

Small Rooftop Units 3 to 12.5 Tons

Ultra Low Leak Vertical EconoMiSer® 2 Accessory

Installation Instructions

→ Part No: CRECOMZR066A01, CRECOMZR068A01, and CRECOMZR070A01

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SAFETY CONSIDERATIONS

Installation of this accessory can be hazardous due to system pressures, electrical components, and equipment locations (such as a roof or elevated surface).

Only trained, qualified installers and service technicians should install, start-up, and service this equipment.

When installing this accessory, observe precautions in the literature and on any labels attached to the equipment, and all other safety precautions that may apply.

- Follow all safety codes.
- Wear safety glasses and work gloves.
- Use care in handling and installing this accessory.

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.

CAUTION

Failure to follow this caution may result in personal injury. Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing, safety glasses, and gloves when handling parts and servicing rooftop units.

CAUTION

Failure to follow this caution may result in personal injury and damage to unit. Cover the duct opening as a precaution so objects cannot fall into the return duct opening. Be sure to remove the cover when installation is complete.

WARNING

Electrical shock can cause personal injury and death. Shut off all power to this equipment during installation. There may be more than one disconnect switch. Tag all disconnect locations to alert others not to restore power until work is completed.

GENERAL

IMPORTANT: Read these instructions completely before attempting to install the vertical EconoMiSer® 2 accessory economizer.

The EconoMiSer 2 system utilizes the latest technology available for integrating the use of free cooling with mechanical cooling for rooftop units.

This system utilizes gear-drive technology with a direct mount spring return actuator that will close upon loss of power. The EconoMiSer 2 system comes standard with an outdoor air temperature sensor. Field-installed CO₂ sensors are available.

IMPORTANT: These economizers meet all the economizer requirements as laid out in ASHRAE 90.1-2016 and California's Title 24-2016 mandatory section 120.2 (fault detection and diagnostics) and prescriptive section 140.4 (life-cycle tests, damper leakage, sensor accuracy, etc). Economizer must be installed perfectly square to avoid damper leakage or damper binding. Squareness tolerance is $\pm 1/32$ in. Standard barometric relief dampers provide natural building pressurization control. An optional power exhaust system is available for applications requiring even greater exhaust capabilities.

EconoMiSer 2 accessories require a 4 to 20 mA actuator signal control. These accessories do not include a controller. The EconoMiSer 2 actuator is operated by a 4 to 20 mA signal from an existing field-supplied DDC (Direct Digital Controls) controller.

Refer to the specific DDC literature for how to indicate economizer alarm/errors in the building space. Alarm/error indication may be required for local regulation compliance.

See Table 1-3 for package usage. See Table 4 for sensor usage. See Table 5 for package contents.

→ **Table 1 — Carrier Usage Chart**

CARRIER MODEL NUMBER	ECONOMIZER 2 PART NUMBER
48/50HC, LC 04-06 48/50KC 03-05 48/50TC 04-07 50TCQ 04-07 50HCQ 04-06 50KCQ04-06	CRECOMZR066A01
48/50HC 07-12 48/50LC 07 48/50TC 08-14 50TCQ 08-12 50HCQ 07-09	CRECOMZR068A01
48/50HC 14 48/50LC 08-12 48/50TC 16 50TCQ 14 50HCQ 12	CRECOMZR070A01

→ **Table 2 — Bryant Usage Chart**

BRYANT MODEL NUMBER	ECONOMIZER 2 PART NUMBER
581J/551J 04 580J/558J 04-06 548J 04 and 05 549J 04	CRECOMZR066A01
581J/551J 05 and 06 580J/558J 07 548J 06 and 07 548J 06 and 07 549J 05 and 06	CRECOMZR068A01
581J/551J 14 580J/558J 14 548J 14 549J 12	CRECOMZR070A01

→ **Table 3 — ICP Usage Chart**

ICP MODEL NUMBER	ECONOMIZER 2 PART NUMBER
RGH/RAH 036-060 RGS/RAS 036-060 RHS 036-072 RHH 036 and 048	CRECOMZR066A01
RGH/RAH 072-120 RAS/RGS 090-120 RHH 072-102	CRECOMZR068A01
RGH/RAH 150 RAS/RGS 150 RHS 150 RHH 120	CRECOMZR070A01

Compliance — Economizers meet California Energy Commission Title 24-2016 prescriptive section 140.4 (damper leakage etc.), and when used with Carrier Comfortlink, RTU Open, Premierlink™, System Vu™, or I/O Flex control systems, meet mandatory section 120.2.i for Fault Detection and Diagnostic requirements.

