHD-2-120HW/ST	603	38	730	46	1008
EHD-2-132HW/ST	650	37	852	43	1030
EHD-2-144HW/ST	733	37	852	43	1065
EHD-3-156HW/ST	839	38	972	44	1335
EHD-3-168HW/ST	872	38	1032	45	1390
EHD-3-180HW/ST	881	37	1071	45	1450
EHD-3-192HW/ST	916	36	1094	43	1477



### INFO

For additional EHD-HW/ST performance information, reference performance table on page 178.



### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 5 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel with factory installed magnetic motor starter, overload relays, and control transformer
- Coil made to AHRI Standard 410
- Hot water coil comprised of galvanized steel casing, 5/8" copper tube, aluminum fins, and same end supply/return connections
- Leak tested at 450 psi
- Single length hot water coils up to 14 ft
- Single length steam coils up to 10 ft
- Custom coil selections available (consult factory)

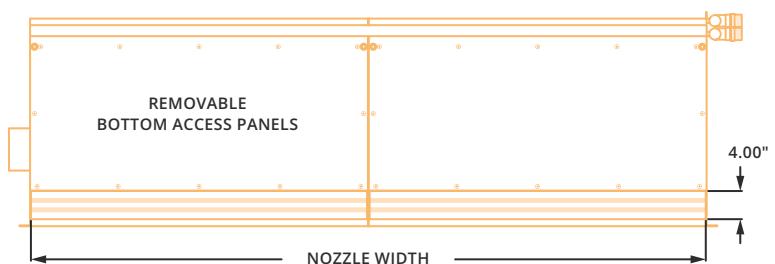
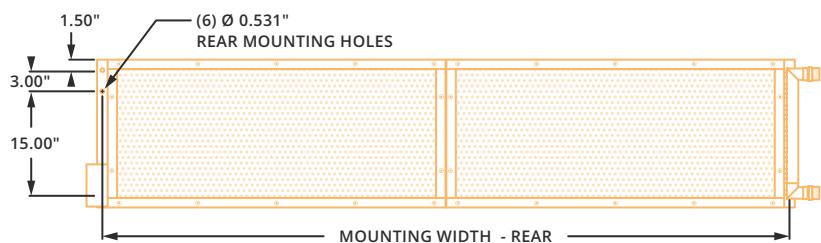
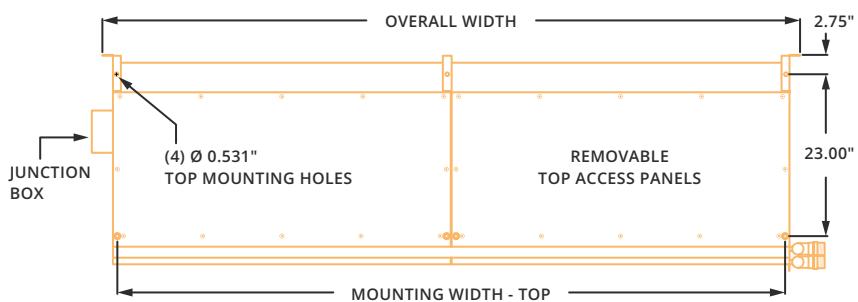
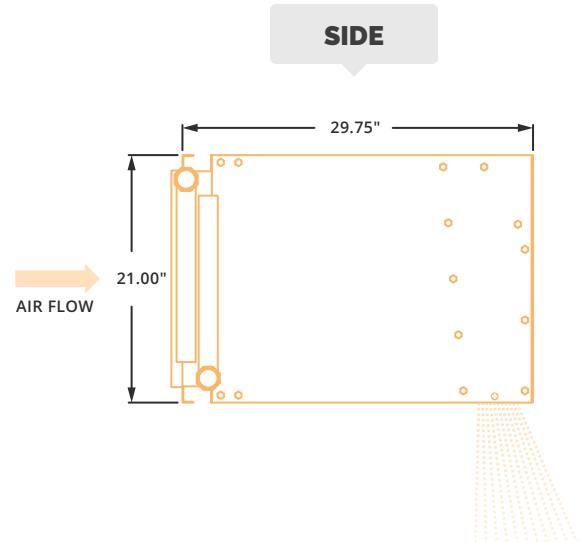
### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat
- Hot water or steam control valve with actuator

## ► EHD-HW/ST | MECHANICAL DETAILS & DRAWINGS

### EHD-HW/ST | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width Rear (in.)	Mounting Width Top (in.)
EHD-1-48HW/ST	51	48	49.5	47
EHD-1-60HW/ST	63	60	61.5	59
EHD-1-72HW/ST	75	72	73.5	71
EHD-2-96HW/ST	99.12	96.12	97.62	95.12
EHD-2-108HW/ST	111.12	108.12	109.62	107.12
EHD-2-120HW/ST	123.12	120.12	121.62	119.12
EHD-2-132HW/ST	135.12	132.12	133.62	131.12
EHD-2-144HW/ST	147.12	144.12	145.62	143.12
EHD-3-156HW/ST	159.25	156.25	157.75	155.25
EHD-3-168HW/ST	171.25	168.25	169.75	167.25
EHD-3-180HW/ST	183.25	180.25	181.75	179.25
EHD-3-192HW/ST	195.25	192.25	193.75	191.25



## ► EHD-HW/ST | INSTALLATION



### NOTE

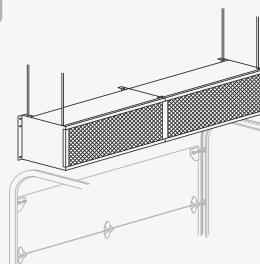
The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

#### A TOP MOUNT

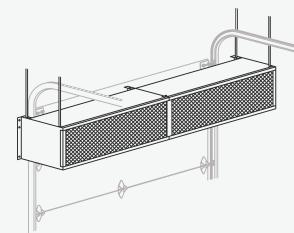
Unit has four 15/32 inch holes for installing one end of 7/16" threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.

\*Powered Aire does not supply threaded rods.

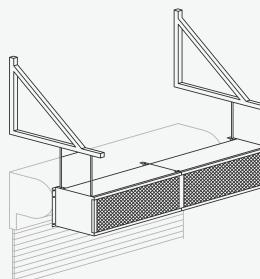
#### A



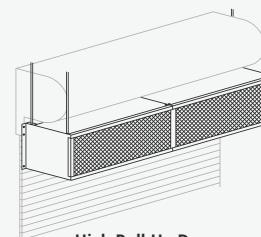
Low Turn-Back Track Door



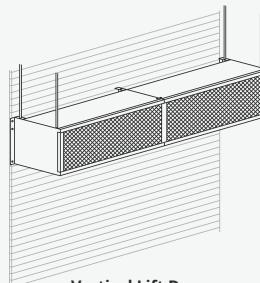
High Turn-Back Track Door



Low Roll-Up Door



High Roll-Up Door

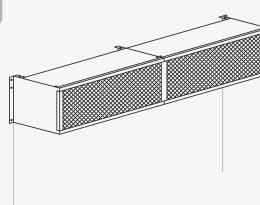


Vertical Lift Door

#### B WALL MOUNT

Rear flanges of air curtain have six holes, for six 7/16 inch bolts or lags with washers. When wall mounting use all six holes.

#### B



Wall Mount



EHD-IG

v4.2.1

# EHD-IG

1, 2 &amp; 3 HEATER



The Indirect Gas Fired air curtain works like your typical home furnace. The flame heats a tube, the air flows over the tube and the heated air is discharged. This air curtain will provide up to a 35 °F temperature rise at the threshold. Not only will this model prevent cold air from infiltrating the opening, it will help keep door hinges from freezing, keep the floor dry, help keep employees comfortable and promote safety and productivity.

Indirect gas heaters used are certified by the American Gas Association (AGA). Standard equipment includes power-vented flues, spark-ignited pilots, stainless steel duct transition and stainless steel air curtain housing.

## OPTIONS

### HEATING

Unheated . . . . .	pg 177
Electric. . . . .	pg 181
Hot Water. . . . .	pg 186
Steam . . . . .	pg 186
Direct Gas. . . . .	pg 195



## AT A GLANCE

Single Incremental Widths

4' to 20'

Max Installation Height

22'

Heavy Duty Motors

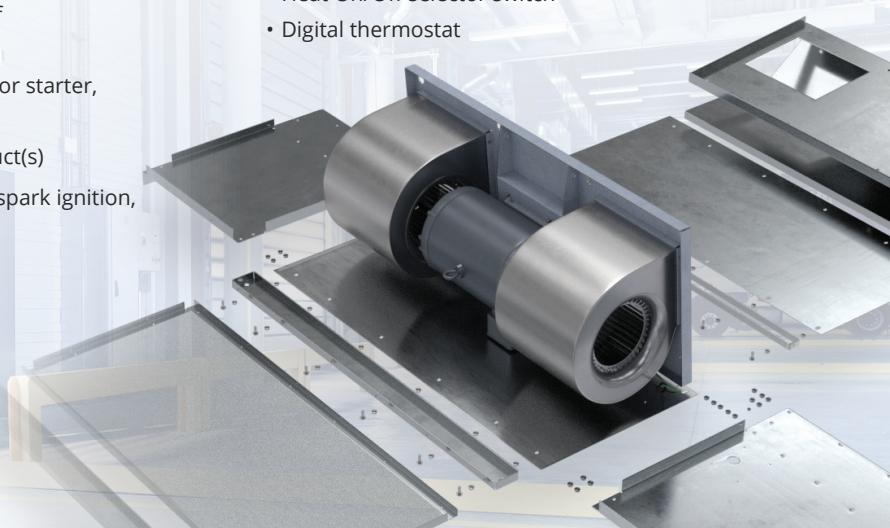
5 HP

### KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 5 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel with factory installed magnetic motor starter, overload relays, and control transformer
- Factory mounted 18-gauge 304 stainless steel transition duct(s)
- AGA/CGA labeled gas heater(s) with power exhaust, direct spark ignition, and tubular heat exchangers
- Convertible open and closed combustion
- Natural gas or propane fuel types
- Standard single point power connection

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat



## ► EHD-IG | PERFORMANCE

### EHD-IG | Heating Information Table

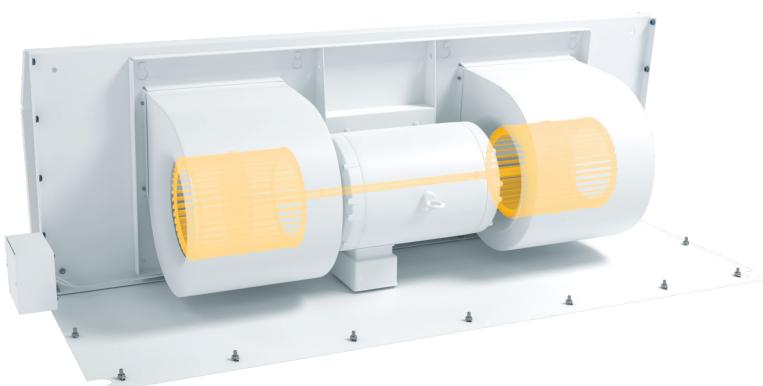
Model	Input mbtu / hr per Heater	Number of Heaters	Total Output mbtu / Hour	Temp. Rise (°F)	Weight (lbs)
EHD-1-48IG	200	1	160	24	670
EHD-1-60IG	250	1	200	25	700
EHD-1-72IG	250	1	200	20	730
EHD-2-96IG	400	1	320	23	1205
EHD-2-108IG	400	1	320	22	1295
EHD-2-120IG	250	2	400	24	1378
EHD-2-132IG	250	2	400	23	1598
EHD-2-144IG	250	2	400	19	1650
EHD-3-156IG	350	2	560	26	1950
EHD-3-168IG	350	2	560	23	2005
EHD-3-180IG	350	2	560	23	2065
EHD-3-192IG	350	2	560	22	2120
EHD-3-204IG	400	2	640	25	2225
EHD-3-216IG	400	2	640	24	2278
EHD-4-228IG	350	3	840	27	2796
EHD-4-240IG	350	3	840	27	2865

### EHD-IG | Sound Levels

High Speed 71 dBA Measured 10 ft. from unit in a free field based on a 1 motor unit

### EHD-IG | Three Phase Motor Options

Voltages available	208	240	480	575
Amp draw per motor	17	15.8	7.9	6.3



#### Performance Highlight

The air curtain is direct drive, which avoids misalignment of couplers and outboard bearings and eliminates periodic belt replacement.

## ► EHD-IG | MECHANICAL DETAILS & DRAWINGS (1 HEATER)

### EHD-IG | 1-Heater Mechanical Information Table

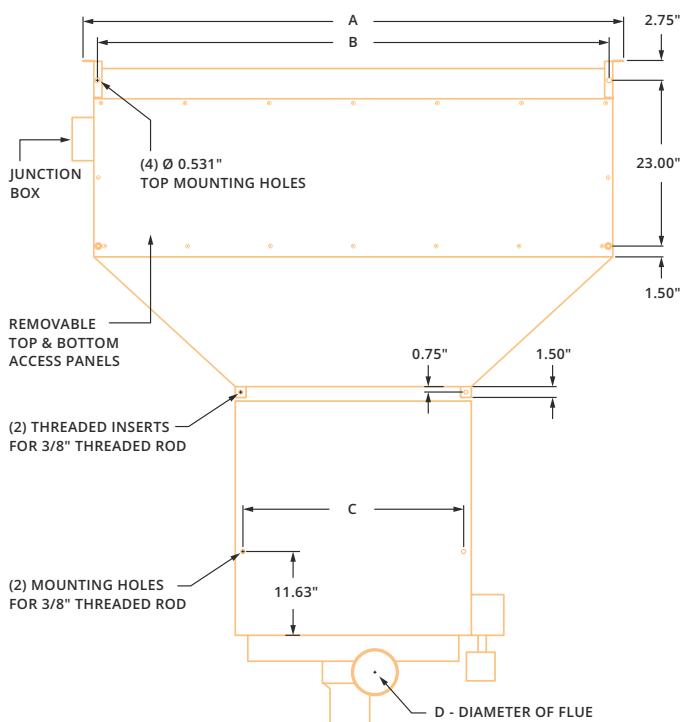
MODEL	Air Curtain Width - A (in.)	Mounting Width - B (in.)	Hanging Width - C (in.)	Flue Diameter - D (in.)	Heater Size	Gas Inlet (in.)
EHD-1-48IG	51	47	30.63	5	200	0.5
EHD-1-60IG	63	59	30.63	5	250	0.75
EHD-1-72IG	75	71	30.63	5	250	0.75
EHD-2-96IG	99.13	95.13	48.63	6	400	0.75
EHD-2-108IG	111.13	107.13	48.63	6	400	0.75



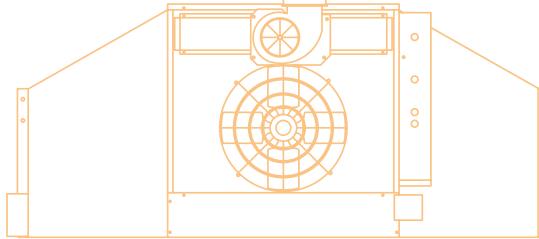
### NOTES

1. Verify that overall dimensions will fit in the opening.
2. Adequacy of support structure to be verified by a professional structural engineer.
3. Air curtain to be installed so that the air stream is unobstructed.

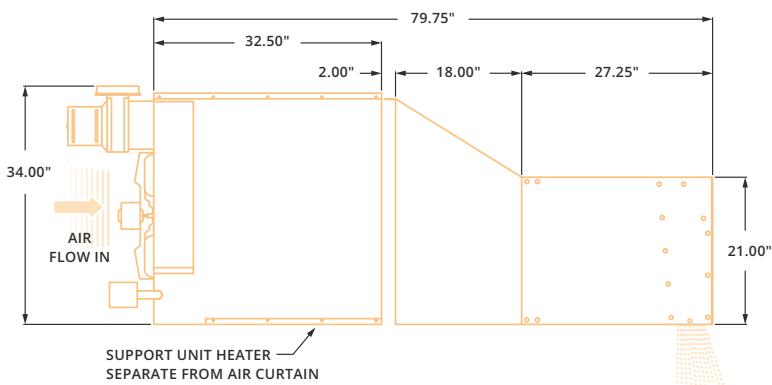
#### TOP



#### FRONT



#### SIDE



## ► EHD-IG | MECHANICAL DETAILS &amp; DRAWINGS (2 HEATER)

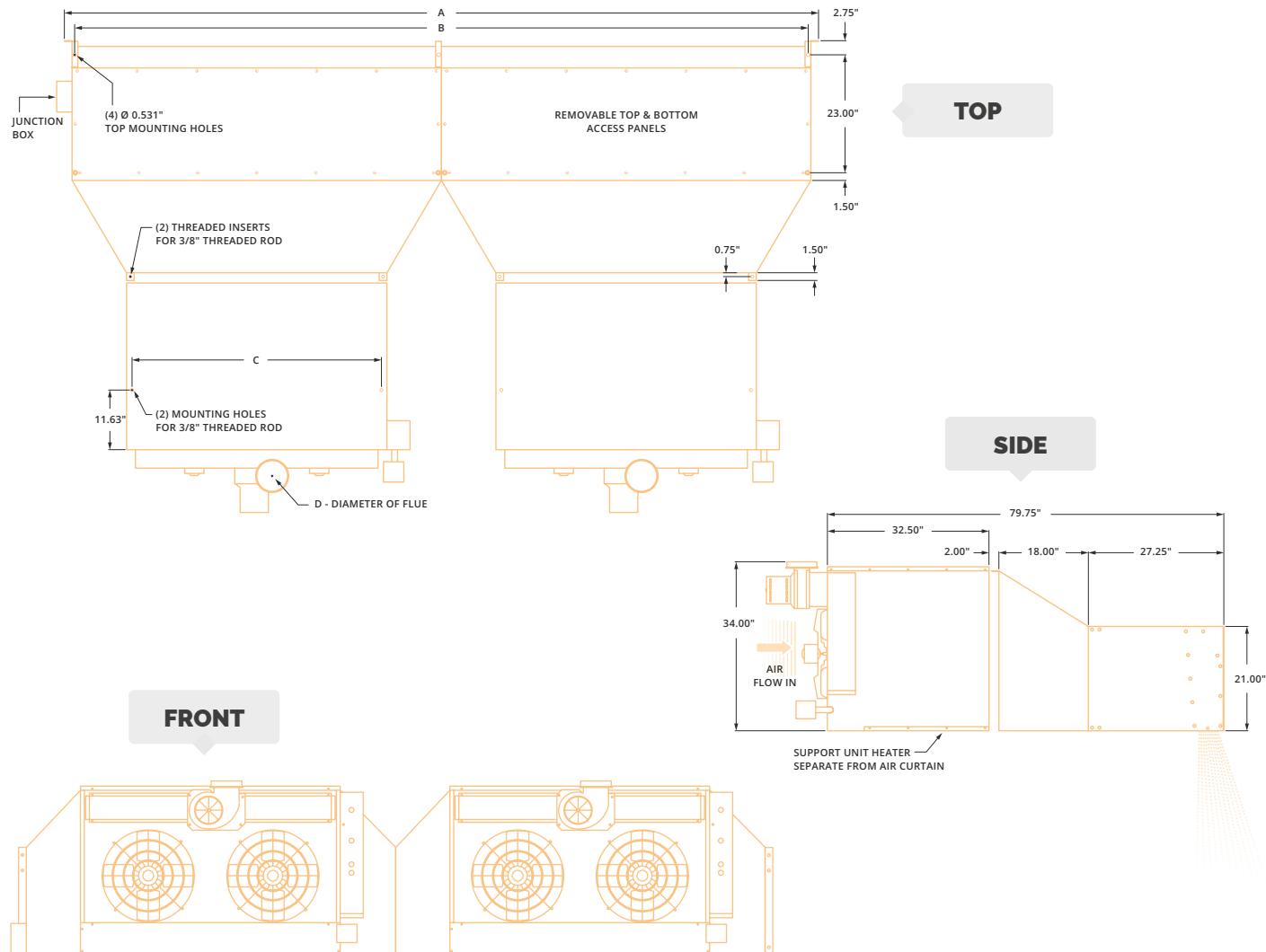
## EHD-IG | 2-Heater Mechanical Information Table

MODEL	Air Curtain Width - A (in.)	Mounting Width - B (in.)	Hanging Width - C (in.)	Flue Diameter - D (in.)	Heater Size	Gas Inlet (in.)
EHD-2-120IG	123.13	119.13	30.63	5	2 x 250	0.75
EHD-2-132IG	135.13	131.13	30.63	5	2 x 250	0.75
EHD-2-144IG	147.13	143.13	30.63	5	2 x 250	0.75
EHD-3-156IG	159.25	155.25	48.63	6	2 x 350	0.75
EHD-3-168IG	171.25	167.25	48.63	6	2 x 400	0.75
EHD-3-180IG	183.25	179.25	48.63	6	2 x 400	0.75
EHD-3-192IG	195.25	191.25	48.63	6	2 x 400	0.75
EHD-3-204IG	207.25	203.25	48.63	6	2 x 400	0.75
EHD-3-216IG	219.25	215.25	48.63	6	2 x 400	0.75



## NOTES

1. Verify that overall dimensions will fit in the opening.
2. Adequacy of support structure to be verified by a professional structural engineer.
3. Air curtain to be installed so that the air stream is unobstructed.



