

Heat Saving Systems®

Owner Manual

Air Curtain

AC400-39E8

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Liability for the contents of this manual

Please read manual prior to installation. The utmost care has been taken in ensuring the accuracy of all instructions, descriptions, parts lists, drawings and schematics contained herein. It is the responsibility of the installers to install the supplied air curtains to all local Codes and By Laws. Heat Saving Systems/Teplomash disclaims any liability for damage resulting from any inaccuracies and/or deficiencies in this manual.

Should you detect any errors or ambiguities in this manual then we would be pleased to hear from you: it helps us to improve our documentation even further.

Heat Saving Systems/Teplomash retains the right to change the specifications stated in this manual.

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Chapter 1. General Information

1.1 Introduction



IMPORTANT!

Please read this manual and all labels attached to the unit carefully before attempting to install, operate or service Air Curtain!

Check unit data plate for electrical specifications to verify compatible power requirements.

Keep this manual available at all times for operations and service personnel as well as a record of operating conditions and maintenance schedules in case of future warranty questions.

Any installation and service work of the Air Curtains can only be performed by qualified and authorized personnel.

All installations must comply with all local Codes and by laws, and inspected and approved for operation by local governing authority prior to use.

1.2 Safety Information

IMPORTANT INSTRUCTIONS!

When using electrical appliances, basic precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

1. Installation, service or electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards.
2. The Air Curtain must be grounded.
3. This Air Curtain has a heating element installed. The cover of the unit may heat up during operation, to avoid burns caution is advised if approaching the unit while it is in operation.
4. Do not leave unattended children and persons with mobility issues around the Air Curtain while it is operating.
5. In the event of a malfunction, disconnect power to the unit and a full diagnostic and service or repair by qualified personnel will be required prior use.
6. This Air Curtain is for interior use only. Do not expose to water or high humidity.
7. Disconnect the unit from the power supply before cleaning and servicing.
8. To disconnect the unit, turn controls to off, and turn off power at main disconnect panel.
9. Do not insert anything or allow debris to enter either the intake or nozzles of the Air Curtain, as this may cause an electric shock or fire, or damage the unit.
10. Do not cover or block intakes or nozzles as overheating of internal components may increase risk of fire.
11. Any electrical appliance or machine may have a risk of internal sparks. Do not install Air Curtain in the vicinity of any airborne volatile or flammable compounds, risk of fire or explosion.
12. Use this unit only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.

SAVE THESE INSTRUCTIONS!

1.3 Design and Function

Air Curtains are most often used as energy saving devices used in conjunction with the heating and ventilation system of a building. Air Curtains can be installed horizontally or vertically over an opening, typically where a temperature difference between interior and exterior is to be maintained. Though used primarily in building applications, air curtains are also used extensively outside of freezers and walk in coolers, for the same reasons, and in addition, can be used to prevent insects from entering a building.

Though they can be used as supplementary heaters, the primary, and most efficient use of an Air Curtain, is when used to create a “curtain” of air, heated or ambient, to act as a barrier over an opening; preventing external air from getting into the building, or air conditioned air from the interior, escaping to the exterior. Opening and closing doors can result in a heat loss 70 to 80%, and rooms with a correctly installed Air Curtain are two to three times more energy efficient, than a room with no Air Curtain.

Appearance of the Air Curtain **AC400-39E8**



1.4 Included with Delivery

- 1.4.1. Air Curtain.
- 1.4.2. Hardware kit.
- 1.4.3. Installation and Maintenance Instructions.
- 1.4.4. Owner Manual.
- 1.4.5. Control panel.
- 1.4.6. Remote control.

