MIRION TECHNOLOGIES

PREMIUM ANALYSE

C ionix™ - EXX

Installed Tritium Monitor

Installed tritium monitor for workplace monitoring, decomissioning, stack release or other applications.

FEATURES

- **High-performance**
  - Self-checking
  - Continuous measurement
  - Response time below 3 minutes
  - Integrated light and sound alarms
  - Detection of tritium from 10 kBq/m³ *(0.27 µCi/m³)*
  - Possibility for automatic γ compensation
- **Simple**
  - Ready to install
  - User-friendly interface
  - Transmission of alarms possible by dry contacts, Modbus Ethernet...
- **Easy maintenance**
  - Minimal intervention
  - Quick change components
  - Simple γ source verification of system

DESCRIPTION

The monitor C ionix measures continuous activity of tritium and other β emitters in gases for all applications of workplace monitoring, decomissioning, stack release or other applications.

Wall mounted, the C ionix monitor contains a complete, compact tritium monitoring channel that can be combined to a compensation channel.

The C ionix completes our range of monitors from the portable B ionix to the mobile M ionix by offering an installed solution ready to be connected in your plant.

As an option, the monitors can automatically compensate the γ environment due to a compensation detector that can be installed.

C IONIX - EXX | INSTALLED TRITIUM MONITOR

TECHNICAL CHARACTERISTICS

The C ionx - EXX monitors are available in several versions:
The versions below have been developed for continuous measurement of tritium activity and other β emitters in gases:

Measurement characteristics in laboratory conditions (given for tritium)	C IONIX - EXM Tritium measurement with manual gamma compensation	C IONIX - EXC Tritium measurement with automatic gamma compensation
Measurement range	2 kBq/m³ to 2 GBq/m³ *54 nCi/m³ to 54 mCi/m³*	2 kBq/m³ to 2 GBq/m³ *54 nCi/m³ to 54 mCi/m³*
Limit of detection (2σ) **= decision threshold** **Limit of detection (4σ)**	10 kBq/m³ *(0.27 µCi/m³)* 20 kBq/m³ *(0.54 µCi/m³)*	15 kBq/m³ *(0.41 µCi/m³)* 30 kBq/m³ *(0.81 µCi/m³)*
Precision	5% of the measurement ± 10 kBq/m³ *± 0.27 µCi/m³*	5% of the measurement ± 15 kBq/m³ *± 0.41 µCi/m³*
Maximum deviation	10 kBq/m³ / year *(0.27 µCi/m³)*	15 kBq/m³ / year *(0.41 µCi/m³)*
Noise (2σ)	± 10 kBq/m³ *(± 0.27 µCi/m³)*	± 15 kBq/m³ *(± 0.41 µCi/m³)*
Response time	< 3 mins at 90% of step	
Ionization chamber(s)		
Volume	4 200 cc	2 x 4 200 cc
Nominal flow	15 L/m	
Ionization voltage	160 VDC	

Operating conditions:

- Operating temperature: +0°C to +40°C *(+32°F to 104°F)*
- Influence of temperature: 0.3% /°C for a variation of the ambiant temperature < 3°C / hour
- Humidity: 5 to 95% rel.
- Influence of humidity: ± 1 % of the measurement from 10 to 90% of relative humidity
- Influence of atmospheric pressure: 0.1 %/mbar, hence ± 5 % of the measurement from 930 to 1030 mbar
- Protection index: IP 54

COMMON CHARACTERISTICS

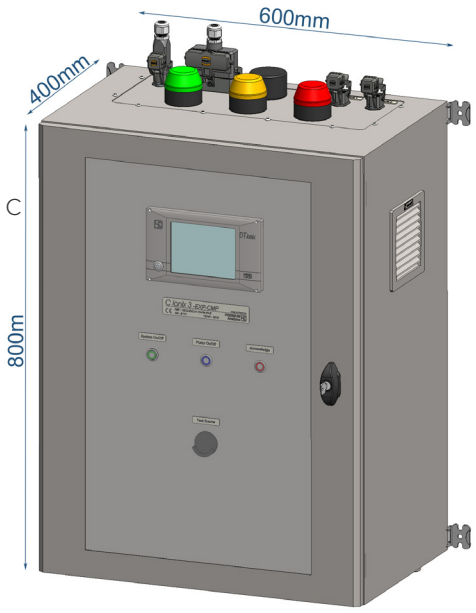
Each unit integrates a DT ionix 3 digital touch interface allowing local viewing of data through an intuitive menu:

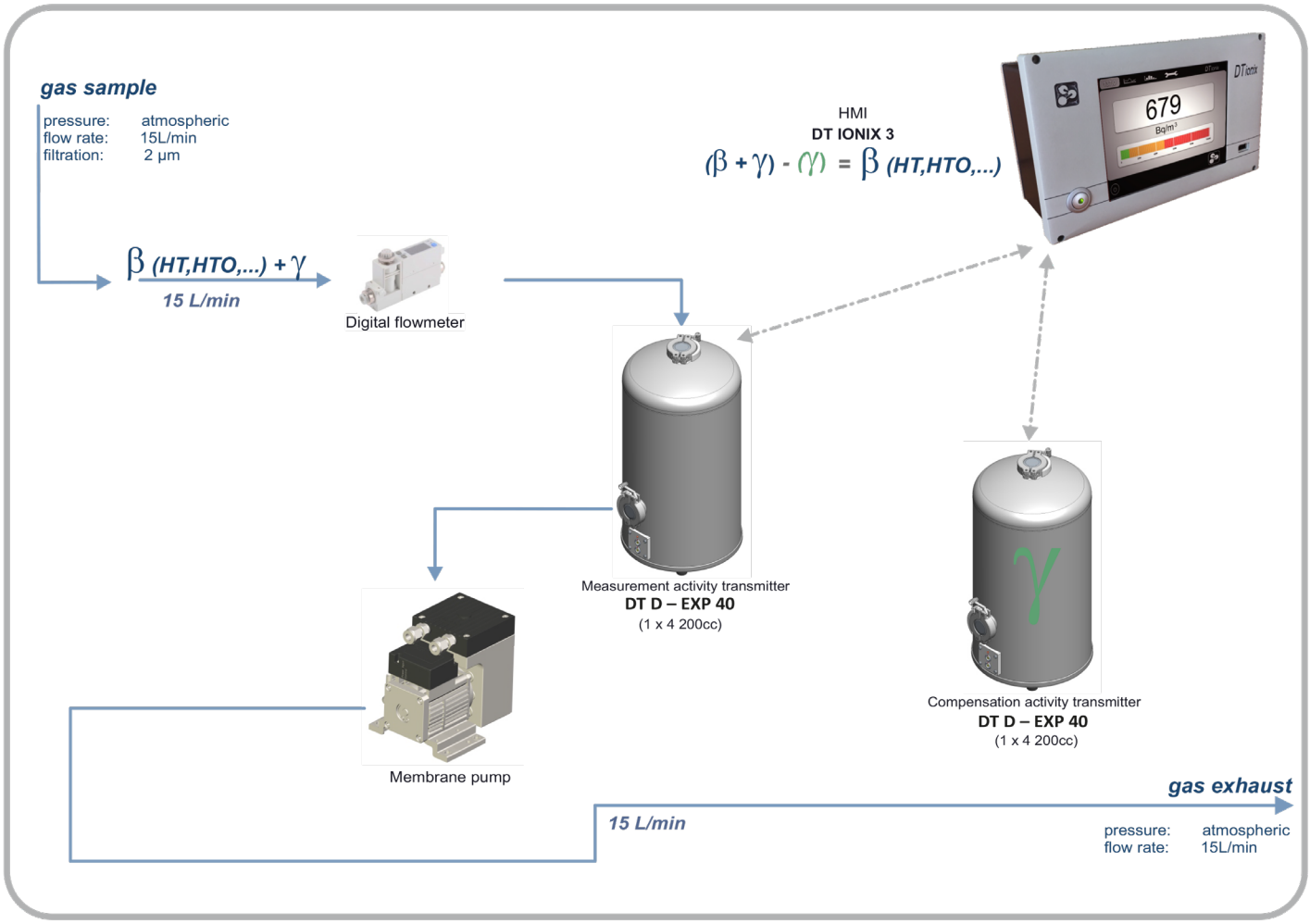
- 4 customizable alarm thresholds
- Digital display of volumetric activity
- Archiving of 32 days of measurements
- Data extraction and system update via USB stick
- Adjustment and monitoring of the flow rate with low flow detection possible
- Graphical plotting of measurements and alarm values from 8 minutes to 8 days
- Choice of volumetric activity among 15 units, with 4 customizable ones (Bq/m³, RCA, LPCA, Sv/m³...)
- Light and sound signals when pre-alarm (orange) and alarm (red) thresholds are exceeded, as well as default operation

