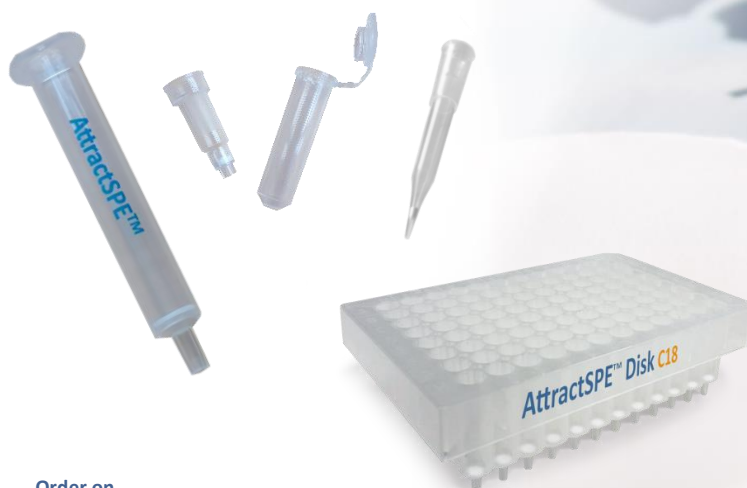


AttractSPE™ Disks

**Spinnable, Automatable
High throughput HTS
Micro-SPE for Microextraction**

**Proteomics, Biomarker discoveries
and Biological applications**



Solid Phase Extraction Solutions

Sample volume

2L - 500mL

- AttractSPE™ Disk
- Passive samplers: POCIS, SPATT, Chemcatcher

200mL – 1mL

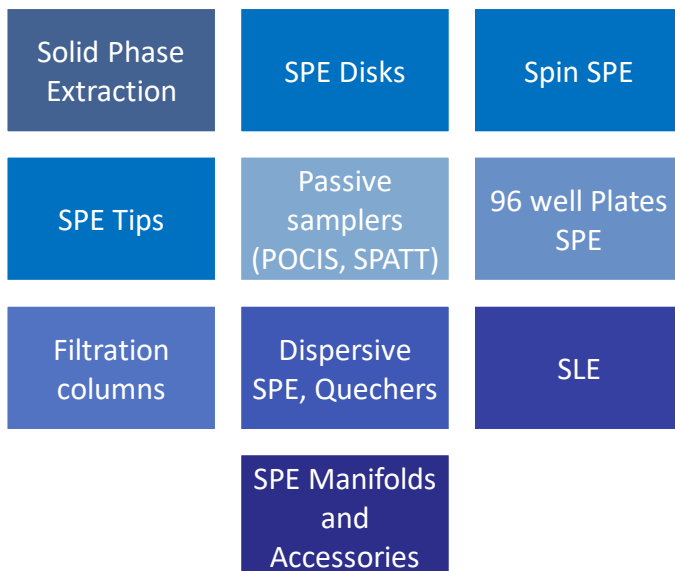
- AFFINIMIP® SPE
- AttractSPE™
- SilactSPE™
- Qcleanup™ Quechers
- AttractFiltration™ Filtration
- AttractSPE™ SLE

200µl - 10µl

- AttractSPE™ Disks Tips – Stagetips
- AttractSPE™ Disks Spin SPE
- AttractSPE™ Disks 96 well-plate SPE
- AttractSPE™ Disks SPE cartridges

PRODUCT SELECTION GUIDE

Sampling and sample preparation are the key steps in trace analysis for analytical chemist. As specialist in this field, AFFINISEP supplies a complete range of solutions based on Solid Phase Extraction (SPE), passive sampling and filtration processes for automated, high-throughput or manual sample preparation.



