Marley Engineered Products
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Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat, SectionFormat,* and *PageFormat,* as described in *The Project Resource Manual—CSI Manual of Practice, Fifth Edition.*

The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all "Specifier Notes" after editing this section.

Section numbers and titles are from *MasterFormat 1995 Edition*, with numbers and titles from *MasterFormat 2004 Edition* in parentheses. Delete version not required.

SECTION 15760 (23 82 39)

PLENUM HEATERS

Specifier Notes: This section covers Marley Engineered Products "Berko BPH Series" plenum heaters. Consult Marley Engineered Products for assistance in editing this section for the specific application.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Plenum heaters.

1.2 RELATED SECTIONS

Specifier Notes: Edit the following list of related sections as required for the project. List other sections with work directly related to this section.

A. Section 15700 (23 80 00) – HVAC Equipment (Decentralized HVAC Equipment).

1.3 REFERENCES

Specifier Notes: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

A. ANSI/UL 1995 – Standard for Heating and Cooling Equipment.

B. ISO 9001:2000 – Quality Management Systems – Requirements.

C. NFPA 70 – National Electrical Code (NEC).

1.4 SUBMITTALS

A. Comply with Section 01330 (01 33 00) – Submittal Procedures.

B. Product Data: Submit manufacturer's product data, including installation instructions.

C. Shop Drawings: Submit manufacturer's shop drawings, including plans, elevations, sections, and details, indicating dimensions, tolerances, materials, components, fabrication, fasteners, hardware, finish, electrical wiring diagrams, options, and accessories.

D. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.

E. Operation and Maintenance Manual:
   1. Submit manufacturer's operation and maintenance manual, including the following:
      a. Operation, maintenance, adjustment, and cleaning instructions.
      b. Trouble shooting guide.
      c. Parts list.
      d. Electrical wiring diagrams.
   2. Provide detailed information required for Owner to properly operate and maintain equipment.

F. Warranty: Submit manufacturer's standard warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer's Qualifications:
   1. Manufacturer regularly engaged, for preceding 5 years, in manufacture of unit heaters of similar type to that specified.
   2. ISO 9001:2000 Registered.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.

C. Handling: Protect materials and finish during handling and installation to prevent damage.

1.7 WARRANTY

A. Warranty Period for Heating Elements: 5 years from date of installation.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Marley Engineered Products, Berko, A Marley Engineered Products Brand, 470 Beauty Spot Road East, Bennettsville, South Carolina 29512. Phone (800) 642-HEAT. Fax (843) 479-9932. Website www.berkomep.com. E-mail meptechsupport@marleymep.spx.com.

2.2 PLENUM HEATERS

A. Plenum Heaters: "Berko BPH Series".
   1. Model: BPH_____ .
   2. Compliance:
      a. Design Certified by ETL: ANSI/UL 1995, for use in concealed space and plenum applications.
      b. NEMA Enclosure Type12K, gasketed control panel for built-in controls and wiring: City of Chicago codes for plenum use.
   3. Enclosure: 20-gauge, powder-coated steel.
   4. Access Panel: Single panel provides access to serviceable components.
   5. Maximum Outlet Air Temperature: 200 degrees F.
   6. Ratings:
      a. Zero clearance.
      b. Horizontal mounting position.
      c. Rated Static Pressure: 0.2 inch.
   7. Timed Blower: On/off delay.
   8. Thermostat Control: External, 24 V AC.
   9. Thermal Cutout: High limit.
   10. Duct Collar: Pre-notched.
   11. Motor: PSC, 2 speed.
   12. Multiple heat rise selection.
   13. Insulation: Acoustic fiberglass.
   14. Disconnect Switch: Built-in, 60-amp, 3-pole.
   15. Power Connection: Single-point connection to supply power to fan and electric heater.
   16. Grounding Lug: For ground connection.
   17. Heating Element: Steel fins.
   18. Centrifugal Blower: Quiet, efficient, forward-curved blower.
   19. Fan only.

Specifier Notes: Specify the small cabinet or large cabinet. Specify heating element KW and voltage, phase, and temperature rise for the required plenum heaters. Consult Marley Engineered Products product information.

   20. Small Cabinet:
      a. Overall Dimensions:
         1) Height: 12.50 inches.
         2) Width: 19.50 inches.
         3) Depth: 24.00 inches.

b. Weight: 49 pounds.
c. Heating Element:
    1) KW: [3 KW] [5 KW].
    2) Voltage: [208 V] [240 V] [277 V] [480 V].
d. Phase: [Single-phase] [3-phase].
e. Low Speed:
    1) Air Flow: 350 cfm.
    2) Temperature Rise: [27 degrees F] [45 degrees F].
f. High Speed:
    1) Air Flow: 400 cfm.
    2) Temperature Rise: [24 degrees F] [39 degrees F].

21. Large Cabinet:
a. Overall Dimensions:
    1) Height: 17.88 inches.
    2) Width: 18.00 inches.
    3) Depth: 35.50 inches.
b. Weight: 69 pounds.
c. Heating Element:
    1) KW: [5 KW] [7.5 KW] [10 KW] [15 KW].
    2) Voltage: [208 V] [240 V] [277 V] [480 V].
d. Phase: [Single-phase] [3-phase].
e. Low Speed:
    1) Air Flow: 850 cfm.
    2) Temperature Rise: [19 degrees F] [28 degrees F] [37 degrees F] [56 degrees F].
f. High Speed:
    1) Air Flow: 1000 cfm.
    2) Temperature Rise: [16 degrees F] [24 degrees F] [31 degrees F] [47 degrees F].

2.3 ACCESSORIES

Specifier Notes: Specify required optional accessories. Delete optional accessories not required. Consult Marley Engineered Products for more information.

A. Adjustable louvers.

B. Filter rack.

C. Grille.

D. Electronic thermostat.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas to receive plenum heaters.

B. Notify Architect of conditions that would adversely affect installation or subsequent use.

C. Do not begin installation until unacceptable conditions are corrected.

3.2 INSTALLATION

A. Install plenum heaters in accordance with manufacturer's instructions at locations indicated on the Drawings.

B. Mount plenum heaters in horizontal installation position and in suspended manner.

C. Suspend plenum heaters from building structure in horizontal plane.

D. Support plenum heaters independently.

E. Attach support channels or straps to plenum heater frame/housing.

F. Do not obstruct access to plenum heater control panel.

G. Provide source for mounting to suspend plenum heaters from building structure.

H. Field Wiring: Comply with NEC and local codes.

3.3 ADJUSTING

A. Adjust plenum heaters for proper operation in accordance with manufacturer's instructions.

3.4 DEMONSTRATION

A. Demonstrate plenum heaters function properly.

3.5 PROTECTION

A. Protect installed plenum heaters from damage during construction.

END OF SECTION