

SOIL COLUMN CYLINDER AUGER

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



The soil column cylinder auger has been developed to take undisturbed soil samples. This allows a fast insight in the build-up of the soil profile, the possibilities for a root system, etc. The more insight in these matters, the more effective fertilization and treatment of the soil can be done.

05.07 The soil column cylinder auger

To execute general examination of the soil profile another method has been developed where samples are taken from the soil applying the soil column cylinder auger.

Applying this system it is possible to take undisturbed samples with a length of 100 cm and a diameter of 90 mm, without digging a profile pit. The soil column cylinder auger is hammered into the soil applying a gasoline driven mechanical hammer (on special request an electrical driven hammer). The cylinder has a removable side cover, among other things, for checking and/or for sub-sampling of the soil column.

In the standard set among other things there are a gasoline driven mechanical hammer, a steel soil column cylinder, a hand auger, an extraction system and sample gutters.

Advantages

The advantages of the soil column cylinder auger are:

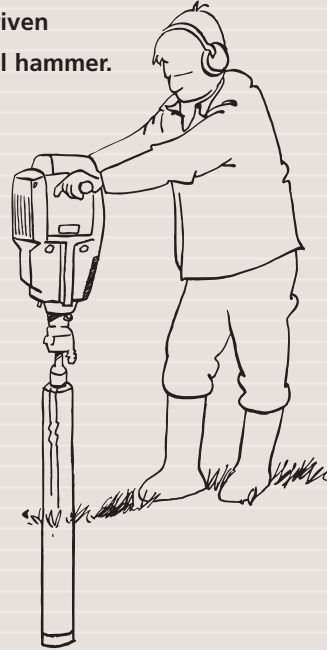
- The large diameter and the length of the sample.
- The soil column cylinder usually can be hammered into the soil with very little effort; also the extraction usually is not very difficult.
- The sample is lying loose in the cylinder and can therefore be removed without effort.
- The soil column is hardly compressed (= hardly disturbed).
- After taking one sample the total soil profile can be studied.
- Less time consuming and less disturbing than digging a profile pit.



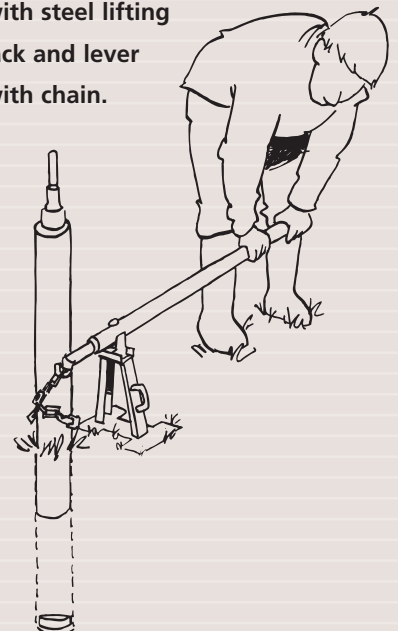
Set with soil column cylinder auger

P1.09

The soil column cylinder is hammered into the soil applying a gasolinedriven mechanical hammer.



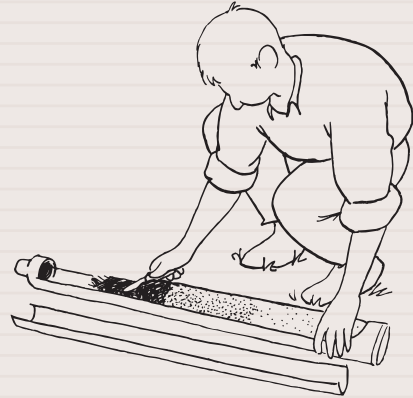
Pulling out the soil column cylinder with steel lifting jack and lever with chain.





P1.09

After taking only one sample the whole soil profile can be studied.



After the cutting shoe has been freed applying the hand operated auger, it is extracted using a steel hook.



