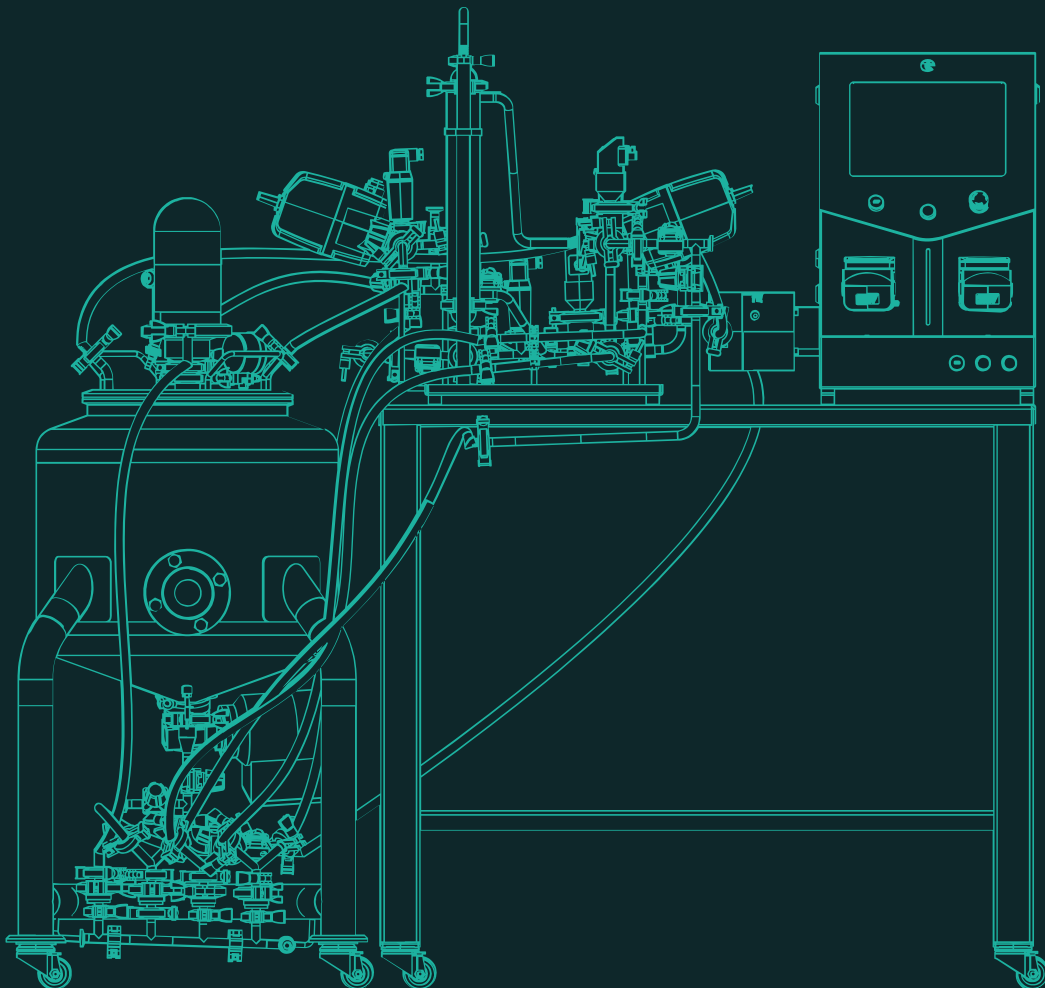


ePilot[®]

tangential flow filtration

Maximize potential with
downstream processing
and pilot-scale technology.

