

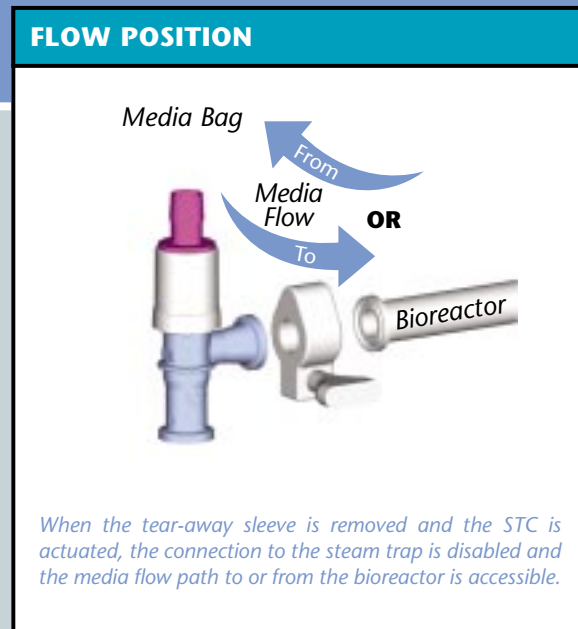
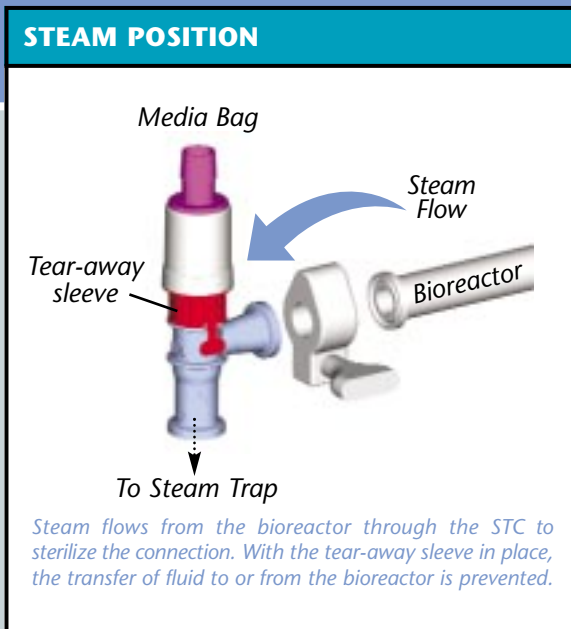
CPC® STEAM-THRU™ CONNECTIONS



CPC STEAM-THRU™ CONNECTIONS

Revolutionizing Steam-in-Place Processes

Colder Products Company (CPC) new medical grade Steam-Thru™ brand of connections (STC) is transforming the steam-in-place process making it cleaner, faster and easier. With the STC, steam passes directly through the connection, creating a one-step steam-in-place process. This contrasts with traditional SIP, which creates “dead legs” where steam containing remnant microorganisms become trapped in the connection chamber, increasing the chances of contamination.



Significant Cost Savings

CPC Steam-Thru brand of connections offer significant savings over traditional methods and materials in the steam-in-place process. By eliminating unnecessary connection points, the STC prevents “dead legs,” reduces chances of contamination and dramatically minimizes validation concerns. The STC works with existing systems, which means no retrofitting. CPC Steam-Thru brand of connections are the affordable, disposable solution.





The Disposable Choice for Multiple Applications

CPC revolutionary Steam-Thru brand of connections are made of polysulfone and meet stringent requirements — USP Class VI, MEM elution, hemolysis in vitro, and USP physicochemical tests. Steam-Thru connections are the product of choice for bioprocessing pilot plant facilities, pharmaceutical production, media manufacturing and cell harvesting applications.



CPC Steam-Thru Connection Tested and Proven

CPC contracted the University of Minnesota Biotechnology Resource Center to conduct a battery of bacterial challenge tests on our Steam-Thru brand of connections. Bacterial contamination introduced into the connection was eliminated during the standard 30-minute steam-through cycle. The University study found no bacterial growth in any of the connections tested in both the steam and flow positions.

