



**INSTALLATION INSTRUCTIONS  
MODULATING UBREP ECONOMIZER  
010-225001-090 / 010-225001-180 / 010-225002-240**

Economizers are used with 7 ½ - 20 ton units for automatic sensor-controlled introduction of outdoor air into the system through an electro-mechanically controlled damper.

Downflow Part#	Horizontal Part#	Unit Model	Duct Flange Dimension	
			A	B
010-225001-090	010-225002-090	90/120 UBREP-C	13.75	44.25
010-225001-180	010-225002-180	180 UBREP-C	18.75	44.25
010-225001-240	010-225002-240	240 UBREP-C	19.00	63.00

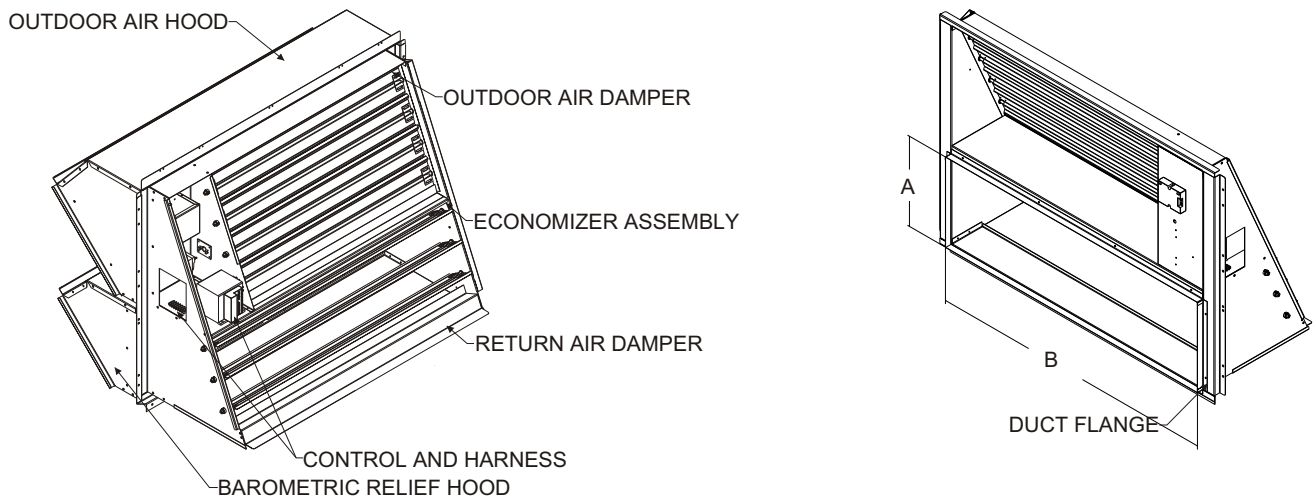


Figure 1

**Step 1:**

Check for correct number of parts. See list below.

- 1 ea. - Economizer Assembly
- 1 ea. - Barometric Relief Hood
- 1 ea. - Outdoor Air Hood
- 1 ea. - Bag Hardware

**Step 2:**

Disconnect all power to unit.

**Step 3:**

Remove return air access panel from unit and rear access panel(s) if applicable as shown in **Figure 2**.

**For Horizontal Applications:**

Install the return air cover panel (**shipped with the rooftop unit**) over the return air opening in the bottom of the rooftop unit.

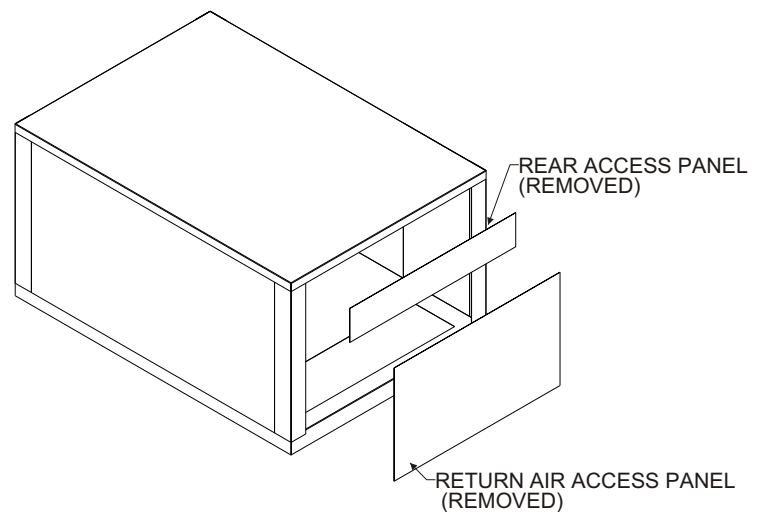


Figure 2

**Step 4:**

To assemble the Barometric Relief Hood the following will be needed.

