

Hollow Fiber TFF Modules Single-Use Line

Gamma Irradiated,
Humectant-Free and
Ready to Use



Product Information

Single-use Line hollow fiber modules offer you the perfect solution to save money and time, preserve space, and increase flexibility through scalable design. They provide a linear and predictive scale-up process from laboratory to pilot-scale to manufacturing scale by using matching materials, fluid-path length, and performance characteristics. The modules are fully scalable from batch volumes from 3 mL up to 1,500 L with corresponding membrane surface areas from 0.0017 ft² (0.00016 m²) up to 166.0 ft² (15.42 m²). Molecular weight cut-offs (MWCO) in the range from 3 kD to 750 kD and in pore sizes from 0.1 µm to 0.45 µm, with lumen ID's of 0.5 mm and 1.0 mm are offered.

Features and Benefits

- No pre-rinse required (glycerin free)
- Ready to use
- Easy and reliable scale up and scale down
- Gamma irradiated
- Cost efficiency
- Free of time-consuming cleaning validation
- Integrity tested and individual lot number for easy traceability
- Inhouse production of membrane

Introduction

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

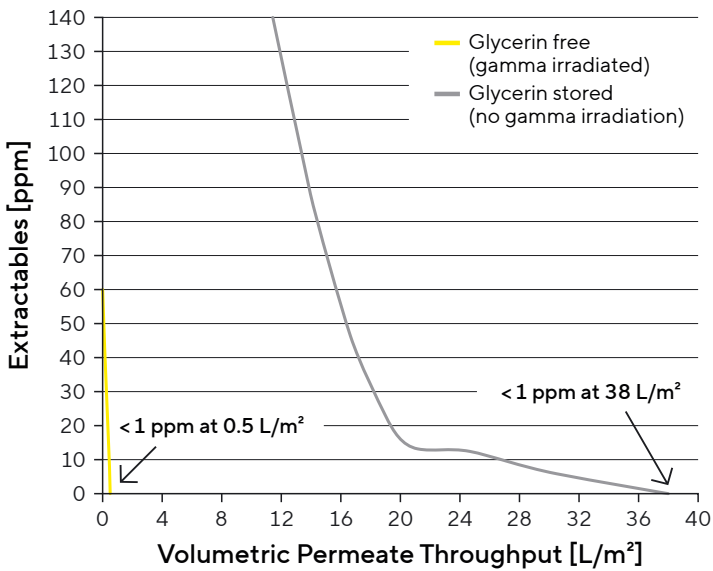
Downstream

- Concentration
- Diafiltration

Glycerin Free Stored – Ready to Use

Extractables Flush Analysis

Glycerin free vs. glycerin stored



Membrane

m-PES 30 kD, 1 mm Fiber ID

Extractant

Water (20 °C)

