

# Energy Recovery Module

## Model ERM

- Commercial
- Institutional



# Model ERM Energy Recovery Module

Greenheck model ERM energy recovery modules are ideal for new construction or retrofit applications where a model ERV energy recovery ventilator may not meet space requirements.

The ERM consists of a fully insulated cabinet, installed as a permanent part of the duct system. The energy recovery cassette, which is divided into eight pie-shaped sections for easy inspection and servicing, is completely accessible through a removable panel or duct access. A wiring box for connection to the electrical supply is also a standard feature.



## Installations

Models ERM-36 and 52 are easily installed either vertically or horizontally. Models ERM-58, 64, and 74, must be installed in the vertical position due to size and weight. The diagrams below illustrate a typical installation of a single module in the vertical position and multiple modules in the horizontal position.

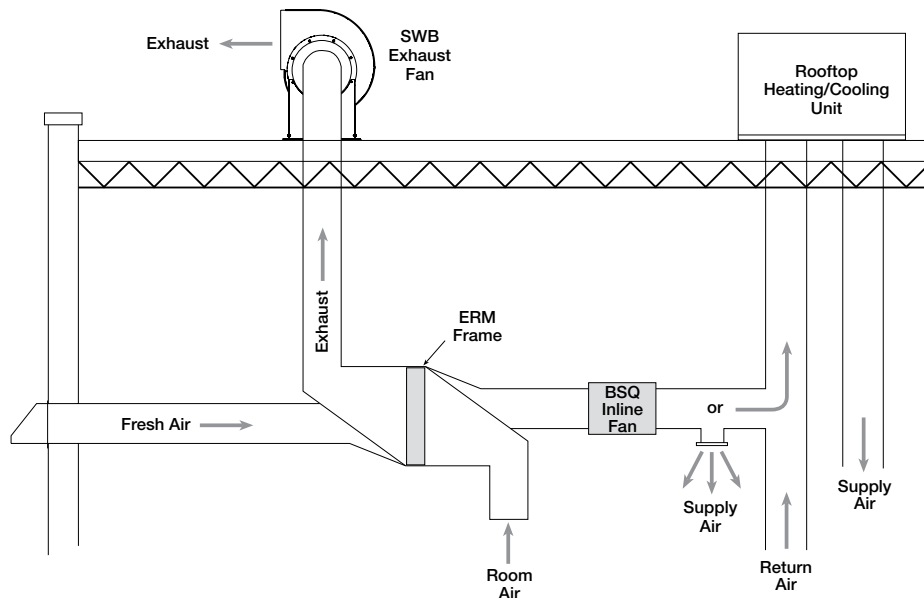


Figure 1: Typical ERM installation in a built-up system

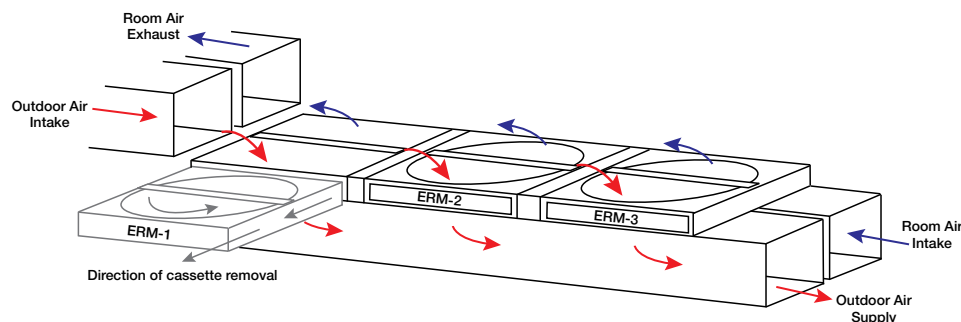


Figure 2: Multiple modules are installed in parallel where airflow exceeds single wheel capacities

## Energy Recovery Components

A complete energy recovery system includes the ERM plus supply and exhaust fans. For best performance, the air streams should be counter-flowing with the blowers in a draw through configuration. Filters and backdraft dampers are also recommended as part of a complete system.

