



Flexsafe® 2D & 3D Pre-Designed Solutions for Storage and Shipping

Take Your Facility Into The Future

Simplifying Progress

SARTORIUS

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Flexsafe® 2D bags up to 50 L

Flexsafe® 2D bags in shell 5 L, 10 L & 20 L

Flexsafe® 3D bags up to 500 L

Flexsafe® 3D bags up to 3,000 L

Digital Selection Map Flexsafe® 2D

Please click on the box to select the right solution with the right connection for your process step

Flexsafe® 2D bags:

20 mL, 50 mL, 150 mL, 250 mL, 500 mL, 1 L, 3 L, 5 L, 10 L, 20 L, 50 L

Media Preparation

Sterile Weld to Biostat STR® and RM Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Sterile Connection

Sterile Weld

Steaming Connection to Stainless Steel Bioreactors

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection

Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection

Tri-Clamp Connection

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

Sterile Connection

Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection

Tri-Clamp Connection

Drug Substance Purification

Sterile Connection to Downstream Systems

Sterile Connection

Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection

Tri-Clamp Connection

Drug Product Formulation

Sterile Connection to Downstream Systems

Sterile Connection

Sterile Weld



Flexsafe® 2D bags from 20 mL to 3 L

Flexsafe® 2D bags in shell 5 L, 10 L & 20 L

Digital Selection Map Flexsafe® 3D

Please click on the box to select the right solution with the right connection for your process step

Flexsafe® 3D bags for Palletank®:

100 L, 200 L & 500 L

Flexsafe® 3D bags for drum:

50 L, 100 L, 200 L



Flexsafe® 3D up to 500 L

Media Preparation

Sterile Weld to Biostat STR® and RM Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Sterile Connection

Sterile Weld

Steaming Connection to Stainless Steel Bioreactors

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection

Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection

Tri-Clamp Connection

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

Sterile Connection

Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection

Tri-Clamp Connection

Drug Substance Purification

Sterile Connection to Downstream Systems

Sterile Connection

Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection

Tri-Clamp Connection

Drug Product Formulation

Sterile Connection to Final Filling

Sterile Connection

Sterile Weld

Aseptic Transfer to an Isolator

Digital Selection Map Flexsafe® 3D

Please click on the box to select the right solution with the right connection for your process step

Flexsafe® 3D bags for Palletank®:

1,000 L, 1,500 L, 2,000 L, 2,500 L & 3,000 L



Flexsafe® 3D up to 3,000 L

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection

Sterile Weld

Buffer Preparation

Sterile Connection to Downstream Systems

Sanitary or Aseptic Connection to Downstream Systems

Sterile Connection ½" ID

Sterile Weld ½" ID

Quick Coupler Connection ½" ID

Tri-Clamp Connection ½" ID

Buffer Preparation

Sterile Connection to Downstream Systems

Sanitary or Aseptic Connection to Downstream Systems

Sterile Connection ¾" ID

Sterile Weld ¾" ID

Quick Coupler Connection ¾" ID

Tri-Clamp Connection ¾" ID

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

Sanitary or Aseptic Connection to Downstream Systems

Sterile Connection ½" ID

Sterile Weld ½" ID

Quick Coupler Connection ½" ID

Tri-Clamp Connection ½" ID

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

Sanitary or Aseptic Connection to Downstream Systems

Sterile Connection ¾" ID

Sterile Weld ¾" ID

Quick Coupler Connection ¾" ID

Tri-Clamp Connection ¾" ID

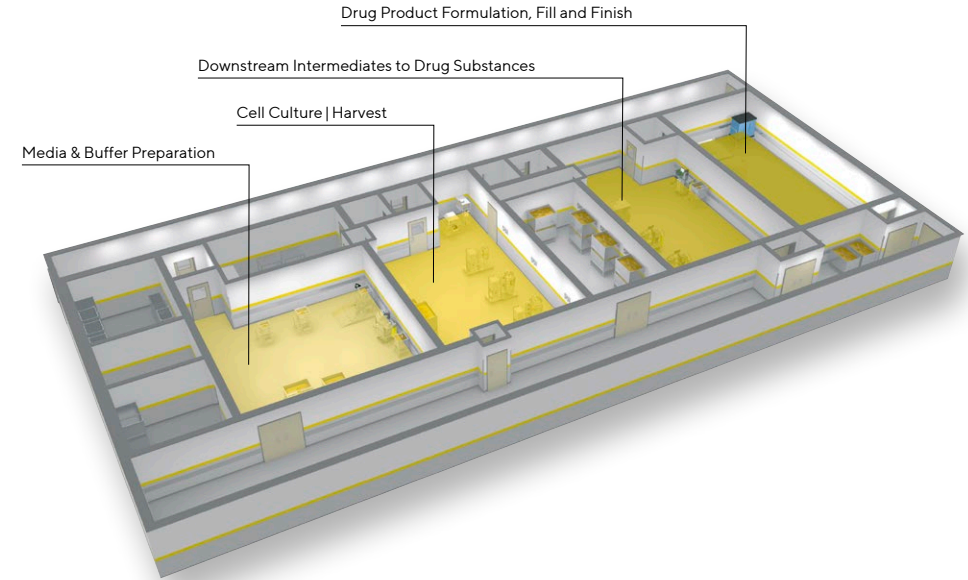
Unprecedented Performance and Assurance of Quality Supply

Flexsafe® 2D & 3D Storage & Shipping Solutions for All Process Steps

Building on more than 20 years of experience in designing Single-use Fluid Management Solutions, we have established proven Pre Designed Solutions (PDS) for every media, buffer, harvest, downstream intermediates, drug substance and drug product process steps.

The performance and assurance of supply of Flexsafe® PDS are based on the complete control of our manufacturing process for the resins, the film, the bags, the filters and the assemblies. Other fluid-contact components are secured by strategic partnerships, long term contracts and quality agreements and are available off-the-shelf to provide best delivery reliability.

When you select a Flexsafe® PDS, you get the assurance of consistent quality and robust change control for every process steps of your bioproduction. Business continuity is guaranteed at any time with at least 24 months of change notification in case of a change.



Media



Pre-designed Solutions for media storage, shipping and feeding of bioreactors

Buffer



Pre-designed Solutions for storage and shipping of buffers used for purification or final formulation

Cell Harvest & Downstream Intermediates



Pre-designed Solutions for harvesting cell cultures and for handling all the process intermediates before the last cross-flow step

Drug Substance



Pre-designed Solutions for storage and shipping of drug substance post virus filtration after the last cross-flow step

Sampling



Pre-designed Solutions for easy and safe sampling whatever the process step

Drug Product



Pre-designed Solutions for sterile filtration, hold and transfer of drug products

Material Science and Film Extrusion Expertise

The S80 PE film of Flexsafe® 2D & 3D bags is the result of combining material science and film extrusion expertise in collaboration with our resin suppliers and film partner. Such partnership ensure a full understanding of the resins formulation and the film manufacturing process.

Following the principles of Quality by Design (QbD), we have selected the raw materials and defined the thickness of each layer of the film to achieve excellent cell growth and superior robustness.

We have established the resin specification, extrusion design space and process controls that provide consistent quality and reproducible performance of the S80 film.

The extrusion process is optimized to avoid addition of antioxidants and process aids and to limit the generation of anti-oxidant breakdown products such as **bis (2,4-di-tert-butylphenyl) phosphate (bDtBPP)** during extrusion and gamma irradiation.

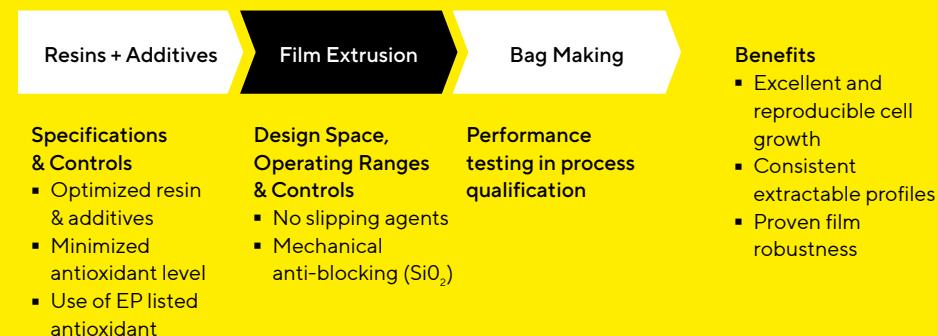
Welding and sealing parameters are optimized and are routinely controlled to ensure bag making process consistency.

Co-extruded PE | EVOH | PE Structure

- 400 µm thickness
- Balance between strength, flexibility and gas barrier
- Large sealing window for bag robustness
- Best puncture resistance & elongation at break

S80 Film Features & Benefits

- Superior thickness and strength: Ideal for large scale storage bags and stirred bioreactors
- Excellent biocompatibility: Ideal for media storage and cell culture
- Superior flexibility: Ideal for shipping bags and rocking motion bioreactors
- Inert PE contact layer: Suitable for non buffered solutions
- High gas and water barrier properties: Suitable for long term storage of media, buffers and drug substances
- Low extractable profile: Ideal for drug substance and drug product process steps



The lot to lot consistent performance of Flexsafe® bags is ensured by specification and controls of raw materials, the definition of the design space for the film extrusion and the control of the welding and overall bag making process.

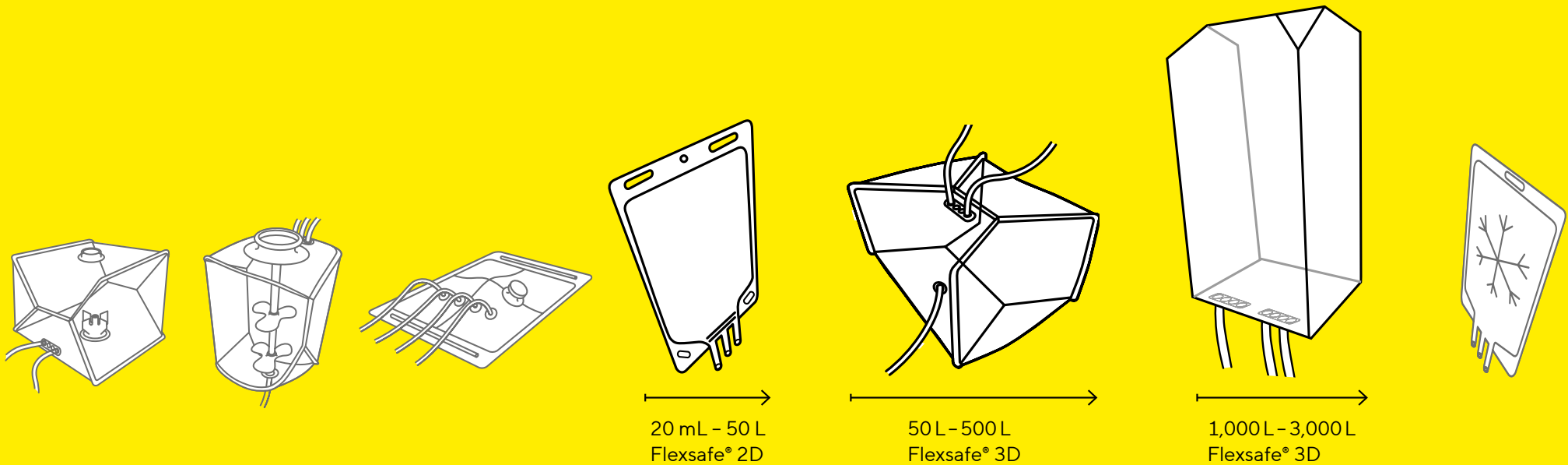


Control of the Entire Manufacturing Process

The complete control of the process and our quality management for critical fluid-contact components ensure reliable and consistent performance of our Flexsafe® PDS.

The establishment of long term supply contracts and quality agreements for the resins, the film and the fluid-contact components ensure unprecedented assurance of supply.

One for All



Cell Growth

The resins and additives used for Flexsafe® bags are optimized to ensure excellent and reproducible growth. The control of our entire process guarantees consistent lot-to-lot cell growth after short and long term media storage.

Robustness & Ease of Use

The thickness, strength and flexibility of Flexsafe® bags make them suitable for all process steps and reduce the risk of damage due to inappropriate handling. Flexsafe® 3D bags in Palletank® are validated with the most stringent ASTM D4169 shipping test to offer safe transportation of critical drug substances.

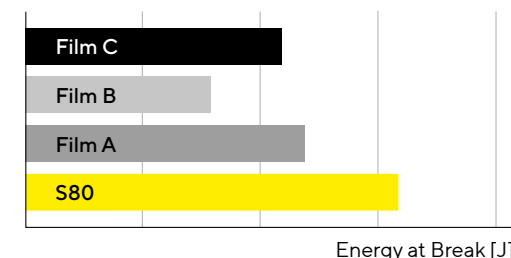
The flexibility enables convenient installation and self-deployment of the bag in its container thus saving valuable operator time.

Assurance of Quality Supply

Long-term supply contracts and quality agreements with suppliers and partners guarantee the traceability and control of the raw material and the film formulation. The control of the entire manufacturing process provides consistent quality, change control and business continuity.

Consistent Extractable Profile

Specification and control of the resins and the film ensure well characterized and consistent extractables. Extractable data is readily available for risk assessment, thus saving end-users the time and money required for generating validation data. The validation studies and toxicological assessments remain valid and reproducible from lot-to-lot.



☒ Passed ASTM Shipping Test

Resins for S80 Film

Resin specification & process control

- Resin & additives traceability
- Lot-to-lot raw material consistency

Long term contract

- 2 year last time buy option
- 2 year stock of resin & film

Film – S80

Extrusion design space & control

- Consistent cell growth & robustness
- Lot-to-lot consistent extractable

10 year supply & quality contract

- 2 year last time buy option
- 2 year stock of resin & film

4 Year Guarantee of Unchanged Film

Components

Long term supply contracts

- 2 year change notification

Quality Agreements

- Bioburden, particle & endotoxin
- Extractable characterization

Final PDS Assembly

Business continuity plan

- Back up equipment & safety stocks

Multiple manufacturing sites

- Worldwide cleanroom facilities
- Resin-to-bag process control

Assurance of Quality Supply for Fluid-Contact Components

Component Quality, Change Control and Business Continuity

All fluid-contact components of Flexsafe® PDS are secured by long term contracts and quality agreements and are available off-the-shelf to offer the best assurance of supply and the best delivery reliability.

Our supply contracts ensure at least a 2 year change notification thus providing robust change control and business continuity.

Components are selected to meet the most stringent quality requirements and all engagements with tubings are extensively qualified to ensure consistent robustness.

Material Qualification

Flexsafe® PDS components are evaluated for conformity against the EP and USP standards after reviewing technical documentation and certificates of quality available from our suppliers.

Additional internal qualification tests are performed to establish extractable profiles, post gamma sterilization shelf life and consistent functional properties.

Criteria for Component Selection	Reference
Biological safety (USP Class VI)	USP<87> & USP<88>
TSE-BSE questionnaire	Compliance with EMA/410/01 and EP 5.2.8
Endotoxin	USP<85> or EP 2.6.14
Bioburden	ISO 11737
Sub visible particles	USP<788> or EP 2.9.19
Others	Bisphenol A free, REACH compliance

Our core expertise in plastics and polymers enables the selection of the cleanest and most inert materials to minimize chemical interactions with biopharmaceutical fluids, and leacheable substances and to provide consistent cell growth.

Flexsafe® PDS

Components	Biocompatibility USP <87> or USP<88> Class VI	Endotoxin Sub visible particles bioburden	TSE-BSE EMA/410/01 & REACH	Notification period time
Flexsafe® bags	Yes	Yes	Yes	48 months
Tuflux® tubes	Yes	Yes	Yes	24 months
Opta® sterile connectors	Yes	Yes	Yes	24 months
Sartopore® filters	Yes	Yes	Yes	24 months
Fittings	Yes	Yes	Yes	24 months
Connectors	Yes	Yes	Yes	24 months

Design Qualification

Component designs are selected to maximize tubing engagement tensile strength and tightness. All engagements with tubings are qualified for 3 year shelf life. Test samples are visually inspected for absence of defect and tested for leak, burst pressure, traction and compression.

Using a Flexsafe® Pre designed Solution in all your process steps provide you with best performance and assurance of quality supply.

Validation and Quality Assurance

Flexsafe® PDS are qualified against extensive biological, chemical, physical, extractable and cell growth testing to provide reliable validation data applicable to a wide range of process conditions.

Sartorius Stedim Biotech Quality Systems for single-use products follow applicable ISO 9001 and FDA regulations. Because single-use systems replace traditional stainless steel equipment, suppliers own a more important part of the drug manufacturing process. Design, manufacture, quality control and sterilization of Flexsafe® PDS are conducted under conditions that mirror biopharmaceutical operations and meet cGMP like requirements to ensure they are supplied clean, pure, endotoxin free and sterile.

Flexsafe® 2D & 3D PDS are validated and routinely controlled to provide consistent performance for:

Robustness

- ASTM D4169 and D7386:
Standard Practice for Performance Testing of Shipping Containers and Systems for Flexsafe® bag packaging
- ASTM D882/ISO 527-3 for tensile properties
- ASTM F392 for flex durability
- ASTM D3787 for puncture resistance
For Flexsafe® 2D bags:
- 100 % bag chamber leak test by pressure decay (ASTM F2095-07)
- 100 % finished product Helium integrity test for critical process steps or 2D and 3D bags up to 500 L

Gas transmission

- ASTM D3985 for oxygen transmission rate
- ISO 15106-3 for water vapor transmission rate

Biocompatibility & chemical compatibility

- USP<87> and ISO 10993:
Biological reactivity tests, in Vitro
- USP<88> and ISO 10993:
Biological reactivity tests, in Vivo

- Internal standardized methods for cell growth compatibility evaluation
- USP<661> and EP 3.1.5:
Containers, physico-chemical tests – Plastics
- ASTM D543-06:
resistance of plastic to chemical reagents

Purity, extractable & leachable

- Extractable data based on knowledge and control of resins and film manufacturing process
- TSE/BSE: EP 5.2.8

Cleanliness, particles

- USP<788> and EP 2.9.19:
Particulate Matter in Injections Endotoxin
- USP<85> and EP 2.6.14:
Bacterial endotoxins Sterility
- ISO 11737 Sterilization of medical devices – Microbiological methods:
Bioburden
- ISO 11137 Sterilization by irradiation of Medical Devices:
Sterilization of Medical Devices

For the most critical drug product process step bioburden, sub-visible particulates and endotoxin testing is performed on representative finished products for every production batch.

- ISO 14644: Cleanroom environmental controls
- Gamma irradiation dose mapping

Sterility

- ISO 11737 Sterilization of medical devices – Microbiological methods: Bioburden
- ISO 11137 Sterilization by irradiation of Medical Devices:
Sterilization of Medical Devices
- ISO 14644: Cleanroom environmental controls
- Gamma irradiation dose mapping

Flexsafe® 2D & 3D PDS for media, buffer, harvest & downstream intermediates and drug substance process steps are released on the base of a weekly quality control for bioburden, sub-visible particulates and endotoxin performed on representative samples.

[Continue >](#)

Validation and Quality Assurance

Media, Buffer, Harvest & Downstream Intermediates	Drug Substance	Drug Product
Weekly testing of bioburden, particles and endotoxin on representative finished products		Lot release testing of bioburden, particles and endotoxin on representative finished product

Certificate of Release

Statement	Monitoring*	100 % Batch testing	Particle Prevention Program
USP Class VI USP<87> and ISO 10993: Biological reactivity tests, in Vitro USP<88> and ISO 10993: Biological reactivity tests, in Vivo	Bioburden ISO 11737 Endotoxin: USP<85> and E.P. 2.6.14	Gamma irradiation Dose mapping Visual inspection Film, bag, seal and packaging	Visible Particles Monitoring ISO 16232
Physico-chemical testing USP<661> and EP 3.1.5	Sub-visible Particulates USP<788> and EP 2.9.19	Technical Drawing conformity Batch record review	
TSE-BSE status EMA/410/01 and EP 5.2.8		100% Leak Testing for 2D bags: Bag chamber and PE port	

* performed weekly on representative finished products for buffer, media, harvest and drug substance process step and on each batch on representative finished product for drug product process step

Assurance of Single-Use System Integrity

The assurance of container closure integrity of Flexsafe® 2D and 3D bags is proven along the entire product life cycle. Quality by design principles, process qualification, process control and quality control first ensure integrity of the film, the welds and the bag chamber.

A 100% bag chamber leak test is then performed in-process before line assembly for all Flexsafe® 2D bags. In addition, a Supplier Integrity Test (SIT) for the complete bag and line assemblies is available for 2D bags and for 3D bags up to 500 L, thus providing the best integrity assurance of the industry, mainly for critical applications.

For those critical process steps, a 100% point-of-use leak test avoids the risk of losing high value product and enhances patient and operator safety by ensuring that no damage occurred during shipping, storage and handling of single-use single-use 2D and 3D bags at the user site.

Flexsafe® PDS Benefits

- Best assurance of supply thanks to full control of manufacturing processes
- Best assurance of integrity of high value drug substances and drug products according to ASTM F2095-07

Sensitive Container Closure Integrity (CCI) for both process controls and at point of use

- Our BC-LT with detection limit of 20 – 90 µm for Flexsafe® 2D guarantees that no leaking bags are used to manufacture final products
- Our finished product SIT will guarantee that no defect > 2 µm occur in production of our 2D and 3D bags up to 500 L
- Our point-of-use integrity test PoU-IT with detection limit of 10 µm for Flexsafe® 2D allows end user to ensure safe use of the bags for critical process steps.

These tests in conjunction with the control of our process ensure the strongest level of Integrity and safety for patients and operators.

For scale up processes, our PoU-LT of Flexsafe® 3D bags allows gross leak detection (from 100 µm to 200 µm) after installation in the appropriate container at end user site.

Process qualification at supplier

- Robustness validated in the extrusion design space
- Mechanical tests on film and weld
- Microbial immersion test
- Packaging validation
- Shipping validation

Process control & quality control at supplier

- Control of resin, extrusion and welding process parameters
- Seal quality tests
- Visual inspections
- Microbial immersion test
- 100% bag chamber leak test for 2D bags
- Supplier integrity testing for 2D bags and 3D bags up to 500 L

Process validation & process controls at end user

- Package integrity
- Visual inspection
- Media hold, media fill and stability test
- Microbial immersion test
- Operator training
- Point-of-use leak testing



Safe & Reliable Handling & Shipping Solutions from 5 L to 500 L

The superior strength and flexibility of Flexsafe® bags make them safe for critical liquid shipping applications. The robustness of Flexsafe® bags is proven by applying extensive qualification regimes that combine the most stringent standard ASTM D4169 testing and real shipping conditions. Standard shipping test data can be leveraged by end-users to support their own qualification for liquid handling & shipping in single-use systems.

[To learn more](#)

Flexsafe® 2D Bags in Shell for Liquid Handling & Shipping for 5 L, 10 L & 20 L

Complete Logistic Solution

Robust and qualified solutions for liquid shipping qualified under the most stringent international norms ASTM D4169.

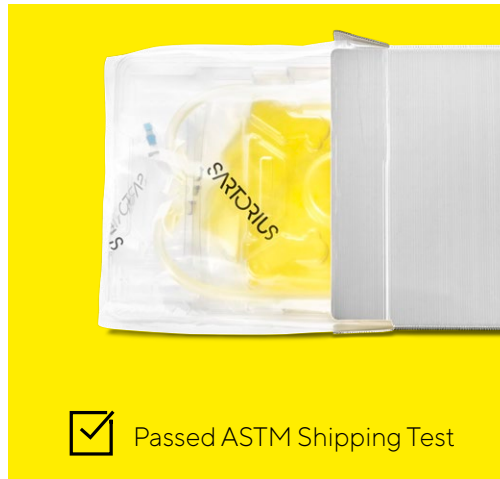
In addition, our experts have established a new protocol for qualifying handling steps, covering normal, worse case and accidental handling conditions based on a mix of ASTM, ISO and EN norms.



Flexsafe® 3D for Shipping From 100 L to 500 L

Safe and Robust Solution

The Flexsafe® 3D bags in their shipping Palletank® offer the most robust solution for large volume liquid transportation. The solutions have been qualified under the most stringent international norms ASTM D4169 within a range of temperature of 4 °C to 40 °C.



✓ Passed ASTM Shipping Test



✓ Passed ASTM Shipping Test

Safe, Self Deploying and Robust Solutions

Flexsafe® 3D for Storage From 100 L to 3,000 L

Self Deploying Solution

The high flexibility of Flexsafe® bags allows self-deployment of the bags during filling thus providing ease of use, saving operator time and eliminating risky bag manipulations. Thanks to the self-deploying accessory*, the Flexsafe® 3D bags from 100 L to 500 L can be filled without further handling for Palletank® for Storage and In-Process fluid handling. The new lifting system system combined with a pre-deployed bag at the manufacturing step, allows self-deploying and filling of Flexsafe® bags from 1,000 L to 3,000 L.



Flexsafe® PDS Features & Benefits

- Full control of manufacturing processes ensure best quality and change control
- Long term contract and stocks of raw materials, films and components ensure best business continuity and delivery reliability
- Resin formulation optimized for consistent cell growth after short term and long term media storage
- Process controls provide well characterized and consistent extractable profile
- Ready to use extractable data save time and money by avoiding specific leachable studies for drug substance
- Safe storage and shipping of high value drug substances and drug products validated according to ASTM D4169
- Best assurance of integrity of high value drug substances and drug products according to ASTM F2095
- Film flexibility and self-deploying ability whatever the bag size provide safety, ease of use and save operator time

Self-deployment for Flexsafe® bags from 100 L to 500 L



[To learn more](#)

Self-deployment for Flexsafe® bags from 1,000 L to 3,000 L



Filtration & Storage for All Process Steps



The versatile range of Flexsafe® 2D PDS allows for sterile filtration, storage, shipping and transfer of all biopharmaceutical fluids in all process steps.

Inlet Filters and Connectors

Flexsafe® 2D PDS are available with four sterilizing filtration options.

- Sartopore® 2 sterilizing-grade filter with 0.45 | 0.2 µm membranes optimized for buffer filtration
- Sartopore® 2 XLG sterilizing-grade filter with 0.8 | 0.2 µm membranes optimized for media filtration, cell harvest & downstream intermediates
- Sartopore® 2 XLM filter with advanced 0.2 | 0.1 µm pore size distribution and asymmetric prefilter membrane optimized for mycoplasma retention in media
- Sartopore® Platinum sterilizing-grade filter with 0.45 | 0.2 µm membranes optimized for drug substance and drug product filtration. The outstanding wetting properties reduce by ten times the flushing volumes required for integrity testing Silicone Tuflux® tube & C-Flex® enable filter sterile disconnection with Clipster® for post-use integrity testing and sterile seal of the bag. Alternatively, PDS are available with a sterile connection to another filter line to provide more flexibility. The filter line is either connected with Opta® a" or welded with Biowelder® TC and subsequently disconnected for integrity using Biosealer®.

Another option is to perform an aseptic connection under Laminar Air Flow (LAF) using a CPC quick couplers.

Outlet Connectors

- Opta® SFT Male enables sterile connections to other single-use systems
- STCII Steamthru™ valve allows for steaming and sterile transfer to stainless steel systems
- CPC quick couplers are used for either sanitary connection or aseptic connection under ISO5 laminar air flow to single-use systems
- Tri-Clamp ¾" sanitary flange are used for either sanitary connection or aseptic connection under ISO5 laminar air flow to stainless steel systems
- Clave needleless sampling port enables for sterile sampling

Tubes

- Tuflux® silicone or C-Flex tubing enable sterile disconnection with Clipster®
- Clear C-Flex® tubing allows for sterile weld connection with Biowelder® TC and sterile seal disconnection with Biosealer®

All fluid-contact components of Flexsafe® PDS are secured by supply contracts and quality agreements to provide:

- Best quality, change control and business continuity with at least 24 months change notification
- Best delivery reliability with available stocks
- Compliance to quality standards: USP<87> & USP<88>, TSE/BSE, REACH

Filtration, Storage & Shipping in All Process Steps



The versatile range of Flexsafe® PDS allows for sterile filtration, storage, shipping and transfer of all biopharmaceutical fluids in all process steps.

Filtration, Storage & Shipping in All Process Steps

Inlet Filters and Connectors

Flexsafe® 3D PDS are available with four sterilizing filtration options.

- Sartopore® 2 sterilizing-grade filter with 0.45 | 0.2 µm membranes optimized for buffer filtration
- Sartopore® 2 XLG sterilizing-grade filter with 0.8 | 0.2 µm membranes optimized for media filtration, cell harvest & downstream intermediates
- Sartopore® 2 XLM filter with advanced 0.2 | 0.1 µm pore size distribution and asymmetric prefilter membrane optimized for mycoplasma retention in media
- Sartopore® Platinum sterilizing-grade filter with 0.45 | 0.2 µm membranes optimized for drug substance and drug product filtration. The outstanding wetting properties of the modified membrane reduce by ten times the flushing volumes required prior to integrity testing.
- Clear C-Flex® tubing enable filter disconnection with Biosealer® for post-use integrity testing and sterile seal of the bag.
- Alternatively, PDS are available with a sterile connection to another filter line to provide more flexibility. The filter line is either connected with Opta® ½" or welded with Biowelder® TC and subsequently disconnected for integrity using Biosealer®.
- Another option is to perform an aseptic connection under Laminar Air Flow (LAF) using a CPC quick couplers.

Outlet Connectors

- Opta® SFT Male enables sterile connections to other single-use systems
- STCII Steamthru™ valve allows for steaming and sterile transfer to stainless steel systems
- CPC quick couplers are used for either sanitary connection or aseptic connection under ISO5 laminar air flow to single-use systems
- Tri-Clamp 1½" sanitary flange are used for either sanitary connection or aseptic connection under ISO5 laminar air flow to stainless steel systems
- Clave needleless sampling port enables for sterile sampling

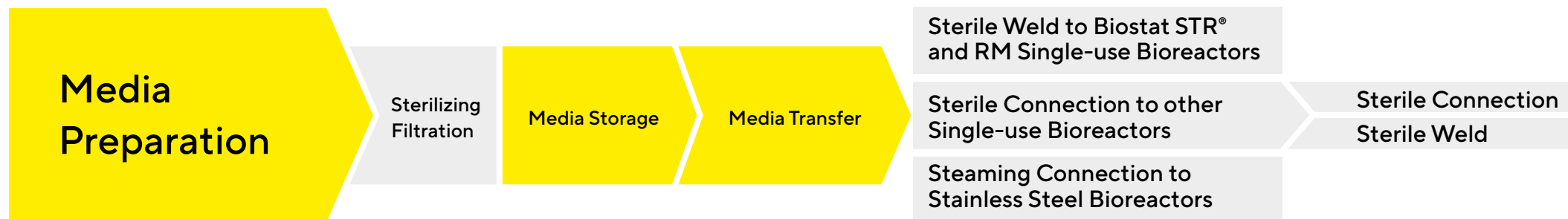
Tubes

- Tuflux® silicone tubing enables long term pumping
- Clear C-Flex® tubing allows for sterile weld connection with Biowelder® TC and sterile seal disconnection with Biosealer®

All fluid-contact components of Flexsafe® PDS are secured by supply contracts and quality agreements to provide:

- Best quality, change control and business continuity with at least 24 months change notification
- Best delivery reliability with available stocks
- Compliance to quality standards: USP<87> & USP<88>, TSE/BSE, REACH

Flexsafe® 2D Pre-Designed Solutions for Media Preparation



Flexsafe® 2D solutions for media are available with two Sartopore® filter options, Sartopore® 2 XLG for sterilizing filtration or Sartopore® 2 XLM for mycoplasma retention.

