

Pure Fit™ Tube Clamps



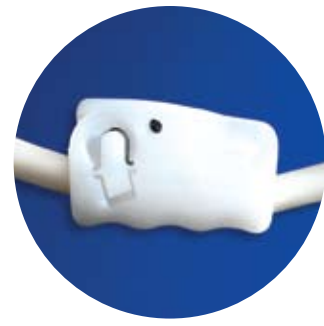
Advanced Tube Clamps
for the Most Demanding Applications



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Pure Fit™ TC

Standard Size Tube Clamps



Pure-Fit® TC

Pure-Fit® TC Tube Clamps represent a new generation of clamping technology for the pharmaceutical industry. They feature an outer body with no sharp edges, eliminating the potential for snags, scratches and punctures; a press-down locking system that is fully encapsulated to guard against untimely or unwanted release; a side release mechanism that facilitates secure, single-handed installation and operation; and an integral bore hole for absolute lock-out capabilities. Pure-Fit® TC's innovative design allows for complete flow stoppage, and the clamp can be installed over the tube in the normal fashion or put together after the tube is already part of a completed assembly.

Pure-Fit® TC Characteristics

Pure-Fit® TC Tube Clamps are constructed from high performance thermoplastic materials (PVDF or polypropylene), and come in two standard sizes (3/8" and 3/4") to accommodate a wide range of tubing products.

Pure-Fit® TC Compatibility

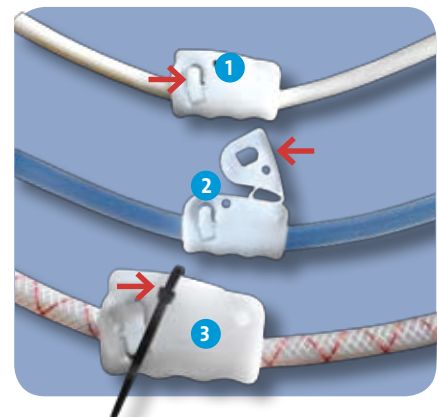
Pure-Fit® TC Tube Clamps are autoclavable and sterilizable and meet all USP Class VI criteria. They have been physically tested to meet the most demanding applications.

Pure-Fit® TC and TCL Typical Physical Properties

| Property | Polypropylene | PVDF |
|---|-----------------|-------------------|
| Tensile Strength, psi (MPa) ASTM D638-91 | 4,800 (33.1) | 6,300 (43.4) |
| Flexural Modulus, psi (MPa) ASTM D790-92 | 145,000 (999.7) | 290,000 (1,999.5) |
| Hardness (Shore D) ASTM D2240-91 | 72 | 78 |
| Heat Deflection ASTM D648-82 | | |
| °F (°C) @66 psi | 189 (87) | 266 (130) |
| °F (°C) @264 psi | — | 221 (105) |
| Water Absorption (%) ASTM D570-81 | 0.01 | 0.03 |
| Maximum Recommended Working Temperature °F (°C) | 200 (93) | 275 (135) |

Pure-Fit® TC Features/Benefits

- Provides complete fluid stoppage
- Smooth edges and corners help prevent punctures and ruptures
- Can be installed on or over tubing or finished assemblies
- High degree of leverage accommodates tubing with different durometers
- Can be utilized in the flow position
- Single-hand installation capability for ease of operation
- Unique top locking mechanism and side release prevent unwanted openings
- Integral bore hole for lock-out capabilities
- Available in PVDF or polypropylene
- Custom colors and identification available
- All materials completely animal derivative-free and BPA-free
- Autoclavable and sterilizable (autoclave not recommended for polypropylene clamps)



- 1 Squeeze to release.
- 2 Press down to lock.
- 3 Thread cable tie through bore hole for total lock out.

Pure Fit™ TCL

Large Tube Clamps



Pure-Fit® TCL

Pure-Fit® TCL Large Tube Clamps provide the same innovative clamping technology as Pure-Fit® TC, but are designed to accommodate large diameter and thick wall tubing applications. Pure-Fit® TCL is compatible with standard, braided (reinforced) and multilayer tubing. In addition to providing complete fluid stoppage, Pure-Fit® TCL can be utilized in the flow position and features an integral bore hole for absolute lock-out capabilities.

Pure-Fit® TCL Characteristics

Pure-Fit® TCL is constructed from animal derivative-free and BPA-free PVDF. Pure-Fit® TCL is available in two sizes to accommodate a wide range of thick wall tubing and can be used with up to 2.0" O.D. tubing.

Pure-Fit® TCL Compatibility

Pure-Fit® TCL is fully autoclavable and sterilizable and meets all USP Class VI criteria.

