

# Hollow Fiber TFF Modules Re-Use Line

Low Binding m-PES  
Membrane Enables Reliable  
Crossflow, High Product Flux  
and Easy Cleaning



## Product Information

Hollow Fiber TFF Modules | Re-use Line offers a modified polyethersulfone (m-PES) membrane which is gentle on your cells, biomolecules and viruses. Generate high yields and low hold-up volumes. The modules provide a linear and predictive scale-up process from laboratory and pilot-scale to manufacturing scale by using matching materials, fluid-path length, and performance characteristics. Re-use line modules are fully scalable with batch volumes from 10 mL up to 1,500 L with corresponding membrane surface areas from 0.056 ft<sup>2</sup> (0.0052 m<sup>2</sup>) up to 166.0 ft<sup>2</sup> (15.42 m<sup>2</sup>). Re-use line hollow fiber modules can be sanitized and cleaned in 0.1 – 1.0 N NaOH, and stored in 0.1 N NaOH between uses.

## Features and Benefits

For those applications where cleaning and re-use is warranted, the Hollow Fiber TFF Modules | Re-use Line offer:

- Membrane offering from 3 kD to 750 kD MWCO and from 0.1 µm to 0.45 µm pore size
- Easy and reliable scale up and scale down
- Low hold up volume
- High product flux and total capacity
- Robust, strong, multi-use hollow fiber membranes
- Low binding m-PES membrane – high yield and easy to clean

# Relevant Applications

Sartorius Hollow Fiber Modules are designed for biopharmaceutical processing. They can be used for the following applications:

## Upstream

- Cell harvest
- Cell or lysate clarification

## Downstream

- Concentration
- Diafiltration

# Technical Specifications

Attribute	Hollow Fiber TFF Modules   Re-Use Line
Biocompatibility	The module as assembled is USP Class VI compliant
Membrane	Modified Polyethersulfone (m-PES)
Housing	White Polysulfone
Encapsulant	Epoxy

# Technical Specifications

Name	Scale	Fiber Length	Dimensions in inches (cm)	Membrane surface area ft <sup>2</sup> (m <sup>2</sup> )*	Recommended batch volume per module	Connections	
						Feed   Retentate	Permeate
Discover	Lab	12 inch	0.38×12.88 (0.95×32.72)	0.056 (0.0052)	10–250 mL	Luer Lock	Luer Lock
		24 inch	0.38×24.38 (0.95×61.93)	0.115 (0.0107)	50–400 mL		
		41 inch	0.38×42.38 (0.95×107.65)	0.208 (0.0193)	80–850 mL		
Explorer	Lab	12 inch	0.50×12.28 (1.27×31.20)	0.17 (0.0155)	150–750 mL	½-inch TC	⅜-inch Hose Barb
		24 inch	0.50×23.82 (1.27×60.50)	0.35 (0.0321)	250–1500 mL		
		41 inch	0.50×41.18 (1.27×106.20)	0.62 (0.0579)	300–3000 mL		
Researcher	Lab   Pilot	12 inch	0.75×12.28 (1.91×31.20)	0.48 (0.0444)	400–2000 mL	¾-inch TC	⅝-inch Hose Barb
		24 inch	0.75×23.66 (1.91×60.10)	1.01 (0.0940)	700–4000 mL		
		41 inch	0.75×41.77 (1.91×106.10)	1.85 (0.1716)	1000–8000 mL		
Researcher XL	Lab   Pilot	12 inch	0.75×12.28 (1.91×31.20)	0.66 (0.0617)	0.56–2.8 L	¾-inch TC	⅝-inch Hose Barb
		24 inch	0.75×23.66 (1.91×60.10)	1.41 (0.1305)	0.98–5.6 L		
		41 inch	0.75×41.77 (1.91×106.10)	2.57 (0.2383)	1.40–11.2 L		
Investigator	Lab   Pilot	12 inch	1.32×12.01 (3.34×30.50)	1.4 (0.13)	1–6 L	1½-inch TC	½-inch TC
		24 inch	1.32×23.50 (3.34×59.70)	3.0 (0.28)	2–12 L		
		41 inch	1.32×41.50 (3.34×105.4)	5.4 (0.51)	3–25 L		
Mini Bioproducer	Pilot   Production	12 inch	2.70×15.00 (6.86×38.10)	6.6 (0.61)	5–50 L	1½-inch TC	¾-inch TC
		24 inch	2.70×26.50 (6.86×67.30)	14.5 (1.35)	10–100 L		
		41 inch	2.70×44.49 (6.86×113.00)	26.9 (2.50)	25–250 L		
Bioproducer	Production	12 inch	3.50×15.00 (8.89×38.10)	13.1 (1.21)	25–100 L	1½-inch TC	1-inch TC
		24 inch	3.50×26.50 (8.89×67.30)	29.0 (2.69)	50–250 L		
		41 inch	3.50×44.49 (8.89×113.00)	53.8 (5.00)	100–500 L		
Maximizer	Production	24 inch	4.62×28.80 (11.73×73.15)	58.4 (5.42)	100–500 L	2-inch TC	1½-inch TC
		41 inch	4.62×46.50 (11.73×118.11)	104.9 (9.74)	250–1000 L		
Grand** (only with 1.0 and 2.0 mm Fiber IDs)	Production	24 inch	6.015×32.65 (15.28×82.93)	58.1 (5.4)	100–500 L	2½-inch TC***	1-inch TC***
		43 inch	6.105×51.65 (15.28×131.19)	110.6 (10.28)	250–1000 L		
Grand XL** (only with 1.0 and 2.0 mm Fiber IDs)	Production	24 inch	6.015×32.65 (15.28×82.93)	87.2 (8.10)	250–800 L	2½-inch TC***	1-inch TC***
		43 inch	6.015×51.65 (15.28×131.19)	166.0 (15.42)	400–1500 L		

