

# OUTDOOR COMBUSTION AIR THRU-THE-WALL INSTALLATION INSTRUCTIONS

(FOR A SINGLE LOW-INTENSITY GAS-FIRED INFRA-RED TUBE HEATER)

COMBUSTION AIR KIT #132336

These instructions may not cover all details or variations in this equipment, or cover every possible situation to be met in connection with installation, operation or maintenance. Should problems arise that are not covered sufficiently in these instructions, the purchaser is to contact the engineering department at 1-800-223-5335, ext. 117.

## **WARNING**

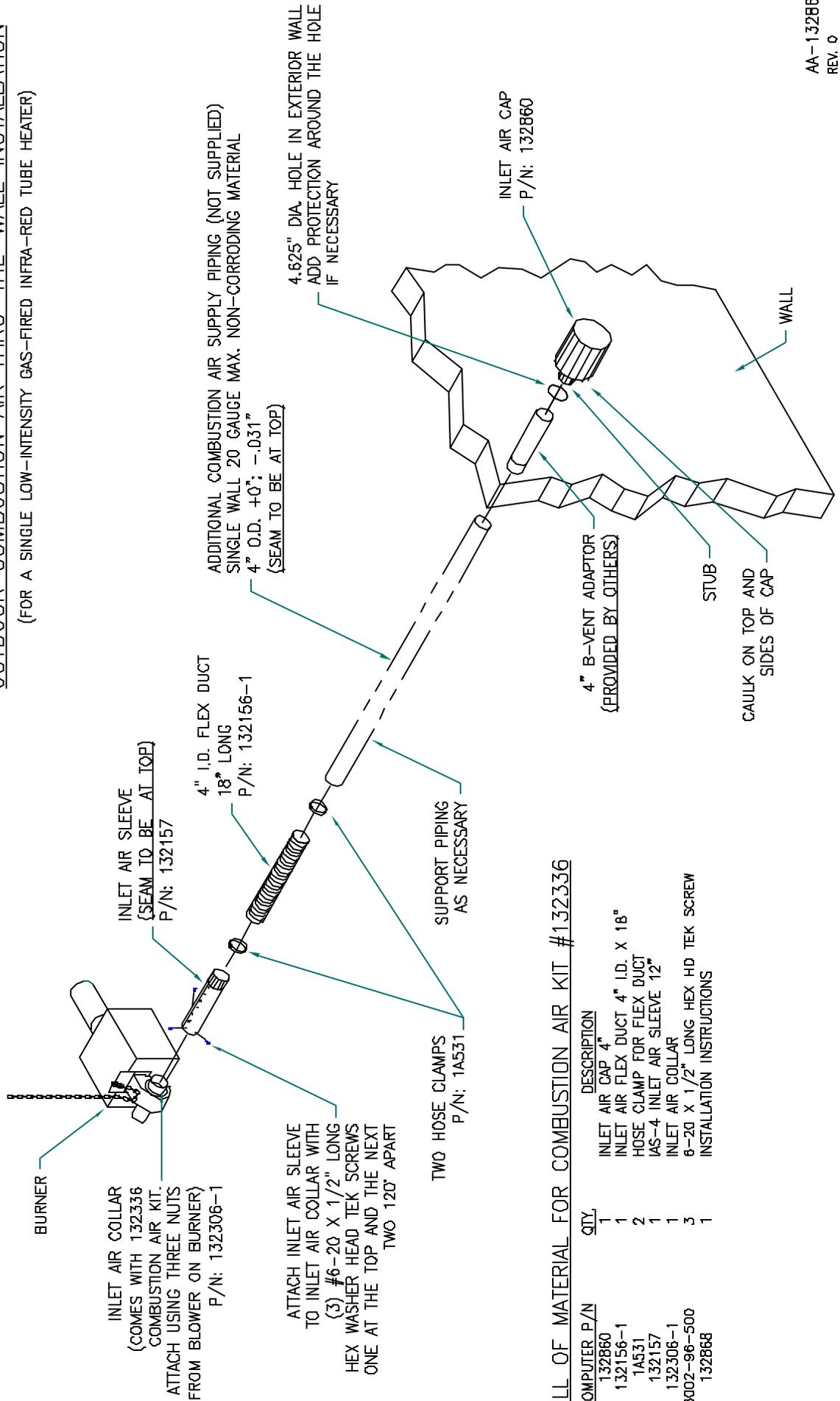
Read all instructions carefully before attempting to install, operate or service this appliance. Failure to follow installation, operation and maintenance instructions or any substitution of factory installed parts without prior written permission of Solaronics, Inc. will void all warranties. Failure to comply with this procedure may result in unsafe operation, personal injury, fire, asphyxiation and/or death.

