PORTABLE PERISTALTIC SAMPLER · SELF-CONTAINED

Model PSB Portable Peristaltic Samplers

The Model PSB pairs advanced ultrasonic fluid sensing with a full set of sampling programs in a highly portable, under-22 lb footprint. Housed in a heavy-duty, NEMA 4X/6 Pelican-style case, it is engineered for reliable composite sampling in harsh field environments. Great for field work or at a plant with a value and price that is hard to beat.

AMBIENT RANGE	TUBING LIFE	TRANSPORT VELOCITY	BOTTLE CONFIG	SAMPLE ACCURACY
32–120°F	10,000 hrs	927 mL/min	Single	±0.5% / 5 mL

Transport velocity shown at 10 ft head height. Weight and lift figures below.

Reliable Peristaltic Pump

The high-speed 12 VDC pump features a 1/4-in (6.35 mm) ID line and a corrosion-resistant thermoplastic body with a tri-roller mechanism. A transparent housing allows for instant visual inspection of the rollers and tubing without disassembly. Heavy-duty Pharmed® tubing ensures long-lasting field service, drastically reducing maintenance intervals and operational downtime.

Versatile Controller

The microprocessor-based controller offers versatile time- or flow-proportional sampling modes and datalogging as standard features. Programming is fast and intuitive thanks to a large backlit LCD screen, a dedicated 24-button keypad, and straightforward navigation menus.

Self-Contained, Portable Design

Weighing less than 22 lbs (9.1 kg) with a standard battery and empty bottle, the sampler is easily transported using a rugged top handle. The heavy-duty resin case secures tightly for full environmental protection, running reliably on an internal 12V battery or a 110–220 VAC supply. Samples are kept cool by placing reusable gel packs directly inside the insulated housing or pairing it with a cooler or refrigerator.

Single-Bottle Composite Sampling

The PSB is purpose-built for single-bottle composite sampling. Its ultra-compact footprint easily slips down narrow manholes, inside tight lift stations, and into other restricted utility access points.

Manning PSB Portable Sampler — Specifications

Overall Size	**W 20.62 × H 16.87 × D 8.12 in** (52.4 × 42.8 × 21.6 cm), with carrying handle vertical
Weight (dry)	Sampler w/bottle: **16 lbs** (7.26 kg). 8 Ahr battery: **5.5 lbs** (2.4 kg).
Environmental Protection	NEMA 4X/NEMA 6 structural resin housing around electromechanical components; rated when latched.
Sample Cooling	Reusable gel/ice packs placed in the case.
Temperature Limits	**32–120°F (0–50°C)**
Sample Pump	High-speed 1/4-in (6.35 mm) ID peristaltic 12 VDC pump, impact- and corrosion-resistant thermoplastic body, tri-roller mechanism.
Pump Safety	Clear pump cover removal stops powered rotation of pump.
Pump Tubing / Life	Pharmed® long-life tubing, **10,000 hours** rated life.
Maximum Lift	**28 ft (8.5 m)***
Transport Velocity	**927 mL/min** @ 10 ft head height
Sample Volume	Programmed directly in **1-mL** increments.
Repeatability	**±0.5%** of set volume or **5 mL**, whichever is greater (typical).
Fluid Sensor	Non-contacting active ultrasonic.
Controller	Microprocessor controlled; internal battery (5-year typical); hermetically sealed 24-key keypad, 2-line × 20-character backlit display; clock accurate to 1 min/month.
Power Requirement	12 VDC. Battery: **8 Ahr**. Power Supply: **110/220V 60/50 Hz VAC**.
I/O	Contact closure; optional 12 VDC pulsed input, 4–20 mA analog input, serial out (RS-232), in various combinations.

**Suction Height/Driving Pressure: 0 ft/14.73 psi, 10 ft/9.3 psi, 20 ft/4.4 psi, 25 ft/1.9 psi. Recommended to 20 ft. Ask about booster pump setups.*

Sampler Programming

- Data logging (512-event capacity)
- Flow proportional pacing
- Flow pacing with time override
- Flow pacing with delay sampling
- Flow pacing, maintained event sampling
- Totalized flow pacing (analog input)
- Uniform / non-uniform time intervals
- Pump tubing life warning indicator
- Program delay (time or flow)
- Sampling from external device input
- Hydrologic level event mode
- Real-time clock (time and date)
- Password protection
- Manual test cycle feature
- Activity review log (current & past)
- Intake fault alert
- Settable sample volume
- Intake line purge and rinse
- Automatic shut-off
- Power fail / auto restart

Warranty

One year warranty.

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MODEL NUMBER

Model Number Configuration

PSB4 — 1/4-in (6.35 mm) ID peristaltic pump, self-contained portable sampler system. Select one option from each category to build a complete configuration number.

PSB4								

Select one option from each category below, left to right (Power Source → Strainer Type), to complete the configuration number.

