

LIQUIDYNE™

PROCESS TECHNOLOGIES, INC.

Innovative products for fluid transfer, measurement & control



Advanced Scientifics

www.advancedscientifics.com *single use systems*

catalog products

Version 1 | 11/09

Advanced Scientifics

Founded in 1985, Advanced Scientifics has become a global leader in the design and manufacture of Single Use Systems for the Pharmaceutical and Biotech industries. Our vast array of manufacturing capabilities allows us to provide standard stock and custom disposable systems in one of the industry's shortest lead times. From system design, to the highest standard in quality production and assembly, to final packaging and sterilization, Advanced Scientifics is your complete single use systems provider.

Our experienced engineering staff assists customers to turn their design concepts into a reality – from product design to finished, sterile product. Our team takes pride in building close working relationships with its customers to ensure that we exceed their expectations. Advanced Scientifics maintains a rigorous quality assurance program that focuses on rigid inspections throughout each phase of the product life cycle to ensure that the product meets the exact specifications.

FACILITIES

Advanced Scientifics holds two manufacturing facilities, headquarters and main manufacturing located in Millersburg, Pennsylvania as well as off-shore manufacturing. The off-shore facility duplicates the U.S. facility's capabilities including high volume manufacturing, class 7 clean rooms, as well as the same strong quality system, sterilization capability, and is also ISO 13485:2003 certified and FDA registered.

Advanced Scientifics' facilities are equipped with the latest technology and manufacturing equipment. All of our products are manufactured and assembled in a class 7 HEPA filtered cleanroom to meet the highest and most rigorous quality assurance standards.

Several support services are performed internally as a further advancement of quality and cost savings. A class 8 molding division operates to provide precisely manufactured bag ports and connectors. This ensures a higher quality seal at each of the ports. This also allows Advanced Scientifics the ability to offer a broader range of porting options.

Another support service is film slitting. In this, bulk film is purchased and slit within a white room within the facility. This allows greater control of costs and eliminates particulate aggregation due to static.

Each of these and more are centrally controlled by a highly customized ERP software system. This system allows the traceability, document control, quality control, and price control of customer part numbers.



ERP-SYSTEM

Advanced Scientifics' Quality Management System is intertwined with its Manufacturing System through the use of Advanced Scientifics' Enterprise Resource Planning (ERP) Software. The ERP software is a nationally recognized software that assists Advanced Scientifics in improving operational efficiencies, customer satisfaction and financial performance. The Item Master, Product Print, Routing and Bill of Materials are all controlled by revision level within the ERP software. Also, Advanced Scientifics utilizes its proprietary "E-Ordering System" by utilizing bar coding for inventory control and product routings throughout the manufacturing process. From incoming raw material inspection, through the entire manufacturing process, to the final finished product, Advanced Scientifics' ERP and Quality Management System is integrated throughout every aspect of the Company, making it a leader in quality manufacturing. Advanced Scientifics Quality System is accessible throughout the facility, giving all personnel access to Quality files such as SOP's, STM's, SWP's, Quality and Employee manuals, etc.

Advanced Scientifics' Engineering and Quality Assurance staffs will work with customers to design a system which best fits the customer's unique process. These experts will couple technologies offered by the industry with technologies offered by Advanced Scientifics, ultimately making the disposable conform to the customer's process. Rather than make your process conform to the disposable; make your disposable conform to your process.

Advanced Scientifics' ERP and Quality Management System is one of the industries strongest, making the company a leader in high quality, customized products, with one of the industries shortest lead times of 3 – 4 weeks.

Internal/External audits are performed regularly to strengthen the internal Quality Management System and to comply with ISO 13485:2003 and FDA 21 CFR 820 regulatory requirements.

QUALITY

Advanced Scientifics' has implemented Statistical process control in conjunction with Six Sigma methodology to track the performance of internal processes and customer complaints. SPC and Six Sigma provide a common internal language for management, supervision, and quality assurance/control and product operation to discuss problems, solutions, decisions, and actions.

TECHNOLOGY

Core competencies: PE, EVA, PP, PVC, Other Bag Production, Injection Molding, Insert Molding, Assembly & Design and Irradiation Services.

Main production processes: Automatic & Manual RF & Heat Sealing Equipment, Injection Molding, Insert Molding, Material Handling for ASRS, Film Slitting.

Typical production lot sizes: 1 to 100,000

Raw materials mostly used within these products: PE, EVA, PP Films; Silicone, PVC Tubing; Plus thousands of components in stock.

Equipment/Machines: Thermal Impulse & Heat Bar Sealers, Pressure Decay Tester, Optical Comparator, Environmental Monitoring, Labeling, etc.



Advanced Scientifics offers custom products to meet your needs. Contact a representative to learn more.



SINGLE USE CONTAINERS

As a part of Advanced Scientifics' single use systems, the company offers a multitude of solutions for single use containers. With sizes ranging from 50 mL to 3,000 L, Advanced Scientifics can produce single use containers of nearly any configuration. These containers are currently utilized throughout the industry and throughout the manufacturing process. (Upstream buffer / media prep, Bioreactors, Fermenters, Harvest, Downstream separation and purification, Final product packaging.)

Advanced Scientifics carries in our inventory 900+ components as well as 80+ tubing types and sizes for customized systems.

Advanced Scientifics uses high purity class VI films (polyethylene, Ethyl Vinyl Acetate, polypropylene, and polyethylene-foil) which are available for manufacture of a custom container. These films have terrific barrier to water vapor and gas molecule transmission, as well as exceptional extractable profiles. Advanced Scientifics also has the capability to produce 3-D bags from 10 Liter and up specific to customer height, width, and depth specifications as well as porting requirements. This allows the capability to manufacture systems regardless to the tote or carrier.

Advanced Scientifics carries a variety of connectors and tubing options. This offers the capability to provide port options of nearly limitless configurations. As well, offering filters equally from each of the major providers.

Advanced Scientifics uses non-animal origin plastics and offers a complete data and testing package on our films.