Before the installation of any suspended heating system, careful consideration must be given to the combustion air arrangement when it is supplied from the outdoors thru-the-wall. CSA design certification is based on the following requirements:

- A. For single-stage systems rated at 40 to 125 MBTUH, total linear (straight) pipe run must not exceed 35 feet. A 90° elbow is equivalent to 10 linear feet. A 45° elbow is equivalent to 5 linear feet. No more than two 90° elbows or four 45° elbows are permitted.
- B. For single-stage systems rated at 130 to 200 MBTUH, total linear (straight) pipe run must not exceed 40 feet. A 90° elbow is equivalent to 10 linear feet. A 45° elbow is equivalent to 5 linear feet. No more than two 90° elbows or four 45° elbows are permitted.
- C. For two-stage systems, total linear (straight) pipe run must not exceed 20 feet and may not contain more than one 90° elbow.
- D. A minimum 12 inch long inlet air sleeve must be used and fastened to the inlet air collar on the blower inlet.
- E. An 18 inch length of 4 inch I.D. flexible duct is required and is secured by a hose clamp at each end; one end being on the inlet air sleeve.
- F. Any additional combustion air piping (not supplied) must be maximum 20 gauge single wall non-corroding material 4 inches O.D. +0" / -.031" to fit properly inside the flex duct and over the 4" B-vent adaptor.
- G. The inlet air cap (p/n: 132860) is approved for use with these heaters. No substitutes are permitted.
- H. If all the above mentioned components are supplied by other than the heater manufacturer, they must be identical to those specified herein. No substitutes.
- I. Never remove the system's blower and reinstall it upside down in an attempt to accommodate the combustion air supply. This will change the air flow characteristics within the system, pressure settings, etc. and can adversely affect its performance.
- J. Never come directly off the blower inlet air collar with a 90° elbow.

# OUTDOOR COMBUSTION AIR THRU-THE-WALL INSTALLATION

(FOR A SINGLE LOW-INTENSITY GAS-FIRED INFRA-RED TUBE HEATER)



## BILL OF MATERIAL FOR COMBUSTION AIR KIT #132336

COMPUTER P/N	QTY	DESCRIPTION
132860	1	INLET AIR CAP 4"
132156-1	1	INLET AIR FLEX DUCT 4" I.D. X 18"
1A531	2	HOSE CLAMP FOR FLEX DUCT
132157	1	IAS-4 INLET AIR SLEEVE 12"
132306-1	1	INLET AIR COLLAR
6002-96-500	3	6-20 X 1/2" LONG HEX HD TEK SCREW
132868	1	INSTALLATION INSTRUCTIONS

## OUTDOOR COMBUSTION AIR THRU-THE-WALL INSTALLATION INSTRUCTIONS

1. Prior to hanging the burner, attach the inlet air sleeve (p/n: 132157) to the blowers' inlet air collar with three (3) #6-20 x ½" long hex washer head tek screws. THE SEAM ON THE INLET AIR SLEEVE MUST BE ON TOP. The uncorrugated end slides over the inlet air collar. The first tek screw is directly on top and the next two (2) tek screws are 120° apart. This ensures that no screws are positioned at the bottom of the tube.
2. Slide one of the hose clamps (p/n: 1A531) over the 4" I.D. flex duct (p/n: 132156-1) and then slide the flex duct over the corrugated end of the inlet air sleeve up to the first pop rivet on the flat part of the sleeve. Place the hose clamp approximately 1" from the end of the flex duct and tighten it up.
3. Slide the other hose clamp over the other end of the flex duct and lightly tighten the hose clamp to the flex duct so it will not fall off when handling the burner for hanging.
4. Lift the burner into place and install per the heater manufacturer's instruction manual.
5. Determine the best location for the inlet air cap in relation to the flex duct to minimize the use of elbows and maintain the total linear foot requirements indicated in statements A, B and C. Note: The flex duct should never have a smaller centerline bend radius than 6.25".
6. Place a 4.625" dia. Hole in the exterior wall using appropriate methods and tools for the type of wall material used in the building. If necessary, depending on the thickness of the wall and exposed insulation, etc. additional protection should be added to the hole.
7. Prior to mounting the inlet air cap to the exterior of the wall, attach a 4" B-vent adaptor (provided by others) to the inlet air cap.
8. The inlet air cap may be mounted flush against the wall or may extend beyond the wall supported by the inlet air piping and 4" B-vent adaptor (provided by others).
9. Use a weatherproof caulking or sealant around where the inlet air cap or the inlet air sleeve meet the exterior wall. (Recommended: Dow Corning clear silicone rubber general purpose sealant – meets federal specification TTS-001543A.)
10. Complete the installation with 20 gauge single wall non-corroding 4" O.D. +0" / -.031" piping (not supplied) between the end of the flex duct coming off the blower and the 4" B-vent adaptor (provided by others) at the inlet air cap as required. (THE SEAM ON THE PIPE MUST BE ON TOP).
11. Tighten the second hose clamp and fasten any other joints using the method described in step 1.
12. The combustion air piping (not supplied) must be well supported since additional stress may be encountered due to expansion. The flex duct will give the flexibility needed for expansion.
13. It may be necessary to insulate the piping to eliminate condensation of warm inside air. (Recommended: 1" thick, 4: I.D. urethane foam pipe insulation, pre-slit, meets ASTM E-84 flame and smoke standards.)