FORMULATRIX®
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µPULSE® - TFF

less time at the centrifuge, more time for research

The µPULSE® - TFF System is a fully automated, walk away system that uses tangential flow filtration (TFF) for sample concentration and diafiltration (buffer exchange, desalting).

Key Features

- **Walk-Away System -** Set your desired parameters and let the system do everything until it is time to collect your sample; Remotely monitor via a web-based application.
- **Fast -** Permeate flow rate up to 2.5x faster than centrifuges with dead-end filters.
- **Scalable Process -** Whether you are trying to scale up or down, µPULSE allows you to control all the parameters of an industrial TFF, at the research scale.
- **Wide Range of Operating Volumes -** Concentrate from 100 mL to 1 mL with up to 250 mL of buffer exchange.
- **Lowest Hold-up Volume in the Industry -** Our patent-pending pump design offers just 0.65 mL of hold-up volume. Up to 100% hold-up recovery with automated recovery options.
- **Easy Maintenance -** All components in the fluid path are disposable consumables.
- **Cost-Effective -** The µPULSE consumable chips can be cleaned in place for re-use up to 300 mL of permeate (sample dependent).

See Your Progress

No need to stop your progress to check on samples.

Control from Anywhere

Remote control and monitoring with our web-based app.

Walk-Away System

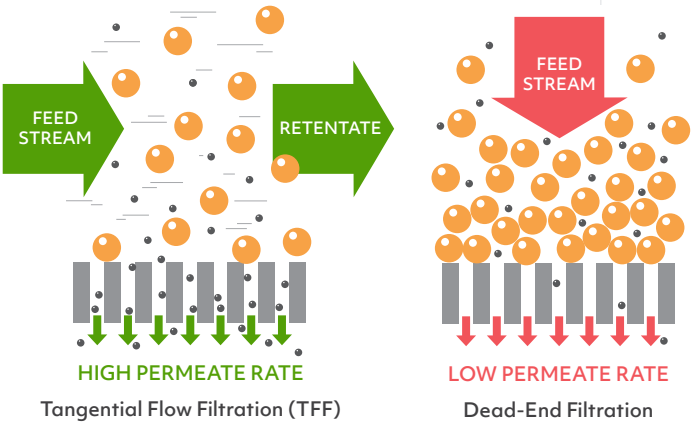
Enter your parameters and walk away. Get notified when your sample is ready!

 www.formulatrix.com +1 781 788 0228 Rev: 04Apr24-0454

Stop Wasting Time Checking on Samples

The µPULSE is a set it and forget it system. Simply enter the starting volume and the desired final volume with an optional buffer exchange.

The system will proceed until complete. Users can then elect to concentrate further or recover the 0.65mL of dead volume. Remote monitoring of the progress is available through a web-based app accessible anywhere. No more the frequent trips to the centrifuge to check on samples and balance Tubes.



Concentrate Samples Faster with TFF

Unlike centrifuges with traditional dead-end filtration systems, the µPULSE prevents a high concentration gradient from forming at the filtration membrane. This means no reduction in the permeate flow rate and increased sample recovery.

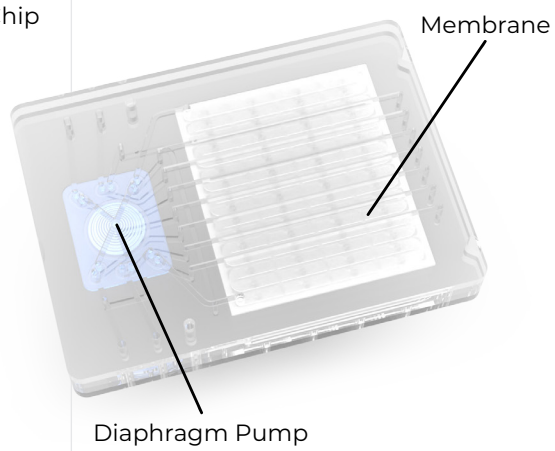
With TFF, the concentration process is continuous and gradual allowing for samples to be concentrated up to 2.5x faster than using dead-end filtration. The exact concentration rate depends on sample size and membrane cutoff size.

The µPULSE utilizes a filtration membrane that is 50 - 75% larger than traditional dead-end filtration systems. This larger membrane boasts a higher membrane flux allowing you to concentrate samples faster so you can move on with your research.

Easy to Maintain with Disposable Filter Chips

The µPulse - TFF System uses disposable filter chips and transfer tubing. The entire fluid path can be cleaned in place for re-use or discarded for single-use. It can cover a wide variety of sample sizes with 5, 10, 30, 50, 100, and 300 kDa MWCO mPES (modified Polyethersulfone) membranes.

RC (Regenerated Cellulose) filter chips also come in MWCO sizes of 5, 10, 30, and 100 kDa membranes.



50 ml & 15 ml centrifuge tubes hold sample/buffer

Sample Diafiltration

Buffer Exchange, Desalting
Along with concentrating your sample, there is an option for automatic diafiltration to facilitate buffer exchange or desalting processes.

Setup is easy with two centrifuge tubes (either 50 mL or 15 mL) located at the front of the system:

- One tube holds your sample solution
- The other a buffer or any other solution of your choice

The system can be refilled with up to 250 mL of buffer for high diavolume exchanges.

Easy Setup - Monitor from Afar

The µPULSE - TFF System utilizes an intuitive, web-based software application that can be run on the device or via external devices on the same network.

This easy-to-use solution allows the user to set up the starting and desired volumes and concentrations, diafiltration or buffer exchange, and modify advanced settings to optimize concentration for your samples.

Users can remotely monitor the process of their concentration instead of having to manually check.

Specifications

Electrical Specifications

- 110 V - 240 V, 50 Hz - 60 Hz, 50 W typical, 150 W max. All outlet types are supported
- Connectivity: WiFi/Ethernet

Membrane Specifications

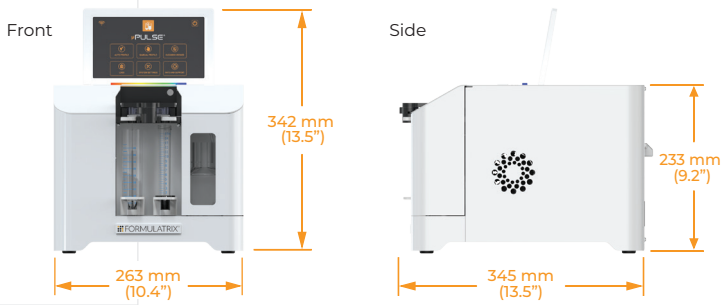
- Membrane Material: Polyethersulfone (PES)
- Membrane area: 11 cm^2
- Membrane Storage: 20% Glycerol 0.05% Sodium Azide
- Membrane Lifetime: 300 mL total permeate volume

System Specifications

- Recommended Starting Volume: 5 mL - 100 mL
- Minimum Starting Volume: 1 mL
- Sample Final Volume: 0.5 mL w/ 0.65 mL recoverable hold-up
- Max Buffer Volume: 250 mL in 50 mL increments
- Suggested Max. Sample Viscosity: 100 cP

Physical Dimensions

- Height: 233 mm (9.2”)
- Height: 342 mm (13.5”) (with screen monitor upright)
- Width: 263 mm (10.4”)
- Depth: 345 mm (13.5”)
- Weight: 10.8 kg (24 lbs)



For more information about the µPULSE, visit us at **www.formulatrix.com** or email **info@formulatrix.com**