Features & Benefits

Innovative design	<ul style="list-style-type: none"> Allows one-step steam-through process Eliminates “dead legs” where bacteria can grow Reduces number of connection points Eliminates need for laminar flow hoods
Disposable	Affordable unit price
Reduces maintenance cost	Reduces cleaning and validation issues associated with reusable components
Increases capacity	Speeds production cycle
Tear-away sleeve	<ul style="list-style-type: none"> Prevents accidental actuation Insures seal integrity Provides visual indicator of process stage
3/4" mini and 1 1/2" tri-clamp	Meets industry standard terminations
3/8" and 1/2" hose barbs	Connects to various tubing sizes
Medical grade polysulfone	Compatible with standard sterilization methods

CPC Steam-Thru™ Brand of Connections Part Numbers and Products

1700000	3/4" x 3/4" sanitary x 1/2" HB
1700100	3/4" x 3/4" sanitary x 3/8" HB
1700200	3/4" x 1 1/2" sanitary x 1/2" HB
1700300	3/4" x 1 1/2" sanitary x 3/8" HB



Additional bioprocessing products are available in CPC's Quick Couplings for Medical and Bioprocessing Applications catalog. CPC's 60-page Quick Couplings for Plastic Tubing catalog also contains information on other product lines.

Contact CPC at **1-800-444-2474** today for your free catalog or contact your local distributor.

STEAM-THRU CONNECTIONS SPECIFICATIONS

Materials: *Connection:* polysulfone, Class VI
Seals: silicone, clear platinum cured, Class VI

Packaging: CPC Steam-Thru connections are double bagged in polyethylene bags. Standard packaging is 10 parts per bag. Minimum order is 10 pieces.



Colder Products™
Quick Couplings & Fittings for Plastic Tubing

ISO 9001
CERTIFIED

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WARRANTY: 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.

STEAM-THRU™ CONNECTIONS

Revolutionizing Steam-in-Place Processes

Colder Products Company's Steam Thru™ Connections (STC) are transforming the steam-in-place process, making it cleaner, faster and easier. With the STC, steam passes directly through the connection, creating a one-step steam-in-place process. By eliminating unnecessary connection points, the STC prevents "dead legs," reduces chances of contamination and minimizes validation concerns.



FEATURES	BENEFITS
Innovative design	Allows one-step steam-through process Eliminates "dead legs" where bacteria can grow Reduces number of connection points Eliminates need for laminar flow hoods
Disposable	Saves time and money by eliminating unnecessary cleaning procedures Reduces validation issues associated with reusable components
Tear-away sleeve	Prevents accidental actuation Insures seal integrity Provides visual indicator of process stage
Industry standard terminations	Speeds connection to the bioreactor Connects to popular sizes of flexible tubing

Applications:

- Flexible bag applications
- Media manufacturing
- Cell harvesting
- Bioreactor feeding
- Pilot plant facilities
- Pharmaceutical production

Steam-Thru Series Specifications

Typical Flow Rate: Cv = 4.6 max (see graph)

Operating Temperature:

Steam position: Up to 130° C (266° F) for 60 minutes

Flow position: 4° C to 40° C (39° F to 104° F)

Operating Pressure:

Steam position: Up to 30 psi (2.07 bar)

Flow position: Vacuum to 20 psi (1.38 bar)

Materials:

Connection: Polysulfone, USP Class VI

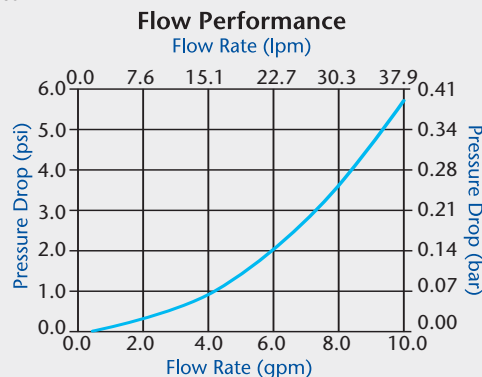
Seals: Silicone (clear), platinum cured, USP Class VI