Flexsafe® 2D bags without filters are also available for:

- Sterile connection to alternative Sartopore® filter line using Opta® ¾ or welding with Biowelder® TC
- Aseptic connection to alternative Sartopore® filter line with MPC quick coupler

Sartopore® filters can be disconnected for post-use integrity testing with sterile seal using Biosealer®.

Inlet and outlet lines are made of C-Flex® or Silicone Tuflux® tubing for welding, sealing and pumping.

Flexsafe® 2D bags allow for sterile media transfer to most common single-use and stainless steel bioreactors with a variety of sterile connections.



Flexsafe® 2D Pre-Designed Solutions for Media Preparation

Media Preparation

Sterile Weld to Biostat STR® and RM Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

**Sterile Connection
Sterile Weld**

Sterile Weld to Biostat STR® and Biostat® RM Single-Use Bioreactors

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130131	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130133	16	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130147	16	3/8" Opta® SFT female	NA		
	FLS130145	16	3/8" MPC female + sealing cap			
5 L	FLS130018	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130020	16	Sartopore® 2 XLM 0.2 0.1 µm		3/8" x 5/8" C-Flex®	1/4" ID Silicone Tuflux®
	FLS130042	16	3/8" Opta® SFT female	NA	+ 3/8" MPC male	100 mm (4")
	FLS130039	16	3/8" MPC female + sealing cap		+ sealing cap	+ Luer Lock female
10 L	FLS130025	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		+ Clave connector
	FLS130029	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130043	8	3/8" Opta® SFT female	NA		
	FLS130040	8	3/8" MPC female + sealing cap			

Outlet Line

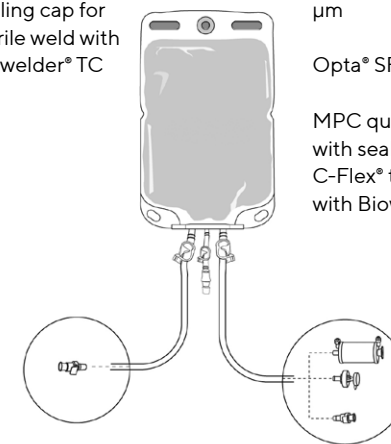
C-Flex® tube with MPC sealing cap for sterile weld with Biowelder® TC

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
3/8" x 5/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
3/8" x 5/8" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Media Preparation

Media Preparation

Sterile Weld to Biostat STR® and RM Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

**Sterile Connection
Sterile Weld**

Sterile Weld to Biostat STR® and Biostat® RM Single-Use Bioreactors

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130026	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130030	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130044	8	3/8" Opta® SFT female	NA		
	FLS130041	8	3/8" MPC female + sealing cap		3/8" x 5/8" C-Flex® + 3/8" MPC male + sealing cap	1/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
50 L	FLS130138	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130140	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130148	8	3/8" Opta® SFT female	NA		
	FLS130146	8	3/8" MPC female + sealing cap			

Outlet Line

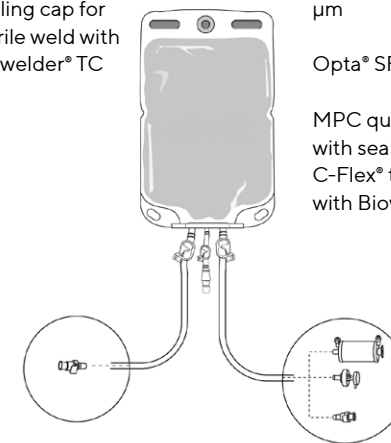
C-Flex® tube with MPC sealing cap for sterile weld with Biowelder® TC

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
3/8" x 5/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
3/8" x 5/8" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Media Preparation

Media Preparation

Sterile Weld to Biostat STR® and RM Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Sterile Connection to Other Single-Use Bioreactors

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130136	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130137	16	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130155	16	3/8" Opta® SFT female	NA		
	FLS130153	16	3/8" MPC female + sealing cap			
5 L	FLS130023	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4	3/8" Opta® SFT male	1/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130024	16	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130054	16	3/8" Opta® SFT female	NA		
	FLS130051	16	3/8" MPC female + sealing cap			
10 L	FLS130035	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130037	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130055	8	3/8" Opta® SFT female	NA		
	FLS130052	8	3/8" MPC female + sealing cap			

Outlet Line

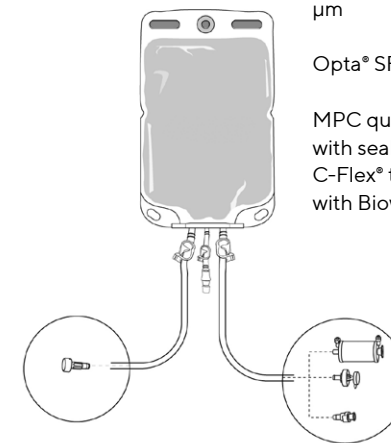
Opta® SFT male for sterile connection

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPC quick coupler female with sealing cap or
C-Flex® tube for sterile weld with Biowelder® TC



Flexsafe® 2D Pre-Designed Solutions for Media Preparation

Media Preparation

Sterile Weld to Biostat STR® and RM Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Sterile Connection to Other Single-Use Bioreactors

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130036	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7	¾" Opta® SFT male	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130038	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130056	8	¾" Opta® SFT female	NA		
	FLS130053	8	¾" MPC female + sealing cap			
50 L	FLS130143	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7	¾" Opta® SFT male	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130144	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130156	8	¾" Opta® SFT female	NA		
	FLS130154	8	¾" MPC female + sealing cap			

Outlet Line

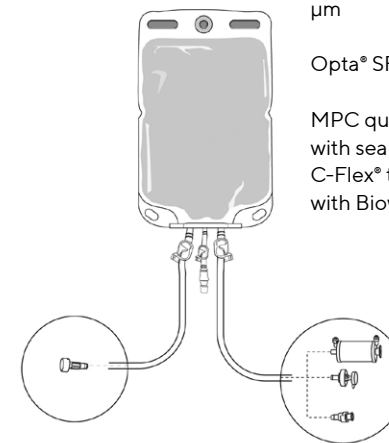
Opta® SFT male for sterile connection

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
¾" x ½" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ½" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Media Preparation

Media Preparation

Sterile Weld to Biostat STR® and RM Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Sterile Weld to Other Single-Use Bioreactors

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130131	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130133	16	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130147	16	¾" Opta® SFT female	NA		
	FLS130145	16	¾" MPC female + sealing cap			
5 L	FLS130018	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130020	16	Sartopore® 2 XLM 0.2 0.1 µm		¾" x ⅝" C-Flex® + ¾" MPC male + sealing cap	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130042	16	¾" Opta® SFT female	NA		
	FLS130039	16	¾" MPC female + sealing cap			
10 L	FLS130025	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130029	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130043	8	¾" Opta® SFT female	NA		
	FLS130040	8	¾" MPC female + sealing cap			

Outlet Line

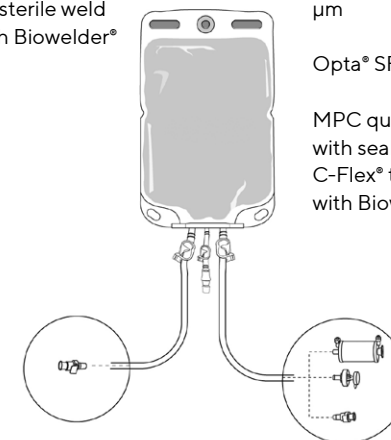
C-Flex® tube with MPC sealing cap for sterile weld with Biowelder® TC

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
¾" x ⅝" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ⅝" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Media Preparation

Media Preparation

Sterile Weld to Biostat STR® and RM Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection Sterile Weld

Sterile Weld to Other Single-Use Bioreactors

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130026	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7	$\frac{3}{8}$ " × $\frac{5}{8}$ " C-Flex® + $\frac{3}{8}$ " MPC male + sealing cap	$\frac{1}{4}$ " ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130030	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130044	8	$\frac{3}{8}$ " Opta® SFT female	NA		
	FLS130041	8	$\frac{3}{8}$ " MPC female + sealing cap			
50 L	FLS130138	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7	$\frac{3}{8}$ " × $\frac{5}{8}$ " C-Flex® + $\frac{3}{8}$ " MPC male + sealing cap	$\frac{1}{4}$ " ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130140	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130148	8	$\frac{3}{8}$ " Opta® SFT female	NA		
	FLS130146	8	$\frac{3}{8}$ " MPC female + sealing cap			

Outlet Line

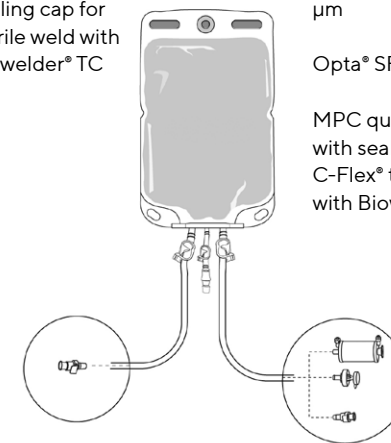
C-Flex® tube with MPC sealing cap for sterile weld with Biowelder® TC

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
 $\frac{3}{8}$ " × $\frac{5}{8}$ " Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
 $\frac{3}{8}$ " × $\frac{5}{8}$ " Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Media Preparation

Media Preparation

Sterile Weld to Biostat STR® and RM Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Steaming Connection to Stainless Steel Bioreactors

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130134	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130135	16	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130151	16	¾" Opta® SFT female	NA		
	FLS130149	16	¾" MPC female + sealing cap			
5 L	FLS130021	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130022	16	Sartopore® 2 XLM 0.2 0.1 µm		¾" STCII	¼" ID Silicone Tuflux® 100 mm (4")
	FLS130048	16	¾" Opta® SFT female	NA	¾" sanitary flange	+ Luer Lock female
	FLS130045	16	¾" MPC female + sealing cap			+ Clave connector
10 L	FLS130031	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130033	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130049	8	¾" Opta® SFT female	NA		
	FLS130046	8	¾" MPC female + sealing cap			

Outlet Line

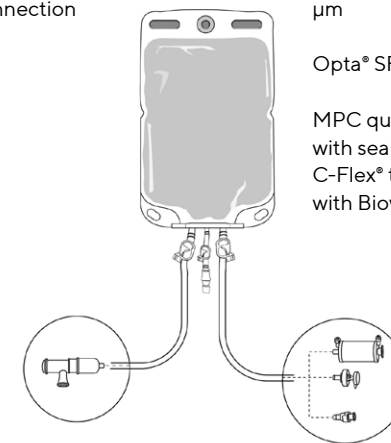
STCII Steamthru™ valve for steaming connection

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
¾" x ½" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ½" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Media Preparation

Media Preparation

Sterile Weld to Biostat STR® and RM Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Steaming Connection to Stainless Steel Bioreactors

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130032	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7	3/8" STCII 3/4" sanitary flange	1/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130034	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130050	8	3/8" Opta® SFT female	NA		
	FLS130047	8	3/8" MPC female + sealing cap			
50 L	FLS130141	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7	3/8" STCII 3/4" sanitary flange	1/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130142	8	Sartopore® 2 XLM 0.2 0.1 µm			
	FLS130152	8	3/8" Opta® SFT female	NA		
	FLS130150	8	3/8" MPC female + sealing cap			

Outlet Line

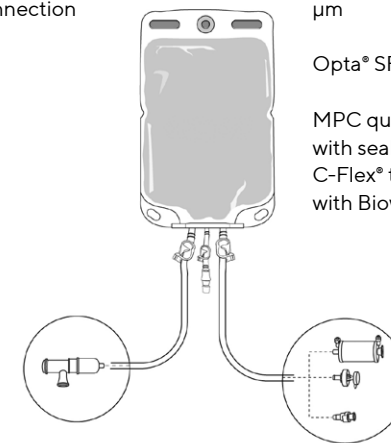
STCII Steamthru™ valve for steaming connection

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

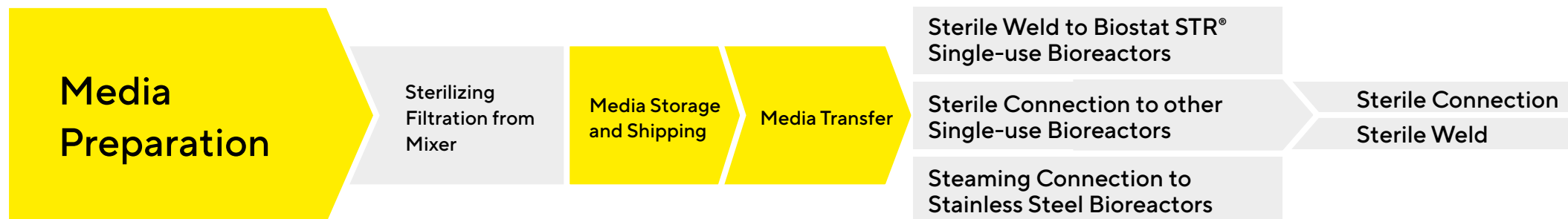
MPC quick coupler female with sealing cap or
C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
3/8" x 5/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
3/8" x 5/8" Clear C-Flex® 500 mm (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping



Flexsafe® 3D solutions for media are available with Sartopore® 2 XLG for sterilizing filtration or Sartopore® 2 XLM for mycoplasma retention

Flexsafe® 3D bags without filters are also available for:

- Sterile connection to alternative Sartopore® filter transfer set using Opta® ½" or welding with Biowelder® TC
- Aseptic connection to alternative Sartopore® filter transfer set with MPX quick coupler

Sartopore® filters can be disconnected for post-use integrity testing with sterile seal using Biosealer®.

Inlet and outlet lines are made of C-Flex® + Silicone Tuflux® tubings for welding, sealing and pumping.

Flexsafe® 3D bags allow for sterile media transfer to most common single-use and stainless steel bioreactors with a variety of sterile connections.

Inlet Line

Sterilizing Filtration

- Sartopore® 2 XLG 0.8 | 0.2 µm
- Sartopore® 2 XLM 0.2 | 0.1 µm

Connections for Alternative Filter Line

- Opta® SFT female
- C-Flex® tube for sterile weld with Biowelder® TC
- MPC quick coupler female



Sampling

- Clave needleless sampling port

Outlet Line

Sterile connection and transfer by pumping or gravity

- C-Flex® with CPC quick coupler and plug for sterile weld with Biowelder® TC to Biostat® RM and Biostat STR® bioreactors
- Opta® SFT male for sterile connection to other single-use bioreactors
- STCII Steamthru™ valve for steaming connection to stainless steel bioreactors

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection Sterile Weld

Sterile Weld to Biostat STR® and Biostat® RM Single-Use Bioreactors

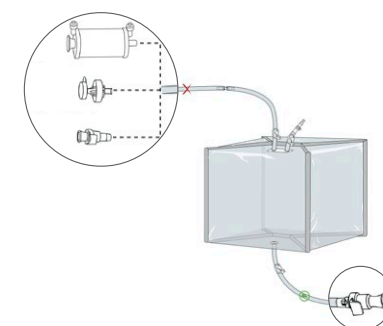
			Inlet ¹	Outlet ²
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Distal connector on draining line
100 L	FIS126678	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 9
	FIS126682	2	Sartopore® 2 XLM 0.2 0.1 µm	
	FIS126706	3	½" Opta® SFT female	
	FIS126243	3	MPX female + sealing cap	
200 L	FIS126679	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 0
	FIS126683	2	Sartopore® 2 XLM 0.2 0.1 µm	
	FIS126707	3	½" Opta® SFT female	
	FIS126244	3	MPX female + sealing cap	
500 L	FIS126680	2	Sartopore® 2 XLG 0.8 0.2 µm	Maxicaps® size 1 T-style
	FIS126684	2	Sartopore® 2 XLM 0.2 0.1 µm	
	FIS126708	3	½" Opta® SFT female	
	FIS126245	3	MPX female + sealing cap	

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

C-Flex® tube with CPC sealing cap for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
For 100 L & 200 L:
½" ID Silicone Tuflux® 1 m (40") + ¾" x ½" Clear C-Flex® 0.5 m (20")
For 500 L:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration and Storage in Drum

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

**Sterile Connection
Sterile Weld**

Sterile Weld to Biostat STR® and Biostat® RM Single-Use Bioreactors

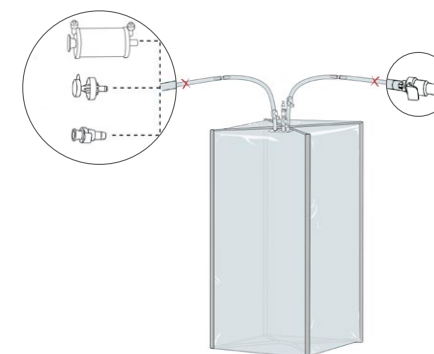
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on top filling line	Filter type and size	Distal connector on top draining line
50 L	FIS127861	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	
	FIS127871	4	½" Opta® SFT female	NA	
	FIS127875	4	MPX female + sealing cap		
100 L	FIS127862	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	
	FIS127872	4	½" Opta® SFT female	NA	¾" x ⅝" Clear C-Flex® + ⅜" MPC male + sealing cap
	FIS127876	4	MPX female + sealing cap		
200 L	FIS127863	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 0	
	FIS127873	4	½" Opta® SFT female	NA	
	FIS127877	4	MPX female + sealing cap		

Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

C-Flex® tube with CPC sealing cap for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ¾" x ⅝" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Sterile Connection to Other Single-Use Bioreactors

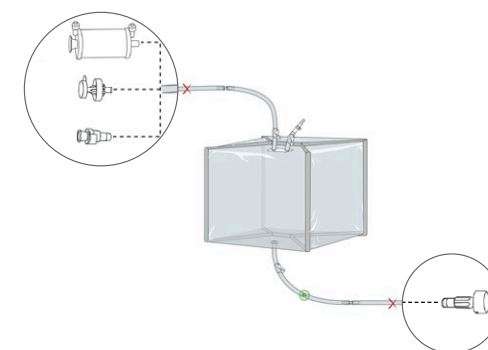
			Inlet ¹	Outlet ²
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Distal connector on draining line
100 L	FIS126698	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 9
	FIS126702	2	Sartopore® 2 XLM 0.2 0.1 µm	
	FIS126718	3	½" Opta® SFT female	
	FIS126746	3	MPX female + sealing cap	
200 L	FIS126699	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 0
	FIS126703	2	Sartopore® 2 XLM 0.2 0.1 µm	
	FIS126719	3	½" Opta® SFT female	
	FIS126747	3	MPX female + sealing cap	
500 L	FIS126700	2	Sartopore® 2 XLG 0.8 0.2 µm	Maxicaps® size 1 T-style
	FIS126704	2	Sartopore® 2 XLM 0.2 0.1 µm	
	FIS126720	3	½" Opta® SFT female	
	FIS126748	3	MPX female + sealing cap	

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

Opta® SFT male for sterile connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Sterile Weld to Other Single-Use Bioreactors

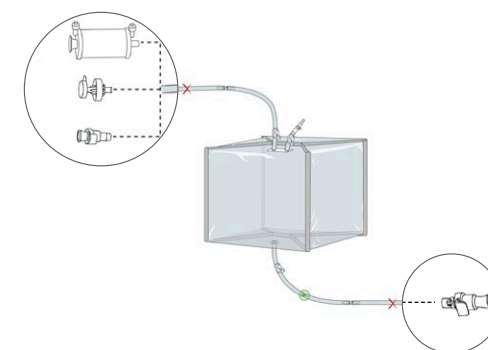
			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
100 L	FIS127159	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 9	
	FIS127161	2	Sartopore® 2 XLM 0.2 0.1 µm		
	FIS126722	3	½" Opta® SFT female	NA	
	FIS126247	3	MPX female + sealing cap		
200 L	FIS127160	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 0	
	FIS127162	2	Sartopore® 2 XLM 0.2 0.1 µm		½" x ¾" C-Flex® + ½" MPX male + sealing cap
	FIS126723	3	½" Opta® SFT female	NA	
	FIS126248	3	MPX female + sealing cap		
500 L	FIS126680	2	Sartopore® 2 XLG 0.8 0.2 µm	Maxicaps® size 1 T-style	
	FIS126684	2	Sartopore® 2 XLM 0.2 0.1 µm		
	FIS126708	3	½" Opta® SFT female	NA	
	FIS126245	3	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

C-Flex® tube with MPX sealing cap for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration and Storage in Drum

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Sterile Connection to Other Single-Use Bioreactors

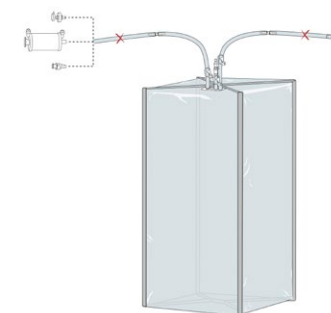
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on top filling line	Filter type and size	Distal connector on top draining line
50 L	FIS127868	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	
	FIS127906	4	½" Opta® SFT female	NA	
	FIS127909	4	MPX female + sealing cap		
100 L	FIS127869	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	
	FIS127907	4	½" Opta® SFT female	NA	½" Opta® SFT male
	FIS127910	4	MPX female + sealing cap		
200 L	FIS127870	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 0	
	FIS127908	4	½" Opta® SFT female	NA	
	FIS127911	4	MPX female + sealing cap		

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

Opta® SFT male for sterile connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration and Storage in Drum

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Sterile Weld to Other Single-Use Bioreactors

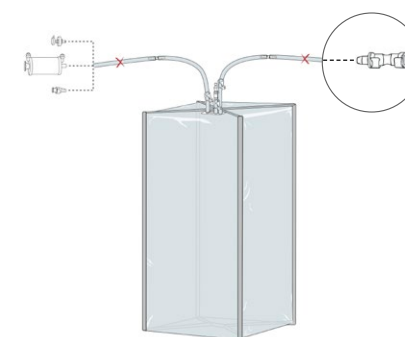
			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on top filling line	Filter type and size	Distal connector on top draining line
50 L	FIS127888	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7	
	FIS127900	4	½" Opta® SFT female	NA	
	FIS127903	4	MPX female + sealing cap		
100 L	FIS127889	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	½" x ¾" Clear C-Flex® + MPX male
	FIS127901	4	½" Opta® SFT female	NA	+ MPX double female + sealing cap
	FIS127904	4	MPX female + sealing cap		
200 L	FIS127890	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	
	FIS127902	4	½" Opta® SFT female	NA	
	FIS127905	4	MPX female + sealing cap		

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

C-Flex® tube with MPX sealing cap for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Steaming Connection to Stainless Steel Bioreactors

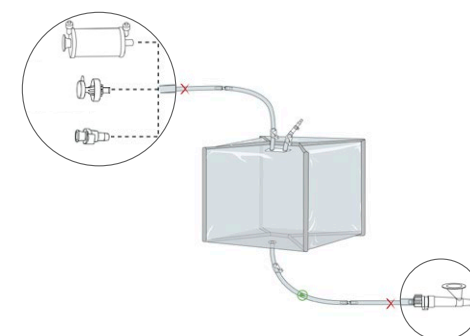
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
100 L	FIS126686	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 9	
	FIS126690	2	Sartopore® 2 XLM 0.2 0.1 µm		
	FIS126710	3	½" Opta® SFT female	NA	
	FIS126714	3	MPX female + sealing cap		
200 L	FIS126687	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 0	
	FIS126691	2	Sartopore® 2 XLM 0.2 0.1 µm		½" STCII 1½" sanitary flange
	FIS126711	3	½" Opta® SFT female	NA	
	FIS126715	3	MPX female + sealing cap		
500 L	FIS126688	2	Sartopore® 2 XLG 0.8 0.2 µm	Maxicaps® size 1 T-style	
	FIS126692	2	Sartopore® 2 XLM 0.2 0.1 µm		
	FIS126712	3	½" Opta® SFT female	NA	
	FIS126716	3	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

STCII Steamthru™ valve for steaming connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration and Storage in Drum

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Steaming Connection to Stainless Steel Bioreactors

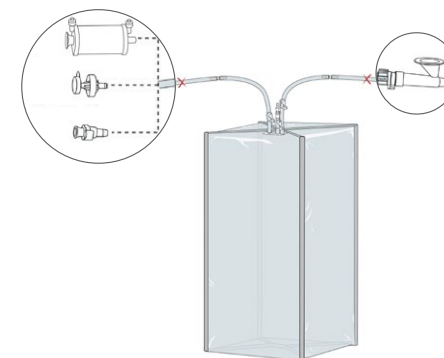
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on top filling line	Filter type and size	Distal connector on top draining line
50 L	FIS127864	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	
	FIS127878	4	½" Opta® SFT female	NA	
	FIS127881	4	MPX female + sealing cap		
100 L	FIS127865	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	
	FIS127879	4	½" Opta® SFT female	NA	½" STCII 1 ½" sanitary flange
	FIS127882	4	MPX female + sealing cap		
200 L	FIS127866	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 0	
	FIS127880	4	½" Opta® SFT female	NA	
	FIS127883	4	MPX female + sealing cap		

Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

STCII Steamthru™ valve for steaming connection



¹ Inlet tubing line from end line to bag:
½" × ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" × ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

**Sterile Connection
Sterile Weld**

Sterile Weld to Biostat STR® Single-Use Bioreactors

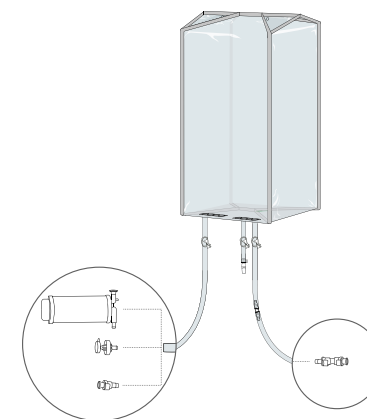
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500360	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500274	2	Sartopore® 2 XLM	Maxicaps® Size 2	
	FIS500330	2	½" Opta® SFT female	NA	
	FIS302338	2	MPX female + sealing cap		
1,500 L	FIS500361	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500277	2	Sartopore® 2 XLM	Maxicaps® Size 2	
	FIS500334	2	½" Opta® SFT female		½" x ¾" C-Flex® + MPX male + MPX double female + sealing cap
	FIS302339	2	MPX female + sealing cap		
2,000 L	FIS500362	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500278	1	Sartopore® 2 XLM	Maxicaps® Size 3	
	FIS500331	2	½" Opta® SFT female	NA	
	FIS302340	2	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

C-Flex® tube with CPC sealing cap for sterile weld with Biowelder® TC and MPX quick coupler male & female with cap for sanitary or aseptic connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

**Sterile Connection
Sterile Weld**

Sterile Weld to Biostat STR® Single-Use Bioreactors

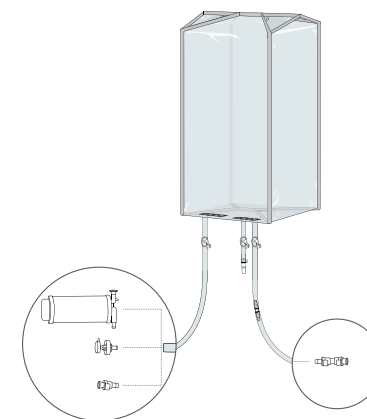
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500363	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500279	1	Sartopore® 2 XLM	Maxicaps® Size 3	
	FIS500332	1	½" Opta® SFT female	NA	
	FIS302341	1	MPX female + sealing cap		
3,000 L	FIS500364	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500280	1	Sartopore® 2 XLM	Maxicaps® Size 3	
	FIS500333	1	½" Opta® SFT female	NA	
	FIS302342	1	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

C-Flex® tube with CPC sealing cap for sterile weld with Biowelder® TC and MPX quick coupler male & female with cap for sanitary or aseptic connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Sterile Connection to Other Single-Use Bioreactors

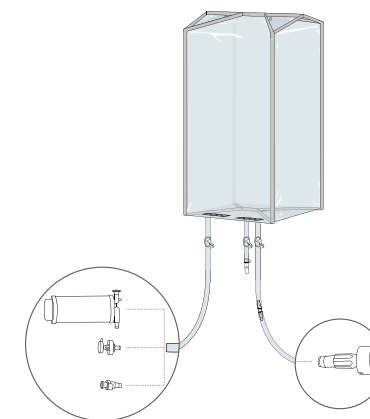
			Inlet ¹	Outlet ²
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Distal connector on draining line
1,000 L	FIS500273	2	Sartopore® 2 XLG	Maxicaps® Size 2
	FIS500258	2	Sartopore® XLM	Maxicaps® Size 2
	FIS500290	2	½" Opta® SFT female	NA
	FIS500300	2	MPX female + sealing cap	
1,500 L	FIS500281	2	Sartopore® 2 XLG	Maxicaps® Size 2
	FIS500259	2	Sartopore® XLM	Maxicaps® Size 2
	FIS500291	2	½" Opta® SFT female	½" Opta® SFT male
	FIS500301	2	MPX female + sealing cap	
2,000 L	FIS500282	1	Sartopore® 2 XLG	Maxicaps® Size 3
	FIS500262	1	Sartopore® XLM	Maxicaps® Size 3
	FIS500292	2	½" Opta® SFT female	NA
	FIS500302	2	MPX female + sealing cap	

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

Opta® SFT male for sterile connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Sterile Connection to Other Single-Use Bioreactors

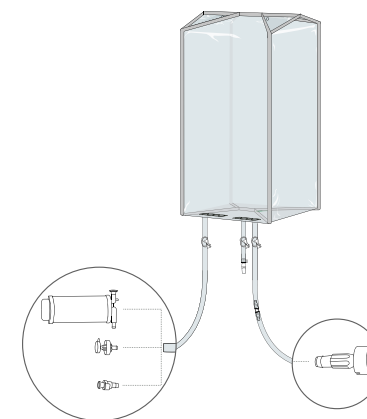
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500283	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500263	1	Sartopore® XLM	Maxicaps® Size 3	
	FIS500293	1	½" Opta® SFT female	NA	
	FIS500303	1	MPX female + sealing cap		
3,000 L	FIS500284	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500265	1	Sartopore® XLM	Maxicaps® Size 3	
	FIS500294	1	½" Opta® SFT female	NA	
	FIS500304	1	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

Opta® SFT male for sterile connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Sterile Weld to Other Single-Use Bioreactors

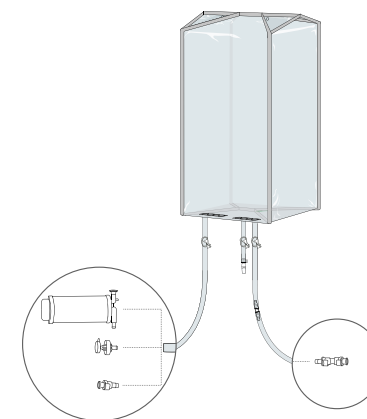
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500360	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500274	2	Sartopore® XLM	Maxicaps® Size 2	
	FIS500330	2	½" Opta® SFT female	NA	
	FIS302338	2	MPX female + sealing cap		
1,500 L	FIS500361	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500277	2	Sartopore® XLM	Maxicaps® Size 2	
	FIS500334	2	½" Opta® SFT female		½" x ¾" C-Flex® + MPX male + MPX double female + sealing cap
	FIS302339	2	MPX female + sealing cap		
2,000 L	FIS500362	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500278	1	Sartopore® XLM	Maxicaps® Size 3	
	FIS500331	2	½" Opta® SFT female	NA	
	FIS302340	2	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

C-Flex® tube with MPX sealing cap for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Sterile Weld to Other Single-Use Bioreactors

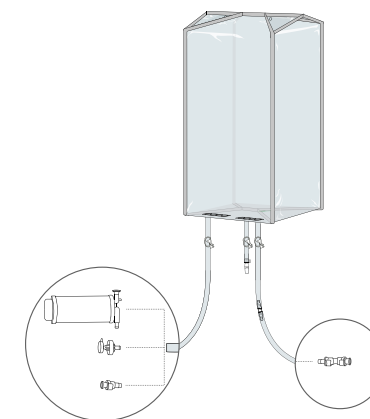
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500363	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500279	1	Sartopore® XLM	Maxicaps® Size 3	
	FIS500332	1	½" Opta® SFT female	NA	
	FIS302341	1	MPX female + sealing cap		½" x ¾" C-Flex® + MPX male + MPX double female + sealing cap
3,000 L	FIS500364	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500280	1	Sartopore® XLM	Maxicaps® Size 3	
	FIS500333	1	½" Opta® SFT female	NA	
	FIS302342	1	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

C-Flex® tube with MPX sealing cap for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Steaming Connection to Stainless Steel Bioreactors

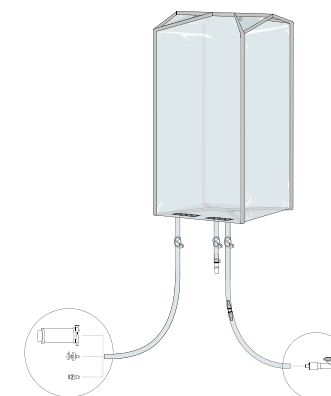
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500266	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500285	2	Sartopore® XLM	Maxicaps® Size 2	
	FIS500295	2	½" Opta® SFT female	NA	
	FIS500305	2	MPX female + sealing cap		
1,500 L	FIS500267	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500286	2	Sartopore® XLM	Maxicaps® Size 2	
	FIS500296	2	½" Opta® SFT female		½" STCII 1½" sanitary flange
	FIS500306	2	MPX female + sealing cap		
2,000 L	FIS500268	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500287	1	Sartopore® XLM	Maxicaps® Size 3	
	FIS500297	2	½" Opta® SFT female	NA	
	FIS500307	2	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

STCII Steamthru™ valve for steaming connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Media Filtration, Storage and Shipping in Palletank®

Media Preparation

Sterile Weld to Biostat STR® Single-use Bioreactors

Sterile Connection to other Single-use Bioreactors

Steaming Connection to Stainless Steel Bioreactors

Sterile Connection
Sterile Weld

Steaming Connection to Stainless Steel Bioreactors

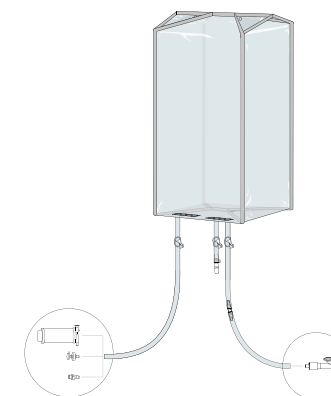
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500270	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500288	1	Sartopore® XLM	Maxicaps® Size 3	
	FIS500298	1	½" Opta® SFT female	NA	
	FIS500308	1	MPX female + sealing cap		½" STCII 1½" sanitary flange
3,000 L	FIS500272	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500289	1	Sartopore® XLM	Maxicaps® Size 3	
	FIS500299	1	½" Opta® SFT female	NA	
	FIS500309	1	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm
Sartopore® 2 XLM 0.2 | 0.1 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

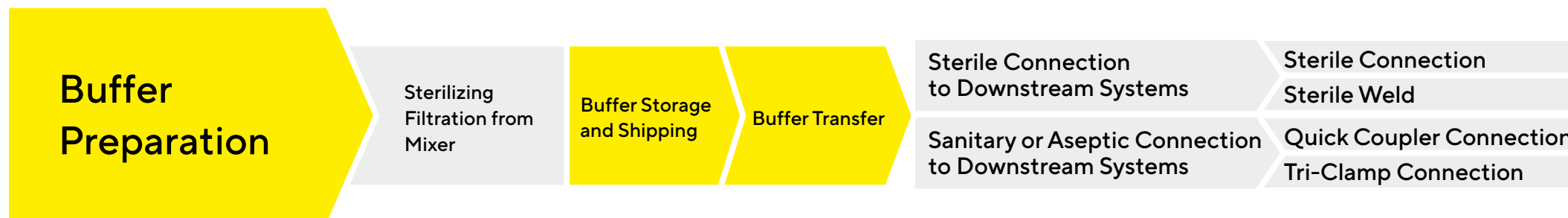
STCII Steamthru™ valve for steaming connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 2D Pre-Designed Solutions for Buffer Preparation



Flexsafe® 2D solutions for buffer are available with Sartopore® 2 0.45 | 0.2 µm filter for high flow rate sterilizing filtration after mixing step.

