

BIOPHARMACEUTICAL CONNECTIONS

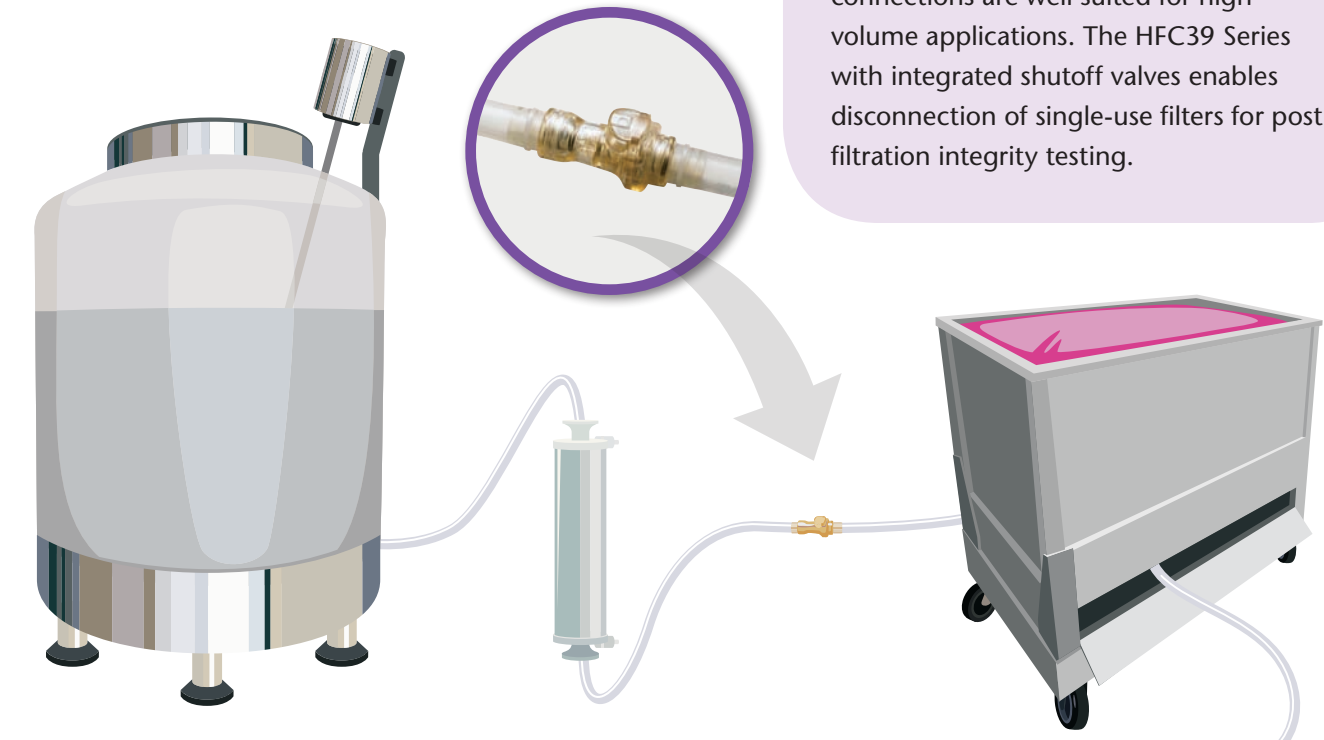
FERMENTATION

Bioreactor seed trains are evolving as single-use technologies are merging with or replacing traditional stainless vessels and fixed piping thus increasing process flexibility and reducing turnaround time. Single-use bags and transfer lines utilizing MPC or MPX connections in conjunction with SaniQuik™ adaptors allow quick changeover. Utilizing Steam-Thru® Connections allows operators to make a sterile connection between pre-sterilized single-use systems and fermentation equipment for aseptic media transfer.



MEDIA/BUFFER PREPARATION

Bag systems incorporating MPC/MPX connections have a proven track record for use in media and buffer preparation for storage volumes of 1 to 2,500L. MPU connections are well suited for high volume applications. The HFC39 Series with integrated shutoff valves enables disconnection of single-use filters for post filtration integrity testing.



