

# Installation Instructions

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**IMPORTANT:** Read these instructions completely before attempting to install the Vertical EconoMi\$er2 Accessory.

**Table 1 - Package Contents**

PACKAGE NO.	QTY	CONTENTS
CRECOMZR026B00	1	Hood Assembly
	1	Filter Access Door
	1	Aluminum Filter
	18	Screws
	1	EconoMi\$er2 Assembly
	1	Front Blank Off Panel
CRECOMZR027B00	1	Hood Assembly
	1	Filter Access Door
	1	Aluminum Filter
	18	Screws
	1	EconoMi\$er2 Assembly
	1	Front Blank Off Panel
CRECOMZR065B00	1	Horizontal Blank Off Panel
	1	Hood Assembly
	1	Filter Access Door
	1	Aluminum Filter
	1	Hardware Bag
	1	EconoMi\$er2 Assembly
	1	Front Blank-Off Panel
1	Horizontal Blank-Off Panel	

\* The EconoMi\$er2 assembly does not include the EconoMi\$er2 controller.


**Table 2 - Package Usage**

UNIT SIZE	PART NUMBER
Small Cabinet, Footprint size: 46 3/4" x 74 3/8"	CRECOMZR026B00
Large Cabinet, Footprint size: 58 1/2" x 88 1/8"	CRECOMZR027B00
Extra-Large Cabinet, Footprint size: 63 3/8" x 115 7/8"	CRECOMZR065B00


## SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform the basic maintenance functions of replacing filters. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags, and labels attached to the unit, and other safety precautions that may apply. Follow all safety codes. Wear safety glasses and work gloves.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies a hazard which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

** WARNING**

**ELECTRICAL SHOCK HAZARD**  
 Failure to follow this warning could cause personal injury and/or death.  
 Disconnect power supply and install lockout tag before attempting to install the accessory.

## GENERAL

The EconoMi\$er2 system utilizes the latest technology available for integrating the use of free cooling with mechanical cooling for rooftop units.

**IMPORTANT:** These economizers meet all the economizer requirements as laid out in California's Title 24 mandatory section 120.2 (fault detection and diagnostics).

This system utilizes gear-drive technology with a direct mount spring return actuator that will close upon loss of power. The EconoMi\$er2 system comes standard with an outdoor air temperature sensor. Field-installed CO<sub>2</sub> sensors are available.

Standard barometric relief dampers provide natural building pressurization control. An optional power exhaust system is available for applications requiring even greater exhaust capabilities.

EconoMi\$er2 accessories require a 4 to 20 mA actuator signal control. These accessories do not include a controller. The EconoMi\$er2 actuator is operated by a 4 to 20 mA signal from an existing field-supplied DDC controller. See Table 3 for sensor usage.

**Table 3 - Sensor Usage**

<b>APPLICATION</b>	<b>OUTDOOR AIR TEMPERATURE SENSOR</b>	<b>RETURN AIR TEMPERATURE SENSOR</b>	<b>OUTDOOR AIR ENTHALPY SENSOR</b>	<b>RETURN AIR ENTHALPY SENSOR</b>
Dry Bulb Temperature	Included HH79NZ039	33ZCESENSAT (Required for ComforLink to meet Title 24)	—	—
Differential Dry Bulb Temperature	Included HH79NZ039	Required — 33ZCESENSAT	—	—
Single Enthalpy	Included HH79NZ039	33ZCESENSAT (Required for ComforLink to meet Title 24)	Required — HH57AC077	—
Differential Enthalpy	Included HH79NZ039	33ZCESENSAT (Required for ComforLink to meet Title 24)	Required — HH57AC077	Required — HH57AC078

NOTES:

1. CO<sub>2</sub> Sensors (Optional)

- . . 33ZCSENCO2 - Room sensor (adjustable). Aspirator box is required for duct mounting of the sensor.
- . . 33ZCASPCO2 - Aspirator box used for duct-mounted CO<sub>2</sub> room sensor.
- . . 33ZCT55CO2 - Space temperature and CO<sub>2</sub> room with override.
- . . 33ZCT56CO2 - Space temperature and CO<sub>2</sub> room sensor with override and setpoint.

