



SAMPLE PRO[®]XD



PORTABLE GROUNDWATER SAMPLING PUMP



THE MOST RELIABLE PORTABLE SAMPLING PUMP IS PFAS-FREE

The **Sample Pro[®]XD** Portable Pump, the first pump developed specifically to bring the advantages of low-flow sampling to sites requiring portable pumps, has been shown to be PFAS-Free. Sample analysis by an independent laboratory showed no detections for 24 different per- and polyfluoroalkyl compounds at reporting limits much lower than the US EPA Health Advisory of 70 nanograms per liter (parts per trillion)*.

The **Sample Pro[®]XD** portable pump combines the unparalleled sample accuracy and high reliability of a bladder pump in an easy-to-use design. It runs cool and can run dry without damage, and can be operated using any of QED's **Micro Purge[®]** controller options - 12-volt integral compressor, a Honda-powered gasoline-driven compressor, an external compressed air cylinder, or a lightweight backpack with integral CO₂ cylinder. The **Sample Pro[®]XD** pump's reliability and low maintenance make it more economical to use. Its twist-open design makes it easy to change the disposable bladder in seconds. The compact 14.75" length fits in a bucket for easy cleaning between uses. Other innovations include interchangeable tubing connection options - conventional compression fittings or a "push to lock" head that eliminates fittings, perfect for use with disposable tubing. The **Sample Pro[®]XD** pump's rugged, all-stainless construction will stand up to tough portable use. With thousands in service and nearly two decades of proven performance, the **Sample Pro[®]XD** pump is the most reliable portable sampling pump ever made.

FEATURES

- **Ideal for PFAS sampling** - tested for purity
- **Easy to disassemble** without tools
- **Twist-open design** with disposable bladders for fast and easy cleaning between wells
- **Nearly unbreakable** stainless steel construction stands up to tough use

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SAMPLE PRO[®]XD

TESTING OF QED SAMPLE PRO XD FOR PER-AND POLYFLUROALKYL SUBSTANCES

Introduction

Per-and Polyfluoroalkyl substances (or PFAS) have been identified as an emerging contaminant in ground water. Site owners and their environmental consultants are being tasked with sampling for the presence of these chemicals at extremely low concentration levels, down to several parts per trillion (or nanograms per liter). As part of this sampling, concerns have been raised that any sampling equipment that contains fluoropolymers of polytetrafluoroethylene (e.g., *Teflon[®], such as PTFE, FEP and PFA) and fluoropolymer elastomers (e.g., Viton[®] or FKM) could leach PFAS into ground water samples. This has already led some users to exclude the use of any sampling equipment containing fluoropolymers or fluoroelastomers when sampling for PFAS. QED conducted a test of the Sample Pro[®] 1.75" Portable Bladder Pump to determine if any PFAS would leach from materials in the pump. The pump was tested as a complete assembly, and the LDPE bladders were also tested separately.

Test Method and Results

The Sample Pro 1.75-inch portable bladder pump was tested as a complete assembly (pump body, housing and check balls, polyethylene bladder and Viton O-rings). The test was conducted by soaking for 24 hours in a stainless steel test fixture (5 gallons / 20 liters volume) and collecting samples from the stand tube. The samples were analyzed for 24 different PFAS compounds using US EPA Method 537M, with method detection limits below 1 ng/L and reporting limits of 5 ng/L for most PFAS. In addition, QED also tested all of our twin-bonded tubing materials – polyethylene (PE), Teflon-lined PE, all Teflon tubing and our Sample Pro LDPE bladders – by soaking each material for 48-72 hours directly in sample bottles. The results for the Sample Pro pump and all three tubing materials were non-detect for all 24 PFAS compounds at the laboratory reporting limits (RLs). Based on this, our Sample Pro pump, tubing and bladders should not contribute any PFAS to ground water samples taken with these products.

*Teflon[®] is a registered trademark of E. I. du Pont de Nemours and Company or its affiliates. It is used herein to describe a range of various fluorocarbon plastic resin formulations.