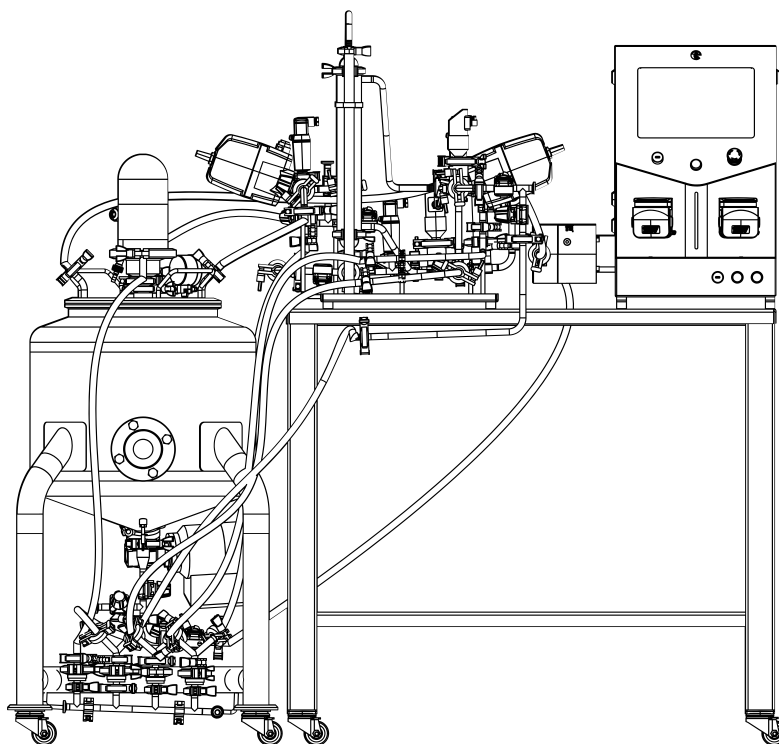


ePILOT® TFF

The ePILOT® TFF system is a pilot-scale tangential flow filtration equipment designed for demanding downstream bioprocessing and product recovery in the biotech, pharmaceutical, and food industries. It plays a crucial role in downstream processing in bioprocess technology, complementing and enhancing the efficiency of the overall process. With a working volume of 50 to 200 liters, it offers high flow rates, high solute retention, and advanced features for optimal performance during downstream processing in bioprocess.

The integration of the ePILOT® TFF system contributes to the efficiency of the overall bioprocess upstream and downstream processes, ensuring the successful transition between these two crucial stages. The ePILOT® TFF is easy to use, with a user-friendly interface and a compact design for easy integration into existing processing pipelines. It's a critical component of the upstream and downstream process in bioprocess, serving as an interface that ensures efficient recovery and purification of the bioproducts.

Invest in ePILOT® TFF and take your downstream processing to the next level. It's a strategic decision that can enhance your capabilities in both downstream bioprocessing and overall bioprocess operations.



Basic configuration

Control modules	
TMP configuration	Included
Concentration mode	Included
Diafiltration mode	Included
Water flux test mode	Included
Filling mode	Included
CIP mode	Included
Level control	Included
eSCADA R&ID / Advanced	Included
OPC server	Included
User's management	Included
Recipe's management	Included
Reporting	Included
PAT	Optional
SIP mode	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
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
Vessel level measurement	Included
Holder for membrane cassettes	Included in cassettes version
Holder for hollow fiber	Included in hollow fiber version
50L stainless steel vessel (other sizes available on request)	Included
CIP ball for vessel cleaning	Included
Auxiliary table for pipping, control unit and holder	Included
Magnetic agitation in the tank	Optional
Flow sensor in the recirculation line	Included
Flow sensor in the permeate line	Included
Conductivity sensor in the feeding line	Optional
pH sensor in the feeding line	Optional
SIP version	Optional
Double wall vessel	Optional
High flow permeate / feeding pump	Optional
Certificate 3.1	Optional
PAT-BOX	Optional

TFF system

Overall dimensions (including vessel) (WxHxD) (mm)	1546,5x1412x524
Control unit weight approx. (Kg)	~35
Power supply	1xphase, 1xneutral, 1xground 230V AC 50Hz 9A
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)	50
Vessel type	Conical for minimum working volume
Jacket	Double wall vessel for temperature management
External vessel dimensions (WxHxD) (mm) (Including sensors)	461x1250x461
Vessel weight (Kg)	50
Top connections	1x 1/2" TC Retentate deep tube 1x 1/2" TC Permeate deep tube 1x 1-1/2" TC for CIP ball 1x 1/2" TC connection for venting / venting filter 1x 1/2" TC connection for pressure indicator 1x 1-1/2" TC connection for level sensor
Bottom connections	1x 1" TC liquid outlet 1x thermowell 1x coupling for magnetic stirrer
Electrical interfaces	1x ethernet 1x WLAN 2x USB

TFF vessel features

Type	Membrane cassette - 0.5 -2.5 m ²	Hollow-fiber - 0.1 - 6.5 m ²
Pumping system	Low shear four-piston diaphragm pump	
Pumping capacity (L/h) @ 2 barg	Up to 900	
Dead volume whitout membrane (ml)	~ 500	
Pressure sensor	-1 - 4 barg	
Level sensor	Radar guided sensor Min level: 0.5 L Max level: 50 L Resolution: 0.1 L	
pH sensor	Biocompatible (FDA) electrolyte filled 0 -14 pH	
Conductivity sensor	4-pole contacting Range: 1 S/cm to 300 mS/cm	
Temperature sensor	Pt100 0-150°C	
Flow sensor	Clamp-on ultrasonic sensor (available in dierent flow ranges)	
Flow range by default (ml/min)	0-20000 ml/min	
Accuracy	0-1200 ml/min: +- 36 ml/min 1200-20000 ml/min: +-3%	
Maximum operating presure	4 barg	2 barg