\* Membrane surface valid for all fiber IDs. For number of fibers per module please consider the Validation Guide.

\*\* Grand and Grand XL dimension are with adaptors.

\*\*\* Grand and Grand XL need adaptor kit: BAADAPTGRAXXTC

The adapter kit includes two 6-inch (15.24 cm) × 2½-inch (6.35 cm) TC adaptor end caps, two 6-inch (15.24 cm) TC platinum cured silicone gaskets, and two 6-inch (15.24 cm) TC white nylon clamps.

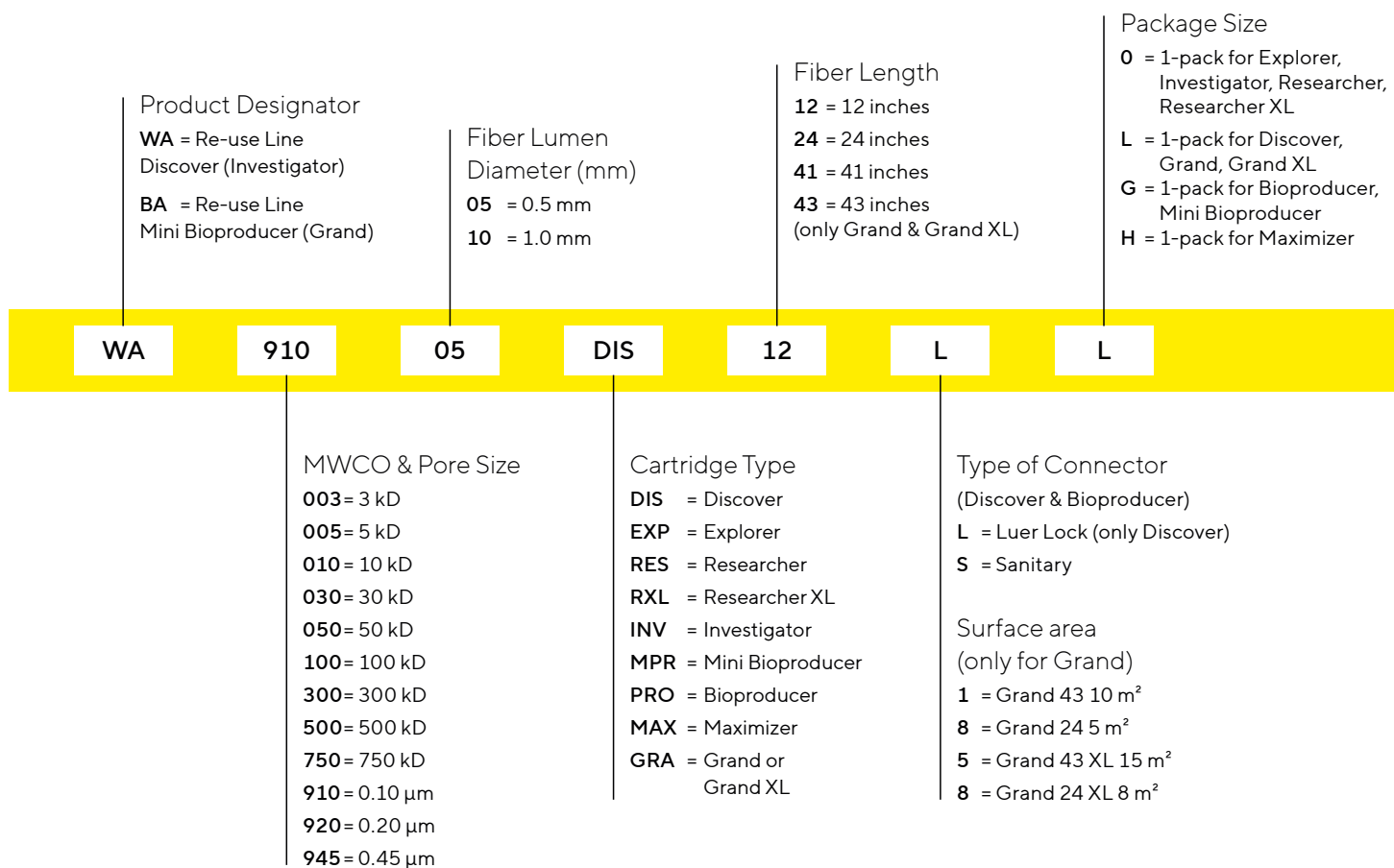
# Available MWCO and Pore Sizes for Different Fiber IDs

