SOIL SAMPLE RING KITS

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

Soil research is a very important aspect of the planning as well as the execution of agricultural and civil engineering projects.

The basis of a soil research is making a study of:

- The soil profile.
- The physical properties of the soil.

The physical properties of soils are largely determined in the laboratory. Such laboratory studies usually require undisturbed soil samples, preferably with uniform dimensions. To meet these needs, soil samples are taken in rings of known volume and diameter. For the collection of undisturbed soil samples in soil sample rings, various sampling sets have been developed.

Soil sample ring kits

The various sets are different from each other because of the ring holder applied, the diameter of the rings, the connection selected and the sampling method.

07.53.SA Sample ring kit, model A, for soft soils to a depth of up to 2 m

The sample sets with the postfix SA are applied to fill the soil sample rings in soft soils above the groundwater level.

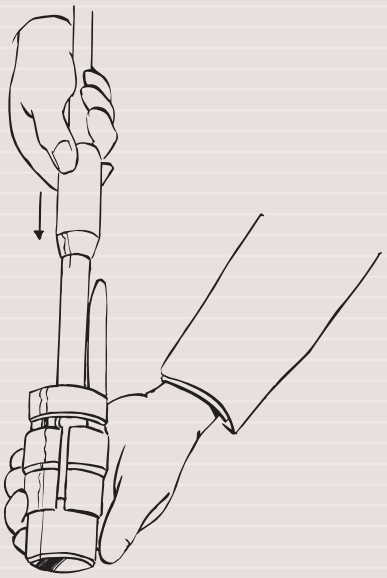
The samples can be taken on the surface, in bore holes or in profile pits. The open ring holder in this set is fitted with a bayonet connection and is driven into the soil manually.

The set, among other items, contains: an open ring holder, an Edelman- and a Riverside auger, a handle and extension rods, an aluminium case with soil sample rings, various accessories and a carrying bag.

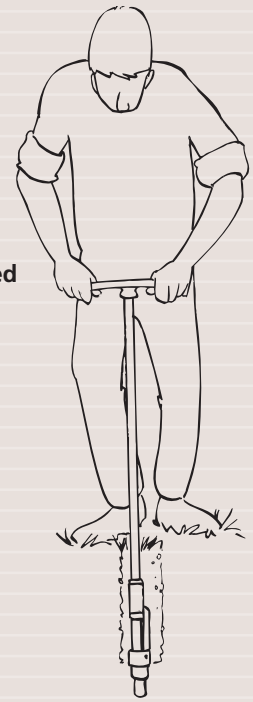
The sample sets with the postfix SA can be obtained for soil sample rings with a diameter of 53 and 60 mm. The most commonly applied (standard) diameter is 53 mm.

Sample ring kit for soft soils

After the ring has been placed in the open ring holder it is locked with the lever.



The soil sample ring is driven into the bottom of the pre-augered hole.



BENEFITS

07.53.SA Soil sample rings kit

- The ideal kit for soft to very soft soils
- Lowest disturbance; no pre-cutting ring holder
- Accurately machined stainless steel rings
- Rings have a very accurate volume

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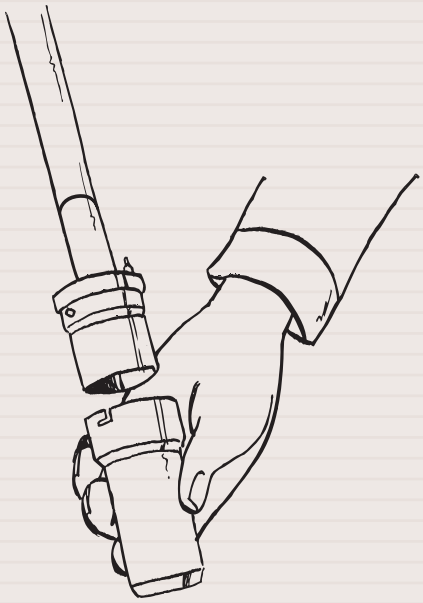
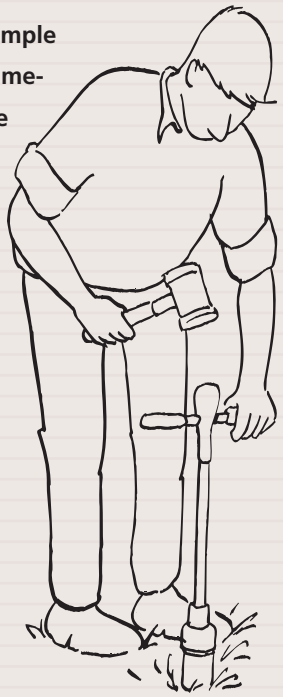
SOIL SAMPLE RING KITS

The soil sample ring is placed in a closed ring holder.



