



LAB1ST

Accessories & Tubing Assemblies

— Single-Use Bioprocessing System

Labfirst Scientific Instruments (Shanghai) Co., Ltd.

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Solution Overview

Single-use fluid accessories and tubing assemblies are core components in the transport, distribution, and connection of bioprocess fluids. Leveraging a mature clean manufacturing system and materials platform, LAB1ST offers products covering aseptic connections, standard connectors, sanitary tri-clamp fittings, flexible tubing, and customized, integrated assemblies.

These solutions meet the needs of the upstream cell culture, downstream purification, formulation, and filling stages across the entire bioprocessing workflow.

Quick Focus

LAB1ST provides comprehensive single-use fluid solutions for R&D, pilot-scale, and commercial production. We offer customized designs for bags, tubing, and connectors based on specific process requirements. Through safe, efficient, and flexible integrated component solutions, we reduce on-site handling steps, minimize potential cross-contamination risks, and enhance process efficiency and stability.

Production Capacity

LAB1ST focuses on sterility assurance, fluid safety, and process stability. By manufacturing in controlled cleanroom environments and applying strict quality control, we consistently ensure stable production across a range of product specifications.

Quality Control

LAB1ST has established a robust quality management system, with stringent control throughout the production process, including raw material inspection. All products undergo comprehensive sealing and performance testing to ensure safety, stability, and traceability, fully meeting the demands of bioprocessing applications.

Single-Use Accessories

Aseptic Connectors

The aseptic connector features an integral pull-tab shield design and enables fast, aseptic connections in three steps (open, mate, pull). The genderless design eliminates mismatch risks and allows safe fluid path switching. The connector is compatible with multiple tubing sizes and connection types, making it easy to integrate into single-use systems. **Two versions are available: IR (irradiation-resistant, supporting sterilization by irradiation at 50–55 kGy) and HT (high-temperature resistant, supporting autoclaving at 121°C for 30 minutes).**

Aseptic Connectors

	Type	Specification	Material	Cat. No.	Package Size
	Aseptic Connector - IR (Irradiation Resistant)	1/4" HB	PC+PE	SCSIR1	1 pc/pack
		3/8" HB		SCSIR2	
		1/2" HB		SCSIR3	
		3/4" HB		SCSIR4	
	Aseptic Connector - HT (High Temperature Resistant)	1/4" HB	PC+PE+PTFE	SCSHT1	1 pc/pack
		3/8" HB		SCSHT2	
		1/2" HB		SCSHT3	
		3/4" HB		SCSHT4	

Tubing Clamps

Tubing clamps are used for flow control and management in single-use system. Lightweight with smooth edges, they are reusable, providing flow management and strong sealing without damaging the tubing.

Pinch Clamp: Press-to-lock design with a ratchet mechanism for reliable flow control

Side Clamp: Simple design, uses elastic compression for flow restriction

Tubing Clamps

	Type	Specification	Material	Cat. No.	Package Size
	Pinch Clamp	1#, 3/4" OD	POM	SJP001	10 pcs/pack
		2#, 5/8" OD		SJP002	
		3#, 3/8" OD		SJP003	
		4#, 1/4" OD		SJP004	
	Slide Clamp	5/8" - 3/4" OD	Nylon	SJS001	10 pcs/pack

MPC Quick Connectors

The MPC quick connector allows fast and safe coupling and uncoupling. Reliable sealing is achieved via an internal valve mechanism. The design accommodates various tubing sizes for integration into single-use fluid systems. **It supports either irradiation sterilization (50–55 kGy) or autoclaving (121°C for 30 minutes).**

MPC Quick Connectors

	Type	Specification	Material	Cat. No.	Package Size
	Coupling Body	1/8" HB	PC	SCM001	25 pcs/bag
		1/4" HB		SCM002	
		3/8" HB		SCM003	
		1/2" HB		SCM004	
	Coupling Insert	1/8" HB	PC	SCM111	25 pcs/bag
		1/4" HB		SCM112	
		3/8" HB		SCM113	
		1/2" HB		SCM114	
	Sealing Cap	Compatible with 1/8"-3/8" HB Coupling Insert	PC	SCM101	25 pcs/bag
		Compatible with 1/2" HB Coupling Insert		SCM102	
	Sealing Plug	Compatible with 1/8"-3/8" HB Coupling Body	PC	SCM011	25 pcs/bag
		Compatible with 1/2" HB Coupling Body		SCM012	

Luer Connectors

The Luer connector features a standard Luer lock and hose barb design for secure, easy connections. It is ideal for small-bore sampling or lab-scale flow transfer. Suitable for tubing on culture bags, storage bags, and cell/bacteria culture sampling vessels, the connector is highly compatible with various single-use components. It supports either irradiation sterilization (**50–55 kGy**) or autoclaving (**121°C** for **30** minutes).

