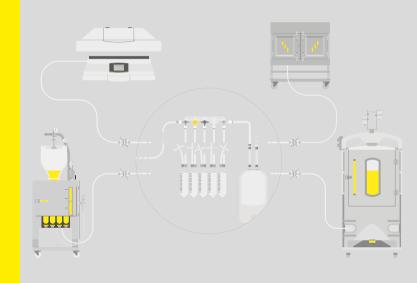


# **Product Datasheet**

# TakeOne® Flex

Simplified Sampling Solutions



# **Product Information**

TakeOne® Flex is a family of solutions designed to provide a modular approach to sampling that helps meet the complex needs of process monitoring and regulatory compliance.

The portfolio is scalable from R&D to full-scale manufacturing and includes a wide array of collection container types in a range of volumes and materials, including Flexsafe®, Flexboy®, and Celsius® bags, bottles, and centrifuge tubes that feature Mycap®, a robust aseptic closure. This family of standard products also includes solutions to increase and expand your sample-taking capacity while maintaining a low hold-up volume to minimize product loss.

# Benefits

TakeOne® Flex provides the highest degree of flexibility and adaptability by allowing configuration right at the moment the sample is taken. The point-of-use installation simplifies the handling of complex equipment and allows the same inventory of sampling assemblies to be used for any number of applications within a single process or across multiple sites.

- React on-demand
- Easily reduce costs and expand capabilities
- Ready for immediate use
- Scales up, down, and across applications

# A Modular Approach to Sampling

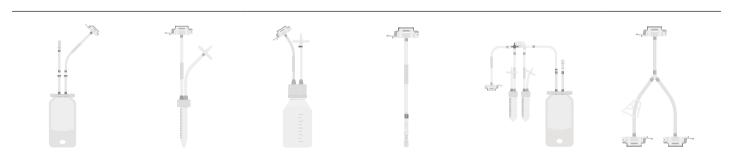
Fluids collected with TakeOne® Flex are used to measure critical quality attributes, such as bioburden and endotoxin levels, as well as essential process parameters, such as metabolites, nutrients, osmolality, and pH, that confirm your process is well controlled while protecting the process fluid from adventitious agents (Table 1).

 Table 1: Types of Assays Commonly Performed According to Process Step

	pH   Cond   Osmol	Cells	Metabolites	Protein Analysis	Bioburden and Archiving	Endotoxin	Other
Media   Buffer Prep							
Cell Culture   Downstream Intermediates							•
Drug Substance	•				•	•	•
Drug Product Formulation	•						
	Correct balance   Concentration	Cell count   Viability	Nutrient   Gas	Concentration   Purity	Contamination   Sterility	Regulatory limits check	Virus   Byproducts

Sartorius recognizes that sampling can be complex and process-specific. TakeOne® Flex was created to meet these widely varied process demands and take the complexity out of sample planning by offering a modular range of container formats, volumes, and fluid contact materials (Table 2). Users can plan and adapt to any process situation by maintaining just a few SKUs, creating tens or hundreds of different sampling solutions while optimizing for the most accurate and repeatable results using the precise volume required for each sample.

**Table 2:** TakeOne® Flex is Suitable for a Wide Range of Types, Materials, and Volumes



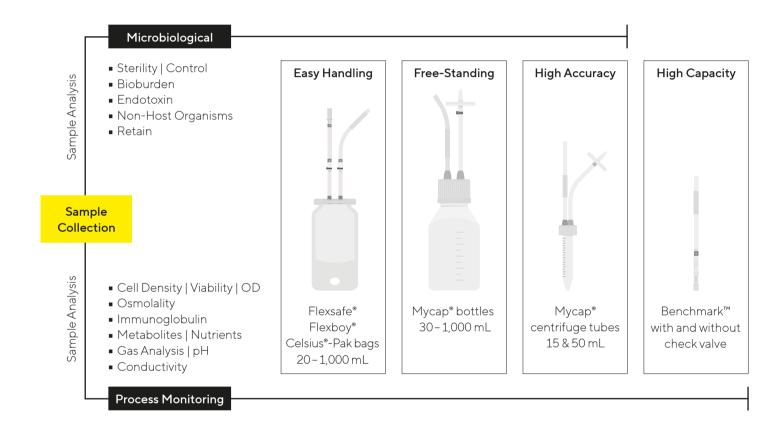
Flexsafe®, Flexboy® Celsius® Bags*	Mycap <sup>®</sup> Centrifuge Tubes	Mycap <sup>®</sup> Bottles	Benchmark™ Needleless Access Site	Stopcock Manifolds, incl. Purge Bag	2-Way Splitter
20   30   50   100   150   250   500   1,000 mL	15   50 mL	30   60   125   250   500   1,000 mL	With   without check valve	2   5 collection vessels	Aseptic connections
PE   EVA	PS   PP	PETG*	SIL   PP   SAN	Per your selection	TPE   SIL
		Other materials available upon request			

