

# AERO<sup>TM</sup>

*by Powered Aire*



## AIR CURTAIN OPERATING AND MAINTENANCE MANUAL



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## 1. INTRODUCTION

### 1.1. PRECAUTIONS, REQUIREMENTS, RECOMMENDATIONS

Detailed analysis of this documentation, as well as assembly and use of equipment, according to the descriptions contained therein, and following all safety requirements, is the basis for the correct and safe operation of the device. Any other use that contradicts this instruction may cause accidents with serious consequences. Unauthorized personnel should have limited access to the device, while the personnel should be properly trained. The term operational personnel refer to people, who, as the result of completed training, own experience and knowledge of important standards, documentation, and provisions, concerning safety and working conditions, have been authorized to carry out necessary work and are able to recognize potential hazards and avoid them. The documentation contains information concerning all possible configurations of air curtains, assembly and installation, as well as activation, use, repair, and maintenance. Provided that the device is operated according to the intended use. The documentation should be placed near the device and be readily available to the service team. The manufacturer reserves the right to introduce changes to the instruction, as well as changes to the device that affect its operation, without prior notice. Powered Aire Inc. shall bear no responsibility for on-going maintenance, inspections, programming of equipment and damage, caused by halting of equipment related to the waiting for warranty services, all and any damage related to the property on which this air curtain is installed, other than the device in question, as well as malfunctions that result from incorrect installation or improper use of the device.

Aero air curtains are intended for indoor assembly only.

### DO NOT COVER

**WARNING:** To avoid overheating - do not cover the device!

### 1.2. TRANSPORT

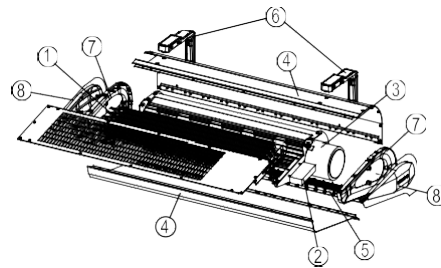
Prior to installing and taking the device out of the cardboard box, check whether the cardboard box has been damaged in any way and/or the adhesive tape (installed at the company) has not been broken off or cut. It is recommended to check that the device's casing has not been damaged in transport. Should any of the above situation occur, please contact us through telephone or e-mail: 1-800-321-AIRE or [TechnicalService@PoweredAire.com](mailto:TechnicalService@PoweredAire.com)

The device should be transported by two people. Use appropriate tools when transporting the device, to avoid the damaging of goods and potential hazard to health.

## 2. STRUCTURE

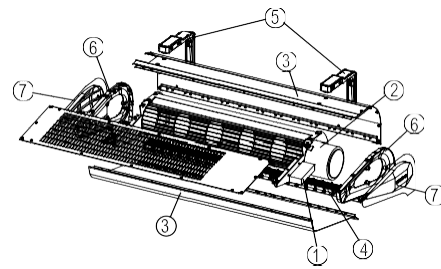
### AERO-42E,62E,82E – ELECTRIC AIR CURTAIN

1. Electric heaters
2. Control system
3. Transverse fan
4. Casing
5. Outlet grille
6. Assembly jigs
7. Side cover
8. Side cap



### AERO 42, 62, 82 – COLD AIR CURTAIN

1. Control system
2. Transverse fan
3. Casing
4. Outlet grille
5. Assembly jigs
6. Side cover
7. Side cap



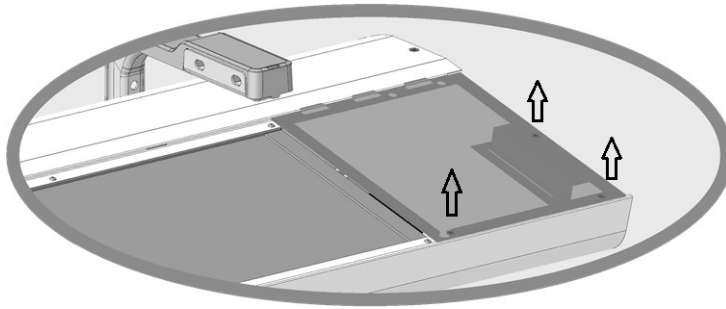
**2.1 HORIZONTAL FAN:** the maximum temperature of operation is 200°F; the rated voltage is 115\*240 V/60Hz. The motor protection level is IP44. The horizontal fan applied in the device with an advanced profile of blades and impeller geometry made of plastic makes it possible to obtain air capacities up to 2648 CFM. The control of the electric motor as well as thermal protection of the wind has been coupled with the control system which resulted in increasing safety of operation.