Chapter 2. Operation

2.1 Specifications

Series	AC400	
Model	-	AC400-39E8
Power supply	V/PH/Hz	208/3/60
Heat output	kBTU/h kW	27.3 8,0
Air volume	cfm m3/h	1590 2700
Max. door height	ft m	16,4 5,0
Temperature rise	°F °C	14,4 8
Length	ft mm	3,3 1000
Overall dimensions (LxWxH)	in mm	43,7x13,8x13,4 1110x 350x340
Weight	lb kg	56,22 25,5
Max unit current*	A	25,3
Max motor current	A	2,1
Motor input	hp W	0,612 450
Sound level (at 16.4 ft distance)	dB(A)	60
Motor ratings	V – PH - Hz	208/1/60
Total power input	kW Hp	9,45 12,85
MCA	A	30,5
MOP	A	35

*The maximum current of the unit in this table and on unit label is shown at the rated voltage 208V.

2.2 Operating Conditions

Room temperature not to exceed -4 to +104°F (-20 to +40°C)

Relative humidity maximum 68°F (+20°C), 80%

Interior air quality: Dust and other airborne contaminants must not exceed 10mg/m³



IMPORTANT!

Do not operate Air Curtains where air borne acids, alkalis, adhesives, flammable substances, fibrous (oleoresins, industrial fiber etc.) or any other corrosive contaminants are in the air, and/or substances that are damaging to carbon steel, or can clog impeller or air intakes.

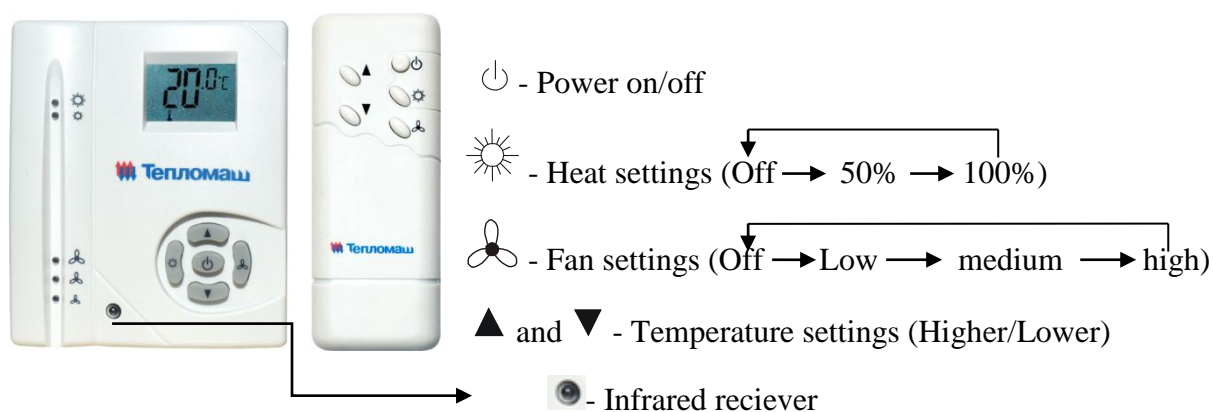
2.3 Operating Instructions

Adjusting the Air Curtain

The velocity of the air stream and heat settings can be adjusted in regard to air pressure on the doorway. This pressure forces the air stream to bend towards the interior of the room (when the room is heated and the exterior is cold). The more load caused by temperature differences and wind, the more should be the velocity of the air stream and higher the heating capacity. Air stream velocity and heat settings can be changed by the use of setting buttons on the control panel.

Air Curtain control is carried out with control panel or with remote control. There are 5 buttons, 5 light emitting diodes and LCD display on control panel:




Figure 1 Control panel and remote control



Display and Temperature settings




Room temperature is always displayed. To preset a desired temperature, press ▲ or ▼ (“hand” symbol will appear on display) until desired temperature is reached. Release button to leave setting, and thermostat will automatically return to default display after a few seconds. Temperature is set.

Under normal operating conditions the display shows room temperature (from 41°F (+5°C) to 95°F (+35°C)). If room temperature is higher than 95°F (+35°C), “HI” symbol appears.

