

Benchtop qEV Tangential Flow Filtration Systems (beta)

To support your journey of establishing a complete nanoparticle isolation bioprocessing workflow, we are in the process of developing two tangential flow filtration (TFF) systems.

The qEV TFF systems enable you to concentrate your sample prior to qEV isolation, and concentrate your purified isolate if required. Designed to complement your qEV isolation workflow, these systems enable scale-up alongside our automated chromatography systems, customised qEV columns, and high-resolution assessments of yield and efficiency via the Exoid.

qEV TFF systems are available in two forms:

- A standard model, for routine research labs
- A qEV TFF model suited to cGMP-compliant environments and large-scale production. cGMP compliance is supported through the selection and validation of components that come into direct contact with process fluids or product. Compliance with 21 CFR Part 11 will also be ensured.

Please note that the proposed specifications below are subject to change; please get in touch to discuss specific requirements or requests.



Table 1: Specifications of Key Components

Component	Details: qEV TFF (Standard model)	Details: qEV TFF (for cGMP environments)
Processing capacity	<ul style="list-style-type: none"> • Sample input: up to 10 L • Concentrate: up to 5 L • Permeate: up to 10 L 	<ul style="list-style-type: none"> • Sample input: up to 20 L • Concentrate: up to 5 L • Permeate: up to 18 L
Filtration	<ul style="list-style-type: none"> • 10–750 kDa TFF filters • Filtration surface area: ~3700 cm² hollow fibre • Compatible with both hollow fibre and cassette membranes (minimum surface area 42 cm²) • Flow rate > 100 mL/min @ 1 bar, with RO water at 25°C • Sizes: 1, 10 and 20 L 	<ul style="list-style-type: none"> • As per the Standard model, with cGMP compliance established
Pump	<ul style="list-style-type: none"> • 1x peristaltic pump • Flow rate 0.14 - 1.5 L/min • Compatible with SEC process and cleaning fluids 	<ul style="list-style-type: none"> • 2x cGMP-compliant peristaltic pumps (one for the feed, one for recirculation) • Flow rate 0.14 - 1.5 L/min
PCV (pressure control valve) diaphragm valves	<ul style="list-style-type: none"> • Leak-proof, hygienic design to minimise maintenance and make it easy to clean 	<ul style="list-style-type: none"> • As per the Standard model, with cGMP compliant components
Scales (x2)	<ul style="list-style-type: none"> • Maximum capacity: 10 kg; Accuracy: 0.5% FS; Readability: 0.01 kg 	
Software, console, connections & display	<ul style="list-style-type: none"> • TFF system is controlled via a display screen • Measure and control transmembrane pressure • Displays real-time data, process parameters, status, pressure alarm, and control options 	<ul style="list-style-type: none"> • As per the Standard model, with software compliant to 21 CFR part 11

	<ul style="list-style-type: none"> Ports and connections for integrating sensors, pumps and other devices 	
Tubing set	<ul style="list-style-type: none"> Platinum-cured silicone As per customer order; dependent on filter 	<ul style="list-style-type: none"> As per the Standard model, with cGMP compliance established
Disposable mixing tank package	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Vessel and tubing used to mix fluids before, during or after filtration 2 L single-use cGMP-compliant; made from high-quality, medical-grade plastic materials compatible with common chemicals and solvents used in bioprocessing and pharmaceutical production
Pressure sensors	<ul style="list-style-type: none"> 3 pressure sensors (in feed line, retentate line, and permeate line) Range: 0-3 bar Accuracy: 0.25% FS 	<ul style="list-style-type: none"> As per the Standard model, with cGMP compliance established

Got questions?

Get in touch for more information about product details, lead times or to request a quote.