

Model 615 Stainless Steel Drive-Point Piezometers

The Model 615 Drive-Point Piezometer is designed to give field personnel a truly inexpensive method to monitor groundwater in suitable conditions.

Solinst 615 Drive-Points attach to inexpensive 3/4" NPT steel drive pipe which is widely available through local plumbing and hardware stores.

Solinst Drive-Point Piezometers are most often installed permanently as wells, for short-term or long-term monitoring of groundwater level and quality. They can also be used once and removed. Drive-point, tubing and pipe alternatives are available to suit almost every situation.

High quality samples can be obtained as polyethylene or Teflon® lined tubing is attached to the stainless steel drive point. A shielded version is available which avoids clogging or smearing of the screen during installation. Sampling and head measurements are taken within the tubing with small diameter equipment, as described overleaf.

Solinst Drive-Point Piezometers can be driven into the ground, or the soil at the bottom of a borehole with any direct push or drilling technology, including a vibrating power hammer or the manual slide hammer shown at right.



High Quality Samples

The Model 615 piezometer is composed of a stainless steel cylindrical filter screen protected within a 3/4" (20 mm) stainless steel drive-point body with an internal filter support and a barbed fitting for attachment of sample tubing.

The inner barbed fitting allows connection of 5/8" x 1/2" (16 mm x 12 mm) LDPE or Teflon® sample tubing. This prevents sample water from contacting the steel extension casing, and maintains high sample integrity even when inexpensive carbon steel extensions are used.

The 615S shielded drive-point has a single use, optional filter shield to avoid smearing and plugging of the filter during driving. The strengthened connector at the top of the drive-point acts as an annular seal which avoids contamination from higher levels in the hole. Optional heavy duty extension couplings strengthened to create a more rugged piezometer are also available.

The 615N is designed for hydraulic head measurements with no barb for tubing. This saves money and frees up more space for easier use of a water level meter.



Manual Slide Hammer

For the most inexpensive wellpoint installations, the Manual Slide Hammer can be used to install the Solinst Drive-Point Piezometers without the need for any expensive equipment on site. The slide hammer and all other equipment can easily be transported in a car or truck to most sites.

A heavy duty drive head is used, on which the slide hammer impacts, and a tubing by-pass ensures that the tubing does not get damaged during installation.

A vibrating power hammer can also be used for installation of drive-points, as described overleaf.

Applications

Model 615 Drive-Points are suitable for the following uses:

- groundwater sampling, including VOCs
- water level monitoring
- contaminant plume delineations
- sparge points
- soil gas sampling
- UST monitoring
- low cost and minimal disturbance site assessment

The Sand/Bentonite Injector, Model 561M

A single tank Mini Injector is available to allow easy and efficient backfilling to seal or decommission open direct push or drive-point holes with dry granular bentonite. (See Data Sheet 561M.)

The Mini Injector is a highly portable system which avoids the need to bring water to the site for slurry mixing.

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Sampling Within Narrow Diameters

Direct push sampling has quickly become a popular way to obtain groundwater samples; however, sampling within drive-points requires a narrow diameter sampler. Solinst offers several options for this specific sampling application.

Single Valve Pump

To sample from within Solinst Model 615 Drive-Point Piezometers, the integral tubing can be converted easily into a Solinst Single Valve Pump. This inexpensive modification creates a dedicated compressed air or nitrogen drive pump out of 5/8" x 1/2" (12 mm x 16 mm) tubing. Suitable for sampling to depths of 150 ft. (45 m).

Triple Tube Sampler

A portable pump and packer assembly collects samples from sampling tubes as small as 3/8" (10mm) ID. A nitrogen inflated packer seals the sample tube at the desired depth. Gas is applied to push water to the surface in a continuous slug. The TTS is effective to 150 ft. (45 m).

