



PRODUCTS AND SERVICES

HIGH PURITY TUBING, HOSE & FITTINGS

SANITARY HOSE ASSEMBLIES

MOLDED SILICONE & TPE COMPONENTS

SINGLE-USE MANIFOLD ASSEMBLIES

VERIGENICS[®] RFID SOLUTIONS





AdvantaSil® Silicone Tubing & Hose

Low volatile grade, platinum cured silicone meets USP Class VI, FDA CFR 177.2600, ISO 10993 and other standards. All tubing cores are extruded in ISO Class 7 clean rooms and are animal derived ingredient free. Most products have undergone full BPOG standardized extractables test protocol performed by a fully-accredited, third-party test lab and are included in our Rx-360 Joint Audit Program® for Single-Use Systems.

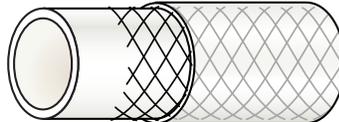


APST – Unreinforced Silicone Tubing: 35 stock sizes from .030" I.D. to 1" I.D.

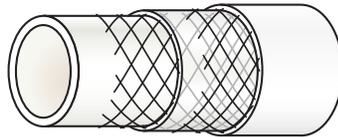
APHP – High Pressure Unreinforced Silicone Tubing: 7 stock sizes from 1/8" I.D. to 1" I.D.

APLT – Ultra Low Temp Silicone Tubing: 5 stock sizes from 1/8" I.D. to 1/2" I.D.

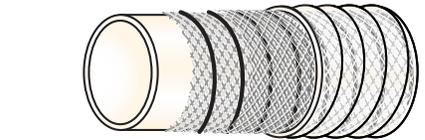
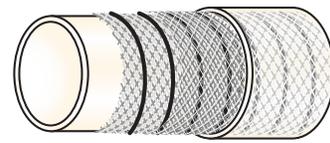
APSPG – Unreinforced Silicone Pump Tubing: 11 stock sizes from .031" I.D. to 1/2" I.D.



APSH – Braid Reinforced Silicone Hose: Polyester Braiding; 10 stock sizes from .063" I.D. to 1" I.D.



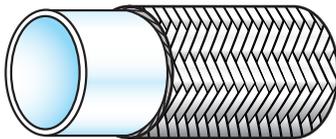
APSH-DB – Double Braid Reinforced Silicone Hose: Polyester Braiding; 3 stock sizes from 1/2" I.D. to 1" I.D.



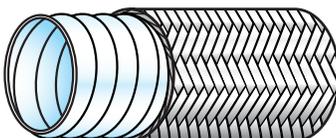
APSW – 4-Ply, Wire-Reinforced, Mandrel-Wrapped Silicone Suction Hose: Polyester Mesh Fabric; Spiral Wrapped; Smooth or Convoluted O.D.; 8 stock sizes from 1/2" I.D. up to 4" I.D.

Stainless Steel Overbraided PTFE Hose

Constructed of virgin grade white PTFE with series 300 stainless steel wire braid reinforcement. Can be configured with a silicone or rubber jacket.



APFOS-W – White PTFE Core, Smooth I.D.: 6 stock sizes from 1/4" I.D. to 1-1/2" I.D.



APFOS-WC – White PTFE Core, Convoluted I.D.: 6 stock sizes from 1/2" I.D. to 3" I.D.

AdvantaFlex® BioPharmaceutical Grade Tubing



Sealable and Weldable TPE Tubing

This highly engineered formulation of TPE tubing was developed for fluid transfer in the biopharmaceutical industry.

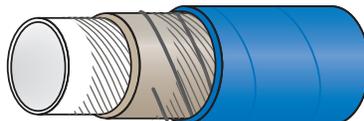
- Sterile weldable and heat sealable
- Proven to have a cleaner profile than competitive products
- Eliminates the need to incorporate sections of silicone tubing into filling and sampling applications
- Animal derived ingredient free
- Extensive validation and extractables test portfolios available
- Gamma irradiatable and autoclavable



APAF-BP – Biopharmaceutical Tubing: 16 stock sizes from 1/8" I.D. to 1" I.D.