Flexsafe® 2D bags without filters are also available for:

- Sterile connection to alternative Sartopore® filter line using Opta® ¾" or welding with Biowelder® TC
- Aseptic connection to alternative Sartopore® filter line with MPC quick coupler

Sartopore® filters can be disconnected for post-use integrity testing with sterile seal using Biosealer®

Inlet and outlet lines are made of clear C-Flex® tubing for welding and sealing or with Silicone Tuflux® for the Tri-Clamp connection.

Flexsafe® 2D bags allow for sterile buffer transfer to most common single-use and stainless steel downstream purification and formulation systems with a variety of sterile and aseptic connections.

Outlet Line

Connection and transfer by pumping or gravity

- Opta® SFT male for sterile connection
- C-Flex® tube for sterile weld with Biowelder® TC
- MPC quick coupler male & cap for sanitary or aseptic connection to single-use systems
- Tri-Clamp flange for sanitary or aseptic connection to stainless steel systems



Sampling

- Clave needleless sampling port

Inlet Line

Sterilizing Filtration

- Sartopore® 2 0.45 | 0.2 µm

Connections for Alternative Filter Line

- Opta® SFT female C-Flex® tube for sterile weld with Biowelder® TC
- MPC quick coupler female

Flexsafe® 2D Pre-Designed Solutions for Buffer Preparation

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection Tri-Clamp Connection

Sterile Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130159	16	Sartopore® 2 0.45 0.2 µm	Midicaps® size 4	3/8" Opta® SFT male	1/4" ID Silicone Tuflex® 100 mm (4") + Luer Lock female + Clave connector
	FLS130155	16	3/8" Opta® SFT female	NA		
	FLS130153	16	3/8" MPC female + sealing cap			
5 L	FLS130059	16	Sartopore® 2 0.45 0.2 µm	Midicaps® size 4		
	FLS130054	16	3/8" Opta® SFT female	NA		
	FLS130051	16	3/8" MPC female + sealing cap			
10 L	FLS130064	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7		
	FLS130055	8	3/8" Opta® SFT female	NA		
	FLS130052	8	3/8" MPC female + sealing cap			

Outlet Line

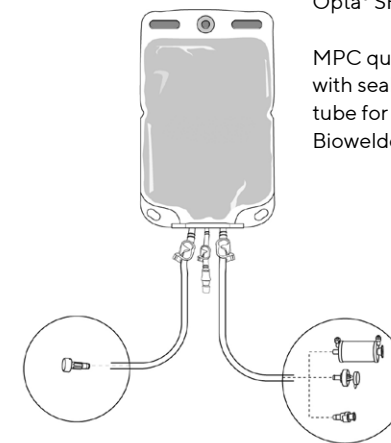
Opta® SFT male for sterile connection

Inlet Line

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
3/8" x 5/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
3/8" x 5/8" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Buffer Preparation

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection Tri-Clamp Connection

Sterile Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130065	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7	3/8" Opta® SFT male	1/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130056	8	3/8" Opta® SFT female	NA		
	FLS130053	8	3/8" MPC female + sealing cap			
50 L	FLS130162	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7	3/8" Opta® SFT male	1/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130156	8	3/8" Opta® SFT female	NA		
	FLS130154	8	3/8" MPC female + sealing cap			

Outlet Line

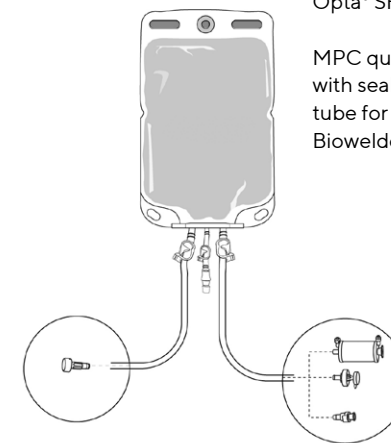
Opta® SFT male for sterile connection

Inlet Line

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
3/8" x 5/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
3/8" x 5/8" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Buffer Preparation

Buffer Preparation

Sterile Connection to Downstream Systems

**Sterile Connection
Sterile Weld**

Sanitary or Aseptic Connection to Downstream Systems

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Weld to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130157	16	Sartopore® 2 0.45 0.2 µm	Midicaps® size 4		
	FLS130147	16	3/8" Opta® SFT female	NA		
	FLS130145	16	3/8" MPC female + sealing cap			
5 L	FLS130057	16	Sartopore® 2 0.45 0.2 µm	Midicaps® size 4	3/8" x 5/8" C-Flex® + 3/8" MPC male + sealing cap	1/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130042	16	3/8" Opta® SFT female	NA		
	FLS130039	16	3/8" MPC female + sealing cap			
10 L	FLS130060	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7		
	FLS130043	8	3/8" Opta® SFT female	NA		
	FLS130040	8	3/8" MPC female + sealing cap			

Outlet Line

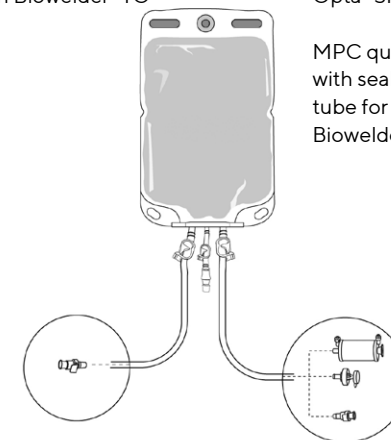
C-Flex® tube with MPC sealing cap for sterile weld with Biowelder® TC

Inlet Line

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
3/8" x 5/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
3/8" x 5/8" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Buffer Preparation

Buffer Preparation

Sterile Connection to Downstream Systems

**Sterile Connection
Sterile Weld**

Sanitary or Aseptic Connection to Downstream Systems

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Weld to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130061	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7		
	FLS130044	8	¾" Opta® SFT female	NA		
	FLS130041	8	¾" MPC female + sealing cap		¾" x ⅝" C-Flex® + ¾" MPC male + sealing cap	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
50 L	FLS130160	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7		
	FLS130148	8	¾" Opta® SFT female	NA		
	FLS130146	8	¾" MPC female + sealing cap			

Outlet Line

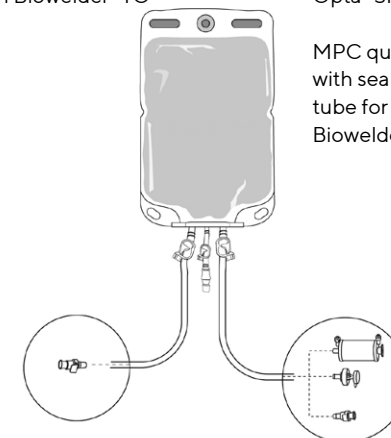
C-Flex® tube with MPC sealing cap for sterile weld with Biowelder® TC

Inlet Line

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
¾" x ⅝" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ⅝" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Buffer Preparation

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130157	16	Sartopore® 2 0.45 0.2 µm	Midicaps® size 4		
	FLS130147	16	3/8" Opta® SFT female	NA		
	FLS130145	16	3/8" MPC female + sealing cap			
5 L	FLS130057	16	Sartopore® 2 0.45 0.2 µm	Midicaps® size 4	3/8" x 5/8" C-Flex® + a" MPC male + sealing cap	1/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130042	16	3/8" Opta® SFT female	NA		
	FLS130039	16	3/8" MPC female + sealing cap			
10 L	FLS130060	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7		
	FLS130043	8	3/8" Opta® SFT female	NA		
	FLS130040	8	3/8" MPC female + sealing cap			

Outlet Line

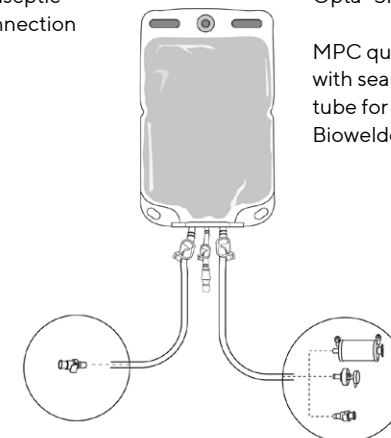
MPC quick coupler male & female with cap for sanitary or aseptic connection

Inlet Line

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
3/8" x 5/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
3/8" x 5/8" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Buffer Preparation

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130061	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7		
	FLS130044	8	¾" Opta® SFT female	NA		
	FLS130041	8	¾" MPC female + sealing cap		¾" x ½" C-Flex® + a" MPC male + sealing cap	¼" ID Silicone Tuflex® 100 mm (4") + Luer Lock female + Clave connector
50 L	FLS130160	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7		
	FLS130148	8	¾" Opta® SFT female	NA		
	FLS130146	8	¾" MPC female + sealing cap			

Outlet Line

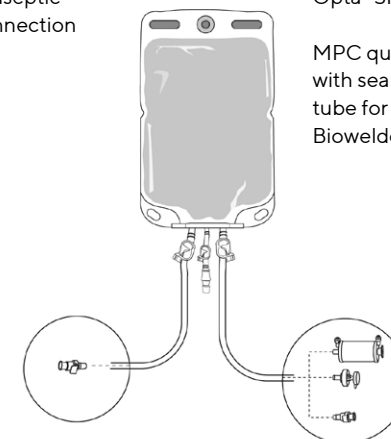
MPC quick coupler male & female with cap for sanitary or aseptic connection

Inlet Line

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
¾" x ½" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ½" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Buffer Preparation

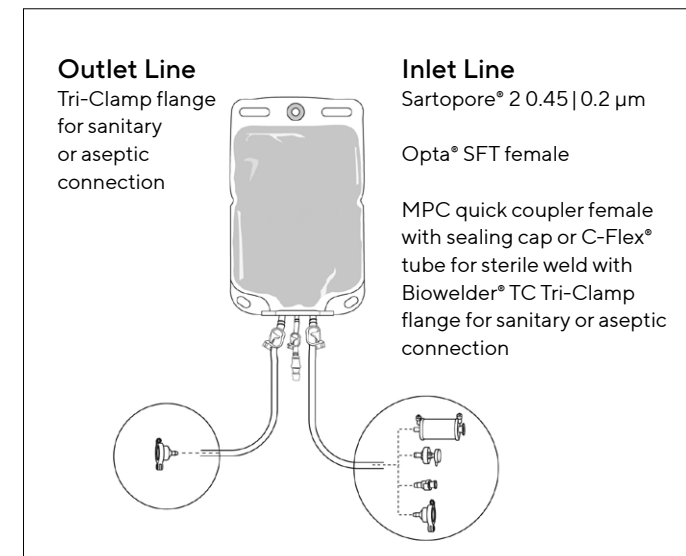
Buffer Preparation

Sterile Connection
to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection



Tri-Clamp Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130158	16	Sartopore® 2 0.45 0.2 µm	Midicaps® size 4		
	FLS130165	16	3/8" Opta® SFT female	NA		
	FLS130163	16	3/8" MPC female + sealing cap			
	FLS130191	16	3/8" Tri-Clamp 3/4" sanitary flange with gasket, cap & union ³			
5 L	FLS130058	16	Sartopore® 2 0.45 0.2 µm	Midicaps® size 4		
	FLS130069	16	3/8" Opta® SFT female	NA		
	FLS130066	16	3/8" MPC female + sealing cap			
	FLS130108	16	3/8" Tri-Clamp 3/4" sanitary flange with gasket, cap & union ³			
10 L	FLS130062	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7		
	FLS130070	8	3/8" Opta® SFT female	NA		
	FLS130067	8	3/8" MPC female + sealing cap			
	FLS130109	8	3/8" Tri-Clamp 3/4" sanitary flange with gasket, cap & union ³			

3/8" Tri-Clamp 3/4" sanitary flange with gasket, cap & union

1/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector

¹ Inlet tubing line from end line to bag: 3/8" x 5/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line: 3/8" x 5/8" Clear C-Flex® 500 mm (20")

³ 3/8" TuFlux® SIL 300 mm (12") for design with two Tri-Clamps

Flexsafe® 2D Pre-Designed Solutions for Buffer Preparation

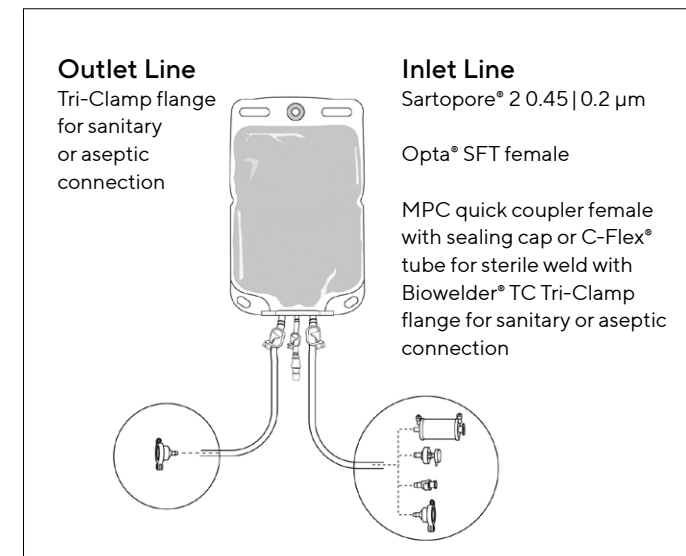
Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection



Tri-Clamp Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130063	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7		
	FLS130071	8	¾" Opta® SFT female	NA		
	FLS130068	8	¾" MPC female + sealing cap			
	FLS130110	8	¾" Tri-Clamp ¾" sanitary flange with gasket, cap & union ³		¾" Tri-Clamp ¾" sanitary flange with gasket, cap & union	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
50 L	FLS130161	8	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7		
	FLS130166	8	¾" Opta® SFT female	NA		
	FLS130164	8	¾" MPC female + sealing cap			
	FLS130192	8	¾" Tri-Clamp ¾" sanitary flange with gasket, cap & union ³			

¹ Inlet tubing line from end line to bag:
¾" x ⅝" Clear C-Flex® 500 mm (20")
+ Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ⅝" Clear C-Flex® 500 mm (20")

³ ¾" TuFlux® SIL 300 mm (12") for design with two Tri-Clamps

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping

Buffer Preparation

Sterilizing
Filtration from
Mixer

Buffer Storage
and Shipping

Buffer Transfer

Sterile Connection
to Downstream Systems

Sanitary or Aseptic Connection
to Downstream Systems

Sterile Connection
Sterile Weld

Quick Coupler Connection
Tri-Clamp Connection

Flexsafe® 3D solutions for buffer are available with Sartopore® 2 0.45 | 0.2 µm filter for high flowrate sterilizing filtration after mixing step.

Flexsafe® 3D bags without filters are also available for:

- Sterile connection to alternative Sartopore® filter transfer set using Opta® ½" or welding with Biowelder® TC
- Aseptic connection to alternative Sartopore® filter transfer set with MPX quick coupler

Sartopore® filters can be disconnected for post-use integrity testing with sterile seal using Biosealer®.

Inlet and outlet lines are made of C-Flex® + Silicone Tuflux® tubings for welding, sealing and pumping.

Flexsafe® 3D Bags allow for sterile buffer transfer to most common single-use and stainless steel downstream purification and formulation systems with a variety of sterile and aseptic connections.

Inlet Line

Sterilizing filtration from mixer

- Sartopore® 2 0.45 | 0.2 µm

Connection for alternative filter transfer set

- Opta® SFT female
- C-Flex® tube weld with Biowelder® TC
- MPX quick coupler female

Sampling

- Needleless sampling port

Outlet Line

Connection and transfer by pumping or gravity

- Opta® SFT male for sterile connection
- C-Flex® tube for sterile weld with Biowelder® TC
- MPX quick coupler male & female for sanitary or aseptic connection to single-use systems
- Tri-Clamp flange for sanitary or aseptic connection to stainless steel systems



Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

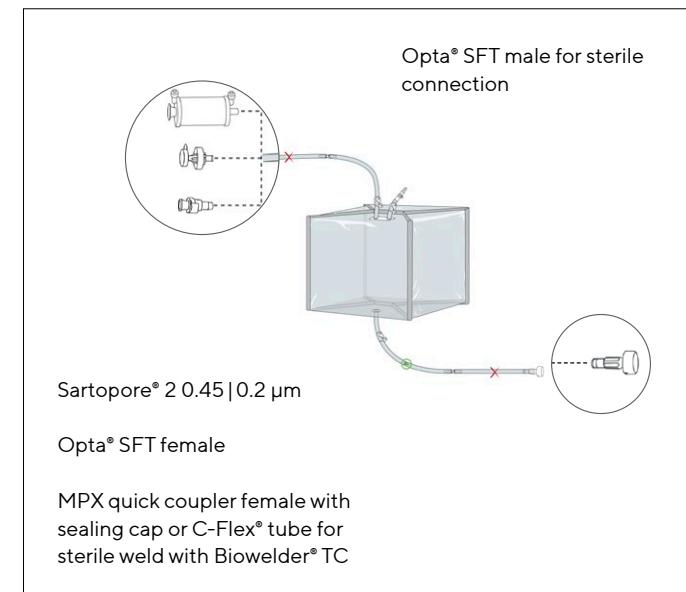
Sterile Connection Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection Tri-Clamp Connection

Sterile Connection to Downstream Systems

Inlet ¹			Outlet ²		
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
100 L	FIS126734	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	
	FIS126718	3	½" Opta® SFT female	NA	
	FIS126746	3	MPX female + sealing cap		
200 L	FIS126735	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	
	FIS126719	3	½" Opta® SFT female	NA	½" Opta® SFT male
	FIS126747	3	MPX female + sealing cap		
500 L	FIS126736	2	Sartopore® 2 0.45 0.2 µm	Maxicaps® size 0	
	FIS126720	3	½" Opta® SFT female	NA	
	FIS126748	3	MPX female + sealing cap		



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

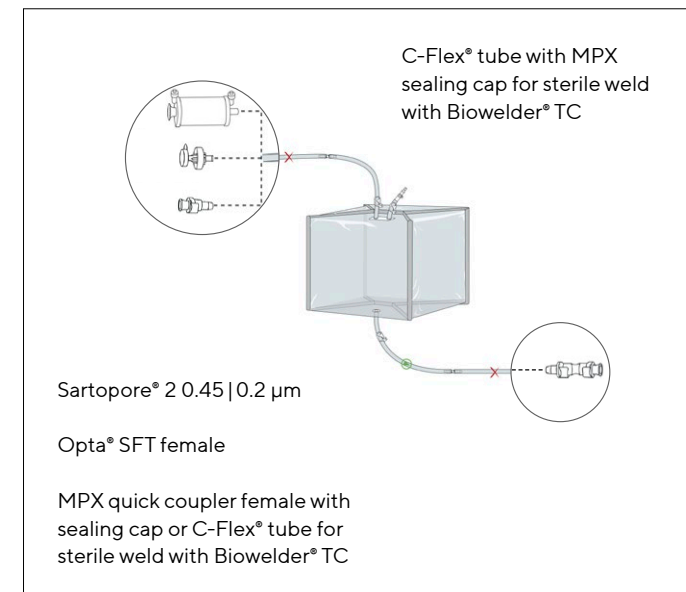
Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Sterile Weld to Downstream Systems

Inlet ¹			Outlet ²		
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
100 L	FIS126730	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	
	FIS126742	3	½" Opta® SFT female	NA	
	FIS126489	3	MPX female + sealing cap		
200 L	FIS126731	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	½" x ¾" C-Flex®
	FIS126743	3	½" Opta® SFT female	NA	+ MPX male
	FIS126490	3	MPX female + sealing cap		+ MPX double female + sealing cap
500 L	FIS126732	2	Sartopore® 2 0.45 0.2 µm	Maxicaps® size 0	
	FIS126744	3	½" Opta® SFT female	NA	
	FIS126491	3	MPX female + sealing cap		



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration and Storage in Drum

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Sterile Connection to Downstream Systems

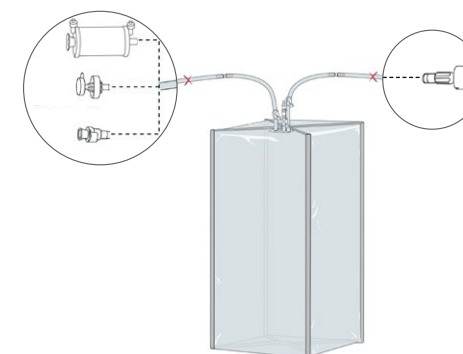
Inlet ¹			Outlet ²		
Bag volume	Part number	Units per box	Filter or distal connector on top filling line	Filter type and size	Distal connector on top draining line
50 L	FIS127891	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7	
	FIS127906	4	½" Opta® SFT female	NA	
	FIS127909	4	MPX female + sealing cap		
100 L	FIS127892	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	
	FIS127907	4	½" Opta® SFT female	NA	½" Opta® SFT male
	FIS127910	4	MPX female + sealing cap		
200 L	FIS127893	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	
	FIS127908	4	½" Opta® SFT female	NA	
	FIS127911	4	MPX female + sealing cap		

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT male for sterile connection

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration and Storage in Drum

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Sterile Weld to Downstream Systems

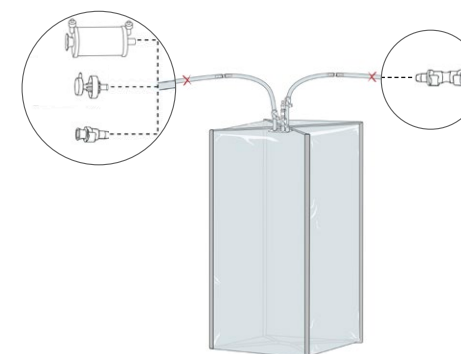
Inlet ¹			Outlet ²		
Bag volume	Part number	Units per box	Filter or distal connector on top filling line	Filter type and size	Distal connector on top draining line
50 L	FIS127888	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7	
	FIS127900	4	½" Opta® SFT female	NA	
	FIS127903	4	MPX female + sealing cap		
100 L	FIS127889	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	½" x ¾" C-Flex®
	FIS127901	4	½" Opta® SFT female	NA	+ MPX male
	FIS127904	4	MPX female + sealing cap		+ MPX double female + sealing cap
200 L	FIS127890	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	
	FIS127902	4	½" Opta® SFT female	NA	
	FIS127905	4	MPX female + sealing cap		

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

C-Flex® tube with MPX sealing cap for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

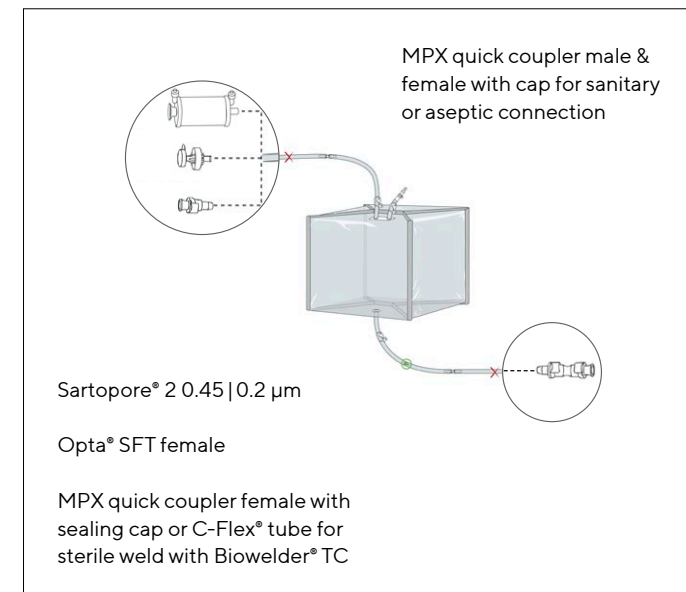
Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

Inlet ¹			Outlet ²		
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
100 L	FIS126730	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	
	FIS126742	3	½" Opta® SFT female	NA	
	FIS126489	3	MPX female + sealing cap		
200 L	FIS126731	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	
	FIS126743	3	½" Opta® SFT female	NA	½" MPX male + MPX double female + sealing cap
	FIS126490	3	MPX female + sealing cap		
500 L	FIS126732	2	Sartopore® 2 0.45 0.2 µm	Maxicaps® size 0	
	FIS126744	3	½" Opta® SFT female	NA	
	FIS126491	3	MPX female + sealing cap		



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

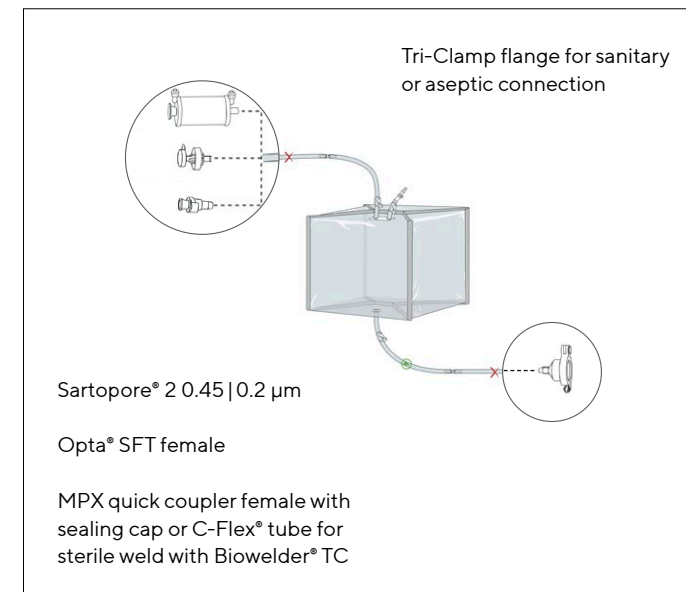
Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Tri-Clamp Connection to Downstream Systems

Inlet ¹			Outlet ²		
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
100 L	FIS126251	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	
	FIS126738	3	½" Opta® SFT female	NA	
	FIS126255	3	MPX female + sealing cap		
200 L	FIS126252	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	½" Tri-Clamp 1½" sanitary flange with gasket, cap & union
	FIS126739	3	½" Opta® SFT female	NA	
	FIS126256	3	MPX female + sealing cap		
500 L	FIS126253	2	Sartopore® 2 0.45 0.2 µm	Maxicaps® size 0	
	FIS126740	3	½" Opta® SFT female	NA	
	FIS126257	3	MPX female + sealing cap		



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1.5 m (60")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration and Storage in Drum

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

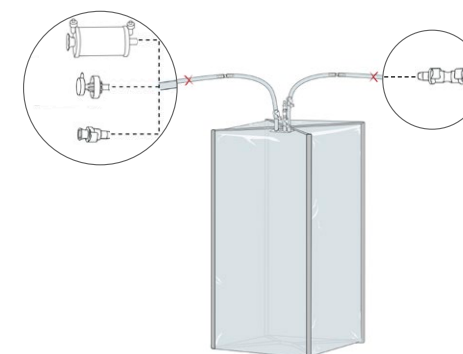
Inlet ¹			Outlet ²		
Bag volume	Part number	Units per box	Filter or distal connector on top filling line	Filter type and size	Distal connector on top draining line
50 L	FIS127888	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7	
	FIS127900	4	½" Opta® SFT female	NA	
	FIS127903	4	MPX female + sealing cap		
100 L	FIS127889	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	
	FIS127901	4	½" Opta® SFT female	NA	½" MPX male + MPX double female + sealing cap
	FIS127904	4	MPX female + sealing cap		
200 L	FIS127890	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	
	FIS127902	4	½" Opta® SFT female	NA	
	FIS127905	4	MPX female + sealing cap		

