CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

PVS4120C and PVS4120D
Portable Automatic Liquid Samplers

Most Lightweight
Vacuum technology for better samples

PVS4120C

PVS4120D

Overview

The PVS4120C and PVS4120D are our lightest, portable, battery-powered water samplers—weighing only 12 kg. The PVS4120C is a composite sampler that deposits its water samples into a 9 L container; the PVS4120D is a discrete sampler that deposits its water samples into up to 24 containers.

The PVS4120 series can have a standard or large pump. The standard pump takes samples at 1.6 m s^{-1} (5.1 ft s^{-1}) for horizontal draws of 7.6 m (25 ft). The large pump takes samples at 2.2 m s^{-1} (7.1 ft s^{-1}) at 7.6 m (25 ft).

Benefits and Features

❯ Lightest composite sampler offered by Campbell Scientific—weighing only 12 kg (with standard pump and 7 A h battery)

❯ 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

❯ Charger options: 110 Vac or 100 to 240 Vac

❯ Battery options: 7 A h, 17 A h, or no battery

❯ Water Detection Probe

❯ Warranty options: three or five year

❯ Sample container options: no bottles, 9 L bottle (PVS4120C only), 24 0.5 L bottles (PVS4120D only), or 24 1 L bottles (PVS4120D only)

❯ Pump options: standard or large

*For a complete list of options and accessories, refer to: www.campbellsci.com/pvs4120c-ordering or www.campbellsci.com/pvs4120d-ordering

questions & quotes: **435.227.9000**
campbellsci.com/water-samplers

Technical Details

Vacuum Pump

The PVS4120C and PVS4120D 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 PVS4120C and PVS4120D 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

› 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.)

Weight

› Sampler w/standard pump and no battery: 10.4 kg (23 lb)
› Sampler w/large pump and no battery: 11.8 kg (26 lb)
› 7 A h battery: 1.8 kg (4 lb)
› 17 A h battery: 6.3 kg (14 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

The 26903 Sampler Folding, Hand Cart with Bracket and Strap is one of several accessories offered for the PVS4120 series samplers.

Controller

› LCD: 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
› 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

Horizontal Velocity

Pump 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)
Standard Pump	1.6 m s^{-1} (5.1 ft s^{-1})	1.4 m s^{-1} (4.7 ft s^{-1})	1.28 m s^{-1} (4.2 ft s^{-1})	1.25 m s^{-1} (4.1 ft s^{-1})	1 m s^{-1} (3.4 ft s^{-1})	0.9 m s^{-1} (3.1 ft s^{-1})	0.7 m s^{-1} (2.3 ft s^{-1})
Large Pump	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})