

Maxi SimulProbe®

Gregg Drilling & Testing, Inc. uses a Maxi SimulProbe® to collect groundwater samples and correlative soil cores or soil-gas samples and correlative soil cores. Although the purpose of the sampler is to collect soil samples simultaneously with liquid or gas, the maxi probe can also be used to collect gas or liquid only samples.

The MaxiProbe® is shown below in its groundwater mode, *Figure MaxSP*. It has an outer diameter of 3.38 inches and an inner diameter of 2.5 inches. The core barrel is 18 inches long and when used for groundwater sampling, a 2 liter stainless steel water canister is added.

To collect soil and groundwater samples, the probe is operated using nitrogen back pressurization and a groundwater canister, with or without vacuum assistance. This method can be applied to both mud rotary and cased hole operations. For safety, the MaxiProbe® is always pressurized and depressurized inside the casing. The probe is then lowered to the bottom of the borehole and hammered 21 inches to collect a soil sample. By pulling the probe back 2 or 3 inches, the screen is exposed allowing a water sample to be collected. The probe can be operated without the canister if using a peristaltic pump or a sample bailer. A peristaltic pump is only used if the sampled area is shallower than 25 feet.

When soil-gas samples are to be collected, the MaxiProbe® can be utilized in two different fashions. The first method involves a wire-line down-hole (or up-hole) hammer and requires an up-hole vacuum pump. The SimulProbe® is lowered to the bottom of the hole and hammered 21 inches to obtain a soil sample. The “drive and sniff” technique can be used where appropriate to “sniff” the vacuum pump exhaust with an OVM. The probe is then pulled back 1 or 2 inches to expose a screen. The vacuum pump is used to purge the line and then collect a soil gas sample.

The second method of operating the SimulProbe® uses the “drive and sniff” technique to gain continuous and discrete soil gas and pressure response profiling of a soil core. In this scenario the probe is driven 4 to 6 inches below the bottom of a borehole before the vacuum pump purges the line. The OVM is monitored until readings stabilize; vacuum gauge pressure and flow meter responses are then recorded. This is repeated as many times as necessary along the length of the core until the probe has been pushed 21 inches.

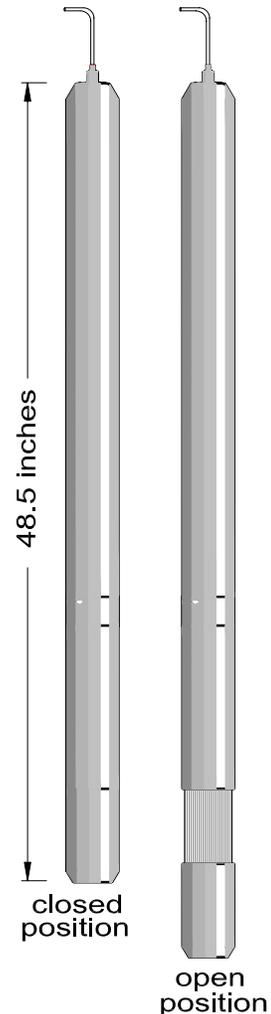


Figure MaxSP

