Vertical sequence water sampling device

Innovative vertical sequence water sampler for drilled wells or water bodies

**Status quo**

Drilled wells are often quite deep and in remote areas. It's difficult to obtain proper internal groundwater samples. Also, the possibilities to obtain full cross-sections of surface water sample are difficult. In situ sampling with layflat tube can be used for sampling and also for sample transport. The sampling device, however, suffers the disadvantage of certain limited depths and intervals.

**Our technology: Flexible, plastic layflat tubing**

The invention is composed of a plastic layflat tubing having a foot valve at the lower end. When lowering it into the water the tubing will be filled. The plastic layflat tubing preserves the vertical properties of the water column for later analysis. The foot valve avoids the outflowing of the water during pulling back. Due to its simple construction, the amount of equipment for field work is minimal. After taking the sample the sampling tube can later be cut into sections, sealed and used for sample transport.

**Benefits**

- The whole cross-section can be sampled with one-time action
- Amount of samples can be varied according to the needs
- No need for sampling bottles: tubing can be cut into desired sections and used for sample transport.

**Current stage of development**

Technology-Readiness-Level (TRL): Level 3

**Application possibilities**

The invention addresses any companies producing surface water, groundwater or environmental monitoring equipment.

**Intellectual property situation**

The presented technology is protected by intellectual property rights.

**Commercialization opportunities**

We are looking for industry partners who are interested in using the technology. If there is any need for further development, a close cooperation between the industry partner and TU Darmstadt is possible.

**Your contact partner**

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