

ECONOMIZER 101

Economizers are designed to provide “free” air conditioning when outside conditions are appropriate. When the outside air is cool and dry enough, the economizer automatically opens to introduce the cool air to the interior space, thereby eliminating the need to run the air conditioning compressor.

If the outside air becomes too warm or humid, the economizer automatically closes the fresh air damper and the compressor engages to begin cooling the space mechanically.

If a two stage thermostat is used it is possible to use a combination of economizer and mechanical cooling to condition the space.

The economizer can also be set to allow a minimum amount of fresh air to enter the space when the equipment’s indoor blower is operating.

Economizers are valuable tools to enhance indoor air quality, save energy and prolong the life of the air conditioning equipment.

SEQUENCE OF OPERATION

This sequence assumes employment of a single enthalpy economizer using a two stage thermostat.

1. A call for cooling comes from room thermostat.
2. The enthalpy sensor determines if the atmospheric conditions are conducive for using outside air for cooling. If YES, go to step 3. If NO, or if outdoor air temperature rises above enthalpy set point, go to step 4.

3. The outside air dampers open and modulate to maintain a mixed air temperature (outside air + indoor air) of 53 degrees F. If the outdoor air is insufficient to satisfy the thermostat alone and a second stage of cooling is required, the compressor starts and works in conjunction with the economizer to cool the space. (Go to step 5.)
3. Outdoor air dampers open to minimum position and the compressor engages to provide mechanical cooling.
3. When the thermostat is satisfied the outside air dampers return to a closed position.

INSTALLATION

1. Open carton and inspect contents for shortages and damage.
2. Remove the large evaporator access panel.
3. Remove the horizontal return air opening cover and secure it over the downflow return opening per unit installation instructions.
4. Feed the wiring harness through the return air opening.

NOTE: Ensure that the wiring harness is inside the return air opening and that no part of it is caught between the economizer and the side of the unit.

5. Attach the economizer to the unit over the horizontal return air opening by sliding the top flange of the economizer under the flange on the top of the unit and securing with sheet metal screws. Weatherproof the seam where the economizer and unit attach using silicone or other approved sealant.

NOTE: Ensure neither the wire nor the plugs interfere with the movement of the dampers during operation.

6. Locate the nine pin plug in the unit and remove the jumper plug. Attach the plug from the economizer.
7. Remove the blower access panel and secure the mixed air sensor to the blower housing. (Figure 1)
8. Attach the pink mixed air sensor wires to the sensor and to MAT on the Jade control. (Figure 2)
9. Replace the blower access door and evaporator access door.
10. Attach field supplied duct to return air duct opening on the economizer.

This product is warranted to be free from defects due to workmanship or materials, under normal use, for a period of sixty (60) months from date of installation.



Figure 1

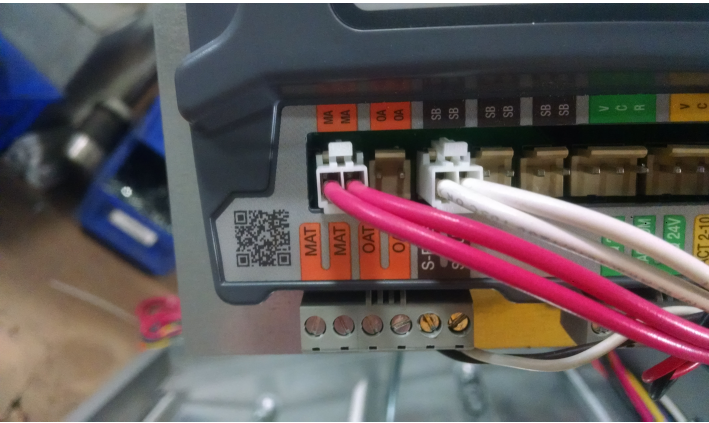


Figure 2

$$(To \times OA) + (Tr \times RA) = Tm$$

To = Outdoor air temperature

OA= Percent of outdoor air

Tr = Return air temperature

RA= Percent of return air

Tm= Resulting mixed air temperature

Example:

Fresh air required is 10% outdoor air.

Outdoor air temperature is 60 degrees F.

Return air temperature is 75 degrees F.

$$(0.1 \times 60) + (0.9 \times 75) =$$

$$6.0 + 67.5 = 73.5$$

Mixed air temperature will be 73.5 degrees F when the OA is 60 degrees F and the RA is 75 degrees F with 10% outdoor air.