Advanced Scientifics disposable containers are designed for use in diagnostic, labs, pharmaceutical, or biopharmaceutical applications, presenting extremely low leachables and extractables across a multitude of liquids. Advanced Scientifics containers are supplied irradiation sterile, meeting and exceeding the highest industry standard in sterility and validation. Constructed of a medical film, with all FDA credentials, these containers are animal derived and component free with high tensile strength, and low gas permeability.

The value of utilizing disposable containers within fluid handling process is eliminating the need to clean and autoclave (sterilize) bottles, carboys, drums, and many varieties of stainless tanks. The products can also replace bottles in the lab setting.

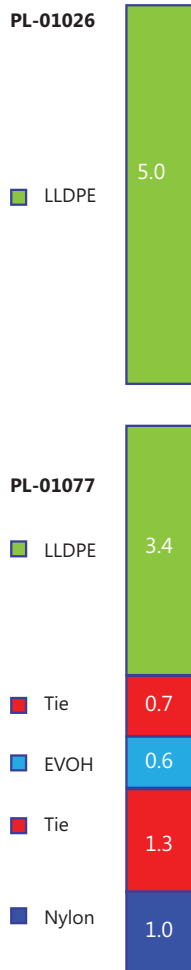
A few of the vast applications are:

- Bioreactor and fermentation feed and harvest
- Medias and buffers
- Finished drug intermediate storage or shipment

PL-01026/ PL-01077

POLYETHYLENE SINGLE USE CONTAINERS

Advanced Scientifics' Polyethylene Single Use systems are produced utilizing two films. The fluid contact film is a 5.0 mil Polyethylene (PL-01026). The outer is a 5 layer 7 mil coextrusion film which provides barrier and durability (PL-01077).



BIOCOMPATIBILITY

USP Acute Systemic Injection Test	Pass	USP <88>
USP Intracutaneous Injection Test	Pass	USP <88>
USP Intramuscular Implantation Test	Pass	USP <88>
USP MEM Elution Method	Non-Cytotoxic	USP <87>
Physiochemical Test for Plastics	Pass	USP <661>

PHYSICAL DATA

Water Vapor Transmission Rate (g/100in ² /24hrs)	0.017	ASTM F-1249
Carbon Dioxide Transmission Rate (cc/100in ² /24hrs)	0.129	ASTM F-2476
Oxygen Transmission Rate (cc/100in ² /24hrs)	0.043	ASTM F-1927

	Average Force	Average MOE	Average Elongation	
Tensile	32.73 lbs	25110 psi	1080%	ASTM D 882-02
	Min Force	Average Force	Max Force	
Tear Resistance	6.77 lbs	7.21 lbs	7.74 lbs	ASTM D1004-07
Puncture Resistance	16.42 lbs	18.61 lbs	19.51 lbs	FTMS 101C

This film is Class VI, non-animal origin, and is supported by a complete testing/documentation package.

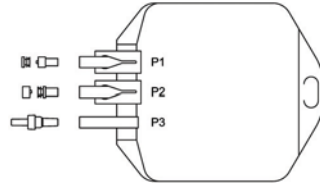
POLYETHYLENE CONTAINERS

Advanced Scientifics' PE containers are designed for use in biopharmaceutical, laboratory, and diagnostic applications, presenting extremely low extractables as well as a robust physical profile. Advanced Scientifics' PE containers are supplied irradiated and sterile, backed by a rigorous sterility validation protocol. Constructed with a Class VI, NAO film, these containers are of the highest quality.

The value of utilizing single use within your fluid process is great. These products eliminate the requirement of steam sterilization, eliminate the concern of cross over contamination, as well as greatly reduce the turnover time between batches.



- Port 1: LL Male + Cap, Slide Clamp
- Port 2: LL Female + Cap, Slide Clamp
- Port 3: Injection Site

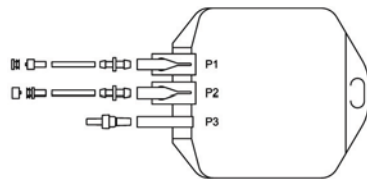


ASI Catalog #	Size
SS00024-I	100 mL
SS00025-I	250 mL
SS00026-I	500 mL
SS00027-I	1 Liter

- Port 1: Boat w/ 1/4" D x 3/8" OD Clear C-Flex 374 (2") LL Male + Cap, Slide Clamp
- Port 2: Boat w/ 1/4" D x 3/8" OD Clear C-Flex 374 (2") LL Female + Cap, Slide Clamp
- Port 3: Injection Site

ASI Catalog #	Size
SS00028-I	2 Liter

- Port 1: 1/8" D x 1/4" OD Clear C-Flex 374 (12") LL Male + Cap, Slide Clamp
- Port 2: 1/8" D x 1/4" OD Clear C-Flex 374 (12") LL Female + Cap, Slide Clamp
- Port 3: Injection Site

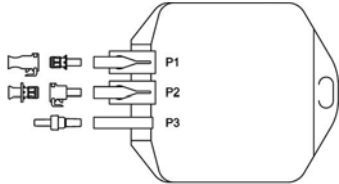


ASI Catalog #	Size
SS00029-I	100 mL
SS00030-I	250 mL
SS00031-I	500 mL
SS00032-I	1 Liter

- Port 1: 1/8" D x 1/4" OD Clear C-Flex 374 (12") LL Female + Cap, Slide Clamp
- Port 2: 1/8" D x 1/4" OD Clear C-Flex 374 (12") MCP Male + Cap, Slide Clamp
- Port 3: Injection Site

ASI Catalog #	Size
SS00033-I	2 Liter

- Port 1: MCP Male + Cap, Slide Clamp
- Port 2: MCP Female + Cap, Slide Clamp
- Port 3: Injection Site



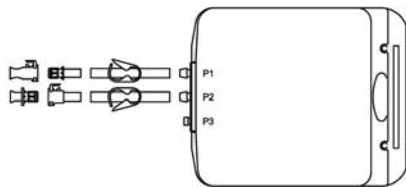
ASI Catalog #	Size
SS00034-I	100 mL
SS00035-I	250 mL
SS00036-I	500 mL
SS00037-I	1 Liter