EPDM Hose

Excellent chemical resistance properties make this hose ideal for many demanding applications.



APEWF – Wire-Reinforced, EPDM Rubber Core: 5 stock sizes from 3/4" I.D. to 3" I.D.



FITTINGS



All AdvantaPure® Fittings, most available in sizes from 1/4" I.D. to 4" I.D., are made of high quality 316L Stainless Steel, with a surface finish of ▲ 32Ra, ■ 20Ra/SF1 or ◆ SAE J-514/MIL-F 18866. Electro-Polishing services are also available.

Sanitary



Male I-Line ▲

Female I-Line ▲

Tri-Clamp ■

Tri-Clamp Elbow ■

Mini Tri-Clamp ■

Male Bevel Seat ▲

Female Bevel Seat ▲

Pipe Thread



Female Pipe ▲

Male Pipe ▲

Cam & Groove



Female C&G ▲
(Swivel shown)

Male C&G ▲

Compression



Tube Adapter ▲

Adapters



Male JIC x MNPT ◆

Male JIC x FNPT ◆

JIC



Female JIC Swivel ▲

Weld End



Tube Weld Adapter ■
and Pipe Weld Adapter ▲

Contact us
about fabricating
your complete
Hose Assemblies

Flange



Flange Retainer ▲
Flange (sold separately)
- available in 304 Stainless Steel

Plastic Barbed



Thermobarb® FDA PP
Polypropylene Barbed Fitting

SINGLE-USE SYSTEMS



Eliminate production stoppages for sterilization, reduce the risk of contamination, simplify cleaning validations and increase efficiency by incorporating Single-Use systems from AdvantaPure.

Each system is custom made using platinum-cured, Class VI **silicone tubing and hose** or Class VI **biopharmaceutical TPE tubing** for heat sealing and sterile welding applications. Add molded connections, fittings, stoppers and container closures (see page 5), filters, sensors, bottles, labels and tracking options, and other components.

Molded products are made in a clean room environment to meet your application's specific requirements, documented lot traceable, and certified to be free of animal-derived ingredients.

Single-Use systems are not intended for implantation or continuous steam applications.



Tubing and Hose

AdvantaSil[®] Silicone Tubing and Hose

Low-volatile grade, **platinum-cured silicone tubing** and **braid-reinforced silicone hose** are clean-room manufactured by AdvantaPure for pharmaceutical and biotech applications.

Both the tubing (called APST) and hose (APSH) have undergone extensive physical, chemical, and biological testing and meet USP Class VI, FDA CFR 177.2600, ISO 10993, European Pharmacopoeia 3.1.9, and other standards.

APST size range: .030" through 1" I.D. (.76mm through 25.40mm I.D.)
APSH size range: .063" through 1" I.D. (1.59mm through 25.40mm I.D.)



AdvantaFlex[®] Biopharmaceutical TPE Tubing

AdvantaFlex addresses the need for a flexible, translucent, sterilizable, **heat sealable**, and **weldable** biopharmaceutical tubing for fluid processing.

AdvantaFlex is ideal for **aseptic tubing welds**, as it eliminates costly aseptic connectors and multiple contact surfaces. The tubing is made from FDA-approved ingredients and meets various ISO and USP standards, including Class VI, as well as European Pharmacopoeia 3.2.2.1 standards.

Size range: 1/8" to 1" I.D. (3.18mm to 25.40mm I.D.)



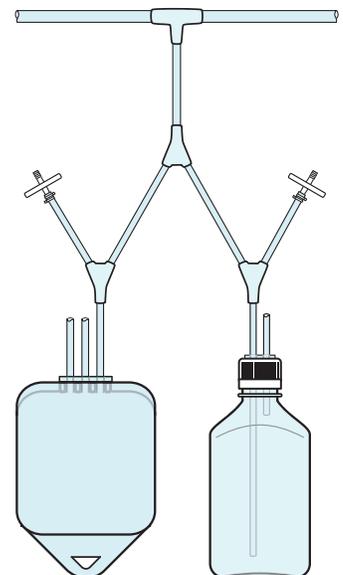
Molded Manifold Assemblies

Single-Use molded manifolds provide a seamless transition between tubing and connections eliminating leaks, entrapment, and contamination issues associated with barbed fittings. Molded connections made using **AdvantaSil platinum-cured silicone** or **AdvantaFlex biopharmaceutical TPE** include Y, T, cross, reducer, Tri-Clamp[®] and mini Tri-Clamp styles. Connection sizes differ depending on style and material. Size range: .188" to 1" I.D. (4.76mm to 25.40mm I.D.)