**2.2 INSTALLATION HANDLES:** Aero is characterized by simple, quick, and aesthetic assembly that can be performed on a wall in horizontal position. There are from 2 to 3 installation handles attached (as an option) to the curtain (depending on the width of the unit). Connections of electric wires have been specially designed not to interfere with the general aesthetic values of the device. The name Aero includes devices that are 42, 62 and 82in long that, if necessary, can be additionally joined both horizontally to achieve different air supply options: from the left to the right and the opposite. The reach of the air stream is up to 10 ft.

**IMPORTANT!** Curtains with electric heaters may only be installed in a horizontal position.

## ASSEMBLY/ DISASSEMBLY OF JUNCTION BOX COVER

To access the terminal block, remove the screws from the junction box cover and tilt it.



### 3. HORIZONTAL ASSEMBLY USING INSTALATION HOLDERS.

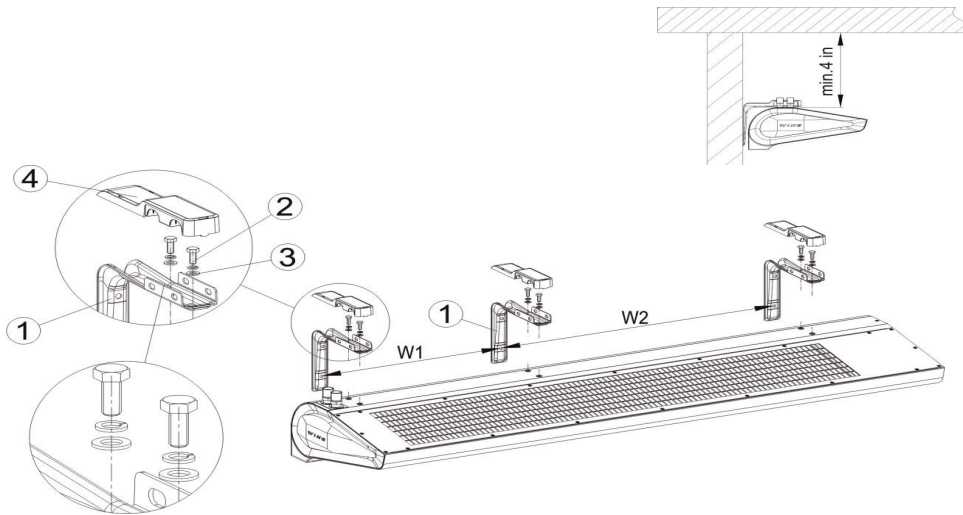
It is possible to assemble Aero to the wall horizontally in two options:

**OPTION I:** Assembling handles with their arms faced downwards.

In this option you should first screw the installation holders to the wall (1) with intervals W1 for a 42in curtain (there are 2 installation handles) and W1, W2 for 62in and 82in curtain (there are 3 installation handles) so that the handles' arms are levelled.

Then lift the curtain and assemble using screws (2) 1/4-UNC x 3/4 and plain washers (3). Tighten the screws (2) and close the handle's covers (4).

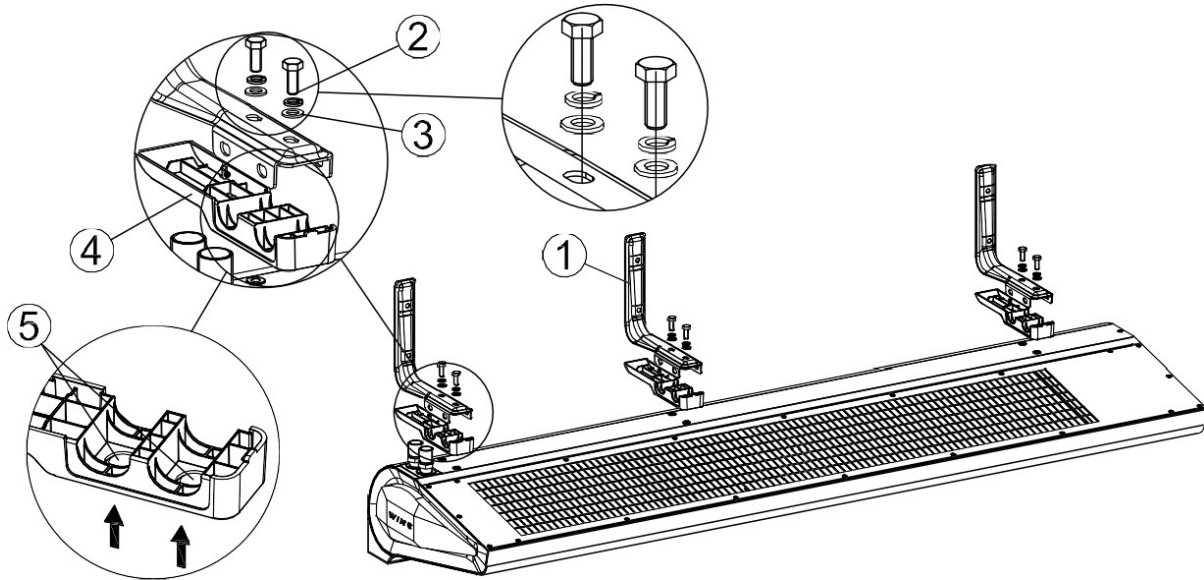
**ATTENTION!** The minimum distance between the unit and the ceiling should be 4 in.



