

Sorbisampler

Intelligent passive sampler for measurement of water quality in drain pipes and waste water

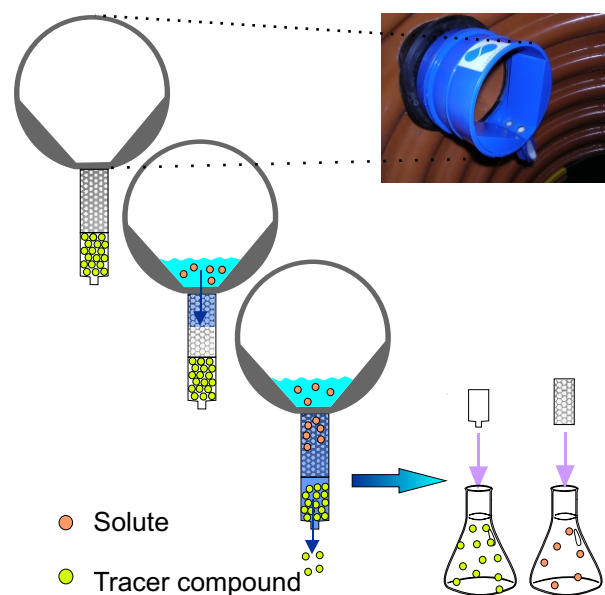
Reliable on-site monitoring is now easy and affordable!

How does it work?

The patent-pending technology can be described as a "smart filter" based on state-of-the-art nanomaterials. The filter holder is installed in an inspection well (see picture) and puts porous cartridges (Sorbicells) in capillary contact with the pipe, sampling a small flow-proportional fraction of the effluent stream. The Sorbicell performs two functions:

1. Optimized adsorbents capture the mass (M) of a predefined chemical family of compounds, and
2. Sparingly soluble and non-toxic tracer substances record the volume (V) of water passing the filter.

The sampler is removed and analyzed by routine lab methods for the accumulated solute mass M and remaining tracer. The result is a time- and flow-averaged solute concentration, a reliable and cost-effective passive sampling method suited to nutrients (NO_3 , Po_4), but also priority pollutants, including pesticides, persistent organic pollutants, volatile organic compounds, and heavy metals.



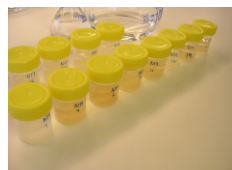
Advantages

Water quality monitoring is traditionally achieved by "grab sampling", i.e. taking concentration snapshots at given intervals in time. But when concentrations vary strongly with time, many samples must be taken to characterize that dynamic situation, and each sample demands human involvement. Sorbisense products enable the user to obtain accurate time- and flow-averaged concentrations with fewer chemical analyses, minimal labor, and lower cost. The sampler is easily installed and needs no maintenance. There is no need for handling liquid samples, pre-pumping, electricity or vacuum like conventional liquid sampling equipment. The method is compatible with standard laboratory extraction and detection methods.



Company profile

Sorbisense is a spin-off company from the Danish Institute of Agricultural Sciences and was founded in 2004 by the inventors, Dr. Hubert de Jonge and Dr. Gadi Rothenberg. Sorbisense has a strong R&D profile with expertise in the fields of environmental and material chemistry. With our unique expertise we are able to advise our customers both on the application level and the scientific level¹.



¹ de Jonge and Rothenberg, Env. Sci. Technol., 2005, 39, 274-282.