



PH-Series

Gas Fired Radiant Systems Specifications

SPECIFICATION

PH-Series Gas Fired Radiant Systems

1. **GENERAL**

I. **SCOPE**

- i. Gas Fired Patio Heating

2. **PRODUCTS**

I. **ACCEPTABLE MANUFACTURERS**

- i. Calcana Industries Ltd., Calgary, Alberta, Canada, 1-800-778-6729
- ii. Calcana USA Ltd., Loxley, Alabama, United States, 1-800-778-6729

II. **EQUIPMENT**

i. **General:**

Provide a CGA/AGA approved, Natural Gas / Propane, packaged Patio Heating System, complete with hangers and controls as noted on the plan.

Equipment to be manufactured by Calcana Industries Ltd. or Calcana USA Ltd.. Firing rate as per schedule noted on plan.

Provide manufacturer's published warranty covering units will be free from defects in material and workmanship for one (1) year and further warrants that the heat exchanger, reflectors, brackets, burner and burner box will be free from defects in material and workmanship for three (3) years.

Clearance to combustibles shall be as per manufacturer recommendations.

ii. **Units shall consist of:**

Electronic, spark, 24 volt ignition system.

Cast steel burner head, complete with stainless steel mixing surface.

Enclosed combustion air blower motor, non-maintenance type.

Air flow proving pressure switch to prevent burner operation if exhaust or combustion air supply should become interrupted.

Burner, blower motor and controls to be enclosed in a positive sealed, riveted, stainless steel, burner housing.

Gas and electric controls to be separate from the combustion air stream.

Burner head and first ten (10) feet of unit complete with reflector, tube and hanger to be preassembled at factory.

Reflectors shall be of finished 1100 aluminum alloy, or optional 304 grade or 316 grade stainless steel, no less than 22 gauge (0.031") in thickness, and formed of eight reflective sides. Reflectors shall extend no less than 2.25" below the lowest portion of the radiant tubes on each side for maximum control of radiant output and minimum convection loss. Inside reflective surface area shall not be less than 3200 square inches per ten (10) foot section of reflector length.

Reflector shall be able to be mounted level on the linear axis, and may be tilted about the linear axis from 0 to 45 degrees from the horizontal plane; factory recommended tilt is maximum 25 degrees.

Radiant tubing shall be heat treated aluminized steel, or combination of heat treated aluminized steel and 409

stainless steel, 4" O.D. 16 ga (0.062") material.

Radiant tubing to be coupled with wrap around, bolted band clamps, complete with 5/8" bolts and separate self-tapping lock system, or swedge style couplings with high temperature silicone sealing compound. Sleeve clamps with tapered drive coupling assemblies not acceptable.

Units to have complete turbulator (flue baffle) installed in last section of heater.

Units to be certified for use with flexible gas connector or hard pipe per local codes.

Electrical rating not to exceed 115v, 60Hz, 1.0 amp or optional 24 volt, AC, 3.6 amp.

Aluminum egg crate wave concentration grille to be complete with 1/2" opening on centre.

Unit to come with built in capability to operate with low voltage thermostat (on select models) or on/off switch and with infinitely variable control.

Tube and reflector hangers shall be of the integral type. They are to be installed inside the reflector every ten (10) feet or five (5) feet, physically forming an individual dead air space under each ten (10) foot or five (5) foot section of reflector. Wrap around "coat hanger wire" style hangers are not acceptable.

3. INSTALLATION

I. General:

Install gas fired radiant systems as indicated, in accordance with manufactures installation instructions, and in compliance with acceptable codes.

II. Support:

Suspend heat exchangers, burners, gas piping, conduit and reflectors from structure as indicated, or if not indicated, in manner to provide durable and safe installation; and in accordance with manufacturer's installation instruction and local codes.

III. Clearance to Combustibles:

Maintain minimum clearance to combustibles outlined and printed on burner nameplate, and in manufactures product manual.

IV. Electrical Wiring:

Install electrical wiring as indicated. Connect power wiring to burners, control wiring between burner and controls, in accordance with manufacturers wiring diagrams.

V. Thermostats:

Mount controls forty (40) inches to sixty (60) inches above finished floor, if not otherwise indicated.

VI. Start-Up:

Start-up, test, and adjust gas fired radiant heaters in accordance with manufactures start-up instructions, and Utility Company's requirements. Check and calibrate controls.