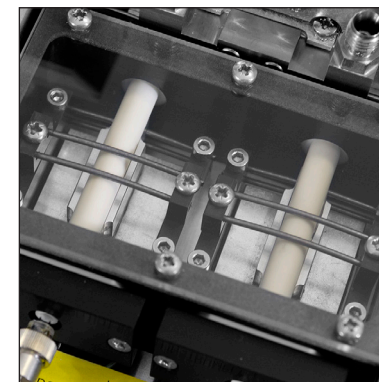


TT24-7_{xr}

Advanced thermal desorber for continuous on-line environmental monitoring of trace-level organic vapours



TT24-7_{xr}TM

Introducing the new TT24-7_{xr} – an advanced, method-compliant thermal desorption (TD) system for continuous low-flow environmental monitoring of trace-level volatile and semi-volatile organic compounds (VOCs and SVOCs) by GC–MS.

The innovative dual-trap design enables 100% data capture, while unattended monitoring (ideal for mobile and unstaffed laboratories) is aided by cryogen-free operation and remote control of several systems from a single location.



Improved laboratory efficiency
Automated, unattended stream selection facilitates easy sequencing between the samples, blank and calibration standard channels at user-defined frequencies.

Precision of quantitative analyses
An optional internal standard accessory enables gas-phase internal standards to be introduced onto either focusing trap.

Platform-neutral
The short, heated transfer line allows the TT24-7_{xr} to be installed on all major makes of GC and GC–MS.

Unparalleled analyte and concentration range
The inert, uniformly heated flow path ensures compatibility with C₂–C₄₀, including reactive species... from percent to sub-ppt concentrations.

Trouble-free sampling of humid air
The new Kori-xr water management module enables simultaneous sampling of C₂ and polar VOCs, including monoterpenes.

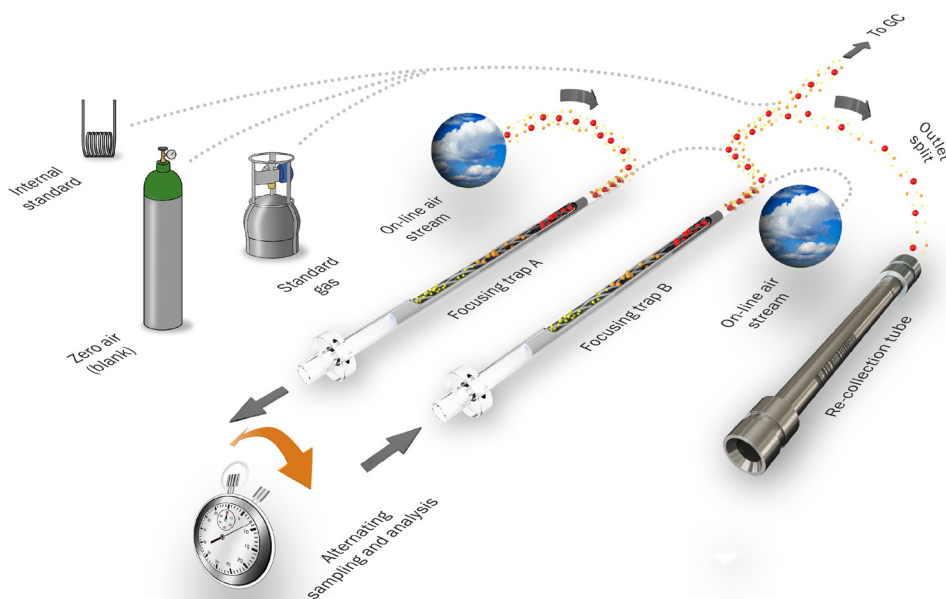
Powerful options for method-compliant on-line monitoring

Continuous on-line monitoring

The TT24-7xr achieves continuous on-line monitoring through the use of two cold traps working in tandem.

The sample is first collected onto Trap A. The sample flow is then switched to Trap B, while Trap A is desorbed and the compounds analysed.