The tables stated below are valid for all sizes and lengths, if not stated otherwise.

Fiber ID	MWCO									Pore Size		
	3 kD	5 kD	10 kD	30 kD	50 kD	100 kD	300 kD	500 kD	750 kD	0.1 $\mu\text{m}$	0.2 $\mu\text{m}$	0.45 $\mu\text{m}$
0.5 mm*	■	■	■	■	■	■	■	■	■	–	–	–
1.0 mm	■	■	■	■	■	■	■	■	■	■	■	■

\* Not available for Grand XL

## Ordering Information

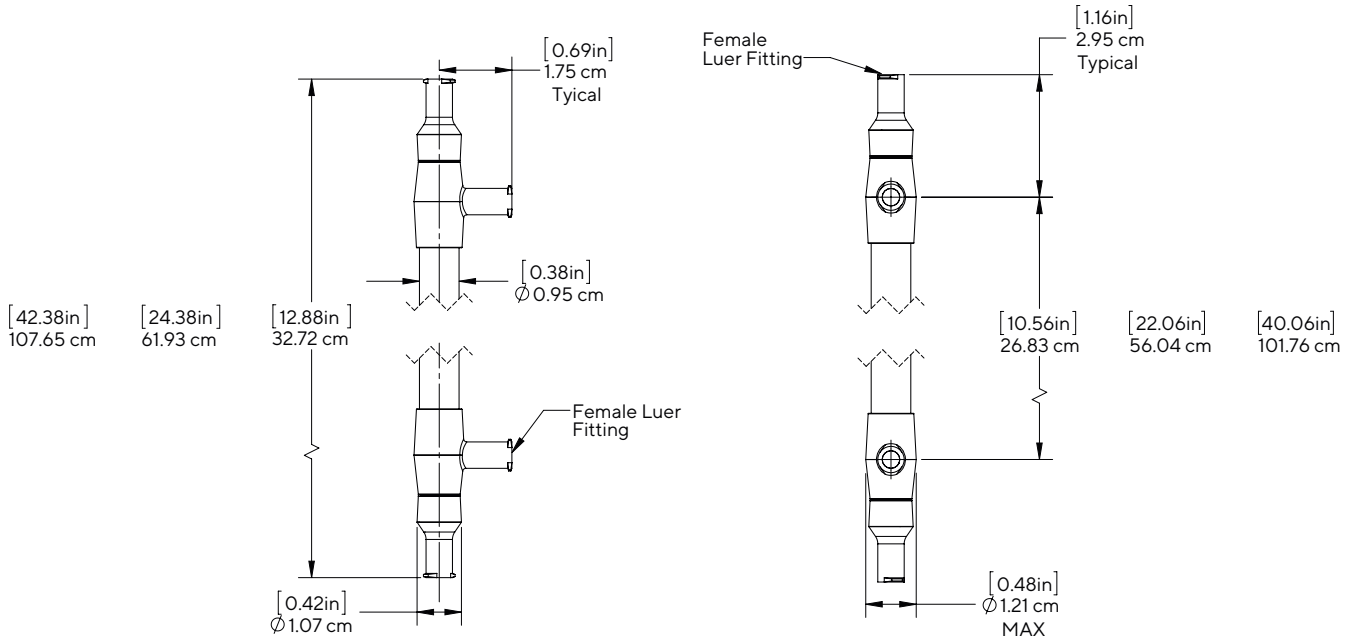


Please consult the specification table on page 3 to learn more about the possible combinations.

