

## ▲ BioProducer™ 12 Steamer

Autoclavable, Gamma Irradiated  
Hollow Fiber Cartridges.  
Large Capacity – Superior Yield



The **BioProducer™ 12 Steamer** is an autoclavable, gamma irradiated, reusable hollow fiber cartridge made with WaterSep's low binding, glycerin free modified PES membrane (m-PES) which provides a process flux and product recovery that exceeds other crossflow devices. **BioProducer™ Steamer** cartridges are ready to use without any pre-rinse or sanitization, or can be autoclaved as is, or in an assembly.

WaterSep's **BioProducer™ Steamer** cartridges are true plug-and-play, crossflow filtration at its best - connect, use and discard, or clean with 0.5-1.0 M NaOH and re-use.

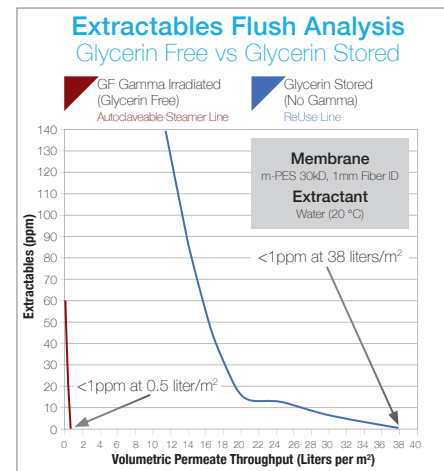
The **BioProducer™ Steamer** production scale hollow fiber cartridges are designed for biopharmaceutical concentration/diafiltration and clarification unit operations. With a membrane surface area of 1.21 m<sup>2</sup>, the **BioProducer™ 12 Steamer** HF cartridge can accommodate batch volumes between 25L and 100L with a typical permeate flow rate of 39-73 L/hr for ultrafiltration applications and 24-48 L/hr for microfiltration applications.

The **BioProducer™ 12 Steamer** hollow fiber cartridge products are in most applications superior to conventional techniques, like centrifugation, depth filters or UF/DF cassettes.

The **BioProducer™ 12 Steamer** hollow fiber cartridges are offered with the same path length as other high performance WaterSep HF cartridges, which makes scale down and scale up easy and predictable.

The **BioProducer™ 12 Steamer** cartridges offer true ready to use crossflow filtration that is:

- Gamma irradiated - ready to use - no prerinse required.
- Humectant free - 80x less extractables, see [Extractables Flush Analysis](#).
- Free of time-consuming cleaning validation.
- At a reduced risk of cross contamination.
- Consistent, membrane performance batch to batch.
- Self-contained and requires no assembly, no expensive hardware and no membrane installation.
- Significantly less expensive than traditional cassette formats.
- Every HF cartridge is integrity tested and has an individual lot number for easy traceability.



### TYPICAL APPLICATIONS

- **Cell perfusion** with an ATF™ system or conventional pump operated crossflow perfusion system. Bioreactor and **Steamer** hollow fiber assembly can be autoclaved simultaneously.
- Production scale **aseptic operations** or any other sterile application requiring autoclaving.
- Rapid clarification of volumes from 25L to 100L of **cell culture, fermentation solutions and virus/ vaccine suspensions**.
- Concentration and diafiltration of **monoclonal antibodies, enzymes, blood components, other proteins, and gene therapy products**.

## BioProducer™ 12 Steamer

### ORDERING INFORMATION

Place orders online at [www.watersep.net](http://www.watersep.net), or email purchase orders to [orders@watersep.net](mailto:orders@watersep.net), sales order confirmation to follow.

#### BioProducer™ 12 Steamer HF Cartridge

0.5 mm ID

AU XXX 05PRO12 S3, 3/pkg

AU XXX 05PRO12 S6, 6/pkg

1.0 mm ID

AU XXX 10PRO12 S3, 3/pkg

AU XXX 10PRO12 S6, 6/pkg

2.0 mm ID\*

AU XXX 20PRO12 S3, 3/pkg

AU XXX 20PRO12 S6, 6/pkg

\*Available in 10K, 50K, 300K-750K and 0.1  $\mu\text{m}$  - 0.45  $\mu\text{m}$

Replace XXX with:

003 for 3K	050 for 50K	750 for 750K
005 for 5K	100 for 100K	910 for 0.1 $\mu\text{m}$
010 for 10K	300 for 300K	920 for 0.2 $\mu\text{m}$
030 for 30K	500 for 500K	945 for 0.45 $\mu\text{m}$

### SPECIFICATIONS

Cartridge Dimensions

3.50" (8.89 cm) x 15.00" (38.10 cm)

Membrane Surface Area

13.1 ft<sup>2</sup> (1.21 m<sup>2</sup>)

Molecular Weight Cut-off

3K, 5K, 10K, 30K, 50K, 100K, 300K, 500K, 750K

Membrane Pore Size

0.1  $\mu\text{m}$ , 0.2  $\mu\text{m}$  and 0.45  $\mu\text{m}$

Fiber ID

0.5 mm, 1.0 mm, 2.0 mm

### MATERIALS OF CONSTRUCTION

The cartridge as assembled is USP Class VI compliant.

Membrane:

Modified Polyethersulfone (m-PES)

Housing:

White Polysulfone

Encapsulant:

Medical Grade Epoxy

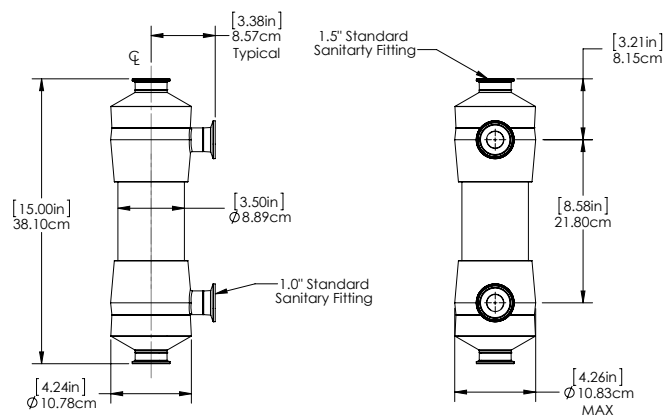
### CONNECTIONS

Feed/Retentate

1.5" TC Standard Sanitary Fitting

Permeate

1.0" TC Standard Sanitary Fitting



Technical Support: [experttalk@watersep.net](mailto:experttalk@watersep.net)  
or call 508.970.0089 x 204.