4simple | simple/safety/efficient
安全 / 简单 / 高效

CipherBook Tech

Challenge Lab Odors
Ensure Safe Waste Liquid Storage

Dong Miao Miao
Sales Manager

Xingtai Cipherbook Technology Co., Ltd.
Tel:(86)1 3 2 6 1 2 1 2 0 0 9
Web: www.4simple.cn
Add: Neiqiu County, Xingtai, Hebei, China

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CipherBook Tech
laboratory waste liquid collection solution

2025-2026
User Manual

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The information in this manual has been checked. To support continuous development, we reserve the right to change specifications.



CipherBook Tech

2025-2026 D
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One-stop Laboratory Waste Liquid Collection Solution Supplier

Brand Introduction

Xingtai Cipherbook Technology Co., Ltd. is a supplier specializing in safe laboratory waste liquid collection solutions, integrating independent product R&D, production, and sales . The company was founded by engineers who have long been active in petrochemicals, biomedicine, and laboratory equipment. Its members include PhD lecturers, programmers, and senior industrial design directors. The shared belief of " Challenge Lab Odors, Ensure Safe Waste Liquid Collection" brought them together. The company was established to protect users in analytical laboratories from harmful substances in the working environment. With long-term laboratory experience, they understand the details and pain points of experimental work . To date, we have developed 5 4simple product categories: Safety Funnel, Safety Station, Safety Supply Caps, Safety Waste Caps, and Pipeline Waste Liquid Collection System. Together, they form a product portfolio of 90 product and accessory sets. The Cipherbook Tech team is committed to making every product better and providing a dedicated solution for every laboratory waste liquid collection scenario.

Advantages

1. Comprehensive product portfolio: more than 90 product sets can adapt to any laboratory waste liquid collection scenario.
2. Strong design capability: focused and professional, with one-on-one communication directly with PhDs in chemical engineering or senior product designers.
3. In-house supporting processing factory: supports customization, non-standard customized design, and rapid delivery.
4. Excellent product performance: SGS testing and certifications provide safety and reliability.

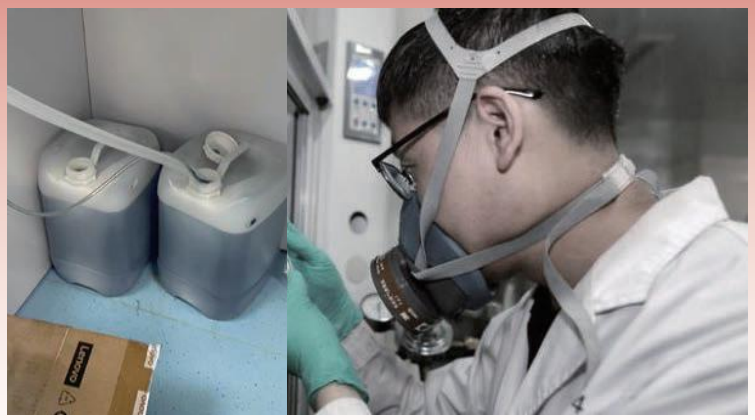
High-efficiency Filtration to Remove Odors

Working Principle

Waste liquid is discharged into the waste liqui d container through the waste liquid tubing. Organic waste gas is filtered by the waste gas filter, which can adsorb most volatile ga seous substances from the waste liquid collection container. Whe ther they are organic solvents or chemicals with similar hazards, t hey can be effectively adsorbed. Its environmental purification pe rformance is no less effective than that of a fume hood. After long-term repeated comparative testing, effective adsorption for up to six months is ensured for worry-free safety.

1. The dual-layer HE PA + dual nano-mineral crystal and modified activated carbon filt er can actively adsorb and catalytically decompose toxic and har mful gases, ensuring that waste gas is fully adsorbed.
2. Chemic als in waste liquid containers are highly prone to chemical reactio ns. The filter can filter and vent harmful gases, reduce pressure i nside the container, and effectively control explosion risks.
3. Imp rove the laboratory environment and protect the physical and me ntal health of personnel.





Why Safe Collection Is Needed

Volatile organic solvents are a major source of lab air pollution and odors. High solvent vapor levels may cause headache, dizziness, nausea, and other symptoms, seriously affecting lab personnel. More than 90% of laboratories use organic solvents. To improve lab safety, solvent-using labs need sealed waste liquid collection units. 4simple sealed collection units prevent secondary pollution from waste liquid vapor and help protect lab personnel.





1 Waste Liquid Types

Organic/Inorganic

Laboratory waste liquid refers to toxic or hazardous liquid pollutants generated during experiments, including waste liquids, liquid intermediates, and high-concentration cleaning solutions. By chemical properties, it is generally divided into organic and inorganic waste. Organic waste includes oils, halogenated or non-halogenated organic solvents, and formaldehyde-containing solvents. Inorganic waste includes heavy-metal waste, acidic or alkaline waste, hexavalent chromium, mercury, cyanide, and fluoride waste.

2 Highly Volatile & Flammable

When chemical waste is kept in open containers, colorless, odorless flammable vapors slowly escape into the air. Any spark or flame can ignite them and spread to other areas, causing serious losses. In sealed containers, vapor buildup may pressurize bottles or swell drums. These harmful gases endanger health, and static discharge or open flame may cause fires or explosions.

Corrosive & Sensitizing

Evaporation of organic solvents is a major cause of laboratory air pollution and odor. Excessive vapor concentrations cause headaches and dizziness, endangering health. Most organic vapors irritate skin and eyes; vapors of acids, amines and isocyanates are strongly corrosive and sensitizing, damaging skin, mucous membranes and corneas. Methanol and acetonitrile also harm the optic nerves once absorbed.

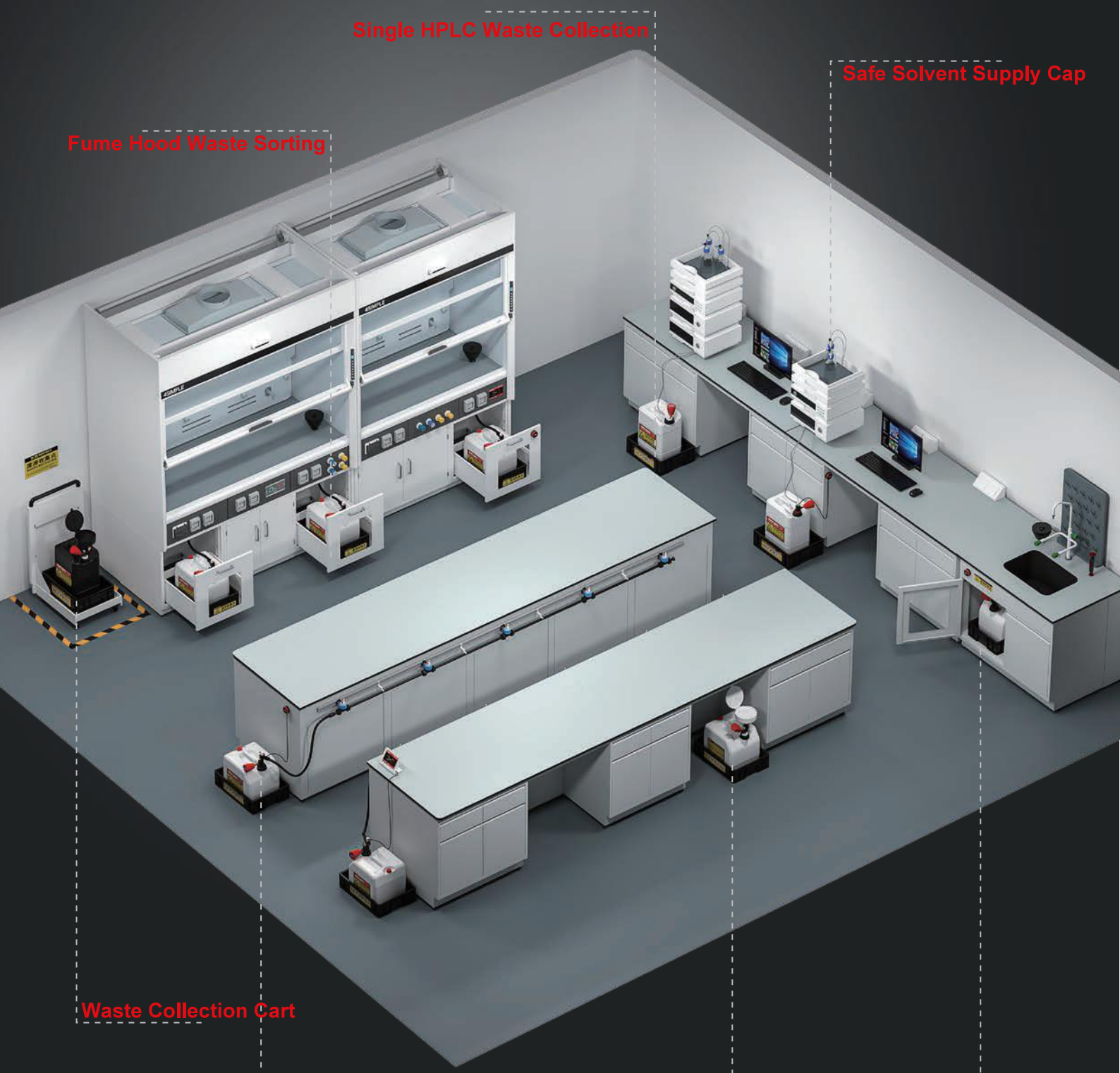






Application Scenarios

To date, we have developed 5 product categories under the 4simple brand - Safety Funnels, Waste Collection Stations, Safe Solvent Supply Caps, Safety Waste Caps and Pipeline Waste Liquid Collection Systems - comprising a portfolio of 90 product and accessory sets. The Cipherbook Tech team is committed to perfecting every product and providing a dedicated solution for every laboratory waste collection scenario. With IoT and big-data technologies and professional product design tools, we focus on whole-life-cycle management of hazardous chemicals and laboratory waste, creating simple, safe and efficient products.



Application Scenarios





1 Scenario 1: Sink Waste Collection
Collects routine acid/alkali waste; fixed, spill-proof secondary container.

2 Scenario 2: Fume Hood Waste Collection
Sealed recovery of lab waste; filters toxic gases; auto level-sensor alarm.





3 Scenario 3: Central Island & Side Bench Waste Collection
Installed below the bench with flip-top funnel for easy use; supports static grounding and sealed storage. Built-in filter balances pressure to prevent explosions - for inorganic/organic hazardous liquids.





4 Scenario 4: Safe Solvent Supply & LC Waste Collection
Supply caps cut solvent evaporation by 99%, prevent moisture uptake and filter PM2.5 for accurate data.S60 & GL45 caps with standard threads safely collect mobile-phase waste, filter VOCs, multi-ports.



Safety Wastecaps

Applications

HPLC waste collection / atomic absorption (AA) waste collection

GC-MS waste collection / waste collection for monitoring lab instruments

Key Features

- GL45/S60 universal threaded ports fit standard laboratory waste containers.
- Nano-mineral crystal filter adsorbs toxic gases and balances container pressure.
- Multi-functional tubing ports match various capillaries and silicone hoses.
- Sealed waste recovery for a safer laboratory.



Safety Collection Manifold



GL45 Safety Cap



S60 Safety Cap



6-Month Label

Visual time-color indicator
Manual activation

HEPA Microporous Filter

Front-rear dual-layer design
Traps fine particles

Modified Activated Carbon + Nano Mineral Crystals

Quickly adsorbs volatile harmful gases (acids, alkalis, organic solvents)
Fast adsorption & decomposition

Liquid Level Window

Direct level indication

PTFE (Teflon) Inner Cap

Excellent chemical stability
Excellent electrical insulation
360° free rotation for easy swap
Prevents tubing tangling

FKM Sealing Ring

Excellent sealing and corrosion resistance
Prevents vapor leaks at the container opening



Mechanical Alarm Float

At 80% liquid level or above, float provides visual alert.



6-Month Label
Shows elapsed service time

HEPA filter
dual-layer design
Traps fine particles

Activated Carbon + Nano Mineral Crystals
Quickly adsorbs volatile harmful gases

HEPA filter
dual-layer design
Traps fine particles

FKM Sealing Ring
Ensures leak-free sealing

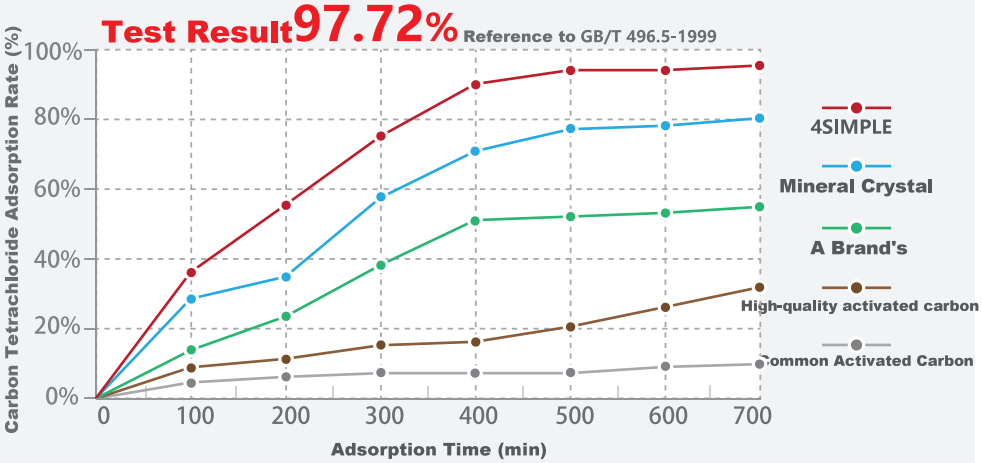


Service Life
12 Month
Order No./ SP-0007B

High-efficiency Filter

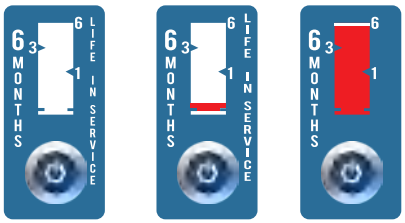
- Efficiently filters common harmful gases
- Reduces pressure in sealed containers
- Multiple filter materials work together

In the 4Simple product series, this high-efficiency filter is commonly used in product lines such as the Safety Funnel and the Safety Station. It is mainly used to adsorb volatile organic co mpounds from waste liquid containers, preventing gas escape and secondary contaminat ion. The high-efficiency filter uses three types of filtration and adsorption materials: activa ted carbon, molecular sieve, and micron-grade filtration membrane. These materials can adsorb volatile organic compounds, VOCs, water molecules, and common acidic and alk aline gases . We collected common filtration and adsorption materials on the market, inclu ding activated carbon and mineral crystals, and sent them to a university chemical engine ering laboratory and SGS-CSTC Standards Technical Services Co., Ltd. for testing and e valuation. The results were consistent: the adsorption material used in the 4SIMPLE high -efficiency filter achieved an effective adsorption rate of 97.72% for carbon tetrachloride.