The soil sample ring is hammered into the soil applying an impact absorbing hammer.



07.53.SC Sample ring kit, model C, for all soils to a depth of up to 2 m

07.53.SE Sample ring kit, model E

The sample sets with postfix SC and SE, for very hard soils, can be used to take samples in virtually all soils. The samples can be taken on the surface, in auger holes or in profile pits, above as well as under the groundwater level. The closed ring holder in this set is fitted with a conical threaded connection which means that the ring holder may also be hammered into the soil with an impact absorbing hammer.

The set, among other items, contains: a closed ring holder, a handle with beating head, an Edelman- and a Riverside auger, extension rods, a hammering head with a guide cylinder, an aluminium case with soil sample rings and various accessories.

The sample sets with the postfix SC can be obtained for soil sample rings with a diameter of 53, 60 and 84 mm. The most commonly applied (standard) diameter is 53 mm (07.53.SE is only available in the diameter 53 mm).

Soil sample rings

Soil sample rings are stainless steel rings made of seamless tubes, smooth inside and out. The bottom of the ring has a cutting edge. The dimensions, and thus the volume content, of soil sample rings are exactly known, which makes them highly suitable for laboratory studies. With soil sample rings undisturbed samples are taken.

These are then used for, for example:

- The moisture content at various moisture tensions, from which a pF-curve can be made.
- The water permeability.
- The air permeability.
- The weight by volume.
- The density.
- The soil-water-air relationship at field capacity.
- The pore distribution.
- The oxygen diffusion.

Soil sample rings are transported in special aluminium cases, strong and resistant against humidity and heat.

Sample ring kit for all soils

BENEFITS

07.53.SC Soil sample ring kits

- Three available and accurate diameters
- Can be hammered; applicable in all soils
- Sample ring protected by closed ring holder
- Kit allows sampling at surface and at depth
- Valve system can be cleaned easily

SOIL SAMPLE RING KITS

Open ring holder

In case of an open ring holder, the ring is locked in the holder by means of a lever.

Over the ring about 4 cm headroom is left, allowing for an oversize sample to be taken.

Advantages of the ring holder are:

- ❒ The soil sample ring is very easily replaced.
- ❒ The ring holder is relatively insensitive to dust and dirt.
- ❒ Little resistance to penetration.

Disadvantages of the ring holder are:

- ❒ The sample is not oversized at the bottom end of the ring.
- ❒ In very weak soils, or below the water table, there is a great risk of the sample falling out of the ring.
- ❒ Sample rings may be lost through being overloaded and/or being incorrectly clamped.
- ❒ Because the sample ring is not protected, it can be damaged.

Closed ring holder

With this type of ring holder, the soil sample ring is placed in a cutting shoe. The ring is clamped inside the cutting shoe and no water or soil can come into the ring from the top side.

Advantages of this ring holder are:

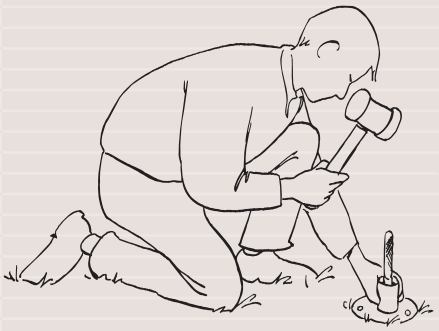
- ❒ The sample is oversized on both sides.
- ❒ No risk of losing a sample.
- ❒ The sample ring is in a protected position inside the cutting shoe, there is no risk of losing or damaging the ring.

For very hard soils we offer a special ring holder in a stronger (heavier) design (07.53.SE).

Hammering head with guide cylinder

The hammering head with guide cylinder is used for filling soil sample rings in hard soil layers both on the surface and in profile pits. The sample ring is clamped to the hammering head by means of a retaining ring. The guide cylinder ensures that the sample is taken in a true straight line. The soil sample ring can simply be dug out or extruded using the bent spatula.

