SARTORIUS

Product Datasheet

Hollow Fiber TFF Modules

Gamma Irradiated, Humectant-Free and Ready to Use

Product Information

Hollow fiber modules are engineered to deliver cost-efficiency, time savings, space conservation, and enhanced flexibility through a scalable design. These modules support a linear and predictive scale-up process from laboratory to pilot-scale to manufacturing scale, utilizing consistent materials, fluid-path lengths, and performance characteristics.
The modules are fully scalable, supporting batch volumes from 3 mL to 1,500 L, with corresponding membrane surface areas ranging from 0.0017 ft² (0.00016 m²) to 166.0 ft² (15.42 m²).

These features make Single-use Line hollow fiber modules an ideal choice for a wide range of applications, ensuring reliable performance and ease of use across different scales.

Features and Benefits

- Molecular Weight Cut-offs (MWCO): Available from 3 kD to 750 kD
- Pore Sizes: Offered from 0.1 µm to 0.45 µm
- Lumen IDs: Available in 0.5 mm and 1.0 mm
- Sanitization: The modules can be flushed with NaOH for effective sanitization.
- Delivery Condition: Gamma-irradiated and integrity tested

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

Technical Specifications

Attribute	Hollow Fiber TFF Modules | Single-Use Line
Biocompatability	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 [ft² (m²)]*	Recommended batch volume per module	Connections	
						Feed | Retentate	Permeate
Pioneer	Lab	12	0.13 × 4.29 (0.33 × 10.90)	0.018 (0,0017)	3 – 80 mL	Luer Lock	Luer Lock
		24	0.13 × 8.13 (0.33 × 20.65)	0.038 (0.0035)	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	3/16-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	⅜-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	⅜-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		

Name	Scale	Fiber Length [inch]	Dimensions in inches [cm]	Membrane surface area [ft² (m²)]*	Recommended batch volume per module	Connections	
						Feed | Retentate	Permeate
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	1-inch TC
		43	6.015 × 51.65 (15.28 × 131.19)	166.0 (15.42)	400 – 1,500 L	6-inch TC Standard Sanitary × 2½-inch Standard Sanitary Fitting	

* 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.