- 30 ea. - Type A #10 - 16 x 1/2 Screws
- 15 ft. - 1/8 x 1/2 Gasket
- 15 ft. - 1/8 x 3/4 Gasket

Follow these steps: **See Figure 3.**

- A. Take (1 and 2) put the flange of (1) to the inside of (2) and screw in place.
- B. Take (3) and screw in place like step A.
- C. Take (4) and place flanges over (2 and 3) and secure.
- D. Take (5) and do the same as step C.
- E. Take 1/8 x 3/4 gasket and place around perimeter of (6) to seal between damper section and hood.
- F. Take (6) and slide inside of (2 and 3) and secure.
- G. Place 1/8 x 1/2 gasket on flanges on (1,2, 3 and 5) that attach to the face of the economizer when installed.

Set Barometric Relief Hood to the side for use later.

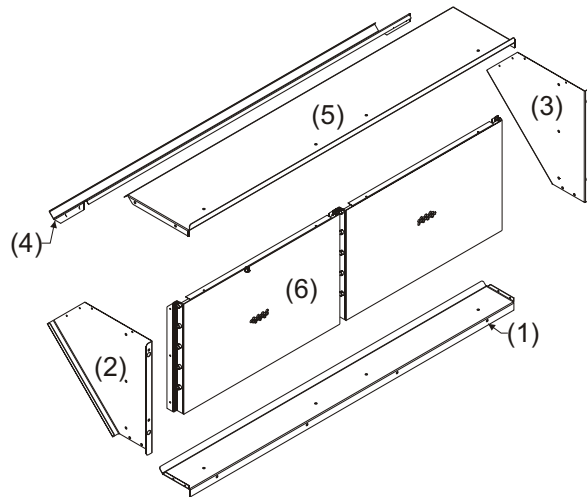


Figure 3

**Step 5:**

To assemble the outside air hood the following will be needed.

- 20 ea. - Type A #10 - 16 x 1/2 Screws
- 15 ft. - 1/8 x 1/2 Gasket

Follow these steps: **See Figure 4.**

- A. Take (1 and 2) put the flange of (1) to the inside of (2) and screw in place.
- B. Take (3) and screw in place like step A.
- C. Take (4) and place flanges over (2 and 3) and secure.
- D. Take (7) and line up to holes in (2) and secure.
- E. Repeat Step D for (7) and (3)
- F. Take (6) and slide inside of (7).
- G. Take (5) and do the same as step C.
- H. Place 1/8 x 1/2 gasket on flanges on (1,2, 3 and 4) that attach to the face of the economizer when installed.

Set Fresh Air Hood to the side for use later.

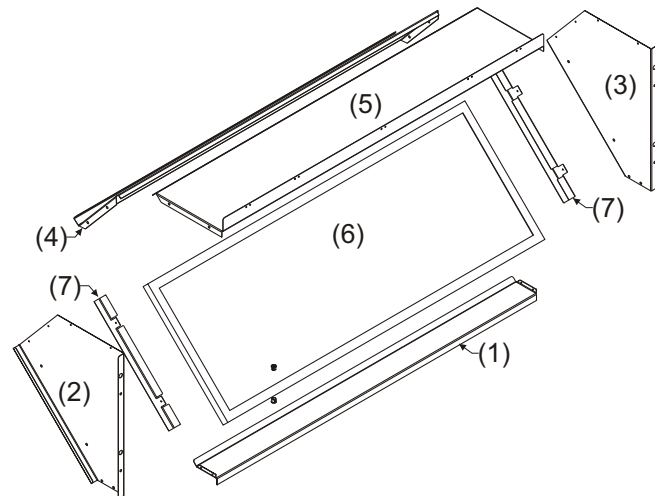


Figure 4

**Step 6:**

Slide Economizer assembly into unit over return opening, but **DO NOT** insert completely into unit. **See Figure 5.** Connect low and high voltage wiring to the terminal block and transformer per wiring diagram.

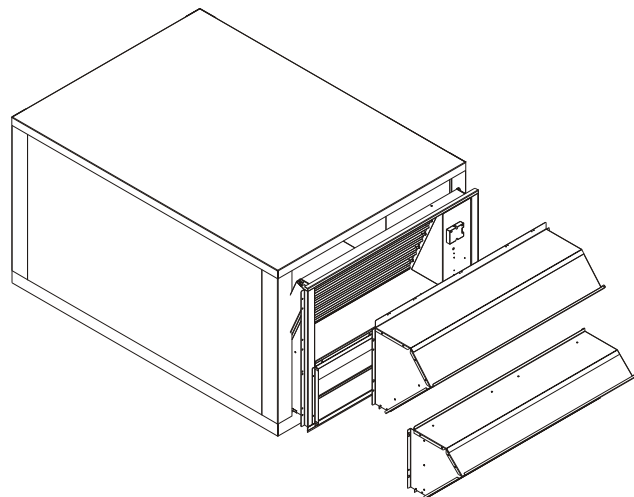


Figure 5

**Step 7:**

**For Downflow Applications:**

Take the barometric hood and secure to economizer using screws. **See Figure 6.**

**For Horizontal Applications:**

Connect field installed horizontal return duct work to duct flange. Install barometric hood over exhaust opening in field installed duct work. For exhaust opening sizes see duct flange dimensions in chart above **Figure 1.**

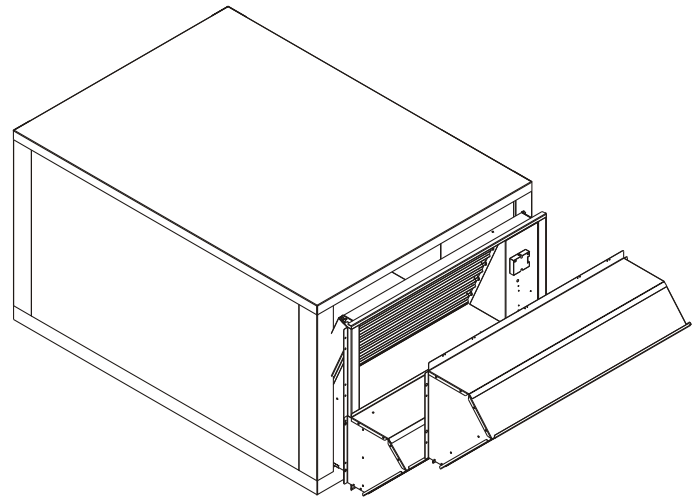


Figure 6

**Step 8:**

Install the outside air hood. Its upper flange should rest against the top of the economizer. **See Figure 7.**

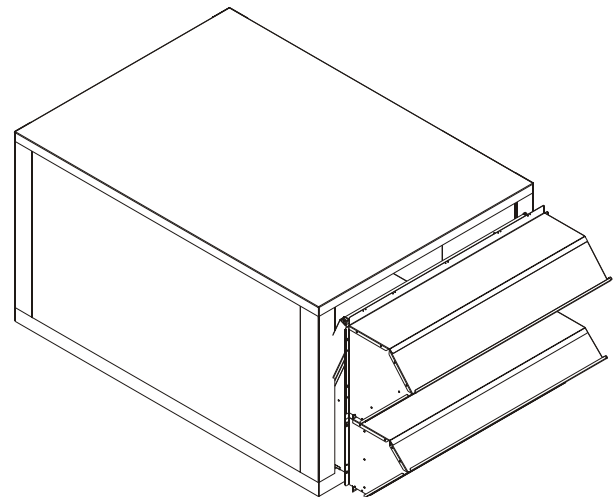


Figure 7

**Step 9:**

Apply  $\frac{1}{8} \times \frac{1}{2}$  gasketing along mounting flanges. Slide economizer assembly fully into unit and secure with the supplied #10 - 16 x  $\frac{1}{2}$  screws. **See Figure 8.**