## ► EHD-IG | MECHANICAL DETAILS & DRAWINGS (3 HEATER)

### EHD-IG | 3-Heater Mechanical Information Table

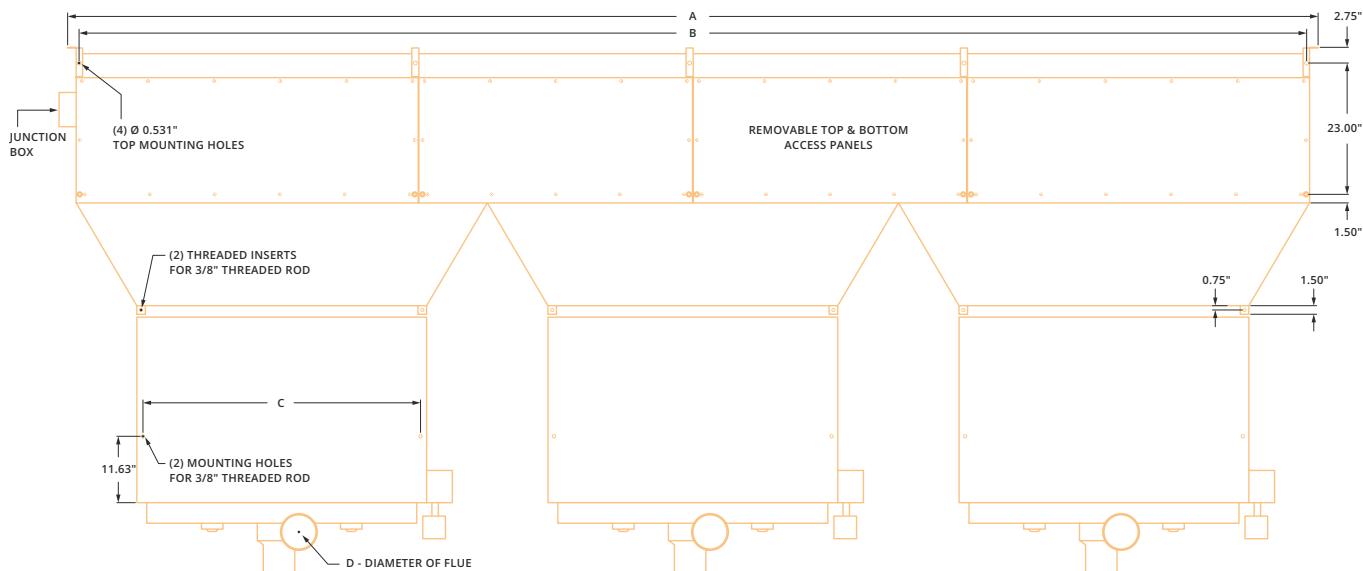
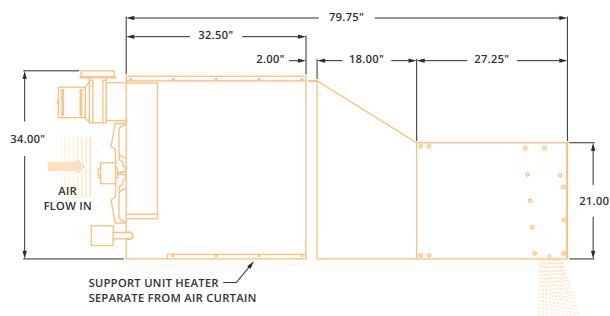
MODEL	Air Curtain Width - A (in.)	Mounting Width - B (in.)	Hanging Width - C (in.)	Flue Diameter - D (in.)	Heater Size	Gas Inlet (in.)
EHD-4-228IG	231.38	227.38	48.63	6	3 x 350	0.75
EHD-4-240IG	243.38	293.38	48.63	6	3 x 350	0.75



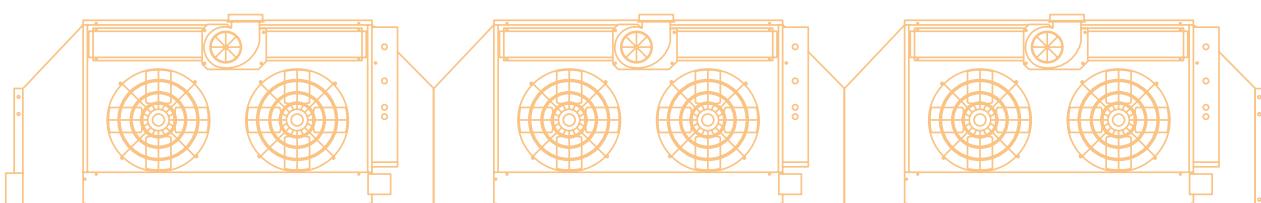
#### NOTES

1. Verify that overall dimensions will fit in the opening.
2. Adequacy of support structure to be verified by a professional structural engineer.
3. Air curtain to be installed so that the air stream is unobstructed.

#### SIDE



#### TOP



#### FRONT

## ► EHD-IG | INSTALLATION

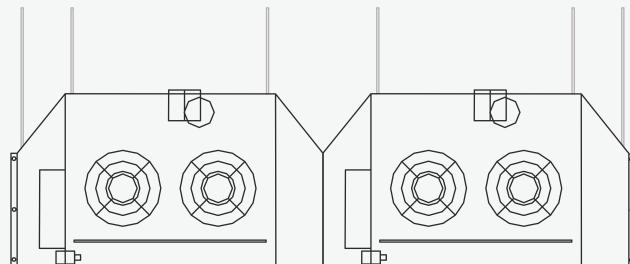
### MOUNTING

- Unit will be suspended with threaded rods. Air curtain has two holes on each end for installing one end of threaded rods.
- Model EHD-IG requires 7/16" threaded rod. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold unit, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.
- Each transition duct has two 3/8 – 16 spotnuts
- Each heater has two or four 3/8 – 16 spotnuts depending on the model.
- The other ends of the threaded rods can be attached to the ceiling.
- Additional mounting holes are provided on larger units for buildings where structural support is not adequate for supporting the air curtain from ends only.

### POSITIONING

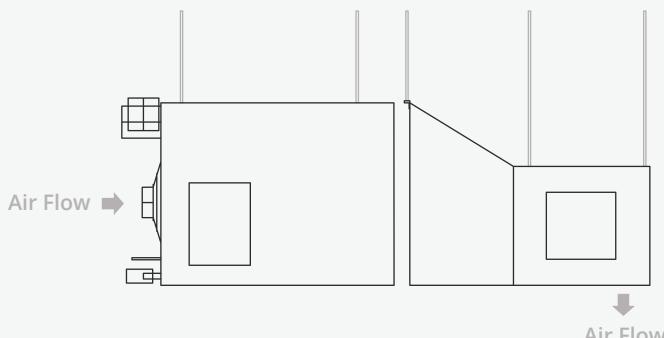
- Heater is to be mounted separately, 2" from air curtain/transition assembly.

#### FRONT



#### SIDE

Support unit heater separate from air curtain





EHD-DG

# EHD-DG

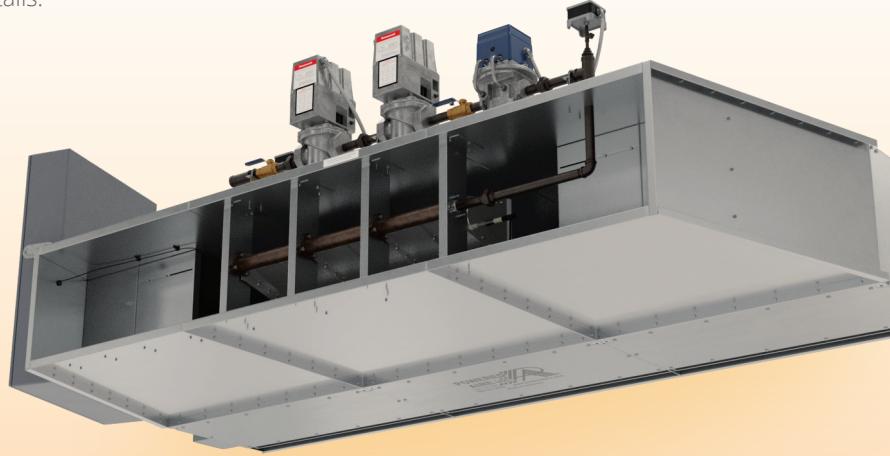


The Direct Gas Fired model provides the most heat of any air curtain in the Powered Aire product line. With the Direct Fired air curtain, the intake air goes directly through the flame prior to being discharged. This air curtain will provide up to a 105°F instant temperature rise at the threshold. Not only will this model prevent cold air from infiltrating the opening, it will help keep door hinges from freezing, keep the floor dry, help keep employees comfortable and promote safety and productivity. Certain codes apply; contact factory for details.

## OPTIONS

### HEATING

Unheated . . . . .	pg 177
Electric. . . . .	pg 181
Hot Water. . . . .	pg 186
Steam . . . . .	pg 186
Indirect Gas. . . . .	pg 189



## AT A GLANCE

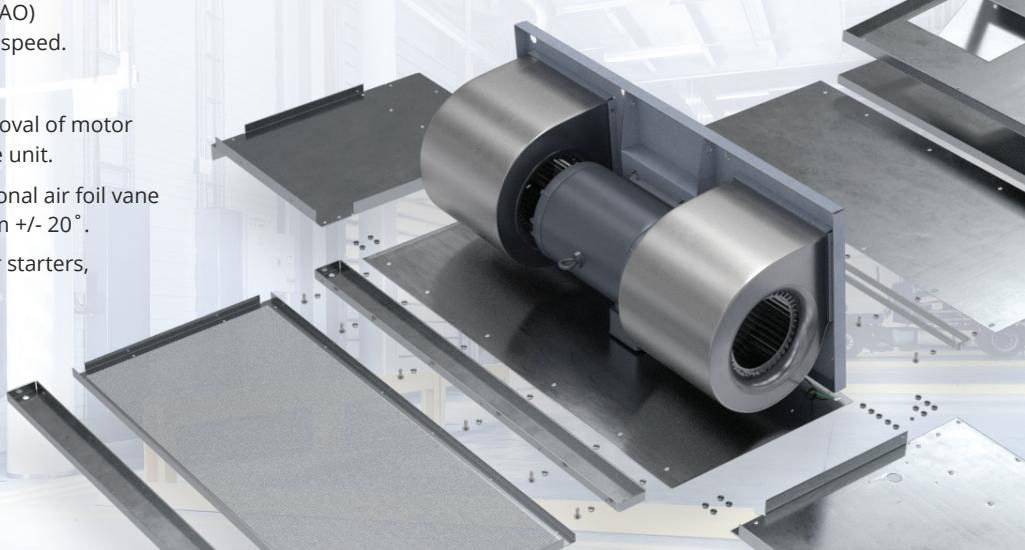
**Single Incremental Widths**
**4' to 20'**
**Max Installation Height**
**22'**
**Heavy Duty Motors**
**5 HP**

### KEY DESIGN FEATURES

- All weight bearing structural support is made of formed 11-gauge stainless steel and galvanized steel. Outer casing is constructed of 16-gauge stainless steel.
- Heavy duty 5 HP Total Enclosed Aire Over (TEAO) motors at 1160 rpm each, 50/60 cycle. Single speed.
- Galvanized fans.
- Access panels for inspection, cleaning or removal of motor blower assembly, without having to lower the unit.
- High efficiency discharge plenum with directional air foil vane factory set to facilitate deflection of air stream +/- 20°.
- Includes NEMA 12 control panel with a motor starters, overload relays and control transformer.

### RECOMMENDED CONTROLS

- Panel mounted HAND / OFF / AUTO switch
- Thermostat
- Magnetic Door Switch for activation



## ► EHD-DG | PERFORMANCE

### EHD-DG | Direct Gas Heat Chart Information Table

MODEL	Heater Output mbtu / hr	Max. Output Temp. (°F)	Weight (lbs)
EHD-2-96DG	1042	105	1368
EHD-2-108DG	1077	105	1451
EHD-2-120DG	1111	105	1534
EHD-2-132DG	1194	105	1604
EHD-2-144DG	1277	105	1664
EHD-3-156DG	1598	105	2005
EHD-3-168DG	1681	105	2100
EHD-3-180DG	1715	105	2180
EHD-3-192DG	1798	105	2237



### INFO

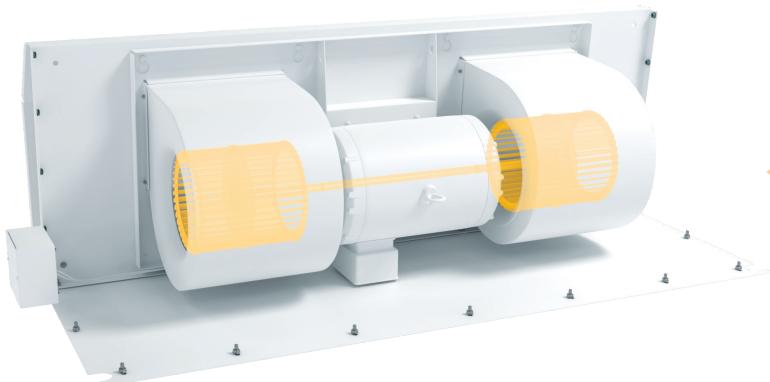
For additional EHD-DG performance information, reference performance table on page 178.

### EHD-IG | Sound Levels

High Speed 71 dBA Measured 10 ft. from unit in a free field based on a 1 motor unit

### EHD-IG | Three Phase Motor Options

Voltages available	208	240	480	575
Amp draw per motor	13.1	12.2	6.1	5.0



### Performance Highlight

The air curtain is direct drive, which avoids misalignment of couplers and outboard bearings and eliminates periodic belt replacement.

## ► EHD-DG | MECHANICAL DETAILS & DRAWINGS

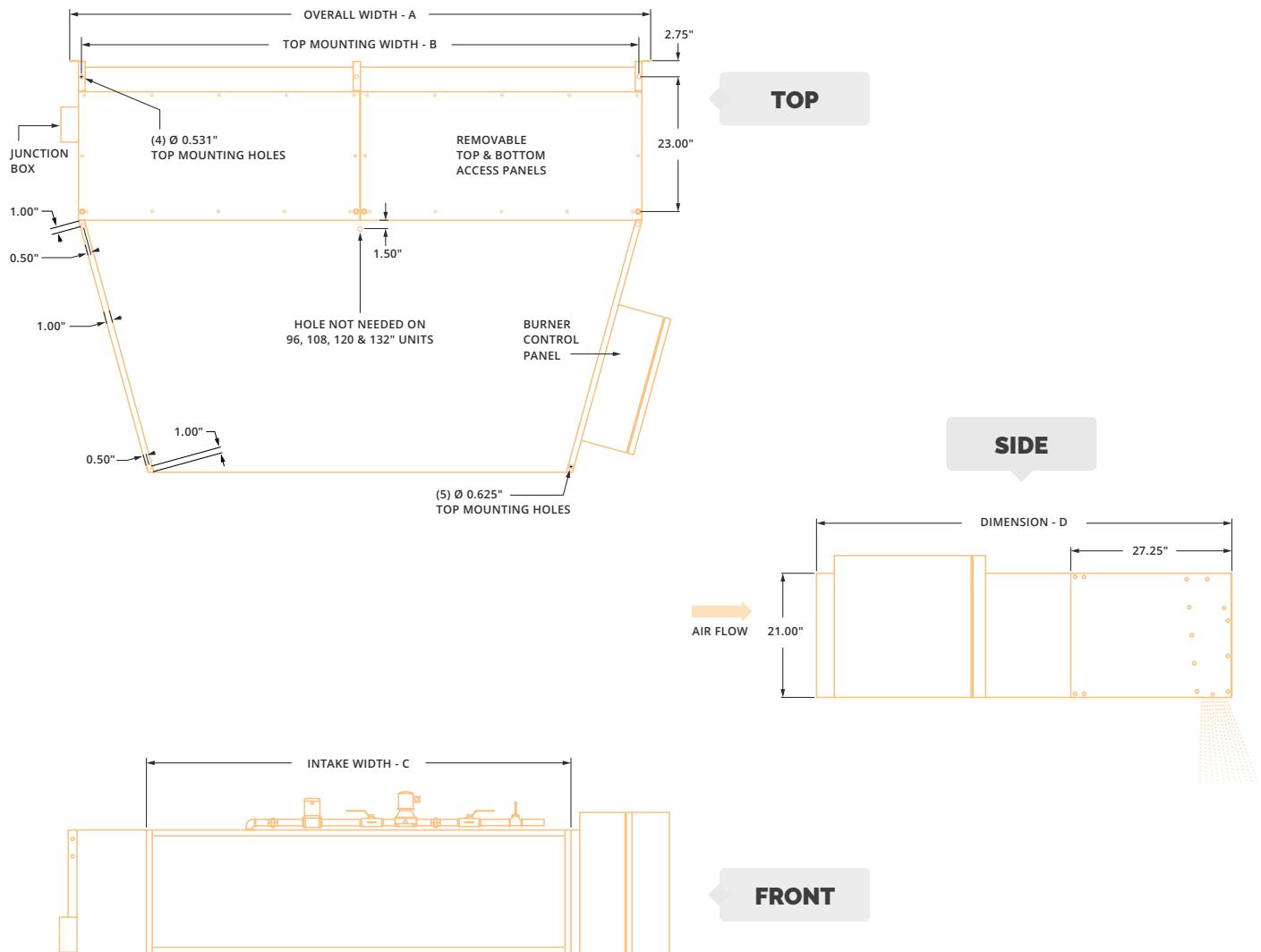
### EHD-DG | Mechanical Information Table

MODEL	Overall Width - A (in.)	Mounting Width - B (in.)	Intake Width - C (in.)	Dimension - D (in.)
EHD-2-96DG	99.125	95.125	72.0625	70.25
EHD-2-108DG	111.125	107.125	72.0625	70.25
EHD-2-120DG	123.125	119.125	84.4375	70.25
EHD-2-132DG	135.125	131.125	84.4375	70.25
EHD-2-144DG	147.125	143.125	96.4375	70.25
EHD-3-156DG	159.25	155.25	96.4375	88.25
EHD-3-168DG	171.25	167.25	96.4375	88.25
EHD-3-180DG	183.25	179.25	107.8125	88.25
EHD-3-192DG	195.25	191.25	107.8125	94.25



### NOTES

1. Verify that overall dimensions will fit in the opening.
2. Adequacy of support structure to be verified by a professional structural engineer.
3. 1 PSI minimum gas inlet; 5 PSI maximum.



## ► EHD-DG | DUCTING

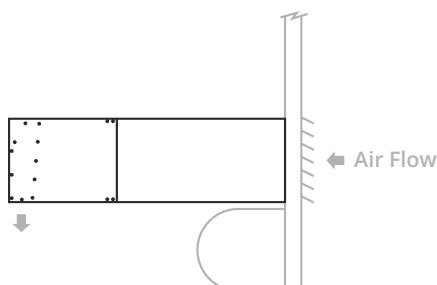
### ! IMPORTANT

This air curtain must be ducted to the outside for 100% fresh air.

These are examples of how the EHD-DG Direct Gas air curtain can be ducted.

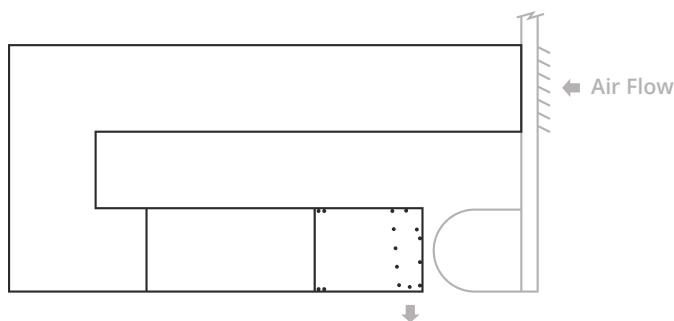
#### REVERSE MOUNTED

Direct Gas Unit in-taking outside air



#### U-DUCTED

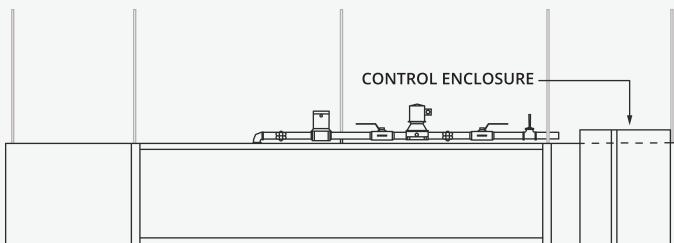
Direct Gas Unit U-ducted to outside



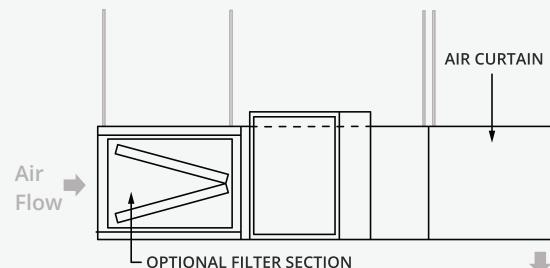
## ► EHD-DG | INSTALLATION

- Unit will be suspended with threaded rods. Air curtain has two holes on each end for installing one end of threaded rods.
- Model EHD-DG requires 7/16" threaded rod. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold unit, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.
- The burner and filter section has five 5/8" holes on top and bottom of unit.
- The other ends of the threaded rods can be attached to the ceiling.
- The rods in the front of the unit will go through the entire unit and be secured from the bottom.
- Additional mounting holes are provided on larger units for buildings where structural support is not adequate for supporting the air curtain from ends only.
- Unit must be ducted to the outside to burn 100% fresh air.