<sup>\*</sup>Per your bag brand selection

# Selecting the Right Sample Container

The optimal sample container selection is based on a variety of factors, such as process step, analysis type, assay sensitivities, material compatibility, fluid value, handling preferences, and volume. A properly chosen sample container can improve the accuracy of test results while decreasing the cost per sample and lost product.

**Microbiological** samples must be collected into an aseptically closed container in order to protect against false positive results or adventitious agents.



**Process Monitoring** samples are analyzed in an open, non-aseptic environment. They can be, but do not need to be, collected into an aseptically closed container.

# Collection Containers Impact Process and Results

While there are many ways to sample, Sartorius can guide you to the optimal solution for your sampling plans. We understand that container selection can significantly impact your process, from cost per sample, handling, and storage preferences to the reliability of assay results, which can be influenced by the sample's interaction with the collection container.

#### pH and Gas Analysis

Time from sample to analysis is critical

 O<sub>2</sub>-consuming cells will release CO<sub>2</sub>, initiating a chemical reaction resulting in a pH shift

The chemistry of pH

- When carbon dioxide dissolves into water it exists in equilibrium to form carbonic acid: CO₂ + H₂O ↔ H₂CO₃
- Carbonic acid disassociates to generate a free hydrogen ion which can change a solution's pH: A sample in a syringe can be taken directly to the analyzer, reducing container waste and sample alteration

Surface area to volume ratio is important

• Fluid interface with both air and container enables gas exchange in the sample

#### Stable Surface Area to Volume Ratio

There is more opportunity for gas exchange where the solution is in contact with a surface. Consequently, gas exchange is less variable in syringes compared to bags, as syringes have a stable surface area to volume ratio (Table 3).

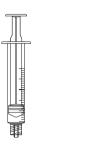
#### Environment

Saturation of  $O_2$  and  $CO_2$  in cell culture can be different from saturation levels in air. Gases in air bind to the plastic surface of the sample collection container prior to use. The bound gases transfer from high to low concentration, artificially changing dissolved gas in the sample. Syringes are not immune to the effect but the more stable surface area-to-volume ratio reduces its impact.

Material of construction plays a part

- All plastics are permeable
- Thicker | ridged plastics limit rate of exchange

**Table 3:** Surface Area to Volume Ratios in Syringes vs. Bags





	10 mL Syrin	ige	50 mL Bag	
Sample Volume Collected	Surface Area [cm²]	Surface Area to Volume	Surface Area [cm²]	Surface Area to Volume
2 mL	8.82	4.41	424	212.00
5 mL	17.10	3.42	424	84.80
10 mL	30.89	3.09	424	42.40



Benchmark™ multi-access valve is qualified for use with up to 40 needleless syringes

**Table 4:** Container Comparison for pH and Gas Analysis

	Bags	Bottles and Tubes	Syringes
Cost			•
Volume accuracy	•		
SA/Vol ratio			•
Time to analysis and waste reduction		•••	•

Note. SA/Vol = surface area to volume

pH & gas analysis is impacted by:

- Surface area to volume ratio
- Headspace gas exchange
- Permeability of container
- Time to analysis

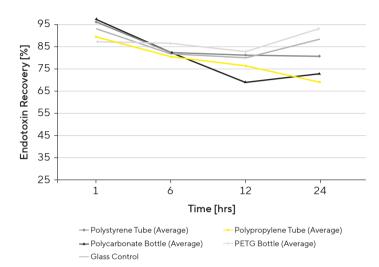
Table 4 shows syringes provide:

- Lowest impact to sample quality
- Lowest cost and waste per sample
- High volume accuracy

#### **Endotoxin Assay**

Endotoxins adsorb onto surfaces of sample collection containers, impacting recovery efficiency (Figure 1).

