

## Researcher™ 41 and Researcher™ 41 XL Steamer

### Autoclaved, Gamma Irradiated Hollow Fiber Cartridges Large Capacity – Superior Yield



**Researcher™ Steamer** hollow fiber membrane products incorporate our latest glycerin free low extractables, heat resistant modified polyethersulfone (m-PES) membrane technology. All **Steamer** products are gamma irradiated and ready to use without any tedious pre-rinse. The **Steamer** HF cartridges are the product of choice for perfusion applications. They can be repetitively autoclaved as a stand alone HF cartridge and of course also in a tubing assembly.

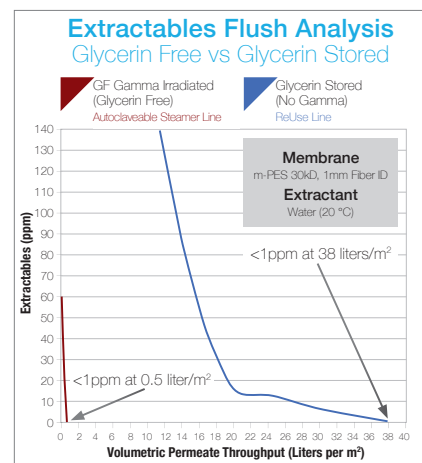
The extractables level for the **Researcher™ Steamer** is approximately 80x less than a glycerin conditioned membrane, see [Extractables Flush Analysis](#). After a quick buffer conditioning the HF cartridge is ready to be used or autoclaved.

For crossflow perfusion applications and autoclaving directions, please see the **Steamer Line** Validation Guide at [www.WaterSep.net](http://www.WaterSep.net). The **Researcher™ Steamer** crossflow hollow fiber membrane cartridges are positioned between the laboratory scale **Explorer Steamer** and the pilot scale **Investigator Steamer** cartridges. With a surface area of 1,716 cm<sup>2</sup> for the **Researcher™ 41 Steamer** and 2,383 cm<sup>2</sup> for the **Researcher™ 41 XL Steamer** these cartridges the perfect choice for perfusion applications, small aseptic processes and preparative biopharmaceutical work with sample volumes between 1,000 mL up to 11,200 mL with a typical permeate flow rate of 5.1 to 14 L/hr for ultrafiltration applications and 3.4 to 9.5 L/hr for microfiltration applications.

Offered in the same path length as all other WaterSep 41" hollow fiber cartridges for exact and predicable scale up and down.

The **Researcher™ 41** and **Researcher™ 41 XL Steamer** cartridges offer true ready to use crossflow filtration that is:

- Gamma irradiated - ready to use - no pre-rinse 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 for a conventional pump operated perfusion process. (Bioreactor and **Steamer** hollow fiber assemblies can be autoclaved simultaneously.)
- Lab scale **aseptic/sterile UF-MF applications** where autoclaving is required.
- Rapid clarification of volumes from 1,000 mL to 11,200 mL of **cell culture, fermentation solutions and virus/vaccine suspensions**.
- Concentration and diafiltration of **monoclonal antibodies, enzymes, blood components, other proteins, and gene therapy products**.

# Researcher™41 and Researcher™41 XL 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.

### Researcher™41 Steamer HF Cartridge

0.5 mm ID  
AU XXX 05RES41 S3, 3/pkg  
AU XXX 05RES41 S6, 6/pkg  
1.0 mm ID  
AU XXX 10RES41 S3, 3/pkg  
AU XXX 10RES41 S6, 6/pkg

2.0 mm ID\*  
AU XXX 20RES41 S3, 3/pkg  
AU XXX 20RES41 S6, 6/pkg

\*Available in 10K, 50K, 300K-750K and 0.1µm-0.65µm

### Researcher™41 XL Steamer HF Cartridge

0.5 mm ID  
AU XXX 05RXL41 S3, 3/pkg  
AU XXX 05RXL41 S6, 6/pkg  
1.0 mm ID  
AU XXX 10RXL41 S3, 3/pkg  
AU XXX 10RXL41 S6, 6/pkg

2.0 mm ID\*  
AU XXX 20RXL41 S3, 3/pkg  
AU XXX 20RXL41 S6, 6/pkg

\*Available in 10K, 50K, 300K-750K and 0.1µm-0.65µm

Replace XXX with:

003 for 3K	100 for 100K	910 for 0.1µm
005 for 5K	300 for 300K	920 for 0.2µm
010 for 10K	500 for 500K	945 for 0.45µm
030 for 30K	750 for 750K	965 for 0.65µm
050 for 50K		

## CONNECTIONS

Feed/Retentate  
0.75" TC Standard Sanitary Fitting

Permeate  
3/8" Barb

## SPECIFICATIONS

Cartridge Dimensions  
0.75" (1.91 cm) x 41.77" (106.10 cm)

Membrane Surface Area  
1.85 ft<sup>2</sup> (1,716 cm<sup>2</sup>) **Researcher™41 Steamer**  
2.57 ft<sup>2</sup> (2,383 cm<sup>2</sup>) **Researcher™41XL Steamer**

Molecular Weight Cut-off  
3K, 5K, 10K, 30K, 50K, 100K, 300K, 500K, 750K

Membrane Pore Size  
0.1µm, 0.2µm and 0.45µm

Fiber ID  
0.5 mm, 1.0 mm, 2.0 mm

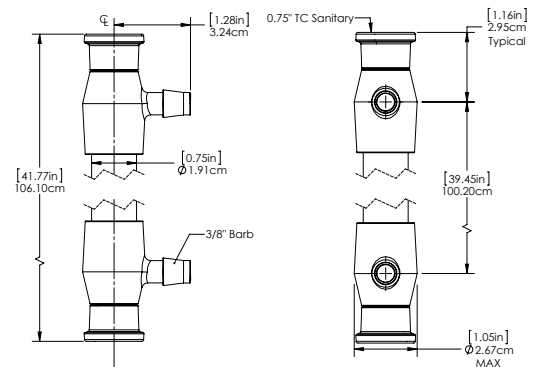
## MATERIALS OF CONSTRUCTION

The cartridge as assembled is USP Class VI compliant.

Membrane  
Modified Polyethersulfone (m-PES)

Housing  
White Polysulfone

Encapsulant  
Medical Grade Epoxy



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