Technical Specifications

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

Name	Scale	Fiber Length [inch]	Dimensions in inches [cm]	Membrane surface area [ft ² (m ²)]*	Recommended batch volume per module	Connections	
						Feed Retentate	Permeate
Pioneer	Lab	12	0.13×4.29 (0.33×10.90)	0.0017 (0.00016)	3–80 mL	Luer Lock	Luer Lock
		24	0.13×8.13 (0.33×20.65)	0.0036 (0.00033)	17–130 mL		
Discover	Lab	12	0.38×12.88 (0.95×32.72)	0.056 (0.0052)	10–250 mL	Luer Lock	Luer Lock
		24	0.38×24.38 (0.95×61.93)	0.115 (0.0107)	50–400 mL		
		41	0.38×42.38 (0.95×107.65)	0.208 (0.0193)	80–850 mL		
Explorer	Lab	12	0.50×12.28 (1.27×31.20)	0.17 (0.0155)	150–750 mL	½-inch TC	⅜-inch Hose Barb
		24	0.50×23.82 (1.27×60.50)	0.35 (0.0321)	250–1,500 mL		
		41	0.50×41.18 (1.27×106.20)	0.62 (0.0579)	300–3,000 mL		
Researcher	Lab Pilot	12	0.75×12.28 (1.91×31.2)	0.48 (0.0444)	400–2,000 mL	¾-inch TC	⅝-inch Hose Barb
		24	0.75×23.66 (1.91×60.1)	1.01 (0.0940)	700–4,000 mL		
		41	0.75×41.77 (1.91×106.10)	1.85 (0.1716)	1,000–8,000 mL		
Researcher XL	Lab Pilot	12	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	0.75×23.66 (1.91×60.10)	1.41 (0.1305)	0.98–5.6 L		
		41	0.75×41.77 (1.91×106.10)	2.57 (0.2383)	1.4–11.2 L		
