



## From pump-to-product offerings

- Gamma-irradiated components eliminate labor, lead time, and validation costs associated with assembly and cleaning
- Genuine Masterflex tubing undergoes robust testing to provide optimal performance and pump life hours with peristaltic pump equipment
- Single-use bioprocess assemblies available in custom lengths and configurations to minimize downtime
- Traceability and regulatory compliance

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# Masterflex® Single-Use Sanitary Components



# Masterflex Gamma-Irradiated WFI Sampling Assemblies

## Obtain a contaminant-free sample from a WFI use point

- Connection secured by metallic binding
- All assembly and packaging is conducted in an ISO Class 7 cleanroom
- Double bagged in an easy-peel, low-permeability pouch
- Sterilized to ensure microbial control
- Low TOC materials

The sanitary Tri-Clamp® fitting features a fused gasket to allow easy, quick installation with less chance of contamination or gasket hassles. The fitting is constructed of animal-derived ingredient-free polypropylene (PP); gasket and tubing are made from TPE. A nylon clamp is also included in the pouch.

Connection	Tubing size	Tube length	Qty/box	Catalog number
¾" mini Tri-Clamp	L/S 24	18"	10	<b>MK-31201-38</b>
		36"		<b>MK-31201-39</b>
1½" Tri-Clamp	L/S 24	18"	10	<b>MK-31201-41</b>
		36"		<b>MK-31201-42</b>



# Masterflex Gamma-Irradiated Pump Tubing

## Gamma-sensitive labeling confirms treatment

- Tubing is double bagged prior to gamma irradiation
- Irradiation at 32.5 kGy offers optimal microbial control for the tubing's critical fluid pathway

### Silicone (platinum-cured)

- Low protein binding, fungus resistant, phthalate and latex-free
- Accommodates a wide temperature range
- USP Class V, EP, FDA, REACH, RoHS, ADCF

### PharMed® BPT

- Over 10,000 hours of tubing life; sealable, weldable
- Ideal for tissue and cell culture work
- USP Class VI, EP, FDA, NSF, REACH, RoHS

### C-Flex®

- Heat sealable, weldable, economical
- Better resistance to pH fluctuations
- USP Class VI, EP, REACH, RoHS, ADCF

*Save time—many sizes of packaged and pretreated tubing available for quick shipment!*

Tubing size	Silicone (platinum-cured)	PharMed BPT	C-Flex
	25 ft (7.6 m)	25 ft (7.6 m)	25 ft (7.6 m)
	Catalog number	Catalog number	Catalog number
L/S 16	<b>MK-96119-16</b>	<b>MK-96122-16</b>	<b>MK-96123-16</b>
L/S 15	<b>MK-96119-15</b>	<b>MK-96122-15</b>	<b>MK-96123-15</b>
L/S 24	<b>MK-96119-24</b>	<b>MK-96122-24</b>	<b>MK-96123-24</b>
I/P 73	<b>MK-96119-73</b>	<b>MK-96122-73</b>	<b>MK-96123-73</b>
I/P 82	<b>MK-96119-82</b>	<b>MK-96122-82</b>	<b>MK-96123-82</b>

# Masterflex Pump Tubing Assemblies

## Easy implementation into your high-purity system

- ½" sanitary clamps
- Sanitary fittings are molded onto each end of the assembly



### PharMed® BPT

- Over 10,000 hours of tubing life; sealable, weldable
- Nontoxic, nonhemolytic, extremely low permeability
- Ideal for tissue and cell culture work, pharmaceuticals
- USP Class VI, EP, FDA, NSF, REACH, RoHS

Tubing size	PharMed BPT	
	5 ft (1.5 m)	10 ft (3 m)
	Catalog number	Catalog number
L/S® 13	<b>MK-96102-13</b>	<b>MK-96103-13</b>
L/S 14	<b>MK-96102-14</b>	<b>MK-96103-14</b>
L/S 15	<b>MK-96102-15</b>	<b>MK-96103-15</b>
L/S 16	<b>MK-96102-16</b>	<b>MK-96103-16</b>
L/S 17	<b>MK-96102-17</b>	<b>MK-96103-17</b>
L/S 18	<b>MK-96102-18</b>	<b>MK-96103-18</b>
L/S 24	<b>MK-96102-24</b>	<b>MK-96103-24</b>
L/S 25	<b>MK-96102-25</b>	<b>MK-96103-25</b>
L/S 35	<b>MK-96102-35</b>	<b>MK-96103-35</b>
L/S 36	<b>MK-96102-36</b>	<b>MK-96103-36</b>
I/P® 26	<b>MK-96102-26</b>	<b>MK-96103-26</b>
I/P 70	<b>MK-96102-70</b>	<b>MK-96103-70</b>
I/P 73	<b>MK-96102-73</b>	<b>MK-96103-73</b>
I/P 82	<b>MK-96102-82</b>	<b>MK-96103-82</b>
I/P 88	<b>MK-96102-88</b>	<b>MK-96103-88</b>
I/P 89	<b>MK-96102-89</b>	<b>MK-96103-89</b>

