Reeko Overview

Reeko Instrument focuses on the automatic sampler preparation instruments, R&D and manufacture. The company design and manufacture the lab equipment for Automatic Solid Phase Extraction (SPE) and Automatic Homogenizer (AH-20) which focus in food safety and environmental application, as well as capillary electrophoresis (CE) & integrated ICP-MS interface for the special analysis.

Product Summary

Auto SPE Series workstation is an automated solid-phase extraction system that is designed for the extraction and concentration of trace organic compounds in aqueous samples, e.g. drinking water, tap water and source water etc. The system can automatically complete the whole process of solid phase extraction (conditioning cartridges, sample loading, washing, drying, elution), concentration and automatic sensor endpoint. Compare with vacuum manifold SPE, Auto SPE Series saves time, solvent, labor ensuring high reproducibility and productivity for analytical laboratories and improves lab safety by minimizing the chance of hazardous samples and chemicals contact to the operator.
Main Features

- **Fully automatic**
  When the eluted solution is concentrated, the system can process the next batch of samples, which significantly reduce the cycle time and improve the productivity.

- **Overlap operation mode**

- **Intuitive and easy of use operation software**
  User-friendly graphical interface minimizes the learning time while maximizing efficiency. The operator can preview methods and apparatus of operating conditions in advance.
Both disk and cartridge configurations
Auto SPE instrument is available in both disk and cartridge configurations to suit the needs of different applications.

Option for serial columns operation

With visual window
Can timely monitor the status on collection or condensation.

Built-in concentration module
Independent nitrogen blow concentration and heat module.

Conical bottom collection tube

Round bottom collection tube

Graduated collection tube
Infrared sensor endpoint.
Automatically load the samples into SPE cartridges at the positive pressure
Auto SPE Series uses ceramic valveless pumps and constant flow technology to continuously load sample at the positive pressure, which save time and allows unattended operation.

Compact design
Small footprint (500mm x 405mm x 605mm) and can be easily put into fume hood.

Method transfer
All methods are stored in USB disk and directly transferred into the SPE system, so avoid computer to be placed next to the machine, saving laboratory space at the same time, avoiding the acid corrosion on the computer.

Environmentally-friendly operation
Segregate aqueous and solvent waste using separate waste lines. Closed systems with fan to vent solvent vapors and improves lab safety by minimizing operator contact with hazardous samples and chemicals.
Auto SPE Series is the ideal solutions for the extraction of pesticides, antibiotics, PAHs, PCBs, semi-volatile organic compounds, microcrystal in aqueous samples. The system uses valveless pump to quantitatively take the samples, and syringe pump to condition and elute. In the case of unattended, Auto SPE Series can automate the whole SPE process for improved analytical precision and productivity.

The typical applications: Pesticides, PAHs, veterinary drugs, SVOCs, PCBs, herbicides, dioxins, furans, and explosives reside, and flame retardants.

The recovery study. The spiked PAHs in drinking water

<table>
<thead>
<tr>
<th>No.</th>
<th>name</th>
<th>Abbreviated</th>
<th>Recovery(%)</th>
<th>RSD(%,n=3)</th>
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<tbody>
<tr>
<td>1</td>
<td>Naphthalene</td>
<td>Nap</td>
<td>98.7</td>
<td>4.5</td>
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<td>2</td>
<td>Acenaphthylene</td>
<td>Acpy</td>
<td>78.9</td>
<td>3.0</td>
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<tr>
<td>3</td>
<td>Acenaphthene</td>
<td>Acp</td>
<td>94.8</td>
<td>4.1</td>
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<tr>
<td>4</td>
<td>Fluorene</td>
<td>Flu</td>
<td>90.8</td>
<td>3.5</td>
</tr>
<tr>
<td>5</td>
<td>Phenanthrene</td>
<td>PhA</td>
<td>116.8</td>
<td>5.0</td>
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<tr>
<td>6</td>
<td>Anthracene</td>
<td>AnT</td>
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<td>7.9</td>
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<tr>
<td>7</td>
<td>Fluoranthene</td>
<td>FluA</td>
<td>101.9</td>
<td>6.9</td>
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<tr>
<td>8</td>
<td>Pyrene -d10</td>
<td>d10-Pyr</td>
<td>97.8</td>
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<tr>
<td>10</td>
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<td>B(a)A</td>
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<td>4.1</td>
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<tr>
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<td>Benzo(b)fluoranthene</td>
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<td>B(k)F</td>
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<td>B(a)P</td>
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<td>Benzo(g,h,i)perylene</td>
<td>B(ghi)P</td>
<td>72.0</td>
<td>4.5</td>
</tr>
</tbody>
</table>

The typical applications

US EPA525.2 Determination of Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary Column GC/Mass Spectrometry

US EPA8270 Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

US EPA8141B Organophosphorus compounds by Gas Chromatography

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Specifications of Reeko Auto SPE System

- Simultaneously process 3 or 6 samples.
- Automatically complete the whole process of solid phase extraction (conditioning, sample loading, Rinsing, drying, elution, concentration and volumetric).
- Valveless pump for the continuously loading the sample and tolerate a certain particle size.
- Sample volume: 10mL - 20 liter.
- Ability to support up to five reagents.
- Utilizes industry standard 1mL, 3 mL, 6mL, 12mL cartridge and 47mm, 50mm disk.
- Segregates aqueous and solvent waste using separate waste lines.
- Operation system software:
  Graphical interface: Preview methods and apparatus of operating conditions in advance.

Options

- **Concentrating function**
  Nitrogen blow: independent nitrogen blowing gas is introduced to concentrate eluent.
  Heating: the metal electric heating module
  Exhaust: independent forced exhaust function, to speed up the concentration.
  Closed concentration chamber: prevent pollution caused by solvent evaporation.

- **Overlapping machine function**
  Due to the independent nitrogen blowing gas path, another batch of samples can be carried out at the same time of eluent concentration, which saves the pretreatment time.

- **Constant volume function**
  Online constant volume through the infrared.

Auto SPE Series

<table>
<thead>
<tr>
<th>Auto SPE-03D</th>
<th>3 channels Automated Solid Phase Extraction System with integrated cartridge and disk</th>
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</thead>
<tbody>
<tr>
<td>Auto SPE-06D</td>
<td>6 channels Automated Solid Phase Extraction System with integrated cartridge and disk</td>
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