2. All unit include the following standard Sensors:

- . . Outdoor-Air Sensor - HH79NZ039

## ACCESSORIES LIST

The EconoMiSer2 has several field-installed accessories available to optimize performance. Refer to Table 4 for authorized parts and power exhaust descriptions

**Table 4 - EconoMiSer2 Field-Installed Accessories**

DESCRIPTION	PART NUMBER
Small & Large Cabinet Power Exhaust 208-230 v 1 Ph	CRPWREXH028A01
Small & Large Cabinet Power Exhaust 460 v 3Ph	CRPWREXH029A01
Extra Large Cabinet Power Exhaust 208-230 v 1Ph	CRPWREXH082A00
Extra Large Cabinet Power Exhaust 460 v 3Ph	CRPWREXH083A00
Return Air Dry Bulb	33ZCT55SPT
Outdoor Air Enthalpy Sensor	HH57AC077
Return Air Enthalpy Sensor	HH57AC078
CO <sub>2</sub> Room Sensor	33ZCSENCO2
Aspirator Box for Duct Mount CO <sub>2</sub> Sensor	33ZCASPCO2
Space Temperature and CO <sub>2</sub> Room Sensor with Override	33ZCT55CO2
Space Temperature and CO <sub>2</sub> Room Sensor with Override and Set Point	33ZCT56CO2

## INSTALLATION

1. Turn off unit power supply(s) and install lockout tag.

### **⚠ WARNING**

#### **ELECTRICAL SHOCK HAZARD**

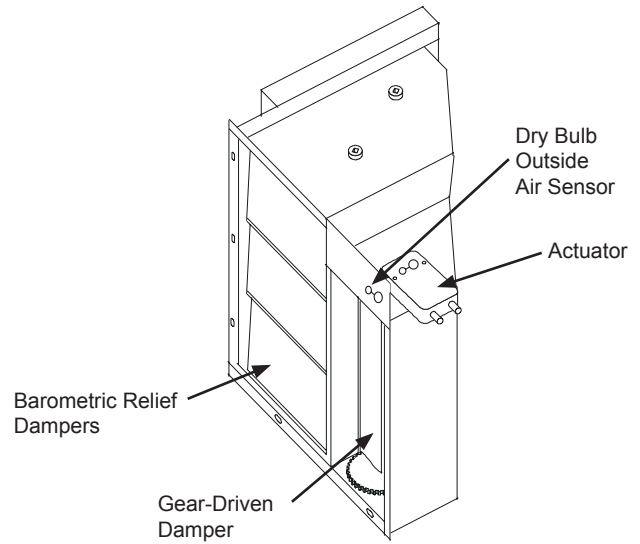
Failure to follow this warning could result in personal injury and/or death.

Disconnect power supply and install lockout tag before attempting to install accessory.

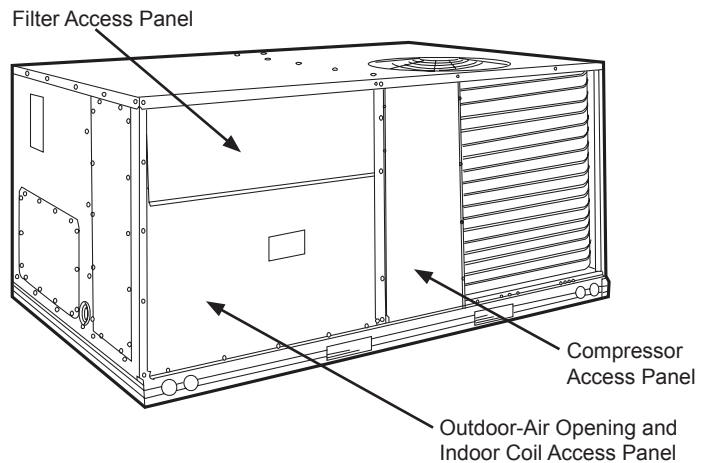
2. Remove the existing unit filter access panel. Raise the panel and swing the bottom outward. The panel is now disengaged from the track and can be removed and discarded. (See Fig. 2.)