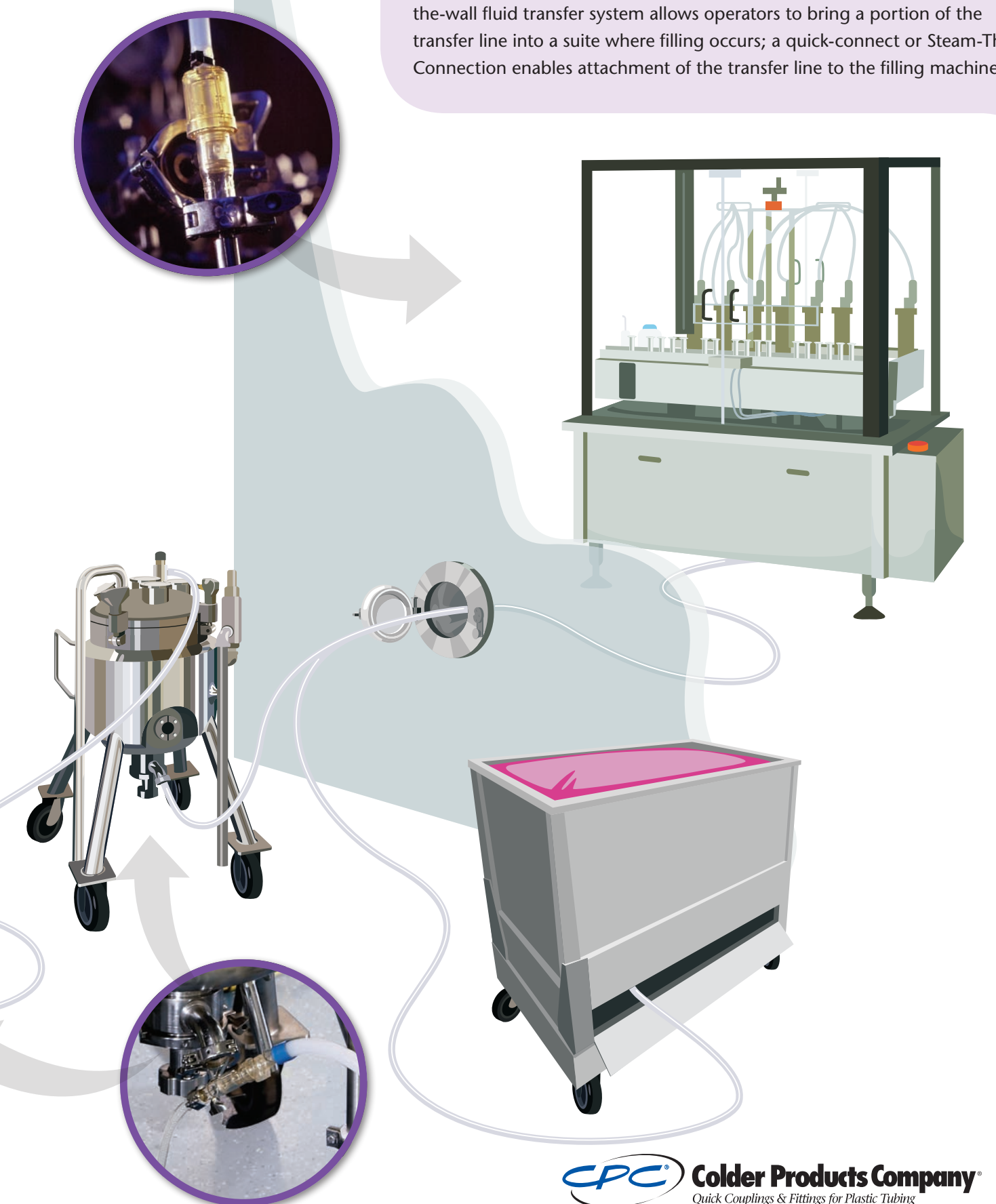
FILTRATION/PURIFICATION

Following fermentation a number of filtration and purification steps are performed with each step requiring one or more connections. Buffer additions are easily made with MPC/MPX connectors in combination with SaniQuik™ adaptors. Applications such as product transfer or closed-loop TFF systems benefit from the contamination control advantages provided by Steam-Thru® Connections.



