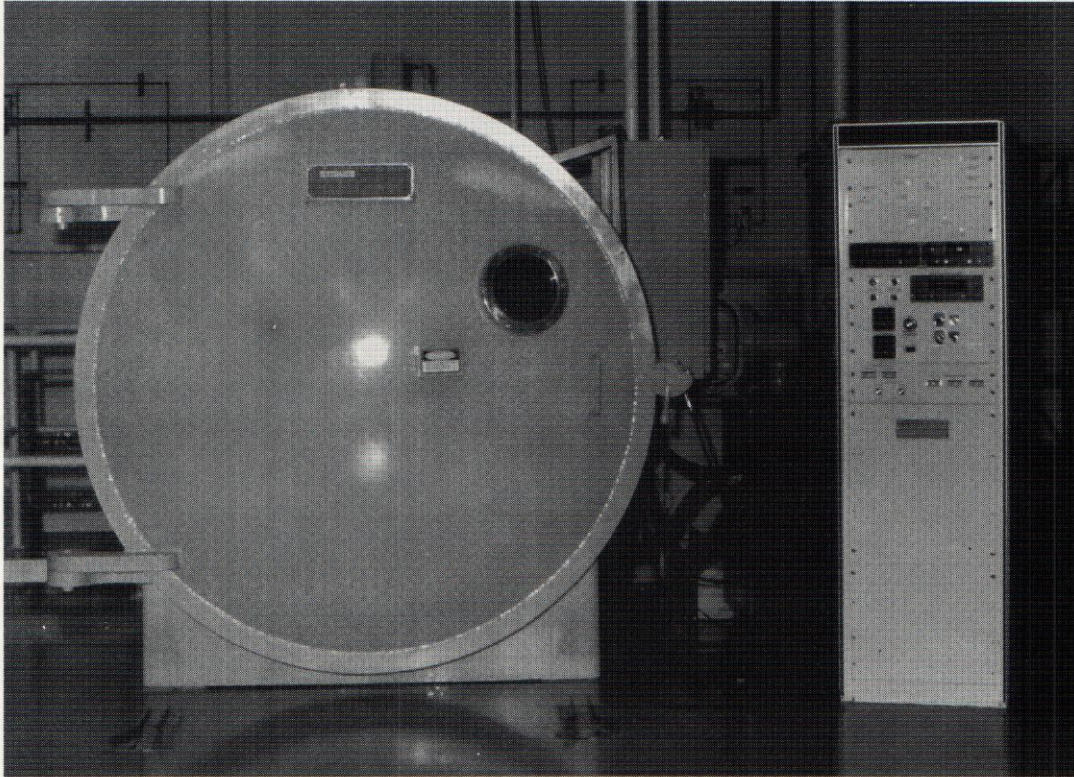


# STOKES VACUUM

Packaging - Processing  
**Bid on Equipment**

1-847-683-7720

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## COATING SYSTEM

A Vacuum Coater is an arrangement of functional vacuum components that deliver a vapor stream (primarily metallic vapors) to a group of substrate work pieces. Upon contact with the substrates, the vaporized material transfers its heat of vaporization to the substrate, thereby condensing to a solid, and forming a thin vacuum coating on the substrate.

The system is composed of four major subsystems:

- 1) The Pumping System: Develops the proper vacuum level.
- 2) The Chamber System: Houses the substrate holders and is where the "work" takes place.
- 3) The Work Holding System: Is the carriage assembly; it holds the substrates arranged on a number of work reels.
- 4) The Firing System: Consists of the electrical package for temperature development, the source holders and the coating sources.

## Decorative Applications

- 1) Automotive interiors
- 2) Trophies
- 3) Residential lighting fixtures
- 4) Toys
- 5) Commercial light louvers

## Functional Applications

- 1) Automotive lighting reflectors
- 2) Lense protect coatings
- 3) Glass/plastic mirrors
- 4) Computer EMI shields
- 5) Aircraft protect coatings

## STANDARD FEATURES

### Operation and Maintenance

#### 1) System Pump Down

The large diffusion pump provides operating pressures at well below 0.1 micron of mercury. Based upon a clean, dry, empty chamber, the Stokes system will pump down to 0.1 micron in approximately 5½ to 6 minutes. Our high speed pumping in this range permits firing without pressure rise due to outgassing.

#### 2) Cycle Time

The Stokes coater provides dependable, consistent cycles, ranging from 8 to 15 minutes under actual production conditions. The above cycles are without refrigeration.