The soil sample ring is hammered into the soil from the surface using an impact absorbing hammer and guide cylinder.



The sample is trimmed using a small frame saw.

Soil sample rings in case

Soil sample rings

Closed and open ringholder

Hammering head with guide cylinder

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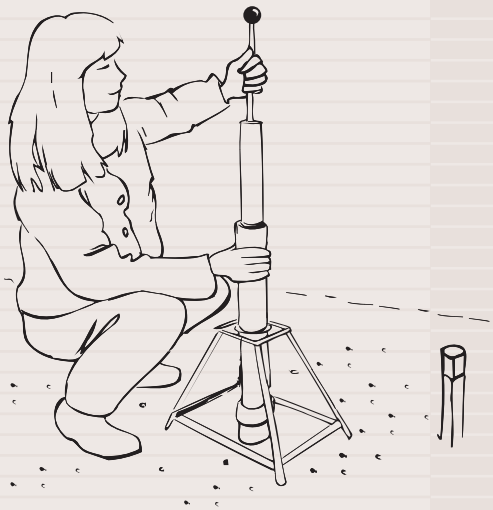
SOIL SAMPLE RING KITS

The ring is hammered into the soil using the drop weight.



08.09 Core cutter method according to Dutch RAW standard 2000, test 4.4

The set with the equipment for the core cutter method is used for other applications as the soil sample ring kits described before. The set is especially used for works of civil engineering construction.

The core cutter method is used for the determination of the density and the soil moisture content of embankment- or foundation material accoring to the Dutch RAW-standard 2000.

With a drop weight and a guide cylinder a special stainless steel sample ring, with a diameter of 95.7 x 102 mm and a height of 81.5 mm, is hammered into the soil surface.

The sampled material is transported to the laboratory, where after weighing and drying, the density and soil moisture content is determined.

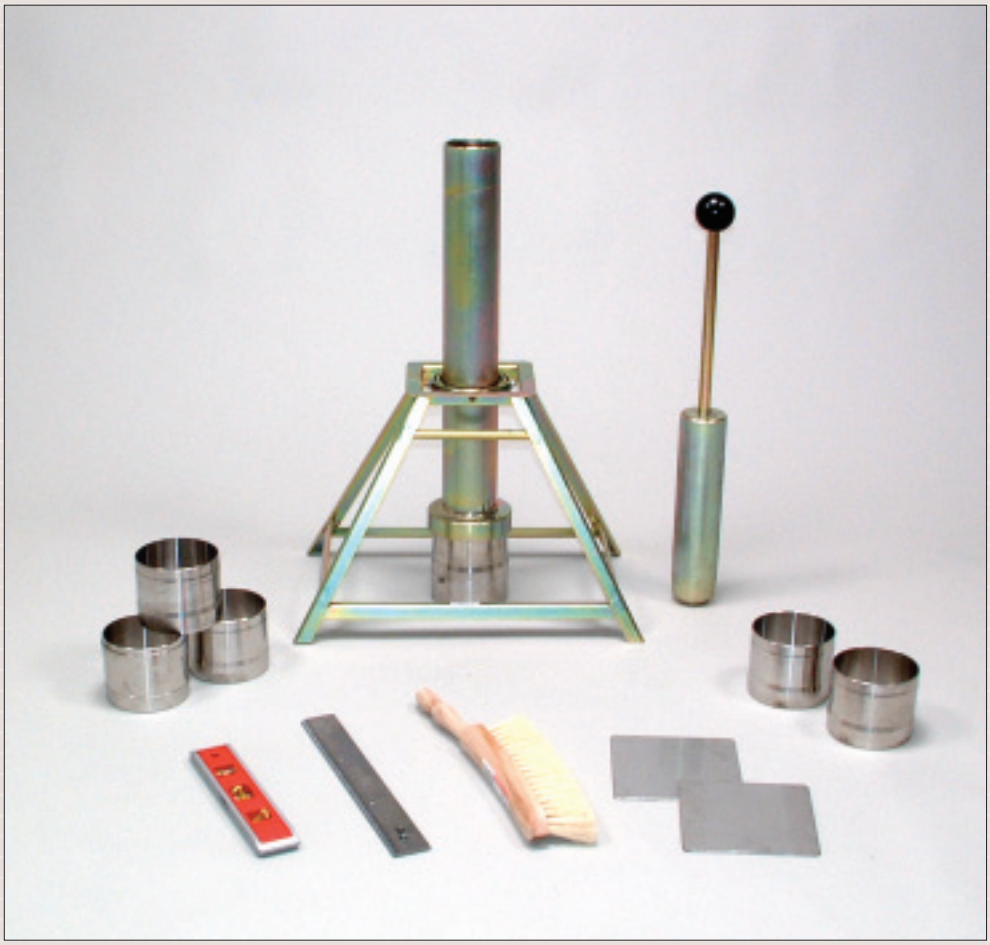
The standard set includes (according to RAW-2000, test 4.4): a stainless steel sample ring with cutting edge for non-cohesive material and one for clay and clayey light gravely sand, a collar for the sample ring, a guide cylinder for the drop weigth, a drop weight, a frame for the guide cylinder a steel rule , a flat stainless steel plate, a flat brush and a water level.