Service Life
6 Month
Order No./ SP-0007A



1.Activate the Switch 2. Check the Change 3. Label expires



Order No. / SW6001A **Product / S60 Safety Waste Cap**

Component	Details
GL45 Safety Cap ×1	Cap: HDPE, S60 thread, PTFE inner cap with FKM seal
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Level Gauge ×1	Float-type level indication
Barbed Fitting ×1	PP, M8 thread, for silicone hoses; size configured on site
Tapered Fitting ×2	PP, 1/4-28 thread, for OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SW6002A **Product / S60 Safety Waste Cap**

Component	Details
GL45 Safety Cap ×1	Cap: HDPE, S60 thread, PTFE inner cap with FKM seal
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Level Gauge ×1	Float-type level indication
Tapered Fitting ×3	PP, 1/4-28 thread, for OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SW6011A **Product / S60 Safety Waste Cap**

Component	Details
GL45 Safety Cap ×1	Cap: HDPE, S60 thread, PTFE inner cap with FKM seal
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Level Gauge ×1	Float-type level indication
Barbed Fitting ×4	PP, M8 thread, for silicone hoses; size configured on site



Order No. / SW6010A **Product / S60 Safety Waste Cap**

Component	Details
GL45 Safety Cap ×1	Cap: HDPE, S60 thread, PTFE inner cap with FKM seal
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Level Gauge ×1	Float-type level indication
Barbed Fitting ×2	PP, M8 thread, for silicone hoses; size configured on site
Tapered Fitting ×2	PP, 1/4-28 thread, for OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SW6005A **Product / S60 Safety Waste Cap**

Component	Details
GL45 Safety Cap ×1	Cap: HDPE, S60 thread, PTFE inner cap with FKM seal
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Level Gauge ×1	Float-type level indication
7-Ch. Manifold ×1	HDPE, M18 thread, 7 channels: 4 tapered + 3 barbed ports
Barbed Fitting ×3	PP, M8 thread, for silicone hoses; size configured on site
Tapered Fitting ×4	PP, 1/4-28 thread, for OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SW6012A **Product / S60 Safety Waste Cap**

Component	Details
GL45 Safety Cap ×1	Cap: HDPE, S60 thread, PTFE inner cap with FKM seal
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Level Gauge ×1	Float-type level indication
Barbed Fitting ×1	PP, M8 thread, for silicone hoses; size configured on site
Tapered Fitting ×4	PP, 1/4-28 thread, for OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SW6006B Product / S60 Safety Waste Cap

Component	Details
S60 Integrated Cap ×1	Caps, 75° filter elbow, level sensor; HDPE; S60 thread
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Magnetic Alarm ×1	Sounder alarm, 2023 button cell 6V, magnetic mount
4-Ch. Manifold ×1	HDPE; 1/4-28 tapered ports ×2, M8 barbed ports ×2
Barbed Fitting ×2	PP, M8 thread, for silicone hoses; size configured on site
Tapered Fitting ×2	PP, 1/4-28 thread, for OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SW6006A Product / S60 Safety Waste Cap

Component	Details
S60 Integrated Cap ×1	Caps, 90° filter elbow, level sensor; HDPE; S60 thread
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Magnetic Alarm ×1	Sounder alarm, 2023 button cell 6V, magnetic mount
4-Ch. Manifold ×1	HDPE; 1/4-28 tapered ports ×2, M8 barbed ports ×2
Barbed Fitting ×2	PP, M8 thread, for silicone hoses; size configured on site
Tapered Fitting ×2	PP, 1/4-28 thread, for OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SW4501A Product / GL45 Safety Waste Cap

Component	Details
GL45 Safety Cap ×1	Cap: PP, GL45 thread, PTFE inner cap with FKM seal
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Tapered Fitting ×2	PP, 1/4-28 thread, for OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SW4502A Product / GL45 Safety Waste Cap

Component	Details
GL45 Safety Cap ×1	Cap: PP, GL45 thread, PTFE inner cap with FKM seal
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Barbed Fitting ×1	PP, M8 thread, for silicone hoses; size configured on site



Order No. / SW4511A Product / GL45 Safety Waste Cap

Component	Details
GL45 Safety Cap ×1	Cap: PP, GL45 thread, PTFE inner cap with FKM seal
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Barbed Fitting ×1	PP, M8 thread, for silicone hoses; size configured on site
Tapered Fitting ×2	PP, 1/4-28 thread, for OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SW4512A Product / GL45 Safety Waste Cap

Component	Details
GL45 Safety Cap ×1	Cap: PP, GL45 thread, PTFE inner cap with FKM seal
Universal Filter ×1	No. SP0007A universal; adsorbs VOCs and acid/alkali gases
Barbed Fitting ×1	PP, M8 thread, for silicone hoses; size configured on site
Tapered Fitting ×1	PP, 1/4-28 thread, for OD 1.6/2.0/2.5/3.0/3.2 mm tubing



In the HPLC workflow,

"small" parts make a big impact



Solvent Supply Cap Series

Anti-evaporation protection.

The safety cap is fully sealed - no solvent vapor escapes. It fits all HPLC/UHPLC brands, is optimized for common chromatography solvents, and every solution is fully field-tested.

Stable chemical resistance: high-performance plastics with defined, verifiable properties (SGS-tested); meets latest national and industry standards.

Safe pressure balance.

As solvent is drawn, negative pressure builds in the container; the one-way air valve keeps pressure safely balanced during HPLC operation.

Pure mobile phase.

The PTFE membrane in the one-way air valve filters dust and dirt from ambient air, ensuring undisturbed analysis with clearly separated, non-overlapping peaks.

Stable mixture.

The sealed system keeps solvent concentration stable - components no longer evaporate and the mixing ratio stays unchanged.

No risk of air ingress.

PTFE tubing is firmly gripped by the tapered fitting and cannot slip out of the bottle, preventing interruptions from air entering the instrument.

Fault-free operation.

The cap removes interference factors right on the container for smooth, reliable operation. Bottle changes are simple: the freely rotating cap lifts off with tubing attached - no tangles.

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A small cap, against big risks

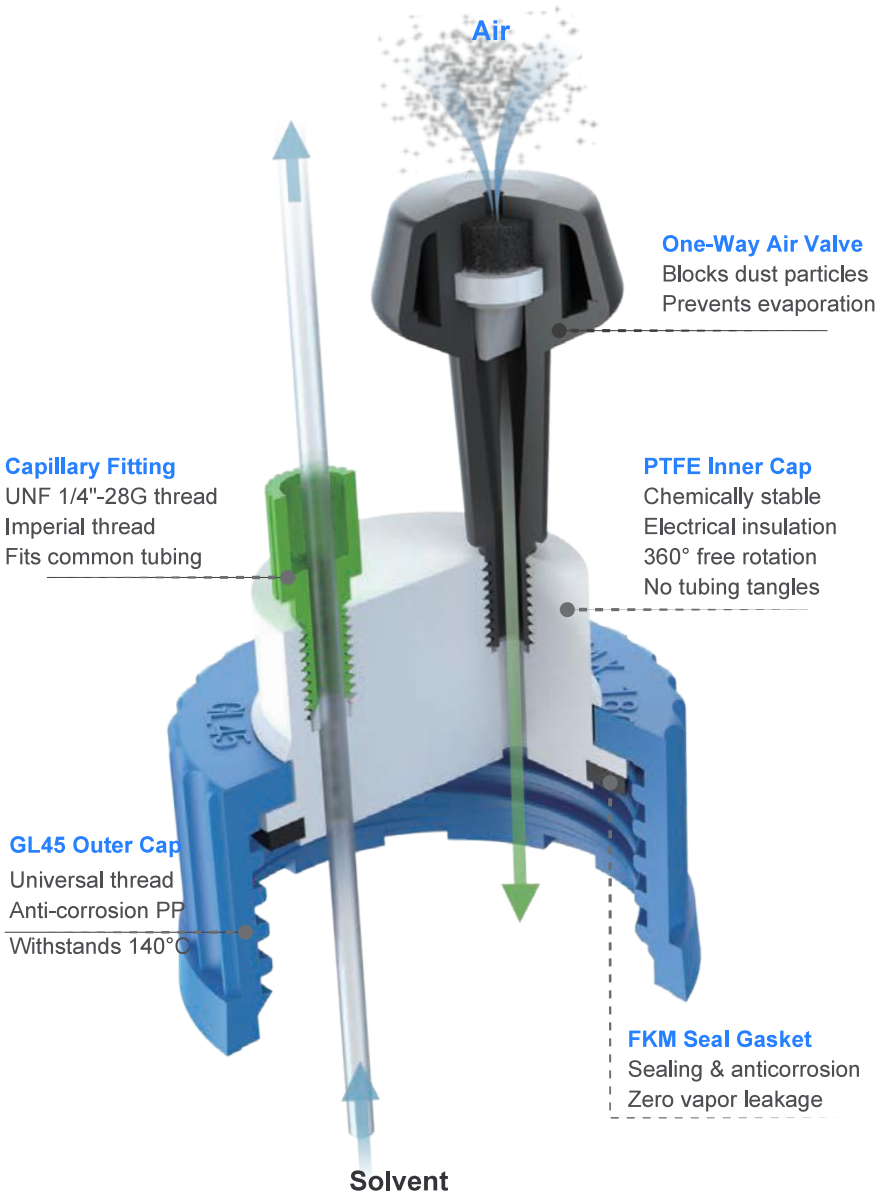
Cipherbook Tech's innovative products improve chromatography efficiency and ease of use - for more accurate results, saving you time and worry.

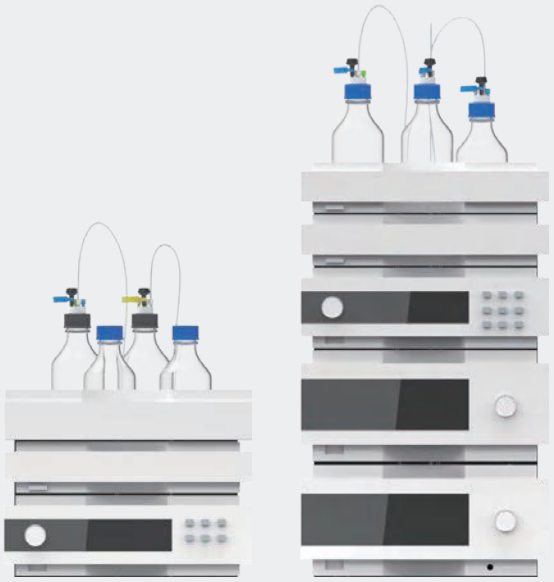
The bottle connects to the HPLC system through the supply cap in a closed loop that prevents solvent evaporation. While the instrument runs, air enters through the cap's air valve, balancing pressure during delivery and filtering incoming air. When it stops, the check valve closes automatically to prevent evaporation and moisture uptake.

The cap maximizes lab safety and result stability, keeping operators away from solvent odors and long-term health risks.

With the 4SIMPLE cap, you can face quality and safety inspections with confidence.







Prevent Harmful Vapor

In daily HPLC work, toxic solvents like acetonitrile and methanol harm health. The check valve blocks 99.9% of solvent release, protecting you and colleagues.

Avoid Solvent Pollution

The cap stops evaporation, moisture uptake and fine dust that affect chromatography results. Airtight storage keeps solvents stable and results accurate.

Easy Bottle Replacement

Dual-cap design, tangle-free swaps.

Multi-Size Tubing Fit

With adapters for tubing sizes (1.6-3.2 mm) for sealed connections in all conditions.

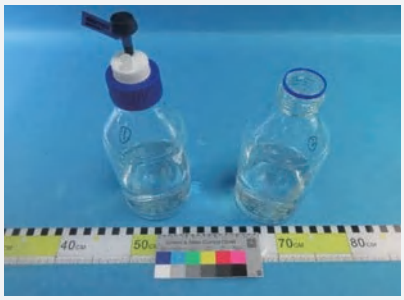
Safety Cap Effectiveness Comparison Test

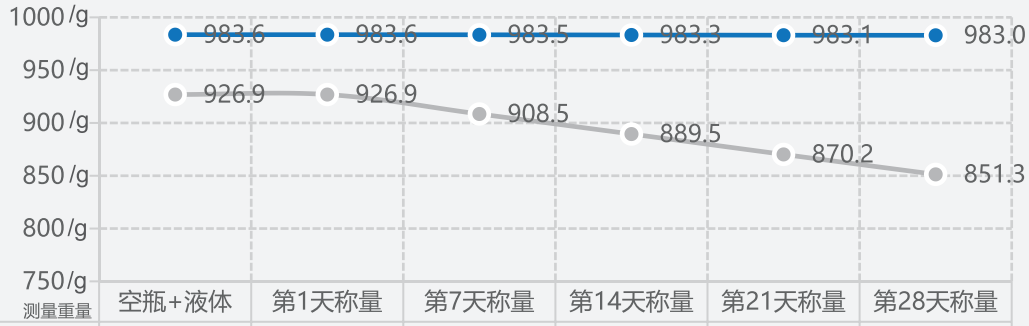
Test Lab: SGS Shanghai

Test Item: Air-tightness test of the one-way valve product

Test Equipment: Mettler-Toledo ML4001 balance

Test Conditions: Pour 500ml of methanol/water mixture (80:20) and acetonitrile/water mixture (50:50) into four 1L solvent bottles. In each group, one bottle is sealed with the sample cap and the other left open. Weigh and record the mass at 7, 14, 21 and 28 days.



