YORK AFF15 HORIZONTAL ECONOMIZERS I/O/M MANUAL

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For information on iAIRE's Economizer Controls Package, please refer to IOM-0014

York Economizer Description

PLEASE NOTE: Our economizer is a low leak, field installed economizer with the iAIRE patented controls packages and actuator, allowing you to reduce the amount of outside air needed from your rooftop HVAC system by up to 2/3 and will improve indoor air quality.

This reduction in system operation creates on-going utility savings. Payback on capital equipment costs with an iAIRE economizer can be realized in fewer than three years. These packages are designed to work directly on existing rooftop HVAC systems.

These economizers are all low leak and meet the IECC 2015 requirement and are Title 24 compliant by meeting section 120.2(i) for the required controls and the efficiency requirements in 140.4(e).

Unit to RTU Conversion	
AFF	DNQ/DNY/DNZ/DEQ/DEZ/BHQ/BHX/BHZ 024-060 DNX/DEX 024-060: DEY 060

Part Number

EC - 1 - 2 3 4 5 - 6

type
EC - ECONOMIZER

unit/ton (1)

26	6075	CHAS12	A-BOX	FND35	PREC810	AFF	SCL34
712	100	CHAS34	B-BOX	PACK13	VOY12	LXS	SCLHE12
1525	125	CHAS5	C-BOX	PREC35	VOY12HE	LXL	SCLHE34
3050	150	CHAS69	D-BOX	PREC48	VOY1525HE	SCS12	PRED
			E-BOX	PREC610		SCS34	PREDS
Controls Only		Carrier	F-BOX		Trane	SCSHE12	SL
			Lennox			SCSHE34	SLL
						SCL12	SLU
							York

configuration (2)

- 0 - NO ECON
- C - CONVERTIBLE
- H - HORIZONTAL
- V - VERTICAL

actuator (3)

- 0 - NO ACTUATOR
- A - 20 IN-LB
- B - 62 IN-LB
- C - 160 IN-LB

controls (4)

- 0 - ECON ONLY
- A - IAQ
- B - IAQ (NO IONIZATION)
- D - DCV

power exhaust (5)

- 0 - NO POWER EXHAUST
- A - 208/230V 1Φ FIXED PE
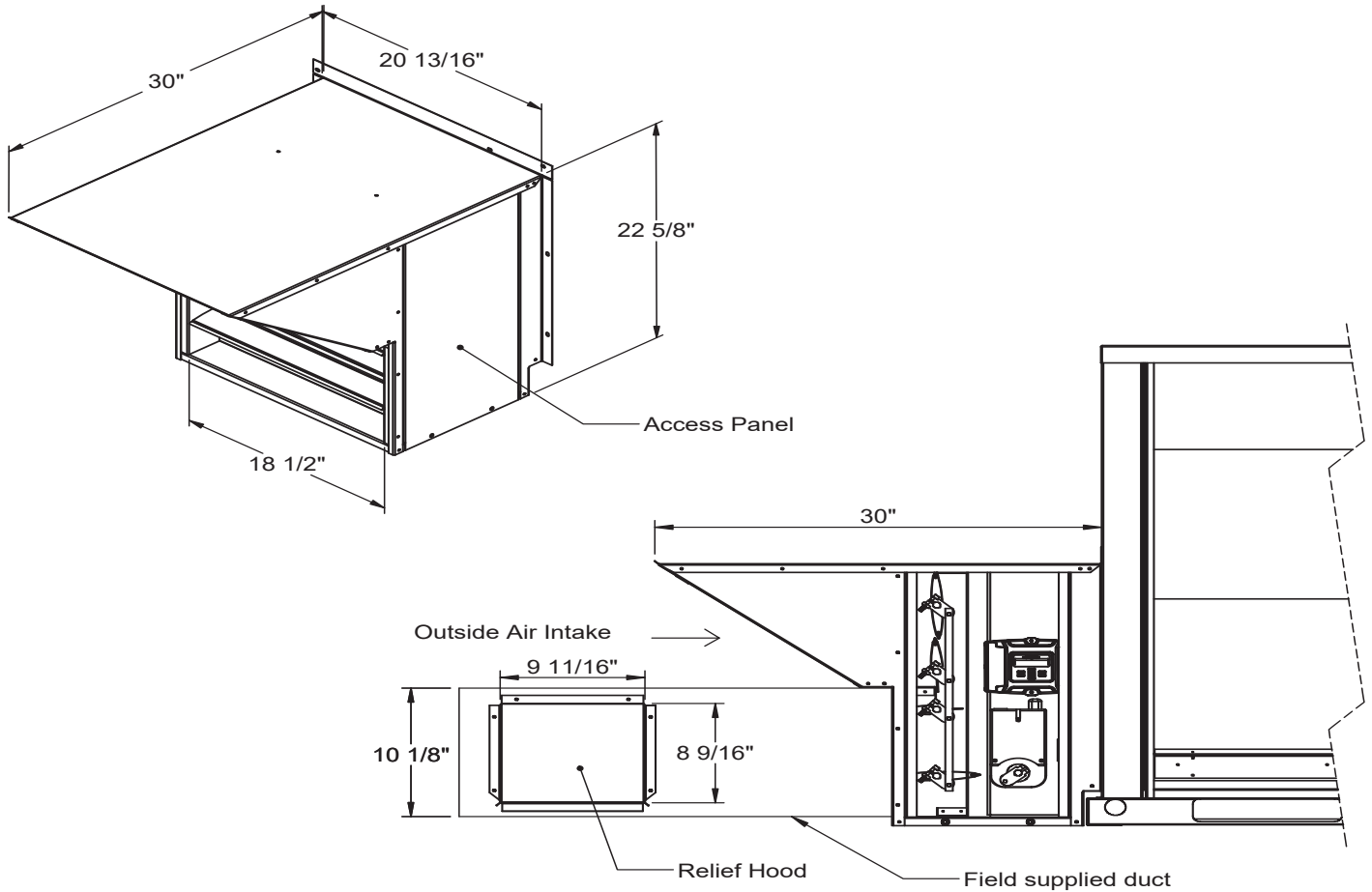- B - 208/230V 3Φ FIXED PE
- C - 460V 3Φ FIXED PE

