

Installation Instructions

Part No. CRECOMZR066A01, CRECOMZR068A01, and CRECOMZR070A01

IMPORTANT: Read these instructions completely before attempting to install the vertical EconoMi\$er® 2 accessory economizer.

SAFETY CONSIDERATIONS

Installation of this accessory can be hazardous due to system pressures, electrical components, and equipment location (such as a roof or elevated structure). Only trained, qualified installers and service technicians should install, start-up, and service this equipment.

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

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

It is important to 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, CAUTION, and NOTE. 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 hazards 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 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.

⚠ CAUTION

PERSONAL INJURY HAZARD

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 air conditioning equipment.

⚠ CAUTION

PERSONAL INJURY HAZARD

Failure to follow this caution can result in personal injury and damage to the 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.

GENERAL

The EconoMi\$er 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 EconoMi\$er 2 system comes standard with an outdoor air temperature sensor. Field-installed CO₂ sensors are available.

IMPORTANT: Economizer must be installed perfectly square to avoid damper leakage or damper binding. Squareness tolerance is $\pm 1/32$ in.

EconoMi\$er 2 accessories require a 4 to 20 mA actuator signal control. These accessories do not include a controller. The EconoMi\$er 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. See Table 6 for economizer accessories.

Table 1 — Carrier Usage Chart

| CARRIER MODEL NUMBER | ECONOMIZER 2 PART NUMBER |
|--|--------------------------|
| 48/50FC*04-07 48/50GC*04-06 48/50HC 04-06 48/50JC 04-06 48/50KC 04-06 48/50LC 04-06 48/50TC 04-07 50FCQ 04-07 50GCQ 04-06 50HCQ 04-06 50KCQ 04-06 50TCQ 04-07 | CRECOMZR066A01 |
| 48/50HC 07-12 48/50LC 07 48/50TC 08-14 50HCQ 07-09 50TCQ 08-12 | CRECOMZR068A01 |
| 48/50HC 14 48/50LC 08-12 48/50TC 16 50HCQ 12 50TCQ 14 | CRECOMZR070A01 |

Table 2 — Bryant Usage Chart

| BRYANT MODEL NUMBER | ECONOMIZER 2 PART NUMBER |
|---|--------------------------|
| 582K/559K*04-07 581K/551K*04-06 581J/551J 04-07 582J/559J 04-06 580J/558J 04-07 547K 04-07 549K 04-06 549J 04-07 547J 04-06 548J 04-07 | CRECOMZR066A01 |
| 581J/551J 07-12 580J/558J 08-14 549J 07-09 548J 08-12 | CRECOMZR068A01 |
| 581J/551J 14 580J/558J 14 549J 12 548J 14 | CRECOMZR070A01 |

Table 3 — ICP Usage Chart

| ICP MODEL NUMBER | ECONOMIZER 2 PART NUMBER |
|--|--------------------------|
| RGV/RAV 036-072 RGW/RAW 036-060 RGH/RAH 036-060 RGX/RAX 036-060 RAS/RGS 036-060 RHV 036-072 RHW 036-060 RHH 036-060 RHX 036-060 RHS 036-072 | CRECOMZR066A01 |
| RGH/RAH 072-120 RGS/RAS 090-120 RHH 072-102 RHS 072-120 | CRECOMZR068A01 |
| RGH/RAH 150 RGS/RAS 150 RHH 120 RHS 150 | CRECOMZR070A01 |

Compliance

Economizers meet California Energy Commission Title 24-2016 prescriptive section 140.4 (damper leakage etc.), and when use with Carrier Comfortlink, RTU Open, 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 and meet 2016 Fault Detection and Diagnosis requirements when used with Carrier ComfortLink, RTU Open, System Vu, or I/O Flex 6126 control systems.

Economizers meet IECC (International Energy Conservation Code) 2015 and 2018 for outside air, return air, and relief air damper leakage requirements, and when used with Carrier Comfortlink, RTU Open, System Vu, or I/O Flex control systems meet IECC 2015 and 2018 for Fault Detection and Diagnostic requirements.

IECC 2015 and 2018 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).
- 33ZCASPACO2 - 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 | EconoMiSer 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 | 33ZCSENCO2 |
| 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

Figure 1 shows component locations on the EconoMiSer 2 assembly. Remove shipping tape before installing EconoMiSer 2.

