

## Smart Control of Your Pump Operations

Q-Control is an integrated pump controller for Quattroflow multiple-use and single-use pumps. It interfaces with a variety of flow and pressure sensors to provide user with automated control over their pump operations. With built-in smart control functions that no longer requires an external PLC, Q-Control leads to a new generation of Quattroflow biopharma pumps.

### Q-Control:

- Integrated pump controller that interfaces with different flow and pressure sensors
- Smart control functions that usually require an external PLC
- PID control mode for pressure- or flow-controlled pump operations
- Autotune function to automatically find optimal PID parameters
- Configurable alarms to stop the pump
- Dispensing feature to automatically fill defined volumes of liquid
- RS485 Modbus communication port
- Trend data and alarm logging
- Remote operation
- Available for Quattroflow quaternary diaphragm pump models QF30, QF150, QF1200, QF2500 and QF4400



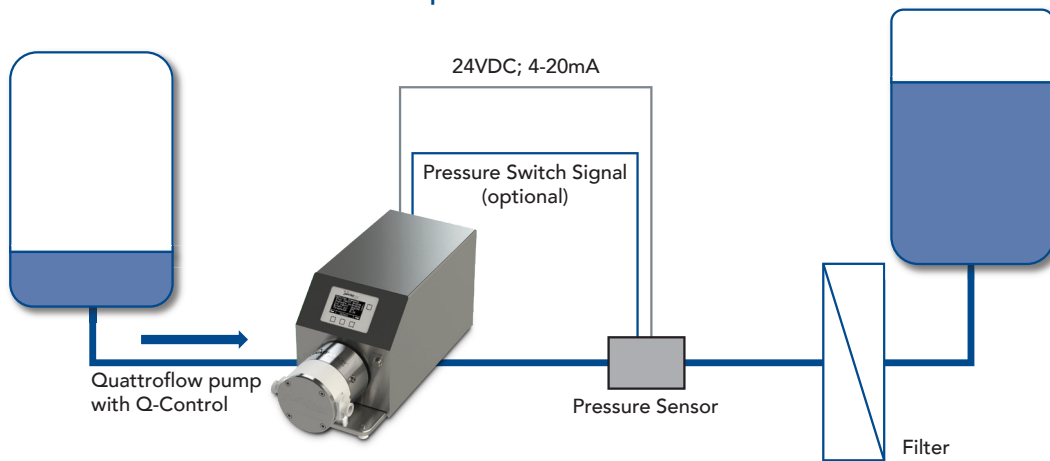
### Features

Functions	Description
<b>Manual Mode</b>	Manual motor speed selection
<b>Manual Flow</b>	Manual motor speed selection with flow calculation
<b>External Mode</b>	External pump control
<b>Dispense Mode</b>	Automated dispensing of preconfigured volumes
<b>Pressure control Mode</b>	Automated pressure control e.g. for filtration; requires a connected pressure sensor
<b>Flow control Mode</b>	Automated flow control, e.g. for cross-flow control; requires a connected flow sensor
<b>Alarms</b>	Free configurable alarms
<b>PIN Codes</b>	PIN code protection of configuration settings
<b>USB Port</b>	Backup of system configuration setting Data logging Installation of firmware updates

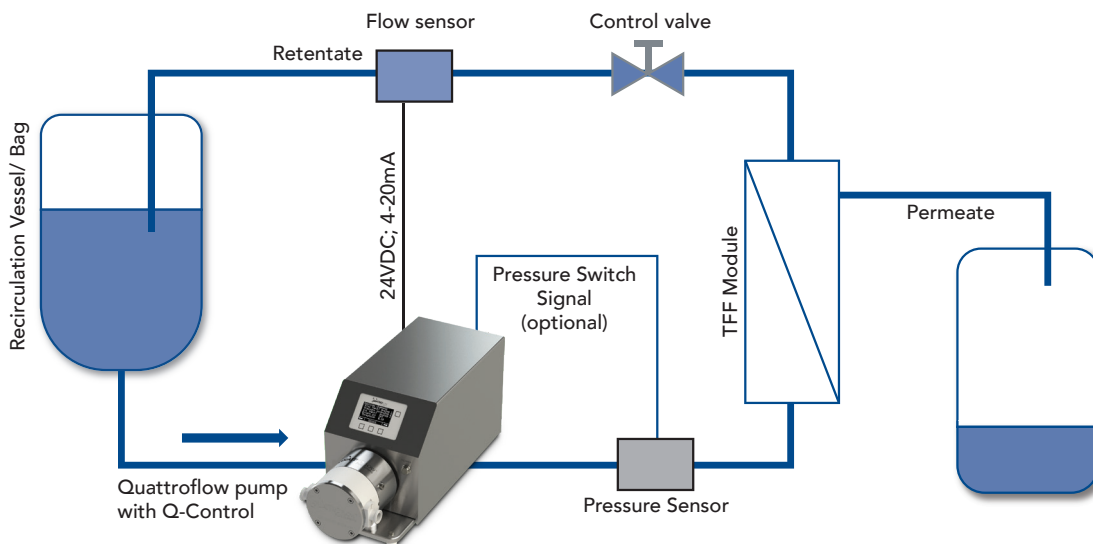
## Communication

I/O Signals	Potential use
3 x analog input 4-20mA 1 x analog input 0-10 VDC incl. 24 VDC supply voltage for sensors	<ul style="list-style-type: none"> <li>External sensor (e.g. pressure and/or flow)</li> <li>External pump control</li> </ul>
3 x digital inputs	<ul style="list-style-type: none"> <li>Diaphragm monitoring</li> <li>External start/stop</li> <li>High pressure switch</li> </ul>
1 x RS485 (Modbus RTU)	<ul style="list-style-type: none"> <li>Signal monitoring</li> <li>Pump remote control</li> </ul>

## Pressure Control in a Filtration Setup



## Flow Control in Tangential Flow Filtration (TFF)



**The Quattroflow-recommended Flow Sensor:** em-tec BioProTT™ FlowTrack plus or FlowMCP with Clamp-On Transducer (available via Quattroflow)

Please also see the Q-Control webpage: <https://www.psgdover.com/quattroflow/products/q-control>

Where Innovation Flows



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