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

MPX quick coupler male & female with cap for sanitary or aseptic connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration and Storage in Drum

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Tri-Clamp Connection to Downstream Systems

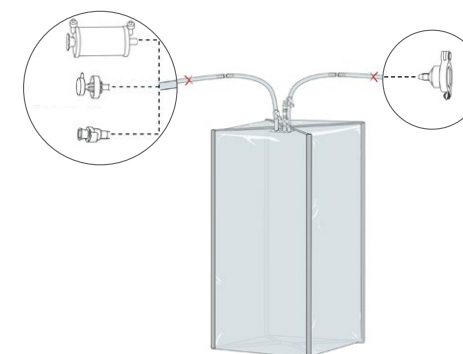
			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on top filling line	Filter type and size	Distal connector on top draining line
50 L	FIS127885	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 7	
	FIS127894	4	½" Opta® SFT female	NA	
	FIS127897	4	MPX female + sealing cap		
	FIS127912	4	½" Tri-Clamp 1½" flange3		
100 L	FIS127886	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 8	
	FIS127895	4	½" Opta® SFT female	NA	½" Tri-Clamp
	FIS127898	4	MPX female + sealing cap		1½" sanitary flange with gasket, cap & union
	FIS127913	4	½" Tri-Clamp 1½" flange3		
200 L	FIS127887	2	Sartopore® 2 0.45 0.2 µm	Midicaps® size 9	
	FIS127896	4	½" Opta® SFT female	NA	
	FIS127899	4	MPX female + sealing cap		
	FIS127914	4	½" Tri-Clamp 1½" flange3		

Sartopore® 2 0.45 | 0.2 µm

Tri-Clamp flange for sanitary or aseptic connection

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Tubing line from bag to end line:
½" ID Silicone Tuflux® 1,5 m (60")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection Tri-Clamp Connection

Sterile Connection to Downstream Systems

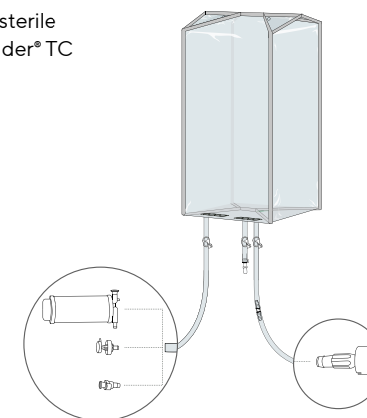
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500325	2	Sartopore® 2	Maxicaps® Size 1	
	FIS500290	2	½" Opta® SFT female	NA	
	FIS500300	2	MPX female + sealing cap		
1,500 L	FIS500326	2	Sartopore® 2	Maxicaps® Size 1	
	FIS500291	2	½" Opta® SFT female		½" Opta® SFT male
	FIS500301	2	MPX female + sealing cap		
2,000 L	FIS500327	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500292	2	½" Opta® SFT female	NA	
	FIS500302	2	MPX female + sealing cap		

Sartopore® 2 0.45|0.2 µm

Opta® SFT male for sterile connection

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection Tri-Clamp Connection

Sterile Connection to Downstream Systems

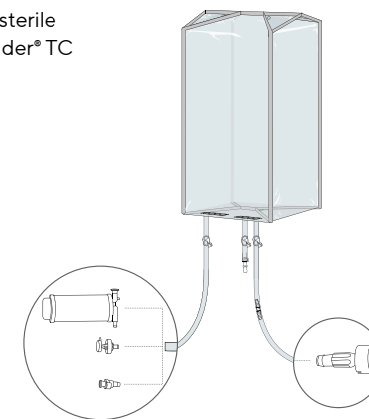
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500328	1	Sartopore® 2	Maxicaps® Size 2	½" Opta® SFT male
	FIS500293	1	½" Opta® SFT female	NA	
	FIS500303	1	MPX female + sealing cap		
3,000 L	FIS500329	1	Sartopore® 2	Maxicaps® Size 2	½" Opta® SFT male
	FIS500294	1	½" Opta® SFT female	NA	
	FIS500304	1	MPX female + sealing cap		

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT male for sterile connection

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection Tri-Clamp Connection

Sterile Connection to Downstream Systems – High Flow Rate

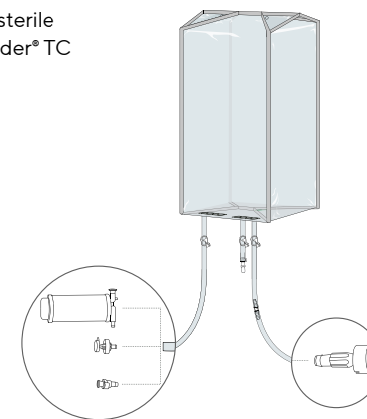
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500335	2	Sartopore® 2	Maxicaps® Size 1	¾" Opta® SFT male
	FIS302278	2	¾" Opta® SFT female	NA	
1,500 L	FIS500336	2	Sartopore® 2	Maxicaps® Size 1	
	FIS302279	2	¾" Opta® SFT female	NA	
2,000 L	FIS500337	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500275	2	¾" Opta® SFT female	NA	
2,500 L	FIS500338	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500276	1	¾" Opta® SFT female	NA	
3,000 L	FIS500339	1	Sartopore® 2	Maxicaps® Size 2	
	FIS302282	1	¾" Opta® SFT female	NA	

Sartopore® 2 0.45|0.2 µm

Opta® SFT male for sterile connection

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

**Sterile Connection
Sterile Weld**

Sanitary or Aseptic Connection to Downstream Systems

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Weld to Downstream Systems

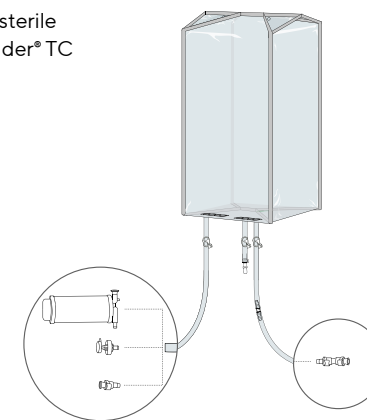
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500310	2	Sartopore® 2	Maxicaps® Size 1	
	FIS500330	2	½" Opta® SFT female	NA	
	FIS302338	2	MPX female + sealing cap		
1,500 L	FIS500311	2	Sartopore® 2	Maxicaps® Size 1	½" × ¾" C-Flex®
	FIS500334	2	½" Opta® SFT female		+ MPX male
	FIS302339	2	MPX female + sealing cap		+ MPX double female + sealing cap
2,000 L	FIS500312	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500331	2	½" Opta® SFT female	NA	
	FIS302340	2	MPX female + sealing cap		

Sartopore® 2 0.45|0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

C-Flex® tube with MPX sealing cap for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" × ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" × ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Sterile Weld to Downstream Systems

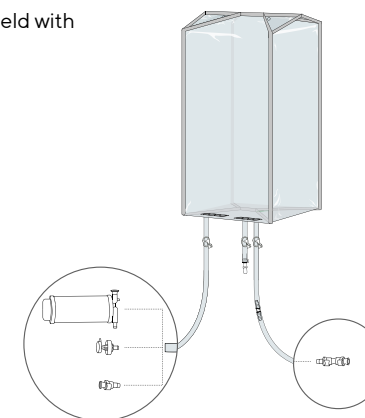
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500313	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500332	1	½" Opta® SFT female	NA	
	FIS302341	1	MPX female + sealing cap		½" x ¾" C-Flex® + MPX male
3,000 L	FIS500314	1	Sartopore® 2	Maxicaps® Size 2	+ MPX double female
	FIS500333	1	½" Opta® SFT female	NA	+ sealing cap
	FIS302342	1	MPX female + sealing cap		

Sartopore® 2 0.45|0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

C-Flex® tube with MPX sealing cap for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection Tri-Clamp Connection

Sterile Weld to Downstream Systems – High Flow Rate

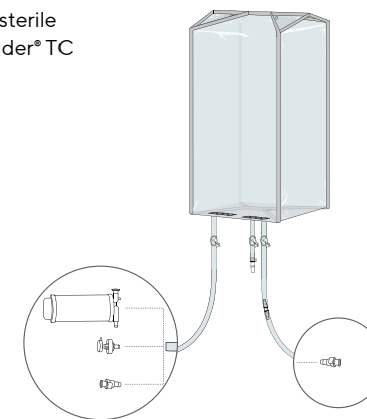
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500370	2	Sartopore® 2	Maxicaps® Size 1	
	FIS500375	2	¾" Opta® SFT female	NA	
	FIS500365	2	MPX female + sealing cap		
1,500 L	FIS500371	2	Sartopore® 2	Maxicaps® Size 1	
	FIS500376	2	¾" Opta® SFT female		¾" × 1" C-Flex® + MPU male + sealing cap
	FIS500366	2	MPX female + sealing cap		
2,000 L	FIS500372	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500377	2	¾" Opta® SFT female	NA	
	FIS500367	2	MPX female + sealing cap		

Sartopore® 2 0.45 | 0.2 µm

MPU male with sealing plug for quick coupling

Opta® SFT female

MPU quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag with filter:
½" × ¾" Clear C-Flex® 1.5 m (60")

¹ Inlet tubing line from connector to bag:
¾" × 1" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
¾" ID Silicone Tuflux® 2.5 m (98") + ¾" × 1" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Sterile Weld to Downstream Systems – High Flow Rate

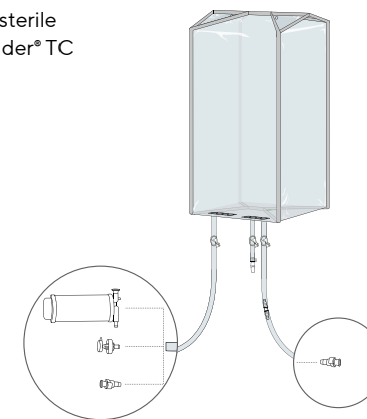
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500373	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500378	1	¾" Opta® SFT female	NA	
	FIS500368	1	MPX female + sealing cap		¾" × 1" C-Flex® + MPU male + sealing cap
3,000 L	FIS500374	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500379	1	¾" Opta® SFT female	NA	
	FIS500369	1	MPX female + sealing cap		

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPU quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

MPU male with sealing plug for quick coupling



¹ Inlet tubing line from end line to bag with filter:
½" × ¾" Clear C-Flex® 1.5 m (60")

¹ Inlet tubing line from connector to bag:
¾" × 1" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
¾" ID Silicone Tuflux® 2.5 m (98") + ¾" × 1" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

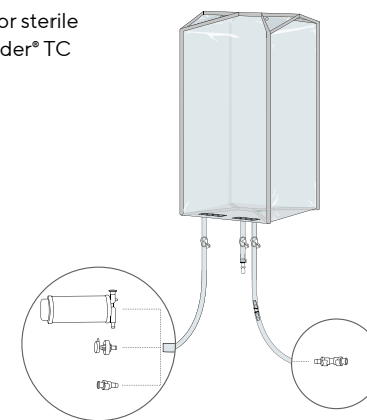
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500310	2	Sartopore® 2	Maxicaps® Size 1	
	FIS500330	2	½" Opta® SFT female	NA	
	FIS302338	2	MPX female + sealing cap		
1,500 L	FIS500311	2	Sartopore® 2	Maxicaps® Size 1	½" x ¾" C-Flex®
	FIS500334	2	½" Opta® SFT female		+ MPX male
	FIS302339	2	MPX female + sealing cap		+ MPX double female + sealing cap
2,000 L	FIS500312	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500331	2	½" Opta® SFT female	NA	
	FIS302340	2	MPX female + sealing cap		

Sartopore® 2 0.45|0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

MPX quick coupler male & female with cap for sanitary or aseptic connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

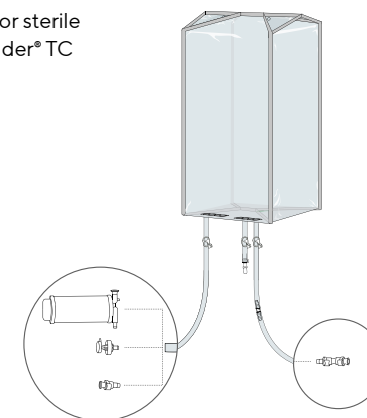
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500313	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500332	1	½" Opta® SFT female	NA	
	FIS302341	1	MPX female + sealing cap		½" x ¾" C-Flex® + MPX male
3,000 L	FIS500314	1	Sartopore® 2	Maxicaps® Size 2	+ MPX double female
	FIS500333	1	½" Opta® SFT female	NA	+ sealing cap
	FIS302342	1	MPX female + sealing cap		

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

MPX quick coupler male & female with cap for sanitary or aseptic connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems – High Flow Rate

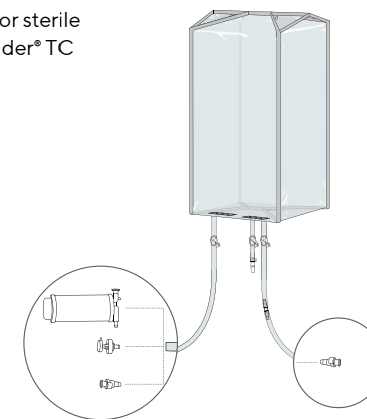
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500370	2	Sartopore® 2	Maxicaps® Size 1	
	FIS500375	2	¾" Opta® SFT female	NA	
	FIS500365	2	MPX female + sealing cap		
1,500 L	FIS500371	2	Sartopore® 2	Maxicaps® Size 1	
	FIS500376	2	¾" Opta® SFT female		¾" × 1" C-Flex® + MPU male + sealing cap
	FIS500366	2	MPX female + sealing cap		
2,000 L	FIS500372	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500377	2	¾" Opta® SFT female	NA	
	FIS500367	2	MPX female + sealing cap		

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

MPU male with sealing plug for quick coupling



¹ Inlet tubing line from end line to bag with filter:
½" × ¾" Clear C-Flex® 1.5 m (60")

¹ Inlet tubing line from connector to bag:
¾" × 1" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
¾" ID Silicone Tuflux® 2.5 m (98") + ¾" × 1" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems – High Flow Rate

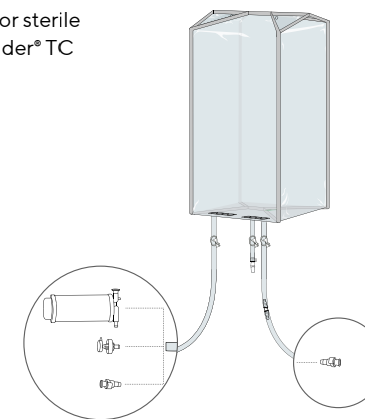
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500373	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500378	1	¾" Opta® SFT female	NA	
	FIS500368	1	MPX female + sealing cap		¾" × 1" C-Flex® + MPU male + sealing cap
3,000 L	FIS500374	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500379	1	¾" Opta® SFT female	NA	
	FIS500369	1	MPX female + sealing cap		

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

MPU male with sealing plug for quick coupling



¹ Inlet tubing line from end line to bag with filter:
½" × ¾" Clear C-Flex® 1.5 m (60")

² Inlet tubing line from connector to bag:
¾" × 1" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
¾" ID Silicone Tuflux® 2.5 m (98") + ¾" × 1" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection
to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

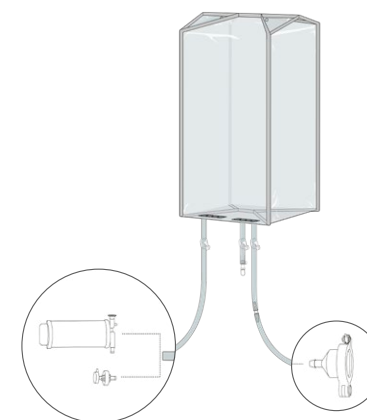
Tri-Clamp Connection to Downstream Systems

Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500315	2	Sartopore® 2	Maxicaps® Size 1	½" Tri-Clamp 1½" sanitary flange with gasket, cap & union
	FIS500350	2	½" Opta® SFT female	NA	
1,500 L	FIS500316	2	Sartopore® 2	Maxicaps® Size 1	
	FIS500351	2	½" Opta® SFT female	NA	
2,000 L	FIS500317	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500352	2	½" Opta® SFT female	NA	
2,500 L	FIS500318	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500353	1	½" Opta® SFT female	NA	
3,000 L	FIS500319	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500354	1	½" Opta® SFT female	NA	

Sartopore® 2 0.45|0.2 µm

Opta® SFT female

Tri-Clamp flange for sanitary or aseptic connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 3 m (118")

Flexsafe® 3D Pre-Designed Solutions for Buffer Filtration, Storage and Shipping in Palletank®

Buffer Preparation

Sterile Connection
to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

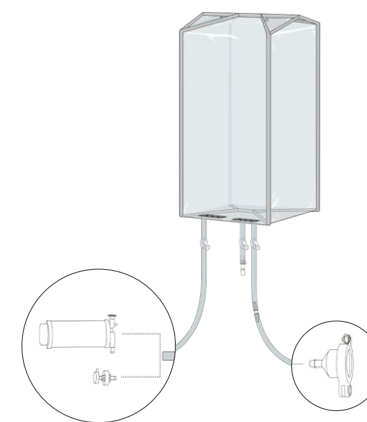
Tri-Clamp Connection to Downstream Systems – High Flow Rate

			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500320	2	Sartopore® 2	Maxicaps® Size 1	
	FIS500355	2	¾" Opta® SFT female	NA	
1,500 L	FIS500321	2	Sartopore® 2	Maxicaps® Size 1	
	FIS500356	2	¾" Opta® SFT female	NA	
2,000 L	FIS500322	1	Sartopore® 2	Maxicaps® Size 2	¾" Tri-Clamp 1½" sanitary flange with gasket, cap & union
	FIS500357	2	¾" Opta® SFT female	NA	
2,500 L	FIS500323	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500358	1	¾" Opta® SFT female	NA	
3,000 L	FIS500324	1	Sartopore® 2	Maxicaps® Size 2	
	FIS500359	1	¾" Opta® SFT female	NA	

Sartopore® 2 0.45|0.2 µm

Opta® SFT female

Tri-Clamp flange for sanitary or aseptic connection



¹ Inlet tubing line from end line to bag with filter: ½" x ¾" Clear C-Flex® 1.5 m (60")

¹ Inlet tubing line from connector to bag: ¾" x 1" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line: ¾" ID Silicone Tuflux® 3 m (118")

Flexsafe® 2D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates

Cell Harvest & Downstream Intermediates

Clarification and Sterilizing Filtration from Bioreactor

Cell Harvest or Downstream Intermediates Storage and Shipping

Harvest or Downstream Intermediates Transfer

Sterile Connection to Downstream Systems

Sanitary or Aseptic Connection to Downstream Systems

Sterile Connection Sterile Weld

Quick Coupler Connection Tri-Clamp Connection

Flexsafe® 2D solutions for cell harvest & downstream intermediates are available with Sartopore® 2 XLG 0.8|0.2 µm for high throughput sterilizing filtration after cell culture clarification step and for the handling of all process intermediates before the final UFDF step.

Flexsafe® 2D bags without filters are also available for:

- Sterile connection to alternative Sartopore® filter line using Opta® or welding with Biowelder® TC
- Aseptic connection to alternative Sartopore® filter line with MPC quick coupler

Sartopore® filters can be disconnected for post-use integrity testing with sterile seal using Biosealer®. Inlet and outlet lines are made of Clear C-Flex® tubings for welding and sealing.

Flexsafe® 2D bags allow for cell harvest transfer to most common single-use and stainless steel downstream purification systems with a variety of sterile and aseptic connections

Outlet Line

Connection and transfer by pumping or gravity

- Opta® SFT male for sterile connection
- C-Flex® tube for sterile weld with Biowelder® TC
- MPC quick coupler male & cap for sanitary or aseptic connection to single-use systems
- Tri-Clamp flange for sanitary or aseptic connection to stainless steel systems



Sampling

- Clave needleless sampling port

Inlet Line

Sterilizing Filtration

- Sartopore® 2 XLG 0.8|0.2 µm

Connections for Alternative Filter Line

- Opta® SFT female C-Flex® tube for sterile weld with Biowelder® TC
- MPC quick coupler female

Flexsafe® 2D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

Sterile Connection Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection Tri-Clamp Connection

Sterile Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130136	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4	¾" Opta® SFT male	¾" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130155	16	¾" Opta® SFT female	NA		
	FLS130153	16	¾" MPC female + sealing cap			
5 L	FLS130023	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130054	16	¾" Opta® SFT female	NA		
	FLS130051	16	¾" MPC female + sealing cap			
10 L	FLS130035	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130055	8	¾" Opta® SFT female	NA		
	FLS130052	8	¾" MPC female + sealing cap			

Outlet Line

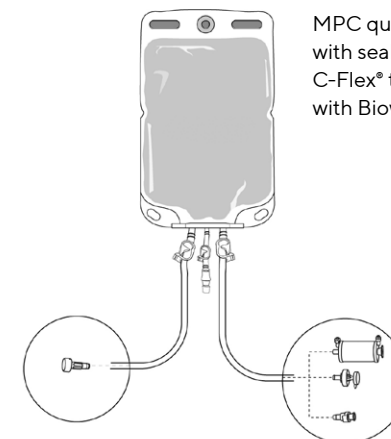
Opta® SFT male for sterile connection

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
¾" x ½" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ½" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

Sterile Connection Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection Tri-Clamp Connection

Sterile Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130036	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7	¾" Opta® SFT male	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130056	8	¾" Opta® SFT female	NA		
	FLS130053	8	¾" MPC female + sealing cap			
50 L	FLS130143	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7	¾" Opta® SFT male	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130156	8	¾" Opta® SFT female	NA		
	FLS130154	8	a" MPC female + sealing cap			

Outlet Line

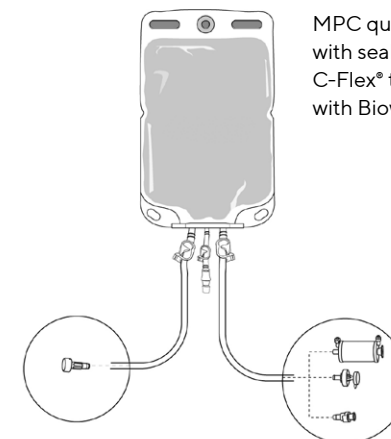
Opta® SFT male for sterile connection

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
¾" x ½" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ½" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Sterile Weld to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130131	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130147	16	¾" Opta® SFT female			
	FLS130145	16	¾" MPC female + sealing cap			
5 L	FLS130018	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4	¾" x ½" C-Flex® + a" MPC male + sealing cap	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130042	16	¾" Opta® SFT female	NA		
	FLS130039	16	¾" MPC female + sealing cap			
10 L	FLS130025	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130043	8	¾" Opta® SFT female	NA		
	FLS130040	8	¾" MPC female + sealing cap			

Outlet Line

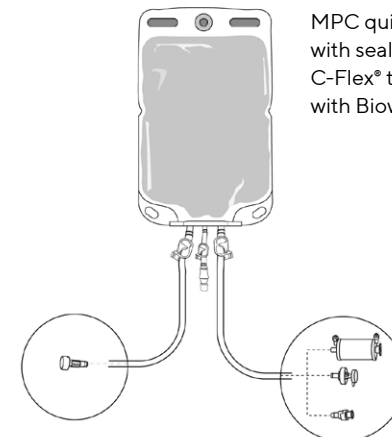
Opta® SFT male for sterile connection

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
¾" x ½" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ½" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

**Sterile Connection
Sterile Weld**

Sanitary or Aseptic Connection to Downstream Systems

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Weld to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130026	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130044	8	¾" Opta® SFT female	NA		
	FLS130041	8	¾" MPC female + sealing cap		¾" x ½" C-Flex® + a" MPC male + sealing cap	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
50 L	FLS130138	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130148	8	¾" Opta® SFT female	NA		
	FLS130146	8	¾" MPC female + sealing cap			

Outlet Line

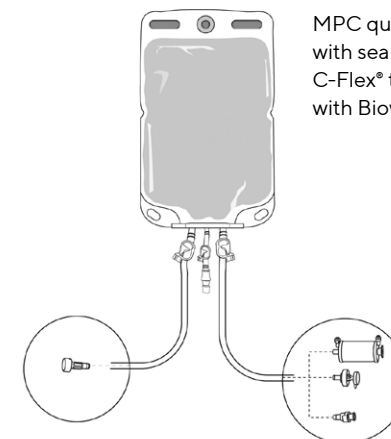
Opta® SFT male for sterile connection

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
¾" x ½" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ½" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130131	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130147	16	¾" Opta® SFT female	NA		
	FLS130145	16	¾" MPC female + sealing cap			
5 L	FLS130018	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4	¾" x ⅝" C-Flex® + ¾" MPC male + sealing cap	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130042	16	¾" Opta® SFT female	NA		
	FLS130039	16	¾" MPC female + sealing cap			
10 L	FLS130025	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130043	8	¾" Opta® SFT female	NA		
	FLS130040	8	¾" MPC female + sealing cap			

Outlet Line

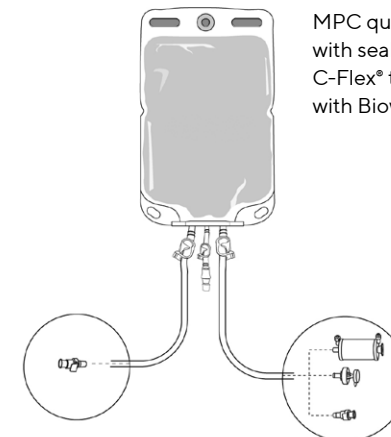
MPC quick coupler male & female with cap for sanitary or aseptic connection

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
¾" x ⅝" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ⅝" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130026	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130044	8	¾" Opta® SFT female	NA		
	FLS130041	8	¾" MPC female + sealing cap		¾" x ⅝" C-Flex® + ¾" MPC male + sealing cap	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
50 L	FLS130138	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130148	8	¾" Opta® SFT female	NA		
	FLS130146	8	¾" MPC female + sealing cap			

Outlet Line

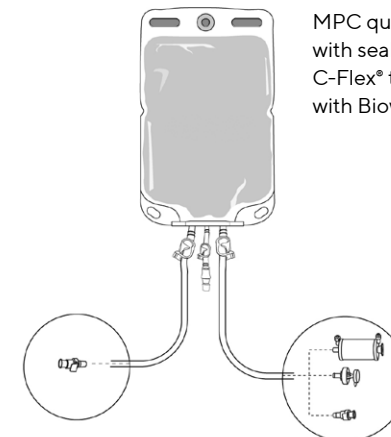
MPC quick coupler male & female with cap for sanitary or aseptic connection

Inlet Line

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
¾" x ⅝" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ⅝" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates

Cell Harvest & Downstream Intermediates

Sterile Connection
to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Tri-Clamp Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130132	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130165	16	¾" Opta® SFT female	NA		
	FLS130163	16	¾" MPC female + sealing cap			
	FLS130191	16	¾" Tri-Clamp ¾" sanitary flange with gasket, cap & union ³			
5 L	FLS130019	16	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 4		
	FLS130069	16	¾" Opta® SFT female	NA		
	FLS130066	16	¾" MPC female + sealing cap			
	FLS130108	16	¾" Tri-Clamp ¾" sanitary flange with gasket, cap & union ³		¾" Tri-Clamp ¾" sanitary flange with gasket, cap & union	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
10 L	FLS130027	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130070	8	¾" Opta® SFT female	NA		
	FLS130067	8	¾" MPC female + sealing cap			
	FLS130109	8	¾" Tri-Clamp ¾" sanitary flange with gasket, cap & union ³			

Outlet Line

Tri-Clamp flange for sanitary or aseptic connection

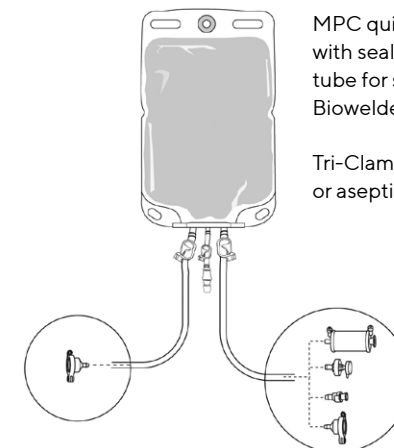
Inlet Line

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

Tri-Clamp flange for sanitary or aseptic connection



¹ Inlet tubing line from end line to bag:
¾" x ⅝" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" Tuflux® SIL 300 mm (12")

³ ¾" Tuflux® SIL 300 mm (12") for design
with two Tri-Clamps

Flexsafe® 2D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Tri-Clamp Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130028	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130071	8	¾" Opta® SFT female	NA		
	FLS130068	8	¾" MPC female + sealing cap			
	FLS130110	8	¾" Tri-Clamp ¾" sanitary flange with gasket, cap & union ³		¾" Tri-Clamp ¾" sanitary flange with gasket, cap & union	¾" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
50 L	FLS130139	8	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7		
	FLS130166	8	¾" Opta® SFT female	NA		
	FLS130164	8	¾" MPC female + sealing cap			
	FLS130192	8	¾" Tri-Clamp ¾" sanitary flange with gasket, cap & union ³			

Outlet Line

Tri-Clamp flange for sanitary or aseptic connection

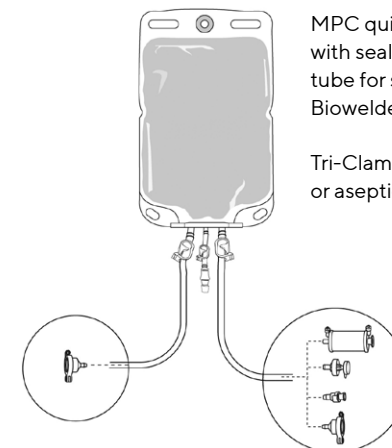
Inlet Line

Sartopore® 2 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

Tri-Clamp flange for sanitary or aseptic connection



¹ Inlet tubing line from end line to bag:
¾" x ⅝" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" Tuflux® SIL 300 mm (12")

³ ¾" Tuflux® SIL 300 mm (12") for design with two Tri-Clamps

Flexsafe® 3D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping

Cell Harvest & Downstream Intermediates

Clarification
and Sterilizing
Filtration
from Bioreactor

Cell Harvest
or Downstream
Intermediates
Storage and
Shipping

Harvest or
Downstream
Intermediates
Transfer

Sterile Connection
to Downstream Systems

Sanitary or Aseptic Connection
to Downstream Systems

Sterile Connection
Sterile Weld

Quick Coupler Connection
Tri-Clamp Connection

Flexsafe® 3D solutions for cell harvest & downstream intermediates are available with Sartopore® 2 XLG 0.8 | 0.2 µm for high throughput sterilizing filtration after cell culture clarification step and for the handling of all process intermediates before the cross-flow step.