### CAUTION

The ERM-36 and ERM-52 feature slide out energy recovery cassettes and must be installed such that the cassette slides out of the cabinet parallel to the floor.

### NOTE

The energy recovery cassettes for models ERM-58, 64, and 74 do not slide out because of their size and weight. Duct access must be provided for inspection or service of the ERM-58, 64, and 74.

## Clearance/Access

Provide proper clearance for cassette inspection, service or removal. Do not install ducting, piping, or wiring where it will interfere with cassette removal.

Model	Recommended Access Door Width
ERM-58	30 in.
ERM-64	30 in.
ERM-74	30 in.

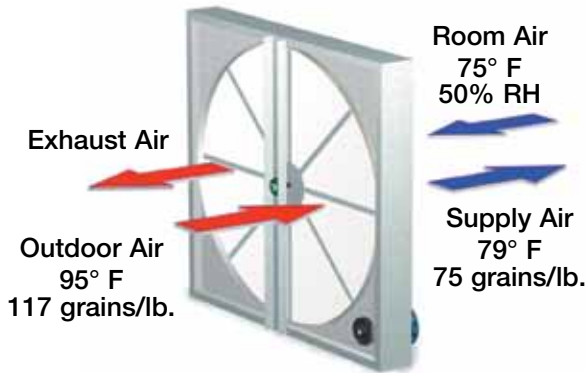
Model	Inspection or Service	Removal
ERM-36	22 in.	42 in.
ERM-52	30 in.	58 in.

The model ERM transfers sensible and latent energy between counter-flowing airstreams, pre-conditioning outdoor air to near room conditions. The drawings below illustrate this concept for summer and winter conditions.

Ratings are application ratings for an AHRI certified component and may vary from the certified ratings at AHRI Standard Conditions in the AHRI 1060 Certified Product Directory.



## Summer



During summer operation, the ERM cools and dehumidifies incoming outdoor air. This reduces the air conditioning load by up to 4 tons per 1,000 cfm and helps retard rising indoor humidity levels.

## Frost Control

The frost threshold is the outdoor temperature at which frost will begin to form on the energy wheel. For Greenheck ERMs, the frost threshold is typically below 5°F.

Frost control protection equipment and controls are to be field supplied and installed. For more on frost control concepts, refer to page 8 of the Greenheck Model ERV Energy Recovery Ventilator catalog.

## Airflow Capacity

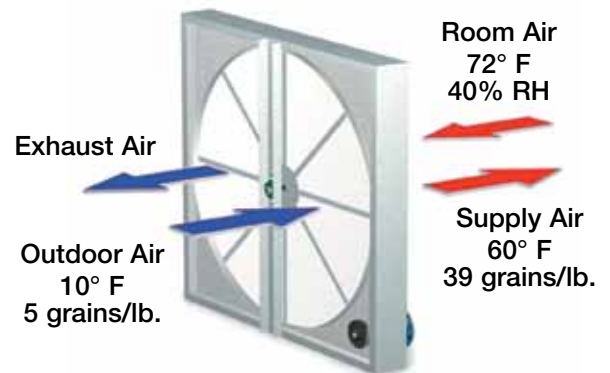
Model	CFM Range
ERM-36S	600 - 1,700
ERM-36H	1,700 - 2,300
ERM-52S	2,300 - 3,400
ERM-52H	3,400 - 4,500
ERM-58H	4,500 - 6,000
ERM-64H	6,000 - 7,500
ERM-74H	7,500 - 10,000

## Electrical Data & Weights

Model	Voltage	Hertz	Amps	Phase	Motor HP	Weight*
ERM-36S/H	200-230/460v	50/60	1.2	1	1/6	233
ERM-52S/H	200-230/460v	50/60	2.8	1	1/2	375
ERM-58H	200-230/460v	60	1.3-1.2/0.6	3	1/4	460
ERM-64H	200-230/460v	60	1.3-1.2/0.6	3	1/4	553
ERM-74H	200-230/460v	60	1.3-1.2/0.6	3	1/4	679

\*Weight is shown in pounds.

