

HAGUE 7000 - CARBONE 14 SAMPLER

Gas and Organic Carbon 14 monitoring, in compliance with NF M60-812-1 & NF M60-822-1 standards

The HAGUE 7000 14C sampler is the perfect instrument for measuring low levels of Carbon 14 in air in its gas and organic forms. Particular applications include sampling of air from stacks, hoods, rooms and the environment.



HAGUE 7000 - carbon 14 sampler

OPERATING PRINCIPLE

The HAGUE 7000 is widely used and recognised within the international nuclear industry, and in particular, nuclear power plants, nuclear research centers, radioactive waste treatment facilities and isotope laboratories.

The bubbler has been specifically designed with efficient 14C capture in mind, using a series of four vials, a cooling system and a catalytic furnace to collect carbon in both gaseous (CO₂ and CO) and organic (C) forms.

The 14C activity is measured in the collected sample on a daily, weekly or monthly basis with a liquid scintillation counter, and related to the sampled volume of air in order to calculate the 14C-in-air concentration. This gives an efficient way to monitor carbone 14 levels with a much higher sensitivity than even the most sophisticated real-time 14C monitor.

EXTENDED FEATURES

- Air flow regulated in SLPH, adjustable from 10 to 50 SL/H
- Standard temperature adjustable from 0 to 25°C
- Real time air flow regulation
- Oxidation furnace temperature adjustable from 200°C to 500°C
- Real time measurement and display of :
 - Air flow
 - Standard T°
 - Duration of sampling
 - Sampled volume
 - Cooling circuit T°
 - Furnace T°
- Duration and volume reset function before new sampling
- Alarms report
- Record of last 8 alarms with time stamp, downloadable via serial port

TRAPPING YIELD

- CO₂ : 100%
- Furnace efficiency : 94 % (CH₄ > CO₂ conversion)

Tests report GEA 12-2005

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BENEFITS

- Reduced evaporation thanks to the cooling system (typical T° in bottles : 7°C), allowing weekly collection
- Flow rate regulated in SLPH (standard T° can be set from 0 to 25°C)
- Membran air pump (long life time)
- Particulates filtration at inlet
- Aeraulic circuit made of stainless steel 316L
- Easy to use, with instant opening cabinet for retrieval of the 4 bubbling bottles
- Display of flow rate (SLPM) and sampled air volume in real time
- Alarms report
- Faults memorisation
- Low required space
- For atmospheric sampling on discharge stacks and in environment



Dynamic opening cabinet of HAGUE 7000

SPECIAL FEATURES

- Air flow meter calibrated with COFRAC certified air flow calibrator
- Oxidation furnace regulated at 450°C with platinum on alumine catalyst
- Cooling system regulated for maintaining a temperature of 7°C in the bubbling bottles (at 20°C ambient temperature)

TECHNICAL SPECIFICATIONS

- **Dimensions:** W x H x D = 700 x 356 x 270 mm
- **Required space:** W x H x D = 1000 x 600 x 530 mm
- **Weight :** 29 kg
- **Power :** 700 Watts max
- **Power supply :** 230 V / 50 Hz IEC plug (or 120 V / 60 Hz IEC plug)
- **Inlet and outlet :** Ø 6,4 mm
- **Temp (Operating) :** +2°C to +45°C
- **Temp (Storage) :** -5°C to +70°C
- **Electrical protection :** Differential circuit breaker (sensivity = 30mA)
- **Frame :** monocoque in aluminium alloy
- **Decontamination compliant housing paint**
- **Glass vials**
- **Delivered with power supply cable , four vials with caps, calibration certificates and user guide in english**



HAGUE 7000 installed in emission monitoring

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