

From Sample to Vial

Automated Sample Prep Solutions

Extraction • Cleanup • Concentration



FMS
Fluid Management Systems

CAMPRO
SCIENTIFIC

Germany

Tel. +49.(0)30.629.01.89.0
info@campro.eu

www.campro.eu

The Netherlands

Tel. +31.(0)318.529.437
info.nl@campro.eu

PLE[®]

Automated High Speed Pressurized Liquid Extraction

PLE[®] is a high speed Pressurized Liquid Extraction system, designed to perform the extraction of multiple samples simultaneously in minutes rather than hours, producing high recoveries and excellent precision for all analytes. Very inexpensive stainless steel extraction cells and end cap filtration keep the operational cost at a minimum. The optional disposable end cap filtration increases productivity and saves valuable time.

More efficient and cost effective than traditional processing methods.



The PLE is a modular system that can grow with your laboratory



The PLE is expandable from one to six modules to meet your laboratories needs as it grows

One Step Extraction & Clean-up

Optional Incell Cleanup allows for the entire extraction and clean-up process to happen in one step. Thereby, increasing speed & reducing the cost of sample prep.

Extraction Cell Size 5 - 150ml

Run small to large sample sizes with the same basic system.

Modular, Expandable & Affordable

With the modular PLE design, one can purchase a 1 sample system at a very affordable price. The system can be expanded to a 6 sample system as the laboratory's workload grows.

Reduces Operating Cost

Rapid extraction & clean-up, along with reduced solvent use and waste, it reduces operating costs by as much as 70 percent.

Increases Productivity

The entire extraction & clean-up may be performed in less than 30 minutes. Traditional methods could take 10 - 16 hours.

Reduces Solvent Waste

PLE reduces solvent waste through efficient use of solvents.

Reduces Solvent Cost

Uses as little as 15ml of solvent as compared to more than 500ml of solvent required to perform Soxhlet extractions.

Applications

Solid and Semi Solid Material, Food and Feed, Packaging Materials

Supports EPA Methods

| | |
|--------------|-------------------------------------------------------------------------------------------------------------------------|
| Method 3545A | Semi Volatiles, Organophosphorous Pesticides, Organochlorine Pesticides, Chlorinated Herbicides, PCBs, PCDDs/PCDFs, DRO |
| Method 1613 | Dioxin and Furans |
| Method 1668 | Chlorinated Biphenyl Congeners |
| SW-846 | Methods for Solid Waste |

5 to 150ml Extraction Cell Sizes

PLE offers 5 - 150ml low cost stainless steel extraction cells with Teflon end cap filtration. This wide range of extraction cells allows the use of the same unit for all sample sizes, even in the same run

Cross Contamination Free

Optional low cost extraction cell sizes and Teflon end caps filtration ensure trouble free extraction with no cross contamination.

Automatic Operation & Documentation

Real time software allows 6 channels of pressure and 6 channels of temperature data to be plotted simultaneously. This powerful feature allows automatic documentation of the entire extraction data. The temperature and pressure data can be superimposed and printed in graphic or tabular format and stored for future reference.

Patented One-Step Extraction & Clean-up

The PLE patented one step extraction and clean-up design has the flexibility to perform extraction as well as clean-up in one run. Depending on the sample size and the extent of clean-up, three configurations are available.

In-line Column Clean-up

An optional In-line clean-up module allows additional clean-up columns to be added to the output of extraction cells for cleaning the sample prior to GC/MS analysis. This powerful feature of PLE saves time and money while producing excellent recoveries and precise results for all analytes. FMS offers a wide variety of disposable Teflon columns from 0.25 to 50 grams capacity.

Column Clean-up With PLE system, the entire extraction and clean-up can be done in one step using packing material such as silica and carbon.

This feature allows for rapid extraction and cleanup all in one step.

