GERSTEL
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V-ITEX
VACUUM IN TUBE EXTRACTION

Using a controlled vacuum

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Automated vacuum extraction for GC-MS analysis, simplified

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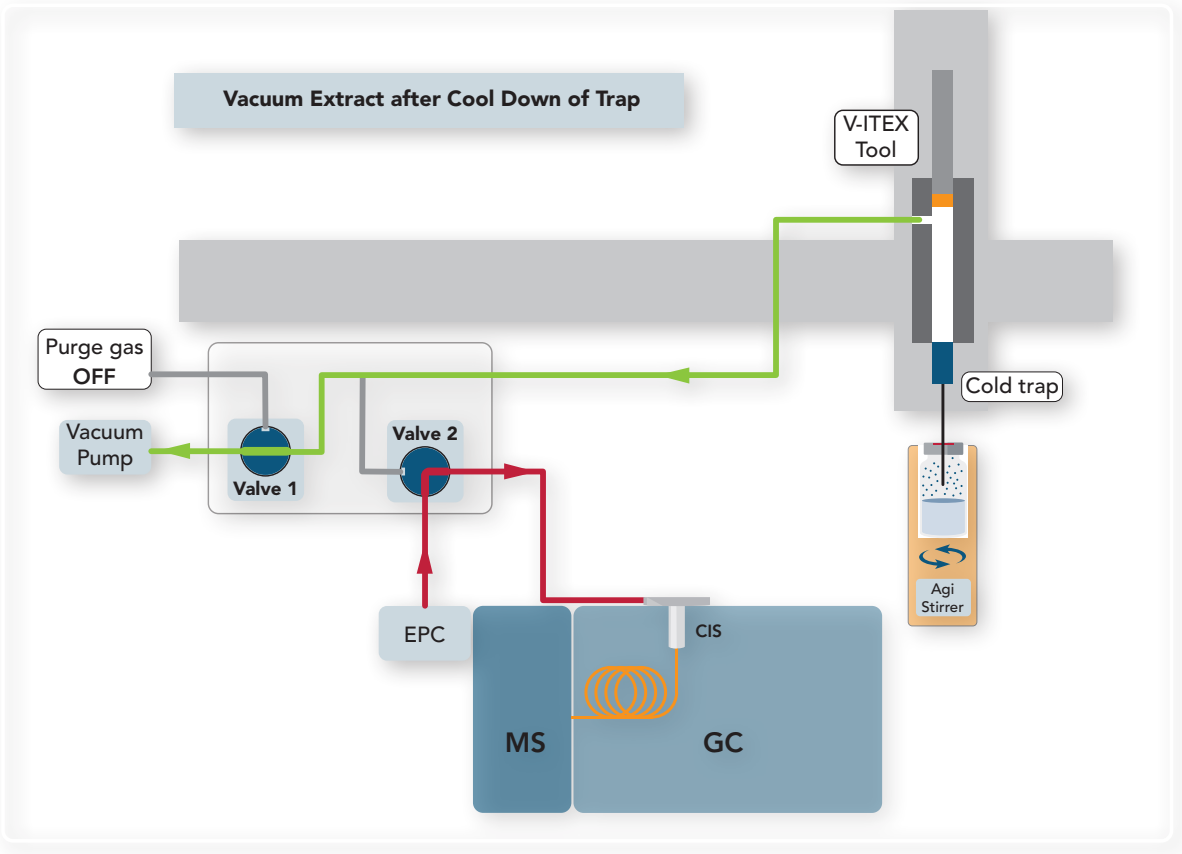
Vacuum In Tube Extraction

GERSTEL V-ITEX is an innovative, fully automated, vacuum-based extraction method developed by Agroscope (Switzerland) for determining volatile organic compounds (VOCs) in complex matrices using GC-MS.
Using a controlled vacuum, V-ITEX enables gentle extraction and enrichment even from temperature-sensitive and complex matrices – without heating, with virtually no solvent consumption, and with maximum reproducibility.
After enrichment, the analytes are directly transferred to the GC-MS system, providing extremely low detection limits with high precision and accuracy.

