


**GERSTEL**

# Cooled Injection System CIS



GERSTEL Cooled Injection System - internationally the most frequently used universal inlet, with patented septumless sampling head.

Gas chromatographic analysis is now more versatile, reproducible and has lower detection limits than ever before, thanks to temperature programmed sample injection using the GERSTEL Cooled Injection System.

The GERSTEL CIS provides two essential system-functions:

- 1 Universal injection system for all injection techniques: split, splitless, on-column and large-volume up to 1000  $\mu$ l.
- 2 Cryotrap enrichment systems in combination with sample preparation systems, for example, the GERSTEL ThermalDesorption System TDS or the GERSTEL Multi-Purpose Sampler MPS.

The main advantages:

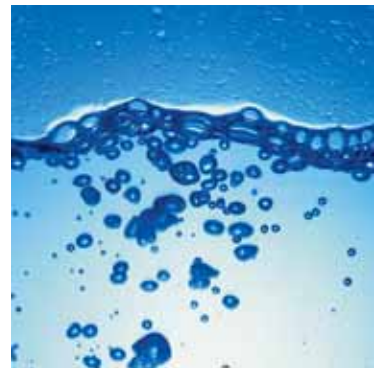
- ▶ Seven modes of injection with one inlet
- ▶ Eliminates thermal discrimination
- ▶ Reduces decomposition of thermally labile compounds
- ▶ Lowers detection limits
- ▶ Optimum interface for liquid, gas and solid sample introduction systems
- ▶ Ideal cryogenic sample concentrator in split, splitless, and large volume injection modes.
- ▶ Allows high desorption flow in splitless sampling mode with TDS



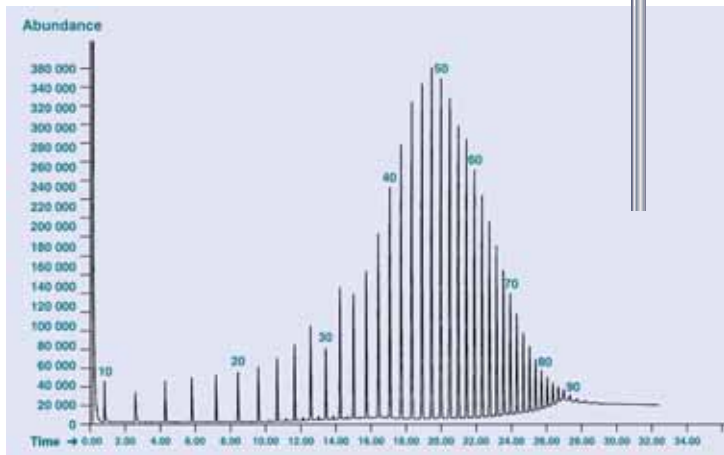


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- ▶ Only *one* inlet for all injection techniques
- ▶ *No contamination* by septum particles; no loss of analytes from septum bleed; low-maintenance
- ▶ *Optimal transfer* of analytes to the column, even thermally labile substances, due to programmable linear heating; improved separation performance due to resulting small peak band width
- ▶ *Fast operation cycle time*; cost-effective Peltier cooling eliminates need for coolants when very low temperatures are not needed.
- ▶ *Better chromatographic separation*; protection of the capillary column and detection systems
- ▶ *Reduced detection limits* and time savings due to less sample preparation time
- ▶ *Selective transfer of components to the column*
- ▶ *Cost-effective system upgrades* to other GERSTEL modules
- ▶ Suitable for almost *all GC models*; a new GC is not required
- ▶ *Reduces system leaks and maintenance; extends column life and increases sample throughput.*



CIS on-column injection insert



*Polywax 655*  
 On-column injection at 30°C  
 With 0.5°C/s  $\hat{=}$  400 °C  
 12 m x 0,53 mm x 0,15  $\mu$ m HT5

