

TotalPrep System

All in One:

Extraction + Cleanup + Concentration

Automated Sample Preparation System for Dioxins & PCBs Analysis



FMS

Fluid Management Systems

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Features & Benefits:



Applications

Green Technology	Uses Less Solvent Than Manual Techniques
Fast	As Little as 2 Hrs
Fat / Lipid Removal	Capacity up to 7 Grams
Hight Throughput	Up to 8 Samples in Parallel
Low Solvent	As Low As 110ml per Sample
Fully Automated	From Sample Loading to GC Vial
Expandable	From 2 to 8 Samples
Reliable	Easy to Maintain
Quality Consumables	Guaranteed Certified Columns
Economical	Column Kits to meet your Sample Matrix
Easy to Use	New Quick Connect Snap-in Columns

Solids:	Liquids:
Fish	Milk
Feed	Oil
Meat	Serum
Soil	Water
Fly Ash	Wastewater

Simultaneously Perform Eight Sample Extractions, Cleanups, and Concentrations in Less Than Two Hours

The 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 system 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, the systems are able to turn around up to 40 samples in a day.

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. Total Prep 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.



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Economical

Designed to deliver the best ROI in the market. The integrated, economical TotalPrep sample preparation system combines the sample extraction, cleanup, and evaporation steps into one automated process with a single click. By using inexpensive, pre-packed, disposable clean-up columns, filtration cartridges, disposable extraction cell, end caps and concentration tubes, parts that need to be washed is greatly reduced. Greater efficiency performing these processes reduces solvent consumption.

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.

Expandable: From 2 to 8 Samples

The TotalPrep is modular and can be expanded to fit the needs of any lab. Each module can handle 2 samples in parallel. The system can have up to 4 modules running 8 samples in parallel.

Quality Consumables: Guaranteed Certified Columns

FMS's Column Consumables are Certified and Guaranteed for cleanliness, high recoveries and performance.

Fat / Lipid Removal: Capacity 0.15 to 7 Grams

A wide variety of economical "cleanup column kits" are available for Dioxin and PCB sample preparation.

Low Background Automated Sample Prep

The advanced, closed loop system design combined with prepacked, 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, The 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.

Low Solvent: As Low As 110ml per Sample

Column Kits designed for samples with different lipid content allow for using the lowest possible amount of solvent to process a sample.

Automated Direct to Vial Concentration and Evaporation

The SuperVap Concentrator is a dry, waterless system which is programmable. It can preheat as well as ramp up to final temperature. It automatically senses the extract being delivered to each vessel, starts Nitrogen blow down and shuts off Nitrogen when the final volume is achieved. Samples are concentrated for unattended transfer directly to a vial. Eliminating errors that occur during manual transfer.

Reliable: Easy to Maintain

The modular, flexible design of the TotalPrep systems virtually eliminates downtime and makes them the most easily to maintain systems in today's laboratories. Each system module operates independently of the other modules, so if one module malfunctions the others still work. Should a module malfunctions, laboratory personnel can easily replace it on-site.

New: Easy to Use Quick Connect Snap Columns

To streamline the ease and use of columns, FMS introduces the Quick Connect Snap Columns "QCSC". The new column design allow the end user to connect columns easily using an integrated lure connector mechanism.



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Typical Recoveries

13C PCBs Recoveries Matrices

	Soil 5g	Feed 10 g	Egg Yolk 18 g	Olive Oil 2 g	Fish Oil 2 g	Hexane
PCB 28	66	94	94	97	86	88
PCB 52	65	103	96	99	87	87
PCB 77	110	99	92	96	90	98
PCB 81	65	104	93	94	94	89
PCB 101	77	106	99	103	88	94
PCB 105	62	91	107	106	106	103
PCB 114	68	93	89	100	103	99
PCB 118	64	95	86	95	91	90
PCB 123	70	95	99	93	107	98
PCB 126	84	96	90	90	103	104
PCB 138	70	97	97	94	98	107
PCB 153	72	88	108	95	99	93
PCB 156	63	85	104	107	102	94
PCB 157	64	86	96	103	98	98
PCB 167	65	106	97	101	112	100
PCB 169	80	92	98	94	90	110
PCB 170	79	101	94	96	98	115
PCB 180	82	99	96	98	104	100
PCB 189	61	90	93	89	106	96

13C PCDD/Fs Recoveries Matrices

	Soil 5g	Feed 10 g	Egg Yolk 18 g	Olive Oil 2 g	Fish Oil 2 g	Hexane
2378-TCDF	86	86	83	94	99	84
2378-TCDD	67	95	96	97	90	101
12378-PeCDF	85	90	75	98	88	77
23478-PeCDF	74	92	90	99	94	96
12378-PeCDD	75	94	77	65	72	108
123478-HxCDF	79	98	92	87	86	90
123678-HxCDF	80	102	94	90	104	89
234678-HxCDF	83	67	96	65	77	96
123789-HxCDF	88	95	79	96	115	98
123478-HxCDD	86	96	92	101	106	84
123678-HxCDD	89	89	86	88	88	86
1234678-HpCDF	82	77	87	79	78	80
1234789-HpCDF	92	80	77	88	91	90
1234678-HpCDD	87	78	73	85	78	79
OCDD	64	73	88	67	67	65

Direct-To-Vial Concentration

The SuperVap-12 standalone direct-to-vial evaporation/ concentration system is the ideal solution for performing the final evaporation and concentration step. SuperVap evaporates the extracts from collection vessels from the TotalPrep eliminating an extract transfer step and delivers final PCBs and Dioxins extracts directly to GC vials ready for GC/MS.

