EnergyX® System
Factory−Installed Energy Recovery Ventilator
48/50HC WeatherMaster® Commercial Rooftop Units
15 to 25 Nominal Tons
with Puron® (R−410A) Refrigerant
and ComfortLink Controls

Carrier
United Technologies
turn to the experts

Supplemental Installation Instructions − August 2016

This document is a supplemental Installation Instruction for the EnergyX® factory-installed energy recovery ventilator. Use this document in conjunction with the following existing documents: Installation Instructions for the 48/50HC 15-25 ton rooftop units, ComfortLink Controls manual, and Supplemental Installation Instructions for the 48/50HC 15 to 25 ton Rooftop units with the EnergyX system.

NOTE: Read the entire instruction manual before starting the installation.

This supplement covers 48/50HC size 17, 20, 24, and 28 units with the EnergyX (ERV) option. This supplement provides Physical Data and Airflow curves for units that have a 450−mm (17.72−in) electrically commutated backward−curved blower.

Units that have a 500−mm (19.69−in) blower are not addressed in this supplement; data from previous literature provided with the unit is still applicable.

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloths for brazing operations and have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and appropriate national electrical codes (in USA, ANSI/NFPA 70, National Electrical Code (NEC); in Canada, CSA C22.1) for special requirements.

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 HAZARD

Failure to follow this warning could cause personal injury or death.

Before performing service or maintenance operations on unit, always turn off main power switch to unit and install lock(s) and lockout tag(s). Unit may have more than one power switch. Ensure electrical service to rooftop unit agrees with voltage and amperage listed on the unit rating plate.

⚠ CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may cause equipment damage.

This unit uses a microprocessor-based electronic control system. Do not use jumpers or other tools to short out components or to bypass or otherwise depart from recommended procedures. Any short-to-ground of the control board or accompanying wiring may destroy the electronic modules or electrical components.

⚠ CAUTION

CUT 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.

Table 1 – Physical Data

Model	48/50HC Sizes 17 – 20 (15 –17.5 Ton)	
EnergyX Size	NON ECONO CFM	ECONO CFM
EnergyX Unit Type	Modulating Air Flow Capability	
ERV WHEEL OA (CFM) Range	1300–3675	
ERV WHEEL EA (CFM) Range	1300–3675	
ENERGY RECOVERY WHEEL		
TYPE	Enthalpy Lightweight Polymer with Silica Gel Desiccant Coating	
MODEL (AirXchange)	ERC-3628	
SIZE (Dia. X Depth) (in.)	36–in x 3–in	
NOMINAL DRIVE MOTOR HP	0.05	
SUPPLY FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE (DIAMETER)	400mm (15.75–in)	
NOMINAL MOTOR HP	1.2	
SUPPLY FAN #2		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE	400mm (15.75–in)	
NOMINAL MOTOR HP	1.2	
EXHAUST FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE	450mm (17.72–in)	
NOMINAL MOTOR HP	3.6	
EXHAUST FAN #2		
QTY - TYPE	N/A	1 - Backward Curved
DRIVE TYPE	N/A	Direct
BLOWER SIZE	N/A	450mm (17.72–in)
NOMINAL MOTOR HP	N/A	3.6
FILTERS		
TYPE	2-in. Pleated, 30% Efficiency	
SUPPLY AIR (QTY) - SIZE	(2) 20–in x 16–in x 2–in	
EXHAUST AIR (QTY) - SIZE	(2) 20–in x 16–in x 2–in	
TYPE	Aluminum Water Filter	
Water Entrapment (QTY) - SIZE	(2) 34.375–in x 17.25–in x 1–in	

Table 1 – Physical Data (cont)

