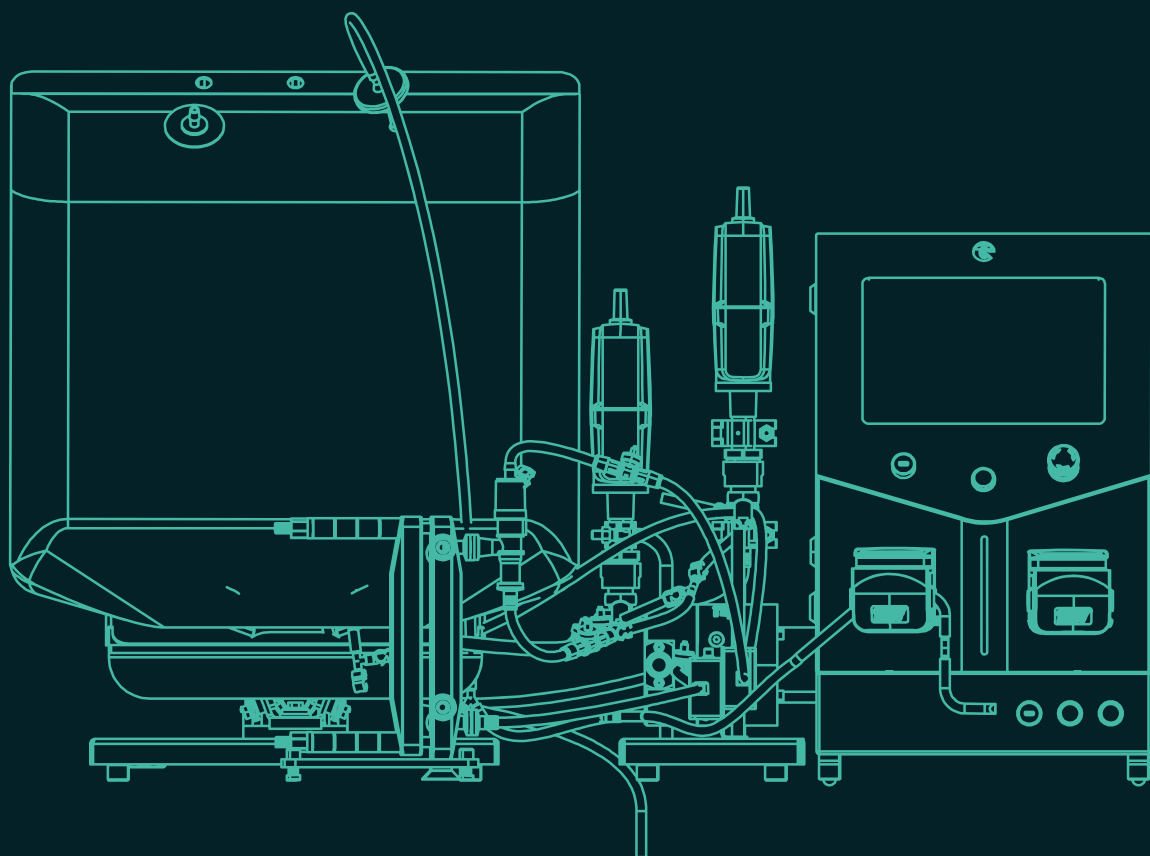


eLAB® TFF SU

Maximize research & production results with solutions for tough downstream applications

