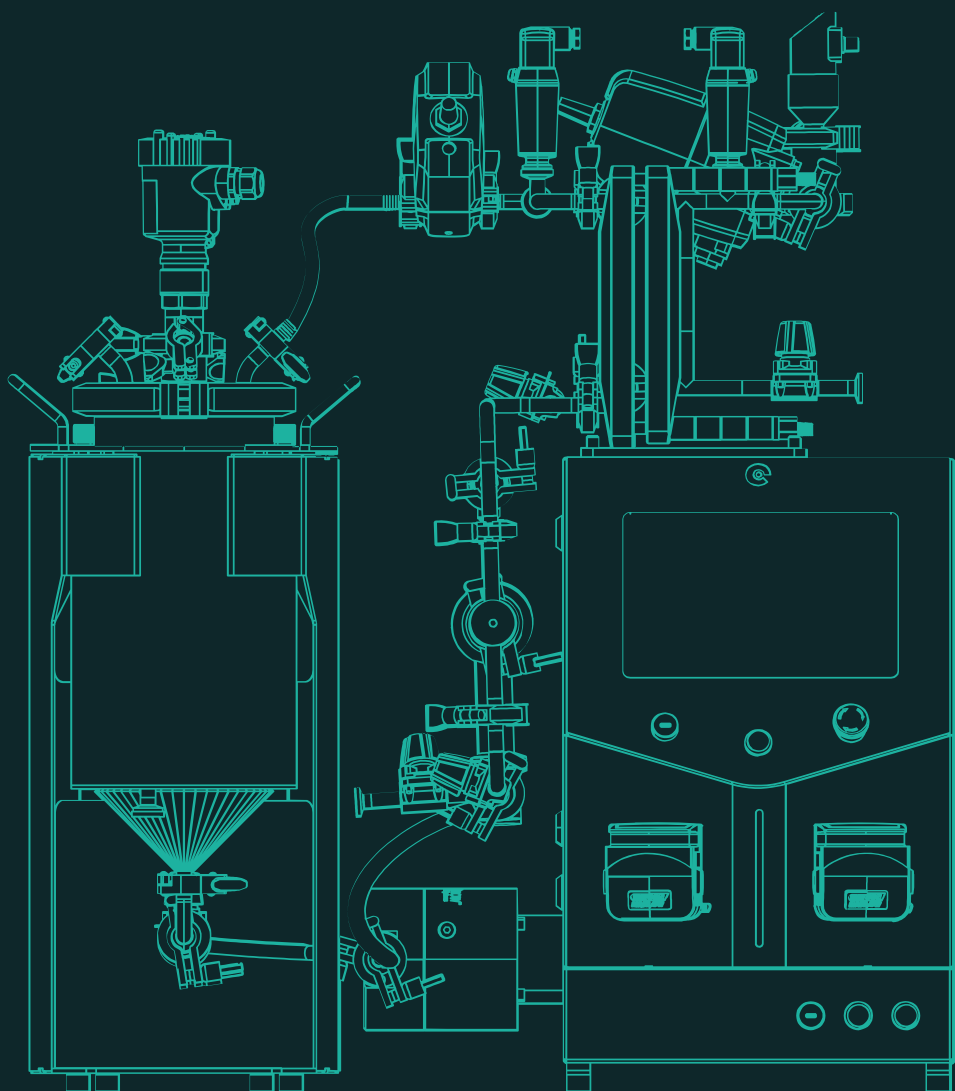


# elab<sup>®</sup> tangential flow filtration

Unlock the full potential of  
your research and production



## eLAB® TFF

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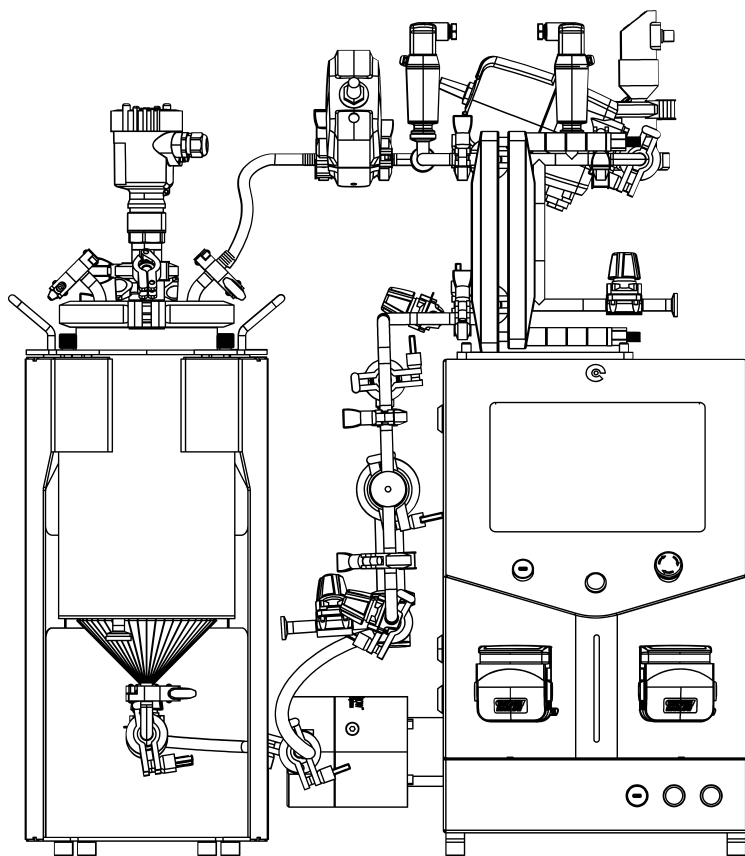
This high-performance filtration system, employing tangential flow filtration (TFF) or tangential filtration, is designed to meet the demands of even the most challenging applications with a maximum filtration performance of up to 0.5 square meters of total membrane surface area.

The system uses a tangential flow filter, optimizing the TFF filtration process, which allows for continuous operation and minimizes clogging and fouling of the filter membrane.

The use of tangential flow ultrafiltration and tangential ultrafiltration methodologies contribute to high performance and efficiency. The system is fully automatic by default, using differential pressure, transmembrane pressure or tangential flow as control regulation for diafiltration and concentration processes.

It can handle the most demanding downstream processes, including ultrafiltration, microfiltration or nanofiltration, using TFF filter cassette, hollow fiber, and ceramic filters. Invest in a TFF tangential flow filtration system that delivers reliable and efficient results, and take your research to the next level. Our high-performance tangential flow filtration system offers superior results, making it an excellent choice for a range of applications and scale.

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## Basic configuration

<b>Control module</b>	
TMP configuration	Included
Concentration mode	Included
Diafiltration mode	Included
Water flux test mode	Included
Filling mode	Included
CIP mode	Included
Level control	Included
eSACADA R&ID / Advanced	Included
OPC server	Included
User's management	Included
Recipe's management	Included
Reporting	Included
PAT	Optional
21CFR Part 11 Compliant	Optional
<b>Equipment</b>	
Pressure measurement in feeding line	Included
Pressure measurement in retentate line	Included
Pressure measurement in permeate line	Included
Temperature measurement in the tank	Included
Regulation diaphragm valve in the retentate	Included
Regulation diaphragm valve in the permeate	Included
Four-piston diaphragm pump for recirculation	Included
Peristaltic pump for diafiltration	Included
Peristaltic pump for permeate control	Included
Housing for membrane cassettes	Included in cassettes version
Flow sensor in the recirculation line	Optional
Flow sensor in the permeate line	Optional
Conductivity sensor in the feeding line	Optional
pH sensor in the feeding line	Optional
5L stainless steel vessel	Included
Other vessel sizes available on request	Optional
Double wall vessel	Included with vessel
Level measurement	Included with vessel
Certificate 3.1	Optional