Flexsafe® 3D bags without filters are also available for:

- Sterile connection to alternative Sartopore® filter transfer set using Opta® ½" or welding with Biowelder® TC
- Aseptic connection to alternative Sartopore® filter transfer set with MPX quick coupler

Sartopore® filters can be disconnected for post-use integrity testing with sterile seal using Biosealer®. Inlet and outlet lines are made of C-Flex® + Silicone Tuflux® tubings for welding, sealing and pumping

Flexsafe® 3D bags allow for cell harvest transfer to most common single-use and stainless steel downstream purification systems with a variety of sterile and aseptic connections

Inlet Line

Clarification and sterile filtration from bioreactor or any downstream purification step before cross-flow

- Sartopore® 2 XLG 0.8 | 0.2 µm

Connection for alternative filter transfer set

- Opta® SFT female
- C-Flex® tube for sterile weld with Biowelder® TC
- MPX quick coupler female

Sampling

- Needleless sampling port

Outlet Line

Connection and transfer by pumping or gravity

- Opta® SFT male for sterile connection
- C-Flex® with MPX plug for sterile weld to single-use system
- MPX Quick couplers for sanitary or aseptic connection to single-use system
- Tri-Clamp flange for sanitary or aseptic connection to stainless steel system



Flexsafe® 3D Pre-Designed Solutions for

Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

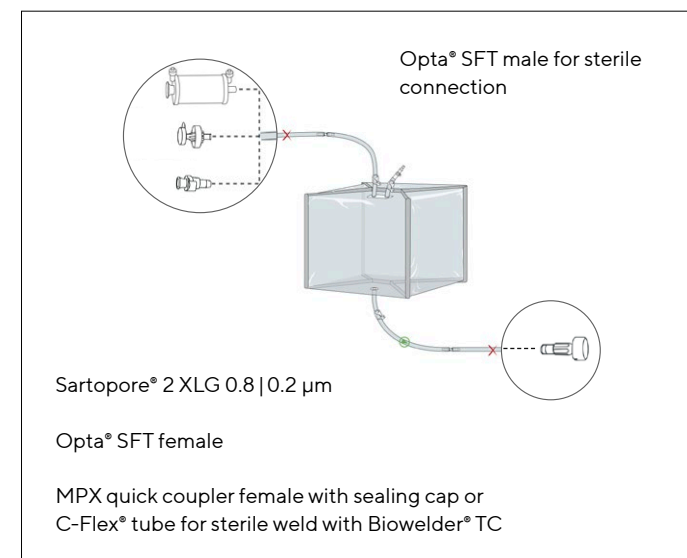
**Sterile Connection
Sterile Weld**

Sanitary or Aseptic Connection to Downstream Systems

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Connection to Downstream Systems

			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on outlet line
100 L	FIS126698	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 9	
	FIS126718	3	½" Opta® SFT female	NA	
	FIS126746	3	MPX female + sealing cap		
200 L	FIS126699	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 0	
	FIS126719	3	½" Opta® SFT female	NA	½" Opta® SFT male
	FIS126747	3	MPX female + sealing cap		
500 L	FIS126700	2	Sartopore® 2 XLG 0.8 0.2 µm	Maxicaps® size 1 T-style	
	FIS126720	3	½" Opta® SFT female	NA	
	FIS126748	3	MPX female + sealing cap		



¹ Inlet tubing line from end line to bag:
½" x ¾" C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

Sterile Connection
to Downstream Systems

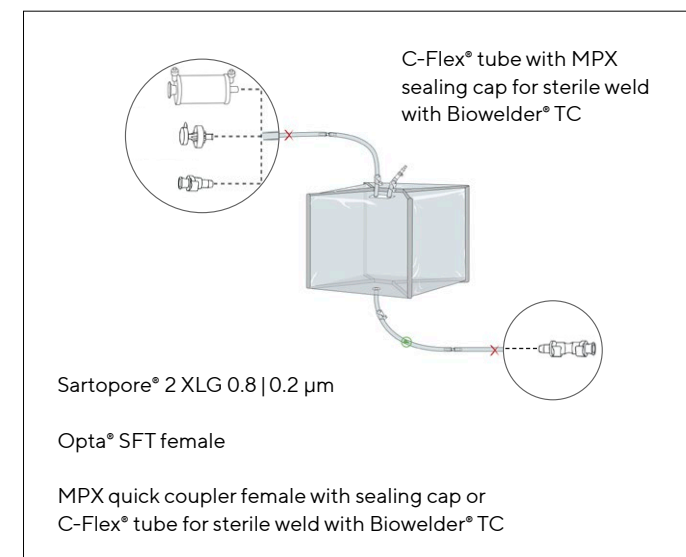
Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Sterile Weld to Downstream Systems

			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on outlet line
100 L	FIS126767	2	Sartopore® XLG 0.8 0.2 µm	Midicaps® size 9	
	FIS126742	3	½" Opta® SFT female	NA	
	FIS126489	3	MPX female + sealing cap		
200 L	FIS126768	2	Sartopore® XLG 0.8 0.2 µm	Midicaps® size 0	½" x ¾" Clear C-Flex® + MPX male + MPX double female + sealing cap
	FIS126743	3	½" Opta® SFT female	NA	
	FIS126490	3	MPX female + sealing cap		
500 L	FIS126769	2	Sartopore® XLG 0.8 0.2 µm	Maxicaps® size 1 T-style	
	FIS126744	3	½" Opta® SFT female	NA	
	FIS126491	3	MPX female + sealing cap		



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

Sterile Connection
to Downstream Systems

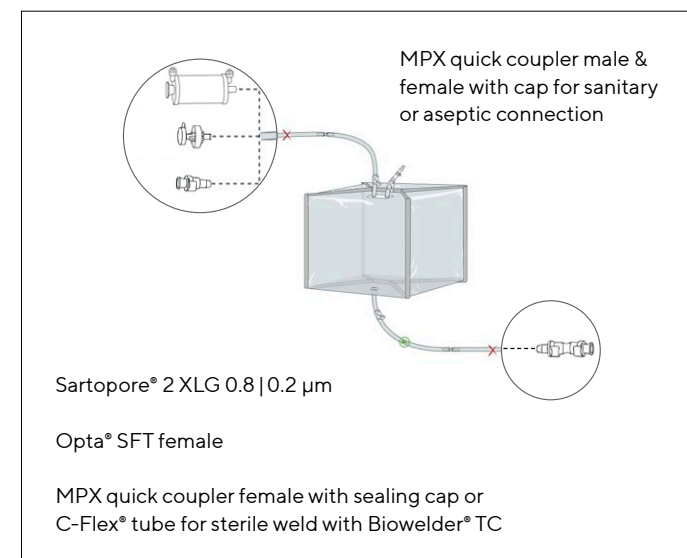
Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
100 L	FIS126767	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 9	
	FIS126742	3	½" Opta® SFT female	NA	
	FIS126489	3	MPX female + sealing cap		
200 L	FIS126768	2	Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 0	
	FIS126743	3	½" Opta® SFT female	NA	½" MPX male + MPX double female + sealing cap
	FIS126490	3	MPX female + sealing cap		
500 L	FIS126769	2	Sartopore® 2 XLG 0.8 0.2 µm	Maxicaps® size 1 T-style	
	FIS126744	3	½" Opta® SFT female	NA	
	FIS126491	3	MPX female + sealing cap		



¹ Inlet tubing line from end line to bag:
½" x ¾" C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for

Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

Sterile Connection
to Downstream Systems

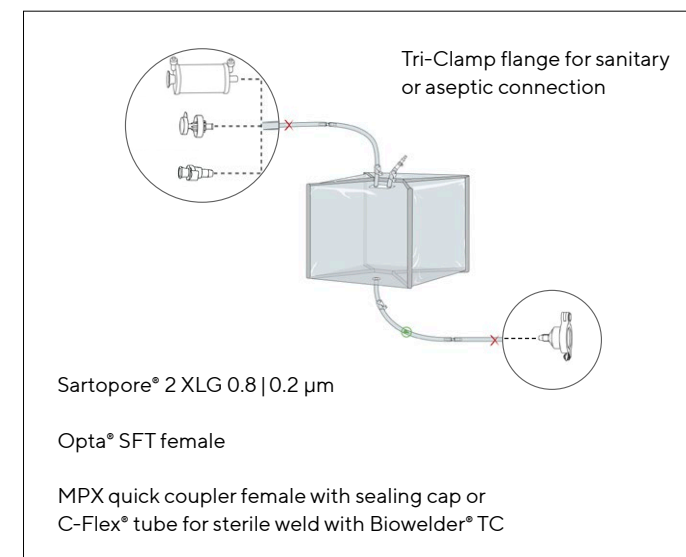
Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Tri-Clamp Connection to Downstream Systems

			Inlet ¹	Outlet ²
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Distal connector on draining line
100 L	FIS126759	2	Sartopore® XLG 0.8 0.2 µm	Midicaps® size 9
	FIS126738	3	½" Opta® SFT female	NA
	FIS126255	3	MPX female + sealing cap	
200 L	FIS126760	2	Sartopore® XLG 0.8 0.2 µm	Midicaps® size 0
	FIS126739	3	½" Opta® SFT female	NA
	FIS126256	3	MPX female + sealing cap	½" Tri-Clamp 1½" sanitary flange with gasket, cap & union
500 L	FIS126761	2	Sartopore® XLG 0.8 0.2 µm	Maxicaps® size 1 T-style
	FIS126740	3	½" Opta® SFT female	NA
	FIS126257	3	MPX female + sealing cap	



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1,5 m (60") +

Flexsafe® 3D Pre-Designed Solutions for

Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

**Sterile Connection
to Downstream Systems**

**Sterile Connection
Sterile Weld**

**Sanitary or Aseptic Connection
to Downstream Systems**

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Connection to Downstream Systems

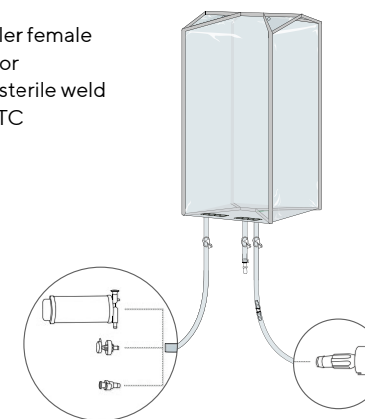
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500273	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500290	2	½" Opta® SFT female	NA	
	FIS500300	2	MPX female + sealing cap		
1,500 L	FIS500281	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500291	2	½" Opta® SFT female		½" Opta® SFT male
	FIS500301	2	MPX female + sealing cap		
2,000 L	FIS500282	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500292	2	½" Opta® SFT female	NA	
	FIS500302	2	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT male for sterile connection

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60") +

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for

Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

**Sterile Connection
to Downstream Systems**

**Sterile Connection
Sterile Weld**

**Sanitary or Aseptic Connection
to Downstream Systems**

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Connection to Downstream Systems

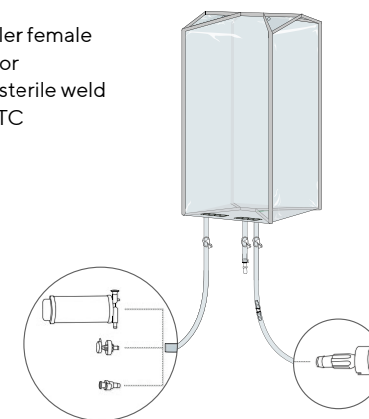
			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500283	1	Sartopore® 2 XLG	Maxicaps® Size 3	½" Opta® SFT male
	FIS500293	1	½" Opta® SFT female	NA	
	FIS500303	1	MPX female + sealing cap		
3,000 L	FIS500284	1	Sartopore® 2 XLG	Maxicaps® Size 3	½" Opta® SFT male
	FIS500294	1	½" Opta® SFT female	NA	
	FIS500304	1	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT male for sterile connection

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 1 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for

Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

**Sterile Connection
to Downstream Systems**

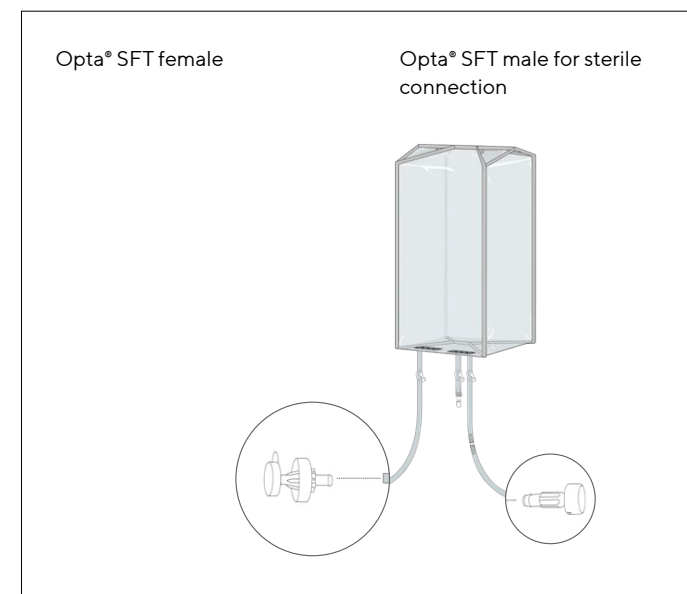
**Sanitary or Aseptic Connection
to Downstream Systems**

**Sterile Connection
Sterile Weld**

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Connection to Downstream Systems – High Flow Rate

			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS302278	2	¾" Opta® SFT female	NA	
1,500 L	FIS302279	2	¾" Opta® SFT female	NA	
2,000 L	FIS500275	2	¾" Opta® SFT female	NA	¾" Opta® SFT male
2,500 L	FIS500276	1	¾" Opta® SFT female	NA	
3,000 L	FIS302282	1	¾" Opta® SFT female	NA	



¹ Inlet tubing line from connector Opta® to bag:
¾" x 1" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
¾" ID Silicone Tuflux® 2.5 m (98") + ¾" x 1" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

**Sterile Connection
to Downstream Systems**

**Sterile Connection
Sterile Weld**

**Sanitary or Aseptic Connection
to Downstream Systems**

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Weld to Downstream Systems

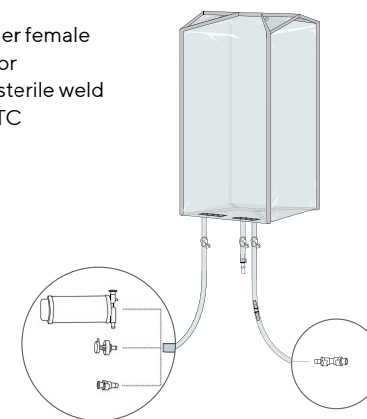
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500360	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500330	2	½" Opta® SFT female	NA	
	FIS302338	2	MPX female + sealing cap		
1,500 L	FIS500361	2	Sartopore® 2 XLG	Maxicaps® Size 2	½" x ¾" C-Flex®
	FIS500334	2	½" Opta® SFT female		+ MPX male
	FIS302339	2	MPX female + sealing cap		+ MPX double female + sealing cap
2,000 L	FIS500362	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500331	2	½" Opta® SFT female	NA	
	FIS302340	2	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT female

MPX quick coupler female
with sealing cap or
C-Flex® tube for sterile weld
with Biowelder® TC

C-Flex® tube with MPX sealing
cap for sterile weld with
Biowelder® TC



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for

Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

**Sterile Connection
to Downstream Systems**

**Sterile Connection
Sterile Weld**

**Sanitary or Aseptic Connection
to Downstream Systems**

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Weld to Downstream Systems

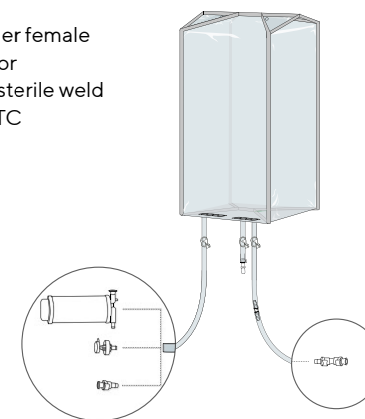
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500363	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500332	1	½" Opta® SFT female	NA	
	FIS302341	1	MPX female + sealing cap		½" x ¾" C-Flex® + MPX male
3,000 L	FIS500364	1	Sartopore® 2 XLG	Maxicaps® Size 3	+ MPX double female
	FIS500333	1	½" Opta® SFT female	NA	+ sealing cap
	FIS302342	1	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT female

MPX quick coupler female
with sealing cap or
C-Flex® tube for sterile weld
with Biowelder® TC

C-Flex® tube with MPX sealing
cap for sterile weld with
Biowelder® TC



¹ Inlet tubing line from end line to bag:

½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:

½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for

Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

Sterile Connection
to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

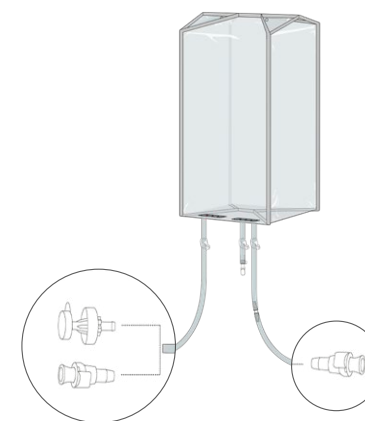
Sterile Weld to Downstream Systems – High Flow Rate

			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500375	2	¾" Opta® SFT female	NA	
	FIS500365	2	MPU female + sealing cap		
1,500 L	FIS500376	2	¾" Opta® SFT female	NA	
	FIS500366	2	MPU female + sealing cap		
2,000 L	FIS500377	2	¾" Opta® SFT female	NA	¾" × 1" C-Flex®
	FIS500367	2	MPU female + sealing cap		+ MPU male + sealing cap
2,500 L	FIS500378	1	¾" Opta® SFT female	NA	
	FIS500368	1	MPU female + sealing cap		
3,000 L	FIS500379	1	¾" Opta® SFT female	NA	
	FIS500369	1	MPU female + sealing cap		

Opta® SFT female

MPU quick coupler female

MPU male with sealing plug
for quick coupling



¹ Inlet tubing line from connector Opta® to bag:
¾" × 1" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
¾" ID Silicone Tuflux® 2.5 m (98") + ¾" × 1" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

Sterile Connection
to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

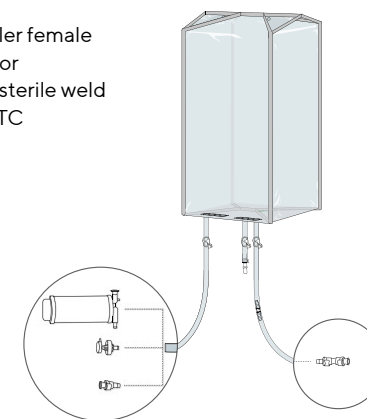
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500360	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500330	2	½" Opta® SFT female	NA	
	FIS302338	2	MPX female + sealing cap		
1,500 L	FIS500361	2	Sartopore® 2 XLG	Maxicaps® Size 2	½" x ¾" C-Flex®
	FIS500334	2	½" Opta® SFT female		+ MPX male
	FIS302339	2	MPX female + sealing cap		+ MPX double female + sealing cap
2,000 L	FIS500362	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500362	2	½" Opta® SFT female	NA	
	FIS302340	2	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT female

MPX quick coupler female
with sealing cap or
C-Flex® tube for sterile weld
with Biowelder® TC

MPX quick coupler male &
female with cap for sanitary
or aseptic connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for

Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

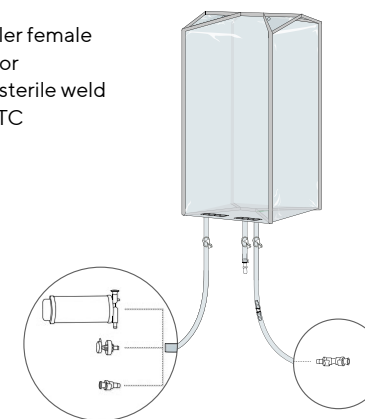
Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
2,500 L	FIS500363	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500332	1	½" Opta® SFT female	NA	
	FIS302341	1	MPX female + sealing cap		½" x ¾" C-Flex® + MPX male
3,000 L	FIS500364	1	Sartopore® 2 XLG	Maxicaps® Size 3	+ MPX double female
	FIS500333	1	½" Opta® SFT female	NA	+ sealing cap
	FIS302342	1	MPX female + sealing cap		

Sartopore® 2 XLG 0.8 | 0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

MPX quick coupler male & female with cap for sanitary or aseptic connection



¹ Inlet tubing line from end line to bag:
½" x ¾" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
½" ID Silicone Tuflux® 2,5 m (98") + ½" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for

Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

Sterile Connection
to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

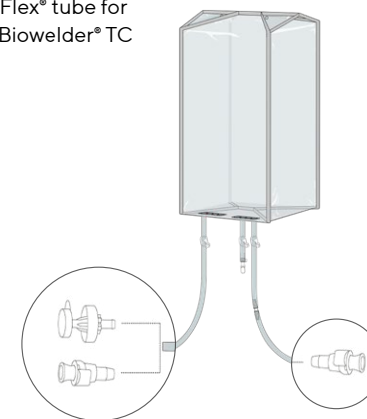
Quick Coupler Connection to Downstream Systems – High Flow Rate

Inlet ¹			Outlet ²		
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500375	2	¾" Opta® SFT female	NA	
	FIS500365	2	MPU female + sealing cap		
1,500 L	FIS500376	2	¾" Opta® SFT female	NA	
	FIS500366	2	MPU female + sealing cap		
2,000 L	FIS500377	2	¾" Opta® SFT female	NA	¾" × 1" C-Flex®
	FIS500367	2	MPU female + sealing cap		+ MPU male + sealing cap
2,500 L	FIS500378	1	¾" Opta® SFT female	NA	
	FIS500368	1	MPU female + sealing cap		
3,000 L	FIS500379	1	¾" Opta® SFT female	NA	
	FIS500369	1	MPU female + sealing cap		

Opta® SFT female

MPU quick coupler female with
sealing cap or C-Flex® tube for
sterile weld with Biowelder® TC

MPU male with sealing plug
for quick coupling



¹ Inlet tubing line from connector Opta® to bag:
¾" × 1" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
¾" ID Silicone Tuflux® 2.5 m (98") + ¾" × 1" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for

Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

Sterile Connection
to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

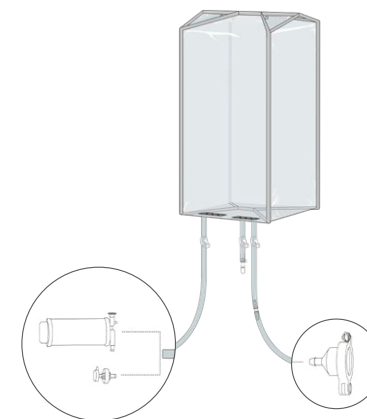
Tri-Clamp Connection to Downstream Systems

			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500340	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500350	2	½" Opta® SFT female	NA	
1,500 L	FIS500341	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500351	2	½" Opta® SFT female	NA	
2,000 L	FIS500342	1	Sartopore® 2 XLG	Maxicaps® Size 3	½" ID tubing, Tri-Clamp 1½" sanitary flange with gasket, cap & union
	FIS500352	2	½" Opta® SFT female	NA	
2,500 L	FIS500343	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500353	1	½" Opta® SFT female	NA	
3,000 L	FIS500344	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500354	1	½" Opta® SFT female	NA	

Sartopore® 2 XLG 0.8 | 0.2 µm

Tri-Clamp flange for sanitary or aseptic connection

Opta® SFT female



¹ Inlet tubing line from connector Opta® to bag:
¾" x 1" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
¾" ID Silicone Tuflux® 2.5 m (98") + ¾" x ¾" Clear C-Flex® 0.5 m (20")

Flexsafe® 3D Pre-Designed Solutions for

Cell Harvest & Downstream Intermediates Filtration, Storage and Shipping in Palletank®

Cell Harvest & Downstream Intermediates

Sterile Connection
to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection
to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

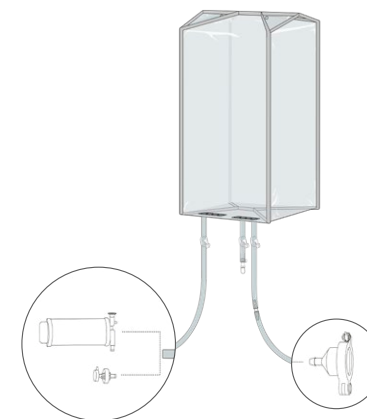
Tri-Clamp Connection to Downstream Systems – High Flow Rate

			Inlet ¹	Outlet ²	
Bag Volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
1,000 L	FIS500345	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500355	2	¾" Opta® SFT female	NA	
1,500 L	FIS500346	2	Sartopore® 2 XLG	Maxicaps® Size 2	
	FIS500356	2	¾" Opta® SFT female	NA	
2,000 L	FIS500347	1	Sartopore® 2 XLG	Maxicaps® Size 3	¾" ID tubing, Tri-Clamp 1½" sanitary flange with gasket, cap & union
	FIS500357	2	¾" Opta® SFT female	NA	
2,500 L	FIS500348	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500358	1	¾" Opta® SFT female	NA	
3,000 L	FIS500349	1	Sartopore® 2 XLG	Maxicaps® Size 3	
	FIS500359	1	¾" Opta® SFT female	NA	

Sartopore® 2 XLG 0.8 | 0.2 µm

Tri-Clamp flange for sanitary or aseptic connection

Opta® SFT female



¹ Inlet tubing line from end line to bag with filter:
½" x ¾" Clear C-Flex® 1.5 m (60")

¹ Inlet tubing line from connector to bag:
¾" x 1" Clear C-Flex® 1.5 m (60")

² Outlet tubing line from bag to end line:
¾" ID Silicone Tuflux® 3 m (118")

Flexsafe® 2D Pre-Designed Solutions for Drug Substances

Drug Substance Purification

Sterilizing Filtration between Purification Steps

Drug Substance Storage and Shipping

Drug Substance Transfer

Sterile Connection to Downstream Systems

Sanitary or Aseptic Connection to Downstream Systems

Sterile Connection Sterile Weld

Quick Coupler Connection Tri-Clamp Connection

Flexsafe® 2D solutions for drug substances purification are available with Sartopore® Platinum 0.45 | 0.2 µm. The outstanding wetting properties of the modified membrane reduce by ten times the flushing volumes and facilitate pre-use filter integrity testing.

Flexsafe® 2D bags without filters are also available for:

- Sterile connection to alternative Sartopore® filter line using Opta® or welding with Biowelder® TC
- Aseptic connection to alternative Sartopore® filter line with MPC quick coupler

Test line with Midisart® BV 0.2 µm filter is installed on the inlet line to allow sterile point of use leak testing using the Flexact® BT.

Sartopore® filters can be disconnected for post-use integrity testing with sterile seal using Biosealer®. Inlet and outlet lines are made of Clear C-Flex® tubings for welding and sealing.

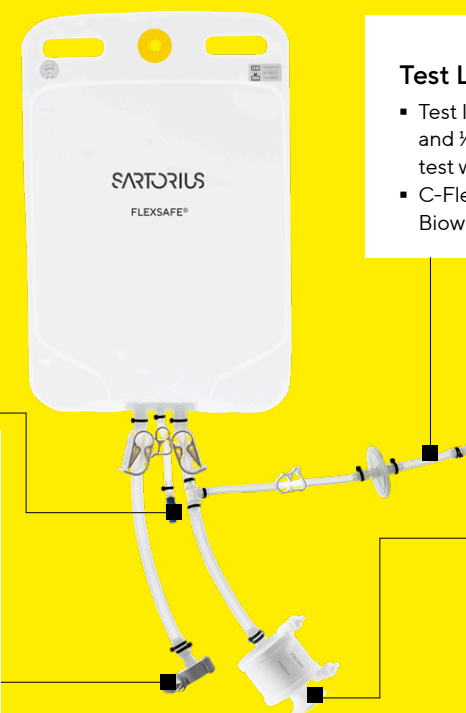
Flexsafe® 2D bags allow for cell harvest transfer to most common single-use and stainless steel downstream purification systems with a variety of sterile and aseptic connections.

