

**INSTALLATION INSTRUCTIONS FOR OUTDOOR AIR DAMPERS
 USED WITH KG/KC/KH/LGH/LCH/ZG/ZC/ZH 024-090 UNITS**

Note - Disregard shipping and packing list and installation sections when dampers are factory-installed.

Shipping and Packing List

Package 1 of 1 contains:

- 1- Outdoor air damper (OAD) assembly
- 1- Outdoor air hood - shipped in the unit return air section when damper is factory-installed
 - 1-Hood top
 - 2-Hood sides
 - 1-Hood front
 - 1-Mist eliminator filter
 - 1-P/J39 Adapter (604442-08 kit only)
 - 1-Bag assembly containing:
 - #10 Sheet metal screws
 - Roll of foam tape
 - Wiring diagram (604442-03 to 06 kits only)


Check parts for shipping damage. Receiving party should contact last carrier immediately if shipping damage is found.

Application

Optional outdoor air dampers provide fresh outdoor air. See table 1 for usage.

Manual dampers are adjusted manually and remain in that position.

Motorized dampers open to a set position, as shown in the "Determine Fresh Air Percentage" section, when the blower is operating. To operate the dampers only during the occupied time period, an optional thermostat or energy management system must be installed when a unit is not equipped with a Unit Controller. Both blower operation AND an occupied signal are required for dampers to energize. Thermostat must provide a set of normally open dry contacts which close to provide 24 volts during the occupied time period.


WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier

TABLE 1

Unit	Cat. No.	
	Manual Damper	Motorized Damper
LGH/LCH036, 048	53W34 604442-01	53W35 604442-03
LGH/LCH060, 072	53W37 604442-02	53W38 604442-04
KG/KC 024-060 KH 024-048	53W34 604442-01	79W95 604442-05
KG/KC 072, 090 KH 060, 072	53W37 604442-02	79W96 604442-06
ZG/ZC/ZH 036-060	95W73 604442-07	95W74 604442-08


CAUTION

Danger of sharp metallic edges. Can cause injury. Take care when servicing unit to avoid accidental contact with sharp edges.

Install Damper Assembly

- 1- Disconnect all power to unit.
- 2- *LGH/LCH/KG/KC/KH Units -*
 Remove and retain screws securing end panel to top of unit. See figure 1. Remove and discard end panel.

ZG/ZC/ZH Units -
 Remove and discard unit back panel. Retain two door brackets which secure panel. See figure 2.

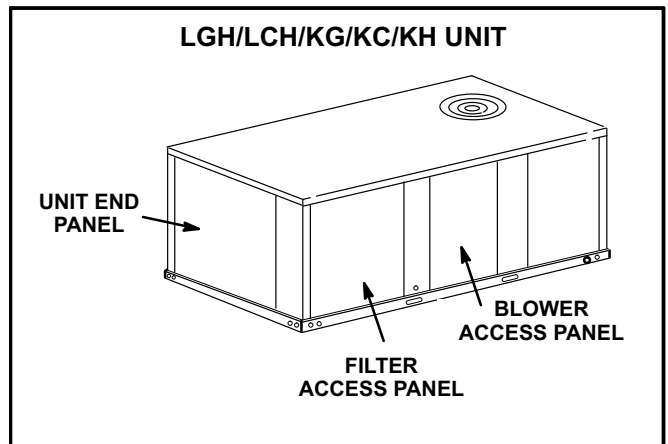


FIGURE 1



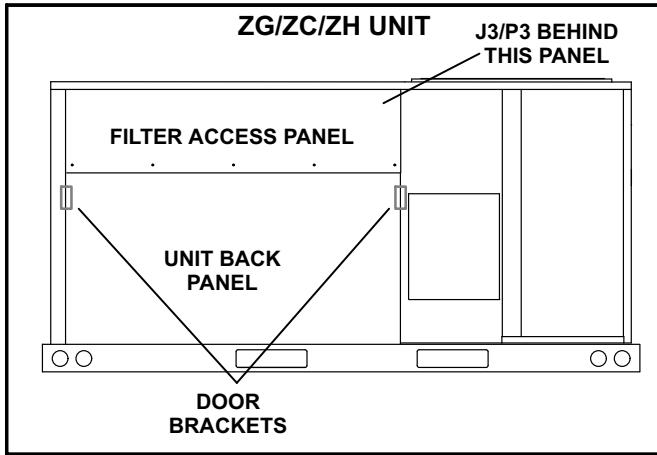


FIGURE 2

3- LGH/LCH Units Only-

Install damper assembly in unit; insert top of panel first. Secure top of assembly with retained screws and bottom of assembly with #10 screws. See figure 3.

