

FlowControl

3-way flow-through valve system

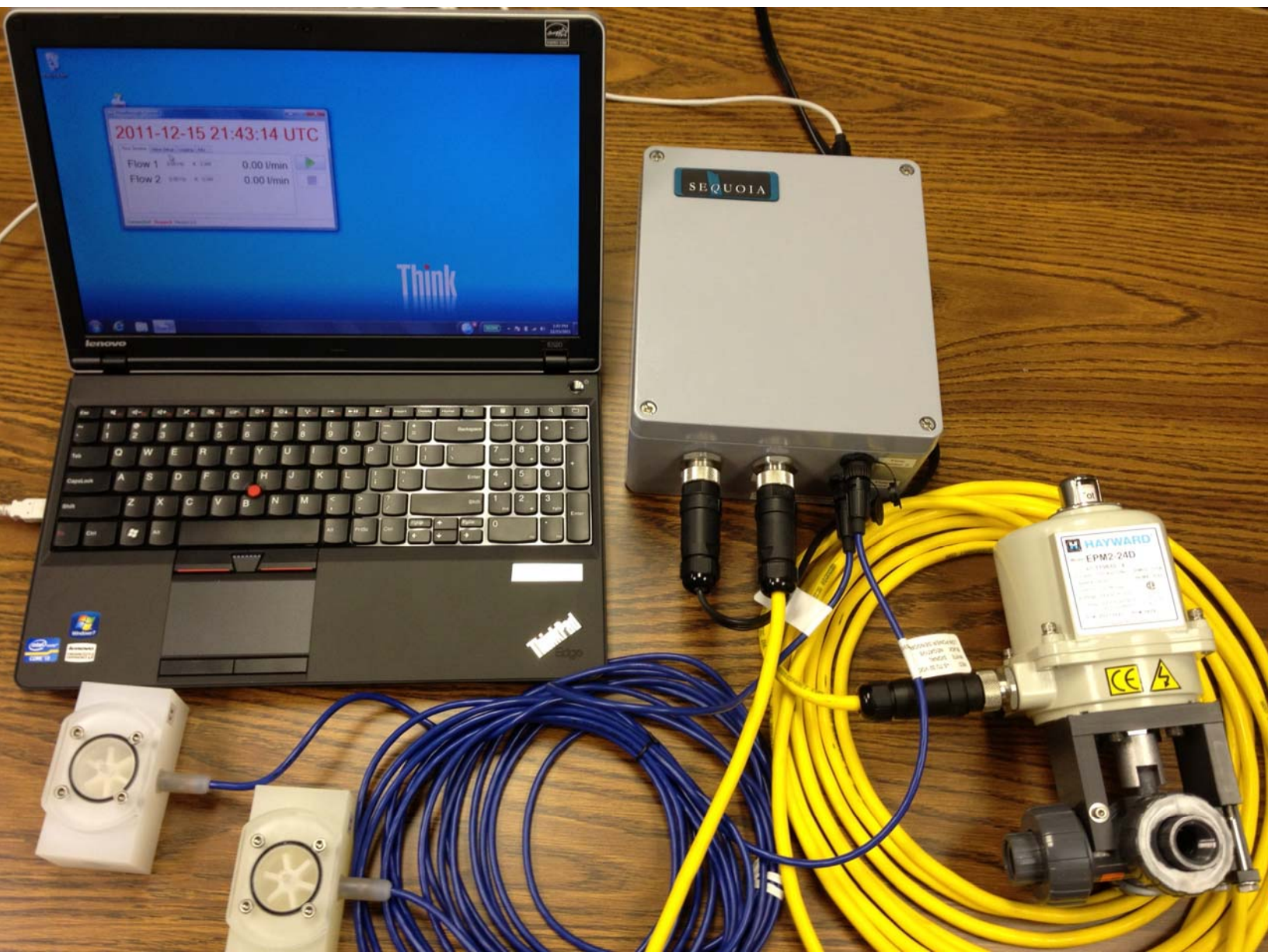
- **Flow rate monitoring**
- **Programmable valve scheduling**

The FlowControl is a computer-controlled 3-way valve system for use in flow through applications, typically on board research vessels or for dock-side sampling. The system periodically diverts seawater from the vessel's flow-through system through a cartridge filter. Periodically filtered measurements allow for high-accuracy

differential measurements of particle properties, e.g. absorption. The system includes a pair of high-resolution inline flow sensors for monitoring system volume flow rates, a 3-way valve system and Windows PC-based software. The software allows configuration of valve scheduling, manual override of valve

position, and continuous logging of system state and flow rates. Includes actuated PVC valve, controller and power supply unit, flow sensors, and Windows software.

