SPDE™ EXTRACTION COOLER

SPDE extension for highly volatile compounds

In order to extend the already established analysis using SPDE to the extraction of highly volatile substances, the SPDE Extraction Cooler has been developed. Since the SPDE cannula normally has room temperature or sample temperature during extraction, very readily volatile substances are enriched less well than less volatile components. This is a limitation that is also known for SPME. In contrast to the SPME, it is possible with the aid of the SPDE Extraction Cooler to carry out intensive cooling of the cannula and thus to achieve a successful enrichment thereon.

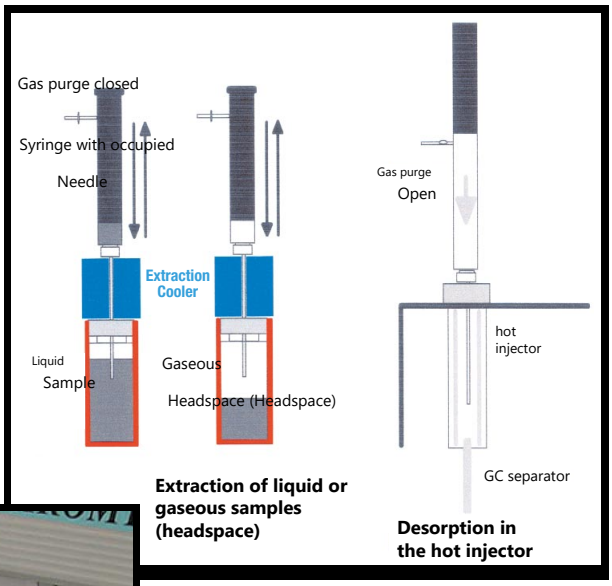


FIG. 2: Principle of automatic SPDE extraction with extraction cooler: The analyte is enriched by pumping movements on the special SPDE cannula at −15° C. and subsequently desorbed thermally. During enrichment, the sample is heated and the SPDE cannula is cooled



Fig. 1: The SPDE extraction cooler can be used as an attachment to a single magnet mixer. The 74 mm SPDE cannula protrudes only a few millimeters into the sample bottle.

The illustrated extraction cooler is a Peltier-controlled cooling for the 74 mm SPDE cannula. This cooling is installed on the CHROM-TECH Single Magnet Mixer (SMM) (FIG. 1) and achieves a temperature difference of 40° C. below room temperature.

For applications with highly volatile

Substances Sample heating at the same time

Cooling the SPDE syringe cannula Simple assembly Retrofittable for all single magnets

Mixer (SMM) Peltier cooling (no further)

Cooling medium required! working range ≤40 °C below

Room temperature Requires 74 mm SPDE-

Syringe cannulas

CHROMTECH
Analytische Messtechnik

SPDETMExtraction Cooler

Applications:

• Automatic extraction and detection of VOC with SPDETM GC/MS, SPDETM Extraction Cooler and Split/Splitless Injector (SP404).

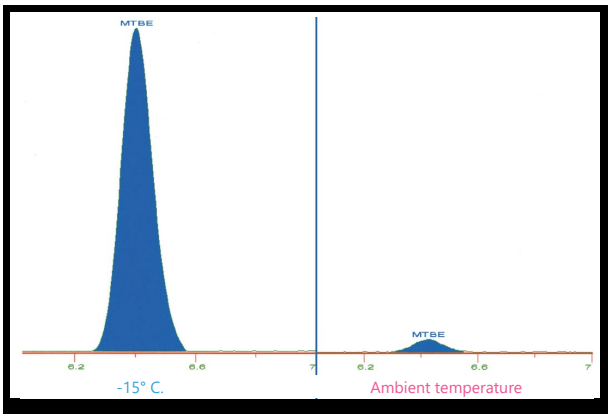


FIG. 3: 0.9 ug/L MTBE extracted with SPDE Extraction Cooler (-15° C.) and without cooling (about 25° C.) The comparison of these chromatograms shows the cooling effect very clearly using the example of methyl tert-butyl ether.

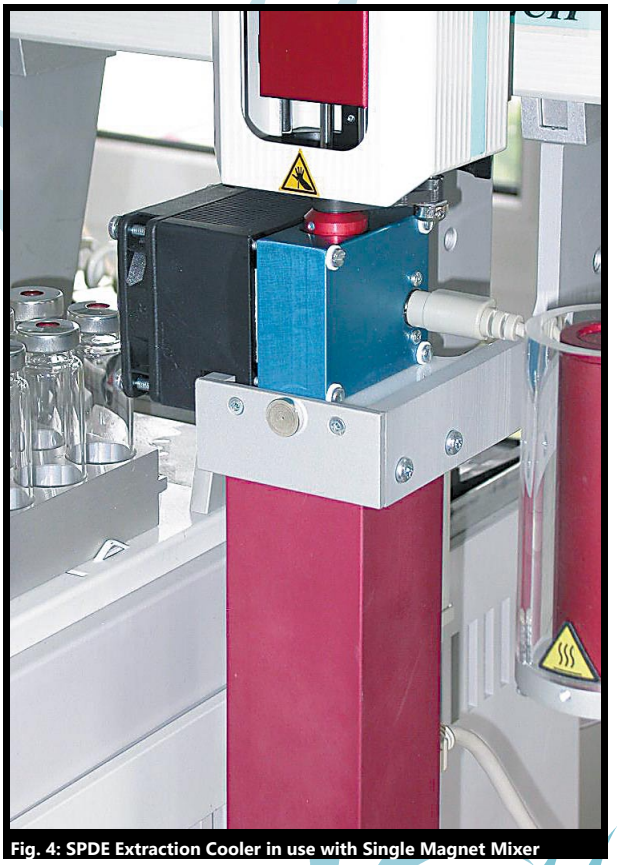


Fig. 4: SPDE Extraction Cooler in use with Single Magnet Mixer



Fig. 5: SPDE Extraction Cooler with Control Module and Single Magnet Mix

Description	*Order number*
SPDE Extraction Cooler for SPDE cannulas with 74 mm length	
- Extraction cooler with Peltier element	
- Temperature controller	
- Power supply CT-Extr Cooler	

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