

High Performance Pressurized Solvent Extraction

Your **L**ab Our **T**ech

LabTech Group

LabTech (Stock Code: 688056.SH) was established in 2002 as a global technology company, structured around integrated functions including R&D, manufacturing, sales, and customer support. We are committed to the development of innovative scientific instruments and equipment, serving a broad range of fields such as environmental monitoring, food safety, pharmaceuticals, disease control, and materials research. By providing practical, reliable laboratory solutions, LabTech has become a trusted one-stop partner for customers across diverse scientific disciplines and industries.

LabTech currently holds more than 100 patents and software copyrights. We are a certified High-Tech Enterprise and have been consistently recognized as one of the “Most Influential Enterprises” in China’s instrumentation industry. LabTech is a leading global supplier specializing in the integration of multi-type, multi-functional sample preparation technologies and analytical systems into fully automated laboratory platforms.

We own multiple brands including **LabTech**, **CDS Analytical**, and **Empore™**, with R&D and production centers located in both China and the United States. Our sales and service networks span Massachusetts and Pennsylvania in the U.S., Hong Kong, and major cities across China. Our comprehensive product portfolio includes analytical instruments, sample preparation systems, general laboratory equipment, medical devices, consumables, and laboratory engineering services— all designed to support customers with a true one-stop solution. To date, LabTech products have been delivered to over 100 countries and are trusted by nearly 30,000 customers worldwide.



WORKING PRINCIPLE

HPSE is a sample preparation instrument that features new, high-performance solvent extraction technologies developed by LabTech. It uses liquid solvents to extract target compounds from solid or semi-solid samples under high temperature and pressure, which increases the extraction speed and compound recovery efficiency. It is an ideal alternative to conventional extraction methods, such as Soxhlet extraction, as it greatly speeds up the extraction process and significantly reduces solvent consumption

Description	Extraction Time	Solvent
Soxhlet extraction	4-48h	200-500ml
HPSE	0.2-0.3h	15-45ml

APPLICATION



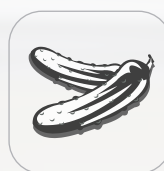
Environment

SVOCs in soil, solid-waste, atmospheric samples e.g. PCBs, insecticide, herbicide, dioxins and furans, specific heavy metal pollutants, petroleum hydrocarbons, PAH, pesticide residues, etc.



Food and Feed

Antibiotics, residues of pesticide and veterinary drugs, PCBs, arsenic, bromide compounds and PAH, etc.



Agricultural products

Pesticide residues in crops (e.g. tea), oil in seeds, etc.



Others

Petrochemical, plastic, polymers, health care products etc.

Methods

- ASTM D7567-2009 Standard Test Method for Determining Gel Content in Crosslinked Ethylene Plastics Using Pressurized Liquid Extraction
- EPA Method 3545A Pressurized Fluid Extraction (PFE)
- HJ783-2016 Extraction of organic matter from soils and sediments by pressurized fluid extraction
- HJ782-2016 Extraction of organic matter from solid waste by pressurized fluid extraction
- HJ956-2018 Determination of Benzo [a] pyrene in ambient air by high performance liquid chromatography
- Determination of 475 pesticides and related chemical residues in grain -- Gas chromatography-Mass spectrometry
- GB/T23376-2009 Determination of pesticide residues in tea by Gas chromatography/Mass spectrometry
- GB/T22996-2008 Determination of various ginsenosides in ginseng by Liquid chromatography-Ultraviolet detection

Flex-HPSE Automatic High Performance Solvent Extraction

Flex-HPSE automatic high performance solvent extractor is specially designed and developed for extraction of SVOCs in solid and semi-solid samples. Two samples can be processed at a time, and up to 48 samples can be extracted continuously. The system is compatible with a wide range of extraction vessels from 1mL to 100mL. With innovative anti-clogging design, it well solved the industry pain points of complex samples and can be widely applied in the environment, food, solid waste, petrochemical and other fields.