Figure 1: Endotoxin Recovery Over Time



Detection and accuracy of results can be affected by

- Fluid contact material
- Time from sample to assay

Polycarbonate or polystyrene collection containers are recommended for the most accurate endotoxin assay results when the assay is conducted within 6 hours of the sampling event.

PETG or polystyrene collection containers are recommended for achieving consistent endotoxin assay results when the assay is conducted at variable times, up to 24 hours after the sampling event (Table 5).



Polystyrene is the preferred sample collection container for endotoxin assays, as it protects recovery and stability over time.

 Table 5: Material Comparison for Endotoxin Assay

		Hours					
Туре		1	6	12	24	Total	Score
Polystyrene	SD avg. pooled					9	- 20
Polystyrene	SD between					11	- 20
PC	SD avg. pooled			-	-	7	_ 17
PC	SD between					10	- 17
PETG	SD avg. pooled					9	- 14
PETG	SD between	-	-	-		5	- 14

# Standard Design Portfolio

#### Simply Select, Connect and Use

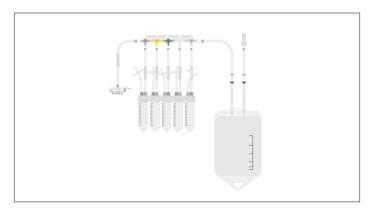
All designs include:

- Inlets with AseptiQuik® S size or a secure tube plug (only available for TPE)
- Silicone | TPE in 1/8" ID × 1/4" OD
- Quickseal® fast disconnection

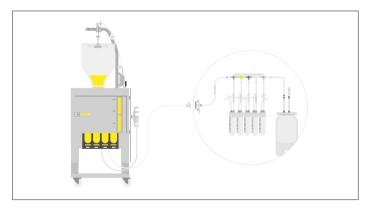
TakeOne® Flex products are delivered fully assembled, individually bagged, gamma sterilized, and ready for immediate use allowing you to bypass parts washing, equipment preparation, and assembly.

#### Quick and Easy Disconnect

Each TakeOne® Flex sampling line assembly includes a Quickseal® aseptic disconnect. Once the sample has been collected, operators easily cut the aluminum collar using a light, portable handheld cutting tool. The patented Quickseal® technology protects the sample and process vessel from contamination. A Quickseal® silicone protective cap then shields the cut collar.









# Integrating TakeOne® Flex Into Your Process

Our broad standard product portfolio of collection containers allows you to rapidly adapt your sampling plan.

Accessories (stopcock manifolds and 2-way splitters) are available to easily expand sample-taking capacity, providing a modular approach that may avoid requiring custom solutions. However, customized solutions are available for specific process needs.

#### **Design Services**

Sartorius offers a range of pre-configured yet modular TakeOne® products. If the standard-to-order designs do not meet the process requirements, our application-based design experts can tailor solutions to meet them.

Specific documentation is available upon request to support your regulatory needs:

- Technical drawing
- Instructions for use
- Product and sterilization certificates

Source all your needs for process optimization, customized validation, and regulatory support with Confidence® Services for TakeOne® Solutions. This support includes the closest interpretation of current regulatory requirements and industry standards by working with you to define relevant test conditions for all your process components. Services include, but are not limited to:

- Extractables assessment | Leachable studies
- Toxicological assessment | Safety evaluation
- Physio-chemical studies

# Technical Specifications

All TakeOne® Flex single-use assemblies are assembled in ISO 7-certified cleanrooms. Each system undergoes a variety of in-process quality inspections, including but not limited to:

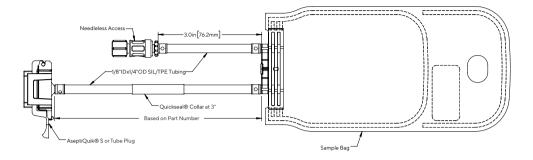
- Product conformity against technical drawing
- Visual inspection (particles or contamination, correctness assembly, etc.)
- Pressure decay test (batch release) performed when the system includes a Mycap® with container
- Product packaging controls
- Product labeling controls

