



SCT 5000
High Vacuum
Evaporator

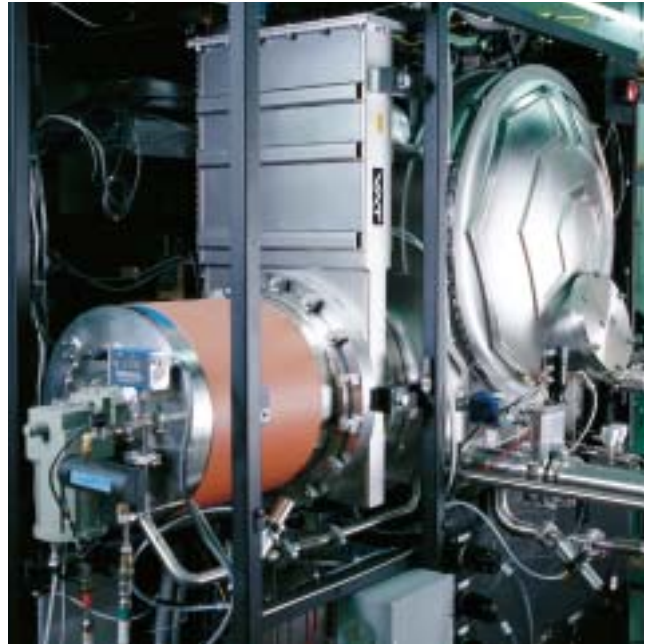
The SCT 5000 evaporator is a versatile system designed for high production, pilot production or research and development for optical, semiconductor and special applications.

It is a high performance system which is designed for fast servicing, and has a rear door for access outside the clean room.

An SCT exclusive is the short, straight through, conductance path which exposes less



UP AND DOWN—Slide-down door minimizes valuable clean room floor space requirements.



NO HYDRAULICS—The SCT 5000 has a VAT valve mounted onto the chamber for direct access by the cryopump, resulting in the fastest pump-down speeds in the industry. For applications requiring high heat, the cryopump is protected by a radiant shield.

surface area to the vacuum. All high vacuum components are fabricated from electropolished type 304 stainless steel, sealed with a minimum number of Viton o-rings and gaskets. No pipe threads are used anywhere.

Air operated and electrically controlled automatic valve sequencing interlocked with the vacuum system controller ensures ease of operation and protection against normal operating hazards. This control includes automatic regeneration of the cryopump.

The SCT 5000 houses as many as three electron beam sources and can include other resistance sources. Substrate fixtures include a canted dome high speed planetary system. Also available is a 90° angle of incidence lift-off fixture. Horizontal planetary and rotating flat plate fixtures are also available. All fixtures come with variable speed drive motors.

The system can be equipped with the following power supplies: 3 or 6kW for dielectric type materials and 6, 10 or 15kW for highly conductive materials.

We offer as options substrate heat, various thin film deposition controllers and glow discharge or ion beam substrate cleaning.

Programmable High Vacuum System Controller with Data Logging Capabilities

SCT provides as a standard a GE Fanuc PLC industrial controller. This system includes ladder logic software with required programming for the SCT 5000. The operator/engineer computer interface includes a GE Fanuc Display Station 2000 (GE 15" touch screen computer); GE "Cimplicity" HMI, or equivalent and all required software programming are also provided. The control system also performs data logging of all key process variables.

Deposition Sources

Multiple resistance sources or up to three 270° deflection single or multi-crucible electron beam guns may be installed for single, sequential or co-deposition purposes.

Substrate Fixturing

The SCT 5000 will accept high speed canted dome planetary systems, 90° angle of incidence lift-off domes, rotating horizontal plates, and static fixturing.

