Guide Specification – GTD Series

Base Bid Temprite Model GTD _____ Indirect Fired Duct Furnace. The unit shall be factory fabricated, assembled, wired and tested prior to shipment in accordance with the specification and equipment schedule. The unit will include all components herein and as shown on the drawings. Alternate equipment, equal in design, construction, performance and capacity to unit(s) specified, must be shown with price deduct/add, if any. Approval of alternate equipment will be subject to review of shop drawings. The unit shall be capable of handling_____SCFM. The unit shall be ETL listed.

CASING

The unit casing shall consist of formed 18 gauge galvanized steel panels to ensure rigid construction. Cabinet design shall allow unit(s) to be mounted in the horizontal arrangement with no external framework. The casing enclosing the heat exchanger shall be of double wall construction with a galvanized steel inner wall serving as a radiation shield. Radiation and transmission losses shall not exceed 2% of the rated input. The casing enclosing the heat exchanger shall be insulated with 1", 1½ lb. density fiberglass insulation.

HEAT EXCHANGER

The entire primary and secondary heat transfer surface shall be 400 series stainless steel. The heat exchanger design shall permit unrestricted lateral and peripheral expansion during the heating and cooling cycle. The flue gas travel shall be of two-pass design, with internal baffles in the secondary tubes. The surface temperature of the heat exchanger shall not exceed 75% of its scaling temperature when operating at rated capacity. The heat exchanger shall be rated at a minimum of 80% efficiency throughout complete operating range.

BURNER

The gas burner shall be of the power type, complete with integral combustion air blower and motor, combustion air proving switch, and removable pilot assembly. Burner shall be complete with an observation window to view the flame. The combustion air damper shall be interlocked with the gas control valve to insure a proper gas/air mixture throughout the complete range of operation. Burner and controls shall be capable of delivering _____MBH output firing on (natural gas) (propane) at an inlet pressure of _____ (inches water column) (PSIG). The standard ETL listed unit will meet ANSI, FM, and IRI requirements. Burner and controls shall be arranged for full modulation with low fire start and a _____ turndown ratio. Burner combustion shall be on-ratio throughout the complete operating range. The factory wired and piped valve train shall be complete with:

- low pressure appliance regulator
- motorized gas control valve
- main manual test firing shut-off valve
- main automatic shut-off valve(s)
- pilot manual shut-off valve (Models 480 & larger)
- pilot pressure regulator (Models 480 & larger)
- pilot automatic shut-off valve (Models 480 & larger)
- pilot manual test firing shut-off valve (Models 480 & larger)

ELECTRICAL CONTROLS

A factory wired NEMA 1 control panel complete with hinged access door and 10 foot wiring harness shall be shipped with duct furnace. All control components are to be labeled and individually wired to a numbered terminal strip to aid in servicing. All wiring shall be color coded and number tagged at each end to match the control diagram supplied. Full operating and maintenance instructions shall accompany each unit. All wiring between the controls and valves shall be run in flexible conduit. All electrical components shall bear the U.L. label. The control system shall include but not be limited to the following components required for automatic operation:

- control circuit transformer
- control circuit fuses
- control relays
- electronic flame relay
- high limit switch
- automatic/manual fan switch
- spark generator (Models 160-480)
- heavy duty ignition transformer (Models 800-1120)

Guide Specification – GTDM Series

Base Bid Temprite Model GTDM _____ Indirect Fired Duct Furnace. The unit shall be factory fabricated, assembled, wired and tested prior to shipment in accordance with the specification and equipment schedule. The unit will include all components herein and as shown on the drawings. Alternate equipment, equal in design, construction, performance and capacity to unit(s) specified, must be shown with price deduct/add, if any. Approval of alternate equipment will be subject to review of shop drawings. The unit shall be capable of handling_____SCFM. The unit shall be ETL listed.

CASING

The unit casing is to be panel construction from 16 gauge galvanized steel, suitably reinforced to ensure rigidity. All panels shall be factory sealed with caulking between mating panels. The casing enclosing the heat exchanger shall be of double wall construction with a galvanized steel inner wall serving as a radiation shield. Radiation and transmission losses shall not exceed $1^1/_2$% of the rated output. This section shall be insulated with 1", $1^1/_2$ lb. density insulation.

The unit shall have an integral milled channel base complete with lifting lugs.

INDIRECT GAS FIRED SECTION

The entire primary heat transfer surface and header shall be of 400 series stainless steel; the secondary heat transfer surface shall be (mild steel) (400 series stainless steel). The heat exchanger design shall permit unrestricted lateral and peripheral expansion during the heating and cooling cycle. The flue gas travel shall be of four-pass design, with no internal baffles. The surface temperature of the heat exchanger shall not exceed 75% of its scaling temperature when operating at rated capacity. The heat exchanger shall be rated at a minimum of 80% efficiency at rated output. A pressure relief door complete with an observation window to view the complete flame and pilot shall be provided.

DIRECT DRIVE INDUCED DRAFT FAN

An integrally mounted, heavy duty, non-clogging radial blade induced draft fan complete with direct drive motor shall be provided. The induced draft fan shall be adequately sized to insure proper draft conditions when operating at rated capacity and equipped with a manual damper complete with locking quadrant to ensure proper draft and extended heat exchanger performance.

BURNER

The gas burner shall be of the power type, complete with integral combustion air blower and motor, combustion air proving switch, and removable pilot assembly. The combustion air damper shall be interlocked with the gas control valve to insure a proper gas/air mixture throughout the complete range of operation. Burner and controls shall be capable of delivering _____MBH output firing on (natural gas) (propane) at an inlet pressure of _____ (inches water column) (PSIG) and in accordance with (manufacturer's standard) (FM) (IRI) requirements. Burner and controls shall be arranged for ((High/Low/Off) (Full Modulation with low fire start and up to a 10:1 turndown ratio). The factory wired and piped valve train shall be mounted inside the unit weatherproof enclosure and be complete with:

- low pressure appliance regulator
- motorized gas control valve
- main manual test firing shut-off valve
- pilot manual shut-off valve
- pilot pressure regulator
- pilot automatic shut-off valve
- pilot manual test firing shut-off valve

ELECTRICAL CONTROLS

A NEMA 1 control panel complete with hinged access door shall be provided. All control components are to be labeled and individually wired to a numbered terminal strip to aid in servicing. All wiring shall be color coded and number tagged at each end to match the control diagram supplied. Full operating and maintenance instructions shall accompany each unit. All wiring between the controls and valves shall be run in flexible conduit. All electrical components shall bear the U.L. label. The control system shall include but not be limited to the following components required for automatic operation:

- control circuit transformer
- control circuit fuses
- control relays
- electronic flame relay complete with alarm contacts
- induced draft fan air proving differential switch
- high limit switch
- automatic/manual fan switch
- heavy duty ignition transformer