Select from a number of different crevice-free, leak-proof connections

Available in **mini** and **standard Tri-Clamp fitting** styles, molded ends are supplied with male gaskets molded directly to the face of the fitting. Protective backup cups provide a stable clamping surface and safeguard the fittings during installation and use.



Molded manifolds can be used with a variety of containers, vessels, biobags, etc. for batch filling and sampling needs

SINGLE-USE SYSTEMS



The AdvantaPure® Mold Shop produces a variety of molded components suitable for any number of applications. Single-Use systems are assembled and packaged in Class 7 (Class 10,000) ISO-certified clean rooms.

BioClosure® Systems High Purity Container Closures



Manufactured from AdvantaSil® platinum-cured silicone elastomer or from AdvantaFlex® biopharmaceutical grade TPE, AdvantaPure's BioClosure Systems offer the utmost in purity. They're biologically safe and work with vessels of glass, metal or plastic. Stoppers, caps, inserts for True Unions and GL45's, and other styles, with or without tubing, are available.

Use as a disposable item to reduce cross contamination risks, cleaning requirements and validation time and costs. Silicone bottle stoppers in sizes 2 to 12 are available with tubing already attached to speed your installation, reduce multiple product inventories, and save labor costs.



BioClosure® System Assemblies Preassembled Using AdvantaFlex® TPE Components

BioClosure System Assemblies, made from AdvantaFlex® biopharmaceutical grade TPE, provide a ready to use, cost effective solution to reduce assembly time and eliminate cleaning validations. The Single-Use, closed cap system features a robust design to protect product integrity and decrease the risk of contamination. All assemblies include a 0.2 um filter for sterile gas venting. BioClosure System Assemblies are an ideal choice for bioprocessing applications such as aseptic sampling, cell growth and filling.



Sterile Media Bottle Assemblies

- Available in five bottle capacities from 125 mL to 2 liter; square PETG bottle
- Tubing supplied with plugged end and dip tube to bottom of bottle with angled cut for easy transfer

Sterile Erlenmeyer Flask Assemblies

- Available in two capacities: 1 and 2 liter; polycarbonate flasks
- Flasks fit standard shaking incubator systems and can be placed on any platform
- Tubing with MPC/sealing cap and dip tube to bottom of flask with angled cut for easy transfer

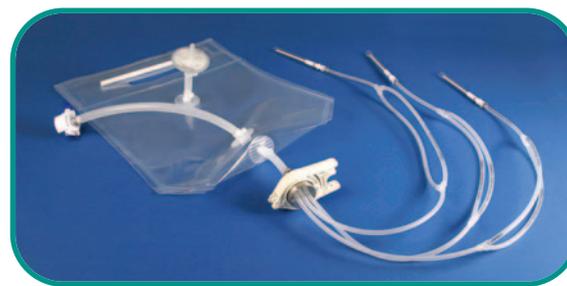
Cap Assemblies for AdvantaPure Carboys

- Available in five carboy cap capacities from 2.5 to 40 liter
- 2-port and 3-port closure configurations
- Fit carboys with 80mm and 120mm neck size
- Tubing with plugged end and dip tube to bottom of carboy for easy transfer



Molded Filling Assemblies

Sterile molded filling assemblies from AdvantaPure continue the shift to Single-Use processes that save time and reduce the risk of cross contamination while increasing productivity between batches. Manufactured with a focus on quality, the assemblies can be quickly installed and operational in a fraction of time as compared to traditional systems used in pharmaceutical and biotech filling. AdvantaPure's multiport Tri-Clamp® design reduces potential leak points, minimizes holdup volume and provides seamless flow.