## Technical specifications

<b>TFF system</b>	
Overall dimensions (WxHxD) (mm)	780x909x532
Control unit weight approx (Kg) (including piping)	~35 Kg
Power supply	1xphase, 1xneutral, 1xground   230VAC   50Hz   7A
Non-product contact material	Stainless steel AISI 304
Product contact material	Stainless steel AISI 316L
Controller type	Industrial PLC
Operation / HMI Interface	Intouch screen 10" / eSCADA
Electrical interfaces	1x ethernet   1x WLAN   2x USB
Advanced software	Compatible with Qubicon and Lucullus

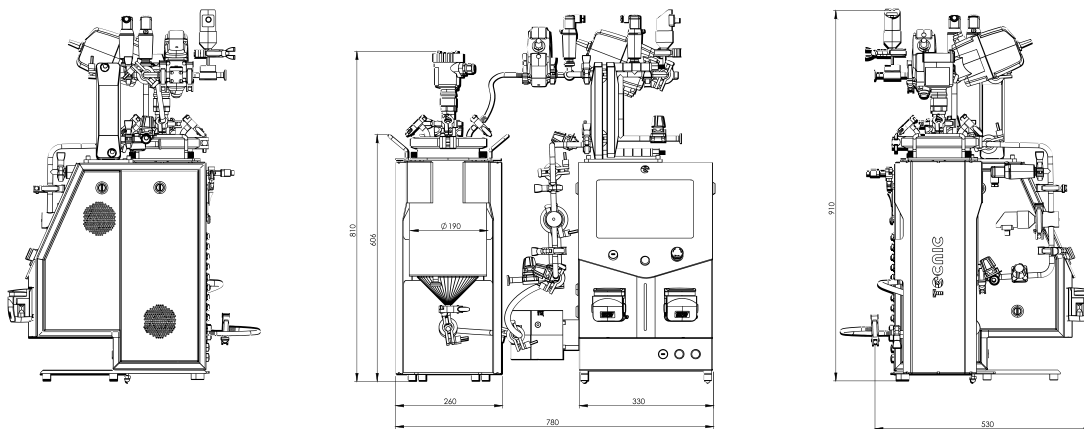
**TFF Vessel features**

Vessel volume (L)	5
Vessel type	Conical for minimum working volume
Jacket	Double wall vessel for temperature management
External vessel dimensions (WxHxD) (mm) (including sensors)	256x793x316
Vessel weight (Kg)	~20
Deep tubes	1x retentate   1x permeate
CIP ball	1x 1/2" spray ball
Venting	1x 1/2" connection for venting / venting filter
Top connections	4x 1/2" TC connections   1x 1-1/2" TC Connection for level sensor
Bottom connections	1x 1/2" connection for recirculation pump 1x thermowell for temperature measurement
Jacket connections	2x 1/2" TC connections for water recirculation