# Overview

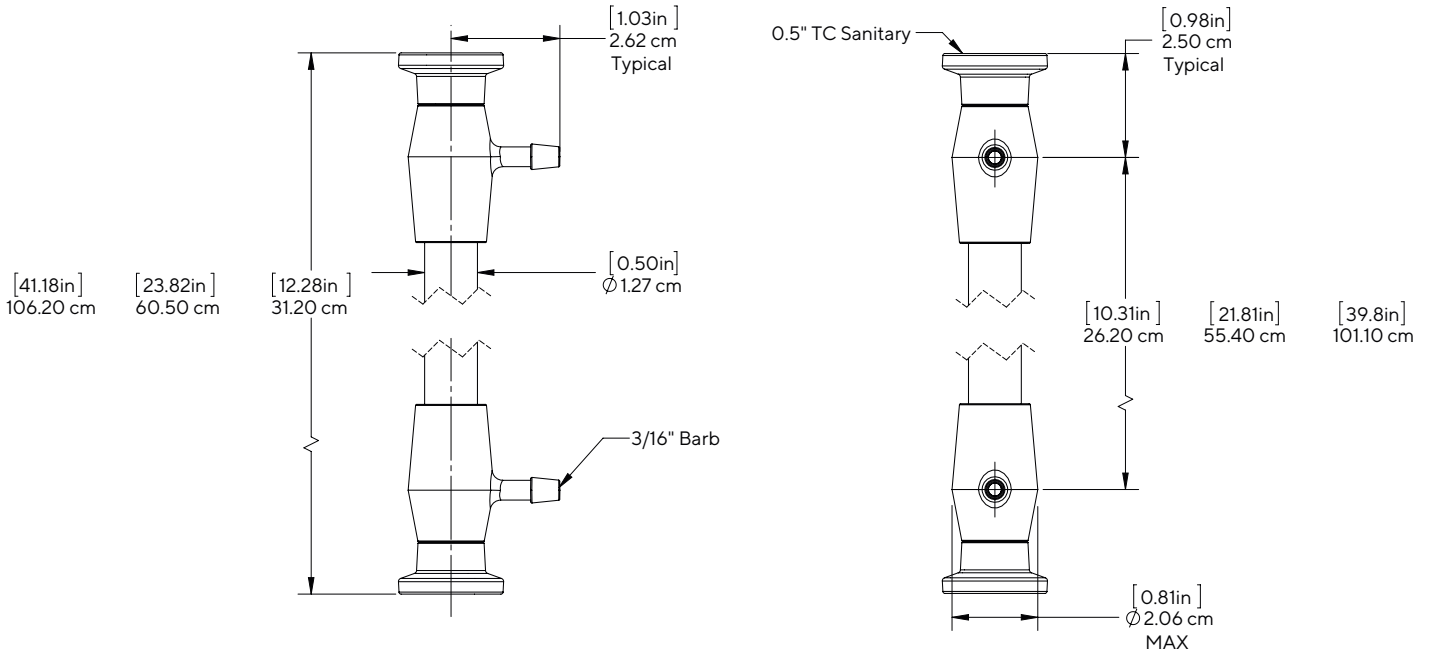
## Discover

Exact length for different Fiber length: 12, 24 or 41 inch