Custom Features

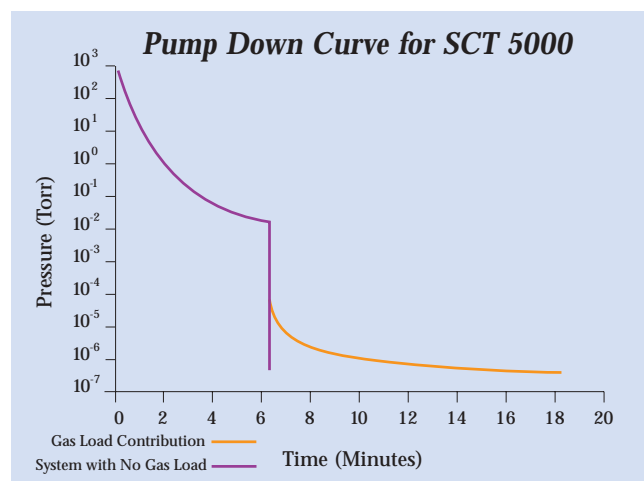
All of SCT's systems are built to customer specifications, making each system unique. Our engineering department can make any

desired modifications to the basic design so that we can provide you with a fully documented custom system tailored to your specific requirements.

As a company with a great deal of high vacuum expertise, we continue to develop new designs and improve the previous ones. We identify the best features in competing products and integrate them into ours.



EASY CONTROL—The entire system is controlled by a GE Fanuc PLC through a touchscreen. Simple, easy-to-understand screens allow full access and control of process. PLC has data logging capabilities and can be networked for centralized control.



Specifications

- **Chamber Construction**

All internal surfaces are electropolished 304 stainless steel. The process chamber is of a horizontal, cylindrical construction with a 32" diameter.

- **Frame and Cabinetry**

Welded steel tube frame; adjustable feet; formed aluminum panels; anodized finish.

- **Deposition Sources**

A variety of optional electron beam source combinations and resistance sources are available upon request. Sources tray mounted and fully shielded.

- **Substrate Fixturing**

—High speed canted dome planetary system
—90° angle of incidence liftoff dome
Custom fixturing available.

- **Quartz Crystal Deposition Controller**

Multi-layer, multi-process control with nine individual film programs and total capacity of up to 180 layers. It can support up to three single head or dual head sensors or one six sensor turret head.

- **Power Supplies**

Telemark 3,6,10 and 15kW available.

- **System/Gauge/Valve Controller**

GE Fanuc PLC with data logging capabilities.

- **High Vacuum Pump**

CTI-400 cryopump for clean, high speed pumping. Other types of pumps optional.

- **Roughing Pump with Blower**

125 cfm mechanical pump and blower combination.

- **High Vacuum Pump Isolation Valve**

Electropneumatically actuated VAT 16" stainless steel gate valve isolates the high vacuum pump from the process chamber.

- **Roughing Valve**

ISO 80 3" VAT stainless steel gate valve with soft rough.

- **Vent Valve**

Nupro SS valve, with soft rough.

- **Viewing Port**

One 4" periscope-style viewport to minimize coating of the viewing surface. Located on front door.

- **Air**

Normal, dry lubricated shop air at 70–125 psig.

- **Power**

208 VAC, 3 phase, five wire, 60 Hz, 60 Amps. A separate supply is required for each electron beam power supply. Other voltages also available.

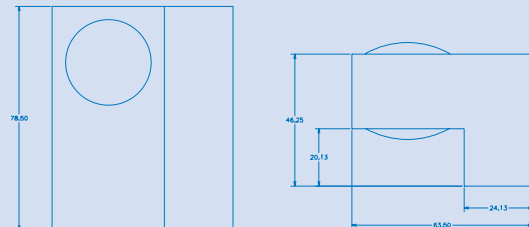
- **Water**

Approximately 8 gpm at 40 psi with a maximum temperature of 70°F.

- **Gaseous Nitrogen**

10 psig.

Footprint for SCT 5000



Custom Configurations Available



SYSTEM CONTROL TECHNOLOGY

322 Lindbergh Avenue • Livermore, California 94550 • USA
Phone: +925.373.9730 • Fax: +925.373.9574 • www.sctsystems.com