



# EP-110<sup>TM</sup>

*Automated Dioxins & PCBs Sample Preparation System*

*The EP-110 performs rapid automated sample loading, purification and fractionation of samples, delivering final extract in GC vial ready for GC/MS analysis*

# EP-110<sup>TM</sup>

Automated Dioxins & PCBs  
Sample preparation System

<b>Green Technology:</b>	Zero DCM
<b>Fast:</b>	30 to 45 minutes
<b>Fat / Lipid Removal:</b>	Capacity up to 7 Grams
<b>High Throughput:</b>	Up to 8 Samples in Parallel
<b>Low Solvent:</b>	As Low As 110ml per Sample
<b>Fully Automated:</b>	From Sample Loading to GC Vial
<b>Expandable:</b>	From 2 to 8 samples
<b>Quality Consumables:</b>	Guaranteed Certified Columns
<b>Economical:</b>	Column Kits to meet your Sample Matrix
<b>Reliable:</b>	Easy to Maintain
<b>New! Easy To Use:</b>	Quick connect snap columns

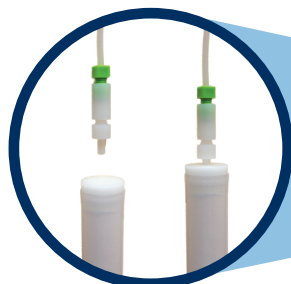


*Direct-to-Vial  
Concentration*

Imagine performing the Sample Cleanup process for POPs analysis in liquids and solids automatically in as little as 30 minutes.

Built on 25 years of FMS, Inc. experience and technology that has processed millions of Dioxin samples.

FMS introduces a new family of integrated, economical sample cleanup systems that combine manual sample prep steps into one automated process. EP-110 systems perform sample cleanup and fractionation for up to eight samples simultaneously in 30 to 45 hours, while delivering the highest recoveries and best results for all target Dioxin and PCB analytes. The systems are programmed and controlled via an easy-to-use touch screen and methods are stored on SD cards. A flexible system that automates sample preparation steps, such as sample loading, wash, elution and fraction collection, all in one step.



*New! Easy To Use:  
Quick Connect  
Snap Columns*



### Green Technology: Zero DCM

The EP-110 uses Zero DCM in the cleanup process. By design it produces greater efficiency to perform clean up and it greatly reduces solvent consumption.

### Fast: 30 to 45 minutes

Depending on the Sample Matrix and Lipid content samples can be run in 30 to 45 minutes. Column kits designed to meet different sample lipid content allow for fast sample processing. The system is able to turn around up to 64 samples in a day.

### 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.

### Expandable: From 2 to 8 samples

The EP-110 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.

### 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

### High Throughput: Up to 8 Samples in Parallel

The EP-110 systems are integrated, economical sample preparation systems that combine the

sample cleanup, and evaporation steps into one automated process. The EP-110 processes eight samples in parallel including sample cleanup, and concentration. The systems are able to be turned around up to 64 samples in a day.

### Automated Sample Loading

Install the cleanup columns on the system, push the "Run" button and walk away. The EP-110 will automatically load the sample and perform the entire sample preparation process unattended, in virtually one step. The final fractions are ready for analysis by GC/MS.

### Reliable: Easy to Maintain

The modular, flexible design of EconoPrep 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.

### Chemistry Kit Rental Program for the Industry Standard EconoPrep® Mutlicolumn Cleanup System for Dioxins and PCBs

- Allows the laboratory to acquire equipment without the outlay of capital funds
- A program designed to fit within a laboratory's budgetary constraints better than a capital purchase
- Offers a program that could fit within a laboratory's purchasing departments constraints
- It will allow laboratories to implement automation quickly and not have to wait for months or years

### Applications

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<b>Liquids:</b>	<b>Solids:</b>
Milk	Fish
Oil	Feed
Serum	Meat
Water	Soil
Waste Water	Fly Ash

# Total Sample Prep Solutions

Integrated Sample Extraction, Cleanup, and Concentration Systems

## 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.

## 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.

### Dioxins Recoveries Matrices

Compound Name	Sediment 1 g	Feed 2g	Egg 8 g	Fish Oil 2.5g	2 g Fatty Acid	Hexane
2378-TCDF 13C12 STD	78	89	75	69	93	78
2378-TCDD 13C12 STD	92	100	86	96	92	93
12378-PeCDF 13C12 STD	80	91	70	91	97	82
23478-PeCDF 13C12 STD	81	90	70	92	103	80
12378-PeCDD 13C12 STD	91	100	75	105	104	90
123478-HxCDF 13C12 STD	79	95	74	93	92	84
123678-HxCDF 13C12 STD	78	81	76	96	90	85
234678-HxCDF 13C12 STD	83	91	78	87	96	86
123789-HxCDF 13C12 STD	88	93	80	99	90	83
123478-HxCDD 13C12 STD	84	92	77	86	97	88
123678-HxCDD 13C12 STD	73	72	67	83	93	81
1234678-HpCDF 13C12 STD	69	79	68	87	88	69
1234789-HpCDF 13C12 STD	82	71	76	80	92	79
1234678-HpCDD 13C12 STD	87	95	80	98	92	79
OCDD 13C12 STD	70	77	64	77	80	64

## 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.

### PCBs Recoveries Matrices

	Sediment 1 g	Fish Oil 2.5g	1.5 g Fatty Acid	2 g Fatty Acid	Hexane
PCB 28	66	67	68	60	86
PCB 52	68	69	70	71	86
PCB 77	94	90	101	87	86
PCB 81	88	83	95	93	75
PCB 101	77	78	80	77	87
PCB 105	98	112	90	88	95
PCB 114	108	109	87	89	97
PCB 118	92	110	88	90	89
PCB 123	112	115	82	86	98
PCB 126	92	89	88	79	77
PCB 138	75	74	75	72	90
PCB 153	71	71	71	65	84
PCB 156	100	95	98	94	98
PCB 157	98	90	87	92	91
PCB 167	92	89	87	87	86
PCB 169	na	93	106	103	100
PCB 170	99	94	90	98	100
PCB 180	96	85	88	89	88
PCB 189	106	78	94	100	101