TECHNICAL SPECIFICATION

MATERIALS	
Body	303 Stainless Steel
Inlet and Discharge Housing	303 Stainless Steel
Bladder	Polyethylene (LDPE)
O-Rings*	Viton [®] Standard, EPDM optional
DIMENSIONS	
Diameter	1.75 in. (44.5 mm)
Length	14.75 in. (37.5 cm) w/ Push-In Fittings 16.5 in. (41.9 cm) w/ Compression Fittings 12.12 in. (30.8 cm) Bottom of pump to centerline of inlet
Weight	4.25 lbs. (1.93 kg)
FITTINGS (Stainless Steel Compression or Push-In Type)	
Air	1/4 in. (6.4 mm) OD x 3/16 in. (4.7 mm) ID
Discharge	3/8 in. (9.5 mm) OD x 1/4 in. (6.4 mm) ID or 1/4 in. (6.4 mm) OD x 3/16 (4.7 mm) ID
Maximum Lift	300 ft. (91 m)
Flow Rates	3/8 in. OD Discharge Tubing, 10 ft. submergence: 1.3 LPM @ 25 feet 0.65 LPM @ 100 feet
Pump Volume	1/4 in. OD Discharge Tubing, 10 ft. submergence: 0.9 Lpm @ 25 ft. 0.4 Lpm @ 100 ft.

* For applications where materials specifications prohibit the use of Viton O-rings, QED has EPDM O-ring kits for the Sample Pro[®]XD portable bladder pump. The kit contains 10 complete sets of O-rings, and can be ordered using Part Number 38362-B.

Sampling Consultant's Kit

The Sample Pro Consultant's Kit includes accessories and supplies in a rugged case that also carries and protects the pump. The kit includes all supplies, accessories, and replacement parts necessary to sample 10 wells, packed in a 9x9x20" heavy-duty structural foam tool box for easy portability on-site.



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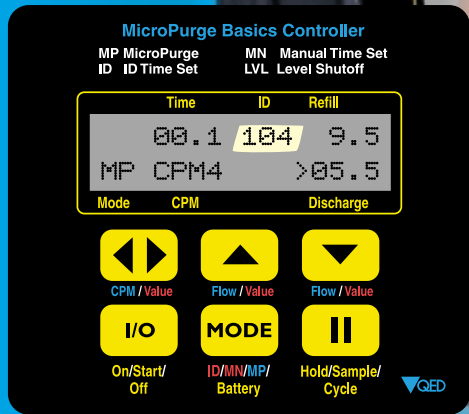
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Simple arrow key control of low flow rates makes purge rate adjustment easy.

Expert flow and drawdown control for low-volume purging

The MicroPurge **basics**[™] MP10 Controller revolutionizes low-flow sampling with advanced logic control of purge flow and well drawdown. Simple up-down arrow keys increase and decrease purge flow, driving a microprocessor to re-create expert techniques for low-flow adjustment. Then, optimized settings are identified for recall in the next round of sampling.

The MP10 also offers an easy way to prevent excessive monitoring well drawdown during purging, by linking to the optional MP30 Drawdown/Water Level Meter.

The lightweight, compact MP10 sets the pace for a new generation of genuine MicroPurge basics equipment, **first in control and power for low-flow sampling.**

MicroPurge[®] basics[™] MP10 Controller Advantages

- Exclusive MicroPurge control mode uses simple arrow keys to adjust low-flow rates easily and repeatedly, using a microprocessor to re-create the flow adjustment strategies used by experienced samplers.
- Connection port allows linking to optional MP30 Drawdown/Water Level Meter, which signals MP10 Controller to enter standby mode if drawdown limit is exceeded.
- Multi-mode digital control includes MicroPurge Mode, ID Mode for repeat events, and manual control.
- Weatherproof controls are housed in a rugged, compact (10-3/4" x 9-3/4" x 5") case.
- Full digital display of all setting and status information.



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First in Control & Power for Low-Flow Sampling

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MICROPURGE® basics™ MP10 CONTROLLER

Simple, stable, repeatable flow rate setting

The MP10 puts you in control of the most advanced low-flow sampling system ever made. You will purge and sample quickly and easily, with precise, steady low-flow pumping rates from one sampling event to the next. QED's new **basics** equipment is also designed to take advantage of the opportunities for downsized equipment, which is lighter and more portable, reduces equipment cost and increases sampling crew productivity. Simplified, sealed electronics are put together in a design that delivers famous QED durability and value.

