FMS
Fluid Management Systems

SuperVap® PFC

SuperVap® PFC
Concentration System for 15 and 50ml Centrifuge tubes
Designed for PFAS Analysis

The SuperVap® PFC Family of Concentrators

Designed specifically for the concentration and evaporation of samples for PFAS analysis with no components that will contribute to PFAS background. The SuperVap® PFC 24 Concentrator is a dry, waterless system capable of automatically concentrating or evaporating up to 24 samples in 15ml centrifuge tubes. The SuperVap® PFC 12 Concentrator can automatically concentrate or evaporate up to 12 samples in 50 ml centrifuge tubes. It can preheat as well as ramp up to the final temperature. It automatically starts the Nitrogen blowdown and shuts off Nitrogen and heat when the final programmed time is achieved. Samples can be concentrated directly to the centrifuge for unattended transfer, eliminating contamination and errors during manual transfer.

Dry, Waterless System:
The SuperVap® PFC Concentrator operates without water, ensuring a dry environment for sample concentration.

Programmable:
Users can program the device to perform specific tasks and follow a set sequence of steps. This flexibility allows for customization based on the specific requirements of the samples being processed. All Steps are programmed by time.

Preheating and Temperature Ramp-Up:
The concentrator can preheat and gradually ramp up to the final temperature needed for the concentration process. This feature may be helpful for sensitive samples that require controlled temperature conditions.

Automated Nitrogen Blow Down:
The device automatically initiates the Nitrogen blow-down process. Nitrogen is commonly used to evaporate solvents from samples during concentration.

Automatic Shut-Off:
The concentrator is programmed by time to automatically shut off the Nitrogen and heat when the final programmed time is reached. This ensures the concentration process is precisely controlled and does not exceed the specified duration.

Unattended Transfer to Centrifuge:
After concentration, the samples can be transferred directly to a centrifuge without manual intervention. This feature reduces the risk of contamination and minimizes errors during manual transfer processes.

Error Reduction:
The automation and programmability of the SuperVap® PFC Concentrator contribute to the reduction of contamination and errors associated with manual sample transfer. This is particularly important in maintaining the integrity of experimental results.

Contamination Reduction:
The SuperVap® PFC Concentrator reduces contamination. It is constructed with parts that do not contribute to the PFAS background. The materials are Peek®, Delrin®, LDPE. This is particularly important in maintaining the integrity of experimental results. Hepa and Carbon filters eliminate outside contamination.

Stand Alone or Integrated:
The Standalone SuperVap® is ideal for manual, Semi-Automated, and Automated systems with no extract delivery capability. The Integrated SuperVap® is used with FMS, Inc. Fully automated Solid Phase Extraction Systems for PFAS analysis. The extract is automatically delivered to the centrifuge tube and concentrated or evaporated to a final volume without human intervention.

Industries

Agricultural
Clinical
Environmental
Food and Beverage
Pharmaceutical Products
Natural Products

SuperVap® PFC Concentrator designed for PFAS Analysis

Principals of Operation

SuperVap® Automated Concentration System is designed to streamline and automate the sample evaporation/ concentration process for PFAS Analysis. It replaces techniques like KD, manual nitrogen blow-downs, and water baths. It automates existing manual evaporation and concentration processes in the laboratory. The design is intended to simplify, improve, and increase laboratory productivity. Automation of the Concentration evaporation process helps lower labor costs by minimizing the need for manual intervention. The SuperVap® brings efficiency, accuracy, and automation to the sample concentration process, reducing labor costs, saving time, and increasing overall productivity, making it a valuable addition to your laboratory workflow.

