

# ERMS SERIES

## Energy Recovery Module



**Industry Leading 70-85%\* Efficient**

### STANDARD FEATURES

- AirExchange ERC Energy Recovery Wheel
- 500 hr salt spray test
- Galvanized steel cabinet with enamel finish
- Main control panel
- Available in 115 & 208 single phase and 208, 230, 460 & 575 three phase
- Belt drive supply and exhaust fan
- 24 volt control transformer
- Exhaust air stream filters
- Exhaust air stream backdraft dampers
- ETL Certified, AHRI 1060 Certified, Designed in accordance to UL Standard 1995.

### OPTIONAL FEATURES

- Filter maintenance indicator switch
- Energy recovery wheel maintenance indicator switch
- Blower maintenance indicator switch
- Energy recovery wheel purge
- Energy recovery wheel stop/jog control
- Electric pre-heat frost protection
- Low temperature lockout
- Supply and exhaust fan variable frequency drive
- Roof curb

\*Efficiency will depend on design conditions



 **STERLING**  
HVAC PRODUCTS

## DESCRIPTION

The Sterling ERMS unit is an outdoor rooftop mounted, electrically controlled outdoor air pre-conditioner utilizing an AirExchange Energy Recovery Cassette to reduce the heating and cooling load placed on the HVAC unit by untreated outside air. Outside air will be drawn through the ERMS cassette by the ERMS supply blower and shall be discharged directly into the rooftop unit return air. Units are available in sizes 800 to 14,000 CFM.

Energy Recovery Module utilizes a 70+% efficient energy recovery wheel which allows for a reduction in the size of the mechanical cooling and heating. Energy recovery wheel performance is AHRI standard 1060 certified and the entire unit is ETL agency tested and certified.

## ERC SERIES ENERGY RECOVERY WHEEL

The energy recovery wheel inside the ERMS unit transfers energy from the warmer to the cooler air stream by using counter-flowing supply and exhaust air streams through a slowly rotating wheel (less than 60 revolutions per minute). The large energy-transfer surface is arranged to provide laminar air flow through the wheel causing the constant flow of recovered energy to represent up to 75% of the difference in total energy contained within the two air streams.

During both summer and winter, the energy recovery wheel transfers moisture entirely in the vapor state. This process eliminates wet surfaces that retain dust and promote fungal growth. The need for a condensate pan and drain is also eliminated. Because it is constantly rotating, the energy

recovery wheel is always being cleaned by counter-flowing air streams, first in one direction, and then the other. Because it is always dry, dust or other particles impinging on the surface during one half cycle, are automatically removed during the next half cycle. When ventilation air is introduced into a building, the cooling and heating equipment must be sized to handle both the building envelope load and the outdoor air ventilation load at the extremes of summer and winter design conditions. The use of an ERMS can significantly reduce the outdoor air ventilation load applied to the heating and cooling equipment, effectively decreasing the heating and cooling requirements. Wheel effectiveness will range from 70-85% depending on design conditions.

## SUPPLY AND EXHAUST FAN

Supply and exhaust fans are provided as an integral part of the unit. An optional variable speed drive is available to further increase energy savings.

## AIR QUALITY

Filters are provided for the outside air entering and the return air entering sides of the Energy Recovery Wheel.

Supply and Exhaust air streams shall have back draft dampers to prevent air infiltration during OFF cycles.

## SERVICE ACCESSIBILITY

Energy recovery wheel segments are removable without the use of tools to facilitate maintenance and cleaning.

**ERMS ENERGY RECOVERY MODULE FOR STERLING UNITS**      **REV: H**

**ELEVATION VIEW**

STERLING UNIT	ERMS UNIT	CFM	A	B	C	A/C WIDTH	ERMS WIDTH	SHIPPING WEIGHT
RT/PV10/15	ERMS-10A	800-1600	85.125	61.25	13.0625	32.875	59.00	2100 LBS.
	ERMS-10B	1601-2600						2200 LBS.
	ERMS-10C	2601-4500						2300 LBS.
RT/PV20/25/50	ERMS-20A	1600-4000	107.00	64.75	13.50	43.875	70.875	2500 LBS.
	ERMS-20B	4001-7500						2800 LBS.
RT/PV30/35/60/70	ERMS-30A	2400-5000	135.75	84.875	16.50	54.875	87.875	3600 LBS.
	ERMS-30B	5001-13000						4000 LBS.
	ERMS-30A	3200-8000						4300 LBS.
RT/PV40/80/120	ERMS-40A	8001-14000	135.75	93.25	16.75	60.375	93.875	5200 LBS.
	ERMS-40B							