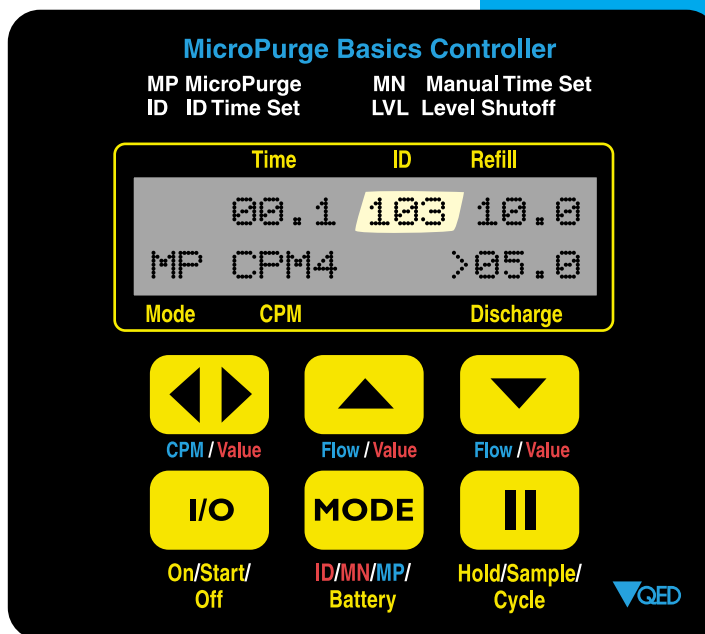
MicroPurge **basics** controllers can be connected to the MP30 Drawdown Meter for optional Automatic Drawdown Control, an industry first.

Multi-mode digital control

The MP10 gives you three easy-to-use operating modes, to cover every sampling protocol and situation.

- **MicroPurge (MP) Mode** quickly optimizes control settings to reach the desired pump flow rate. You don't have to worry about calculating pump cycles or refill and discharge times.
- **ID Mode** instantly recalls optimized settings previously established for each well, providing precise, consistent performance from event to event.
- **User Set (MN) Mode** provides manual control of pump operation for extreme depths and other special cases.

HOW IT WORKS



Pressing the UP Arrow increases the pump flow in controlled steps.



The DOWN Arrow Key decreases the flow rate in controlled steps.

MicroPurge Mode Quick Guide

1. Press **I/O** key to turn power ON.
2. Select desired Cycles Per Minute (CPM) with the **◀▶** key (default value is 4 CPM).
3. Turn throttle to set depth on gauge to 10 - 20 feet deeper than the pump location in the well.
4. Press **I/O** again to START pumping.
5. When water discharge begins, adjust throttle until a slow, steady flowstream is achieved.
6. Press **▲▼** keys to set the desired purge flow rate.
7. To collect samples, continue purge flow, or use **||** key to directly control sample flow and pause.



The LEFT/ RIGHT Arrow Key adjusts the Cycles Per Minute (CPM) of your pump.



The ID Number changes when an UP or DOWN Arrow is pressed. This number can be used in ID Mode to recall the setting for the next sampling round.



The I/O Key steps through the sequence of On-Start-Off.



The MODE Key changes modes from default MP (MicroPurge) to ID Mode to MN (User Set) Mode. This key also allows battery check.



Pressing the PAUSE Key puts the controller in HOLD Mode, stopping flow. A second press delivers push button controlled vial filling. A third press returns the system to normal cycling.

Can be used with any bladder pump system, with the use of simple adapters

MICROPURGE CONTROLLER SPECIFICATIONS

System Specifications:

Model No.:	MP10
Dimensions:	10-3/4" x 9-3/4" x 5" (27x25x13 cm)
Weight:	5.5 lbs (2.5 kg)
Case Material:	Structural Resin
Keypad:	6 Keys
Display:	2 Line, 16 Character / LCD Display
Power:	3 "AA" batteries
Battery Life:	50,000 Cycles @ 70°F (21°C)
Max. Pressure:	120 PSI (8,275 kPa)
Max. Pump Depth:	250 Feet (76 m)
Operating Temperature:	-20 - 150°F (-29 - 66°C)
Connection to MP30 Drawdown Meter	Heavy-duty cable (supplied with MP30)

Tag Line

Model 103

The Solinst Tag Line uses a weight attached to a laser marked cable or tape, and is principally designed for use during the installation of monitoring wells. The Tag Line also provides a simple method to measure the depth to the bottom of a well.

