

Part 1 General**1.1 RELATED SECTIONS**

- .1 Section 01 00 10 – General Instructions.
- .2 Section 21 05 01 – Common Work Results for Mechanical.
- .3 Section 23 09 33 - Electric and Electronic Control System for HVAC
- .4 Section 26 05 00 - Common Work Results for Electrical.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA C22.2 No.46-M1988 (R2001), Electric Air-Heaters. Includes General Instruction No. 1 (1988), Update No. 2 (2009).

1.3 PRODUCT DATA

- .1 Submit product data in accordance with Section 01 00 10 – General Instructions.
- .2 Submit product data sheets for unit heaters. Include:
 - .1 Product characteristics.
 - .2 Performance criteria.
 - .3 Mounting methods.
 - .4 Physical size.
 - .5 kW rating, voltage, phase.
 - .6 Cabinet material thicknesses.
 - .7 Limitations.
 - .8 Colour and finish.
- .3 Submit product data sheets for unit heaters.
 - .1 Include product characteristics, performance criteria, physical size, limitations and finish.
- .4 Manufacturer's Instructions: Provide to indicate special handling criteria, installation sequence, cleaning procedures.

1.4 CLOSEOUT SUBMITTALS

- .1 Provide operation and maintenance data for unit heaters for incorporation into manual specified in Section 01 00 10 – General Instructions.

1.5 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 00 10 – General Instructions.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.

- .3 Collect and separate for disposal all packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Divert unused metal and wiring materials from landfill to metal recycling facility as approved by Departmental Representative.

Part 2 Products

2.1 UNIT HEATERS

- .1 Unit heater: to CSA C22.2 No.46, vertical discharge complete with adjustable louvers finished to match cabinet.
- .2 Fan type unit heaters with built-in high-heat limit protection and fan-delay switches.
- .3 Fan motor: totally enclosed type with resilient mount.
 - .1 Built-in fan motor thermal overload protection.
- .4 Hangers: as indicated.
- .5 Elements: 4 kW mineral insulated stainless steel sheath with single brazed fins.
- .6 Cabinet: steel 2 mm thick, fitted with brackets for rod or wall mounting.
 - .1 Phosphatized and finished with two (2) coats baked enamel in beige colour.

2.2 CONTROLS

- .1 Wall mounted thermostats: type line voltage, Energy Star certified.

Part 3 Execution

3.1 INSTALLATION

- .1 Suspend unit heaters from ceiling or mount on wall as indicated.
- .2 Install thermostats in locations indicated.
- .3 Make power and control connections.

3.2 FIELD QUALITY CONTROL

- .1 Perform tests in accordance with Section 26 05 00 - Common Work Results for Electrical.
- .2 Test cut-out protection when air movement is obstructed.
- .3 Test fan delay switch to assure dissipation of heat after element shut down.
- .4 Test unit cut-off when fan motor overload protection has operated.
- .5 Ensure heaters and controls operate correctly.

END OF SECTION