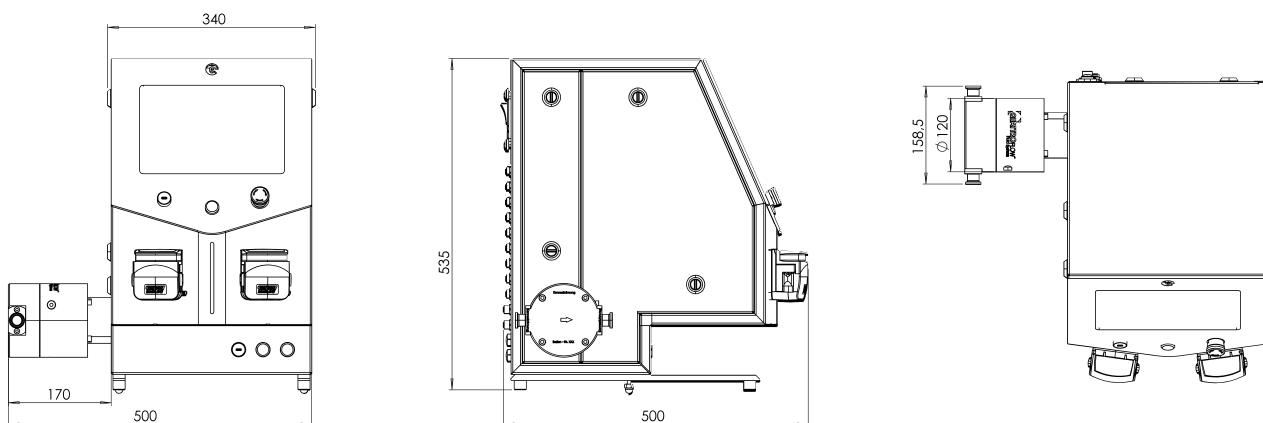
## Functional specifications

Specifications	Membrane cassette (0.1-0.5 m <sup>2</sup> )	Hollow-fiber (0.1-0.4 m <sup>2</sup> )
Pumping system	Low shear four-piston diaphragm pump	
Pumping capacity (L/h) @ 2 barg	Up to 800	
Dead volume (ml)	~ 300	
Pressure sensor	-1 - 4 barg	
Level sensor	Radar guided sensor   Min level: 0.01 L   Max level: 5.2L   Resolution: 0.01 L	
pH sensor	Biocompatible (FDA) electrolyte filled   0 -14 Ph	
Conductivity sensor	4-pole contacting   Range: 1 µS/cm to 300 mS/cm	
Temperature sensor	Pt100   0-90°C	
Flow sensor	Clamp-on ultrasonic sensor (available in different flow ranges)	
Flow range (ml/min)	0-4000	
Accuracy	0-500 ml/min: +- 15 ml/min   500-4000 ml/min: +-3%	
Maximum operating pressure	4 barg	2 barg
<b>Peristaltic pumps</b>		
Pump type	1x integrated variable speed pump 1x integrated fixed speed pump	
Pump head	For 1.6 mm wall thickness tubing Bore: ID 0.8-4.8 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 - 220 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

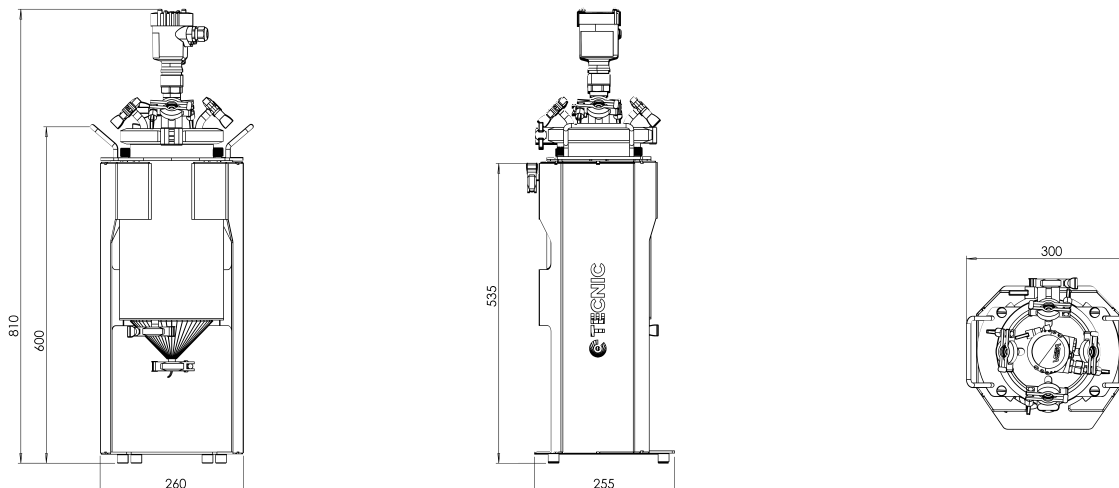
### eLAB TFF (measurements in mm)



### eLAB box (measurements in mm)



### Vessel (measurements in mm)



## Partnerships

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## Regulation

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Do you need more information?  
We are here to help you

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