

ChiralTek *f*-SPE Fully-automated Sample Preparation Station Short Product Manual

Please visit English website <http://chiraltek-column.com> or Chinese website <http://cbook.antpedia.com/6755> for downloading the latest product manual.

All ChiralTek *f*-SPE instruments have been passed the quality control tests before delivery. Please kindly refer to the "Certificate of Quality Control Analysis" for information about the testing results. Before powering up the device, make sure the casing & components have no obvious damage from the shipping and also make sure the 110 or 240V power socket has a ground connection. Please carefully read this manual before using the *f*-SPE system.

1. Novel full-functional *f*-SPE automated sample preparation station

The *f*-SPE is manufactured by ChiralTek using a specially-designed flow-path-integration technique. It is a novel flexible and versatile platform for automatic sample preparations. It can be easily used as full-functional sample preparation station for automatic sample pre-treatments. The *f*-SPE can also be used as an autosampler for HPLC or MS system. When worked with ChiralTek HLE universal SPE cartridges, the *f*-SPE instrument can be used to conveniently achieve high efficient extraction and automatic online injection to HPLC or LCMS for full-automatic analysis of complicated samples .

ChiralTek *f*-SPE can provide automatic sample pre-treatments for kinds of samples including types of water samples, biological liquids, and homogenates or crude extracts of some solid samples (such as biological tissues, soils, food samples etc.). The *f*-SPE system is very useful for users with many different types of samples. It is a perfect automated sample preparation platform for environment monitoring stations, water quality monitoring centers, food and drug testing center, disease control & prevention center, and kinds of scientific research & analytical laboratories. The *f*-SPE can perform multiple tasks: offline solid phase extraction, online solid phase extraction, online derivatization (optional) with controlled temperature, and online sample injection to HPLC or LCMS for final analysis. It is designed to provide automatic solutions for full-functional sample preparations.



2. ChiralTek *f*-SPE specifications

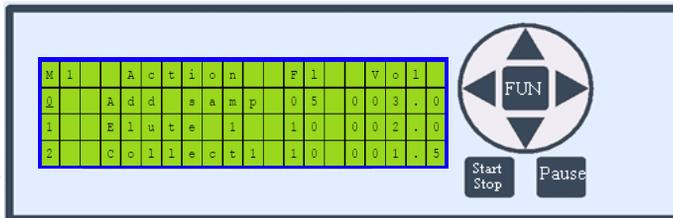
To meet users' different types of needs and requirements, the *f*-SPE station is designed to have many different configurations. The specifications for two typical configurations are listed below. Please directly contact ChiralTek (Tel: 65-93656129 or 86-95040358310, Email: info@chiraltek-column.com) for enquiry of other configurations.

| | Part No. 982-FSPE-01 | Part No. 982-FSPE-02 |
|-------------------------------|--|--|
| Number of valve ports: | 14 | 18 |
| Sample capacity: | 23/batch | 40/batch |
| Material of wetted parts: | Teflon, 316 stainless steel, porcelain, Pyrex glass | Teflon, 316 stainless steel, porcelain, Pyrex glass |
| System control: | Microcontroller and/or computer | Microcontroller and/or computer |
| Pump flow rate: | 0.1 to 40 mL/min | 0.1 to 45 mL/min |
| Pressure limit of pump: | 6 bar | 6 bar |
| Pump reproducibility (C.V.%): | <0.5 | <0.5 |
| Liquid delivery accuracy (%): | <1 | <1 |
| Reagent choices: | 2 | 2 |
| Eluting solvent choices: | 3 | 6 |
| Main functions: | Precondition, load sample, blow dry of sorbent, fraction collection, tubing cleaning, and online sample injection to HPLC or LCMS etc. | Precondition, load sample, blow dry of sorbent, fraction collection, tubing cleaning, and online sample injection to HPLC or LCMS etc. |
| Power consumption: | < 1.5 A (24 VDC) | < 1.5 A (24 VDC) |
| Weight (Kg): | 12 | 12 |
| Dimension (cm): | 34 x 34 x 42 cm (width x depth x height) | 34 x 34 x 42 cm (width x depth x height) |