SEQUOIA



FEATURES

- Periodically filtered measurements allow for high-accuracy differential measurements of particle properties
- Electrically-actuated three-way ball valve allows flow to be bypassed through submicron filter cartridge before instrumentation
- Includes valve, power supply, controller, two paddlewheel flow sensors, cables, and Windows software
- Valve position indicator
- Flow sensor data indicates proper system functioning, filter fouling and are used for post-processing and QC
- Removable flow sensor windows for flow visualization, cleaning and servicing
- Software allows for valve scheduling, manual setting of valve position and logs flow rates and system state to hourly ASCII files
- Rugged construction for use in laboratory, ship-board, or dock-side applications

SPECIFICATIONS (subject to change without notice)

Valve and controller

- PVC body with EPDM O-rings, PTFE seats, and 1/2" NPT or barb fittings (standard)
- Actuator and valve unit connections IP68 and NEMA 6P rated

Flow sensors

- Flow rate resolution: approx. 0.13 liter/minute @ 1 Hz

Mechanical and electrical

- Controller power supply: 120-240 VAC, 50-60Hz
- Interface: Plug-and-play USB between controller and Windows PC (W7, Vista, and XP[SP3])

Dimensions, approx.:

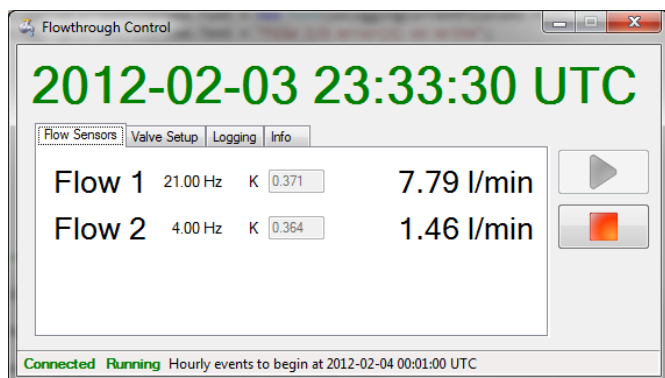
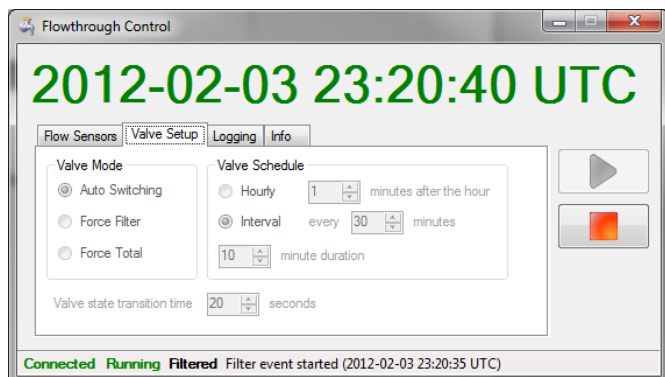
- Controller: 22.9 cm (9" H) x 20.3 cm (8" W) x 11.4 cm (4.5" D)
- Valve: 20.3 cm (8" H) x 15.2 cm (6" Ø)
- Flow sensor: 5.6 cm (2.2" H) x 10.4 cm (4.1" L) x 5.3 cm (2.1" D)

Weight, approx.:

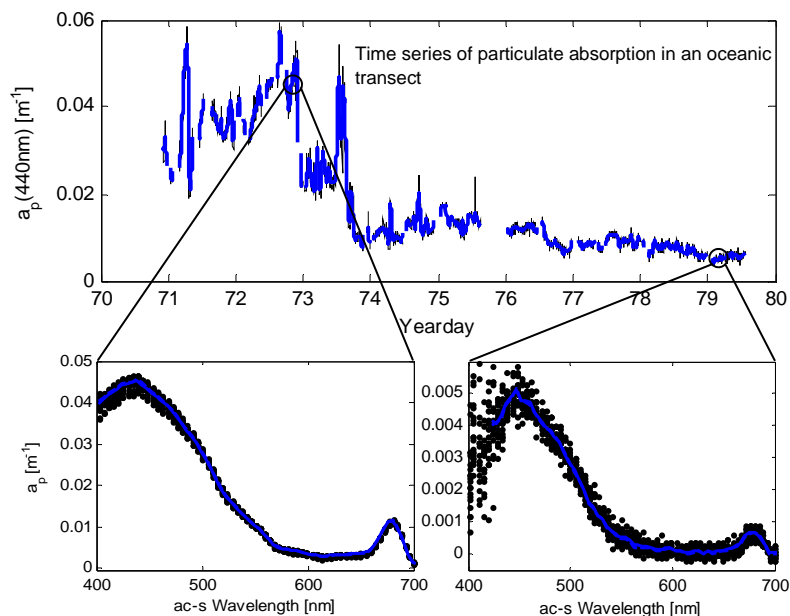
- Controller: 2.6 kg (5.8 lbs)
- Valve: 2.6 kg (5.7 lbs)
- Flow sensor: 0.25 kg (0.55 lbs)

Cable lengths, approx.:

- Flow sensors / Controller to PC / to valve: 5 m / 1.5 m / 5 m



FlowControl configuration, monitoring, and logging software. View system flow rates in real-time, configure valve schedule, and force filtered water measurements.



Seawater optical properties measured with a flowthrough system including a WET Labs ac-s spectrophotometer combined with the Sequoia FlowControl. Particle absorption spectra could be resolved to better than the manufacturer specified instrument accuracy of 0.01 m⁻¹.

The system was installed in the bilge of a research vessel and minimally attended during deployment, except for cleaning of optics, typically once per week.