## Explorer

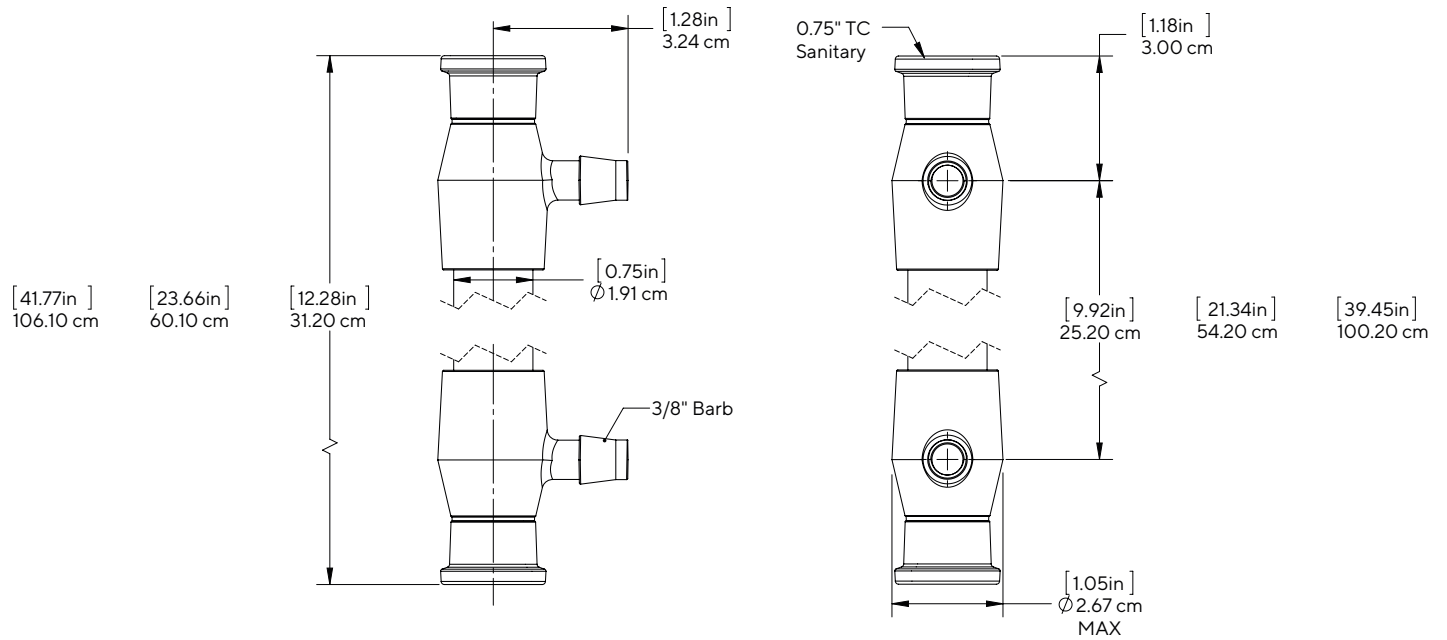
Exact length for different Fiber length: 12, 24 or 41 inch



