

Installation Instructions

0-100% Horizontal Dry Bulb Economizer

Foundation™ Packaged Rooftop Units
15 to 25 Tons

Model Number: BAYECON301*
Used With: E/GCC180-300

SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

December 2022

ACC-SVN167E-EN

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Warnings, Cautions, and Notices

Read this manual thoroughly before operating or servicing this unit. Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

NOTICE

Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including industry replacements for CFCs such as HCFCs and HFCs.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

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WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury. All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state electrical codes.

WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury. Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, MUST follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labeling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.

If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection. PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.

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WARNING

Follow EHS Policies!

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

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Revision History

- Model number updates in Used With information.
- Actuator updates in Installation section.

Inspection

1. Unpack all components of the kit.
2. Check carefully for any shipping damage. If any damage is found, reported immediately, and file a claim against the transportation company.
3. Visually inspect the components for shipping damage as soon as possible after delivery, before it is stored. Concealed damage must be reported within 15 days.
4. If concealed damage is discovered, stop unpacking the shipment.
5. Do not remove damaged material from the receiving location. Take photos of the damage, if possible. The owner must provide reasonable evidence that the damage did not occur after delivery.

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6. Notify the carrier's terminal of damage immediately by phone and by mail. Request an immediate joint inspection of the damage by the carrier and the consignee.

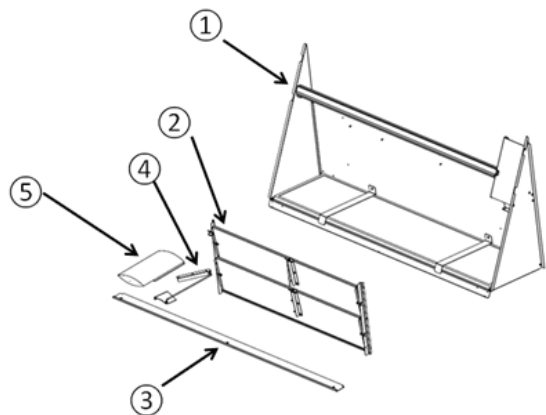
Important: Do not attempt to repair any damaged parts until the parts are inspected by the carrier's representative.

Parts List

Each economizer ships partially assembled. The steps for installation are illustrated throughout this guide. Refer to the figures as the steps are performed.

Figure 1 illustrates the major components of the economizer when shipped for field installation. As the economizer is un-crated, locate the following parts:

Figure 1. Major economizer components

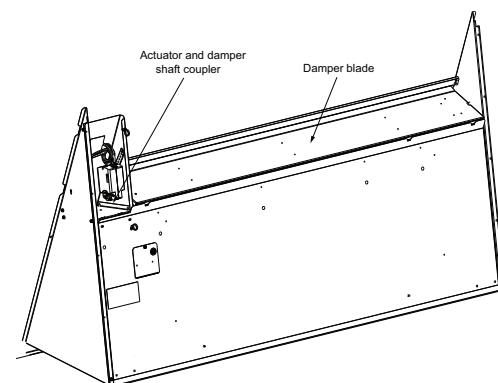


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Table 1. Parts list

Item	Description	Qty
1	Outdoor air damper assembly	1
2	Return air damper assembly	1
3	Block-off	1
4	Connecting rod assembly	1
5	Plastic bag of miscellaneous parts:	1
	Screws	—
	Mixed air temperature sensor	1
	Installation Instructions manual	1
	Rubber grommet	1

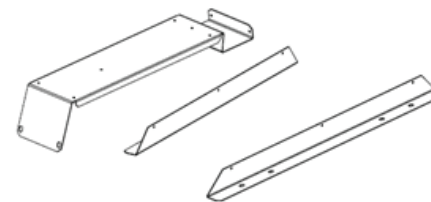
Figure 2. Economizer damper blade



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The following parts are used for shipping only and can be discarded:

Figure 3. Discard these parts



Field Supplied Part

NOTICE

Corrosion Damage!

Use of non-recommended caulking/sealant could cause corrosion related failures to refrigeration components.

Table 2. Field supplied parts list

Qty	Description
1	Tube Sealant - Trane recommends Sikaflex 221 (SEL00439)

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Installation

WARNING

Hazardous Voltage w/Capacitors!

Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury. Disconnect all electric power, including remote disconnects and discharge all motor start/run capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. Verify with a CAT III or IV voltmeter rated per NFPA 70E that all capacitors have discharged.

