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STEAM-THRU CONNECTIONS

**Specifications**

**Pressure:**

**Steam position:**

Up to 30 psi, 2.07 bar (Steam-Thru)

35 psi, 2.41 bar (Steam-Thru II)

**Flow position:** Vacuum to 20 psi, 1.38 bar

**Temperature:**

**Steam position:**

Up to 266° F (130° C) for 60 minutes (Steam-Thru)

Up to 275° F (135° C) for 60 minutes (Steam-Thru II)

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

**Materials:**

**Connection:** (amber tint) Polysulfone, USP Class VI

**O-rings:** Silicone (clear), platinum-cured, USP Class VI

**Tear-away sleeve:** Polyethylene or polycarbonate (Steam-Thru only)

**Typical Flow Rate:**

$C_v = 4.2 - 4.6$  (Steam-Thru)

$C_v = 5.2 - 8.0$  (Steam-Thru II)

**Sterilization:**

**Gamma:** 50 kGy gamma irradiation

**Autoclave:** 265° F (129° C) for 30 minutes, up to two cycles (applies only to part numbers STC1700500-STC1700800)

**SIP process:**

266° F (130° C) for 60 minutes (Steam-Thru)

275° F (135° C) for 60 minutes (Steam-Thru II)

**Tubing sizes:**

3/8" to 1/2" ID, 9.5mm to 12.7mm ID (Steam-Thru)

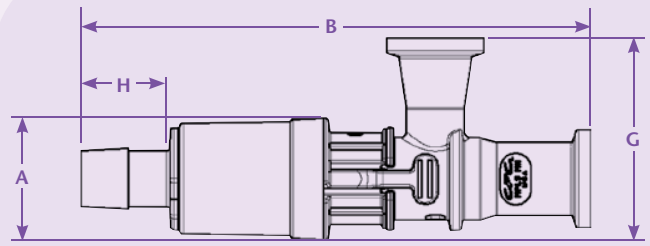
1/2" ID, 12.7mm ID (Steam-Thru II)

**Steam-Thru® Connections** allow a quick and easy sterile connection between biopharmaceutical processing equipment and single-use bag and tube assemblies. The single-use design saves time and money by eliminating unnecessary cleaning procedures and reducing validation burden associated with reusable components.

Features	Benefits
Innovative three-port design	Allows a true steam-through SIP process which eliminates "dead legs" and the need for laminar flow hoods
Patented valve design	Allows sterile connection and disconnection and permits high media flow rate
Thumb latch/tear-away sleeve	Provides visual indicator of process stage and secures valve position
Industry standard terminations	Speed connection to the process equipment and connect to popular sizes of flexible tubing
Single-use design	Eliminates unnecessary cleaning procedures and validation issues

## Steam-Thru® Configurations

Steam-Thru® Connection's patented three-port design allows steam to pass directly through the lower ports to "steam on" to stainless equipment. After the SIP cycle is completed, the connector's valve is actuated, creating a sterile flow path to single-use systems.



F = Actuated Length

## POLYSULFONE

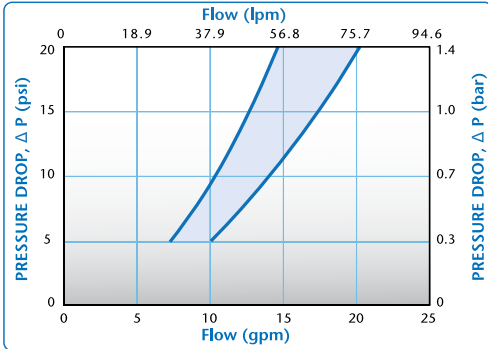


DESCRIPTION WITH POLYETHYLENE SLEEVE	PART NO.	TERMINATIONS	A	B	F	G	H
	STC1700000	3/4" x 3/4" sanitary x 1/2" HB	1.20 (30.5)	5.09 (129.3)	4.44 (112.8)	2.00 (50.8)	0.89 (22.6)
	STC1700100	3/4" x 3/4" sanitary x 3/8" HB	1.20 (30.5)	4.80 (121.9)	4.15 (105.4)	2.00 (50.8)	0.60 (15.2)
	STC1700200	3/4" x 1-1/2" sanitary x 1/2" HB	1.20 (30.5)	5.09 (129.3)	4.44 (112.8)	2.00 (50.8)	0.89 (22.6)
	STC1700300	3/4" x 1-1/2" sanitary x 3/8" HB	1.20 (30.5)	4.80 (121.9)	4.15 (105.4)	2.00 (50.8)	0.60 (15.2)