#### FRONT



#### SIDE





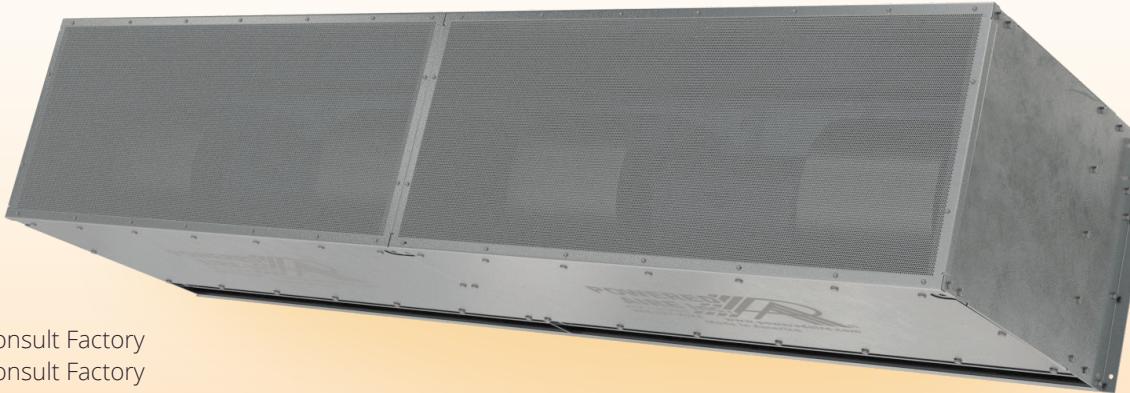
BPA

v4.2.1

# BPA



BPA (Big Powered Aire) is recommended for doors up to 30 feet high. The BPA has top and bottom access panels to replace or service motors or blowers without lowering entire unit or bottom half of unit.



## OPTIONS

### HEATING

Hot Water . . . . . Consult Factory  
 Steam . . . . . Consult Factory  
 Indirect Gas . . . . . Consult Factory

## AT A GLANCE

Single Incremental Widths

5' to 20'

Max Installation Height

30'

Heavy Duty Motors

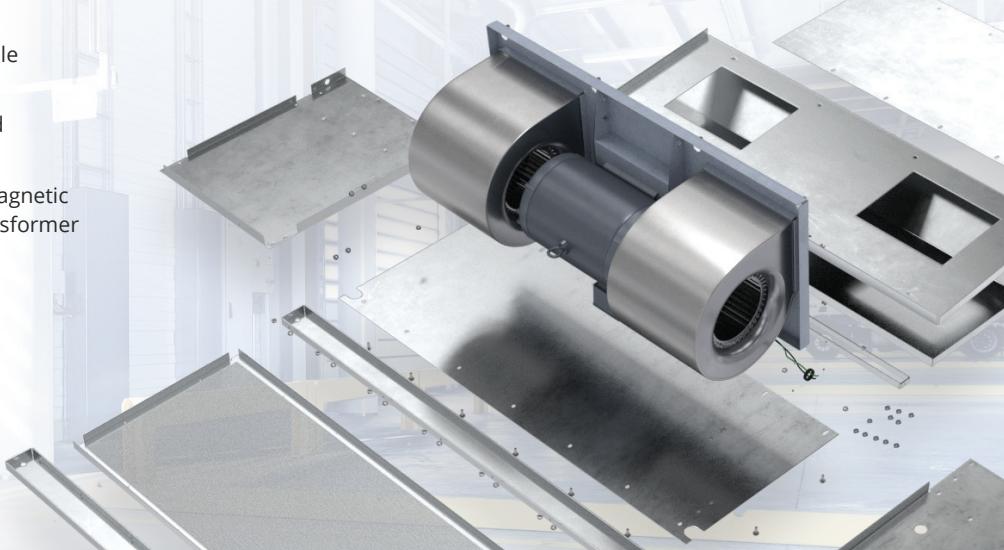
7.5 HP

### KEY DESIGN FEATURES

- Outer cabinet constructed of 16-gauge 304 stainless steel with #3 finish
- 7.5 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel with factory installed magnetic motor starter, overload relays, and control transformer

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch



# ► BPA | PERFORMANCE

## BPA | Performance Table

MODEL	Door Width (ft.)	Nozzle Width (in.)	Max. FPM at Nozzle	Max. CFM at Nozzle	Avg. FPM at Nozzle	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Weight (lbs)
BPA-1-60	5	60	5950	12901	3975	9724	94%	1	7.5	466
BPA-1-72	6	72	5950	16710	4296	12030	94%	1	7.5	490
BPA-1-84	7	84	5950	17500	3995	13050	92%	1	7.5	530
BPA-2-120	10	120	5950	25802	4388	20475	94%	2	7.5	903
BPA-2-132	11	132	5950	27678	4082	20956	95%	2	7.5	930
BPA-2-144	12	144	5950	31058	4449	24915	95%	2	7.5	950
BPA-2-156	13	156	5950	33605	4341	26335	92%	2	7.5	998
BPA-2-168	14	168	5950	36155	4541	29670	92%	2	7.5	1035
BPA-3-180	15	180	5950	38703	4272	29905	94%	3	7.5	1343
BPA-3-192	16	192	5950	39435	4063	30335	95%	3	7.5	1360
BPA-3-204	17	204	5950	40448	3834	30420	94%	3	7.5	1372
BPA-3-216	18	216	5950	41405	3803	31948	95%	3	7.5	1407
BPA-3-228	19	228	5950	49055	4153	36827	94%	3	7.5	1460
BPA-3-240	20	240	5950	51604	4056	37856	92%	3	7.5	1505
BPA-4-240	20	240	5950	55067	4309	40217	95%	4	7.5	1800

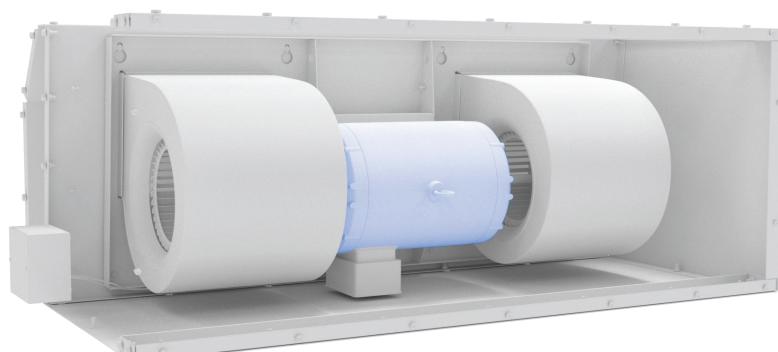
## BPA | Sound Levels

High Speed 73 dBA

Measured 10 ft. from unit in a free field based on a 1 motor unit

## BPA | Three Phase Motor Options

Voltages available	208	240	480	575
Amp draw per motor	26.8	23.2	11.6	9.7



### Performance Highlight

Totally enclosed, air over (TEAO) motors are constructed with a dust-tight cover and an aerodynamic body. They are efficient at running and are cooled by the air flow of the blower which it is driving.

## ► BPA | MECHANICAL DETAILS

### BPA | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width Rear (in.)	Mounting Width Top (in.)
BPA-1-60	63	60	61.5	59
BPA-1-72	75	72	73.5	71
BPA-1-84	87	84	85.5	83
BPA-2-120	123.12	120.12	121.62	119.12
BPA-2-132	135.12	132.12	133.62	131.12
BPA-2-144	147.12	144.12	145.62	143.12
BPA-2-156	159.12	156.12	157.62	155.12
BPA-2-168	171.12	168.12	169.62	167.12
BPA-3-180	183.24	180.24	181.74	179.24
BPA-3-192	195.24	192.24	193.74	191.24
BPA-3-204	207.24	204.24	205.74	203.24
BPA-3-216	219.24	216.24	217.74	215.24
BPA-3-228	231.24	228.24	229.74	227.24
BPA-3-240	243.24	240.24	241.74	239.24
BPA-4-240	243.36	240.36	241.86	239.36

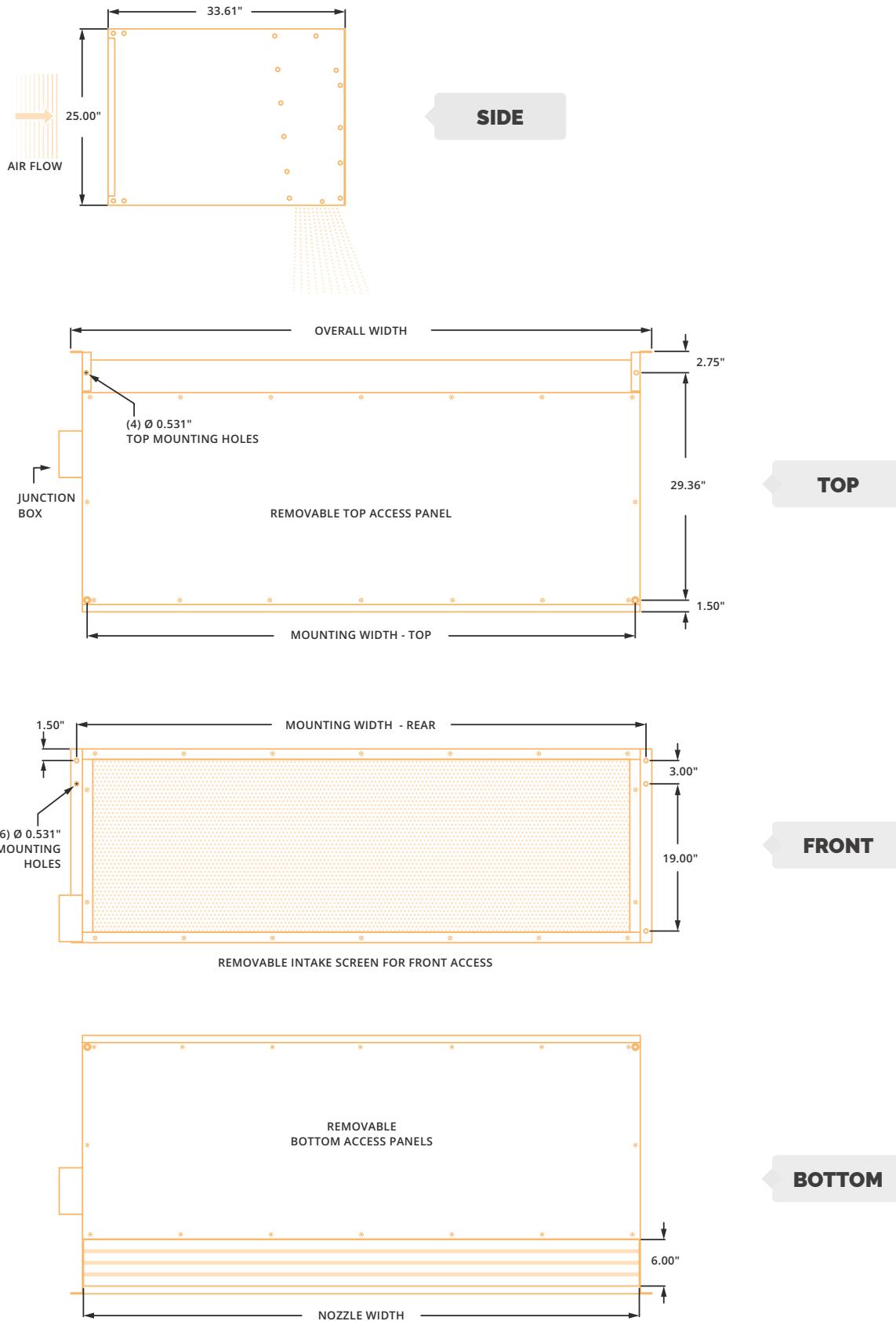


*Model BPA | Brackets with Strut*



*Model BPA | Top Mount (Threaded Rod)*

## ► BPA | MECHANICAL DRAWINGS



## ► BPA | INSTALLATION



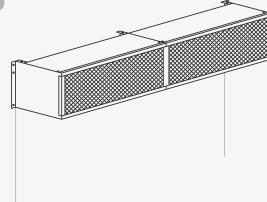
### NOTE

The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

#### A WALL MOUNT

Rear flanges of air curtain have six holes, for six 1/2 inch bolts or lags with washers. When wall mounting use all six holes.

A



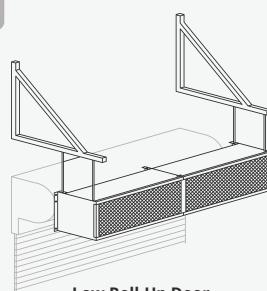
Wall Mount

#### B MOUNTING BRACKETS

Mounting brackets (also called knee, angle or L-brackets) can be flush to the wall or constructed to account for a projection from the wall. For proper size brackets measure standoff distance from wall to back of where air curtain will be.

If required, angle iron or steel tubing can be attached to the top of the air curtain, typically one foot longer at each end, to reach brackets that are mounted outside of the door system.

B



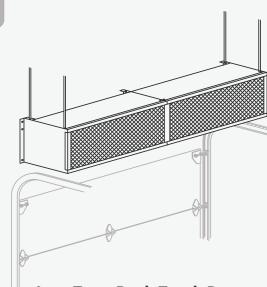
Low Roll-Up Door

#### C TOP MOUNT

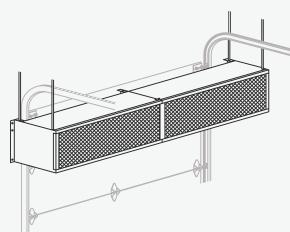
Unit has four 17/32 holes for installing one end of 1/2 inch threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely. Additional mounting holes are provided on larger units for buildings where structural support is not adequate for supporting the air curtain from ends only.

\*Powered Aire does not supply threaded rods.

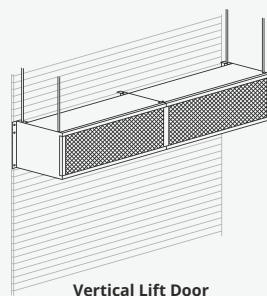
C



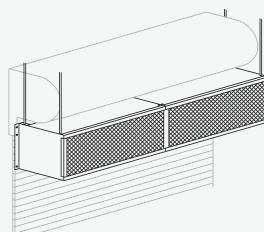
Low Turn-Back Track Door



High Turn-Back Track Door



Vertical Lift Door



High Roll-Up Door

# Application Spotlight

## INDUSTRIAL



**Model BPA** | Brackets; High Turn-Back track Door.

### Derailed by Wind? Get Back on Track with BPA Air Curtains.

When your manufacturing facility is located in the windswept plains of the Midwest, that wind plays havoc on door openings.

A leading manufacturer of passenger rail cars installed five BPA Big Powered Aire Curtains to reduce the infiltration of cold air in the winter, warm air in the summer, and help prevent dirt from entering their new facility when the five 16 ft. wide x 20 ft. high ground level doors are open.

In addition to the energy savings and employee comfort, the BPA's capability to keep dirt and insects out of the building was of paramount concern.

Since the BPAs weighed over a 1,000 lbs. each, custom factory welded standoff brackets were fabricated to assist with the installation.

The BPA-3-192 air curtain contains three 7.5 hp motors which generate an average of 4,000 FPM and 30,300 CFM of wind stopping airflow.

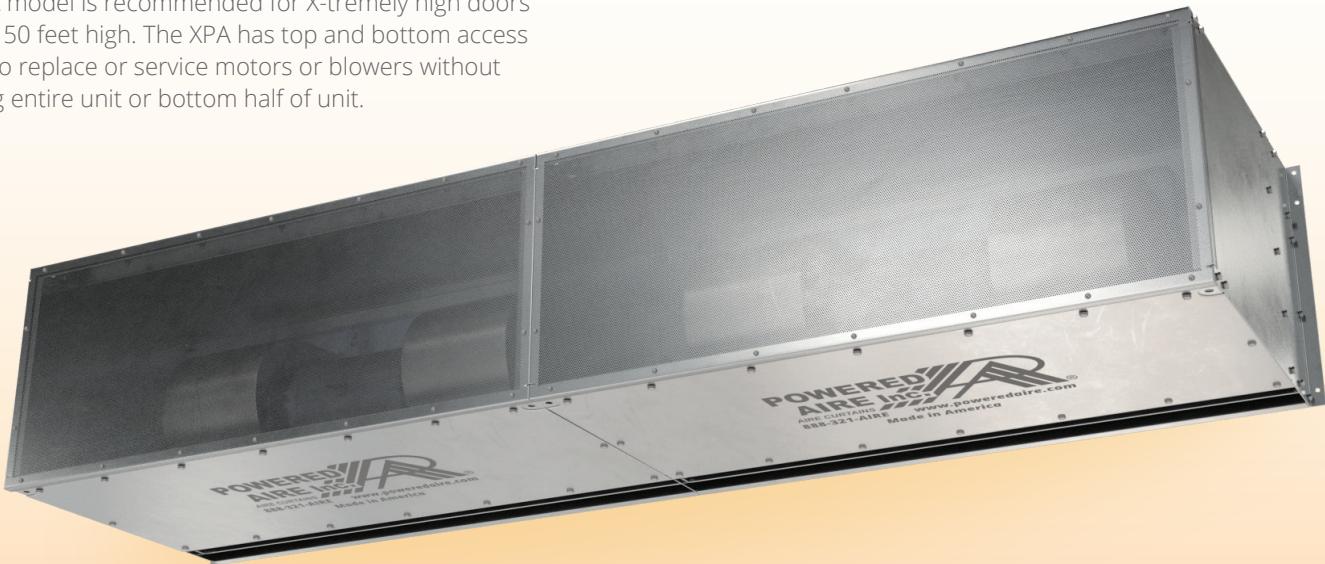
In most applications, a typical return on investment on a Powered Aire Curtain is under two years.



XPA

# XPA

The XPA model is recommended for X-tremely high doors of up to 50 feet high. The XPA has top and bottom access panels to replace or service motors or blowers without lowering entire unit or bottom half of unit.