- Port 1: Boat w/ 1/4" ID x 3/8" OD Clear C-Flex 374 (2")
MCP Male + Cap, Slide Clamp
- Port 2: Boat w/ 1/4" ID x 3/8" OD Clear C-Flex 374 (2")
MCP Female + Cap, Slide Clamp
- Port 3: Injection Site

ASI Catalog #	Size
SS00038-I	2 Liter

- Port 1: 3/8" ID x 5/8" OD Clear C-Flex 374 (12") MCP Male +
Cap, Pinch Clamp
- Port 2: 3/8" ID x 5/8" OD Clear C-Flex 374 (12") MCP Female +
Cap, Pinch Clamp
- Port 3: Injection Site

ASI Catalog #	Size
SS00039-I	5 Liter
SS00040-I	10 Liter
SS00041-I	20 Liter



- Port 1: 3/8" ID x 5/8" OD Silicone Tubing (20")
MCP Male + Cap, Pinch Clamp
- Port 2: 3/8" ID x 5/8" OD Silicone Tubing (20")
MCP Female + Cap, Pinch Clamp

ASI Catalog #	Size
SS00103-I	50 Liter
SS00104-I	100 Liter
SS00105-I	200 Liter

POLYETHYLENE 3D CONTAINERS

Advanced Scientifics' 3D single use containers have been specially designed for larger scale applications where 3D systems need to be both reliable and flexible. They are made from high quality film that carries a complete testing package, as well as Non-Animal Origin status. These systems are provided completely packaged and sterile, ready for immediate use.





- Port 1: 1/2" ID x 3/4" OD Silicone Tubing (20")
MPX Male + Cap, Pinch Clamp
- Port 2: 1/2" ID x 3/4" OD Silicone Tubing (20")
MPX Male + Cap, Pinch Clamp
- Port 3: 1/2" ID x 3/4" OD Silicone Tubing (20")
MPX Male + Cap, Pinch Clamp

ASI Catalog #	Size	Tank #
SS00046-I	50 Liter	TK-0050
SS00047-I	100 Liter	TK-0100
SS00048-I	200 Liter	TK-0200
SS00049-I	500 Liter	TK-0500



- Port 1: 1/2" ID x 3/4" OD Clear C-Flex 374 (60")
MPX Male + Cap, Pinch Clamp
- Port 2: 1/2" ID x 3/4" OD Clear C-Flex 374 (40")
Female Luer + Swabable Valve + Cap, Pinch
Clamp
- Port 3: 1/2" ID x 3/4" OD Clear C-Flex 374 (60")
1-1/2" Ladish Tri-Clover, Pinch Clamp

ASI Catalog #	Size	Tank #
SS00050-I	50 Liter	TK-0050
SS00051-I	100 Liter	TK-0100
SS00052-I	200 Liter	TK-0200
SS00053-I	500 Liter	TK-0500



- Port 1: 1/2" ID x 3/4" OD Silicone Tubing (20")
MPX Male + Cap, Pinch Clamp
- Port 2: 1/2" ID x 3/4" OD Silicone Tubing (36")
ReadyMate DAC w/ 1/2" Barb, Pinch Clamp
- Port 3: 1/2" ID x 3/4" OD Silicone Tubing (20")
MPX Male + Cap, Pinch Clamp

ASI Catalog #	Size	Tank #
SS00054-I	50 Liter	TK-0050
SS00055-I	100 Liter	TK-0100
SS00056-I	200 Liter	TK-0200
SS00057-I	500 Liter	TK-0500



- Port 1: 1/2" ID x 3/4" OD Silicone Tubing (20")
MPX Male + Cap, Pinch Clamp
- Port 2: 1/2" ID x 3/4" OD Silicone Tubing (36")
Female Kleenpak Connector w/ 1/2" Barb,
Pinch Clamp
- Port 3: 1/2" ID x 3/4" OD Silicone Tubing (20")
MPX Male + Cap, Pinch Clamp

ASI Catalog #	Size	Tank #
SS00058-I	50 Liter	TK-0050
SS00059-I	100 Liter	TK-0100
SS00060-I	200 Liter	TK-0200
SS00061-I	500 Liter	TK-0500

PL-01026

TANK LINER

Advanced Scientifics' single use tank liners are manufactured in a Class 7 environment, packaged clean, irradiated and delivered sterile. Tank liners are available to improve your process for open tank applications. The use of liners eliminates cleaning and turnover concerns associated with reusable stainless tanks.

- 2D (pillow) liners are available as a simple and low cost solution.
- 3D liners are available which are sized specially for specific totes. This seamless design offers a more streamlined fit, eliminating pooling areas or "pleats."



BIOCOMPATIBILITY

USP Acute Systemic Injection Test	Pass	USP <88>
USP Intracutaneous Injection Test	Pass	USP <88>
USP Intramuscular Implantation Test	Pass	USP <88>
USP MEM Elution Method	Non-Cytotoxic	USP <87>
Physiochemical Test for Plastics	Pass	USP <661>

	Average MOE	Average Elongation	
Tensile	5756 psi	710%	ASTM D 882
	Average Force		
Impact Strength	2.52 lbs	7.74 lbs	ASTM D 1709

2-D PILLOW STYLE TANK LINERS

ASI Catalog #	Size	Diameter
B100048-I	50 Liter	13" x 27"
B100038-I	130 Liter	18" x 33"
B100037-I	200 Liter	22.5" x 34"
B100049-I	340 Liter	24" x 48"
B100050-I	400 Liter	28" x 42"
B100051-I	560 Liter	30" x 48"
B100052-I	790 Liter	38" x 48"
B100053-I	1090 Liter	42" x 48"
B100054-I	1360 Liter	48" x 48"