POSSIBLE CONFIGURATIONS

- Overall dimensions (with lights): W 600 x H 800 x d 400 mm
- Weight (max.): 80 kg *(79 lb)*
- Power supply, max. power and electrical protection:
  - Option “2”: 24 VDC , 120W, 6A fuse
  - Option “V”: 85–264 VAC, 50/60 Hz, 120W differential circuit breaker 6A curve C

- Possible options:
  - Remote beacon connection
  - High leak proof (for BMM version)
  - Wall mounting on quick mounting plate
  - Measurement transmission via Modbus Ethernet (x2)
  - Gas I.O via self-sealing STAUBLI or Swagelok fittings
  - Process output with dry contact outputs, 4/20mA outputs...
  - Light and sound signals for alarms and good operation default





Fluid schematic for a C IONIX 3 - EXC

C IONIX - EXX | INSTALLED TRITIUM MONITOR

UNIT CONFIGURATION AND PART NUMBERS

	Monitor configuration & options	
Measurement	Manual gamma compensation Automatic gamma compensation	C IONIX - EXM - 0 - 00 - 00 - FA - F C IONIX - EXC - 0 - 00 - 00 - FA - F
Power distribution	24V power supply AC power supply	C IONIX - EXX - 2 - XX - XX - FA - F C IONIX - EXX - V - XX - XX - FA - F
Alarms	Without light and sound Local alarms (G / O / R + sound) Remote beacon connector	C IONIX - EXX - X - 0X - XX - FA - F C IONIX - EXX - X - YX - XX - FA - F C IONIX - EXX - X - XB - XX - FA - F
Connections	Process outputs (dry-contacts, 4-20mA, flow input) Modbus TCP-IP	C IONIX - EXX - X - XX - PX - FA - F C IONIX - EXX - X - XX - XM - FA - F
Label	English French	C IONIX - EXX - X - XX - XX - FA - E C IONIX - EXX - X - XX - XX - FA - F
Reference example	C ionix monitor full option with automatic gamma compensation	C IONIX - EXC - V - YB - PM - FA - F

Accessories	
2µ anti-dust filter + Staubli	ACC F2T S
2µ anti-dust filter + Silencer	ACC F2T
Installed alarm beacon	CX3 ACC BAL F
Gas connector with silencer	ACC ARG SIL
Gas connector for 8 mm hose	ACC ARG S08
Mobile support 1 C ionix - EXX	CEX3 ACC CHM 01

Consumables	
Maintenance kit for pump (*1/2)	SP KIT N838
Spare pump (*1/2)	CEX3 SP PPE
DT ionix axial fan (x1*)	SP 412F
DT ionix axial fan mounted on support (x1*)	SP 412F P
Cabinet fan (x1*)	SP 4314
IP55 filter (*2)	SP 60715 187
HEPA filter (*1)	SP CFL THE
2µ filter (*1)	SP 90F0002
O-ring (*1)	SP 90F0040
Flat seal (*1)	SP 90F0048

* quantity needed for annual maintenance of monitor

C IONIX 3 - EXC - V - YB - PM - FA - F

CONTACT US

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PREMIUM Analyse
always one idea ahead

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