InProcess Instruments
Analytical Solutions. Tailor-made.

IMU 2000

Analysis System for UF_6

- Routine monitoring of enriched and depleted uranium in UF_6
- Online process control and manual sample feeding system
- Intuitive analysis software suite

Analytical Specifications

Mass Range	1 – 512 u
Mass Resolution	Unit resolution

Technical Specifications

Ion Source Configuration	Crossbeam ion source with molecular beam inlet with LN_2 cold trap for excess UF_6
Communication Interfaces	Ethernet to PC, IoT-enabled OPC UA, PROFIBUS, PROFINET, MQTT, others on request
Dimensions	1450 x 920 x 1790 mm (w x h x d), approx. 500 kg 57 x 37 x 71 in. (w x h x d), approx. 1100 lbs

System Requirements

Environmental Conditions (During Operation)	Temperature	+15 to +35°C (59 to 95°F)
	Humidity	< 75 %, not condensing
Power		230 VAC, 50 Hz (others on request)
Compressed Air		Min. 6 bar, filtered and oil-free
Liquid Nitrogen (LN_2)		LN_2 supplied via Dewar or direct connection to the LN_2 supply line of the facility

InProcess Instruments
Gesellschaft für Prozessanalytik mbH

Sophie-Germain-Str. 1
28201 Bremen
Germany

phone +49 421 525 93 0
fax +49 421 525 93 10
e-mail mail@in-process.com

in-process.com

IMU 2000

Isotope Analysis of Uranium Hexafluoride

Mass spectrometry is a method of determining the mass-to-charge ratio of ions, and is frequently used to identify and quantify chemical substances.

The application of mass spectrometry in the analysis of UF_6 (uranium hexafluoride) offers precise and accurate results in analyzing this important nuclear fuel material.

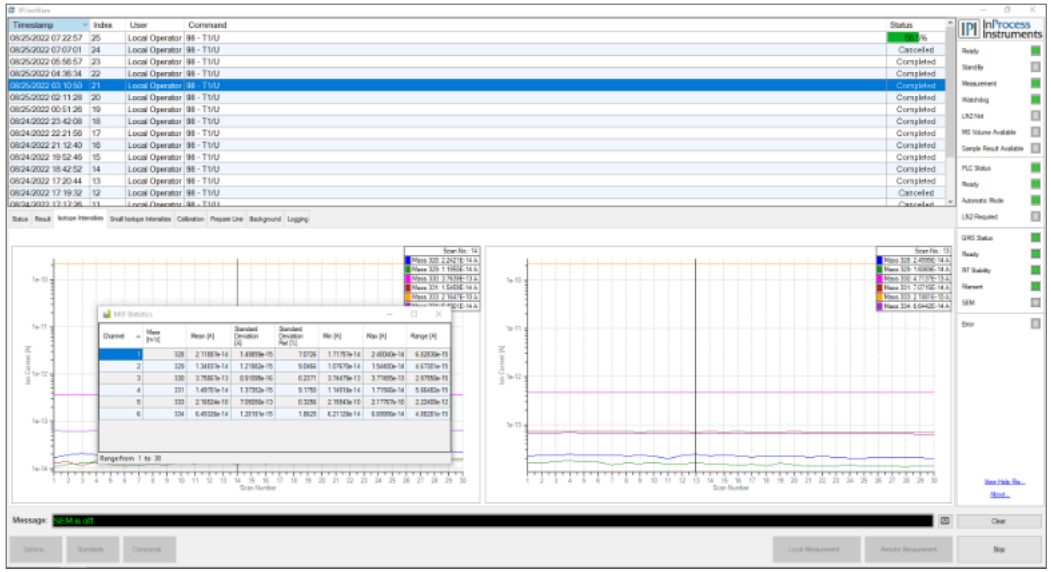
UF_6 is the most common form of uranium used in the production of nuclear fuel, and its analysis is crucial for ensuring the safety and efficiency of the nuclear fuel cycle. Mass spectrometry provides important information about the isotopic composition and purity of this material, which is necessary for the proper functioning of nuclear reactors.

Our team of experts works closely with customers to provide tailored solutions to meet their specific needs. Whether you are in the nuclear industry or conducting research in this field, our mass spectrometry solutions can support your analytical goals with precision and accuracy.

IPI isoWare

The easy-to-use IPI isoWare software offers the user a full overview of the current system status of the IMU 2000 including the planned and performed measurements and grants access to the measured data for analysis and post processing.

IPI isoWare connects directly to the mass spectrometer electronics and the system's PLC which guarantees a safe and user-friendly operation of the system's sample feeding and pumping system including the LN_2 supply for the cold traps in the analysis chamber and in the gas handling system.

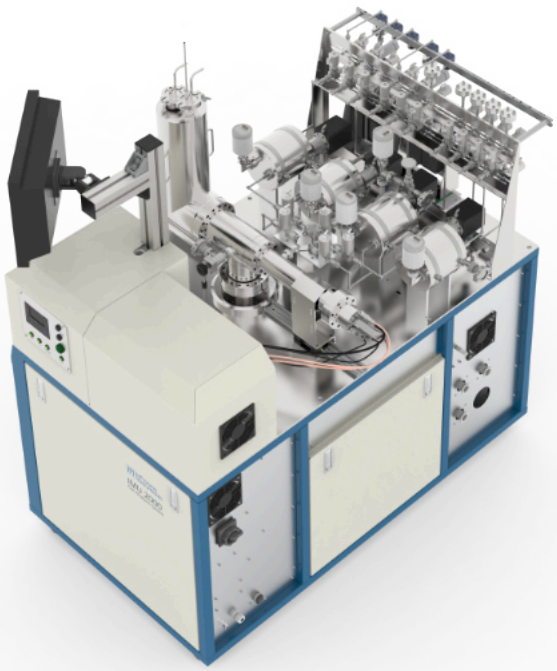


IPI isoWare provides the user with a full overview of the system status as well as the performed and planned measurements.

Key Features

- Routine monitoring of enriched and depleted UF_6
- Fast and accurate determination of very low isotope ratios
- Determination of UF_6 isotope ratios of the process streams Feed, Product and Tails
- Purity analysis of UF_6
- Low sample consumption
- High availability and long service life

The sophisticated system desgin of the IMU 2000 with an all-in-one approach combines all electronics and pumping components in a compact housing.



Sample Feeding System

- Continuous online measurement of isotope enrichment in the UF_6 process stream
- Customizable number of process lines
- Manual sample measurement in batch processes

Control System

- Fully automated calibration
- Continuous monitoring of the pumping system and the LN_2 supply of the cold traps

More Information