NOTE: Unit with hinged panels will require a hinged door seal angle kit. Use part no. CRHNGPNL001A00 for small cabinet units. Use part no. CRHNGPNL002A00 for large cabinet units. Refer to the separate accessory installation instructions for details on installing the seal angle kit.

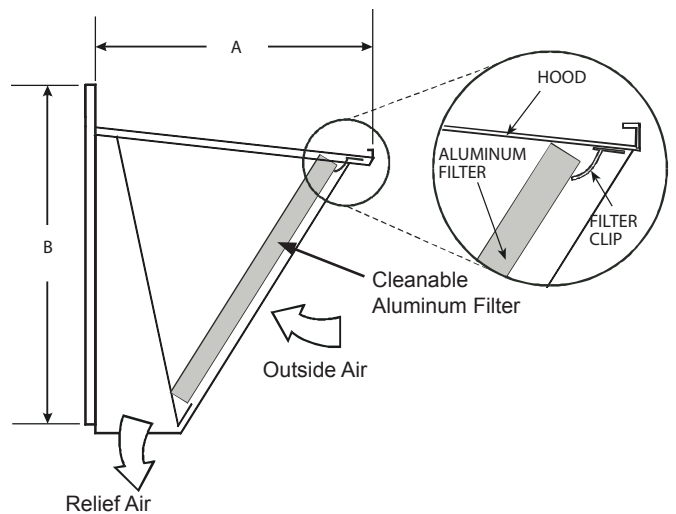
3. Remove the indoor coil access panel and discard. (See Fig. 2.)
4. The EconoMiSer2 hood assembly is shipped assembled. Aluminum filter must be installed on some models. See step 19.
5. Set the EconoMiSer2 upright. (See Fig. 4.)
6. Insert the EconoMiSer2 assembly into the rooftop unit, positioning the EconoMiSer2 to the far left side of the opening. (See Fig. 5.)
7. Slide the EconoMiSer2 all the way back into the unit until it locks into the horizontal opening of the HVAC (heating, ventilation and air conditioning) unit.
8. Secure the EconoMiSer2 mounting flanges to the HVAC unit with the screws provided. (See Fig. 6.)
9. Install a screw through the pre-punched hole in the EconoMiSer2 into the flange on the horizontal duct opening. (See Fig. 7.)
10. Remove the tape securing the relief dampers in place.
11. Remove and save the 12-pin jumper plug from the unit wiring harness (located in the upper left corner of the unit). Insert the EconoMiSer2 plug into the unit wiring harness. Refer to Fig. 8 for wiring diagram.



