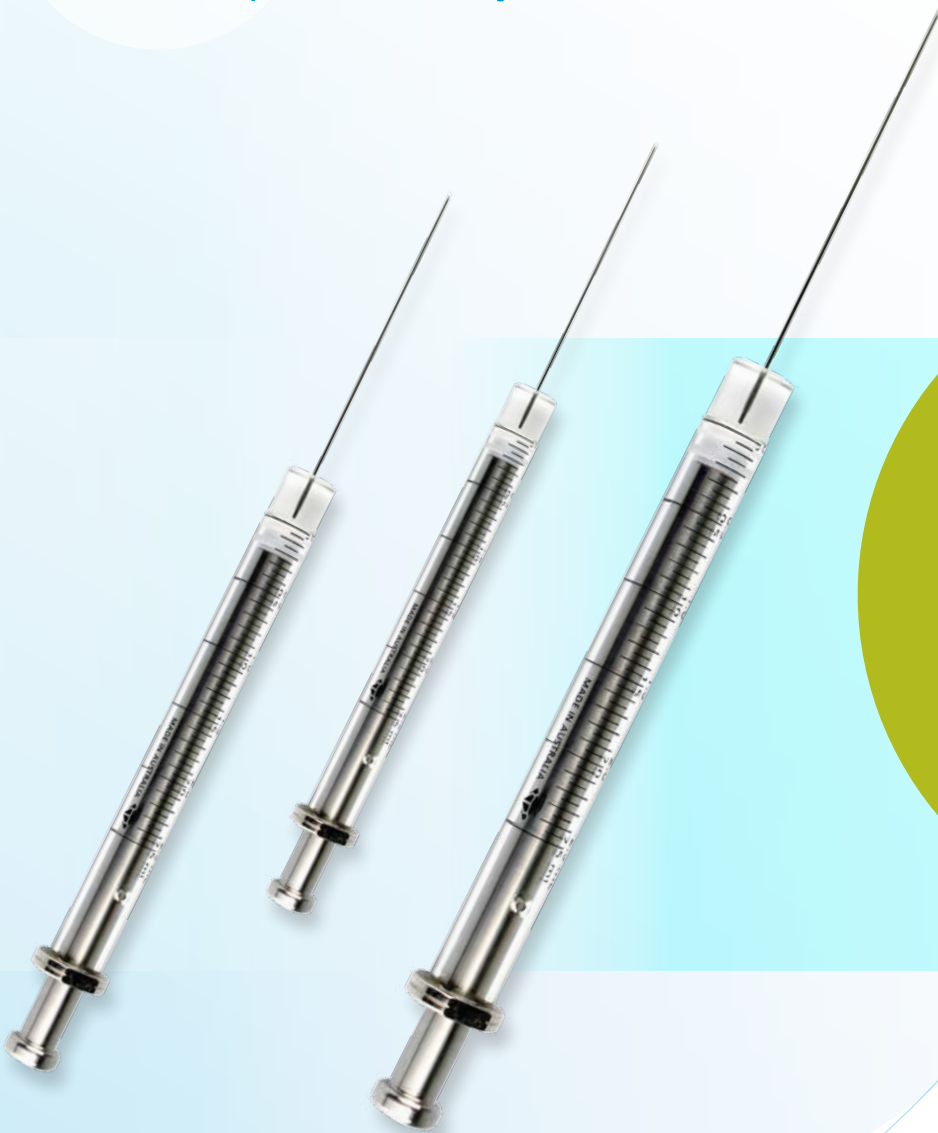


Higher Limits in Headspace Analysis



Diamond Headspace Syringes

- Outstanding reproducibility maintained during temperature cycling
- High operating temperature
- Save time and improve analysis workflow

Diamond Headspace Syringes

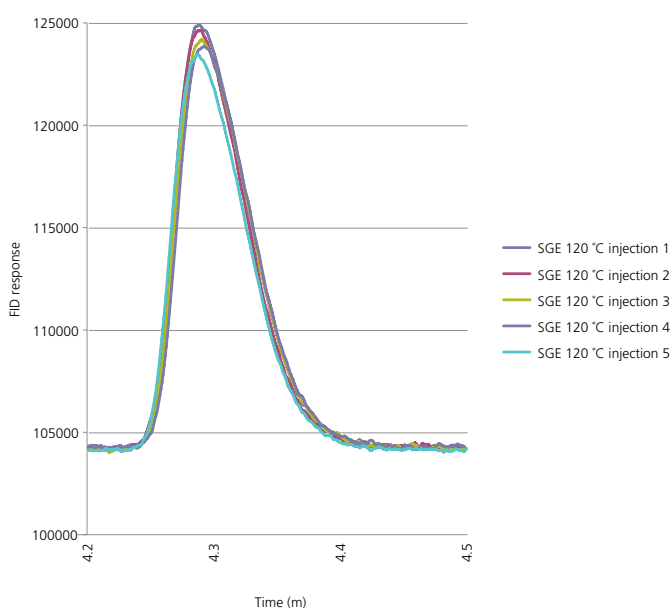
Higher Limits in Headspace Analysis

Don't Limit Your Headspace Analysis

Some headspace syringes may perform poorly when used at high temperatures or cycled through high temperature. Common problems experienced with headspace analyses due to poor syringe performance include: syringe plunger tips failing; leaking syringes; needles detaching; additional sample flushing caused by too high syringe carryover; poor reproducibility of results.

