eTrap and eTrap Plus

Electrical cold traps for gas chromatography

Focus volatile compounds before separation. No liquid nitrogen or liquid carbon dioxide.



eTrap on Agilent GC - upper instrument section

OPERATING PRINCIPLE

The two-stage Peltier cold trap sits outside the GC oven. Analytes are enriched in a deactivated stainless steel capillary; Tenax TA 60/80 supports the focusing of highly volatile compounds.

Rapid resistive heating transfers the compounds to the separation column as a narrow sample band. This supports narrow peaks and high detection sensitivity.

FROM ENRICHMENT TO SEPARATION

Enrich
Introduce the sample and collect analytes in the cold trap.

Desorb
Heat the capillary rapidly using electrical power.

Separate
Transfer the focused sample band to the separation column.

THE DIFFERENCE: HEAT DISSIPATION AND COOLING

eTrap

Heat dissipation using ambient air

Approximately 20 K below ambient temperature

eTrap Plus

Heat dissipation using the IceStar liquid cooler

Approximately 50 K below ambient temperature

Both versions: heating up to 320 °C. Achievable cooling depends on ambient and operating conditions.

Cooling is relative to ambient temperature; no fixed final temperature.

CHROMTECH GmbH
Carl-Zeiss-Strasse 20 · 65520 Bad Camberg
info@chromtech.de · www.chromtech.de

Applications and integration

For automated sample introduction and selective focusing.

Highly volatile compounds such as vinyl chloride, chloroethane and MTBE benefit from enrichment before chromatographic separation.



eTrap Plus between two gas chromatographs for aroma analysis

TYPICAL APPLICATIONS

Splitless headspace injection, SPDE and SPME, thermal desorption, and purge and trap.

In aroma analysis, selected fractions can be focused between two gas chromatographs and transferred to the second separation column.

CONTROL AND INTEGRATION

For Agilent GC/MS, eTrap Control is integrated into MassHunter and forms part of the analytical method. Standalone control is available for other chromatography systems.

Available for Agilent GC and selected Thermo GC systems. Configuration and retrofitting are matched to the method and instrument environment.

TECHNICAL DATA

Cooling principle	Electrical, two-stage Peltier cooling
eTrap temperature range	Approximately 20 K below ambient temperature to 320 °C
eTrap Plus temperature range	Approximately 50 K below ambient temperature to 320 °C
Capillary and adsorbent	Deactivated 1/16-inch stainless steel capillary; Tenax TA 60/80
Installation and connection	Outside the GC oven; standard 1/16-inch ferrules

Other adsorbents on request. The IceStar liquid cooler is included with eTrap Plus.

CHROMTECH GmbH
Carl-Zeiss-Strasse 20 · 65520 Bad Camberg
info@chromtech.de · www.chromtech.de