

Cryogenic Air Sampler (Model CAS-02)

Reference Only

Outline of "CAS-02"

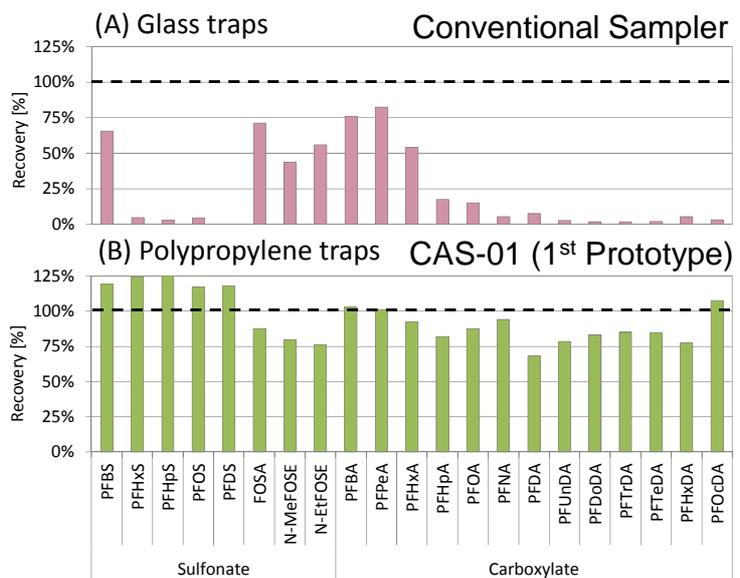
The **Cryogenic Air Sampler (Model CAS-02)** is a device to collect both gases of high/low boiling points and particle matters in the air simultaneously. It is also designed with a new concept to effectively sample Fluorinated organic toxic substances (such as PFOS, which sets the limitation of collection rate by the conventional methods) and light/temperature sensitive Brominated flame retardant (such as PBDEs) at the same time.



Cryogenic Air Sampler, Model CAS-02



The photo shows the sampling location for validation of the CAS-02 in China



The figure shows the recoveries of PFASs analysis using the conventional sampler of glass traps (A) and the first prototype the CAS-01 of polypropylene traps (B) used for the Antarctic Ocean survey.

Applications

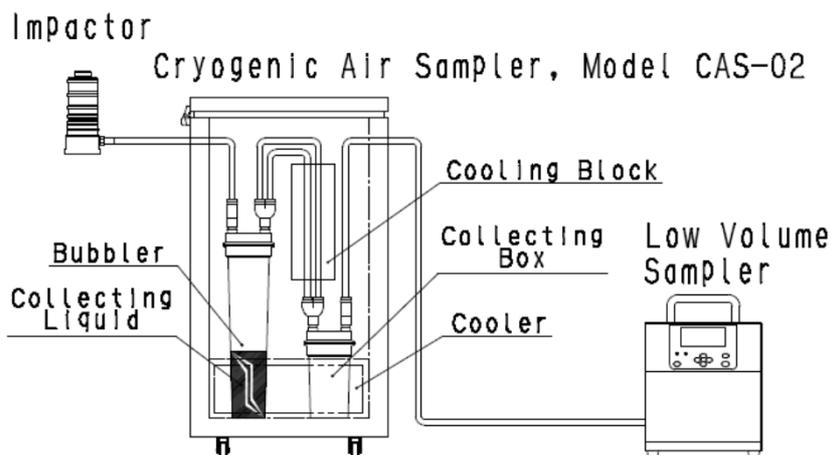
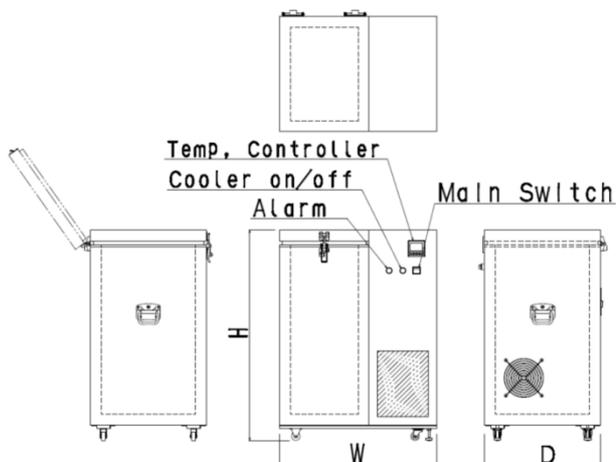
- A sampler can collect different types of chemicals ranging from high & low-boiling gases (e.g., VVOC, VOC, SVOC) to particle matter (e.g., POM, PM10, PM2.5) in work environment and ambient air.
- A comprehensive air sampler when connected to a classifier impactor to collect hazardous air pollutant including both high & low-boiling gases and particle matters simultaneously.

Features

- **Comprehensive sampling device** - collect both particle matter and gaseous materials at the same time in one compact equipment.
- **Highly accurate fine analysis** - by using a functionalized resin, the CAS-02 is capable to sample fluorinated organic toxic substance and brominated flame retardant, which has been shown difficult to collect with current glass or Teflon based sampling methods.
- **LC-MS analysis ready** - direct measurement is ready without further extraction, because ambient chemicals are collected in freeze/liquid sample.
- **Highly portable** - the cooling part doesn't require optional coolant such as liquid-nitrogen.
- **Applicable to humid environment** – the CAS-02 does not require the removal of moisture in the atmosphere and can work in humid and foggy environment, but conventional samplers cannot.
- **Compliance with ISO methods** – the CAS-02 complies with ISO25101 (PFOS/PFOA) and on-going international standard of ISO method, TC147/SC2/WG74 "PFAS LC-MS/MS".

Dimension and components

Reference Only



Specifications

Setting temp. range	-20 to 0 °C
Display	Digital (°C)
Joint hose diameter	O. D. φ8 (inlet, decompression)
Safety function	Electrical leakage breaker (with overcurrent prevention)
Alarm function	Exhaust heat warning for excess heat increase, Sensor short circuit
Dimensions	460 (W) x 340 (D) x 625 (H) mm
Weight	19 kg
Power supply	AC 100V to 240V

The CAS-02 enable easy and complete collection of both particle and gas in atmosphere at the same time !!

* In this equipment development, SIBATA obtains the “development of whole matrix sampling equipment in the atmosphere using resin & metal combined technique” (2015-2017) with the support of strategic base technology advanced support business.

Specifications and appearance described in this document are based on information as of February, 2017. They are subjected to change without notice for improvement of the product.

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