Part 1 General

1.1 RELATED REQUIREMENTS

.1 Mechanical Spare Parts and Maintenance Materials — Section 23 05 02

.2 Common Motor Requirements for HVAC Equipment — Section 23 05 13

1.2 PRODUCT OPTIONS AND SUBSTITUTIONS

.1 Refer to Division 1 for requirements pertaining to product options and substitutions.

1.3 QUALITY ASSURANCE

.1 Constructed the unit in accordance with CSA C22.2 and UL 1812.

.2 Shop manufacture and test all units.

.3 Insulation shall comply with NFPA 90A and Alberta Building Code.

.4 Air handling units are to be shipped to the job site in one piece, factory assembled. All equipment shall be factory tested prior to shipment.

.5 Unit shall have 5 year warranty. Heat recovery core for lifetime warranty.

1.4 SUBMITTALS

.1 Submit shop drawings as per Section 01 33 10.

.2 Submit operating and maintenance data as per Section 23 05 02.

.3 Submit fan curves and operating characteristics.

Part 2 Products

2.1 ACCEPTABLE MANUFACTURERS AND PRODUCTS

.1 Venmar, Van-ee, Semco, Carrier, Engineered Air

2.2 UNIT CONSTRUCTION

.1 Unit casing shall be of minimum 20 gauge galvanized sheet metal with 12 or 16 gauge galvanized frame.

.2 Units shall be provided with hinged access panels to the following components:

.1 Supply/exhaust fans and motors
.2 Filters
.3 Controls
.4 Heat recovery core

.3 Internally insulate units with 25 mm thick, 1-1/2 lb/cu.ft. density, neoprene coated fibreglass thermal insulation. Line interior of unit with 26 gauge galvanized wall for easy cleaning.

2.3 FANS

.1 Centrifugal fans shall be rated in accordance with AMCA Standard Test Code, Bulletin 210. Fan manufacturer shall be a member of AMCA. All fans and fan assemblies shall be dynamically balanced during factory test run. Fan shafts shall be selected for stable operation at least 20% below the first critical RPM. Fan shafts shall be provided with a rust inhibiting coating.

.2 Equip fans with sealed ball bearings.

.3 Provide fan-motor assemblies with vibration isolators. Secure isolators to welded steel channel and connected to the structural frame of the unit. The isolators shall be neoprene-in-shear type. Hard mounted fan assemblies are not acceptable.

.4 Motors shall be continuous duty, permanently lubricated and match to fan loads.

2.4 HEAT RECOVERY CORE

.1 Arrange the heat recovery core to allow self cleaning by two counter flow air streams.

.2 Install the core removable cassette to allow for inspection, removal and cleaning.

.3 Test the energy recovery effectiveness values in accordance with ASHRAE 84 and ARI standard 1060.

.4 The core must comply with NFPA-90A and Alberta Building Code for frame spread and smoke generation.

2.5 FILTERS

.1 Provide filters on both air streams as part of unit of medium efficiency design (30% DSE).

Part 3 Execution

3.1 AIR HANDLING SCHEDULE

.1 Refer to Schedule on drawing.

END OF SECTION