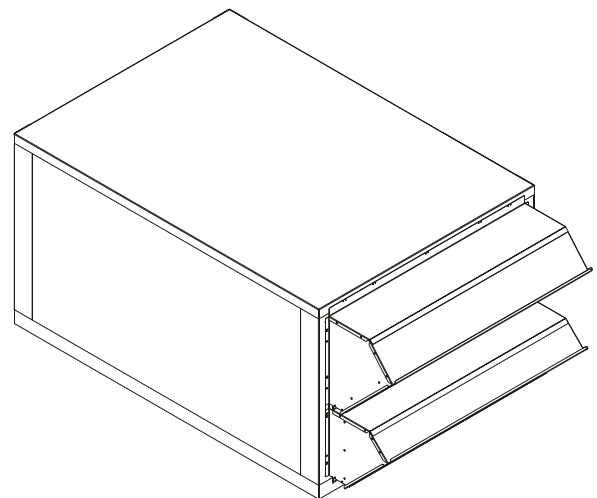


Figure 8

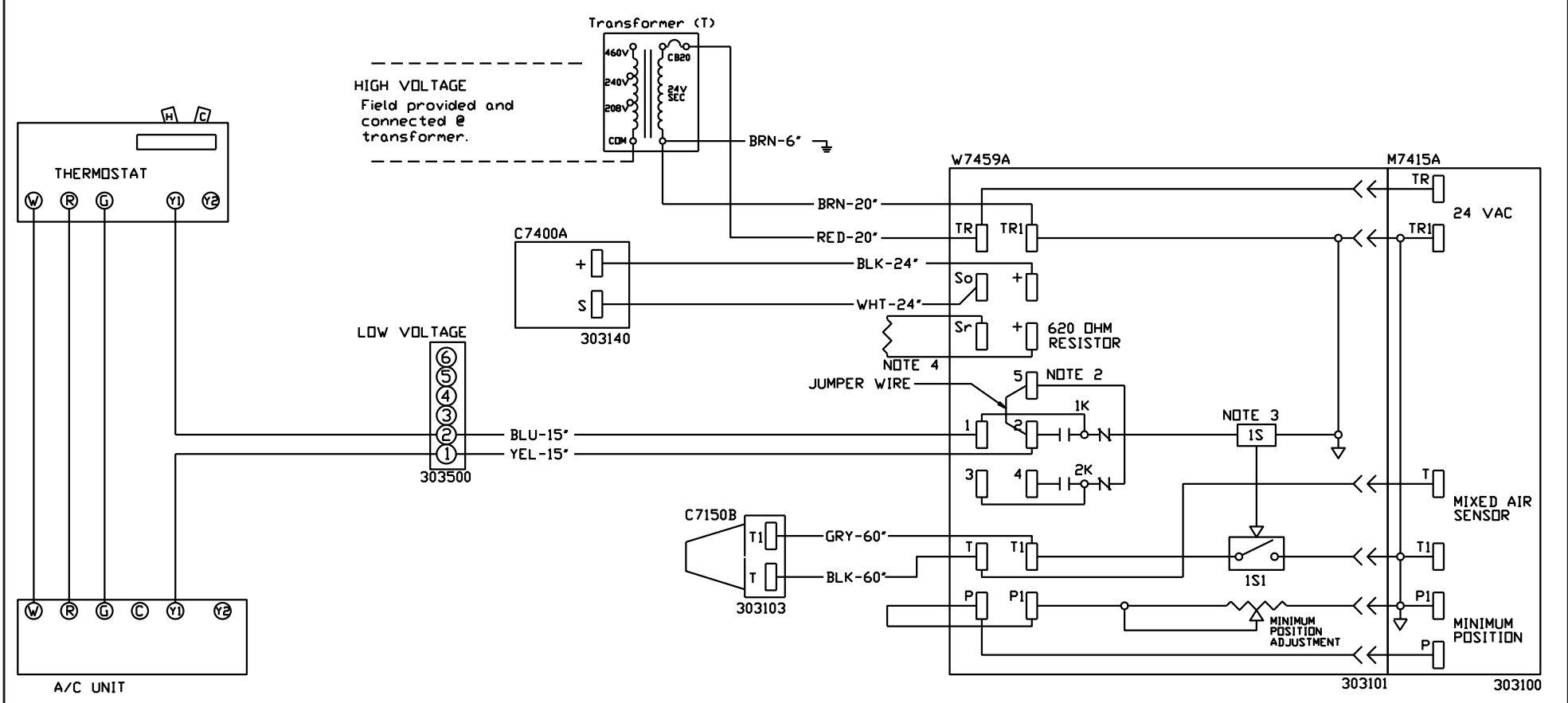
**Step 10:**

Replace all panels and restore power to the unit.

HARNES DETAIL	COMPONENT CODE	WIRE COLOR CODE	Revision	Change	Date
			A	Added Ground Wire	10-10-05

C7150B Mixed Air Sensor  
 C7400A Fresh Air Sensor  
 M7415A Damper Actuator 24v  
 T Transformer  
 W7459A Logic Module

BLK Black BLU Blue  
 BRN Brown GRA Gray  
 GRN Green ORN Orange  
 VIO Violet WHT White  
 YEL Yellow



Notes:

- Unit wiring shown as reference only. Check unit wiring for actual unit wiring.
- Relays 1K and 2K actuate when the Outdoor Air Enthalpy is higher than the Return Air Enthalpy.
- 1S is an electronic switch which closes when powered by a 24 VAC input.
- Factory installed resistor should be removed only if C7400 differential enthalpy sensor is added.

**Modulating Gear Economizer w/ Relief  
for 90/120-240 UBREP-C Magic Air Unit**

Magic Aire 501 Galveston Street Wichita Falls, TX 76301 Phone (940) 397-2100 Fax (940) 397-2166	Date: October 10, 2005
	Supersedes: 07-12-05
	Drawn by:
	Unit # 010-225001/02-***
Diagram# 36403W	