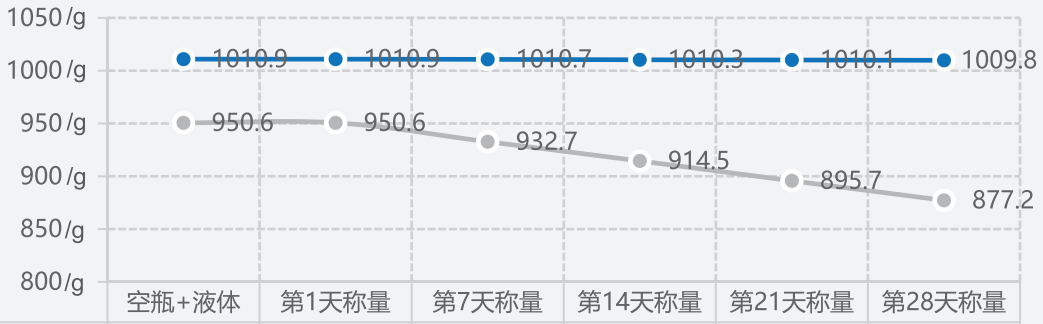


80% Methanol

测量重量	空瓶+液体	第1天称量	第7天称量	第14天称量	第21天称量	第28天称量
无盖	926.9	926.9	908.5	889.5	870.2	851.3
有安全盖	983.6	983.6	983.5	983.3	983.1	983.0

无盖 有安全盖





50% Acetonitrile

	空瓶+液体	第1天称量	第7天称量	第14天称量	第21天称量	第28天称量
无盖	950.6	950.6	932.7	914.5	895.7	877.2
有安全盖	1010.9	1010.9	1010.7	1010.3	1010.1	1009.8

无盖 有安全盖

Test Results:

Cap Type	Methanol Loss g	Methanol Loss %
Open Bottle	75.6	18.2
4SIMPLE Solvent Cap	0.6	0.14

30-day evaporation with safety cap **0.14%**

Open Bottle	Acetonitrile Loss g	Acetonitrile Loss %
Cap Type	73.4	15.1
4SIMPLE Solvent Cap	1.1	0.23

30-day evaporation with safety cap **0.23%**

Easy. Simple. Efficient.

Blocks 99.9% of solvent emissions

Nothing matters more than your health



Ordering Information



Order No. SC4501B 140℃

Component	Details
GL45 Safety Cap ×1	Cap: PP, GL45 thread, PTFE inner cap with FKM seal
Check Valve ×1	HDPE one-way filtered air inlet, 1/4-28 thread
Tapered Fitting ×1	PP, 1/4-28 thread, OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. SC4502B 140℃

Component	Details
GL45 Safety Cap ×1	Cap: PP, GL45 thread, PTFE inner cap with FKM seal
Check Valve ×1	HDPE one-way filtered air inlet, 1/4-28 thread
Tapered Fitting ×2	PP, 1/4-28 thread, OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. SC4503B 140℃

Component	Details
GL45 Safety Cap ×1	Cap: PP, GL45 thread, PTFE inner cap with FKM seal
Check Valve ×1	HDPE one-way filtered air inlet, 1/4-28 thread
Tapered Fitting ×3	PP, 1/4-28 thread, OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. SC4504B 140℃

Component	Details
GL45 Safety Cap ×1	Cap: PP, GL45 thread, PTFE inner cap with FKM seal
Check Valve ×1	HDPE one-way filtered air inlet, 1/4-28 thread
Tapered Fitting ×4	PP, 1/4-28 thread, OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. SC4501C 180℃

Component	Details
GL45 Safety Cap ×1	Cap: PBT, GL45 thread, PTFE inner cap with FKM seal
Check Valve ×1	HDPE one-way filtered air inlet, 1/4-28 thread
Tapered Fitting ×1	PP, 1/4-28 thread, OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SC4502C 180℃

Component	Details
GL45 Safety Cap ×1	Cap: PBT, GL45 thread, PTFE inner cap with FKM seal
Check Valve ×1	HDPE one-way filtered air inlet, 1/4-28 thread
Tapered Fitting ×2	PP, 1/4-28 thread, OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SC4503C 180℃

Component	Details
GL45 Safety Cap ×1	Cap: PBT, GL45 thread, PTFE inner cap with FKM seal
Check Valve ×1	HDPE one-way filtered air inlet, 1/4-28 thread
Tapered Fitting ×3	PP, 1/4-28 thread, OD 1.6/2.0/2.5/3.0/3.2 mm tubing



Order No. / SC4504C 180℃

Component	Details
GL45 Safety Cap ×1	Cap: PBT, GL45 thread, PTFE inner cap with FKM seal
Check Valve ×1	HDPE one-way filtered air inlet, 1/4-28 thread
Tapered Fitting ×4	PP, 1/4-28 thread, OD 1.6/2.0/2.5/3.0/3.2 mm tubing

Safety Funnel

Product Overview

4SIMPLEsafety funnels are sealed collection devices designed for lab waste. They safely and conveniently collect volatile, corrosive, acid/alkaline and organic waste from daily experiments. With the funnel, staff can pour waste straight into a nearby drum - easy, safe and free of secondary pollution.

Multiple safeguards: optimized latch and reinforced hinge, with an EVA gasket blocking vapor. Anti-splash structure returns drips; removable filter catches solids or holds bottles to drain; side vent speeds flow.
PTFE inner cap and seal valve resist corrosion without leaks; level window and mechanical float warn at 80% capacity against overflow. Side filter adsorbs acid, alkaline and organic vapors; static port drains static; fully washable - solving leakage, vapor, overfill and mixing risks.

Applications

Chemical / Testing / Analysis Laboratories

Features

- Solves the “open waste container” problem
- Prevents cross-contamination between procedures
- Visible float for level monitoring
- HDPE funnel body, anti-static and corrosion-resistant
- Prevents fires from flammable organic vapors
- Relieves container pressure from chemical reactions
- Cuts reagent evaporation and odor for staff health





Waste Labels
Prevent mis-pouring



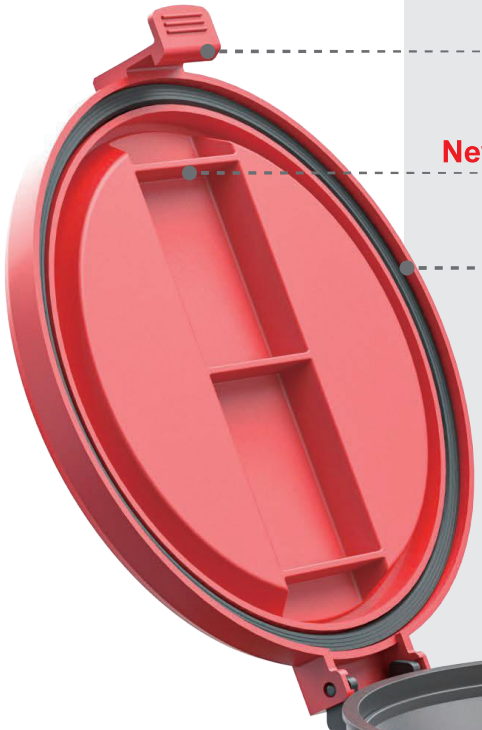
Reinforced Hinge
Durable



Static Wire Port
Connects to static wire to prevent sparks

Anti-static Material
Flame-retardant / anti-static

"Smart Design Strong Guard"



New: Better Latch
Easy, quick, and firm

New: Reinforced Cap
Multi-ribs, keeps shape

EVA Gasket
Pre-seals funnel when idle



New: Anti-splash
Downward air vents release air, and splashes return inside

Removable Filter
Catches particles
For bottle draining

Vent Hole
Speeds up waste drainage

New: Thread & Bevel
Better sealing, no waste overflow



High-Efficiency Filter
Quickly adsorbs harmful vapors (acid, alkaline and organic solvents) to prevent odor

Seal Valve
PTFE core, better air-tightness

Level Window
Direct level reading

PTFE Inner Cap
Excellent chemical stability and insulation; 360° rotation

FKM Seal Gasket
Superb sealing & anti-corrosion
no vapor leak at drum port

Mechanical Alarm Float
Warns when the drum level reaches 80% - float reminder




Safety Funnel II (Basic) Order No. / SF0105A

Item No.	Item	Description
SP-0003AB/R	Hinged funnel Black/Red	Anti-static HDPE, black, D150mm; cap, filter, funnel and gasket
SP-6007E	Simple safety cap (New)	Outer cap, inner cap, gasket; PTFE inner cap; S60 thread
SA-RQ2001B	Waste / low drum	HDPE, white, 20L, S60 thread (color & capacity optional)
SA-TP001	PP spill tray	Anti-static PP, outer 460*350*140mm, inner 420*310*135mm

Modular design - accessories freely combinable




Safety Funnel II (Dual-Port Drum) Order No. / SF0105E

Item No.	Item	Description
SP-0003AB/R	Hinged funnel Black/Red	Anti-static HDPE, black, D150mm; cap, filter, funnel and gasket
SP-6007E	Simple safety cap (New)	HDPE, 20mm threaded joint, S60 threaded cap
SP-0007A	Universal filter	Universal; adsorbs VOC and acid/alkaline gases; thread M14-2.5
SA-JT0080A	Filter adapter	HDPE filter adapter
SA-RQ2001B	Waste drum	HDPE, white, 20L, S60 thread, L*W*H (320*290*300mm)
SA-TP001	PP spill tray	Anti-static PP, outer 460*350*140mm, inner 420*310*135mm

Modular design - accessories freely combinable




Safety Funnel II (Column Fitting) Order No. / SF0101D6

Item No.	Item	Description
SP-0003AB/R	Hinged funnel Black/Red	HDPE; cap, filter, funnel, gasket; OD160mm
SP-0014B	Column fitting, thread	HDPE, black; M18 thread joint, inlet thread ID 30mm
SP-6001C	S60 safety cap	Outer cap, inner cap, gasket; PTFE inner cap; S60 thread
SP-0007A	Universal filter	Universal; adsorbs VOC and acid/alkaline gases; thread M14-2.5
SA-RQ2001A	Waste drum	HDPE, black, 20L, S60 thread (color & capacity optional)
SA-TP001	PP spill tray	Anti-static PP, outer 460*350*140mm, inner 420*310*135mm

Modular design - accessories freely combinable




Safety Funnel II (Stop Valve / 6-Month Filter) Order No. / SF0102D6

Item No.	Item	Description
SP-0003AB/R	Hinged funnel Black/Red	Anti-static HDPE, black, D150mm; cap, filter, funnel and gasket
SP-0009C	Column valve, threaded	HDPE, PTFE valve core, vertical valve; M18 thread, inlet ID 30mm
SP-6001C	S60 safety cap	Outer cap, inner cap, gasket; PTFE inner cap; S60 thread
SP-0007A	Universal filter (6-mo)	Universal; adsorbs VOC and acid/alkaline gases; thread M14-2.5
SA-RQ2001B	Waste drum	HDPE, white, 20L, S60 thread, L*W*H (320*290*300mm)
SA-TP001	PP spill tray	Anti-static PP, outer 460*350*140mm, inner 420*310*135mm

Modular design - accessories freely combinable




Safety Funnel II (Stop Valve / 12-Month Filter) Order No. / SF0102D12

Item No.	Item	Description
SP-0003AB/R	Hinged funnel Black/Red	Anti-static HDPE, black, D150mm; cap, filter, funnel and gasket
SP-0009C	Column valve, threaded	HDPE, PTFE valve core, vertical valve; M18 thread, inlet ID 30mm
SP-6001C	S60 safety cap	Outer cap, inner cap, gasket; PTFE inner cap; S60 thread
SP-0007B	Universal filter (12-mo)	Universal; adsorbs VOC and acid/alkaline gases; thread M14-2.5
SA-RQ2001B	Waste drum	HDPE, white, 20L, S60 thread, L*W*H (320*290*300mm)
SA-TP001	PP spill tray	Anti-static PP, outer 460*350*140mm, inner 420*310*135mm

Modular design - accessories freely combinable



Safety Station

The system consists of a splash-proof safety funnel, safety cap, high-efficiency filter, flow-control valve, perforated fitting, PTFE bellows, waste drum, anti-static wire, spill tray and dual-channel alarm. All plastics (HDPE, PTFE, PP) offer strong corrosion resistance.

Waste Management Safely collects and disposes of chemical waste from labs, preventing accidents.

Monitoring System A level sensor and control panel make drum replacement easy. When a drum needs changing, the panel notifies the user via LED color change and warning sound.

Safety Focused The built-in filter traps harmful gases for clean exhaust. UN-certified drums and anti-static grounding prevent explosion and accidents.



Safety Features

- No harmful vapor emission
- Easy drum replacement
- Sorted waste collection prevents abnormal reactions
- Snap the safety cap on after pouring - quick and easy
- Cost saving (less reagent loss and exhaust energy)
- Complete collection set frees bench space and keeps it tidy
- Level alarm: multi-channel monitoring, manual mute and 60s repeat alarm

Waste Collection Station integrates with lab furniture for safe waste collection. The safety funnel is mounted on the bench; waste flows through tubing into the drum below. The process is sealed and easy. It can also be installed in a fume hood with multiple funnels for sorted collection.

The level alarm is mounted on the panel. A sensor in the safety cap senses the level; at 80% full (with reserve space for expansion), it sounds a sound-light alarm to remind users to replace the drum.



Laboratories are important places for teaching, basic research and technological innovation. Every year many teachers, experts and students work in university labs. In recent years, frequent lab accidents in China have drawn great attention from lab managers. More and more new labs now consider chemical use and waste collection at the design stage, and are equipped with safety facilities to ensure lab safety.



Anti-Static Funnel
Material: HDPE
Function: Wide mouth for easy pouring; screen prevents splashing.



Grounding Wire
Material: PVC/Cu
Function: Safe grounding prevents static sparks and fire.



Flow-Control Valve
Material: HDPE+PTFE
Function: Stops flow into a full drum and blocks toxic gas leaks.



High-Efficiency Filter
Material: PP
Function: Filters harmful gases, cuts odor and balances drum pressure.