**Fig. 1 - EconoMiSer2 Component Locations**

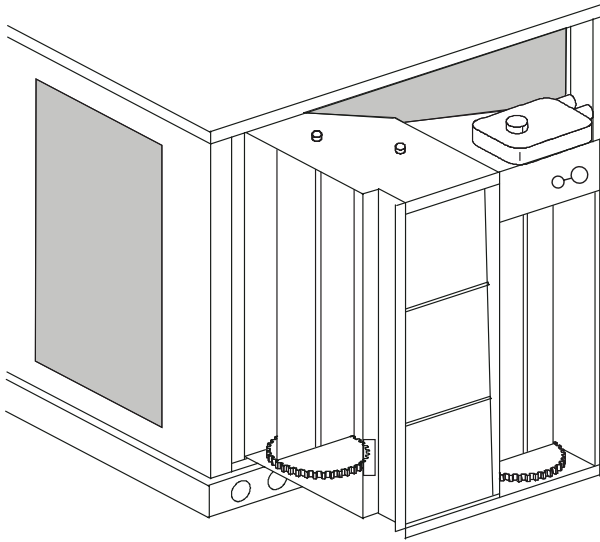


**Fig. 2 - Typical Access Panel Locations**

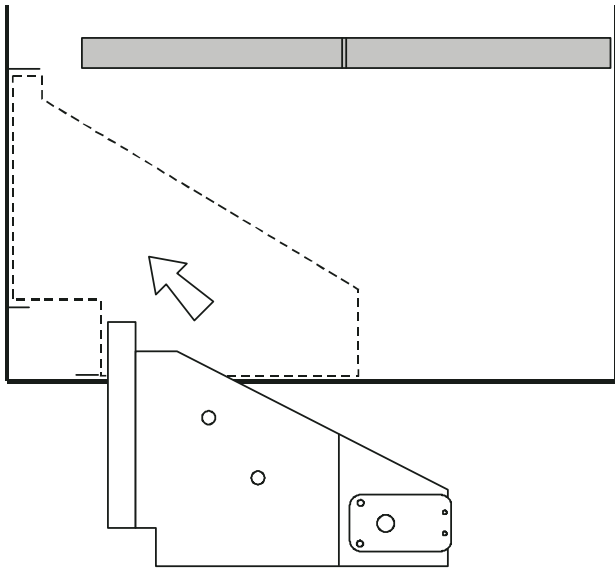


ECONOMIZER P/N	A	B	SHIP WT.
CRECOMZR026B00	27.09"	29.19"	95 lb
CRECOMZR027B00	29.21"	37.25"	150 lb
CRECOMZR065B00	24.81"	53.36"	185lb

**Fig. 3 - EconoMiSer2 Hood Detail**



**Fig. 4 - EconoMiSer2 Positioned for Installation in Unit**



**Fig. 5 - Top View of EconoMiSer2 Installation**

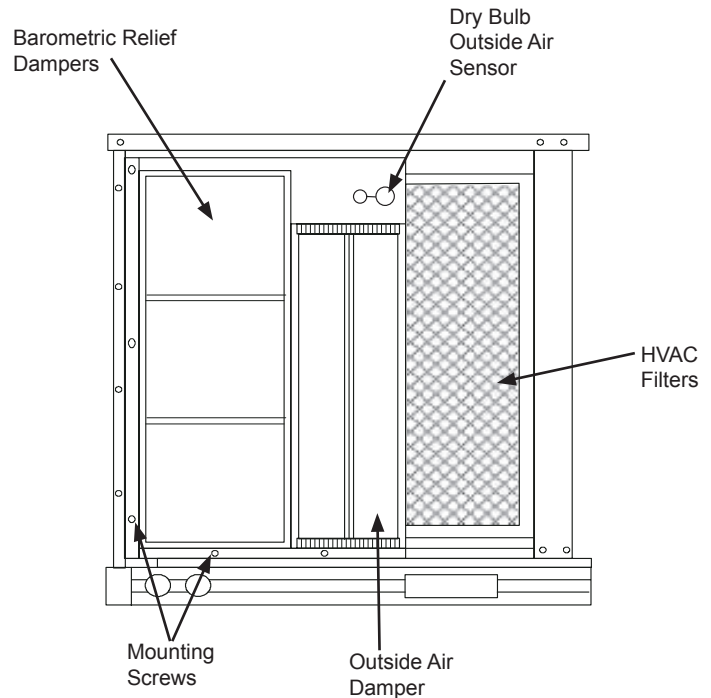
**NOTE:** The 12-pin jumper plug should be saved for future use, in the event that the EconoMiSer2 is removed from the unit. The jumper plug is not needed as long as the EconoMiSer2 is installed.

**NOTE:** Be sure that the arrow on the actuator motor is pointing to “Run” and not to “Test.” If the arrow is at “Test,” the Economizer damper will drive open.