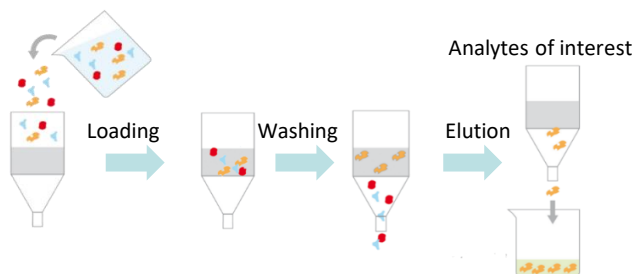
A multitude of chemical phases and formats are available for various applications. We offer a comprehensive range of SPE to give you all elements to face the increasingly complex and diverse sample preparation challenges by:

- **Simplify data analysis by removing interferences**
- **Increase sensitivity and reliability by enrichment of the analyte**
- **Obtain high and reproducible recovery yields from complex samples**

SOLID PHASE EXTRACTION

SPE PROCEDURE STEPS

- 1- Sample preparation:** This step is necessary to obtain a loading solution compatible with retention condition in the SPE column. In case of solid matrices, this solution must also extract the compounds of interest from these matrices.
- 2- Conditioning:** The SPE cartridges are conditioned with the appropriated solvents to fully soak sorbent and enable further interactions between the analytes and the sorbent.
- 3- Loading:** the percolation solution is loaded through the SPE cartridge. The analyte must be retained in the column as well as unwanted compounds.
- 4- Washing:** interferences and unwanted compounds are washed off by using appropriate solvents.
- 5- Elution:** The desired analyte is extracted from the SPE cartridge.



Retention Mechanism

Normal phase

- Based on polar-polar or dipole-dipole interactions between the analyte and a non organic phase like silica.

Reversed phase

- Based on non polar- non polar interactions and Van der Waals dispersive forces. The sorbent is hydrophobic like polymeric sorbent modified silica-based sorbent.

Ion-exchange

- Uses electrostatic interaction between a charged sorbent and the ionic analyte. The sorbent is charged with the opposite charge of the analyte.

Mixed-mode sorbents

- Interact through reversed phase and ion exchange retention mechanisms. Available as a polymeric sorbent (AttractSPE™ SAX, WAX, WCX or SCX) or as SilactSPE™.

Imprinted

- Highly selective based on forme and interaction of one molecule or a family of molecules



Open Cartridge

Formats: 1mL, 3mL, 6mL,
15mL, 20mL, 60mL

Materials: Polypropylene
glass (6mL)

Frits: Polyethylene, PTFE,
Glass fiber

Sorbents: powder or disk
luer compatible



Reversible Cartridge

Formats: 0,7mL, 2mL

Material: Polypropylene

Frit: Polyethylene

*Luer
compatible*



On-line SPE Cartridge

I.D: 2,1 and 4,6mm

Length: 20mm



LRC Cartridge

Luer compatible

Formats: 10mL

Material: Polypropylene

Frit: Polyethylene

Cartridge for Automates

Formats: 1mL, 3mL, 6mL

Material: Polypropylene

Frit: Polyethylene



AVAILABLE



Disks



Spin SPE



SPE Tips



96 Well-plates

Sorbents: powder or disk



Passive Samplers

I.D.: 54mm
O.D.: 90mm



Dispersive SPE





**Proteins, Peptides, DNA, ...
Purification
Desalting
Fractionation**

Order on
www.affinisep.com

200µl - 10µl

- AttractSPE™ Disks Tips – Stagetips
- AttractSPE™ Disks Spin SPE
- AttractSPE™ Disks 96 well-plate SPE
- AttractSPE™ Disks SPE cartridges

AttractSPE™ Disks Technology for microextraction

AttractSPE™ Disks are **thin, dense, soft and uniform membranes** based chromatography for extraction/separation, purification and concentration of analyte molecules.

Thanks to their unique advantage, AttractSPE™ Disks are useful for purification of Very Small Sample Volumes in Proteomics, Genomics, Metabolomics, Biomarker discoveries and Biological applications. They are applied for Spinnable, Automatable, High throughput microextraction and nano extraction.

AttractSPE™ Disks offer outstanding sample preparation efficiency and reproducibility of results. Since the diffusion distance between particles is minimized, adsorption is more efficient, and extraction can be accomplished using **very low sorbent mass**.

These properties are giving to AttractSPE™ Disks a significant improvement of mass transfer kinetics compared to traditional packed SPE particles. As a monolith disk, AttractSPE™ Disks are self stand and require no frits for immobilizing the column bed (unlike traditional SPE products) allowing 100% recovery of the original sample volume.

