ChiralTek
Solutions for Chiral Separations & Sample Preparations

Information for ChiralTek PSPE Series of Positive-pressure SPE Systems

Please visit English website http://chiraltek-column.com/Downloads.php for downloading the full product manual and application notes for the PSPE systems.

Unique Characteristics for ChiralTek PSPE Series of Positive-pressure SPE Systems

[1] The PSPE series of positive-pressure solid phase extraction (SPE) systems are successfully manufactured by ChiralTek using a novel flow-path-integration technique. They are designed for complicated biological and environmental samples. The PSPE systems are controlled by built-in single-chip microcomputer units (SCU) and driven by compact air-pumps with easy operations. They are the first type of compact, affordable, and cost-efficient commercial positive-pressure SPE systems which can completely eliminate cross-over contaminations.

[2] There are 4 types and 8 models of PSPE systems with different configurations. Type “A” and “B” systems use 6-mL, 3-mL, and 1-mL SPE cartridges while type “C” and “D” systems use 12-mL, 6-mL, and 3-mL SPE cartridges. Type “A” and “C” systems are designed for small volume samples only. However, type “B” and “D” systems can easily handle both small and large volume (no upper limit) samples.

[3] For small volume samples (0.1~ 6mL for Type “A” system or 0.2~12mL for Type “C” system), all the air-pump channels and fittings are not contacted with samples and solvents during all processing procedures. The cross-over contaminations are therefore completely eliminated. This greatly improves the accuracy for kinds of trace-level analysis. There is no need to clean or wash the PSPE systems before and after extracting the small volume samples. This also makes type “A” and “C” PSPE systems very convenient for treatment of the complicated samples including environmental water/soil samples, food, tissue culture samples, animal and human serum/urine samples. The type “A” system is especially suitable for extraction of trace level of drugs and their metabolites in serum/plasma samples when using with ChiralTek ultra-high performance extraction (UPE) cartridges.

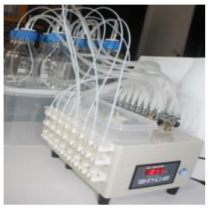
[4] All PSPE systems are especially designed to perfectly work with the novel types of UPE cartridges manufactured by ChiralTek. Only small volume of solvents (0.2-0.3mL for 3-mL UPE-20 and UPE-30 cartridges, 1.2-1.5mL for 6-mL UPE-60 and UPE-90 cartridges, and 1.5-3mL for 12-mL UPE-120 and UPE-180 cartridges) are needed for conditioning and eluting procedures on the PSPE systems. Both the eluting and concentrating operations can be completed in one step without extra heating or nitrogen drying procedure when using UPE cartridges. This makes the PSPE systems very friendly to both environment and operators. All the elutes from SPE cartridges are directly collected into samples vials (PE vials or HPLC vials) without passing through any connection tubing or fittings.

[5] There are two independent flow systems in type “B” and “D” systems. For small volume samples, the air-pump channels and fittings are not contacted with samples and solvents during the all the processing procedure. However, there is a short part of fitting directly contact with large volume sample during automatic loading procedure. That part fitting needs to be cleaned and washed after the automatic sample loading procedure. The eluting solvents are not directly contact with PSPE system for both small and large volume samples. This greatly reduces or eliminates cross-over contaminations and makes the PSPE systems suitable for kinds of trace-level analysis.

[6] The PSPE systems are operated under 12 voltages. An external power supply with 100-240V input and 12V output (standard configuration) or a 12-volatge rechargeable storage battery (optional configuration) can be used to operate all the PSPE systems.