Economizers meet ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1-2016 damper leakage requirements as stated in section 6.5.1.1.4 and Table 6.4.3.4.3, and meet 2016 Fault Detection and Diagnosis requirements in section 6.4.3.12 when used with Carrier

Comfortlink, RTU Open, Premierlink, System Vu, or I/O Flex 6126 control systems.

Economizers meet IECC (International Energy Conservation Code) 2015 section C402.4.5.2 and, IECC 2015 sections C403.2.4.3 and C403.3.3.5 for outside air, return air, and relief air damper leakage requirements, and when used with Carrier Comfortlink, RTU Open, Premierlink, System Vu, or I/O Flex control systems meet IECC 2015 section C403.2.4.7 for Fault Detection and Diagnostic requirements.

NOTE: IECC 2015 section C403.2.4.7.1 requires differential return air sensor, which must be ordered separately.

Outside air and return air (volume) dampers are AMCA (Air Movement and Control Association) rated. Relief air dampers are also AMCA rated.

Table 4 — Sensor Usage

SENSOR USAGE	OUTDOOR AIR TEMP. SENSOR	RETURN AIR TEMP. SENSOR	OUTDOOR AIR ENTHALPY SENSOR	RETURN AIR ENTHALPY SENSOR
Dry Bulb Temp.	Included: HH79NZ039	33ZCSENSAT (Required for ComfortLink to Meet Title 24)	—	—
Differential Dry Bulb Temp.	Included: HH79NZ039	33ZCSENSAT	—	—
Single Enthalpy	Included: HH79NZ039	33ZCSENSAT (Required for ComfortLink to Meet Title 24)	Required: HH57AC077	—
Differential Enthalpy	Included: HH79NZ039	33ZCSENSAT (Required for ComfortLink to Meet Title 24)	Required: HH57AC077	Required: HH57AC078

NOTES:

1. CO₂ Sensors (Optional):

- 33ZCSENCO2 - Room Sensor (adjustable. Aspirator box is required for duct mounting of the sensor).
- 33ZCASPCO2 - Aspirator box used for duct-mounted CO₂ room sensor.
- 33ZCT55CO2 - Space temperature and CO₂ room sensor with override.
- 33ZCT56CO2 - Space temperature and CO₂ room sensor with override and setpoint.

2. All units include the following standard sensors:

HH79NZ039 - Outdoor -Air Sensor

→ **Table 5 — Package Contents**

ECONOMIZER PART NUMBER	QTY	CONTENTS
CRECOMZR066A01, CRECOMZR068A01	1	Hood Top and Sides
	1	Hood Divider
	1	Aluminum Filter
	18	Screws
	1	EconoMiSer® 2 Assembly
CRECOMZR070A01	1	Hood Top and Sides
	1	Hood Divider
	1	Hood Filter Divider
	2	Aluminum Filters
	1	Hardware Bag
	1	ExonoMiSer® 2 Assembly

Accessories List — The EconoMiSer® 2 Assembly has several field-installed accessories available to optimize performance. Refer to Table 6 for authorized parts and power exhaust descriptions.

Table 6 — EconoMiSer® 2 Field-Installed Accessories

DESCRIPTION	PART NUMBER
Small Cabinet Power Exhaust (208-230v/1Ph)	CRPWREXH030A01
Small Cabinet Power Exhaust (460v/3Ph)	CRPWREXH021A01
Large Cabinet Power Exhaust (208-230v/3Ph)	CRPWREXH022A01
Large Cabinet Power Exhaust (460v/3Ph)	CRPWREXH023A01
Extra Large Cabinet Power Exhaust (208-230v/3Ph)	CRPWREXH080A00
Extra Large Cabinet Power Exhaust (460v/3Ph)	CRPWREXH081A00
Return Air Dry Bulb	33ZCSENSAT
Outdoor Air Enthalpy Sensor	HH57AC077
Return Air Enthalpy Sensor	HH57AC078
CO ₂ Room Sensor	33ZCSENC02
Aspirator Box for Duct Mount CO ₂ Sensor	33ZCASPCO2
Space Temperature and CO ₂ Room Sensor with Override	33ZCT55CO2
Space Temperature and CO ₂ Room Sensor with Override and Set Point	33ZCT56CO2

INSTALLATION

Fig. 1 below shows component locations on the EconoMiSer 2 assembly.