ZG/ZC/ZH Units Only-

Install damper assembly in unit. Hold door brackets in place and secure damper assembly and brackets to unit with (2) screws in each door bracket. Secure the bottom of the assembly with #10 screws and re-install filter access panel.

4- Motorized Dampers Only -

A-LGH/LCH/KG/KC/KH Units Only -

Affix wiring diagram section to inside of compressor panel. Position to the right of the "C" control section diagram.

B-KG/KC/KH Units Only -

Make sure the thermostat or energy management system occupied/unoccupied output is connected to unit TB1 terminals R and OC. Refer to "C" and "D" wiring diagrams. TB1 is located above the compressors.

C-ZG/ZC/ZH Units Only -

Make sure the thermostat or energy management system occupied/unoccupied output is connected to control box low voltage pigtailed labeled R and OC. See wiring diagram on unit.

D-Remove filter access panel and locate unit jack J3. On KG/KC/KH/ZG/ZC/ZH units, remove P3 jumper plug from J3 unit jack and retain for future troubleshooting. Connect J3 to motorized OAD plug P4 or P39. P/J39 is provided with ZG/ZC/ZH kits. Remove dampers from manual damper assembly. See figure 4.

5- Replace filter access panel and apply power to unit.

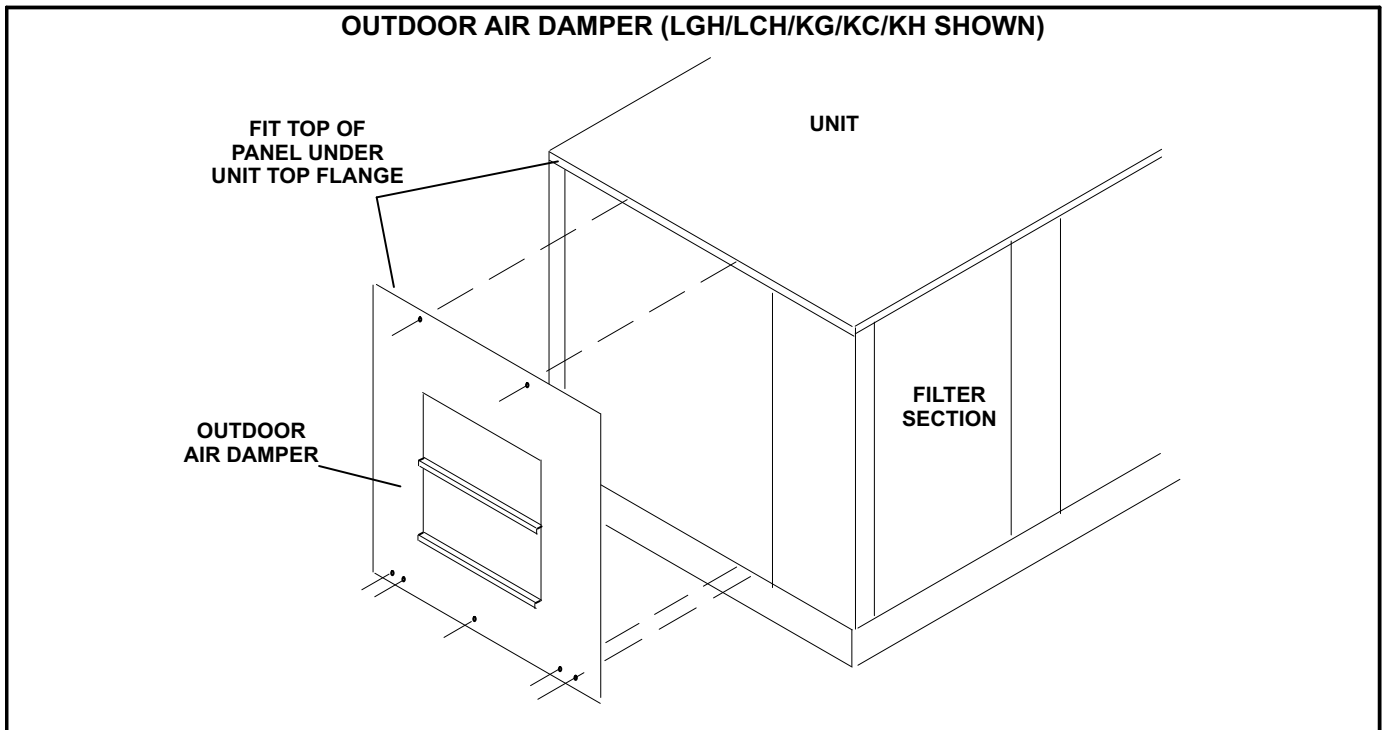


FIGURE 3

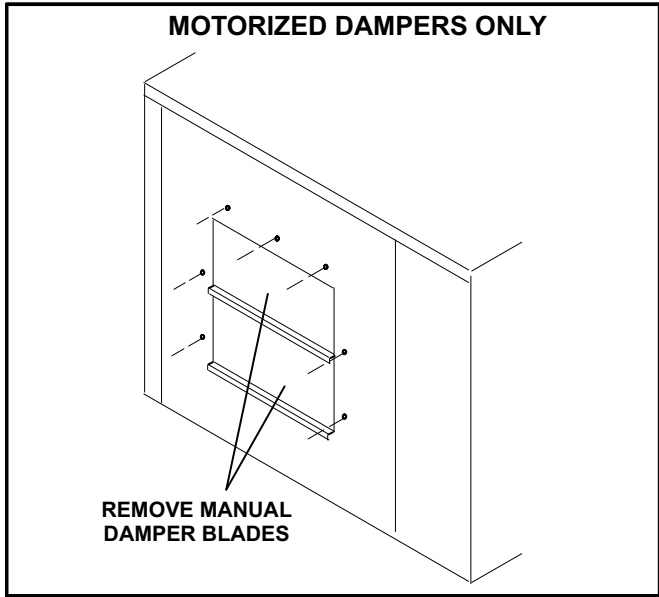


FIGURE 4

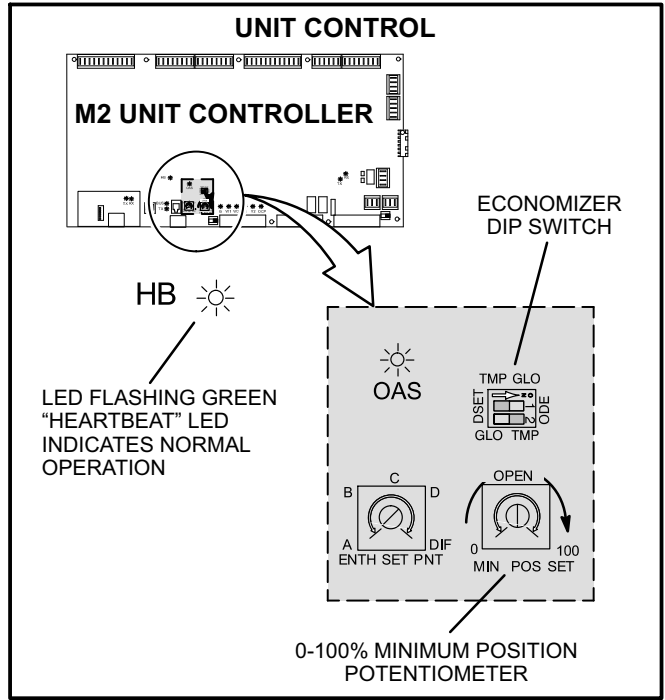


FIGURE 5

Determine Fresh Air Percentage

Fresh air percentage is determined in the same manner for both manual and motorized dampers.

Measure fresh air percentage according to the following steps and adjust dampers to the specified amount.

- 1- Set damper to allow approximate amount of outdoor air into the unit.

Manual Dampers -

Loosen screws on both sides of dampers and slide to open dampers.

LGH/LCH Units With Motorized Dampers -

Locate the Unit Controller in the main control area. See figure 5. Set the DIP switch to "DSET" position as shown in figure 6. Adjust MIN POS SET potentiometer to open damper to desired air percentage.