ChiralTek Affordable PSPE Systems

Model	Description	Remarks
PSPE-08A 	P/N: 980-PSPE-08A，PSPE-08A is an 8-channel air pump-driven positive-pressure SPE system for small volume samples (0.1-6mL). It is controlled by a built-in SCU and designed for 6-mL, 3-mL, and 1-mL SPE cartridges. It can simultaneously process 8 samples per batch. When working with novel Ultra-high Performance Extraction (UPE) cartridges from ChiralTek, extremely small volumes (0.2-0.3mL for 3-mL UPE-20 and UPE-30 cartridges and 1.2-1.5mL for 6-mL UPE-60 and UPE-90 cartridges) of solvents are needed for conditioning and eluting procedure. Both the eluting and concentrating operations can be completed in one step without extra heating or nitrogen drying procedure when using UPE cartridges. Since the air-pump channels and flow fittings are not contacted with samples and solvents during all processing procedure, cross-over contamination is therefore avoided on the PSPE-08A system. There is no need to clean or wash the PSPE-08A system before and after extraction. It is friendly for both environment and users. The PSPE-08A is designed for trace-level analysis with manual sample loading of complicated samples with small volume (0.1-6mL).	100~240v external power supply
PSPE-08B 	P/N: 980-PSPE-08B，PSPE-08B is an 8-channel air pump-driven positive-pressure SPE system for both small and large volume samples (no upper volume limit). It is controlled by a built-in SCU and designed for 6-mL, 3-mL, and 1-mL SPE cartridges. It can simultaneously process 8 samples per batch. When working with novel UPE cartridges from ChiralTek, extremely small volumes of solvents are needed for conditioning and eluting procedure. Both the eluting and concentrating operations can be completed in one step without extra heating or nitrogen drying procedure when using UPE cartridges. For small volume samples (0.1-6mL), the air-pump channels and fittings are not contacted with samples and solvents during all extraction procedure, cross-over contamination is therefore avoided. There is no need to clean or wash the PSPE-08B system before and after extraction of the small volume samples. However, there is a short part of fitting directly contact with large volume sample during automatic loading procedure. That part fitting needs to be cleaned and washed after the automatic sample loading procedure. PSPE-08B is friendly for both environment and users. It is designed for trace-level analysis with manual loading small volume samples and automatic continuous loading large volume (no upper volume limit) samples.	100~240v external power supply

Model	Description	Remarks
PSPE-08C 	P/N: 980-PSPE-08C，PSPE-08C is an 8-channel air pump-driven positive-pressure SPE system for small volume samples (0.2-12mL). It is controlled by a built-in SCU and designed for 12-mL, 6-mL, and 3-mL SPE cartridges. It can simultaneously process 8 samples per batch. When working with novel UPE cartridges from ChiralTek, only small volumes (0.2-0.3mL for 3-mL UPE-20 and UPE-30 cartridges, 1.2-1.5mL for 6-mL UPE-60 and UPE-90 cartridges, and 1.5-3mL for 12-mL UPE-120 and UPE-180 cartridges) of solvents are needed for conditioning and eluting procedure. Both the eluting and concentrating operations can be completed in one step without extra heating or nitrogen drying procedure when using UPE cartridges. Since the air-pump channels and flow fittings are not contacted with samples and solvents during all processing procedure, cross-over contamination is therefore avoided on the PSPE-08C system. There is no need to clean or wash the PSPE-08C system before and after extraction. It is friendly for both environment and users. The PSPE-08C is designed for trace-level analysis with manual sample loading of complicated samples with small volume (0.2-12mL).	100~240v external power supply
PSPE-08D 	P/N: 980-PSPE-08D，PSPE-08D is an 8-channel air pump-driven positive-pressure SPE system for both small and large volume samples (no upper volume limit). It is controlled by a built-in SCU and designed for 12-mL, 6-mL, and 3-mL SPE cartridges. It can simultaneously process 8 samples per batch. When working with novel UPE cartridges from ChiralTek, only small volumes of solvents are needed for conditioning and eluting procedure. Both the eluting and concentrating operations can be completed in one step without extra heating or nitrogen drying procedure when using UPE cartridges. For small volume samples (0.2-12mL), the air-pump channels and fittings are not contacted with samples and solvents during all extraction procedure, cross-over contamination is therefore avoided. There is no need to clean or wash the PSPE-08D system before and after extraction of the small volume samples. However, there is a short part of fitting directly contact with large volume sample during automatic loading procedure. That part fitting needs to be cleaned and washed after the automatic sample loading procedure. PSPE-08D is friendly for both environment and users. It is designed for trace-level analysis with manual loading small volume samples (0.2-12mL) and automatic continuous loading large volume (no upper volume limit) samples.	100~240v external power supply