Power Source	**A** 12 Volt, 8-amp-hour Sealed Lead Acid Battery — **C** 12 Volt Power Supply, 110–220 VAC Input (to operate sampler without battery)
Battery Charger Type	**1** None — **2** 12 VDC 800 mA 3-stage Charger, 110-220 VAC Input (Lead Acid Battery)
Input/Output Option	**A** Contact Closure Input — **B** Contact Closure and Analog (4–20-mA) Input — **C** Contact Closure and Serial Out (RS-232) — **D** Contact Closure, Analog (4–20mA) Input and Serial Out (RS-232) — **E** 12 VDC Pulsed Input — **F** 12 VDC Pulsed Input Plus 4–20-mA Input — **G** 12 VDC Pulsed Input Plus RS-232 Output — **H** 12 VDC Pulsed Input, 4–20mA Input, and RS-232 Output
Liquid Sensor	**2** Ultrasonic Sensor
Bottle Configuration	**A** Single Bottle (for composite sampling)
Bottle Type	**1** 2-gallon Square Plastic Bottle with Spout
Hose Type	All hose 1/4-in (6.35 mm) ID. **A** No Hose — Connector Only — **F** PVC hose, 10 ft — **G** PVC hose, 25 ft — **H** PVC hose, 50 ft — **J** PVC hose, 100 ft
Strainer Type	**1** None — **2** PVC Strainer (1/4-inch)

Manual included with all samplers.

Engineering Specification

Written for direct use in submittals. Plain numbered list, no design elements — copy and paste as needed.

1. The sampler is suitable for automatic collection and preservation of composite liquid samples.
2. The enclosure is made of structural resin with NEMA 4X/NEMA 6 ratings.
3. All wetted parts have a minimum internal diameter of 1/4 inch (6.35 mm) and are PVC (optional strainer, sampling hose) or Pharmed® (pump tubing).
4. The sampler incorporates a high-speed 1/4-in (6.35 mm) ID peristaltic pump with three rollers to increase tubing life and improve consistency of sample delivery. The pump body is constructed of corrosion- and impact-resistant thermoplastic. The pump mechanism has a clear cover plate which enables visual inspection of rollers, pump spindle, and tubing. Samplers requiring removal of part or all of the pump housing for visual inspection is unacceptable.
5. The sample liquid must be under forced flow at all times and shall not pass through a metering chamber, distribution plate, or valves. The sampler is equipped with a liquid sensing system that calculates the flow rate of the liquid in the intake line each collection cycle.
6. The sampler is capable of collecting composite samples. It is equipped with an overflow protection mechanism that automatically terminates any further sampling once it has been activated.
7. Bottle-full condition is detected using a float-type switch located in the bottleneck. It is easily removable for cleaning or replacement without using special tools.
8. The sampler is capable of transport velocities of 927 mL per minute through 1/4-in tubing at a draw height of 10 feet using the 1/4-in ID pump.
9. An optional weighted sampling strainer of PVC is available.
10. A hermetically sealed 24-button keypad and a 2-line by 20-character alphanumeric backlit LCD is linked to a programmable CPU.
11. The complete sampler, including standard battery and empty bottle, weighs less than 22 lbs and is carried by a single handle. Latched, the case is rated NEMA 4X/6.
12. Samples are kept cool using reusable gel/ice packs placed inside the case.
13. The sampler is powered by: a) the standard battery, a 12-volt, 8-amp-hour lead acid battery — a power port is available to recharge the sampler battery or to extend sampler operation from an external 12 VDC power source such as an appropriate auxiliary battery; or b) an optional external 110/220 VAC power supply.
14. The sampler comes equipped with an external battery charger that can trickle-charge the sampler battery while the sampler is operating. Use of a current-limiting dual-stage charger to prevent overcharging the sampler battery, diminishing its expected life, is recommended.
15. The software is menu driven, prompting input of requested information using the keypad. The display indicates each programming step. After entering data, the system automatically advances to the next programming step.
16. A password feature restricts access to authorized persons only.
17. A sampling program can be delayed by entering the number of hours and minutes for the sampler to count down, or the number of contact closures to occur. The delay is independent of the sampling interval.
18. The sampler purges the sample hose immediately prior to and following each sample. Purge duration is selectable.
19. The sampler has the capability to rinse the sample hose with source liquid prior to each sample selected by user.
20. If a sample is not obtained on the first attempt, the sampler immediately retries to collect the sample. If a sample still cannot be collected, the sampler will omit that sample and continue the sampling sequence.
21. When initiated by a keystroke, the sampler is capable of manual sampling independent of a programmed sequence. The sampler logs manual collections, and is selectable to allow taking test samples: a) only when the sampler is not running a program, b) during a program but the test samples are not counted as a sample, or c) during a program and the test samples count as a sample.
22. In the Time Mode, the interval between samples is adjustable (1–5999 min. in 1-minute increments). In the Flow Mode, it accepts and totalizes contact closures (1–9999). A 12 VDC pulsed input or a 4–20-mA DC analog signal input for sampling at a user set point are also available.
23. A hydrologic event algorithm is used to enable sample programming for hydrologic events based on a combination of parameters including water level, differential (rising and falling) water levels, and time defaults following guidelines established by the U.S. Geological Survey.
24. Operating status is reviewed with minimal effort, and includes: program status, current time, time and date program started, number of samples collected, volume collected, number of contact closures, number of line blockages, minutes or flow signals remaining to the next sample, number of samples remaining, volume remaining, and time to override. All program settings are reviewed in addition to seeing the review of the completed program.
25. This sampler is a Manning Model PSB series.

In the interest of improving and updating its equipment, Manning reserves the right to alter specifications for equipment at any time.

Rev. 300826