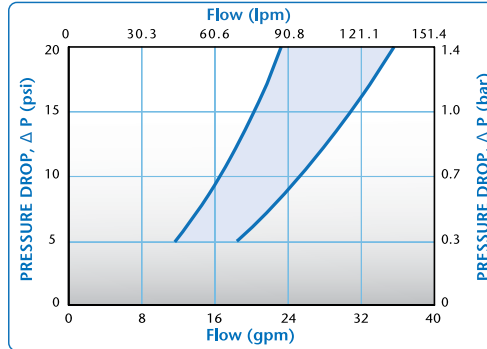


DESCRIPTION WITH AUTOCLAVABLE POLYCARBONATE SLEEVE	PART NO.	TERMINATIONS	A	B	F	G	H
	STC1700500	3/4" x 3/4" sanitary x 1/2" HB	1.20 (30.5)	5.09 (129.3)	4.44 (112.8)	2.00 (50.8)	0.89 (22.6)
	STC1700600	3/4" x 3/4" sanitary x 3/8" HB	1.20 (30.5)	4.80 (121.9)	4.15 (105.4)	2.00 (50.8)	0.60 (15.2)
	STC1700700	3/4" x 1-1/2" sanitary x 1/2" HB	1.20 (30.5)	5.09 (129.3)	4.44 (112.8)	2.00 (50.8)	0.89 (22.6)
	STC1700800	3/4" x 1-1/2" sanitary x 3/8" HB	1.20 (30.5)	4.80 (121.9)	4.15 (105.4)	2.00 (50.8)	0.60 (15.2)

STC I Water Flow



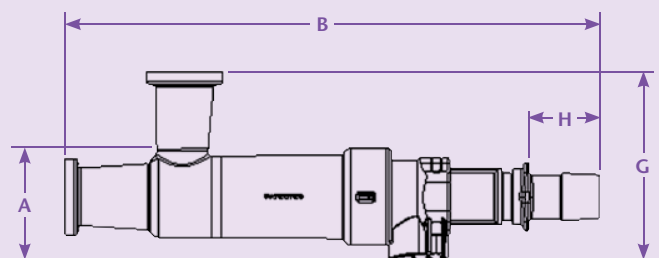
STC II Water Flow



These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area.

## Steam-Thru II Configurations

Steam-Thru II Connections offer the flexibility of "steam on" and "steam off" functionality. The patented design allows the valve to be returned to the steam position enabling a second SIP cycle following media transfer. The "steam off" disconnection of single-use systems minimizes cross-contamination risks associated with reusable components.



F = Actuated Length

## POLYSULFONE



TERMINATION	PART NO.	TERMINATIONS	A	B	F	G	H
	STC2020000	3/4" x 3/4" sanitary x 1/2" HB	1.42 (36.1)	6.84 (173.7)	5.93 (150.6)	2.40 (61.0)	.88 (22.4)
	STC2020100	3/4" x 3/4" sanitary x 3/8" HB	1.42 (36.1)	6.76 (171.7)	5.93 (150.6)	2.40 (61.0)	.80 (20.3)
	STC2020200	3/4" x 1-1/2" sanitary x 1/2" HB	1.42 (36.1)	6.84 (173.7)	5.93 (150.6)	2.40 (61.0)	.88 (22.4)
	STC2020300	3/4" x 1-1/2" sanitary x 3/8" HB	1.42 (36.1)	6.76 (171.7)	5.93 (150.6)	2.40 (61.0)	.80 (20.3)

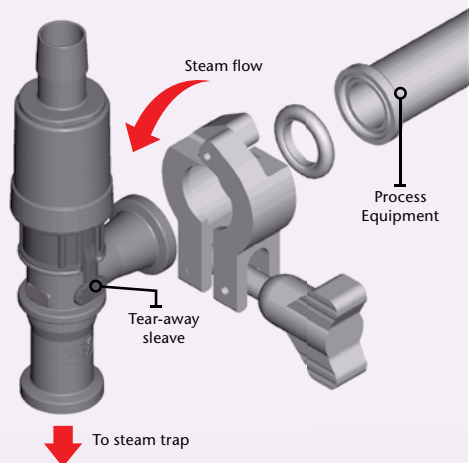
All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters.

