Product Submittal Specification – DF Series

Direct Gas-Fired Heat Modules – DF Series

Provide Heatco Inc. direct gas-fired DF heat module manufactured as a recognized component to the current edition of ANSI Z83.4 / CSA 3.7 Standard for “Non-Recirculating Direct Gas-Fired Heating and Forced Ventilation Appliances for Commercial and Industrial Application”. The final determination of the safety and suitability of this product for the specific application shall be the responsibility of the manufacturer of the “Listed” equipment and the listing Agency.

The Heat modules may be used for either outdoor installation (or) for indoor installation in accordance with the National Fuel Gas Code ANSI Z223.1 (NFPA 54) in the United States and Can/CGA-B149 Installation Code in Canada and all applicable local codes and ordinances.

Heat module shall provide 100% Efficiency of combustion and a minimum thermal efficiency of 92%.

Direct Gas-Fired heat modules shall be used for Pull-Thru applications.

Direct Gas-fired heat module(s) provided shall have a stainless-steel burner with aluminum burner head casting. Burner assembly shall be mechanically secured to vestibule panels and design shall be suitable to operate as low as 0.35” to 1.2” w.c. differential pressure range or air velocity as low as 1500 to 3500 fpm.

Profile plate openings are sized according to specific application requirements.

Additionally, heat module shall employ:

- Gas burners, with integral carryovers, capable of operation at 30:1 turndown with modulating controls.
- A profile plate opening sized according to specific application requirements.
- Burner circulating air pressure switch to prove air supply for combustion and operation.
- Flame Safeguard of the gas burners with integral flame sensing to prove carryover across burner assembly.
- Listed Gas Valve(s) incorporating electric safety shut-off valves, and/or manual shut-off, and/or proof of closure, and/or visual indication, and/or gas regulator.
- An automatic reset type high limit switch set to 185oF.
- Class II step down transformer(s) to provide 24 VAC control voltage at selected supply voltage.
- A 1/8” NPT tapped test gauge connection in the gas train for measuring gas manifold pressure.
- A 1/8” NPT tapped test gauge connection in the gas train for measuring inlet supply gas pressure.
- A union fitting upstream and downstream of gas control to facilitate installation and service.
- Provision for attachment of a vent system to exhaust gas from the gas vent valve according to national or local codes.

All electrical components shall be listed or recognized by a NRTL (ETL, UL, CSA, etc.).

Heat modules and burners provided are for use on Natural or Propane gases as specified at the time of order.

Manifold and gas train built to ANSI, FM, UL, IRI/GAP, or local codes as specified at the time of order.

Ratings listed in Submittal Tables are for installations between 0 and 2000 feet (0 to 610m). For installations above 2000 feet, unit must be de-rated in accordance with National Standards. Consult Factory.

Heat module shall be accompanied by wiring diagrams for the control system supplied and printed instructions for proper installation, start-up, operation and maintenance.

Ignition system shall be high-voltage spark ignition. Electric ignition may be spark to pilot or direct spark depending on burner input rating and type.

Controls are provided complete with flame rod or ultra-violet scanner to monitor the pilot and main burner flame as required by the specified controls for the burner input capacity.

Heat Module shall have a Rating label mounted on the front shroud indicating the type of gas for which the heater is equipped, external static design conditions, maximum and minimum Btu input ratings, maximum and minimum gas supply pressures, output at maximum input, supply voltage, and maximum amp rating.

Heat Module vestibule may be built to NEMA 4 or NEMA 12 electrical enclosure ratings as an option. Consult factory at time of order.

Initial on sight start-up must be completed by a trained burner technician. A Start-up data sheet is provided for recording operating data and the final burner adjustments. A portion of the Start-up data sheet must be returned to Heatco to validate factory warranty.

Burners and components are warranted for one year from date of installation or 18 months from date of manufacture. See Heatco Standard Warranty for full details.

Utilities

Electrical	115 VAC, 1Φ, 60 Hz to 480V, 3Φ, 60 Hz as specified at time of order. Control voltage is 120 VAC, 1Φ, 60 Hz.
Gas Service	Maximum and Minimum gas supply pressures are based on specific application Requirements.
External Control (Provided by others) (Optional)	Heat Enable – One set **NO** service voltage contacts Modulation – 0 -10 VDC Analog or 4-10 mA
Internal Control (Provided by Heatco) (Optional)	Discharge Air Control - Included discharge air sensor, amplifier, Room Temperature Control – Included discharge air sensor, room air sensor, amplifier, signal conditioner

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