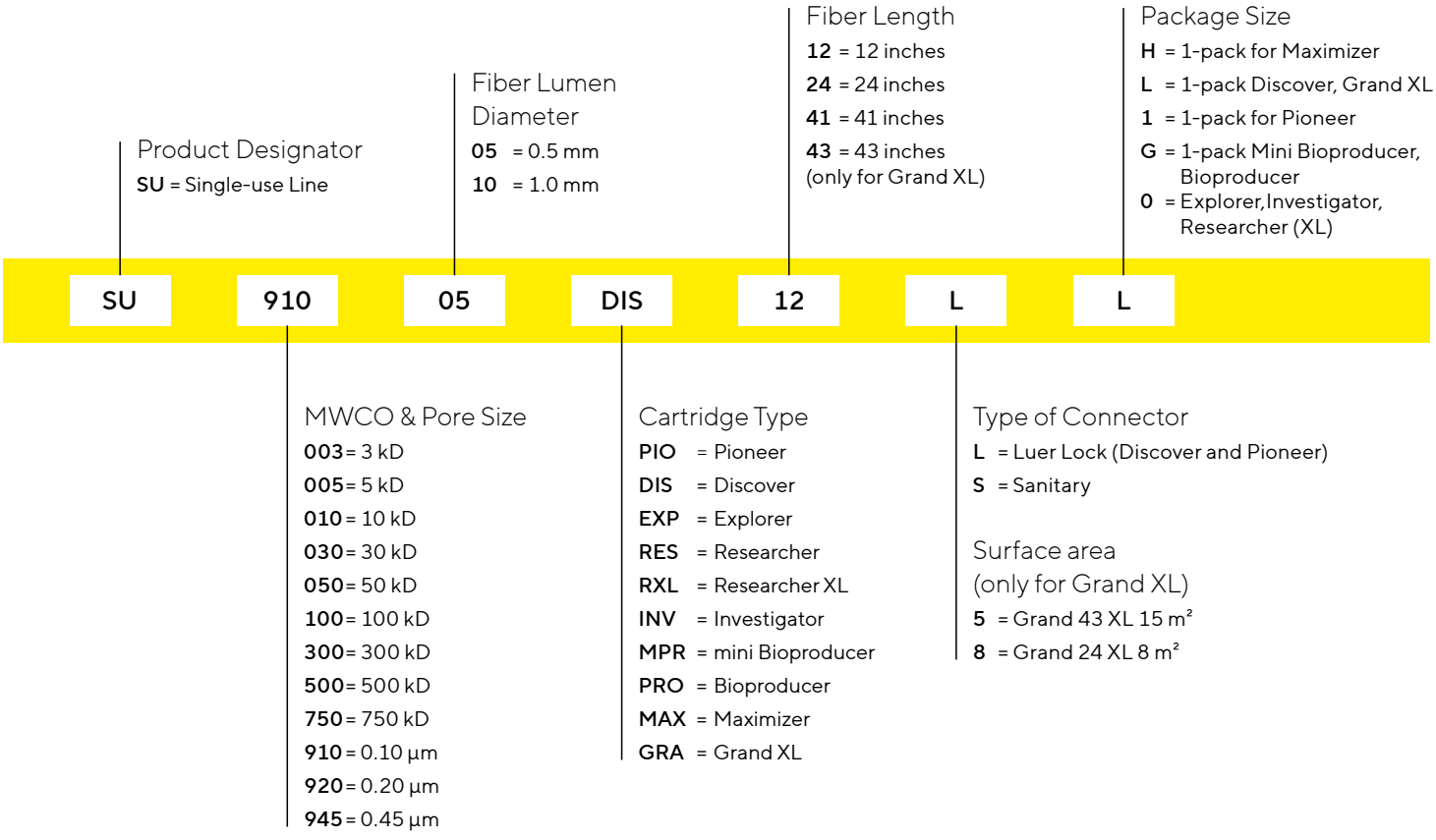
Available MWCO and Pore Sizes for Different Fiber IDs

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

	MWCO									Pore Size		
Fiber ID	**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