3-D TANK LINERS

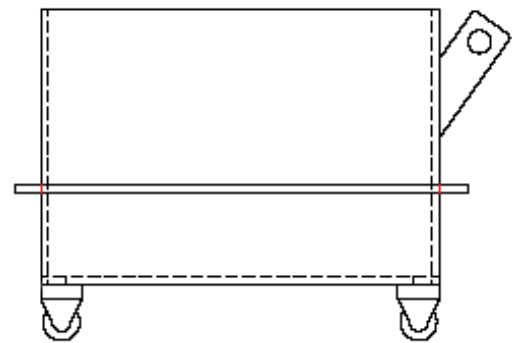
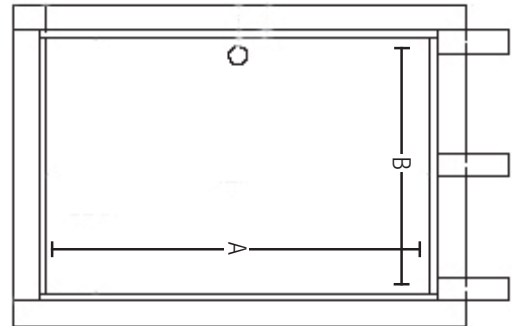
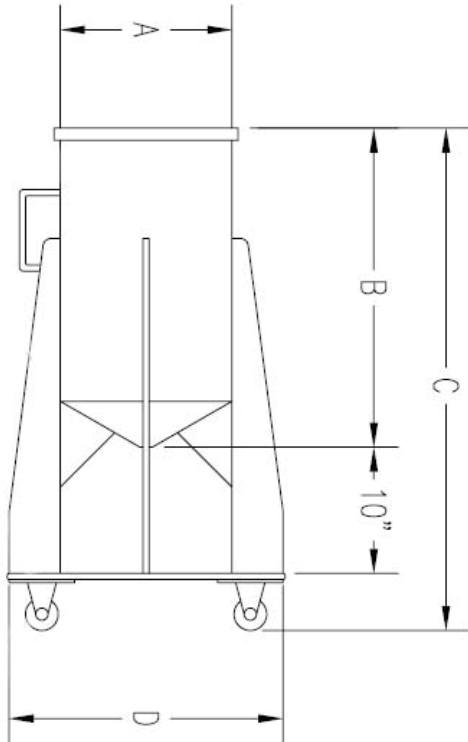
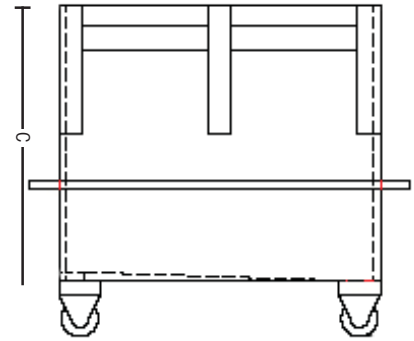
ASI Catalog #	Size	Diameter
B100364-I	50 Liter	13.5" x 29"
B100373-I	100 Liter	18.5" x 33"
B100363-I	200 Liter	22.5" x 38"
B101459-I	340 Liter	24" x 48"
B101460-I	400 Liter	31" x 48.75"
B101461-I	560 Liter	35.75" x 51"
B101462-I	790 Liter	42" x 48.75"

Features:

1. HDPE fabricated stand flared leg design with welded support gussets.
2. 3/4" thick HDPE heavy duty base plate for accessory mounting and additional stability.
3. (4) 4" dia. rubber/SS Pharmaceutical grade casters, 2-fixed, 2-locking level with upper and lower seals.
4. Bottom drain hole.



ASI Catalog #	Size	A	B	C	D
TK-0050	50 Liter	18"	23"	38"	20.5"
TK-0100	100 Liter	18"	35"	50"	20.5"
TK-0200	200 Liter	22"	44"	60"	23"
TK-0500	500 Liter	42"	29"	29"	N/A





ADVANCED
SCIENTIFICS

PL-01077 POLYETHYLENE SINGLE USE CONTAINERS

PL-01077 is a 5 layer 7 mil coextrusion film which provides barrier and durability.



PL-01077

LLDPE

3.4

Tie

0.7

EVOH

0.6

Tie

1.3

Nylon

1.0

BIOCOMPATIBILITY

USP Acute Systemic Injection Test	Pass	USP <88>
USP Intracutaneous Injection Test	Pass	USP <88>
USP Intramuscular Implantation Test	Pass	USP <88>
USP MEM Elution Method	Non-Cytotoxic	USP <87>
Physiochemical Test for Plastics	Pass	USP <661>

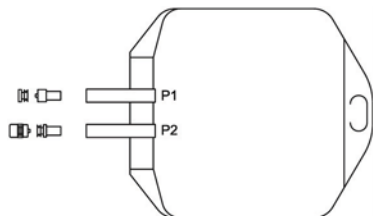
PHYSICAL DATA

Water Vapor Transmission Rate (g/100in ² /24hrs)	0.044	ASTM F-1249
Carbon Dioxide Transmission Rate (cc/100in ² /24hrs)	0.145	ASTM F-2476
Oxygen Transmission Rate (cc/100in ² /24hrs)	0.278	ASTM D-3985

	Average Force	Average MOE	Average Elongation	
Tensile	30.79 lbs	51670 psi	611%	ASTM D 882-02
	Min Force	Average Force	Max Force	
Tear Resistance	4.86 lbs	5.20 lbs	5.45 lbs	ASTM D1004-07
Puncture Resistance	13.89 lbs	15.29 lbs	17.12 lbs	FTMS 101C

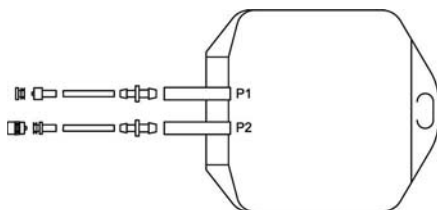
This film is Class VI, non-animal origin, and is supported by a complete testing/documentation package.

