

# AutoTrace® SPE Workstation

## *SPE Just Got Easier with AutoTrace . . .*

*Looking for a faster and more economical way of extracting samples for environmental water analysis, wastewater, pesticides or other effluents with Solid Phase Extraction? Zymark has the answer with the AutoTrace SPE Workstation; a powerful workstation dedicated specifically to improving SPE!*

**T**he first step of a SPE procedure is conditioning the SPE cartridge. This is accomplished with a 10mL syringe to withdraw the solvent from the reservoir and transfer it to the SPE cartridge for conditioning.

The AutoTrace then uses six positive displacement pumps to transfer the sample from the sample bottles to the SPE cartridges. These pumps are unique in that they are valveless pumps; this allows the AutoTrace to handle samples containing suspended solids.

After the samples have been loaded onto the SPE cartridges, the reagent handling syringe withdraws the elution solvent from the reservoir and transfers it to the SPE cartridge for elution.

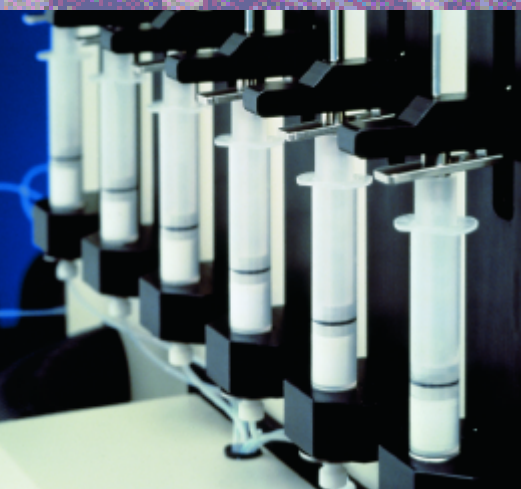
Once all the SPE cartridges are eluted, the extracts can either be concentrated on-line or taken to a TurboVap® Concentration Workstation for off-line concentration.



### **The AutoTrace SPE Workstation provides these key capabilities:**

- ▶ Automatically conditions, rinses and elutes SPE cartridges with a choice of five reagents.
- ▶ Simultaneously loads six samples for single or batch processing.
- ▶ Loads sample volumes from 10mL to 2000mL.
- ▶ Offers choice of four different elution containers: 16mm x 100mm test tube, 17mm x 60mm vial, 11mm GC vial or 4mL WISP vial, and Conical Bottom, 15mL centrifuge tube racks.
- ▶ Segregates aqueous and solvent waste using separate waste lines.
- ▶ Operates on the lab-bench with solvent vapor venting to hood.

# AutoTrace<sup>®</sup> SPE Workstation



## Proven Performance Pesticide Recovery Study

Table 1 shows a pesticide recovery study comparing the AutoTrace SPE and a vacuum manifold technique. The improvements in recovery and reproducibility are attributed to the microprocessor control of all the liquid flow rates – both sample and SPE reagents.

## Lower Cost of Analysis

As with any extraction procedure performed in the lab, labor is the most significant contributor to the cost of sample preparation. As illustrated in Table 2, automation provides lower cost of analysis by reducing the amount of time an analyst has to spend doing the extraction. More than half of the sample preparation cost for a typical vacuum manifold extraction is labor. The AutoTrace provides unattended operation, thereby reducing the cost of analysis significantly.

*For further information on how the AutoTrace can help you reduce your laboratory sample preparation costs, contact your local Zymark representative.*



Table 1

### Pesticide Recovery Study AutoTrace SPE Workstation vs. Vacuum Manifold SPE

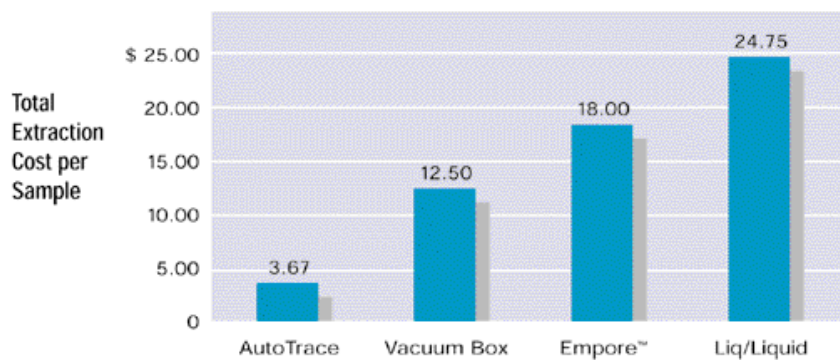
Compound	AutoTrace SPE Recovery%	RSD%	Vacuum Manifold SPE Recovery%	RSD%
Atrazine	88	1.8	54	12.2
Propazine	91	1.5	80	7.3
Alachlor	99	3.4	96	4.1
Metalachlor	99	4.3	96	2.9
N=6				

#### Conditions

Cartridge:	6mL SPE-500 (J.T. Baker)
Conditioning Solvent:	2x5mL Methanol followed by 2x5mL Water
Sample Volume:	800mL
Rinse:	10mL Water followed by drying for 10 minutes
Elution:	2x3mL Hexane

Table 2

### Comparative Cost Analysis Sample Cost per Batch of 12



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