Note: the core cutter method is only suited for material without stones.

BENEFITS

08.09 Core cutter method

- Takes very large undisturbed samples
- Stainless steel cutting rings
- Used for density measurements and others



Core cutter method according to Dutch RAW standard

Art.no.	Description	Qty. in set
P1.31	**Soil sample ring kits**	
	Three types of sample ring kits are supplied for the collection of undisturbed soil samples in sample rings: **- Sample ring kits with the postfix SA for sampling in soft soils above the groundwater level** **- Sample ring kits with the postfix SC for sampling in virtually all soils (also under the groundwater level)** **- Sample ring kit with the postfix SE for sampling in very hard soils (also under the groundwater level)**	
07.53.SA	**Sample ring kit model A, standard set to a depth of 2 m. For soil sample rings Ø 53 mm**	
**01.10.17.B	Handle, normal, 60 cm, with all synthetic, detachable grip (incl. coupling sleeve), bay.	1
**01.02.02.07.B	Edelman auger, bottom part, comb.type, bay., Ø 7 cm	1
**01.04.00.07.B	Riverside auger, bottom part, bay., Ø 7 cm	1
**07.03.01.53.B	Open ring holder, bottom part, for rings Ø 53x50 mm,bay	1
**01.10.06.B	Extension rod, 50 cm, (incl. 2 coupling sleeve), bay.	2
**07.01.53.NN	Aluminium case with 24 soil sample rings, Ø 53x50 mm height 51 mm, contents 100 cc max. deviation less than 0.5 %, incl. 48 plastic covers Ø 53 mm (rings numbered 1 to 24)	1
**07.00.01	Cylindrical brush, Ø 65 mm	1
**07.00.00	Carrying bag for field equipment with handgrip, Ø 20x77 cm	1
07.60.SA	**Sample ring kit model A, standard set to a depth of 2 m. For soil sample rings Ø 60 mm**	
**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
**01.04.00.08.B	Riverside auger, bottom part, bay., Ø 8 cm	1
**07.03.01.60.B	Open ring holder, bottom part, for rings Ø 60x56 mm, bay.	1
**01.10.06.B	Extension rod, 50 cm, (incl. coupling sleeve), bay.	2
**07.01.60.NN	Aluminium case with 24 soil sample rings, Ø 60x56 mm, height 40.5 mm, contents 100 cc, max. volume deviation 0.5 %, incl. 48 plastic covers Ø 60 mm (rings numbered 1 to 24).	1
**07.00.01	Cylindrical brush, Ø 65 mm	1
**07.00.00	Carrying bag for field equipment with handgrip, Ø 20x77 cm	1
07.53.SC	**Sample ring kit model C, standard set to a depth of 2 m. For soil sample rings Ø 53 mm**	
**01.10.11.C	Handle, short, 10 cm, with beating head, c.sc.	1
**01.02.02.07.C	Edelman auger, bottom part, comb.type, c.sc., Ø 7 cm	1
**01.04.00.07.C	Riverside auger, bottom part, c.sc., Ø 7 cm	1
**07.03.02.53.C	Closed ring holder, bottom part, for rings Ø 53x50 mm, incl. spare parts, c.sc.	1
**07.03.02.53	Spare cutting shoe for closed ring holder, Ø 53 mm	1
**07.05.01.53	Hammering head for rings, Ø 53x50 mm	1
**07.05.02.53	Guide cylinder for rings, Ø 53x50 mm	1
**04.05.05	Steel hammer with nylon heads, Ø 70 mm, 2 kg, impact absorbing design	1
**01.10.13.C	Extension rod, 50 cm, c.sc.	4
**07.01.53.NN	Aluminium case with 24 soil sample rings, Ø 53x50 mm, height 51 mm, contents 100 cc max. deviation less than 0.5 %, incl. 48 plastic covers Ø 53 mm (rings numbered 1 to 24)	1
**04.05.01.20	Bent spatula, breadth 20 mm	1
**99.50.22	Spanner 20x22 mm	2
**07.00.01	Cylindrical brush, Ø 65 mm	1
**01.11.04	Field data registration set	1
**07.00.00	Carrying bag for field equipment with handgrip, Ø 20x77 cm	1
07.60.SC	**Sample ring kit model C, standard set to a depth of 2 m. For soil sample rings Ø 60 mm**	
**01.10.11.C	Handle, short, 10 cm, with beating head, c.sc.	1
**01.02.02.08.C	Edelman auger, bottom part, comb.type, c.sc., Ø 8 cm	1
**01.04.00.08.C	Riverside auger, bottom part, c.sc., Ø 8 cm	1
**07.03.02.60C	Closed ring holder, bottom part, for rings Ø 60x56 mm, incl. spare parts, c.sc.	1
**07.03.02.60	Spare cutting shoe for closed ring holder, Ø 60 mm	1
**07.05.01.60	Hammering head for rings, Ø 60x56 mm	1
**07.05.02.60	Guide cylinder for rings Ø 60x56 mm	1
**04.05.05	Steel hammer with nylon heads, Ø 70 mm, 2 kg, impact absorbing design	1
**01.10.13.C	Extension rod, 50 cm, c.sc.	4
**07.01.60.NN	Aluminium case with 24 soil sample rings, Ø 60x56 mm, height 40.5 mm, contents 100 cc, max. volume deviation 0.5%, incl. 48 plastic covers Ø 60 mm (rings numbered 1 to 24)	1
**04.05.01.20	Bent spatula, breadth 20 mm	1
**99.50.22	Spanner 20x22 mm	2
**01.11.04	Field data registration set	1
**07.00.01	Cylindrical brush, Ø 65 mm	1
**07.00.00	Carrying bag for field equipment with handgrip, Ø 20x77 cm	1
07.84.SC	**Sample ring kit model C, standard set to a depth of 2 m. For soil sample rings Ø 84 mm**	

