

Multifunctional Autosampler

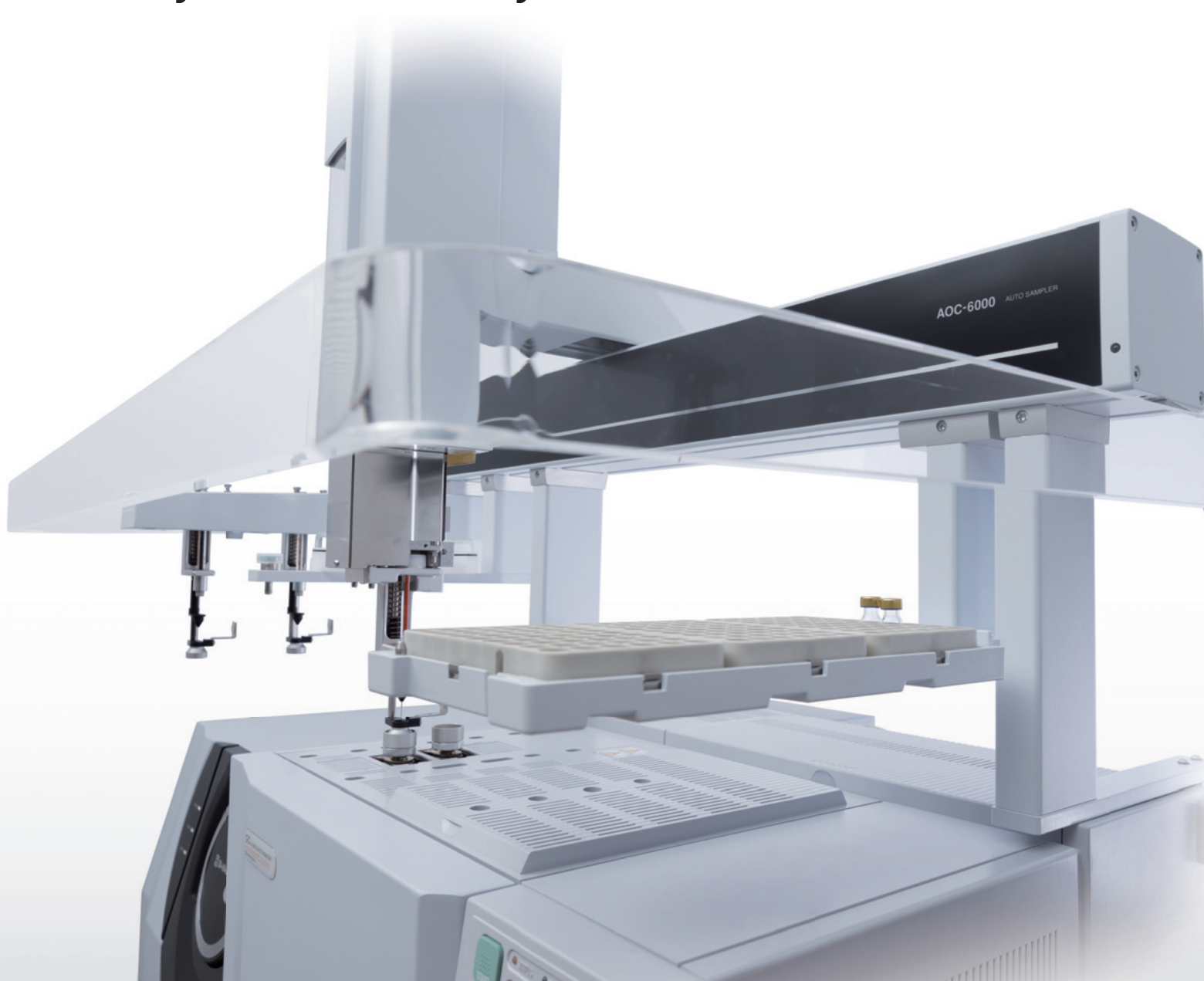
AOC-6000



Multifunctional Autosampler

AOC-6000

Multifunctional Autosampler
Dramatically Improves GC/MS
Analysis Productivity



Automatic Switching Between Three GC/MS Sample Injection Modes

The AOC-6000 is capable of exchanging syringe modules automatically. Simply choose between liquid injection, headspace (HS) injection, or solid-phase microextraction (SPME) injection. The AOC will pick the appropriate syringe module and perform the sample introduction.