Peristaltic Pump

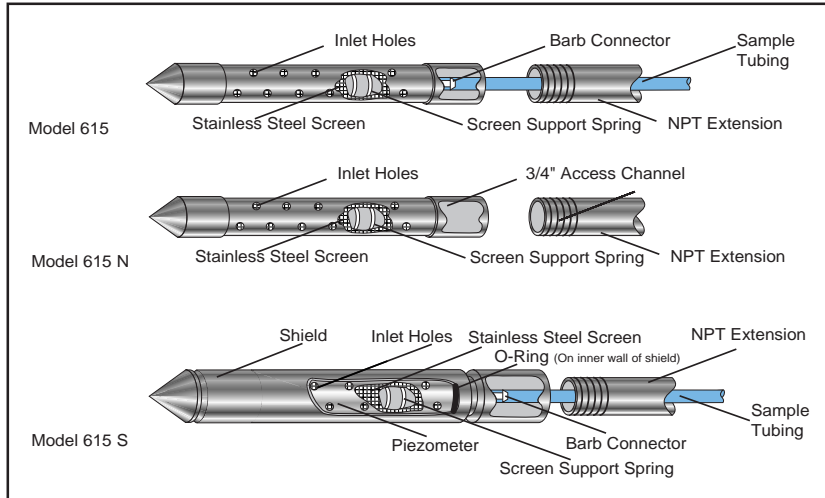
The Peristaltic Pump uses the suction lift principle. Suitable for 1/4" (6 mm) ID or larger diameters. The Peristaltic Pump provides a regulated and steady flow. It works effectively up to 30 ft. (10 m).

WaTerra Pump

The WaTerra Pump operates as an inertial pump. Raising and lowering the check valve and tubing raises a sample. The SS10 footvalve suits wells as narrow as 1/2" (12 mm) ID and works to depths of 75 ft. (25 m).

Miniature Point Source Bailer

The 1/2" (12 mm) dia. stainless steel bailer works very well in 615N Drive-Point Piezometers. The bottom emptying device permits a regulated, steady flow.



Hydraulic Head

Water levels can be measured in any of the drive-points described, using a Solinst Model 102, or the Narrow Tape Solinst Model 101 Water Level Meter for the most accurate hydraulic head measurements.

It is possible to conduct falling or rising head tests much more rapidly in narrow diameter tubes than in conventional 2" (50 mm) wells.

Couplings

Heavy duty couplings are available for the Model 615 Drive-Point Piezometers. The reinforced shoulder gives added support to the pipe threads, to withstand driving stresses and to give more accurate alignment. The maximum OD is 1.5" (38 mm).

Vibrating Power Hammer

615 Piezometers can be installed using a variety of vibrating 'rock breaker' type hammers.

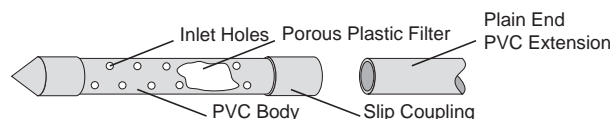
A two piece drive head assembly has a hardened steel adaptor to suit the threads of the drive pipe used. The drive head is sized to suit standard bit sizes, 1-1/8" and 7/8" (28mm and 22 mm) and has a tubing by-pass slot in the side.

The Drive Head Assembly can be reused installation after installation.

Depth Limitations

Drive-point piezometers are not suitable for all sites. The depth limitations vary, especially with soil conditions and the drive technology used.

Model 601 Standpipe Piezometers



The Solinst Standpipe Piezometer, Model 601 is the least expensive of the drive-point line, and is designed to be placed within an open hole. The pointed PVC tip is suitable for pushing into very loose sands at the base of a borehole, or for backfilling in place within test pits.

The piezometer uses a porous plastic filter set inside a perforated PVC body, which connects to the surface

with 3/4" ID PVC riser pipe connected with slip couplings. The piezometer tips come in a variety of lengths.

The Model 601 is suited to:

- water level monitoring
- permeability measurement
- construction control
- de-watering/drainage operations
- slope stability investigations
- metals monitoring