PART 1 - GENERAL

1.1 REFERENCES

.1 Canadian Standards Association (CSA International)
.1 CSA B52S1-09, Mechanical Refrigeration Code.
.2 CAN/CSA-C656-14, Performance Standard for Single Package Central Air-Conditioners and Heat Pumps.

.2 Environment Canada, (EC)/Environmental Protection Services (EPS)
.1 EPS 1/RA/2, Code of Practice for Elimination of Fluorocarbons Emissions from Refrigeration and Air Conditioning Systems.
.2 Environment Canada, Ozone-Depleting Substances Alternatives and Suppliers List.

1.2 SHOP DRAWINGS AND PRODUCT DATA

.1 Submit shop drawings and product data in accordance with Section 01 33 00 - Submittal Procedures.

.2 Indicate major components and accessories including sound power levels of units.

.3 Type of refrigerant used - R-410 A.

1.3 CLOSEOUT SUBMITTALS

.1 Provide operation and maintenance data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.4 WARRANTY

.1 For refrigeration compressors, refer to the terms of the General Conditions.

PART 2 - PRODUCTS

2.1 GENERAL

.1 Integrated package: to CAN/CSA-C656.

.2 System type:

.1 Heating and Cooling: direct expansion
.2 Condensing: air cooled.
.3 One indoor unit connected to one outdoor unit.

.3 Unit rated performance based on, 24/18°C (DB/WB) ambient, 23/16°C (DB/WB) indoor for cooling; -18°C (DB) ambient, 21/12°C (DB/WB indoor for heating.

.4 Capacities: as indicated.

.5 Refrigerant: R410A.

2.2 INDOOR UNIT

.1 See Section 23 73 11.

2.3 CONDENSING UNIT

.1 12.5 SEER (min) cooling, 2.7 COP (min) heating, certified ratings to AHRI standards, R410A refrigerant,front discharge.
.1 Vibration isolators, stand and mounting kit.
.2 Adjustable high and low pressure switches.
.3 Short cycle delay timer
.4 Motor overload and over temperature protection.
.5 Refrigerant service valves.
.6 Low ambient operation.
.7 Crankcase heater
.8 Electrical: 600 V/3 Ph/60 Hz single point power connection with disconnect switch.
.9 Single refrigeration circuit with integral subcoiling coil.
.10 Direct drive hermetic scroll compressor.
.11 Suction gas cooled motor w/± 10%. voltage utilization range.
.12 Internal temperature and current sensor motor overloads.
.13 Liquid line filter dryer.
.14 Phase loss/reverse rotation monitor.
.15 Liquid and suction line service valves with gauge port.
.16 Evaporator defrost control.
.17 Loss of charge protection.
.18 Galvanize steel, heavy gauge casing, baked enamel finish, meets ASTM B117, 672 hour salt spray test.
.19 Removable side access panels.
.20 Nitrogen holding charge.
.21 Condenser coil 10 mm internally enhanced copper tube, mechanically bonded to lanced aluminum plate fins, epoxy coated.

.22 Condenser fans direct drive, propeller type, statically and dynamically balanced.
.23 Condenser motor permanently lubricated, totally enclosed, built in current and thermal overloads, ball or sleeve bearing type.

2.4 REFRIGERANT PIPING, VALVES, FITTINGS AND ACCESSORIES WITHIN UNIT

.1 To Section 23 23 00 - Copper Tubing and Fittings - Refrigerant.

.2 To CSA B52.

.3 Include for each refrigerant circuit:
.1 Thermal expansion valve, external equalizing type.
.2 Combination filter-dryer.
.3 Solenoid valves.
.4 Liquid sight glass with moisture indicator.

2.5 REFRIGERANT CHARGE

.1 Charge refrigerant system as per Section 23 33 00.

2.6 CONTROLS

.1 Centralized microprocessor.

.2 Indoor and outdoor temperature sensors drive algorithms, making decisions for all cooling and ventilation.

.3 Integrated anti-short cycle timer.

.4 Integrated time delay between compressor.

.5 Completely internally wired, numbered and coloured wires.

.6 Single point entry.

PART 3 - EXECUTION

3.1 GENERAL

.1 Install as indicated, to manufacturer's recommendations, and in accordance with EPS 1/RA/2.

.2 Manufacturer to certify installation.

.3 Power and control wiring for evaporator units by Air-conditioner subcontractor.

.4 Provide access panels/doors for maintenance and servicing.

END OF SECTION