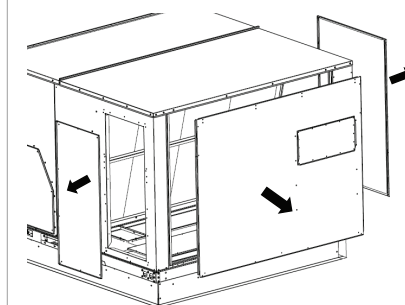
WARNING

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Failure to follow code could result in death or serious injury. All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

1. Remove the filter/fan compartment access panel and the unit end panel (evaporator end).

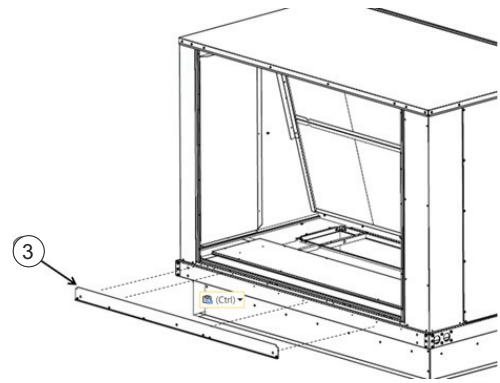
Figure 4. Remove panels



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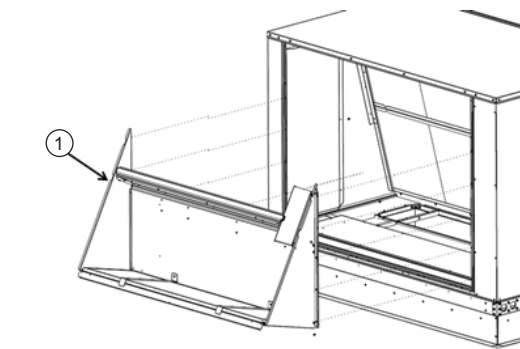
2. Attach block-off 3 to unit by using four screws.

Figure 5. Attach block-off



3. Attach outdoor air damper assembly to unit using ten screws.

Figure 6. Secure economizer to unit



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Minimum Position Setting

- To adjust the minimum position setting and check out the economizer, the power must be connected.
- Close the unit disconnect and place the zone sensor fan selector in the fan ON position and the heat/cool selector in the OFF position. This will place the damper in the minimum ventilation position.
- When adjusting minimum position, the damper may move to the new setting in several small steps. Once the damper has remained in position for 10 to 15 seconds without movement, it can be assumed it is at the new position.
- Replace the filter access panel.
- The damper will close when the blower circuit is de-energized.

Dry Bulb Settings

Standard economizer dry bulb changeover is field selectable to 5 outdoor temperatures. See [Table 3](#) for potentiometer settings. The selection is made on the ECA.

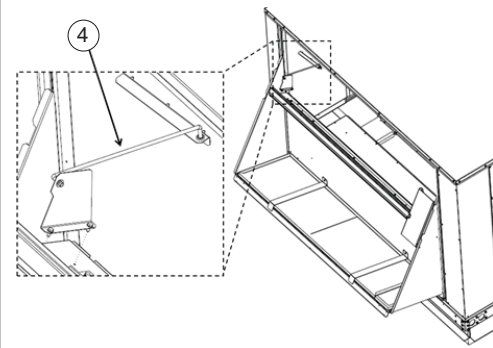
To adjust the minimum position setting for the required ventilation air, actuator should operate from fully open (increase the amount of ventilation) to fully closed (decrease the amount of ventilation)

Ensure the damper blades are fully closed to confirm the minimum position setting.

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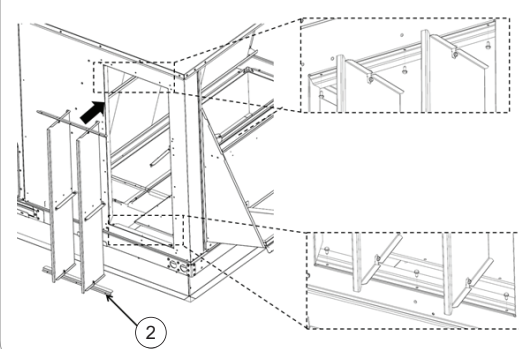
4. Attach connecting rod assembly 4 to outdoor damper using two screws.

Figure 7. Attach rods to damper



5. Attach return air damper assembly 2 to top and bottom flanges of return opening using six screws.

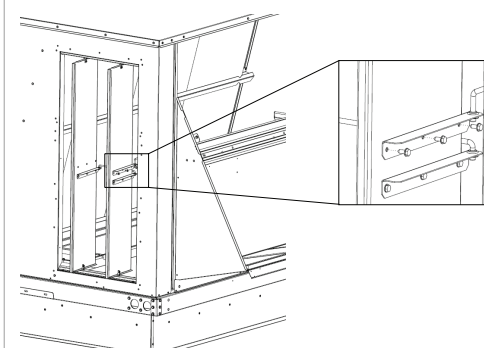
Figure 8. Attach return air damper assembly to return opening



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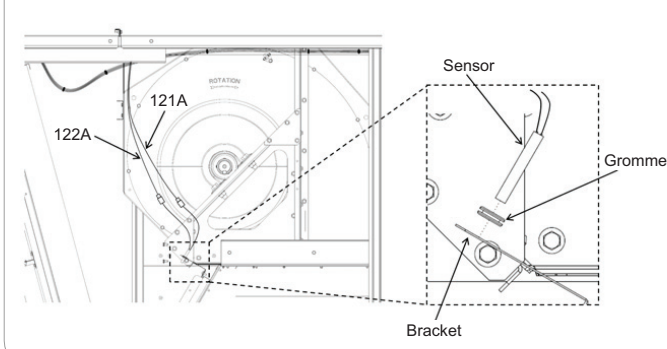
6. Attach connecting rod to return air damper using three screws.

