SPECIFICATIONS

SPACE-RAY®

Infrared Gas Heaters For Industry Since 1958

LOW INTENSITY

RSTP Series Tube Heaters

Five Year Limited Warranty On Emitter Tube

Ten Year Limited Warranty On Cast Iron Burner

RSTP SERIES FEATURES

- Industry's Workhorse Since 1968.
- The Original Unitized Infrared Tube Heater Design Certified By A.G.A.
- Completely Factory Assembled And Tested. No Field Assembly Required.
- Proven In High Bay Installations . . . As High As 68' Above The Floor.
- Ideal For Large Buildings, Aircraft Hangars, Warehouses, Steel Mills, And Other Hard-to-heat Industrial Heating Applications.
- Certified For Indoor And Outdoor Installations.
- High Radiant Efficiency.

PULL-THROUGH SYSTEM

- Pull-through System (vacuum) — The Products Of Combustion Are Pulled Through The Combustion Chamber For Increased Radiant Efficiency And Greater Safety.
- Each Unit Is Equipped With An Individual Draft Inducer For Maximum Venting Flexibility.
- Vented, Common Vented, Or Indirect Vented Operation.
- Draft Inducer Is Equipped With Permanently Lubricated, Totally Enclosed, Fan-cooled And Heavy Duty Ball Bearing Motor To Minimize Field Maintenance.
- Rugged Body Construction. Completely Factory Assembled Unitized Design Saves Installation Time And Money.

RADIANT EMITTER TUBE SYSTEM

- Highest Radiant Efficiency Tube Heaters. Tube Temperatures Average 900°F.
- 16 Gauge 4" O.D. Calorized Steel Emitter Tubes.
- Aluminized Steel Emitter Tubes Are Calorized For Long Life, Corrosion Resistance, And High Radiant Efficiency — Will Not Flake Or Peel.
- The Calorization Process Produces An Emitter Tube Which Is Highly Radiant Absorptive On The Interior And Highly Radiant Emissive On The Exterior.

REFLECTOR SYSTEM

- Highly Efficient Aluminum Reflectors Designed For Uniform Floor Level Radiant Energy Distribution.
- Reflector Ends Are Enclosed For Maximum Radiant Heat Output And Minimum Convection Loss.
- Suitable For Horizontal Or Angle Mount Up To 90 Degrees.

BURNER SYSTEM

- One-Piece Cast Iron Burner With Stainless Steel Flame Retainer.
- Inside Or Outside Air For Combustion.
- Spark Ignition System With 100% Gas Shut-off Safety Control (30-second Pre-purge); Diaphragm Air Proving Switch; Burner Inspection Sight Glass; Monitoring Light System For On-line Diagnosis.

MODEL	GAS TYPE	INPUT BTUH	BURNER PRESSURE (WATER COLUMN)	SUPPLY PRESSURE (WATER COLUMN)		VOLTAGE
				MIN.	MAX.	
RSTP15C-N5D*	NATURAL	150,000	3.5"	4.5"	14"	120 VAC 60 HZ 2.6 AMPS
RSTP17C-N5D	NATURAL	175,000	3.5"	4.5"	14"	
RSTP17C-L5D	PROPANE	175,000	10"	11"	14"	

*Not submitted for C.G.A. certification. Note: For all installations higher than 2000 ft. above sea level, please consult the factory regarding recommended derating of heaters.

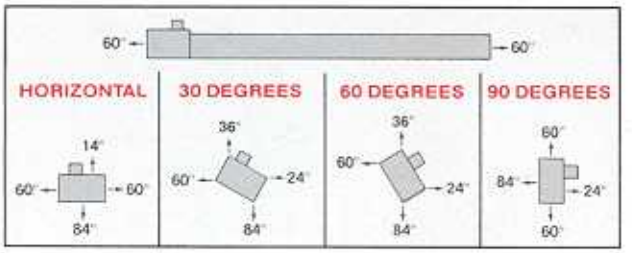
MOUNTING HEIGHT AND REQUIRED CLEARANCES

MOUNTING HEIGHTS

MODEL	HEIGHT AT 45° ANGLE (FEET)	HEIGHT AT HORIZONTAL (FEET)
RSTP15C	12 to 30	14 to 40
RSTP17C	14 to 40	16 to 60

This chart is intended as a guide only. Please consult your local Space-Ray representative for a detailed analysis of your particular radiant heating requirements. Observe all required clearances to combustibles as shown.

MINIMUM CLEARANCES TO COMBUSTIBLES



Note: Required minimum clearances to combustibles shall be measured from the outer surfaces of unit. Consult factory if reduced clearances are required.

RSTP SERIES ARCHITECTURAL/ENGINEERING SHORT FORM SPECIFICATIONS

Gas-fired infrared space heaters shall be furnished and installed in accordance with governing codes and as shown per building drawing(s) as described below.

