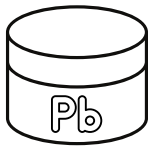


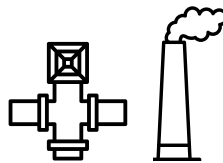


MISTRAL XM

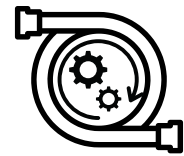
AIR ACTIVATION MONITORING SYSTEM



Extremely high sensitivity



Rooms and stack monitoring



Fully configurable work cycle

Lead well for 3 l
Marinelli geometry

Detector: NaI(Tl) 2"x2"
scintillator with MCA

Electrovalves for automatic
sampling of up to 8 rooms

Acquisition/processing SW,
display of energy spectra

Relays for external devices

MDA (F-18): < 1 Bq/l (300 s)

MISTRAL XM is a system designed to sample and monitor the gamma activity concentration resulting from air activation, in Marinelli geometry. In particular, **MISTRAL XM Rooms** is designed for free air monitoring, whereas **MISTRAL XM Stack** is used to monitor the air expelled from a chimney or a stack. In both cases, "X" indicates the number of sampling points: up to 8 (Rooms) or 1 (Stack).

The system is composed of:

- acquisition and processing unit: APU
- sampling and detection unit: SDU-XM

The APU is the main user interface with the system, and it consists in a panel PC mounted on a wheeled support.

The SDU-XM includes the NaI(Tl) detector with MCA, the system electronics, a lead shielding well, a pump for air sampling with a control flow meter, and an array of electrovalves (if needed). The system also manages the expulsion of the monitored air.

The accessory flow rate meter STACK-DFM can be included in the stack version, to calculate the specific activity of the expelled air volume.

The software installed on the PC displays in real time the measurement, controls the system status, and allows to set the operative parameters, such as the alarm thresholds. The user can define specific regions of interest (ROIs) and thus determine the specific activity (Bq/g) of the sampled air.

TECHNICAL SPECIFICATIONS

Sampling and detection unit

- Detector: 2"x2" NaI(Tl)
- MDA (F-18): < 1 Bq/l in 5 min measurement
- Energy range: 30 keV ÷ 2 MeV
- Temperature range: 0 - 40 °C
- Geometry: 3 liters Marinelli beaker
- Shielding: lead well, 100 mm thick
- Dimensions (WxHxD): 100 x 140 x 65 cm
- Total weight: approx. 800 kg

Acquisition and processing unit

- Holder: cabinet - 19" Rack
- Dimensions (WxHxD): 60 x 170 x 60 cm
- Total weight: approx. 80 kg

I/O management board

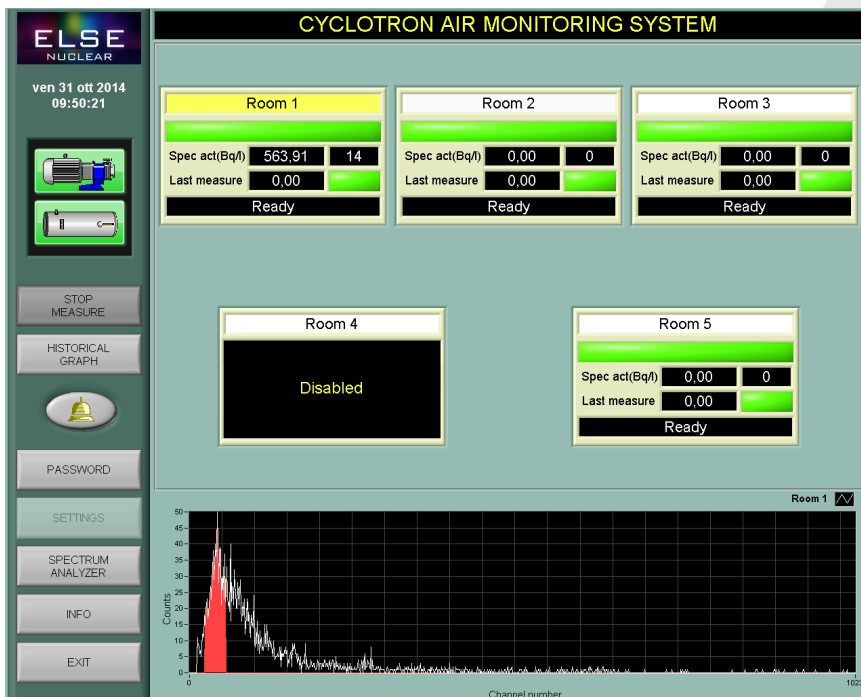
- Type of relay outputs: N.C. / N.O.
- 16 input/output available

Acquisition, processing and display software

- Data acquisition every second
- Data archiving
- Operative and calibration parameters set-up
- Good functioning and alarm signals management
- Data display in alphanumeric and graphic form
- Display of the gamma spectrum

Air sampling pump (typical)

- Flow rate: 16 m³/h
- Protection grade: IP 54
- Power supply: 380 V or 220 V



MISTRAL 5M Rooms software example



Sampling and detection unit example

OPTIONS

- LaBr₃(Ce³⁺) scintillator instead of NaI(Tl), for higher sensitivity and better gamma spectrum resolution

ACCESSORIES AVAILABLE UPON REQUEST

- Stack flow rate meter for released activity calculation: STACK-DFM
- Warranty extension from 12 months to 24 months

