



# PRINCETON SCIENTIFIC

C O R P O R A T I O N

**Solutions *for* Research,  
Development & Production**



### HIGH VACUUM & ULTRA HIGH VACUUM SYSTEMS

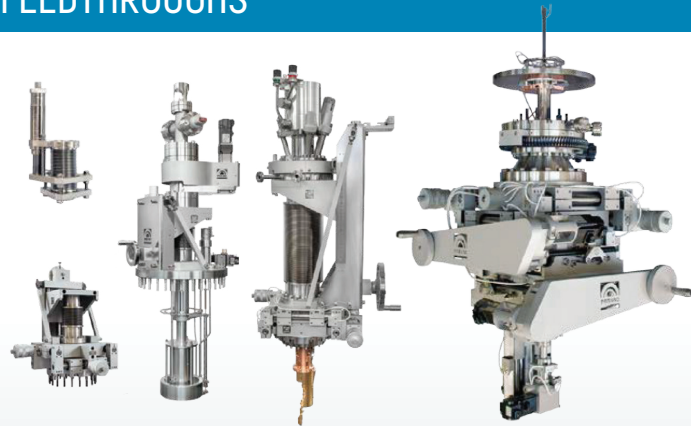
We design and manufacture a wide range of bespoke HV and UHV systems configured with any combination of techniques such as:

- XPS / ESCA
- HP XPS
- UPS
- ARPES
- ARUPS
- ISS
- HREELS
- FTIR
- IRAS
- MOKE
- MBE
- PLD
- RHEED
- CVD
- PECVD
- HIPIMS
- Sputter deposition
- Thermal evaporation
- AFM
- STM
- LEED / AES
- TPD
- RIXS
- others



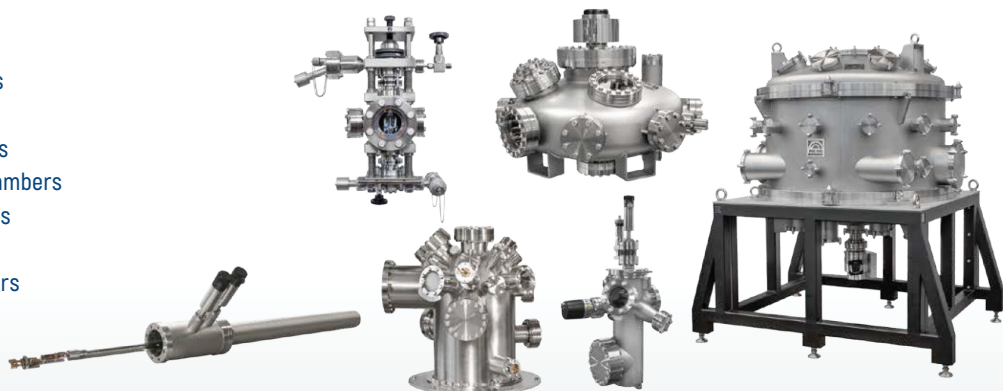
### MANIPULATORS, GONIOMETERS & FEEDTHROUGHS

- XY stages
- Z manipulators
- XYZ manipulators
- Multi axes manipulators (up to 6 axes)
- Manipulators with rotations
- LN2 or LHe cooled manipulators
- Motorization for all modules
- Linear feedthroughs
- Rotary feedthroughs
- Differentially pumped rotary feedthroughs
- Linear shifts
- Wobble sticks
- Goniometers



### CHAMBERS AND MECHANISMS

- Analytical chambers
- Preparation chambers
- Load lock chambers
- Sample park chambers
- Radial distribution chambers
- High pressure reactors
- Cleaver chambers
- Reorientation chambers
- Linear transfers
- Transport boxes

