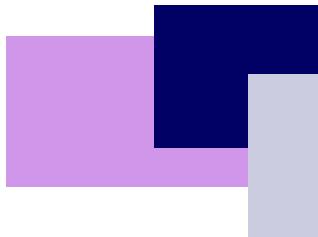




PB3TM TABLE TOP PLASMA SYSTEMS



*EDUCATIONAL,
TRAINING & R&D
PLASMA & SPUTTERING*



- **Cost effective approach to perform educational and exploratory thin film processes**
- **Magnetron sputtering, high energy plasma or ion beam sources**
- **Simple vacuum cross chamber with access door and instrumentation ports**
- **Integrated RF power system**
- **Configure your own process system**

The **PB3™ Tabletop Plasma System** provides the user with a basic vacuum process system building block. Key components such as the plasma processing source, RF power system and vacuum chamber are included in the package.

To complete the process system, you simply add the remaining items from our list of recommended components. Suggested vendors and complete component data are available for download from the Manitou web site.

Thin film deposition processes are accomplished using an RF powered magnetron sputtering cathode. The Delta Glow™ equipped version provides the ability to perform plasma etching and surface enhancement processes.

The features below are standard on either PB3 sputtering or PB3 plasma systems

- 6" diameter, 4-Way vacuum process chamber cross with two additional blanked off 2-3/4 CF ports
- Front access door with glass view port
- ISO clamp flanges on all four 6" chamber ports
- Viton™ seals used on all flanges and fittings
- Needle valve process gas leak with toggle shutoff valve
- Model PB3-300M, 300 watt, 13.56 MHz integrated RF power system
- Grounded, 5" diameter, adjustable height substrate platform
- Convectron™ vacuum pressure gauge
- KF-40 vacuum pumping port
- Toggle vent valve (1/4")
- Ground screen to confine plasma to process chamber

**STANDARDS
FEATURES**

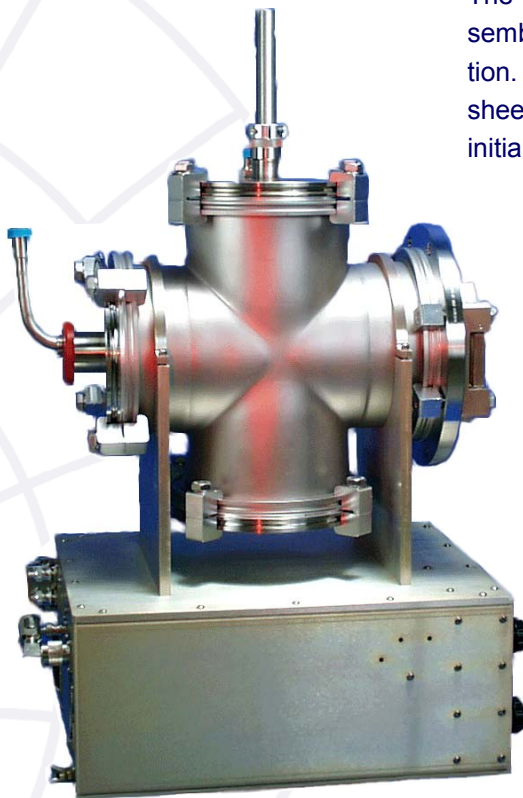
The **PB3** Series plasma systems are designed to be operated in a manual fashion. All valves and controls are easily accessible from the front panel or at the device location. Educational and training users will appreciate the open design as it enables students to disassemble, examine and re-assemble the components into an operational system.

It is also possible to connect a computer or data acquisition system to the RF power generator's interface connector for the purpose of monitoring the Forward & Reflected RF power or turning the RF power ON & OFF.

Process gas flow (and subsequent process chamber pressure) is adjustable via the needle valve. Actual chamber pressure from pump-down to process level is displayed on an analog display. The 5" diameter substrate table is mounted on a single threaded rod enabling complete height adjustability by the user.

The magnetron sputtering system version comes assembled in a top mounted "sputter down" configuration. (See the image on the front cover of this data sheet.) A copper sputtering target is also included for initial operation.

PB3 MAGNETRON SPUTTER SYSTEM CONFIGURATION



Side view of system



Substrate holder shown above

Adding these recommended accessories will complete your sputtering system

- Mechanical vacuum pump
- Process gas bottle & regulator
- Sputtering target material of choice
- Turbo vacuum pump
- Vacuum hose connecting the turbo pump to the mechanical pump
- 6-Way cross process chamber to enable additional sample introduction or process instrumentation
- External water cooling source
- KF-40 throttle valve
- KF-40 gate valve
- Mass flow process gas controller
- 1", 2" or 3" diameter magnetron cathode
- Multiple cathode top plate
- Multiple cathode switch box
- Rotating substrate holder
- 8" cross process chamber
- Substrate heater
- Bias capable substrate platform
- Ionization Gauge
- 2nd RF power system for RF substrate bias or multiple cathode operation

The **PB3** high energy plasma system version comes assembled with a top mounted Model DG300 plasma source.

Adding these recommended accessories will complete your plasma system

- Mechanical vacuum pump
- Process gas bottle & regulator
- Vacuum hose connecting the system to the mechanical pump

The following accessories will further enhance the functionality of this plasma system

- KF-40 throttle valve
- KF-40 gate valve
- Mass flow process gas controller
- Bias capable substrate platform
- 6-Way cross process chamber to enable additional sample introduction or process instrumentation
- Rotating substrate holder
- Substrate heater



Down stream plasma system

Contact your local dealer for more information on how to configure your own plasma system

For up to date pricing and delivery information please contact us at the address below:



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