options (6)

- 0 - NONE
- B - HUMIDITY
- C - BACNET
- D - BLDG PRESSURE*
- R - RTU OPEN
- U - ULTRA LOW LEAK

Note: By adding option "D" any powered exhaust will be modulating.

SUB-0027   iAIRE LLC | 2100 Consulate Drive Suite 102, Orlando, FL 32837
www.myultrapure.com | Toll Free 844-348-9168   PD 09/25/21 V.01.00

iAIRE, LLC   *iAIRE* York Economizers I/O/M

AFF Horizontal Submittal

30"

20 13/16"

22 5/8"

Access Panel

18 1/2"

30"

Outside Air Intake →

9 11/16"

10 1/8"

8 9/16"

Relief Hood

Field supplied duct

PART #	WEIGHT
EC-AFF-HBA0-*	46 lbs.

Electrical Data

PART	AMPS	PART	AMPS	TOTAL
ACTUATOR	.29A	CONTROLS	.27A	.56A

*OPTIONS
0 - No Options
B - Humidity/Enthalpic
C - BACNet

Features

· **iAIRE Patented Controls Scheme Included**
· Low Leak Damper Included
· VOC, CO2 and Ionization included
· Heavy Gauge Galvanized Steel Construction
· American Sterling Grey Paint Finish
· One Piece Assembly
· Gear Driven Dampers
· Uses HVAC Unit Filter Access Door
· Capable of Relieving up to 100% of the Outside Air Intake

Economizers with Indoor Air Quality control are Title 24 compliant by meeting section 120.2(i) for the required controls and the efficiency requirements in 140.4(e). They also meet California ozone emissions requirements to be CARB certified.

SUB-0027-AFFH | iAIRE, LLC | 2100 Consulate Drive, Suite 102, Orlando, FL 32837 www.myultrapure.com | Toll Free 844-348-9168 | PD 09/15/2021 - v 1.00

iAIRE, LLC | *iAIRE* York Economizers I/O/M

AFF Cooling Only & Heat Pump - Horizontal Install

NOTE: The Honeywell JADE controller requires only a Mixed Air Temperature sensor that has been factory installed in lieu of a Discharge Air Temperature sensor located downstream of the coil that was required by economizers of the past.

PLEASE NOTE: If the unit is 208/230V, single phase, power supply, the installed 40VA transformer needs/must be replaced with a 75VA transformer and circuit breaker. All other factory units have the 75VA transformer installed standard.

Before Starting Installation:
Warning - Shut power to unit prior to any work being done. Personal injury or death could result.

