

Kori-xr™

Specification sheet

Kori-xr aids the analysis of humid air using Markes' TD equipment, by removing water from on-line and canister samples and allowing the simultaneous analysis of ultra-volatiles, polar species, oxygenates and pinenes.



1. System features

- **Electrically cooled water-removal trap** selectively removes water from the sample stream without affecting target analytes and without extending the overall cycle time.
- **Trap heated and flushed** with carrier gas between samples to remove water collected.
- **Compatible with gas-phase samples** ranging in pressure from below atmospheric pressure to 50 psig.
- **Integrates with:** UNITY-Air Server-xr and UNITY-CIA Advantage-xr systems, with or without ULTRA-xr. Also compatible with UNITY 2-Air Server and UNITY 2-CIA Advantage.

2. System controls

2.1 Control software

- **Markes Instrument Control (MIC):**
 - Please refer to the UNITY-Air Server-xr or UNITY-CIA Advantage-xr specification sheets for software features.
 - When installing Kori-xr on a UNITY 2-Air Server or UNITY 2-CIA Advantage, the instrument controls must be upgraded to the included MIC software.

2.2 Modes of operation for analysis

- Please refer to the UNITY-Air Server-xr or UNITY-CIA Advantage-xr specification sheets for desorption modes.

2.3 Water removal trap

- Constructed from quartz (3 mm i.d.).
- Trap low temperature:
 - Range: -30°C to 50°C.
 - Adjustable in 1°C increments.
 - Uniform electrical cooling applied over full length of ice deposit zone.
- Trap high temperature:
 - Range: 35°C to 425°C.
 - Adjustable in 1°C increments.
 - Uniform heating applied over full length of ice deposit zone.

2.4 Sample flow path

- Temperature range: 50°C to 210°C.
- Adjustable in 1°C increments.
- Uniform heating.
- Constructed entirely of inert materials: PTFE, quartz, inert-coated stainless steel.
- Flow capabilities: Independent, manual flow control between 25–100 mL/min.

2.5 Pneumatics

- Requires a pressurised supply of dry air or nitrogen (dewpoint below -50°C) at 50–60 psig (340–415 kPa). The dry gas is used for both pneumatic actuation of the valve and for purging the focusing trap box.

- Supplied with a fitting to attach to the pneumatic control accessory (U-GAS01) on UNITY-xr or UNITY 2.
- Note that helium cannot be used as the dry gas supply.

3. System specification

3.1 Dimensions and weight

- Height: 46 cm (18.1").
- Width: 16 cm (6.3").
- Depth: 54 cm (21.3").
- Weight: 16 kg (35 lb).

3.2 Ambient operating conditions

- Temperature: 15°C to 30°C.
- Relative humidity: 5–95% RH (non-condensing).

3.3 Power requirements

- 100–240 V, 50/60 Hz, 650 W (Kori-xr self-adjusts to local voltage input).

3.4 Gas consumption

- Dry air or nitrogen: ~100 mL/min.

3.5 Minimum PC specification

For TD control:

- CPU: 1 GHz 64-bit dual-core or better.
- RAM: 4 GB.
- Hard disk space: 2 GB.
- Graphics card: DirectX 9 or later.
- Display: 1024 × 768 display.
- Operating system: Windows 10 or 11, 64-bit, English.
- Other requirements: Windows-compatible keyboard and mouse; one free USB connection (in addition to those required for the UNITY-xr).

3.6 Safety and regulatory certifications

- The instrument is designed and manufactured under a quality system registered to ISO 9001.
- The instrument complies with the essential requirements of the following applicable European Directives, and carries the CE mark accordingly:
 - Low Voltage Directive 2014/35/EU.
 - EMC Directive 2014/30/EU.
 - ROHS Directive 2011/65/EU.
- The instrument conforms to the following product safety standards:
 - IEC 61010-1:2010/EN 61010-1:2010.
 - IEC 61010-2-010/EN 61010-2-010:2014.
 - IEC 61010-2-081/EN 61010-2-081:2015.
 - Canada: CSA C22.2 No.61010-1-12:2012.
 - USA: ANSI/UL 61010-1:2012.
- The instrument conforms to the following regulation on electromagnetic compatibility (EMC):
 - IEC 61326-1/EN 61326-1:2013.

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