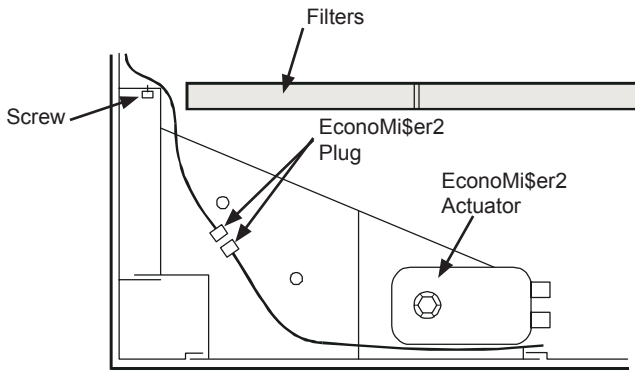
12. While everything is open install and wire any other accessories and/or sensors as applicable and convenient, per their installation instructions. Some accessories require that unit ducting already be installed.
13. On some units the EconoMiSer and hood do not reach to the top of the unit. In this case a front blank-off panel must be installed. Install provided front blank-off panel above hood. Screw in place. (See Fig. 10.)

**NOTE:** The front blank-off panel must be installed before the hood because the top of the hood fits into a channel in the bottom of the panel.

14. Install the EconoMiSer2 hood over the EconoMiSer2. Use screws provided. (See Fig. 9 and 10.) Insert screw through right side flange of hood into EconoMiSer2 flange.
15. On some units the return damper does not reach to the top of the horizontal return opening in the unit. In this case a horizontal blank-off must be installed. Install the horizontal blank-off at the top of the horizontal return opening. (See Fig. 11.) Screw in place thru pre-punched holes.
16. Check all wiring for safety then reapply power to the unit. Verify correct operation and setting of the accessory.
17. Install access door next to hood. Screw bottom of door to HVAC unit. (See Fig. 9 and 10.) For the economizer for the extra large cabinet, install plastic inserts on right-hand vertical post and install long gasketed screws along the vertical edge. Use standard serrated screws along the bottom of the panel for all units.



**Fig. 6 - EconoMiSer2 Installed in Unit**



**Fig. 7 - Top View of EconoMiSer2 Installed in Unit**

18. Replace the indoor fan motor access panel.
19. Install the filter by opening the filter clips which are located underneath the hood top. Insert the aluminum filter into the bottom filter rack (hood divider). Push the filter into position past the open filter clips. Close the filter clips to lock the filter into place. (See Fig. 3.)
20. To adjust economizer minimum position and other settings, refer to instructions provided with specific Economizer DDC Controller.