Model	W1 (in)	W2 (in)
AERO-42 / 42E	30.05	-
AERO-62 / 62E	19.91	30.33
AERO-82 / 82E	35.83	35.42

**OPTION II:** Assembling holders with their arms faced upwards.

Assembly consists in screwing brackets to the curtain (1). To mount the brackets to the curtain, with the housing upside down, punch holes (5) from the outside in the shields (4) using a hammer. Click the shields on the brackets (1). Mount the brackets on the curtain using 1/4-UNC x 3/4 screws (2) and washers (3). This assembly option allows for mounting brackets to the curtain first, and then screwing the entire housing to the wall.



**ATTENTION!** The minimum distance between the unit and the ceiling should be 4 in.

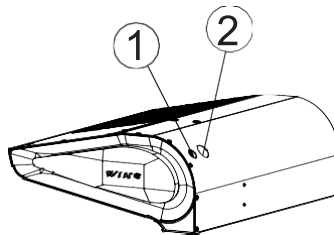
**IMPORTANT!** Aero air curtains are not intended for the installation:

- Outdoors.
- In humid rooms.
- In rooms categorized as explosive environments.
- In rooms with very high levels of dustiness.
- In rooms with a hazardous atmosphere (due to the presence of copper and aluminum structural elements in the heat exchanger and electric heaters).
- On suspended ceilings.

**4. CONNECTING POWER SUPPLY**

**IMPORTANT!** The system must be equipped with protective equipment that guarantees the disconnecting of the device on all poles of the power source.

Connection to the electric system must be performed by a duly authorized and qualified person following the supplied electrical wiring diagram. Wire passes are located on the back side of the curtain: (1) – control wire packing, (2) – power wire packing.



**IMPORTANT!**

- It is recommended to connect wires to the terminal strip with previously clamped appropriate clip ends.
- Make sure that the space around the place where the air is sucked in by the curtains, as well as around the exhaust grid, is free of any structural elements of the building, which might hamper the flow of air (e.g., suspended ceilings, covering development, ventilating ducts etc.).

## 5. START-UP, OPERATION AND MAINTENANCE

### 6.1 START-UP/PUTTING INTO OPERATION

- Prior to the commencing of any installation or maintenance work, disconnect the power supply and secure it against unintentional reactivation.
- It is recommended to verify the field wired electrical connections (of automatics, power supply), prior to the initial start-up of the device. It is advised to use an additional, external residual current protection.

**IMPORTANT!** All connections should be carried out according to this technical documentation and the documentation delivered with automation equipment.

### 6.2 OPERATION AND MAINTENANCE

- It is advised to carefully analyze all the operational and assembly guidelines listed in sections 3 and 4.
- The casing of the device does not require maintenance.
- The heater should be cleaned on a regular basis. It is highly recommended to clean before heating season with the use of compressed air from the air intake side (after removing the inlet grid). You should pay special attention to the exchanger's lamellae/ fins which are very delicate.
- The fan's motor does not require any maintenance, the only service activities that may be necessary concern cleaning the air intakes on a regular basis.
- Disconnect phase voltage if the device is shut down for longer periods of time.
- The level of air pollutants should meet the criteria allowable concentrations of pollutants in indoor air, for non-industrial areas, the level of dust concentration up to  $1.87 \times 10^{-5}$  lbs/ft<sup>3</sup>.
- Do not use the device for the duration of any construction work except for the start-up of the system.
- The equipment must be operated in rooms used throughout the year, and in which there is no condensation (large fluctuations in temperature, especially below the dew point of the moisture content). The device should not be exposed to direct UV rays.

## 6. INDUSTRIAL SAFETY INSTRUCTIONS

### IMPORTANT!

- Prior to the commencing of any work related to the device, it is required to disconnect the system, secure it properly and wait until the fan stops revolving.
- Depending on the temperature of the heating medium, pipes, elements of casing and surfaces of the heat exchanger can be very hot, even after the fan has stopped revolving.
- Sharp edges may be present! Wear gloves, protective shoes and clothing, when transporting or working on the device.
- Strictly observe safety guidelines and industrial safety regulations.
- Loads can be placed only in the previously selected areas on the transport unit. Protect the edges of the device, when lifting it, using a set of machines. Remember to distribute weight evenly.
- The equipment must be protected against moisture and dirt and kept in rooms protected against the impact of weather conditions.