PLE/Power-Prep Dual Extraction & Clean-up System

The Dual PLE/PowerPrep consists of two systems in one economical package and is truly the new frontier in rapid sample preparation for POPs analysis. The system can be used to perform extraction, clean-up or both extraction and clean-up. The modular and

compact design of the systems enable the user to expand from one to six modules. The user can therefore, start off with a single sample system and expand up to a six module system as throughput demand increases.

Complete Control & Monitoring by PC

The DMS-6000 Editor allows multiple methods to be stored. In each method parameters such as time, solvent, volume and final temperature can be set for each step. Pressure and temperature as well as dispensed volumes are displayed every second and stored for future reference. Six channels of pressure and six channels of temperature are also be plotted in real time. This powerful feature allows automatic documentation of the entire extraction data.

Multiple Extraction

Programming of variable pressure and temperature allows extraction of a variety of different compounds.

A Versatile Method Development Tool

The powerful DMS 6000 real time software along with a large variety of extraction cell capacities and the ability to select multiple solvents, different temperature settings, as well as storage of data makes the PLE the perfect development tool.

Leak & Clog Free Operation

Simple design along with large bore plumbing enables the PLE to operate virtually leak and clog free.

Modular Construction Provides for Easy Maintenance

The PLE modular units as well as exposed plumbing construction makes for efficient system maintenance. The PLE module is designed to operate independently, should one module fail the others will continue to perform. This versatility ensures ease of replacement with no down time.

Multiple Method Storage

The entire extraction process is PC controlled allowing the laboratory technician to store and edit extraction protocols, as well as monitor and store extraction data.

Extraction, InCell Cleanup with Direct to GC vial Sample Prep

PLE

Specifications

Dimensions:

PLE1 = 15" (38 cm) W X 35" (90 cm) H X 18" (45 cm) D
PLE2 = 23" (58 cm) W X 35" (90 cm) H X 18" (45 cm) D
PLE3 = 31" (78 cm) W X 35" (90 cm) H X 18" (45 cm) D
PLE4 = 39" (98 cm) W X 35" (90 cm) H X 18" (45 cm) D
PLE5 = 47" (118 cm) W X 35" (90 cm) H X 18" (45 cm) D
PLE6 = 55" (138 cm) W X 35" (90 cm) H X 18" (45 cm) D

Ordering Information

PLE Extraction Cells

| Part number | Description |
|----------------|---------------------------------------|
| PLE-ECEL-SS20 | 20ml stainless steel extraction cell |
| PLE-ECEL-SS40 | 40ml stainless steel extraction cell |
| PLE-ECEL-SS100 | 100ml stainless steel extraction cell |

PLE Filtration Caps

| Part number | Description |
|------------------|-------------------------------------------------------------------------|
| PLE-FLT-TEF-OAR | Teflon End cap filtration with o-ring for 100,40,20,10, 5ml cell |
| PLE-FLT-100M-TEF | Teflon, End cap filtration for 100, 40, 20, 10, 5ml cell |
| PLE-FLT-100M-SS | Stainless steel Reusable End cap filtration for 100,40 20, 10, 5ml cell |

PLE Extraction Cell and Cap

| Part number | Description |
|------------------|-------------------------------------------------------------------|
| PLE-CAR100-FLT10 | 100ml stainless steel extraction cell with two end cap filtration |
| PLE-CAR40-FLT10 | 40ml stainless steel extraction cell with two end cap filtration |
| PLE-CAR20-FLT10 | 20ml stainless steel extraction cell with two end cap filtration |

PLE System Configurations

| Part Number | Description |
|-------------|--------------------------------------------------------------------------------------------|
| PLE 1 | Modular one sample extraction system. This system Processes one sample |
| PLE 2 | Modular two sample extraction system. This system Processes two samples simultaneously |
| PLE 3 | Modular three sample extraction system. This system Processes three samples simultaneously |
| PLE 4 | Modular four sample extraction system. This system Processes four samples simultaneously |
| PLE 5 | Modular five sample extraction system. This system Processes five samples simultaneously |
| PLE 6 | Modular six sample extraction system. This system Processes six samples simultaneously |