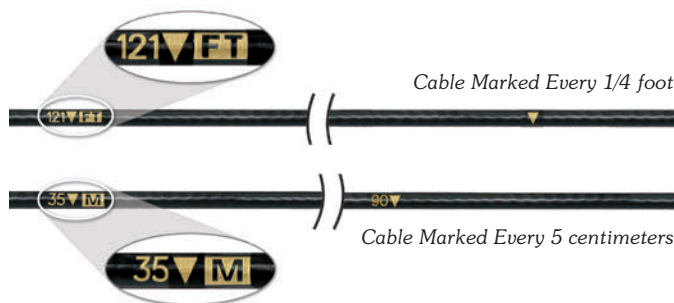
The Tag Line is perfect for use when installing Solinst Model 403 CMT Multilevel Systems, as you can easily measure the depth to the top of a backfill sand or bentonite layer during the completion of a well. It is also ideal as a multi-purpose marked support line.

The cable or tape is mounted on a sturdy free-standing reel with a carrying handle, weight holder and brake.

Laser Marked Cable

The Tag Line uses durable polyethylene coated 1/16" (1.6 mm) stranded stainless steel wireline with a minimum break strength of 270 lbs (122 kg). It comes in standard lengths of 100 ft. to 1000 ft. (30 m to 300 m). Other lengths are available by request.

Markings are clearly and accurately laser etched every 1/4 foot or every 5 centimeters of the cable. The laser markings allow the cable to run smoothly over the Tape Guide.



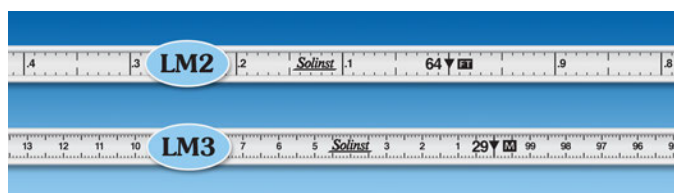
PVDF Laser Marked Tape

The Model 103 Tag Line is also available with 3/8" (10 mm) PVDF flat tape. The tape has a break strength of greater than 220 lbs (100 kg). It has a thick dog bone design that prevents adherence to wet surfaces, and allows it to hang straight.

The tape comes with laser markings every 1/100 ft. or each millimeter. Lengths are 100 ft to 1000 ft. (30 m to 300 m). Other lengths are available by request.

LM2: Feet and tenths: with markings every 1/100 ft.

LM3: Meters and centimeters: with markings every mm



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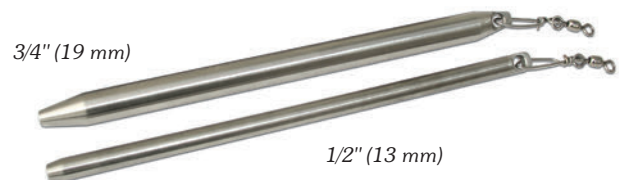
The Tag Lines uses a weight attached to either laser marked PVDF flat tape or polyethylene coated stainless steel wireline.

Applications Where Tag Lines Are Useful

- Accurately measure depth to backfill during well construction
- Measured safety support line for deployment of pumps, bailers, samplers and packers

316 Stainless Steel Tags

The standard stainless steel tag weight is 1.5 lbs (0.68 kg) and measures 3/4" x 1 ft. (19 mm x 30 cm). A narrow tag weight, 1/2" x 1 ft. (13 mm x 30 cm), weighing 0.65 lbs (0.30 kg), is also an option. Tag weights have tapered ends to minimize hang-ups during deployment and return to surface, and can be clipped on and off the cable or tape. This allows the use of the reel-mounted marked cable or tape for other uses.



Tape Guide

A Tape Guide is provided with each Tag Line. It can be placed over the top of the well casing for ease of use and to protect from damage on rough edges. It can also increase reading accuracies.