Sampling

- Clave needleless sampling port

Outlet Line

- Connection and transfer by pumping or gravity
- Opta® SFT male for sterile connection
 - C-Flex® tube for sterile weld with Biowelder® TC
 - MPC quick coupler male & cap for sanitary or aseptic connection to single-use systems
 - Tri-Clamp flange for sanitary or aseptic connection to stainless steel systems



Test Line for Flexact® BT

- Test line with Midisart® BV 0.2 µm filter and ¼" Tri-Clamp for point of use leak test with Flexact® BT
- C-Flex® tube for sterile weld with Biowelder® TC

Inlet Line

Sterilizing Filtration

- Sartopore® Platinum 0.45 | 0.2 µm

Connections for Alternative Filter Line

- Opta® SFT female C-Flex® tube for sterile weld with Biowelder® TC
- MPC quick coupler female

Flexsafe® 2D Pre-Designed Solutions for Drug Substances

Drug Substance Purification

**Sterile Connection
to Downstream Systems**

**Sterile Connection
Sterile Weld**

**Sanitary or Aseptic Connection
to Downstream Systems**

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130169	16	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 4		
	FLS130183	16	¾" Opta® SFT female	NA		
	FLS130181	16	¾" MPC female + sealing cap			
5 L	FLS130074	16	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 4		
	FLS130096	16	¾" Opta® SFT female	NA	¾" Opta® SFT male	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130093	16	¾" MPC female + sealing cap			
10 L	FLS130079	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7		
	FLS130097	8	¾" Opta® SFT female	NA		
	FLS130094	8	¾" MPC female + sealing cap			

Outlet Line

Opta® SFT male for sterile
connection

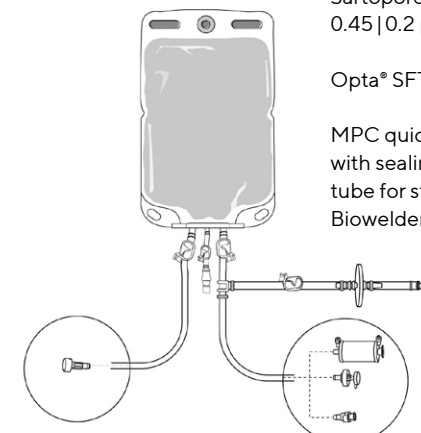
Inlet Line

Test line with Midisart® BV
0.2 µm filter and ¾" Tri-Clamp

Sartopore® Platinum
0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female
with sealing cap or C-Flex®
tube for sterile weld with
Biowelder® TC



Leak Test Line

- ¾" x ¾" Clear C-Flex® 300 mm (12")
+ Midisart® BV 0.2 µm
+ ¼" ID Silicone Tuflux® 100 mm (4")
+ ¾" Tri-Clamp with gasket, cap & union

¹ Inlet tubing line from end line to bag:
¾" x ¾" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ¾" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Drug Substances

Drug Substance Purification

Sterile Connection to Downstream Systems

**Sterile Connection
Sterile Weld**

Sanitary or Aseptic Connection to Downstream Systems

**Quick Coupler Connection
Tri-Clamp Connection**

Sterile Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130080	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	¾" Opta® SFT male	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130098	8	¾" Opta® SFT female	NA		
	FLS130095	8	¾" MPC female + sealing cap			
50 L	FLS130172	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	¾" Opta® SFT male	¼" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130184	8	¾" Opta® SFT female	NA		
	FLS130182	8	¾" MPC female + sealing cap			

Outlet Line

Opta® SFT male for sterile connection

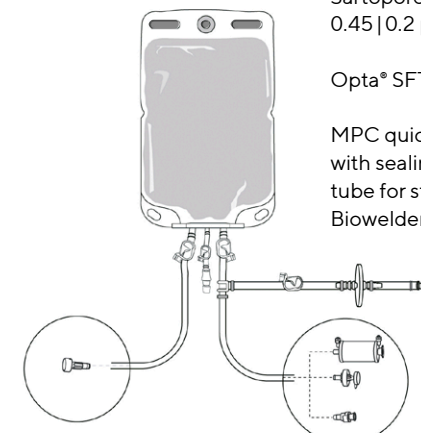
Inlet Line

Test line with Midisart® BV 0.2 µm filter and ¾" Tri-Clamp

Sartopore® Platinum 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



Leak Test Line

- ¾" x ¾" Clear C-Flex® 300 mm (12")
+ Midisart® BV 0.2 µm
+ ¼" ID Silicone Tuflux® 100 mm (4")
+ ¾" Tri-Clamp with gasket, cap & union

¹ Inlet tubing line from end line to bag:
¾" x ¾" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ¾" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Drug Substances

Drug Substance Purification

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Sterile Weld to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130167	16	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 4		
	FLS130179	16	3/8" Opta® SFT female	NA		
	FLS130177	16	3/8" MPC female + sealing cap			
5 L	FLS130072	16	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 4	3/8" x 5/8" C-Flex® + 3/8" MPC male + sealing cap	1/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
	FLS130090	16	3/8" Opta® SFT female	NA		
	FLS130087	16	3/8" MPC female + sealing cap			
10 L	FLS130075	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7		
	FLS130091	8	3/8" Opta® SFT female	NA		
	FLS130088	8	3/8" MPC female + sealing cap			

Outlet Line

C-Flex® tube with MPC sealing cap for sterile weld with Biowelder® TC

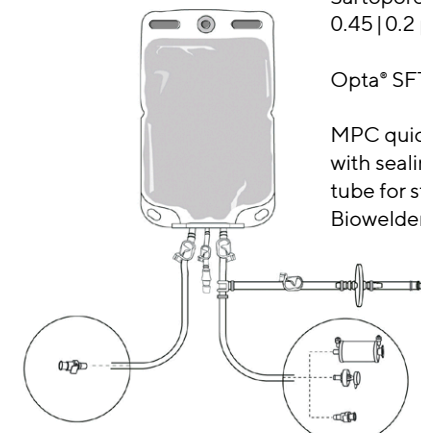
Inlet Line

Test line with Midisart® BV 0.2 µm filter and 3/4" Tri-Clamp

Sartopore® Platinum 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



Leak Test Line

- 1/4" x 3/8" Clear C-Flex® 300 mm (12") + Midisart® BV 0.2 µm + 1/4" ID Silicone Tuflux® 100 mm (4") + 3/4" Tri-Clamp with gasket, cap & union

¹ Inlet tubing line from end line to bag: 3/8" x 5/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line: 3/8" x 5/8" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Drug Substances

Drug Substance Purification

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Sterile Weld to Downstream Systems

			Inlet ¹	Outlet ²		
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130076	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7		
	FLS130092	8	3/8" Opta® SFT female	NA		
	FLS130089	8	3/8" MPC female + sealing cap		3/8" x 5/8" C-Flex® + 3/8" MPC male + sealing cap	1/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
50 L	FLS130170	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7		
	FLS130180	8	3/8" Opta® SFT female	NA		
	FLS130178	8	3/8" MPC female + sealing cap			

Outlet Line

C-Flex® tube with MPC sealing cap for sterile weld with Biowelder® TC

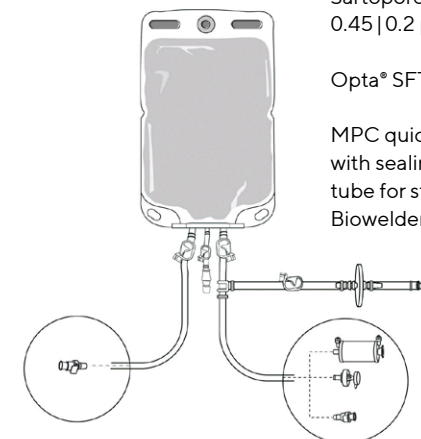
Inlet Line

Test line with Midisart® BV 0.2 µm filter and 3/4" Tri-Clamp

Sartopore® Platinum 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



Leak Test Line

- 1/4" x 3/8" Clear C-Flex® 300 mm (12") + Midisart® BV 0.2 µm + 1/4" ID Silicone Tuflux® 100 mm (4") + 3/4" Tri-Clamp with gasket, cap & union

¹ Inlet tubing line from end line to bag: 3/8" x 5/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line: 3/8" x 5/8" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Drug Substances

Drug Substance Purification

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130167	16	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 4		
	FLS130179	16	3/8" Opta® SFT female	NA		
	FLS130177	16	3/8" MPC female + sealing cap			
5 L	FLS130072	16	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 4		
	FLS130090	16	3/8" Opta® SFT female	NA		
	FLS130087	16	3/8" MPC female + sealing cap			
10 L	FLS130075	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7		
	FLS130091	8	3/8" Opta® SFT female	NA		
	FLS130088	8	3/8" MPC female + sealing cap			

Outlet Line

MPC quick coupler male & female with cap for sanitary or aseptic connection

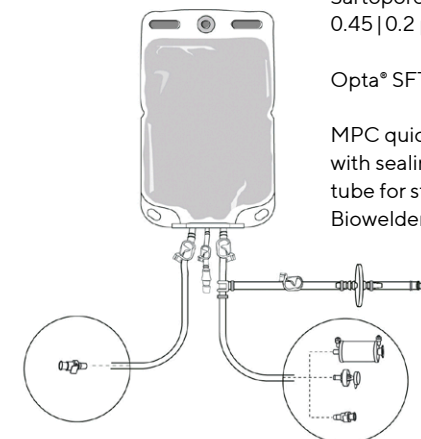
Inlet Line

Test line with Midisart® BV 0.2 µm filter and 3/4" Tri-Clamp

Sartopore® Platinum 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



Leak Test Line

- 1/4" x 3/8" Clear C-Flex® 300 mm (12") + Midisart® BV 0.2 µm + 1/4" ID Silicone Tuflux® 100 mm (4") + 3/4" Tri-Clamp with gasket, cap & union

¹ Inlet tubing line from end line to bag: 3/8" x 5/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line: 3/8" x 5/8" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Drug Substances

Drug Substance Purification

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Quick Coupler Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130076	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7		
	FLS130092	8	¾" Opta® SFT female	NA		
	FLS130089	8	¾" MPC female + sealing cap		¾" x ⅝" C-Flex® + ¾" MPC male + sealing cap	¼" ID Silicone Tuflux® 100 mm (4")
50 L	FLS130170	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7		+ Luer Lock female + Clave connector
	FLS130180	8	¾" Opta® SFT female	NA		
	FLS130178	8	¾" MPC female + sealing cap			

Outlet Line

MPC quick coupler male & female with cap for sanitary or aseptic connection

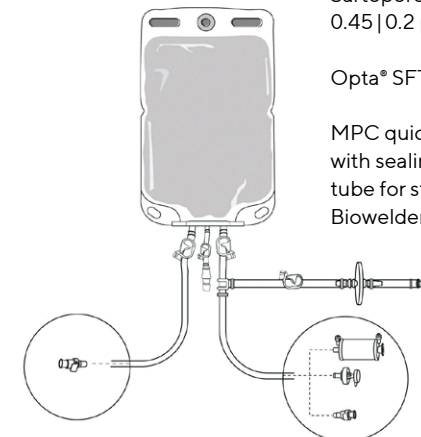
Inlet Line

Test line with Midisart® BV 0.2 µm filter and ¾" Tri-Clamp

Sartopore® Platinum 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



Leak Test Line

- ¾" x ⅝" Clear C-Flex® 300 mm (12") + Midisart® BV 0.2 µm + ¼" ID Silicone Tuflux® 100 mm (4") + ¾" Tri-Clamp with gasket, cap & union

¹ Inlet tubing line from end line to bag: ¾" x ⅝" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line: ¾" x ⅝" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Drug Substances

Drug Substance Purification

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Tri-Clamp Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
3 L	FLS130168	16	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 4		
	FLS130175	16	¾" Opta® SFT female	NA		
	FLS130173	16	¾" MPC female + sealing cap			
5 L	FLS130073	16	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 4	¾" Tri-Clamp	½" ID Silicone Tuflux® 100 mm (4")
	FLS130084	16	¾" Opta® SFT female	NA	¾" sanitary flange with gasket, cap & union	+ Luer Lock female
	FLS130081	16	¾" MPC female + sealing cap			+ Clave connector
10 L	FLS130077	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7		
	FLS130085	8	¾" Opta® SFT female	NA		
	FLS130082	8	¾" MPC female + sealing cap			

Outlet Line

Tri-Clamp flange for sanitary or aseptic connection

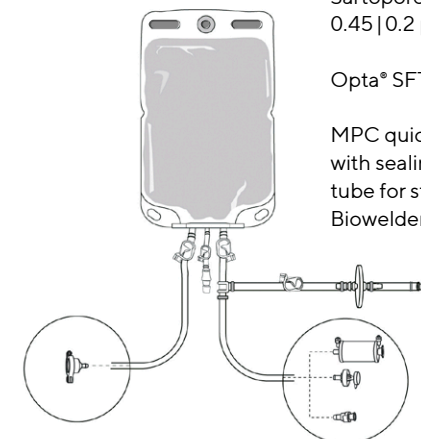
Inlet Line

Test line with Midisart® BV 0.2 µm filter and ¾" Tri-Clamp

Sartopore® Platinum 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



Leak Test Line

- ¾" x ¾" Clear C-Flex® 300 mm (12")
- + Midisart® BV 0.2 µm
- + ¼" ID Silicone Tuflux® 100 mm (4")
- + ¾" Tri-Clamp with gasket, cap & union

¹ Inlet tubing line from end line to bag:
¾" x ¾" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ¾" Tuflux® SIL 300 mm (12")

Flexsafe® 2D Pre-Designed Solutions for Drug Substances

Drug Substance Purification

Sterile Connection to Downstream Systems

Sterile Connection
Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection
Tri-Clamp Connection

Tri-Clamp Connection to Downstream Systems

			Inlet ¹		Outlet ²	Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line	Sampling line
20 L	FLS130078	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7		
	FLS130086	8	¾" Opta® SFT female	NA		
	FLS130083	8	¾" MPC female + sealing cap		¾" Tri-Clamp ¾" sanitary flange	½" ID Silicone Tuflux® 100 mm (4")
50 L	FLS130171	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	with gasket, cap & union	+ Luer Lock female + Clave connector
	FLS130176	8	¾" Opta® SFT female	NA		
	FLS130174	8	¾" MPC female + sealing cap			

Outlet Line

Tri-Clamp flange for sanitary or aseptic connection

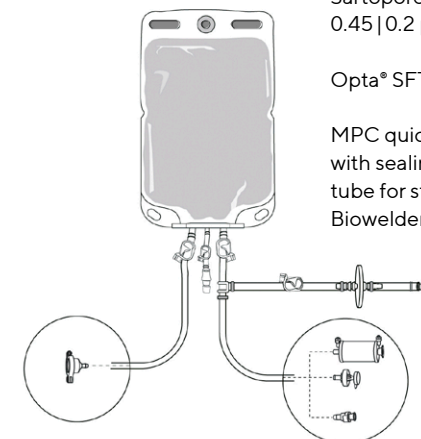
Inlet Line

Test line with Midisart® BV 0.2 µm filter and ¾" Tri-Clamp

Sartopore® Platinum 0.45 | 0.2 µm

Opta® SFT female

MPC quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC



Leak Test Line

- ¾" x ¾" Clear C-Flex® 300 mm (12") + Midisart® BV 0.2 µm + ¾" ID Silicone Tuflux® 100 mm (4") + ¾" Tri-Clamp with gasket, cap & union

¹ Inlet tubing line from end line to bag: ¾" x ¾" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line: ¾" x ¾" Tuflux® SIL 300 mm (12")

Flexsafe® 3D Pre-Designed Solutions for Drug Substance Filtration, Storage and Shipping

Drug Substance Purification

Sterilizing Filtration between Purification Steps

Drug Substance Storage and Shipping

Drug Substance Transfer

Sterile Connection to Downstream Systems

Sanitary or Aseptic Connection to Downstream Systems

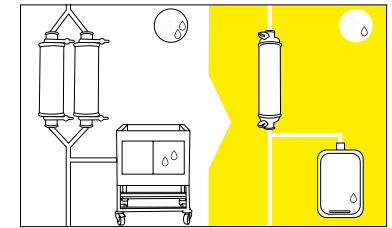
Sterile Connection

Sterile Weld

Quick Coupler Connection

Tri-Clamp Connection

Sartopore® Platinum reduce by ten times the wetting volumes for integrity testing



2 × 20" Filters |
1 × 200 L Flushing Tank

1 × 20" Sartopore® Platinum |
1 × 20 L Flushing Bag

Flexsafe® PDS for drug substance feature the Sartopore® Platinum 0.45 | 0.2 µm with exceptional throughput, flowrate and wetting performances for a cheaper and faster filtration process. The outstanding wetting properties of the modified membrane reduce by ten times the flushing volumes required prior to integrity testing and eliminate retesting due to insufficient wetting.

Flexsafe® 3D bags without filters are also available for sterile connection to alternative Sartopore® filter transfer set using Opta® ½" or welding with Biowelder® TC. Sartopore® filters can be disconnected for post-use integrity testing with sterile seal using Biosealer®.

Inlet and outlet lines are made of C-Flex® + Silicone Tuflux® for welding, sealing and pumping.

Flexsafe® 3D Bags allow for sterile drug substance transfer to most common single-use and stainless steel downstream purification systems after the cross-flow step with a variety of sterile connections.

Inlet Line

Sterilizing-grade filtration between purification steps

- Sartopore® Platinum 0.45 | 0.2 µm for efficient wetting and integrity testing

Connection for alternative filter transfer set

- Opta® SFT female
- C-Flex® tube for sterile weld with Biowelder® TC
- MPX quick coupler female

Sampling

- Needleless sampling port

Test line for Point of use leak test

- C-Flex® for sterile weld with Biowelder® TC
- Sartopore® Air Filter size 7 keeps the sterility of the 3D bag during testing and filling

Outlet Line

Connection and transfer by pumping or gravity

- Opta® SFT male for sterile connection
- C-Flex® with MPX plug for sterile weld to single-use system
- MPX Quick couplers for sanitary or aseptic connection to single-use system
- Tri-Clamp flange for sanitary or aseptic connection to stainless steel system



Flexsafe® 3D Pre-Designed Solutions for Drug Substance Filtration, Storage and Shipping in Palletank®

Drug Substance Purification

Sterile Connection to Downstream Systems

Sterile Connection Sterile Weld

Sanitary or Aseptic Connection to Downstream Systems

Quick Coupler Connection Tri-Clamp Connection

Sterile Connection to Downstream Systems

			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
100 L	FIS126792	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	
	FIS301530	3	½" Opta® SFT female	NA	
	FIS301531	3	MPX female + sealing cap		
200 L	FIS126793	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 8	
	FIS301535	3	½" Opta® SFT female	NA	½" Opta® SFT male
	FIS301536	3	MPX female + sealing cap		
500 L	FIS126794	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 9	
	FIS301542	3	½" Opta® SFT female	NA	
	FIS301543	3	MPX female + sealing cap		

¹ Inlet tubing line from end line to bag: ½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line: ½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

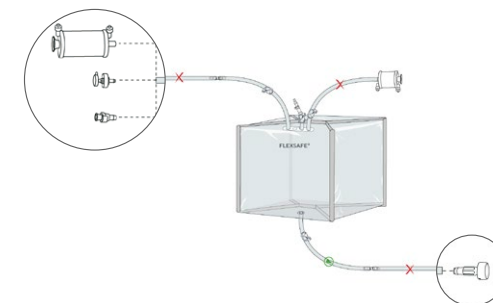
Sartopore® Platinum 0.45 | 0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

Test line with Sartopore® Air filter 0.2 µm allowing the connection to the Sartocheck® 4 + bag tester up to 500 L

Opta® SFT male for sterile connection



Leak Test Line

- ½" x ¾" Clear C-Flex® 1,500 mm (59") + Sartopore® Air filter 0.2 µm size 7 (Inlet 1½" tri-clamp) up to 500 L



Flexsafe® 3D Pre-Designed Solutions for Drug Substance Filtration, Storage and Shipping in Palletank®

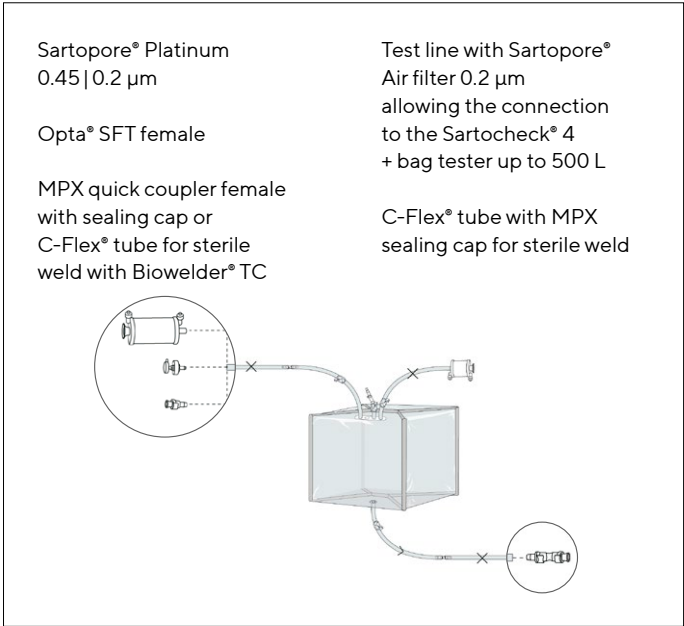
Drug Substance Purification

Sterile Connection to Downstream Systems

Sanitary or Aseptic Connection to Downstream Systems

Sterile Connection Sterile Weld

Quick Coupler Connection Tri-Clamp Connection



Sterile Weld to Downstream Systems

			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
100 L	FIS126788	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	
	FIS301532	3	½" Opta® SFT female	NA	
	FIS300131	3	MPX female + sealing cap		
200 L	FIS126789	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 8	½" x ¾" C-Flex® + MPX male + MPX double female + sealing cap
	FIS301537	3	½" Opta® SFT female	NA	
	FIS300132	3	MPX female + sealing cap		
500 L	FIS126790	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 9	
	FIS301544	3	½" Opta® SFT female	NA	
	FIS300133	3	MPX female + sealing cap		

¹ Inlet tubing line from end line to bag: ½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line: ½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

C-Flex® is a registered trademark of Saint-Gobain Performance Plastics Corporation.



Flexsafe® 3D Pre-Designed Solutions for Drug Substance Filtration, Storage and Shipping in Palletank®

Drug Substance Purification

**Sterile Connection
to Downstream Systems**

**Sterile Connection
Sterile Weld**

**Sanitary or Aseptic Connection
to Downstream Systems**

**Quick Coupler Connection
Tri-Clamp Connection**

Quick Coupler Connection to Downstream Systems

			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
100 L	FIS126788	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	
	FIS301532	3	½" Opta® SFT female	NA	
	FIS300131	3	MPX female + sealing cap		
200 L	FIS126789	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 8	½" x ¾" C-Flex® + MPX male + MPX double female + sealing cap
	FIS301537	3	½" Opta® SFT female	NA	
	FIS300132	3	MPX female + sealing cap		
500 L	FIS126790	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 9	
	FIS301544	3	½" Opta® SFT female	NA	
	FIS300133	3	MPX female + sealing cap		

¹ Inlet tubing line from end line to bag: ½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line: ½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

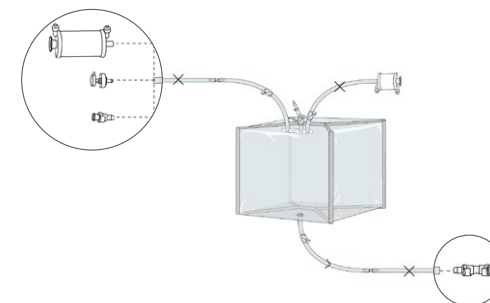
Sartopore® Platinum
0.45 | 0.2 µm

Opta® SFT female

MPX quick coupler female
with sealing cap or
C-Flex® tube for sterile
weld with Biowelder® TC

Test line with Sartopore®
Air filter 0.2 µm
allowing the connection
to the Sartocheck® 4
+ bag tester up to 500 L

MPX quick coupler male &
female with cap for sanitary
or aseptic connection



Flexsafe® 3D Pre-Designed Solutions for Drug Substance Filtration, Storage and Shipping in Palletank®

Drug Substance Purification

Sterile Connection to Downstream Systems

**Sterile Connection
Sterile Weld**

Sanitary or Aseptic Connection to Downstream Systems

**Quick Coupler Connection
Tri-Clamp Connection**

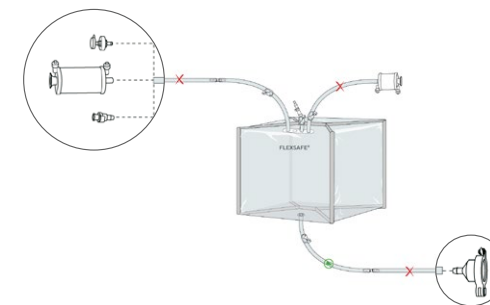
Sartopore® Platinum
0.45 | 0.2 µm

Opta® SFT female

MPX quick coupler female with sealing cap or C-Flex® tube for sterile weld with Biowelder® TC

Test line with Sartopore® Air filter 0.2 µm allowing the connection to the Sartocheck® 4 + bag tester up to 500 L

Tri-Clamp flange for sanitary or aseptic connection



Tri-Clamp Connection to Downstream Systems

			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
100 L	FIS126780	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	½" Tri-Clamp 1½" sanitary flange with gasket, cap & union
	FIS301533	3	½" Opta® SFT female	NA	
	FIS301534	3	MPX female + sealing cap		
200 L	FIS126781	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 8	½" Tri-Clamp 1½" sanitary flange with gasket, cap & union
	FIS301538	3	½" Opta® SFT female	NA	
	FIS301539	3	MPX female + sealing cap		
500 L	FIS126782	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 9	½" Tri-Clamp 1½" sanitary flange with gasket, cap & union
	FIS301545	3	½" Opta® SFT female	NA	
	FIS301546	3	MPX female + sealing cap		

¹ Inlet tubing line from end line to bag: ½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line: ½" ID Silicone Tuflux® 1,5 m (60")



Flexsafe® 2D Pre-Designed Solutions for Drug Product Formulation

Drug Product Formulation

Sterilizing Filtration

Drug Product Storage

Drug Product Transfer

Sterile Connection to Final Filling

Sterile Connection Sterile Weld

Flexsafe® 2D advanced solutions for drug product feature the Sartopore® Platinum 0.45 | 0.2 µm. The outstanding wetting properties of the modified membrane reduce by ten times the flushing volumes and facilitate pre-use filter integrity testing.

Flexsafe® 2D bags without filters are also available for sterile connection to alternative Sartopore® filter line using Opta® or welding with Biowelder® TC.

Sartopore® filters can be disconnected for post-use integrity testing using Biosealer®.

Inlet and outlet lines are made of Silicone Tuflux® or C-Flex® tubings for welding and sealing.

Test line with Midisart® BV 0.2 µm filter is installed on the inlet line to allow sterile point of use leak testing using the Flexact® BT.

Flexsafe® 2D bags allow for sterile drug product transfer to most common single-use and stainless steel final filling systems.

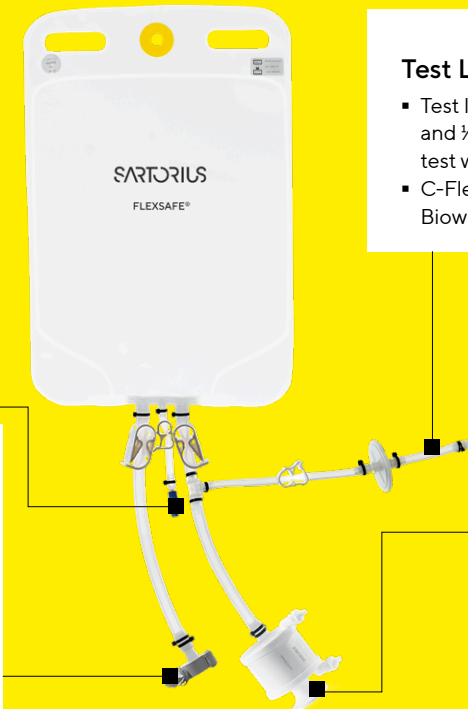
Opta® SFT allows for sterile connection to our Biosafe® Raft products for liquid transfer to the final filling area.

Sampling

- Clave needleless sampling port

Outlet Line

- Connection and transfer by pumping or gravity
- Opta® SFT male for sterile connection
 - C-Flex® tube for sterile weld with Biowelder® TC
 - MPC quick coupler male & cap for sanitary or aseptic connection to single-use systems
 - Tri-Clamp flange for sanitary or aseptic connection to stainless steel systems



Test Line for Flexact® BT

- Test line with Midisart® BV 0.2 µm filter and ¼" Tri-Clamp for point of use leak test with Flexact® BT
- C-Flex® tube for sterile weld with Biowelder® TC

Inlet Line

Sterilizing Filtration

- Sartopore® Platinum 0.45 | 0.2 µm

Connections for Alternative Filter Line

- Opta® SFT female C-Flex® tube for sterile weld with Biowelder® TC
- MPC quick coupler female

Flexsafe® 2D Pre-Designed Solutions for Drug Substances

Drug Product Formulation

Sterile Connection to Final Filling

Sterile Connection Sterile Weld

Sterile Connection to Final Formulation & Filling

Inlet ¹			Outlet ²		Sampling
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on draining line
3 L	FLS130185	16	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 4	¾" Opta® SFT male
	FLS130187	16	¾" Opta® SFT female	NA	
5 L	FLS130099	16	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 4	
	FLS130102	16	¾" Opta® SFT female	NA	
10 L	FLS130100	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	
	FLS130103	8	¾" Opta® SFT female	NA	
20 L	FLS130101	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	
	FLS130104	8	¾" Opta® SFT female	NA	
50 L	FLS130186	8	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	
	FLS130188	8	¾" Opta® SFT female	NA	

Outlet Line

Opta® SFT male for sterile connection to final filling

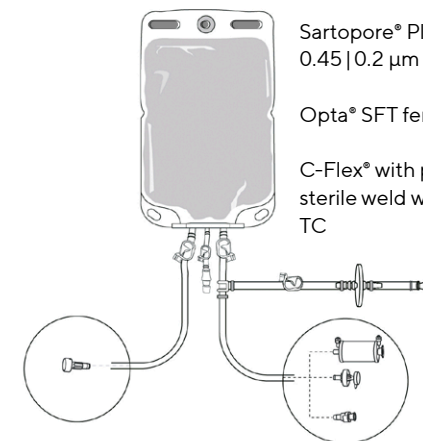
Inlet Line

Test line with Midisart® BV 0.2 µm filter and ¾" Tri-Clamp

Sartopore® Platinum 0.45|0.2 µm

Opta® SFT female

C-Flex® with press-in-plug for sterile weld with Biowelder® TC



Leak Test Line

- ¾" x ¾" Clear C-Flex® 300 mm (12")
- + Midisart® BV 0.2 µm
- + ¼" ID Silicone Tuflux® 100 mm (4")
- + ¾" Tri-Clamp with gasket, cap & union

¼" ID Silicone Tuflux® 100 mm (4")
+ Luer Lock female
+ Clave connector

¹ Inlet tubing line from end line to bag:
¾" x ¾" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
¾" x ¾" Clear C-Flex® 500 mm (20")

Flexsafe® 2D Pre-Designed Solutions for Drug Substances

Drug Product Formulation

Sterile Connection to Final Filling

Sterile Connection to Sterile Weld

Sterile Weld to Final Formulation & Filling

			Inlet ¹	Outlet ²	Sampling
Bag volume	Part number	Units per box	Distal connector on filling line	Distal connector on draining line	Sampling line
3 L	FLS130189	16	3/8" ID C-Flex® + 3/8" press-in-plug	3/8" ID C-Flex® + 3/8" press-in-plug	3/4" ID Silicone Tuflux® 100 mm (4") + Luer Lock female + Clave connector
5 L	FLS130105	16	3/8" ID C-Flex® + 3/8" press-in-plug		
10 L	FLS130106	8	3/8" ID C-Flex® + 3/8" press-in-plug		
20 L	FLS130107	8	3/8" ID C-Flex® + 3/8" press-in-plug		
50 L	FLS130190	8	3/8" ID C-Flex® + 3/8" press-in-plug		

Outlet Line

C-Flex® with press-in-plug for sterile weld with Biowelder® TC

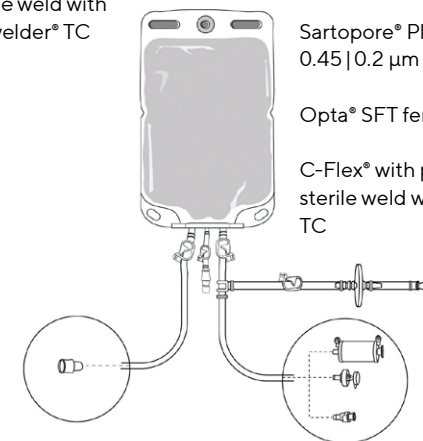
Inlet Line

Test line with Midisart® BV 0.2 µm filter and 3/4" Tri-Clamp

Sartopore® Platinum 0.45 | 0.2 µm

Opta® SFT female

C-Flex® with press-in-plug for sterile weld with Biowelder® TC



Leak Test Line

- 1/4" x 3/8" Clear C-Flex® 300 mm (12")
+ Midisart® BV 0.2 µm
+ 1/4" ID Silicone Tuflux® 100 mm (4")
+ 3/4" Tri-Clamp with gasket, cap & union

¹ Inlet tubing line from end line to bag:
3/8" x 3/8" Clear C-Flex® 500 mm (20") + Clipster® in a separate pouch

² Outlet tubing line from bag to end line:
3/8" x 3/8" Clear C-Flex® 500 mm (20")

Flexsafe® 3D Pre-Designed Solutions for Drug Product Filtration, Storage and Filling

Drug Product Formulation

Sterilizing Filtration

Drug Product Storage

Drug Product Transfer

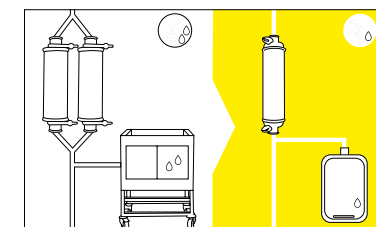
Sterile Connection to Final Filling

Sterile Connection

Sterile Weld

Aseptic Transfer to an Isolator

Sartopore® Platinum reduce by ten times the wetting volumes for integrity testing



2×20" Filters |
1×200 L Flushing Tank

1×20" Sartopore® Platinum |
1×20 L Flushing Bag

Flexsafe® 3D advanced solutions for drug product feature the Sartopore® Platinum 0.45 | 0.2 µm. The outstanding wetting properties of the modified membrane reduce by ten times the flushing volumes and facilitate pre-use filter integrity testing.

Flexsafe® 3D bags without filters are also available for sterile connection to alternative Sartopore® filter transfer set using Opta® ½" or welding with Biowelder® TC. Sartopore® filters can be disconnected for post-use integrity testing using Biosealer®.

Inlet and outlet lines are made of C-Flex® + Silicone Tuflux® for welding, sealing and pumping.

Flexsafe® 3D Bags allow for sterile drug product transfer to most common single-use and stainless steel final filling systems.

Opta® SFT allows for sterile connection to our Biosafe® Raft products for liquid transfer to the final filling area.

C-Flex® is a registered trademark of Saint-Gobain Performance Plastics Corporation.