KG/KC/KH/ZG/ZC/ZH Units With Honeywell Actuator - Adjust thumbwheel to open damper to desired air percentage. See figure 7.

KG/KC/KH/ZG/ZC/ZH Units With Interlink Actuator - Damper stops are factory-set at 100% outdoor air and are adjustable in five degree increments. To adjust fresh air percentage, remove retainer clip and adjust damper stop to desired air percentage. See figure 8. Replace retainer clip.

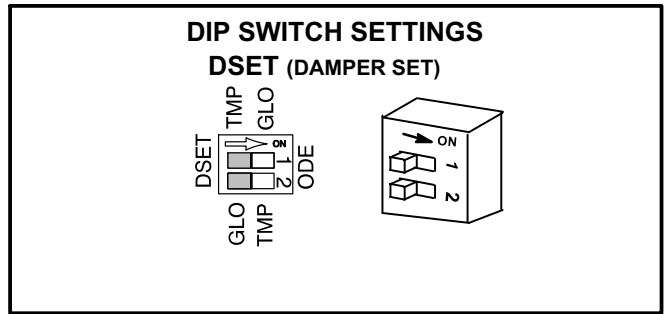


FIGURE 6

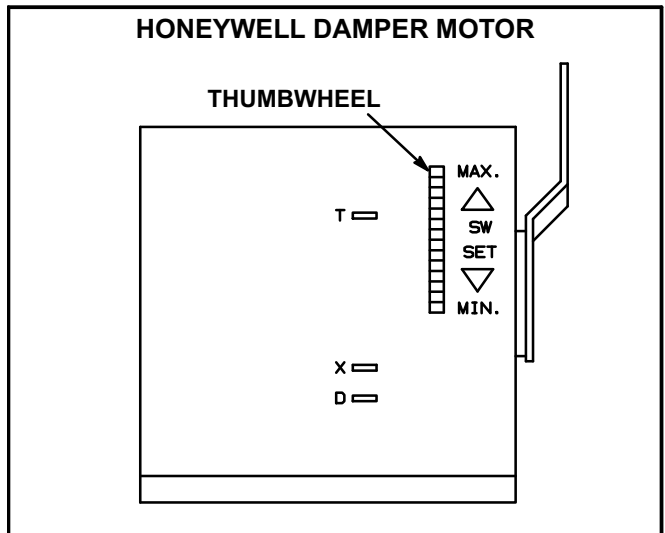


FIGURE 7

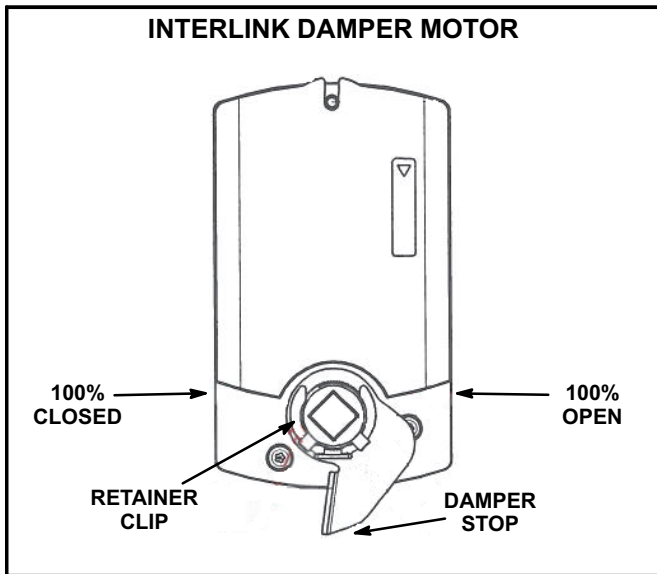
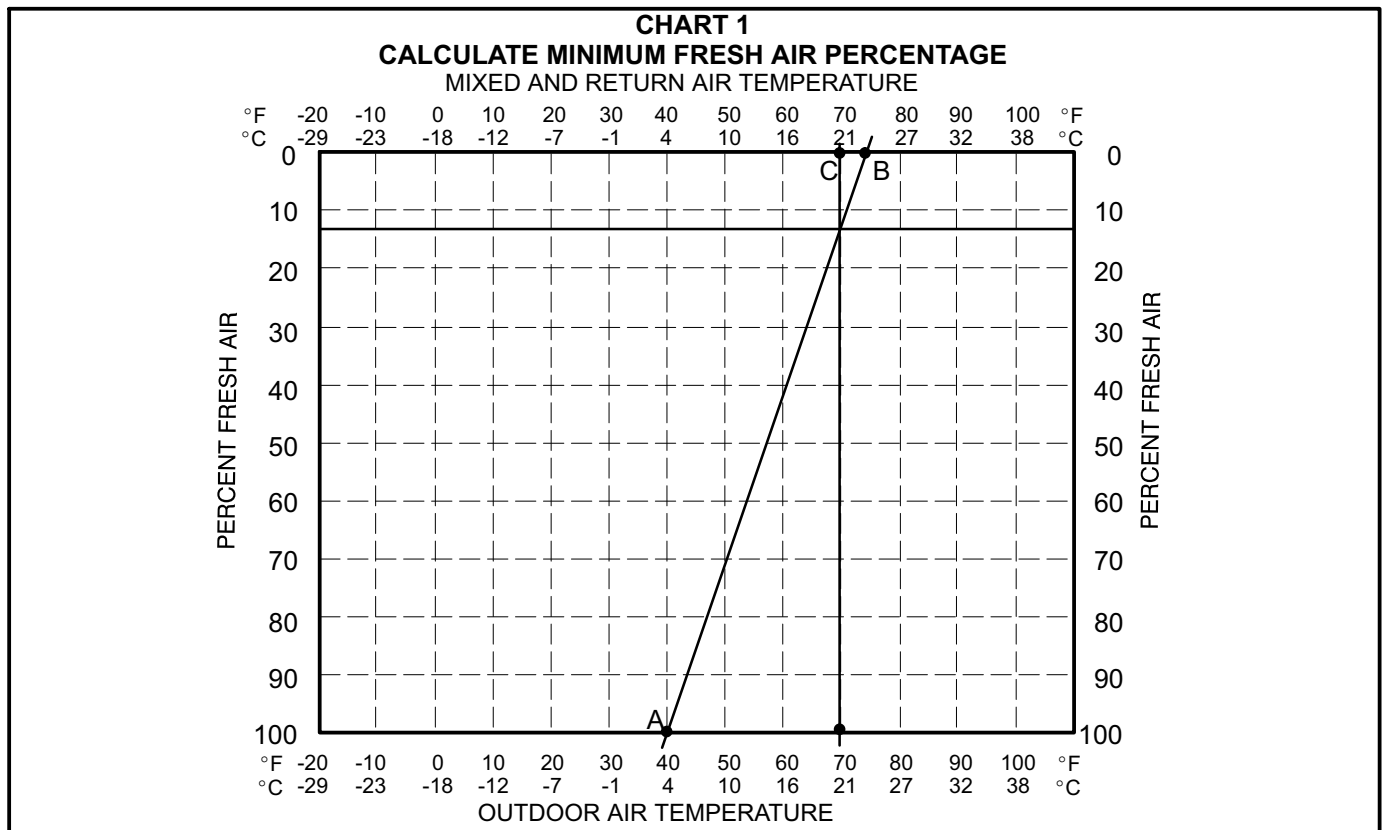


FIGURE 8

- 2- Measure outdoor air temperature. Mark the point "A" (40°F, 4°C shown).
- 3- Measure return air temperature. Mark that point on the top line of chart 1 and label the point "B" (74°F, 23°C shown).
- 4- Measure mixed air (outdoor and return air) temperature. Mark that point on the top line of chart 1 and label point "C" (70°F, 21°C shown).
- 5- Draw a straight line between points A and B.
- 6- Draw a vertical line through point C.
- 7- Draw a horizontal line where the two lines meet. Read the percent of fresh air intake on the side.



8- *Manual Dampers -*

If fresh air percentage is less than desired, loosen screws and slide dampers further open. If fresh air percentage is more than desired, loosen screws and slide dampers further closed. Repeat steps 2 through 7 until calculation reads desired fresh air percentage.

LGH/LCH Units With Motorized Damper Only -

If fresh air percentage is less than desired, adjust MIN POS SET potentiometer higher. If fresh air percentage is more than desired, adjust MIN POS SET potentiometer lower. Repeat steps 2 through 7 until calculation reads desired fresh air percentage.