- Port 1: LL Male + Cap
- Port 2: LL Female + Cap w/ Injection Site



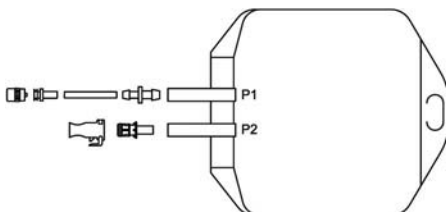
ASI Catalog #	Size
SS00087-I	50 mL
SS00088-I	100 mL
SS00089-I	250 mL
SS00090-I	500 mL
SS00091-I	1 Liter

- Port 1: 1/8" D x 1/4" OD Clear C-Flex 374 (12") LL Male + Cap
- Port 2: 1/8" D x 1/4" OD Clear C-Flex 374 (12") LL Female + Cap w/Injection Site



ASI Catalog #	Size
SS00092-I	50 mL
SS00093-I	100 mL
SS00094-I	250 mL
SS00095-I	500 mL
SS00096-I	1 Liter

- Port 1: 1/8" D x 1/4" OD Clear C-Flex 374 (12") LL Female + Cap w/Injection Site
- Port 2: MCP Male + Cap

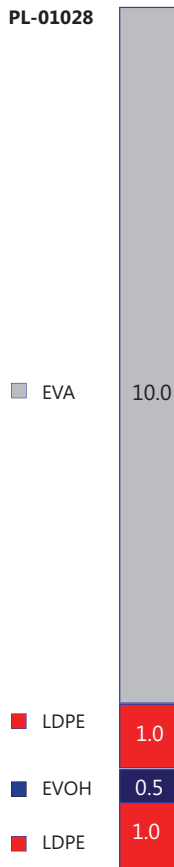


ASI Catalog #	Size
SS00097-I	50 mL
SS00098-I	100 mL
SS00099-I	250 mL
SS00100-I	500 mL
SS00101-I	1 Liter

PL-01028

ETHYL VINYL ACETATE SINGLE USE CONTAINERS

Advanced Scientifics' Ethyl Vinyl Acetate Single Use systems are produced utilizing a single film. The film is a 4 layer 12.5 mil coextrusion film which provides barrier and durability (PL-01028).



BIOCOMPATIBILITY

USP Acute Systemic Injection Test	Pass	USP <88>
USP Intracutaneous Injection Test	Pass	USP <88>
USP Intramuscular Implant Test	Pass	USP <88>
USP MEM Elution Method	Non-Cytotoxic	USP <87>
Hemolysis	Non-Hemolytic	ISO 10993-4

PHYSICAL DATA

Carbon Dioxide Transmission Rate (cc/100in ² /24hrs)	0.58	Mocon Test Method
Water Vapor Transmission Rate (g/100in ² /24hrs)	0.11	ASTM F-1249
Oxygen Transmission Rate (cc/100in/24hrs)	0.28	ASTM F-3985
Ultimate Tensile	3100 psi	ASTM D-638
Ultimate Elongation	> 650%	ASTM D-638
100% Modulus	1000psi	ASTM D-638
Tear Strength	550 lbs/in	ASTM D-1004
Low Pressure Brittleness	> -75°F	ASTM D-1290
Puncture Resistance	22.4 lbs	FTMS 101 B

This film is Class VI, non-animal origin, and is supported by a complete testing/documentation package.

ETHYL VINYL ACETATE (EVA) CONTAINERS

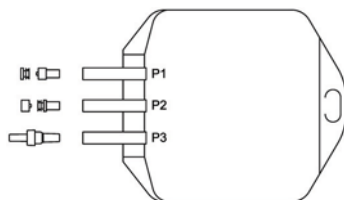
Advanced Scientifics' EVA containers are designed for use in biopharmaceutical, laboratory, and diagnostic applications, presenting extremely low extractables as well as a robust physical profile. Advanced Scientifics' EVA containers are supplied irradiated and sterile, backed by a rigorous sterility validation protocol. Constructed with a Class VI, NAO film, these containers are of the highest quality.

The value of utilizing single use within your fluid process is great. These products eliminate the requirement of steam sterilization, eliminate the concern of cross over contamination, as well as greatly reduce the turnover time between batches.

A few of the vast application opportunities are:

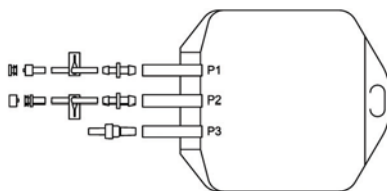
- Media and buffer delivery
- Finished drug intermediate storage or shipment
- Waste collection

- Port 1: LL Male + Cap
- Port 2: LL Female + Cap
- Port 3: Injection Site



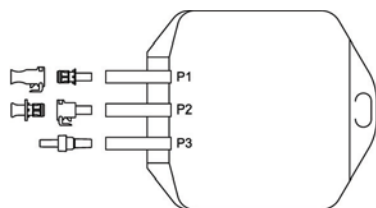
ASI Catalog #	Size
SS00001-I	100 mL
SS00002-I	250 mL
SS00003-I	500 mL
SS00004-I	1 Liter
SS00004-I	2 Liter

- Port 1: 1/8" X 1/4" Clear C-Flex 374 (12") LL Male + Cap, Slide Clamp
- Port 2: 1/8" X 1/4" Clear C-Flex 374 (12") LL Female + Cap, Slide Clamp
- Port 3: Injection Site



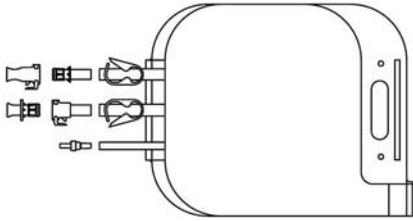
ASI Catalog #	Size
SS00006-I	100 mL
SS00007-I	250 mL
SS00008-I	500 mL
SS00009-I	1 Liter
SS00010-I	2 Liter

- Port 1: MPC Male + Cap
- Port 2: MPC Female + Cap
- Port 3: Injection Site



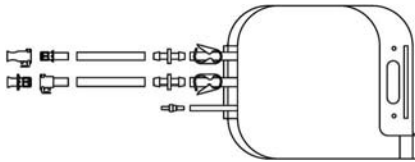
ASI Catalog #	Size
SS00011-I	100 mL
SS00012-I	250 mL
SS00013-I	500 mL
SS00014-I	1 Liter
SS00015-I	2 Liter

