

4551A Water Autosampler

for the Eclipse Series of Purge and Trap Sample Concentrators

- Automated VOC analysis of up to 51 water samples
- Compact! Fits directly under the Eclipse 4760 Sample Concentrator
- Transfers water samples with light particulates (<100 µm) without clogging the system
- LV-20 Standards Addition Module (optional) automates addition of internal or surrogate standards
- Program multiple rinses and blanks for maximum sequence flexibility
- Decrease maintenance downtime and costs - no XYZ arm
- Peristaltic pump and sample loop eliminate slow syringe drives
- Fastest VOC autosampler available



Product Description

The 4551A Autosampler is designed to be used with an Eclipse 4760 Purge and Trap Sample Concentrator for analysis of VOCs in clean or lightly particulated water samples. The 4551A transfers water samples from standard 40-mL volatile organic analysis (VOA) vials to the sparge vessel of the Eclipse for purging. A removable spiral autosampler tray holds 51 sample vials for fully-automated operation. Improve the accuracy and precision of your GC or GC-MS analysis by using an optional LV-20 Standards Addition Module to add internal standards, surrogate or matrix spike standards. The LV-20 significantly reduces the volume of standards used.

Operating Principle

The sampling sequence of the 4551A autosampler is programmed using the Eclipse 4760 software. Samples are sequentially moved into position below a sleeved sampling needle, which is then lowered to pierce the septum of the sample vial. The vial is then pressurized with an inert gas and sample is transferred to a calibrated sample loop (5-mL standard volume or optional 10- or 25-mL volumes). The inert gas then transfers the sample aliquot to the sparge vessel of the Eclipse 4760 for analysis. When the sample desorption step is complete, the sample automatically drains, and the 4551A performs a user-programmed number of rinses of the sample pathway and sparge vessel. A clean water source provides water to rinse the sample pathway and to run as blanks at programmed intervals in a sample sequence.

Principal Applications

Drinking water
Wastewater
Pharmaceutical
USEPA 5030, 502.1, 502.2, 503.1
USEPA 524.2, 524.3, 524.4, 601, 602, 603, 624
USEPA 8010, 8015, 8020, 8021, 8030
USEPA 8260
VPH and GRO
THMs
BTEX
Geosmin and 2-MIB

4551A Water Autosampler Specifications

Dimensions

4551A	46 cm H x 40 cm W x 42.6 cm D (18.11 in H x 15.75 in W x 16.77 in D)
4551A and Eclipse	94.9 cm H x 40 cm W x 42.6 cm D (37.36 in H x 15.75 in W x 16.77 in D)
Depth with Cover	53 cm (20.86 in)

Weight

4551A	16.3 kg (36 lb)
4551A and Eclipse	32.6 kg (72 lb)

Sample Loop

5 mL	Glass loop (standard)
Valve	Six-port electrically actuated, 12 V _{DC} , Valco® Cheminert®

Sample Transfer Pathway

Sampling Needle	7", two-hole, stainless steel
PEEK® Tubing	1/16" O.D. x 0.040" I.D. x 17"
Nickel Tubing	1/16" O.D. x 0.040" I.D. x 26"

Certifications

CE

EMC: Directive 89/336/EEC:1989
EN50082-1:1992
CISPR 11:1990/EN55011 (1991) Group 1 Class A
IEC 801-2/EN61000-4-2
IEC 801-3/EN61000-4-3
IEC 801-4/EN61000-4-4

Warranty

12 months parts and labor

Sample Transfer

Accuracy Better than $\pm 0.3\%$

Power Requirements

Voltage	100-230 V _{AC} $\pm 10\%$ (autoselecting)
Frequency	50/60 Hz

Gas Requirements

Purity	99.999% (UHP) He or N ₂
Pressure	50-125 psi

Water Supply

Clean water free of VOCs for rinsing the sample pathway and running blanks

Sample Loop (optional)

10 mL	Glass loop
25 mL	Glass loop

LV-20 Standard Additions Module (optional)

Mounting Mounts on 4551A Autosampler and communicates with OI Analytical 4760 Purge and Trap Sample Concentrator.

Injections Standard Injection - Programmable from PC interface

Injection Volume - 0, 1, 2, 5, 10, or 20 μL from either reservoir or both with no excess or waste

Vial Cooling (optional)

Maintains sample tray at 4 °C as mandated in most USEPA VOC methods

pHDetect™ (optional)

Automatically measures and electronically logs a pH measurement for every water sample immediately after the purge step.



LV-20 Standard Additions Module



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