

# 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

<b>4551A</b>	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)
<b>4551A and Eclipse</b>	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)
<b>Depth with Cover</b>	53 cm (20.86 in)

## Weight

<b>4551A</b>	16.3 kg (36 lb)
<b>4551A and Eclipse</b>	32.6 kg (72 lb)

## Sample Loop

<b>5 mL</b>	Glass loop (standard)
<b>Valve</b>	Six-port electrically actuated, 12 V <sub>DC</sub> , Valco® Cheminert®

## Sample Transfer Pathway

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

<b>Voltage</b>	100-230 V <sub>AC</sub> $\pm 10\%$ (autoselecting)
<b>Frequency</b>	50/60 Hz

## Gas Requirements

<b>Purity</b>	99.999% (UHP) He or N <sub>2</sub>
<b>Pressure</b>	50-125 psi

## Water Supply

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

## Sample Loop (optional)

<b>10 mL</b>	Glass loop
<b>25 mL</b>	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  $\mu$ L 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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