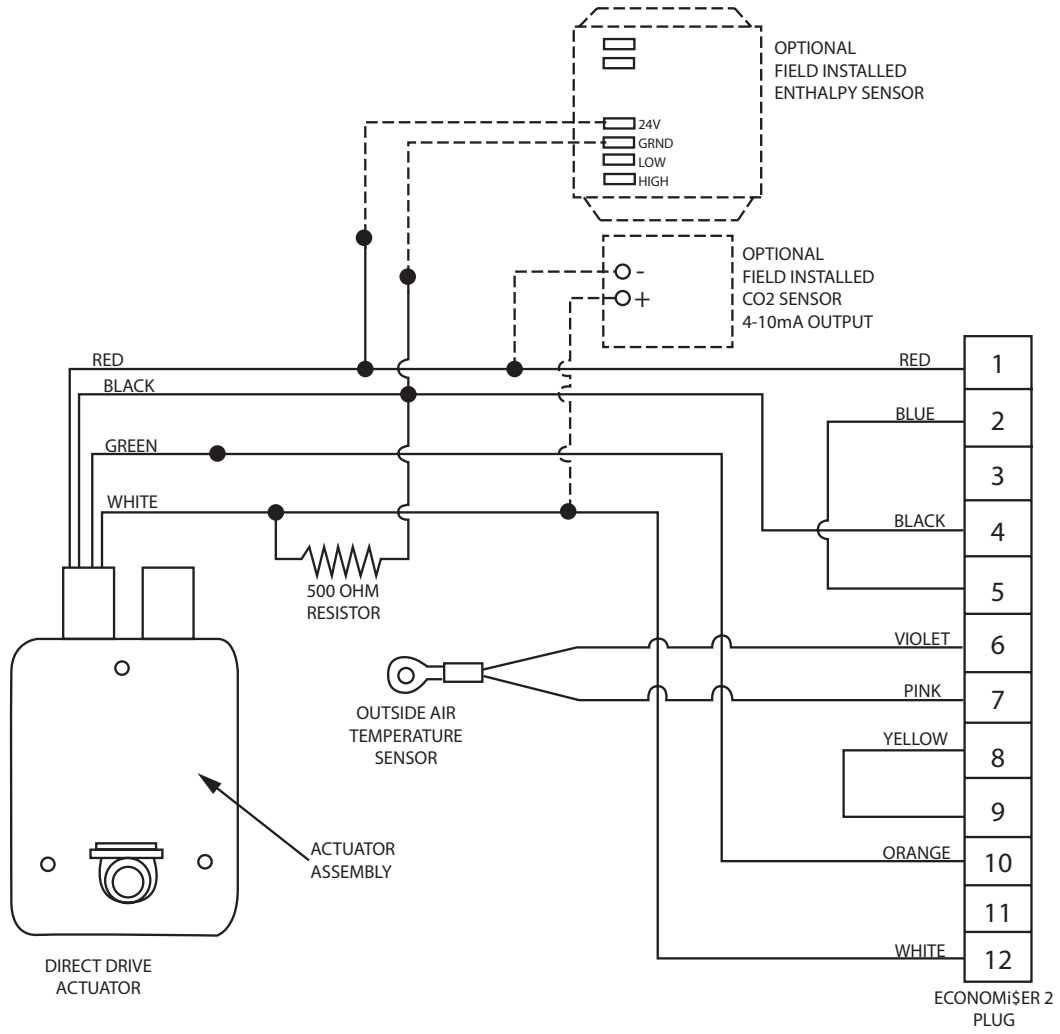
**NOTE:** When setting high temperature economizer limit in California, see Table below for acceptable regional settings.

Device Type <sup>a</sup>	Climate Zones	Required High Limit (Economizer Off When):
		Description
Fixed Dry Bulb	1, 3, 5, 11-16	Outdoor air temperature exceeds 75°F
	2, 4, 10	Outside air temperature exceeds 73°F
	6, 8, 9	Outdoor air temperature exceeds 71°F
	7	Outdoor air temperature exceeds 69°F
Differential Dry Bulb	1, 3, 5, 11-16	Outdoor air temperature exceeds return air temperature
	2, 4, 10	Outdoor air temperature exceeds return air temperature minus 2°F
	6, 8, 9	Outdoor air temperature exceeds return air temperature minus 4°F
	7	Outdoor air temperature exceeds return air temperature minus 6°F
Fixed Enthalpy <sup>b</sup> + Fixed Dry Bulb	All	Outdoor air enthalpy exceeds 28 Btu/lb of dry air <sup>b</sup> or Outdoor air temperature exceeds 75°F