Only qualified HVAC service personnel should install, troubleshoot, repair or service HVAC and related HVAC equipment.
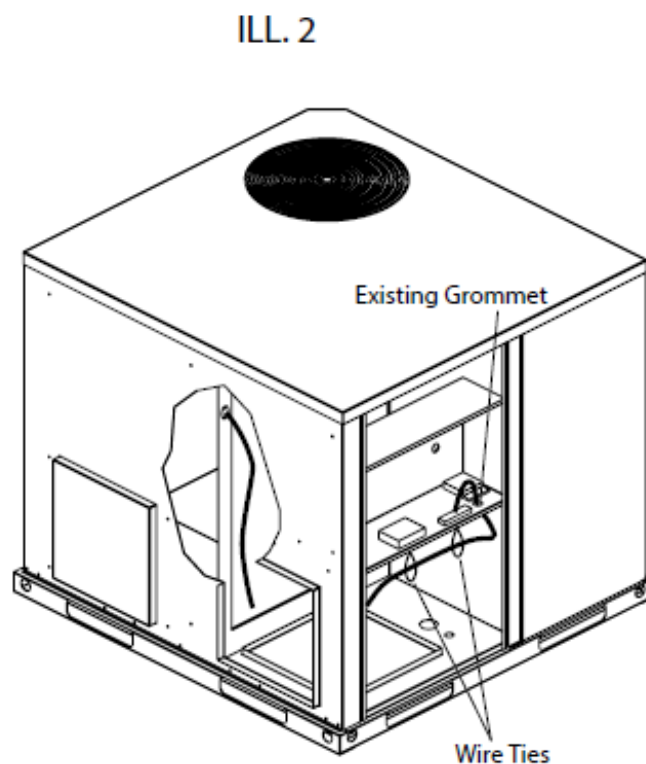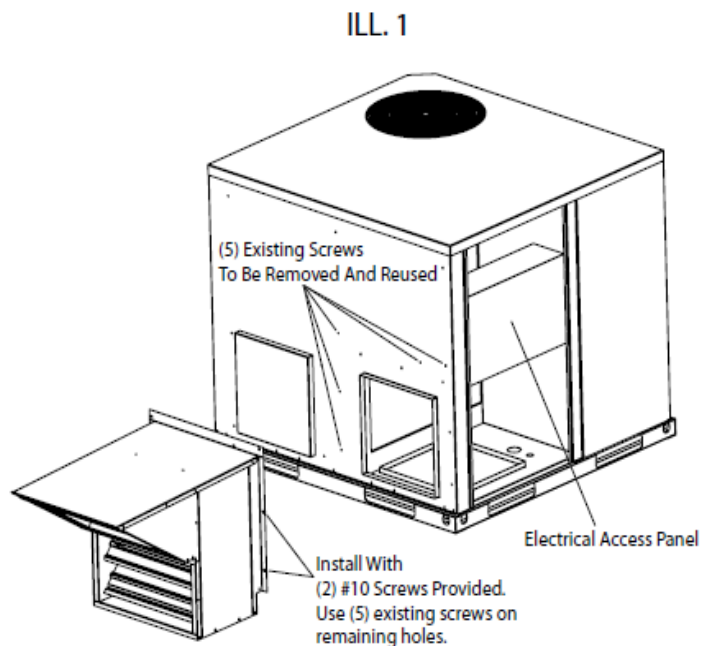Installation of Cooling Only & Heat Pumps

1. Remove electrical/filter access panel. (ILL. 1)

2. Remove the (5) screws shown in ILL. 1. Save these screws. They will be reinstalled later.

Please note: If a filter rack is to be installed, do it at this time.

3. Open the electrical access panel. (ILL. 1)

4. Set economizer in place aligning prepunched holes to the (5) screws removed earlier. Secure in place. Install (2) additional #10 screws provided. (ILL. 1)

5. Route economizer wiring through the two ties found under the control box. (ILL. 2) Additional wire clamps are provided for securing wire after completion, if needed.

6. Route wiring through prepunched grommet into control box.

ILL. 1

(5) Existing Screws To Be Removed And Reused

Electrical Access Panel

Install With (2) #10 Screws Provided. Use (5) existing screws on remaining holes.