Inlet Line

Sterilizing-grade filtration from formulation mixer

- Sartopore® Platinum 0.45 | 0.2 µm for efficient wetting and integrity testing

Connection for alternative filter transfer set

- Opta® SFT female
- C-Flex® tube for sterile weld with Biowelder® TC

Sampling

- Needleless sampling port

Test line for Point of use leak test

- C-Flex® for sterile weld with Biowelder® TC
- Sartopore® Air Filter size 7 keeps the sterility of the 3D bag during testing and filling

Outlet Line

Connection and transfer by pumping

- Opta® SFT male for sterile connection
- C-Flex® with quick coupler and plug for sterile welding to single-use system

Every production batch of Flexsafe® 3D Bags for drug product are tested for bioburden, particles and endotoxins.



Flexsafe® 3D Pre-Designed Solutions for Drug Product Filtration and Storage in Palletank®



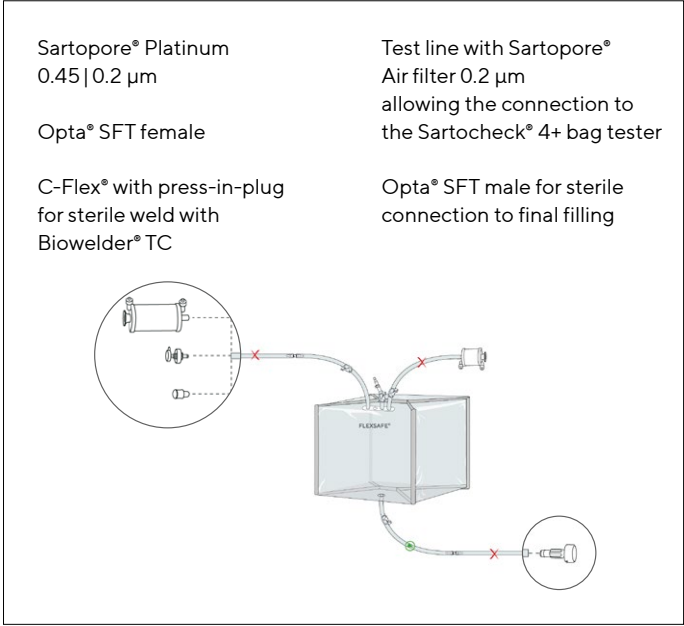
Sterile Connection to Final Filling

			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on outlet line
100 L	FIS127157	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	½" Opta® SFT male
	FIS126819	3	½" Opta® SFT female	NA	
	FIS126821	3	Press in plug		
200 L	FIS127158	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 8	½" Opta® SFT male
	FIS301540	3	½" Opta® SFT female	NA	
	FIS126822	3	Press in plug		

¹ Inlet tubing line from end line to bag: ½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line: ½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

C-Flex® is a registered trademark of Saint-Gobain Performance Plastics Corporation.



Leak Test Line

- ½" x ¾" Clear C-Flex® 1,500 mm (59") + Sartopore® Air filter 0.2 µm size 7 (Inlet 1½" tri-clamp)

Flexsafe® 3D Pre-Designed Solutions for Drug Product Filtration and Storage in Palletank®

Drug Product Formulation

Sterile Connection to Final Filling

Sterile Connection
Sterile Weld
Aseptic Transfer to an Isolator

Sterile Weld to Final Filling

			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on outlet line
100 L	FIS126879	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	
	FIS126823	3	½" Opta® SFT female	NA	
	FIS126825	3	Press in plug		½" x ¾" C-Flex®
200 L	FIS126880	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 8	+ Press-in-plug
	FIS126824	3	½" Opta® SFT female	NA	
	FIS126826	3	Press in plug		

¹ Inlet tubing line from end line to bag: ½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line: ½" ID Silicone Tuflux® 1 m (40") + ½" x ¾" Clear C-Flex® 0.5 m (20")

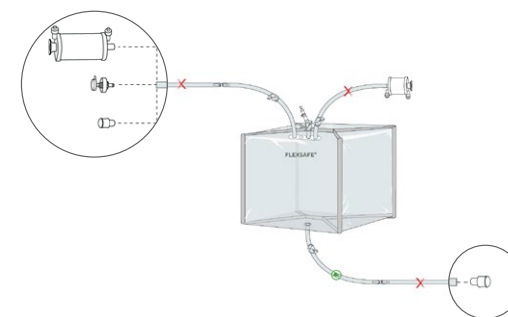
Sartopore® Platinum
0.45 | 0.2 µm

Opta® SFT female

C-Flex® with press-in-plug
for sterile weld with
Biowelder® TC

Test line with Sartopore®
Air filter 0.2 µm
allowing the connection to
the Sartocheck® 4+ bag tester

C-Flex® with press-in-plug
for sterile weld with
Biowelder® TC



Leak Test Line

- ½" x ¾" Clear C-Flex® 1,500 mm (59")
+ Sartopore® Air filter 0.2 µm size 7
(Inlet 1½" tri-clamp)



Flexsafe® 3D Pre-Designed Solutions for Drug Product Filtration and Storage in Palletank®

Drug Product Formulation

Sterile Connection to Final Filling

Sterile Connection

Sterile Weld

Aseptic Transfer to an Isolator

Sterile Connection to an Isolator for Final Filling

			Inlet ¹	Outlet ²	
Bag volume	Part number	Units per box	Filter or distal connector on filling line	Filter type and size	Distal connector on outlet line
100 L	FIS126817	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	¾" GammaSart® for aseptic transfer in isolator
	FIS126827	3	½" Opta® SFT female	NA	
	FIS126829	3	Press in plug		
200 L	FIS126818	2	Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 8	¾" GammaSart® for aseptic transfer in isolator
	FIS126828	3	½" Opta® SFT female	NA	
	FIS301541	3	Press in plug		

¹ Inlet tubing line from end line to bag: ½" x ¾" Clear C-Flex® 0.5 m (20") + ½" ID Silicone Tuflux® 1 m (40")

² Outlet tubing line from bag to end line: ¾" ID Clear C-Flex® 0.5 m (20") + ½" x ¾" Silicone Tuflux® 2 m (80")

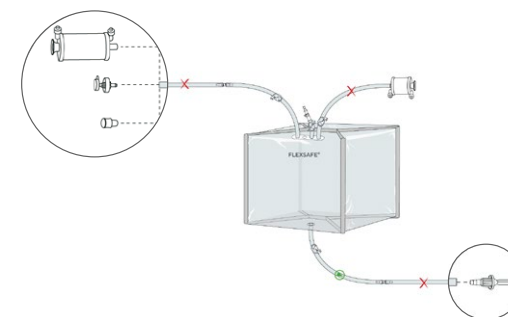
Sartopore® Platinum
0.45|0.2 µm

Opta® SFT female

C-Flex® with press-in-plug
for sterile weld with
Biowelder® TC

Test line with Sartopore®
Air filter 0.2 µm
allowing the connection to
the Sartocheck® 4+ bag tester

GammaSart® sterile
connection for aseptic
transfer to an isolator



Leak Test Line

- ½" x ¾" Clear C-Flex® 1,500 mm (59")
+ Sartopore® Air filter 0.2 µm size 7
(Inlet 1½" tri-clamp)



Sampling in Flexsafe® 2D Bags

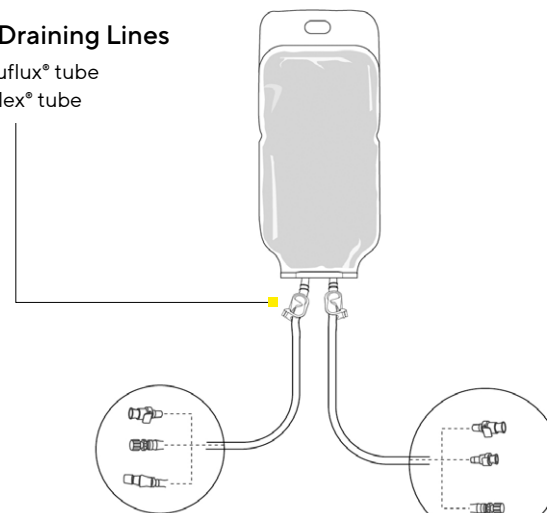
Bag Volume	Part Number	Units per box	Inlet ¹	Outlet ¹
			Distal Connector on Filling Line	Distal Connector on Draining Line
20 mL	FLS130111	20	¼" MPC male + sealing cap	¼" MPC male + sealing cap
50 mL	FLS130112	20		
150 mL	FLS130000	20		
250 mL	FLS130001	20		
500 mL	FLS130002	20		
1,000 mL ²	FLS130123	20	¼" MPC female + sealing cap	¼" MPC male + sealing cap
3,000 mL ²	FLS130124	16		
20 mL	FLS130113	20		
50 mL	FLS130114	20		
150 mL	FLS130003	20		
250 mL	FLS130004	20	¼" MPC female + sealing cap	Luer Lock female + Clave connector
500 mL	FLS130005	20		
1,000 mL ²	FLS130125	20		
3,000 mL ²	FLS130126	16		
20 mL	FLS130115	20	Luer Lock female + cap	Luer Lock female + Clave connector
50 mL	FLS130116	20		
150 mL	FLS130006	20		
250 mL	FLS130007	20		
500 mL	FLS130008	20		
20 mL	FLS130117	20	Luer Lock female + Clave connector	
50 mL	FLS130118	20		
150 mL	FLS130009	20		
250 mL	FLS130010	20		
500 mL	FLS130011	20		

Flexsafe® 2D pre-designed solutions for sampling are designed to easily take samples across all your process steps.

Flexsafe® 2D pre-designed solutions allow for sanitary sampling through usual connectors or aseptic sampling when the connection is performed under laminar air flow conditions.

Filling or Draining Lines

- Silicone Tuflux® tube
- Clear C-Flex® tube



Inlet or Outlet Connections

- MPC quick coupler male or female
- Luer lock male or female
- Luer lock and needleless sampling port

¹ Inlet and outlet tubing: ¼" × ⅜" Silicone 150 mm (6")

² Third line with Silicone tubing and needleless Clave connecteur for 1 L and 3 L bags

Sampling in Flexsafe® 2D Bags

			Inlet ¹	Outlet ¹
Bag Volume	Part Number	Units per box	Distal Connector on Filling Line	Distal Connector on Draining Line
20 mL	FLS130119	20	Luer Lock female + cap	Luer Lock male + cap
50 mL	FLS130120	20		
150 mL	FLS130012	20		
250 mL	FLS130013	20		
500 mL	FLS130014	20		
1,000 mL ²	FLS130127	20		
3,000 mL ²	FLS130128	16		

¹ Inlet and outlet tubing: ¼" × ⅜" Silicone 150 mm (6")

² Third line with Silicone tubing and needleless Clave connecteur for 1L and 3L bags

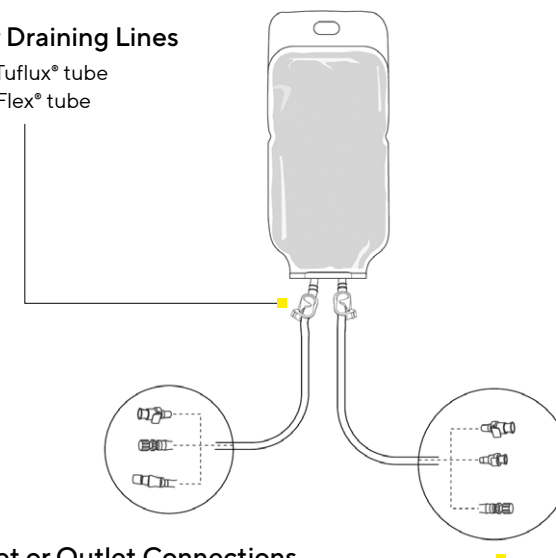
			Inlet ²	Outlet ²
Bag Volume	Part Number	Units per box	Distal Connector on Filling Line	Distal Connector on Draining Line
20 mL	FLS130121	10	¼" MPC female + sealing cap	¼" MPC male + sealing cap
50 mL	FLS130122	10		
150 mL	FLS130015	10		
250 mL	FLS130016	10		
500 mL	FLS130017	10		
1,000 mL ³	FLS130129	10		
3,000 mL ³	FLS130130	16		

² Inlet and outlet tubing: ¼" × ⅜" Clear C-Flex® 500 mm (20")

³ Third line with Silicone tubing and needleless Clave connecteur for 1L and 3L bags

Filling or Draining Lines

- Silicone Tuflux® tube
- Clear C-Flex® tube



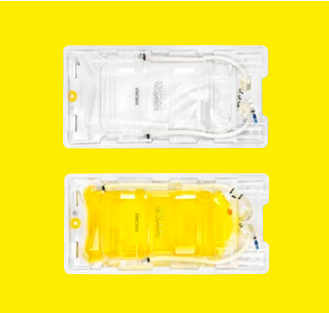
Inlet or Outlet Connections

- MPC quick coupler male or female
- Luer lock male or female
- Luer lock and needleless sampling port

Flexsafe® 2D Bags in Shell for Robust Liquid Handling and Shipping

The Outstanding Strength & Flexibility of Flexsafe® Bags Provide Safe & Reliable Liquid Handling & Shipping

Filling Site: Flexsafe® Shipping System
5 L, 10 L & 20 L



User site



Bag Volume	Part Number	Units per box	Description	Inlet ¹	Outlet
				Distal Connector on Filling Line	Distal Connector on Draining Line
5 L	FLS303106	2	Flexsafe® 5 L (Shell, MPC, TC)	¾" MPC female + sealing cap	Tri-clamp ¾" flange with gasket, union & cap ²
10 L	FLS303108	2	Flexsafe® 10 L (Shell, MPC, LT MPC) ³		¾" MPC male + sealing cap ¹
10 L	FLS303107	1	Flexsafe® 10 L (Shell, MPC, TC)		Tri-clamp ¾" flange with gasket, union & cap ²
10 L	FLS303109	1	Flexsafe® 10 L (Shell, MPC, LT MPC) ³		¾" MPC male + sealing cap ¹
20 L	FLS303814	1	Flexsafe® 20 L (Shell, MPC, TC)		Tri-clamp ¾" flange with gasket, union & cap ²
20 L	FLS303815	1	Flexsafe® 20 L (Shell, MPC, LT MPC) ³		¾" MPC male + sealing cap ¹

¹ Inlet & outlet tubing: ¾" Clear C-Flex® 500 mm (20"). Third line with Silicon tubing & needleless clave connector. | 2 Outlet tubing: ¾" Silicone TuFlux® 500 mm (20")

³ Leak Test Line: ¼" × ¾" Clear C-Flex® 300 mm (12") + Midisart® BV 0.2 µm + ¼" ID Silicone TuFlux® 100 mm (4") + ¾" Tri-Clamp with gasket, cap & union

Flexsafe® 2D Bags in Shell for Robust Liquid Handling and Shipping

Shippers & Standalone Shells

Bag Volume	Part Number	Units per box	Description
5 L	FLA302721	10 units shippers 20 units PE overpouches	Standard Shipper for 5 L shell with double PE overpouches per shipper
10 L	FLA300318	10 units shippers 20 units PE overpouches	Standard Shipper for 10 L shell with double PE overpouches per shipper
5 L	FLA302701	5 top + 5 bottom	Standard Shell 5 L 2D bag handling
10 L	FLA300213	5 top + 5 bottom	Standard Shell 10 L 2D bag handling
20 L	FLA302723	7 units shippers 15 units overpouches	Standard Shipper for 20 L shell with double PE overpouches per shipper
20 L	FLA302706	5 top + 5 bottom	Standard Shell 20 L 2D bag handling



Point-of-Use Integrity Test for Flexsafe® 2D Bags

Current regulatory standards and associated guidelines have been moving quickly in the past few years and continue to evolve towards increased patient safety. The most recent up-date of the GMP Annex 1: Manufacture of sterile products issued in draft in 2020 provides “general guidance that should be used for the manufacture of all sterile products using the principles of Quality Risk Management (QRM), to ensure that microbial, particulate and pyrogen contamination is prevented in the final product.” The risk of holes or leakages induced by implementation of single-use systems in bioprocessing has to be addressed into the process risk analysis as part of the contamination control strategy (CCS) and has to be mitigated by appropriate controls and | or validation steps. Point-of-Use Integrity test is the post installation test providing assurance of bag integrity right before filling.

Safe

- The precision of Sartochek 4 + bag tester allows adequate integrity testing just before filling the 2D or 3D bags
- The test is performed through a sterilizing vent filter (Midisart® BV or Sartopore® Air) to maintain the bag sterility therefore ensuring patient safety.

Reliable

- For the Flexsafe® 2D bags, the restraining plates reduce heat transfers, maintain a small inflation volume and allow a high test pressure for a sensitivity of 30 µm
- For Flexsafe® 3D bags, the test performed in the Palletank® provides a sensitivity of 100 to 200 µm.
- The porous spacers between plates avoid any potential masking effect
- The leak detection is validated thanks to validation study done with extensive tests, a differentiation of defective bags based on with 6 sigma confidence interval (see graph on the right)

Fast & Easy to Use

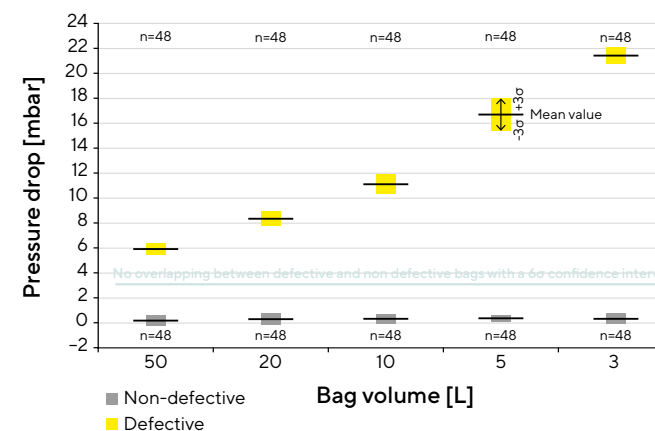
- The well-known ASTM F2095-07 standard pressure decay leak test at point of use and the well-established Sartochek® technology make it easy to implement – The restraining plates allow a small inflation volume thus reduce the total test time to less than 10 minutes
- The 3D bags are tested in their container, avoiding any further handling before filling
- The MultiUnit tester option increases test productivity by testing two 2D bags simultaneously and allows filter integrity testing

Easy to Validate

- A robust validation of the test parameters and specifications makes the validation approach at user site easy
- A strong on-site IQ, OQ, PQ, SOP development and operator training ease the validation documentation process at user site



Validation study of Flexsafe® 2D | 240 s stabilization time | 180 s test time



Point-of-Use Leak Test for Flexsafe® 3D Bags

With the evolution of current regulations, bioprocessing bags which are part of the drug manufacturing process are under increased regulatory scrutiny. To avoid contamination risks and to mitigate commercial loss, bioprocessing bags have to be safe and leak proof. This is why the risk of holes or leakages induced by implementation of single-use systems in bioprocessing has to be addressed into the process risk analysis as part of the contamination control strategy (CCS) and has to be mitigated by appropriate controls and | or validation steps. Point-of-Use Integrity test is the post installation test providing assurance of bag integrity right before filling.

Safe

- The precision of Sartocheck 4 + bag tester allows adequate integrity testing just before filling the 3D bags
- The test is performed through a sterilizing vent filter (Sartopore® Air) to maintain the bag sterility therefore ensuring patient safety

Reliable

- For Flexsafe® 3D bags, the test performed in the Palletank® provides a leak test sensitivity of 100 to 200 µm.
- The porous spacers between plates avoid any potential masking effect
- The leak detection is validated through extensive tests with a differentiation of defective bags based on with 6 sigma confidence interval.

Fast & Easy to Use

- The well-known ASTM F2095-07 standard pressure decay leak test at point of use and the well-established Sartocheck® technology make it easy to implement
- The Sartocheck® Fast Filling Kit allows to save up to 15 minutes of test for 3D bags
- The MultiUnit tester option increases test productivity by testing two 2D bags simultaneously and allows filter integrity testing

Easy to Validate

- A robust validation of the test parameters and specifications makes the validation approach at user site easy
- A strong on-site IQ, OQ, PQ, SOP development and operator training ease the validation documentation process at user site

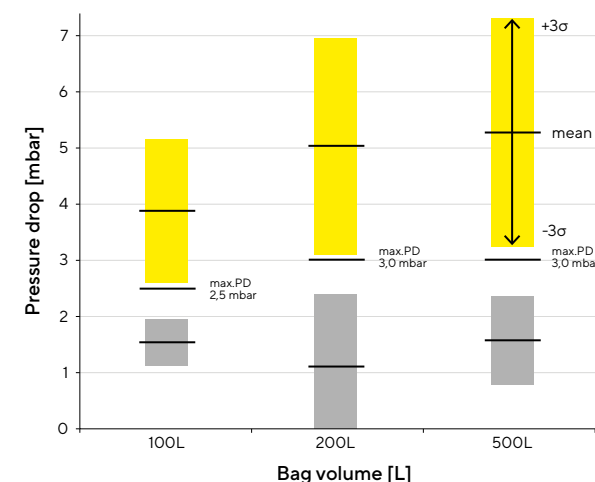
Bag Tester Fleecees

Part Number	Description
DZ200L-PTSIT	Bag tester fleece for Palletank® 200L (3 pcs)
DZ500L-PTSIT	Bag tester fleece for Palletank® 500L (3 pcs)

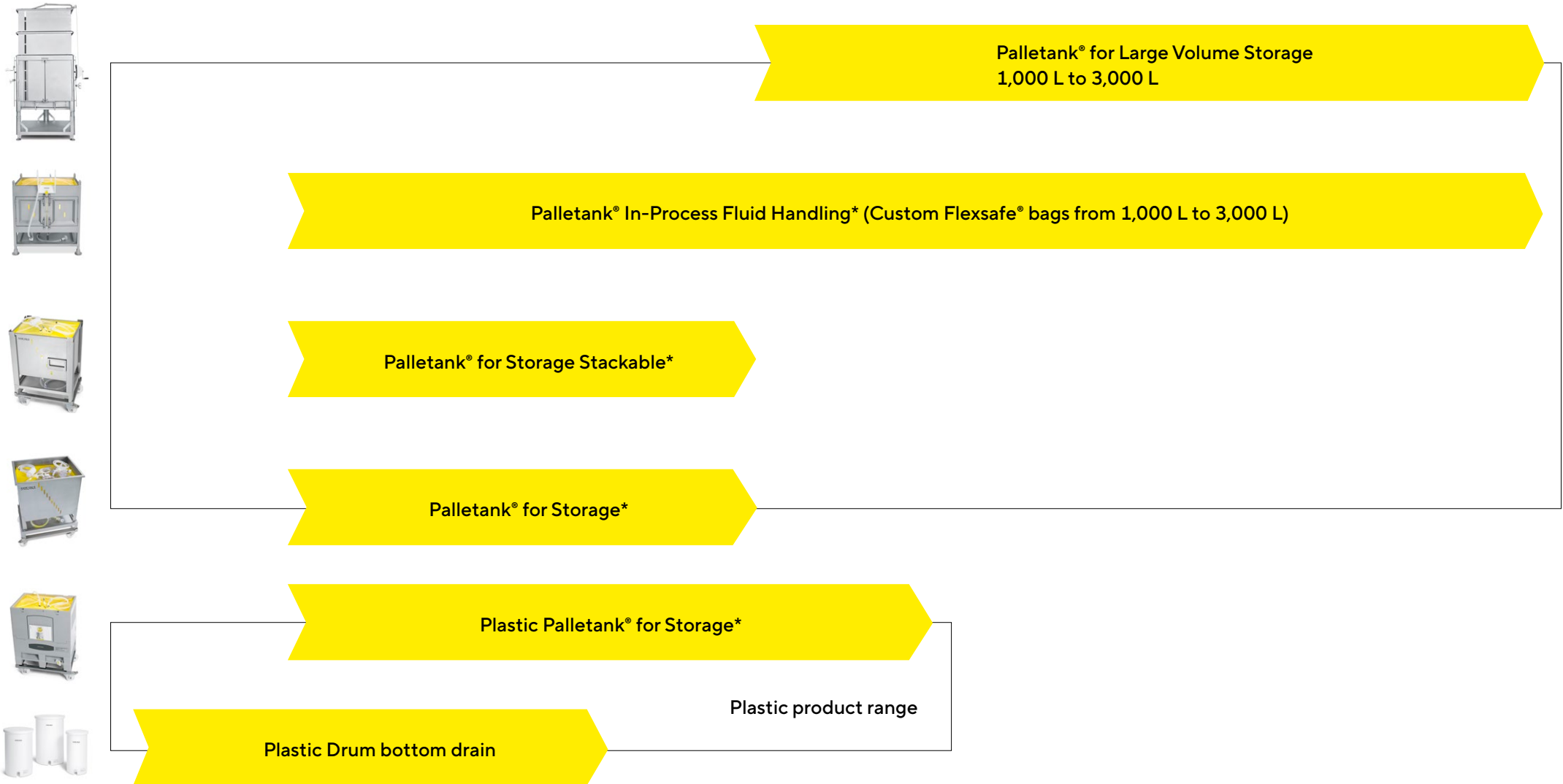
Filter Holder

Part Number	Description
FXC301477	Filter Holder for Palletank® 75 mm

Validation study of Flexsafe® 3D



Palletank® for Storage



Volume of
available
Flexsafe® bags

50 L

100 L

200 L

500 L

1,000 L

1,500 L

2,000 L

2,500 L

3,000 L

* 100 L bag is used in combination with the 200 L Palletank®

Palletank® for Storage | In Process Fluid Handling Small Volume

Palletank® for storage are stainless steel containers designed for the safe and robust storage of biopharmaceutical fluids such as high value drug substances contained in Flexsafe® 3D Bags. They are available in volumes of 50 L, 200 L and 500 L. The Flexsafe® 3D Bags are manufactured according to a qualified design that precisely fits the Palletank®.

Palletank® for in-process fluid handling are specifically developed for users who wish to leave the containers in close proximity to process equipment. They are available in 200 L and 500 L for use with Flexsafe® 3D bags. The double hinged front doors allow bag replacement, installation and manipulation whilst Palletank® are stacked up in the process area thus enabling continuous processing without movement of the containers. As a result, a forklift is not routinely required in the manufacturing area.

Features & Benefits

Qualified System:

- perfect fit and protection of the Flexsafe® 3D Bag in its Palletank®

Stackable Version:

- space saving containment system

Easy access

- through double hinged front doors with safety latches

Easy operation

- due to continuous processing without movement of the containers

Optimal bag unfolding

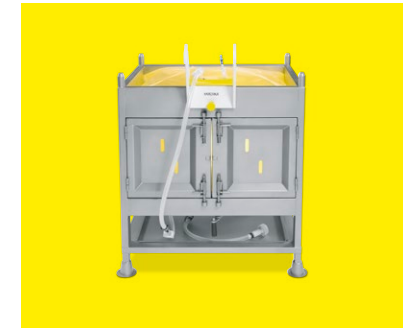
- without operator manipulation with the self-deploying accessory



Palletank® for Storage



Palletank® for Storage Stackable



Palletank® In-Process Fluid Handling

Technical Specifications

Description	Palletank® for Storage Stackable 50 L	Palletank® for Storage Stackable 200 L	Palletank® for Storage Stackable 500 L
Part Number	FXC113946	FXC110733	FXC110734
Bag Volume(s)	50 L	100 L or 200 L	500 L
Construction Material	304 L Stainless Steel	304 L Stainless Steel	304 L Stainless Steel
Surface Finishing	Bead Blasted	Bead Blasted	Bead Blasted
Dimensions (W × D × H)	490 × 490 × 750 mm (19 × 19 × 30 in)	792 × 592 × 929 mm (31 × 23 × 37 in)	1192 × 792 × 1045 mm (47 × 31 × 41 in)
Weight	25 kg (55 lb)	70 kg (154 lb)	110 kg (242 lb)
Bottom Gate	1	1	1
Stackability (Static)	3 high	3 high	2 high

Description	Palletank® for Storage 200 L	Palletank® for Storage 500 L
Part Number	FXC110888	FXC110889
Bag Volume(s)	100 L or 200 L	500 L
Construction Material	304 L Stainless Steel	304 L Stainless Steel
Surface Finishing	Bead Blasted	Bead Blasted
Dimensions (W × D × H)	792 × 592 × 892 mm (31 × 23 × 35 in)	1192 × 792 × 1008 mm (46 × 31 × 39 in)
Weight	48 kg (106 lb)	100 kg (220 lb)
Bottom Gate	1	1
Stackability (Static)	No	No

Description	Dolly for Palletank® for Storage and Shipping 200 L	Dolly for Palletank® for Storage and Shipping 500 L
Part Number	FXS102254	FXS102256
Construction Material	304 L and polyamide (wheels)	304 L and polyamide (wheels)
Surface Finishing	Glass Bead Blasted	Glass Bead Blasted
Dimensions (W × D × H)	815 × 615 × 188 mm (32.1 × 24.2 × 6.4 in)	1215 × 815 × 161 mm (47.8 × 32.1 × 6.4 in)
Weight (approx.)	10 kg (22 lb)	18 kg (39.7 lb)



Technical Specifications

Description	Palletank® for In-Process Fluid Handling 200 L	Palletank® for In-Process Fluid Handling 500 L	Palletank® for In-Process Fluid Handling 1,000 L
Part Number	FXC106230	FXC106235	FXC106223
Bag Volume(s)	100 L or 200 L	500 L	1,000 L
Construction Material	304 L Stainless Steel	304 L Stainless Steel	304 L Stainless Steel
Surface Finishing	Glass Bead Blasted	Glass Bead Blasted	Glass Bead Blasted
Dimensions (W × D × H)	860 × 660 × 929 mm (33.9 × 26 × 36.6 in)	1260 × 860 × 989 mm (49.6 × 33.9 × 38.9 in)	1259 × 1059 × 1443 mm (49.6 × 41.7 × 56.8 in)
Weight	73 kg (161 lb)	94 kg (207 lb)	145 kg (320 lb)
Bottom Gate	1	1	2
Stackability	3 high	3 high	2 high

Description	Dolly for Palletank® IPFH 200 L	Dolly for Palletank® IPFH 500 L	Dolly for Palletank® IPFH 1,000 L
Part Number	FXS102255	FXS102257	FXS102259
Construction Material	304 L and polyamide (wheels)	304 L and polyamide (wheels)	304 L and polyamide (wheels)
Surface Finishing	Glass Bead Blasted	Glass Bead Blasted	Glass Bead Blasted
Dimensions (W × D × H)	807 × 607 × 255 mm (31.8 × 23.9 × 10 in)	1207 × 807 × 258 mm (47.5 × 31.8 × 10.2 in)	1205 × 1005 × 258 mm (47.4 × 39.6 × 10.2 in)
Weight (approx.)	10 kg (22 lb)	20 kg (44 lb)	22 kg (48.5 lb)



Description	Palletank® for In-Process Fluid Handling 1,500 L	Palletank® for In-Process Fluid Handling 2,000 L	Palletank® for In-Process Fluid Handling 2,500 L	Palletank® for In-Process Fluid Handling 3,000 L
Part Number	FXC109797	FXC109798	FXC109799	FXC109764
Bag Volume(s)	1,500 L	2,000 L	2,500 L	3,000 L
Construction Material	304 L Stainless Steel	304 L Stainless Steel	304 L Stainless Steel	304 L Stainless Steel
Surface Finishing	Glass Bead Blasted	Glass Bead Blasted	Glass Bead Blasted	Glass Bead Blasted
Dimensions (W × D × H)	1323 × 1210 × 2099 mm (52.1 × 47.6 × 82.6 in)	1323 × 1210 × 2599 mm (52.1 × 47.6 × 102.3 in)	1323 × 1210 × 3099 mm (52.1 × 47.6 × 122 in)	1323 × 1210 × 3599 mm (52.1 × 47.6 × 141.7 in)
Weight	326 kg (719 lb)	386 kg (851 lb)	447 kg (986 lb)	507 kg (1118 lb)
Bottom Gate	3	3	3	3
Stackability	0	0	0	0

Plastic Palletank® for Storage of Sterile Buffer or Media

Plastic Palletank® for Storage in 200 L and 500 L represents a cost-effective containment solution for the storage and processing of biopharmaceutical fluids such as sterile media, buffers contained in Flexsafe® 3D Bags. Their flat, smooth surfaces and rounded corners facilitate cleaning and sanitization for clean room operations. The Plastic Palletank® for storage are foldable for minimal storage space when empty. They are also stackable for optimal floor space utilization when filled with biopharmaceutical solutions.