Sound-Light Alarm
Material: HDPE
Function: Sound-light alerts remind users to empty waste in time.



Safety Cap
Material: HDPE+PP
Function: Integrated level sensor monitors level and sends alarms.



Waste Collection Station (Mechanical Level Gauge) Order No. / SS0001A

Part No.	Part Name	Details
SP-0002A	Split Funnel (Bench-Top)	HDPE, machined; includes lid, screen, funnel and seal ring; OD148mm;
SP-0011A	Perforated Fitting	HDPE; for worktops up to 30mm thick; drilled hole ID35mm;
SA-GD0001B	PTFE Bellows 0.6M	PTFE, OD18mm, ID16mm, L600mm/pc (600/800/1000mm optional)
SP-0010A	Elbow Valve + Bellows Adapter	PTFE, horizontal valve, acid/alkali resistant, OD18mm; with bellows adapter;
SP-6001C	S60 Safety Cap	Includes inner/outer cap, filter adapter, mechanical level gauge; PTFE inner cap; S60 thread
SP-0007A	Universal Filter	Universal, adsorbs VOCs and acid/base gases; M14-2.5 thread
SP-0030B	Grounding Wire	Length 800mm, cable cross-section 1.5mm² (13A)
SA-RQ2001B	Waste Drum (Short)	HDPE, white, 20L, S60 thread, 320*290*300mm
SA-TP001	PP Spill Tray	Anti-static PP, OD 460*350*140mm, ID 420*310*135mm

Modular design; parts can be freely combined



Waste Collection Station (Mechanical Level Gauge) Order No. / SS0001B

Part No.	Part Name	Details
SP-0002B	Split Funnel (Under-Bench)	HDPE; includes lid, screen, funnel and seal ring; OD148mm;
SP-0011B	Funnel Bellows Adapter	HDPE; OD44mm;
SA-GD0001B	PTFE Bellows 0.8M	PTFE, OD18mm, ID16mm, L800mm/pc (600/800/1000mm optional)
SP-0010A	Elbow Valve + Bellows Adapter	PTFE valve core, horizontal valve, acid/alkali resistant, OD18mm;
SP-6001C	S60 Safety Cap	Includes inner/outer cap, filter adapter, mechanical level gauge; PTFE inner cap; S60 thread
SP-0007A	Universal Filter	Universal, adsorbs VOCs and acid/base gases; M14-2.5 thread
SP-0030B	Grounding Wire	Length 800mm, cable 1.5mm² (13A), custom length available
SA-RQ2001B	Waste Drum (Short)	HDPE, white, 20L, S60 thread, 320*290*300mm
SA-TP001	PP Spill Tray (Large)	Anti-static PP, OD 460*350*140mm, ID 420*310*135mm

Modular design; parts can be freely combined



Waste Collection Station (Battery Alarm) Order No. / SS0002A

Part No.	Part Name	Details
SP-0002A	Split Funnel (Bench-Top)	HDPE, machined; includes lid, screen, funnel and seal ring; OD148mm;
SP-0011A	Perforated Fitting	HDPE; for worktops up to 30mm thick; drilled hole ID35mm;
SA-GD0001B	PTFE Bellows 0.6M	PTFE, OD18mm, ID16mm, L600mm/pc (600/800/1000mm optional)
SP-0010A	Elbow Valve + Bellows Adapter	PTFE valve core, horizontal valve, acid/alkali resistant, OD18mm;
SP-6005A	S60 Integrated Cap	Includes inner/outer cap, filter adapter, level sensor; HDPE; S60 thread
SP-0007A	Universal Filter	Universal, adsorbs VOCs and acid/base gases; M14-2.5 thread
SP-0030B	Grounding Wire	Length 800mm, cable 1.5mm² (13A), custom length available
SP-0035B	Panel Alarm (Battery)	Panel sound-light alarm, 2 x 2023 coin cells, 6V, cutout dia.30mm
SA-RQ2001B	Waste Drum (Short)	HDPE, white, 20L, S60 thread, 320*290*300mm
SA-TP001	PP Spill Tray (Large)	Anti-static PP, OD 460*350*140mm, ID 420*310*135mm

Modular design; parts can be freely combined



Waste Collection Station (Battery Alarm) Order No. / SS0002B

Part No.	Part Name	Details
SP-0002B	Split Funnel (Under-Bench)	HDPE; includes lid, screen, funnel and seal ring; OD148mm;
SP-0011B	Funnel Bellows Adapter	HDPE; OD44mm;
SA-GD0001B	PTFE Bellows 0.8M	PTFE, OD18mm, ID16mm, L800mm/pc (600/800/1000mm optional)
SP-0010A	Elbow Valve + Bellows Adapter	PTFE valve core, horizontal valve, acid/alkali resistant, OD18mm;
SP-6005A	S60 Integrated Cap	Includes inner/outer cap, filter adapter, level sensor; HDPE; S60 thread
SP-0030B	Grounding Wire	Length 800mm, cable 1.5mm² (13A), custom length available
SP-0007A	Universal Filter	Universal, adsorbs VOCs and acid/base gases; M14-2.5 thread
SP-0035B	Panel Alarm (Battery)	Panel sound-light alarm, 2 x 2023 coin cells, 6V, cutout dia.30mm
SA-RQ2001B	Waste Drum (Short)	HDPE, white, 20L, S60 thread, 320*290*300mm
SA-TP001	PP Spill Tray (Large)	Anti-static PP, OD 460*350*140mm, ID 420*310*135mm

Modular design; parts can be freely combined



Waste Collection Station (Powered Alarm) — Order No. / SS0005A

Part No.	Part Name	Details
SP-0002A	Split Funnel (Bench-Top)	HDPE, machined; includes lid, screen, funnel and seal ring; OD148mm;
SP-0011A	Perforated Fitting	HDPE; for worktops up to 30mm thick; drilled hole ID35mm;
SA-GD0001B	PTFE Bellows 0.6M	PTFE, OD18mm, ID16mm, L600mm/pc (600/800/1000mm optional)
SP-0010A	Elbow Valve + Bellows Adapter	PTFE valve core, horizontal valve, acid/alkali resistant, OD18mm;
SP-6005A	S60 Integrated Cap	Includes inner/outer cap, filter adapter, level sensor; HDPE; S60 thread;
SP-0007A	Universal Filter	Universal, adsorbs VOCs and acid/base gases; M14-2.5 thread
SP-0030B	Grounding Wire	Length 800mm, cable 1.5mm² (13A), custom length available
SP-2407A	Panel Level Alarm	Sound-light alarm, single channel, panel-mount, panel size 122*81mm, external 12V power
SA-YW0011A	Power Adapter	220V input, 12V output; (price included in alarm)
SA-RQ2001B	Waste Drum (Short)	HDPE, white, 20L, S60 thread, 320*290*300mm
SA-TP001	PP Spill Tray (Large)	Anti-static PP, OD 460*350*140mm, ID 420*310*135mm

Modular design; parts can be freely combined



Waste Collection Station (Dual-Drum) — Order No. / SS0004A

Part No.	Part Name	Details
SP-0002A	Split Funnel (Bench-Top)	HDPE; six 1/4-28 tapered ports, two M10 hose ports, cutout 30mm
SP-0011A	Perforated Fitting	HDPE; for worktops up to 30mm thick; drilled hole ID35mm;
SA-GD0001B	PTFE Bellows 0.6M	PTFE, OD18mm, ID16mm, L600mm/pc (600/800/1000mm optional)
SP-0010A	Elbow Valve + Bellows Adapter	PTFE valve core, horizontal valve, acid/alkali resistant, OD18mm; with bellows adapter;
SP-6005A	S60 Integrated Cap	Includes inner/outer cap, filter adapter, level sensor; HDPE; S60 thread;
SP-0007A	Universal Filter	Universal, adsorbs VOCs and acid/base gases; M14-2.5 thread
SP-0030B	Grounding Wire	Length 800mm, cable 1.5mm² (13A), custom length available
SP-0006C	Panel Alarm (Main Unit)	Connects 2 channels; panel-mount; panel size 153*85mm, powered by external 12V
SA-YW0011A	Power Adapter	220V input, 12V output; (price included in alarm)
SA-RQ1501A	Waste Drum	HDPE, white, 15L, S60 thread (10L optional)
SA-TP004	PP Spill Tray	Anti-static PP, OD 480*340*120mm, ID 450*315*110mm

Modular design; parts can be freely combined



Waste Collection Station (Manifold) — Order No. / SS0006A

Part No.	Part Name	Details
SA-HJ0003C	8-Channel Desktop Manifold	HDPE; six 1/4-28 tapered ports, two M10 hose ports, cutout 30mm
SA-GD0001B	PTFE Bellows 0.6M	PTFE, OD18mm, ID16mm, L600mm/pc (600/800/1000mm optional)
SP-0010A	Elbow Valve + Bellows Adapter	PTFE valve core, horizontal valve, acid/alkali resistant, OD18mm; with bellows adapter;
SP-6005A	S60 Integrated Cap	Includes inner/outer cap, filter adapter, level sensor; HDPE; S60 thread;
SP-0007A	Universal Filter	Universal, adsorbs VOCs and acid/base gases; M14-2.5 thread
SP-0030B	Grounding Wire	Length 800mm, cable 1.5mm² (13A), custom length available
SP-0035B	Panel Alarm (Battery)	Panel sound-light alarm, 2 x 2023 coin cells, 6V, cutout dia.30mm
SA-RQ2001B	Waste Drum (Short)	HDPE, white, 20L, S60 thread, 320*290*300mm
SA-TP001	PP Spill Tray (Large)	Anti-static PP, OD 460*350*140mm, ID 420*310*135mm

Modular design; parts can be freely combined



Waste Sorting Collection Station — Order No. / SS0008A

Part No.	Part Name	Details
SP-0002A	Split Funnel (Bench-Top)	HDPE, machined; includes lid, screen, funnel and seal ring; OD148mm;
SP-0011A	Perforated Fitting	HDPE; for worktops up to 30mm thick; drilled hole ID35mm;
SA-GD0001B	PTFE Bellows 0.6M	PTFE, OD18mm, ID16mm, L600mm/pc (600/800/1000mm optional)
SP-0010A	Elbow Valve + Bellows Adapter	PTFE valve core, horizontal valve, acid/alkali resistant, OD18mm; with bellows adapter;
SP-6005A	S60 Integrated Cap	Includes inner/outer cap, filter adapter, level sensor; HDPE; S60 thread;
SP-0007A	Universal Filter	Universal, adsorbs VOCs and acid/base gases; M14-2.5 thread
SP-0030B	Grounding Wire	Length 800mm, cable 1.5mm² (13A), custom length available
SP-0006C	Panel Alarm (Main Unit)	Connects 2 channels; panel-mount; panel size 153*85mm, powered by external 12V
SA-YW0011A	Power Adapter	220V input, 12V output; (price included in alarm)
SA-RQ2001B	Waste Drum (Short)	HDPE, white, 20L, S60 thread, 320*290*300mm
SA-TP001	PP Spill Tray (Large)	Anti-static PP, OD 460*350*140mm, ID 420*310*135mm

Modular design; parts can be freely combined

Centralized Waste Collection for Fume Hoods

The networked fume-hood waste collection system collects waste from multiple fume hoods through funnels to a central collection point. It consists of collection units, piping, control and safety devices for safe collection and proper disposal, improving efficiency, cutting time and labor costs, and reducing accident risks.