Model	Description	Remarks
PSPE-12A	P/N: 980-PSPE-12A，PSPE-12A is a 12-channel air pump-driven positive-pressure SPE system for small volume samples (0.1-6mL). It is controlled by a built-in SCU and designed for 6-mL, 3-mL, and 1-mL SPE cartridges. It can simultaneously process 12 samples per batch. When working with novel UPE cartridges from ChiralTek, extremely small volumes (0.2-0.3mL for 3-mL UPE-20 and UPE-30 cartridges and 1.2-1.5mL for 6-mL UPE-60 and UPE-90 cartridges) of solvents are needed for conditioning and eluting procedure. Both the eluting and concentrating operations can be completed in one step without extra heating or nitrogen drying procedure when using UPE cartridges. Since the air-pump channels and flow fittings are not contacted with samples and solvents during all processing procedure, cross-over contamination is therefore avoided on the PSPE-12A system. There is no need to clean or wash the PSPE-12A system before and after extraction. It is friendly for both environment and users. The PSPE-12A is designed for trace-level analysis with manual sample loading of complicated samples with small volume (0.1-6mL).	100~240v external power supply
PSPE-12B	P/N: 980-PSPE-12B，PSPE-12B is a 12-channel air pump-driven positive-pressure SPE system for both small and large volume samples (no upper volume limit). It is controlled by a built-in SCU and designed for 6-mL, 3-mL, and 1-mL SPE cartridges. It can simultaneously process 12 samples per batch. When working with novel UPE cartridges from ChiralTek, extremely small volumes of solvents are needed for conditioning and eluting procedure. Both the eluting and concentrating operations can be completed in one step without extra heating or nitrogen drying procedure when using UPE cartridges. For small volume samples (0.1-6mL), the air-pump channels and fittings are not contacted with samples and solvents during all extraction procedure, cross-over contamination is therefore avoided. There is no need to clean or wash the PSPE-12B system before and after extraction of the small volume samples. However, there is a short part of fitting directly contact with large volume sample during automatic loading procedure. That part fitting needs to be cleaned and washed after the automatic sample loading procedure. PSPE-12B is friendly for both environment and users. It is designed for trace-level analysis with manual loading small volume samples and automatic continuous loading large volume (no upper volume limit) samples.	100~240v external power supply