Tear-away seal: Polyethylene

Sterilization:

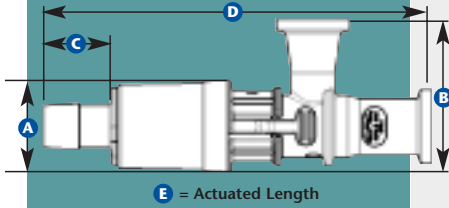
Gamma: Up to 50 kGy gamma irradiation

SIP process: Up to 130° C (266° F) for 60 minutes



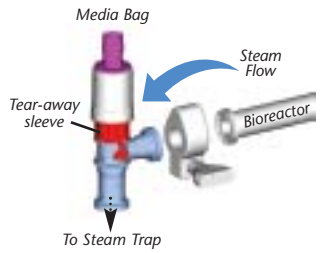
Steam-Thru™ Connections

All measurements are in inches unless otherwise noted.



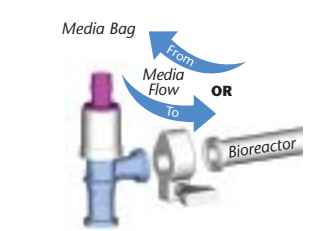
E = Actuated Length

STEAM POSITION



Steam flows from the bioreactor through the STC to sterilize the connection. With the tear-away sleeve in place, the transfer of fluid to from the bioreactor is prevented.

FLOW POSITION



When the tear-away sleeve is removed and the STC is actuated, the connection to the steam trap is disabled and the media flow path to or from the bioreactor is accessible.

PART NUMBER	TERMINATIONS	A	B	C	D	E
STC1700000	3/4" x 3/4" sanitary x 1/2" HB	1.20" (30.5mm)	2.00" (50.8mm)	0.89" (22.6mm)	5.09" (129.3mm)	4.44" (112.8mm)
STC1700100	3/4" x 3/4" sanitary x 3/8" HB	1.20" (30.5mm)	2.00" (50.8mm)	0.60" (15.2mm)	4.80" (121.9mm)	4.15" (105.4mm)
STC1700200	3/4" x 1-1/2" sanitary x 1/2" HB	1.20" (30.5mm)	2.00" (50.8mm)	0.89" (22.6mm)	5.09" (129.3mm)	4.44" (112.8mm)
STC1700300	3/4" x 1-1/2" sanitary x 3/8" HB	1.20" (30.5mm)	2.00" (50.8mm)	0.60" (15.2mm)	4.80" (121.9mm)	4.15" (105.4mm)

Verification Test Summary

Bacterial Challenge: Configurations of the STC were subjected to bacterial challenge at the University of Minnesota's Biotechnology Resource Center. The challenge test was to verify that bacterial contaminants introduced into the connector could be effectively killed by a 30 minute steam-in-place process. The challenge organism used was *Bacillus stearothermophilus* with a concentration of viable spores at 5×10^8 per milliliter.

Microbial Ingress Test: Configurations of the STC were subjected to bacterial ingress challenge. The objective of the ingress challenge was to verify seal integrity of the STC in steam and flow positions after gamma irradiation at doses to 50 Kilograys. The challenge organism selected was *Brevundimonas diminuta* at a concentration of $10^6 - 10^8$ CFU per milliliter.

Class VI Tests: Polysulfone and silicone materials tested to meet the requirements of USP Class VI, MEM elution, hemolysis *in vitro*, and physicochemical tests.

For additional information, contact CPC.

***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 CPC. 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.

WARRANTY: All sales are subject to Colder Products Company's limited express warranty set forth in the CPC catalog. Contact your local distributor or CPC Customer Service for warranty provisions.

CPC 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.



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