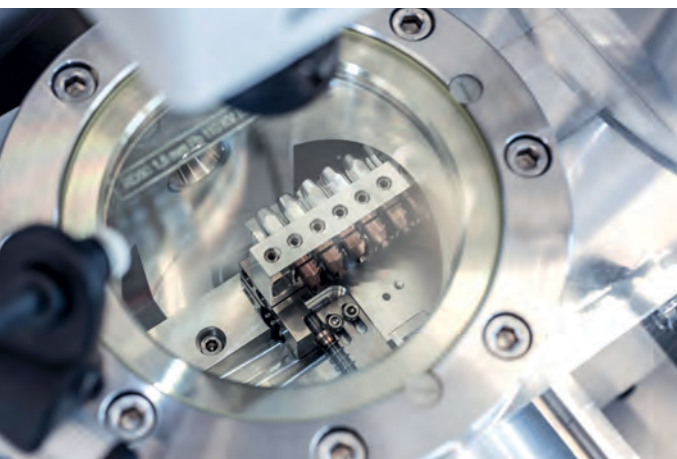
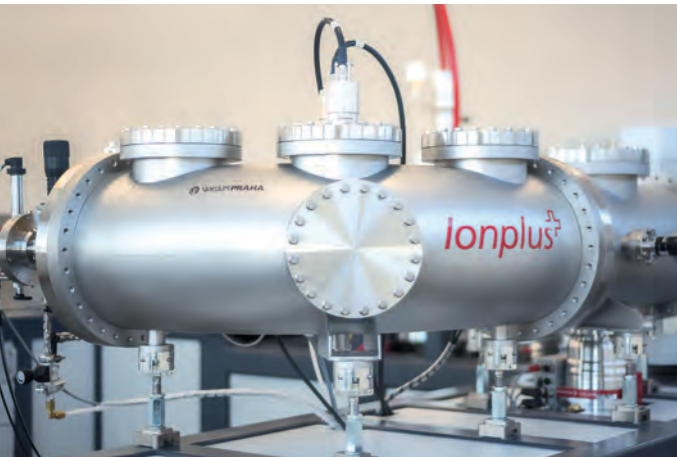


MICADAS

Mini Carbon Dating System

Multi-Isotope AMS

Coming Soon

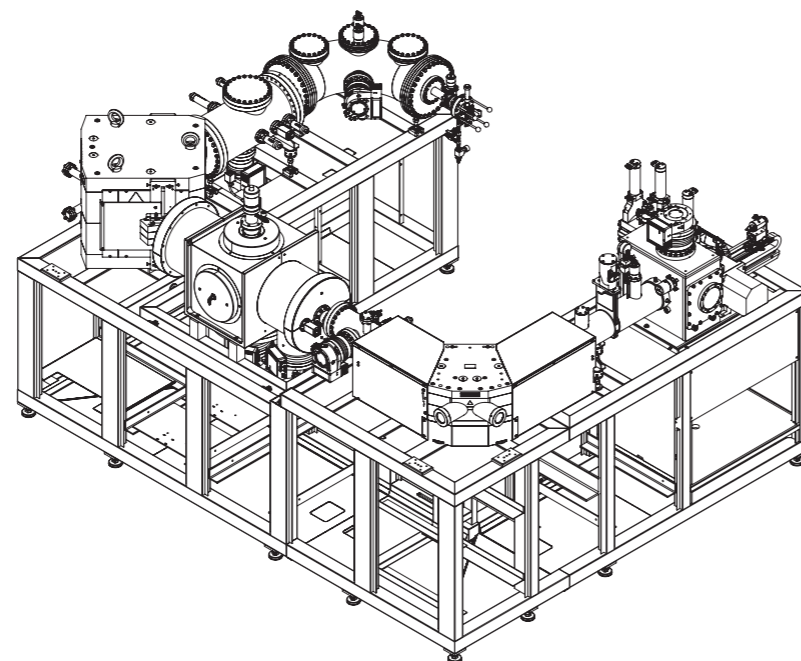


SPECIFICATIONS

- Helium stripping (up to 47 % ^{14}C -transmission)
- Negative ion currents of 50 to 150 μA on full-sized graphite samples and 10 to 20 μA on gas samples (10 μg carbon or more)
- 200 kV accelerator on a vacuum insulated high voltage platform with a low maintenance solid-state power supply
- Dating of samples back to more than 50'000 radiocarbon years
- Machine blank up to 68'000 radiocarbon years
- Random access sample changer with 40 positions
- Dimensions and weight: 3.2 m x 2.6 m x 2.2 m, 4'500 kg
- 2.5 kW average power consumption
- No cooling water or SF_6 needed



Scan the QR code and take a 360° virtual product tour.



Ionplus is currently developing a low-energy Multi-Isotope AMS instrument in collaboration with ETH Zurich. The new instrument will cover ^{10}Be , ^{14}C , ^{26}Al , ^{41}Ca , ^{129}I , U and Pu and combines accelerator and ion source technology of the MICADAS system with the concept of the high-energy spectrometer layout of the 600 kV "TANDY" facility at ETH.

With a footprint of only 3.5 m x 7 m, the space requirements of this new AMS instrument are very low. The accelerator is based on the vacuum insulated MICADAS design, but has been upgraded to support up to 300 kV. This prototype accelerator has already been in operation and has been tested for all isotopes in combination with the existing ETH "TANDY" spectrometer and ion source. Tests have shown a performance very similar to the existing ETH "TANDY" system.

The low energy spectrometer of the new instrument comprises an achromatic combination of a 90° electrostatic and magnetic deflector. The layout of the high energy side is inspired by the "TANDY" spectrometer (90° magnetic, 120° electrostatic and 110° magnetic deflector). A quadrupole triplet after the accelerator unit provides similar ion optical conditions for all isotopes measured and facilitates tuning. Based on developments made at ETH, a new, improved low-noise ΔE - E_{res} gas ionization chamber is mounted on the back end of the new Multi-Isotope AMS system, allowing identification and separation of interfering particles.

A prototype of our new Multi-Isotope AMS instrument will go into operation by the end of 2017 and Ionplus is planning to start the production shortly thereafter.