Figure 9. Attach connecting rods to return air damper



7. Insert the rubber grommet into the hole on sensor bracket. See [Figure 10](#).
8. Insert mixed air sensor through the grommet, approximately half inch, with the end pointing toward the coil.

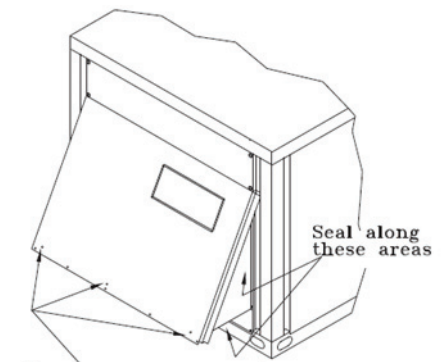
Figure 10. Install grommet and mixed air sensor



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9. Attach side panel back to unit with field supplied silicone sealant, seal areas indicated in [Figure 11](#).

Figure 11. Reinstall side panel



3 upper screws securing the end panel to the economizer frame

Note: Do not adjust damper blade manually. If required, decouple actuator and shaft connection before manual adjustments of damper blade. Confirm the coupler properly engaged after installation and service. Refer to [Figure 2](#).

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Reference Enthalpy Settings

Economizer enthalpy changeover is field selectable to 5 points. See [Table 3](#) for potentiometer settings. The selection is made on the ECA.

Table 3. Potentiometer settings

Potentiometer Setting	Dry Bulb	Enthalpy
A	73°F (22.8°C)	27 Btu/lb (63 kJ/kg)
B	70°F (21.1°C)	25 Btu/lb (58 kJ/kg)
C ^(a)	67°F (19.4°C)	23 Btu/lb (53 kJ/kg)
D	63°F (17.2°C)	22 Btu/lb (51 kJ/kg)
E	55°F (12.8°C)	19 Btu/lb (44 kJ/kg)

(a) Factory Setting.

Table 4. Economizer control options

Control Option	Enable Conditions ^(a)	Optional Sensors Required ^(b)
Dry Bulb (standard)	See Table 3	Outdoor Air Temp (OAT)
Reference Enthalpy (ReliaTel™ Only)	See Table 3	Outdoor Humidity (BAYENTH300*)
Comparative Enthalpy (ReliaTel™ Only)	Outdoor Air Enthalpy 3.0 BTU/lb. less than Return Air Enthalpy	Outdoor Humidity Return Humidity Return Temperature (BAYENTH301*)

(a) Economizing is enabled when these conditions are met.

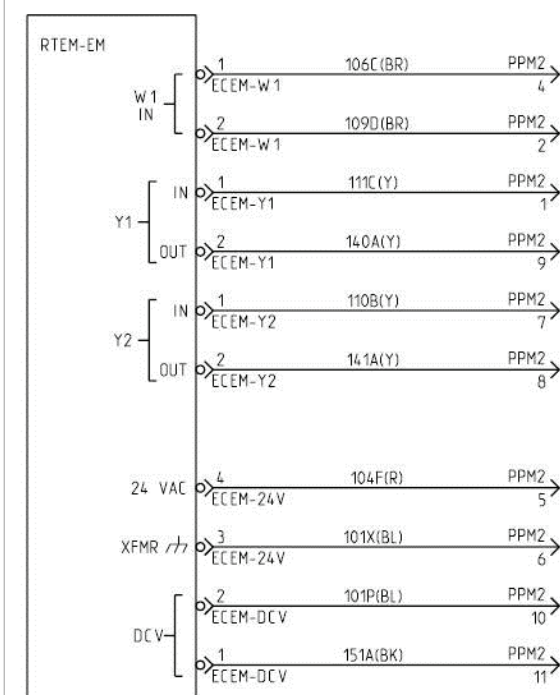
(b) Conditions level will be self configured when optional sensors are connected.

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Wiring Connections

Locate unit wiring harness plug PPM2A. The plug is located in the upper left section of the return air section. Remove the cap covering the plug, and connect to the economizer wiring harness.

Figure 12. Electromechanical wiring



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Trane and American Standard have a policy of continuous product and product data improvement and reserve the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.

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