Aseptic Disconnection	Quickseal® 1/8"×1/4"
Inlet Tube Diameter (ID×OD)	1/8"×1/4"
Inlet Tube Length	6" (152 mm) to 21.75" (552 mm)*
Inlet Tube Material	Silicone or TPE*
Manufacturing Environment	ISO 7
Sterilization Method	Gamma irradiation (25 kGy-45 kGy)
Shelf Life	2 years
Biocompatibility	USP <88> Class VI
Bacterial Endotoxin	USP <85>
Particulate Matter	USP <788>
Biological Reactivity Test In Vitro	USP <87> and ISO10993-5
TSE/BSE	EMA/410/01, rev 3 and E.P 5.2.8

<sup>\*</sup>based on PN

# Ordering Information

### Takeone® Flex | Sample Containers Single Collection Container



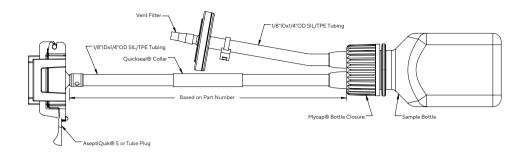
#### Bags With Aseptic Connector

Container Type	Volume	Catalog Number TPE Tube	Catalog Number Silicone (Pt) Tube	Container Inlet	Container Outlet	Container Material	Other Fluid Contact Materials*
Flexsafe®	20 mL	FLS0021CASQLT	FLS0021PASQLT	AseptiQuik® S	Benchmark™	Polyethylene	Polycarbonate,
bag	50 mL	FLS0051CASQLT	FLS0051PASQLT	- 1/8"×1/4" - Length 6"	(for needle-free syringes)	(S80)	polypropylene (PP), silicone (Pt)
	150 mL	FLS0151CASQLT	FLS0151PASQLT	Quickseal® 3"	<i>5</i> ,g <i>65</i> ,		
	250 mL	FLS0251CASQLT	FLS0251PASQLT				
	500 mL	FLS0501CASQLT	FLS0501PASQLT				
	1,000 mL	FLS1001CASQLT	FLS1001PASQLT				
Flexboy®	50 mL	FBY0051CASQLT	FBY0051PASQLT	AseptiQuik® S	Benchmark™ (for needle-free syringes)	Ethylene-vinyl acetate (EVA S71)	Polycarbonate, polypropylene (PP), silicone (Pt)
bag	150 mL	FBY0151CASQLT	FBY0151PASQLT	⅓"×¼" - Length 6"			
	250 mL	FBY0251CASQLT	FBY0251PASQLT	Quickseal® 3"			
	500 mL	FBY0501CASQLT	FBY0501PASQLT	_			
	1,000 mL	FBY1001CASQLT	FBY1001PASQLT	_			
Celsius®	30 mL	CSP0031CASQLT	_	AseptiQuik® S	Luer fitting	Ethylene-vinyl acetate (EVA S71-360 μm)	Polycarbonate,
Pak bag	100 mL	CSP0101CASQLT	_	1/4"×1/4" Length 6" Quickseal® 3"			polypropylene (PP), silicone (Pt)

## Bags for Sterile Welding

Container Type	Volume	Catalog Number	Container Inlet	Container Outlet	Container Material	Other Fluid Contact Materials*
50 i	20 mL	FLS0021TPLG	Tuflux® TPE with Plug ½"×½"  Length 12"  Quickseal® 3"	Benchmark™	Polyethylene (S80)	Polycarbonate, polypropylene, silicone (Pt)
	50 mL	FLS0051TPLG		for needle-free syringe		
	150 mL	FLS0151TPLG		syringe		
	250 mL	FLS0251TPLG				
	500 mL	FLS0501TPLG				
	1,000 mL	FLS1001TPLG	_			
Celsius®	30 mL	CSP0031TPLG	Tuflux® TPE with Plug 1/8"×1/4"	Luer fitting	Ethylene-vinyl	Polypropylene
Pak bag	100 mL	CSP0101TPLG	Length 12" Quickseal® 3"		acetate (EVA S71-360 μm)	

