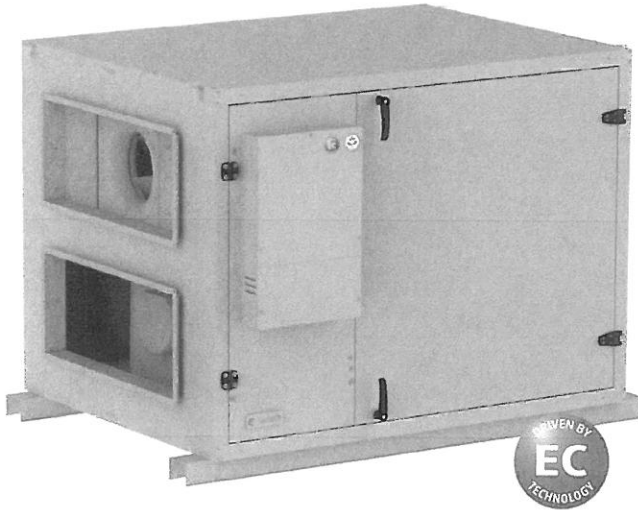


ECHO E2800Xi

Commercial Energy Recovery Ventilator - Indoor Unit

Product #: 95750



The Commercial Energy Recovery Ventilation system (ERV) complements today's tight buildings. Fantech's ERVs are designed to supply air into a building while exhausting an equal amount of contaminated air to the outside.

Features

- 2800 cfm unit
- EC Fan motors
- Pre-Programmed controller
- Built-in Flow Measurement
- Electronic Flow Adjustment
- Available communication via Modbus and BACnet
- Dirty Filter Sensor
- Field reversible electrical box
- Dual service doors
- Push-pull configuration

Specifications

- Voltage – 200 - 240V
- Phase – 1~
- Current – 12.2A
- Power rated, per motor – 1300W
- MCA – 14A
- MOP – 20A
- Operational Temperature – -25/40° C (-13/104° F)
- Weight – 750 lbs (340 kg)

Fans

Two (2) electronically commutated motors. The EC fans operate at high efficiency levels and offer a great energy-saving potential not only at full load, but especially at part-load. When operating at part-load, the energy used is much lower than with an AC motor of equivalent output. Reduced energy usage guarantees a drop in operating costs.

Energy recovery core

Three (3) modular AHRI certified energy recovery cores made from water vapor transport durable polymer membrane that is highly permeable to humidity. The ERV cores are freeze tolerant and water washable. Cores dimensions are 23.6" x 23.6" (600 x 600 mm) with a 15.9" (380 mm) depth.

Defrost

The Energy Recovery ventilation system incorporate a standard supply fan shutdown defrost. An external recirculation defrost that does not depressurize the space during the defrost cycle is also available as an accessory.

Serviceability

Cores, filters and drain pan can be accessed easily from both sides of the unit from hinged and removable access doors. Cores conveniently slide out and blowers can be accessed from both side of the ERV from fastened access panels. Blowers are easily removable by taking off the access panel. A clearance of 44" (1120 mm) is required to service the unit.

Cabinet

Double wall construction with 22gauge galvanized pre-painted steel corrosion resistant

Insulation

Insulated with 2in. (50 mm) fiberglass with FSK facing for condensation control.

Controls

Factory installed and pre-programmed controller with remote display for monitoring and configuring the unit. Available communication via Modbus and BACnet.

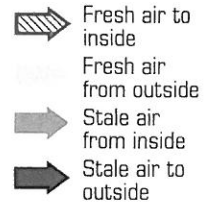
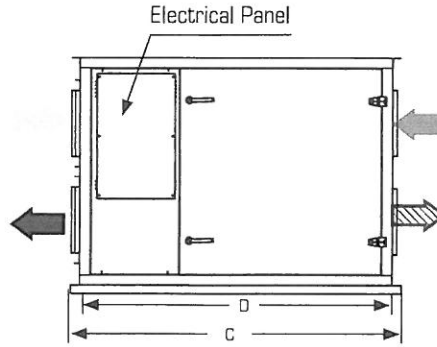
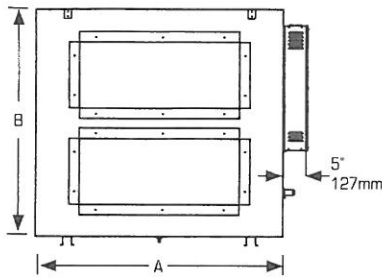
Filters

The air streams are protected by a MERV13 pleated filter on the supply air and a MERV8 pleated filter on the exhaust air. Filter dimensions are 24" x 24" (610 mm x 610 mm)

Installation

Unit may be suspended by using threaded rod, not supplied, or placed on a platform. Unit shall be adaptable for easy service of electrical components.