Stable automatic platform with high reliability in continuous operation

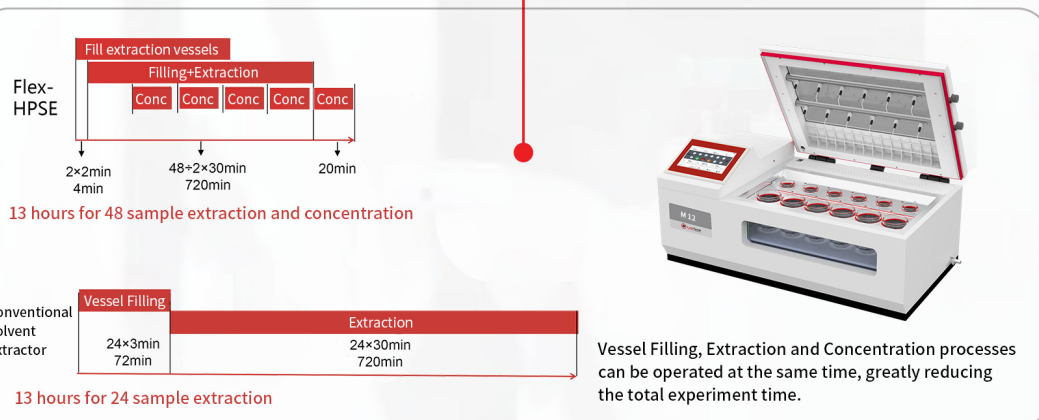
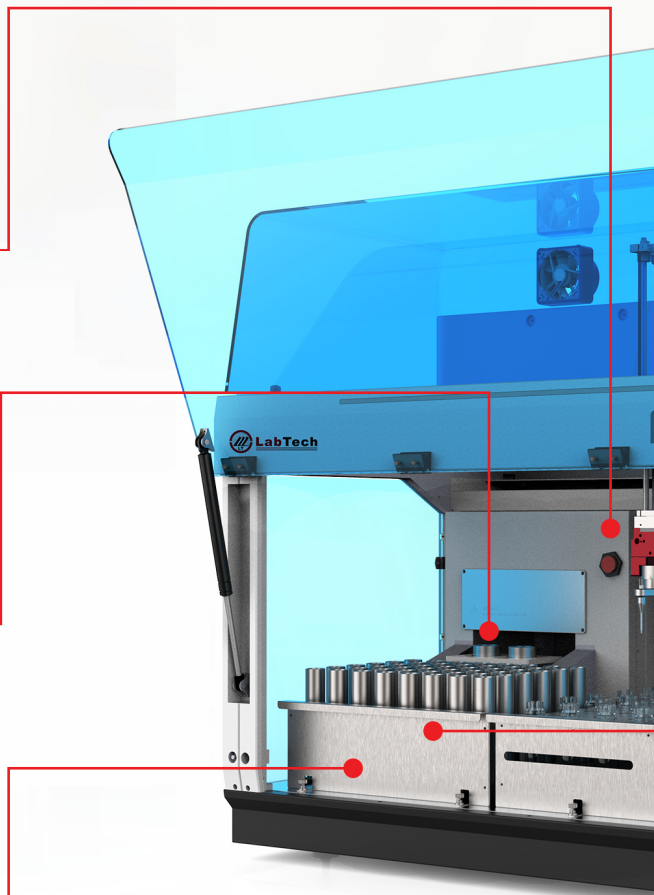
- The extraction process is fully automated by using the mature international XYZ 3D platform and the extraction vessel is automatically gripped by the claw and put into the heating chamber.
- The mechanical claw grips the collection tools for septum sealing collection to avoid splashing and volatilization of liquid.

The innovative sealing structure design prevents leakage, ensuring greater stability.

- Unique sealing technique automatically seals the extraction vessel before extraction, eliminating the need for manual sealing, preventing potential leakage, and ensuring the stability of the continuous sample process.