Investigator	Lab Pilot	12	1.32×12.01 (3.34×30.50)	1.4 (0.13)	1–6 L	1½-inch TC	½-inch TC
		24	1.32×23.50 (3.34×59.70)	3.0 (0.28)	2–12 L		
		41	1.32×41.50 (3.34×105.4)	5.4 (0.51)	3–25 L		
Mini Bioproducer	Pilot Production	12	2.70×15.00 (6.86×38.10)	6.6 (0.61)	5–50 L	1½-inch TC	¾-inch TC
		24	2.70×26.50 (6.86×67.30)	14.5 (1.35)	10–100 L		
		41	2.70×44.49 (6.86×113.00)	26.9 (2.50)	25–250 L		
Bioproducer	Production	12	3.50×15.00 (8.89×38.10)	13.1 (1.21)	25–100 L	1½-inch TC	1-inch TC
		24	3.50×26.50 (8.89×67.30)	29.0 (2.69)	50–250 L		
		41	3.50×44.49 (8.89×113.00)	53.8 (5.00)	100–500 L		
Maximizer	Production	24	4.62×28.80 (11.73×73.15)	58.4 (5.42)	100–500 L	2-inch TC	1½-inch TC
		41	4.62×46.50 (11.73×118.1)	104.9 (9.74)	250–1,000 L		
Grand XL ** (only with 1.0 and 2.0 mm Fiber IDs)	Production	24	6.015×32.65 (15.28×82.93)	87.2 (8.10)	250–800 L	6-inch TC*** Reducer Adaptors 6-inch TC Standard Sanitary× 2½-inch Standard Sanitary Fitting	1-inch TC
		43	6.015×51.65 (15.28×131.19)	166.0 (15.42)	400–1,500 L		

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

** Grand XL dimension are with adaptors.

*** Grand XL Single-use 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.

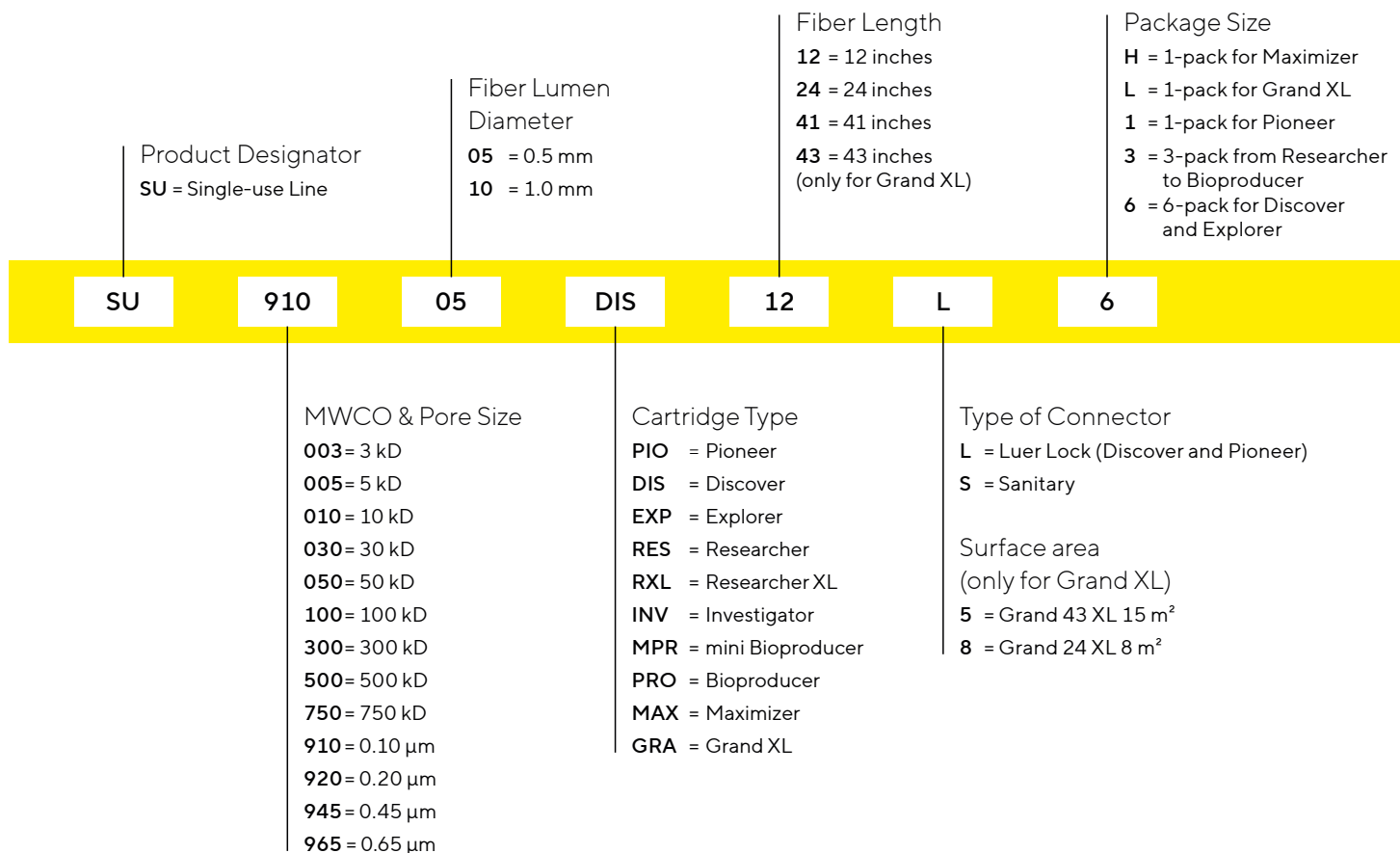
Available MWCO and Pore Sizes for Different Fiber IDs