Simple to Operate from GCMSsolution

The AOC-6000 is controlled by GCMSsolution software.

All parameters related to sample introduction are clearly displayed, easy to set and stored within the GCMS method.

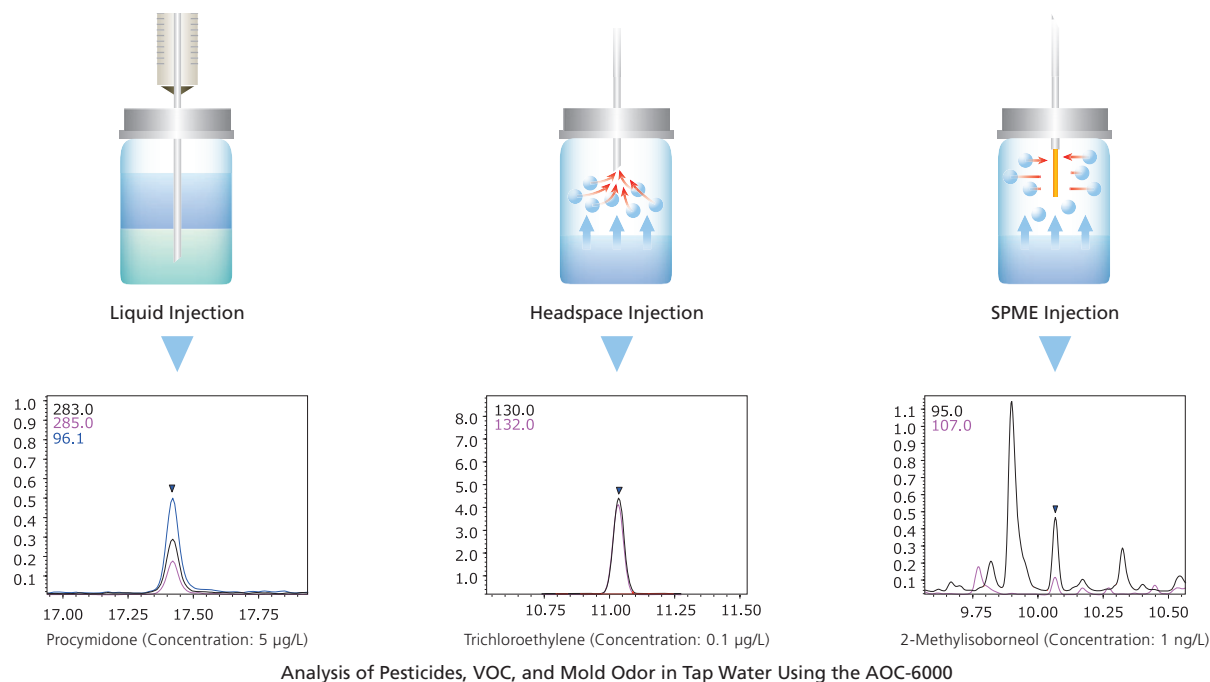
Specific programming functions, such as “heat ahead”, can be implemented easily within the method set-up windows of GCMSsolution software.

Automated Pretreatment Maximizes Analysis Efficiency

The automatic syringe exchange (10 μ L to 1000 μ L) feature enables the autosampler to dilute and mix prior to injection. It's now possible to use the autosampler to prepare multi-point calibration standards from a stock solution and spike each with internal standards.

Automatic Switching Between Three GC/MS Sample Injection Modes

Choose between liquid injection, headspace (HS) injection, and solid-phase microextraction (SPME) injection. The sample injection method can be selected to suit the sample form and the components targeted for analysis.