Dual-channel, fully automatic system with 48 positions—saves more than twice the time

- The extraction time of dual channels is half that of the single channel
- With flexible operation, you can pre-load just two samples and start the extraction of all 48 positions in sequence. This allows you to use the extraction time to fill the next two vessels, greatly reducing the total experiment time.
- The collection vials can be removed at any time for concentration, so the sample concentration can be performed before all extraction are finished, further reducing the total experiment time.
- Combine with M12 automatic parallel concentrator without sample transfer





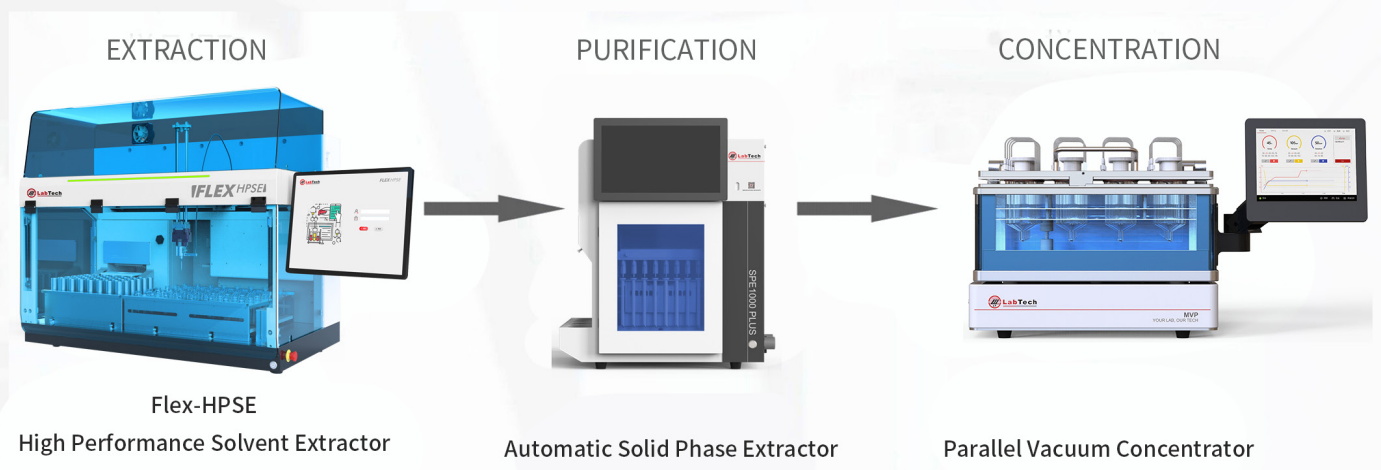
**Comprehensive safety protection,
environmental friendly and more intelligent**

- Fully enclosed platform with active exhaust design avoids volatilization of toxic and harmful solvents and no need fume hood.
- Standard 17-inch touch terminal with various output interface including VGS, USB, and Lan etc., no need extra PC and reduce the laboratory space.
- Access level management and can generate reports after the end of the experiment; traceability of all operations.

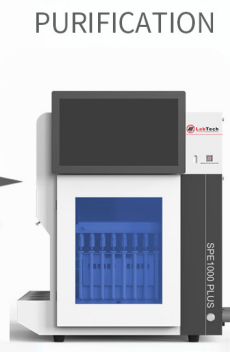
Support various vessels

- 8 types of extraction vessels from 1~100ml to meet different extraction requirements of soil and air samples
- Various collection vials from 50~200mL as well as concentration cup with tail tube to satisfy different application needs

TOTAL SOLUTION



Flex-HPSE
High Performance Solvent Extractor



Automatic Solid Phase Extractor



Parallel Vacuum Concentrator

High Performance Solvent Extractor/ 3

HPSE-6 High Performance Solvent Extraction

HPSE-6 high performance solvent extractor is designed for extraction of SVOCs in solid and semi-solid samples. Up to 6 samples can be processed simultaneously. The system is compatible with wide range of extraction vessels and flexible channel combination. With innovative anti-clogging design, it effectively addresses the industry's pain points related to complex samples and can be widely applied in the environment, food, solid waste, petrochemical and other fields.

Premium efficiency

Built-in 6-channel pressure solvent extraction module which can achieve six sample extraction simultaneously and easily complete 96 samples a day.

High compatibility

Compatible with 1ml, 5ml, 10ml, 22ml, 34ml extraction vessels, as well as 50-200ml collection vials and concentrate cups.