AttractSPE™ Disk Advantages

- No need to frits or filters
- Reduced dead volume
- Small elution volumes
- High sample recovery
- Reduced time for eluate evaporation
- Higher throughput
- Channeling effects eliminated
- Excellent reproducibility
- Concentration of the sample



AttractSPE™ Disks Technology for microextraction

AttractSPE™ Disks can be used to miniaturized SPE and due to the small operating volume of fluid samples available. So there are **available under 4 formats** for microextraction:

Capacity of molecules of interest increases

□ AttractSPE™ Disks **Tips – Stagetips**

μSPE column designed by immobilizing an uniform disk inside a pipette tips (Stagetips)



□ AttractSPE™ Disks **Spin Columns**

SPE column designed by immobilizing an uniform disk inside a microcentrifuge SPE tube



□ AttractSPE™ Disks **96 well-Plate**

96 SPE well plate designed by immobilizing an uniform disk



□ AttractSPE™ Disks **Cartridges**

SPE cartridges designed by immobilizing an uniform disk



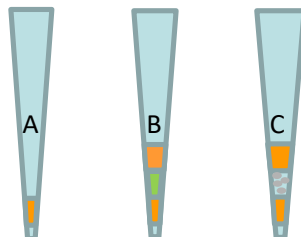
Concentration of molecules of interest increases

AttractSPE™ Disks Technology for microextraction

AttractSPE™ Disks sorbents

- A broad variety of sorbents for each required applications
- Various formats: disks, spins, 96 SPE plates, cartridges
- One sorbent - several layers for increased capacity
- Several sorbents - stacking for complex applications
- Disks used as filter for application requiring beads

Different combinations of SPE disks for requested applications



- A: one membrane
 B: Stacking of several membranes layers
 C: membrane used as filter for μm beads

Sorbents for SPE Disks for biomolecular applications	Compatible with analytical methods
C18	- Desalting of peptides; fractionation of peptides at acidic and neutral pH - Drug extraction in biological samples,
C8	Desalting of large peptides and proteins; Usage as frits to retain beads in a tip
Silica	Purification of DNA
C4	Desalting of large peptides and proteins
SDB a.k.a PS-DVB	Fractionation of peptides at basic pH
HLB: SDB with hydrophilic moieties	Fractionation of peptides Extraction of small molecules (drugs) in biological fluids
SDB – RPS: Sulfonic modified SDB sorbent	Desalting of peptides; fractionation of peptides
SAX : Anion exchange SDB	Fractionation of peptides by salt or pH steps
SCX : Cation exchange SDB	Fractionation of peptides by salt or pH steps

AttractSPE™Tips are spinnable and automatable Tips for high throughput useful for peptide desalting, proteomics, and biomarker discoveries and biological applications

Tip Volume (µL)	Resin Volume (µL)	Resin:	Application
<ul style="list-style-type: none"> •200 •300 •500 •1000 •20000 	<ul style="list-style-type: none"> •5 •10 •12 •20 •40 •80 •160 •200 •320 	<ul style="list-style-type: none"> •C18 300Å •C18 90Å •C4 300Å •Strong Anion •Strong Cation •Weak Anion •Weak Cation 	<ul style="list-style-type: none"> •Desalting •PCR Purification kit •Genomic Purification •Glutathione •IMAC •Plasmid Purification •...

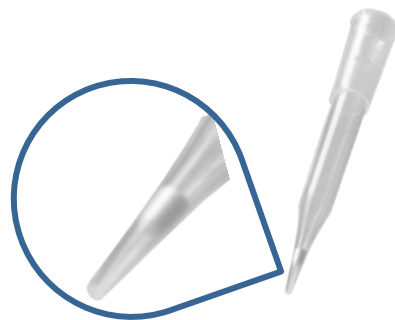
To prepare high quality peptide samples for LC-MS, it is very important to ensure the overall quality of shotgun proteomics experiments. Peptide samples collected after digestion usually need to be cleaned to remove salts, possible gel pieces (for in-gel digested samples) or particles (for in-solution digested samples), which otherwise will damage the LC switching valves or clog the columns.