# Overview

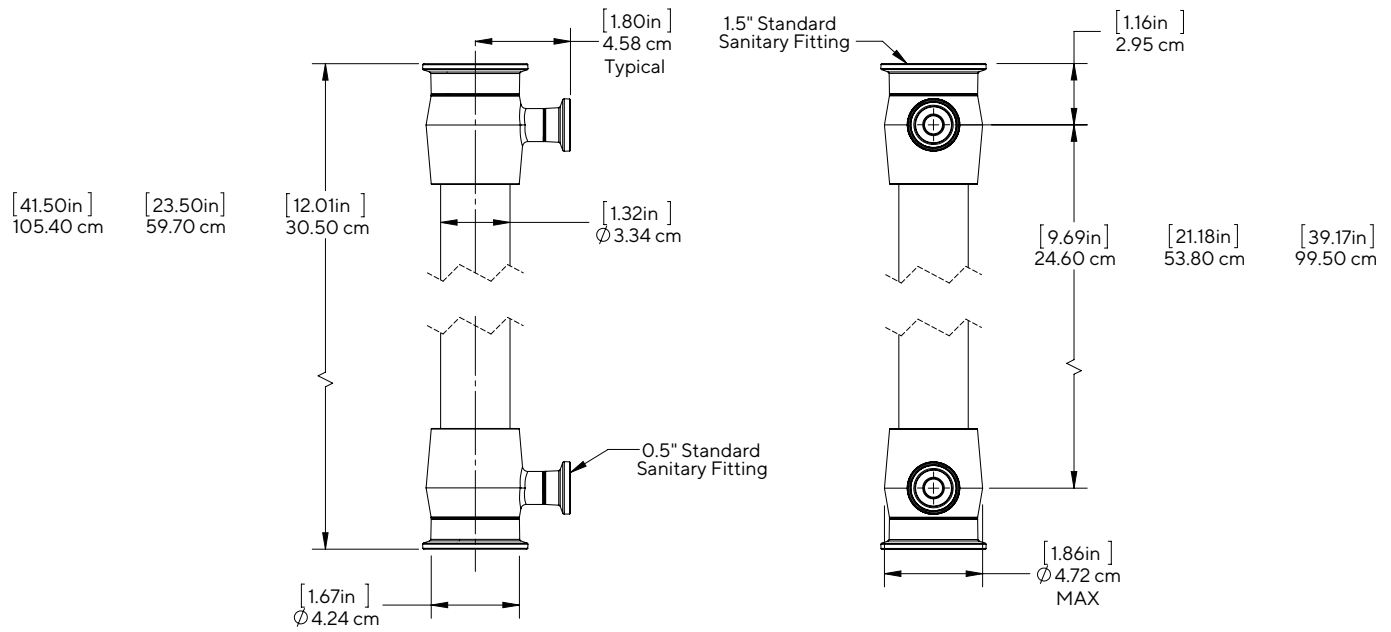
## Researcher & Researcher XL

Exact length for different Fiber length: 12, 24 or 41 inch



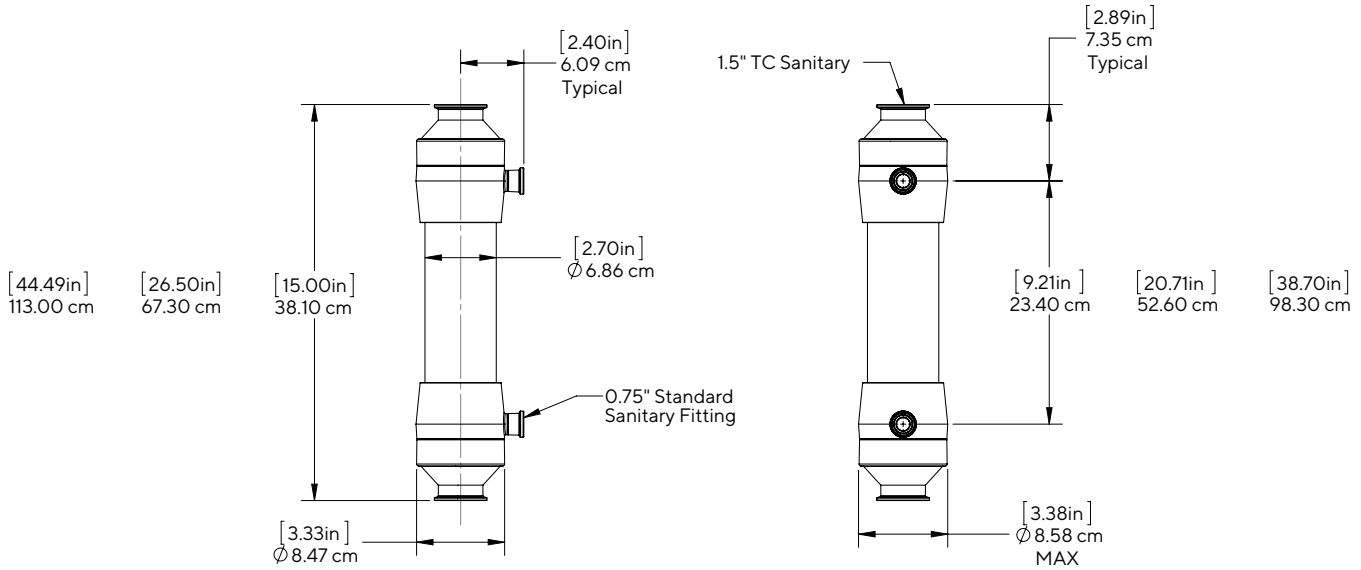
## Investigator

Exact length for different Fiber length: 12, 24 or 41 inch



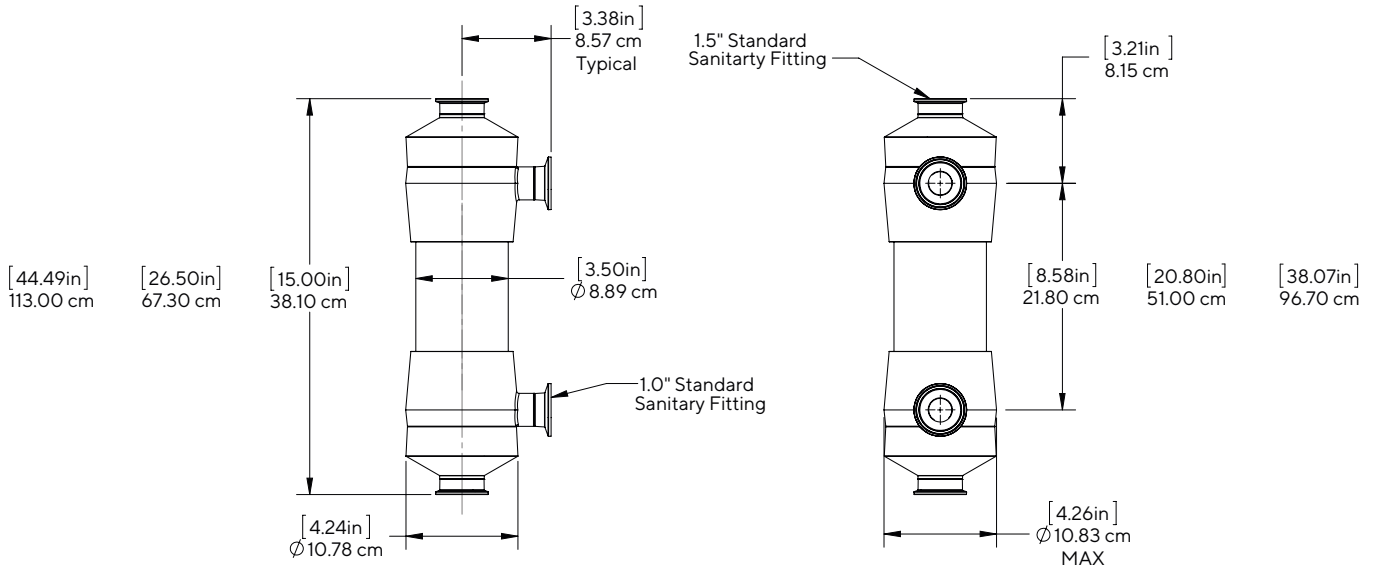
# Mini Bioproducer

Exact length for different Fiber length: 12, 24 or 41 inch



