RenewAire®
Energy Recovery Ventilation

CSI Specification

PRODUCT SPECIFICATION GUIDE SA3H3W-SA8H8W
RENEWAIRE MODEL ERV — AIR-TO-AIR ENERGY RECOVERY CORE ARRAY
FOR OUTDOOR OR INDOOR INSTALLATION
CSI MASTERFORMAT CATEGORY 23 72 00

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To view RenewAire product data to include unit description, catalog and instruction manuals, go to www.renewaire.com/our-ervs/

This product is available in multiple different configurations. The unit is typically installed as an element of a building HVAC system.

Questions regarding this product should be directed to your local RenewAire authorized representative. To locate your local rep, go to www.renewaire.com/how-to-buy/find-a-dealer/ and select your region.

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SECTION 23 72 00 - AIR-TO-AIR ENERGY RECOVERY CORE ARRAY

PART 1 - GENERAL

1.1 SUMMARY

- This section includes Air-to-Air Energy Recovery Core Arrays for indoor installation.

1.2 RELATED

Drawing and general provisions of the contract, including General Requirements Division 01, Division 23 Specifications Sections, and common work requirements for HVAC apply to work specified in this section.

1.3 SUBMITTALS

- Product data: For each type or model of Energy Recovery Core Array, include the following:
    - Unit performance data for both Supply Air and Exhaust Air, with system operating conditions indicated.
    - Enthalpy plate performance data for both summer and winter operation.
    - Dimensioned drawings for each type of installation, showing isometric and plan views, to include location of attached ductwork and service clearance requirements.
    - Estimated gross weight of each installed unit.
    - Installation, Operating and Maintenance manual (IOM) for each model.
- LEED Submittals:
    - Provide data for prerequisite E01: Documentation indicating that units comply with ASHRAE 62.1-2010, Section 5 - "Systems and Equipment".
- Shop Drawings: For air-to-air energy recovery core arrays, include plans, elevations, sections, details, and attachments to other work.
    - Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
- Operation and maintenance data for air-to-air energy recovery core array

1.4 QUALITY ASSURANCE

- Source Limitations: Obtain Air-to-Air Energy Recovery Core Array with all appurtenant components or accessories from a single manufacturer.
- For the actual fabrication, installation, and testing of work under this section, use only thoroughly trained and experienced workers completely familiar with the items required and with the manufacturer's current recommended methods of installation.
- The energy recovery core shall be warranted to be free of manufacturing defects and to retain its functional characteristics, under circumstances of normal use, for a period of ten (10) years from the date of purchase. The balance-of-unit shall be warranted to be free of manufacturing defects and to retain its functional characteristics, under circumstances of normal use, for a period of two (2) years from the date of installation.
- Manufacturer shall be able to provide evidence of independent testing of the core by Underwriters Laboratory (UL), verifying a maximum flame spread index (FSI) of 25 and a maximum smoke developed index (SDI) of 50 thereby meeting NFPA90A and NFPA 90B requirements for materials in a compartment handling air intended for circulation through a duct system. The method of test shall be UL Standard 723.
- Certifications:
    - The energy recovery cores used in these products shall be third party Certified by AHRI under its Standard 1060 for Energy Recovery Core Arrays. AHRI published certifications shall confirm manufacturer’s published performance for airflow, static pressure, temperature and total effectiveness, purge air (OACF) and exhaust air leakage (EATR). Products that are not currently AHRI certified will not be accepted.

1.5 COORDINATION

- Coordinate size and location of all building penetrations required for installation of each Energy Recovery Core Array and associated electrical systems.
- Coordinate sequencing of construction for associated plumbing, HVAC, electrical supply.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- Available Manufacturers: Subject to compliance with specifications contained within this document, manufacturers offering products that may be incorporated into the work include, but are not limited to:
    - RenewAire
- Manufacturer should be in business for minimum 10 years manufacturing energy recovery ventilators.

2.2 MANUFACTURED UNITS

- Air-to-Air Energy Recovery Core Arrays consist of a fixed-plate cross-flow heat exchanger with no moving parts, a single wall G90 galvanized 20-gauge steel cabinet, base subassemblies and enthalpy cores.

2.3 CABINET

- Materials: Formed uninsulated single wall metal cabinet with insulated dividers between the air streams, fabricated to permit access to internal components for maintenance.
- Outside casing: 20 gauge, galvanized (G90) steel meeting ASTM A653.
- Enthalpy core: Energy recovery core shall be of the total enthalpy type, capable of transferring both sensible and latent energy between airstreams. Latent energy transfer shall be accomplished by direct water vapor transfer from one airstream to the other, without exposing transfer media in succeeding cycles directly to the exhaust air and then to the fresh air. No condensate drains shall be allowed. The energy recovery core shall be designed and constructed to permit cleaning and removal for servicing. The energy recovery core shall have a ten year warranty. Performance criteria are to be as specified in AHRI Standard 1060.
- Passive Frost Control: The ERV core shall perform without condensing or frosting under normal operating conditions (defined as outside temperatures above -10ºF and inside relative humidity below 40%). Occasional more extreme conditions shall not affect the usual function, performance or durability of the core. No condensate drains will be allowed.

PART 3 – EXECUTION

3.1 EXAMINATION

- Prior to start of installation, examine area and conditions to verify correct location for compliance with installation tolerances and other conditions affecting unit performance. See unit IOM.
- Examine roughing-in of HVAC services to verify actual location and compliance with unit requirements. See unit IOM.
- Proceed with installation only after all unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- Installation shall be accomplished in accordance with these written specifications, project drawings, manufacturer's installation instructions as documented in manufacturer's IOM, Best Practices and all applicable building codes.
- Install unit with clearances for service and maintenance.

3.3 CONNECTIONS

In all cases, industry Best Practices shall be incorporated. Connections are to be made subject to the installation requirements shown above.

- Duct installation and connection requirements are specified in Division 23 of this document.

3.4 FIELD QUALITY CONTROL

- Contractor to inspect field assembled components and equipment installation. Report results to Architect/Engineer in writing. Inspection must include a complete startup checklist to include (as a minimum) the following: Completed Start-Up Checklists as found in manufacturer's IOM. Insert any other requirements here.

3.5 START-UP SERVICE

- Contractor to perform startup service. Clean entire unit as necessary. Refer to Division 23 "Testing, Adjusting and Balancing" and comply with provisions therein.

3.6 DEMONSTRATION AND TRAINING

- Contractor to train owner's maintenance personnel to adjust, operate and maintain the entire energy recovery unit. Refer to Division 01 Section Closeout Procedures and Demonstration and Training.