

TFF-EASY Large

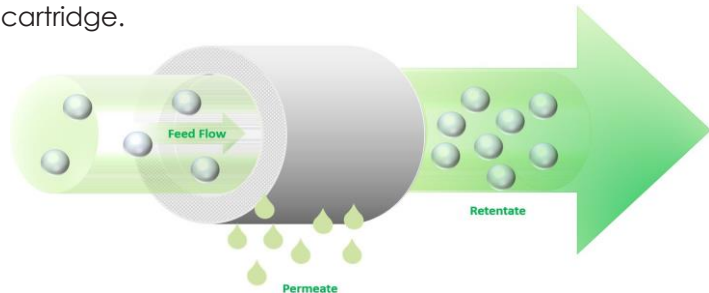
Tangential flow filtration concentrator

Product Code: HBM-TFF-Easy-L

About TFF-EASY

TFF-Easy is a filter cartridge containing polysulfone hollow fibers (5 nm pores), which allows the concentration and the removal of small proteins and molecules from diluted matrices (cell conditioned media, urine, etc.), prior to the EV purification.

Water and small molecules pass through the hollow fiber pores, whereas EVs are concentrated in the retentate. EVs can be easily recovered with a syringe from the filter cartridge.



Technical features

Technical features	Description
Hollow fiber material	Polysulfone
Pore size (nm)	5
Cut off (kDa)	25 +/- 10
Priming volume (ml)	20
Filtering surface (m2)	0.250
Internal fiber diameter (µm)	250 +/- 10
External fiber diameter (µm)	350 +/- 20
Maximum transmembrane pressure (mmHg)	500
Maximum flow rate (ml/min)	500 ml/min
Sterilization method	e-beams sterilization

Preparation of the filter and the fluid before the concentration

- Filter preparation and pre-washing.

In order to work at its best, the filter must be activated, operating a pre-washing step with an isotonic solution respect to the fluid to be concentrated.

Recommended activating solutions for the pre-washing step are reported in the table below.

Pre-washing solution	Fluids for concentration
MilliQ water	Salt solutions
PBS 1x or NaCl 0.9%	Cell conditioned media
PBS 1x or NaCl 0.9%	Urine
PBS 1x or NaCl 0.9%	Plasma or serum
MilliQ water	Nanoparticle resuspension in buffer

Flash 2 liters of the pre-washing solution through the filter, before to proceed to the fluid concentration.

- Sample precleaning.

Fluid	Recommended	Optional
Plasma	10 min at 300 g (save super) 20 min at 1200 g (save super)	30 min at 10000 g to eliminate large particles (> 200 nm)
Serum	10 min at 300 g (save super) 20 min at 1200 g (save super)	30 min at 10000 g to eliminate large particles (> 200 nm)
Urine	10 min at 300 g (save super).	
Cell media*	10 min at 300 g (save super) 20 min at 1200 g (save super).	30 min at 10000 g to eliminate large particles (> 200 nm)

Concentration process

Start the concentration process setting the pump with the recommended flowrates:

Cell conditioned media: 100 - 250 ml/min. Urine: 80 - 200 ml/min.

Viscous fluids (plasma/serum): 50 - 80 ml/min.

Washing procedure

Once the concentration process is ended the filter cartridge can be washed with a NaOH solution 0.2 - 0.5 N, in order to remove contaminants and particles from the hollow fibers. A final wash with abundant MilliQ water (2 liters) must be performed for removing the chemical traces.

Storage

The filter must be stored wet in MilliQ water.

Fill the filter with 20 ml of MilliQ water, close all the filter outlets with parafilm and store the filter at room temperature or in fridge (4 -8 °C).

Do not let the filter dry out.

Filter re-sterilization.

The filter can be re-sterilized by Beta or Gamma irradiation. Not suitable for sterilization in autoclave.