Luer Connectors

	Type	Specification	Material	Cat. No.	Package Size
	Male Luer	1/16" HB	PP	SCL111	100 pcs/bag
		3/32" HB		SCL112	
		1/8" HB		SCL113	
		5/32" HB		SCL114	
		3/16" HB		SCL115	
		1/4" HB		SCL116	
	Female Luer	1/16" HB	PP	SCL001	100 pcs/bag
		3/32" HB		SCL002	
		1/8" HB		SCL003	
		5/32" HB		SCL004	
		3/16" HB		SCL005	
		1/4" HB		SCL006	
	Sealing Cap	Compatible with 1/16"-1/4" HB Male Luer	PP	SCL101	25 pcs/bag
	Sealing Plug	Compatible with 1/16"-1/4" HB Female Luer	PP	SCL011	25 pcs/bag
	Needle-free Sampling Valve	Luer with sampling cap	PC+Silicone	SCL121	25 pcs/bag

Tubing Plugs

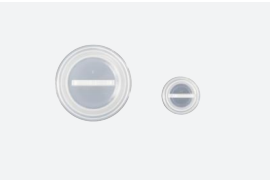
Tubing Plugs

	Type	Specification	Material	Cat. No.	Package Size
	Tubing Plug	1/8" HB	PP	SCP001	100 pcs/bag
		1/4" HB		SCP002	
		3/8" HB		SCP003	
		1/2" HB		SCP004	

Tri-Clamps

The Tri-clamp fitting features a standard sanitary design with smooth surfaces, suitable for high-duty industrial clean fluid systems. The TC fitting series is available in **3/4"** and **1-1/2"** sizes, compatible with hose diameters of **1/4"**, **3/8"**, **1/2"**, and **3/4"**. Products meet biocompatibility requirements and comply with USP <87>, USP <88>, and ISO 10993 standards. They support either irradiation sterilization (**50-55 kGy**) or autoclaving (**121°C** for **30** minutes).

TC fittings are typically used with a TC clamp, gasket, and cap to form a stable, efficient connection via mechanical compression and face sealing.



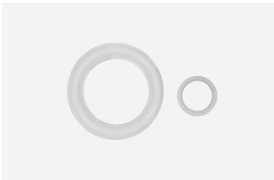
TC Blind Cap:

PP, standard flange size, used to cap off ports to prevent contamination or leakage.



TC Clamp:

Nylon, chemically resistant and heat-tolerant, secures the two TC fittings.



TC Sealing Gasket:

Silicone, placed between sealing faces to ensure leak-tight performance.

Tri-Clamps

	Type	Specification	Material	Cat. No.	Package Size
	TC25 Tri-Clamp Fitting	3/4" TC - 1/4" HB	PP	SCCFT1	100 pcs/pack
		3/4" TC - 3/8" HB		SCCFT2	
		3/4" TC - 1/2" HB		SCCFT3	
	TC50 Tri-Clamp Fitting	1-1/2" TC - 3/8" HB	PP	SCTFT1	50 pcs/pack
		1-1/2" TC - 1/2" HB		SCTFT2	
		1-1/2" TC - 3/4" HB		SCTFT3	
	TC25 Blind Cap	3/4" TC	PP	SCCBC1	10 pcs/pack
	TC50 Blind Cap	1-1/2" TC	PP	SCTBC1	10 pcs/pack
	TC25 Clamp	3/4" TC	Nylon	SCCCP1	1 pc/pack
	TC50 Clamp	1-1/2" TC	Nylon	SCTCP1	1 pc/pack
	TC25 Sealing Gasket	3/4" TC	Silicone	SCCGS1	10 pcs/pack
	TC50 Sealing Gasket	1-1/2" TC	Silicone	SCTGS1	10 pcs/pack

Tube Fittings

Tube Fittings are widely used in single-use systems, available in sizes ranging from **1/8"** to **1/2"** with comprehensive specifications to meet diverse customer needs. **Configurations include straight, cross, Y-shape, T-shape, and reducing styles**, with smooth, seamless surfaces that minimize fluid residue and reduce cross-contamination risk. They support either irradiation sterilization (**50–55 kGy**) or autoclaving (**121°C, 30 min**).

