

DEEP CORE SAMPLERS

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



P1.33

For laboratory research (soil mechanics and/or soil physics) it is essential to have undisturbed soil samples available. 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

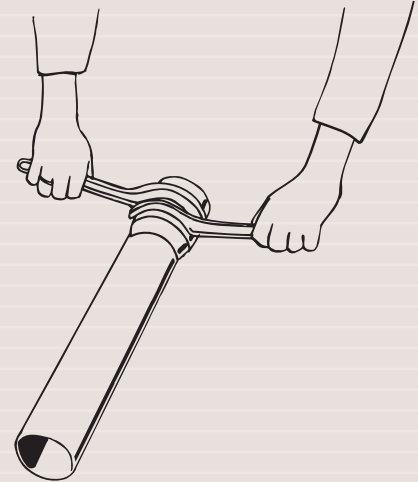
another split tube and sealing the seams and closing both ends with covers.

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.

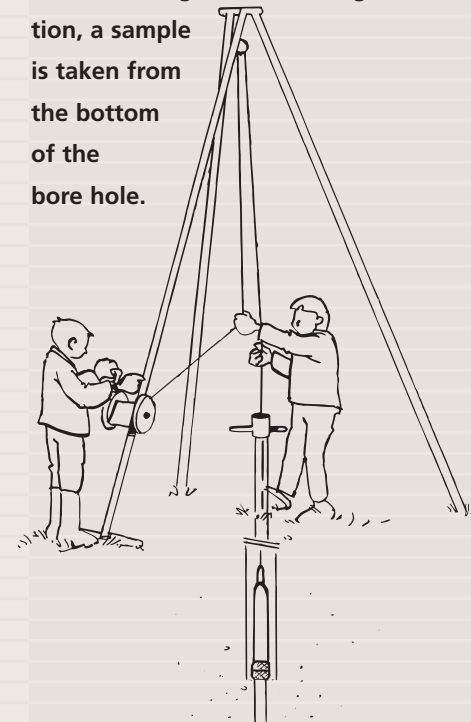
Using the connection set, which has not been included in the standard set, allows immediate leaching test in the laboratory, without the need to remove the sample from the sampling tubes first.

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.

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



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



Akkerman core sampler set

BENEFITS

04.11 Akkerman core sampler

- Durable stainless steel coring tubes
- Large high impact hammer
- Ball valve system for best sample retrieval
- Strong hydraulic extruder
- Liners available for tubes with core catchers



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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

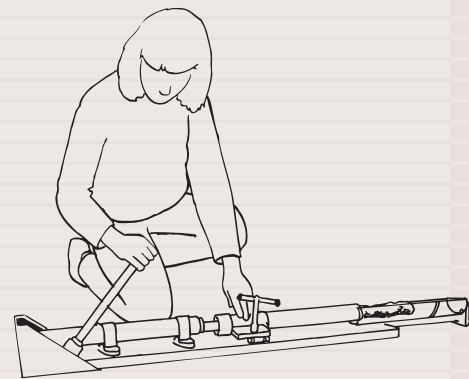
The samples taken with both core samplers in practice are usually used for:

- 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.

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



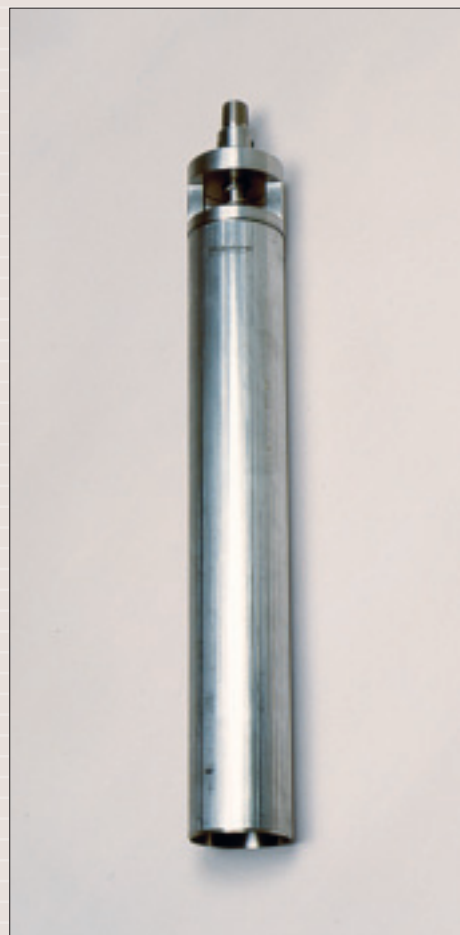
The sample is removed from the sampling tube using the extruder.