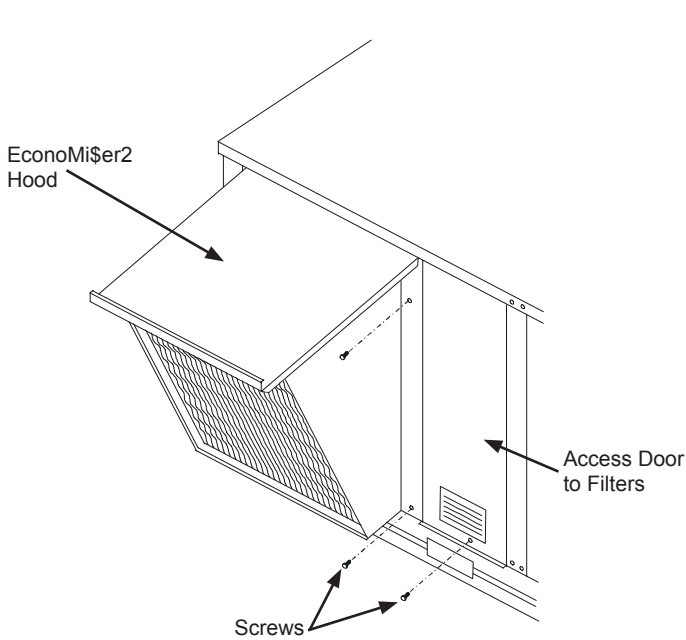
<sup>a</sup> Only the high limit control devices listed are allowed to be used and at the setpoints listed. Others such as Dew Point, Fixed Enthalpy, Electronic Enthalpy, and Differential Enthalpy Controls, may not be used in any climate zone for compliance with Section 140.4(e)1 unless approval for use is provided by the Energy Commission Executive Director.

<sup>b</sup> At altitudes substantially different than sea level, the Fixed Enthalpy limit value shall be set to the enthalpy value at 75°F and 50% relative humidity. As an example, at approximately 6,000 foot elevation, the fixed enthalpy limit is approximately 30.7 Btu/lb.

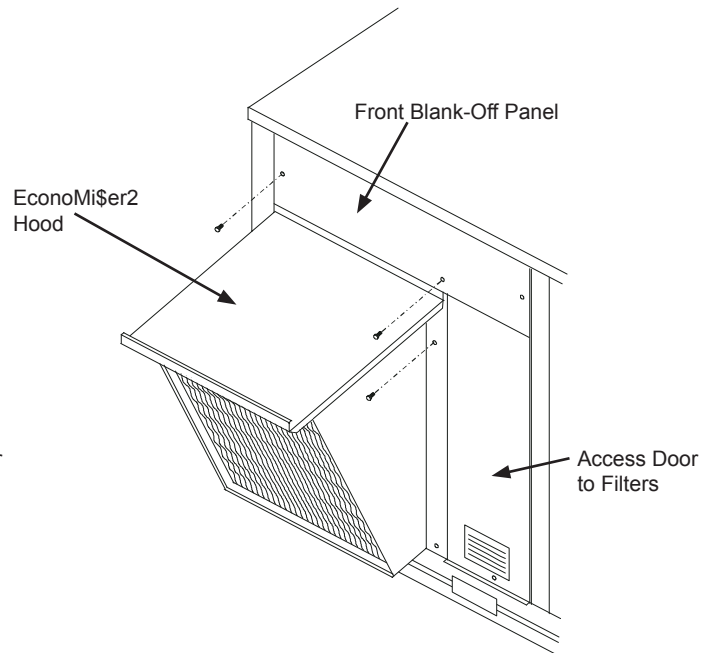
**Table 5 - California Title 24 Regional High Limit Dry Bulb Temperature Settings**  
**TABLE 140.4-B AIR ECONOMIZER HIGH LIMIT SHUT OFF CONTROL REQUIREMENTS**