CONTENTS

Return Air/Fresh Air Damper Section

Fresh Air Hood Left Sides (2)

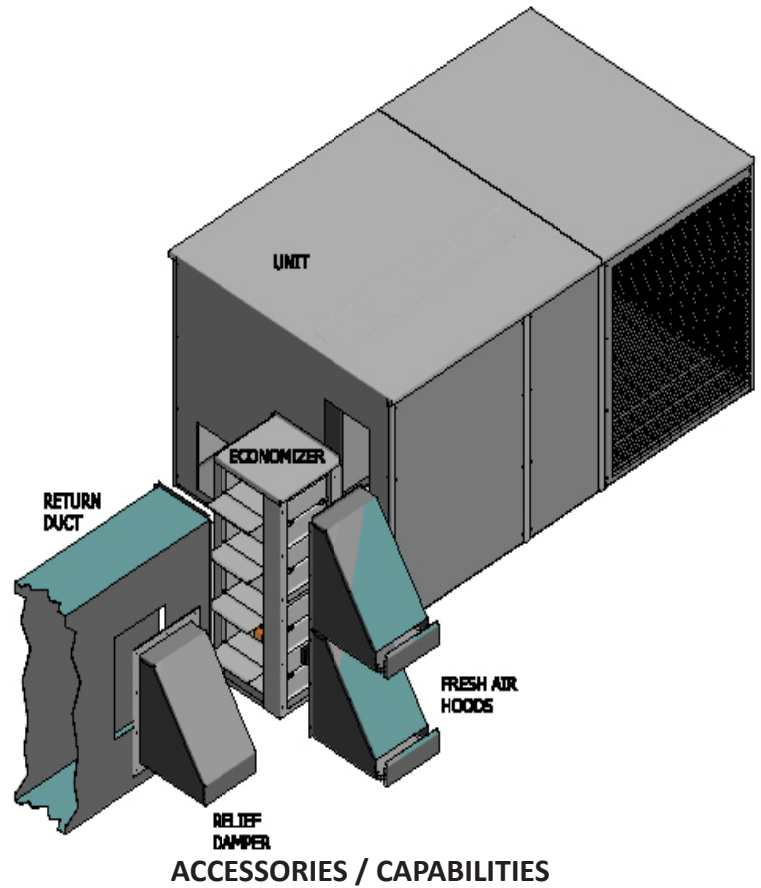
Fresh Air Hood Right Sides (2)

Fresh Air Hood Tops (2)

Fresh Air Hood Front Filter Access (2)

Mist Eliminators (2)

Screw Package



Dual Enthalpy - Requires an additional C7400 enthalpy control installed in the return air duct.

Demand Control Ventilation - Requires a CO2 sensor.

Power Exhaust - DNPE3672 power exhaust used in applications where barometric relief is not sufficient. Requires PE-3672BXHR duct mounted barometric relief damper. See page 3 for instructions.

Important Notes

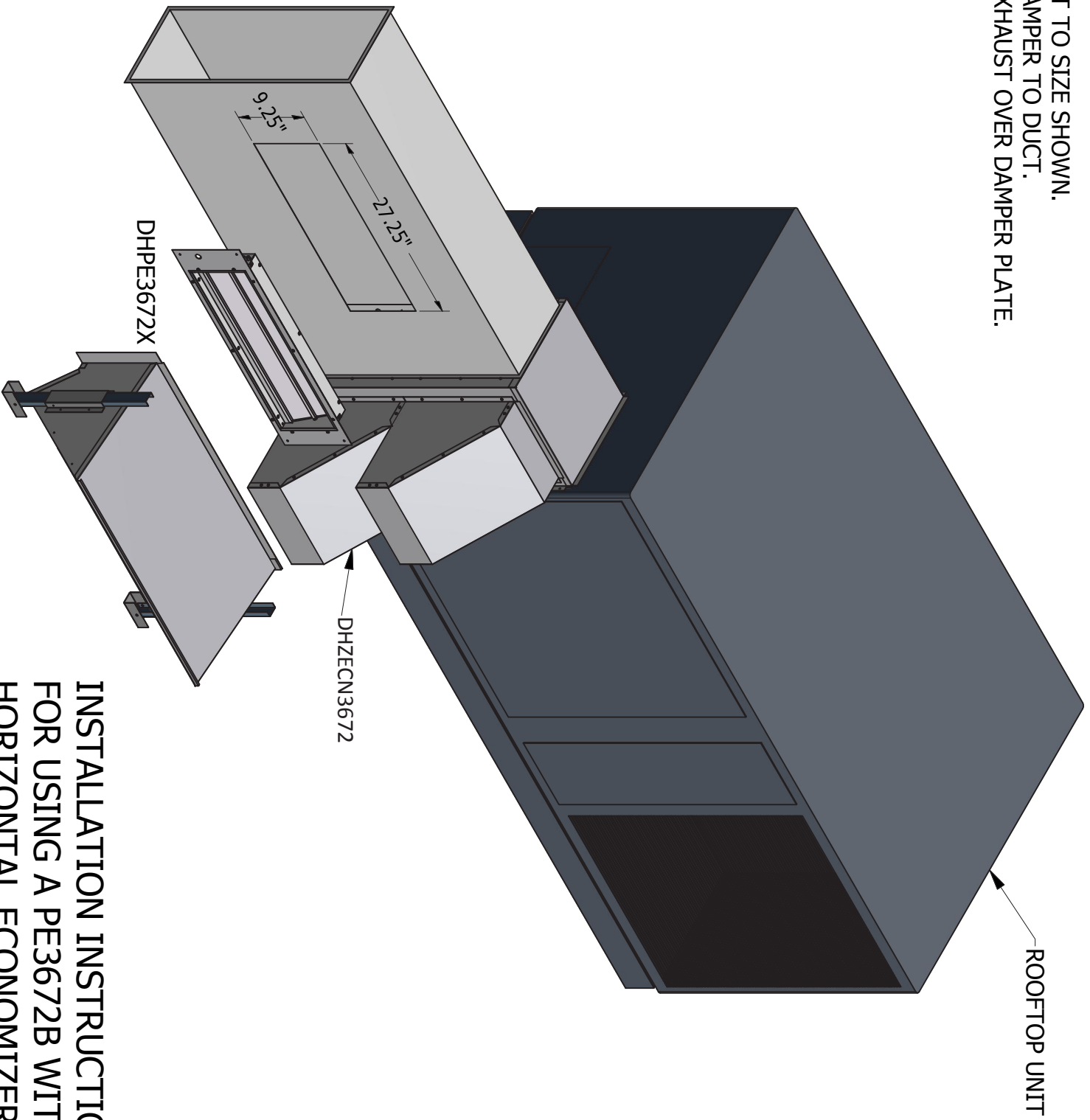
Please see enclosed brochure for Honeywell component trouble shooting and heat pump conversio instructions.