AttractSPE™ Disks Tips – Stage Tips

Advantages

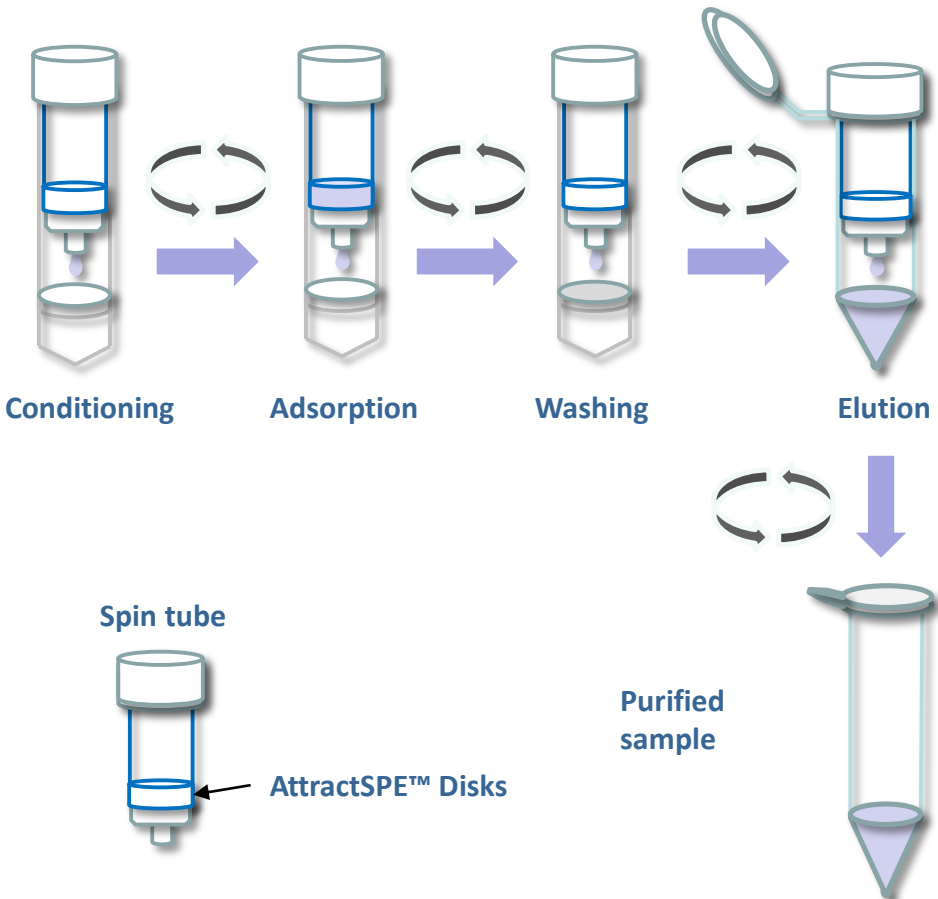
- Load your sample on AttractSPE™ Disks Tips for desalting or purify peptides and proteins
- Several sorbents based Stage-tips and stacking
- Available as 10, 20, 100, 200µL, 1mL



Designation	Description	Reference – 200µl - 96/pk	Reference – 1mL - 96/pk
AttractSPE™ Disks Tips C18	C18 membrane, 96/pk	Tips-C18.T1.200.96	Tips-C18.T1.1000.96
AttractSPE™ Disks Tips C8	C8 membrane, 96/pk	Tips-C8.T1.200.96	Tips-C8.T1.1000.96
AttractSPE™ Disks Tips SDB	PS-DVB membrane, 96/pk	Tips-DVB.T1.200.96	Tips-DVB.T1.1000.96
AttractSPE™ Disks Tips SDB - RPS	Modified DVB membrane, 96/pk	Tips-RPS.T1.200.96	Tips-RPS.T1.1000.96
AttractSPE™ Disks Tips SAX	SAX membrane, 96/pk	Tips-SAX.T1.200.96	Tips-SAX.T1.1000.96
AttractSPE™ Disks Tips SCX	SCX membrane, 96/pk	Tips-SCX.T1.200.96	Tips-SCX.T1.1000.96
AttractSPE™ Disks Tips C18-SCX	Stacking C18 & SCX membranes, 96/pk	Tips-C18-SCX.T1.200.96	Tips-C18-SCX.T1.1000.96
AttractSPE™ Disks Tips C18-SCX-C18	Stacking C18 & SCX & C18 membranes, 96/pk	Tips-C18-SCX-C18.T1.200.96	Tips-C18-SCX-C18.T1.1000.96
AttractSPE™ Disks Tips SDB-SAX	Stacking PS-DVB & SAX membranes, 96/pk	Tips-DVB-SAX.T1.200.96	Tips-DVB-SAX.T1.1000.96
AttractSPE™ Disks Tips Silica	Silica membranes, 96/pk	Tips-Si.T1.200.96	Tips-Si.T1.1000.96