<sup>\*</sup>List does not include tubing type material



# **Bottles With Aseptic Connector**

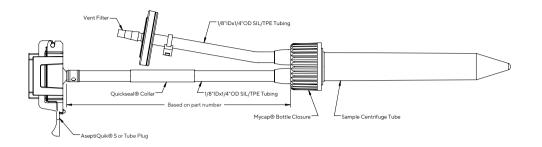
Container Type	Volume	Catalog Number TPE Tube	Catalog Number Silicone (Pt) Tube	Container Inlet	Container Outlet	Container Material	Other Fluid Contact Materials*
Square bottle	30 mL	PTG0031CASQLT	PTG0031PASQLT	AseptiQuik® S %"x¼" Length 6" Quickseal® 3"	Minisart®	Polyethylene	Polycarbonate, silicone (Pt)
	60 mL	PTG0061CASQLT	PTG0061PASQLT		vent filter	terephthalate glycol-modified	
	125 mL	PTG0121CASQLT	PTG0121PASQLT			(PETG)**	
	250 mL	PTG0251CASQLT	PTG0251PASQLT				
	500 mL	PTG0501CASQLT	PTG0501PASQLT				
	1,000 mL	PTG1001CASQLT	PTG1001PASQLT				

# Bottles for Sterile Welding

Container Type	Volume	Catalog Number	Container Inlet	Container Outlet	Container Material	Other Fluid Contact Materials*
Square bottles	30 mL	MYCAPNGPG0030F	Tuflux® TPE with Plug ½"×¼" Length 15.5" Quickseal® 3" Diptube	25 mm Minisart° vent filter	Polyethylene terephthalate glycol-modified (PETG)**	HDPE, polycarbonate, polypropylene, silicone (Pt)
	60 mL	MYCAPNGPG0060F	Tuflux® TPE with Plug ½"×¾" Length 15.5" Quickseal® 3" Diptube	25 mm Minisart® vent filter	Polyethylene terephthalate glycol-modified (PETG)**	Polycarbonate, polypropylene, silicone (Pt)
	125 mL	MYCAPNGPG0125F	Tuflux®TPE with Plug ½"×¼" Length 14" Quickseal® 2" Diptube			
	250 mL	MYCAPNGPG0250F	Tuflux® TPE with Plug ½"×¼" Length 18" Quickseal® 2" Diptube			
	500 mL	MYCAPNGPG0500F	Tuflux® TPE with Plug ½"×¼" Length 17" Quickseal® 3" Diptube	50 mm Midisart° vent filter		
	1,000 mL	MYCAPNGPG1,000F	Tuflux® TPE with Plug ½"×¼" Length 21.75" Quickseal® 4.5" Diptube			

<sup>\*</sup> List does not include tubing type material

<sup>\*\*</sup> Other materials available upon request



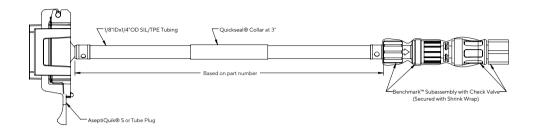
# Centrifuge Tubes With Aseptic Connector

Container Type	Volume	Catalog Number TPE Tube	Catalog Number Silicone (Pt) Tube	Container Inlet	Container Outlet	Container Material	Other Fluid Contact Materials*
Centrifuge tube	15 mL	PSCT0151CASQLT	PSCT0151PASQLT	AseptiQuik® S 1/8"×1/4" Length 6" Quickseal® 3"	Minisart® vent filter	Polystyrene	Polycarbonate, high-density polyethylene (HDPE), silicone (Pt)
	50 mL	PPCT0051CASQLT	PPCT0051PASQLT	AseptiQuik® S 1/8"×1/4" Length 6" Quickseal® 3"	Minisart® vent filter	Polypropylene (PP)	Polycarbonate, silicone (Pt)

# Centrifuge Tubes for Sterile Welding

Container Type	Volume	Catalog Number	Container Inlet	Container Outlet	Container Material	Other Fluid Contact Materials*
Centrifuge tube	15 mL	MYCAPCPSG0015F	Tuflux® TPE with Plug ½"×¼" Length 13.5" Quickseal® 2.5" Diptube	25 mm Minisart° vent filter	Polystyrene	High density polyethyele (HDPE), silicone (Pt), polypropylene
	50 mL	MYCAPCPPG0050F	Tuflux® TPE with Plug 1/8"×1/4" Length 13.5" Quickseal® 2" Diptube	25 mm Minisart° vent filter	Polypropylene (PP)	Silicone (Pt), polypropylene