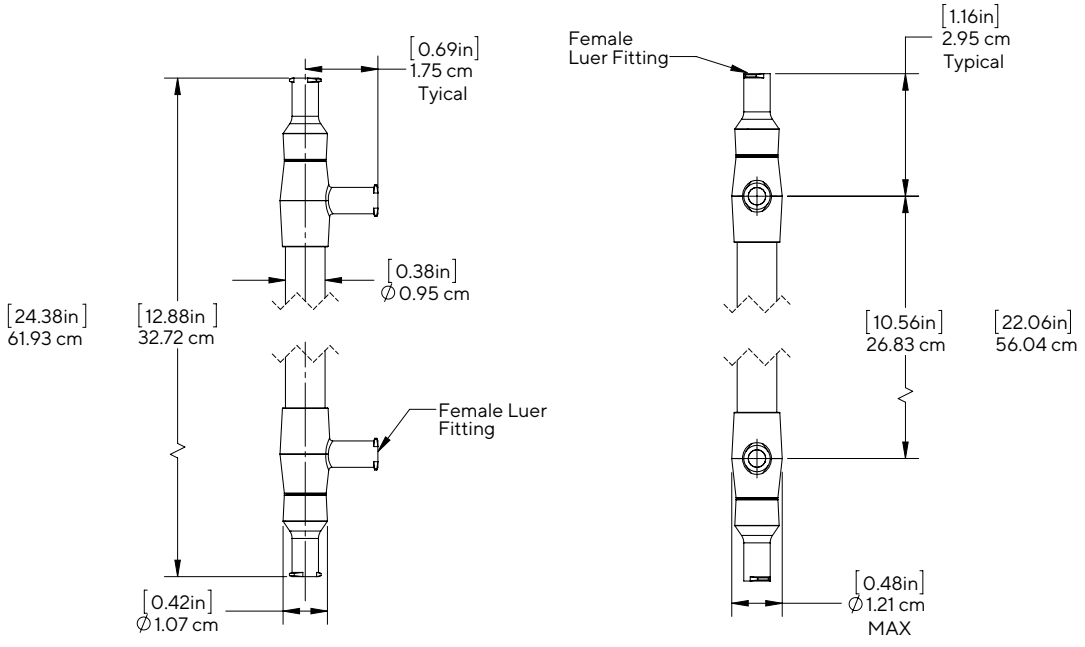


Please consult the specification table on page 3 to learn more about the possible combinations.