Compatible with existing FMS Sample Prep Systems

HEPA/Carbon Filter

HEPA/Carbon Filter to Eliminate Outside Contamination

Easy to Use Touch Screen Programming

Programmable Heat Ramp and Nitrogen Settings to Precisely Control the Concentration and Evaporation Process

A temperature log is saved for each run and may be downloaded to a PC via a USB port

Uses No Water, Dry heating assembly

Concentrates 12 to 24 Samples

Sample Sizes: 15ml & 50ml

Compact Size

Specifications

SuperVap®

Dimensions:
13”W x 13”D x 12”H”
Weight: 20 lbs.
Gas Requirements:
Nitrogen - 40 PSI minimum
Electrical Input:
110/220 Volts, 50/60 HZ
Controller: Touch Screen
Bath: Dry

SuperVap® PFC Concentrator

Automated Concentration and Evaporation

EPA Method 533 Results

Analyte	Average Recoveries (%)	RSDs (%)
11Cl-PF3OUdS	104.00	3.50
9Cl-PF3ONS	86.90	3.00
ADONA	80.20	2.90
HFPO-DA (GenX)	78.70	3.70
NFDHA	97.00	5.00
PFBA	101.20	6.20
PFBS	86.40	3.70
8:2FTS	96.00	4.00
PFDA	89.50	4.00
PFDoA	80.60	8.90
PFEESA	98.00	4.00
PFHpS	100.20	7.50
PFHpA	83.00	3.50
4:2FTS	98.00	5.00
PFHxS	92.00	1.90
PFHxA	101.20	5.00
PFMPA	98.00	2.00
PFMBA	101.00	3.00
PFNA	81.30	3.00
6:2FTS	99.00	11.00
PFOS	86.20	2.00
PFOA	85.70	2.90
PFPeA	104.30	6.30
PFPeS	92.80	5.50
PFUnA	101.60	9.20

EPA Method 537.1 Results

Compound	Native Recoveries (%)				
	2 ppt	5 ppt	25 ppt	50 ppt	EPA Window
PFBS	94.00	93.00	98.00	99.00	70-130
PFHxA	99.00	104.00	101.00	109.00	70-130
GenX	102.00	98.00	106.00	103.00	NA
PFHpA	99.00	103.00	102.00	103.00	70-130
PFHxS	95.00	97.00	97.00	102.00	70-130
ADONA	90.00	97.00	99.00	104.00	70-130
PFOA	116.00	109.00	105.00	103.00	70-130
PFNA	95.00	107.00	111.00	110.00	70-130
PFOS	93.00	96.00	95.00	101.00	70-130
9Cl-PF3ONS	88.00	88.00	95.00	100.00	70-130
PFDA	91.00	99.00	105.00	111.00	70-130
N-MeFOSAA	93.00	97.00	92.00	92.00	70-130
PFUdA	93.00	101.00	104.00	108.00	70-130
N-EtFOSAA	95.00	110.00	98.00	98.00	70-130
11Cl-PF3OUDS	86.00	88.00	86.00	91.00	70-130
PFDoA	90.00	92.00	99.00	101.00	70-130
PFTrDA	86.00	89.00	97.00	93.00	70-130
PFTeDA (PFTA)	84.00	82.00	91.00	93.00	70-130

EPA Method 1633 Results

Compound	Average Recoveries (%)	RSDs (%)	EPA Window (%)
PFBA	95.70	1.00	70-135
PFPeA	95.13	2.00	70-135
PFHxA	96.45	3.00	70-135
PFHpA	94.82	1.00	70-135
PFOA	95.78	3.00	65-155
PFNA	97.74	2.00	70-140
PFDA	97.69	2.00	65-140
PFUnA	96.42	1.00	70-135
PFDoA	96.65	3.00	70-130
PFTrDA	88.95	4.00	60-145
PFTeDA	98.78	2.00	70-145
PFBS	98.19	3.00	70-140
PFPeS	98.97	1.00	70-135
PFHxS	102.74	2.00	70-135
PFHpS	100.23	6.00	70-140
PFOS	100.65	4.00	70-140
PFNS	97.40	3.00	70-135
PFDS	88.92	4.00	70-135
PFDoS	84.00	8.00	45-135
4:2FTS	95.46	1.00	70-135
6:2FTS	98.17	4.00	70-135
8:2FTS	92.35	4.00	70-140
PFOSA	98.99	2.00	70-135
NMeFOSA	90.47	9.00	70-135
NEtFOSA	92.16	2.00	70-130
NMeFOSAA	97.71	4.00	65-140
NEtFOSAA	97.11	5.00	70-135
NMeFOSE	92.73	6.00	70-135
NEtFOSE	91.80	6.00	70-130
HFPO-DA	99.24	5.00	70-135
ADONA	97.21	5.00	70-135
PFMPA	95.82	1.00	60-140
PFMBA	95.11	2.00	65-145
NFDHA	94.38	6.00	65-145
9Cl-PF3ONS	95.92	4.00	70-145
11Cl-PF3OUdS	92.00	3.00	50-150
PFEESA	94.50	3.00	70-135
3:3 FTCA	101.32	2.00	70-130
5:3 FTCA	96.70	3.00	70-130
7:3 FTCA	95.44	3.00	55-130

