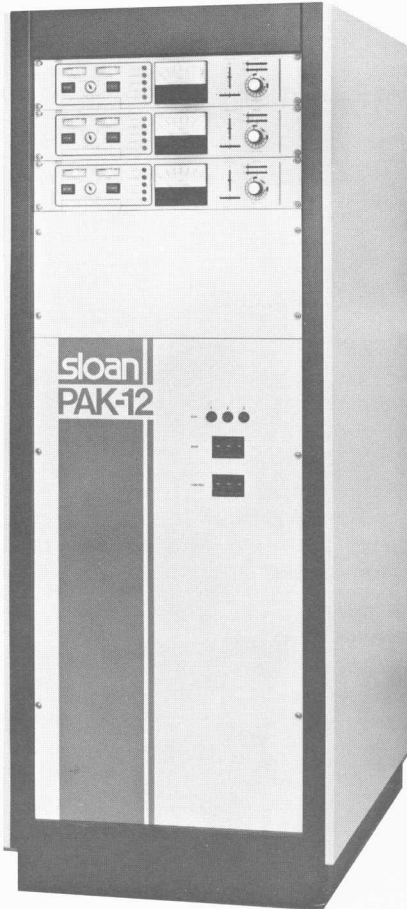


# ELECTRON BEAM EQUIPMENT



PAK power supplies are equipped with circuitry to sweep the electron beam in both the X and Y axes (perpendicular to and parallel with the axis of the source filament, respectively). The sweep waveforms are shaped so that the beam always travels across the hearth at a constant rate, assuring even heating of the source material over its entire surface. Areas of excessively high temperature cannot develop. Cratering and tunneling, which have an inhibitory effect on deposition rates, can be prevented by the use of the beam sweep circuits. Deposition uniformity is also optimized for all types of source material.

High-voltage output is adjustable from -4 to -10 kilovolts. This feature is useful in applications such as the deposition of optical or dielectric coatings, where lower beam voltage can provide improved control of film characteristics.

Illuminated interlock status indicators are provided for cooling water flow, chamber closure and pressure, and magnet power. All of the status indicators must be lighted before filament current can be applied.

A separate, hand-held remote control module is furnished for use when a PAK gun control cannot be conveniently located near the vacuum system. The module controls emission power, beam position, and beam sweep.

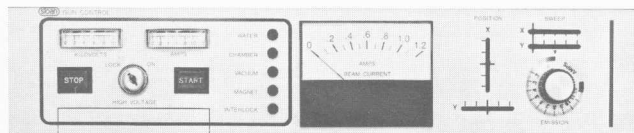
All necessary feedthroughs and safety interlocks for operation of PAK Series power supplies are available from Sloan.

## PAK Series Electron-Beam Power Supplies

The Sloan PAK Series consists of rugged electron-beam power supplies for use in evaporative thin-film deposition systems. They are designed to work with electron-beam sources capable of handling power levels up to 16 kilowatts.

With three models offering power outputs of 8, 12, or 16 kilowatts, these power supplies are conservatively rated and built with rugged, high-quality components to minimize maintenance requirements. They are compatible with Sloan deposition control equipment and are ideally suited for long production runs in automated deposition systems.

With additional gun control modules, a PAK power supply is capable of driving up to three electron-beam sources. The sources may be in the same chamber, for multilayer depositions, or in different chambers. For further flexibility, the gun control modules can be removed from the PAK console and operated at the chamber or other convenient site.



All operating controls and indicators are located in the upper portion of the PAK console for maximum readability.

## SPECIFICATIONS

Outputs	PAK-8	PAK-12	PAK-16
Emission Current (total to 1, 2, or 3 guns)	0-800 ma	0-1.2 amp	0-1.6 amp
Maximum Power	8 KW	12 KW	16 KW
High Voltage	Adjustable; -4,000 to -10,000 vdc		
Filament Power Level	0 to 7 vac @ 40 amperes to each gun		
Inputs			
Remote Source-Control Signal	0 to ±10 vdc (no emission to full power)		
Power Required	As specified: 208/220/240 vac, 50 or 60 Hz, 3 phase		
Cooling Water Required	1.25 gpm minimum		