Overview

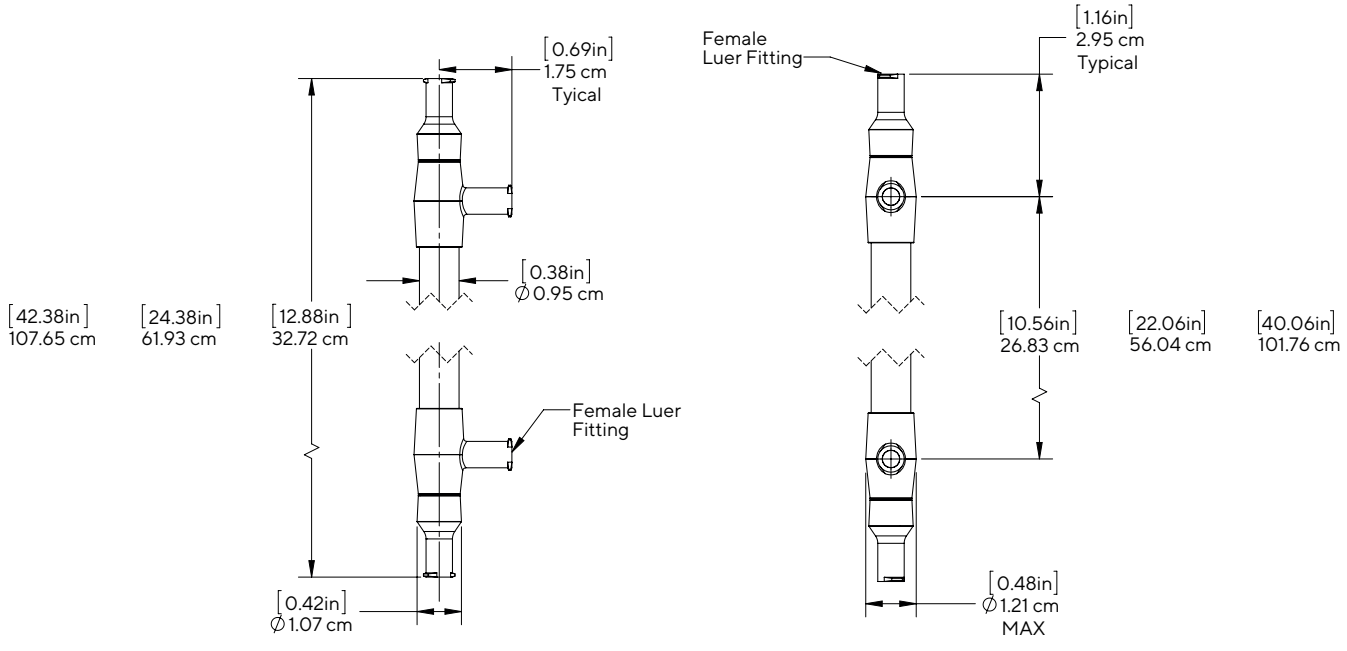
Pioneer

Exact length for different Fiber length: 12 or 24 inch



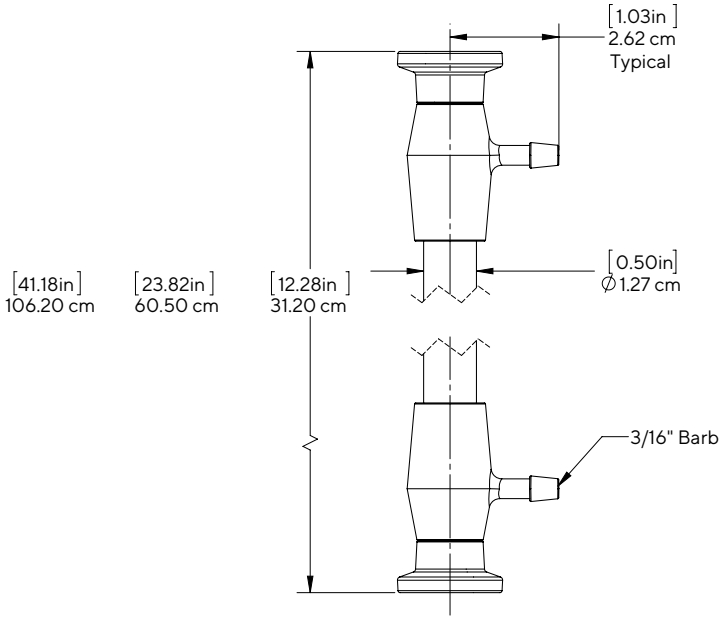
Discover

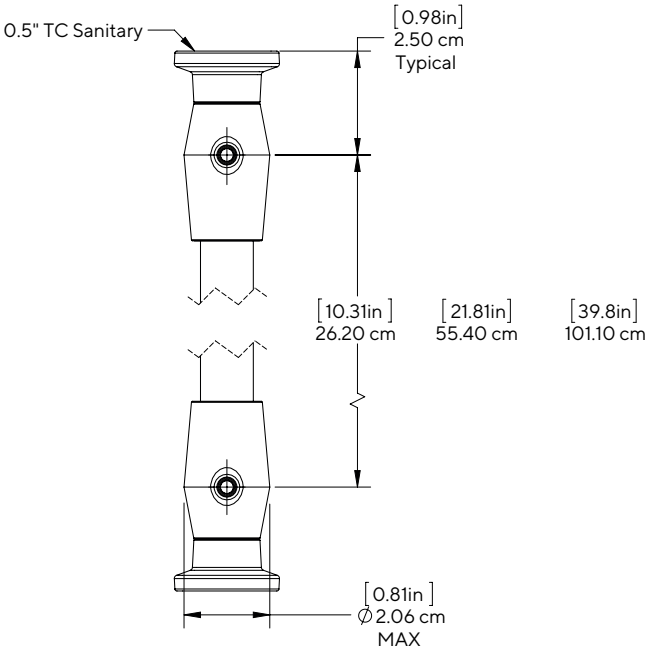
Exact length for different Fiber length: 12, 24 or 41 inch