Model	48/50HC Sizes 24–28 (20 - 25 Ton)	
EnergyX Size	NON ECONO CFM	ECONO CFM
EnergyX Unit Type	Modulating Air Flow Capability	
ERV WHEEL OA (CFM) Range	2200–6000	
ERV WHEEL EA (CFM) Range	2200–6000	
ENERGY RECOVERY WHEEL		
TYPE	Enthalpy Lightweight Polymer with Silica Gel Desiccant Coating	
MODEL (AirXchange)	ERC-4646C	
SIZE (Dia. X Depth) (in.)	46–in x 3–in	
NOMINAL DRIVE MOTOR HP	0.17	
SUPPLY FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE (DIAMETER)	450mm (17.72–in)	
NOMINAL MOTOR HP	3.7	
SUPPLY FAN #2		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE	450mm (17.72–in)	
NOMINAL MOTOR HP	3.7	
EXHAUST FAN #1		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE	450mm (17.72–in)	
NOMINAL MOTOR HP	3.7	
EXHAUST FAN #2		
QTY - TYPE	1 - Backward Curved	
DRIVE TYPE	Direct	
BLOWER SIZE	450mm (17.72–in)	
NOMINAL MOTOR HP	3.7	
FILTERS		
TYPE	2-in. Pleated, 30% Efficiency	
SUPPLY AIR (QTY) - SIZE	(2) 25–in x 25–in x 2–in	
EXHAUST AIR (QTY) - SIZE	(2) 25–in x 25–in x 2–in	
TYPE	Aluminum Water Filter	
Water Entrapment (QTY) - SIZE	(2) 34.375–in x 24.5–in x 1–in	

