



CVS4200C and CVS4200D

Indoor Stationary Water Samplers



**Accurate,
Reliable**
Vacuum technology
for better samples

Overview

The CVS4200C and CVS4200D are stationary water samplers designed for indoor use. Their upper section is a durable steel enclosure with heat-cured, paint for added corrosion resistance. The samplers use reliable, long-lasting, vacuum technology to draw water through their intake tubing.

The CVS4200C is a composite sampler that deposits its water samples into one container. The CVS4200D is a discrete sampler that deposits its water samples into up to 24 containers, depending on the option chosen.

Benefits and Features

- › Rapid transport velocities of samples (horizontal draws 76.2 m (250 ft) at 0.8 m s^{-1} (2.5 ft s^{-1}), meaning more accurate samples, even of solids
- › All information is easily controlled and viewable on a 2 by 16 character backlit LCD
- › Composite or discrete models available
- › Optional glass-door fridge*, for easy viewing of samples
- › Interfaces with Campbell Scientific dataloggers for more measurement and control capabilities

Options*

- › Quick connect terminals
- › Refrigerator
- › Integral battery and charger
- › Pressure/vacuum gage
- › Water detection probe
- › Common fault relay
- › Warranty options: three or five year
- › Chamber: Acrylic or glass (standard or sanitary)
- › CVS4200C size options: 3/8 in. ID system or 5/8 in. ID system (the CVS4200D Discrete Sampler is a 3/8 in. ID system only)
- › CVS4200C container options: 9 L or 20 L Nalgene bottle, 10 L glass bottle; overflow options available
- › CVS4200D container options: 24 0.5 L plastic bottle, four 4 L glass bottles, eight 2 L glass bottles, 12 1 L glass bottles; overflow options available

*For a complete list of options and accessories, refer to: www.campbellsci.com/order/cvs4200c or www.campbellsci.com/order/cvs4200d

questions & quotes: 435.227.9120

campbellsci.com/water-samplers



Technical Details

Vacuum Pump

The CVS4200C and CVS4200D samplers use an external vacuum pump to draw water through intake tubing, instead of the traditional peristaltic pump that induce flow by squeezing flexible tubing. Because the vacuum method disturbs the water samples less, they better represent the original water solution, especially if the solution has high concentrations of suspended solids. To prevent cross contamination, the samplers use air pressure (up to 28 psi) to purge the tubing of excess water. See our vacuum pump water samplers in action at:

www.youtube.com/watch?v=wi4dxFTw-ks

Controller/Interfacing with a Datalogger

The CVS4200C and CVS4200D include a programmable controller with 16-key intuitive touch pad. The controller can accept a pulse input (e.g., rain gage), a 4 to 20 mA signal (e.g., flow meter), or initiate a sample on a timed basis. See a demonstration of the programmable controller at:

www.youtube.com/watch?v=yRr80Lm-5Hs

The sampler can also be interfaced with our dataloggers. Our dataloggers can measure nearly any turbidity, water level, or hydrometeorologic sensor, as well as control the sampler based on time, event, or measured conditions.

Specifications

› Dimensions and Weight

	CVS4200C with fridge	CVS4200D with fridge	Without fridge
Height	1.39 m (4.58 ft)	1.45 m (4.75 ft)	0.59 m (1.92 ft)
Width	0.53 m (1.75 ft)	0.61 m (2 ft)	0.43 m (1.42 ft)
Depth	0.56 m (1.83 ft)	0.61 m (2 ft)	0.48 m (1.65 ft)
Weight	68 kg (150 lb)	91 kg (200 lb)	32 kg (70 lb)

- › Enclosure: Nema 1 general purpose, 14 gage steel enclosure (upper control section only) with polyester-based powder paint for corrosion resistance

Vacuum System

- › Pinch Valve: Fixed – normally open
- › Purge Cycle: Adjustable from 5 to 99 s
- › Suction Cycle: Variable (adjusts automatically to double the input value of the purge time setting or until liquid contacts level electrode in metering chamber)
- › Metering Chamber Cover: nylon
- › Volume Control Tube: 316 stainless steel
- › Metering Chamber Level Electrode: 316 stainless steel
- › Intake Hose: ordered as a common accessory. Campbell Scientific offers PVC hose with 25 ft and user-specified lengths. Intake end can have a lead sinker or stainless-steel strainer. Sampler end can have a clamp or quick connect termination
- › Discharge Hose Material: latex

Supply Voltage

- › Sampling System: 115 Vac /60 Hz or 12 Vdc
- › Refrigeration Units: 115 Vac /60 Hz

Controller

- › LCD: 2 x 16 character backlit LCD
- › Touchpad: 6 key with multi-level menu
- › Start Delay: disabled; time/day; pulse count; 4 to 20 mA (0 to 100 pulses/min.); external contact; level control
- › Sample Initiation: disabled; time/day; pulse count; 4 to 20 mA (0 to 100 pulses/min.); external contact
- › Program Type: composite; multi-composite; consecutive; daily cycle; timed step
- › Clock: Real-time clock and operating system
- › Direct Function Keys: manual sample; manual purge; manual bottle advance; restart
- › Alarm Outputs (Independent): cycle abandoned [pulse output]; sample fault; container full
- › Status Outputs: Sample taken [pulse output]
- › Switches: run/off (SPST toggle), on/off (5 A lighted breaker); heater on/off; refrigerator on/off
- › Available Displays: real time clock; process timing; process controls; pulse counting; event response; multi-level description; flashing prompts; diagnostics

Horizontal Velocity

System Size	Distance						
	7.6 m (25 ft)	15.2 m (50 ft)	22.9 m (75 ft)	30.5 m (100 ft)	53.3 m (175 ft)	61 m (200 ft)	76.2 m (250 ft)
3/8 inch system	2.2 m s ⁻¹ (7.1 ft s ⁻¹)	1.9 m s ⁻¹ (6.2 ft s ⁻¹)	1.7 m s ⁻¹ (5.6 ft s ⁻¹)	1.5 m s ⁻¹ (5 ft s ⁻¹)	1.2 m s ⁻¹ (4 ft s ⁻¹)	1.1 m s ⁻¹ (3.7 ft s ⁻¹)	0.8 m s ⁻¹ (2.6 ft s ⁻¹)
5/8 inch system (CVS4200C only)	1.5 m s ⁻¹ (5 ft s ⁻¹)	1.4 m s ⁻¹ (4.7 ft s ⁻¹)	1.3 m s ⁻¹ (4.3 ft s ⁻¹)	1.28 m s ⁻¹ (4.2 ft s ⁻¹)	1.1 m s ⁻¹ (3.7 ft s ⁻¹)	1 m s ⁻¹ (3.3 ft s ⁻¹)	0.7 m s ⁻¹ (2.4 ft s ⁻¹)