Analysis of Pesticides, VOC, and Mold Odor in Tap Water Using the AOC-6000

Automatic Switching of Sample Injection Methods

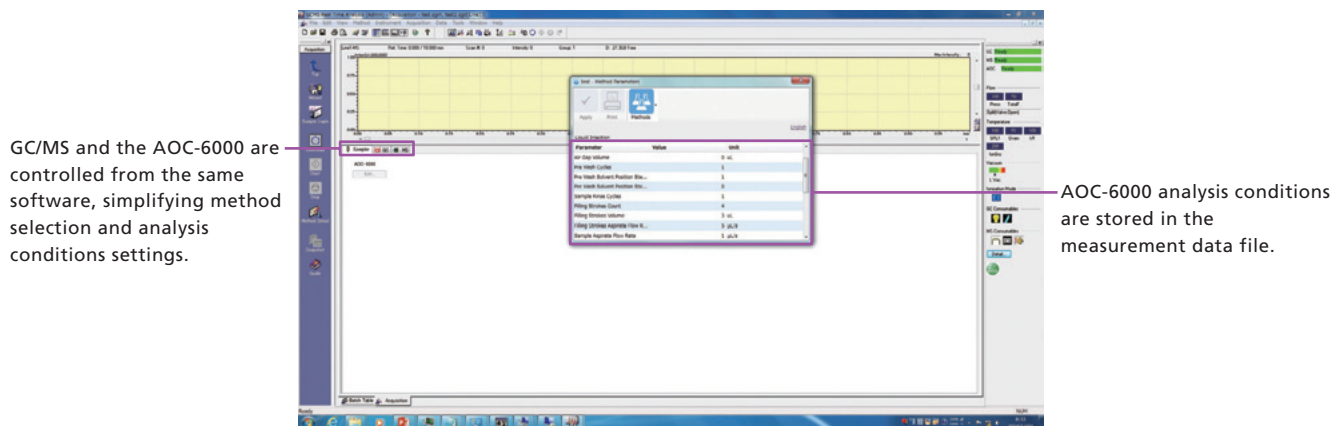
The AOC-6000 automatically exchanges the syringe tools installed in the park station for each sample injection method (automatic tool exchange function). Also, if the AOC-6000 is used in conjunction with the Twin Line MS System*1, samples with different injection methods and column conditions can be continuously analyzed.



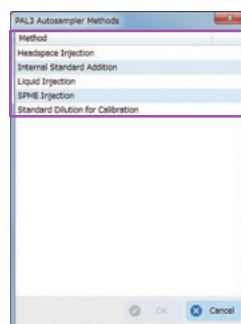
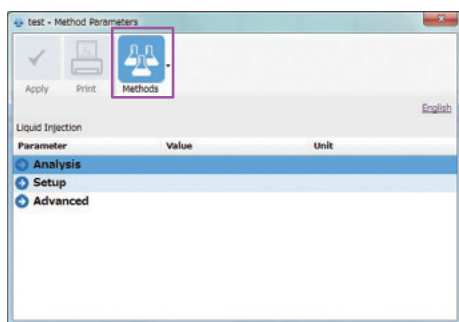
*1 Twin Line MS System: Outlets of two different columns are attached to the MS at the same time to obtain application data from different columns without releasing the MS vacuum.

Simple to Operate from GCMsolution

AOC-6000 parameter settings and control are managed in GCMsSolution*² software. Analysis accuracy control is easy since the AOC-6000 and GC/MS analysis conditions are stored with the measured data.



AOC-6000 method files (for liquid, HS, and SPME injections) are preconfigured with typical analysis conditions. Injection volume and other parameters that need to be changed for each analysis can be easily edited.



Typical analysis conditions are preconfigured, so analysis can start immediately just by changing some parameters, or using the preconfigured conditions as they are.