Anti-clogging design

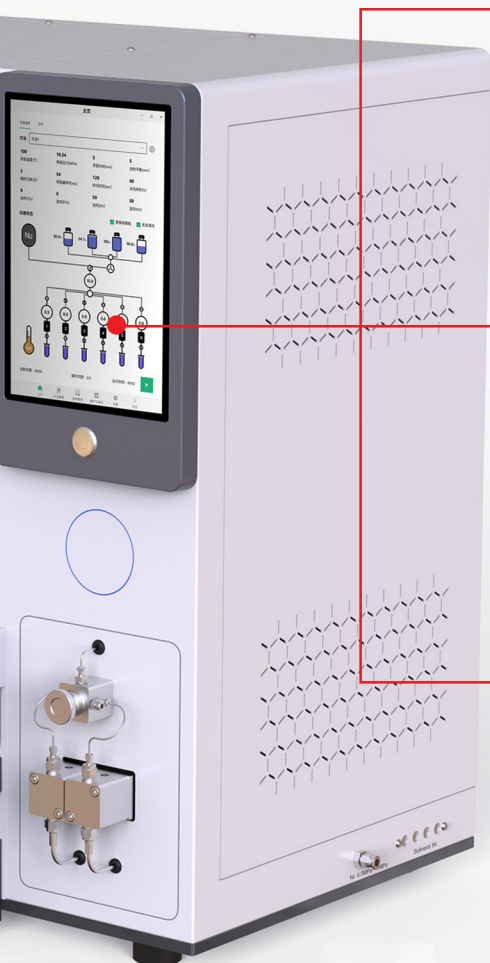
Innovative design to avoid clogging flow path such as independent channel valve and collection lines, larger inner diameter of valve and collection lines, higher pressure resistant valves, etc. This design effectively prevents clogging and ensures continuous operation, even with complex samples.



Patented anti-clogging design



Upgraded anti-clogging pipes



Fast pressure and temperature increase

PID process control, it takes 6min for 34mL vessel pressure boost from ambient to 10.34Mpa. Heating from 30°C to 120°C takes only 4 minutes.

Flexibility

6 channels can be operated individually or in a combination without any limitation of sample qty.

User-friendly operation

Built-in touch screen terminal with intuitive interface, residual solvent reminder, consumables usage counter and reminder.

TOTAL SOLUTION

EXTRACTION



HPSE-6

High Performance Solvent Extractor

PURIFICATION



Automatic Solid Phase Extractor

CONCENTRATION



Automatic Parallel concentrator

HPSE-2 High Performance Solvent Extraction

HPSE-2 high performance solvent extractor is designed for extraction of SVOCs in solid and semi-solid samples. 2 samples can be processed simultaneously. It provides wide range of extraction vessels from 1~100mL to meet various application needs in one unit. With innovative anti-clogging design, it well solved the industry pain points of complex samples and can be widely applied in the environment, food, solid waste, petrochemical and other fields.

Fast flowrate

Multiple sets of high pressure pump design, fluid delivery is more powerful and faster, with shorter extraction time.