# Bioproducer

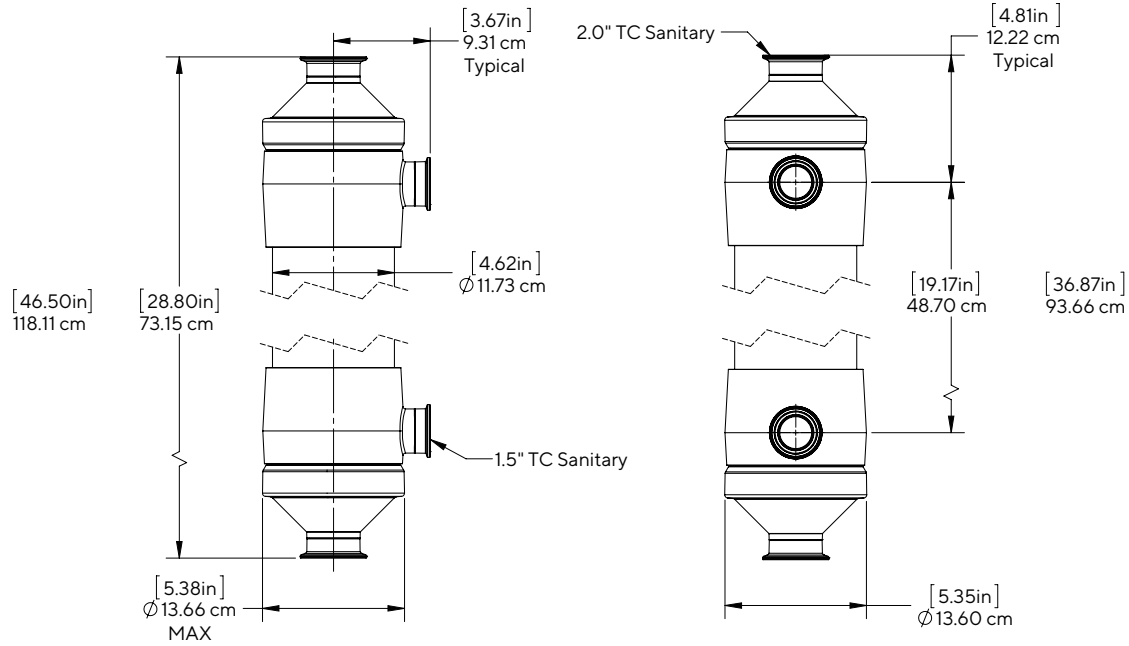
Exact length for different Fiber length: 12, 24 or 41 inch



# Overview

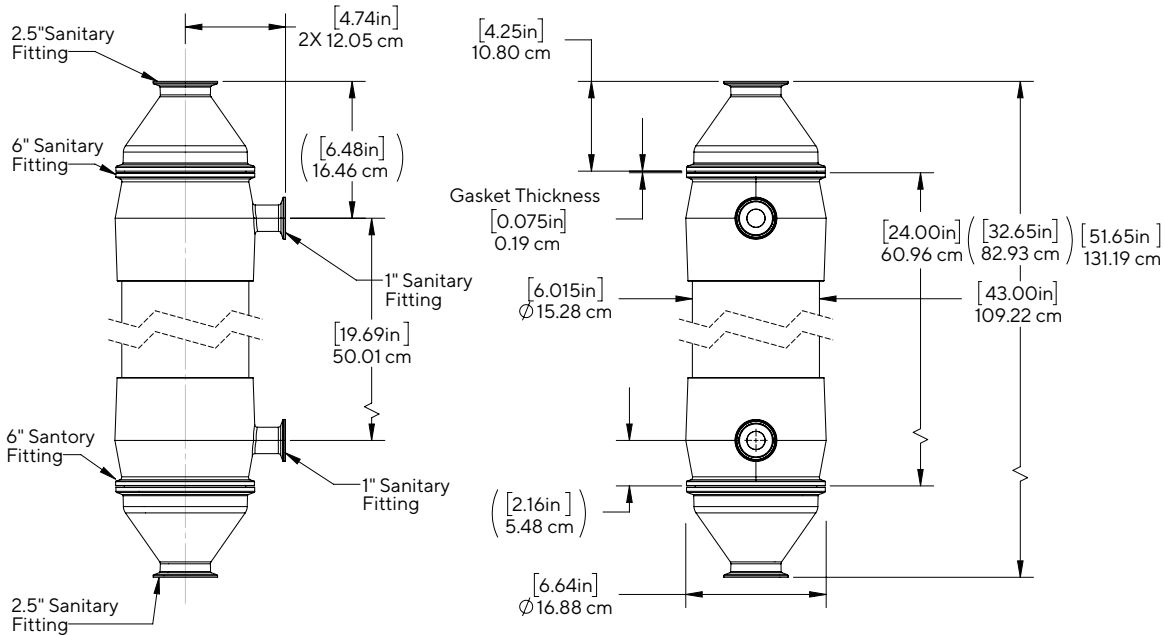
## Maximizer

Exact length for different Fiber length: 24 or 41 inch



## Grand XL\*

Exact length for different Fiber length: 24 or 43 inch



\*Shown with removable adaptors

Note: If you need 2½ inch connectors, please make sure to order: BAADAPTGRAXXTC in addition.

The adapter kit includes two 6-inch (15.24 cm) × 2½ inch (6.35 cm) TC adaptor end caps, two 6-inch (15.24 cm) TC platinum cured silicone gaskets, and two 6-inch (15.24 cm) TC white nylon clamps.





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