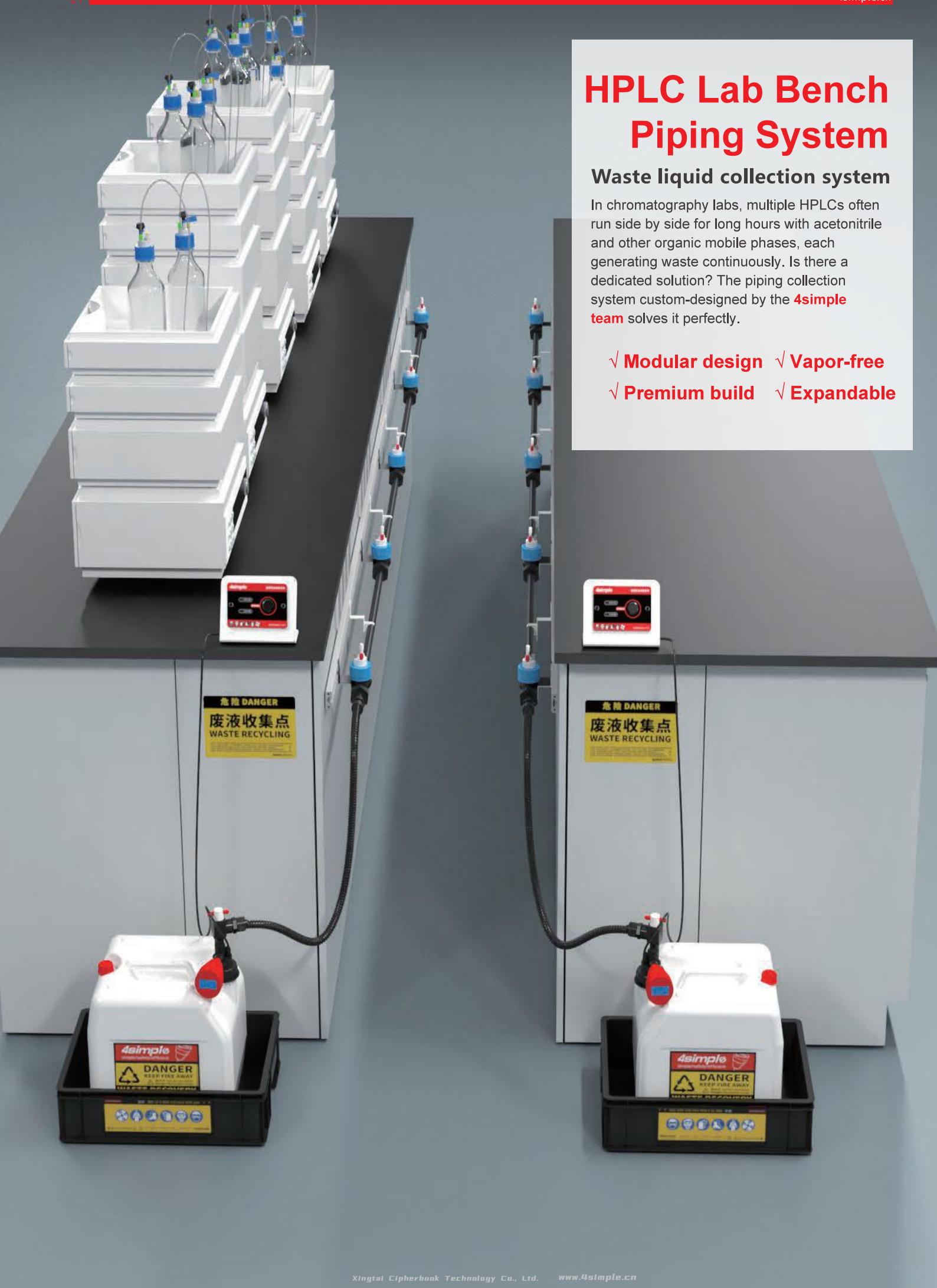




Fume Hood Central Collection System

No.	Part Name	Details
1	Split Funnel (Bench-Top)	HDPE, machined; includes lid, screen and funnel; OD148mm;
2	Pipe Elbow	PTFE; compression seal, ID20mm
3	PTFE Waste Pipe	PTFE, OD20mm, ID14mm, cut to length on site
4	Pipe Tee	PTFE; compression seal, ID20mm
5	Perforated Fitting	HDPE; for worktops up to 30mm thick; drilled hole ID35mm;
6	PTFE Bellows 0.6M	PTFE, OD18mm, ID16mm, L600mm/pc (600/800/1000mm optional)
7	Universal Filter	Universal, adsorbs VOCs and acid/base gases; M14-2.5 thread
8	Elbow Valve + Bellows Adapter	PTFE valve core, horizontal valve, acid/alkali resistant, OD18mm
9	Panel Alarm (Main Unit)	Sound-light level alarm, panel-mount, external 12V power, mute function
10	S60 Integrated Cap	Includes inner/outer cap, filter adapter, level sensor; HDPE; S60 thread;
11	Waste Drum (Short)	HDPE, white, 20L, S60 thread, 320*290*300mm
12	PP Spill Tray (Large)	Anti-static PP, OD 460*350*140mm, ID 420*310*135mm

Modular design; parts can be freely combined



HPLC Lab Bench Piping System

Waste liquid collection system

In chromatography labs, multiple HPLCs often run side by side for long hours with acetonitrile and other organic mobile phases, each generating waste continuously. Is there a dedicated solution? The piping collection system custom-designed by the **4simple team** solves it perfectly.

- √ **Modular design**
- √ **Vapor-free**
- √ **Premium build**
- √ **Expandable**





Centralized collection system:

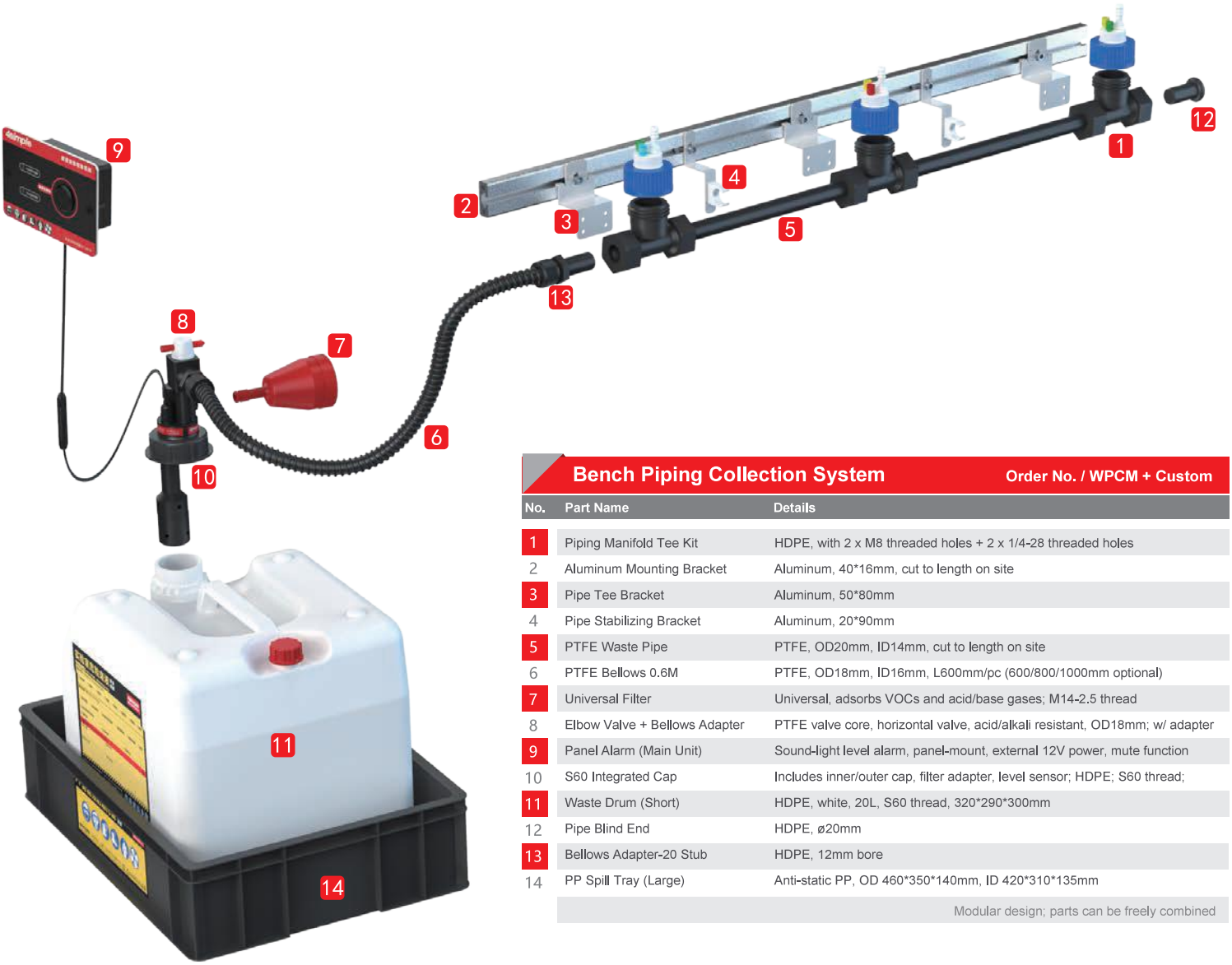
(1) Multiple HPLC waste inlets per row, main pipe Ø20mm; each unit has a standard GL45 safety-cap manifold with 1.6-3.2mm PFA/PTFE capillary ports and 6.4-12.0mm hose ports, fitting all tubing sizes, fully sealed.
(2) Recessed, concealed installation behind the bench; the main pipe slopes at 3-5° so liquid flows slowly into the drum, avoiding trapped liquid and static build-up.
(3) Safety switch valve: to allow drum replacement without stopping the chromatograph, we designed a safety switch valve; the collection end uses a switch valve + dual-drum design.
(4) Pipe fittings are modified PTFE for chemical stability - no deformation or trapped liquid. Threaded unions ease maintenance and expansion, with good chemical resistance and flexibility against leaks.
(5) The end uses a PTFE guide hose to slow the waste flow and reduce static risk; length 600mm ±5%.
(6) Stop valves are fitted at the pipe end and on the drum cap to prevent leakage; easy to operate.
(7) Multi-channel sound-light alarm monitors liquid level; 12V power, safe and reliable at low voltage.
(8) The drum cap includes a 6-month adsorption filter with visual time button, quick to replace; it balances pressure, keeps collection sealed and adsorbs over 99% within service life.
(9) Supplied with a 20L HDPE drum; the whole set uses acid/alkali resistant, corrosion-proof plastics.

As the piping collection system is designed around each lab's reagents, configurations vary - it is a customized product. For enquiries, contact the 4simple team for free product design and technical support.



HPLC Lab Bench Piping System

The piping collection system consists of six parts: piping manifold, waste pipes, safety caps, stabilizing brackets, level alarm and containers. The modular design allows on-site adjustment, replacement and non-destructive expansion.



Bench Piping Collection System

Order No. / WPCM + Custom

No.	Part Name	Details
1	Piping Manifold Tee Kit	HDPE, with 2 x M8 threaded holes + 2 x 1/4-28 threaded holes
2	Aluminum Mounting Bracket	Aluminum, 40*16mm, cut to length on site
3	Pipe Tee Bracket	Aluminum, 50*80mm
4	Pipe Stabilizing Bracket	Aluminum, 20*90mm
5	PTFE Waste Pipe	PTFE, OD20mm, ID14mm, cut to length on site
6	PTFE Bellows 0.6M	PTFE, OD18mm, ID16mm, L600mm/pc (600/800/1000mm optional)
7	Universal Filter	Universal, adsorbs VOCs and acid/base gases; M14-2.5 thread
8	Elbow Valve + Bellows Adapter	PTFE valve core, horizontal valve, acid/alkali resistant, OD18mm; w/ adapter
9	Panel Alarm (Main Unit)	Sound-light level alarm, panel-mount, external 12V power, mute function
10	S60 Integrated Cap	Includes inner/outer cap, filter adapter, level sensor; HDPE; S60 thread;
11	Waste Drum (Short)	HDPE, white, 20L, S60 thread, 320*290*300mm
12	Pipe Blind End	HDPE, ø20mm
13	Bellows Adapter-20 Stub	HDPE, 12mm bore
14	PP Spill Tray (Large)	Anti-static PP, OD 460*350*140mm, ID 420*310*135mm

Modular design; parts can be freely combined

Avoid Harmful Vapor

In daily HPLC work, acetonitrile and methanol harm health. The collection system traps 99.9% of solvent vapor, protecting you and colleagues.



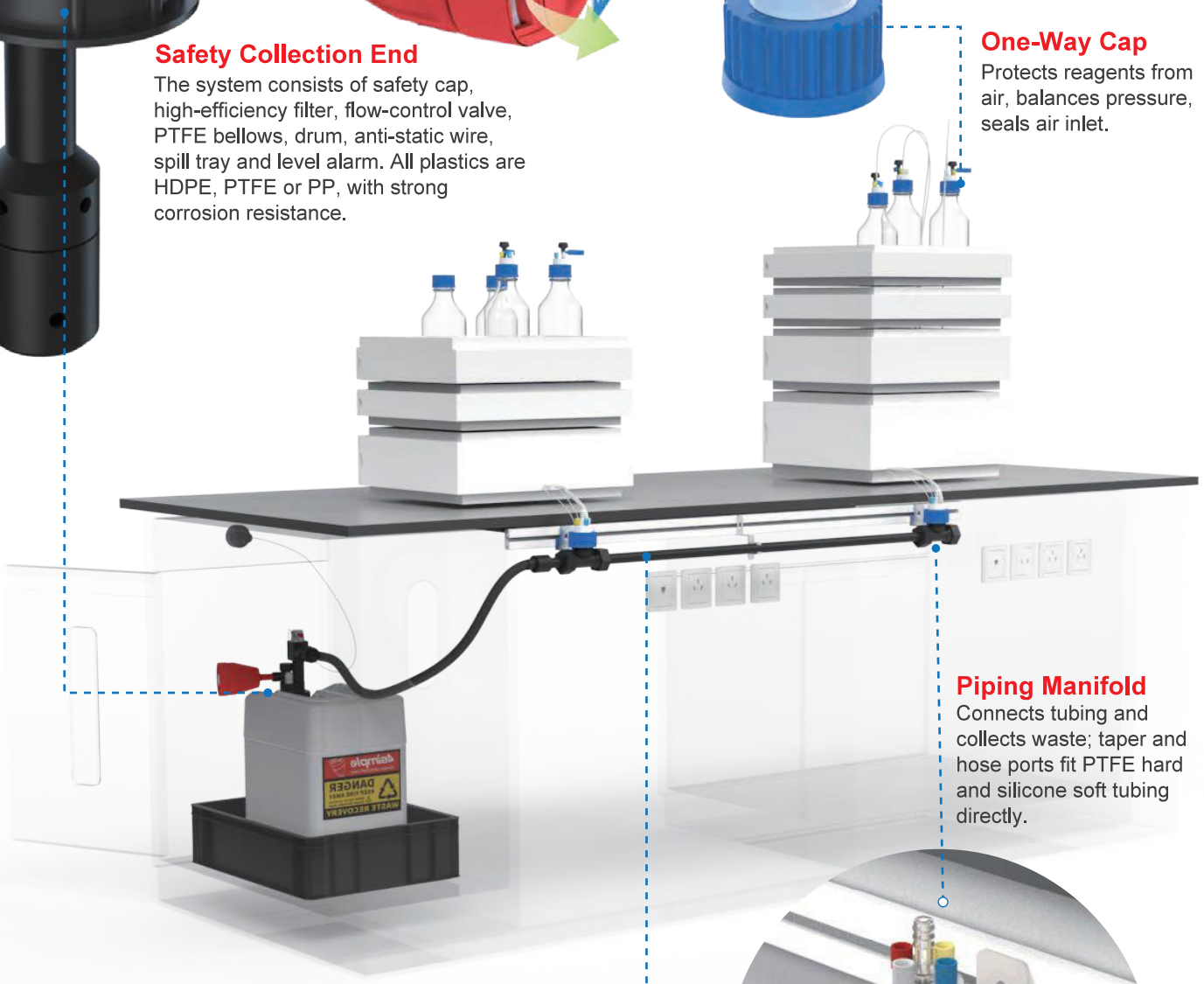
Safety Collection End

The system consists of safety cap, high-efficiency filter, flow-control valve, PTFE bellows, drum, anti-static wire, spill tray and level alarm. All plastics are HDPE, PTFE or PP, with strong corrosion resistance.