BENEFITS

04.14 Van der Horst core sampler

- The slimmest system; only 70 mm OD
- Can be used in narrow casings
- Uses standard large volume stainless tubes
- Works with drop hammer or hand hammer



Van der Horst core sampler with tube



Falling hammer (type down the hole)



Art.no.	Description	Qty. in set	Art.no.	Description	Qty. in set
P1.33	Deep core samplers				
	For taking large(r) undisturbed soil samples in sample tubes we supply two different sets:			weight 3.5 kg, with wire eye, c.sc.	
	- The Akkerman core sampler, cable controlled, to be used in combination with a tripod and hand winch.		**04.14.01.C	Van der Horst core sampler (incl. spare parts), c.sc.	1
	- The Van der Horst core sampler, manually controlled design for shallow sampling.		**04.14.05	Sampling tube, stainless steel, Ø 70x67 mm, length 44 cm, contents 1.41 l, set of 3 pcs.	5
			**04.14.06	Sampling tube, stainless steel, Ø 70x67 mm, length 44 cm, contents 1.26 l, with core-catcher, set of 3 pcs.	1
04.11	Akkerman core sampler, standard set		**04.11.04.01	Core-catcher for sampling tube, Ø 67 mm (to be soldered in sampling tube).	10
**04.11.01	Akkerman core sampler, incl. two hook spanners and spare ball for ball valve	1	**04.14.04	Plastic liner for sampling tube with core catcher, length 39 cm	10
**04.11.02	Drop weight and guide rod for Akkerman core sampler	1	**04.11.05	Cap, natural PE, Ø 70 mm	40
**04.11.20	Sampling tube, stainless steel, Ø 70x67 mm, length 44 cm, contents 1.55 l, with beaded edge, set of 3 pcs.	13	**01.10.12.C	Extension rod, 100 cm, c.sc.	7
**04.11.21	Sampling tube, stainless steel, Ø 70x67 mm, length 44 cm, contents 1.40 l, with beaded edge and core-catcher, set of 3 pcs.	3	**05.09.07	Support for lever beam	1
**04.11.04.01	Core-catcher for sampling tube, Ø 67 mm (to be soldered in sampling tube)	20	**05.09.08	Lever beam with rope catcher	1
**04.11.04.02	Plastic liner for sampling tube with core-catcher, length 42 cm	20	**04.11.07	Extruder, hydraulically, for sampling tubes Ø 67 mm, length 44 cm, maximum pressure 10 kN	1
**04.11.05	Cap, natural PE, diameter 70 mm	100	**04.11.09	Split sample tube for extruded samples	1
**04.11.07	Extruder, hydraulically, for sampling tubes diameter 67 mm, length 44 cm, maximum pressure 1 10 kN	1	**99.50.22	Spanner 20x22 mm	2
**04.11.09	Split sample tube for extruded samples	20	**99.60.07	Screw driver, 6.5 mm bit	1
	Optionals for 04.11 (tripod and hand winch).		**01.11.03	Work gloves, pair, oil- and grease resistant, sturdy, with short sleeve	1
02.01.04	Aluminium tripod, each leg in 3 parts, incl. pulley, bearing capacity 20 kN (2000 kgf)		**01.11.01	Maintenance kit (brush, oilpad, vaseline)	1
02.01.04.02	Set of 5 stepsupports for tripod (02.01.04)Hand-operated winch for tripod (02.01.04), capacity 20 kN (2000 kgf), excl. cable, with free-fall facility. Winch can be operated by two persons: direct on the drum (1:1) or via reduction (1:7.5). Weight 39 kg		**01.12.08	Aluminium transport case, dim. 112x39x32 cm (outside)	1
02.02.99.15	Steel cable, Ø 8 mmx40 m., zinc plated, incl. fasteners		**01.11.02.01	Padlock	1
04.14	Van der Horst core sampler. Standard set for sampling to a depth of 7 m.			Optionals for 04.14 (auger set and optional tripod and hand winch).	
**01.10.11.C	Handle, short, 10 cm, with beating head, c.sc.	1	01.12.SA	Hand-operated bailer boring auger set for heterogeneous soils, standard set for augering to a depth of 7 m.	
**04.05.05	Steel hammer with nylon heads, Ø 70 mm, 2 kg, impact absorbing design	1	02.01.01	With unpainted augers for environmental research Aluminium tripod, each leg in 3 parts, incl. pulley, bearing capacity 6.5 kN (650 kgf)	
**04.15.18.C	Hammer, Ø 5 cm, down the hole type, length of stroke 30 cm, total length 50 cm,	1	02.02.06	Hand-operated winch for tripod (02.01.01), equipped with a load-brake of max. 5 kN (500 kgf), excl. cable, weight 15 kg	
			02.02.99.01	Synthetic cable, Ø 8 mmx15 m, incl. fasteners	