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 analysis of polar species, monoterpenes or sulfur compounds.

1. System features
   • **Electrically cooled water-removal trap** selectively removes water from 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-xr–CIA Advantage™ systems.

2. System controls
   • **Markes Instrument Control (MIC)** automatically detects the instrument and amends the parameter options in the software. The software allows:
     – Automated, unattended sequencing of tube and on-line samples.
     – Editing of active sequences.
     – Rapid set-up of TD methods using pre-programmed parameters for standard methods including VDA 278, US EPA T0-17 and PAH analysis.
     – Pre-loading of an internal standard on a tube or trap.
     – System self-checking.

2.1 Desorption modes
   • Kori-xr is used in conjunction with Air Server-xr and CIA Advantage desorption modes.

2.2 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 60 mm.
   • Trap high temperature:
     – Range: 35°C to 425°C.
     – Adjustable in 1°C increments.
     – Uniform heating applied over 60 mm.

2.3 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.
2.4 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 cold trap box.
- 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: 2 GHz Pentium® (or equivalent).
- RAM: 1 GB.
- Free disk space: 40 MB (for installation).
- Operating system: Windows® 7 (32- or 64-bit).
- Minimum screen resolution: 1024 × 768 pixels.
- Other requirements: Windows-compatible keyboard and mouse; one free USB or serial port (in addition to the port 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.
- The instrument conforms to the following product safety standards:
  - Canada: CSA C22.2 No.61010-1-12:2012.
- The instrument conforms to the following regulation on electromagnetic compatibility (EMC):
  - EN 61326-1:2013.

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