Explorer

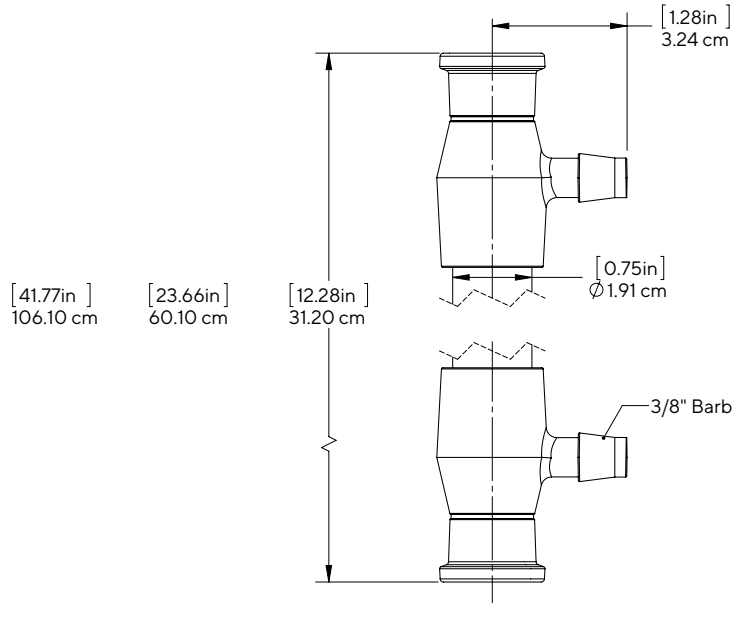
Exact length for different Fiber length: 12, 24 or 41 inch

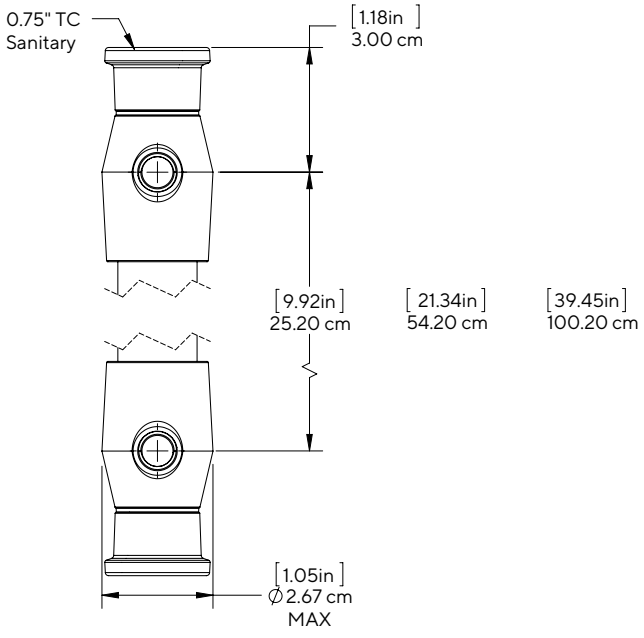




Researcher & Researcher XL

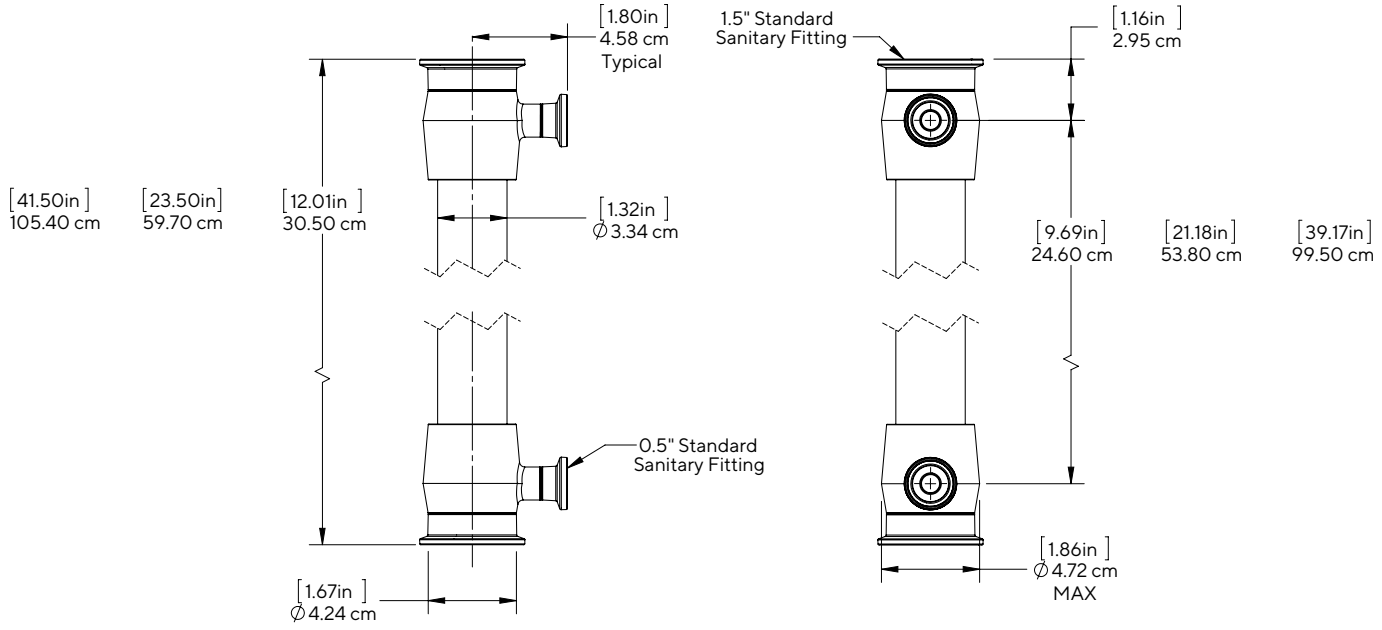
Exact length for different Fiber length: 12, 24 or 41 inch





