Evactron®
By XEI Scientific

Evactron® E25 Plasma De-Contaminators

SEM AND FIB VACUUM CHAMBER CLEANING SYSTEM

Remote Plasma Cleaner

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Designed for E-beam tools such as SEM, FIB, TEM and other analytic instruments where hydrocarbon contamination reduces resolution measurements and imaging, the microprocessor-based Evactron Model 25 monitors operation, has internal memory and is factory programmed to allow minimum operator training. The tabletop Evactron 25 Controller uses a microprocessor with embedded software to regulate a leak valve and control the chamber pressure by a MicroPirani gauge. The microprocessor also regulates the RF power, and has a clock to time the downstream plasma cleaning and nitrogen purging cycles. The microprocessor also records the operational and fault log. The Encoder Knob sets parameters in menus shown on the front panel display, and the Enable/Disable Button readies the Evactron Model 25 for downstream plasma cleaning. The RS232 interface communicates operating parameters, forward and reflected RF power, vacuum level read outs, and operation/fault log between the Evactron Model 25 and a remote computer through either the provided Graphical User Interface (GUI) or the C Communications Library.

The tool pumping system controls the target vacuum start of the Evactron process. Raising the chamber pressure to > 2 Torr [270 Pa] and restarting evacuation begins the cleaning cycle if cleaning has been enabled by the Ena-Disable button or the computer. This insures that the vacuum system interlocks are not bypassed by the Evactron process. This interlock may be overridden by a factory installed jumper. Downstream plasma cleaning power, pressure level, and cleaning time can be set from the front panel or the remote computer. Post plasma cleaning nitrogen purge can also be used. The nitrogen purge aids in the cleaning process and can reduce pump down times. Multiple plasma cleaning/purge cycles are also available. Pressure units used by the Evactron Model 25 may be changed between Torr, Pascal, and mBar. Non-corrosive gases other than room air can be used.

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Evactron E25 System

System Specifications (Standard Vertical, Shrouded Configuration):

- Electronic Chassis: H, W, D: 5.5” x 9.375” x 9.75” (14 x 24 x 25 cm)
- RF Power: 0-20 Watts at 13.56 MHz
- LEDs: Power on, Enable, RF On, Plasma On, and Fault
- Front Panel Display
- Encoder Knob and Enable/Disable button for Front Panel Control
- Power switch
- Computer control with RS 232 I/O, DB9 Connector, Null Model Cable, 56k Baud.
- GUI with Event Log
- C Communication Library for software integration
- Fixed RF Match mounted on RF feed through
- KF 40 vacuum mounting flange
- MKS MicroPirani Transducer for vacuum pressure measurement
- Electrically adjusted metering valve for flow/pressure adjustment
- RF power interlock prevents starting when out of vacuum pressure range
- Fault display and readout
- Nitrogen purge feature
- 100-240VAC 50/60 Hz input,
- Shipping-16 lb. (8 kg)
- Five year limited warranty

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