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Peristaltic Pump

Model 410 Data Sheet

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Model 410

Designed for field use, the reversible flow Peristaltic Pump from Solinst is ideal for vapor sampling or water sampling from shallow wells and surface water. It can be used for vacuum pumping and for pressure delivery of liquids or gases.

The mechanical peristaltic operation uses rotating rollers to depress the silicone tubing, creating a vacuum, which displaces any fluid or gas in the chosen direction. It is effective to depths up to the suction lift limit, which varies with elevation, and can be as much as 10 m or 33 ft. at sea level.

Peristaltic Pump Design

The Solinst Peristaltic Pump features a clear pump head that allows quick, convenient inspection of the pump head tubing before and during operation. The pump head cover is easy to remove for cleaning or replacing the tubing. The pump head tubing guides are designed to keep the tubing in place during sampling, no extra tubing clamps required.



The Peristaltic Pump is compact and lightweight. A handle and one convenient control on the top of the pump make it perfect for fieldwork.

The Solinst Peristaltic Pump has no vents, grates or openings. The metal case is extremely robust and water resistant. This makes the Peristaltic Pump simple to maintain and repair.

Model 410 Peristaltic Pump Specifications

Sampling Depth:	As much as 10 m (33 ft) at sea level
Pump Size:	33 cm x 13 cm x 17 cm (13" x 5" x 6-1/2")
Pump Weight:	3.3 kg (7.2 lbs)
Power Source:	12 volt DC
Power Draw:	3–5 amps max.
Optional 12V Battery Holder Max. Battery Dimensions:	L: 14.9 cm W: 9.6 cm H: 9.1 cm L: 5.9" W: 3.8" H: 3.6"



Power Source & Motor

A 3 m (10 ft.) power cord uses alligator clips to connect to almost any 12 volt DC power source that can supply at least 3–5 amps at maximum draw (such as auto, marine or small gel cell battery). Connect an optional 12V Battery Holder to the Pump and conveniently add a battery right to the assembly. The pump may also be connected directly to your vehicle battery.

The variable speed motor is reversible, has an easy-to-reset circuit breaker (no fuse to replace), and has reverse polarity protection to prevent damage to the pump.

Pump Tubing

The standard pump tubing is 5/8" OD (16 mm) medical grade silicone, which attaches easily to 1/2" OD (13 mm) down-hole tubing. An adaptor kit, which allows the use of 3/8" OD (10 mm) tubing, provides lower sampling rates. This tubing attaches easily to 1/4" OD (6 mm) down-hole tubing.

To provide high sample integrity, the sample comes in contact only with the tubing. Replacing the tubing between locations avoids the possibility of cross-contamination. To reduce lengthy decontamination procedures, simply dedicate the inexpensive down-hole tubing.

Sampling Rates

The Model 410 Peristaltic Pump has variable pumping rates, using two different sizes of silicone pump head tubing. With the standard 5/8" OD (16 mm) tubing it delivers 3.2 L/min.

The 3/8" OD (10 mm) tubing adaptor kit allows a sample rate as low as 40 ml/min. This low rate is ideal for low-flow sampling and the filling of small sample bottles.

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