Features & Benefits

PP and ABS containers: Low cost and robust storage solution

Stackable when full and collapsible when empty: Minimize storage volume

Smooth scratch-resistant plastic surface: Clean room compatible

Optimal bag unfolding without operator manipulation with the self-deploying accessory

Technical Specifications

Description	Plastic Palletank® for Storage 200 L	Plastic Palletank® for Storage 500 L	Plastic Palletank® for Storage 1,000 L
Part Number	FXC116215	FXC116220	FXC116217
Bag Volume(s)	100 L or 200 L	500 L	1,000 L
Main Construction Material	PP	HDPE/ABS	PP
Dimensions (W × D × H)			
Unfolded	805 × 607 × 969 mm (32 × 24 × 38 in.)	1215 × 805 × 1086 mm (48 × 31 × 43 in.)	1200 × 1000 × 1245 mm (47 × 39 × 49 in.)
Folded	805 × 607 × 510 mm (32 × 24 × 20 in.)	1215 × 805 × 572 mm (48 × 31 × 22 in.)	1200 × 1000 × 451 mm (48 × 31 × 18 in.)
Bottom Gate	1	1	2
Filled Static Stackability	2	2	2

Description	Plastic Palletank® Dolly 200 L	Plastic Palletank® Dolly 500 L	Plastic Palletank® Dolly 1,000 L
Part Number	FXA116630	FXA116631	FXA116632
Construction Material	304 L and polyamide (wheels)	304 L and polyamide (wheels)	304 L and polyamide (wheels)
Surface Finishing	Glass Bead Blasted	Glass Bead Blasted	Glass Bead Blasted
Dimensions (W × D × H)	807 × 607 × 214 mm (32 × 24 × 8 in.)	1207 × 807 × 214 mm (47 × 32 × 8 in.)	1210 × 1010 × 227 mm (48 × 40 × 9 in.)
Weight (approx.)	10 kg (22 lb)	20 kg (44 lb)	35 kg (77 lb)



Palletank® for Large Volume Storage

Large volume storage are designed with ergonomic features and design to limit operator manipulations and overall simplify operations. This results in increased process safety by minimizing risks for product, operator and process. True ease of use also leads to fast set up, filling and draining for maximized process efficiency.

Features & Benefits

Easy

Large doors at ergonomic height for easy bag installation and front access to lines

Fast

Set-up is done in less than 2 minutes. The pre-deployed bags avoids further bag handling during filling. The high flow pre-designed solutions speed-up filling and draining operations.

Safe operations

No operator manipulation, the bag self-fills and self-drains. The sloped bottom increase fluid recovery.

Tubing and filters holders



Palletank® for Large Volume Storage

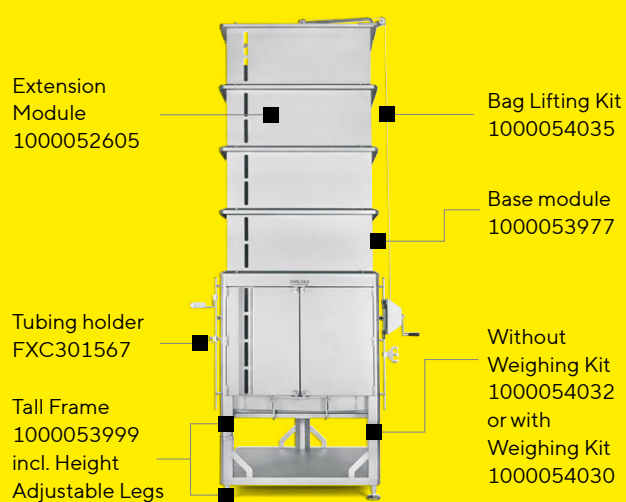
Palletank® for Large Volume Storage

Description	Palletank® Storage 1,000 L	Palletank® Storage 1,500 L	Palletank® Storage 2,000 L
Bag Volume	1,000L	1,500L	2,000L
Construction Material	304 L Stainless Steel	304 L Stainless Steel	304 L Stainless Steel
Surface Finishing	Bead Blasted, pickled & passivated	Bead Blasted, pickled & passivated	Bead Blasted, pickled & passivated
External Dimensions (W × D × H)			
w ergonomic module	1245 + 1045 + 2001 mm (49 + 41 + 78 in)	1245 + 1045 + 2501 mm (49 + 41 + 98 in)	1245 × 1045 × 3001 mm (49 × 41 × 118 in)
w o ergonomic module	1245 + 1045 + 1690 mm (49 + 41 + 66 in)	1245 + 1045 + 2191 mm (49 + 41 + 86 in)	1245 × 1045 × 2691 mm (49 × 41 × 106 in)
Built on wheels	1245 + 1045 + 1790 mm (49 + 41 + 70 in)	N A	N A
Bottom gate Sliding gate	2	2	2
Stackability	No	No	No

Description	Palletank® Storage 2,500 L	Palletank® Storage 3,000 L
Bag Volume	2,500L	3,000L
Construction Material	304 L Stainless Steel	304 L Stainless Steel
Surface Finishing	Bead Blasted, pickled & passivated	Bead Blasted, pickled & passivated
External Dimensions (W × D × H)		
w ergonomic module	1245 × 1045 × 3501 mm (49 × 41 × 138 in)	1245 × 1045 × 4001 mm (49 × 41 × 157 in)
w o ergonomic module	1245 × 1045 × 3191 mm (45 × 49 × 125 in)	1245 × 1045 × 3691 mm (49 × 41 × 145 in)
Built on wheels	N A	N A
Bottom gate Sliding gate	2	2
Stackability	No	No

Palletank® for Large Volume Storage

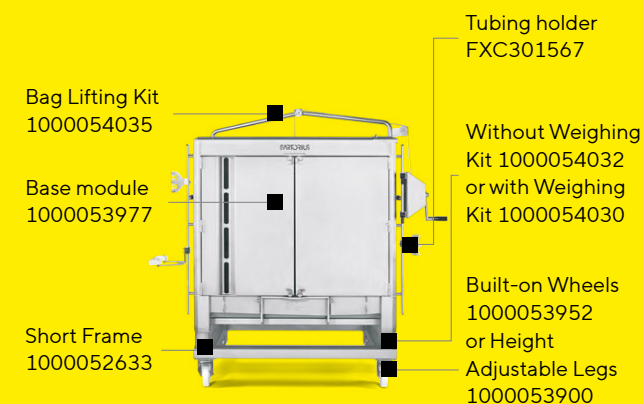
Description	Palletank® Storage 1,000 L	Palletank® Storage 1,500 L	Palletank® Storage 2,000 L	Palletank® Storage 2,500 L	Palletank® Storage 3,000 L
w ergonomic module	FXC302072	FXC302073	FXC302074	FXC302075	FXC302076
w ergonomic module and w weighing	FXC304053	FXC304054	FXC304055	FXC304056	FXC304057
w o ergonomic module	FXC304027	FXC301928	FXC301929	FXC302070	FXC302071
w o ergonomic module and w weighing	FXC304028	FXC304029	FXC304050	FXC304051	FXC304052
Built on wheels	FXC302077	N A	N A	N A	N A
Built on wheels and w weighing	FXC301927	N A	N A	N A	N A



Palletank® Storage 1,000 L – 3,000 L at ergonomic height



Palletank® Storage 1,000 L – 3,000 L at low height



Palletank® Storage 1,000 L Built-on wheels

Palletank® Large Volume for Storage Accessories

Part Number	Description
FXC301562	STD tubing holder single 5/8"
FXC301563	STD tubing holder twin 5/8"
FXC301564	STD tubing holder triple 5/8"
FXC301565	STD tubing holder quattro 5/8"
FXC301566	STD tubing holder single 3/4"
FXC301567	STD tubing holder twin 3/4"
FXC301568	STD tubing holder triple 3/4"
FXC301569	STD tubing holder quattro 3/4"
FXC301570	STD tubing holder single 1"
FXC301571	STD tubing holder twin 1"
FXC301572	STD tubing holder triple 1"
FXC301573	STD tubing holder quattro 1"
FXC301574	STD tubing holder single 1-1/8"
FXC301575	STD tubing holder twin 1-1/8"
FXC301576	STD tubing holder triple 1-1/8"
FXC301577	STD tubing holder quattro 1-1/8"
FXC301578	STD tubing holder single 1-3/8"
FXC301579	STD tubing holder twin 1-3/8"
FXC301580	STD tubing holder triple 1-3/8"
FXC301586	STD tubing holder quattro 1-3/8"

Part Number	Description
FXC301582	Filter Holder Short 55 mm
FXC301583	Filter Holder Long 55 mm
FXC301584	Filter Holder Short 75 mm
FXC301585	Filter Holder Long 75 mm
FXC301586	Filter Holder Short 100 mm
FXC301587	Filter Holder Long 100 mm
FXA304201	FT Holder Short H 55 mm
FXA304200	FT Holder Short H 75 mm
FXA304202	FT Holder Short H 100 mm



Standard Drum for Storage and Processing

The plastic drum containers offer a cost-effective containment solution for the storage and processing of media and buffer in Flexsafe® 3D Bags for drum. Their flat, smooth surfaces facilitate cleaning and sanitization for clean room operations. They are available with volumes of 50 L, 100 L and 200 L to fit with Flexsafe® 3D Bags for drum of the same volumes.

The drums are available with a lid and a bottom gate for use with Flexsafe® 3D Bag for drum fitted or not with a bottom drain line.

The drum and filled Flexsafe® 3D Bags can be moved safely with a stainless steel dolly available in two sizes 50 L | 100 L and 200 L.

Features & Benefits

- HDPE drum: Low cost storage solution for media and buffer
- Bottom gate: Allows for bottom drain option
- Smooth scratch-resistant plastic surface: Clean room compatible
- Standard product: Available from stock



Drum

Description	STD Drum		
	50 L	100 L	200 L
Part Number	FBC125627	FBC125628	FBC125629
Construction Material	HDPE		
Internal Diameter (Approx.)	346 mm (13.6 in)	467 mm (18.4 in)	559 mm (22 in)
Internal Height (Approx.)	702 mm (27.6 in)	759 mm (29.8 in)	918 (36.6 in)
Weight	4.3 kg (9.46 lb.)	6.25 kg (13.75 lb.)	10.3 kg (22.7 lb.)
Bottom Hole	1		

Dolly

Description	STD Drum Accessory Dolly	
	50 L or 100 L	200 L
Part Number	FXA126305	FXA126306
Construction Material	Stainless steel 304 L and polyamide (wheels)	
Surface Finish	Brushed and passivated	
Max. External Dimensions W×D×H (Approx.)	502×502×168 mm (19.7×19.7×6.6 in)	594×594×168 mm (23.4×23.4×6.6 in)
Wheels	2 with brakes and 2 without brakes	
Weight	8.4 kg (19.5 lb.)	10.4 kg (22.9 lb.)
Max. Dynamic Load	200 kg	400 kg

Sartorius 3D Liquid Shipping Overview

Validation Level

Robustness - Compliant With the Most Severe Standards in the Industry

Palletank® for Shipping



Flexibility - Variable Volume Shipping



Palletank® for Variable Volume Shipping*

Low Initial Investment and Low Weight Container



Plastic Palletank® for Shipping**

Standard Industrial Container

Blue Cylindrical Drum for Shipping



Volume of
available
Flexsafe® bags

50 L

100 L

200 L

500 L

1,000 L

* Schulte bagtainer

** ALLpaQ Genesis

Palletank® for Shipping at Nominal Volume

Palletank® for shipping is specifically developed for secure and convenient shipment of sterile media, buffers and **high value drug substances**. They are available in volumes of 100 L, 200 L and 500 L to fit with 100 L | 200 L and 500 L Flexsafe® 3D Bags. The system is composed of the Palletank® container and the associated shipping kit. **The extensive qualification according to ASTM Standard ensures safe & robust liquid shipping** for Flexsafe® for Palletank®.

Features & Benefits

ASTM qualification of Flexsafe® 3D Bags with the Palletank® for shipping ensures safe and robust liquid shipping applications.

Immobilization of Flexsafe® Bag by compression assures system integrity

Dismountable construction improves space utilization on site before and after usage

Technical Specifications

Description	Palletank® for Shipping 100 L	Palletank® for Shipping 200 L	Palletank® for Shipping 500 L
Part Number	FXC106362	FXC103133	FXC106609
Bag Volume(s)	100 L	200 L	500 L
Construction Material	304 L Stainless Steel	304 L Stainless Steel	304 L Stainless Steel
Dimensions (W × D × H) Unfolded	800 × 600 × 688 mm (31.5 × 23.6 × 27.1 in)	800 × 600 × 935 mm (31.5 × 23.6 × 36.8 in)	1206 × 806 × 1050 mm (47.5 × 31.7 × 41.33 in)
Folded	800 × 600 × 510 mm (31.5 × 23.6 × 20.1 in)	800 × 600 × 510 mm (31.5 × 23.6 × 20.1 in)	1206 × 806 × 540 mm (47.5 × 31.7 × 21.26 in)
Weight (incl. Lid)	63.5 kg (140 lb)	82 kg (180.78 lb)	129 kg (284.4 lb)
Bottom Gate	1	1	1
Unfolded	3	3	2
Folded	5	5	3

Description	Shipping kit 100 L	Shipping kit 200 L	Shipping kit 500 L
Part Number	FXC102475	FXC102477	FXC102478
Weight	16 kg (35.27 lb)	16 kg (35.27 lb)	28 kg (61.8 lb)
Shipping Validation	ASTM D4169 Level 2	ASTM D4169 Level 2	ASTM D4169 Level 2

Description	Dolly for Palletank® 100 L for Storage and Shipping	Dolly for Palletank® 200 L for Storage and Shipping	Dolly for Palletank® 500 L for Storage and Shipping
Part Number	FXS102254	FXS102254	FXS102256
Construction Material	304 L and polyamide (wheels)	304 L and polyamide (wheels)	304 L and polyamide (wheels)
Surface Finishing	Glass Bead Blasted	Glass Bead Blasted	Glass Bead Blasted
Dimensions (W × D × H)	815 × 615 × 188 mm (32.1 × 24.2 × 6.4 in)	815 × 615 × 188 mm (32.1 × 24.2 × 6.4 in)	1215 × 815 × 161 mm (47.8 × 32.1 × 6.4 in)
Weight (approx.)	10 kg (22 lb)	10 kg (22 lb)	18 kg (39.7 lb)



Plastic Palletank® for Shipping* for Sterile Buffer or Media Shipping at Nominal Volume

Plastic Palletank® for Shipping is designed to meet the ever-evolving needs of the pharmaceutical industry, Genesis bioprocess containers presents the ultimate storage and shipment solution. Collapsible, stackable and reusable, the user-friendly range of 200 L up to 1,000 L totes feature smooth surfaces to inhibit bacterial growth, are easy to maintain and ready to customize to any application to protect **sterile buffer or media**.

Technical Specifications

Description	Plastic Palletank® for Shipping 200 L	Plastic Palletank® for Shipping 500 L	Plastic Palletank® for Shipping 1,000 L
Part Number	FXC308396	FXC308406	FXC308398
Bag Volume(s)	200 L	500 L	1,000 L
Construction Material	PP	HDPE/ABS	PP
Dimensions (W × D × H) Unfolded	809 × 609 × 954 mm (31.8 × 23.9 × 37.6 in)	1200 × 800 × 1070 mm (47.2 × 31.5 × 42.1 in)	1200 × 995 × 1285 mm (47.2 × 39.2 × 50.6 in)
Folded	809 × 609 × 520 mm (31.8 × 23.9 × 20.5 in)	1200 × 800 × 615 mm (47.2 × 31.5 × 24.2 in)	1200 × 995 × 448 mm (47.2 × 39.2 × 17.6 in)
Weight (incl. Lid)	24 kg (53 lb)	90 kg (199 lb)	113 kg (249 lb)
Bottom Gate	1	1	1
Filled Static Stackability	2	2	2
Shipping Validation	Real Shipping	Real Shipping	ASTM D4169 Level 3

Description	Plastic Palletank® Dolly 200 L	Plastic Palletank® Dolly 500 L	Plastic Palletank® Dolly 1,000 L
Part Number	FXA116630	FXA116631	FXA116632
Construction Material	304 L and polyamide (wheels)	304 L and polyamide (wheels)	304 L and polyamide (wheels)
Surface Finishing	Glass Bead Blasted	Glass Bead Blasted	Glass Bead Blasted
Dimensions (W × D × H)	807 × 607 × 214 mm 31.8 × 23.9 × 8.4 in.	1207 × 807 × 214 mm 47.5 × 31.8 × 8.4 in.	1210 × 1010 × 227 mm 47.6 × 39.8 × 8.9 in.
Weight (approx.)	10 kg (22 lb)	20 kg (44 lb)	35 kg (77 lb)

Features & Benefits

- Lightweight:** Plastic properties reduce shipping charges.
- Collapsible:** Fold the units to save valuable space in return shipping.
- Stackable:** Maximize warehousing for space and cost optimization.
- Reusable:** Keep in rotation for years and replace panels as needed, to add to the lifespan of your fleet.
- Hygienic:** Spillage control and jet washable. Individual panels can be removed for cleaning.



* ALLpaQ Genesis

Palletank® for Variable Volume Shipping*

Palletank® for Variable Volume Shipping prevent the bag from being ripped during transport. The unique bagtainer bag securing system is easy to operate and allows for underfilling the bag down to any level, still securing the liquid during transport.

Features & Benefits

Variable: unique bagtainer bag securing system which works with intermediate volumes

Warehouse Handling: can easily be moved by forklift or with the use of other accessories

Stackable: stackable empty or filled

Collapsible: collapsible alternatives available

Technical Specifications

Description	Palletank® for Variable Volume Shipping 200 L	Palletank® for Variable Volume Shipping 500 L	Palletank® for Variable Volume Shipping 1,000 L
Part Number	FXC308400	FXC308401	FXC308402
Bag Volume(s)	200 L	500 L	1,000 L
Construction Material	304 L Stainless Steel	304 L Stainless Steel	304 L Stainless Steel
Dimensions (W × D × H) Unfolded	800 × 604 × 1027 mm (31.5 × 23.8 × 40.4 in)	1186 × 792 × 1078 mm (46.7 × 31.2 × 42.4 in)	1235 × 1011 × 1492 mm (48.6 × 39.8 × 58.7 in)
Folded	No	No	No
Weight (incl. Lid)	92 kg (203 lb)	190 kg (419 lb)	270 kg (595 lb)
Bottom Gate	1	1	1
Unfolded	3	2	2
Folded	No	No	No
Shipping Validation	ASTM D4169 Level 2 (150 L and 200 L)	Real Shipping	ASTM D4169 Level 2

Description	Dolly for bagtainer 200 L	Dolly for bagtainer 500 L	Dolly for bagtainer 1,000 L
Part Number			
Construction Material	304 L and polyamide (wheels)	304 L and polyamide (wheels)	304 L and polyamide (wheels)
Surface Finishing	Pickled and Passivated	Pickled and Passivated	Pickled and Passivated
Dimensions (W × D × H)	820 × 620 × 235 mm 32.3 × 24.4 × 9.3 in.	1205 × 800 × 235 mm 47.4 × 31.5 × 9.3 in.	1205 × 1020 × 282 mm 47.4 × 40.2 × 11.1 in.
Weight (approx.)	12.5 kg (26.5 lb)	15 kg (33.1 lb)	33 kg (72.8 lb)



* Schulte bagtainer

Drum for Shipping

Plastic Drum is designed to meet the ever-evolving needs of the pharmaceutical industry, Genesis bioprocess containers presents the ultimate storage and shipment solution.

Small footprint and reusable, the user-friendly range of 50 L up to 200 L drums feature smooth surfaces to inhibit bacterial growth, are easy to maintain and ready to customize to any application to protect **sterile buffer or media**.

- Features & Benefits**
- Lightweight:** Plastic properties reduce shipping charges.
 - Stackable:** Non-stackable
 - Reduced footprint:** total floor space used is minimal
 - Hygienic:** Spillage control and jet washable.

Technical Specifications

Description	Plastic Drum 50 L	Plastic Drum 100 L	Plastic Drum 200 L
Part Number	Supplier ref.	Supplier ref.	Supplier ref.
Bag Volume(s)	50 L	100 L	200 L
Construction Material	HDPE	HDPE	HDPE
Diameter top	325 mm (12.8 in)	395 mm (15.6 in)	471 mm (18.5 in)
Diameter middle	400 mm (15.8 in)	492 mm (19.4 in)	590 mm (23.2 in)
Height	628 mm (24.7 in)	800 mm (31.5 in)	975 mm (38.4 in)
Weight (empty)	3.4 kg (7.5 lb)	5.4 kg (11.9 lb)	10 kg (22 lb)
Weight (full)	55 kg (121 lb)	110 kg (243 lb)	210 kg (463 lb)
Bottom Gate	Top drain	Top drain	Top drain
Shipping Validation	Real Shipping	No Shipping Validation	Real Shipping

Description	Dolly for Drum 50-100-200 L
Part Number	FXA126305
Construction Material	304 L Stainless Steel
Surface Finishing	Brushed and passivated
Dimensions (W × D × H)	502 × 502 × 168 mm 19.8 × 19.8 × 6.6 in.
Weight (approx.)	8.4 kg (18.5 lb)

Sterilizing-Grade Filtration for All Process Steps

Sartopore® single-use sterilizing-grade filter transfer sets are pre-assembled, gamma irradiated and ready-to-use for particle removal, bioburden reduction and sterilizing filtration in all process steps.

They are designed with Opta® SFT connectors and C-Flex® tubing to allow either a sterile connection or a sterile weld to other single systems such as Flexsafe® PDS.

Alternatively, MPX quick coupler connectors are available for a sanitary or aseptic connection under laminar air flow

Our Sartopore® family of sterilizing-grade filtration transfer sets offer a large variety of filter types and sizes that can be easily and securely connected to most of SSB single-use solutions

Features & Benefits

- Pre-assembled and gamma sterilized: Ready-to-use as standalone filter transfer sets or for connection to single use bag to save time compared to traditional assembly and autoclaving operations
- Qualified C-Flex® tube and Opta® connector engagement: Robust design Allow secured sterile connection or sterile weld to other single use systems
- Large variety of filter types and sizes Flexible design Solution for every process step
- Highest Safety Standards These products are designed with Oetiker® clamp engagements instead of cable ties ensuring highest safety for single-use connections. A comprehensive transport validation in accordance to ASTM D4169-09 has been performed for safe transportation

Media, Buffer and Harvest & Downstream Intermediates Sterilizing Filtration

Filter Type	Filter	Tubing & Outlet Connector	Part Number	Lot size
Sartopore® 2 0.45 0.2 µm	Midicaps® size 7	½" ID Clear C-Flex® 500 mm Opta® male ½"	FFU500214	8
	Midicaps® size 8		FFU500215	8
	Midicaps® size 9		FFU500216	8
	Midicaps® size 0		FFU500217	8
	Maxicaps® T-style size 1		FFU500249	4
	Maxicaps® T-style size 2		FFU500250	4
	Maxicaps® T-style size 3		FFU500251	4
	Midicaps® size 7	½" ID Clear C-Flex® 500 mm MPX male + sealing cap	FFU500252	8
	Midicaps® size 8		FFU500253	8
	Midicaps® size 9		FFU500254	8
	Midicaps® size 0		FFU500255	8
	Maxicaps® T-style size 1		FFU500256	4
	Maxicaps® T-style size 2		FFU500257	4
	Maxicaps® T-style size 3		FFU500258	4

Sterilizing-Grade Filtration for All Process Steps

Media, Buffer and Harvest & Downstream Intermediates Sterilizing Filtration

Filter Type	Filter	Tubing & Outlet Connector	Part Number	Lot size
Sartopore® 2 XLG 0.8 0.2 µm	Midicaps® size 7	½" ID Clear C-Flex® 500 mm Opta® male ½"	FFU500268	8
	Midicaps® size 8		FFU500269	8
	Midicaps® size 9		FFU500270	8
	Midicaps® size 0		FFU500271	8
	Maxicaps® T-style size 1		FFU500272	4
	Maxicaps® T-style size 2		FFU500273	4
	Maxicaps® T-style size 3		FFU500274	4
	Midicaps® size 7	½" ID Clear C-Flex® 500 mm MPX male + sealing cap	FFU500275	8
	Midicaps® size 8		FFU500276	8
	Midicaps® size 9		FFU500277	8
	Midicaps® size 0		FFU500278	8
	Maxicaps® T-style size 1		FFU500226	4
	Maxicaps® T-style size 2		FFU500279	4
	Maxicaps® T-style size 3		FFU500225	4

Sterilizing-Grade Filtration for All Process Steps

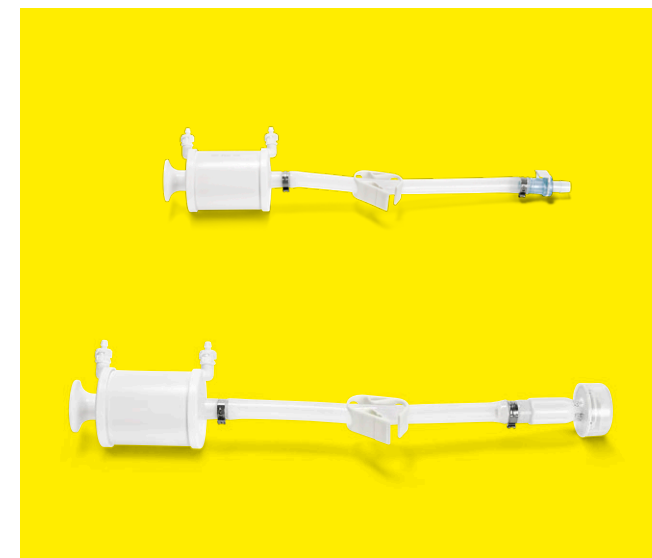
Media Sterilizing Filtration for Mycoplasma Removal

Filter Type	Filter	Tubing & Outlet Connector	Part Number	Lot size
Sartopore® 2 XLM 0.2 0.1 µm	Midicaps® size 7	½" ID Clear C-Flex® 500 mm Opta® male ½"	FFU500235	8
	Midicaps® size 8		FFU500236	8
	Midicaps® size 9		FFU500237	8
	Midicaps® size 0		FFU500238	8
	Maxicaps® T-style size 1		FFU500239	4
	Maxicaps® T-style size 2		FFU500240	4
	Maxicaps® T-style size 3		FFU500241	4
	Midicaps® size 7	½" ID Clear C-Flex® 500 mm MPX male + sealing cap	FFU500242	8
	Midicaps® size 8		FFU500243	8
	Midicaps® size 9		FFU500244	8
	Midicaps® size 0		FFU500245	8
	Maxicaps® T-style size 1		FFU500246	4
	Maxicaps® T-style size 2		FFU500247	4
	Maxicaps® T-style size 3		FFU500248	4

Sterilizing-Grade Filtration for All Process Steps

Drug Substance and Drug Product Sterilizing Filtration

Filter Type	Filter	Tubing & Outlet Connector	Part Number	Lot size
Sartopore® Platinum 0.45 0.2 µm	Midicaps® size 7	½" ID Clear C-Flex® 500 mm Opta® male ½"	FFU500220	8
	Midicaps® size 8		FFU500221	8
	Midicaps® size 9		FFU500222	8
	Midicaps® size 0		FFU500223	8
	Maxicaps® T-style size 1		FFU500259	4
	Maxicaps® T-style size 2		FFU500260	4
	Maxicaps® T-style size 3		FFU500261	4
	Midicaps® size 7	½" ID Clear C-Flex® 500 mm MPX male + sealing cap	FFU500262	8
	Midicaps® size 8		FFU500263	8
	Midicaps® size 9		FFU500264	8
	Midicaps® size 0		FFU500172	8
	Maxicaps® T-style size 1		FFU500265	4
	Maxicaps® T-style size 2		FFU500266	4
	Maxicaps® T-style size 3		FFU500267	4



Design, Application Development and Validation Services

Configure to Order (CTO) Options

All Flexsafe® 3D Pre-designed Solutions are available in our Sartorius Corporate Configurator for easy selection of the right solution for your process and application requirements.

Should our Pre-designed Solutions need to be adjusted to more specific requirements, they can serve as a base for designing your specific best design.

Our CTO configurator then allows the selection of a larger variety of solutions with added features, lines, manifolds, filters, connectors and sampling systems.

Please contact our sales representatives and application specialist to support you with the selection and design of your best solution for your specific process and application.

🌐 Please contact
www.sartorius.com
or your local sales representative
for more information.

Application Support

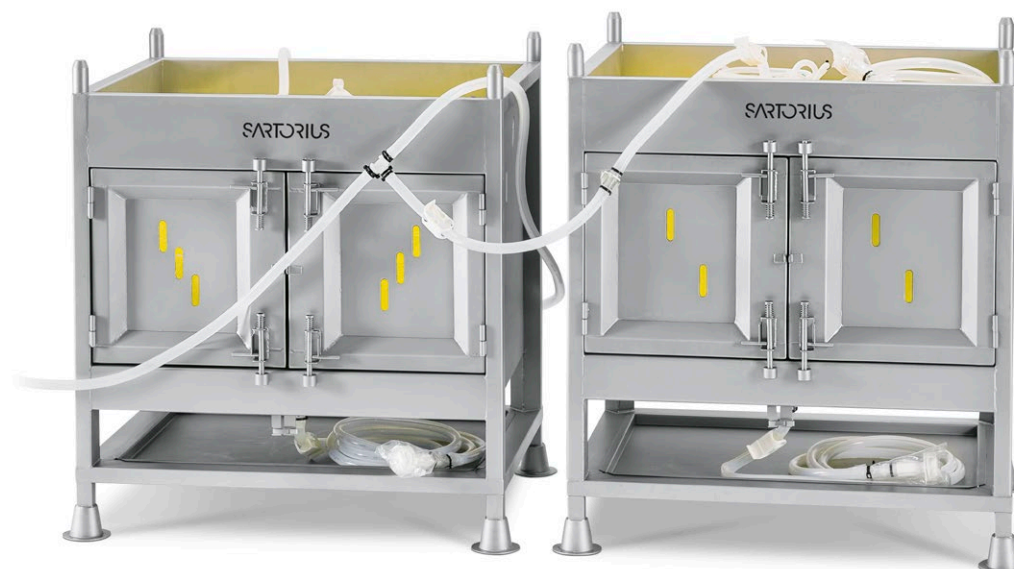
Our expert FMT Application Specialists provide global support for:

- Single-use process URS definitions and application development
- Process design with standard and custom solutions
- Filter selection and sizing optimization study
- SOP development, process validation and operator training
- Technology transfer and process optimization

Validation Service

Our global validation services network offers:

- Installation start up, FAT, IQ & OQ, calibration and maintenance
- Consultancy service and process specific validation studies including
- Extractables | leachables,
- Chemical compatibility
- Integrity testing
- Bacterial challenge test
- Particle shedding
- Shipping test



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