

# Eclipse 4760

Purge-and-Trap Sample Concentrator

## High-Performance Technology for Accurate, Reliable Volatiles Analysis

- Patented Cyclone Water Management™ system removes >96% of water during the thermal desorb step, allowing improved analysis of polar compounds & minimizing water transfer to the GC column
- Intuitive, simplified user-interface and Trap View™ software
- See the system's status instantly at a glance with TruColour™ LED indicator
- Heats sparger during bake to reduce carryover
- Patented technologies for foam sensing and purge abort to prevent system contamination
- Spurge Overfill Sensor (SOS™) prevents overfilling of the spurge vessel and system flooding
- Patented Infra-Sparge™ Sample Heater ensures consistent sample temperature conditions for consistent recoveries
- Direct resistance heating of the trap at >1,000 °C/min eliminates the need for a trap preheating step and decreases overall purge and trap cycle time

### Product Description

The Eclipse 4760 Purge-and-Trap Sample Concentrator processes samples for the analysis of volatile organic compounds (VOCs) by GC or GC/MS. Innovative, patented components within the Eclipse significantly improve purge-and-trap sample processing steps. A key technology is the Cyclone Water Management system that removes water during the thermal desorb step. The high efficiency of water removal allows for the more accurate analysis of polar compounds and the reduction of GC or GC/MS system maintenance.

### Operating Principle

The Eclipse purges VOCs from liquid, solid, or gaseous matrices using a regulated flow of inert gas for a fixed time period. Analytes stripped from the sample (or transferred from an autosampler) concentrate onto a sorbent trap specific for the application. The trap heats rapidly, desorbing the analytes as a "plug" onto the GC column using a reversed carrier gas flow. The water management fitting removes the trapped water, minimizing the chance of introducing excess moisture into the GC.



### Applications

Drinking water  
Wastewater  
Groundwater  
Soils  
Petrochemicals  
Storm water  
Geosmin and 2-MIB  
Oxygenates

### Methods

USEPA 502.1, 502.2, 503.1, 524, 601, 602, 603, 624, 8010, 8015, 8020, 8021, 8030, 8260

ISO 15680:2003

Massachusetts VPH & GRO methods

ASTM and Standard Methods

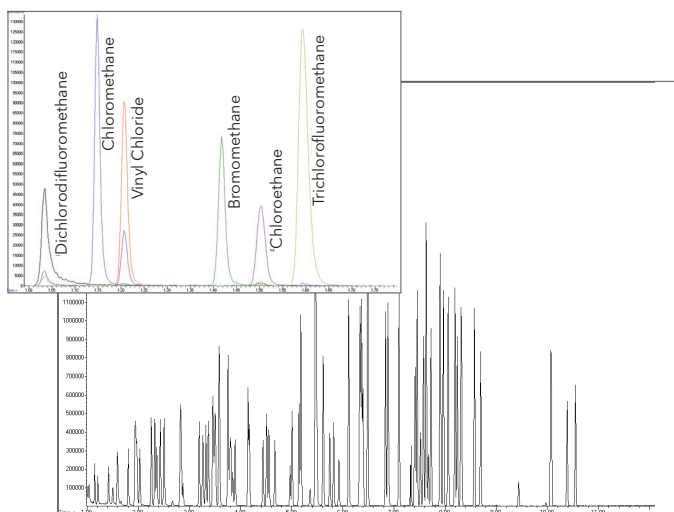
O·Analytical   
a xylem brand

# Eclipse 4760 Specifications

<b>Dimensions</b>	48.9 cm H x 18.4 cm W x 45.76 cm D (19.25" H x 7.25" W x 18" D)
<b>Weight</b>	16.3 kg (36 lbs)
<b>Power requirements</b>	115 VAC $\pm$ 10%; 50/60 Hz; 230 VAC $\pm$ 10%; 50/60 Hz; 750 VA maximum
<b>Gas requirements</b>	99.999% (UHP Grade) He or N <sub>2</sub> purge gas

## Safety/EMI Certifications

<b>Safety</b>	LVD 2006/95/EC EN61010-1:2010 3rd
<b>EMC</b>	Directive 2004/108/EC EN61326-1:2013 CISPR 11:2009 and A1:2010
<b>RoHS</b>	Directive 2011/65/EU



The Eclipse was used to prepare a chromatogram of an expanded list of USEPA Method 8260 standard. It illustrates superb chromatographic performance with baseline resolution for all light gases and polar compounds, even with high-speed columns.

## Options

pHDetect (automates sample pH measurement)  
Foam Buster  
Foam Sensor  
Sparge Overfill Sensing (SOS)  
Infra-Sparge Sample Heater  
Air-Tube Desorber Accessory  
On-Trap Injection Port  
Purge-and-Trap Low-Dead-Volume Injector (LDVI) for GC  
Autosamplers

**Sparge vessel** 5-mL standard, 10-mL and 25-mL optional

**Autosampler (options)** 4551A (water samples)  
4100 (water/soil samples)

**Standard injection (options)** SAM and LV-20

**Trap** 3.175 mm O.D. x 2.227 mm I.D.  
(0.125" O.D. x 0.105" I.D.)

**Trap heating** Direct resistance heating

**Trap temperature** Programmable ambient to 450 °C  
in Purge, Desorb, and Bake steps

**Trap cooling** >240 °C/minute (200 °C to 30 °C  
in <50 sec)  
Cool down to ambient temperature +1 °C

**Water management** Eliminates >96% of trapped water,  
Maximum temperature: 240 °C  
Cool down temperature: ambient +1 °C

**Sample transfer line** 1/16" x 48" standard (60" optional)

**Sample transfer line temperature** Programmable ambient to 295 °C

**Communications** USB to RS-485 adapter cable

## Software

**Operating system** Windows® 7, 8, and 10

**Operator interface** Windows-based graphical user interface

**Available languages** English

**Patents** US 5,250,093 5,261,937 5,337,619  
6,894,784B2



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Cyclone Water Management™, Foam Buster™, Foam Sensor™, Infra-Sparge, Low-Dead-Volume Injector™, pHDetect™, SOS™, Trap View™, and TruColour™ are trademarks of OI Analytical. Hydroguard® is a registered trademark of Restek Corporation. Windows® is a registered trademark of Microsoft Corporation.



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