FILLING

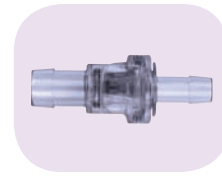
Integrating single-use systems into filling operations reduces set-up time and operational costs. Single-use transfer lines replace three-way valve assemblies on stainless vessels by incorporating Steam-Thru® Connections. A through-the-wall fluid transfer system allows operators to bring a portion of the transfer line into a suite where filling occurs; a quick-connect or Steam-Thru Connection enables attachment of the transfer line to the filling machine.



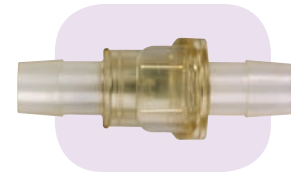
RELIABLE FLEXIBLE COMPATIBLE STERILE

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BIOPHARMACEUTICAL CONNECTIONS



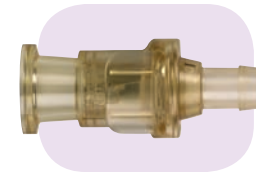
MPC: Easy-to-use and secure connection for critical fluid applications; features thin tapered barb to reduce turbulence. Includes pressure sealing caps and plugs and optional locking sleeves.
Pressure: Vacuum to 60 psi
Material: USP Class VI polycarbonate and polysulfone with silicone seals
Tubing ID Sizes: 1/4" to 3/8" (6.4mm to 9.5mm)



MPX: Easy-to-use and secure connection for 1/2" flow applications; features thin tapered barb to reduce turbulence. Includes pressure sealing caps and plugs and optional locking sleeves.
Pressure: Vacuum to 60 psi
Material: USP Class VI polycarbonate and polysulfone with silicone seals
Tubing ID Sizes: 3/8" to 1/2" (9.5mm to 12.7mm)



SaniQuik™: Sanitary adapter permits quick and easy connection between biopharmaceutical processing equipment and single-use systems that utilize MPC and MPX connectors.
Pressure: Vacuum to 60 psi
Material: 316L stainless steel with silicone seals
Termination Sizes: 3/4" and 1-1/2" sanitary



Sanitary: Allows single-use systems that utilize MPC and MPX connectors to be attached directly to popular sanitary connections without cumbersome adapters.
Pressure: Vacuum to 60 psi
Material: USP Class VI polysulfone with silicone seals
Termination Sizes: 3/4" and 1" sanitary



Steam-Thru® Connections: Allow quick and easy sterile connection between biopharmaceutical processing equipment and single-use bag and tube assemblies.
Pressure:
Steam Position: Up to 30 psi (STC), 35 psi (STC II)
Flow Position: Up to 20 psi
Material: USP Class VI polysulfone with silicone seals
Tubing ID Sizes: 3/8" to 1/2" (9.5mm to 12.7mm)



HFC39: Features automatic shutoff valves; cost-effective replacement for expensive, heavy, stainless steel connectors or fittings.
Pressure: Vacuum to 125 psi
Material: USP Class VI polysulfone with silicone seals
Tubing ID Sizes: 1/4" to 1/2" (6.4mm to 12.7mm)



MPU: High flow twist-to-connect design features easy-to-use locking mechanism that guards against accidental disconnects. Includes pressure sealing caps and plugs.
Pressure: Vacuum to 35 psi
Material: USP Class VI polysulfone with silicone seals
Tubing ID Size: 3/4" (19.0mm)

Sterilization Methods

MPC AND MPX POLYCARBONATE	MPC AND MPX POLYSULFONE, SANIQUIK, SANITARY, HFC39, MPU	STEAM-THRU CONNECTIONS
Gamma: Up to 50 KGy	Gamma: Up to 50 KGy	Gamma: Up to 50 KGy
Autoclave: At 121°C (250°F) for 30 minutes, up to 10 cycles. Sterilize uncoupled only.	Autoclave: At 132°C (270°F) for 60 minutes, up to 25 cycles. Sterilize uncoupled only.	Autoclave: At 129°C (265°F) for 30 minutes, up to two cycles. (part number specific)
		SIP process: Up to 130°C (266°F) for 60 minutes (Steam-Thru) Up to 135°C (275°F) for 60 minutes (Steam-Thru II)