This alternating sampling/desorption process is also applied to the standard/blank, and is repeated until the end of the analytical sequence.



Two focusing traps working in tandem provide complete data-capture for on-line sampling of air using the TT24-7xr. At the time-point illustrated, sampling is taking place onto Trap A, while Trap B is being desorbed (with a portion of the flow to the GC being directed to a re-collection tube).

Off-line analysis

In addition to on-line monitoring, sorbent tube analysis can be carried out on the TT24-7xr, making it suitable for a variety of air-monitoring scenarios.

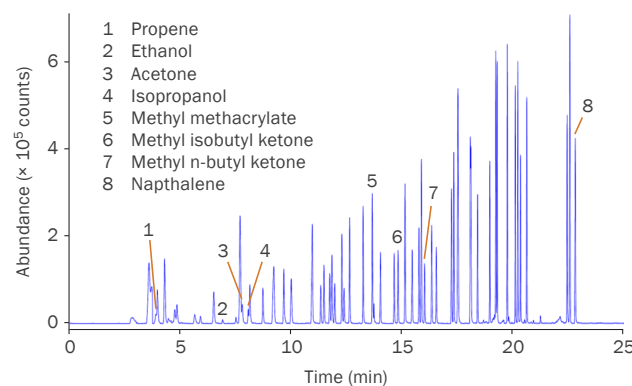
Re-collection and method validation

The ability to perform tube analysis facilitates the quantitative recovery and re-collection of on-line samples for repeat analysis, enabling easier analyte and method validation.

Effective water management

When analysing humid air, the moisture must be removed before the gas flow reaches the GC column and detector, to avoid poor chromatography. However, some polar species and ultra-volatiles can be lost when using typical water-management methods such as a Nafion™ dryer or trap dry-purge.

The cryogen-free Kori-xr™ module addresses this problem by removing water from humid air prior to analyte focusing – allowing high-sensitivity analysis of polar species, oxygenates and monoterpenes, as well as all other typical VOCs.



Use of the Kori-xr module with TT24-7xr provides excellent results for the analysis of a 100% RH, 65-component TO-15 standard containing polar and non-polar analytes.

Kori-xr was developed in collaboration with the National Centre for Atmospheric Science (NCAS) at the University of York. It was co-funded by the UK's innovation agency (Innovate UK), the Natural Environment Research Council (NERC) and the Welsh Government under the Knowledge Transfer Partnership program.

Markes International – The TD experts

World-leading instruments and unmatched expertise in VOC and SVOC monitoring

Markes International has for 20 years been at the forefront of innovation for enhancing the measurement of trace-level VOCs and SVOCs by thermal desorption-gas chromatography. Our suite of instruments for thermal desorption sets the benchmark for quality and reliability:

TD100-xr™

High-throughput
100-tube automated
thermal desorber.

UNITY-xr™

Single-tube thermal
desorber featuring
sample re-collection
of all split flows.

UNITY–Air Server-xr™

Versatile on-line VOC
monitoring system.

ULTRA-xr™

High-throughput
100-tube
autosampler for
UNITY-xr.

CIA Advantage-xr™

Cryogen-free
automated canister
autosampler and
pre-concentrator.

TC-20™ & TC-20 TAG™

Cost-effective systems
for off-line multi-tube
conditioning and
dry-purging.

Micro-Chamber/Thermal Extractor™

Unique sampling device for emissions
of VOCs and SVOCs from products and
materials.

Since 1997



Markes International

UK: Gwaun Elai Medi-Science Campus, Llantrisant, RCT, CF72 8XL **T:** +44 (0)1443 230935
USA: 2355 Gold Meadow Way, Gold River, Sacramento, California 95670 **T:** +1 866-483-5684 (toll-free)
Germany: Bieberer Straße 1–7, 63065 Offenbach am Main **T:** +49 (0)69 6681089-10
P.R. China: No. 1 Building, No. 7 Guiqing Road, Xuhui District, Shanghai 200233 **T:** +86 21 5465 1216
E: enquiries@markes.com **W:** www.markes.com