## AT A GLANCE

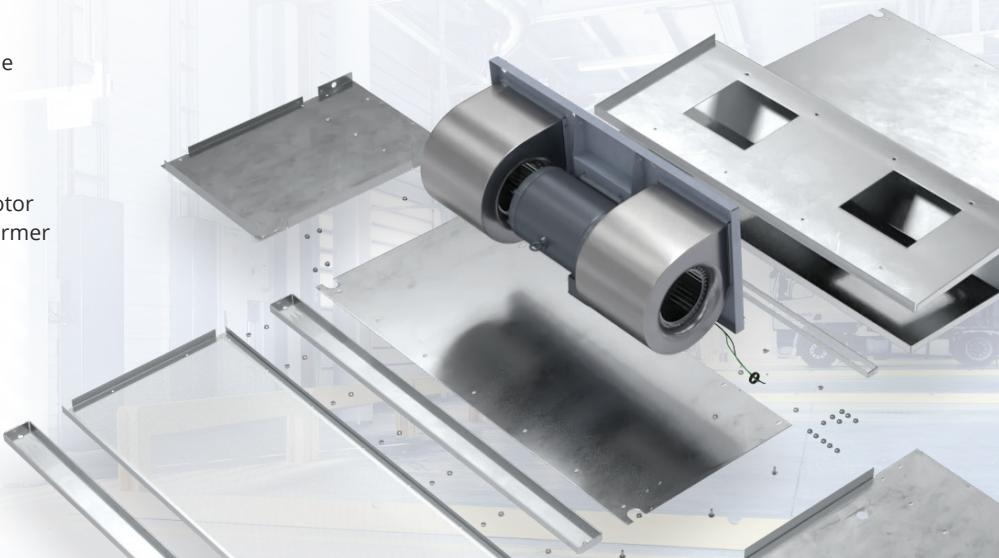
**Single Incremental Widths**
**6' to 30'**
**Max Installation Height**
**50'**
**Heavy Duty Motors**
**20 HP**

### KEY DESIGN FEATURES

- Outer cabinet constructed of 16-gauge 304 stainless steel with #3 finish
- 20 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20°)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel with factory installed motor soft starter, overload relays, and control transformer

### RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch
- Hand/Off/Auto selector switch



## ► XPA | PERFORMANCE

### XPA | Performance Table

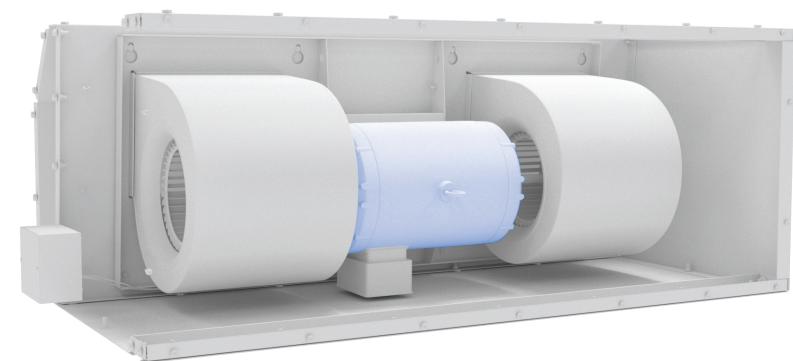
MODEL	Door Width (ft)	Nozzle Width (in)	Max. FPM at Nozzle	Max. CFM at Nozzle	Avg. FPM at Nozzle	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP (per motor)	Weight (lbs)
XPA-1-72	6	72	10660	28994	5448	21800	93%	1	20	895
XPA-1-84	7	84	10660	31932	5164	24099	91%	1	20	996
XPA-1-96	8	96	10660	35365	5003	26590	89%	1	20	1098
XPA-2-144	12	144	10660	57988	5448	43600	93%	2	20	1790
XPA-2-156	13	156	10660	60926	5295	45899	92%	2	20	1891
XPA-2-168	14	168	10660	63864	5164	48198	91%	2	20	1992
XPA-2-180	15	180	10660	67297	5078	50689	90%	2	20	2094
XPA-2-192	16	192	10660	70730	5003	53180	89%	2	20	2196
XPA-3-216	18	216	10660	86989	5448	65400	93%	3	20	2685
XPA-3-228	19	228	10660	89920	5343	67699	92%	3	20	2786
XPA-3-240	20	240	10660	92858	5249	69998	91%	3	20	2887
XPA-3-252	21	252	10660	95796	5164	72297	91%	3	20	2988
XPA-3-264	22	264	10660	99229	5105	74788	90%	3	20	3090
XPA-3-276	23	276	10660	102662	5052	77279	90%	3	20	3192
XPA-3-288	24	288	10660	106095	5003	79770	89%	3	20	3294
XPA-4-300	25	300	10660	118914	5368	89499	92%	4	20	3681
XPA-4-312	26	312	10660	121852	5295	91798	92%	4	20	3782
XPA-4-324	27	324	10660	124790	5227	94097	92%	4	20	3883
XPA-4-336	28	336	10660	127728	5164	96396	91%	4	20	3984
XPA-4-348	29	348	10660	131161	5119	98887	90%	4	20	4086
XPA-4-360	30	360	10660	134594	5078	101378	90%	4	20	4188

### XPA | Sound Levels

High Speed	85 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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### XPA | Three Phase Motor Options

Voltages available	208	240	480	575
Amp draw per motor	56.0	54.0	27.0	22.0



### Performance Highlight

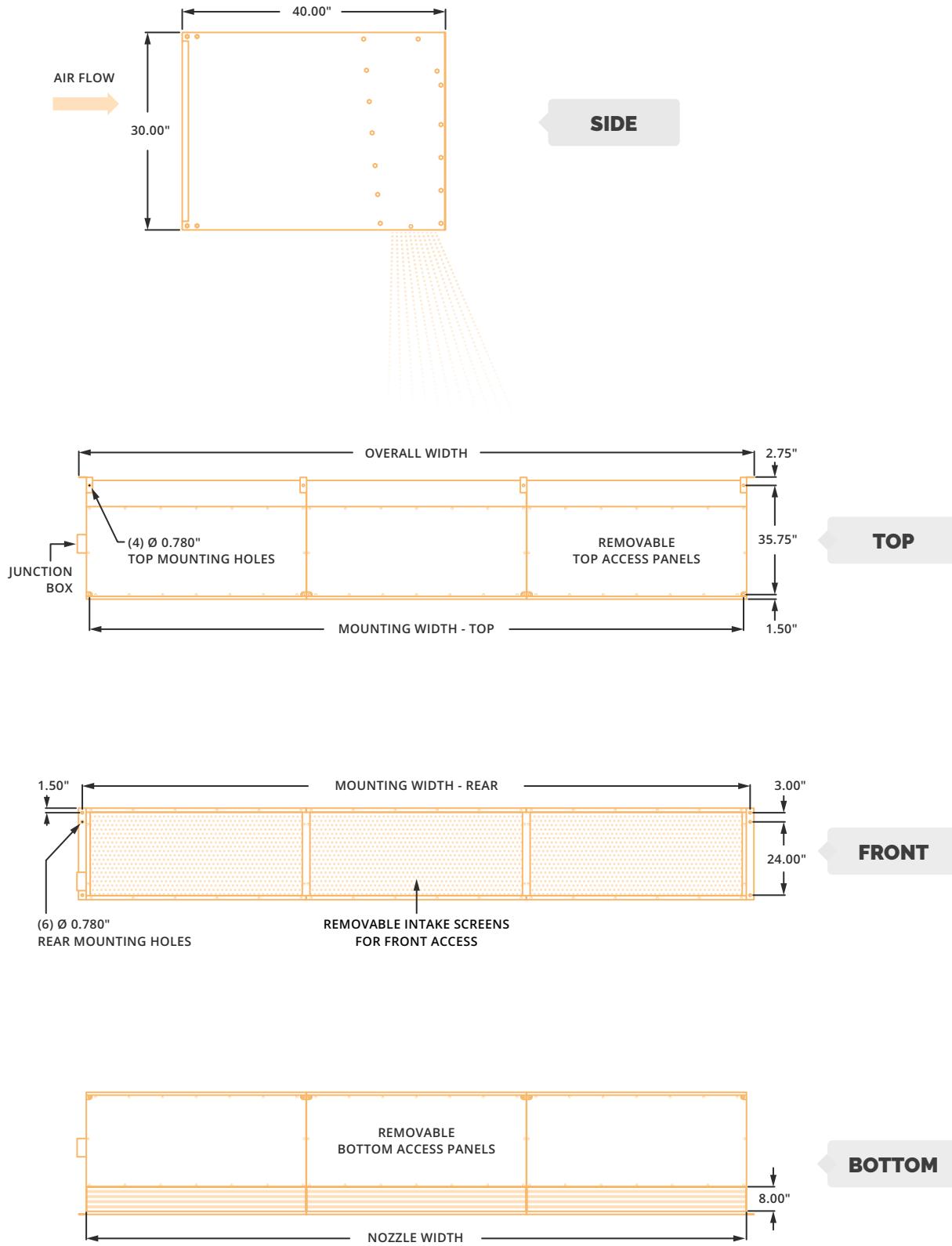
Totally enclosed, air over (TEAO) motors are constructed with a dust-tight cover and an aerodynamic body. They are efficient at running and are cooled by the air flow of the blower which it is driving.

## ► XPA | MECHANICAL DETAILS

XPA | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width Rear (in.)	Mounting Width Top (in.)
XPA-1-72	75	72	73.5	71
XPA-1-84	87	84	85.5	83
XPA-1-96	99	96	97.5	95
XPA-2-144	147.12	144.12	145.62	143.12
XPA-2-156	159.12	156.12	157.62	155.12
XPA-2-168	171.12	168.12	169.62	167.12
XPA-2-180	183.12	180.12	181.62	179.12
XPA-2-192	195.12	192.12	193.62	191.12
XPA-3-216	219.24	216.24	217.74	215.24
XPA-3-228	231.24	228.24	229.74	227.24
XPA-3-240	243.24	240.24	241.74	239.24
XPA-3-252	255.24	252.24	253.74	251.24
XPA-3-264	267.24	264.24	265.74	263.24
XPA-3-276	279.24	276.24	277.74	275.24
XPA-3-288	291.24	288.24	289.74	287.24
XPA-4-300	303.36	300.36	301.86	299.36
XPA-4-312	315.36	312.36	313.86	311.36
XPA-4-324	327.36	324.36	325.86	323.36
XPA-4-336	339.36	336.36	337.86	335.36
XPA-4-348	351.36	348.36	349.86	347.36
XPA-4-360	363.36	360.36	361.86	359.36

## ► XPA | MECHANICAL DRAWINGS



## ► XPA | INSTALLATION



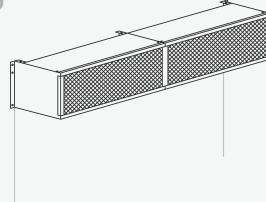
### NOTE

The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

#### A WALL MOUNT

Rear flanges of air curtain have six holes, for six 1/2 inch bolts or lags with washers. When wall mounting use all six holes.

A



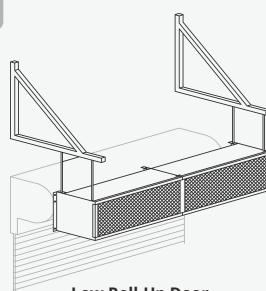
Wall Mount

#### B MOUNTING BRACKETS

Mounting brackets (also called knee, angle or L-brackets) can be flush to the wall or constructed to account for a projection from the wall. For proper size brackets measure standoff distance from wall to back of where air curtain will be.

If required, angle iron or steel tubing can be attached to the top of the air curtain, typically one foot longer at each end, to reach brackets that are mounted outside of the door system.

B



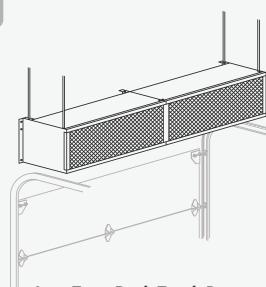
Low Roll-Up Door

#### C TOP MOUNT

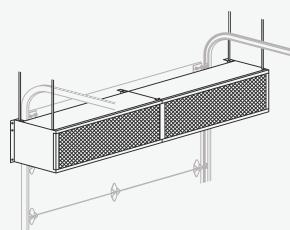
Unit has four 17/32 holes for installing one end of 1/2 inch threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely. Additional mounting holes are provided on larger units for buildings where structural support is not adequate for supporting the air curtain from ends only.

\*Powered Aire does not supply threaded rods.

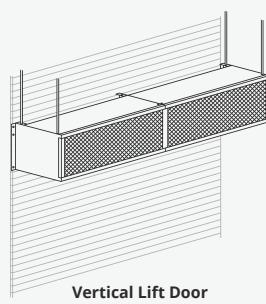
C



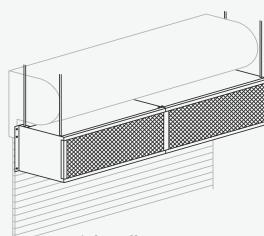
Low Turn-Back Track Door



High Turn-Back Track Door



Vertical Lift Door



High Roll-Up Door

# Application Spotlight

## SPECIALTY UNITS



*Corrosive Atmosphere Application*

### Certain Applications Need Something Special!

Our specialty air curtains are designed with the quality needed for the most extreme conditions, like freezing temperatures for cold storage or corrosive and hazardous atmosphere environments, while maintaining the unique qualities of a Powered Aire air curtain.

- CORROSIVE DUTY | LIGHT DUTY  
**LDC.....211** u

- CORROSIVE DUTY | HEAVY DUTY  
**HDC.....215** u

- HAZARDOUS DUTY | LIGHT DUTY  
**LDX.....219** u

- HAZARDOUS DUTY | HEAVY DUTY  
**HDX.....223** u



LDC

v4.2.1

# LDC

LIGHT DUTY

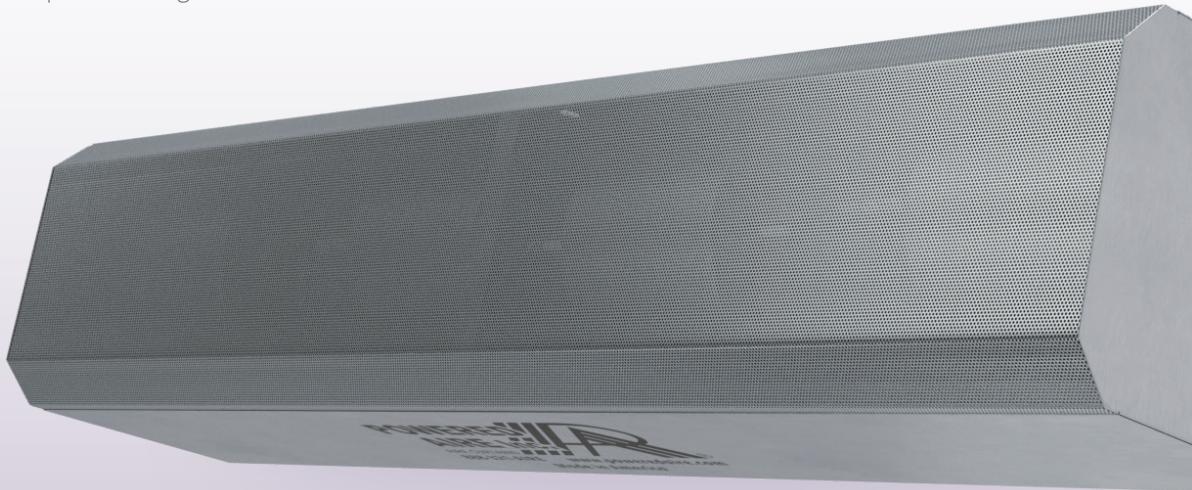


The LDC air curtain is designed for use in corrosive atmospheres. This light duty model has 3/4 hp motors and is unheated. This model differs from Powered Aire's standard units by featuring a higher grade stainless steel case and stainless steel internal components for added protection against rust and corrosion.

## OPTIONS

### FILTER

½" Cleanable



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

12'

Heavy Duty Motors

¾ HP

### KEY DESIGN FEATURES

- Heavy duty case is 18 gauge 316 stainless steel in a number three finish.
- Heavy duty Total Enclosed Aire Over (TEAO) 3/4 HP Dirty Duty Autophoretic motors with 316 stainless steel shafts. 1725 rpm each.
- 316 stainless steel fans and housings.
- All fastening components including screws and bolts are type 316 stainless steel.
- Air intake screen is perforated 316 stainless steel with mill grain finish.
- High efficiency discharge plenum with directional air foil vane factory set to facilitate deflection of air stream +/- 20°.
- NEMA 4X control panel constructed of 316 stainless steel.

### RECOMMENDED CONTROLS

- Panel mounted HAND / OFF / AUTO switch
- Magnetic Door switch for activation

### APPLICATIONS

- Maritime
- Beachfront Properties
- Manufacturing Facilities
- Swimming Pools
- Car Washes
- Pharmaceutical
- Food Processing Plants
- Any location where corrosive fumes or vapors are present

## ► LDC | PERFORMANCE

### LDC | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Max. CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Weight (lbs)
LDC-1-36	36	4218	2899	95%	1	3/4	90
LDC-1-42	42	4218	3384	93%	1	3/4	97
LDC-1-48	48	4218	3867	92%	1	3/4	104
LDC-1-60	60	4218	4374	91%	1	3/4	117
LDC-2-72	72	4218	5803	95%	2	3/4	169
LDC-2-84	84	4218	6766	93%	2	3/4	187
LDC-2-96	96	4218	7732	92%	2	3/4	203
LDC-3-108	108	4218	8702	95%	3	3/4	245
LDC-3-120	118	4218	9668	94%	3	3/4	274
LDC-3-132	133	4218	10853	95%	3	3/4	290
LDC-4-144	145	4218	11606	95%	4	3/4	338



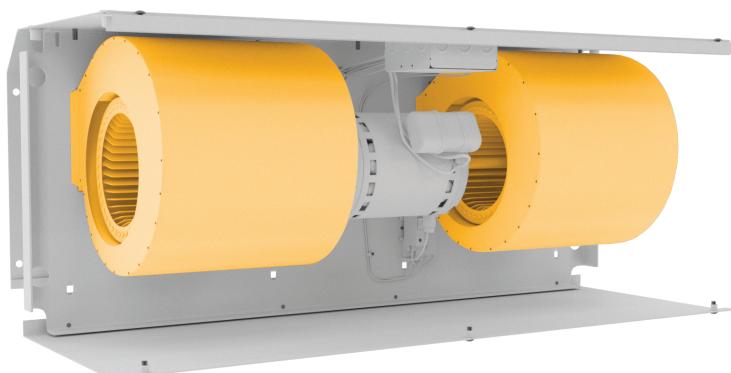
For a unit over 12 feet long, consult factory.

### LDC | Sound Levels

High Speed	63 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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### LDC | Motor Options

Voltages available	120	208	240 / 1 / 60	240	480	575 / 3 / 60
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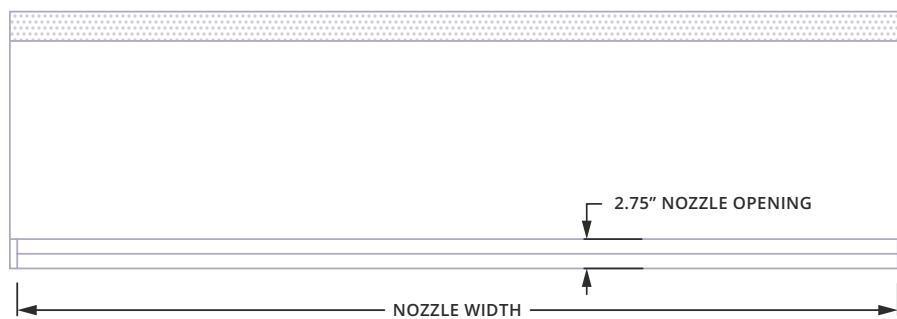
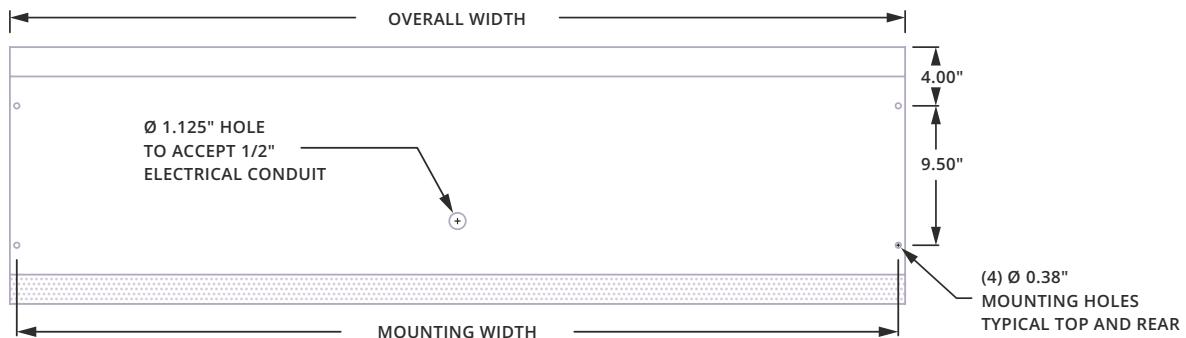
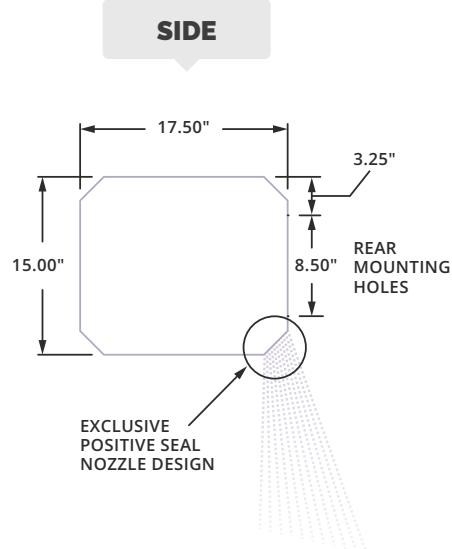
#### Performance Highlight

Stainless steel fans and housings.

## ► LDC | MECHANICAL DETAILS & DRAWINGS

### LDC | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width Top and Rear (in.)
LDC-1-36	37	36	36.06
LDC-1-42	43	42	42.06
LDC-1-48	49	48	48.06
LDC-1-60	61	60	60.06
LDC-2-72	73	72	72.06
LDC-2-84	85	84	84.06
LDC-2-96	97	96	96.06
LDC-3-108	109	108	108.06
LDC-3-120	119	118	118.06
LDC-3-132	134	133	133.06
LDC-4-144	146	145	145.06



## ► LDC | INSTALLATION



### NOTE

The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

### OPTION 1

#### TOP MOUNT

Unit has four 3/8-16 threaded inserts for installing one end of threaded rods. The other ends of the threaded rods can be attached to the ceiling. Threaded rod should not extend more than 3/4 inch into air curtain.

\*Powered Aire does not supply threaded rods.