Overlap Function Heightens the Analysis Efficiency

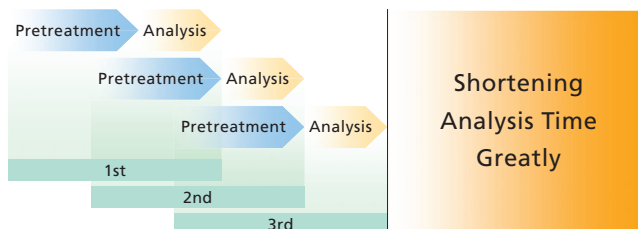
The AOC-6000 performs sample pretreatment and analysis in parallel. As a result, no time is lost in the continuous analysis of samples requiring HS sampling or other time-consuming pretreatments.

Continuous Analysis with HS Injections Using the Overlap Function

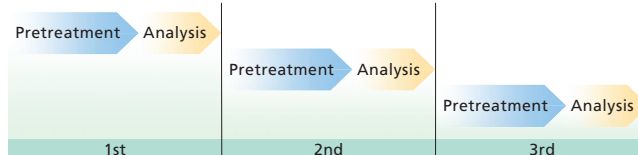
Conditions to perform pretreatment and analysis in parallel are preconfigured in AOC-6000 method files.

■ Continuous Analysis Flow

With overlap function



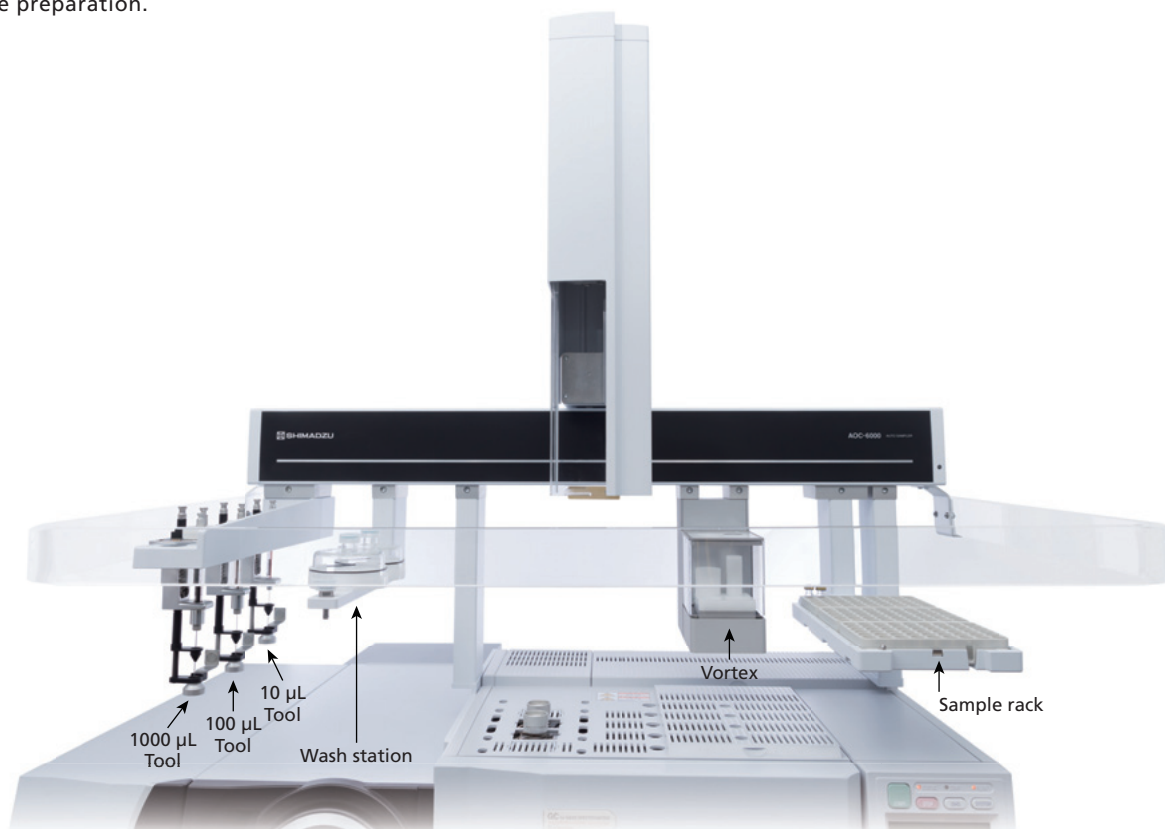
Without overlap function



*2 The AOC-6000 is supported by GCMSsolution Ver. 4.30 or later.

