

## HT ionix™ Tritium Bubblers



### Introduction

The range of bubblers HT ionix consists of trappers designed for monitoring levels of concentration of atmospheric tritium HTO (vapour) form and HT (gas).

The HT ionix bubblers adapt to all your control applications in stacks, ventilation systems, surveillance of premises or even environmental applications.

These devices meet the requirements of the standards NF M60-312-1 & M60-822-1.

Simple to use, light and strong, these bubblers offer some of the most advanced features, such as:

- Reduced sample volume
- Remote control via Modbus Ethernet
- Record conditions of measurement and faults

### Features

- High trapping efficiency
  - HT & HTO > 95%
  - Trapping efficiency validated in laboratory
- Simple and robust
  - Intuitive to use
  - Limited liquid loss
  - Fast and easy set up
  - Real-time leak detection
  - No undesirable condensation
- Easy maintenance
  - Small footprint
  - Easy decontamination
  - Light (weight < 15 kg) and rugged
  - Only one annual maintenance required
- Easy to use
  - Colour touch screen
  - Colour identification of bottles

# PYCKO SCIENTIFIC LIMITED

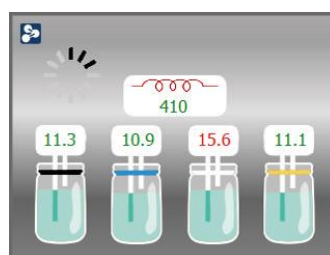
## General Characteristics

- The HT ionix bubblers are proposed in 2 versions:
  - The HT ionix 20 bubbler allows the sampling of vapour tritium (HTO)
  - The HT ionix 22 bubbler allows the sampling of vapour tritium (HTO) and gas (HT) after catalytic oxidation in a furnace

	HT IONIX 20	HT IONIX 22
<b>General characteristics</b>		
Overall dimensions	L 410 x H 315 x D 340 mm	L 510 x H 315 x D 340 mm
Weight	< 12 kg	< 15 kg
Power supply	100-240 Vac 50-60 Hz	100-240 Vac 50-60 Hz
Average power	100 W	460 W
Electrical protection	2A fuse	2A fuse
Digital outputs	6 outputs (flow, pump, cooling, electronic, proper functioning, state error)	6 outputs (flow, pump, cooling, electronic, proper functioning, state error, furnace)
Bottles volume	125 mL	125 mL
Recommended water volume	100 mL demineralised water	100 mL demineralised water
<b>Sampling circuit</b>		
Inlet filter	1 µm fiberglass	1 µm fiberglass
Gas I / O	6 mm Swagelok double ring connectors	6 mm Swagelok double ring connectors
Flow settings	Adjustable from 50 cc/min to 500 cc/min (3 L/h to 30 L/h)	Adjustable from 50 cc/min to 500 cc/min (3 L/h to 30 L/h)
Furnace temperature settings	N.A	450°C, max 700°C

## Operating conditions

- Use temperature: +2 to +48°C
- Storage temperature: -5°C to +70°C
- Humidity: < 95% (without condensation)
- Protection level: IP 40



## Software Interface

## **Specification**

### **Gas sample circuit:**

- Sampling circuit in stainless steel
- Flow regulation based on pressure drop
- Identification of the bottles in order to limit the risk of reversal
- Setting up and removal of flasks facilitated by a standard screw (GL 45)
- Filtration of particles to 1 microns through a front mounted easily interchangeable filter
- Mass flow meter, calibrated with a certified standard COFRAC Flow meter over the range 50 to 500 cc/min (3 to 30 L/h)
- Relative Humidity Compensation System
  - No condensation outside the bubbler
  - Water losses very limited in all bottles on long measurement
  - Period (1 month).

Reduced water sampling volume (from 60 mL) to limit the dilution of the sample

- Self-regulating catalytic oxidation furnace

### **Electronic control:**

- Colour touchscreen
  - Display of operating and sampling data (standard flow rate, sampling duration, volume sampled, temperature,...)
  - View the history of the operating states, real-time errors, sampling history,...
  - Possibility to reset the duration and the volume of sampling before each new measurement period on the main screen
- Light and sound alarm
- 4-20 mA input for external flowmeter
- Autotest at startup and during operation
- External beacon connector (additional beacon required)
- Modbus Ethernet link allowing remote visualization of faults and the status of operation
- Outputs for the transmission of faults (flow, pump, furnace, cooling, electronic, general failure)

Delivered with power supply cable, glass bottles, conformity certificate, user and maintenance manual, Modbus registers

Order References	
HTO tritium bubbler	HT IONIX 20
HT + HTO tritium bubbler	HT IONIX 22

Accessories	
Rolling table for 1 HT Ionix	HTI ACC TR1
Carrying basket for 8 bottles 125mL	HTI ACC PT8
Clamp alarm beacon	ACC BAL P
Fixed alarm beacon	ACC BAL F
Transport case with foam	HTI ACC PEL

Consumables	
Inlet sampling filter	HTI SP FPR
RHCS fan	HTI SP VHR
RHCS fan filter	HTI SP FHR
Case fan	HTI SP VBT
Case fan filter	HTI SP FBT
Pump	HTI SP PPE

Spare Parts	
Pack of 2 bottles	HTI SP 2FL
Pack of 4 bottles	HTP SP 4FL
RHCS head	HTI SP SCHR
Oxidation furnace	HTI SP FOX
DIP for 125 mL bottle	HTI SP TP125
PTH probe	HTI SP PTH
Flowmeter	HTI SP DEB
Gaskets kit (pack of 2)	HTI SP JNT
Fuses (pack of 2)	HTI SP FUS

Maintenance	
Annual maintenance kit without pump (FPR + FHR + FBT)	HTI MNT KIT
Annual maintenance kit with pump (FPR + FHR + FBT)	HTI MNT KIT PPE
Annual maintenance fee	HTI MNT ANN