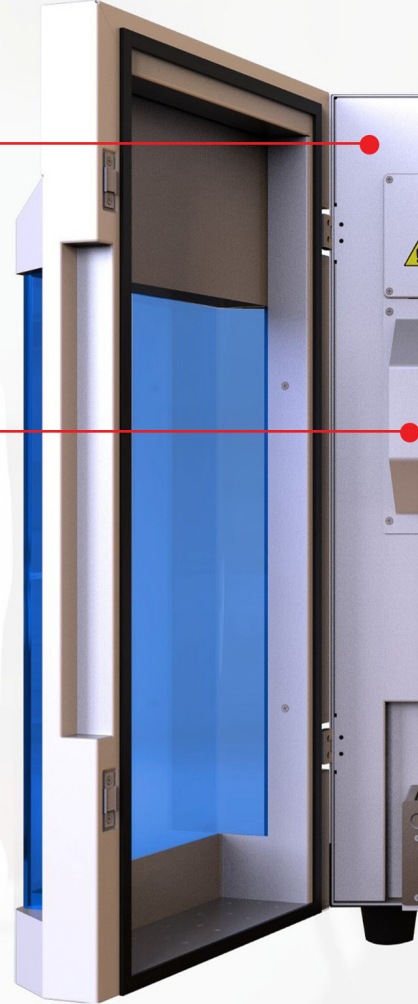


Wide application

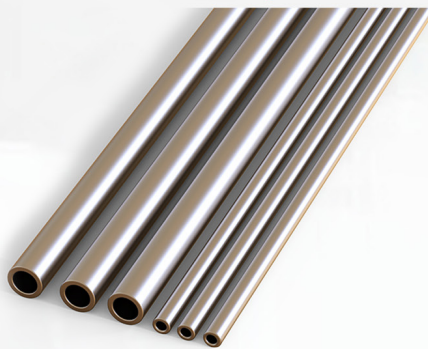
Compatible with extraction vessels 1mL~100mL to fit for wide application needs in fields such as environmental (soil, air) food detection,

Anti-clogging design

Innovative design to avoid clogging flow path such as independent channel valve and collection lines, larger inner diameter of valve and collection lines, higher pressure resistant valves, etc. This design effectively prevents clogging and ensures continuous operation, even with complex samples.



Patented anti-clogging design



Upgraded anti-clogging pipes



Innovative sealing structure design prevents leakage

The unique sealing technique automatically seals the extraction vessel before extraction, eliminating the need for manual sealing and preventing potential leakage.

User-friendly operation

Touch control screen with graphical interface, real-time display of operation information

Safe and environmental friendly

Enclosed system with its own ventilation design, avoids volatilization of toxic and harmful solvents. It can be directly connected to the laboratory ventilation system, fume hood is not needed

TOTAL SOLUTION



HPSE-2
High Performance Solvent Extractor



Automatic Parallel Concentrator

CONCENTRATION SOLUTION

M12 Quantitative Parallel Concentrator

With this system it is possible to concentrate into a fixed end-point volume or dry samples. While saving the precious fume hood resources in the laboratory, it is easy to operate, unattended, automatically prompts when the concentration is completed, and has a short evaporation time.

- Upto 12 sample positions work simultaneously or individually, support 200ml and 50ml concentration cups simultaneously
- Vortex nitrogen purge to get the highest concentration efficiency. The location and direction of nitrogen purge can be adjusted according to the concentration cup size and sample volume
- Concentration process is visible with the front window and top window and light inside
- Enclosed system with built-in highly efficient vapor exhausting system, fume hood space can be saved
- Automatic detection of each liquid endpoint 1ml, 0.5ml and nearly dry 0ml



MVP vacuum concentrator is widely used for the preparation of environmental samples, natural products, food and agricultural product samples, and heat-sensitive products. It achieves high throughput automatic evaporation of liquid samples through vacuum, heating, and rotation. It improves work efficiency and sample recovery, reduces human errors, and enhances the accuracy of analysis. Specific solvent recovery design makes the unit greenest and protects the laboratory environment and the operator health.

Flex-MVP Automatic Parallel Vacuum Concentrator

Super batch processing capability: 16 sample positions and being compatible with 200ml, 50ml and other different sizes of sample tubes. Integral or independent sealing, concentration vials can be freely added or removed any anytime without system pressure releasing at high efficiency.

- Flexible and free access at any time: Integral & independent sealing 2-in-1 design, no needs to pause the instrument or pressure relief for all samples, single sample can be added and removed at any time, without affecting the concentration process of other samples
- Safe and Simple Operation: Flip-top design for the evaporation cover. It features a convenient snap-lock safety lock design, without disassembly for sealing and opening of the cover
- Prevent cross-contamination: Each sample vessel is sealed and discharged independently through its own pipeline, avoiding liquid transfer issues caused by sample boiling, preventing cross-contamination and refluxing
- Fully surrounded heating with high evaporation efficiency: The whole sample vial is fully immersed and heated in the water bath, which is not exposed in the air, and improves the evaporation efficiency
- High visibility: Transparent concentration chamber design for easy observation



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LabTech-2508-0.1