Tube Fittings					
	Type	Specification	Material	Cat. No.	Package Size
	Equal Straight Fitting	1/8" HB	PP	SFE001	100 pcs/pack
		1/4" HB		SFE002	
		3/8" HB		SFE003	
		1/2" HB		SFE004	
	Reducer Straight Fitting	3/32" - 1/8" HB	PP	SFR001	100 pcs/pack
		1/8" - 1/4" HB		SFR002	
		1/8" - 3/8" HB		SFR003	
		5/32" - 1/4" HB		SFR004	
		3/16" - 1/4" HB		SFR005	
		1/4" - 3/8" HB		SFR006	
		3/8" - 1/2" HB		SFR007	
	Cross Fitting	1/8" HB	PP	SFC001	100 pcs/pack
		1/2" HB		SFC002	
	Tee Fitting	1/4" HB	PP	SFT001	100 pcs/pack
		3/8" HB		SFT002	
	Y Fitting	1/8" HB	PP	SFY001	100 pcs/pack
		1/4" HB		SFY002	
		3/8" HB		SFY003	
		1/2" HB		SFY004	

Single-Use Tubing

The tubing series is a core component for fluid transfer, compatible with a wide range of connection accessories and offered in multiple sizes. Manufactured in a Grade C cleanroom, the tubing provides stable performance, low particle shedding, and is sterile and non-pyrogenic. It meets USP Class VI requirements and is specifically designed for biopharmaceutical R&D and production applications.

Platinum-cured Silicone Tubing:

Highly flexible and elastic with no particle shedding. Can operate continuously from **-50°C to 200°C** and is compatible with SIP, irradiation, and other sterilization methods. Ideal for high-purity fluid transfer and works seamlessly with quick connectors and TC fittings.

TPE Tubing:

Strong structural integrity with superior fluid barrier properties and chemical resistance. Suitable for sterile welding and heat sealing. Designed for general process fluid transfer and is commonly used with tubing plugs.

Tubing

	Type	Specification	Material	Cat. No.	Package Size
	Platinum-cured Silicone Tubing	1/8" ID × 1/4" OD	Silicone	STS001	15 m/pack
		1/4" ID × 3/8" OD		STS002	
		1/4" ID × 7/16" OD		STS003	
		3/8" ID × 5/8" OD		STS004	
		1/2" ID × 3/4" OD		STS005	
	TPE Tubing	1/8" ID × 1/4" OD	TPE	STT001	15 m/pack
		1/4" ID × 3/8" OD		STT002	
		1/4" ID × 7/16" OD		STT003	
		3/8" ID × 5/8" OD		STT004	
		1/2" ID × 3/4" OD		STT005	

Tubing Assemblies

Tubing assemblies can be pre-assembled or custom-integrated to meet specific process requirements, and are widely used in liquid transfer, sampling, and filling applications.



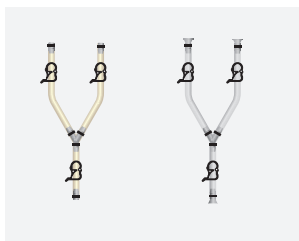
Extension Assembly:

Connects two containers or tubing lines positioned apart, effectively extending the reach of fluid transfer.



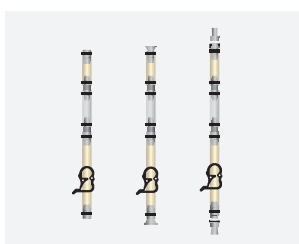
Reduction Assembly:

Connects two tubings or ports of different sizes, adapting respective dimensions for smooth dimension transition.



Y-Shaped Three-Way Assembly:

Connects three tubings via a Y-shaped junction with smooth angles, enabling flexible fluid combining or splitting.



Composite Tubing Assembly:

Combines different tubing materials into a single, integrated assembly to meet specialized process requirements.

Application Spotlight

Peristaltic Pumping: In dynamic transfer applications, the assembly uses TPE tubing for the main lines, then transitions to a soft, highly resilient silicone tubing exactly at the pump head. This design ensures pumping accuracy and durability.



Tubing Assemblies

Extension Assemblies (1 Tube+2 Connectors)

Tube Material	Connector	Specification	Tube Length	Cat. No.	Package Size
TPE Tubing	Tubing Plug	1/8" ID × 1/4" OD	50 cm	SAETP1	1 pc/bag
			100 cm	SAETP2	
		1/4" ID × 3/8" OD	50 cm	SAETP3	
			100 cm	SAETP4	
		3/8" ID × 5/8" OD	50 cm	SAETP5	
			100 cm	SAETP6	
		1/2" ID × 3/4" OD	50 cm	SAETP7	
			100 cm	SAETP8	
Silicone Tubing	MPC Connector	1/8" ID × 1/4" OD	50 cm	SAESM1	1 pc/bag
			100 cm	SAESM2	
		1/4" ID × 3/8" OD	50 cm	SAESM3	
			100 cm	SAESM4	
		3/8" ID × 5/8" OD	50 cm	SAESM5	
			100 cm	SAESM6	
		1/2" ID × 3/4" OD	50 cm	SAESM7	
			100 cm	SAESM8	
	TC25 Tri-Clamp	1/8" ID × 1/4" OD	50 cm	SAESC1	1 pc/bag
			100 cm	SAESC2	
		1/4" ID × 3/8" OD	50 cm	SAESC3	
			100 cm	SAESC4	
	TC50 Tri-Clamp	3/8" ID × 5/8" OD	50 cm	SAEST1	1 pc/bag
			100 cm	SAEST2	
		1/2" ID × 3/4" OD	50 cm	SAEST3	
			100 cm	SAEST4	