ILL. 2

Existing Grommet

Wire Ties

AFF Cooling Only & Heat Pump - Horizontal Install (cont'd)

7. Install provided terminal block in the open area in the control compartment. (ILL. 3A)

8. Connect the wires to the terminal block as shown in wiring diagram. (ILL. 4 & 5)
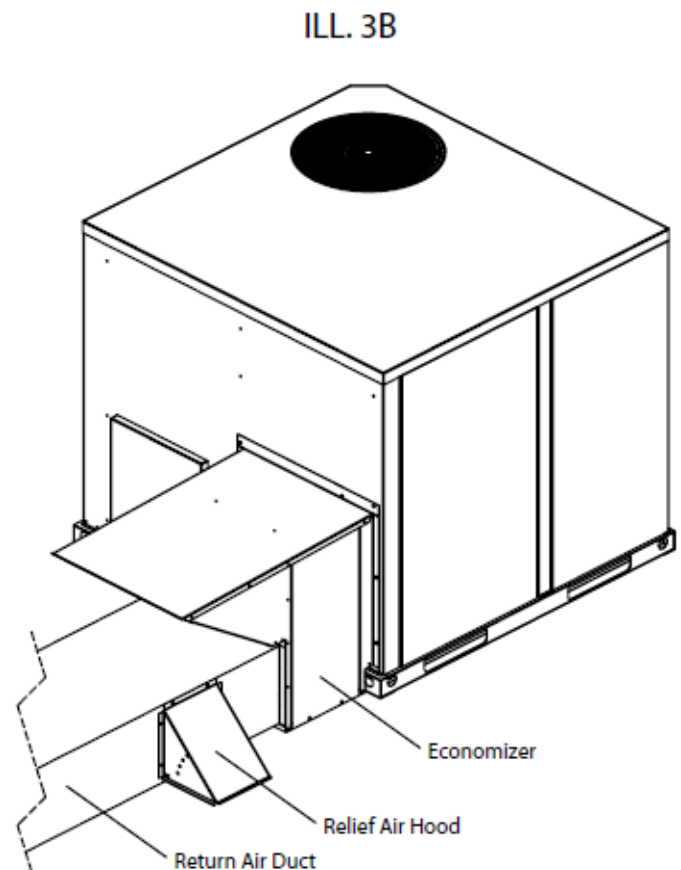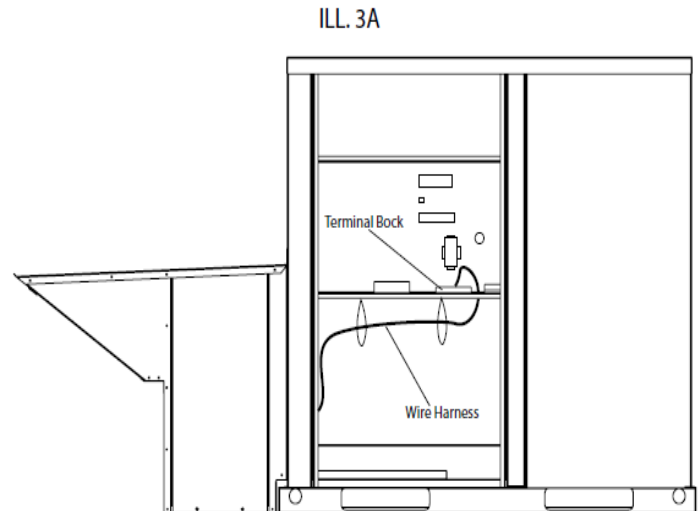
Please Note: For heat pump units, K3 Auxiliary Relay (DPDT 24V) is field required. Refer to ILL. 4 & 5.

Unit control may vary. Please refer to equipment wiring diagram for correct unit control board connection.

9. Connect wires from terminal block to the unit control board as shown. (ILL. 4 & 5)

10. Mount relief air hood to horizontal return air duct that has a 7 ½" square opening as close to the economizer as possible. (ILL. 3B)