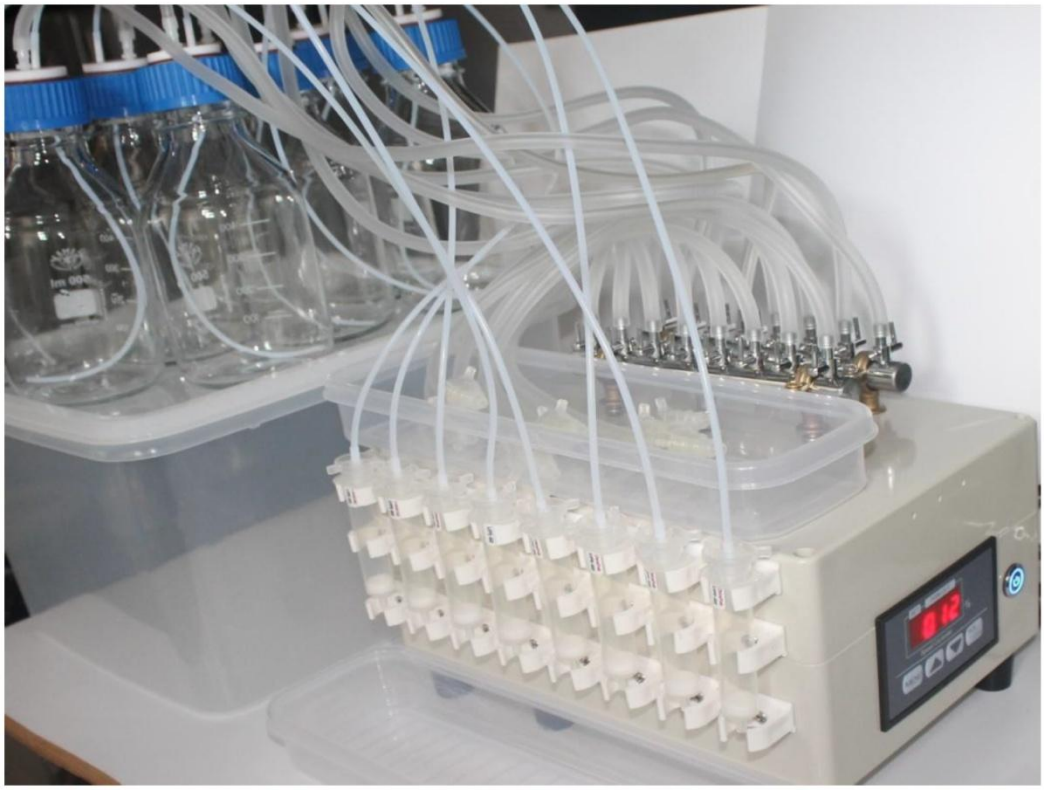
Model	Description	Remarks
PSPE-12C	P/N: 980-PSPE-12C，PSPE-12C is a 12-channel air pump-driven positive-pressure SPE system for small volume samples (0.2-12mL). It is controlled by a built-in SCU and designed for 12-mL, 6-mL, and 3-mL SPE cartridges. It can simultaneously process 8 samples per batch. When working with novel UPE cartridges from ChiralTek, only small volumes (0.2-0.3mL for 3-mL UPE-20 and UPE-30 cartridges, 1.2-1.5mL for 6-mL UPE-60 and UPE-90 cartridges, and 1.5-3mL for 12-mL UPE-120 and UPE-180 cartridges) of solvents are needed for conditioning and eluting procedure. Both the eluting and concentrating operations can be completed in one step without extra heating or nitrogen drying procedure when using UPE cartridges. Since the air-pump channels and flow fittings are not contacted with samples and solvents during all processing procedure, cross-over contamination is therefore avoided on the PSPE-12C system. There is no need to clean or wash the PSPE-12C system before and after extraction. It is friendly for both environment and users. The PSPE-12C is designed for trace-level analysis with manual sample loading of complicated samples with small volume (0.2-12mL).	100~240v external power supply
PSPE-12D	P/N: 980-PSPE-12D，PSPE-12D is a 12-channel air pump-driven positive-pressure SPE system for both small and large volume samples (no upper volume limit). It is controlled by a built-in SCU and designed for 12-mL, 6-mL, and 3-mL SPE cartridges. It can simultaneously process 12 samples per batch. When working with novel UPE cartridges from ChiralTek, only small volumes of solvents are needed for conditioning and eluting procedure. Both the eluting and concentrating operations can be completed in one step without extra heating or nitrogen drying procedure when using UPE cartridges. For small volume samples (0.2-12mL), the air-pump channels and fittings are not contacted with samples and solvents during all extraction procedure, cross-over contamination is therefore avoided. There is no need to clean or wash the PSPE-12D system before and after extraction of the small volume samples. However, there is a short part of fitting directly contact with large volume sample during automatic loading procedure. That part fitting needs to be cleaned and washed after the automatic sample loading procedure. PSPE-12D is friendly for both environment and users. It is designed for trace-level analysis with manual loading small volume samples (0.2-12mL) and automatic continuous loading large volume (no upper volume limit) samples.	100~240v external power supply

Photograph of PSPE-08A System

Front Side

Rear Side

Photograph of PSPE-08B System



Photograph of PSPE-08D System