PARTS LIST

Art.no.	Description	Qty. in set
**01.10.11.C	Handle, short, 10 cm, with 1 beating head, c.sc.	1
**01.02.02.10.C	Edelman auger, bottom part, comb.type, c.sc., Ø 10 cm	1
**01.04.00.10.C	Riverside auger, bottom part, c.sc., Ø 10 cm	1
**07.03.02.84.C	Closed ring holder, bottom part, for rings Ø 84x80 mm, incl. spare parts, c.sc.	1
**07.03.02.84	Spare cutting shoe for closed ring holder, Ø 84 mm.	1
**07050184	Hammering head for rings, Ø 84x80 mm	1
**07.05.02.84	Guide cylinder for rings, Ø 84x80 mm	1
**04.05.05	Steel hammer with nylon heads, Ø 70 mm, 2 kg, impact absorbing design	1
**01.10.13.C	Extension rod, 50 cm, c.sc.	4
**07.01.84.NN	Aluminium case with 10 soil sample rings, Ø 84x80 mm, height 50 mm, contents 250 cc, max. volume deviation 3 %, incl. 20 plastic covers Ø 84 mm (rings numbered 1 to 10)	2
**04.05.01.20	Bent spatula, breadth 20 mm	1
**99.50.22	Spanner 20x22 mm	2
**01.11.04	Field data registration set	1
**07.00.01	Cylindrical brush, Ø 65 mm	1
**07.00.00	Carrying bag for field equipment with handgrip, Ø 20x77 cm	1
**07.53.SE	**Sample ring kit model E, with heavy duty sample ring holder for sampling in hard soils. Standard set for a depth of 2 m. For soil sample rings Ø 53 mm.**	
**01.10.11.C	Handle, short, 10 cm, with beating head, c.sc.	1
**01.02.02.07.C	Edelman auger, bottom part, comb.type, c.sc., Ø 7 cm	1
**01.04.00.07.C	Riverside auger, bottom part, c.sc., Ø 7 cm	1
**07.03.03.53.C	Closed ring holder, heavy design, bottom part, for rings Ø 53x50 mm, incl. spare parts, c.sc.	1
**07.03.03.53	Spare cutting shoe for closed ring holder, heavy design, Ø 53 mm	1
**07.05.01.53	Hammering head for rings, Ø 53x50 mm	1
**07.05.02.53	Guide cylinder for rings, Ø 53x50 mm	1
**04.05.05	Steel hammer with nylon heads, Ø 70 mm, 2 kg, impact absorbing design	1
**01.10.13.C	Extension rod, 50 cm, c.sc.	4
**07.01.53.NN	Aluminium case with 24 soil sample rings, Ø 53x50 mm height 51 mm, contents 100 cc max. deviation less than 0.5 %, incl. 48 plastic covers Ø 53 mm (rings numbered 1 to 24)	1
**04.05.01.20	Bent spatula, breadth 20 mm	1
**99.50.22	Spanner 20x22 mm	2
**07.00.01	Cylindrical brush, Ø 65 mm	1
**01.11.04	Field data registration set	1
**07.00.00	Carrying bag for field equipment with handgrip, Ø 20x77 cm.	1