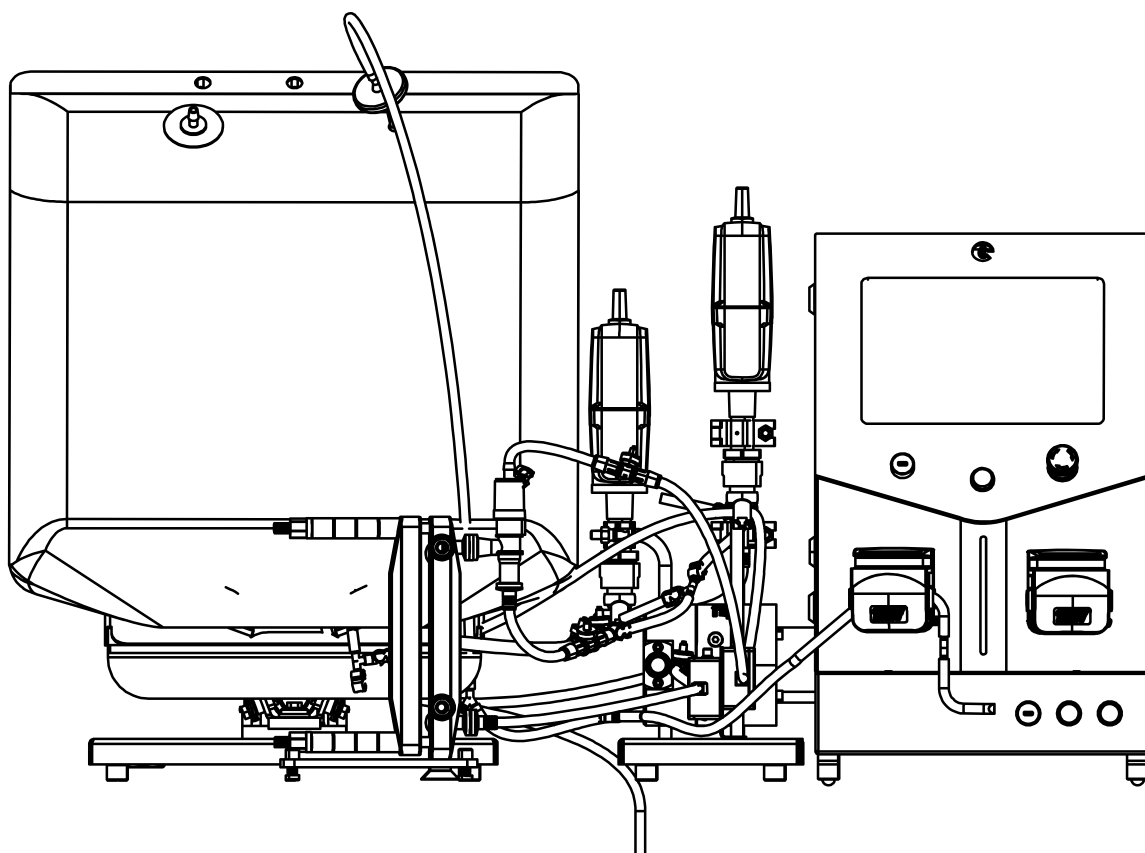


eLAB® TFF SU

The TFF system enables a fast and efficient process for separation and purification of biomolecules. Fluid filtration can be either microfiltration or ultrafiltration, depending on the membranes used, and is performed in parallel to the membrane and through a pressure difference, allowing smaller volume components to pass through the filter while larger volume ones circulate along the membrane, preventing membrane fouling. This allows for continuous flow and increased yield.

The product that passes through the filter is called permeate, while the one that continues its trajectory is called retentate, which is recycled back into the feed. The TFF equipment consists of two main modules. The first one is the filtration assembly, which includes a single-use plastic tank with a volume of 2 to 5 liters that contains the product to be filtered and a filtration membrane with a surface up to 0.7 m².

The bag is supported on a support where it is located by a load cell and has a conical bottom to prevent product loss. The plastic tank is fixed on a support and contains the tangential filter that purifies the biomolecules. Both the filter and the support are gamma irradiated beforehand.



Basic configuration

Control Module	
TMP configuration	Included
Concentration mode	Included
Diafiltration mode	Included
Water flux test mode	Included
Filling mode	Included
CIP mode (for hybrid configuration)	Included
Level control	Included
eSACA R&ID / Advanced	Included
OPC server	Included
User's management	Included
Recipe's management	Included
Reporting	Included
PAT	Optional
21CFR Part 11 Compliant	Optional