Heat pump applications require Goodman part number IRKT-01.

The fresh air mist eliminator should be flushed periodically with warm soapy water.

A two stage thermostat is recommended with this accessory.

1. CUT HOLE IN DUCT TO SIZE SHOWN.
2. ATTACH RELIEF DAMPER TO DUCT.
3. ATTACH POWER EXHAUST OVER DAMPER PLATE.



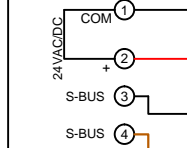
INSTALLATION INSTRUCTIONS
FOR USING A PE3672B WITH THE
HORIZONTAL ECONOMIZER

JADE WIRE DIAGRAM 3105 REV4

GROUND

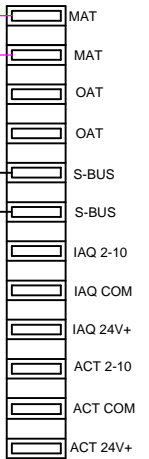
GROUND LUG

MS3105K3052/B
HONEYWELL ACTUATOR

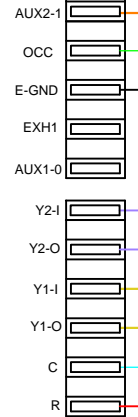


BLACK
RED
WHITE
BROWN

PINK
PINK
WHITE
WHITE
BLACK
RED



HONEYWELL
W720

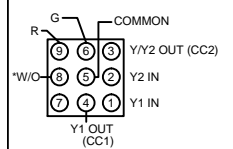


(O)
BLACK
(P)
(P)
(Y)
(Y)
(BL)
(R)

MOLEX 3597706**
50048926-002

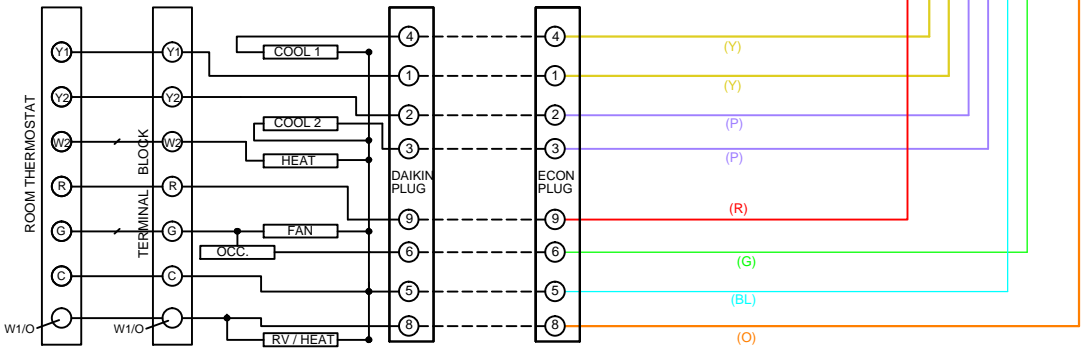
COLOR CODES FOR 9 PIN PLUG

- ① (Y) YELLOW
- ② (P) PURPLE
- ③ (P) PURPLE
- ④ (Y) YELLOW
- ⑤ (BL) BLUE
- ⑥ (G) GREEN
- ⑧ (O) ORANGE
- ⑨ (R) RED



CONNECT TO
C7250A1001
MIXED AIR SENSOR

CONNECT TO
C7400S1000
ENTHALPY CONTROL



* WHITE WIRE ON DCG
ORANGE WIRE ON DCH