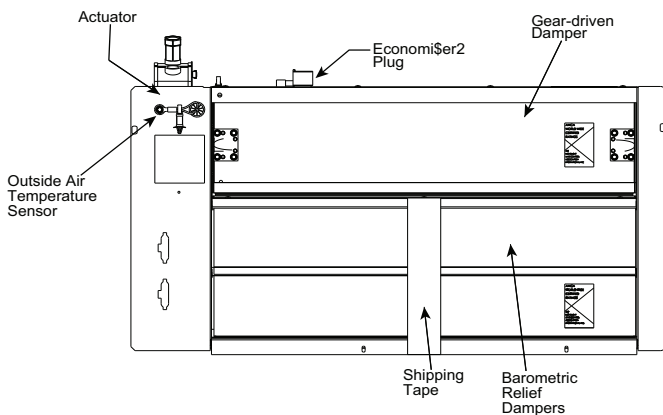


Fig. 1 — EconoMiSer® 2 (Ultra Low Leak) Component Locations

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.)

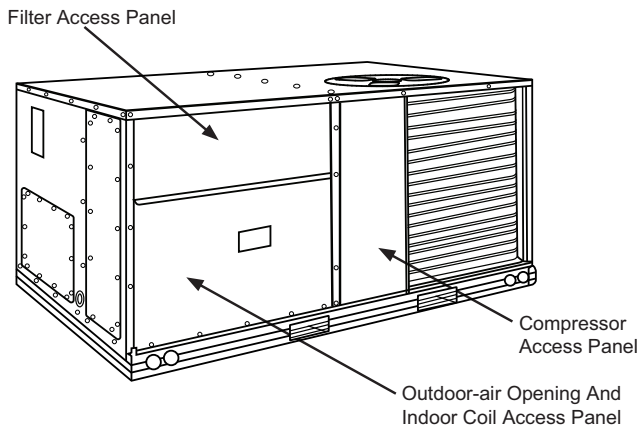
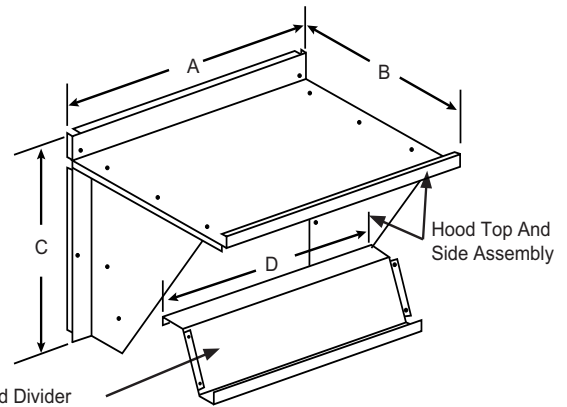


Fig. 2 — Typical Access Panel Locations

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

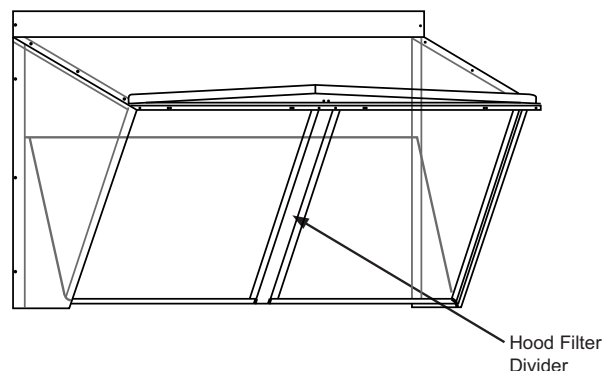


Fig. 4 — Hood for Extra Large Cabinet (CRECOMZR070A01)

- 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.)

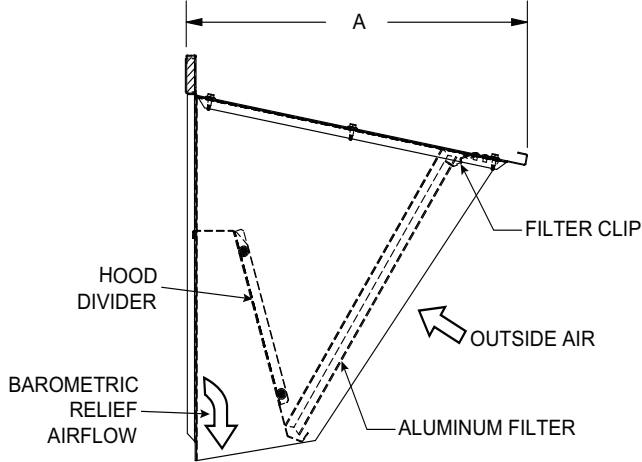


Fig. 5 — Fully Assembled Hood

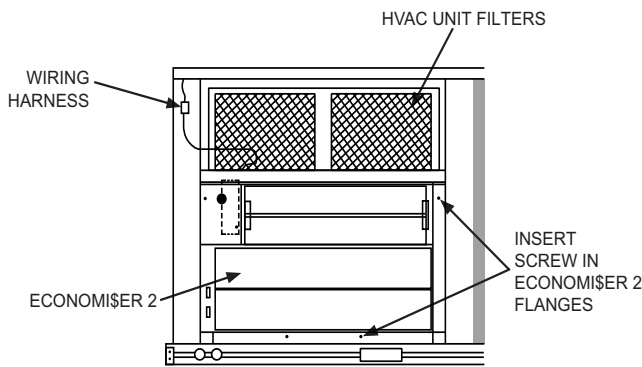


Fig. 6 — EconoMiSer® 2 Installed on HVAC Unit (Small Cabinet Economizer Shown)

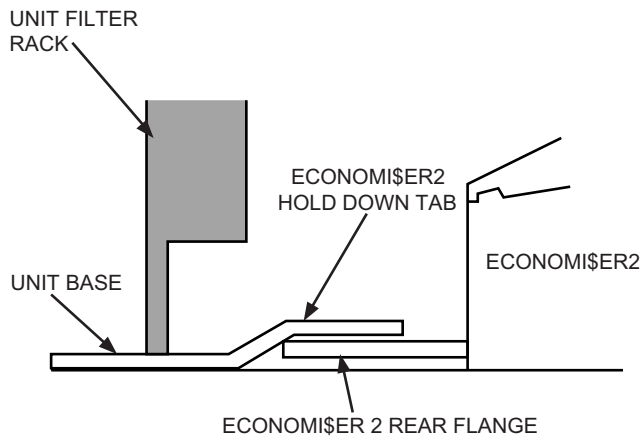


Fig. 7 — Rear EconoMiSer® 2 Flange Installation (Small and Large Cabinet)

IMPORTANT: These economizers meet all leakage requirements as laid out in ASHRAE 90.1, California’s Title 24, and IECC 2015 and 2018. Economizer must be installed square to avoid damper leakage or damper binding. Squareness tolerance is $\pm 1/32$ in.

- Secure the EconoMiSer® 2 assembly to unit along side and bottom flanges using the screws provided (see Fig. 6).
- Remove the tape securing the relief dampers in place.
- 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.

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

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

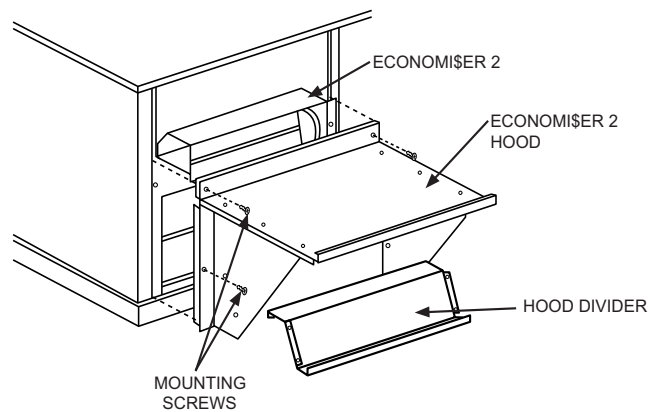


Fig. 8 — EconoMiSer® 2 Hood Installation

- 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.
- Replace the filter access panel. Slide top of panel into track and lift. Push bottom of panel into place.
- 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).
- 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.