Molded Silicone Assemblies

Supplied as silicone fittings molded directly to silicone tubing or hose, AdvantaPure's Molded Silicone Assemblies reduce installation time, improve cleanliness and retain the many benefits of silicone.



Molded Silicone Assemblies are available from AdvantaPure in mini and standard Tri-Clamp® fitting styles and are supplied with male gaskets molded directly to the face of the fitting. Straight-through and step-up bore configurations are produced in sizes up to 1" tube I.D. Protective backup cups, offered in polysulfone or 304 stainless steel for extra durability, provide a stable clamping surface and safeguard the fittings during installation and use.



SINGLE-USE SYSTEMS

Connections, Filters, Bottles

Overmolded Ends

are available in mini Tri-Clamp® styles in AdvantaFlex TPE for a smooth fluid path. Size range: 1/8" to 1/2" tubing I.D. (3.18mm to 12.70mm tubing I.D.)



Barbed fittings

come in Y, T, elbow and reducer styles. Materials include polypropylene, polyethylene and PVDF. Size range: 1/8" to 1" hose I.D. (3.18mm to 25.40mm hose I.D.)



Pinch Clamps

squeeze tubing closed anywhere along a line. Sizes fit up to 1" tubing O.D. (25.40mm tubing O.D.)



Quick Connects

offer on-the-spot connections and come in several materials. Dependable, reusable and secure.



Aseptic Connectors

reduce contamination risks and keep processing systems sterile. Several easy-to-use styles are available.



Filters

Choose from a variety of styles, sizes and manufacturers for your single use system.



Bottles

Laboratory and sampling bottles can also be incorporated into your system.



DocuLink® MANIFOLD ASSEMBLY IDENTIFICATION SYSTEM



DocuLink® is a service designed to save time and effort during document retrieval. It identifies a Single-Use System on the product itself, not only on the packaging from which it was removed, by encapsulating an affixed label into a molded silicone connection.

DocuLink can list the individual part number and lot number to allow quick lookup of documents such as certificates of compliance and certificates of analysis. DocuLink cannot fall off like other labels and handles clean-in-place (CIP), steam-in-place (SIP), autoclave and gamma irradiation processes.

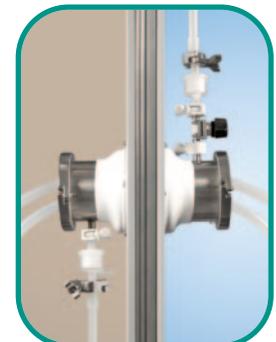


Cleanroom Wall & Bulkhead AdvantaPass® Pass-Through Technology



AdvantaPass® (U.S. Patents 8,870,230, 9,869,408 and 10,113,670) permits the aseptic transfer of fluids between the walls of manufacturing suites. It's the first system of its kind to offer **complete isolation** between different classes of clean rooms when transferring **multiple lines of fluid** through a single wall portal.

AdvantaPass provides a practical, safe, secure and easy way to move large volumes of liquids from one room to another without the risk of bin breakage or spillage. Its incorporation of **Single-Use disposable components** eliminates cleaning validation requirements that involve the expense and waste of time, labor and natural resources.



SERVICES



What really sets AdvantaPure® apart from other manufacturers is our ability and willingness to offer various services to create a custom part from stock material. This benefits you in two ways—fast delivery and low cost. Contact a helpful AdvantaPure Sales Representative to discuss your needs.

Hose Identification

Imprinted, laser-etched, and color-coded products create traceability, allow for instant recognition, identify capabilities or limitations, improve safety, and help achieve regulatory compliance. AdvantaPure offers various custom Hose Identification methods that may be used together or individually.

- **AdvantaLabel®** - Silicone hose labeling system uses permanently-vulcanized silicone to encase a label and color stripes to the outside of silicone tubing and hose for quick, easy-to-read identification.



- **Laser-Etched Collars** - Stainless steel collars are etched using precise laser technology for sharper and more legible text and images.