Set the DIP switch to “GLO” position as shown in figure 9.

NOTE - LGH/LCH Units Only - In addition to the previous method, damper minimum position may also be remotely set using Unit Controller software (ECTO 5.24). A remote adjustment will override potentiometer adjustment. Refer to Unit Controller manual.

KG/KC/KH/ZG/ZC/ZH Units With Honeywell Actuator -

If fresh air percentage is less than desired, adjust

thumbwheel higher. If fresh air percentage is more than desired, adjust thumbwheel lower. Repeat steps 2 through 7 until calculation reads desired fresh air percentage. See figure 7.

KG/KC/KH/ZG/ZC/ZH Units With Interlink Actuator -

To adjust fresh air percentage, remove retainer clip and adjust damper stop to desired air percentage. See figure 8. Replace retainer clip. Repeat steps 2 through 7 until calculation reads desired fresh air percentage.

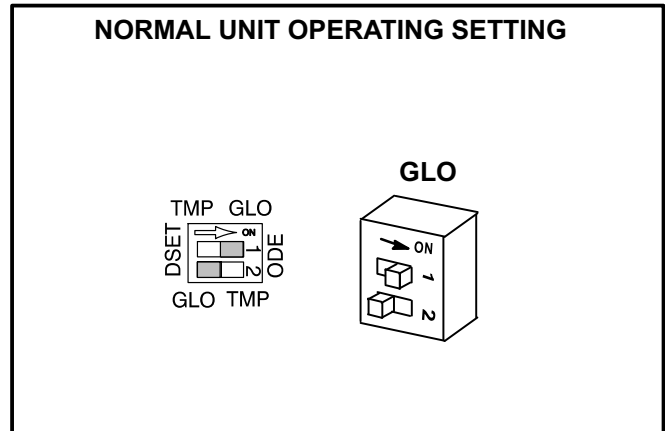


FIGURE 9

Outdoor Air Hood Installation

Hoods are shipped in the return air section when the dampers are factory-installed.

- 1- Assemble hood as shown in figure 10.
- 2- Install mist eliminator filter as shown in figure 11. Make sure arrows on filter match airflow.
- 3- Secure hood to unit as shown in figure 12.

