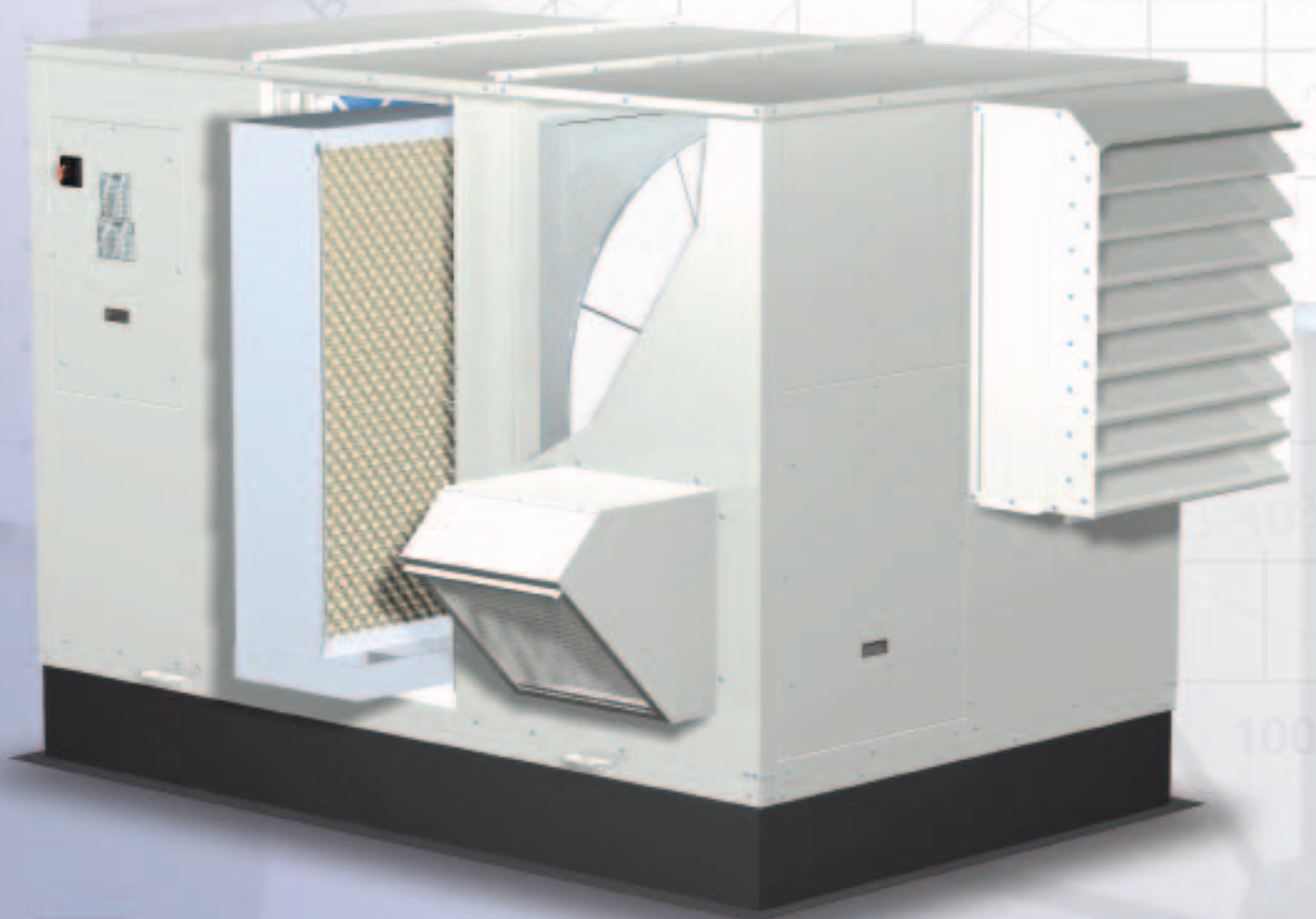


Energy Recovery Ventilator

Model HRE

- Commercial
- Institutional

- Summer Evaporative Cooling
- Winter Heat Recovery



Model HRE

Heat Recovery Ventilator with Evaporative Cooling

The model HRE incorporates a sensible energy recovery wheel and evaporative cooling modules to condition outdoor air without mechanical refrigeration. This product is specifically designed for hot, relatively arid climates. Four sizes provide airflow capacities from 1,000 cfm to 8,300 cfm with external static pressures up to 1.5 in. wg.

Evaporative Cooling Modules

Evaporative cooling modules include Munters CELdek media (GLASdek optional) and a stainless steel frame. Evaporative cooling media is 12 inches in depth and capable of 90% cooling effectiveness.

