



## PVS4100C and PVS4100D

AC-Powered, Portable Automatic Liquid Samplers

# Ideal where ac power is available

Vacuum technology for better samples



## Overview

The PVS4100C and PVS4100D are deluxe, portable water samplers that use ac power with a backup battery. The PVS4100C is a composite sampler that deposits its water samples into a 9 L bottle; the PVS4100D is a discrete sampler that deposits its water samples

into up to 24 containers. These samplers have a bigger pump than our other portable water samplers allowing them to support the fastest sampling rates and longest sampling distances.

## Benefits and Features

- Rapid transport velocities of samples (horizontal draws 76.2 m (250 ft) at  $0.8 \text{ m s}^{-1}$  ( $2.5 \text{ ft s}^{-1}$ ), meaning more accurate samples, even of solids
- Controller housed in an environmentally sealed enclosure for corrosion protection, and all information is easily controlled and viewable on a 2 by 16 character backlit LCD
- Composite or discrete models available
- Side handles for easy lifting (increases diameter)
- Interfaces with Campbell Scientific dataloggers for more measurement and control capabilities
- Stainless-steel suspension harness\* available for sampling in sewer systems
- Handcart\* available for easy transport

## Options\*

- Quick connect terminals
- Power supply options: 80 to 264 Vac with a 17 Ah battery or 80 to 264 Vac without a battery
- Water Detection Probe
- Warranty options: three or five year
- Sample container options: no bottles, 9 L bottle (PVS4100C only), 24 0.5 L bottles (PVS4100D only), or 24 1 L bottles (PVS4100D only)
- PVS4100C size options: 3/8 in. ID system or 5/8 in. ID system (the PVS4100D Discrete Sampler is a 3/8 in. ID system only)

\*For a complete list of options and accessories, refer to: [www.campbellsci.com/order/pvs4100c](http://www.campbellsci.com/order/pvs4100c) or [www.campbellsci.com/order/pvs4100d](http://www.campbellsci.com/order/pvs4100d)

questions & quotes: 435.227.9120

[campbellsci.com/water-samplers](http://campbellsci.com/water-samplers)



## Technical Details

### Vacuum Pump

The PVS4100C and PVS4100D 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](http://www.youtube.com/watch?v=wi4dxFTw-ks)

### Controller/Interfacing with a Datalogger

The PVS4100C and PVS4100D 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](http://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

- › Enclosure: Molded medium density linear polyethylene, three piece construction and stainless-steel fittings
- › Cooling System: Insulated container wall cavity space for ice
- › Height: 80.9 cm (31.875 in)
- › Height with extended base: 96.2 cm (37.875 in)
- › Body Case Diameter: 42.8 cm (16.85 in)
- › Sampler Weight, no battery: 11.8 kg (26 lb)
- › Battery Weight: 6.8 kg (15 lb)

### 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)
- › 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

### Controller

- › LCD: 2 by 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
- › 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
- › Switches: Controller on/off (SPST toggle)
- › Available Displays: Real-time clock; process timing; process totals; pulse counting; event response; multilevel descriptions; flashing prompts; diagnostics
- › Automatic Displays: Container Full; Fault; Power Interrupt (program resumed); Alternating Time Stamp; Cycle(s) abandoned
- › Backup Power Source: Internal lithium battery to maintain program settings and information in case of power failure

### Power Requirements

- › AC Input: 88 to 264 Vac, 50/60 Hz, 2.5 A (nominal), 3 A (maximum)
- › Backup Battery: 12 Vdc
- › Quiescent Current Drain: 61 mA

## 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 in. system	2.2 m s <sup>-1</sup> (7.1 ft s <sup>-1</sup> )	1.9 m s <sup>-1</sup> (6.2 ft s <sup>-1</sup> )	1.7 m s <sup>-1</sup> (5.6 ft s <sup>-1</sup> )	1.5 m s <sup>-1</sup> (5 ft s <sup>-1</sup> )	1.2 m s <sup>-1</sup> (4 ft s <sup>-1</sup> )	1.1 m s <sup>-1</sup> (3.7 ft s <sup>-1</sup> )	0.8 m s <sup>-1</sup> (2.6 ft s <sup>-1</sup> )
5/8 in. system (PVS4100C only)	1.5 m s <sup>-1</sup> (5 ft s <sup>-1</sup> )	1.4 m s <sup>-1</sup> (4.7 ft s <sup>-1</sup> )	1.3 m s <sup>-1</sup> (4.3 ft s <sup>-1</sup> )	1.28 m s <sup>-1</sup> (4.2 ft s <sup>-1</sup> )	1.1 m s <sup>-1</sup> (3.7 ft s <sup>-1</sup> )	1 m s <sup>-1</sup> (3.3 ft s <sup>-1</sup> )	0.7 m s <sup>-1</sup> (2.4 ft s <sup>-1</sup> )