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 μm	0.2 μm	0.45 μm
0.5 mm*	■	■	■	■	■	■	■	■	■	–	–	–
1.0 mm	■	■	■	■	■	■	■	■	■	■	■	■

* Not available for Grand XL

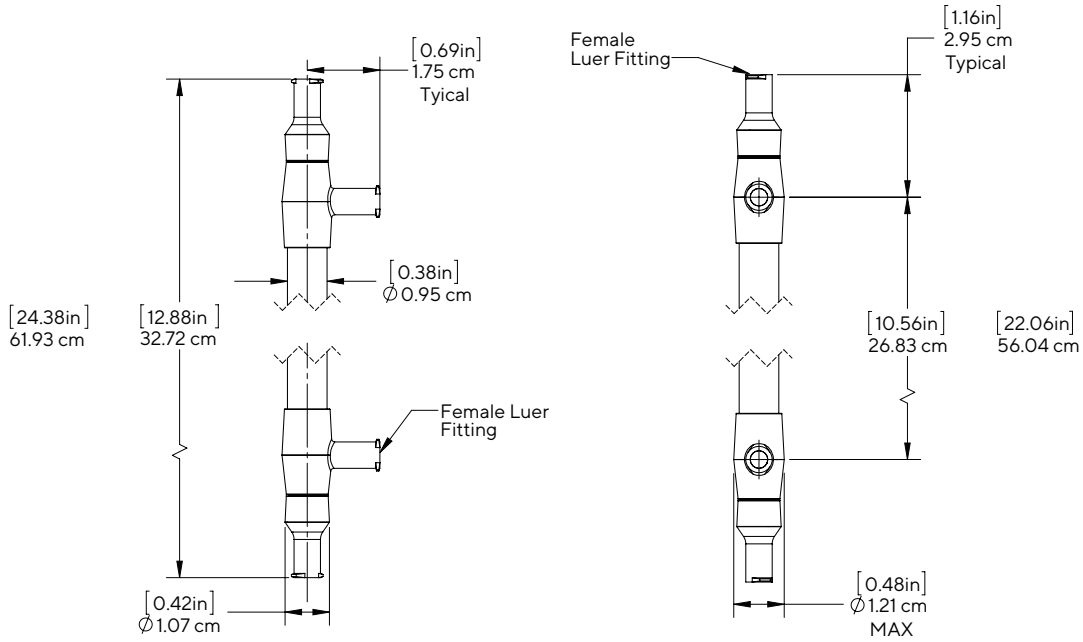
Ordering Information



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