The symbol  appears on display if the air curtain is operated in 50% heating mode, the symbols  and  appear when 100 % heating mode is turned on.

To operate the air curtain in fan mode (no heating), press ▼ until the temperature will be below ambient temperature (all heating modes are automatically disabled).

Temperature Unit Selection

Press ON/OFF () key to turn off the unit. Press simultaneous Fan () and Heat () keys, on the LCD display it will be shown the current temperature unit. Press UP/DOWN (▲ , ▼) to select temperature unit, then waiting for back to OFF mode. Press ON/OFF key to turn on the unit, now the temperature unit is changed to the new settings.

When operating the air curtain with remote control, maintain a distance of 6 m and angle of 60° to the infrared receiver on the control panel (thermostat).



IMPORTANT!

Perform the manual reset actions ONLY after Air Curtain is shut off and unit has cooled.

The control panel must be installed in the same room as the air curtain, but outside air jet zone from nozzle.

Chapter 3. Maintenance

3.1 Maintenance instructions



IMPORTANT!

Prior to cleaning or inspection make sure the power has been turned off at the circuit breaker panel and that the heating element of Air Curtain is cool.

To ensure reliable and efficient operation of Air Curtains regular maintenance is required.

All maintenance must be performed **by qualified personnel only**.

Air Curtain require cleaning when necessary at least once year. Grille, impeller and elements must be vacuumed or dried clean with a damp cloth.

Service instruction can be found in the Installation and Maintenance Instructions.

3.2 Transport, handling, storage

1. Air Curtains are packed in a cardboard boxes and/or crates, with additional interior foam protection. Packed Air Curtains can be transported by all modes of sheltered transport, with average temperature from -58°F (-50°C) to 122°F (+50°) and with the average relative humidity of 80% (at 68° F (20°C)) in accordance with instructions posted on the packaging.
2. Air Curtains should be stored in manufacturer's packaging with average temperature from -58°F (-50°C) to 122°F (+50°) and with the average relative humidity of 80% (at 68° F (20°C)) in accordance with instructions posted on the packaging.
3. Inspect Air Curtains upon receipt. Notify transport company immediately if any damage noted upon delivery.

Chapter 4. Warranty statement

The guarantee is only valid if the **Heat Saving Systems** units are used in the manner intended by the manufacturer and in accordance with the Installation and Maintenance Instructions.

Heat Saving Systems /Teplomash warranties the Air Curtain for 2 (two) years after delivery.

Manufacturer will repair or replace, free of charge, any component for the duration of the warranty period in the case of malfunction due to manufacturing defect.

Heat Saving Systems /Teplomash warranties Air Curtains and factory supplied components, against any rust penetration; to be defined as penetrate entirely through a surface, or part thereof, in or on the body of the Air Curtain.

Heat Saving Systems /Teplomash excludes liability for:

- Damage due to delivery mishandling
- Improper installation or operation
- Use of unspecified components during or after initial installation or in the course of operation
- Unauthorized modifications or additions
- Normal wear and tear of components
- Improper start up procedures as specified in the Installation and Operation Instructions
- Failure to comply with maintenance schedule (above)

All claims must be signed, and presented on installer's letterhead, accompanied by a report detailing the defect, location, operating conditions and proof of maintenance.

In the event of a warranty claim, Heat Saving Systems and Teplomash, at its own discretion, reserve the right to engage the services of an independent 3rd party mechanical or electrical consultant to inspect, service or make repairs. If such assessment determines improper installation or use, any incurred expenses maybe charged back to claimant.

[illegible]

Heat Saving Systems Air Curtains are designed and manufactured in compliance with UL STD 2021, NSF STD 37. Air Curtains are certified to CAN/CSA C22.2 STD No. 46.



Air Curtain _____

Factory number № _____

Date of manufacturing _____ L.S. _____
(signature)

Air curtain was installed and connected according to manual by:

Quality control _____
(position, print name, signature)