Art.no.	Description	Qty. in set
	Soil sample rings	
	Soil sample rings are supplied in standard cases. The rings in the cases are provided withnumbers 1 to 24 (NN), special numbers (SN), or without numbers (ZN).	
07.01.53.NN	Aluminium case with 24 soil sample rings, Ø 53x50 mm height 51 mm, contents 100 cc max. deviation less than 0.5 %, incl. 48 plastic covers Ø 53 mm (rings numbered 1 to 24)	
07.01.53.SN	Aluminium case with 24 soil sample rings, Ø 53x50 mm, height 51 mm, contents 100 cc, max. deviation less than 0.5 %, incl. 48 plastic covers Ø 53 mm, rings with special numbering	
07.01.53.ZN	Aluminium case with 24 soil sample rings, Ø 53x50 mm, height 51 mm, contents 100 cc, max. deviation less than 0.5 %, incl. 48 plastic covers Ø 53 mm, rings not numbered	
07.01.60.NN	Aluminium case with 24 soil sample rings, Ø 60x56 mm, height 40.5 mm, contents 100 cc, max. volume deviation 0.5 %, incl. 48 plastic covers Ø 60 mm (rings numbered 1 to 24).	
07.01.60.SN	Aluminium case with 24 soil sample rings, Ø 60x56 mm, height 40.5 mm, contents 100 cc, max. volume deviation 0.5 %, incl. 48 plastic covers Ø 60 mm, rings with special numbering	
07.01.60.ZN	Aluminium case with 24 soil sample rings, Ø 60x56 mm, height 40.5 mm, contents 100 cc, max. volume deviation 0.5 %, incl. 48 plastic covers Ø 60 mm, rings not numbered	
07.01.84.NN	Aluminium case with 10 soil sample rings, Ø 84x80 mm, height 50 mm, contents 250 cc, max. volume deviation 3 %, incl. 20 plastic covers Ø 84 mm (rings numbered 1 to 10)	
07.01.84.SN	Aluminium case with 10 soil sample rings, Ø 84x80 mm, height 50 mm, contents 250 cc, max. volume deviation 3 %, incl. 20 plastic covers Ø 84 mm, rings with special numbering	
07.01.84.ZN	Aluminium case with 10 soil sample rings, Ø 84x80 mm, height 50 mm, contents 250 cc, max. volume deviation 3 %, incl. 20 plastic covers Ø 84 mm, rings not numbered	
	Individual rings with covers and cases.	
07.01.01.53	Stainless steel soil sample ring, Ø 53x50 mm, height	

