

PART 1 - GENERAL

- 1.1 REFERENCES
- .1 American National Standards Institute/American Society of Heating, Refrigeration and Air-Conditioning Engineers (ANSI/ASHRAE)
 - .1 ANSI/ASHRAE 52.2-2007, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particulate Size.
 - .2 ANSI/ASHRAE 127-2007, Method of Testing for Rating Computer and Data Processing Room Unitary Air-Conditioners.
 - .2 ASTM International
 - .1 ASTM C 547-11, Specification for Mineral Fiber Pipe Insulation.
 - .3 Canada Green Building Council (CaGBC)
 - .1 LEED Canada-NC-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations 2009.
 - .4 CSA International
 - .1 CSA B52-05 (R2009), Mechanical Refrigeration Code.
 - .2 CAN/CSA-C656-05 (R2010), Performance Standard for Single Package Central Air-Conditioners and Heat Pumps.
- 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 air conditioning components and accessories 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 Province of Newfoundland and Labrador, Canada.
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- 1.4 DELIVERY, STORAGE AND HANDLING (Cont'd)
 - .3 Storage and Handling Requirements: (Cont'd)
 - .3 Replace defective or damaged materials with new.
 - .4 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 35 21 - LEED Requirements.
 - .5 Packaging Waste Management: remove for reuse or return of pallets, crates, padding, banding, and packaging materials as specified in Construction Waste Management Plan in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.

- 1.5 WARRANTY
 - .1 For mini-split air conditioning 12 months warranty period is extended to 60 months.
 - .2 Contractor hereby warrants that computer room air conditioning will not spall or show visible evidence of cracking, except for normal hairline shrinkage cracks for 5 years.

PART 2 - PRODUCTS

- 2.1 DESCRIPTION
 - .1 Factory engineered and packaged ductless mini-split cooling systems, complete with all options and accessories as indicated and as required for a complete and functional space cooling system.
 - .2 These units are to be used only as an emergency back-up system for VRF System (if out of service for repair or maintenance).
 - .3 Outdoor Condensing Unit: see schedule drawing for capacities and details.
 - .1 Ultra low-ambient cooling down to -40F with field setting and wind baffle.
 - .2 10 years limited parts and warranty.
 - .3 Exterior wall mounting. See drawings for mounting details.

- 2.1 DESCRIPTION .3 Outdoor Condensing Unit:(Cont'd)
- (Cont'd)
- .4 Weatherproof and corrosion resistant cabinet. Constructed from rust proofed panels with baked enamel finish.
- .5 Fan-direct drive propeller fan. Motor is inverter driven with permanently lubricated bearings. Horizontal discharge.
- .6 Outdoor coil shall be non-ferrous construction with corrugated fin tube. Metering device to control refrigerant flow.
- .7 Inverter driven compressor with accumulator and reversing valve. Internal thermal overload on compressor.
- .8 Units to be equipped with factory supplied, corrosion resistant wind baffle.
- .4 Indoor unit:
- .1 See scheduled drawings for capacities and details.
- .2 Wall mounted unit with direct driven evaporator fan with permanent lubricated bearings.
- .3 Coil to be non-ferrous, aluminum fin on copper tube heat exchanger. All joints to be brazed with silver alloy or phosphocopper.
- 2.2 REFRIGERANT .1 Charge refrigerant system at factory, seal and test.
- CHARGE
- .2 Holding charge of refrigerant applied at factory.
- 2.3 CONTROLS .1 In accordance with manufacturer's recommendations.
- .2 As indicated on drawings and elsewhere within these specifications. Refer also to Section 23 90 01 - Mechanical Control System.
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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 air conditioning components installation in accordance with manufacturer's written instructions.
- .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative 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 Departmental Representative.
- 3.2 GENERAL .1 Install as indicated, to manufacturer's recommendations, and to EPS 1/RA/2.
- .2 Manufacturer to certify installation.
 - .3 Run drain line from cooling coil condensate drain pan to terminate over nearest floor drain.
- 3.3 EQUIPMENT PREPARATION .1 Provide services of manufacturer's field engineer to set and adjust equipment for operation as specified.
- 3.4 CLEANING .1 Progress Cleaning: clean in accordance with Section 01 74 11 - 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 11 - Cleaning.
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- 3.4 CLEANING
(Cont'd)
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.
.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
- 3.5 PROTECTION
- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by computer room air conditioning installation.