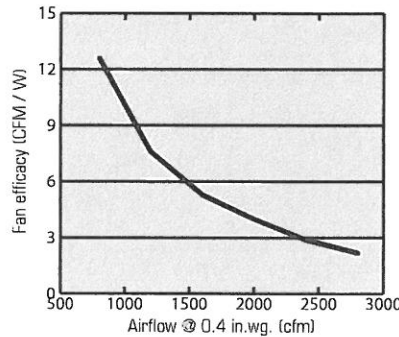
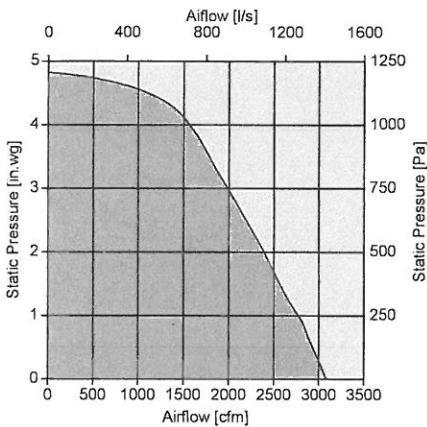
Dimensions & airflow



Model	A		B		C		D		Duct Dimensions		Drain X2	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
E2800Xi	52	1279	50	1234	70	1865	66	1684	14 x 34	356 x 864	3/4	19

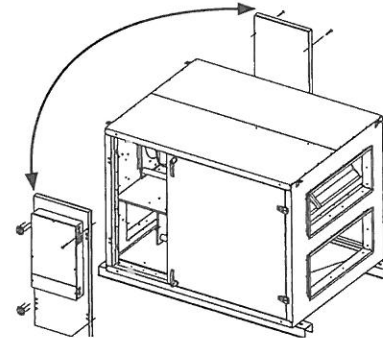
Ventilation Performance

in. wg. (Pa)	0.2 (50)	0.4 (100)	0.8 (200)	1.0 (250)	1.4 (350)	1.8 (450)	2.0 (500)	2.5 (625)
	cfm (L/s)	cfm (L/s)	cfm (L/s)	cfm (L/s)	cfm (L/s)	cfm (L/s)	cfm (L/s)	cfm (L/s)
Supply	2880 (1360)	2830 (1336)	2710 (1279)	2640 (1246)	2490 (1175)	2280 (1076)	2150 (1015)	1750 (820)



Port Configuration

Standard configuration showing reversible doors as shipped from factory.



Energy performance

Airflow	Heating – 35 °F (1.7°C) - Effectiveness			Cooling – 95°F (35°C) - Effectiveness		
	Sensible	Latent	Total	Sensible	Latent	Total
cfm	%	%	%	%	%	%
2400	67	45	59	67	41	51
2250	67	46	60	67	43	55
1800	69	50	62	63	46	55
1600	70	52	64	70	48	56

Requirements and standards

- Complies with the UL 1812 requirements regulating the construction and installation of Heat Recovery Ventilators
- Complies with the CSA C22.2 no. 113 Standard applicable to ventilators
- Technical data was obtained from published results of test relating to AHRI 1060 Standards

Contacts

Submitted by:	Date:
Quantity: Model:	Project #:
Comments:	
Location:	
Architect:	
Engineer:	Contractor:

Distributed by:

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ECHO® E2800XI ERV

Item no. 95750

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Description

- Airflow up to 2800 cfm @ 0.4" Ps
- EC Motors
- Continuous airflow monitoring
- MERV-13 (supply) and MERV-8 filters (exhaust)
- Pre-programmed wall control with remote display
- Communication via Modbus and BACnet available
- Double wall construction
- Dual service door & Reversible electrical box

The Electronically-Commutated motors at the High Output energy recovery are the building block of the ECHO Series.

Application

The ECHO E2800Xi Commercial Heat Recovery Ventilation system (ERV) complements today's tight and energy efficient buildings while providing clean air through a MERV-13 filter to remove most particles.

How it works

The exchanger tempers the outdoor air before supplying it to the building by recovering the energy in the building's air before exhausting it. In summer, the ERV will pre-cool and reduce moisture in the ventilation air while in winter it will pre-heat and recover moisture. We designed our commercial energy recovery ventilators to operate in both warm and humid climates and in very cold climates.

Power and efficiency

ECM Motors have built-in integral electronic controls to ensure energy savings no matter what the airflow demands. Reduced energy usage results in lower operating cost. The motors develop less heat so significantly less maintenance is needed and the lifetime of the motor is increased.