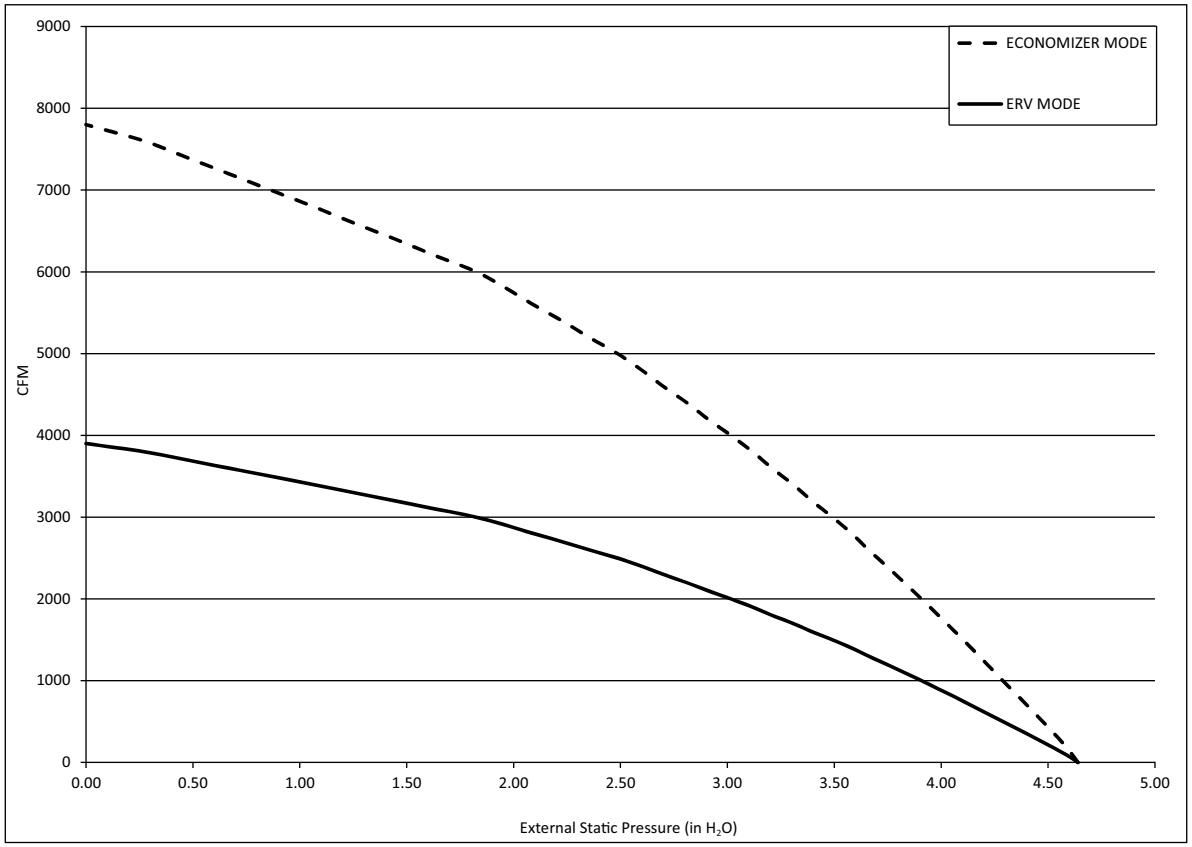


Fig. 1 – 15 and 17.5 Ton Unit ERV Supply Exhaust Fan Performance Curves

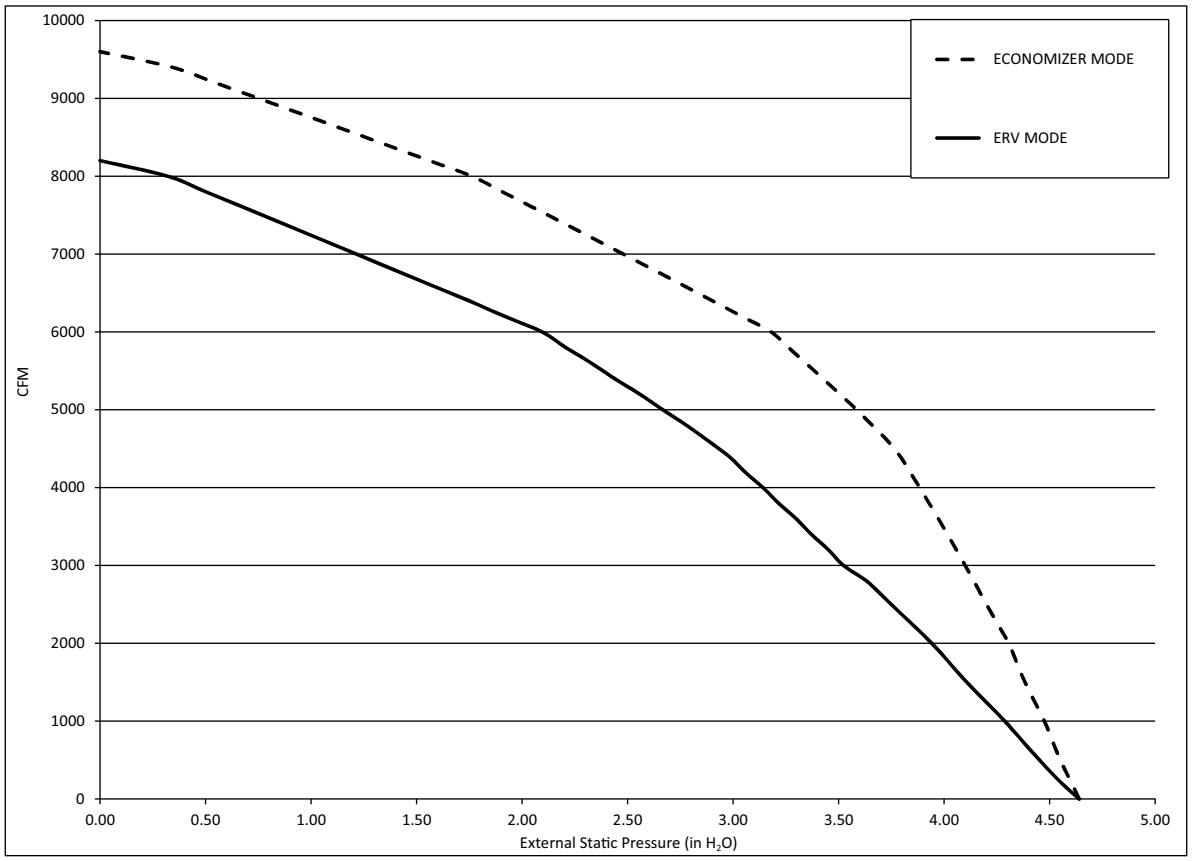


Fig. 2 – 20 and 25 Ton Unit ERV Supply Exhaust Fan Performance Curves

©Carrier Corporation 2016
Edition Date: 09/16 Printed in U.S.A. **Catalog No: ERV1–17–28–02SI**

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.
Replaces: New