# Masterflex Sanitary Fittings with Fused Gasket

## No hand contact with the gasket



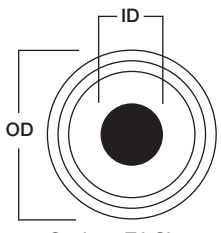
- Sanitary gasket combined with a sanitary fitting adds another layer of safety to installation
- Prevent contamination with zero user contact with the gasket to ensure sterility
- Meet requirements for USP Class VI, FDA, REACH, ADFC
- No adhesives and no clips to hold the gasket in place
- Manufactured and packaged in an ISO Class 7 environment
- Choose gamma-irradiated adapters to eliminate downtime

These sanitary fittings feature an integral elastomeric gasket, providing an all-in-one singular Tri-Clamp fitting. This unique one-piece design prevents contamination by requiring zero contact between the user and the gasket, and ensures proper alignment.

Made from animal-derived ingredient-free polypropylene (PP) with a sealable/weldable TPE gasket, these fittings offer good chemical resistance and may be sterilized by gamma irradiation, autoclave, or ethylene oxide (EtO). TPE is designed specifically for cell media transfer and aseptic applications. This material offers excellent barrier properties and low protein binding.

Clamp x tubing ID	Fits Masterflex pump tubing size	Non-sterile	Gamma irradiated
		Catalog number	Catalog number
<b>Barbed clamp adapters. Pack of 10</b>			
¼" mini Tri-Clamp x ¼"	L/S 16	MK-31201-27	MK-31201-14
¼" mini Tri-Clamp x ⅜"	L/S 15, 25	MK-31201-28	MK-31201-15
¼" mini Tri-Clamp x ½"	L/S 17, 24; I/P 26	MK-31201-29	MK-31201-16
¼" mini Tri-Clamp x ¾"	L/S 18, 35, 36; I/P 70, 73	MK-31201-30	MK-31201-17
¼" mini Tri-Clamp x 1"	I/P 82, 88; B/T 87	MK-31201-31	MK-31201-18
¼" mini Tri-Clamp x 1 ¼"	B/T 91	MK-31201-32	MK-31201-19
1 ½" Tri-Clamp x ¼"	L/S 17, 24; I/P 26	MK-31201-33	MK-31201-20
1 ½" Tri-Clamp x ⅜"	L/S 18, 35, 36; I/P 70, 73	MK-31201-34	MK-31201-23
1 ½" Tri-Clamp x ½"	I/P 82, 88; B/T 87	MK-31201-35	MK-31201-24
1 ½" Tri-Clamp x ¾"	B/T 91	MK-31201-36	MK-31201-25
1 ½" Tri-Clamp x 1"	—	MK-31201-37	MK-31201-26

### Sanitary Tri-Clamp® Fitting Sizing



Tri-Clamp nominal size	Fitting ID	Fitting OD
¼"	0.187"	0.984"
⅜"	0.227"	
½"	0.375"	
¾"	0.625"	
1"	0.870"	1.984"
1 ½"	1.360"	
2"	1.870"	2.516"
2 ½"	2.370"	3.047"
3"	2.870"	3.579"

Sanitary Tri-Clamp

# Masterflex Sanitary Clamp Fittings

## Maintain sanitary conditions



- Ideal for general-purpose and single-use applications, to connect tubing with rest of system
- Meet requirements for USP Class VI, FDA, REACH
- Surface finishes to 15 micron minimizes adhesion or entrapment
- Packaged to exacting tolerances under ISO Class 7 cleanroom conditions
- Compatible with other Tri-Clamp connections

The sanitary Tri-Clamp barbed adapters and concentric reducers are ideal for use in the biopharmaceutical, food and beverage, and single-use disposable industries. The fittings are made from animal-derived ingredient-free and phthalate-free polypropylene (PP) and PVDF. They have excellent chemical resistance and may be sterilized by autoclave, EtO, gamma irradiation, or E-beam. The PVDF fittings withstand higher temperatures than the PP fittings and offer extremely low surface tension for lower protein and lipid binding.