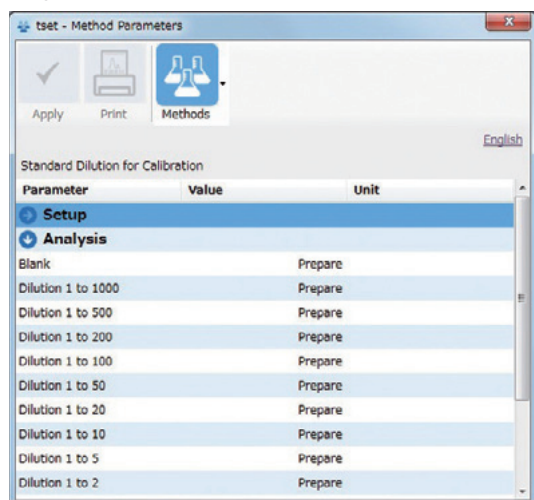
Automated Pretreatment Maximizes Analysis Efficiency

The AOC-6000 automatic syringe exchange (10 μL to 1000 μL) and mixing functions automate the preparation of calibration curve samples, addition of internal standard substances, and sample dilution. This heightens the efficiency of complicated sample preparation.



Two method files are provided to facilitate sample preparation: one for automatic addition of internal standard, and the other for automatic creation of calibration curve samples. These method files can be used immediately just by changing some parameters.

Reagent Preparation Method File (Automatic Creation of Calibration Curve Samples)



Sequence of Reagent Preparation

Dilution of Standard Sample

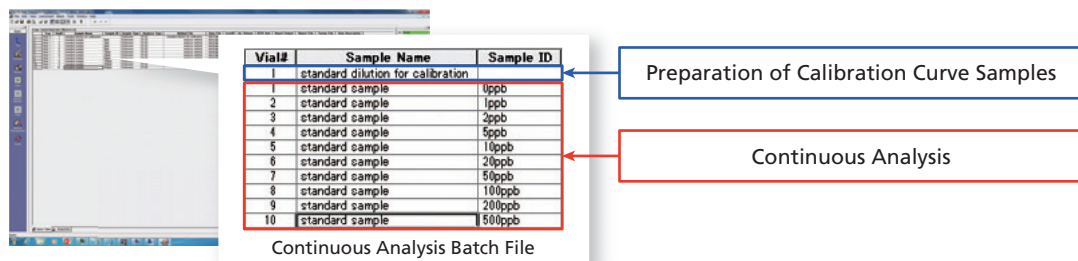
Select from multiple dilution rates.

Addition of Internal Standard

Mixing

Continuous Analysis Using the Reagent Preparation Function

Reagent preparation and sample analysis can be performed continuously using the reagent preparation method file.

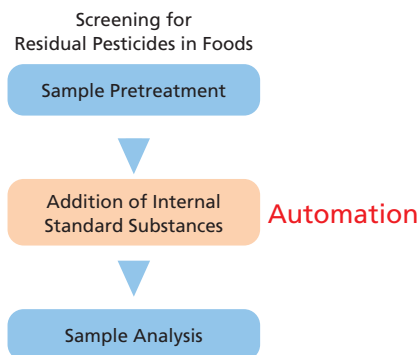
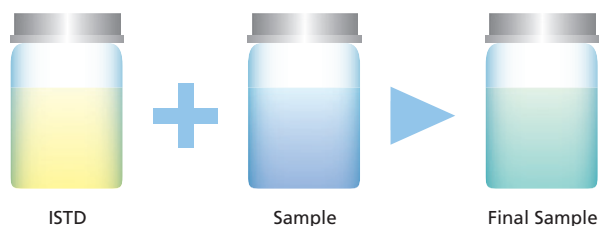


