

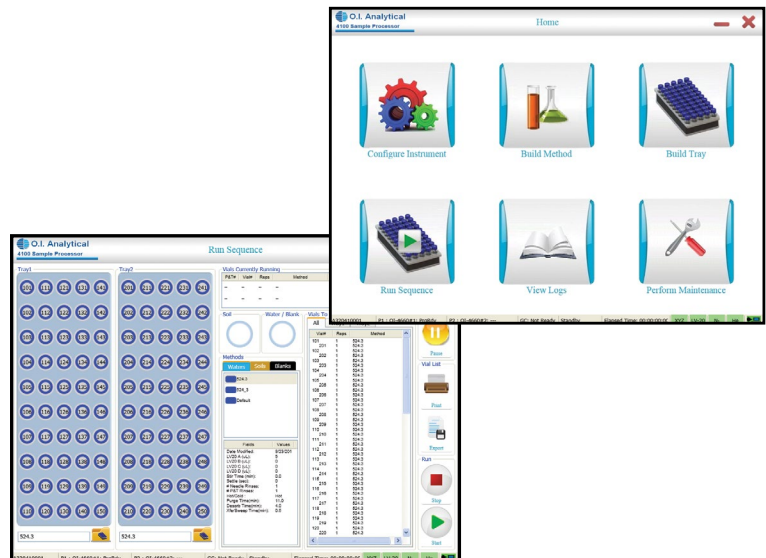
# 4100 Water/Soil Autosampler

# Advanced Sample Processing for VOC Analysis

The 4100 Water / Soil Sample Processor automates the handling and processing of samples for purge & trap analysis of volatile organic compounds (VOCs) in accordance with U.S. EPA methods and International standards.

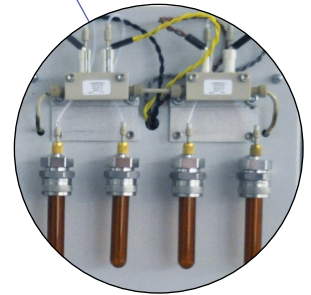
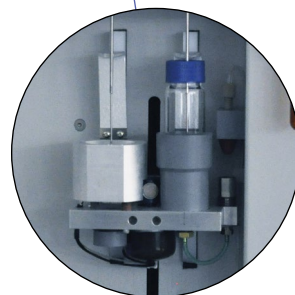
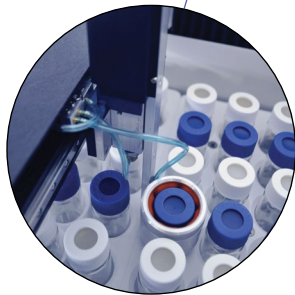
The 4100 is designed to efficiently process up to 100 water, wastewater, or soil samples and operate with a single or dual Eclipse 4760 purge & trap sample concentrators.

Innovative technologies built into the 4100 improve sample processing reliability and analytical performance. A pneumatically-actuated vial gripper effectively handles vials with labels and eliminates dropped vials. High-speed injection valves improve the precision of standard addition, significantly reduce the volume of standards used, and decrease laboratory operating costs for expensive standards.



## VOA View Software

VOA View software is a Windows®-based GUI that enables users to program methods, sequences, and internal standard addition. The VOA View run screen visually depicts water and soil samples, the progress of vials that have been processed, and provides details of the method being run.



### VOA Constrictor Vial Gripper

The 4100 is equipped with an innovative pneumatically-actuated cylindrical vial gripper. The VOA Constrictor mechanism grips, lifts and transports 40 mL VOA vials to and from the sampling station with exceptional reliability. A built-in sensor enables the gripper to detect and confirm the presence of a vial or signal if a vial is missing.

### Vial Cooling Option

A vial cooling option is available to maintain sample vials at 10 °C or less prior to analysis for compliance with USEPA Method 524.3. Two 50-position insulated vial racks fit into a cooling base fitted with quick-disconnects for easy connection of tubing to a recirculating chiller.

### Water / Soil Sampling Station

Vials containing water are lifted up to engage a sample probe, aspirate and fill a loop with sample for transfer to the P&T instrument. Vials containing soil samples are lifted to engage a probe that injects a programmed volume of clean or spiked water, heats and stirs the sample to purge VOCs from the matrix and deliver them to the trap in the P&T instrument.

### Automated Standard Addition

Integrated into the tower of the 4100 are two 3-mL reservoirs and electronically controlled high-speed injection valves that automate addition of internal standards, surrogate or matrix spike standards. An option allows expansion of standard reservoirs and injection valves from 2 to 4 separate channels.

# 4100 AUTOSAMPLER SPECIFICATIONS

BROCHURE 3977-01

<b>Purge &amp; Trap Compatibility</b>	Operates with one or two Eclipse 4760 instruments
<b>Sample Capacity</b>	100 standard USEPA 40-mL VOA Vials
<b>Sample Loop</b>	5-mL standard loop, 10 or 25-mL loops optional
<b>Automated Standard Addition</b>	(2) 3-mL reservoirs standard, expansion to (4) optional
<b>Sampling Mode - Water</b>	Aspiration and transfer to purge-and-trap instrument sparge vessel
<b>Sampling Mode - Soil</b>	In-vial needle sparging and transfer to trap of purge-and-trap instrument
<b>Sample Transfer Pathway - Water Samples</b>	Silcosteel® 316L stainless steel and PEEK®
<b>Sample Transfer Pathway - Soil Samples</b>	Silcosteel® 316L stainless steel and PEEK®
<b>Sample Pathway Rinse/Flush</b>	Water blanks / rinse: user-programmable unheated or heated (up to 95 °C) with N <sub>2</sub> gas flush. Soils: sample pathway flushed with heated purge gas.
<b>Blank Water Transfer Line</b>	PFA-Teflon®
<b>Vial Trays</b>	(2) 50-position VOA vial trays
<b>Vial Gripper Mechanism</b>	Pneumatically actuated cylindrical gripper with vial sensing
<b>Vial Cooling Option</b>	Cooling base for two 50-position vial trays with quick-disconnect fittings for recirculating chiller
<b>X/Y-Axis Mechanism</b>	Digitally controlled linear drive rails
<b>Z-Axis Mechanism</b>	Pneumatically actuated
<b>Operating Software</b>	VOA View Windows®-based GUI
<b>Operating System Requirements</b>	Windows® 10,11
<b>PC to 4100 Communications</b>	USB port for each 4100 instrument connected to PC
<b>Water Supply</b>	Clean, VOC-free water for rinsing sample pathway
<b>Gas Requirements - Sample Transfer</b>	UHP He or N <sub>2</sub>
<b>Gas Requirements - Gripper / Z-axis Actuator</b>	Nitrogen
<b>Power Requirements</b>	110VAC / 60HZ or 230VAC / 50Hz
<b>Dimensions</b>	27 in. W x 24 in. D x 21.5 in. H 68.6 cm W x 61 cm D x 54.6 cm H
<b>Weight</b>	36 kg (80 lbs), typical depending on options
<b>Certifications</b>	CE Safety and EMC EN50082-1/EN55011 Group 1 Class A



OI Analytical, a Xylem brand  
1725 Brannum Lane  
Yellow Springs, OH 45387

+1.979.690.1711

info@ysi.com

ysi.com

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