

SOIL MOISTURE SAMPLING

You will return to the contents of P1 SOIL by clicking the pictogram



P1.65

Soil moisture sampling is the sampling of soil moisture in the unsaturated zone of the soil. There are mobile systems and setups with a permanent location for continuous sampling. Depending on the purpose of the research it is possible to select between samplers in which the sampling is done via a thin PES tube or via ceramic, glass or plastic cups. All samplers are available in various diameters and designs. With these soil moisture sampling systems the soil moisture is extracted directly and undiluted from the soil.

Rhizon soil moisture samplers

With the Rhizon soil moisture sampler we supply a range of miniature soil moisture samplers. The Rhizon samplers are used for repeated and reliable sampling of all dissolved components in the soil solution. The porous plastic material (PES) wets spontaneously and has standard 0.15 micron pores. The samplers are supplied with coextruded tubing (PE inside / PVC outside) 1 mm internal diameter, luer connector and protective cap. The sampler is reinforced by a wire. Dissolved organic and inorganic matter will not absorb on the

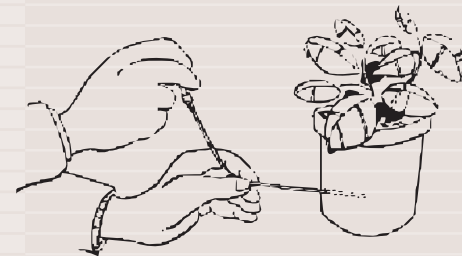
soil moisture sampler. The sampler is placed preferably horizontally in moist soil. Water acts as a lubricant during inserting. Due to the minimal disturbance the soil will quickly settle, resulting in a good sampler-soil contact. The standard Rhizon soil moisture samplers are inserted through the wall of undisturbed soil columns and pots with plants. A sample is obtained by placing the sampler under vacuum. The vacuum is obtained using a vacuum tube or a syringe. The Rhizon soil moisture samplers are supplied in various designs.

For inserting in pots during filling, the Rhizon soil moisture sampler type **FLEX** with nylon strengthening wire is available.

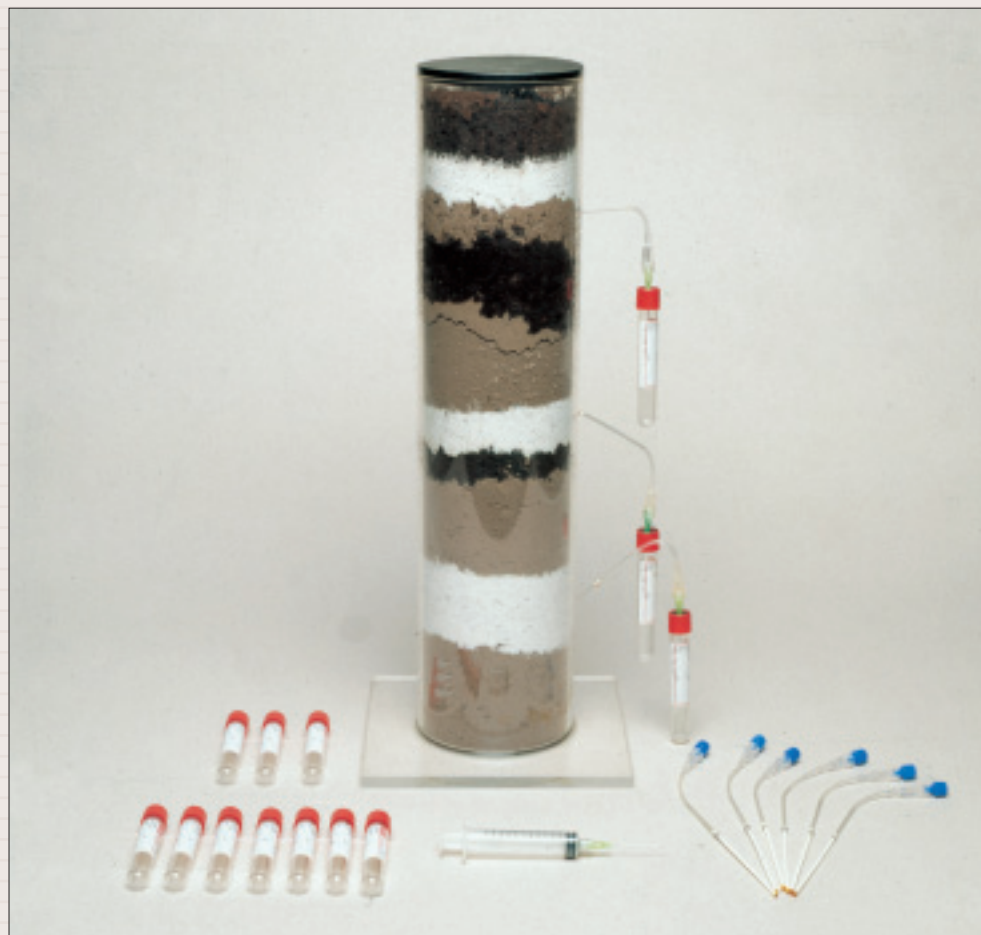
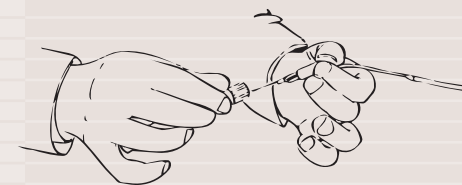
For sampling metals a special Rhizon soil moisture sampler type **MOM** is available, with a length of 10 cm and a diameter of 2.5 mm, with glassfiber reenforced strengthening wire and 10 cm coextruded tubing.