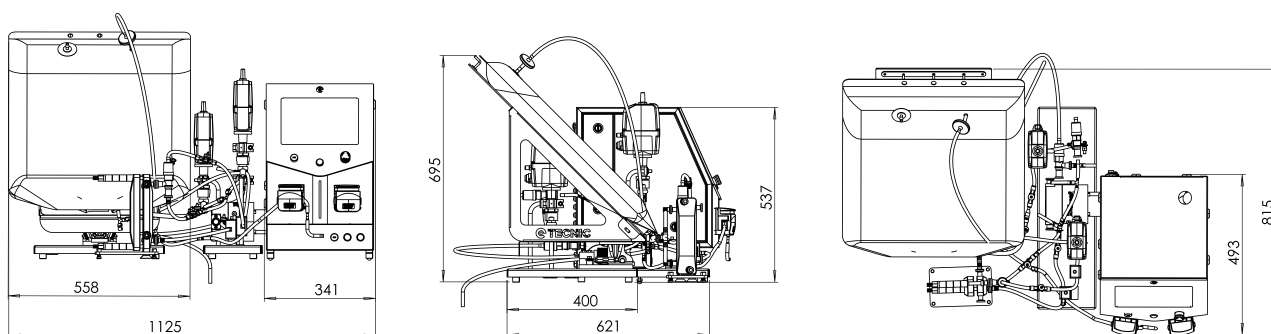
Equipment	
Pressure measurement in feeding line	Included
Pressure measurement in retentate line	Included
Pressure measurement in permeate line	Included
Regulation pinch valve in the retentate	Included
Regulation pinch valve in the permeate	Included
Regulation peristaltic pump in the permeate	Optional
Four-piston diaphragm pump for recirculation	Included
Peristaltic pump for diafiltration	Included
Peristaltic pump for permeate control	Included
Housing for membrane cassettes	Optional
Flow sensor in the recirculation line	Optional
Flow sensor in the permeate line	Optional
Flow sensor in the feeding line	Optional
Massic flow calculation in permeate line	Optional
Bench scale for permeate container	Optional
Conductivity sensor in the feeding line	Optional
pH sensor in the feeding line	Optional
Conductivity sensor in the feeding line	Optional
Single use container (size available on request)	Optional
Level measurement (bench scale)	Optional
Flowkit (size available on request)	Optional
Table	Optional
PAT BOX	Optional

Technical specifications

TFF System	
Overall dimensions (WxHxD) (mm)	780x909x532
Control unit weight approx (kg)	~35 Kg

Power supply	1xPhase, 1xNeutral, 1xGround 230VAC 50Hz 7A
Housing material	Stainless steel AISI 304
Controller type	Industrial PLC
Operation / HMI Interface	Intouch Screen 10" / eSCADA system
Electrical Interfaces	1x Ethernet 1x WLAN 2x USB
Advanced software	Compatible with Qubicon and Lucullus

eLAB TFF SU (measurements in mm)



eBAG-TFF features

eBAG working volume (L)	5
eBAG total volume (L)	6
eBAG hold-up volume (L)	0,1
eBAG type	Conical for minimum working volume + 2x upper ports
Filter	0,22 µm
eBAG dimensions (WxH) (mm)	335 x 425
Bottom ports	1x 1/4" Retentate 1x 1/4" Permeate
Sampling	Optional in bottom port
Top connections	1x 1/4" hose barb for inlet solutions 1x 1/4" hose barb for venting filter

Functional specifications

Type	Membrane cassette (0.1 -0.5 m ²) Hollow-Fiber (0.1-0.4 m ²)
Pumping system	Low shear four-piston diaphragm pump
Pumping capacity (L/h) @ 2 barg	Up to 800
Dead volume (mL) (it will depend on flowkit configuration)	~ 80
Pressure sensor	-0,79 to 5,2 bar
pH sensor	Biocompatible (FDA) 3 -10 pH
Conductivity sensor	0,1 - 100 mS/cm
Flow sensor	Clamp-on ultrasonic sensor (available in different flow ranges)

Flow range (mL/min) (it will depend on tube size)	0-1000 0-4000
Accuracy	0-500 mL/min: +- 15 mL/min 500-4000 mL/min: +-3%
Maximum operating pressure	3 bar
Working pressure	1,5 bar

Peristaltic pumps

Pump type	1x integrated variable speed pump 1x integrated fixed speed pump	
Pump head	For 1,6 mm wall thickness tubing Bore: ID 0.5 - 8 mm	
Max Speed	Variable: 100 rpm Fixed: 90 rpm	
Max Flow rate (ml/min)	Variable: ID 0.5 mm - 3.4 ml/min ID 0.8 mm - 7 ml/min ID 1.6 mm - 27 ml/min ID 3.2 mm - 100 ml/min ID 4.8 mm - 420 ml/min ID 6.4 mm - 360 ml/min ID 8.0 mm - 500 ml/min	Fixed: ID 0.5 mm - 3.0ml/min ID 0.8 mm - 6.4 ml/min ID 1.6 mm - 24 ml/min ID 3.2 mm - 90 ml/min ID 4.8 mm - 198 ml/min ID 6.4 mm - 325 ml/min ID 8.0 mm - 450 ml/min

Partnerships



Regulation



Do you need more information?
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