

-4H-Active & Passive Samplers



FLEXIBLE WATER SAMPLING FOR MARINE BIOLOGISTS

Precision screening and monitoring for marine organisms as well as organic and inorganic pollutants

Deploying a unique design which pumps water through filters to determine mass flow, -4H-Active water samplers are the perfect platform to optimize diverse research streams by enabling the ability to collect samples from larger areas for longer periods of time. Further, -4H-Passive samplers have a choice of foils for i.e., sampling metals, sediment or hormones, ensuring that marine biologists can do more with less equipment, including screen for microplastics qualitatively.

OPERATING PRINCIPLE

The -4H-JENA Active Sampler is a specially designed flow-through tube array that includes a set of sieves or nets with different mesh sizes. Both system principles can be combined in one array for simultaneous active and passive sampling. The -4H-JENA Passive Sampler is a flow-through tube array, which can be equipped with different receiving membranes (e.g., diffusive gradients in thin films, low-density polyethylene or silicone rubber strips).

Sampler tubes can be cascaded from one to as many as required. They are flushed with sea water through a separate water system or the outlet of the -4H FerryBox water system. -4H-JENA Active and Passive Samplers are controlled by the dedicated -4H-FerryBox PC, but a stand-alone PC can be provided if this is not available.

CUSTOM PROJECTS

We support customers to configure Active and Passive Samplers to their exact requirements with the number of tube units, volume, physical size, connectors, and material all selected to deliver the highest performance for the specific application. Further variables include:

- Number of sieves installed
- Mesh size of sieves for cascaded sampling
- Mesh size for plankton nets

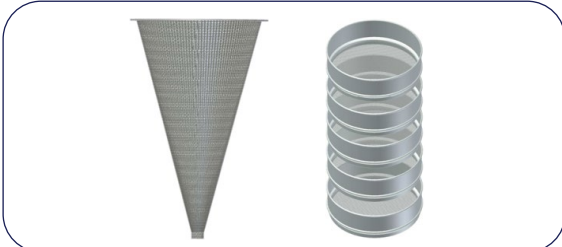
-4H-Active & Passive Samplers

APPLICATIONS

-4H-Active and Passive samplers are a comprehensive toolset for marine biologists to test important water quality parameters.

Active sampling:

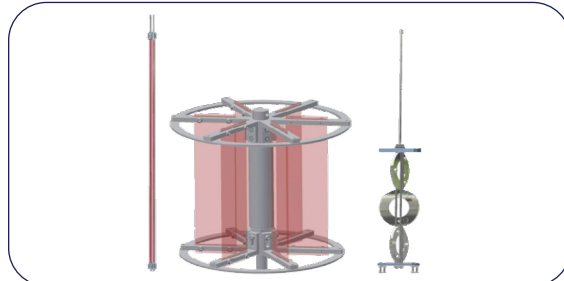
- Screening for Phytoplankton
- Screening for Zooplankton
- Fractionated sampling of suspended matter



Active sampling insets such as cylindrical nets and cascaded sieves with different mesh sizes

Passive sampling:

- Monitoring organic water pollutants
- Monitoring inorganic water pollutants



Different passive sampling holders for silicone rubber strips, low density polyethylene and diffusive gradients in thin films

FEATURES

- Combined sampling of both dissolved and particulate matter
- Selection of active foils (e.g., thin-layer film gels (DGT)) for passive sampler tubes
- Sequential sampling in tube arrays enable pollutant tracking during research cruises
- Unique Passive Sampler flow-meter enables post-sampling concentration calculations
- High internal currents and convections prevent boundary layer formation on foil surface

SOFTWARE

Both Active and Passive samplers are easily managed using innovative software controlled sampling modes, including:

- Automatic stop after a defined volume (for example 18.000 l)
- Sampling over a fixed time period
- GPS position control to start and stop in pre-selected areas
- Set 'no sampling' zones to avoid contamination using GPS position control
- Automatic stop when nets/filters are full or blocked (water level detection)
- Sampling volume data available in every operational mode



-4H-JENA engineering provides the software for volume, time or GPS position-controlled sampling

CONTACT -4H-JENA

Get in touch to find out how -4H-Active and Passive Water Samplers can secure your ability to screen and monitor organic and inorganic matter in water.

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CONTACT YOUR LOCAL REPRESENTATIVE

The -4H-Active and Passive Water Samplers enable climate researchers to contribute towards meeting the United Nations Sustainable Development Goals.