Hose Assemblies

By combining our broad line of stock tubing, hose and fittings, the optimum hose assembly for your application can be fabricated quickly. Let our Fabrication Team handle the assembly labor for you, so you receive a finished, ready-to-install product. We can also provide choices for non-entrapment hose assemblies, where conveyed materials contact only the pure inner-core of the assembly—from end to end—providing a seamless transition and higher flow rates.



High Purity Silicone Hose with Sanitary Stainless Steel Fittings

Special Hose Coverings

Special coverings offer additional protection from high temperatures or pressures, excessive friction, kinking or crushing, etc. Available materials include Stainless Steel Armor, Rubber, Silicone and more.



Stainless Steel Armor



Silicone Covered Stainless Steel Braid

Gamma Irradiation Services

Offering superior material penetration, gamma irradiation is chemical free, residual free and post-process radiation free. The irradiation process destroys microorganisms and bacteria and is the sterilization method of choice for many finished products used throughout the pharmaceutical and medical industries.

Have your products gamma irradiated before they arrive at your location and save the additional inventorying, transportation costs and transit time.

A number of AdvantaPure's silicone and AdvantaFlex products, particularly those designed for Single-Use, are available with validated sterility assurance of 10⁻⁶ per ISO 11137 method VDmax 25.



RFID SOLUTIONS



Verigenics®, a division of NewAge® Industries Inc., offers patented solutions to enable medical device, pharmaceutical and other regulated companies to track and authenticate consumables, assets and equipment. Verigenics products use RFID (radio frequency identification) technology to provide enhancements such as increased safety for providers and patients, brand loyalty, increased productivity, inventory visibility and improved product security.

Contact Verigenics directly: Phone: 888-322-5131 • Email: info@verigenics.com • Website: www.verigenics.com



RF IDENTIFICATION AND HOSE LIFECYCLE ANALYSIS SYSTEM

The Hose Track® Hose Lifecycle Analysis System is a unique hose assembly tracking system. Hose Track helps users minimize the risk of contamination and hose failure and the costly repercussions associated with batch waste and production stoppages. It offers an excellent way for manufacturing and maintenance personnel to monitor hose assembly cleaning, usage rates and replacement.



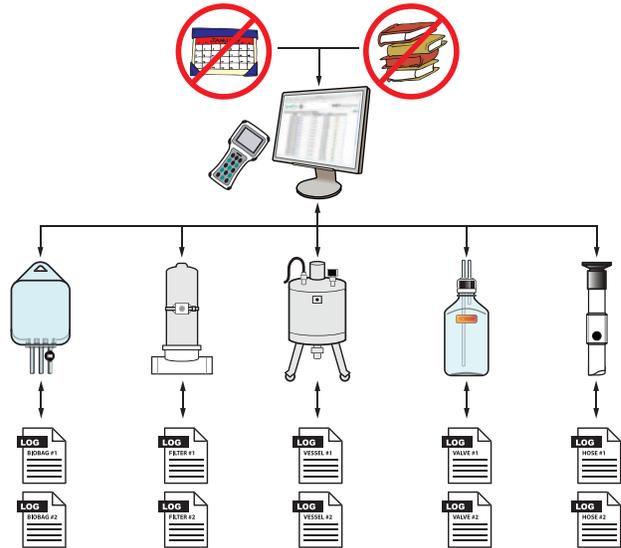
P-E-T Process Equipment Tracking®

The same RFID technology developed for hoses can be used for other components in the process chain—valves, filters, vessels, biobags and more. Track usage and cleaning cycles to ensure timely maintenance and replacement ... before parts begin to fail, risk product integrity, and waste time and labor. It's a logical approach to tracking all critical process components.

Calendar & Manual Log Methods for replacing critical process components can be unreliable, increasing the risk of product contamination and wear related failure.

RFID Tags attached to process equipment are scanned by a reader/writer to track wear related events and update the computer database.

The P-E-T System provides a detailed audit trail to assist in the validation process and consolidates documents by electronically linking to notes, cleaning schedules, files, certifications, drawings, installation instructions, warning notices and other protocols.



GammaTag® – the industry's first gamma-radiation-resistant read/write RFID tag is available exclusively from Verigenics. Ideal for use on products where gamma sterilization is required.



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