### OPTION 2

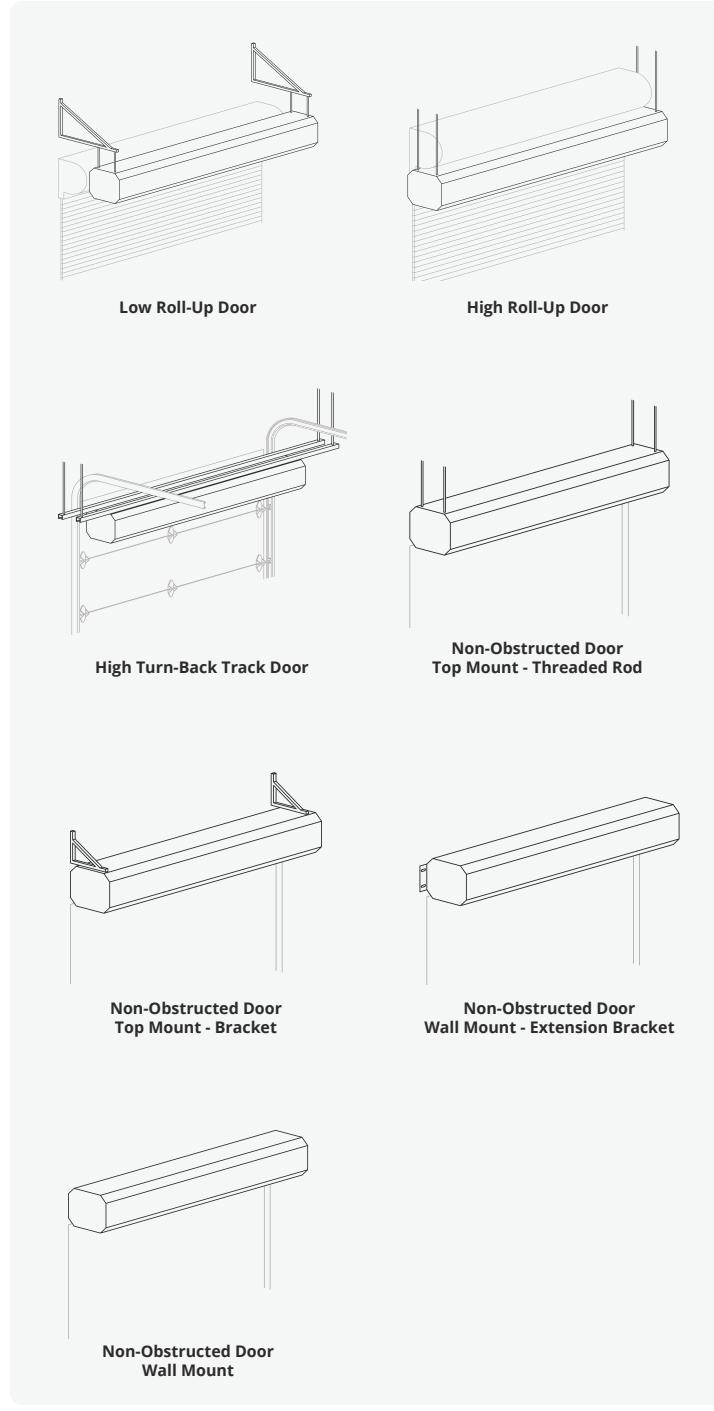
#### WALL MOUNT

Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension ratchet will negate the need to remove the motor/blower plate when installing. Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four 7/8 inch holes in motor/blower plate. If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way. The electrical switches have a lever that slides in one direction to release the switch contacts from the switch body. All wires will then stay intact for easy installation when replacing blower plate. Remove 7/16 whizlock nuts holding plate in place and slide plate out rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and rotate top in last.

### OPTION 3

#### WALL MOUNT; EXTENSION BRACKETS

Extension brackets bolt on to the back of the unit, utilizing the 4 original mounting holes, and allowing for external mounting of unit to wall. Brackets have elongated mounting slots that extend the mounting width by 2 1/2 to 3 1/2 inches.





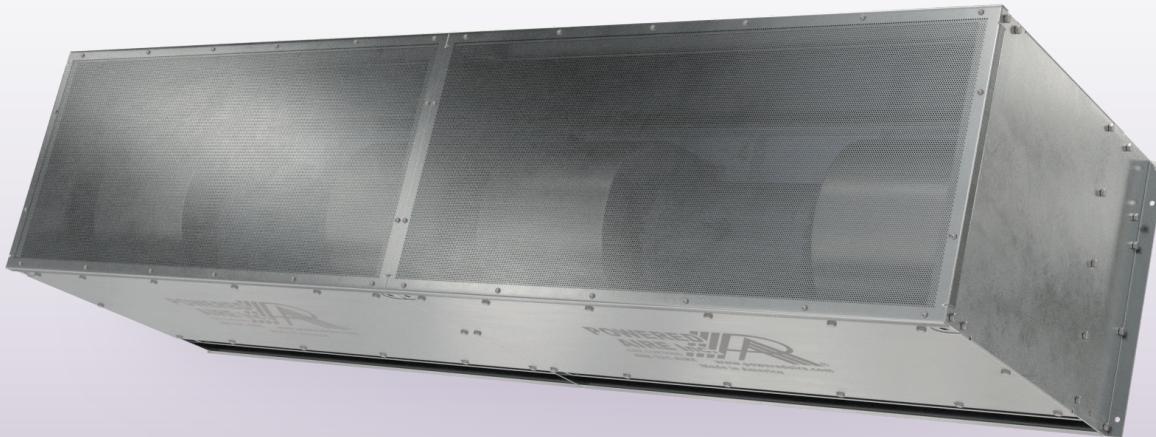
HDC

# HDC

HEAVY DUTY



The HDC air curtain is designed for use in corrosive atmospheres. This heavy duty model has 3 hp motors and is unheated. This model differs from Powered Aire's standard units by featuring a higher grade stainless steel case and stainless steel internal components for added protection against rust and corrosion. This air curtain can also be built for floor to ceiling washdown applications.



## AT A GLANCE

Single Incremental Widths

4' to 16'

Max Installation Height

17'

Heavy Duty Motors

3 HP

### KEY DESIGN FEATURES

- Heavy duty case is 18 gauge 316 stainless steel in a number three finish.
- Heavy duty Total Enclosed Aire Over (TEAO) 3 HP Dirty Duty Autophoretic motors with 316 stainless steel shafts. 1160 rpm each.
- 316 stainless steel fans and housings.
- All fastening components including screws and bolts are type 316 stainless steel.
- Air intake screen is perforated 316 stainless steel with mill grain finish.
- High efficiency discharge plenum with directional air foil vane factory set to facilitate deflection of air stream +/- 20°.
- NEMA 4X control panel constructed of 316 stainless steel.
- Optional cleanable filter

### RECOMMENDED CONTROLS

- Panel mounted HAND / OFF / AUTO switch
- Magnetic door switch for activation

### APPLICATIONS

- Maritime
- Beachfront Properties
- Manufacturing Facilities
- Swimming Pools
- Car Washes
- Pharmaceutical
- Food Processing Plants
- Any location where corrosive fumes or vapors are present

# ► HDC | PERFORMANCE

## HDC | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Max. CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Weight (lbs)
HDC-1-48	48	6200	4554	92%	1	3	342
HDC-1-60	60	5800	4855	92%	1	3	380
HDC-1-72	72	5900	5579	86.3%	1	3	400
HDC-2-96	96	6200	9108	92%	2	3	681
HDC-2-108	108	6200	9409	92%	2	3	719
HDC-2-120	120	5800	9710	92%	2	3	757
HDC-2-132	132	5900	10434	86.3%	2	3	777
HDC-2-144	144	5900	11158	86.3%	2	3	797
HDC-3-144	144	6200	13662	92%	3	3	1020
HDC-3-156	156	6200	13963	92%	3	3	1058
HDC-3-168	168	6200	14687	86.3%	3	3	1078
HDC-3-180	180	6200	14988	86.3%	3	3	1116
HDC-3-192	192	6200	15712	86.3%	3	3	1136



For a unit over 16 feet long, consult factory.

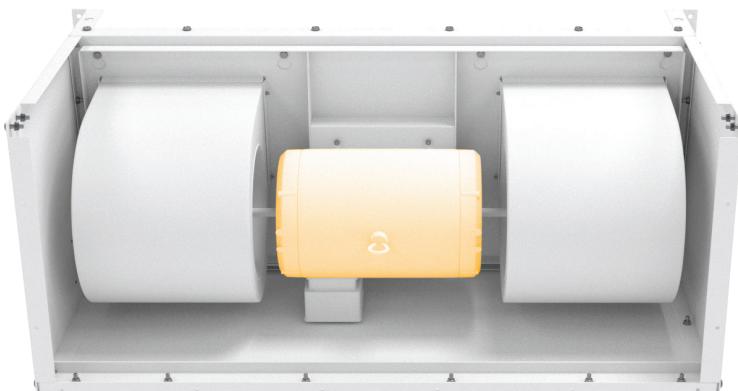
## HDC | Sound Levels

High Speed 69 dBA

Measured 10 ft. from unit in a free field based on a 1 motor unit

## HDC | Three Phase Motor Options

Voltages available	208	240	480	575 / 3 / 60
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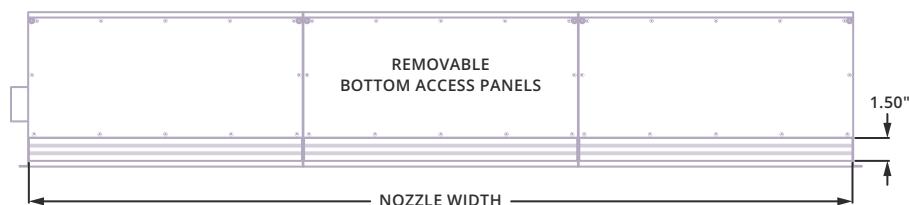
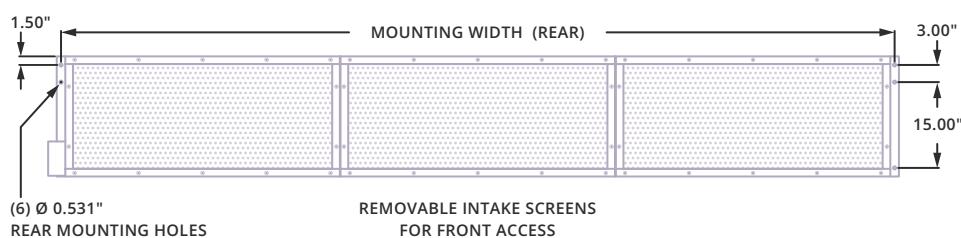
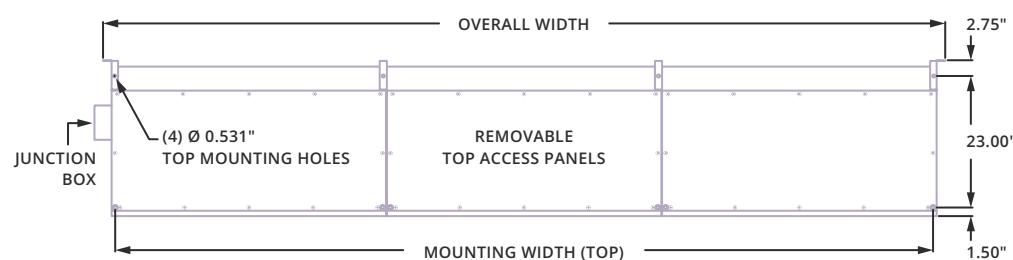
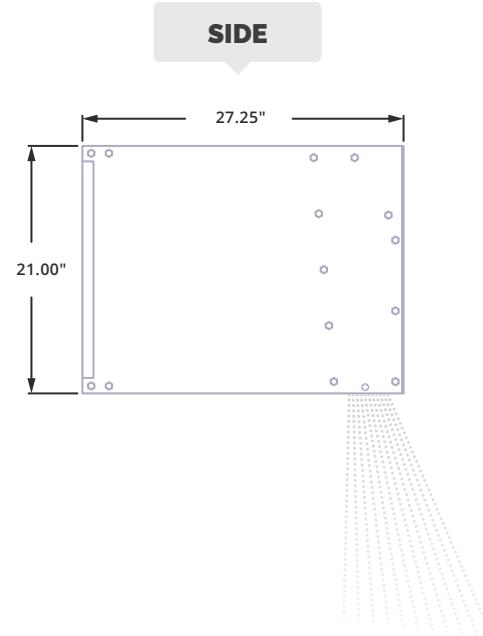
### Performance Highlight

5 HP motors are available for higher door openings

## ► HDC | MECHANICAL DETAILS & DRAWINGS

### HDC | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width Rear (in.)	Mounting Width Top (in.)
HDC-1-48	51	48	49.5	47
HDC-1-60	63	60	61.5	59
HDC-1-72	75	72	73.5	71
HDC-2-96	99.12	96.12	97.62	95.12
HDC-2-108	111.12	108.12	109.62	107.12
HDC-2-120	123.12	120.12	121.62	119.12
HDC-2-132	135.12	132.12	133.62	131.12
HDC-2-144	147.12	144.12	145.62	143.12
HDC-3-144	147.24	144.24	145.74	143.24
HDC-3-156	159.24	156.24	157.74	155.24
HDC-3-168	171.24	168.24	169.74	167.24
HDC-3-180	183.24	180.24	181.74	179.24
HDC-3-192	195.24	192.24	193.74	191.24



## ► HDC | INSTALLATION



### NOTE

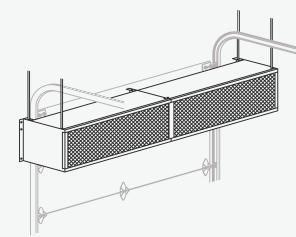
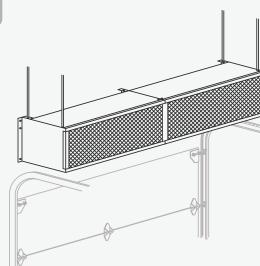
The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

#### A TOP MOUNT

Unit has four 15/32 inch holes for installing one end of 7/16" threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.

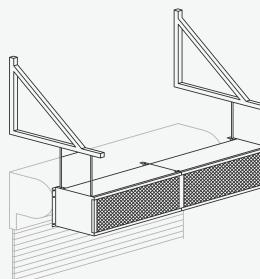
\*Powered Aire does not supply threaded rods.

#### A

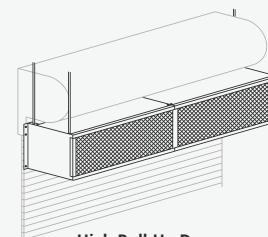


Low Turn-Back Track Door

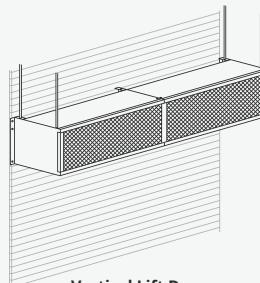
High Turn-Back Track Door



Low Roll-Up Door



High Roll-Up Door

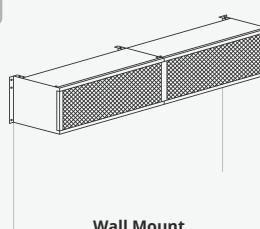


Vertical Lift Door

#### B WALL MOUNT

Rear flanges of air curtain have six holes, for six 7/16 inch bolts or lags with washers. When wall mounting use all six holes.

#### B



Wall Mount



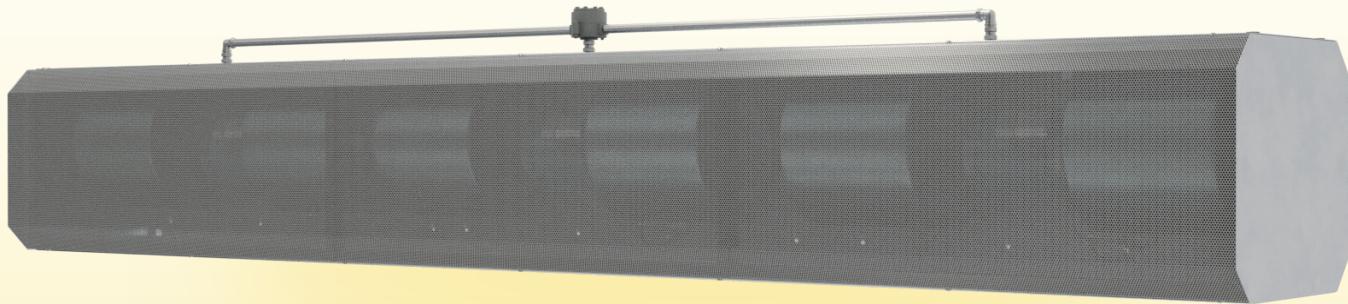
LDX

# LDX

LIGHT DUTY

**MADE  
IN THE  
USA**

The LDX air curtain provides spark resistant construction for hazardous areas. This model is unheated and is manufactured for Class I Division 1 Group C & D and Class II Group F & G hazardous areas. The Hazardous Environment air curtains have been used in dewatering, pharmaceutical, and hazardous warehousing facilities.



## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

12'

Heavy Duty Motors

3/4 HP

### KEY DESIGN FEATURES

- Case is 18 gauge 304 stainless steel in a number three finish.
- Motors are 3/4 HP explosion proof suitable for Class I Group D and Class II F&G. 1630 rpm each
- Aluminum fans. Tangential type blowers and coupling connection shall not be permitted in order to prevent sparks.
- All internal wiring is encased in hard pipe and ran to an explosion proof junction box.
- Air intake screen is perforated 304 stainless steel with mill grain finish.
- High efficiency discharge plenum with directional air foil vane factory set to facilitate deflection of air stream +/- 20°.
- Hazardous area door switch for activation.

### APPLICATIONS

- Manufacturing
- Painting
- Power Rooms
- Grain Storage Facilities
- Mining Industry
- Combustible Liquid Storage
- Locations where spark resistant equipment is required

## ► LDX | PERFORMANCE

### LDX | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Max. CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Weight (lbs)
LDX-1-36	36	4218	2899	95%	1	3/4	98
LDX-1-42	42	4218	3384	93%	1	3/4	106
LDX-1-48	48	4218	3867	92%	1	3/4	115
LDX-1-60	60	4218	4374	91%	1	3/4	125
LDX-2-72	72	4218	5803	95%	2	3/4	185
LDX-2-84	84	4218	6766	93%	2	3/4	205
LDX-2-96	96	4218	7732	92%	2	3/4	223
LDX-3-108	108	4218	8702	95%	3	3/4	271
LDX-3-120	118	4218	9668	94%	3	3/4	302
LDX-3-132	133	4218	10853	95%	3	3/4	318
LDX-4-144	145	4218	11606	95%	4	3/4	370



For a unit over 12 feet long, consult factory.

### LDX | Sound Levels

High Speed	63 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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### LDX | Motor Options

Voltages available	120	208	240 / 1 / 60	240	480	575 / 3 / 60
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## ► LDX | CONTROL PANEL OPTIONS

### If a control panel is required

#### OPTION 1

- Non-sparking construction for hazardous areas.
- Control panel shall be an explosion proof NEMA type 7 and 9, Class II, Division I and Group E, F, or G.
- Enclosure will encase magnetic motor starter, overload relays, control transformer and terminal provisions for field wiring.
- SWITCHES:  
An optional remote mounted explosion proof HAND / OFF / AUTO selector switch and an hazardous area door switch can be utilized for turning unit on while the door is open in the automatic position, or having the unit run continuously regardless of the door in the hand position if specified.

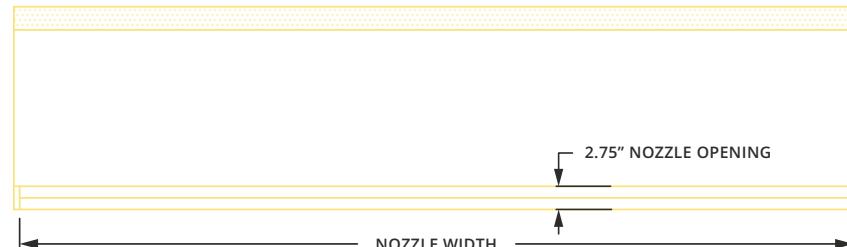
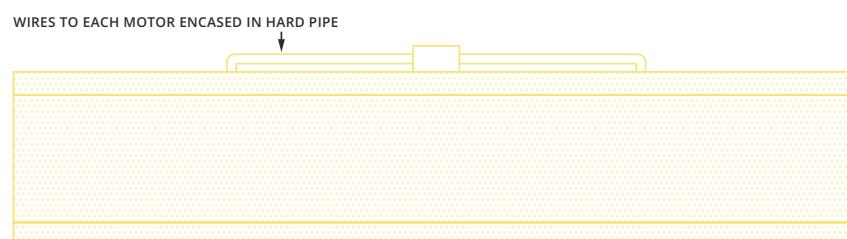
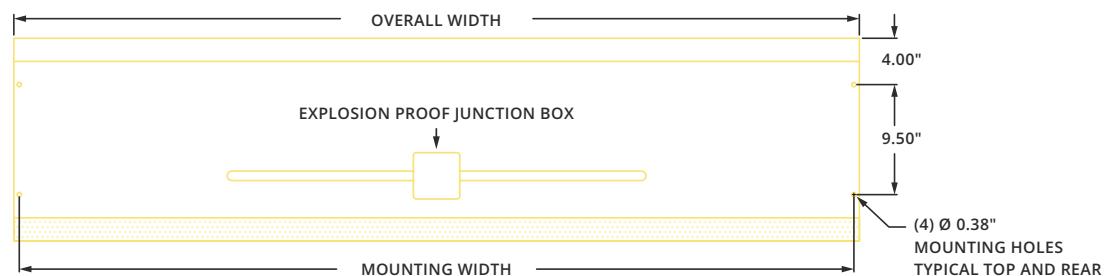
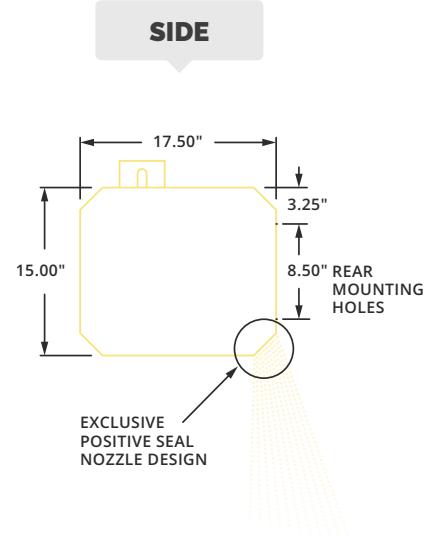
#### OPTION 2

- If standard controls are to be remote mounted in a non-hazardous area, a standard control panel and ON / OFF switch can be utilized. Standard control panel shall be a NEMA 12 enclosure.
- Enclosure will encase magnetic motor starter, overload relays, 115 volt control transformer and terminal provisions for field wiring.
- Optional ON / OFF selector switch will also need to be placed in a non-hazardous proof area if specified.
- If a door switch is required, it will need to be rated for hazardous areas.