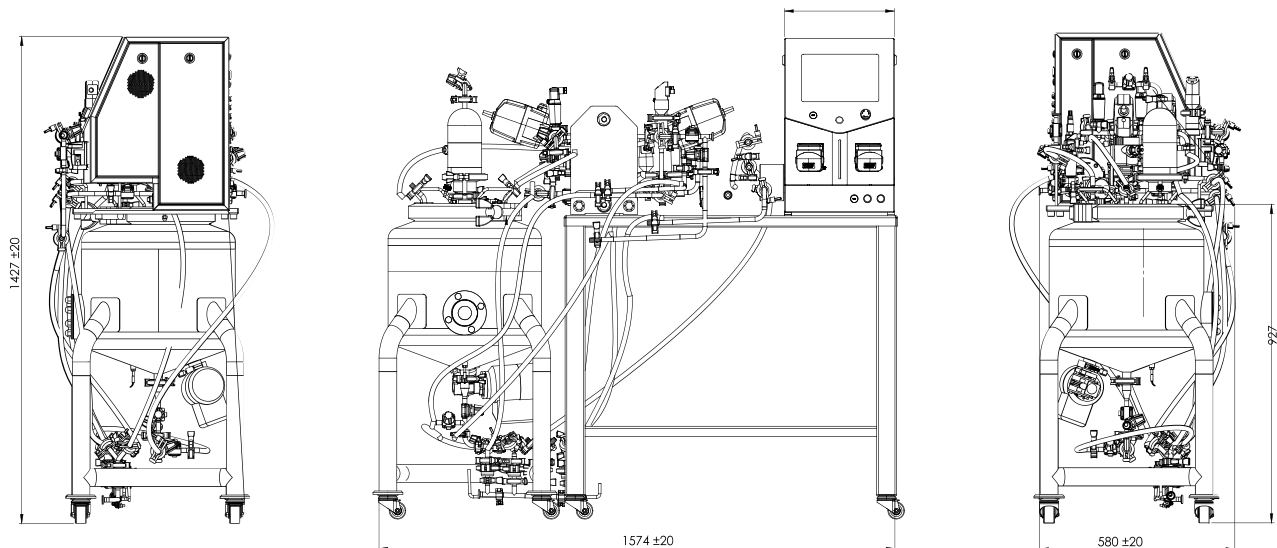
Peristaltic Pumps

Type	Membrane cassette - 0.5 -2.5 m ²	Hollow-fiber - 0.1 - 6.5 m ²
Pump type		1x integrated variable speed pump 1x integrated fixed speed pump
Pump head		For 1.6 mm wall thickness tubing Bore: ID 0.8-9.6 mm
Max speed		Variable: 190 rpm Fixed: 230 rpm
Max flow rate (ml/min)	Variable: ID 0.5 mm - 7.8 ml/min ID 0.8 mm - 20 ml/min ID 1.6 mm - 79 ml/min ID 3.2 mm - 320 ml/min ID 4.8 mm - 720 ml/min ID 6.4 mm - 1295 ml/min ID 8.0 mm - 1980 ml/min ID 9.6 mm - 2850 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 ID 9.6 mm - 3450 ml/min

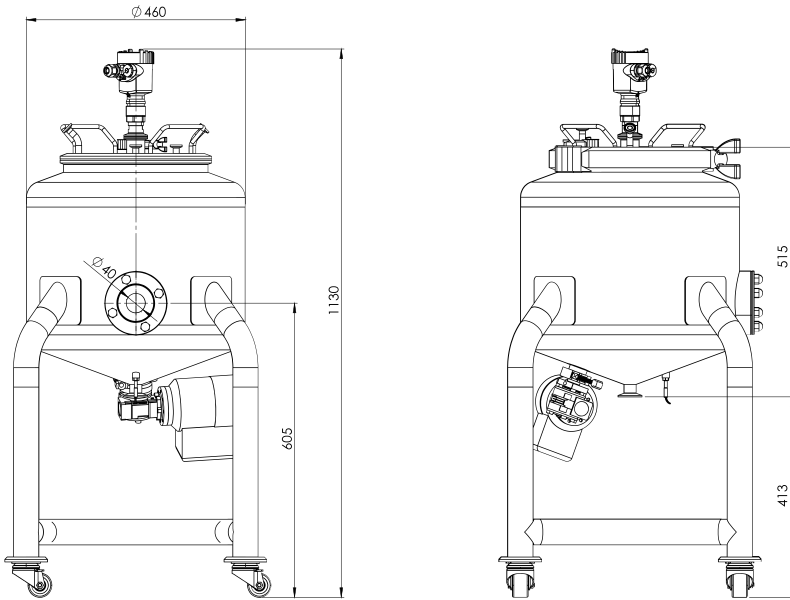
External high flow pump

Pump type	Variable speed pump
Pump head	For 3.3 mm wall thickness tubing
Speed	600 rpm
Flow rate (ml/min)	ID 6.4 mm - 4.2 L/min ID 9.6 mm - 7.4 L/min ID 12.7 mm - 12 L/min

TFF (measurements in mm)



Vessel 50L (measurements in mm)



Partnerships



Regulation



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

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We evolve together

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