The EC motors operate at high efficiency levels and offer a great energy-saving potential not only at full load, but especially at part-load. When operating at part-load, the energy used is much lower than with an AC motor of equivalent output. Reduced energy usage guarantees a drop in operating costs.

Clean air

The ECHO E2800Xi utilizes a MERV-13 pleated filter for the supply air. The MERV-13 filter will filter particles as small as 0.3µm such as: bacteria, droplet nuclei, cooking oil, most smoke and insecticide dust, most face powder, most paint pigments.

Sensors

All sensors are factory installed and calibrated for ease of installation on-site. Each unit is tested and configured. The cost of installing controls at the factory is more economical as the unit is virtually plug n'play for any HVAC installer. Below are the sensor pre-installed with every unit:

- Outdoor, supply, return, & exhaust temperature
- Dirty filter sensors
- Supply and exhaust fan airflow monitoring sensor
- Fan status

Controller capabilities

The highly configurable controller is geared toward ERV applications. It is pre-programmed from the factory and can accommodate changes to the program on-site via the remote display. Below are some available control features:

- Airflow control (CAV)
- Programmable Schedule
- Unit monitoring & alarm handling

It could not be simpler!

The units are supplied preprogrammed, tested and ready to install. Connect the duct system, any external components, the power supply, and set the schedule and fan speed. Installation is now complete.

Frost prevention strategies

- Exhaust only

This unit can be configured with an effective exhaust only frost control strategy that is activated once the outdoor temperature reaches the frost threshold. During exhaust only operation, the supply blower shuts down consequently stopping the flow of cold outdoor air. The unit continues to extract warm air for a period of time before going back in normal operation. This cycle is repeated preventing any frost formation and condensation within the unit.



- **Recirculation (BMP Module - accessory)**

When equipped with the BMP module, this unit can be configured with a recirculation frost control strategy that is activated once the outdoor temperature reaches the frost threshold. During recirculation, the exhaust air blower shuts down and room air is recirculated for a period of time before going back in normal operation. This cycle is repeated preventing any frost formation and condensation within the unit.

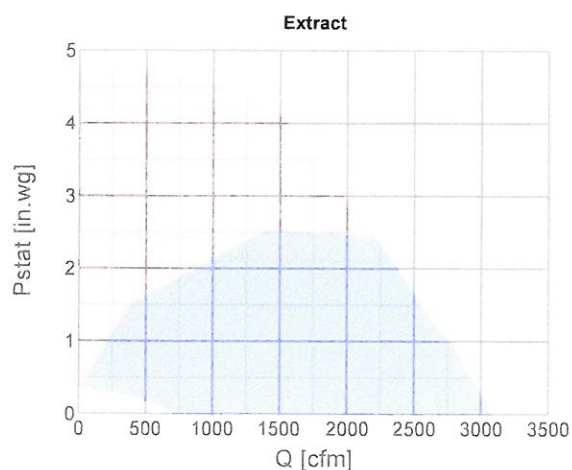
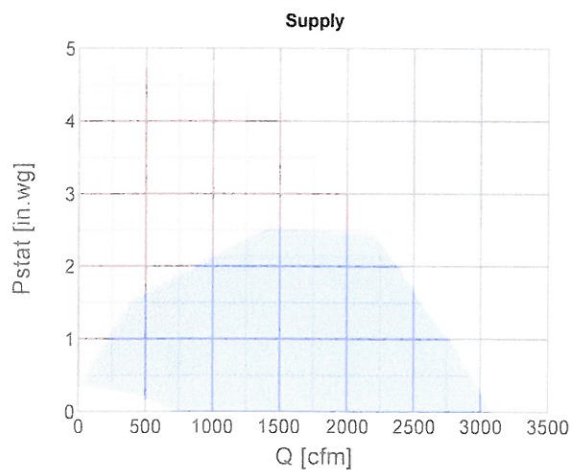
Technical parameters

Voltage	240 V
Frequency	60 Hz
Phase	1 ~
Current	12,2 A
MCA	14 A
MOP	20 A
Input power, fan motor(s) (for each motor)	1300 W
Temperature range	-13-104 °F
Weight	750 lbs
Filter, supply air	MERV13
Filter, extract air	MERV8

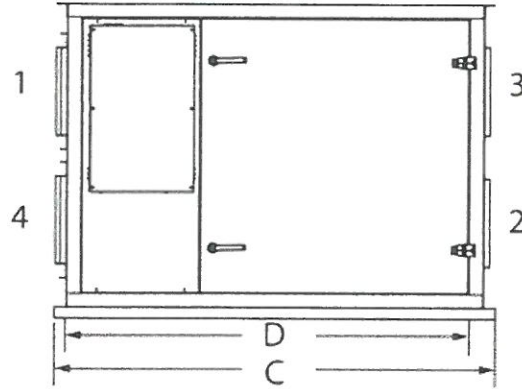
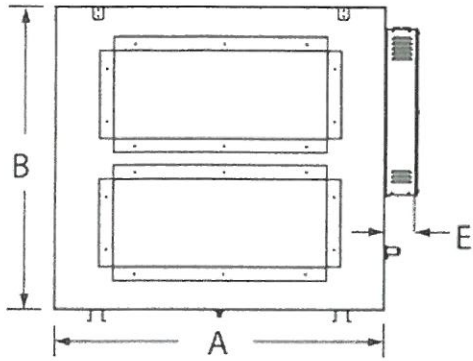
Performance

Diagrams

Diagrams and calculations are made for the performance with clean filters.



Dimensions



A	B	C	D	Duct Dimensions
52 (1279)	50 (1234)	70 (1865)	66 (1684)	14 x 34 (356 x 864)

Dimensional information is in inches (mm).

1	Fresh air from outside
2	Fresh air to inside
3	Stale air from inside
4	Stale air to outside

Accessories

Electric accessories

[BPM1434 Bypass Module \(95751\)](#)

[EFD 34-14 Shut-off Damper \(95752\)](#)

Accessories

[Filter, MERV8, 2800Xi, Rep. Kit \(422991\)](#)

Documentation

[422974 ECHO 2800Xi Series IOM EN.pdf \(3.45MB\)](#)

[422871 ECHO E2800Xi, H2800Xi Wiring Diagram.pdf \(198.76kB\)](#)

[H2800Xi-E2800Xi.rfa \(348,00kB\)](#)

[ECHO 2800Xi Series.dxf \(4,25MB\)](#)

[422973 ECHO E2800Xi Spec Sheet EN.pdf \(1,07MB\)](#)

[E400012 ECHO - E2800Xi Submittal sheet EN.pdf \(1 023,30kB\)](#)

[E2800Xi - Product Guide Specification.doc \(683,00kB\)](#)

[E400010 ECHO E2800Xi, H2800Xi Dimensions Submittal.pdf \(496,09kB\)](#)

Energy performance

Airflow		Heating - 32° F (0° C) - Effectiveness			Cooling - 95° F (-35° C) - Effectiveness		
CFM	L/s	Sensible	Latent	Total	Sensible	Latent	Total
		%	%	%	%	%	%
2400	1133	67	45	59	67	41	51
2250	1062	67	46	60	67	43	55
1800	850	69	50	52	69	46	55
1600	755	70	52	64	70	48	56

Specification text

Fans

Two (2) electronically commutated motors. The EC fans operate at high efficiency levels and offer a great energy-saving potential not only at full load, but especially at part-load. When operating at part-load, the energy used is much lower than with an AC motor of equivalent output. Reduced energy usage guarantees a drop in operating costs.

Energy recovery core

Three (3) modular AHRI certified energy recovery cores made from water vapor transport durable polymer membrane that is highly permeable to humidity. The ERV cores are freeze tolerant and water washable. Cores dimensions are 23.6" x 23.6" (600 x 600 mm) with a 15.6" (397mm) depth.

Defrost

The heat recovery ventilation system incorporate a standard supply fan shutdown defrost. An external recirculation defrost that does not depressurize the space during the defrost cycle is also available as an accessory.

Serviceability

Cores, filters and drain pan can be accessed easily from both sides of the unit from hinged and removable access doors. Cores conveniently slide out and blowers can be accessed from both side of the unit from fastened access panels. Blowers are easily removable by taking off the access panel. A clearance of 44" (1120 mm) is required to service the unit.

Cabinet

Double wall construction with 22 gauge galvanized steel. Baked powder coated paint.

Insulation

Insulated with 2in. (50 mm) fiberglass with FSK facing for condensation control.

Controls

Factory installed and pre-programmed controller with remote display for monitoring and configuring the unit. Available communication via Modbus and BACnet.

Filters

The air streams are protected by MERV13 pleated filter on the supply air and a MERV8 pleated filter on he exhaust air. Filter dimensions are 24" x 24" (610 mm x 610 mm)

Mounting

Unit may be suspended by using threaded rod, not supplied, or placed on a platform. Unit shall be adaptable for easy service of electrical components.

Warranty

3 years on all parts.

Requirements and standards

- Complies with the UL 1812 requirements regulating the construction and installation of Heat Recovery Ventilators
- Complies with the CSA C22.2 no. 113 Standard applicable to ventilators
- Technical data was obtained from published results of test relating to AHRI 1060 Standards