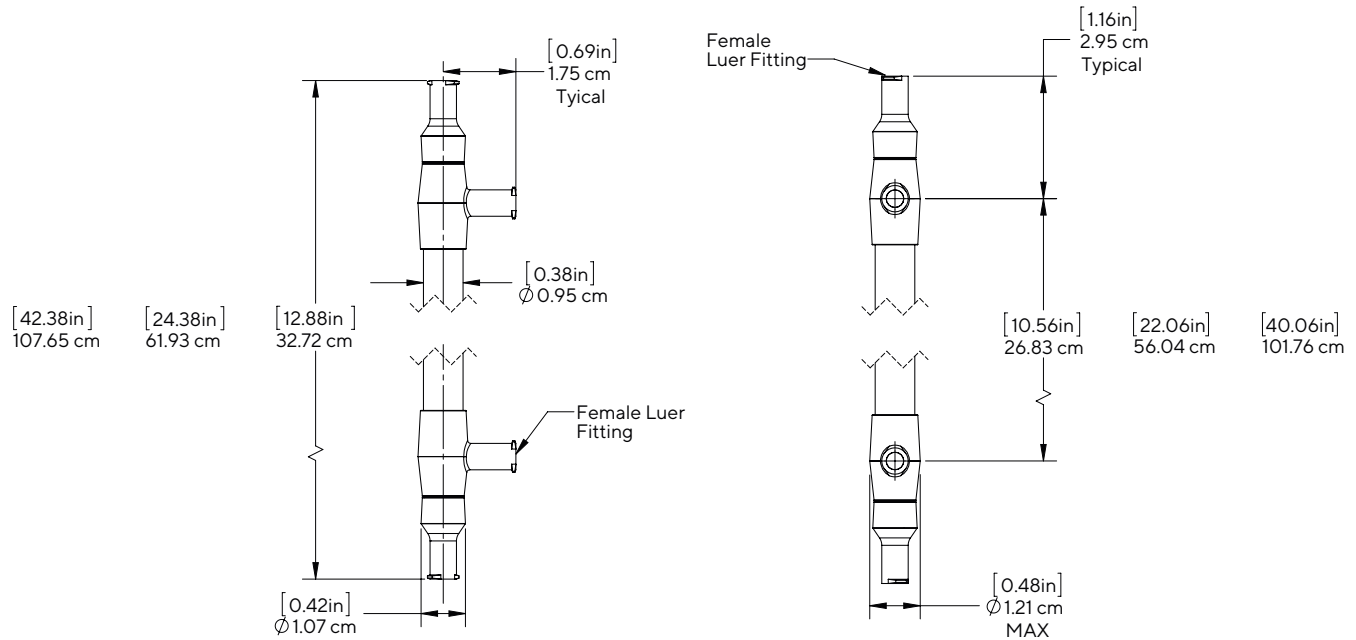
Pioneer

Exact length for different Fiber length: 12 or 24 inch



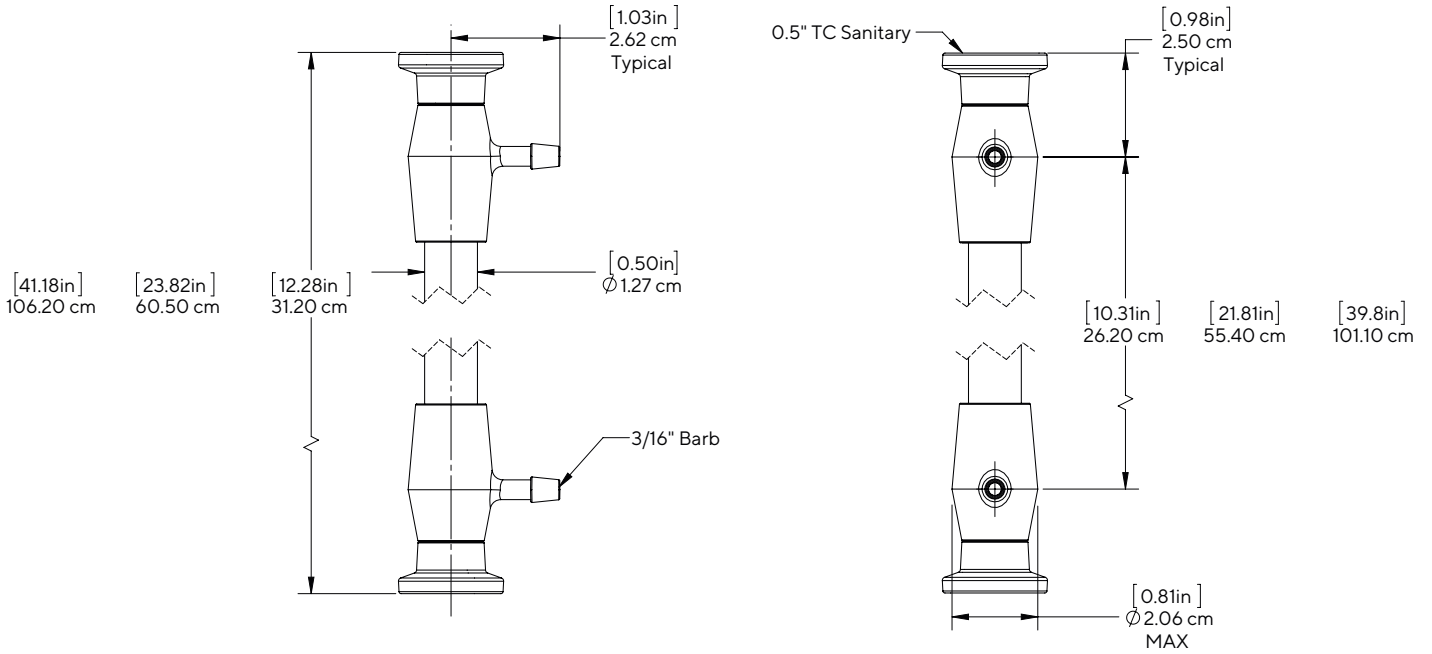
Discover

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



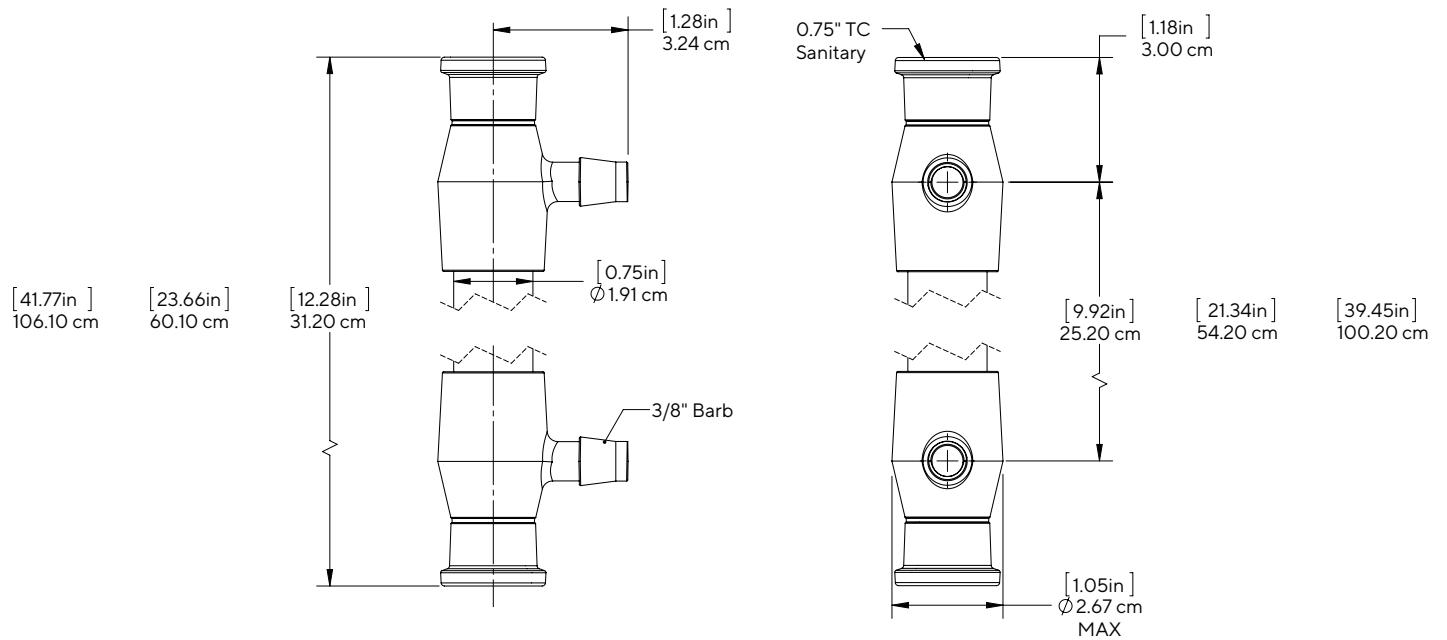
Explorer

