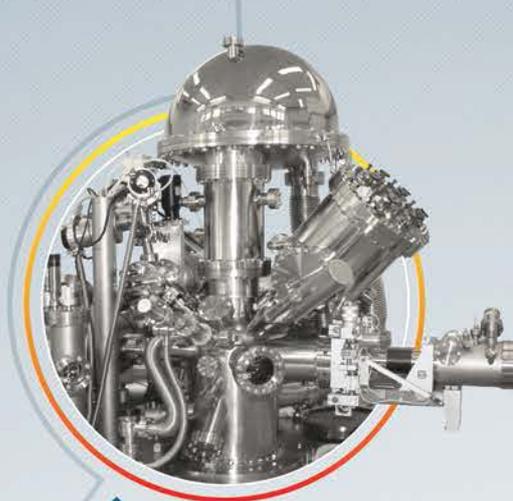




HIGH PERFORMANCE
XPS / UPS / ARPES SYSTEMS
PRECISION AND VACUUM TECHNOLOGY



MAIN CHAMBER

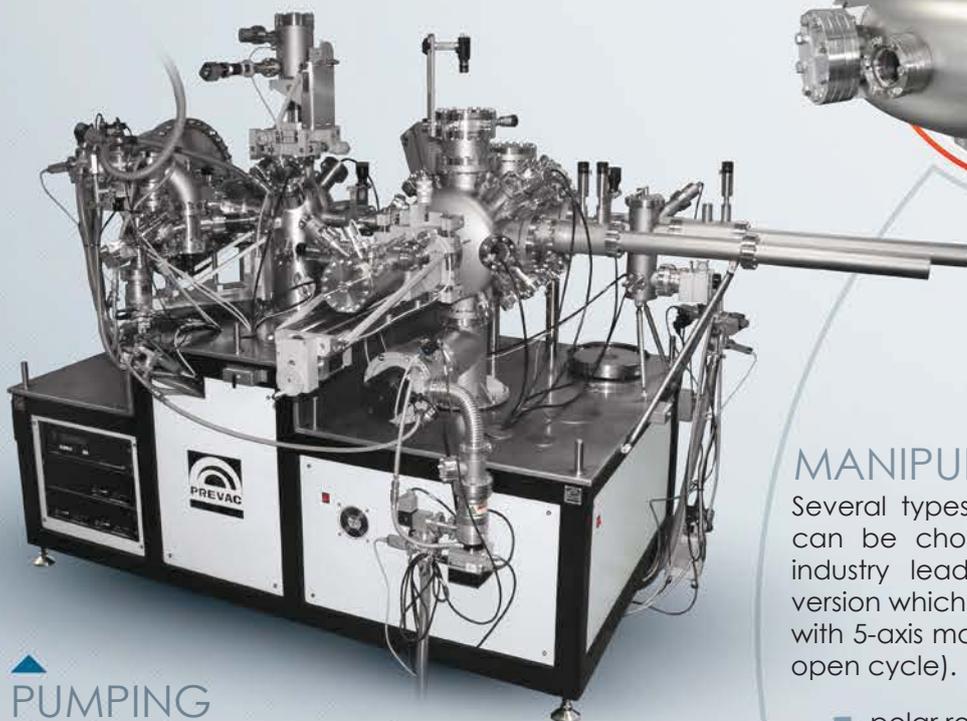
XPS/UPS/ARPES systems are based on a mu-metal main chamber with **high resolution hemispherical electron analyser** which can be equipped with twin anode and/or monochromated X-ray source and UV source. Additional ports allow mounting of a 3D spin detector.

TRANSFER SYSTEM

We offer the intuitive linear or **radial distribution transfer** systems which guarantee fast transfer between chambers.



PREVAC is a world leading manufacturer of research equipment for surface analysis under high and ultra high vacuum conditions. We are proud of our XPS/UPS/ARPES systems which combine innovative solutions with precise UHV technology, introducing unique possibilities in materials science investigation.



PUMPING & BAKEOUT SYSTEM

The flexible pumping configuration is based on latest generation UHV pumps. The system is equipped with an easy to install, handy bakeout tent. The baking control system is connected & interlocked with all system devices and equipped with automatic programmable temperature and time controller.

MANIPULATOR

Several types of manipulators can be chosen including the industry leading **liquid helium** version which can achieve **4.8 K** with 5-axis motion (7 K for 6-axis, open cycle).

