Soil corer for volatiles

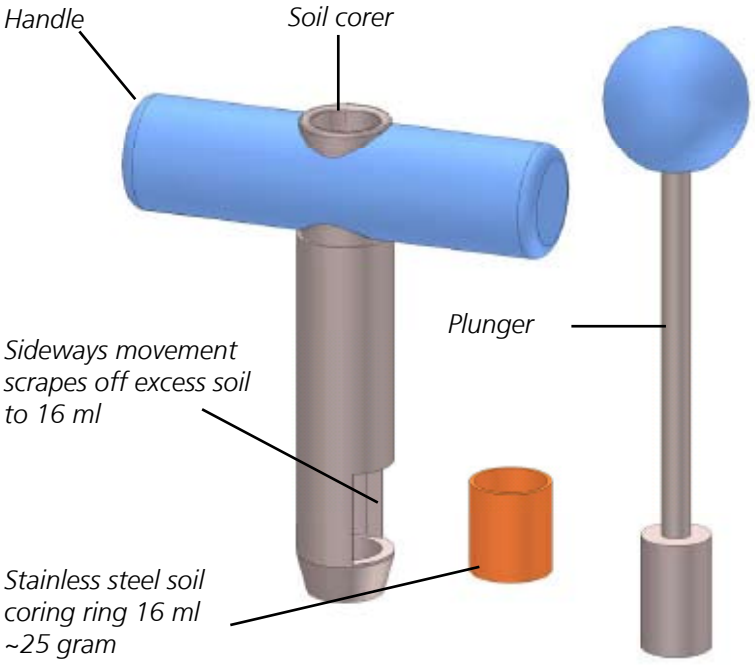
04.10 No-loss on-site soil corer for soil with volatile components

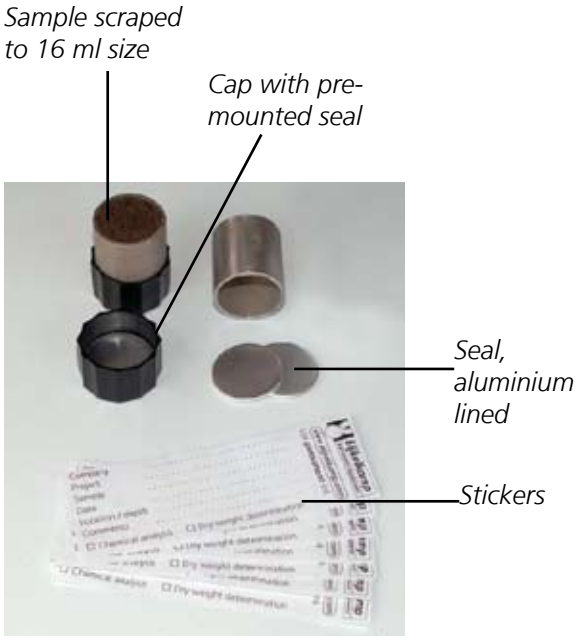
➔For methanol method
➔For cooling method

- Soil is sampled above ground from any regular soil sampler or auger
- 16 ml (~25 grams) stainless steel soil coring rings can be used over and over
- Smart but simple feature scrapes sample to an exact volume of 16 ml (~25 grams).
- Coring ring not damaged by stones; device can be hammered
- Corer and rings can be field sterilized with a flame for biological activity samples.
- Takes sample not at, but just below the ambient air exposed surface
- Plunger to push out sample (methanol method or in laboratory)
- Easy decontamination of coring rings in dish-washer or with flame
- PET lined aluminium seals prevent sorption and diffusion; no trapped air (cooling method)
- Close fit glass jars have teflon lined seals for field (methanol method) or laboratory extraction (cooling method).

Methanol and sodiumthiosulphate method acc. to US-EPA 5035A-2002 + ~ISO 18512	**Cooling or freezing methods according to US-EPA 5035A-2002, ~Dutch NEN 5743 and ISO 22155 and 15009 (currently in review stage)**
No disposables except glass jar. All other parts can be used over and over*.	Sample packed in diffusion and sorption proof stainless steel ring with diffusion proof seals.
	Cheap consumables (PE caps with seals and a sticker; PE bag; glass jar (in the lab))
	Small weight → Rapid cooling → little waste → no methanol in the field

* If concentrations are reported without moisture correction factor ("As received")





All it takes for **environmental** research

Eijkelkamp Agrisearch Equipment

Procedures (more details in the manual)

Methanol-or sodiumthiosulphate method (US-EPA 5035A-2002 + ~ ISO 18512):

- After pre-filling the glass jar with methanol (or sodiumthiosulphate for low concentrations) the sampler is pushed in an above ground larger sample (from an auger or a coring device). By pushing the 16 ml sample ring sideways out of the sampler the sample is scraped off to a volume of 16 ml which is at least 25 grams. After having removed excess soil from the sampler the ring is pushed back in the sampler body. Then, with the plunger, the 16 ml of soil is expelled into the glass jar and capped. Alternatively the entire filled coring ring can be slipped into the glass jar. If the results must be expressed related to dry matter another sample is taken in another coring ring or larger glass jar and send to the laboratory too. Stickers allow marking the sample for analysis on volatiles or dry matter.

Cooling or freezing method (US-EPA 5035A-2002, + current ~ NEN5743, ~ ISO22155 and 15009 (check the review stage prior to use!):

- The sampler is pushed in an above ground larger sample (from an auger or a larger coring device). By pushing the 16 ml sample ring sideways out of the sampler the sample is scraped off to a volume of 16 ml which is at least 25 grams. The sample ring is capped and put in a small plastic bag. Then a sticker (included) is put on the bag. A box can be ticked that indicates that the laboratory should analyse this sample on volatiles. If the results must be expressed related to dry matter** another sample is taken in another coring ring or larger glass jar and send to the laboratory too. Stickers allow marking the sample for analysis on volatiles or dry matter. The laboratory may have extra bar-coded stickers for you to put on the plastic bag or jar.
- Cool (up till 48 hrs) or freeze (up till 2 weeks) the filled ring, prior to extraction in the laboratory. For laboratory extraction the lab should use the close fit 100 ml glass wide mouth jar with inert seal supplied with the set (separately available in large quantities). There the sampler body and plunger is used to transfer the sampler from the ring into the glass jar for extraction and subsequent analysis. You may consider buying an extra sampler and plunger if you want to keep the field and lab equipment separated.

** Not necessary if concentrations can be reported on an "As received" basis so without moisture weight correction. Consult lab and guidelines for more info.