11. Set economizer to desired set point.

ILL. 3A

Terminal Bock

Wire Harness

ILL. 3B

Economizer

Relief Air Hood

Return Air Duct

AFF Cooling with Gas Heat - Horizontal Install

1. Remove control panel from the unit as shown in ILL. 4.

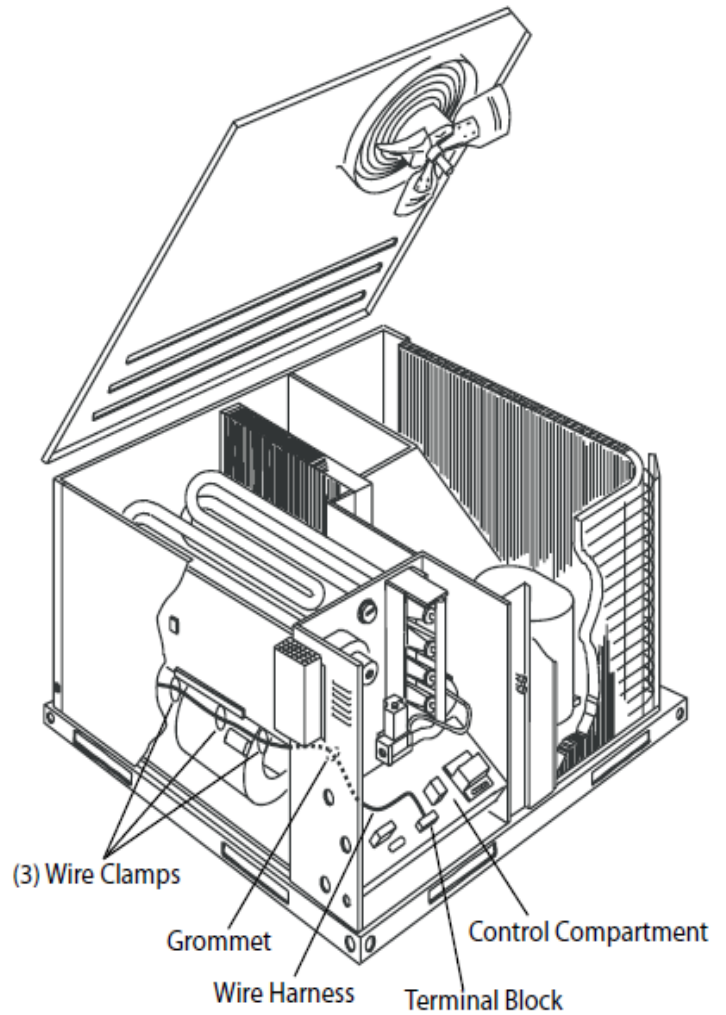2. Follow previous instructions 1 through 4 from cooling and heat pump instructions.

3. Install three wire clamps (provided) along the bottom of heating coil section. (ILL. 5)

4. Remove grommet holding the fan wiring between panel and control box. (ILL. 4) Route economizer
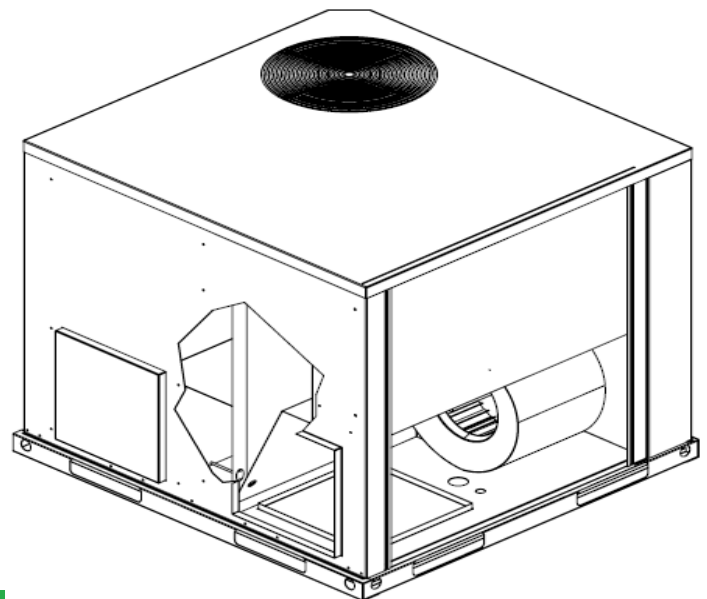wiring through removed grommet. Reinstall grommet.

5. For wiring information refer to page 8 in IOM-0014.

6. Set economizer to desired set points.

ILL. 4

(3) Wire Clamps

Grommet

Wire Harness

Control Compartment

Terminal Block

ILL. 5

York Economizer Install Notes

Additional Notes

1. Power Supply. Provide disconnect means and overload protection as required.
2. Motor Spring-Returns closed when unit is not running.
3. Ensure that equipment transformer is sized to handle the extra load of the economizer and actuator.
4. When using a heat with defrost feedback, add an isolation relay between O and C. (Field provided and installed).