AttractSPE™ Disk Spin Column for microextraction

AttractSPE™ Disk Spin Column is an SPE column created by immobilizing a monolithic disk inside a microcentrifuge SPE tube. Thanks to its self stand, the monolith disk requires no frits for immobilizing the column bed (unlike traditional SPE products), which allows essentially 100% recovery of the original sample volume after a couple of brief centrifugations.



AttractSPE™ Disk C18 Spin Columns are ready-to-use centrifuge columns of porous C18 reverse-phase resin with excellent binding and recovery characteristics for peptide sample preparation for mass spectrometry and other methods.

Peptide samples can be purified and concentrated for a variety of applications using AttractSPE™ Disk C18 Spin Columns. Each spin column contains a porous C18 reversed-phase resin with excellent binding and recovery characteristics for a wide range of peptide concentrations.

The spin column format allows simultaneous processing of multiple samples (10 to 150 μL each) in approximately 30 minutes without laborious repeat pipetting or specialized equipment. AttractSPE™ Disk C18 Spin Columns can be used effectively for processing peptides derived from 10 ng to 30 μg of protein. Sensitivity and detection limits are dependent on the downstream application.

Advantages of AttractSPE™ Disk C18 Spin Columns

- Removes interfering contaminants—significantly reduces signal suppression and improves signal-to-noise ratios and sequence coverage
- Simplifies optimization—processing yields high-quality spectra and is effective for a variety of reverse-phase-compatible contaminants
- Robust—works with a wide variety of load volumes and concentrations; no need to reduce sample volume before application
- Convenient—easy to handle and requires no special equipment to process multiple samples simultaneously (unlike tip-driven systems that require one sample to be processed at a time)
- Sensitive—special C18 resin allows excellent recovery percentages, even at low (sub-picomole) sample loads

AttractSPE™ Disks Spin

Advantages

- 2 spin size formats: micro and minispin
- Fast and easy extraction process by centrifugation
- High throughput purification



Designation	Description	Reference micro spin – 96/pk	Reference mini spin – 96/pk
AttractSPE™ Disks Spin C18	C18 membrane, 96/pk	μSpin-C18.T1.96	Spin-C18.T1.96
AttractSPE™ Disks Spin C8	C8 membrane, 96/pk	μSpin-C8.T1.96	Spin-C8.T1.96
AttractSPE™ Disks Spin SDB	PS-DVB membrane, 96/pk	μSpin-DVB-T1-96	Spin-DVB.T1.96
AttractSPE™ Disks Spin SDB – RPS	Modified DVB membrane, 96/pk	μSpin-RPS-T1-96	Spin-RPS.T1.96
AttractSPE™ Disks Spin SAX	SAX membrane, 96/pk	μSpin-SAX-T1-96	Spin-SAX.T1.96
AttractSPE™ Disks Spin SCX	SCX membrane, 96/pk	μSpin-SCX-T1-96	Spin-SCX.T1.96
AttractSPE™ Disks Spin C18-SCX	Stacking C18 & SCX membranes, 96/pk	μSpin-C18-SCX-T1-96	Spin-C18-SCX.T1.96
AttractSPE™ Disks Spin C18-SCX-C18	Stacking C18 & SCX & C18 membranes, 96/pk	μSpin-C18-SCX-C18-T1-96	Spin-C18-SCX-C18.T1.96
AttractSPE™ Disks Spin SDB-SAX	Stacking PS-DVB & SAX membranes, 96/pk	μSpin-DVB-SAX-T1-96	Spin-DVB-SAX.T1.96
AttractSPE™ Disks Spin Silica	Silica membranes, 96/pk	μSpin-Si-T1-96	Spin-Si.T1.96
Reservoirs for AttractSPE™ Disks Spin	25mL- 96/pk	Spin-Res-96	Spin-Res-96