Art.no.	Description	Qty. in set
	51 mm, contents 100 cc, max. volume deviation 0.5 %, not numbered	
07.01.05.53	Stainless steel soil sample ring, Ø 53x50 mm, height 51 mm, contents 100 cc, max.volume deviation 0.5 %, with special numbering	
07.01.01.60	Stainless steel soil sample ring, Ø 60x56 mm, height 40.5 mm, contents 100 cc, according to DIN 19672 - Form Q1, max. volume deviation 0.5%, not numbered	
07.01.05.60	Stainless steel soil sample ring, Ø 60x56 mm, height 40.5 mm, contents 100 cc, according toDIN 19672 - Form Q1, with special numbering	
07.01.05.60	Stainless steel soil sample ring, Ø 84x80 mm, height 50 mm, contents 250 cc, max. volume deviation 3%, not numbered	
07.01.05.84	Stainless steel soil sample ring, Ø 84x80 mm, height 50 mm, contents 250 cc,with special numbering	
07.01.02.53	Cap, natural PE, Ø 53 mm	
07.01.02.60	Cap, natural PE, Ø 60 mm	
07.01.02.84	Cap, natural PE, Ø 84 mm	
07.01.03.53	Aluminium cover, Ø 54 mm	
07.01.03.60	Aluminium cover, Ø 61 mm	
07.01.03.84	Aluminium cover, Ø 85 mm	
07.02.01	Aluminium case for 24 soil sample rings Ø 53 mm or 10 soil sample rings Ø 84 mm	
07.02.02	Aluminium case for 24 soil sample rings, Ø 60 mm	
	Ring holders	
	Ring holders are supplied in two types viz. open and closed ring holders (with B = bayonet connection and with C = conical threated connection).	
07.03.01.53.B	Open ring holder, bottom part, for rings Ø 53x50 mm,bay	
07.03.01.60.B	Open ring holder, bottom part, for rings Ø 60x56 mm, bay.	
07.03.02.53.C	Closed ring holder, bottom part, for rings Ø 53x50 mm, incl. spare parts, c.sc.	
07.03.03.53.C	Closed ring holder, heavy design, bottom part, for rings Ø 53 x 50 mm, incl. spare parts, c.sc.	
07.03.02.60.C	Closed ring holder, bottom part, for rings Ø 60x56 mm, incl. spare parts, c.sc.	
07.03.02.84.C	Closed ring holder, bottom part, for rings Ø 84x80 mm, incl. spare parts, c.sc.	
07.03.02.53	Spare cutting shoe for closed ring holder, Ø 53 mm	
07.03.03.53	Spare cutting shoe for closed ring holder, heavy design, Ø 53 mm	
07.03.02.60	Spare cutting shoe for closed ring holder, Ø 60 mm	
07.03.02.84	Spare cutting shoe for closed ring holder, Ø 84 mm	
	Handles and extension rods to be used with ring holders. (with B = bayonet connection and with C = conical threated connection).	
01.10.01.B	Handle, normal, 60 cm, bay. (incl. coupling sleeve)	
01.10.06.B	Extension rod, 50 cm, (incl. coupling sleeve), bay.	
01.10.07.B	Extension rod, 100 cm (incl. coupling sleeve) bay.	
01.10.10.01.C	Handle, normal, 60 cm, c.sc.	
01.10.11.C	Handle, short, 10 cm, with beating head, c.sc.	
01.10.12.C	Extension rod, 100 cm, c.sc.	
01.10.13.C	Extension rod, 50 cm, c.sc.	
	Hammering head with guide cylinder	
	Depending on the Ø of sample ring you may choose the corresponding hammering head and belonging guide cylinder.	
07.05.01.53	Hammering head for rings, Ø 53x50 mm	
07.05.01.60	Hammering head for rings, Ø 60x56 mm	
07.05.01.84	Hammering head for rings, Ø 84x80 mm	
07.05.02.53	Guide cylinder for rings, Ø 53x50 mm	
07.05.02.60	Guide cylinder for rings, Ø 60x56 mm	
07.05.02.84	Guide cylinder for rings, Ø 84x80 mm	
	A very special sample ring kit is the Dutch core cutter method	
08.09	**Core cutter method, according to Dutch RAW-standard 2000, test no. 4.4**	
**08.09.01	Stainless steel sample ring, Ø 95.7x102 mm, height 81.5 mm, cutting edge according to RAW-2000/4.4 for non-cohesive material	3
**08.09.11	Stainless steel sample ring, Ø 95.7x102 mm, height81.5 mm, cutting edge according to RAW-2000/4.4 for clay and clayey light gravely sand	3
**08.09.02	Collar for sample ring	1
**08.09.03	Guide cylinder for drop weight	1
**08.09.04	Drop weight 6.0 kg	1
**08.09.05	Frame for guide cylinder	1
**08.09.09	Steel ruler (without graduation), with cutting edge	1
**08.09.07	Flat stainless steel plate	2
**08.09.08	Flat brush, length 35 cm	1