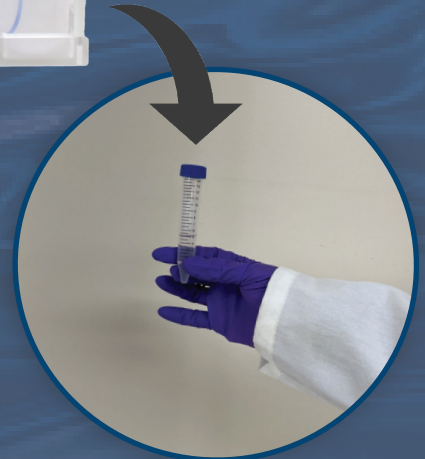
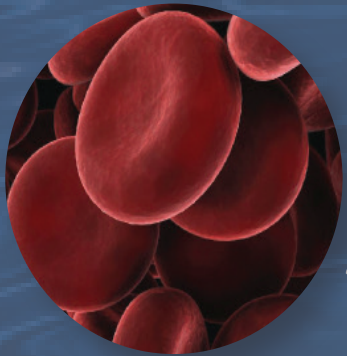


# TurboTrace® PFC SPE System

Automated SPE System for EPA 533, 537.1, 1633  
Drinking Water & WasteWater



From Sample to Final Extract

- Modular and Expandable from 2 to 8 Samples
- Configurable for Every Budget
- Reduce Costs, Human Error and Labor
- High Throughput Extraction and Concentration

**FMS**  
Fluid Management Systems

# TurboTrace<sup>®</sup> PFC System

Positive Pressure and Vacuum Based Automated SPE for the  
Analysis of PFAS/PFOS in Waste Water

The TurboTrace PFC, Parallel SPE system, is a versatile powerhouse incorporating a vacuum or positive pressure pump to load samples for compliance with all PFAS Solid Phase Extraction methods. It uses positive pressure pumping to precisely and accurately deliver conditioning, washing, and elution solvents. Specifically designed to isolate analytes of interest from a wide variety of liquid matrices such as drinking water, groundwater, wastewater, milk, and beverages, this system can handle sample sizes ranging from 2 mL to 8L using the original sample bottle used in the field. Sample loading rates are programmable, and a liquid sensor detects when the sample has been fully loaded from the sample bottle, triggering the system to initiate the next steps. The TurboEcono PFC, Parallel SPE system, concentrates samples, delivering them directly to the Super-Vap PFC Concentration system for the final volume. The TurboTrace PFC uses all standard formats of SPE cartridges on the market today. We recommend FMS-prepacked cartridges for guaranteed results, especially when dealing with low detection limits.



## TurboTrace PFC SPE Extraction Features:

### Reduces Errors

- One-step automated SPE and concentration eliminates human error, saves labor costs, and reduces solvent usage while increasing sample throughput.

### Fully Automated

- Hyphenates the entire sample prep process: extraction, drying, and concentration steps--into a one-step Sample Preparation Workflow.
- Runs up to 8 samples simultaneously
- Sample Liquid Level Sensor to detect when the Sample has finished loading
- Automatic Sample bottle rinse
- Concentrates samples directly to a centrifuge tube

### High Speed

- The fastest automated sample processing available for SPE cartridges
- Run up to eight samples simultaneously.
- Vacuum for fast loading of large volume difficult sample matrices

### Versatile

- Handles a wide range of sample sizes and all matrix types
- Sample Sizes 2 mL to many liters
- Sample Liquid Level Sensor to detect when the Sample has finished loading
- Expandable from 1 to 4 modules, 2 samples per module

### Efficient

- Uses all SPE cartridge sizes
- Positive pressure pumping for loading small volume samples and clean samples. Vacuum for dirty samples

### Nitrogen and Vacuum drying

### Compliant

- Complies with existing methods that require vacuum, positive pressure pumping for the precise delivery of sample and solvents
- Dispenses up to six solvents using an HPLC pump to deliver precise volumes and flow rates for conditioning and elution