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



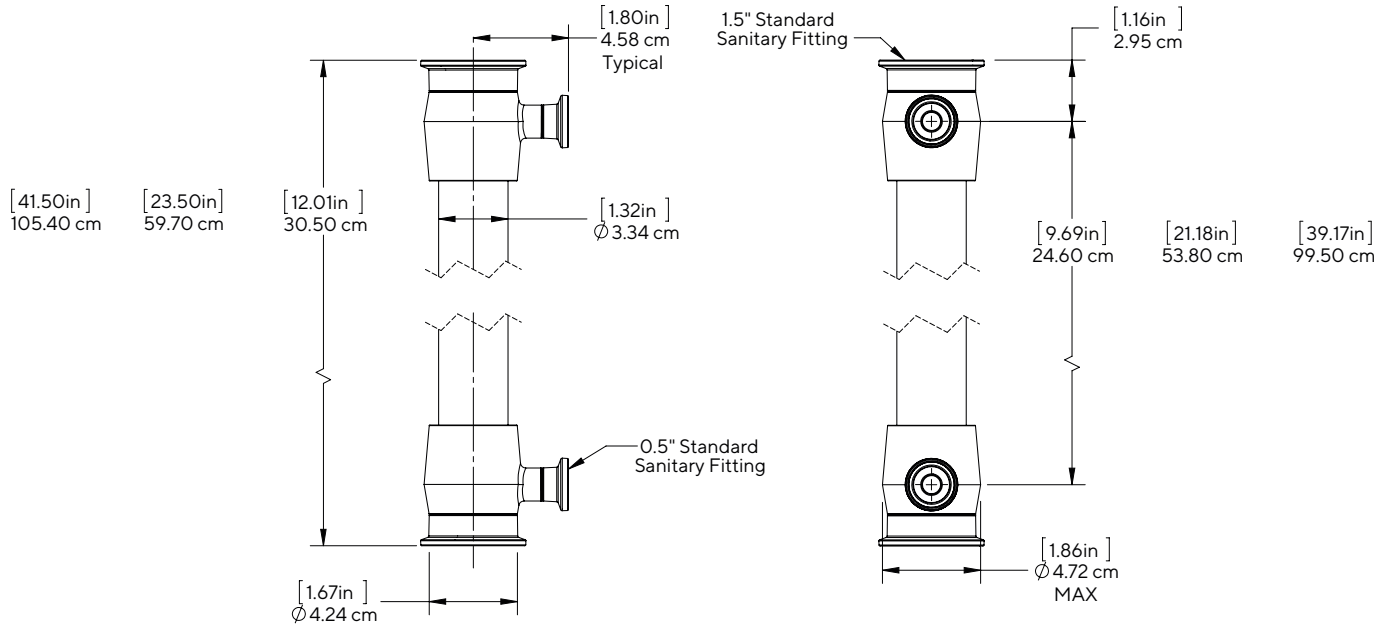
Researcher & Researcher XL

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



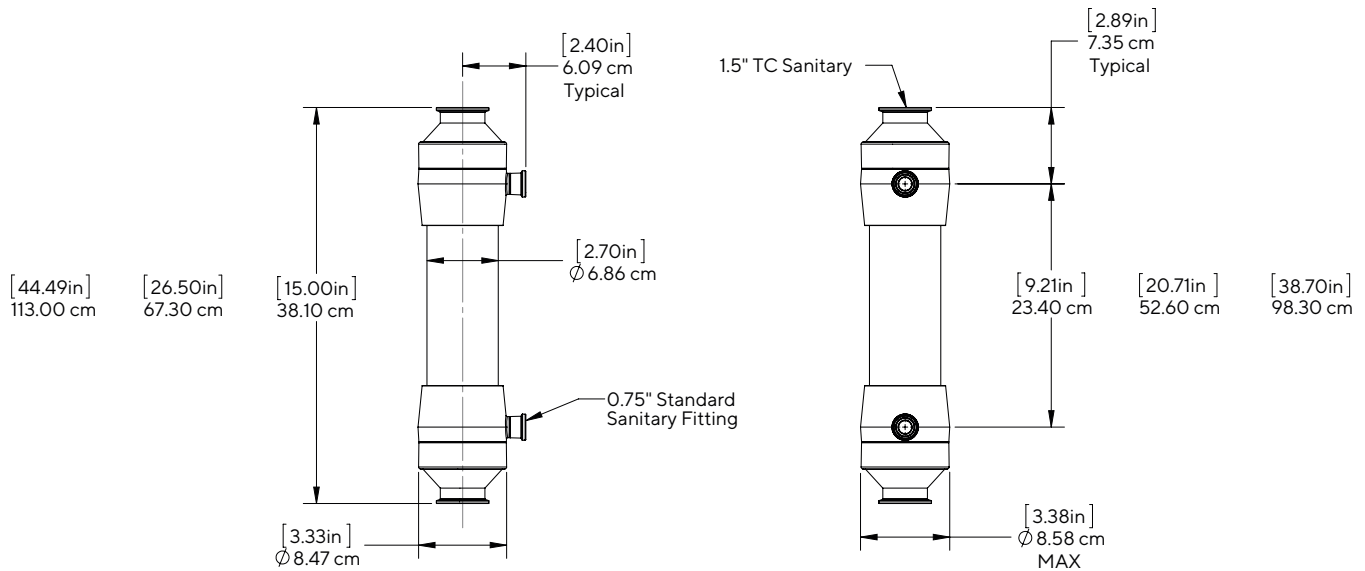
Investigator

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