RELIABLE FLEXIBLE COMPATIBLE STERILE



COLDER PRODUCTS COMPANY

Colder Products Company is a leader in design and manufacture of couplings and connectors for life sciences markets. Colder's connections ease biopharmaceutical manufacturers' transition between stainless processing equipment and single-use systems; whether in an upstream fermentation process or a downstream application in formulation or final fill. These innovative solutions help biopharmaceutical manufacturers improve production yields, decrease time-to-market and reduce costs.

Single-use systems minimize cross-contamination risks associated with reusable components. The reliability of single-use components results in increased productivity through the reduction of system downtime associated with cleaning and cleaning validation. Reducing downtime of key processes allows manufacturers to increase output while also decreasing time to market. They also minimize CIP validation, reduce WFI demand and lower operational costs.

Colder's wide variety of bioprocessing products provides quick and easy connections between flexible bag systems, tube sets, bioreactors and other bioprocess equipment. Steam-Thru® and SaniQuik™ connections ease the integration of single-use feed, harvest and sampling systems with existing processing equipment.

Founded in St. Paul, Minnesota in 1978, Colder offers more than 7,000 standard and custom products with direct sales and distributor representation in Asia, North America, Europe, Latin America and Australia.

Reliable, Flexible, Compatible, Sterile



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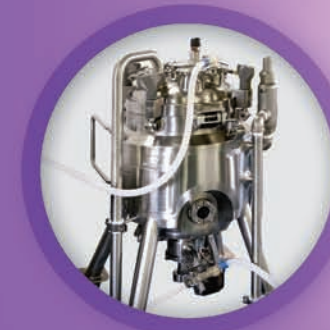
Colder Patent Statement: Colder Products Company takes pride in its innovative quick disconnect coupling solutions, many of which have been awarded United States and International patents. Colder Products Company has a strong tradition of leadership in the quick disconnect market, and aggressively pursues and protects its proprietary information and intellectual property. In cases where it is practical and as a benefit to its customers, Colder Products Company has licensed its proprietary technology. Please contact Colder Products to discuss your unique needs.

CPC Warranty Statement: Colder Products Company warrants its products against defects in workmanship and materials a period of 12 months from the date of sale by Colder Products Company to its initial customer (regardless of any subsequent sale of the products). This warranty is void if the product is misused, altered, tampered with or is installed or used in a manner that is inconsistent with Colder Product Company's written recommendations, specifications and/or instructions, or fails to perform due to normal wear and tear. Colder Products Company does not warrant the suitability of the product for any particular application. Determining product application suitability is solely the customer's responsibility. Colder Products Company is not liable for special, indirect, incidental, consequential or other damages including, but not limited to, loss, damage, personal injury, or any other expense directly or indirectly arising from the use of or inability to use its products either separately or in combination with other products. ALL OTHER WARRANTIES EXPRESS OR IMPLIED, WHETHER ORAL, WRITTEN OR IN ANY OTHER FORM, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY EXCLUDED.

The sole and exclusive remedy under this warranty is limited, at the option of Colder Products Company, to replacement of the defective product or an account credit in the amount of the original selling price. All allegedly defective Colder Products Company products must be returned prepaid transportation to Colder Products Company, together with information describing the product's application and performance, unless otherwise authorized in writing by Colder Products Company.

WARNING: Due to the wide variety of possible fluid media and operating conditions, unintended consequences may result from the use of this product, all of which are beyond the control of Colder. It is the user's responsibility to carefully determine and test for compatibility for use with their application. All such risks shall be assumed by the buyer.

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Connections for BioPharmaceutical Processes

- INCREASE PRODUCTIVITY
- ADD FLEXIBILITY
- MINIMIZE RISK
- REDUCE COST



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