Outstanding Reproducibility

The energized plunger tip design ensures a gas tight seal is consistently maintained providing outstanding performance (%RSD) with temperature cycling and high temperature.



System:	Agilent 6890 GC with CTC PAL autosampler with Headspace system
Phase:	25 m 250 µm ID 0.25 µm BPX5 column
Sample:	10 ppm Hexane:Water sample incubated at 80 °C
Initial Temp:	40 °C
Rate 1:	20 °C / minute
Final Temp:	100 °C
Detector Type:	FID, 250 °C
Carrier Gas:	He
Injection Port Temp:	140 °C



Figure 1. Reproducibility of Results with SGE Diamond Headspace Syringe across 5 injections at 120 °C

High Operating Temperature

- SGE's Diamond Headspace Syringes maintain performance up to 150 °C and continue to perform with temperature cycling resulting in an increased headspace syringe lifetime.

A series of 150 injections of samples with an incubation temperature set at 140 °C and a syringe temperature of 150 °C was realized. The whole sequence last more than 20 hours.

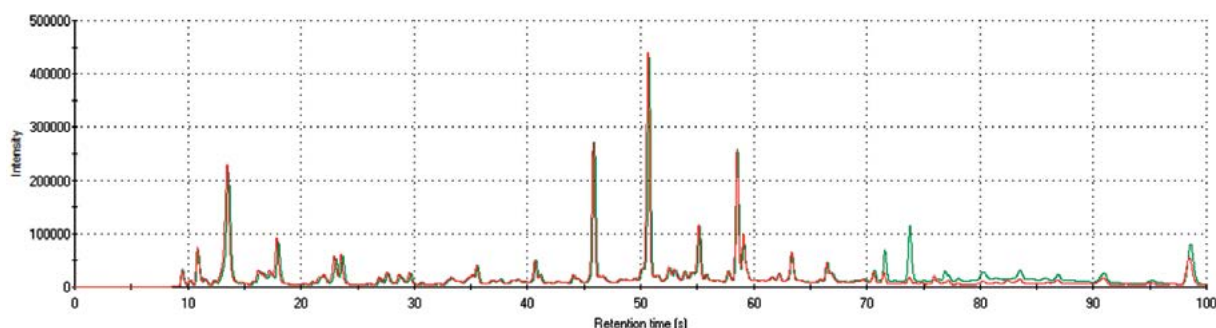


Figure 2. Comparison of headspace chromatogram of plastic pellet heated at 150 °C after 3 and 152 injections.

- **Improved sample and solvent compatibility:**

The PTFE plunger tip in Diamond Headspace Syringes enables the use of a broader range of samples and solvents compared with polymers used in plungers of other high temperature syringes, this provides greater flexibility for your headspace analyses and a longer lasting syringe.

Save Time and Improve Headspace Analysis Workflow

- **Improved workflow:**

SGE's Diamond Headspace syringes maintain performance up to 150 °C enabling you to improve your workflow by avoiding the need for transfer lines or a dedicated headspace autosampler.

- **Save time:**

- Diamond Headspace syringes do not require extended equilibration time unlike other headspace syringes.
- Reduced carryover of Diamond Headspace syringes reduces the need for flushing and washing of syringes.

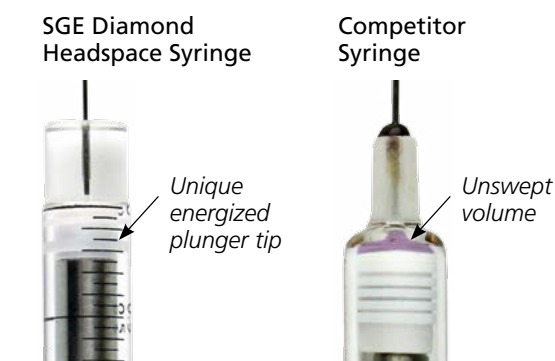


Figure 3. SGE Diamond Headspace and competitor's syringe shown with plungers at the zero position.

There is no dead space on the SGE Diamond Headspace syringe.

The sample is completely swept from the barrel.

Diamond Headspace Syringes

Higher Limits in Headspace Analysis



Look for the
diamond mark -
the mark of
syringe brilliance.

For more information visit www.sge.com or contact techsupport@sge.com.



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