 $<sup>^*</sup>$ List does not include tubing type material



# $Benchmark^{\scriptscriptstyle\mathsf{TM}}\ Needleless\ Access\ Site\ With\ Aseptic\ Connector$

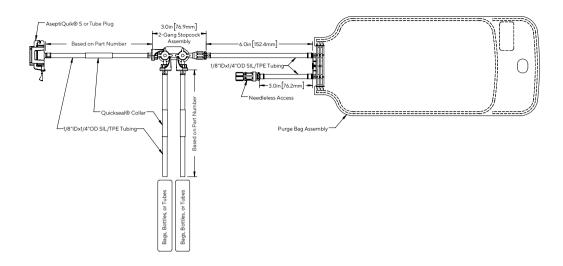
		Catalog Number TPE Tube	Catalog Number Silicone (Pt) Tube	Container Inlet	Container Outlet	Container Material	Other Fluid Contact Materials*
Benchmark™	with check valve	BNCHCV1CASQLT	BNCHCV1PASQLT	AseptiQuik® S 1/8"×1/4" Length 6" Quickseal® 3"	_	As selected	Polycarbonate, polypropylene (PP), styrene acrylonitrile (SAN), silicone (Pt)
	w/out check valve	BNCH1CASQLT	BNCH1PASQLT	AseptiQuik® S 1/8"×1/4" Length 6" Quickseal® 3"	-	As selected	Polycarbonate, silicone (Pt)

## Benchmark™ Needleless Access Site for Sterile Welding

	Catalog Number	Container Inlet	Container Outlet	Container Material	Other Fluid Contact Materials*
Benchmark <sup>™</sup>	BNCHCV1TPLG	Tuflux °TPE with Plug ½"×½" Length 12" Quickseal° 3"	2×Tuflux®TPE with Plug⅓"×¼" Length 12" Quickseal® 3", Benchmark™ with check valve	_	Polypropylene, silicon (Pt), polycarbonate, SAN
	BNCH1TPLG	Tuflux °TPE with Plug ½"×¼" Length 12" Quickseal° 3"	3×Tuflux®TPE with Plug⅓"×¼" Length 12" Quickseal® 3", Benchmark™	_	Polypropylene, silicon (Pt), polycarbonate

 $<sup>^{\</sup>star}$ List does not include tubing type material

#### **Manifolded Collection Containers**



## 2-Gang Manifold With Aseptic Connector

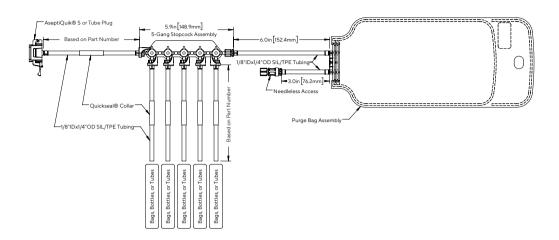
Container Type	Volume	Catalog Number TPE Tube	Catalog Number Silicone (Pt) Tube	Container Inlet	Container Outlet	Fluid Contact Materials*
Flexsafe® bags on stopcock manifold	2×20 mL	FLS0022CASQLT	FLS0022PASQLT	AseptiQuik® S %"×¾" Length 6" Quickseal® 3"	Benchmark™ (for needle-free syringes)	Polycarbonate, high-density polyethylene (HDPE), polyethylene (PE S80), polypropylene (PP), silicone (Pt)
	2×50 mL	FLS0052CASQLT	FLS0052PASQLT			
	2×150 mL	FLS0152CASQLT	FLS0152PASQLT			
	2×250 mL	FLS0252CASQLT	FLS0252PASQLT			
	2×500 mL	FLS0502CASQLT	FLS0502PASQLT			
	2×1,000 mL	FLS1002CASQLT	FLS1002PASQLT			
Flexboy®	2×50 mL	FBY0052CASQLT	FBY0052PASQLT	AseptiQuik® S  ½"×½"  Length 6"  Quickseal® 3"	Benchmark™ (for needle-free syringes)	Polycarbonate, high-density polyethylene (HDPE), ethylene-vinyl acetate (EVA S71), polypropylene (PP), silicone (Pt)
bags on stopcock manifold	2×250 mL	FBY0252CASQLT	FBY0252PASQLT			
	2×1,000 mL	FBY1002CASQLT	FBY1002PASQLT			
Centrifuge tube on stopcock manifold	2×15 mL	PSCT0152CASQLT	PSCT0152PASQLT	AseptiQuik® S 1/8"×1/4" Length 6" Quickseal® 3"	Minisart® vent filter	Polycarbonate, polystyrene, high density polyethylene (HDPE), silicone (Pt)
	2×50 mL	PPCT0052CASQLT	PPCT0052PASQLT	AseptiQuik® S 1/8"×1/4" Length 6" Quickseal® 3"	Minisart® vent filter	Polycarbonate, high density polyethylene (HDPE), polypropylene (PP), silicone (Pt)
Bottle on stopcock manifold	2×60 mL	PTG0062CASQLT	PTG0062PASQLT	AseptiQuik® S 1/8"×1/4" Length 6" Quickseal® 3"	Minisart° vent filter	Polycarbonate, high density polyethylene (HDPE), polyethylene terephthalate glycol-modified (PETG), silicone (Pt)
2-way splitter		2WAY001CASQLT	2WAY001PASQLT	AseptiQuik® S 1/8"×1/4" Length 3"	AseptiQuik® S (×2)½"×¼" Length 3"	Polycarbonate, high density polyethylene (HDPE), silicone (Pt)