AttractSPE™ Disks 96 plate

AttractSPE™ Disk 96 Plate is a plate with 96 microSPE columns containing immobilized SPE disks that enables a high throughput clean-up with the simultaneous preparation of 96 samples. Thanks to this small sorbent amount and a high efficiency, almost 100% of the original sample is recovered.

Advantages

- All sorbents available on catalog or on demand
- Several sorbent weights available.
- Easy handling with automates or liquid handling robots - spinnable
- AttractSPE™ Manifold for 96 wellPlate format or AttractSPE™ Positive pressure Manifold for 96 well Plate



Designation	Description	Reference – 1/pk
AttractSPE™ Disks 96 plate C18	C18 membrane, 1/pk	96W-C18.T1.1
AttractSPE™ Disks 96 plate C8	C8 membrane, 1/pk	96W-C8.T1.1
AttractSPE™ Disks 96 plate SDB	PS-DVB membrane, 1/pk	96W-DVB.T1.1
AttractSPE™ Disks 96 plate SDB – RPS	Modified DVB membrane, 1/pk	96W-RPS.T1.1
AttractSPE™ Disks 96 plate SAX	SAX membrane, 1/pk	96W-SAX.T1.1
AttractSPE™ Disks 96 plate SCX	SCX membrane, 1/pk	96W-SCX.T1.1
AttractSPE™ Disks 96 plate C18-SCX	Stacking C18 & SCX membranes, 1/pk	96W-C18-SCX.T1.1
AttractSPE™ Disks 96 plate C18-SCX-C18	Stacking C18 & SCX & C18 membranes, 1/pk	96W-C18-SCX-C18.T1.1
AttractSPE™ Disks 96 plate SDB-SAX	Stacking PS-DVB & SAX membranes, 1/pk	96W-DVB-SAX.T1.1
AttractSPE™ Disks 96 plate Silica	Silica membranes, 1/pk	96W-Si.T1.1

AttractSPE™ Disks Cartridges

Advantages

- 3 and 6mL format
- Larger loading volume with a minimal elution volume
- High extraction capacity
- A broad range of sorbents or sorbent combination



Designation	Description	Reference – 3mL	Reference – 6mL
AttractSPE™ Disks Cartridge C18	C18 membrane, 50/pk	CAR3-C18.T1.50	CAR6-C18.T1.50
AttractSPE™ Disks Cartridge C8	C8 membrane, 50/pk	CAR3-C8.T1.50	CAR6-C8.T1.50
AttractSPE™ Disks Cartridge SDB	PS-DVB membrane, 50/pk	CAR3-DVB-T1-50	CAR6-DVB.T1.50
AttractSPE™ Disks Cartridge SDB – RPS	Modified DVB membrane, 50/pk	CAR3-RPS-T1-50	CAR6-RPS.T1.50
AttractSPE™ Disks Cartridge SAX	SAX membrane, 50/pk	CAR3-SAX-T1-50	CAR6-SAX.T1.50
AttractSPE™ Disks Cartridge SCX	SCX membrane, 50/pk	CAR3-SCX-T1-50	CAR6-SCX.T1.50
AttractSPE™ Disks Cartridge C18-SCX	Stacking C18 & SCX membranes, 50/pk	CAR3-C18-SCX-T1-50	CAR6-C18-SCX.T1.50
AttractSPE™ Disks Cartridge C18-SCX-C18	Stacking C18 & SCX & C18 membranes, 50/pk	CAR3-C18-SCX-C18-T1-50	CAR6-C18-SCX-C18.T1.50
AttractSPE™ Disks 96 wellplate SDB-SAX	Stacking PS-DVB & SAX membranes, 50/pk	CAR3-DVB-SAX-T1-50	CAR6-DVB-SAX.T1.50
AttractSPE™ Disks 96 wellplate Silica	Silica membranes, 50/pk	CAR3-Si-T1-50	CAR6-Si.T1.50

SPE ACCESSORIES

Positive Pressure Manifolds

Vacuum Manifold

Mini Vap

Pump

Manifold unit and kits



AttractSPE™ Positive Pressure Manifold

is a Solid Phase Extraction Manifold using positive pressure to push the liquid through the SPE tips, cartridges or the 96-well plates simultaneously. This process confers some very interesting advantages to this product in term of repeatability.