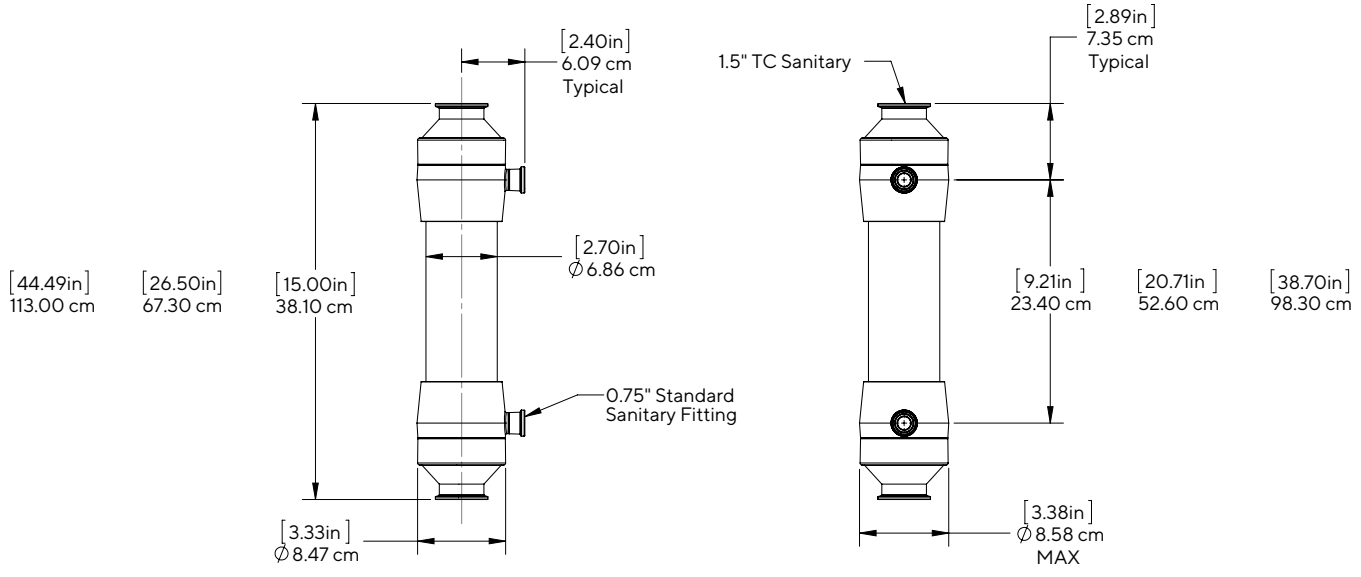
Investigator

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



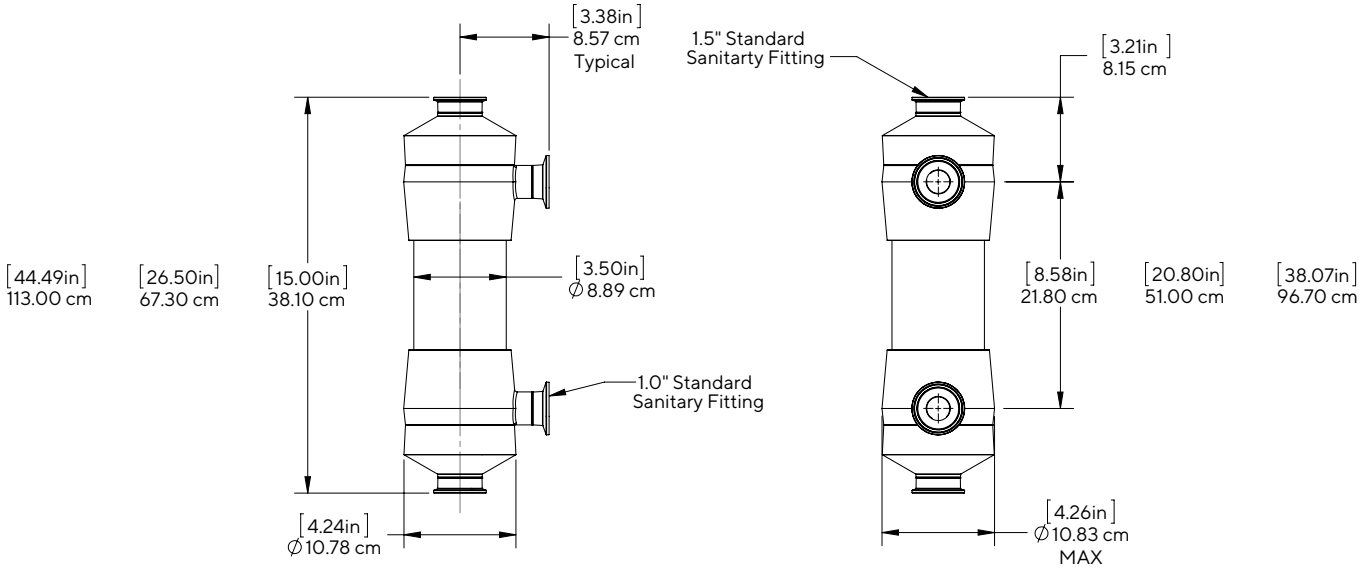
Mini Bioproducer

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