 $<sup>^*</sup>$ List does not include tubing type material

# 2-Gang Manifold for Sterile Welding

Container Type	Volume	Catalog Number	Container Inlet	Container Outlet	Container Material	Other Fluid Contact Materials*
Flexsafe®	2×20 mL	FLS0022TPLG	Tuflux® with Plug %"×¼" Length 12" Quickseal® 3"	Benchmark™ (for needle-free syringes)	Polyethylene (S80)	Polycarbonate, high-density polyethylene (HDPE), polyethylene, polypropylene (PP), silicone (Pt)
bags on stopcock	2×50 mL	FLS0052TPLG				
manifold	2×150 mL	FLS0152TPLG				
	2×250 mL	FLS0252TPLG				
	2×500 mL	FLS0502TPLG				
	2×1,000 mL	FLS1002TPLG				
Centrifuge tube on stopcock manifold	2×15 mL	PSCT0152TPLG	Tuflux® TPE with Plug ½"×¼" Length 12" Quickseal® 3"	25 mm Minisart° vent filter	Polystyrene	Polycarbonate, high-density polyethylene (HDPE), polyethylene (S80), polypropylene (PP), silicone (Pt)
	2×50 mL	PPCT0052TPLG	Tuflux® TPE with Plug ½"×¼" Length 12" Quickseal® 3"	25 mm Minisart® vent filter	Polypropylene	Polycarbonate, high-density polyethylene (HDPE), polyethylene (S80), polyethylene, polypropylene (PP), silicone (Pt)
Bottle on stopcock manifold	2×60 mL	PTG0062TPLG	Tuflux® TPE with Plug ½"×¼" Length 12" Quickseal® 3"	25 mm Minisart® vent filter	Polyethylene terephthalate glycol-modified (PETG)	Polycarbonate, high density polyethylene (HDPE), polyethylene terephthalate glycol-modified (PETG), silicone (Pt), polypropylene, polyethylene (S80), polyethylene
2-way splitter	_	2WAY001TPLG	Tuflux® TPE with Plug %"×¼" Length 12" Quickseal® 3"	Tuflux®TPE with Plug (×2) ½"×½" Length 12" Quickseal® 3"	_	Polypropylene