A cooling module in the exhaust airstream for indirect evaporative cooling is standard with the model HRE. For combination indirect and direct evaporative cooling, an evap section may also be added to the outdoor air stream.

Optional features available with evaporative cooling:

- Automatic drain and fill with freeze protection



Sensible Wheel

Summer Cooling

The sensible wheel transfers energy from the cooled exhaust air to the outdoor air, without transferring the moisture from the exhaust side evaporative cooling process.

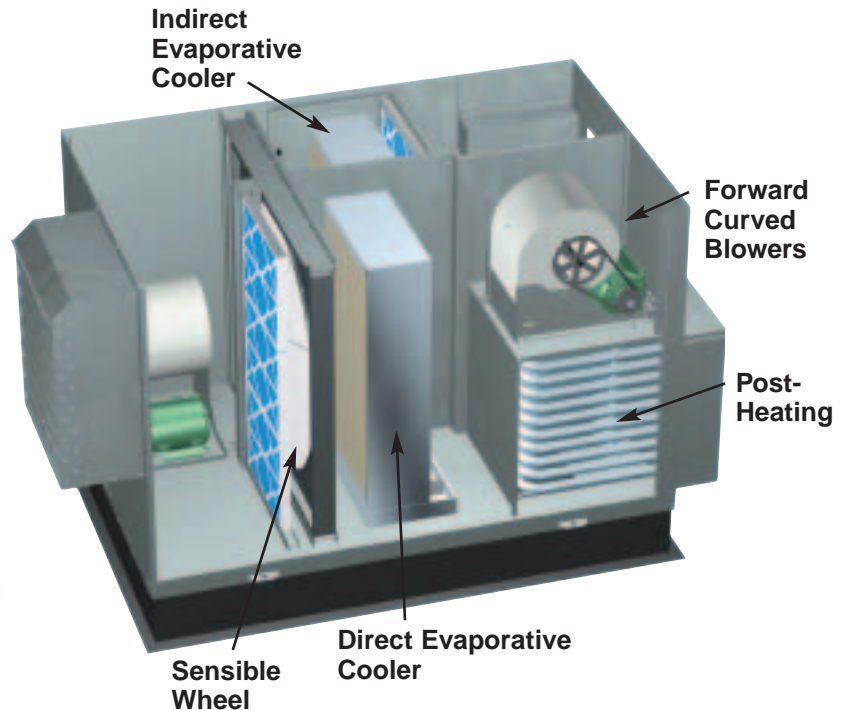


Winter Heating

The sensible wheel transfers heat from the exhaust air stream to the outdoor air stream in typical energy recovery fashion.

Heating Options

- Indirect Gas-Fired (outdoor only)
- Hot Water
- Electric



Unit shown with following accessories: A) indirect gas heater, B) intake filters, C) exhaust filters, and D) direct evaporative cooling.

Standard Features

An indirect evaporative cooling module and sensible energy recovery wheel provide a low cost alternative for conditioning of outdoor air. Double wall construction is standard keeping insulation out of the airstream. Compartments requiring routine maintenance have hinged doors for quick and easy access.

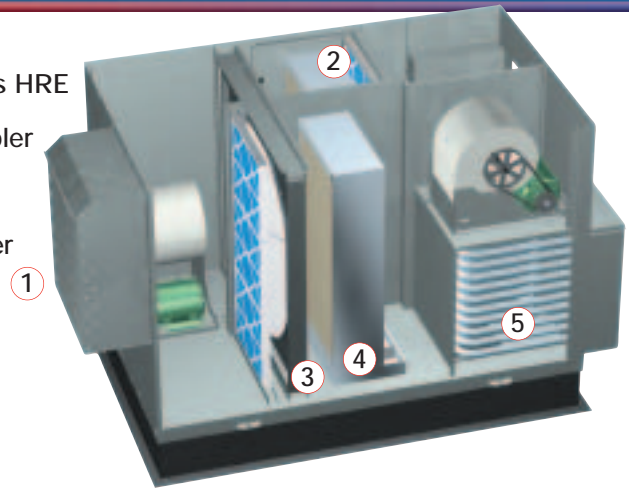
Accessories

- Direct Evaporative Cooler
- Dampers - Internally mounted
- Painted Exteriors
- Roof Curbs
- Timed Exhaust Frost Control
- Preheat Frost Control
- Weather Hoods
- Dirty Filter Sensors
- Rotation Sensors
- Filters
- Economizer Mode
- Remote Panels
- Spare Wheel Segments
- Duct Flanges
- GFCI Receptacle (wiring by others)
- Service Lights (wiring by others)

Model HRE

The model HRE provides space neutral ventilation air with indirect evaporative cooling. More cooling can be provided with the addition of a direct evaporative module for designs with space load considerations. The sensible wheel is utilized in the winter to recover heat from the exhaust airstream, minimizing energy costs.