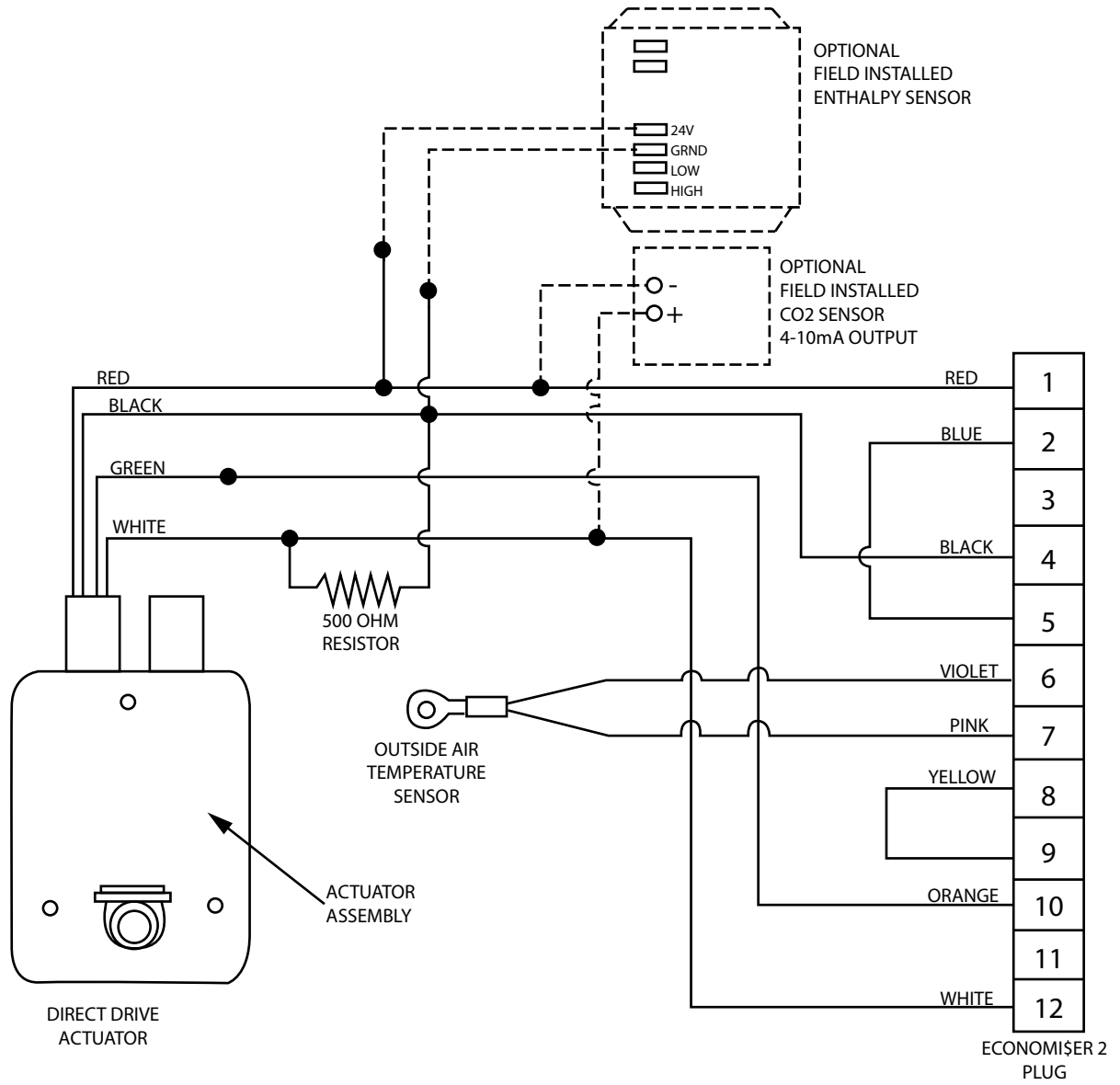
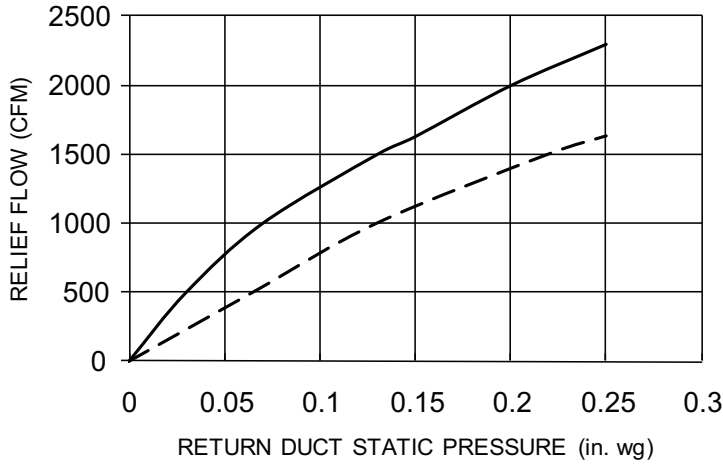
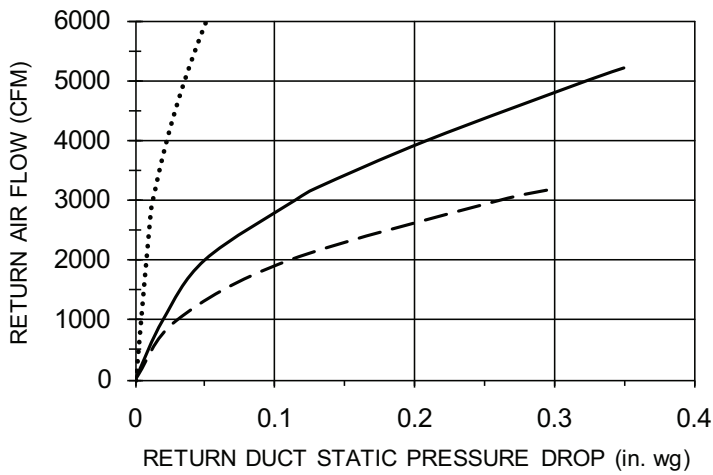