### Easy Documentation

- Programs and stores an unlimited number of methods and runs on an SD Card Easy method transfer

### Easy-to-use software

# From Sample to Final Extraction and Concentration for Drinking Water and Waste Water Analysis

## Benefits of TurboTrace PFC Automated Solid Phase Extraction:

### REDUCES ERRORS

- One step automated SPE and concentration eliminates human error, saves labor costs and reduces solvent usage while increasing your sample throughput.
- Put the sample on the system and get the final extract automatically delivered and concentrated ready to analyze in a Centrifuge tube eliminating the majority of human intervention

### FULLY AUTOMATED

- Hyphenates the entire sample prep workflow: extraction, drying and concentration step into a one-step workflow.
- Concentrates samples directly to a centrifuge tube
- Programmable, Automatic Sample bottle rinse

### HIGH SPEED

- The fastest automated sample processing available for SPE cartridges and columns
- Vacuum for fast loading of large volume samples as well as samples with heavy particulates
- Modular and Scalable – Run up to 8 samples simultaneously.

### VERSATILE

- Handles a wide range of sample sizes as well as clean and dirty matrix types
- Samples with heavy particulate
- Sample Sizes 2 mL to Unlimited
- Expandable from 1 to 4 modules
- Run a variety of cartridges with different sorbents and all cartridge sizes
- Wash with different solvents or solvent mixes

### EFFICIENT

- Uses all SPE cartridge sizes
- Positive pressure pumping for loading small volume samples
- Vacuum for large volume, high speed sample loading
- Nitrogen or Vacuum Cartirdge drying

### COMPLIANT

- Complies with existing methods that require vacuum, positive pressure pumping for the precise delivery of sample and solvents
- Dispenses up to 6 solvents using an HPLC pump to deliver precise volumes and flow rates for conditioning, elution and bottle rinse.

### EASY DOCUMENTATION

- Programs and stores an unlimited number of methods and runs

### EASY-TO-USE SOFTWARE

- Graphical SPE step indicator icons keep users informed

### DIRECT-TO-CENTRIFUGE TUBE CONCENTRATION

The SuperVap-24 standalone centrifuge tube evaporation/ concentration system is the ideal solution for performing the final evaporation and concentration step. Supervap evaporates the extracts and delivers final extracts in centrifuge tubes ready for LC/MS analysis.



## Supports EPA and other Methods

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EPA Method 533	Determination of Per- And Polyfluoroakyl Substances in Drinking Water By Isotope Dilution Anion Exchange Solid Phase Extraction
EPA Method 537.1	Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction
EPA 8327 with 3512	PFAS in drinking, surface, waster water 24 compounds; no SPE; mixing 1:1 with solvent and add standards (isotope dilution); filtration; LC/MS/MS
ASTM 7968	21 PFAS sand and soil, solvent extraction and filtration, LC/MS
ISO 25101: 2009	SPE method with WAX cartridge for non-particulate or low-grade particulate water samples.
DOD QSM 5.3	PFAS in non-drinking water with SPE and isotope dilution, LC/MS/MS
EPA Method 1633	Analysis of Per-and Polyfluoroakyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS
EPA Method 1694	Pharmaceutical and Personal Care Products

## Specifications

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**Dimensions:** 15" W x 18" D x 35" H

**Weight:** 65 lbs. Control Module and Extraction module for 2 samples

**Gas Requirements:** Nitrogen - 20 PSI minimum

**Vacuum Requirements:** 25" Hg minimum

**Pump:** Piston Displacement

**Flow Rate:** 0.2 to 15ml/minute

**Electrical Input:** 110/220 Volts, 50/60 HZ

## Applications

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- Agricultural and Animal Health
- Food Safety and Packaging Monitoring
- Drinking Water
- Waste Water
- Blood/Serum
- Milk and Beverages
- Power Utility

**FMS**  
Fluid Management Systems