Challenges of VOC extraction

Many laboratories face the same problems when extracting VOCs:

- **Time-consuming and labor-intensive methods**
  such as SAFE or Likens-Nickerson demand valuable resources
- **High solvent consumption**
  incurs costs and jeopardizes occupational safety in the laboratory
- **Non-volatile components**
  cannot be analyzed using conventional headspace GC-MS methods
- **Artifact formation and falsified results**
  due to the heating of temperature-sensitive samples



Features

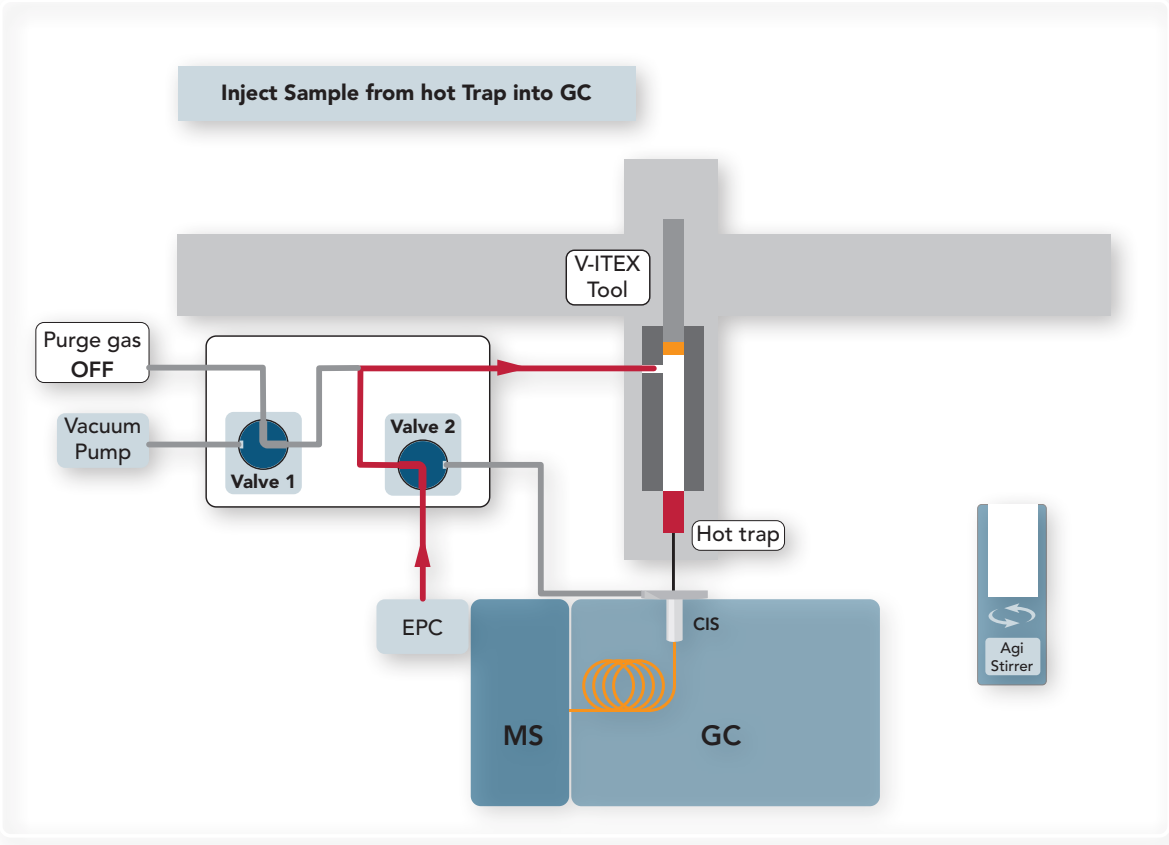
- Gentle VOC extraction
  of thermally labile analytes using vacuum and no heat
- Automatic enrichment and water management
  with the GERSTEL MultiPurposeSampler (MPS) and the V-ITEX module
- Direct desorption of the trap
  utilizes GC carrier gas stream

Areas of application

- Flavor analysis
  in dairy products, beverages, fermented foods
- Nutritional volatolomics
  VOC profiles in food and biological fluids
- Temperature-sensitive foods
  such as fresh food, milk, soy milk, and oat milk
- Research
  in the field of volatolomics and VOC metabolomics

Highlights

- Efficient drying
  enables total evaporation even of aqueous samples for improved recovery of polar compounds
- Simple and robust automation
  for unattended, worry-free operation
- GERSTEL Agitator Stirrer (AGI^{stir})
  enables parallel incubation of multiple samples for higher throughput
- Vacuum-controlled pump (Vacuubrand)
  for reproducible results
- Seamless integration
  into almost any GC or GC-MS through GERSTEL ePneumatics
- Agilent MassHunter Acquisition Software Integration



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Velaris reserves the right to change the specifications and the appearance of the equipment without further notification.

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