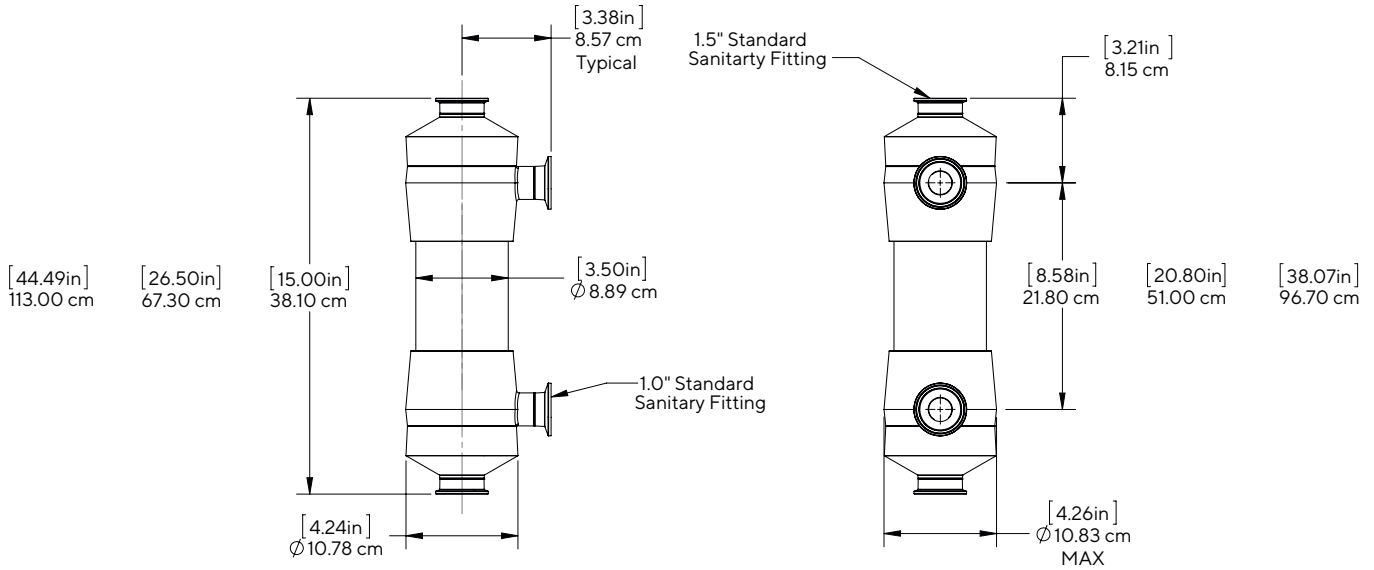
Mini Bioproducer

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



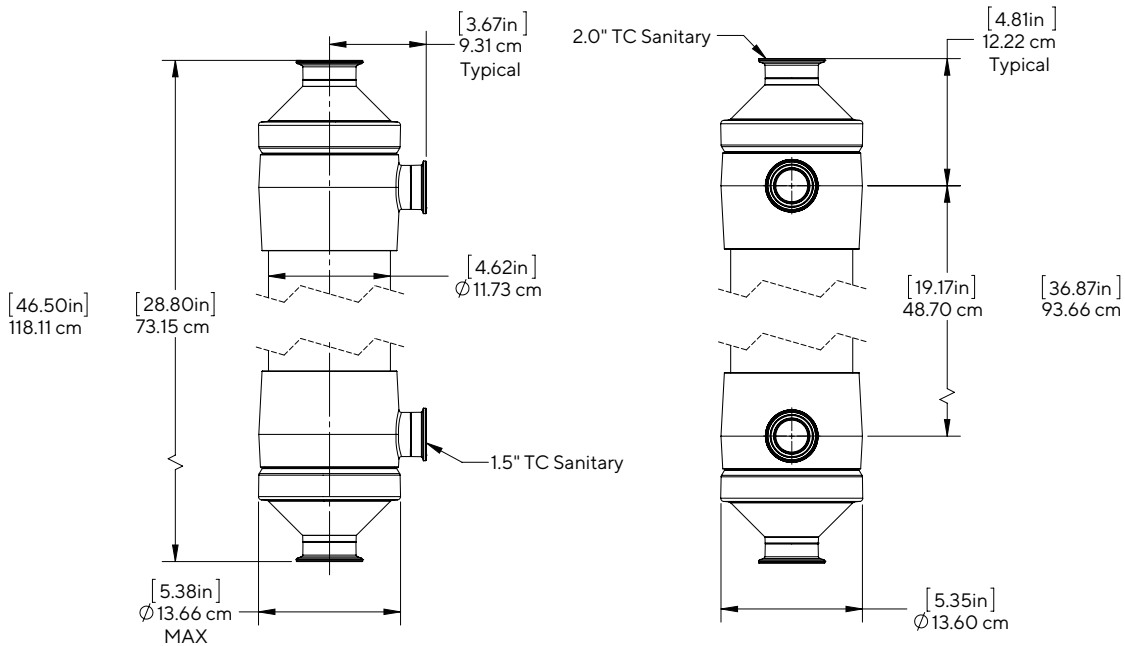
Bioproducer

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



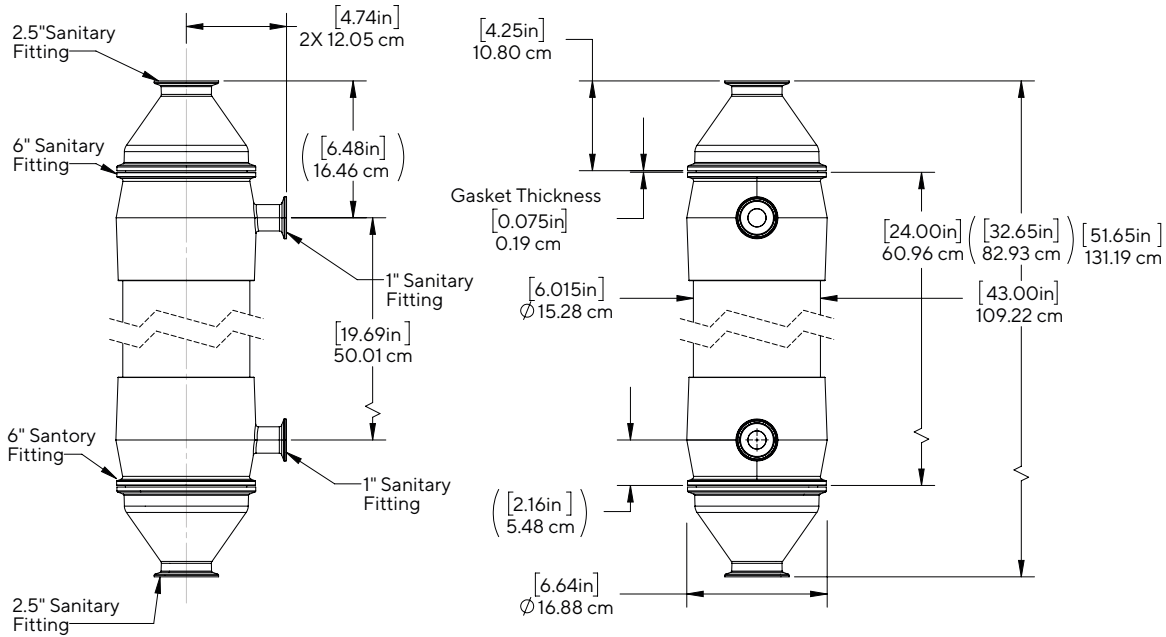
Maximizer

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: Grand XL Single-use need adaptor kit: BAADAPTGRAXXTC

The adaptor kit includes two 6-inch (15.24 cm) x 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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