Method Files Are Provided to Accommodate Different Reagent Preparation Procedures

Automatic Addition of Internal Standard Substances

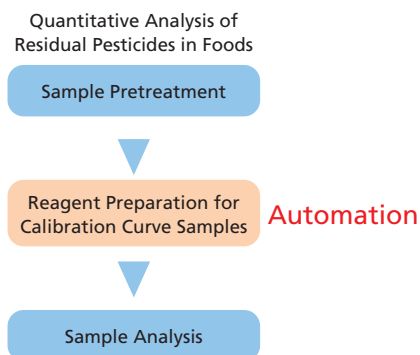
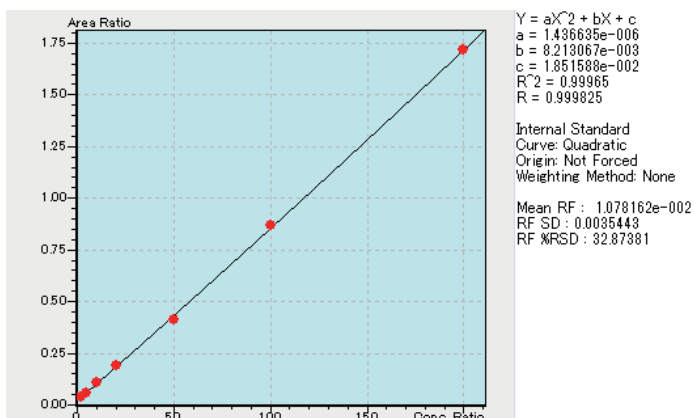
This method file automatically adds internal standard substances to samples.

For example, it is optimal for adding internal standard substances to samples when screening for residual pesticides in foods.



Automatic Creation of Calibration Curve Samples

This method file creates calibration curve samples automatically. Considering matrix effects, polyethylene glycol or other solutions can be added automatically. This is effective for the quantitative analysis of high matrix samples, such as residual pesticides in foods.



Lineup

Three AOC-6000 models are available. Select the model to suit your type of analysis.

Model	Liquid Injection	HS Injection	SPME Injection	Automatic Tool Exchange	Reagent Mixing
Entry model	✓	✓	✓		
Standard model	✓	✓	✓	✓	
High-end model	✓	✓	✓	✓	✓

Specifications

Size of the main unit	Entry model	850 (L) × 503 (D) × 547 (H) mm
	Standard model	
	High end model	1,206 (L) × 503 (D) × 547 (H) mm
Liquid injection	Number of vials	162 2 mL vials (54 × 3) per tray 60 10 mL / 20 mL vials per tray (Up to two trays can be mounted)
	Liquid injection volume	1 µL to 10 µL (using a standard 10 µL syringe)
	Type of syringe	1, 5, 10, 25, 50, 100, 250, 500, or 1000 µL
	Repeated injection	1 cycle to 99 cycles / vial
HS injection	Number of samples	60 10 mL / 20 mL vials per tray
	Headspace injection volume	250 µL to 2500 µL (using a standard 2.5 mL syringe)
	Syringe heating	~150 °C (set in 1 °C increments)
	Agitator	Six heated vials (2 mL/10 mL/20 mL vials used) Heating range ~200 °C, varied in 1 °C increments
SPME injection	Number of samples	60 10 mL / 20 mL vials per tray
	Fiber Conditioning Temperature	~350 °C (set in 1 °C increments)
	Agitator	Six heated vials (2 mL/10 mL/20 mL vials used) Heating range ~200 °C, varied in 1 °C increments
Automatic tool exchange	Number of tools mounted	Default: 3 Maximum: 6
Reagent mixing	Maximum speed	2000 rotations/minute
	Compatible vials	2 mL / 10 mL / 20 mL