- Port 1: MCP Male + Cap, Pinch Clamp
- Port 2: MCP Female + Cap, Pinch Clamp
- Port 3: Injection Site



ASI Catalog #	Size
SS00016-I	5 Liter
SS00017-I	10 Liter
SS00018-I	20 Liter
SS00019-I	50 Liter

- Port 1: 3/8" ID X 5/8" OD Clear C-Flex 374 (12")
LL Male + Cap, Pinch Clamp
- Port 2: 3/8" ID X 5/8" OD Clear C-Flex 374 (12")
LL Female + Cap, Pinch Clamp
- Port 3: Injection Site



ASI Catalog #	Size
SS00020-I	5 Liter
SS00021-I	10 Liter
SS00022-I	20 Liter
SS00023-I	50 Liter



TRANSFER ASSEMBLIES

Advanced Scientifics' transfer assemblies are designed for use in biopharmaceutical, laboratory, and diagnostic applications. These sets ease the transfer of bulk fluids from one container to another.

The value of utilizing single use within your fluid process is great. These products eliminate the requirement of steam sterilization, eliminate the concern of cross over contamination, as well as greatly reduce the turnover time between batches.

A few examples of applications:

- Upstream buffer/media preparation
- Bioreactors
- Fermenters
- Harvest
- Downstream separation and purification
- Final product packaging

Advanced Scientifics offers over 80 different tubing sizes and types, as well as over 900 off-the-shelf connectors. This, combined with direct purchasing access to all the major filter manufacturers, Advanced Scientifics can offer a custom set, at an aggressive price and in one of the shortest lead times in the industry.

Advanced Scientifics designs custom complete systems per user requirements. Component options include disposable steam valves, aseptic connections, manifolds, and filter assemblies.

Tubing types include but not limited to:

- Silicone
- C-Flex
- Polyethylene
- Phar-Med BPT

Advanced Scientifics manufactures specialized transfer/purification tubing assemblies using the highest quality Class VI tubing. After design, assembly and packaging have been completed; Advanced Scientifics will further manage the sterilization of the Single Use System. Advanced Scientifics uses non-animal origin plastics.

Tubing: Silicone Tubing (36") w/ Pinch Clamp
 T1: team-Thru II Connector
 3/4" x 1-1/2" Sanitary x 1/2" Barb
 T2: ReadyMate DAC w/ 1/2" Barb

ASI Catalog #	ID x OD	Material
SS00042-I	1/2" x 3/4"	Silicone Tube Set



Tubing: Silicone Tubing (36") w/ Pinch Clamp
 T1: Steam-Thru II Connector
 3/4" x 1-1/2" Sanitary x 1/2" Barb
 T2: Male Kleenpak Connector w/ 1/2" Barb

ASI Catalog #	ID x OD	Material
SS00043-I	1/2" x 3/4"	Silicone Tube Set



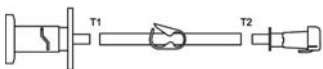
Tubing: Silicone Tubing (36") w/ Pinch Clamp
 T1: Lynx ST Connector
 1-1/2" Sanitary x 1/2" Barb
 T2: ReadyMate DAC w/ 1/2" Barb

ASI Catalog #	ID x OD	Material
SS00044-I	1/2" x 3/4"	Silicone Tube Set



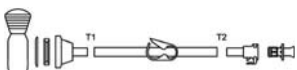
Tubing: Silicone Tubing (36") w/ Pinch Clamp
 T1: Lynx ST Connector
 1-1/2" Sanitary x 1/2" Barb
 T2: Male Kleenpak Connector w/ 1/2" Barb

ASI Catalog #	ID x OD	Material
SS00045-I	1/2" x 3/4"	Silicone Tube Set



Tubing: Silicone Tubing (36") w/ Pinch Clamp
 Set End 1: 1-1/2" Sanitary x 1/2" Barb w/ Gasket,
 End Cap, and Push/Pull Clip
 Set End 2: MPX Female + Cap

ASI Catalog #	ID x OD	Material
SS00062-I	1/2" x 3/4"	Silicone Tube Set



Tubing: Silicone Tubing (36") w/ Pinch Clamp
 T1: 1-1/2" Sanitary x 3/8" Barb w Gasket, End
 Cap, and Push/Pull Clip
 T2: MPX Female + Cap

ASI Catalog #	ID x OD	Material
SS00063-I	1/2" x 3/4"	Silicone Tube Set



Tubing: Silicone Tubing (36") w/ Pinch Clamp
 T1: 1-1/2" Sanitary x 3/8" Barb
 w/ Gasket, End Cap, and Push/Pull Clip
 T2: MPC Male + Cap

ASI Catalog #	ID x OD	Material
SS00064-I	3/8" x 5/8"	Silicone Tube Set



Tubing: Silicone Tubing (36") w/ Pinch Clamp
 T1: 3/4" Sanitary x 3/8" Barb
 w/ Gasket, End Cap, and Push/Pull Clip
 T2: MPC Male + Cap