### PP

- Temperature: 15 to 180°F (-9.4 to 82.2°C)
- Max pressure: 125 psig (8.6 bar)

### PVDF

- Temperature: -4 to 250°F (-20 to 121°C)
- Max pressure: 150 psig (10.3 bar)

Clamp size	Fits Masterflex pump tubing size	PP	PVDF
		Catalog number	Catalog number
<b>Concentric clamp reducers. Pack of 1</b>			
1" Tri-Clamp x mini Tri-Clamp	—	MK-31200-31	MK-31200-34
1 ½" Tri-Clamp x mini Tri-Clamp	—	MK-31200-32	MK-31200-35
2" Tri-Clamp x mini Tri-Clamp	—	MK-31200-33	MK-31200-36
<b>Barbed clamp adapters (clamp x tubing ID). Pack of 6</b>			
Mini Tri-Clamp x ¼"	L/S 16	MK-31200-37	MK-31200-49
Mini Tri-Clamp x ⅜"	L/S 15, 25	MK-31200-38	MK-31200-51
Mini Tri-Clamp x ½"	L/S 17, 24; I/P 26	MK-31200-39	MK-31200-52
Mini Tri-Clamp x ¾"	I/P 82, 88; B/T 87	MK-31200-41	MK-31200-53
Mini Tri-Clamp x 1"	I/P 89	MK-31200-42	MK-31200-54
Mini Tri-Clamp x 1 ¼"	B/T 91	MK-31200-43	MK-31200-55
1 ½" Tri-Clamp x ¼"	L/S 17, 24; I/P 26	MK-31200-44	MK-31200-56
1 ½" Tri-Clamp x ⅜"	L/S 18, 35, 36; I/P 70, 73	MK-31200-45	MK-31200-57
1 ½" Tri-Clamp x ½"	I/P 82, 88; B/T 87	MK-31200-46	MK-31200-58
1 ½" Tri-Clamp x ¾"	B/T 91	MK-31200-47	MK-31200-59
1 ½" Tri-Clamp x 1"	—	MK-31200-48	MK-31200-61

## Masterflex Sanitary Clamps

### Color-coded knobs for easy identification



- Lightweight design puts less stress on your system
- Lot and batch traceability is ideal for increased security and compliance safety
- Compatible with ASME-BPE and BPSA standard nonmetallic and stainless steel flange ferrules
- Sterilization: autoclave, EtO, gamma irradiation, electron beam irradiation

Constructed of glass-reinforced nylon, these disposable Tri-Clamp sanitary clamps are perfect for single-use transfer lines in biopharma markets, plus a wide range of fluid transfer systems. The nylon material meets USP Class VI and FDA compliance and is lot and batch traceable for the most stringent compliance regulations. The limited-slip design self-adjusts for balanced contact pressure making these clamps ideal for securing your fluid transfer system without damaging the process lines.

Clamp size	Max pressure	White knob	Blue knob	Red knob	Yellow knob
		Cat. No.	Cat. No.	Cat. No.	Cat. No.
3/4" mini Tri-Clamp	150 psi	MK-31201-43	MK-31201-48	MK-31201-54	MK-31201-59
1 1/2" Tri-Clamp	150 psi	MK-31201-44	MK-31201-49	MK-31201-55	MK-31201-60
2" Tri-Clamp	150 psi	MK-31201-45	MK-31201-51	MK-31201-56	MK-31201-61
3" Tri-Clamp	120 psi	MK-31201-46	MK-31201-52	MK-31201-57	MK-31201-62
4" Tri-Clamp	100 psi	MK-31201-47	MK-31201-53	MK-31201-58	MK-31201-63

## Masterflex Sanitary Clamps

### Compatible with metal and plastic Tri-Clamp fittings

- Excellent chemical resistance; low leachable characteristics
- Sterilization: autoclavable or EtO



Clamp size	Max pressure	White knob
		Catalog number
1/2" to 3/4" Tri-Clamp	150 psi	MK-30508-21
1" to 1 1/2" Tri-Clamp	150 psi	MK-30508-23
2" Tri-Clamp	150 psi	MK-30508-25
3" Tri-Clamp	150 psi	MK-30508-27
4" Tri-Clamp	70 psi	MK-30508-29

## Masterflex Single-Use Gaskets

### Ensure a tight seal in your sanitary fluid line



- Avoid contamination and limit downtime with disposable components
- Suitable for the most demanding biopharma fluid transfer applications
- Reliable for sensitive fluid applications with low platelet adhesion and protein binding

Sanitary Tri-Clamp gaskets secure the connection and prevent leakage from joining two sanitary fittings. These hygienic seals are ideal for single-use transfer lines in biopharma markets, plus a wide range of fluid transfer systems.

Made from animal-derived ingredient-free polypropylene with a sealable/weldable TPE gasket, these sanitary gaskets offer good chemical resistance and may be sterilized by autoclave, EtO, or gamma irradiation. TPE is designed specifically for cell media transfer and aseptic applications.

Clamp size	Qty/pk	Catalog number
3/4" Tri-Clamp	25	MK-31201-64
1 1/2" Tri-Clamp	25	MK-31201-65

## Masterflex Tubing Pinch Clamp

### Offers quick release from locked position

- Swing-away lockdown nut provides ease of use
- Nylon has a higher tensile strength than polysulfone—less likely to break
- Install on existing tube assemblies without disrupting the process fluid path
- Sterilization: autoclave or gamma irradiation



Accepts tubing sizes	Catalog number
0.187" to 0.500" ID	MK-19999-99

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