BENEFITS 05.07 Soil column cylinder auger

- A smooth large sample with a small effort
- Low pull out friction due to loose cutting ring
- Large window for sub sampling or description
- Mobile yet very powerfull
- Ideal for serious studies on top 1 m of soil

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- ❑ The device is readily portable.
- ❑ The device is simple to operate.
- ❑ Can be applied to virtually all types of soils (also between crops).
- ❑ Causes a minimum of inconvenience and/or damage to those using the soil.

Limitation: hard to apply on wet soils, stony and/or rocky soils.

Applications

The soil column cylinder, among other things, can be used for:

- ❑ Structure description of the soil (also the very thin layers).

- ❑ Investigation of the root to gain insight in the possibilities for a root system considering depth and intensity.
- ❑ Determination of contents and density of the soil using undisturbed samples.
- ❑ Researching the moisture content and the concentration of dissolved substances in long running field studies.
- ❑ Studies after the flow behavior of water and dissolved substances in for instance soils where very preferential moisture transport occurs.
- ❑ Archeological research.



Soil column cylinder



Extraction system



Sample gutter with sample

PARTS LIST



Art.no.	Description	Qty. in set	Art.no.	Description	Qty. in set
P1.09	Soil column cylinder auger				
	The soil column cylinder auger is supplied as a complete set. Standard a gasoline driven percussion hammer is supplied for optional mobility.				
05.07	Soil column cylinder auger, type Stiboka. Standard set for sampling to a depth of 1 m		10.80.01	Striking pen for petrol percussion hammer Cobra 248, 22 mm hexagon x screw thread percussion casing 54 mm	
			10.80.02	Striking pen for electric percussion hammer (04.18.80), SW 30 mm x screw thread percussion casing 54 mm	
			10.80.03	Striking pen for electric percussion hammer (04.18.81), SW 28 mm x screw thread percussion casing 54 mm	
**04.19.01	Percussion hammer Cobra TT, gasoline powered, with hexagon insert end 32 mm. Beating power 40 Joule at 1620 beats per min. Noise 96 DB(A) acc. PN8NTC2. Vibration 2.3 A m/s ² acc. EN 28662	1			
**04.19.01.01	Transport box, wood for gasoline powered percussion hammer Cobra TT	1			
**10.80.06	Striking pen for gasoline powered percussion hammer Cobra TT, 32 mm hexagon x screw thread percussion casing 54 mm	1			
**05.07.02	Soil column cylinder, steel design, with cutting shoe and removable cover. Diameter 100x90 mm, operational length 1 m	1			
**05.07.03	Steel lifting jack	1			
**05.07.14	Lever with chain, length 100 cm	1			
**05.07.05.B	Hook for extracting cutting shoe, bottom part, bayonet connection	1			
**99.08.12	Sample gutter, half round, width 10 cm, length 100 cm, with removable head partition (to replace sample material into auger hole)	10			
**01.10.17.B	Handle, normal, 60 cm, with all synthetic, detachable grip (incl. coupling sleeve), bay.	1			
**01.02.02.08.B	Edelman auger, bottom part, comb.type, bay., Ø 8 cm	1			
**04.05.01.20	Bent spatula, breadth 20 mm	1			
**01.11.01	Maintenance kit (brush, oilpad, vaseline)	1			
**01.11.03	Work gloves, pair, oil- and grease resistant, sturdy, with short sleeve	2			
**07.00.00	Carrying bag for field equipment with handgrip, Ø 20x77 cm	1			
	To be used optionally (spare parts)				
05.07.14.01	Chain for lever, length 100 cm				
05.07.14.02	Lever for steel lifting jack				
05.07.02.01	Cutting shoe for steel soil column cylinder (05.07.02)				
	Extra accessories for taking samples more than 1 meter depth (max. 2 meter).				
10.80.07	Steel percussion casing, Ø 54x40 mm, length 1 m				
10.80.90.02	Pipe wrench, Swedish design, till Ø 76mm, length 58cm				
	Optional striking pens when using other types of percussion hammers:				