## ► LDX | MECHANICAL DETAILS & DRAWINGS

### LDX | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width Top and Rear (in.)
LDX-1-36	37	36	36.06
LDX-1-42	43	42	42.06
LDX-1-48	49	48	48.06
LDX-1-60	61	60	60.06
LDX-2-72	73	72	72.06
LDX-2-84	85	84	84.06
LDX-2-96	97	96	96.06
LDX-3-108	109	108	108.06
LDX-3-120	119	118	118.06
LDX-3-132	134	133	133.06
LDX-4-144	146	145	145.06



## ► LDX | INSTALLATION



### NOTE

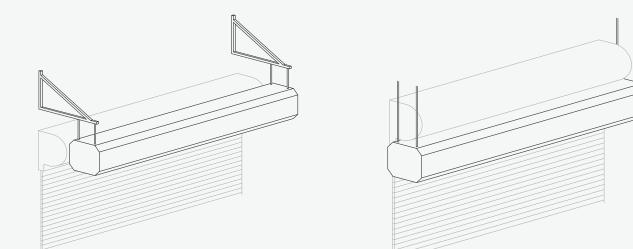
The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

### OPTION 1

#### TOP MOUNT

Unit has four 3/8-16 threaded inserts for installing one end of threaded rods. The other ends of the threaded rods can be attached to the ceiling. Threaded rod should not extend more than 3/4 inch into air curtain.

\*Powered Aire does not supply threaded rods.



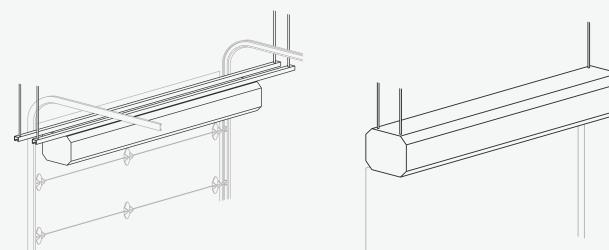
Low Roll-Up Door

High Roll-Up Door

### OPTION 2

#### WALL MOUNT

Back side of air curtain has 4 mounting holes capable of accepting four 3/8 mounting bolts or lags, with washers (use these holes only for mounting). Mark and pre-drill mounting surface accurately. A long extension ratchet will negate the need to remove the motor/blower plate when installing. Mounting bolts or lags of sufficient size and strength should be installed and tightened through the four 7/8 inch holes in motor/blower plate. If motor/blower plate has to be removed, the junction box inside the unit must be removed along with any electrical switches that may be in the way. The electrical switches have a lever that slides in one direction to release the switch contacts from the switch body. All wires will then stay intact for easy installation when replacing blower plate. Remove 7/16 whizlock nuts holding plate in place and slide plate out rotating top portion of plate so it comes out first. Remember when installing plate to put bottom of plate in first and rotate top in last.



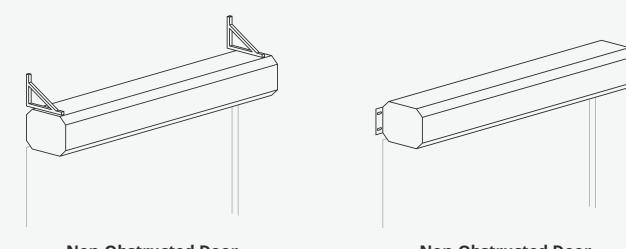
High Turn-Back Track Door

Non-Obstructed Door  
Top Mount - Threaded Rod

### OPTION 3

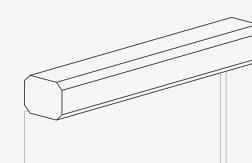
#### WALL MOUNT; EXTENSION BRACKETS

Extension brackets bolt on to the back of the unit, utilizing the 4 original mounting holes, and allowing for external mounting of unit to wall. Brackets have elongated mounting slots that extend the mounting width by 2 1/2 to 3 1/2 inches.



Non-Obstructed Door  
Top Mount - Bracket

Non-Obstructed Door  
Wall Mount - Extension Bracket



Non-Obstructed Door  
Wall Mount



HDX

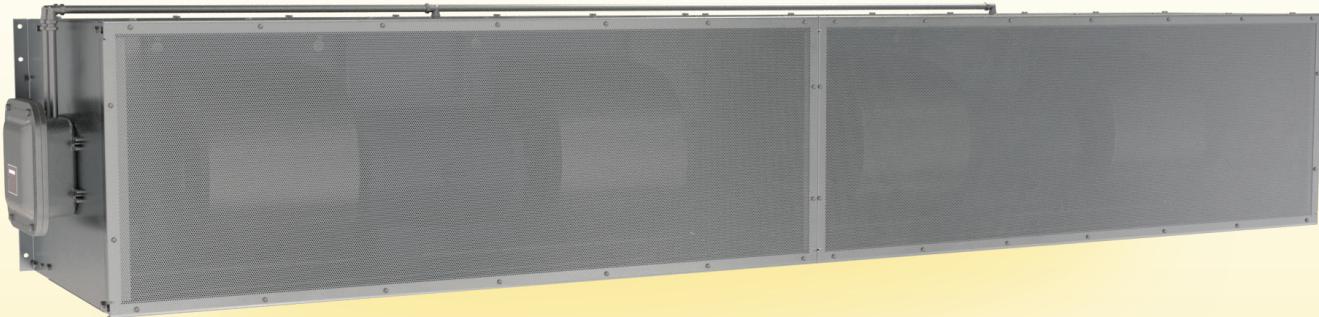
v4.2.1

# HDX

HEAVY DUTY



The HDX air curtain provides spark resistant construction for hazardous areas. This model is unheated and is manufactured for Class I Division 1 Group C & D and Class II Group F & G hazardous areas. The Hazardous Area air curtains have been used in dewatering, pharmaceutical, and hazardous warehousing facilities.



## AT A GLANCE

Single Incremental Widths

5' to 16'

Max Installation Height\*

17'

Heavy Duty Motors\*

3 HP

## KEY DESIGN FEATURES

- Case is 18 gauge 304 stainless steel in a number three finish.
- Motors are 3 HP explosion proof suitable for Class I Group D and Class II F&G. Total Enclosed Air Over (TEAO) motors 1630 rpm each.
- Aluminum fans and matched blower housings. To prevent a possible spark from occurring, no outboard bearings or flexible couplings will be acceptable.
- Access panels for motor and fan assembly so that these can be removed without lowering the unit.
- All internal wiring is encased in hard pipe and ran to an explosion proof junction box.
- Air intake screen is perforated 304 stainless steel with mill grain finish.
- High efficiency discharge plenum with directional air foil vane factory set to facilitate deflection of air stream +/- 20°.

## APPLICATIONS

- Manufacturing
- Painting
- Power Rooms
- Grain Storage Facilities
- Mining Industry
- Combustible Liquid Storage
- Locations where spark resistant equipment is required

\*5 HP option available for openings higher than 17 feet.

## ► HDX | PERFORMANCE

### HDX | Performance Table

MODEL	Nozzle Width (in.)	Max. FPM at Nozzle	Max. CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Weight (lbs)
HDX-1-60	60	5800	4855	92%	1	3	396
HDX-1-72	72	5900	5579	86.3%	1	3	418
HDX-2-120	120	5800	9710	92%	2	3	785
HDX-2-132	132	5900	10434	86.3%	2	3	805
HDX-2-144	144	5900	11158	86.3%	2	3	826
HDX-3-180	180	6200	14988	86.3%	3	3	1152
HDX-3-192	192	6200	15712	86.3%	3	3	1173



For a unit over 16 feet long, consult factory.  
A 5 HP version of model HDX is available for needs higher than 17 feet; contact factory

### HDX | Sound Levels

High Speed 69 dBA Measured 10 ft. from unit in a free field based on a 1 motor unit

### HDX | Three Phase Motor Options

Voltages available	208	240	480	575 / 3 / 60
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## ► HDX | CONTROL PANEL OPTIONS

### OPTION 1

- Non-sparking construction for hazardous areas.
- Control panel shall be an explosion proof NEMA type 7 and 9, Class II, Division I and Group E, F, or G.
- Enclosure will encase magnetic motor starter, overload relays, 115 volt control transformer and terminal provisions for field wiring.
- SWITCHES:**  
Remote mounted explosion proof HAND / OFF / AUTO selector switch and an hazardous area door switch can be utilized for turning unit on while the door is open in the automatic position, or having the unit run continuously regardless of the door in the hand position if specified.

### OPTION 2

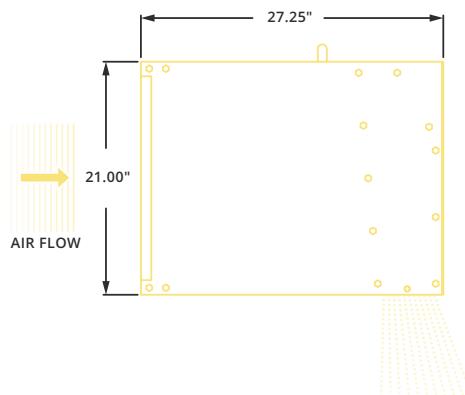
- If standard controls are to be remote mounted in a non-hazardous area, a standard control panel and ON / OFF switch can be utilized. Standard control panel shall be a NEMA 12 enclosure.
- Enclosure will encase magnetic motor starter, overload relays, 115 volt control transformer and terminal provisions for field wiring.
- ON / OFF selector switch will also need to be placed in a non-hazardous proof area if specified.
- If a door switch is required, it will need to be rated for hazardous areas.

## ► HDX | MECHANICAL DETAILS & DRAWINGS

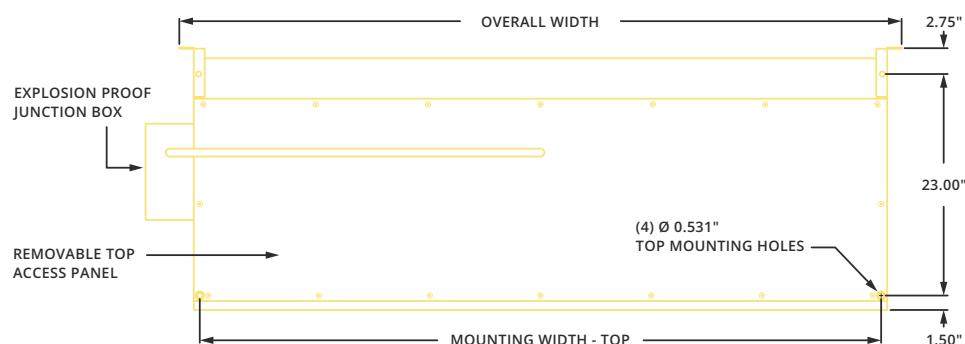
### HDX | Mechanical Information Table

MODEL	Overall Width (in.)	Nozzle Width (in.)	Mounting Width Rear (in.)	Mounting Width Top (in.)
HDX-1-60	63	60	61.5	59
HDX-1-72	75	72	73.5	71
HDX-2-120	123.12	120.12	121.62	119.12
HDX-2-132	135.12	132.12	133.62	131.12
HDX-2-144	147.12	144.12	145.62	143.12
HDX-3-180	183.24	180.24	181.74	179.24
HDX-3-192	195.24	192.24	193.74	191.24

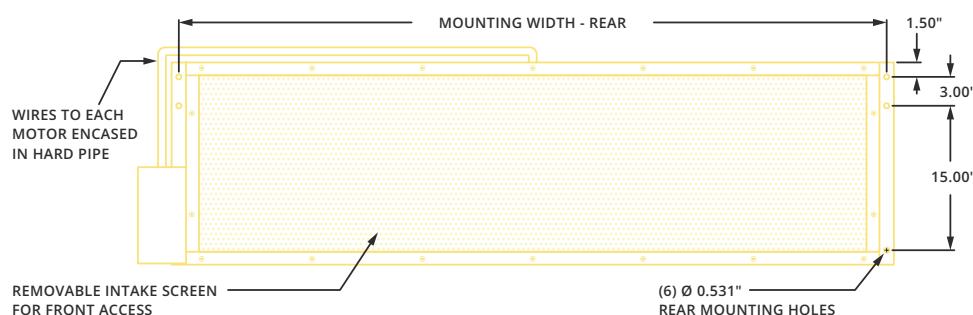
### SIDE



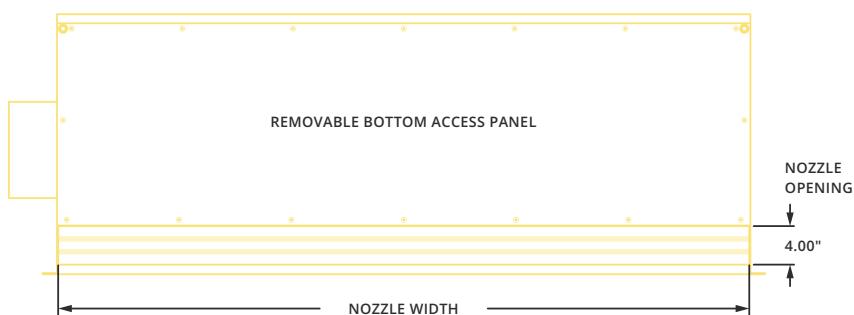
### TOP



### FRONT



### BOTTOM



## ► HDX | INSTALLATION



### NOTE

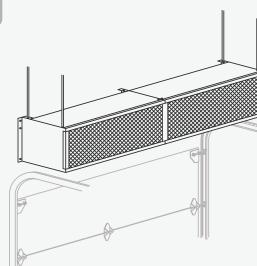
The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

#### A TOP MOUNT

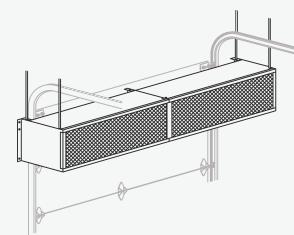
Unit has four 15/32 inch holes for installing one end of 7/16" threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers and lock washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely.

\*Powered Aire does not supply threaded rods.

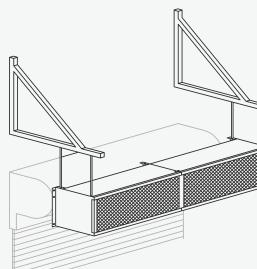
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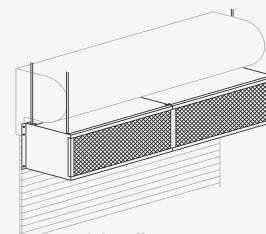
Low Turn-Back Track Door



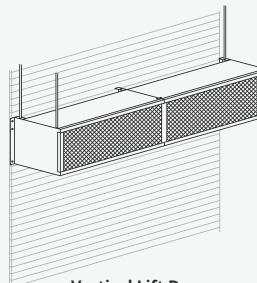
High Turn-Back Track Door



Low Roll-Up Door



High Roll-Up Door

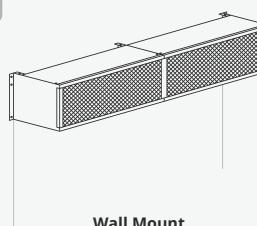


Vertical Lift Door

#### B WALL MOUNT

Rear flanges of air curtain have six holes, for six 7/16 inch bolts or lags with washers. When wall mounting use all six holes.

#### B



Wall Mount



888-321-AIRE (2473)  
PoweredAire.com

Scan for complete  
model information  
and downloads



REV



REV-E



REV-HW



REV-ST

# REV

The REV air curtain is designed specifically for revolving door applications to provide additional levels of environmental separation. The REV features a customizable nozzle that can fit the diameter of most revolving doors. The nozzle attaches to an air curtain that operates in the header area above the revolving door and the entire unit remains out of sight while providing all of the benefits of an air curtain. The REV is available with several heating options and can serve as a source of supplemental heat in lobby areas. The custom design of each unit ensures that it can blend seamlessly into a building's aesthetics while creating an effective barrier to block insects, dust, exhaust and outside air from entering.



## OPTIONS

### HEATING

Electric  
Hot Water  
Steam

## AT A GLANCE

Single Incremental Widths

3' to 12'

Max Installation Height

11'

Heavy Duty Motors

1/2 HP

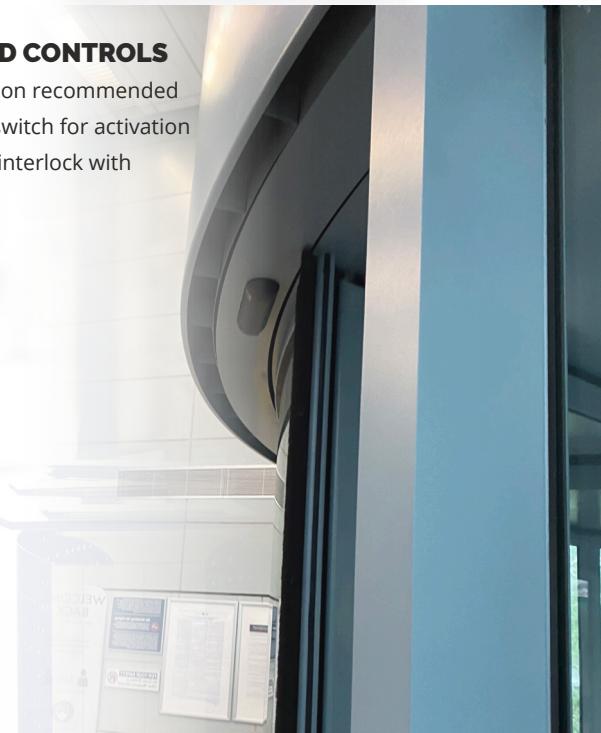
### KEY DESIGN FEATURES

- Stainless steel air curtain, galvanized extension and nozzle that can be customized to fit aesthetics of door
- Custom-built for individual revolving door. Can be color-matched to door or the interior colors of building
- Nozzle creates highly efficient plenum that maximizes distribution of air across entire opening
- Designed to fit in overhead space of revolving door (dependent on available space)
- Air curtain can be set to work in tandem with operation of door or run continuously, which is ideal in for heated units that can provide supplemental heat in areas with frigid temperatures
- Can be used on manual and automatic revolving doors
- Heavy duty 1/2 HP motors. 1075 rpm each. 50/60 cycle
- All units are direct drive, which avoids misalignment of couplers and outboard bearings and eliminates belt replacement

### RECOMMENDED CONTROLS

Continuous operation recommended

- Magnetic door switch for activation
- Dry contacts to interlock with door controller



## ► REV & REV-E | PERFORMANCE

### REV & REV-E | Performance Table

Model	Air Curtain Discharge Width (in.)	Door Opening Width Range (in.)	Max. FPM at Nozzle	Avg. FPM @ Air Curtain Discharge*	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Electric Heat			Air Curtain Weight (lbs)**
									KW	Temp. Rise (°F)	10	
REV-1-36 (E)	36	54 up to 66	5560	1205	892	88%	1	1/2		36		103
REV-1-48 (E)	48	66 up to 78	4628	1131	1108	89%	1	1/2		29		114
REV-1-60 (E)	60	78 up to 90	5096	998	1227	79%	1	1/2		26		150
REV-2-72 (E)	72	90 up to 102	5560	1205	1784	88%	2	1/2		36		200
REV-2-84 (E)	84	102 up to 114	5305	1209	2080	90%	2	1/2		31		231
REV-2-96 (E)	96	114 up to 126	4628	1131	2216	89%	2	1/2		29		255
REV-3-108 (E)	108	126 up to 138	5560	1205	2676	88%	3	1/2		36		295
REV-3-120 (E)	120	138 up to 150	5028	1176	2892	88%	3	1/2		33		336
REV-3-132 (E)	132	150 up to 162	4996	1111	3011	79%	3	1/2		32		399
REV-4-144 (E)	144	162 up to 174	5560	1205	3568	88%	4	1/2		36		400

\*As nozzles are custom per unit, the actual FPM leaving the nozzle will vary per application.