Description	Reference
24-position with tips	MPP-Tips-KIT
96-position for 96 SPE well plate	MPP-96W-KIT
24-position, 1 mL	MPP-1ML-KIT
24-position, 3 mL	MPP-3ML-KIT
15-position, 6 mL	MPP-6ML-KIT

AttractSPE™ Vacuum Manifold

very flexible, allows you to control the flow and to process up to 12 or 24 samples simultaneously, to gain significantly time during sample preparation steps.



Vacuum Manifold

ACC-MAN1 Like all chromatography techniques, Use of SPE cartridges needs a precise control of flow rate for maintaining reproducible extractions. Solid Phase extraction Vacuum Manifold allows you to control the flow and to process up to 12 (12-port version) or 24 (24-port version) AFFINIMIP® SPE samples simultaneously, to gain significantly time during sample preparation steps.

Mini PUMP

ACC-PUMP Mini diaphragm vacuum pump for solid phase extraction experiments

- 5.5L/min
- ~120 torr vacuum
- Oil-free
- portable

Vacuum pump trap

ACC-TRAP SPE Vacuum pump trap kit

Installed between the manifold and the vacuum pump, it collects all liquids that are aspirated preventing contamination of the vacuum pump with a capacity of 1L.

SPE ACCESSORIES

SPE Adapter & Reservoir kit

ACC-AR1 Tube adapters serve to pile one SPE tube on top of another to provide different selectivities. A larger empty syringe barrel can be stacked on top of a smaller SPE tube to act as a larger load reservoir. Or, they can serve as an adapter for positive pressure methods (e.g. from a syringe or air/ N2 line).

Mini-Vap

ACC-VAP1 The 6-Port Mini-Vap concentrator/evaporator processes six vials at one time. The Mini-Vap includes a needle valve for fine metering of air or nitrogen drying gas.

SPE ACCESSORIES – Product list

SPE Accessories	Designation	Definition	Reference
Manifold	SPE Vacuum Manifold	12-port model	ACC-MAN1
SPE Adapter & Reservoir kit	SPE Adapter & Reservoir kit	Kit of 12 reservoirs 60ml and adapters for use with 1,3 & 6 mL cartridges	ACC-AR1
Mini-Vap	Mini Evaporator / Concentrator	6 port Mini-Vap Evaporator/Concentrator for use with 1 to 250mL containers	ACC-VAP1
Mini PUMP	Mini vacuum pump	Laboport diaphragm vacuum mini pump, 5.5L/min	ACC-PUMP
Vacuum pump trap	SPE Vacuum pump trap kit	1L trap kit	ACC-TRAP






AFFINISEP

THE ART OF MAKING SAMPLE PREPARATION EASIER

About

AFFINISEP is a **worldwide expert in sample preparation applications**. AFFINISEP is dedicated to the development of analytical applications in various fields such as water, biological fluids, food, feed analysis and proteomics with a complete set of products and services for sample preparation.

 Brands	 Applications	 Matrices
AFFINIMIP SPE™ AttractSPE™ SilactSPE™ ...	Sample Preparation Passive Sampling Filtration Microextraction of peptides/proteins	Food, Feed, Soil, Oil, Water, Biological fluids, Proteolytic digestion

Analytical chemists can find any solution for sample preparation, selective extraction and sample clean-up needs in various sectors: food and feed safety and quality, life science and quality control, clinical diagnosis, environment and doping.

In addition, proteomics users can find a complete set of microextraction products for protein/peptides fractionation or desalting.

ORDERING INFORMATION

For any order, please, choose one of the following ways:

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Find all our references and benefit from a **FAST** and **SIMPLE** process !



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