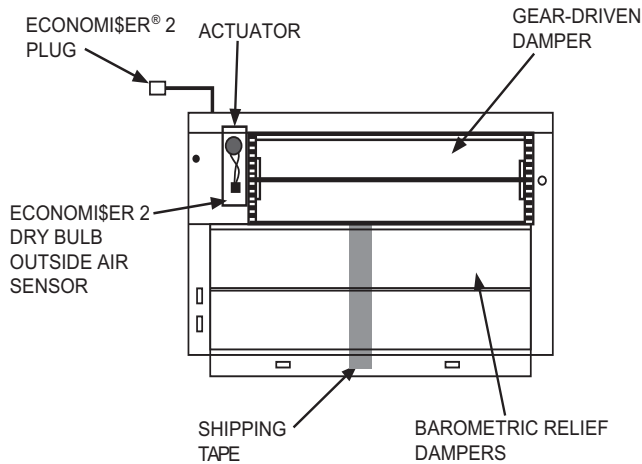


Fig. 1 — EconoMiSer® 2 Component Locations

1. Turn off unit power supply(s) and install lockout tag.
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 (see Fig. 2).

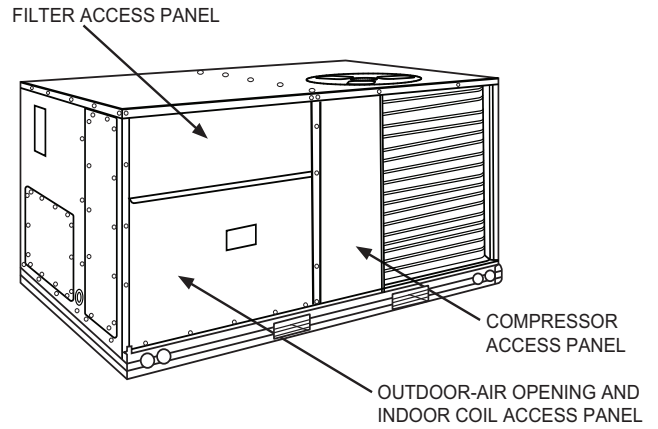
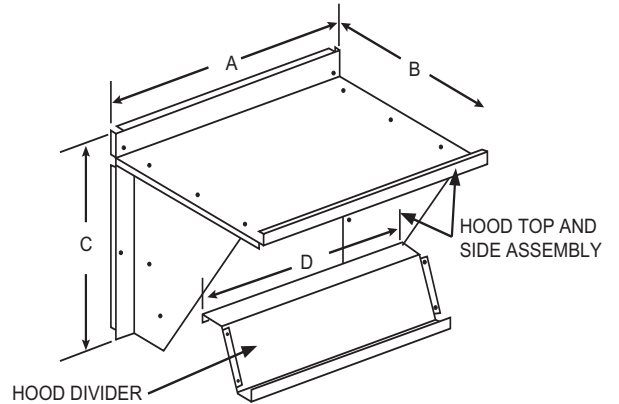


Fig. 2 — Typical Access Panel Locations

3. Remove the indoor coil access panel and discard (See Fig. 2).
4. The EconoMiSer® 2 hood components are shipped with the EconoMiSer 2 assembly. Remove hood from packaging. The hood top and sides are shipped factory assembled.

NOTE: If the power exhaust accessory is to be installed on the unit, the hood shipped with the EconoMiSer 2 assembly will not be used and may be discarded. Save the aluminum filter for use in the power exhaust hood assembly.

5. Insert the hood divider between the hood sides (see Fig. 3). Secure hood divider with 2 screws (provided) on each hood side. Screws should go through the hood sides into the divider. The hood divider is also used as the bottom filter rack for the aluminum filter. On hood for extra large cabinet install filter divider (see Fig. 4).