\*\*Air curtain only. Weight will increase with addition of extension and nozzle and will depend on the dimensions of the custom nozzle.

### REV | Sound Levels

High Speed	63 dBA	Low Speed	56 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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### REV | Single Phase Motor Options

Voltages available	120	208 / 230	480	575	For three phase motors, consult factory
Amp draw per motor	8.0	3.6	2.0	1.5	



### Performance Highlight

Nozzles are custom-built to match curvature of revolving door. Each nozzle can be color-matched to the door. Colors can also be selected based on interior of building/aesthetics.

## ► REV-HW & REV-ST | PERFORMANCE

### REV-HW | Performance Table

Model	Air Curtain Discharge Width (in.)	Door Opening Width Range (in.)	Max. FPM at Nozzle	Avg. FPM @ Air Curtain Discharge*	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Hot Water			Air Curtain Weight (lbs)**
									MBTU/Hour	Temp. Rise (°F)		
REV-1-36HW	36	54 up to 66	5560	1205	892	88%	1	1/2	33	34		123
REV-1-48HW	48	66 up to 78	4628	1131	1108	89%	1	1/2	40	33		134
REV-1-60HW	60	78 up to 90	5096	998	1227	79%	1	1/2	48	36		170
REV-2-72HW	72	90 up to 102	5560	1205	1784	88%	2	1/2	66	34		240
REV-2-84HW	84	102 up to 114	5305	1209	2080	90%	2	1/2	78	34		271
REV-2-96HW	96	114 up to 126	4628	1131	2216	89%	2	1/2	86	35		295
REV-3-108HW	108	126 up to 138	5560	1205	2676	88%	3	1/2	102	35		355
REV-3-120HW	120	138 up to 150	5028	1176	2892	88%	3	1/2	112	35		396
REV-3-132HW	132	150 up to 162	4996	1111	3011	79%	3	1/2	119	36		459
REV-4-144HW	144	162 up to 174	5560	1205	3658	88%	4	1/2	138	35		480

### REV-ST | Performance Table

Model	Air Curtain Discharge Width (in.)	Door Opening Width Range (in.)	Max. FPM at Nozzle	Avg. FPM @ Air Curtain Discharge*	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Steam			Air Curtain Weight (lbs)**
									MBTU/Hour	Temp. Rise (°F)		
REV-1-36ST	36	54 up to 66	5560	1205	892	88%	1	1/2	32	33		123
REV-1-48ST	48	66 up to 78	4628	1131	1108	89%	1	1/2	41	34		134
REV-1-60ST	60	78 up to 90	5096	998	1227	79%	1	1/2	49	36		170
REV-2-72ST	72	90 up to 102	5560	1205	1784	88%	2	1/2	65	34		240
REV-2-84ST	84	102 up to 114	5305	1209	2080	90%	2	1/2	76	34		271
REV-2-96ST	96	114 up to 126	4628	1131	2216	89%	2	1/2	84	35		295
REV-3-108ST	108	126 up to 138	5560	1205	2676	88%	3	1/2	98	34		355
REV-3-120ST	120	138 up to 150	5028	1176	2892	88%	3	1/2	107	34		396
REV-3-132ST	132	150 up to 162	4996	1111	3011	79%	3	1/2	115	35		459
REV-4-144ST	144	162 up to 174	5560	1205	3658	88%	4	1/2	131	34		480

\*As nozzles are custom per unit, the actual FPM leaving the nozzle will vary per application.

\*\*Air curtain only. Weight will increase with addition of extension and nozzle and will depend on the dimensions of the custom nozzle.

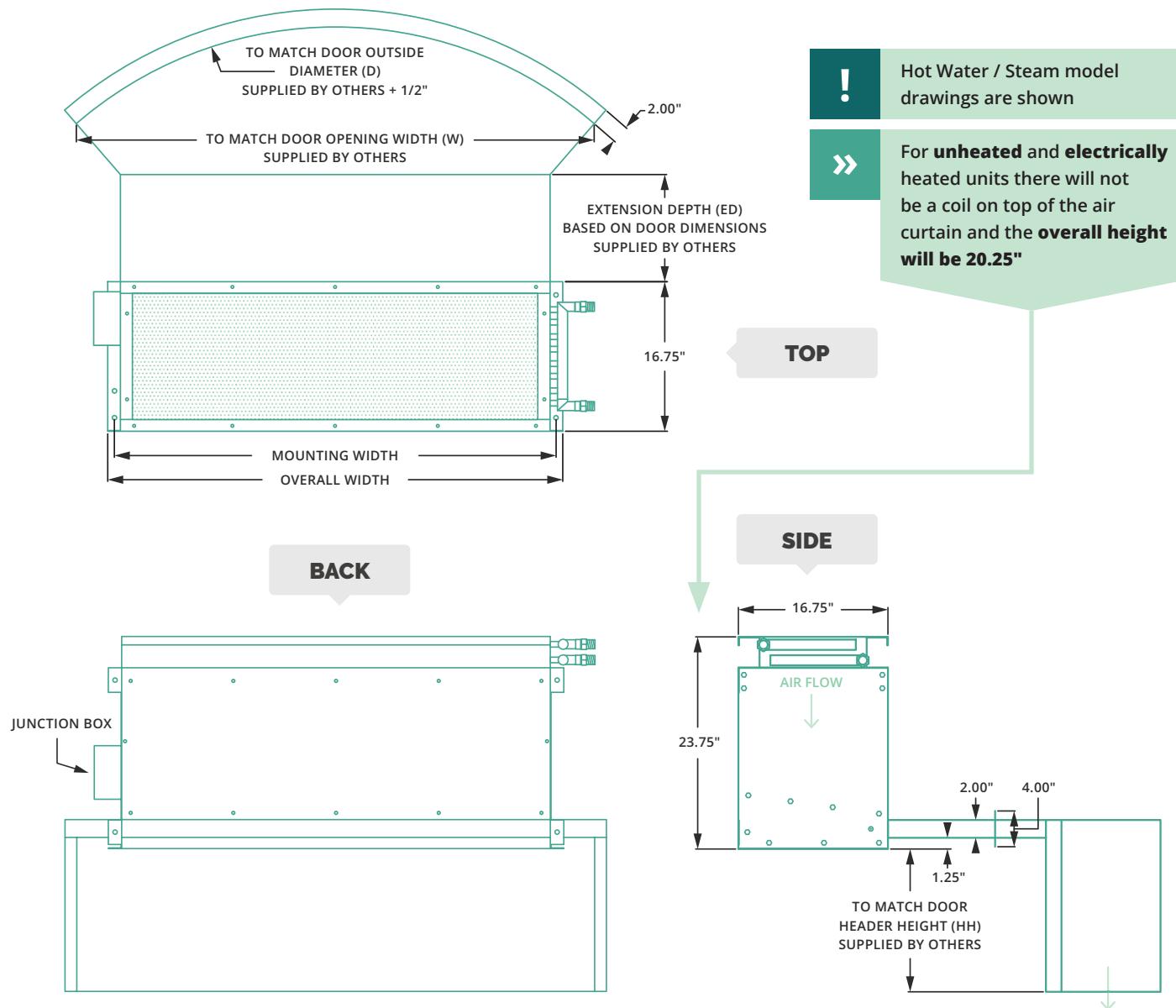
### REV | Sound Levels

High Speed	63 dBA	Low Speed	56 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit
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### REV | Single Phase Motor Options

Voltages available	120	208 / 230	480	575	For three phase motors, consult factory
Amp draw per motor	8.0	3.6	2.0	1.5	

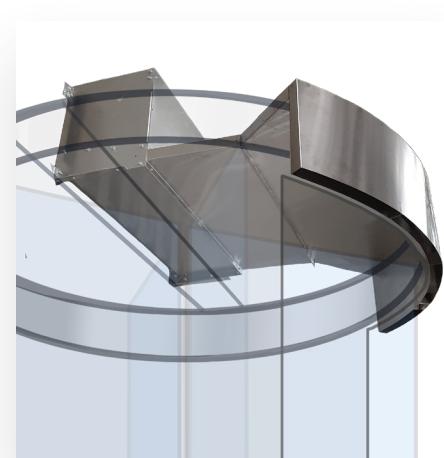
## ► REV | MECHANICALS & INSTALLATION DETAILS



! As the air curtain will be customized per door, instructions will vary for each applications.

Key installation notes to consider are as follows:

- 1 The REV will ship as a single unit but it can be disassembled prior to installation and the air curtain, extension and nozzle can be installed separately and attached on site.
- 2 Note that struts or cross bars may be necessary to provide the proper support for air curtain properly support the air curtain, extension and nozzle.
- 3 Mounting holes will be against the top of the door housing.



# Control Panel Specifications

**Control panels are to be furnished as factory assembled and wired units manufactured by Powered Aire Inc. Greenville, PA. Standard control panel shall be NEMA 12 enclosure with magnetic motor starter, overload relays, control transformer and terminal provisions for field wiring of a remote hand off automatic selector switch and a door switch. Panels shall be ETL listed.**

## ENCLOSURES

### Construction

Body formed from 16 gauge or 14 gauge steel. Covers are formed from 14 gauge steel. Smooth, continuously welded seams without knockouts, cutouts, or holes. Welded brackets provide for enclosure mounting. Continuously hinged cover is secured with stainless steel clamps and plated steel screws. Oil resistant gaskets are permanently secured. Include a removable 14 gauge inner panel. Weldnuts are provided for mounting inner panels. A bonding stud is provided on the door and a grounding stud is provided in the enclosure.

### Finish

Cover and enclosure are phosphatized and finished in ANSI/ASA 61 gray re-coatable powder coating. Removable inner panel is finished in white powder coating.

### Standards

UL508 Type 12, CSA Type 12 Complies with NEMA Type 12 and 13, JIC EGP-1-1967, IEC 529, IP65. Optional NEMA 4X stainless steel enclosures and NEMA type 9, Class II, Division I and Group E, F, or G enclosures for hazardous areas are available.

## WIRING & TERMINATIONS

All wiring shall be PVC insulated with a minimum cross sectional area of 1mm<sup>2</sup>. Where wiring is to be carried across door hinges, this shall be achieved by the use of flexible cable and cable groups shall be loomed and provided with flexible protective sheathing. All line voltage wiring shall be black. All control wiring shall be red. Termination of cables at both equipment and terminal rail end shall be by solderless crimped terminals wherever possible.

## OPTIONS

Optional equipment may include HAND / OFF / AUTO selector switch, Emergency Stop Button, Door Switch, Time Delay Off relay, indicator lights, On/Off Switch, etc.

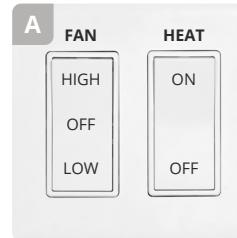


# Control Options: Switches

## COMMERCIAL APPLICATIONS

### A Decorator Switches

For remote mounting, these switches promote an attractive installation for any of Powered Aire's exposed or above the ceiling models.



### B Variable Speed Selector Switch

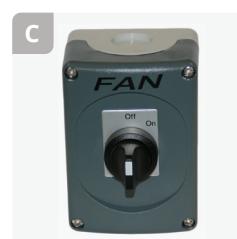
Directly varies the speed of a Mini Power air curtain or turns the unit off. Can be used with 120 and 208/240 motors only.



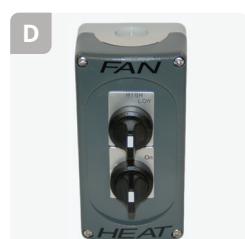
## INDUSTRIAL APPLICATIONS

### C ON / OFF Selector Switch

Switches the air curtain on and off.



3.5" H x 2.5" D x 2.78" W



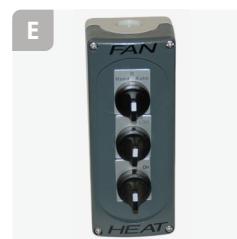
5" H x 2.5" D x 2.78" W

### D • HIGH / OFF / LOW Selector Switch

Switches between the high and low speeds or turns the air curtain off.

#### • Heat ON / OFF Selector Switch

Turns the electric heat on and off while the fans are running, or when used in conjunction with a thermostat can disable the heat.



6" H x 2.5" D x 2.78" W



## POTENTIOMETER

### F ECo-Motor™ Control

Varies the speed of the ECo-Motor from 50% to 100% for models ECE and ECC air curtains.



**SMARTTOUCH**



## PROGRAMMABLE

### G SmartTouch Control

The SmartTouch is a cost-effective, compact and multi-functional controller that can be mounted remotely or affixed directly to your Powered Aire air curtain. The user can select and set key air curtain features including temperature, fan mode, and heat control. The SmartTouch incorporates seamlessly into the majority of Powered Aire air curtains. Adjustments can be made quickly and easily to accommodate for changing conditions, seasons and user requirements.

### H AireController 3.0 Control

The AireController 3.0 includes options for heated (FAC) and unheated (CAC) air curtains. It is ideal for the daily operation of cold storage air curtains that face issues related to fog, moisture, and ice-buildup.

## Control Options: Thermostats

The thermostat turns the electric or gas heat in the unit on and off while the fans are running based on the room temperature. Can be 24 volts or line voltage.



**Low Voltage 24V AC Thermostat**



**Programmable Digital Thermostat**

A thermostat that is programmable with a digital display (7-day, 1/2 hour increments, specify up to 4 time periods per day).



**Line Voltage Thermostat**



**Locking Cover**

Limits access to the thermostat.

## Control Options: Power Circuit Protection



**Disconnect-Non Fused**

A switch that will disconnect all power from the unit so that the unit can be serviced or inspected.

**Disconnect-Fused**

A switch that will disconnect all power from the unit so that the unit can be serviced or inspected and includes fuses for circuit protection.



**Single Point Power Connection**

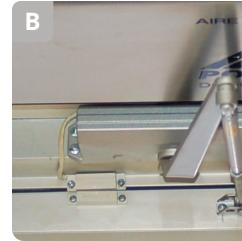
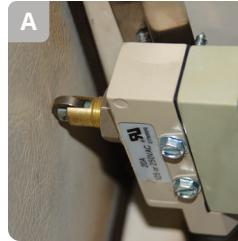
For units that would typically require more than one power source due to high amp draws according to the National Electric Code, branch fusing can be added so that the unit can be run from a single power source.

# Control Options: Activation

**Door switches are used for the automatic starting and stopping of air curtain systems, as doors open and close.**

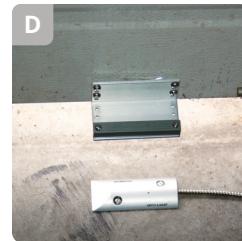
**A Combination Roller-Plunger Door Switch**

The roller/plunger combination door switch can be used to replace traditional roller and plunger limit switches. Operating force can be applied perpendicular to the switch to operate as a plunger door switch, or parallel to the switch for it to act as a roller door switch.



**B Commercial Magnetic Door Switch - SM-300**

The SM-300 magnetic reed switch consists of a magnet portion and a switch portion. The switch is mounted on the frame and the magnet is mounted on the moving door such that when the door is closed, the magnet comes in proximity of the switch. When the door starts to open the magnet will move away from the switch, closing the switch and activating the air curtain.



**C Commercial Concealed Magnetic Door Switch**

Magnetic switch that recesses into the door and frame for a clean look.



**D Industrial Magnetic Door Switch - SM-226L**

This L-shaped bracket minimizes the effect of steel door on magnets. Weather-proof die-cast aluminum switch mounts to floor and can withstand heavy vehicle pressure without damage. Flexible armored cable protects switch wiring.



**E Motion Detector**

Turns the air curtain on when sensors detect motion so that the air curtain is already operating before door is opened.

**F Built-in Time Delay Relay**

Provides a delay for shutting off the air curtain after the door closes. This is useful for doors that see a lot of foot traffic, so that the unit is not constantly turning on and off. This timer is factory set at 30 seconds but is adjustable up to 100 seconds.

**G Wobble Door Switch**

Activated by triggering a 4" flexible arm in a swiping motion. Arm automatically returns to its original position and is ready to be activated again.

# Special Options: Nozzle Extension

**When there is insufficient room between the top of the door and the ceiling to mount an air curtain or if it is not desirable to see the air curtain, the air curtain can be recessed mounted in the ceiling with the use of a custom nozzle extension supplied by Powered Aire, Inc.**



Any of our air curtains can be recessed mounted

When an air curtain is used in a recessed installation, the steering vane that is typically installed in the air curtain discharge to deflect the air stream is removed. It is instead installed on the discharge side of the nozzle extension.

The nozzle extension ships loose and is installed in the field. After the air curtain is installed above the ceiling, a slot is cut in the ceiling tile for the nozzle to slide up through from the bottom. When it is all the way through, the one inch flanges on the bottom of the extension will be flush with the ceiling.

The top of the extension is like a sleeve that fits over the discharge of the air curtain. It is attached to the air curtain using self-tapping screws fastened to the case of the unit.

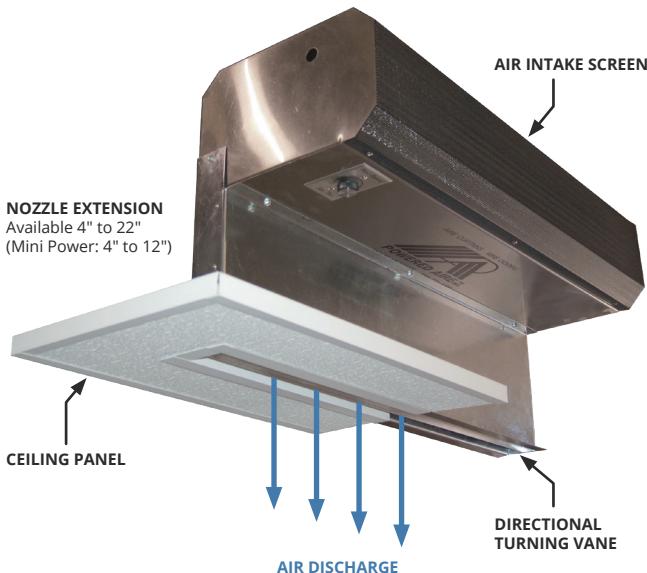
When ordering a nozzle extension, the distance the air curtain is going to be mounted above the ceiling will need to be supplied so that the nozzle extension can be manufactured accordingly. A finished trim piece (supplied by others) may be placed over the flush flanges on the exposed side of the ceiling so that the colors match. It is not recommended to use a slot diffuser that in any way obstructs the airflow.

If there is not a supply of air in the ceiling, an intake grille (supplied by others) will need to be put in the ceiling to supply return air to the air curtain. The grille should be just in front of the air curtain intake and should be large enough to provide access to the front of the air curtain for maintenance. If there is an air supply in the ceiling, it is recommended that an access panel be put in the ceiling to provide access.

The standard nozzle extension is constructed of galvanized steel but can be made of stainless steel upon request.

## AIR CURTAIN

Typical air curtain height for this application ranges from 8.5" to 16.75"



## NOTE

For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall  $\frac{1}{2}$  inch.

# Special Options: Custom Colors & Graphics

While Powered Aire takes pride in constructing its units of durable, corrosion-resistant and aesthetically pleasing stainless steel, there are instances when color and graphic options are preferred.

## POWDER COATING



Custom colors are available upon request.

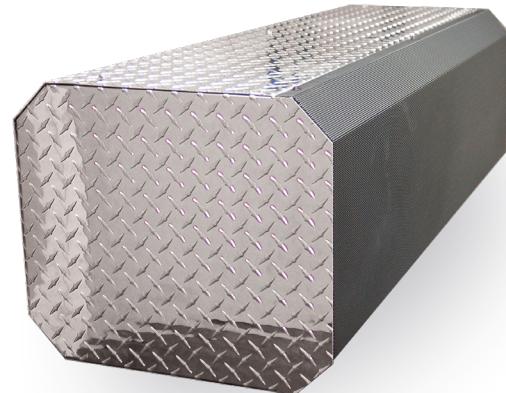
## CUSTOM DESIGN GRAPHICS

Powered Aire Inc. lets customers get creative with their units with the addition of Custom Design Graphics™. With this aesthetic option, buyers can request special colors, themes, photographs and even wood grain to make their air curtain stand out, or blend in, with its surroundings.



## DIAMOND PLATE

A Powered Aire air curtain case constructed of eye-catching diamond steel plate is perfect for industrial settings, auto showrooms and service areas, garages, sports bars and all other places auto buffs like to hang out.



