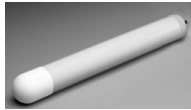


# 1900 Large Volume Sampler

## 1900 Porewater Sampler

The Model 1900 Soil Water Sampler is a large-volume sampler designed for near-surface installation at depths ranging from 6 inches (15 cm) to 6 feet (1.8 m). The unit consists of a 1.9" (4.8 cm) outside diameter PVC tube, a porous ceramic cup with a 2 bar (200 kPa) air-entry value, and a Santoprene stopper. Neoprene tubing is used as an access port for sample extraction and evacuation. Clamping rings slip over the folded Neoprene tubing to seal the sampler after evacuation. An extraction kit is required for sample retrieval and a vacuum pump is required to evacuate the sampler. Select options: Our samplers range in length from 6 inches to 72 inches.

Weight: 0.45-2.02 lbs (0.20-0.92 kgs)



general use around the world for many years.

Soil water is held largely under a state of tension (negative pressure) within the soil by capillary forces. The capillary force is the sum of the adhesive and cohesive forces. The adhesive force is characterised as the attraction of water for soil solids (soil and organic matter). Cohesive force is characterised as the attraction of water for itself. Adhesive force is far greater than the cohesive force.

Water is naturally attracted to soil particles (by its adhesive quality) and "sticks" to the surface of each particle and in the various sized "capillary" spaces or "pores" between the soil particles. When the soil is very wet, the large pores fill with water. This "excess" water has no direct surface contact with the soil and is held cohesively, one water molecule to another, and can move quite freely. As a soil dries out, the "excess" water first evaporates as it requires less energy to break the cohesive bonds. The remaining water, held tightly inside the capillary spaces by adhesive qualities, requires more energy to be removed from the soil.

## Operating Principles

Soilmoisture's Soil Water Samplers, which are also referred to as "suction lysimeters" or "lysimeters", have been in

