

## Controlled Atmosphere Large Format Vacuum Furnace



### FOR HIGH VOLUME PRODUCTION IN VACUUM AND INERT GAS ENVIRONMENTS

The PF-2400 is ideally suited for processes requiring close control of both temperature and atmosphere. Primarily intended for void-free, flux-free soldering, the PF-2400 is capable of operating at 10 milli-torr vacuum levels, or at pressures as high as 50 psig using inert gasses. Temperature is controlled in increments of 1°C from ambient up to a maximum operating temperature of 500°C.

### FEATURES AND BENEFITS

- Microsoft Windows® Based Control System
- Internet/Intranet Control Capability
- Rapid Heating and Cooling
- Void-Free, Flux-free Soldering
- Low Cost of Operation
- High Pressure Capability

### TYPICAL APPLICATIONS

- Automotive Diode Assembly
- High Power Eutectic Die Attachment
- Photovoltaic Solar Cell Attachment
- High Volume Component Assembly



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## PROCESS CHAMBER

The process chamber for the PF-2400 is a stainless steel ASME certified pressure vessel. Water cooled, double-wall construction provides cold-wall operation. Rectangular shape, with an automated lid sealing system and hermetically sealed feedthroughs, the chamber is capable of operating at pressures from 10 milli-torr to 50 psig.

An array of upper and lower gas rakes is positioned inside the chamber to create turbulent flow directly over process boats and underneath the graphite platens. Process gas is selected from one of the three gas inputs, along with a programmed flow rate. This system is designed to cool the product quickly to handling temperature.

Three graphite platens arranged edge to edge constitute a single planar heating zone. Heating is achieved via conduction and radiation from the platens into graphite fixtures holding the components. Free-floating weights may be used to apply sealing force to insure reliable solder attachment.

## CONTROL SYSTEM

The PF-2400 is controlled through a distributed logic system that links intelligent temperature and pressure controllers to a Microsoft Windows® based central controller. All process parameters are controlled automatically with programs developed for each application.

The operator interface features a color graphic display with menu driven soft keys. For process engineers and maintenance personnel, a standard PC type computer keyboard and mouse may be connected for programming and maintenance functions. All operational recipes and profiles are stored directly on the system hard drive. The system includes an Ethernet port for external control and network communication. Profile data log files with diagnostic information are automatically stored and may be exported to analysis software.

If Internet access is available, troubleshooting, diagnoses, maintenance and upgrades can all be remotely performed by SST's technical staff. Users may also monitor equipment performance on a networked desktop PC.

## SPECIFICATIONS \*

Overall Dimensions	
Length	111.5 in (2.83 meters)
Width	64 in (1.63 meters)
Overall Height	92 in (2.34 meters)
Work Surface Height	37 in (0.94 meters)
Weight	6,000 lb (2,700 kg)
Process Area Dimensions	
Usable Heated Area	840 in <sup>2</sup> (5419 cm <sup>2</sup> )
Maximum Boat Size (3x)	8.0 x 35.0 in (203 x 889 cm)
Maximum Tooling Height	4.9 in (12.45 cm) with cooling rakes installed
	6.4 in (16.26 cm) without gas cooling rakes
Electrical Service Required	480 volts - 3 phase - 60 Hz (50 Hz option) - 100 kVA maximum

\* Specifications subject to change



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