GL Sciences

Gas Chromatography

PELTIER COOLER

For OPTIC Inlet

OPTIC Inlet down to 7°C

Dry Air or Nitrogen cooling media

Good for Dichloromethane

Introduction

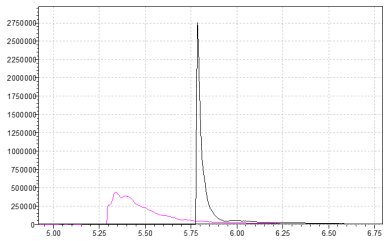
For cold injections in gas chromatography, it is sometimes required to inject a sample below ambient temperature. This requirement comes from a need to either enrich the sample, improve recovery of a specific component or prevent its thermal degradation. As of now, the GC inlet is mostly cooled using liquid nitrogen (LN2) or liquid CO2. In addition to the known safety issues, the use of the cryogenic cooling increases the analysis cost. A high running cost of the inlet cooling can be greatly reduced by replacing the cryogenic system with a Peltier cooler. The cooler is designed for the OPTIC inlet and uses the dry compressed air or nitrogen gas as a cooling media. It is especially attractive in cases when cooling to sub-ambient temperatures is not required.

Specifications

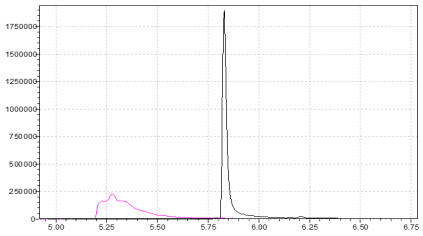
Cooling method:	Peltier.
Cooling media:	Dry Air (dew point -20°C or lower), Nitrogen.
Inlet temperature*:	Down till +7 °C, at ambient temp. <23°C, GC oven at 40°C, GC cycle time <30 min.
Dimensions:	24(W) x 27(D) x 30(H) cm.
Weight:	Approx. 13 kg.
Mains Power:	100~240 VAC, 50-60 Hz.
Max. power consumption:	180 Watt.

Application

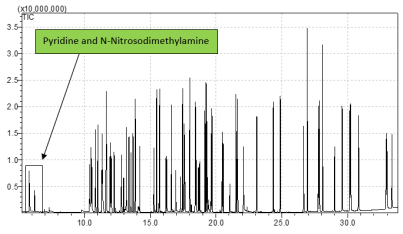
Large Volume Injection of EPA 8270 Restek MegaMix using Dichloromethane as a solvent. Significant recovery improvement can be seen for ‘difficult-to-retain’ components like Pyridine and N-Nitrosodimethylamine.



Component: Pyridine, m/z: 79
Pink: LVI 25µl injection, the inlet at 30°C
Black: LVI 25µl injection, the inlet at 7°C



Component: N-Nitrosodimethylamine, m/z: 74
Pink: LVI 25µl injection, the inlet at 30°C
Black: LVI 25µl injection, the inlet at 7°C



Chromatogram of 8270 Megamix in TIC mode

Item Numbers

2406-4180	OPTIC-Cooler
2406-4181	Dry Air Kit

Contact

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