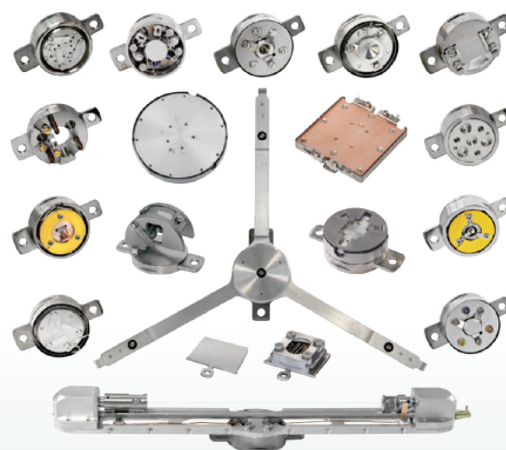


# UHV Technology

## SAMPLE HOLDERS

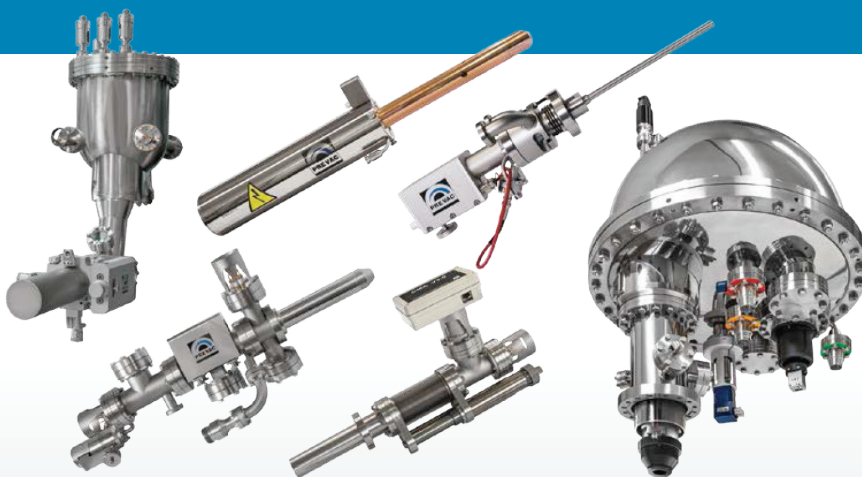
- Sample heating by resistive heating method (up to 1000°C), direct heating or electron beam heating (up to 2000°C)
- Various types of the PTS sample holders - up to 8"
- Helium and nitrogen cooling
- Versions for reactive gas atmospheres
- Holders dedicated for: quartz balance, Faraday cup, high pressure reactors, powder materials
- Adapters for flag style sample holders
- Detachable contact for heating & cooling
- IR & UV transmission mode
- Integrated charge compensation

Approximately 200 individual designs of sample holders have been manufactured to date.



## INSTRUMENTS

- Hemispherical energy analyzer
- X-ray source
- X-ray monochromator
- UV source
- Ion source with wien filter option
- Electron source
- Flood source
- Electron beam evaporator
- Effusion cell
- Cylindrical mirror analyzer
- Quartz balance
- Thermal desorption spectrometer



## ACCESSORIES

- Titanium sublimation pumps and liquid nitrogen shields
- Vacuum KF-fittings
- Ultra high vacuum CF-fittings
- Electrical feedthroughs
- Fluid feedthroughs
- Bakeout equipment
- Components for load locks
- Vacuum doors
- Shutters
- Mass flow control systems
- Water cooling devices







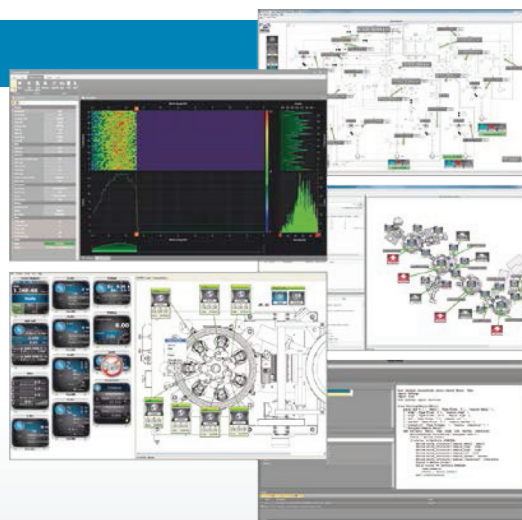
### ELECTRONICS

- Vacuum control devices
- Thickness monitor controllers
- Stepping motor control drivers
- Ion source power supplies
- Sample heating power supplies
- Wide range vacuum gauge controllers
- Thickness/rate controllers
- Electron source power supplies
- Electron beam evaporator power supplies
- Titanium sublimation pump power supplies
- High voltage electronics
- Bakeout control devices
- Emission regulators



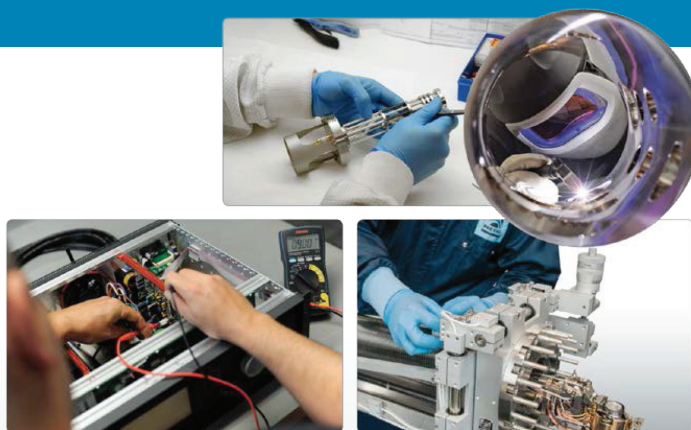
### SOFTWARE

- Manipulator control application
- Thermal desorption spectroscopy control application
- Pressure control application
- PID control application (thermal process control)
- Automatization of the samples transfer system
- Vacuum process control system
- Able to connect/communicate with most of our devices
- Dedicated software for customers' systems and devices
- Integration with TANGO and other control systems



### SERVICES

- Warranty & after warranty service
- Maintenance & repair services of Manipulators and vacuum transfers
- Maintenance & repair services of HV and UHV systems
- UHV compatible machining and welding
- Electronic units maintenance & repair services
- X-ray anodes recovery
- Components maintenance & repair services





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