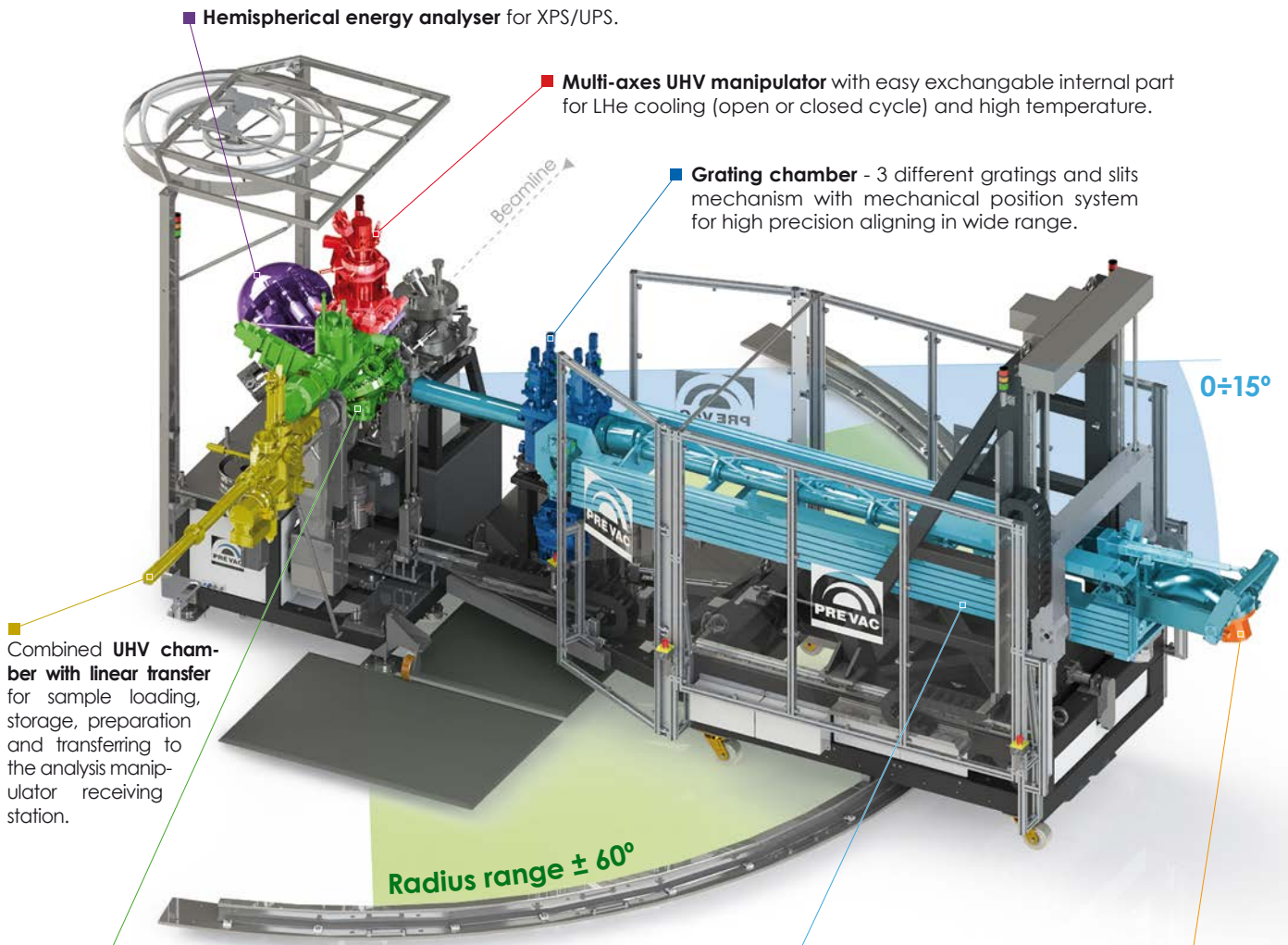


PEAXIS SYSTEM

UHV system for high resolution RIXS experiments
with angular resolved and high resolution PES

PREVAC PEAXIS (Photo Electron Analysis and X-ray Inelastic Spectroscopy) endstation system is a combination of X-ray absorption spectroscopy (XAS), Resonant Inelastic X-ray Scattering (RIXS) and Angle-dependent X-ray Photoelectron Spectroscopy (AdXPS) techniques. This analytical setup allows atom-specific, chemical-state-selective, crystal-field-symmetry and orbital-symmetry-resolved description of the electronic structure.

Contrarily to existing instrument, the PEAXIS spectrometer is able to investigate solid samples, solutions and interfaces in a wide range of experimental conditions with high energy resolution (two spherical Variable Line Space (VLS) gratings) covering a large Q-range realized by a continuous rotation of the RIXS detector arm by 120°. The Angle-dependent Photo-electron Spectroscopy (AdXPS), which is capable to distinguish between surface and bulk contributions to the energy spectrum, allows the investigation of local electronic structures, density and depth profiles, along with molecular orientation. These soft X-ray spectroscopy methods are particular interesting for investigations of metals and catalysts as well as biological and chemical processes. The whole experimental set-up is controlled via the PREVAC RAPID software platform.



■ **Hemispherical energy analyser** for XPS/UPS.

■ **Multi-axes UHV manipulator** with easy exchangeable internal part for LHe cooling (open or closed cycle) and high temperature.

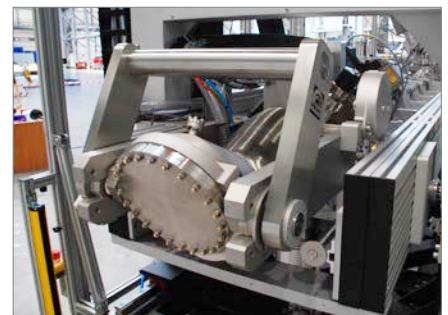
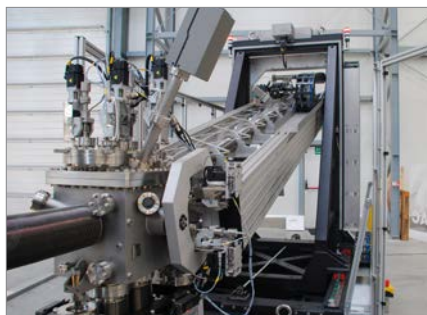
■ **Grating chamber** - 3 different gratings and slits mechanism with mechanical position system for high precision aligning in wide range.

■ **Combined UHV chamber with linear transfer** for sample loading, storage, preparation and transferring to the analysis manipulator receiving station.

■ **Special design μ -metal, analysis UHV chamber** with rotating bottom part, allows to change the angle of the RIXS arm without breaking vacuum conditions.

■ **RIXS spectrometer arm** is adjustable in the horizontal (scattering) plane in an angle of $\pm 60^\circ$ during measurements and in the vertical from 0 - 15°.

■ **CCD detector** is mounted at the end of the RIXS spectrometer arm to detect the X-rays. Detector chamber allows the cooling of the CCD and rotation in the vertical plane.



PEAXIS SYSTEM



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

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