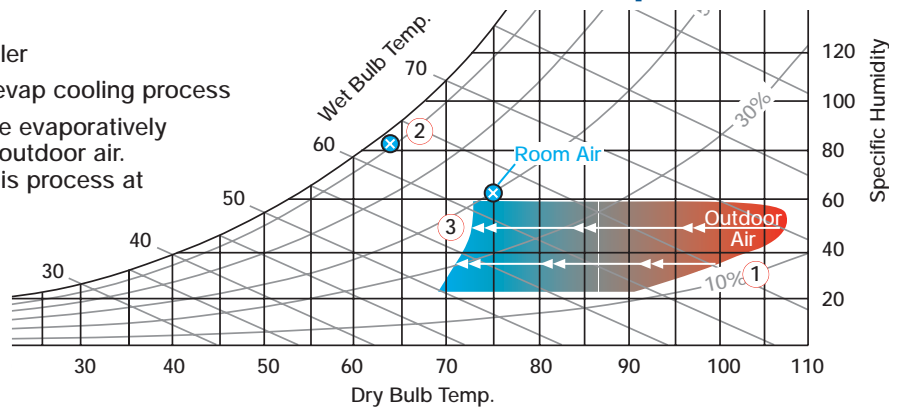
- ① Outdoor air enters HRE
- ② Indirect Evap Cooler
- ③ Sensible Wheel
- ④ Direct Evap Cooler
- ⑤ Post Heat



Summer Psychrometric Process with Indirect Evap

- ① Outdoor air enters HRE unit.
- ② Leaving air condition of indirect evap cooler
- ③ Leaving outdoor air condition of indirect evap cooling process

A sensible wheel recovers energy from the evaporatively cooled exhaust air and transfers it to the outdoor air. Outdoor air entering at 100°F will leave this process at about 73°F.

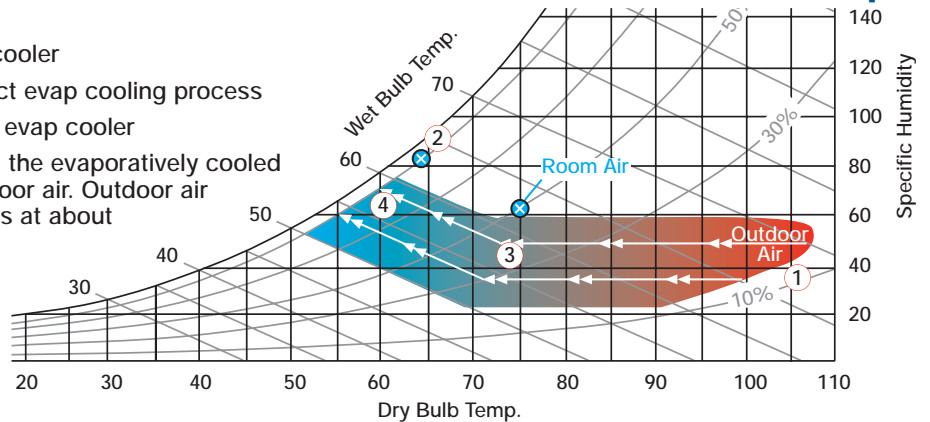


Summer Psychrometric Process with Indirect & Direct Evap

- ① Outdoor air enters HRE unit.
- ② Leaving air condition of indirect evap cooler
- ③ Leaving outdoor air condition of indirect evap cooling process
- ④ Leaving outdoor air condition of direct evap cooler

A sensible wheel recovers energy from the evaporatively cooled exhaust air and transfers it to the outdoor air. Outdoor air entering at 100°F will leave this process at about 73°F.

The direct evaporative cooler further cools the outdoor air, and adds moisture in this process. Discharge conditions are often around 55°F.