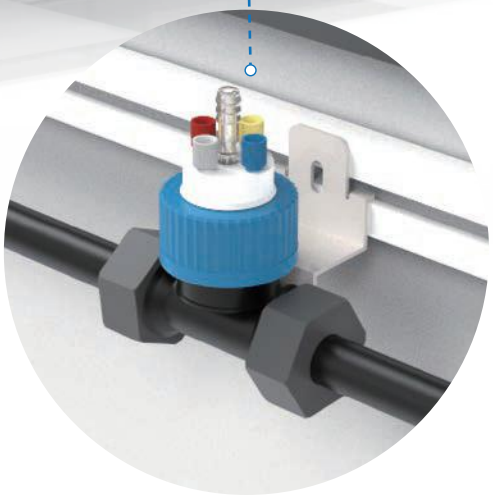
One-Way Cap

Protects reagents from air, balances pressure, seals air inlet.



Piping Manifold

Connects tubing and collects waste; taper and hose ports fit PTFE hard and silicone soft tubing directly.



PTFE Pipe Fittings

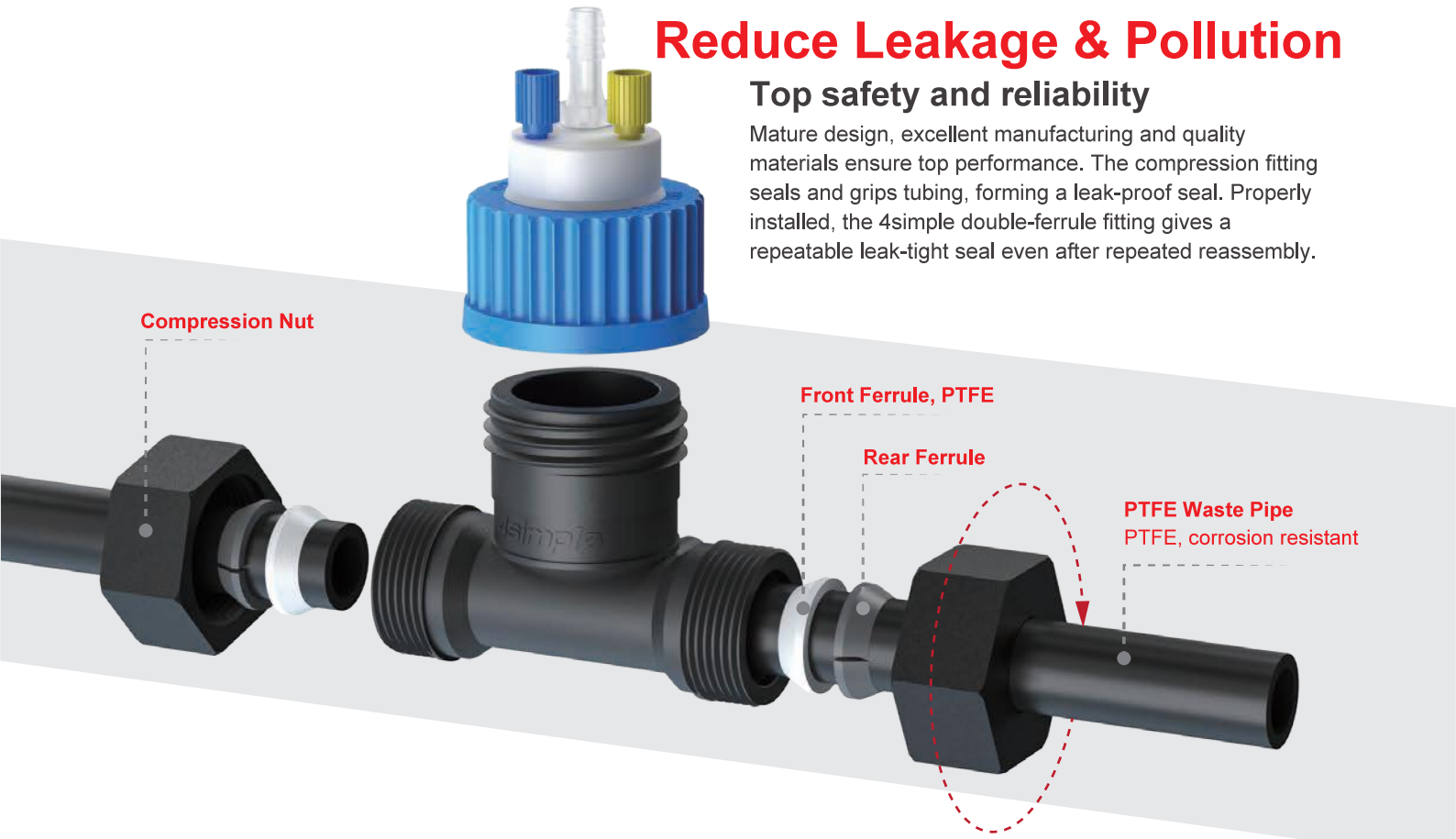
Modified PTFE, non-stick, corrosion resistant, flexible



Reduce Leakage & Pollution

Top safety and reliability

Mature design, excellent manufacturing and quality materials ensure top performance. The compression fitting seals and grips tubing, forming a leak-proof seal. Properly installed, the 4simple double-ferrule fitting gives a repeatable leak-tight seal even after repeated reassembly.



Advantages of Double-Ferrule Fittings

1 Easy Install

Quick install and removal with just a standard wrench makes our fittings easy to install. The ferrule design simplifies it: tighten the nut for a fast, effective connection. Expert training teaches your staff the basics in every application.

2 Top Materials

Fluoroplastic fittings and waste lines stand out for corrosion resistance - they resist acids, bases and organic solvents, ideal for harsh environments. PTFE also offers heat resistance from -200°C to +260°C, plus low friction and good insulation.

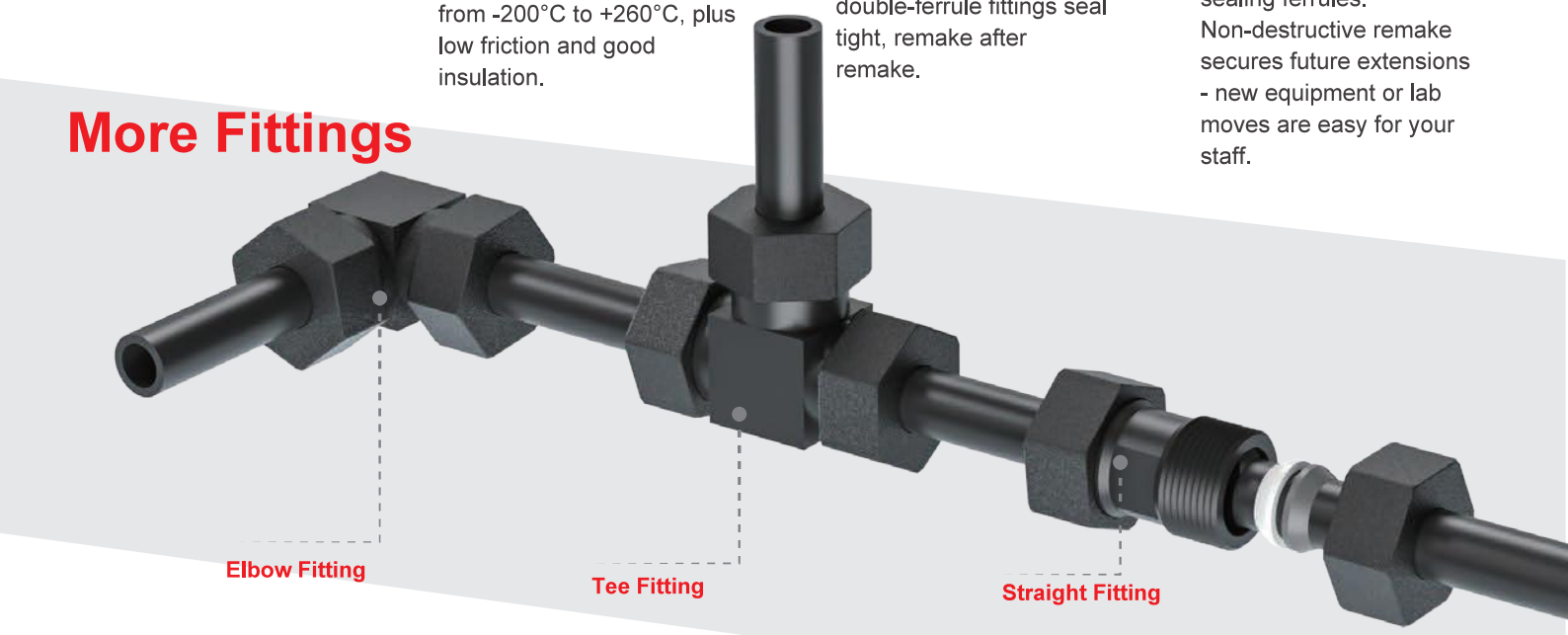
3 Perfect Sealing

Mature design, fine manufacturing and quality materials ensure every fitting performs to the top. Properly installed, 4simple double-ferrule fittings seal tight, remake after remake.

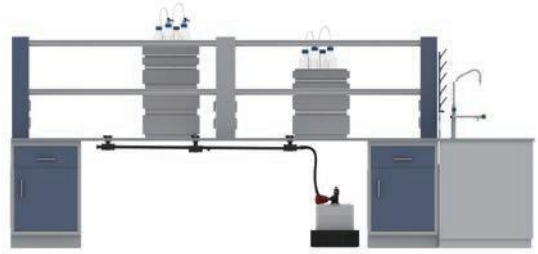
4 Damage-Free

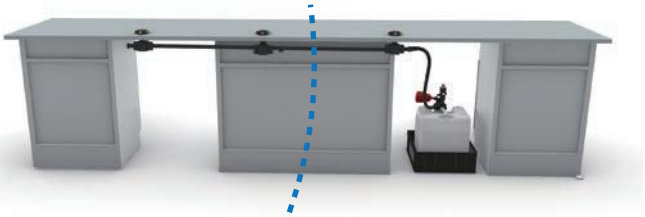
The joint can be opened and remade many times without harming the sealing ferrules. Non-destructive remake secures future extensions - new equipment or lab moves are easy for your staff.

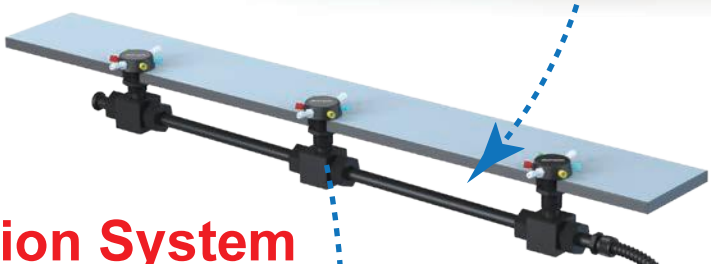
More Fittings











More Scenarios...

Suspended Collection System

For special cases - wall-side or central benches where brackets cannot be fitted - we designed the suspended system: the manifold is embedded in the bench top, suspending the pipe run. Installs quickly with no bench space used. The main pipe slopes at 3-5° so liquid flows slowly into the drum.