 $<sup>^{\</sup>star}$ List does not include tubing type material



## 5-Gang Manifold With Purge Vessel With Aseptic Connector

Container Type	Volume	Catalog Number TPE Tube	Catalog Number Silicone (Pt) Tube	Container Inlet	Container Outlet	Fluid Contact Materials*
Flexsafe® bags on stopcock manifold	5×20 mL	FLS0025CASQLT	FLS0025PASQLT	AseptiQuik® S ½"x½" Length 6" Quickseal® 3"	Benchmark™ (for needle-free syringes)	Polycarbonate, high density polyethylene (HDPE), polyethylene (PE S80), polypropylene (PP), silicone (Pt)
	5×50 mL	FLS0055CASQLT	FLS0055PASQLT			
	5×150 mL	FLS0155CASQLT	FLS0155PASQLT			pasyp. opy. o ( //, e o (/
	5×250 mL	FLS0255CASQLT	FLS0255PASQLT			
	5×500 mL	FLS0505CASQLT	FLS0505PASQLT			
	5×1,000 mL	FLS1005CASQLT	FLS1005PASQLT			
Flexboy® bags on stopcock	5×50 mL	FBY0055CASQLT	FBY0055PASQLT	AseptiQuik® S  ½"×½"  Length 6"  Quickseal® 3"	Benchmark™ (for needle-free syringes)	Polycarbonate, high-density polyethylene (HDPE), ethylene-vinyl acetate (EVA S71), polypropylene (PP), silicone (Pt)
	5×250 mL	FBY0255CASQLT	FBY0255PASQLT			
manifold	5×1,000 mL	FBY1005CASQLT	FBY1005PASQLT			
Centrifuge tube on stopcock manifold	5×15 mL	PSCT0155CASQLT	PSCT0155PASQLT	AseptiQuik® S 1/8"×1/4" Length 6" Quickseal® 3"	Minisart® vent filter	Polycarbonate, polystyrene, high-density polyethylene (HDPE), silicone (Pt)
	5×60 mL	PTG0065CASQLT	PTG0065PASQLT	AseptiQuik® S ½"×¼" Length 6" Quickseal® 3"	Minisart® vent filter	Polycarbonate, high-density polyethylene (HDPE), polypropylene (PP), silicone (Pt)
Bottle on	5×60 mL	PTG0065CASQLT	PTG0065PASQLT	AseptiQuik® S	Minisart <sup>®</sup> vent filter	Polycarbonate, high-density polyethylen
stopcock manifold	5×125 mL	PTG0125CASQLT	PTG0125PASQLT	- 1/8"×1/4" - Length 6" Quickseal® 3"		(HDPE), polyethylene terephthalate glycol-modified (PETG), silicone (Pt)
marmolu	5×250 mL	PTG0255CASQLT	PTG0255PASQLT			giyeor modified (FETO), silicone (Ft)

 $<sup>{}^{\</sup>star}\text{List}$  does not include tubing type material

# 5-Gang Manifold With Purge Vessel for Sterile Welding

Container Type	Volume	Catalog Number	Container Inlet	Container Outlet	Container Material	Other Fluid Contact Materials*
Flexsafe®	5×20 mL	FLS0025TPLG	Tuflux® TPE	Benchmark™ for needle-free syringe	Polyethylene (S80)	Polycarbonate, high-density polyethylene (HDPE), polyethylene (S80), polyethylene,
bags on stopcock	5×50 mL	FLS0055TPLG	with Plug			
manifold	5×150 mL	FLS0155TPLG	Length 12" Quickseal® 3"			polypropylene (PP), silicone (Pt)
	5×250 mL	FLS0255TPLG				
	5×500 mL	FLS0505TPLG	_			
	5×1,000 mL	FLS1005TPLG	_			
Centrifuge tube on stopcock manifold	5×15 mL	PSCT0155TPLG	Tuflux® TPE with Plug %"× ¼" Length 12" Quickseal® 3"	25 mm Minisart° vent filter	Polystyrene	Polycarbonate, high-density polyethylene (HDPE), polyethylene (S80), polypropylene (PP), silicone (Pt)
	5×50 mL	PPCT0055TPLG	Tuflux® TPE with Plug %"×¼" Length 12" Quickseal® 3"	25 mm Minisart° vent filter	Polypropylene	Polycarbonate, high-density polyethylene (HDPE), polyethylene (S80), polyethylene, polypropylene (PP), silicone (Pt)
Bottle on	5×60 mL	PTG0065TPLG	Tuflux® TPE	25 mm Minisart° vent filter	Polyethylene terephthalate glycol-modified (PETG)**	Polycarbonate, high density polyethylene (HDPE), polyethylene terephthalate, silicone (Pt), polypropylene, polyethylene (S80), polyethylene
stopcock manifold	5×125 mL	PTG0125TPLG	with Plug  "%"×¼"  Length 12"  Quickseal® 3"			
manifold	5×250 mL	PTG0255TPLG				

#### Accessories

	Catalog Number	Fluid Contact Materials*
Quickseal® cutter (small diameter)	QSCUTTERSD	-
Quickseal® silicone caps, ¼" OD (50/pack)	QS04CAPSILNT	

 $<sup>^*</sup>$ List does not include tubing type material

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