Heaters shall be SPACE-RAY RSTP series tube heaters, model number(s) RSTP _____, rated at _____ BTU/Hr. as manufactured by Gas-Fired Products, Inc., Charlotte, North Carolina. Heaters shall be equipped with a 24-volt direct spark ignition system with automatic 100% gas shutoff, redundant combination gas valve, and a diaphragm switch designed to complete unit shutoff in the event of combustion air or flue blockage. The heaters shall be equipped with three on-line diagnosis monitoring lights to monitor the power to the heater, insufficient air flow, and the spark ignition and the combination gas valve operation. Power supplied to each heater shall be 120 VAC, 60 Hz.

The heater's burner shall consist of a cast iron atmospheric burner with stainless steel flame retainer and shall utilize an aluminized steel entrance cone and support assembly, which will maintain a uniform air annulus around the flame pattern. The flame characteristics shall be highly luminous for maximum radiant heat transfer through the emitter tube wall.

The heater's emitter tube shall operate at an average surface temperature of 900°F and shall be made of 16-gauge, 4" O.D. aluminized steel for long life. The emitter tube shall be calorized for longevity, corrosion resistance, and high radiant efficiency. The minimum input firing rate shall be 7,000 BTU/Hr. per square foot of emitter tube surface. The measured surface emissivity shall be 0.83-0.86 at operating temperatures.

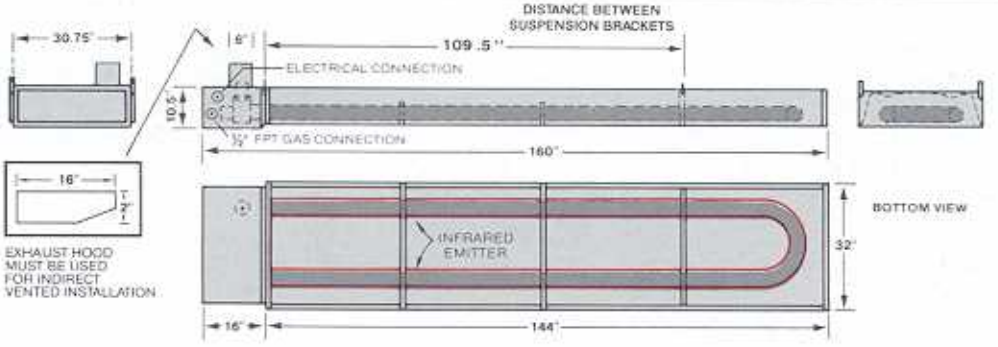
To assure a high degree of safety and increased radiant efficiency, the heaters shall operate under negative pressure at all times during operation to preclude the escape of combustion gases inside the building. The heater exhaust assembly shall include a 120-volt draft inducer. The draft inducer shall be equipped with a permanently lubricated, totally enclosed and shielded, fan cooled, and heavy duty ball bearing motor. The motor shall not require maintenance or lubrication for the life of the unit.

The heaters shall utilize factory assembled, highly efficient aluminum reflectors with a reflectivity of 97.5%. The reflector ends shall be enclosed for maximum radiant heat output and minimum convection losses. The heaters shall be completely factory assembled and tested. The heaters shall not require any field wiring, adjustments, or assembly to assure maximum performance and safety. Heaters shall operate satisfactorily in any position from horizontal to ninety degrees (90°) from horizontal, and shall be suitable for vented/indirect vented and inside/outside applications. Heaters shall be designed to operate on natural or propane gas.

Heaters shall be design certified by the American Gas Association and the Canadian Gas Association. The manufacturer shall provide a written limited warranty covering the cast iron burner for ten (10) years, the emitter tube for five (5) years, and all other components for one (1) year.

DIMENSIONS

MODELS RSTP15C AND RSTP17C



Unit Weight: 216 lbs
Shipping Weight: 256 lbs

COMBUSTION AIR AND VENTILATION

Combustion air and venting requirements for all gas-fired heating equipment must be provided per National Fuel Gas Code NFPA54 or the authority having jurisdiction over the installation. Heaters can be common vented, vented, or indirect vented. Refer to Installation and Operation Instructions for further information. A **vented installation** must be vented to the outside of the building with a flue pipe. An **indirect vented installation** requires a minimum ventilation flow of 4 CFM per 1000 BTU per hour of total installed heater capacity on natural gas by either gravity or power ventilation (4.18 CFM per 1000 BTU per hour on propane). For indirect vented applications, building exhaust openings must be located above the level of the heaters and inlet air openings must be located below the level of the heaters. For more ventilation information, consult the ASHRAE handbooks, local codes, and the Space-Ray Application Manual. For flue and duct sizing, refer to the Installation and Operation Instructions.

FOR YOUR SAFETY

OPERATE SPACE-RAY INFRARED HEATERS WITH PROPER CARE AND OBSERVE ALL SAFETY PRECAUTIONS. Carefully follow the printed installation, operation, and cleaning instructions furnished with these heaters. Follow the instructions on the nameplate of each heater and use in accordance with National, State, and Local Codes or the authority having jurisdiction. Adequate ventilation must always be provided in accordance with the codes.

SPACE-RAY®
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