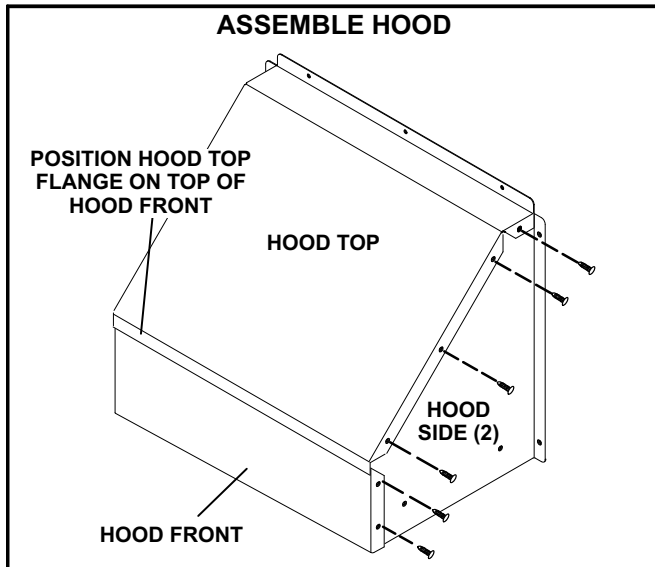


FIGURE 10

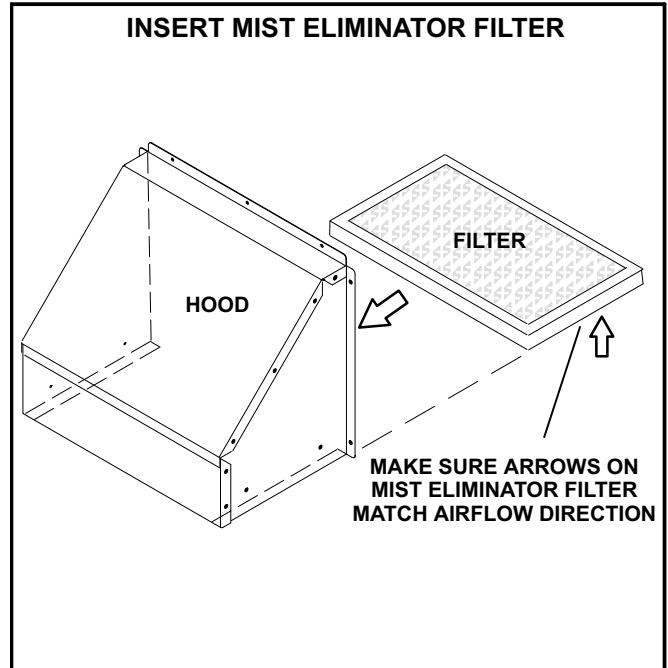


FIGURE 11

Set Unit Controller

Use the Unit Controller manual provided with each unit to enable the outdoor air dampers.

Use the following menu:

Settings>Install>New M2>> Damper > MOAD

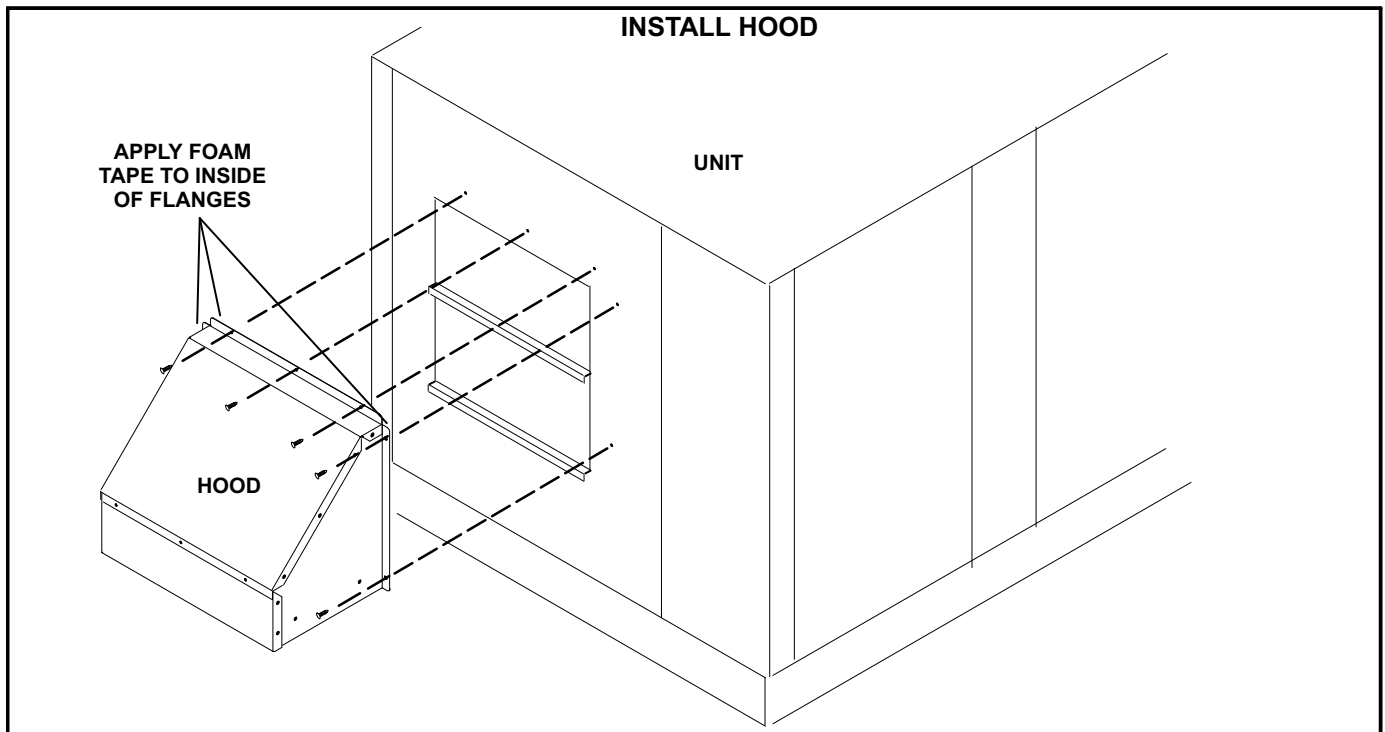


FIGURE 12