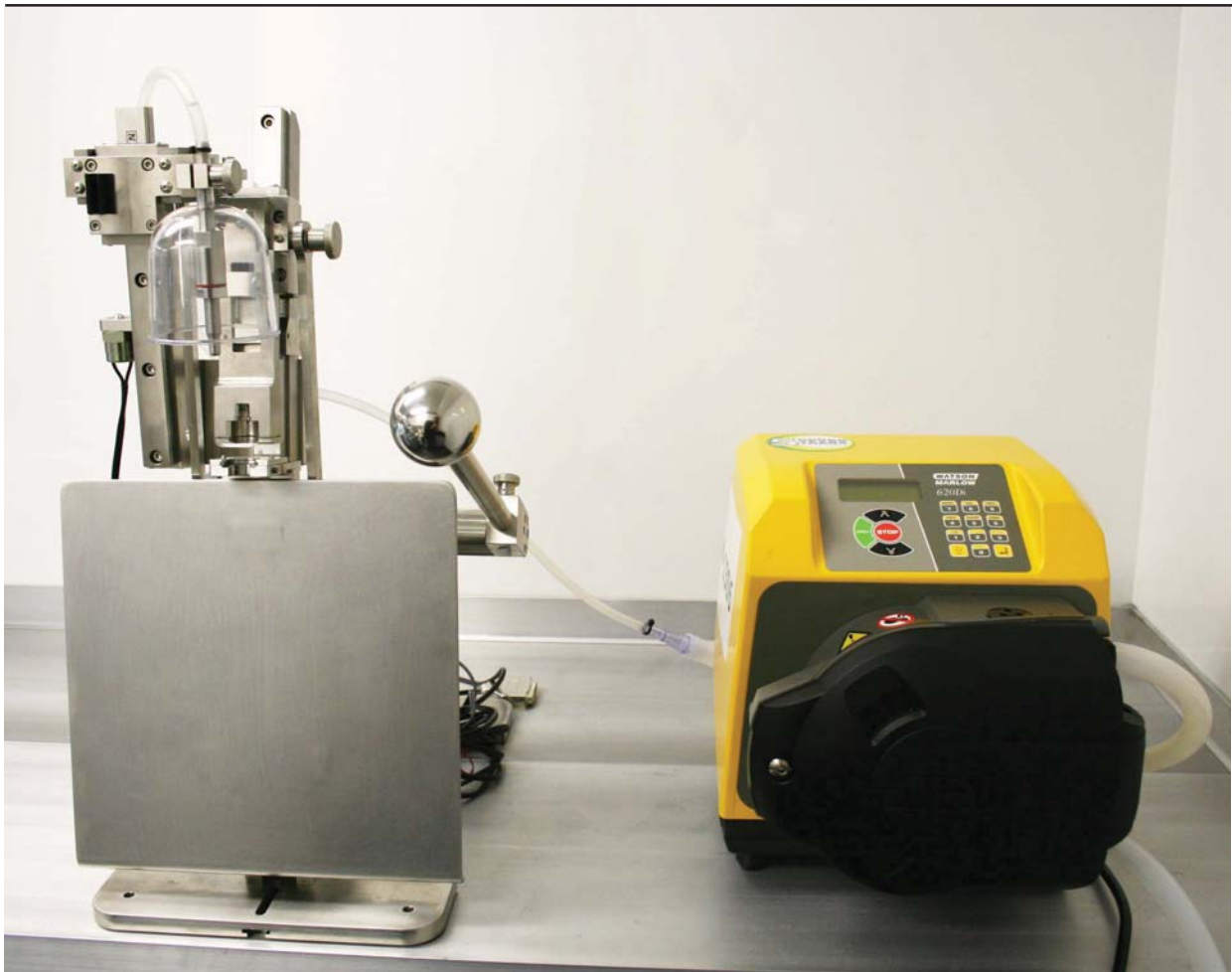
ASI Catalog #	ID x OD	Material
SS00065-I	3/8" x 5/8"	Silicone Tube Set



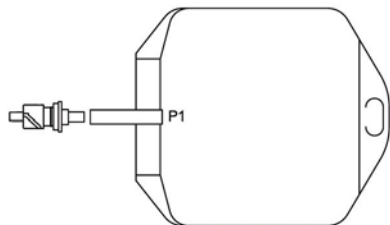
AUTOMATIC ASEPTIC FILLING

The automatic aseptic filling system utilizes a fixture and cap assembly developed and manufactured by Advanced Scientifics, and fully controls the filling interface with no user interaction required with the fill port. What is left after completion is a tamper evident dispensing port. This results in a cleaner, more efficient, and cost effective method of filling.

ASI Catalog #	Description
4MP6000	Automatic Filling Fixture
B100787-I	1 Liter Bag (3000 count)
N/A	Watson Marlow 620Di Peristaltic Pump
6025	Nozzle Replacement Assy
6065	Cap Puller-Placement Assy
C05	Microswitch
6070	Nozzle Kit
6075	Small Repair Comp. Kit



Port 1: Co-Ex Tube ASI Filling Connector

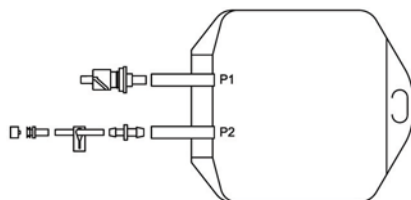


ASI Catalog #	Size
B100783-I	50 mL
B100784-I	100 mL
B100785-I	250 mL
B100786-I	500 mL
B100787-I	1 Liter