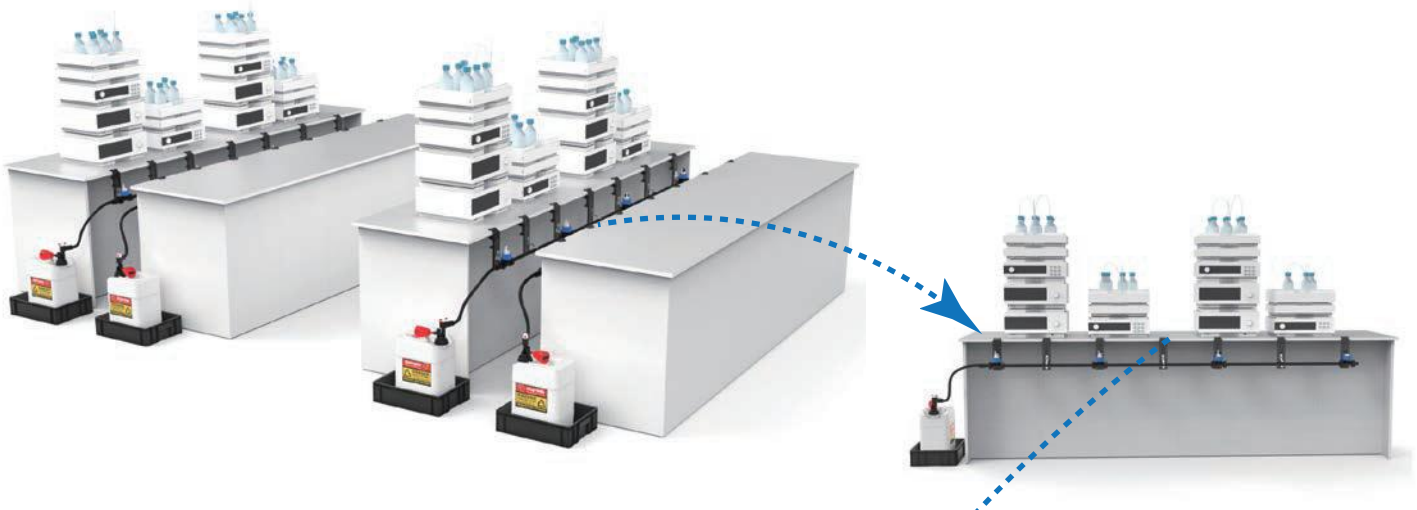






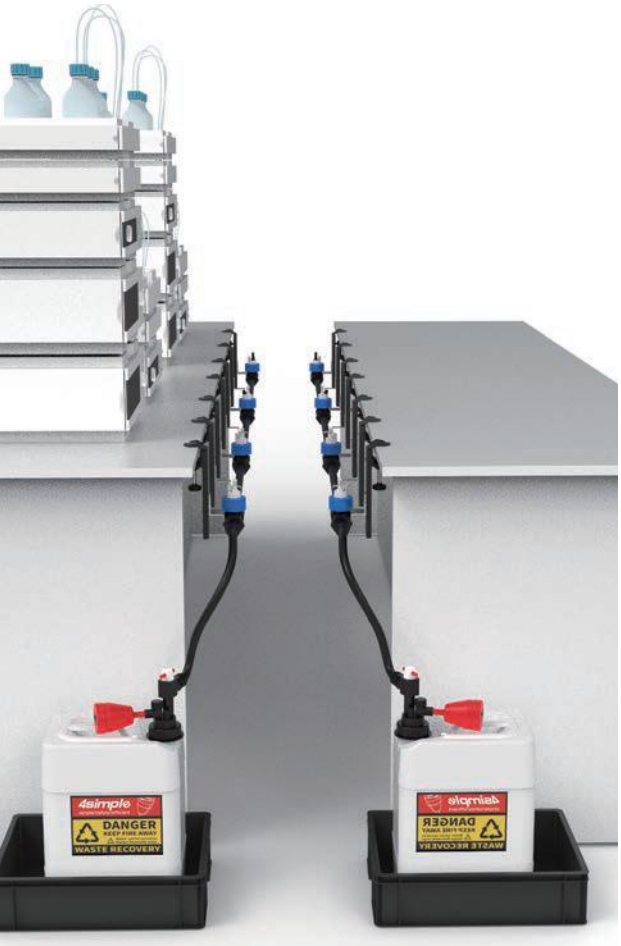
Embedded Piping Manifold

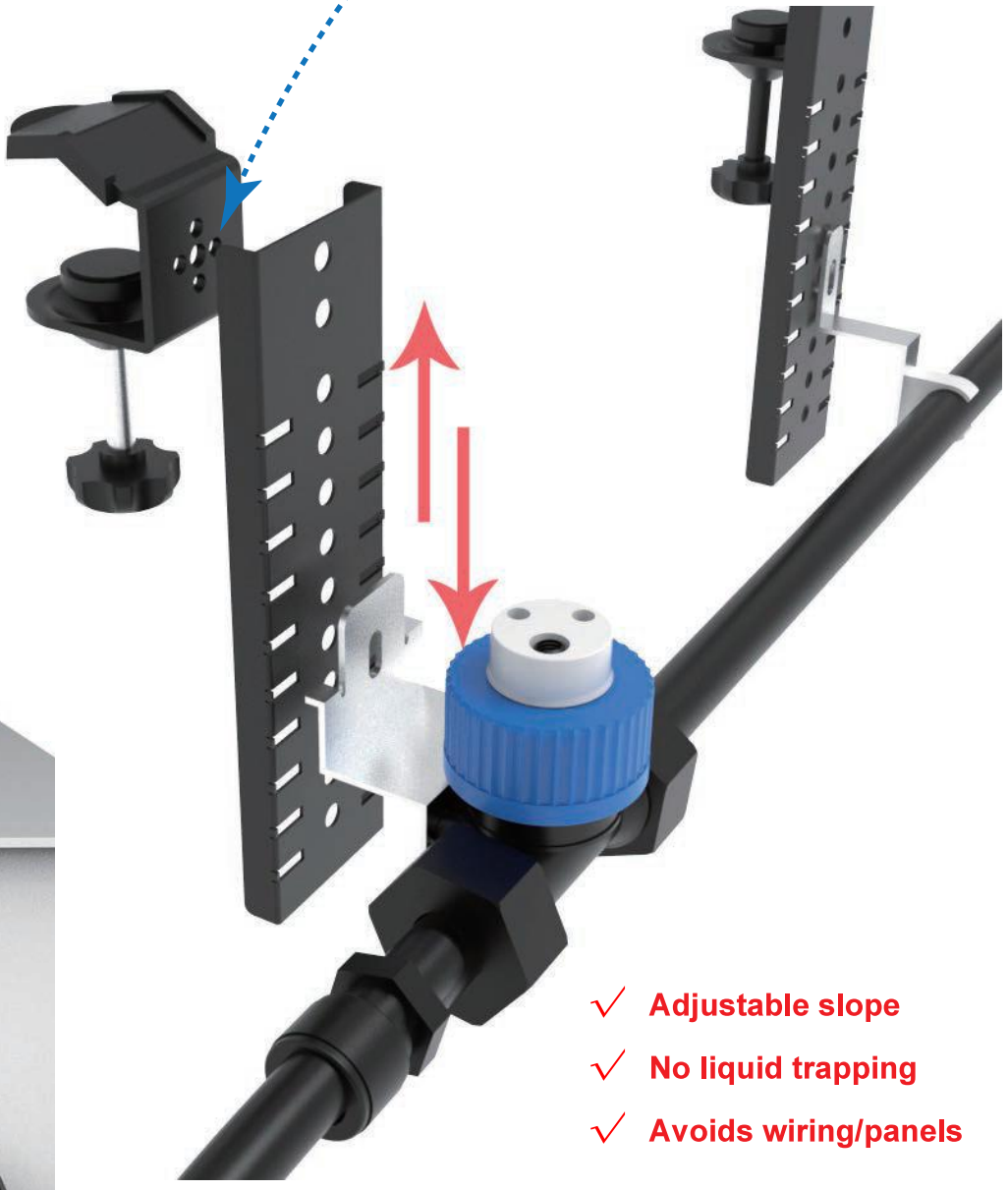
Solves the shortage of waste ports: 1.6-3.2mm PFA/PTFE capillary ports and 6.4-12.0mm hose ports fit all tubing sizes, connect multiple instruments and end messy tubing. Desktop-mounted, machined HDPE.



More Scenarios....
Clamp-Plate Collection

For benches with service or power-socket panels where pipes cannot be fixed, we designed the clamp-plate system: the U-clamp grips the bench edge, clears wiring, and the slope is adjustable for slow drainage.





- ✓ Adjustable slope
- ✓ No liquid trapping
- ✓ Avoids wiring/panels

Waste Containers / Drums

Safe, simple and widely used, the drums are made of new HDPE polymer - high density, strong, non-toxic, odorless and eco-friendly, with no environmental pollution and excellent acid/alkali resistance.



Order No. / SA-RQ0501A		Item / S60 Waste Drum	
Color	White	Neck	S60 Threaded Cap
Capacity	5L	Material	HD-PE
Dimensions	L170mm*W155mm*H270mm		



Order No. / SA-RQ1001A		Item / S60 Waste Drum	
Color	White	Neck	S60 Threaded Cap
Capacity	10L	Material	HD-PE
Dimensions	L235mm*W190mm*H320mm		



Order No. / SA-RQ1501A		Item / S60 Waste Drum	
Color	White	Neck	S60 Threaded Cap
Capacity	15L	Material	HD-PE
Dimensions	L265mm*W215mm*H360mm		



Order No. / SA-RQ2001A		Item / S60 Waste Drum	
Color	White	Neck	S60 Threaded Cap
Capacity	20L	Material	HD-PE
Dimensions	L280mm*W280mm*H390mm		



Order No. / SA-RQ2001A		Item / S60 Waste Drum	
Color	Black	Neck	S60 Threaded Cap
Capacity	20L	Material	HD-PE
Dimensions	L280mm*W280mm*H390mm		



Order No. / SA-RQ2001B		Item / S60 Waste Drum	
Color	White	Neck	S60 Threaded Cap
Capacity	20L	Material	HD-PE
Dimensions	L320mm*W290mm*H300mm		



Order No. / SA-RQ2001C		Item / S60 Fluorinated Drum	
Color	White	Neck	S60 Threaded Cap
Capacity	20L	Material	HDPE/PTFE
Dimensions	L286mm*W240mm*H396mm		



Order No. / SA-RQ2501B		Item / S60 Waste Drum	
Color	White	Neck	S60 Threaded Cap
Capacity	25L	Material	HD-PE
Dimensions	L320mm*W290mm*H300mm		



Order No. / SA-RQ2501A/BLACK		Item / S60 Waste Drum	
Color	Black	Neck	S60 Threaded Cap
Capacity	25L	Material	HD-PE
Dimensions	L290mm*W270mm*H420mm		



Order No. / SA-GL1001A		Item / GL45 Waste Drum	
Color	White	Neck	GL45 Threaded Cap
Capacity	10L	Material	HD-PE
Dimensions	L220mm*W185mm*H310mm		



Order No. / SA-GL2001A		Item / GL45 Waste Drum	
Color	White	Neck	GL45 Threaded Cap
Capacity	20L	Material	HD-PE
Dimensions	L280mm*W230mm*H395mm		



Order No. / SA-RQ6001A		Item / Dual-Port Drum	
Color	White	Neck	S60 Threaded Cap
Capacity	60L	Material	HD-PE
Dimensions	□390mm, H660mm		

Secondary Containment / Spill Trays



Order No. / SA-TP001		Item / Spill Tray	
Color	Black	Outer Dimensions	L460mm*W350mm*H140mm
Material	PP	Inner Dimensions	L420mm*W310mm*H135mm



Order No. / SA-TP002		Item / Spill Tray	
Color	Black	Outer Dimensions	L400mm*W300mm*H110mm
Material	PP	Inner Dimensions	L365mm*W265mm*H105mm



Order No. / SA-TP003		Item / Spill Tray	
Color	Black	Outer Dimensions	L360mm*W360mm*H85mm
Material	PP	Inner Dimensions	L350mm*W350mm*H75mm



Order No. / SA-TP004		Item / Spill Tray	
Color	Black	Outer Dimensions	L475mm*W335mm*H120mm
Material	PP	Inner Dimensions	L430mm*W310mm*H110mm

Alarm Series

4SIMPLE (China) offers the most complete modular solution for lab waste collection - find every accessory at a glance.



Item / Magnetic Alarm

Order No. / SP-0035A

- Specs: 5V-0.3W
- Mounting: magnetic
- Power: battery
- Connector: DC5.5*2.5
- Dual batteries (removable)
- Buzzer + flash alarm
- Locking DC connector
- HDPE corrosion-proof shell
- Magnetic mount, fixes anywhere



Item / Panel Alarm

Order No. / SP-0035B

- Specs: 5V-0.3W
- Mounting: panel
- Power: battery
- Cutout: □30mm
- Connector: DC5.5*2.5
- Dual batteries (removable)
- Buzzer + flash alarm
- Locking DC connector
- HDPE corrosion-proof shell



Item / Single-Channel Alarm

Order No. / SP-2407A

- Specs: 12V-3W
- Panel: acrylic + 304SS
- Power: 12V adapter
- Mounting: panel
- Connector: DC5.5*2.5
- Stable external power
- Buzzer + flash alarm
- Mute function
- Locking DC connector
- Larger buzzer



Item / Dual-Channel Alarm

Order No. / SP-0006C

- Specs: 12V-5W
- Panel: PVC film keys + 304SS
- Power: 12V adapter
- Mounting: panel
- Connector: DC5.5*2.5
- Monitors two drums
- Stable external power
- Buzzer + flash alarm
- 60s mute function
- Locking DC connector
- Larger buzzer



Item / IoT LCD Alar

Order No. / SP-2408A

- Mounting: panel
- Connector: DC5.5*2.5
- Resolution: 480*480
- Size: 86*86*28mm
- Power: 12V adapter
- Features: WiFi link, Tuya app
- remote alarm push, multi-user sharing
- Device self-check alarm
- 60s repeat alarm



Item / Dual-Channel IoT Alarm

Order No. / SP-0023B

- Mounting: panel
- Resolution: 800*480
- Size: 7.0" touch screen
- Power: 12V adapter
- Features:
- WiFi direct link
- 2.4G WiFi, RS-485 comms
- Switch & analog sensor modes
- View levels on web/phone
- WeChat push, SMS alerts
- Option: auto switch valve



Non-Contact Level Alarm Kit

Product: Non-Contact Level Alarm
Order No.: SP-2406A
Waterproof: IP67
Operating Voltage: 12V
Power: external supply
Features: Senses level through non-metallic walls. Real-time monitoring of chemical liquids; audio-visual alarm built in.
- Through glass, plastic & ceramics
- Water, oil, alcohol & toxic chemicals

Packing List:



Power Adapter | Elastic Strap | Capacitive Sensor | Sound Alarm





- 10mm adjustable sensitivity
- Non-contact, safer
- Fast response
- Multi-scenario use
- Any chemical liquids

Accessories

4SIMPLE (China) offers the most complete modular solution for lab waste collection - find every accessory at a glance.



Sensors



Safety Signs



Reducer Adapters



Safety Caps



Fluid Fittings



Customization

Lab Waste Liquid Management Platform V2.0

The lab waste safety management cloud platform is independently developed by Xingtai Cipherbook Technology. Based on IoT, big data and mobile internet with a “platform + data + application” architecture, it delivers real-time monitoring, data transmission, waste management, analysis and risk alerts - a one-stop, full-cycle solution for lab waste safety.

Cloud Monitoring

With software-hardware integration, it enables real-time collection, remote transmission, online monitoring, risk alerts and mobile access; when a drum is full, unified collection and centralized disposal are promptly arranged.

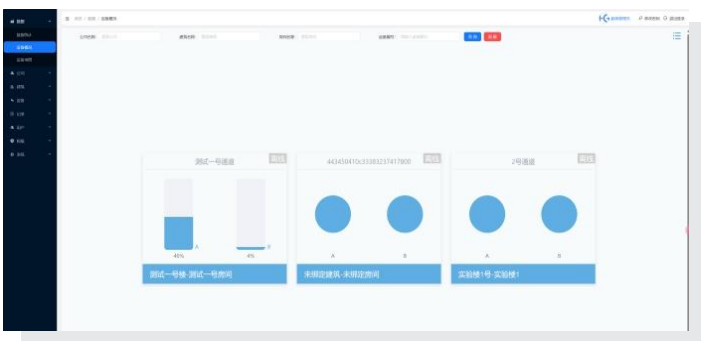
Cloud Management

Modular design allows flexible setup of every waste collection point across floors and sites; wireless screens enable anywhere monitoring and remote control, recording waste volume, replacement and alarm data.

Cloud Application

Based on massive real-world lab waste data, data mining enables deeper applications: enterprises can reasonably control waste output, optimize workflows and disposal costs, and accelerate digital transformation.





Case Studies

Our clients span industrial and research sectors: pharma, CROs, diagnostics and biotech; universities, hospitals and government institutes. The Cipherbook team makes every product better, with tailored solutions for every waste collection scenario.

700+
Lab Customers

400+
Projects Completed

9
Years of Experience







Waste Collection Station | University Lab

The station integrates with lab furniture for safe collection: a safety funnel on the bench feeds waste via tubing into the drum below - enclosed and easy to use. It also fits fume hoods with multiple funnels for segregated collection. The alarm sounds via the level sensor in the safety cap, reminding staff to change the drum.