ECONOMIZER P/N	A (in.)	B (in.)	C (in.)	D (in.)	SHIP WT. (lb)
CRECOMZR066A01	30.37	17.43	19.05	29.50	55 lb
CRECOMZR068A01	40.37	22.28	24.48	36.27	80 lb
CRECOMZR070A01	52.92	27.03	33.41	46.92	98 lb

NOTE: The CRECOMZR070A01 hood has 2 aluminum filters and a hood filter divider that installs between the filters

Fig. 3 — Hood Assembly

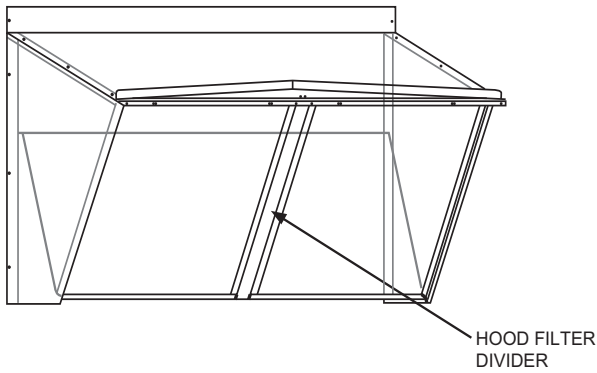


Fig. 4 — Hood for Extra Large Cabinet (CRECOMZR070A01)

6. The hood should now be fully assembled, see Fig. 5 for reference. Slide the EconoMiSer 2 assembly into the rooftop unit (see Fig. 6). On small and large cabinets be sure to engage the rear EconoMiSer 2 assembly flange under the tabs in the return-air opening of the unit base (see Fig. 7).

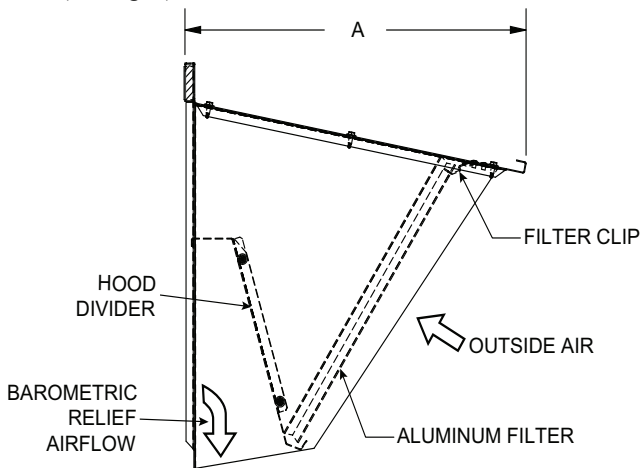


Fig. 5 — Fully Assembled Hood

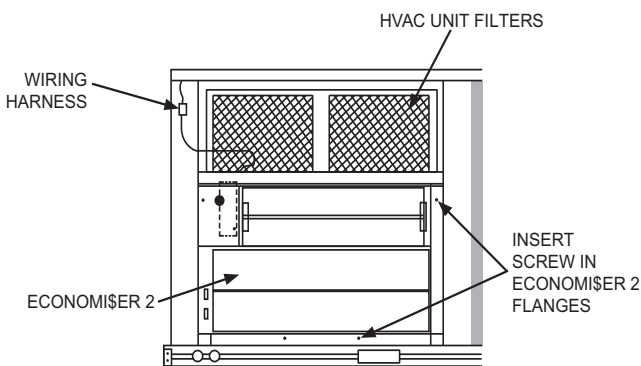


Fig. 6 — EconoMiSer[®] 2 Installed on HVAC Unit (Small Cabinet Economizer Shown)

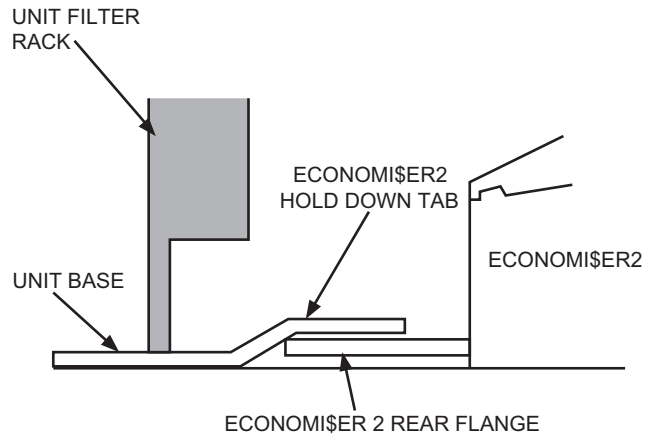


Fig. 7 — Rear EconoMiSer[®] 2 Flange Installation (Small and Large Cabinet)

IMPORTANT: These economizers meet all leakage requirements as laid out in ASHRAE 90.1, California's Title 24, and IECC 2015. Economizer must be installed perfectly square to avoid damper leakage or damper binding. Squareness tolerance is $\pm 1/32$ -inch.

