

# Eclipse 4760

Purge & Trap Sample Concentrator

## Features, Advantages, and Benefits

The Eclipse 4760 Purge and Trap Sample Concentrator sets a new standard for ease-of-use for volatile organic compound (VOC) analysis. The new 4th generation system includes the popular features from the Eclipse platform that chemists around the world rely on for accurate, dependable results along with technology enhancements, intuitive software, and a slim-line, open architecture design that saves bench space and allows easy access to components. Engineered to increase efficiency, and ease of operation, the Eclipse 4760 maximizes throughput, simplifies troubleshooting, and minimizes system downtime for fast accurate, dependable results.



## Proven Technology

### Patented Cyclone Water Management™ system

During the desorb state, removes and vents at least 96% of the water purged onto the Eclipse's trap.

- Minimizes water transfer to the GC column
- Improves data reproducibility
- Produces better chromatographic resolution
- Permits higher temperature sparging for challenging applications without concern of excess water transfer to the GC/GC-MS system

### Patented Infra-Sparge™ sample heater option

- Rapid, accurate, and consistent heating of all water samples provides reliable results, lower calibration %RSDs, improved recoveries, and lower MDLs
- Heats sparger in bake mode to reduce carryover

### Direct resistance trap heating

- Uniform heating rates of >1000 °C/min result in rapid analyte desorption from the trap and transfer of a narrow analyte band to the GC column improving peak shape
- Eliminates analyte diffusion and band broadening seen with sleeve or jacket heaters
- Shorter desorb time improves peak shape, shortens cycle time, and minimizes water transfer to the column
- Uniform trap heating reduces cold spots
- Faster trap cool down

TruColour™ LED indicator shows system's status instantly

Fast cycle times

Open architecture design simplifies maintenance & service

Fully complies with all USEPA CLP, State, EU, and ISO VOC methods, protocols, and audit requirements

Intuitive software

Run more samples in less time and maximize laboratory throughput and profitability

## Patented Foam Buster™ option

- Effectively breaks up foam and allows its components to return into the sparger
- Prevent contamination of the internal sample pathway upstream of the sparge vessel and avoid downtime caused by foaming samples

## Patented Foam Sensor™ option

- Detects the presence of foam inside the sparger and stops the purge gas before foam contaminates or damages the sample pathway
- Positioned outside the glassware, the sensor permits full view of the sparger
- Avoid costly downtime caused by foaming samples

## In-line foam filter

- Protects against foaming and prevents particulates from moving upstream into the sample pathway
- Prevents foam and particulates from reaching the 6-port valve
- Minimizes costly downtime for maintenance

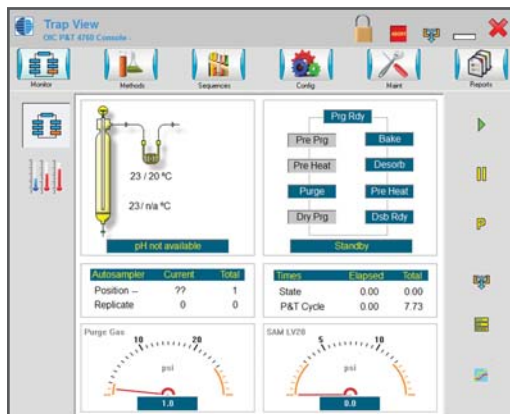
## Spurge Overfill Sensor (SOS™) option

- If the Spurge Overfill Sensor detects water in the sparger, the Eclipse automatically drains the sparger before receiving the next sample
- Eliminates accidental over-filling of the sparger, resulting instrument flooding, and the time and expense associated with repairs to the P&T and GC or GC/MS

## pHDetect™ option

- Fully automates the measuring, recording, and reporting of USEPA-required pH measurement in all water samples
- Saves time, labor, and materials associated with manually measuring the pH of hundreds of water samples
- Electronic confirmation and documentation of all measured pH levels for audit purposes

## Intuitive Software & Controls



Simplified user interface provides easier navigation while the TruColour LED indicates the system's status at a glance.

### Trap library with default temperature settings

- Built-in library of the most common trap types
- Automatically updates recommended trap temperatures for the Purge, Desorb Preheat, Desorb, and Bake steps for each trap type
- Guides the operator through the process of defining a method, minimizing the potential for using the wrong temperature settings

## Electronic logging

- Logs and stores all events, faults, and errors
- Documentation for accurate record keeping
- Aids in troubleshooting to find problems quickly and easily, minimizing system downtime
- Audible alarms for most error conditions
- Counters for all critical functions

## Electronic pressure monitoring

- Constant electronic read-out of system pressure on the instrument screen for easy access and monitoring
- Capable of performing automated leak check and alarming when pressure is low
- Simplifies maintenance and troubleshooting

## Rapid abort capability

- Accessible from all of the primary function screens and menus
- Quickly and easily interrupts operation of the instrument if an error occurs

## Multi-level system security and access

- Define different levels of access for different users
- Provides system security in large labs to prevent accidental changes to methods and configurations

## Multiple method capability in autosampler sequences

- Run multiple P&T methods within a single sequence with the 4551A/LV-20 or 4100 autosamplers
- Useful for method development and troubleshooting sequences
- Run different USEPA method requirements within the same sequence



Eclipse 4760 with the 4551A/  
LV-20 Autosampler for Water



Dual Eclipse 4760 with the  
4100 Soil/Water Autosampler

## Innovative Engineering

### Rapid trap cooling

- Trap does not require an insulating jacket or sleeve for heating, making the cool down after bake extremely rapid
- Faster cool down shortens instrument cycle time and maximizes laboratory productivity

### Short internal sample pathway

- Short sample pathway from sparger to trap is Hydroguard®-treated for inertness
- Prevents contamination, analyte loss, and active sites found with longer sample pathways
- Improves overall performance, chromatography, and recovery of internal standard

### Easy-to-install Air Tube option

- Can replace the sparger, allowing the use of standard ¼-inch (6-mm) O.D. glass or stainless steel air tubes and providing a versatile, economical way to diversify the laboratory into air toxics analysis

### One-button maintenance functions

- Perform all routine maintenance functions, such as leak test, trap conditioning, and bake-out, easily and automatically using single-button icons on the Maintenance screen
- Logs all maintenance functions and their results for future reference
- Simple to use
- Automatic routine maintenance functions save time
- Electronic logging provides a record of all maintenance functions performed for audits, troubleshooting, and reference

### Removable on-trap injection port option

- Allows for manual injection onto the trap
- Special design allows the injector to be removed during normal operation, eliminating potential contamination or leaks
- Eliminates leak points and sources of contamination (septum) found in other on-trap injection ports

### Automated leak test

- Automatically performs a full system leak test from an icon on the Maintenance screen, records the results in an electronic log file, and provides feedback on locating any leaks
- Automates a routine maintenance procedure and simplifies the process of troubleshooting



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