

Part 1 General

1.1 REFERENCES

- .1 American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE)
 - .1 ASHRAE 52.1, Gravimetric and Dust Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-115.10, Disposable Air Filters For Removal of Particulate Matter from Ventilating Systems.
 - .2 CAN/CGSB-115.15, High Efficiency, Rigid Type Air Filters for Removal of Particulate Matter from Ventilating Systems.
- .3 Canadian Standards Association (CSA International)
 - .1 CSA B52, Mechanical Refrigeration Code.
 - .2 CAN/CSA-C656, Performance Standard for Single Package Central Air-Conditioners and Heat Pumps.
- .4 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.

1.3 CLOSEOUT SUBMITTALS

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

Part 2 Products

1.4 GENERAL

- .1 Integrated package: to CAN/CSA-C656.
- .2 System type:
 - .1 Air flow arrangement: up- flow.
 - .2 Cooling: direct expansion.
 - .3 Condensing: air cooled.
 - .4 Inverter duty

- .3 Cooling capacity, with fan heat extracted: based on room environment of 22°C dry bulb and 50% R.H. (plus or minus 1°C and 5% R.H.), with minimum supply air temperature of 13°C.
- .4 Acceptable Manufacturers: Carrier, Mitsubishi, Samsung, LG

1.5 CONDENSER

- .1 Air cooled: free standing, welded steel unit construction, corrosion protected.
 - .1 Circuited to provide separate refrigerant circuit for each compressor/evaporator combination.
 - .2 Aluminum fins, mechanically bonded to copper tubes, tested to 3.1MPa.
 - .3 Propeller type fan(s), direct drive.
 - .4 Electrical and control components housed in weather-tight access panels with electrical disconnect switch and control cable for control interconnection.
 - .5 Vibration isolation: providing at least 95% isolation efficiency.

1.6 REFRIGERANT PIPING, VALVES, FITTINGS AND ACCESSORIES WITHIN UNIT

- .1 To CSA B52.
- .2 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.
 - .5 Suction line insulation: flexible elastomeric unicellar to ASTM C547, 12 mm minimum thickness.
 - .6 Liquid refrigerant receiver.

1.7 ENVIRONMENTAL CONTROLS

- .1 Solid state electronic control system.

1.8 REFRIGERANT CHARGE

- .1 Charge refrigerant system at factory, seal and test.
- .2 Holding charge of refrigerant applied at factory.

Part 3 Execution

1.9 GENERAL

- .1 Install as indicated, to manufacturer's recommendations, and in accordance with EPS 1/RA/2.
- .2 Manufacturer to certify installation.
- .3 Run drain line from cooling coil condensate drain pan to terminate over nearest sump.

1.10 EQUIPMENT PREPARATION

- .1 Provide services of manufacturer's field engineer to set and adjust equipment for operation as specified.

END OF SECTION