Aridus II™

SENSITIVE
STABLE
DESOLVATING
EASY SETUP

CETAC Aridus II™ Desolvating Nebulizer System
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The CETAC Aridus II™ Desolvating Nebulizer System is a specialized sample introduction accessory for Inductively Coupled Plasma Mass Spectrometry (ICP-MS). Setup is easy with all types of ICP-MS instruments: Quad-ICP-MS, HR-ICP-MS, and MC-ICP-MS.

FEATUES AND BENEFITS:

- Sensitivity enhanced by a factor of 4 to 10 or higher
- Low-sample uptake rates of 50, 100 or 200 μL/min
- Unique, tunable Aspire PFA Nebulizer with replaceable capillary
- Heated PFA spray chamber for high sample transport efficiency
- Both nebulizer and spray chamber are behind a secured door to alleviate electrostatic effects
- Patented PTFE membrane desolvator for lowest oxide and hydride levels
- Built-in gas flow controllers for both Ar sweep gas and N₂ addition gas
- Built-in spray chamber drain pump with acid-resistant PVDF parts
- Dedicated, adjustable temperature controllers for both spray chamber and membrane desolvator
- Modular membrane desolvator for easy cleaning and/or replacement
- Flat-top design for convenient placement of the CETAC ASX-112FR Autosampler

Aridus II™ Schematic

Sample solution is introduced to the Aridus II™ by a self-aspirating Aspire PFA Nebulizer. The nebulizer aerosol is sprayed into a heated (up to 110°C) PFA spray chamber to maintain the sample in a vapor phase. The sample vapor then enters a heated PTFE membrane desolvator module.

A countercurrent flow of argon sweep gas is added to remove solvent vapors that permeate the porous wall of the membrane. Nonvolatile sample components do not pass through the membrane wall and continue to the ICP-MS instrument.

Protective Front Door (open view)

Gas and Temperature Control Panel
ASX-112FR Micro Autosampler

The ASX-112FR Micro Autosampler is designed specifically for use with the Aridus II™. The ASX-112FR has the following features:

- Modular design allows placement on top of the Aridus II cover.
- All wetted parts constructed of inert, metal-free materials
- Dual-flowing rinse station composed of PFA
- Choice of pumping options for rinse stations, including gas displacement pump or peristaltic pump
- Multiple sample rack options
- Integrated enclosure with front door for easy sample placement
- Minimized sample path length using Aspire PFA nebulizer with integrated sample probe

QuickWash Accessory

The QuickWash Accessory for the Aridus II™ employs a second high-flow nebulizer that is built into the front of the Aridus II™ PFA spray chamber. A tangential flow of rinse solution quickly washes the inner wall of the spray chamber, providing greatly reduced washout times for higher concentration analytes.

The QuickWash can be operated in a manual or an automated mode, the latter in conjunction with the ASX-112FR Micro Autosampler. Wash times may be set in increments of 10 seconds up to 160 seconds, with a typical time range of 30 to 60 seconds. The QuickWash can be easily mounted on the left or right side of the Aridus II™ cabinet, depending on the host ICP-MS instrument configuration.
**Aridus II™ Membrane Desolvator Module**

The Aridus II™ is equipped with a new modular membrane desolvator (shown below). The module is an integral part of the Aridus II™ chassis and can be quickly removed or replaced. Once removed from the Aridus II™, the membrane desolvator can be conveniently cleaned. A specialized rinse kit is provided to introduce an appropriate cleaning solution such as dilute nitric acid.

**Integrated Autosampler Enclosure with Front Door**

The ASX-112FR Micro Autosampler is provided with an integrated enclosure with an easy-access front door. This new enclosure design allows for easy sample placement within the rotary tray.

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**Technical Specifications**

**Aridus II™ Specifications**

- **Nebulizer**: CETAC Aspire PFA; 50, 100 or 200 μL/min uptake
- **PTFE Desolvating Membrane Oven Temperature**: 160°C
- **Spray Chamber**: PFA with pumped drain
- **Temperature**: 110°C
- **Voltage**: 120 VAC +/- 10%, 50/60 Hz, 6A
  - 220 VAC +/- 10%, 50/60 Hz, 3A
- **Dimensions**: 33.6 cm x 24.8 cm x 55.9 cm (W x H x D)
- **Weight**: 10.5 kg / 23.1 lbs

**ASX-112FR Specifications**

- **Standards Tray Size**: 5 positions (20 mL vial)
  - 9 positions (4 mL vial)
- **Sample Rack**: CETAC racks – 24, 48, and 96 positions
- **Configurations**: BelArt half racks – 30 x 14 mL and 42 x 7 mL positions
- **Stage Composition**: PFA and/or polypropylene
- **Computer Interfaces**: USB, RS-232, IEEE-488 (optional)
- **Power Requirements**: 100 – 240 VAC +/- 10%, 50/60 Hz, 2.9A
- **Dimensions**: 33.4 cm x 42.9 cm x 50.8 cm (W x H x D)
- **Weight**: 14.1 kg / 31.0 lbs (with top cover)

**QuickWash Specifications**

- **Voltage**: 24 VDC Power Supply
- **Power Requirements**: 100 – 240 V, 47 – 63 Hz, 3.3A
- **Argon Gas Flow**: 2 L/min (factory setting)
- **Dimensions**: 6.7 cm x 14.3 cm x 27.6 cm (W x H x D)
- **Weight**: 1.07 kg / 2.35 lbs

**Ordering**

To discuss your specific needs, please contact your CETAC representative.

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