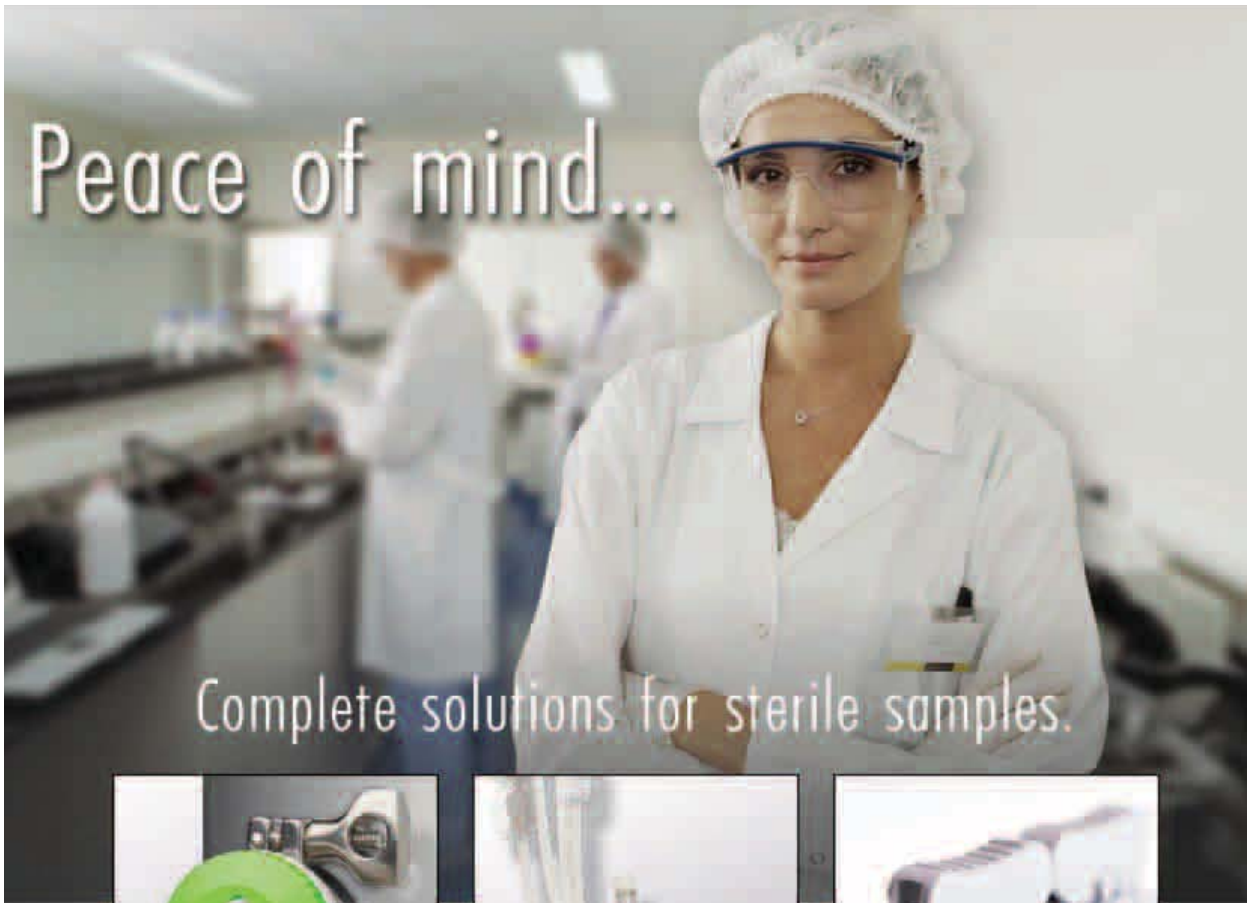
Port 1: Co-Ex Tube ASI Filling Connector

Port 2: 1/8" ID x 1/4" OD Clear C-Flex 374 (16")

LL Female + Cap, Slide Clamp

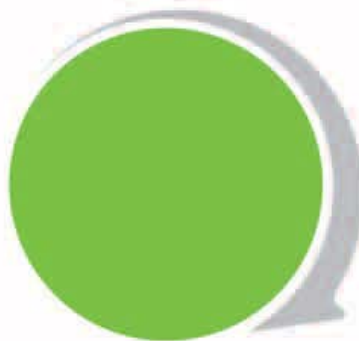


ASI Catalog #	Size
B100788-I	50 mL
B100789-I	100 mL
B100790-I	250 mL
B100791-I	500 mL
B100792-I	1 Liter



Peace of mind...

Complete solutions for sterile samples.



three 60



Simple and Secure

Three 60 is a completely sanitary, disposable method of removing a sample from a closed system. There are no parts which must be disassembled, cleaned, and reassembled. The entire set can be applied to your fluid holding vessel or transfer line, used and discarded.

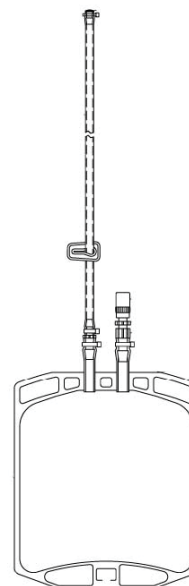
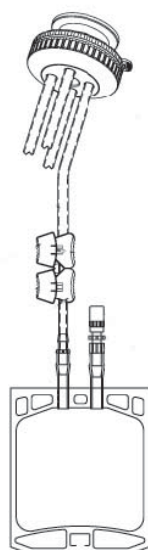
ASI also offers a complete line of small vessel sampling bags to compliment this procedure. As well, the patented "Pinch and Cut" separation device negates the need for an expensive tube sealing apparatus.

SMALL SYSTEM

ASI Catalog #	Size
4MP0034	50 Liter
4MP0035	100 Liter
4MP0036	250 Liter
4MP0037	500 Liter
4MP0038	1 Liter
4MP0039	2 Liter

SMALL VESSEL

ASI Catalog #	Size
B100563-I	50 mL
B100564-I	100 mL
B100565-I	250 mL
B100566-I	500 mL
B100567-I	1000 mL



STERILIZATION

Advanced Scientifics' Irradiation Validation protocol targets the product's Fluid Path for sterility. This approach is the most appropriate method for the products manufactured by Advanced Scientifics based on the application and the environment in which the products will be used. The company has validated this irradiation process in order to ensure each product meets and exceeds the highest industry standards regarding sterility and validation.

CERTIFICATIONS

As an ISO 13485:2003 certified, FDA registered manufacturer, Advanced Scientifics adheres to current Good Manufacturing practices (cGMP's). All manufacturing materials and processes are qualified in accordance with cGMP, United States Pharmacopoeia (U.S.P.) Class VI Plastics, American Standards Test Methods (ASTM), and International Standards Organization (ISO).

ISO 13485:2003 Certified #FM 88059

FDA Registered

PA - Registration # 2523689

MX - Registration # 3006946102

The most recent FDA inspection yielded no 483 inspection observations.

CONTACT INFORMATION

Advanced Scientifics, Inc.

163 Research Lane

Millersburg, PA 17061

800-724-4158

717-692-2104

Avances Cientificos De Mexico

104 Calle Poza Rica

H. Matamoros, Tamaulipas, Mexico

FOLDER W/BUSINESS CARD SLITS