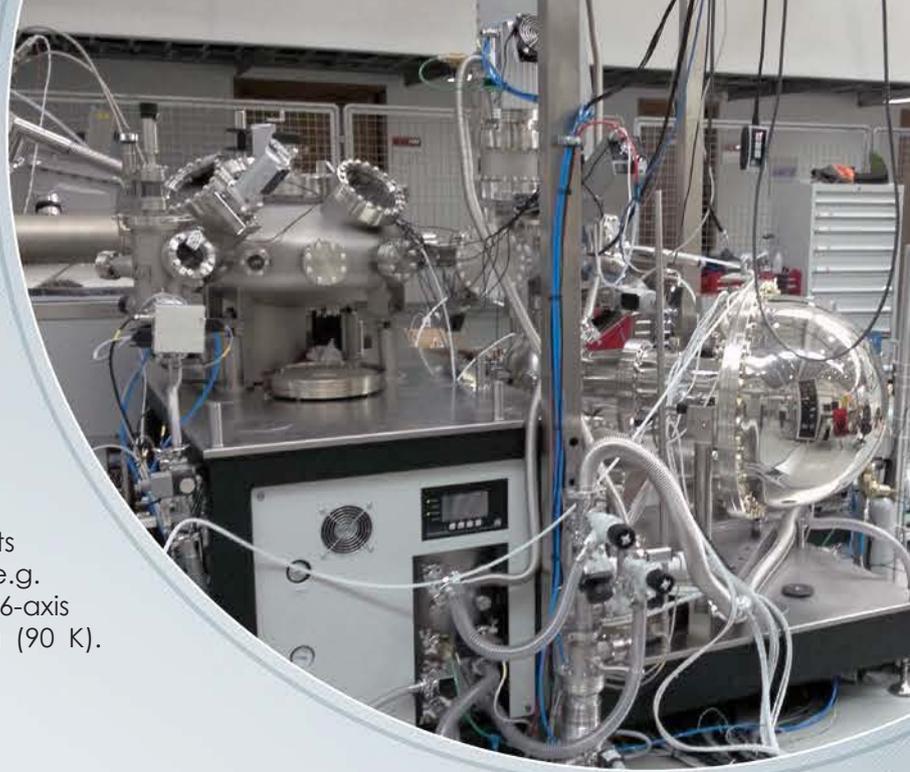
- polar rotation: $\pm 180^\circ$ or 360°
- out of plane sample tilt: $\pm 30^\circ$
- heating up to 400 K





PREPARATION CHAMBER

Sample preparation chamber with the widest range of sources for sample preparation (cleaning, heating) and deposition techniques. Individually configured for each application. Ports for further techniques included as standard: e.g. LEED or AES. Can also accommodate either 4 or 6-axis manipulator with heating (1700 K) and cooling (90 K).



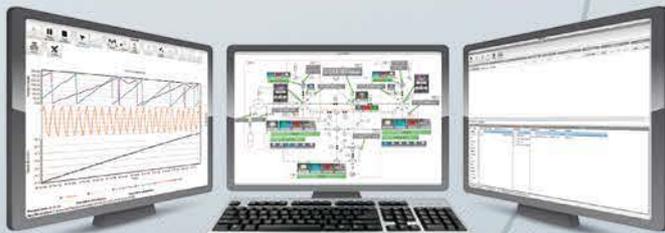
LOAD LOCK & STORAGE CHAMBER

The system is equipped with a load lock system for fast introduction and processing (heating/degassing) of samples. A Storage chamber option can be used for loading and pre-preparation of up to **10 samples**.