7. Secure the EconoMiSer[®] 2 assembly to unit along side and bottom flanges using the screws provided (see Fig. 6).
8. Remove the tape securing the relief dampers in place.
9. Remove and save the 12-pin jumper plug from the unit wiring harness (located in the upper left corner of the unit). Insert the EconoMiSer[®] 2 plug into the unit wiring harness. Refer to Fig. 9 for wiring diagram.

NOTE: The 12-pin jumper plug should be saved for future use, in the event that the EconoMiSer 2 assembly is removed from the unit. The jumper plug is not needed as long as the EconoMiSer 2 assembly is installed.

10. 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.

NOTE: If also installing a power exhaust accessory, skip Step 10 and follow the power exhaust instructions instead.

11. Install the EconoMiSer 2 hood over the EconoMiSer 2. Use screws provided (see Fig. 8).

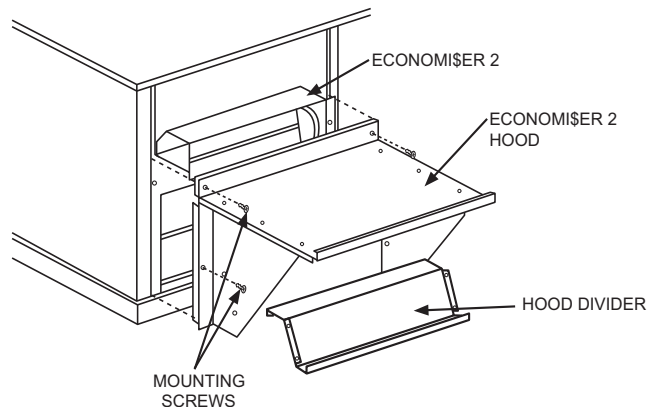


Fig. 8 — EconoMiSer[®] 2 Hood Installation

12. Check all wiring for safety then reapply power to the unit. Verify correct operation and setting of the accessory(s) per the Configuration and Operations sections of the base unit instruction.

13. Replace the filter access panel. Slide top of panel into track and lift. Push bottom of panel into place.
14. Install the economizer hood filter(s) by opening the filter clips which are located underneath the hood top. Insert the aluminum filter(s) 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. 5).
15. To adjust economizer minimum position and other settings, refer to instructions provided with specific economizer DDC controller. Figure 10 shows barometric relief flow capacity and Fig. 11 shows return air pressure drop, for adjusting these settings to meet building ventilation requirements see base unit installation manual.