Pure-Fit® TCL Features/Benefits

- Compatible with large diameter, thick wall, reinforced and multilayer tubing
- Provides complete fluid stoppage
- Smooth edges and corners help prevent punctures and ruptures
- Can be installed on or over tubing or finished assemblies
- High degree of leverage accommodates tubing with different durometers
- Can be utilized in the flow position
- Integral bore hole for lock-out capabilities
- Available in PVDF
- Custom colors and identification available
- All materials completely animal derivative-free and BPA-free
- Fully autoclavable and sterilizable

Pure-Fit® TC and TCL Typical Applications

- Biopharmaceutical manufacturing
- Drug delivery and discovery
- Laboratory functions
- Pharmaceutical processes
- Medical systems
- Assemblies and tubing set
- Peristaltic pump sets

Pure-Fit® TC Selection Guide

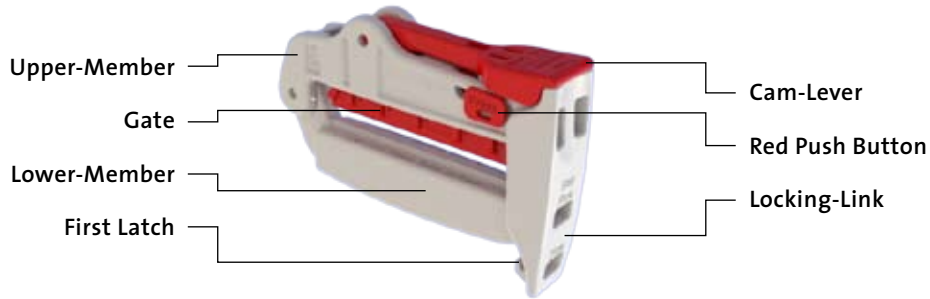
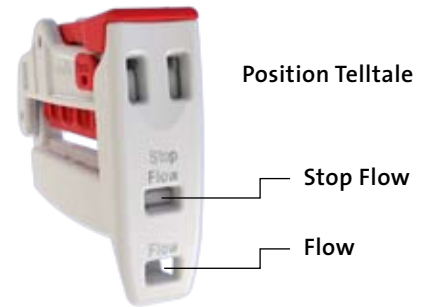
| Part Number | Material | Tubing Range, O.D. (Inches) | Minimum, Wall Section (Inches) |
|-------------|---------------|-----------------------------|--------------------------------|
| PFTC375PP | Polypropylene | 1/8 – 3/8 | .030 |
| PFTC375PVDF | PVDF | 1/8 – 3/8 | .030 |
| PFTC750PP | Polypropylene | 3/8 – 3/4 | .060 |
| PFTC750PVDF | PVDF | 3/8 – 3/4 | .060 |

Pure-Fit® TCL Selection Guide

| Part Number | Material | Tubing Range, O.D. (Inches) | Tubing Range, Wall (Inches) |
|-------------|----------|-----------------------------|-----------------------------|
| PFTCL150 | PVDF | 3/4 – 2 | 1/16 – 1/8 |
| PFTCL250 | PVDF | 3/4 – 2 | 1/8 – 1/4 |

Pure-Fit® TCL Clamping Properties

The tests below were conducted using Saint-Gobain Performance Plastics' standard silicone tubing, Sani-Tech® STHT-C-500-4 (0.5" ID x 0.75" OD x 0.125" wall) and Sani-Tech® STHT-C-1000-6 (1.00" ID x 1.5" OD x 0.25" wall), and braid-reinforced silicone hose, Sani-Tech® STHT-R-0500 (0.5" ID x 0.875" OD x 0.187" wall) and Sani-Tech® STHT-R-1000 (1.00" ID x 1.375" OD x 0.187" wall).