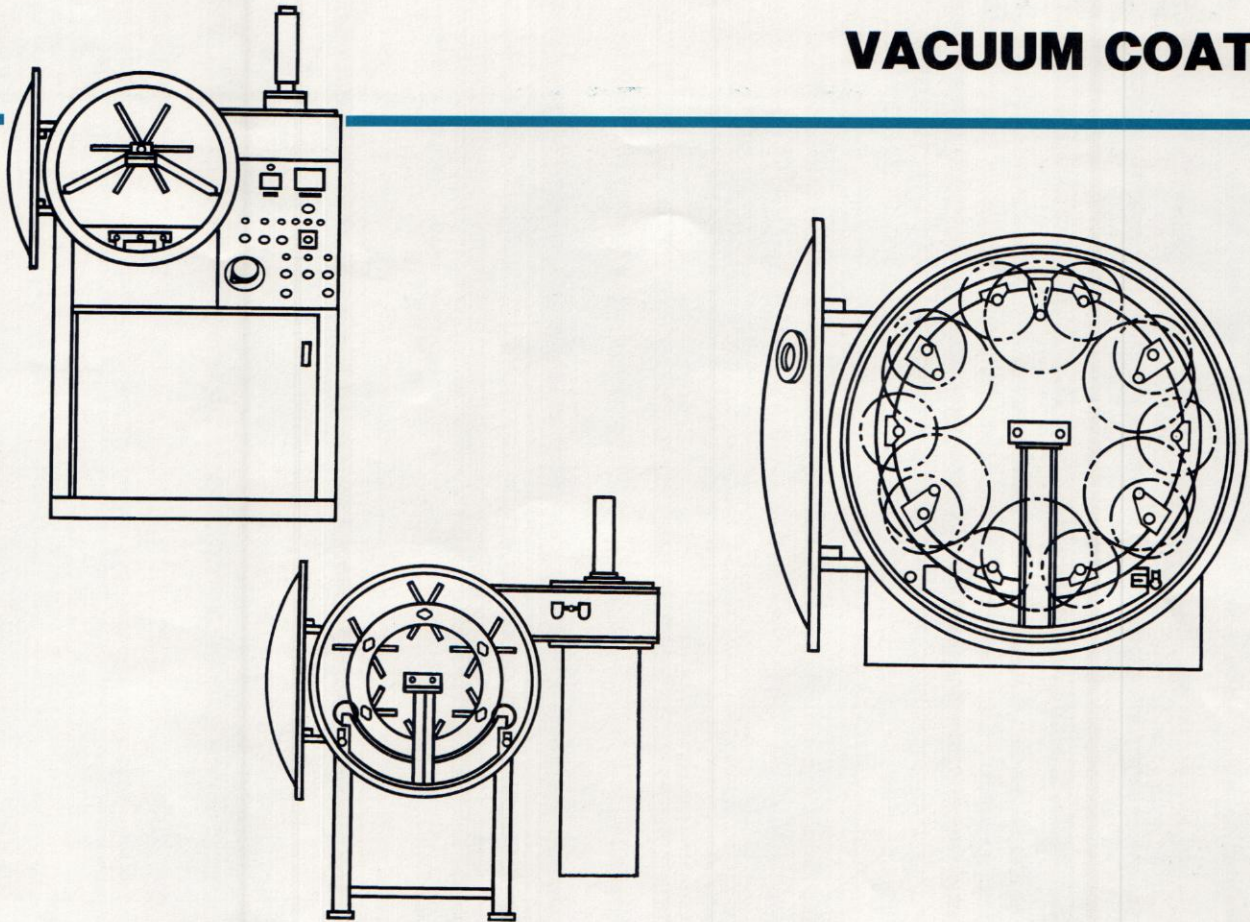
#### 3) Auto Pump-Down Auto Fire

A combination of vacuum-actuated, automatic and manual firing control permits duplication of firing techniques, cycle after cycle, in the automatic mode, while still providing manual override for operator-controlled firing. The chamber is automatically pumped down to the firing pressure by simply actuating one switch. The operator can then either fire manually or automatically with a timed firing sequence, depending upon his own techniques.

#### 4) Control Panel Maintenance

The newly designed, fully digital SPC-1 control panel has no exposed electrical contacts. A full opening access door is provided for ease of maintenance. (See drawings for greater detail.)

# VACUUM COATERS



## 5) Interlock Vacuum Break Valve

The vacuum break valve is interlocked with the large poppet valve. Once the vacuum break valve is actuated, the poppet valve to the diffusion pump will be automatically closed before the chamber can be broken to atmosphere. This prevents contamination of the diffusion pump oil.

## 6) Electrical

All internal wires terminate in numbered terminal strips in the control panel. Each wire is stamped with an identification number every 3" of length. All interconnecting external wire is run in conduit.

## 7) Vacuum Pump

Stokes Microvac and mechanical booster vacuum pumps are covered by an exclusive two-year warranty.

## Safety Features

### 1) Workholding Arrangement

The workholding carriage and chamber have automatic engagement and disengagement for both the drive and electrical connections. No need to assemble or disassemble electrical leads to the filament assembly.

### 2) Reel Capacity

The rugged planetary workholding assembly is arranged to take ten, 16 inch diameter reels by 72 inch usable length or six, 22 inch diameter reels by 72 inch usable length on the 427 model, and six, 14 inch diameter by 51 inch usable length on the 426 model.

### 3) Interlock Door and Vacuum Valve

The coater door is interlocked with the vacuum valve to prevent inadvertent opening of the valve while the door is open. Thus, oxidation of the diffusion pump oil is prevented.

### 4) Interlock Door and Filament Firing

The Coater door is interlocked to prevent inadvertent firing of the filament assembly. Thus, maintenance can be performed within the chamber without danger from exposed power leads.

### 5) Interlock Diffusion Pump Heater

The diffusion pump heater and the foreline pressure are interlocked to prevent heater actuation until a safe foreline pressure is reached.

### 6) Interlock Diffusion Pump Water Flow

The water flow to the diffusion pump is interlocked with the oil heater to prevent its operation until adequate cooling is provided.

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