

Part 1 General

1.1 REFERENCE STANDARDS

- .1 American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE)
 - .1 ASHRAE 84-2013 , Method of Testing Air-to-Air Heat/Energy Exchangers (ANSI approved).

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00- Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for energy recovery equipment and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Manitoba , Canada.
- .4 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .5 Test Reports:
 - .1 Catalogued or published ratings: obtained from tests carried out by manufacturer or those ordered from independent testing agency signifying adherence to codes and standards in force.
 - .2 Provide confirmation of testing.
- .6 Manufacturers' Instructions: submit manufacturer's installation instructions.
 - .1 The City of Winnipeg will make available [1] copy of systems supplier's installation instructions.

1.3 MAINTENANCE MATERIAL SUBMITTALS

- .1 Submit maintenance materials in accordance with Section 01 78 00- Closeout Submittals.
- .2 Extra Materials:
 - .1 Furnish list of individual manufacturer's recommended spare parts for equipment include:
 - .1 Bearings and seals.
 - .2 Addresses of suppliers.
 - .2 List of specialized tools necessary for adjusting, repairing or replacing.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.

- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials in dry location off ground indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect energy recovery equipment from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.
- .4 Develop Construction Waste Management Plan related to Work of this Section.

Part 2 Products

2.1 GENERAL

- .1 Comply with ASHRAE 84.

2.2 AIR TO AIR FIXED PLATE EXCHANGER

- .1 Casing: pre-painted galvanized steel.
- .2 Heat transfer surfaces: corrugated aluminum, edge sealed and bonded to casing.
- .3 Cross contamination: not permitted.
- .4 Condensate drain: NPS 2.
- .5 Removable access panels.
- .6 Performance characteristics: as indicated.
- .7 Acceptable Manufacturers are : Lifebreath, VenMar, Renewaire, Vanee, Nu-Air, Fantech

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for energy recovery equipment installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of the City of Winnipeg.
 - .2 Inform the City of Winnipeg, of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from the City of Winnipeg. .

3.2 INSTALLATION

- .1 Install in accordance with manufacturers recommendations.
- .2 Support independently of adjacent ductwork with flexible connections.

- .3 Install access doors in accordance with Section 23 33 00- Air Duct Accessories for access to coils and dampers.

3.3 FIELD QUALITY CONTROL

- .1 Tests:
 - .1 Perform tests in accordance with Section 26 05 00- Common Work Results for Electrical.

3.4 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 00- Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 00- Cleaning.
- .3 Waste Management: separate waste materials for recycling in accordance with Section 01 74 19- Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION