



**TRANE FND35
CONVERTIBLE
ECONOMIZERS
I/O/M MANUAL**

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

Trane 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

FND35	All Foundation units: 3 to 5 ton
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Part Number

EC - 1 - 2 3 4 5 - 6

type	unit/ton (1)							
EC - ECONOMIZER	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	F-BOX			SCSHE12	SL
			Carrier	Lennox	Trane		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

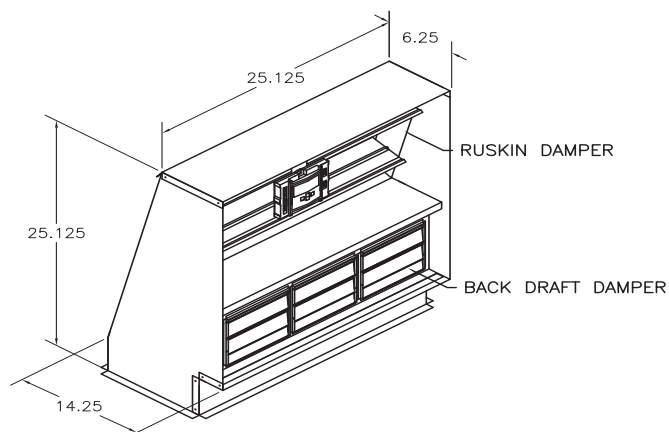
Note: By adding option "D" any powered exhaust will be modulating.

SUB-0026

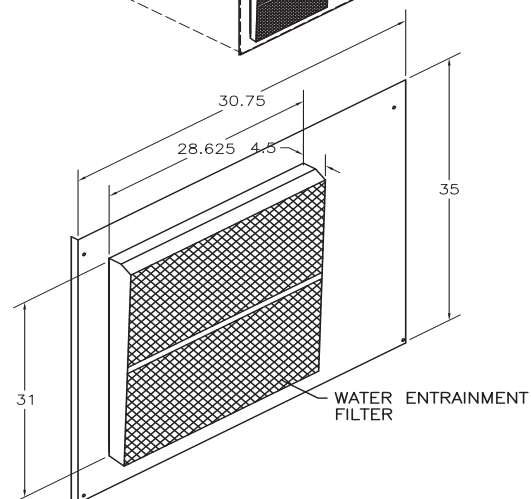
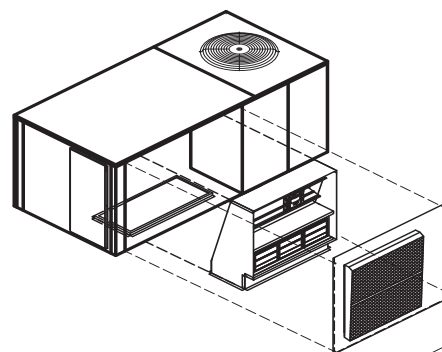
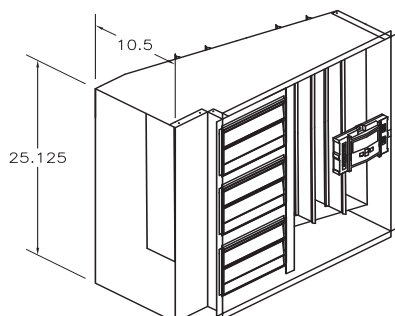
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PD 09/25/21 V.01.00

FND35 Convertible Submittal



VERTICAL ORIENTATION



PART #	WEIGHT
EC-FND35-CBA0-*	88lbs.

Electrical Data

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

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

Damper Pressure Drop

CFM	OA PD	RA PD
1200	.0137 wg	.0137 wg
1600	.0244 wg	.0244 wg
2000	.0382 wg	.0382 wg

Features

- **iAIRE Patented Controls Scheme Included**
- Convertible for horizontal and vertical applications
- 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.

FND35 - Convertible Install

DOWN SHOT INSTALLTION

Step 1: Remove the existing panels, as shown in Figure 1 & 2.



Figure 1



Figure 2

Step 2: Insert the adaptor over the return air opening. Secure the adaptor to the unit floor using the provided pilot holes, located on the bottom side flange of the adaptor.



Figure 3

FND35 - Convertible Install (cont'd)

Step 3: Insert the bottom of the of the economizer in the top of the adaptor, using the alignment rails.



Figure 4

Step 4: Ensure all the connections from the economizer to the unit are proper, reference the schematic.

Step 5: Install the down shot block off plate show in Figure 5 and 6.



Figure 5



Figure 6

FND35 - Convertible Install (cont'd)

Step 6: Install the outside air panel, ensure to remove the horizontal panel, and secure the OA panel to the unit along the vertical side flanges.



Figure 7



Figure 8

HORIZONTAL INSTALLTION

Step 1: Remove the existing panels and horizontal cover, as shown in Figure 9 & 10.



Figure 9



Figure 10

FND35 - Convertible Install (cont'd)

Step 2: Insert the adaptor over the return air opening. Secure the adaptor to the unit floor using the provided pilot holes, located on the bottom side flange of the adaptor.



Figure 11

Step 3: Install the adaptor cover.



Figure 12

FND35 - Convertible Install (cont'd)

Step 4: Insert the economizer on its side, ensuring that the bottom opening of the economizer is inserted into the horizontal opening. Secure the economizer to the horizontal opening side flanges and the top of the adaptor cover, by using the provided screws.



Figure 13



Figure 14

Step 5: Rotate all 3 barometric relief dampers to the horizontal position.



Figure 15

FND35 - Convertible Install (cont'd)

Step 6: Ensure all the connections from the economizer to the unit are proper, reference the schematic.

Step 7: Install the outside air panel, ensure to remove the horizontal panel, and secure the OA panel to the unit along the vertical side flanges.



Figure 16

AIR FLOW SEPARATOR

*Note: The installation of the air flow separator is the same process for both the vertical and horizontal orientation, only the separator itself changes. *

FND35 - Convertible Install (cont'd)

Step 1: Remove one of the filters exposing the internals of the economizer.



Vertical Orientation



Horizontal Orientation

Step 2: If you are using the economizer in the vertical orientation use the separator shown in Figure 17, otherwise use the separator shown in Figure 18 for the horizontal orientation. Once which separator required has been chosen, attach the black bulb gasket on to the edge opposite of the pilot holes. If necessary, trim the bulb gasket to length.



Figure 17



Figure 18

FND35 - Convertible Install (cont'd)

Step 3: Insert the separator into the economizer with the bulb gasket facing the opening. For the horizontal orientation, ensure that the notch on the splitter is facing upward and the edge follows the filter contour.



Vertical Orientation



Horizontal Orientation

Step 4: Secure the filter separator to the splitter using the pilot holes.



Vertical Orientation



Horizontal Orientation

Trane 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).