ELECTRONICS

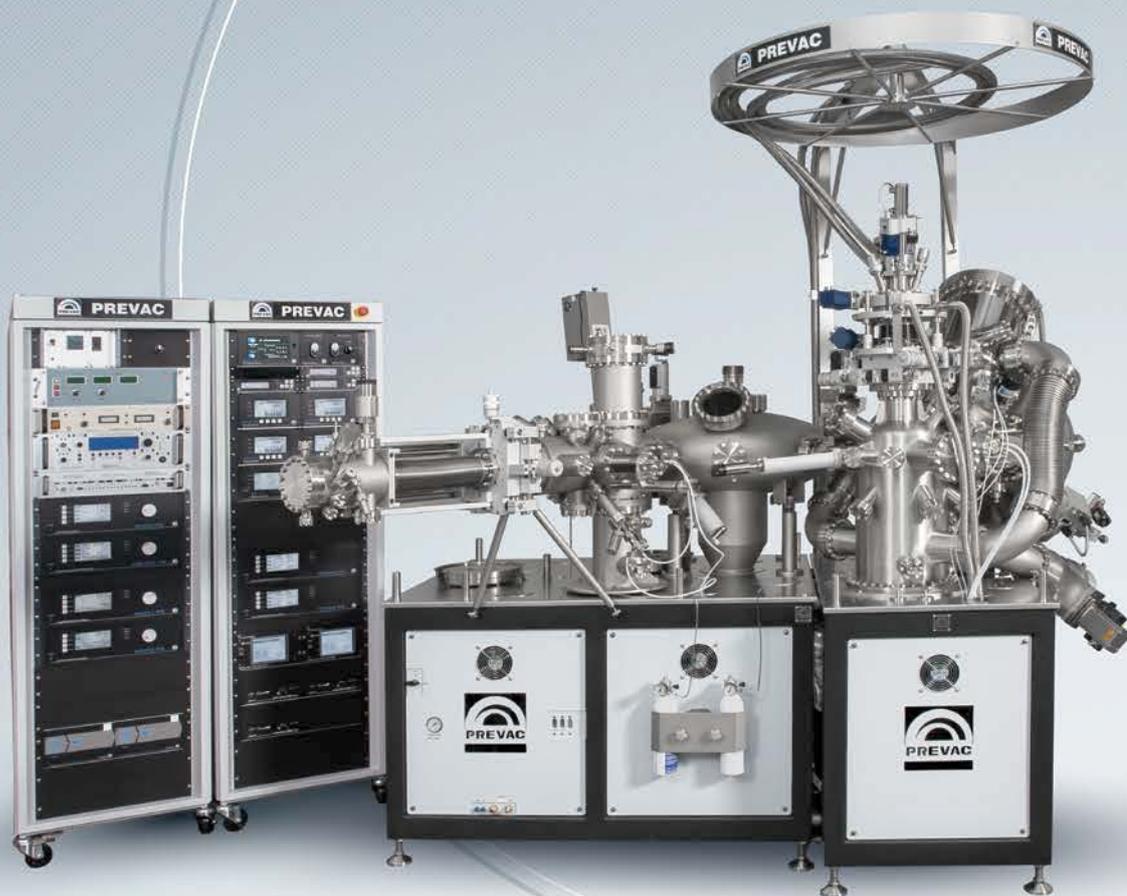
PREVAC has developed a complete range of microprocessor controlled, high stability device and power electronics modules which provide fully interlocked system control with the highest resolution and stability. Standalone operation is also simple with the new generation of **color-rich touchscreen** displays.



SOFTWARE

RAPID SE Software provides complete computer control for valves, gauges and pumps interlocks. It also permits planning and controlling of complex processes such as sample preparation procedures or deposition. User personalized control panel contains intuitive schemes and graphics, including diagrams of the whole system. Online access to control setup and mobile monitoring is standard.





PREVAC **XPS/UPS/ARPES systems** are some of the most comprehensive analytical surface analysis systems available, providing a perfect tool for high sensitivity electronic structure analysis in:

- elemental and chemical composition of specimens,
- study of impurities and grain boundaries,
- gather bonding and chemical-state information,
- measuring the surface electronic properties,
- performing depth profiles to determine doping,
- and elemental distributions.

We offer custom designed systems.

The **XPS/UPS/ARPES system** use either **X-ray source RS40B1** and **UV source UVS40A2** (depending of the application) to excite electrons from the surface. The X-ray Source 40B1 has maximum X-ray power Al: 600 W / Mg: 400 W. The UV source has a light capillary of less than 1.5 mm dia. with high intensity flux of more than 1×10^{16} photons/s*sr and $< 1^\circ$ beam divergence. It can operate with various gases: helium, neon, krypton, argon, xenon or hydrogen. It can also be adapted to laser and synchrotron light.

For multi-technique surface studies the system is equipped with **hemispherical analyser** with energy resolution less than 1.5 meV and angular resolution of 0.05° . The analyser may be equipped with 2D or 3D spin detectors.

We offer several other sources of excitation and charge neutralization. The analytical part of the system is constructed exclusively from the non-magnetic materials. Prevac provides comprehensive service and support worldwide.

If you need any further information, please do not hesitate to contact our sales department



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