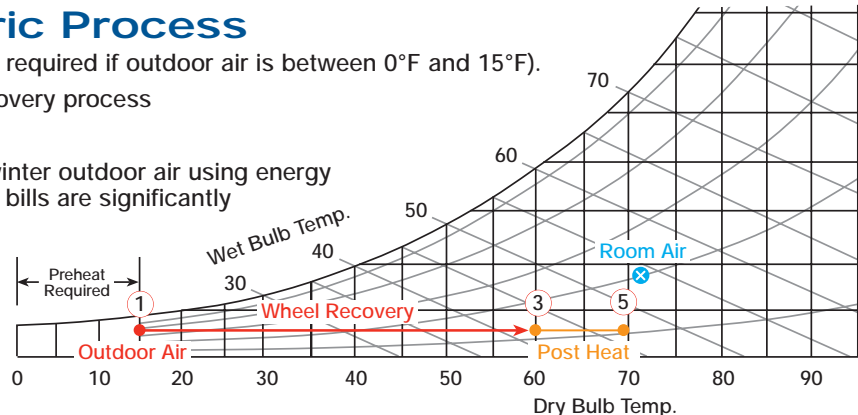


Winter Psychrometric Process

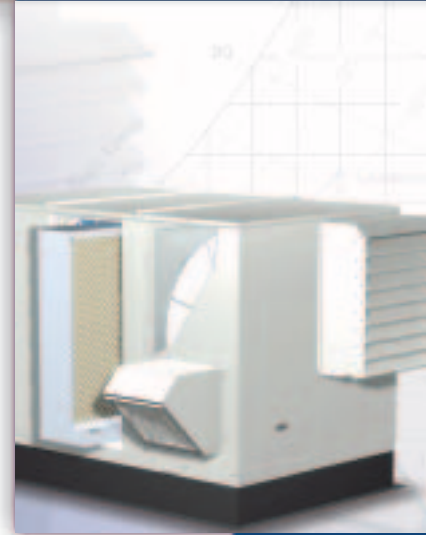
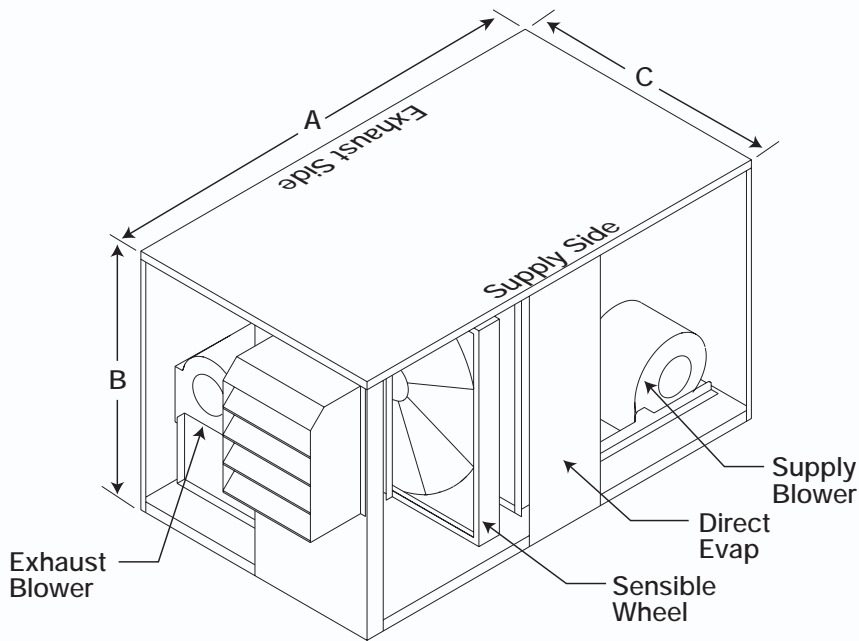
- ① Outdoor air enters HRE unit (preheat required if outdoor air is between 0°F and 15°F).
- ③ Leaving air condition of sensible recovery process
- ⑤ Leaving air condition of post heating

The sensible recovery wheel heats winter outdoor air using energy from the exhaust air stream. Heating bills are significantly reduced.

The heating option provides supplemental heating to further treat the outdoor air to desired supply conditions.



Typical Specifications

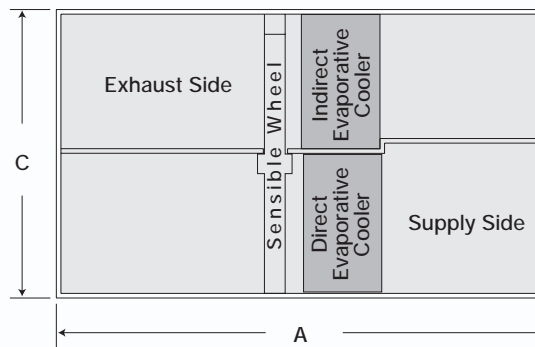


Model	A	B	C	Max. CFM	Weight* (lb)
HRE-20	98	50	56	2,000	1,500
HRE-45	106	69	66	4,100	2,300
HRE-55	118	70	76	5,600	3,000
HRE-90	131	85	96	8,300	5,000

Clearance on all sides for service access
 (does not account for Indirect Gas heater):

- HRE-20: 48 inches
- HRE-45: 64 inches
- HRE-55: 42 inches
- HRE-90: 42 inches

Dimensions shown are in inches.
 * Weights are approximate.



Top View

Our Warranty

Greenheck warrants this equipment to be free from defects in material and workmanship for a period of one year from the purchase date. The energy recovery wheel is warranted to be free from defects in material and workmanship for a period of five years from the purchase 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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