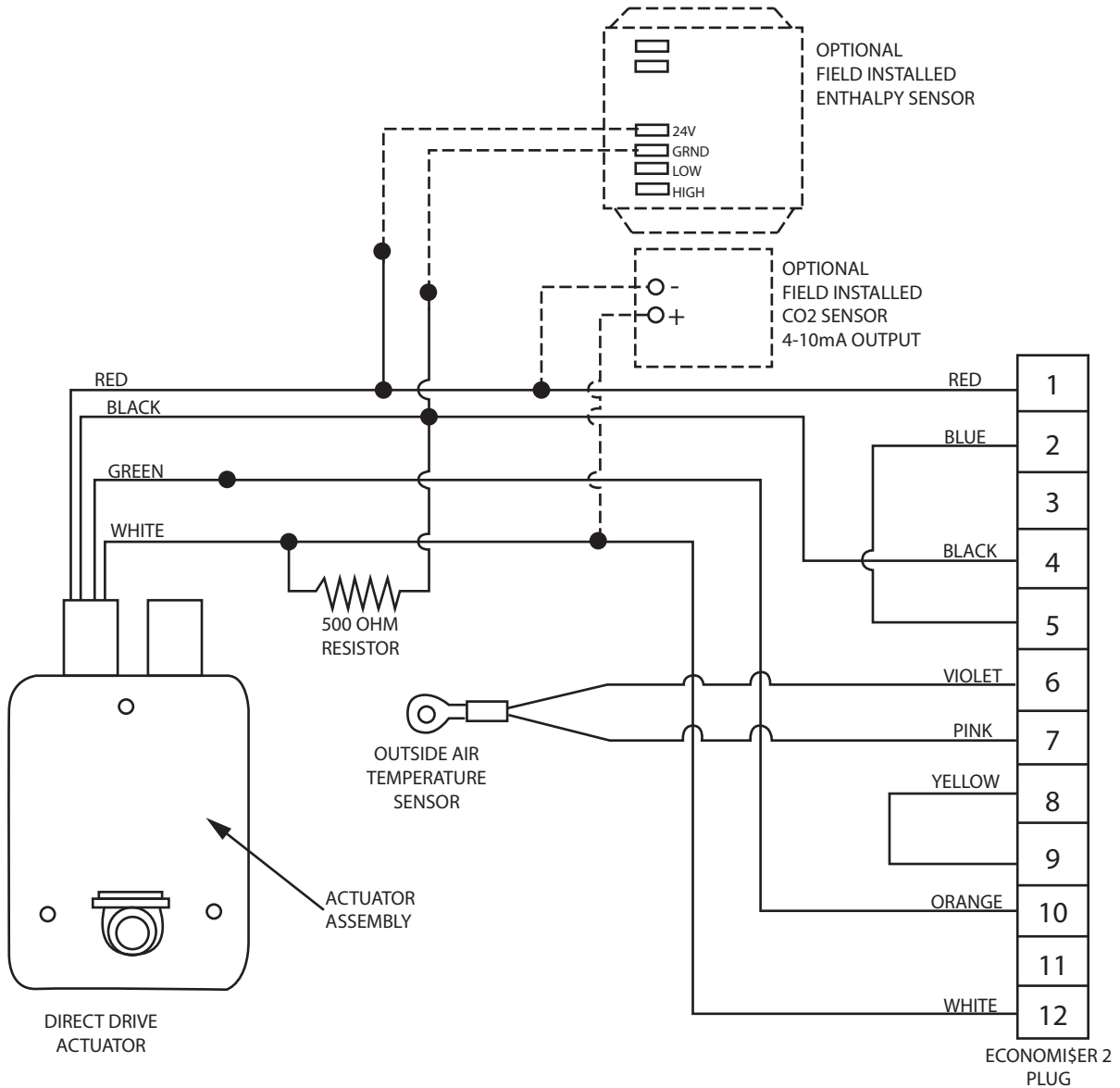


Fig. 9 — EconoMiSer® 2 Wiring Diagram

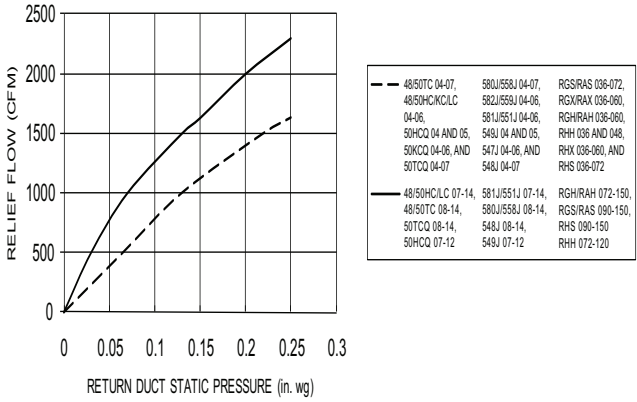


Fig. 10 — Barometric Relief Flow Capacity

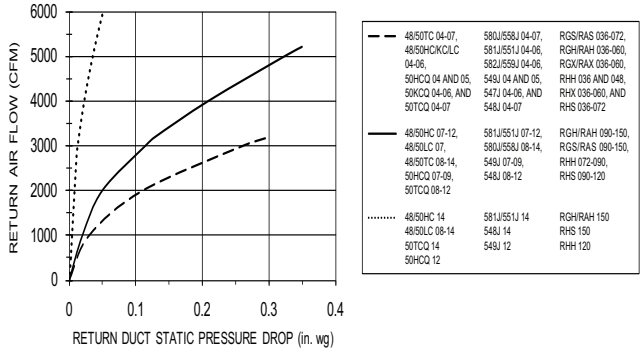


Fig. 11 — Return Air Pressure Drop