Fig. 9 — EconMiSer® 2 Wiring Diagram



| | | |
|---|--|---|
| 48FC 04-07, 48GC 04-06, 48/50JC 04-06 48/50TC 04-07, 48/50HC/KC/LC 04-06, 50HCQ 04 AND 05, 50KCQ 04-06, AND 50TCQ 04-07 | 581K 04-06, 582K 04-07, 580J/558J 04-07, 582J/559J 04-06, 581J/551J 04-06, 549J 04 AND 05, 547J 04-06, AND 548J 04-07 | RGV 036-072, RGW 036-060, RGS/RAS 036-072, RGX/RAX 036-060, RGH/RAH 036-060, RHH 036 AND 048, RHX 036-060, AND RHS 036-072 |
| 48/50HC/LC 07-14, 48/50TC 08-14, 50TCQ 08-14, 50HCQ 07-12 | 581J/551J 07-14, 580J/558J 08-14, 548J 08-14, 549J 07-12 | RGH/RAH 072-150, RGS/RAS 090-150, RHS 090-150 RHH 072-120 |

**Fig. 10 — Barometric Relief Flow Capacity
(Airflow shown with outside air damper completely open)**



| | | |
|---|--|---|
| 48FC 04-07, 48GC 04-06, 48/50JC 04-06 48/50TC 04-07, 48/50HC/KC/LC 04-06, 50HCQ 04 AND 05, 50KCQ 04-06, AND 50TCQ 04-07 | 581K 04-06, 582K 04-07, 580J/558J 04-07, 581J/551J 04-06, 582J/559J 04-06, 549J 04 AND 05, 547J 04-06, AND 548J 04-07 | RGV 036-072, RGW 036-060, RGS/RAS 036-072, RGH/RAH 036-060, RGX/RAX 036-060, RHH 036 AND 048, RHX 036-060, AND RHS 036-072 |
| 48/50HC 07-12, 48/50LC 07, 48/50TC 08-14, 50HCQ 07-09, 50TCQ 08-12 | 581J/551J 07-12, 580J/558J 08-14, 549J 07-09, 548J 08-12 | RGH/RAH 090-150, RGS/RAS 090-150, RHH 072-090, RHS 090-120 |
| 48/50HC 14 48/50LC 08-14 50TCQ 14 50HCQ 12 | 581J/551J 14 548J 14 549J 12 | RGH/RAH 150 RHS 150 RHH 120 |

Fig. 11 — Return Air Pressure Drop

