

## **'DJTE' SPECIFICATIONS (Page 1 of 3)**

**HEATER APPLICATION:** To heat 7000/7800 CFM of ambient air for a 110°F temperature rise only at open doorways. *(NOTE: They are not to be used for general purpose space heating).*

**GENERAL ARRANGEMENT & CONSTRUCTION:** The 'DJTE' heater consists of a cylindrical housing with a conical discharge. It is properly bracketed and reinforced for accommodating a direct drive motor, propeller driven fan section. This section provides combustion air over a natural gas burner, arranged to fire with air flow from left to right when facing the heaters' control cabinet. This heater can be installed in either horizontal or vertical position or at any angle in between.

**HEATER HOUSING CONSTRUCTION:** Overall nominal size (less gas and electrical controls) = 32" high x 26" wide x 44" long. A 1-1/2" x 1-1/2" x 1/8" #304 stainless steel angle ring at each end of a 38" long 16 gauge #304 stainless steel cylindrical shell encloses the burner and propeller/motor arrangement. A 16 gauge #304 stainless steel truncated conical discharge opening directs the high velocity heated air toward the door opening. All other necessary brackets, gussets, reinforcements, etc. are also of #304 stainless steel. An "optional" inlet air grille can be provided to 'guard' the incoming combustion air supply.

**PROPELLER FAN/MOTOR ARRANGEMENT:** The custom 5 or 10 air foil blade axial flow propeller fan is spark-proof. It resists most corrosive fumes and salt air, and is designed to handle extreme tropic heat or severe arctic cold. Two setscrews are in the hub with a keyed bore for securing to the motor shaft. The motor is a greaseable type, ball bearing, NEMA design B, totally enclosed, 145T frame, nominal 1800 RPM, 230/460 volt – 3 phase – 60 hertz, 1-1/2 or 2 HP mounted on a #304 stainless steel 'T' platform within the heaters' housing. It is designed for high velocity discharge at medium noise levels.

**DIRECT GAS-FIRED BURNER & GAS CONTROLS:** The burner is rated from 95,000 BTUH to 950,000 BTUH for up to a 10:1 turndown ratio and can be used with natural or propane gas. The minimum incoming supply pressure must be 7" w.c. for heaters rated 550,000 to 750,000 BTUH and 8" w.c. in order to achieve 850,000 - 950,000 BTUH. The maximum incoming supply pressure cannot exceed 14" w.c. An additional "optional" first stage high gas pressure regulator can be provided when available pressures exceed 14" w.c. The specially designed custom burner has a #304 stainless steel baffle-mix design providing excellent flame stability over the range of operation. An air pressure switch for proper operation monitors the burners' combustion air. It is of the semi-automatically lighted, direct spark ignition type and uses an UV scanner for monitoring the presence of flame.

Fuel comes to the burner through a gas pipe train consisting of: a main gas pressure regulator, main gas safety shutoff solenoid valve, and a Maxitrol Series 14 gas modulating valve. The gas controls and electrical controls are enclosed within the same #304 stainless steel integral electrical/gas control enclosure.

**MAXITROL TEMPERATURE CONTROL SYSTEM:** Temperature control is by a temperature sensitive thermistor, located within a mixing tube assembly (shipped loose). It is to be installed in a representative location (to be determined by others) within (2) two feet of the inlet air end of the heater permitting modulation of the burner. The thermistor sends a DC voltage to the modulating gas valve controlling the gas input to the burner whenever the main gas safety shutoff solenoid valve is open. The Maxitrol Series 14 system consists of an electronic amplifier, a thermistor/mixing tube, a remote temperature selector, and a modulating valve.

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**ELECTRICAL SYSTEM & CONTROLS:** The electrical control system includes all necessary safety and control devices to make the unit a safe, reliable one. In addition to the controls and devices previously mentioned, the following is included:  
(1) propeller fan motor starter; (1) control circuit transformer; (1) excess high temperature limit control (manual reset); (1) ignition transformer; (1) low voltage control transformer – for Maxitrol system; (1) “Power On” neon circuit indicating light; (1) flame safeguard control relay; and (1) remote control box.

The #304 stainless steel gasketed remote control box is installed (by others) at a convenient location, near the space to be heated. It permits easy 'floor' access to control the operation of the heater. It includes: (1) “Power On/Off” toggle switch; (1) “Burner On/Off” toggle switch; (1) “Power On” indicating light; (1) control circuit fuse; and (1) Maxitrol remote temperature selector with a 80°F to 130°F temperature range selection.

As far as is practicable, all flame safety equipment, starter, and control system components are housed in a #304 stainless steel gasketed control enclosure with hinged doors and is partitioned from the gas controls. All gas and electrical equipment within this enclosure are wired to numbered terminal blocks.

All final wiring to the heater, between the main gas/electrical enclosure and the remote control box is to be completed by the purchaser and must comply with all applicable national and local codes, regulations, and ordinances.

An inlet electrical power supply of 208, 230 or 460 volts/3 phase/60 hertz must be properly sized, designed, furnished, and fixed by the purchaser, to the main gas/electrical control enclosure magnetic motor starter. The control circuit is 115-120 volts/single phase/60 hertz supply by an integral transformer.

This heater will be assembled, wired, piped, and fire-tested in our factory to assure proper fit and operation prior to shipment.

**"OPTIONAL" DOOR INTERLOCK LIMIT SWITCH:** A door interlock limit switch (shipped loose) can be provided with this equipment. The heater starts operating as the door is raised and the door interlock limit switch is ‘tripped’ starting the fan and the burner. When the door is closed, the fan and burner shut off immediately.

### **SPECIAL NOTES**

*The installation must meet the requirements of the Occupational Safety and Health Act (OSHA). The installing contractor, or person, **MUST** be familiar with **ALL** of the various requirements and is responsible for the equipment's compliance with **ALL** applicable national codes and standards and the selection of safety accessories if necessitated by the specifics of the installation site.*

*Flame monitoring equipment supplied with this heating package may or may not meet local safety and/or insurance requirements. This heater uses UL listed components but does not have a UL Listing or CSA design certification. The owner/user and/or his insurance*

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*underwriter **MUST** assume responsibility for the acceptance, use, and proper maintenance of flame supervision, limit controls, and other safety devices.*

**DRAWING APPROVAL:** When an order is received for the heating equipment described herein, it is our intention to furnish the purchaser, within one (1) week of said order, with preliminary engineering drawings and information in sufficient detail to allow an advance manufacturing and engineering evaluation of the equipment.

The drawing(s) will also show essential space, power requirements, etc., all of which will have been submitted prior to your review and approval. Written approval is required before proceeding to final engineering and fabrication. Cancellation of the order after written approval has been received will result in a cancellation charge of 25% of the net price quoted.

**INSTALLATION:** Installation shall be by the purchaser at his expense. An instruction manual for the installation, operation, and maintenance of the equipment will be furnished and the necessary drawings will form part of this manual. All supporting structure(s) for the heater package is to be provided by the purchaser. This equipment weighs approximately 300 pounds. The supporting structure(s) must be adequate to support the weight of this equipment.

**WARRANTY:** Refer to standard **SOLARONICS** heating equipment warranty enclosed.