The Rhizon soil moisture sampler type **MOM** and type **SMS** (with stainless steel strengthening wire) are designed for sampling in undisturbed soil cylinders (core samples) or in pots with growing plants.

A Rhizon soil moisture sampler is placed in a pot.



To extract a sample the soil moisture sampler is connected to a needle. Next the needle is pushed in the vacuum tube.



Rhizon soil moisture samplers

BENEFITS

19.21 Rhizon soil moisture samplers

- Micro & Macro "roots" sample moisture
- Ideal for all types of lab and field research
- Cheap samplers allow large scale use
- Simple syringes act as pumps and samplers
- Inert construction allows for many analyses
- Can be used at meters depth
- Frost resistant
- Can be extended horizontally also



www.eijkelkamp.com

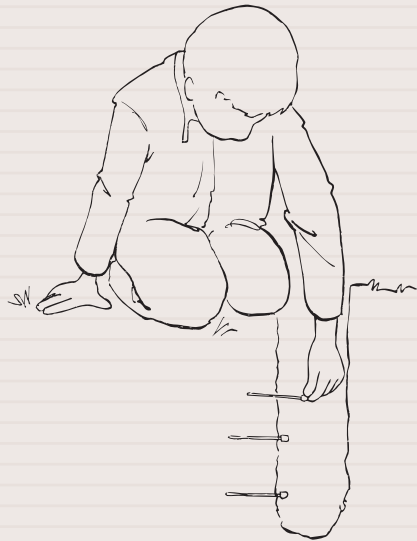


SOIL MOISTURE SAMPLING

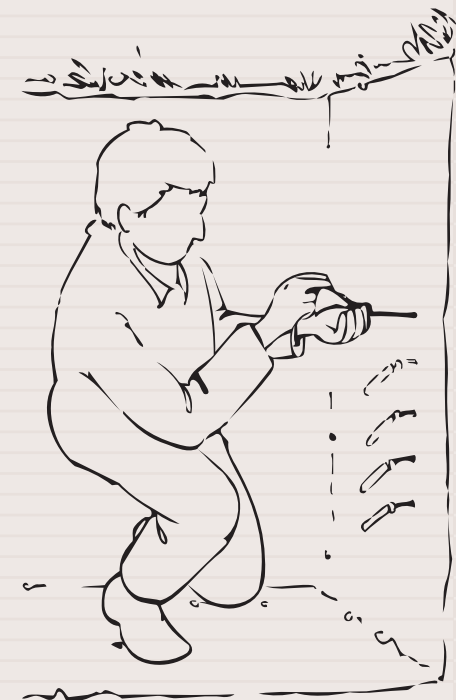
You will return to the contents of P1 SOIL by clicking the pictogram

P1.65

The Rhizon soil moisture samplers are placed in the wall of a bore hole.



Soil moisture samplers in a profile pit.



19.21.SA Rhizon soil moisture sampling set

The Rhizon soil moisture sampler is available in a standard set with: Rhizon soil moisture samplers, type MOM, with a length of 10 cm (complete with PVC/PE tubing, connectors and protective caps), a set needles with protective caps and a set of glass vacuum tubes with a 9 ml contents.

The standard set can be extended with various accessories such as: short Rhizon soil moisture samplers (5 cm porous material), syringes (to be used instead of vacuum tubes) connectors for connecting the syringes (including spacers for blocking the syringes), (black) PE extension tube, silicone connecting tubing to connect the extension tubing to the soil moisture samplers.

The **Macro Rhizon** soil moisture sampler is especially suited for use in the field. The sampler has a length of 9 cm and a diameter of 4.5 mm. For installation at greater depths a standard sampler with PVC extension pipe can be used.

Applications

The Rhizon soil moisture samplers are very suitable for pot-, cylinder- and column research (**Macro Rhizons** for field research). Rhizon samplers are used when several soil solution samples are needed of the same soil volume in research of:

- Plant uptake of soluble nutrients as nitrate.
- Solubility of metals in soil.
- Transport of soluble components in soil.
- Accumulation of salts, etc.
- Environmental research.

Advantages

- Minimal disturbance of hydraulic properties of the soil.
- Low dead volume < 0.5 ml.
- Minimal ion exchange capacity (less than soil).
- pH is not changed by sampling.
- Complete sampling systems (can be cleaned before use to suit specific demands).
- Sample is filtered and can be analysed directly.
- Inexpensive.



Rhizon soil moisture samplers



Rhizon with vacuum tube and syringe



Macro Rhizons