CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

CVS4200D
Indoor Stationary Discrete Water Sampler

Accurate, Reliable

Vacuum technology for better samples

Overview

The CVS4200D is a discrete, stationary water sampler designed for indoor use. Each sample is placed into a separate container. The sampler uses reliable, long-lasting, vacuum technology. This sampling method results in faster sample draws and less disturbance of the sample contents. There is also less wear on the tubing, resulting in less frequent maintenance.

The CVS4200C differs from the CVS4200D in that it is a composite sampler, with all samples combining into a single container.

Vacuum technology benefits over peristaltic pump samplers:

❯ Accurate sample volumes

❯ Rapid transport velocities mean more-representative samples

❯ Less disturbance of sample

❯ Minimal wear on the tubing, resulting in less-frequent maintenance

❯ Reduced cross-sample contamination

Detailed Description

The CVS4200D is an indoor stationary water sampler that deposits its water samples into several containers. It uses an external vacuum pump to draw water through intake tubing, instead of the traditional peristaltic pump that induces flow by squeezing flexible tubing.

Advantages of the vacuum pump method include faster sampling rates, better vertical lifts, longer sampling distances, and less maintenance. 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 sampler use air pressure (up to 28 psi) to purge the tubing of excess water.

The controller that comes with the CVS4200D can accept a pulse input (for example, from a rain gage), a 4 to 20 mA signal (such as from a flow meter), or initiate a sample on a timed basis. The sampler can also be interfaced with our data loggers. Our data loggers can measure nearly any turbidity, water level, or hydrometeorological sensor, as well as control the sampler based on time, event, or measured conditions.

Specifications

Specialized Applications	Indoor, refrigerated		Horizontal Maximum Transport Distance	76.2 m (250 ft)
5/8 Inch ID Tubing Compatible	Yes		Metering Chamber Cover	Nylon
Sample Container	❯ One 8 L bottle, one 20 L bottle, or twenty-four 0.5 L bottles (standard clean) ❯ One 10 L bottle, four 4 L bottles, eight 2 L bottles, or twelve 1 L bottles (super clean)		Volume Control Tube	316 stainless steel
			Metering Chamber Level Electrode	316 stainless steel
			Intake Hose Material	Nylon-reinforced PVC
			Discharge Hose Material	Latex

Controller

Display	2 x 16 character backlit LCD
Touchpad	16 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, Level Control
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
Automatic Displays	Container Full, Fault Interrupt Alternating Time Stamp, Cycle(s) abandoned

Enclosure	Nema 1 general purpose, 14 gage steel enclosure (upper control section only) with polyester-based powder paint for corrosion resistance
Dimensions	❯ 1.45 x 0.61 x 0.61 m (4.75 x 2 x 2 ft) with refrigerator ❯ 0.59 x 0.43 x 0.48 m (1.92 x 1.42 x 1.65 ft) without refrigerator
Weight with Refrigerator	91 kg (200 lb)
Weight without Refrigerator	32 kg (70 lb)

Supply Voltage

Sampling System	115 Vac/60 Hz or 12 Vdc
Refrigeration and Heating Units	115 Vac/60 Hz

Vacuum System

Pinch Valve	Fixed – normally open
Purge Cycle	Adjustable from 1 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.)
Sample Volume	Adjustable, 50 to 500 cc or Adjustable, 500 to 1000 cc
Horizontal Sample Transport Velocity	❯ 2.2 m/s (7.1 ft/s) at 7.6 m (25 ft) ❯ 0.8 m/s (2.6 ft/s) at 76.2 m (250 ft) ❯ 1.5 m/s (5 ft/s) at 30.5 m (100 ft)

For comprehensive details, visit: www.campbellsci.com/cvs4200d