

DEEP CORE SAMPLERS

For laboratory research (soil mechanics and/or soil physics) it is essential to have available undisturbed soil samples. Depending on the diameter and the length of the desired sample a certain sampler is selected.

The Akkerman core sampler as well as the Van der Horst core sampler are used in combination with sampling tubes with a diameter of 70 x 67 mm and a length of 44 cm.

04.11 Akkerman core sampler, standard set

Using the Akkerman core sampler, samples are taken in stainless steel sampling tubes in auger holes or casing tubes (above as well as under the groundwater level, casing tubes with minimal diameter 100 mm) up to a maximum depth of 50 m. The Akkerman core sampler is used in combination with a tripod and hand winch. The sampling tube is beaten into the soil using a falling hammer. After sampling the sampling tube can be sealed off with the PE covers. A sample on the split sample tube

can be prepared for transport by covering it with another split tube and sealing the seams and closing both ends with covers.

The hydraulic extruder can only be used to remove the sample from the ordinary sampling tubes. The tubes with core catcher can not be emptied using this extruder. The sample must be removed by tapping or by pulling the plastic liner in which the sample is bedded if the liner had been placed in the core catcher before sampling.

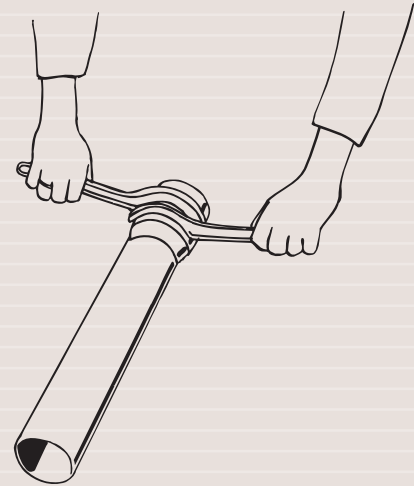
Using the connection set, which has not been included in the standard set, allows immediate leaching test in the laboratory, without the need to remove the sample from the sampling tubes first.

Among other items the standard set contains: an Akkerman core sampler, a falling hammer, various sampling tubes with and without core catcher, plastic sampling liner, sampling tubes, PE covers and a hydraulic extruder for the sampling tubes.



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The sampling tube is fixed in the core sampler using the hook spanners.



Akkerman core sampler set

After a hole has been drilled, for instance using a bailer boring installation, a sample is taken from the bottom of the bore hole.



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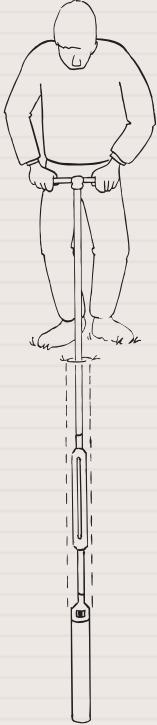


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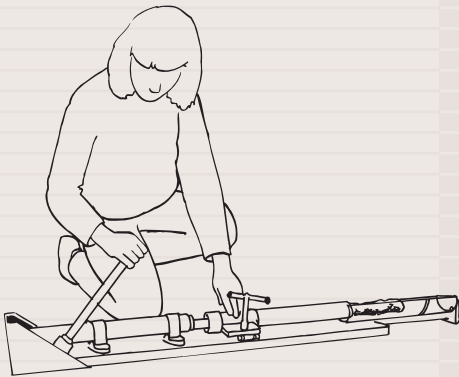


DEEP CORE SAMPLERS

The sampling tube is beaten into the soil using a falling hammer.



The sample is removed from the sampling tube using the extruder.



04.14 Van der Horst core sampler

The Van der Horst core sampler is used for manual filling of the stainless steel sampling tubes. Sampling can take place in bore holes, casing tubes (minimum diameter 75 mm) or in the beds of canals, lakes, etc. up to a depth of approximately 10 m.

By contrast to the Akkerman core sampler the Van der Horst sampler is entered into the bore hole using extension rods.

The core sampler can be beaten into the soil using the steel hammer with nylon head or using a falling hammer (type down the hole).

When the sample enters the tube, the water or air above the sample can escape through a non-return valve.

After sampling the apparatus with the filled tube is extracted from the soil using the support and lever beam with rope catcher.

Among other items the standard set contains: a handle with beating head, extension rods, a steel hammer with nylon heads, a falling hammer (type down the hole), a Van der Horst core sampler, sampling tubes with and without core catcher, plastic sampling liner, sampling tubes, PE covers, a hydraulic extruder and various accessories.

The complete set is delivered in an aluminium transport case.

Application for both core samplers

The samples taken with both core samplers in practice are usually used for:

- Soil technical measurements (compressibility, determination of the shear strength).
- Soil physical measurements.
- Determination of the granular composition.
- Chemical analysis, for instance through leaching tests using the special connection set.
- Visual impression.
- Soil profile research.



Van der Horst core sampler with tube



Falling hammer (type down the hole)



Connection set for leaching tests