Total Solution Sample Prep for the Analysis of PFAS

TurboTrace® PFC for Drinking Water and Waste Water, Expandable for 5 to 30 Samples, Direct to Concentrator

EconoTrace® PFC for Drinking Water, Expandable from 2 to 8 Samples, Direct to Concentrator Delivery

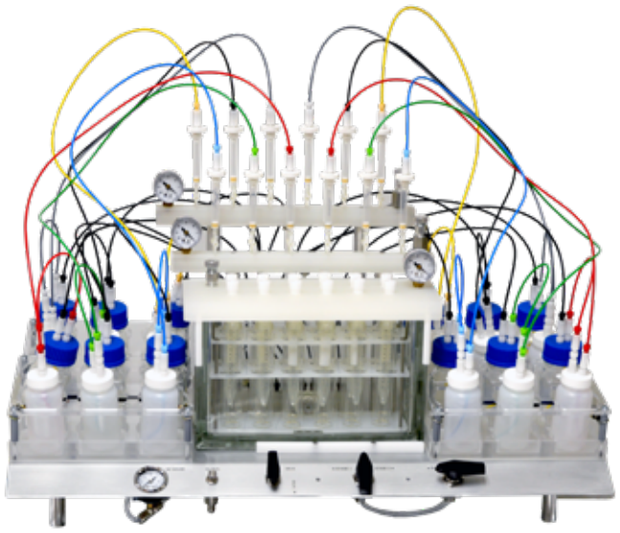
Applications

For the analysis of

Agricultural
Clinical
Environmental
Food and Beverage
Pharmaceutical Products
Natural Products

Automated Sample Preparation

Semi-Automated Solid Phase Extraction for PFAS Analysis



The EZPFC-12® is a low-cost, high throughput semi-automated solid phase extraction solution for the analysis of PFAS.

Systems

Part Number	Description
SVAP-PFC-12	SuperVap® PFC Concentrator: 12 Position, 50ml Centrifuge Tubes
SVAP-PFC-24	SuperVap® PFC Concentrator: 24 Position, 15ml Centrifuge Tubes
EZPFC-6	6 Position EZPFC System for Water & Waste Water Analysis
EZPFC-12	12 Position EZPFC System for Water & Waste Water Analysis
TT-SEQ-SPE-PFC	TurboTrace® Parallel Sequential PFC Solid Phase Extraction System for 5 Samples
TT-SEQ-SPE-PFC-EXP	TurboTrace® Parallel Sequential PFC Solid Phase Extraction Expansion Module for 5 Samples
ECO-PFC-SPE	EconoTrace® PFC SPE Parallel System for 2 Samples
ECO-PFC-SPE-EXP	EconoTrace® PFC SPE Expansion Module for 2 Samples

Accessories & Consumables

Part Number	Description
HPCR-FIL-200	Hepa/Carbon Filter set-complete
SVAP-EXH-TUB	SuperVap® Polyethylene Exhaust tube, per foot
FMS-TR-5012	12 Position Concentrator Tube Rack for 50ml Tube
VAC-PMP	Vaccum Pump
FMS_00773	Fluid Line Kit EZSPE6 ESD 30", Sample Bottle to Cartridge, Pack of 6
FMS_00635	Fluid Line Kit PFC-12 30", Sample Bottle to Cartridge, Pack of 12
SPE-ADP-SM	SPE Small 1, 3, 6 ml Cartridge Adapter - Male to Male
EZP-OWY-SCV	One way stopcock valve

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