| | STHT-C-500-4 0.5" ID x 0.75" O.D. x 0.125" Wall | STHT-R-0500 0.5" ID x 0.875" O.D. x 0.187" Wall | STHT-C-1000-6 1.00" ID x 1.5" O.D. x 0.25" Wall | STHT-R-1000 1.00" ID x 1.375" O.D. x 0.187" Wall |
|---|--|--|--|---|
| Pure-Fit® TCL part number | PFTCL150 (white) | PFTCL250 (red) | PFTCL250 (red) | PFTCL250 (red) |
| Clamp holding force | | | | |
| Pressure Only, psi | 56* | 102.33 | 76.50 | 40 |
| Pressure with Liquid, psi | 55* | 101.83 | 76.50 | 40 |
| Drop testing of liquid-filled assembly from a distance of 5 feet | | | | |
| "Flow" Position, Cam Lever Closed | Pass | Pass | Pass | Pass |
| "Stop Flow" Position, Cam Lever Closed | Pass | Pass | Pass | Pass |
| "Stop Flow" Position, Cam Lever Closed, Pressurized | Pass | Pass | Pass | Pass |
| Average % free flow | | | | |
| Free Flow, No Clamp | 100% | 100% | 100% | 100% |
| "Flow" Position, Cam Lever Closed | 100% | 100% | 76% | 76% |
| "Stop Flow" Position, Cam Lever Opened | 100% | 75% | 53% | 53% |
| "Stop Flow" Position, Cam Lever Closed | 0% | 0% | 0% | 0% |
| Flow rates, time to empty, sec. | | | | |
| Free Flow, No Clamp | 58.58 | 58.58 | 8.73 | 8.73 |
| "Flow" Position, Cam Lever Closed | 58.50 | 44.38 | 11.50 | 11.50 |
| "Stop Flow" Position, Cam Lever Opened | 58.55 | 58.57 | 16.47 | 16.47 |
| "Stop Flow" Position, Cam Lever Closed | No flow | No flow | No flow | No flow |

* determined by tubing

How to Operate Pure-Fit[®] TCL

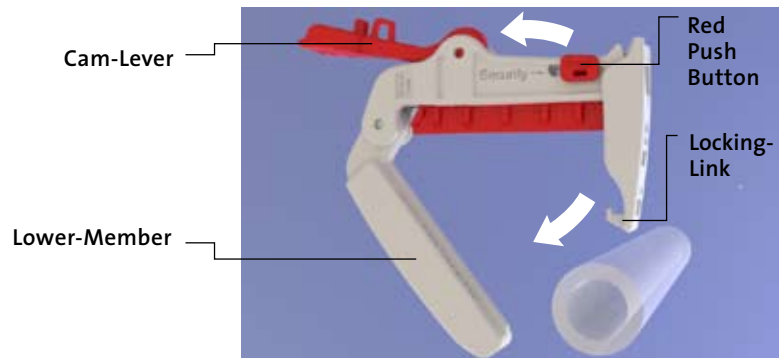
1

- Starting from the closed position, simultaneously press and hold the two Red Push Buttons.



2

- While pressing the Red Push Buttons, pull the Cam-Lever back toward the hinge of the clamp.
- Pull the Lower-Member away from the Locking-Link.



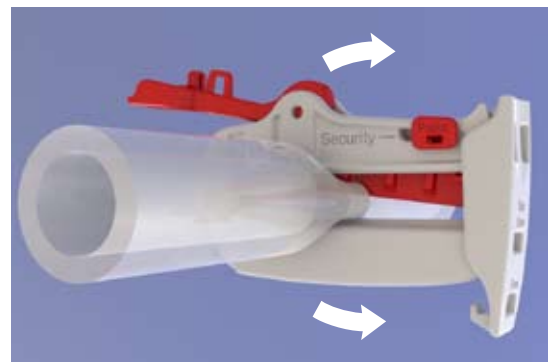
3

- Position the tube in the gate, as close as possible to the hinge of the clamp.



4

- Push Lower-Member to the desired position ("Flow" or "Stop Flow").
- Rotate the Cam-Lever to the closed position.



5

- The tubing is now held in the "Flow" position or locked in the "Stop Flow" position (rendering shows "Stop Flow" position).



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Saint-Gobain
Performance Plastics
2664 Gilchrist Road
Akron, OH 44305
Tel: (800) 798-1554
Tel: (330) 798-9240
Fax: (330) 798-6968

Saint-Gobain
Performance Plastics
4451 110th Avenue North
Clearwater, FL 33762
Tel: (800) 541-6880
Tel: (727) 531-4191
Fax: (727) 530-5603

Saint-Gobain
Performance Plastics
Grindwell Norton Ltd,
Devanahalli Road,
Off Old Madras Road,
Bangalore, 560049, India
Tel: +91 80 28472900
Fax: +91 80 280472616

Saint-Gobain
Performance Plastics
460 Milltown Road
Bridgewater, NJ 08807
Tel: (800) 435-3992
Tel: (908) 218-8888
Fax: (908) 218-9009

Saint-Gobain
Performance Plastics
3910 Terry-Diane Street
Beaverton, MI 48612
Tel: (888) 387-0067
Tel: (989) 435-9533
Fax: (989) 435-2355

Saint-Gobain
Performance Plastics
La Mothe-aux-Aulnaies
F-89120 Charny, France
Tel: (33) 3-86-63-78-78
Fax: (33) 3-86-63-77-77

Saint-Gobain
Performance Plastics
Saint-Gobain KK
10801-5, Haramura,
Suwa-gun
Nagano 391-0106 Japan
Tel: (81) 266-79-6400
Fax: (81) 266-70-1001



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