# Special Options: Custom Applications

**Customizing is our specialty. Have a unique application? Just ask!**

- ✓ Custom sizes
- ✓ Heated motors for freezer applications
- ✓ Custom duct for indirect gas heated air curtains
- ✓ Baffles on discharge for air volume control
- ✓ V-bank filters on industrial units
- ✓ Special bracket designs
- ✓ Vertical mounting struts
- ✓ Extra heaters on intake
- ✓ PVC side shields

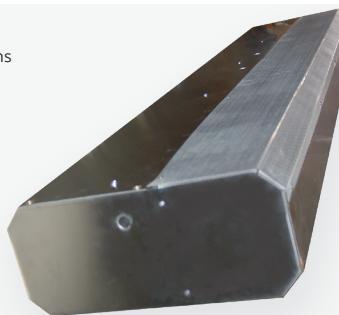
## CUSTOM DESIGN ENGINEERING

### PROBLEM

Aesthetic Concerns & Space Limitations

### SOLUTION

There was a beam that would have blocked the intake of our Mini-Power unit, so we manufactured the unit with a top air intake. This enabled the air curtain to fit between the wall and the beam without affecting the air flow.



### PROBLEM

Custom Screen Hole Pattern Required

### SOLUTION

Powered Aire can punch custom air intake screens to complement the aesthetic aspects of the application.



### PROBLEM

Aesthetic Concerns

### SOLUTION

A custom black powder coated case was constructed to blend into the ambiance of its surroundings.



### PROBLEM

Reduce Airborne Contaminants

### SOLUTION

Powered Aire can customize air curtains with HEPA filters on the air intake screen. These filters are 99.97% efficient when the particle size is .3 micron diameter or larger.



### PROBLEM

Existing Building Management System

### SOLUTION

We install an automated building control system on our air curtains for our clients.

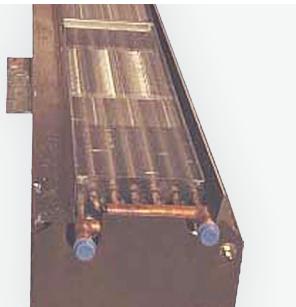


### PROBLEM

Cooling & Heating Needed

### SOLUTION

Powered Aire's chilled water air curtain system will provide an 8 to 18 degree decrease in temperature. This same unit can also be used as a hot water heated air curtain.



### PROBLEM

Corrosive Atmosphere

### SOLUTION

Powered Aire offers two lines of stainless steel air curtains for corrosive atmospheres. These units consist of a 316 stainless steel casing, fan and housing, inlet screen and discharge nozzle, and dirty duty autophoretic motors.



### PROBLEM

Explosive Atmosphere

### SOLUTION

Powered Aire offers two lines of spark resistant air curtains for hazardous areas. The units in these lines are manufactured for use in Class I Division I Group C & D and Class II Group F & G hazardous areas.



# Application Spotlight

## CUSTOM APPLICATIONS



*This custom designed Powered Aire aire curtain reduces air coming through the open door. It also redistributes the heated air from the unit heater and stratified layers for even heat throughout the area.*

### **They're Only Obstacles If You Can't Work Around them...That's Why We Call Them Solutions**

#### **SITUATION**

- The high ceiling of this major warehouse store harbored stratified heat layers. Cold air rushed in with the opening and closing of the doors, dropping the temperature to an undesirable level.
- The glass transom above the doorway was a light source and could not be blocked.
- A traditional indirect gas heated aire curtain installed above the door was not aesthetically appropriate for this retail environment.

#### **SOLUTION**

- Through research and prototype testing, a custom designed transition duct was installed to capture the heat above the transom.
- The air curtain, with a top intake, takes the air from the transition and forces it to the ground, mixing the stratified air with the heated air for even temperature distribution.
- The door is blanketed with heat that normally would have drifted out the top of the door and stops the incoming air while tempering the space.
- The end result is a reduction in the amount of infiltration and redistribution of the stratified heat layers for an even temperature within the space.
- The customer entrance remains aesthetically pleasing and provides the solution required.

# Installation: Unpacking

**Powered Aire's commitment to quality continues after the air curtain is assembled. We package your unit in a sturdy wooden crate and shrink-wrap it for its journey to your site. Please review the following instructions for unpacking your air curtain and preparing it for installation.**

## STEPS

- 1** Remove shrink-wrap and wood slats from top and side of crate. *Retain the manila envelope! It contains the O&M.*
- 2** Using a Philips head screwdriver, unscrew the truss head screws that hold intake screen in place. Save screws. Remove intake screen and filter (if supplied).
- 3** The air curtain is bolted to the bottom of the crate frame. Use a 3/8" socket with extension and remove the 4 lag bolts (one in each corner) that attach the air curtain to the skid. Unit is now ready for installation. Lag bolt holes are used to bolt the air curtain to the wall.
- 4** Replace the intake screen and screw in place. (If air curtain is to be mounted flush to the surface, do not replace intake screen until mounting is complete.)



## WHERE TO FIND...

If remote controls or switches are supplied with the air curtain they are shipped in one of the following locations:



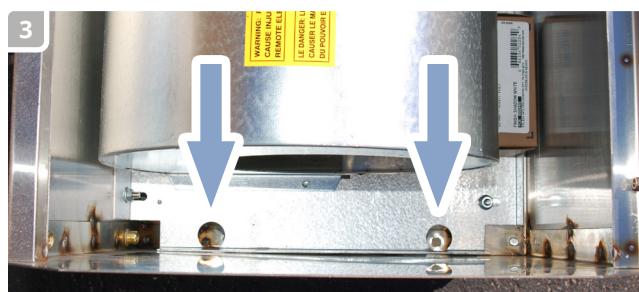
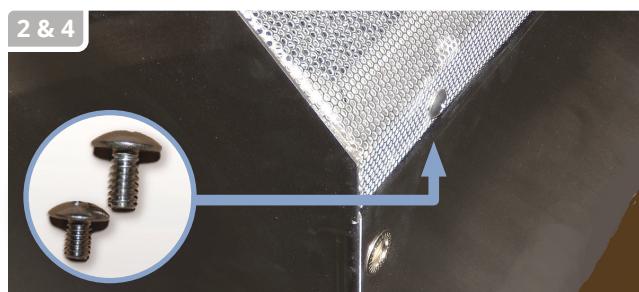
In a box inside the unit.



Inside the junction box.  
(Pictured: door activation switch)



Inside the enclosure for industrial units that are supplied with a control panel.



## IMPORTANT

- Trained and experienced mechanic / electrician required for installation.
- Powered Aire will not be responsible for misplaced switches.
- When you receive your air curtain, please check for visible or concealed damage. Claims should be made immediately to the transportation company. Powered Aire will not be liable for damage claims submitted late.

# Installation: Brackets

Mounting brackets (also called knee, angle or L-brackets) can be flush to the wall or constructed to account for a projection from the wall. They are typically used when there are obstructions to clear. For proper size brackets measure standoff distance from wall to back of where air curtain will be.

## FOR COMMERCIAL



### Standard Strut Brackets

Standard strut brackets can be constructed for installing the air curtain flush to the surface, or with a standoff distance (distance from the surface to the back of the air curtain).

## FOR INDUSTRIAL



### Angle Iron Brackets

Brackets are constructed of angle iron for larger, heavier air curtain models in the industrial lines.

\*Powered Aire does not supply threaded rods.

## FOR LARGE INDUSTRIAL



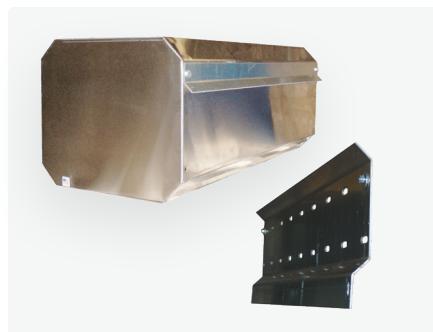
### Welded Steel Brackets

Custom welded steel tube brackets are used with Powered Aire's extremely large industrial models, or large offset distances.



### Optional Strut

When there are obstacles to go around, such as sectional door tracks, two pieces of strut can be attached to the top of the air curtain. By making the strut longer at each end they will extend past the tracks to reach the brackets.



### MB123 Quick Mounting Plate

The MB 123 consists of a plate with a universal hole pattern that is attached to the wall and a bar that is attached to the air curtain. The back side of our commercial air curtains have four standard mounting holes. The MB123 can be used when the holes do not line up with wall studs or other structural supports. With this mounting option, the weight of the unit does not have to be supported while the lags are being installed.



### LP123 Bracket

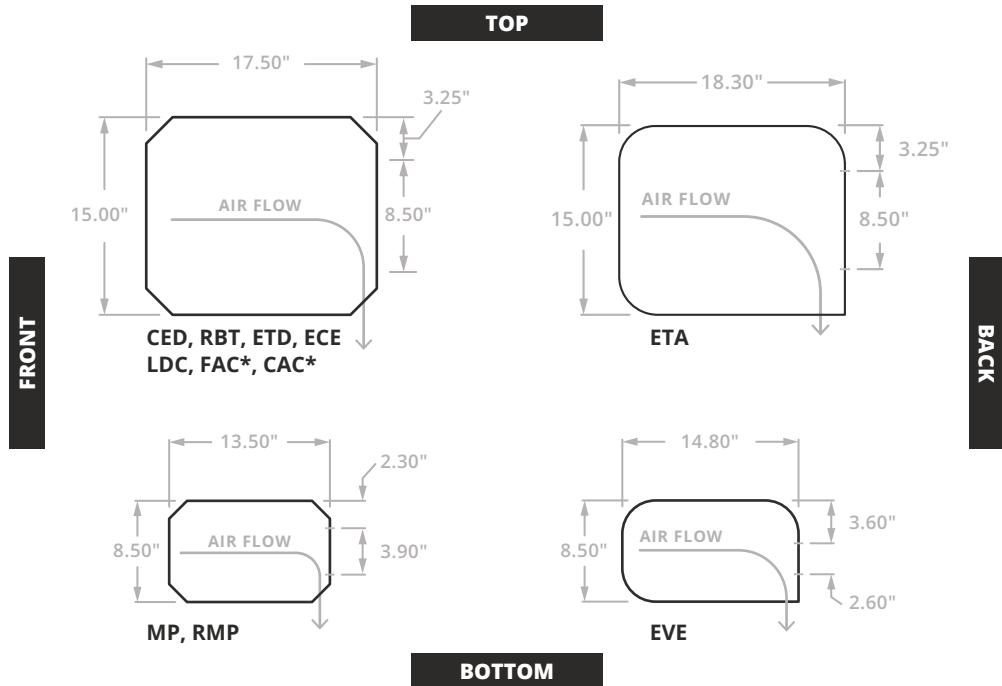
Universal mounting slots are used to lag the bracket to the wall (bolts by others). 3/8" mounting bolts (supplied) are threaded into the holes located in all four corners of the back side of the air curtain, leaving 1/2" of the bolts exposed. The air curtain is lifted into place onto the bracket so the exposed bolt heads slide into the four notches. Bolts are tightened to cause air curtain to fit snugly against bracket.

# Installation: Recommended Clearances



## Exposed Unheated & Electrically Heated Models

- TOP**  
2" Minimum
- BOTTOM**  
2" Minimum (Discharge cannot be blocked)
- FRONT**  
30" Minimum
- BACK**  
0" Minimum
- SIDES**  
1/2" Minimum  
\*FAC & CAC require 12" due to controller placement and junction box.
- FOR EVE & MP-HW/ST, CED, ETA & ECE**  
Minimum 6" on side for coils and 6" on top for junction box.



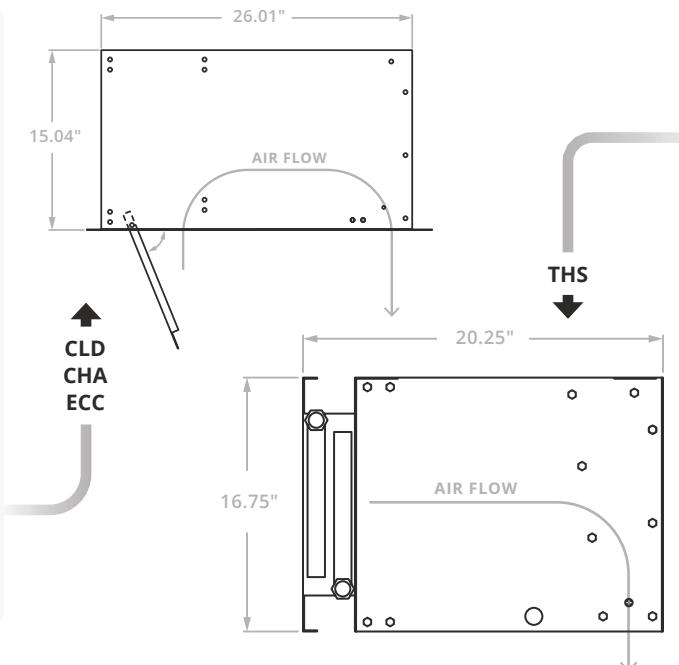
## Chameleon Series: Unheated, Electric, Hot Water, & Steam Heated Models

- TOP**  
3" Minimum
- BOTTOM**  
Access is from bottom only. Discharge cannot be blocked.  
30" Minimum
- FRONT**  
3" Minimum
- BACK**  
3" Minimum
- SIDES**  
3" minimum  
(HW/ST units, require 6" for coils)



## Hot Water or Steam Heated Models

- TOP**  
2" min. if maintenance access is from bottom or front; 30" min. if access is from top.
- BOTTOM**  
2" Minimum (Discharge cannot be blocked)
- FRONT**  
12" min. if maintenance access is from top or bottom; 30" min. if access is from front. Coil must be removed for front access.
- BACK**  
Unit can be lagged directly to wall. If not, 2" min. required.
- SIDES**  
3" minimum on side without junction box, 20" on side with J-box.



Model dimensions vary. Refer to unit mechanics for correct measurements. If you do not see your exact unit, please contact Powered Aire for clearance information: [TechnicalSupport@PoweredAire.com](mailto:TechnicalSupport@PoweredAire.com)

# Maintenance



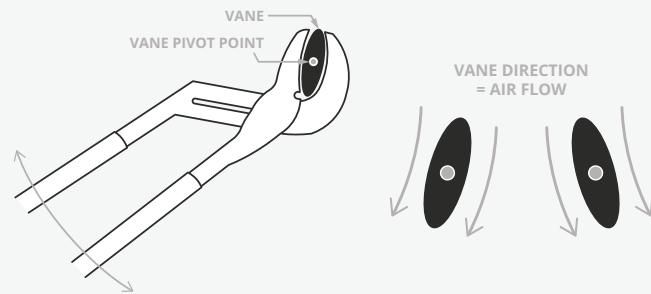
## IMPORTANT

Before any internal maintenance is performed be sure all power to unit is disconnected and locked out.

- ✓ Periodically clean return air screen and re-cleanable filter (if equipped). The interval in between cleanings will vary per location depending on the amount of particles in the air. The holes in the screen must be free from obstructions to ensure that the blowers can get enough air to function properly. To clean filter, simply flush with hot water or steam. Filters are made of rustproof aluminum or galvanized steel. After cleaning, allow the filter to dry before returning it to the unit.
- ✓ For units with a hot water or steam coil, while cleaning screens and/or filters, visually inspect the heat exchanger fins to ensure they are not clogged up or damaged.
- ✓ While doing routine maintenance, verify that the discharge steering vanes are adjusted properly. The steering vanes come pre-set from the factory and will not need adjusted in most cases. In some cases of extreme conditions such as that of high winds, the steering vanes can be adjusted to point further towards the outside to counteract the wind. For commercial units, this can be done by using pliers to grip the steering vane near the end on one side with a pair of pliers and rotate it in the direction that you want the air to flow. Repeat for the other side. The steering vane can be wrapped with a rag to prevent scratching. Industrial units that have more than one steering vane will have bolts at the ends of the vane assemblies that can be loosened on each side, then re-tightening once the vanes have been rotated.

### AIR DIRECTIONAL ADJUSTMENT:

Air curtain comes equipped with a steering vane in the discharge to allow for the outward adjustment of the discharge air direction. To adjust, first wrap a rag around the vane so it is not scratched. Grip the vane near the end on one side with a pair of channel locks and rotate it in the direction that you want the air to flow. Repeat for the other side. Periodic cleaning of the steering vane may be required. To clean it just wipe it down with a damp rag.



- ✓ Periodically do a visual inspection on the unit to ensure that the unit is not damaged and is operating properly with all motors spinning.
- ✓ Most commercial units have single phase motors that are permanently lubricated, so there are not any fittings that need greased. Industrial units and most other units with 3-phase motors will need to have the motors greased annually under normal operating conditions. Under extreme operating conditions the motors will need greased more frequently; ranging between monthly and quarterly depending on the severity of the ambient environment. There are two grease fittings per motor.
- ✓ For indirect gas heated units, maintain the unit heater per the manufacturer's installation and maintenance manual provided with the heater.



## NOTE

Note that the air curtain blowers are direct drive so there are no belts to maintain.

# Restocking Fee Policy

**For orders canceled after a purchase order has been issued and received by Powered Aire, Inc, Powered Aire, Inc. reserves the right to charge a restocking fee according to the following schedule.**

RESTOCKING FEE SCHEDULE	
Conditions of Cancellation	Restocking Fee (as a percent of invoice price)
For orders canceled, not requiring custom parts, and before being placed into production	3%
For orders canceled, not requiring custom parts, after being placed into production, but before order ships	25%
For orders canceled, requiring custom parts, before being placed into production	5%, plus cost of custom parts
For orders canceled, requiring custom parts, after being placed into production, but before order ships	25%, plus cost of custom parts
For orders that already have been shipped, that have not been installed, and not requiring custom parts	25%, if unit arrives undamaged (customer is responsible for crating and return shipping charges)
For orders that already have been shipped, that have not been installed, and requiring custom parts	25%, plus cost of custom parts, if unit arrives undamaged (customer is responsible for crating and return shipping charges)

- Once units have been installed, no returns will be allowed.
- Units that are returned damaged will not be accepted and full payment will be required.
- No returns will be allowed after 10 working days from shipment.

**Expedited Shipments** ..... Please contact the factory.

**Warranty Issues** ..... For all warranty issues please contact the factory.

**Returned Goods** ..... All returned goods must be accompanied by a Returned Goods Authorization Number

# Limited Warranty

**Scope of Warranty:** Powered Aire's products are warrantied against defects in Powered Aire workmanship and materials. Powered Aire Inc. and its employees are committed to providing our customers with the best designed and manufactured Air Curtains / Door Heaters. We welcome comments and questions regarding our products. Please contact us at Powered Aire Inc. Phone: 724-588-3305.

**Warranty Period:** Powered Aire unheated air curtains are warrantied for 60 months from the date of shipment. All other Powered Aire heated air curtains are warrantied for 24 months from the date of shipment. All warranty claims must be submitted to Powered Aire prior to the expiration date of the warranty period. All warranties cover parts only. If Powered Aire does not supply the controls for the air curtain, the unit will not be warrantied.

**Procedure to Receive Warranty Service:** Customer should take or ship prepaid the Powered Aire product requiring warranty service to Powered Aire. Contact the Home Office for authorization number. Include an explanation of the defect or problem, a description of the way in which the Powered Aire product is used, and your name, telephone number and address. Tag shipment with authorization number.

**Repair by Other than Powered Aire:** Customers who are unable to take or ship the Powered Aire product to the factory, should contact the home office. A repair by anyone other than Powered Aire authorized personnel must be approved in advance by Powered Aire.

**Repairs Outside the Scope of Warranty:** Problems with Powered Aire products can be due to improper maintenance, faulty installation, non Powered Aire additions or modifications, or other problems not due to defects in Powered Aire workmanship or materials. If the authorized Powered Aire Service Company determines that the problem with a Powered Aire product is not due to defects in Powered Aire workmanship or materials, then the customer will be responsible for the cost of any necessary repairs. Customers not satisfied with a determination that a problem is outside of warranty coverage should contact the Powered Aire Home Office.

**Repairs or Replacement Within the Scope of the Warranty:** If a Powered Aire product is defective due to Powered Aire workmanship or materials and the defect occurs during the warranty period, then Powered Aire will either repair the product or replace it with a new one, whichever Powered Aire believes to be appropriate under the circumstances. Powered Aire is not responsible for the removal and shipping of the Powered Aire product to the home office, the re-installation of Powered Aire product upon its return to the customer, or any incidental or consequential damages resulting from the defect, removal, re-installation, shipment or otherwise.

**Intended Use:** Powered Aire products are designed for industrial / commercial applications.

**Product Specifications:** All product specifications, applications and other information provided in Powered Aire's catalog and publications are subject to correction and change without notice and should be confirmed by the Home Office.

**Extended Warranties:** Extended warranties are available. They will be negotiated individually. Extended warranties are subject to the terms and procedures of this Limited Warranty and Service Policy as modified by the additional terms of the extended warranty.

**No Other Warranties and Liability Limitation:** This Limited Warranty represents Powered Aire's sole and exclusive warranty obligation with respect to Powered Aire products. Powered Aire's liability to customer or any other person shall not exceed the Powered Aire's sales price of the applicable Powered Aire Product. Powered Aire disclaims all other expenses and implied warranties including the implied warranties of fitness for a particular purpose and merchantability.

A forklift truck is shown in a warehouse setting. The truck has a yellow safety cage and a red protective curtain. The background shows shelves filled with boxes and a high ceiling with industrial lighting.

v4.2.1



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✉ [customerservice@poweredaire.com](mailto:customerservice@poweredaire.com)

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