

H6 Intelligent Headspace

Application

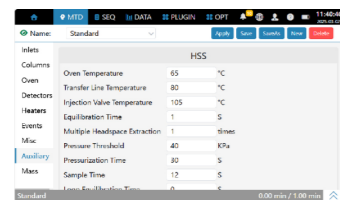
- Environmental monitoring
- Interior decoration
- Construction engineering testing
- Flavor analysis
- Occupational health
- Drug residue analysis
- Vehicle exhaust analysis
- Packaging materials testing

Headspace refers to the volume of gas above a liquid or solid sample in a sealed container. It is used to sample and analyze the volatile compounds present in the headspace gas. It takes advantage of the equilibrium that exists between the volatile components in the sample matrix (liquid or solid) and the gas phase above it.

In H6, a high-precision syringe pump is used for accurate sampling. Helium or nitrogen is employed as the purge gas, and the purge tube is inserted into the sample solution to create bubbles. Under continuous gas flow purging, the volatile components in the sample escape with the purge gas and are concentrated through a trapping device filled with an adsorbent.

After a certain purging time, the purge gas is turned off. The six-port valve is switched to connect the trapping tube to the carrier gas path of the GC. Simultaneously, the trapping tube is rapidly heated to desorb the trapped sample components, which then enter the GC with the carrier gas for analysis.

By coupling with GC or GC/MS, this technique can be widely applied in environmental analysis, such as the analysis of organic pollutants in drinking water or wastewater. It can also be used for the analysis of volatiles (e.g., odor components) in food.

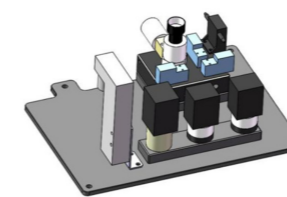


When work with the Mx series GC/GSMS, all parameters of the H6 can be directly edited through the method interface of the Mx. The operation sequence for sample pre-treatment can also be directly edited together with the GC method, eliminating the need for independent installation and operation of dedicated software.



Technical Features

- 54 sample positions, 10 heating positions
- Standard sample vibration function in the heating oven with stepless speed regulation of the vibration frequency
- Overlap injection method to ensure consistent equilibrium time for each sample, maximizing the sample analysis speed
- XYZ robotic arm and grips for stable and reliable sample handling
- Controlled via the chromatograph screen, and methods can be edited and stored through the chromatograph
- Capable of independently storing 20 headspace method sequence files, and the method files can be directly retrieved for use each time



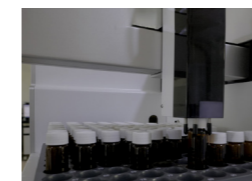
High-precision electronic flow gas path control module

This matured module offers high-precision control of gas flow in the headspace. It ensures stable performance, accurate flow regulation, and has a fast response, enhancing overall system reliability.



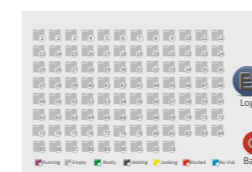
Automatic addition of internal standards and surrogates

It is standardly equipped with a 4-position, 40ml high-precision addition module for internal standards and surrogates. This feature allows for the automatic addition of internal standards and surrogates, which is convenient to operate with high accuracy.



Monitoring sample vial status

The sample vial status monitoring module monitors the in-place status of sample vials in real-time to ensure the reliability of vial gripping.



Reliable process monitoring is available for each position

Our software can conduct leak detection for each sample before testing and record the actual process parameters, effectively protecting the samples and enabling data traceability.



Bubble detector

It is standardly equipped with a bubbles sensor. It can monitor the purging process and automatically add defoaming agents.