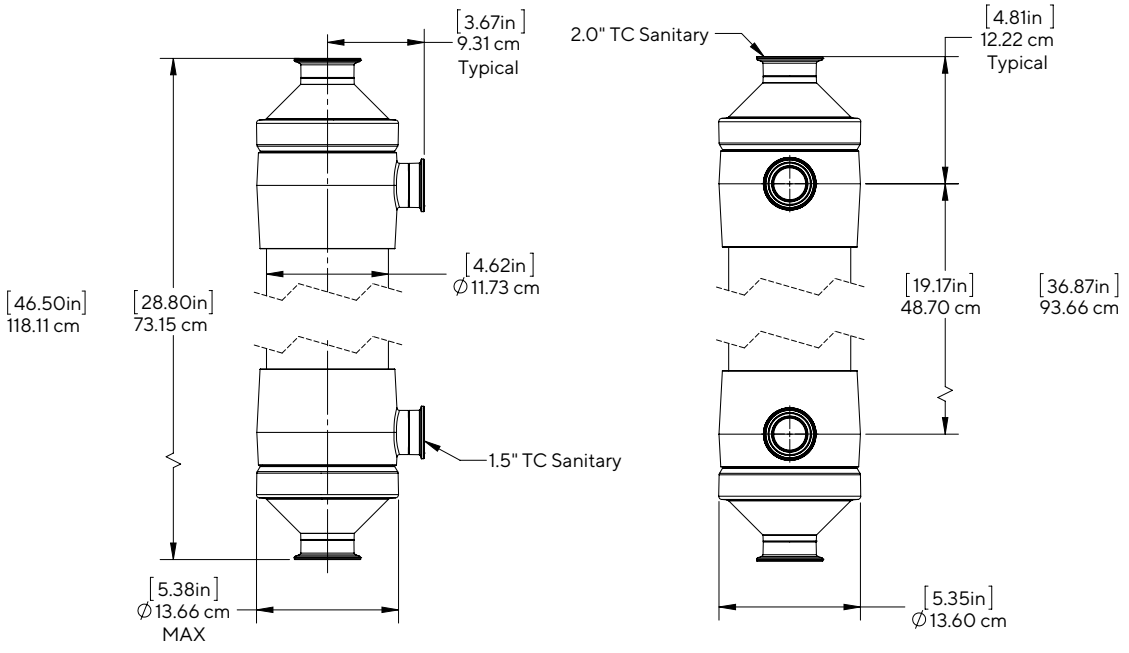
Bioproducer

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



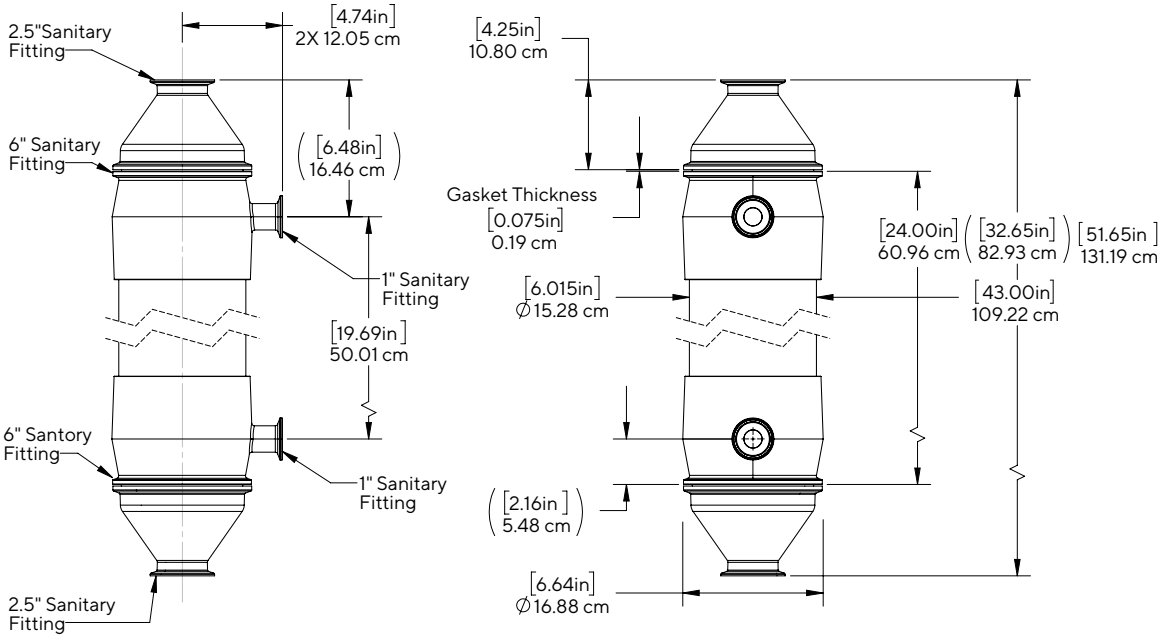
Maximizer

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 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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Specifications subject to change without notice.
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