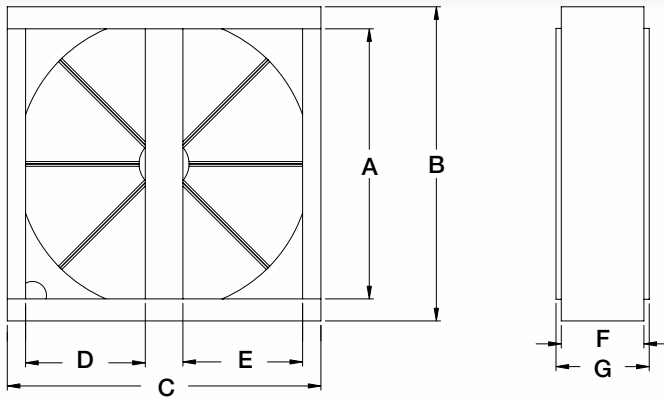
## Winter



During winter operation, the ERM warms and humidifies the incoming outdoor air. This reduces the heating load and helps prevent discomfort due to overly dry indoor conditions.



# Dimensional Data



Model	A	B	C	D	E	F	G
ERM-36S/H	34.25	44.50	42.00	14.75	14.75	14.625	16.625
ERM-52S/H	50.50	60.75	58.25	17.75	17.75	14.625	16.625
ERM-58H	54.25	62.50	62.50	24.25	24.25	16.50	18.50
ERM-64H	60.25	68.25	68.25	27.00	27.00	20.00	22.00
ERM-74H	70.25	78.25	78.25	31.50	31.50	20.00	22.00

All dimensions shown are in inches.

## Typical Specifications

**ERM-36 and 52:** A removable panel shall be provided to access the energy recovery cassette for service and inspection. Energy recovery wheel shall be mounted in a slide out cassette. A wheel drive motor having permanently sealed ball bearings shall be provided with plug-in connection to a receptacle mounted within the cabinet.

**ERM-58, 64 and 74:** Duct mounted access panels shall be provided to access the energy recovery cassette for service and inspection. A wheel drive motor having permanently sealed ball bearings shall be provided with pigtail located in a service box mounted within the cabinet.

Energy Recovery Modules shall include a cabinet having four 1-inch duct flanges for connection of supply and exhaust ducts. The cabinet shall be constructed of heavy gauge galvanized steel and be internally insulated to prevent condensation of water vapor on external or internal surfaces. A wiring box shall be provided for permanent connection of a power source.

Wheel shall be of the enthalpy type for both sensible and latent heat recovery and be designed to ensure laminar flow. Energy transfer ratings must be AHRI Certified to Standard 1060 and bear the AHRI Certification symbol for

AHRI Air-to-Air Energy Recovery Ventilation Equipment Certification Program based on AHRI 1060. Ratings "in accordance with 1060" without certification are not acceptable. Desiccant shall be silica gel for maximum latent energy transfer. Wheel shall be constructed of lightweight polymer media to minimize shaft and bearing loads. Polymer media shall be mounted in a stainless steel rotor for corrosion resistance.

Wheel design shall consist of removable segments for ease of service and/or cleaning. Silica gel desiccant shall be permanently bonded to wheel media to retain latent heat capability after cleaning. Wheels with sprayed on desiccant coatings are not acceptable. Wheels with desiccant applied after wheel formation are not acceptable. Energy recovery device shall transfer moisture entirely in the vapor phase. The units shall not require a condensation pan.

Energy recovery drive belt material shall be high strength urethane and shall be factory installed in a pre-stretched state, eliminating the need for field belt tension adjustment. Link style belts are not acceptable.

Energy Recovery Modules shall be model ERM as manufactured by Greenheck Fan Corporation in Schofield, Wisconsin, USA.

## Our Warranty

Greenheck warrants this equipment to be free from defects in material and workmanship for a period of one year from the shipment date. The energy recovery wheel is warranted to be free from defects in material and workmanship for a period of five years from the shipment date. Any units or parts which prove defective during the warranty period will be replaced at our option when returned to our factory, transportation prepaid. Motors are warranted by the motor manufacturer for a period of one year. Should motors furnished by Greenheck prove defective during this period, they should be returned to the nearest authorized motor service station. Greenheck will not be responsible for any removal or installation costs.

*As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.*

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