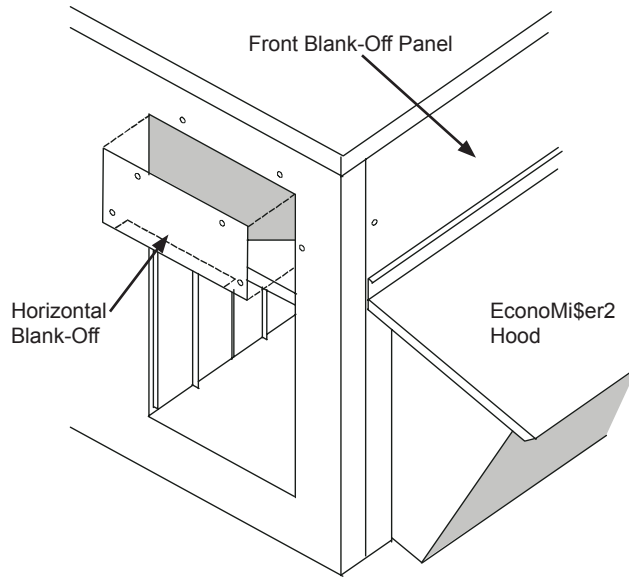
**Fig. 8 - EconoMiSer2 Wiring**



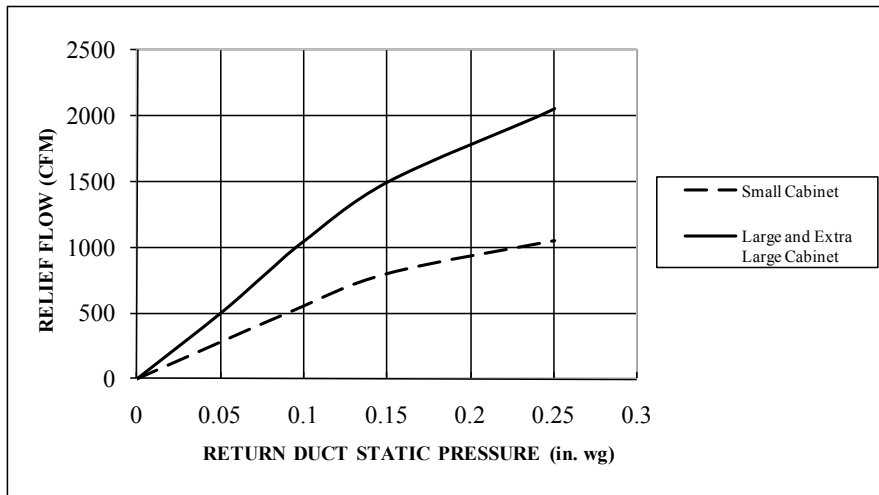
**Fig. 9 - EconoMiSer2 Hood Installation**



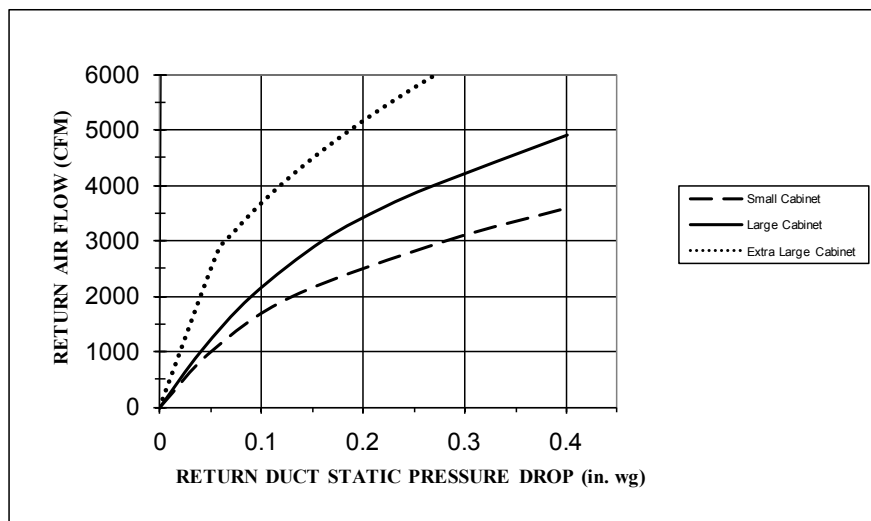
**Fig. 10 - Front Blank-Off Panel Installation Panel**



**Fig. 11 - Horizontal Return Opening Blank-Off Panel**



**Fig. 12 - Barometric Flow Capacity**



**Fig. 13 - Return Air Pressure Drop**