



D Series Guide Specifications (version 5.2) April 2010

General

1.1 Product Description

The ERV – stand alone energy recovery ventilator shall utilize a fixed plate enthalpic energy exchanger within a double walled all aluminum cabinet manufactured and supplied by Dais-Analytic Corp, model ConsERV. The cabinet is supplied with or without fans, indoor or rooftop and full duct opening or one half (1/2) duct opening.

1.2 Quality Assurance

The energy recovery enthalpy exchangers internal to the energy recovery ventilator shall be certified by ARI within the ARI Standard 1060 Certification program. At the nominal certified CFM, the enthalpy exchanger shall provide at least 60% total effectiveness for both heating and cooling conditions and 0% exhaust air transfer ratio (EATR) when tested at ARI differential pressure between airstreams. These values are to be produced from official ARI certification data and verification may be obtained via the www.aridirectory.org website which is made available to the public by ARI to ensure proper comparison of air to air energy recovery products.

The manufacturer shall provide independent testing of the enthalpy exchanger core to UL standard 900 with a flame spread result less than 25 and a smoke generation less than 50. These results meet NFPA 90A and 90B for a component within a ducted air system.

The enthalpy exchanger core shall be warranted to be free from manufacturing defects under normal use for a period of 10 years. The remainder of the unit shall be warranted to be free of manufacturing defects under normal use for a period of 2 years.

Products

2.1 Standard Equipment.

A. Enthalpic Transfer Core

The enthalpy exchanger shall provide high performance sensible and latent transfer between the airstreams. This transfer shall be accomplished by moving energy (both sensible and latent) molecularly through the enthalpy exchanger surface while keeping the airstreams physically separated.

The air to air enthalpy exchanger shall be of the fixed plate type and have no moving parts, surface adhered desiccants, or paper parts.

The unit shall be capable of both summer and winter operation with no condensation buildup or condensate management.

B. Unit Cabinet

The D Series unit cabinet consists of an aluminum framing system and double walled aluminum panels. These units are available with either vertical or horizontal flow directions on both exhaust and supply.

The aluminum panels shall have an r-value of no less than 6.3 hr ft²/Btu and comply with ASTM E84 Class A.

Access shall be provided on unit for maintenance by removable panels in the aluminum enclosures constructed of the same material and thickness as the housing.

Rooftop units shall have screens on the rain hoods to prevent intrusion by birds and other animals.

C. Blowers

The D Series aluminum enclosures shall optionally provide fans that are belt-driven, double-inlet design with forward-curved impellers. Impellers shall be dynamically balanced and designed for efficiency and quiet operation. Impellers and scroll housings shall be galvanized or powder-coated for corrosion protection.

Motors shall use standard NEMA frames with an open drip-proof enclosure and thermal overload protection. Motors shall be installed on adjustable mounting bases.

Fans shall be driven by V-belts using an adjustable sheave on the motor shaft and a fixed sheave on the fan shaft.

D. Filter Section

The filter section of the D Series unit will be built for easy access and replacement without the use of external tools and will accommodate any commercially available 2" pleated filter.

E. Electrical Requirements

All electrical connections to the unit will enter the cabinet through a single location.

F. Special Features

1. Roof Curb Option
 - a. Formed of 18 gage galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
2. Fused Disconnect Switch Option
 - a. For 575/460 Volt power, a 30 amp, 600 volt, 3 pole, NEMA3R fused disconnect switch can be factory installed.
 - b. For 208/230 Volt power, a 30 amp, 250 volt, 3 pole, NEMA3R fused disconnect switch can be factory installed.
3. Switch Disconnect Option
 - a. For 575/460 Volt power, a 30 amp, 600 volt, 3 pole, NEMA3R disconnect switch can be factory installed.
 - b. For 208/230 Volt power, a 30 amp, 250 volt, 3 pole, NEMA3R disconnect switch can be factory installed.
4. Frost Protection
 - (a) The ConsERV enthalpy exchanger shall operate with no frosting or condensation at outside conditions above -10 F and exhaust air RH below 40%. Infrequent incursions outside these conditions shall not impact the function of the exchanger. Drain pans are not required.
5. Remote Control Option
 - a. Remote control option shall provide a 24-volt output signal to the ERV unit (wiring from control panel to ERV plug field supplied).
 - b. Remote control panel shall provide a 24 hour timer to only operate ERV unit during occupied times.
 - c. Remote control panel shall have a switch to override the 24-hour timer.

D Series Short Form Specification

The energy recovery system shall be a Dais Analytic ConsERV - Energy Recovery Ventilator with no moving parts in the heat exchanger. The energy recovery media shall be ARI 1060 Certified, and include nano-scaled polymer membrane with no paper or surface-mounted desiccants. The ERV shall be constructed of double walled painted aluminum and have adjustable belt driven exhaust and supply blowers. All ERV access panels are easily removable.

The ERV unit shall have 1 inch insulation with r-value of 6.3 sq. ft./BTU. The outdoor and exhaust air stream shall contain 2 inch, pleated, commercially available throwaway filters(s). The energy recovery core shall be a UL 900 recognized component for fire safety.