

# TotalPrep Family of Total Sample Prep Solutions

**Integrated Sample Extraction, Cleanup,  
And Concentration Systems**

**Imagine performing the total sample preparation process for liquids and solids automatically, in a fraction of the time it takes today.**

FMS introduces a new family of integrated, economical "Total Solution" sample preparation systems that combine three sample prep steps into one automated process. TotalPrep systems perform extraction, cleanup, and concentration for eight samples simultaneously in less than two hours, while delivering the highest recoveries and best results for all target analytes. The systems are programmed and controlled via an easy-to-use touch screen and methods are stored on SD cards. Running a single sample preparation step, such as extraction, sample cleanup or concentration is also an option.

## The TotalPrep™ S system for solid samples



*PLE™ Pressurized Liquid Extraction Module  
PowerPrep™ Multi-column Sample Cleanup Module  
SuperVap™ Evaporation and Solvent Exchange Module*

**Simultaneously perform eight sample extractions, cleanups, and concentrations in less than two hours.**

The TotalPrep systems are integrated, economical sample preparation systems that combine the sample extraction, cleanup, and evaporation steps into one automated process.

### **Unattended sample preparation.**

Load a solid sample into the extraction cell, or cartridge in the case of liquid samples, install the cleanup columns on the system, push the "Run" button and walk away. The TotalPrep systems will automatically perform the entire sample preparation process unattended, in virtually one step. The final fraction is ready for analysis by GC, LC, or GC/LC/MS.

### **Same day turn around for multiple samples.**

Because they process eight samples in parallel – simultaneous extraction, cleanup, and concentration – TotalPrep systems are able to turn around up to 40 samples in a day.

## TotalPrep™ L system for liquid samples



*EconoTrace™ Solid Phase Extraction System  
PowerPrep™ Multi-column Sample Cleanup Module  
SuperVap™ Evaporation and Solvent Exchange Module*

TotalPrep systems increase the sample throughput of your laboratory while reducing errors and poor recoveries. They also provide cleaner backgrounds plus the advanced, closed-loop system design eliminates cross contamination

FMS's new high-quality, lower cost, pre-packed disposable columns guarantee high recoveries and eliminate the need to clean glassware. These systems are ideal for the analysis of Dioxins, PCBs, PAHs, PBDEs and Pesticides.

#### **Easy sample preparation for POP analysis**

TotalPrep systems perform complete sample preparation for eight samples automatically and unattended producing the final extract for GC, LC, and GC/LC/MS analysis. They use pre-packed disposable cleanup columns as well as ready-to-use disposable extraction cell end caps. The integrated design of TotalPrep systems means there is no need transfer samples from one system to another for additional processing. These features allow for "Raw sample in, GC, LC, and GC/LC/MS ready fraction out", and minimize the need to wash glassware.

#### **Automates EPA SW846 and 40 CFR 136 methods**

TotalPrep systems have been approved by the US EPA as an automated alternative to SW- 846 and 40 CFR 136 methods for POPs analysis.

#### **Reduce solvent and glassware usage**

By using inexpensive, pre-packed, disposable clean-up columns, filtration cartridges, and concentration tubes these systems also use disposable extraction cell end caps, greatly reducing the amount of contaminated parts that need to be washed. The greater efficiency with which the TotalPrep systems perform extraction and cleanup reduces solvent consumption.

#### **Dramatic savings in time and resources**

TotalPrep systems perform the complete preparation of eight samples in just a few hours, instead of days. This capability results in time and labor savings.

#### **Low background automated sample prep**

The advanced, closed loop system design combined with pre-packed, disposable columns deliver cleaner backgrounds and eliminate cross contamination.

#### **Wide range of inexpensive extraction cell sizes**

A wide range of inexpensive stainless steel extraction cell sizes are available for TotalPrep systems. Currently available sizes include 5 mL, 10 mL, 20 mL, 40 mL, and 100 mL. They are made of either 316 stainless steel, or the special acid and alkali resistant alloy stainless steel. With their flexible design and construction, TotalPrep Systems can accommodate the whole range of extraction cell sizes; from the 5 mL cell all the way to the 100 mL, in the same system.

#### **Wide range of pre-packed, disposable cleanup columns**

A wide variety of economical, pre-packed, disposable cleanup columns are available for use with TotalPrep systems. These columns are configured in a variety of sizes and packing material types – from standard multi-layered A-B-N silica to custom made columns.

#### **Disposable Columns used for Dioxins and PCBs, PBDEs analysis:**

1. Multi-layered A-B-N silica
2. Alumina
3. Carbon
4. High capacity acid silica (optional used for fatty samples, this column removes 3-5 grams fat)

#### **Disposable or reusable extraction filtration end caps**

In high-throughput laboratories where fast sample turn around is the goal, disposable Teflon end caps eliminate the need to wash and assemble end caps. Reusable stainless steel end caps may be used when saving time and labor is not the overriding issue.

#### **Modular and expandable**

TotalPrep systems are modular and can be configured in from one to six sample configurations. The flexible design of TotalPrep systems allows laboratories to acquire a single sample configuration inexpensively and then expand it to two, three, four, five, or a six sample configuration as sample throughput demand grows. Laboratory staff can easily connect expansion modules to the existing system in less than an hour. This design and construction make TotalPrep systems easy to expand and maintain.

#### **Ideal for method development**

TotalPrep Systems are the ideal method development tool for today's laboratories. Because they utilize a wide range of extraction cell sizes, cleanup columns, and multiple solvent selection valves they are extremely capable tools for experimenting with different sample sizes, solvents, flow rates, cleanup packing materials, extraction pressures, and temperatures.

#### **Robust and maintainable**

The modular, flexible design of TotalPrep systems virtually eliminates downtime and makes them the most easy to maintain systems in today's laboratories. Each system channel operates independently of the other channels, so if one channel malfunctions the others still work. Should a module malfunction, laboratory personnel can replace it on-site and the exposed construction makes parts accessible for easy replacement. The large-bore plumbing of the extraction module makes it virtually clog free



**Fluid Management Systems**  
580 Pleasant Street, Watertown MA 02472

**Tel: 617 393 2396**  
**Fax: 617 393 0194**  
**email: [onlineinfo@fms-inc.com](mailto:onlineinfo@fms-inc.com)**  
**[www.fms-inc.com](http://www.fms-inc.com)**