3. ChiralTek *f*-SPE Product Features

[A] Convenient offline automated SPE

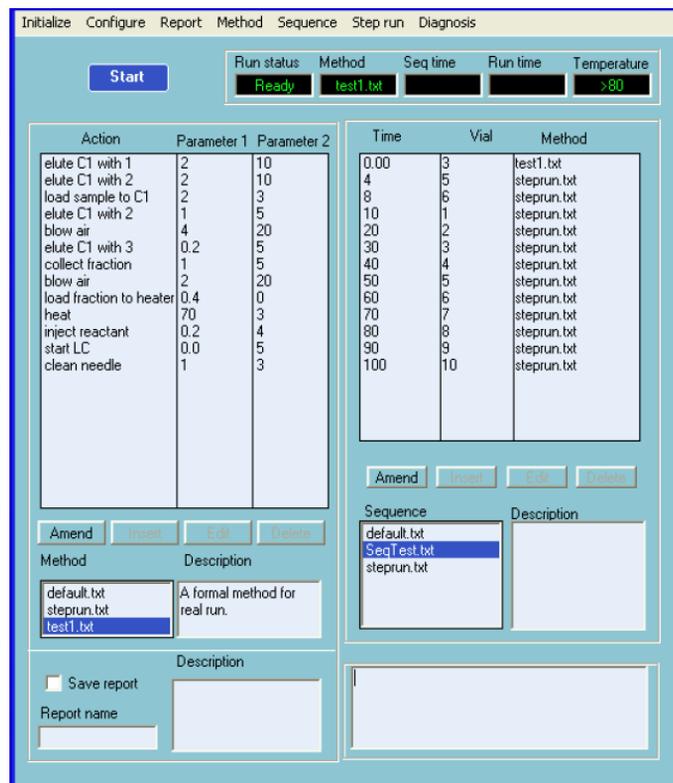
The *f*-SPE uses built-in methods to do offline SPE. It does not need a computer. Each step setting in the method controls action, flow rate, and volume. Methods can be easily edited and permanently saved. The operation of *f*-SPE involves only 7 buttons as shown in right figure. The *f*-SPE will automatically process samples according to the selected method.



[B] Full functional online sample preparation

In online mode, a computer with controlling software is applied to control *f*-SPE to perform full-functional sample preparation. The control software for online SPE is user friendly and is compatible with most existing HPLC and LCMS softwares. The *f*-SPE software uses methods and sequences for the automation. The screenshot on the right shows the online controlling software. It has similar structure as Agilent ChemStation. Users of HPLC can easily understand the controlling software.

There are more action functions in online mode than offline mode. Proper selection and combination of the action functions can easily perform the full-functional sample preparations. When worked with ChiralTek high-performance SPE cartridges. The *f*-SPE can automatically fulfill all necessary actions for solid phase extraction, such as conditioning of SPE columns, sample loading, cleaning tubing, drying sorbent, elution, fraction collection, and pre-concentration. It also can provide further online derivatization (optional) with two reagents and automatic online injection to HPLC or LCMS immediately after the extraction of the samples. The *f*-SPE can also be directly used as an autosampler for HPLC.



[C] Automatic sample preparation with flexible and versatile applications

The *f*-SPE is a multiple functional platform for automatic sample preparations. This automatic sample preparation is not only faster than manual sample pre-treatment, it provides more precise results by reducing human error and improves laboratory safety and efficiency. The ChiralTek *f*-SPE can automatically process large number of different types of complicated samples when the system is properly configured with well-arranged online action functions.

4. ChiralTek *f*-SPE order information

ChiralTek *f*-SPE system is designed to have many different configurations to meet users' different requirements for multiple tasks. The order information for two typical basic configurations is listed below.

| ChiralTek <i>f</i> -SPE order information | | |
|---|---|----------|
| Part No. | Description | Remarks |
| 982-FSPE-01 | Include a <i>f</i> -SPE mainframe with 14-port valve, a pack of SPE cartridges, 24 volt power supply, a pack of accessory parts, and user manual. | 110-240V |
| 982-FSPE-02 | Include a <i>f</i> -SPE mainframe with 18-port valve, a pack of SPE cartridges, 24 volt power supply, a pack of accessory parts, and user manual. | 110-240V |

Please directly contact ChiralTek team in Singapore (Tel: 65-93656129 or 86-95040358310, Email: info@chiraltek-column.com; sales@chiraltek-column.com) for enquiry of other configurations and distributor's price. Please visit English website <http://chiraltek-column.com> or Chinese website <http://cbook.antpedia.com/6755> for downloading the updated brochure and product manual.