Waste Collection Station | Top-10 Pharma

Tailored to customer needs and furniture sizes, products are combined with German Waldner furniture and ASECOS safety cabinets. 4SIMPLE supplied collection stations with optimized caps and the latest electronic level sensors - easier and safer. Positive feedback after installation.





Waste Collection Station | Equipment Group

4SIMPLE waste safety products integrate into lab equipment: collection stations with electronic level alarms are designed into benches and fume hoods from the start - easier, safer use.

Case Studies

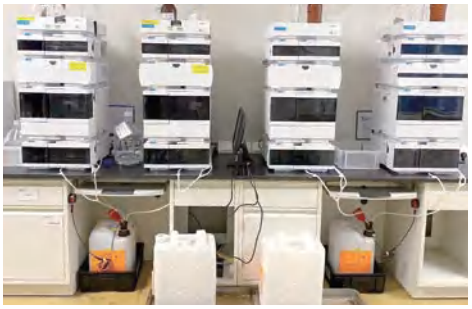
Many influential organizations partner with Cipherbook for lab safety. Every customer, every improvement matters.





Safety Cap | Upgrading a Testing Lab

A testing lab approached Cipherbook to fix strong odors and messy waste collection in its HPLC lab. After a survey, the team proposed a retrofit using supply caps, waste caps and accessories, solving on-site problems and raising the lab's waste safety level.





Safety Cap | Chemical HPLC Lab

The client had no professional waste recovery system; regulations require strict treatment of chemical waste. Waste goes into sealed containers. An organic vapor filter on the drum relieves pressure and filters harmful fumes.





Safety Funnel | Chemical Lab Client

The funnel solves the open-container problem: no fire risk from flammable vapors, less evaporation, no odor, healthier for staff. It also prevents explosion from pressure build-up and cross-contamination.





Piped Collection | Guangdong Biopharma

The client needed centralized collection for mobile-phase HPLC waste, to end tangled tubing and freshen the lab air. 4SIMPLE designed a custom scheme, and after approval delivered and installed quickly - fully recognized by the client.





Piped Collection | HPLC Lab Retrofit

Piped Collection System V2.0 now runs in a Shenzhen pharma HPLC lab. Tubing runs below and behind instruments, with standard manifold interfaces, PTFE bellows to desktop manifolds and manual valves for no-downtime switching. A fixed alarm sounds at 80% drum level.

Service Case | Waste safety collection for China Resources Pharma lab project

Project Overview

The project is a new 4-story pharma lab building; the labs are on floors 2-4, mainly the chromatography lab, which is spacious with a central bench, chromatographs on both sides, and piping required mid-bench. The bench is 13 m long, ~20 cm wide in the middle; chromatographs on each side share one piped collection system, draining waste automatically and enclosed into a drum at one end. A full drum triggers an audio-visual alarm.

Traditional Collection Challenges

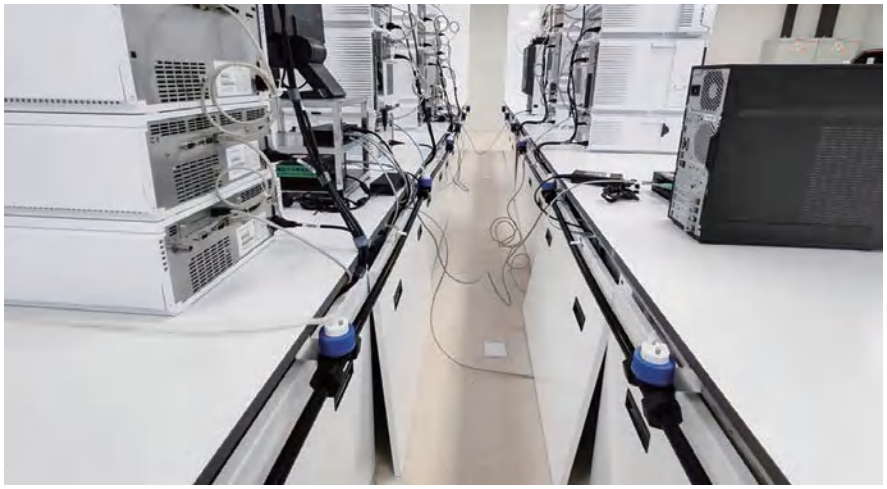
The project mainly provides a piped waste collection system for centralized instrument waste: waste enters the piping through ports and drains safely and enclosed into containers. The system cuts the number of waste containers and keeps the lab tidy; the whole process stays enclosed in piping, with no secondary pollution. Custom installations adapt to instrument layout. Recessed behind the bench, the main line is laid at a 3-5° slope so liquid flows slowly to the drum, avoiding pooling and static. PTFE piping resists strong solvents; threaded fittings are reinforced against leaks and easy to service or extend. A stop valve on the drum cap prevents spills, easy to operate. A snap-on adsorption filter with a timer button balances pressure and keeps collection sealed; it adsorbs over 97% of solvent vapors, VOCs and other toxic gases within its service life.

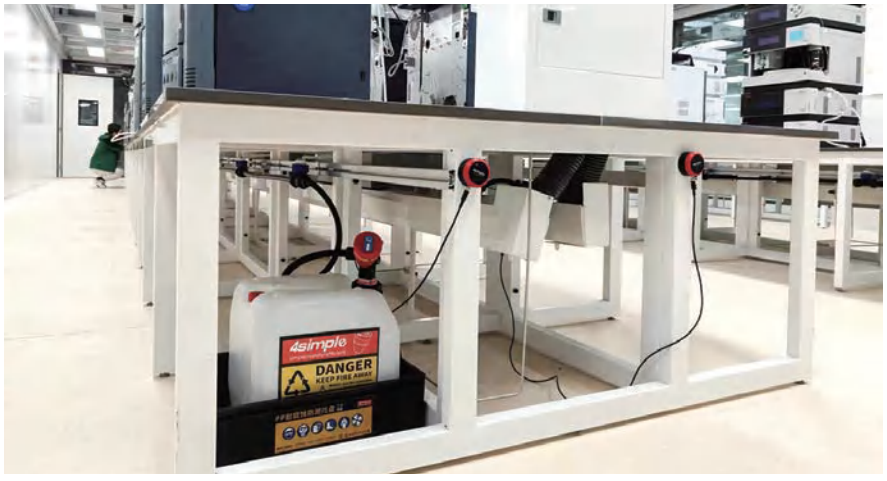












Service Case | Lab HPLC Waste Collection Makeover: An Innovative Case

Project Background

Meifeng Chemical generates large waste volumes in production. To meet environmental rules and protect staff, they sought an efficient collection and treatment solution.

Our solution: In close cooperation with the client, our team surveyed the site in detail and designed a custom fume-hood networked collection system - four hoods in a row drain via funnels for safe collection and proper treatment.

Key elements of our solution:

1. Recessed behind the bench, the main line runs at a 3-5° slope so liquid flows slowly to the drum, avoiding pooling and static.
2. Sealing and leak prevention: high-quality sealed materials and devices keep waste containers tight, preventing leaks and pollution.
3. Piping uses modified PTFE for corrosion resistance, without deformation or pooling during collection; threaded fittings are reinforced for easy service and extension, with good chemical and physical flexibility to avoid leaks.

Results and Benefits

With this solution, Meifeng Chemical achieved the following results and benefits:

1. Higher collection efficiency: the system greatly improved collection efficiency, cutting time and labor costs in waste treatment.
2. Environmental compliance: waste treatment meets local rules, avoiding fines and legal issues; safety measures and training ensure staff safety, reducing accident risks.











Service Case | Lukang Pharma HPLC Lab: 4simple Waste Collection Innovation

Three Key Pain Points

The project covers several HPLC labs at Lukang Pharma, which keep a scientific layout and clean environment. Yet waste collection at chromatographs has long troubled lab managers:

1.Strong odor harms staff health: waste tubing drains straight into drums before the bench;open mouths let organic vapors evaporate, leaving constant chemical smell.

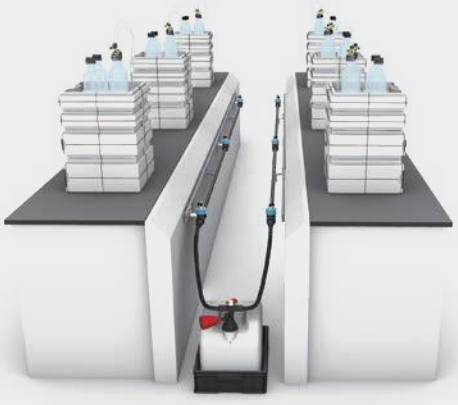
2. Too many bottles: one per chromatograph, all in front of the bench - affecting operation, unsightly, and adding evaporation time.

3. Utilities and equipment layout are fixed, with heavy daily analysis tasks - the retrofit must be compact, without long downtime.

This retrofit uses the full 4simple collection line - a brief look below.

Introducing the System

To address these issues, Lukang Pharma adopted the 4SIMPLE centralized collection system, integrating waste access, piping, storage and level alarms for safe, convenient treatment. It solves vapor and clutter problems and raises lab management level. Results are clear: first, collection points consolidated from many to one for centralized control; second, real-time level monitoring improves efficiency and cuts occupational risk; finally, the smart modular design makes the lab tidier and better managed.



















Service

Professional installation team with nationwide coverage

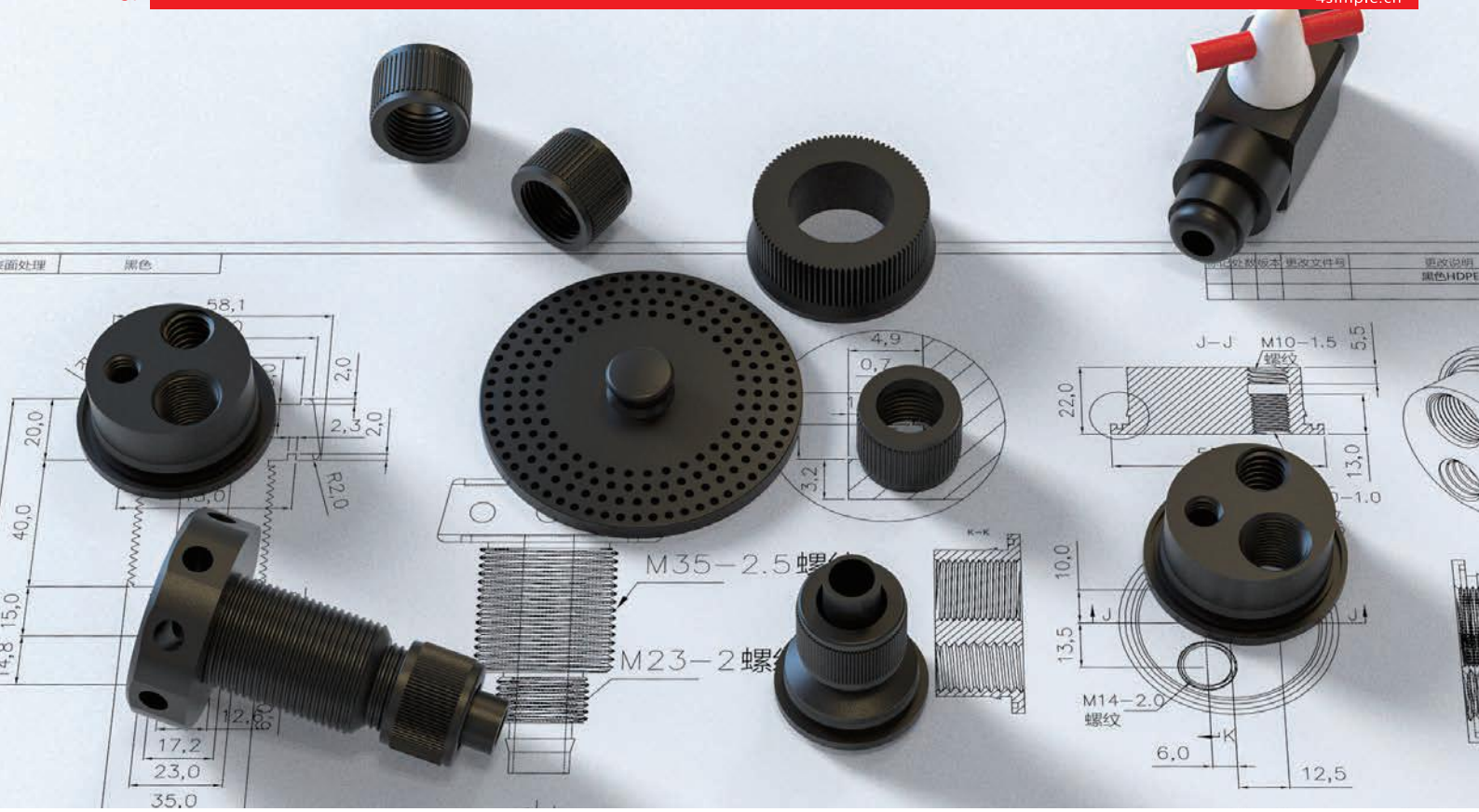
· On-site Installation · Training · After-sales











Customization Services



1 Needs Matching

For special needs we provide tailored services: custom containers, tubing in special sizes or quantities, special fittings - our product/process engineers work with you one-on-one.

3 Production & Machining

Our own machining plant with precision CNC mills, lathes and machining centers ensures strong capacity: high quality and precision, guaranteed materials, short lead times, fast samples and on-time delivery.

2 Design Proposal

Based on your needs, process engineers select the best materials; senior engineers finalize design and drawings with 3D simulations and detailed alternatives for an in-depth product design.

4 After-sales Warranty

Customized products carry a 2-year warranty: within two years of purchase, any non-man-made issue is repaired unconditionally, with an engineer supporting you throughout.



Challenge Lab Odors
Ensure Safe Waste Liquid Storage

4simple

CipherBook Tech

Xingtai Cipherbook Technology Co., Ltd.

www.4simple.cn

Address: Neiqiu County, Xingtai, Hebei, China
Sales Director: +86 132-6121-2009
Technical Service: +86 132-1107-9938

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