PLE Accessories

| Part number | Description |
|-------------|--------------------------------------------------|
| PLE-HTB-SM | Small Heater blocks for 5 - 40ml extraction cell |
| PLE-HTB-MD | Medium Heater block for 100ml extraction cell |
| PLE-HTB-LG | Large Heater block for 250ml extraction cell |

PLE Modules

| Part number | Description |
|-------------|---------------------------|
| PLE-CNT-MD | PLE Control module |
| PLE-HPR-MD | High Pressure pump module |
| PLE-SMP-MD | Sample processing module |
| PLE-COL-MD | Column module |

Portable Cart & Spill Tray

| Part number | Description |
|-------------|---------------|
| SPILL-TRY | Spill Tray |
| PORT-CRT | Portable Cart |

Consumables

| Part number | Description |
|---------------------|---------------------------------------------------------------------------------------|
| PLE-CAR-SS05 | 5ml Stainless Steel Cartridge |
| PLE-CAR-SS10 | 10ml Stainless Steel Cartridge |
| PLE-CAR-SS100 | 100ml Stainless Steel Cartridge |
| PLE-CAR-SS20 | 20ml Stainless Steel Cartridge |
| PLE-CAR-SS40 | 40ml Stainless Steel Cartridge |
| PLE-FLT-100M-SS | Reusable End cap filtration for 100, 40, 20, 10, 5ml cell - Stainless steel |
| PLE-FLT-100M-SS-NP | Reusable End Cap Filtration for 100, 40, 20, 10, 5ml Cell - Stainless Steel Non-Polar |
| PLE-FLT-100M-SS-P | Reusable End Cap Filtration for 100, 40, 20, 10, 5ml Cell - Stainless Steel Polar |
| PLE-FLT-100M-SS-U | Reusable End Cap Filtration for 100, 40, 20, 10, 5ml Cell - Stainless Steel Universal |
| PLE-FLT-100M-TEF-NP | Teflon Cap Filtration for 100, 40m 20, 10, 5ml Cell Non Polar |
| PLE-FLT-100M-TEF-P | Teflon Cap Filtration for 100, 40m 20, 10, 5ml Cell Polar |
| PLE-FLT-100M-TEF-U | Teflon Cap Filtration for 100, 40m 20, 10, 5ml Cell Universal |
| PLE-FLT-INCL3-NP | Non-Polar In Cell Cleanup End Cap 3 gm capacity |
| PLE-FLT-INCL3-P | Polar In Cell Cleanup End Cap 3 gm capacity |
| PLE-FLT-INCL3-U | Universal In Cell Cleanup End Cap 3 gm capacity |
| PLE-FLT-INCL6-NP | Non-Polar In Cell Cleanup End Cap 6 gm capacity |
| PLE-FLT-INCL6-P | Polar In Cell Cleanup End Cap 6 gm capacity |
| PLE-FLT-TEF | Teflon Cap Filtration for 100, 40m 20, 10, 5ml |

Consumables (contd.)

| Part number | Description |
|-----------------|-------------------------------------------------------------|
| PLE-FLT-INCL6-U | Universal In Cell Cleanup End Cap 6 gm capacity |
| PLE-OR-ETP-ST | Viton ETP (Universal) Orings Set: 014, 017, 116 |
| PLE-OR-NEO-ST | Neoprene (Polar) Orings Set: 014, 017, 116 |
| PLE-OR-VIT-ST | Viton (Non-Polar) Orings Set: 014, 017, 116 |
| PLE-SS-CAP-100M | Reusable End Cap Fitting Body for 100, 40, 20, 10, 5ml Cell |
| PLE-SS-FLT-10 | Stainless Steel Filter |
| PLE-SS-RET | Retaining Ring |