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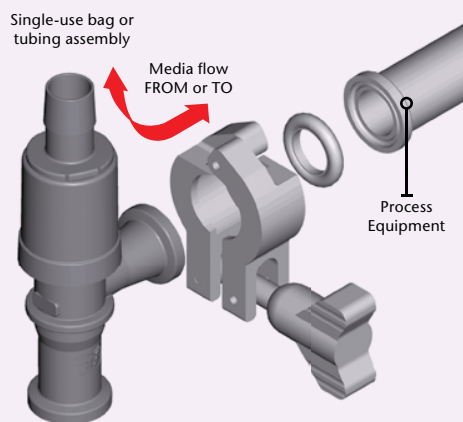
## Steam-Thru Process

### STEAM POSITION



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

### FLOW POSITION



When the tear-away sleeve is removed, the Steam-Thru is actuated, the connection to the steam trap is disabled and a sterile flow path is established between the process equipment and the single-use system.



## DID YOU KNOW ... there are many advantages of single-use systems?

### ✓ Increase Productivity

The reliability of single-use systems results in increased productivity through the reduction of system downtime associated with cleaning and cleaning validation.

### ✓ Add Flexibility

Single-use systems can be easily modified for alternative media handling.

### ✓ Minimize Risk

The integration of single-use systems can help minimize the risk of media contamination in multi-product manufacturing.

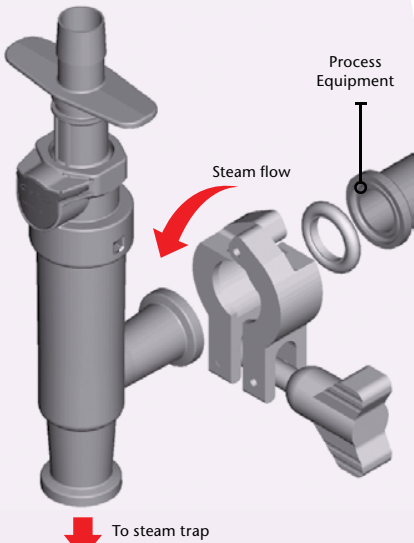
### ✓ Reduce Cost

Cost savings include the reduced chemical and utility expenses of cleaning and labor.

Don't forget: you can access many feature articles on Single-Use technology at [www.colder.com](http://www.colder.com).

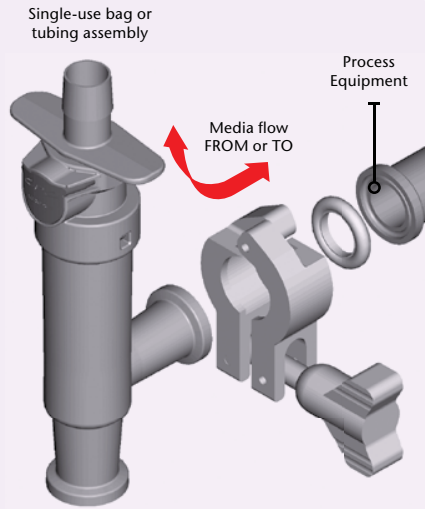
**Steam-Thru II Process:** An audible "click" and the visual indicator of the raised thumb latch provide assurance that the valve is locked in the flow or steam position.

**STEAM ON POSITION**



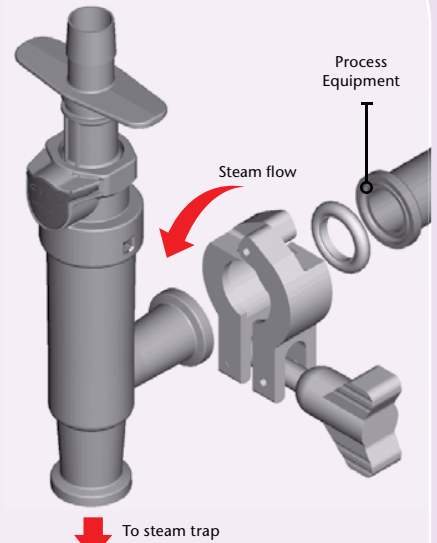
Steam flows from the process equipment through the Steam-Thru II creating a "steam on" sterile connection.

**FLOW POSITION**



Once the valve is locked in the flow position a sterile flow path has been created allowing media transfer.

**STEAM OFF POSITION**

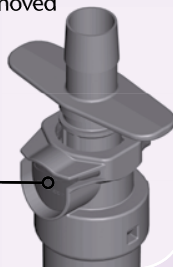


Once the valve is locked in the steam position, complete a second SIP cycle to "steam off" the connection.

**TRANSITION TO FLOW**

Once the "steam on" cycle is complete and the steam trap has been closed, simply press the thumb latch to allow the valve to be moved down to the flow position.

Thumb latch recessed during valve transition



**TRANSITION TO STEAM**

Once media transfer is complete, simply press the thumb latch to allow the valve to be moved back up to the steam position.

Thumb latch recessed during valve transition