Composite Tubing Assemblies (2 TPE Tubes connected to 1 silicone tube+2 Connectors)

Tube Material	Connector	Specification	Tube Length	Cat. No.	Package Size
TPE Tubing + Silicone Tubing	Tubing Plug	1/8" ID × 1/4" OD	50 cm	SACTP1	1 pc/bag
		1/4" ID × 3/8" OD		SACTP2	
		3/8" ID × 5/8" OD		SACTP3	
		1/2" ID × 3/4" OD		SACTP4	
	MPC Connector	1/8" ID × 1/4" OD	50 cm	SACSM1	1 pc/bag
		1/4" ID × 3/8" OD		SACSM2	
		3/8" ID × 5/8" OD		SACSM3	
		1/2" ID × 3/4" OD		SACSM4	
	TC25 Tri-Clamp	1/4" ID × 3/8" OD	50 cm	SACSC1	1 pc/bag
		3/8" ID × 5/8" OD		SACSC2	
	TC50 Tri-Clamp	3/8" ID × 5/8" OD	50 cm	SACST1	1 pc/bag
		1/2" ID × 3/4" OD		SACST2	

Reduction Assemblies (2 Tubes with 2 different sizes+2 Connectors)

Tube Material	Connector	Specification	Tube Length	Cat. No.	Package Size
TPE Tubing	Tubing Plug	1/8" ID × 1/4" OD;	50 cm	SARTP1	1 pc/bag
		1/4" ID × 3/8" OD			
		1/4" ID × 3/8" OD;		SARTP2	
		3/8" ID × 5/8" OD			
		3/8" ID × 5/8" OD;		SARTP3	
Silicone Tubing	MPC Connector	1/2" ID × 3/4" OD	50 cm		1 pc/bag
		1/8" ID × 1/4" OD;		SARSM1	
		1/4" ID × 3/8" OD			
		1/4" ID × 3/8" OD;		SARSM2	
		3/8" ID × 5/8" OD			
	TC25 Tri-Clamp	3/8" ID × 5/8" OD;	50 cm	SARSM3	1 pc/bag
		1/2" ID × 3/4" OD			
		1/8" ID × 1/4" OD;		SARSC1	
		1/4" ID × 3/8" OD			
		1/4" ID × 3/8" OD;		SARSC2	
	TC50 Tri-Clamp	3/8" ID × 5/8" OD	50 cm		1 pc/bag
		1/2" ID × 3/4" OD		SARST1	

Y-Shaped Three-Way Assemblies (3 Tubes+3 Connectors)

Tube Material	Connector	Specification	Tube Length	Cat. No.	Package Size
TPE Tubing	Tubing Plug	1/8" ID × 1/4" OD	50 cm	SAYTP1	1 pc/bag
		1/4" ID × 3/8" OD		SAYTP2	
		3/8" ID × 5/8" OD		SAYTP3	
		1/2" ID × 3/4" OD		SAYTP4	
Silicone Tubing	MPC Connector	1/8" ID × 1/4" OD	50 cm	SAYSM1	1 pc/bag
		1/4" ID × 3/8" OD		SAYSM2	
		3/8" ID × 5/8" OD		SAYSM3	
		1/2" ID × 3/4" OD		SAYSM4	
	TC25 Tri-Clamp	1/4" ID × 3/8" OD	50 cm	SAYSC1	1 pc/bag
		3/8" ID × 5/8" OD		SAYSC2	
	TC50 Tri-Clamp	3/8" ID × 5/8" OD	50 cm	SAYST1	1 pc/bag
		1/2" ID × 3/4" OD		SAYST2	

Leveraging modular design and rapid response capabilities, LAB1ST offers one-stop service from individual components to complete single-use fluid management solutions. Our products are compatible with major single-use system platforms, and we provide full-scale customization based on your process needs, including flexible customization of fitting types, tubing sizes, and assemblies. We ensure that every solution precisely matches your application scenario, accelerating the development of modern biomanufacturing systems and helping your business stand out.



- Full customization scope

Full customization scope: tubing size, port quantity, port layout, fitting type, manifold, brand specification and other parameters can all be fully tailor-made.

- Full-cycle Service

End-to-end technical support is provided from requirement consultation and solution design to after-sales optimization, adapting to customers' iterative bioprocess upgrades.

- Efficient Implementation

Featuring rapid response and controllable lead time, our solutions seamlessly integrate with existing processes and shorten overall project commissioning cycles.





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