

CONTAMINATION MONITORS FOR HOSPITAL WASTE

MHOS HWM-P, MHOS HWM-S



MAIN FEATURES

- **Highly adaptable systems**
- **Fast and accurate scan**
- **Simple user interface**
- Detectors: plastic scintillators
- Acquisition, analysis and visualization of data through a touch screen panel PC
- Activity concentration calculation (HWM-S)
- Automatic background subtraction
- Storage and/or print of alarm and malfunction events
- Optional thin window for beta-gamma monitoring (HWM-S)



DESCRIPTION

The **MHOS** gamma monitors are specifically designed to measure the radioactive contamination level in hospital waste carried by small containers. The measurement is performed differently by each model, according to the specifications:

| Portal configuration MHOS HWM-P | Single column with scale MHOS HWM-S |
|---|---|
|  |  |
| <p>Allows to detect contaminated material passing through the passageway defined by the two columns, which serve as support for the detectors. Data expressed in cps.</p> | <p>Performs a static measurement of the material, which is positioned directly upon the scale; by doing so, the measurement is automatically started. The weight and activity data are then elaborated to provide the radioactive concentration, expressed in Bq or Bq/g.</p> |

The acquisition and processing electronics is housed in the detector columns, directly connected to the detectors.

Through the touch screen panel PC, the operator can easily use the visualization software and manage the data, as well as the measurement parameters.

In every model the user can set the activity threshold; when alarms or anomalies occur, it is signaled through luminous and acoustic warnings, on the display and also by an integrated LED alarm beacon with siren.

The **MHOS** monitors are able to perform high sensitivity measurements, minimizing the false-negative and false-positive events. The measurement is continuous, performed accordingly to a pre-set integration time.

The **HWM-P** can detect activity concentrations <1 Bq/g in 15 kg of material.

The **HWM-S** can detect concentrations <1 Bq/g in 5 kg of material with a 30 seconds measurement.

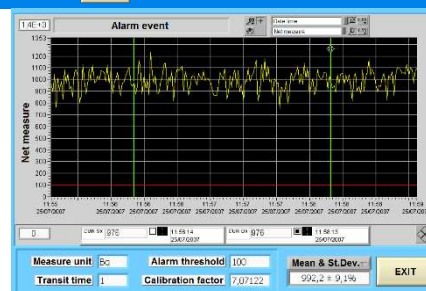
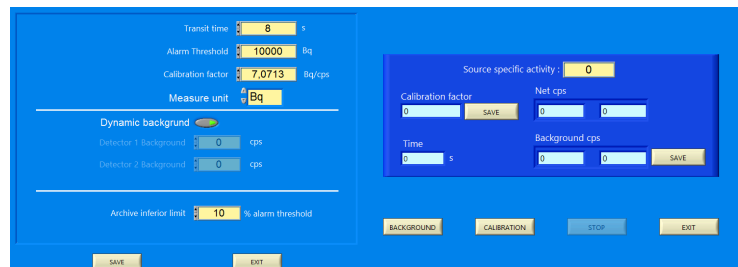
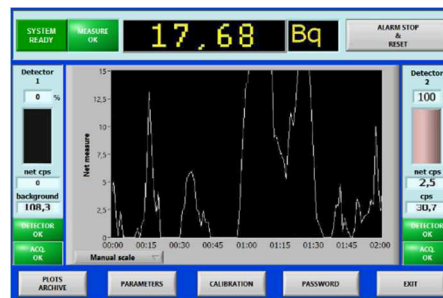
The monitors perform an automatic subtraction of the environmental background. Each alarm event is archived and displayed in a graphical form.

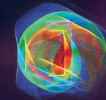
MHOS HWM-S is equipped with printers, which produce a report label of each measurement (green or red for non-contaminated and contaminated waste, respectively).

The **MHOS** monitors have also an auto-diagnosis feature which controls continuously the electronics status.



SOFTWARE

- Autorun at the start-up of the system
- Main panel indications:
 - Good-functioning/alarm status
 - Net measure
 - Measure unit
 - Instantaneous rate graph of the last 2 minutes
 - Net cps of each detector
- Principal settable parameters:
 - Measurement time
 - Alarm threshold
 - Calibration factor
 - Lower limit for the alarm event's saving
- Graphic archive of acquired data
- Protection password to access the parameters panel





TECHNICAL SPECIFICATION

| MHOS HWM-P | |
|---|--|
|  | <p><u>Control console</u></p> <ul style="list-style-type: none">• Computer: industrial panel PC<ul style="list-style-type: none">○ Display: 8.4" LCD Touch-screen (typical)○ Ethernet port for remote PC communications• Relay: NO/NC contact available for interlock management <p><u>Detection units</u></p> <ul style="list-style-type: none">• Detectors: 2 plastic scintillators 50x20x5 cm• Lead shielding on the external sides, 10 mm thick• Efficiency (Cs-137): 20 kcps/μSv/h (for each detector)• Energy range: 35 keV ÷ 2 MeV <p><u>Housing</u></p> <ul style="list-style-type: none">• 2 steel columns (HxWxD = 200x57x57 cm)• Mobility: 2 fixed wheels, 2 pivoting wheels, for each column <p><u>Alarm column - ALU</u></p> <ul style="list-style-type: none">• LED with siren• Green: good functioning, Red: alarm <p>ACCESSORIES AVAILABLE UPON REQUEST</p> <ol style="list-style-type: none">1. Kit to fix the columns to the floor2. Warranty extension from 12 months to 24 months |
| MHOS HWM-S | |
|  | <p><u>Control console</u></p> <ul style="list-style-type: none">• Computer: industrial panel PC<ul style="list-style-type: none">○ Display: 8.4" LCD Touch-screen (typical)○ Ethernet port for remote PC communications• Label printers (green and red labels, depending on the measurement result) <p><u>Detection units</u></p> <ul style="list-style-type: none">• 1 plastic scintillator 50x20x5 cm• Lead shielding on the external sides, 10 mm thick• Efficiency (Cs-137)<ul style="list-style-type: none">○ Plastic scintillator: 15 kcps/μSv/h○ NaI(Tl): 5 kcps/μSv/h• Energy range: 35 keV ÷ 2 MeV <p><u>Housing</u></p> <ul style="list-style-type: none">• 1 steel column (HxWxD = 200x57x57 cm)• Mobility: 2 fixed wheels, 2 pivoting wheels <p><u>Digitale scale</u></p> <ul style="list-style-type: none">• Maximum weight: 150 kg (resolution = 50 g)• Dimensions: 40x40 cm <p><u>Alarm column - ALU</u></p> <ul style="list-style-type: none">• LED with siren• White: ready, Yellow: measurement ongoing, Green: not contaminated, Red: alarm <p>ACCESSORIES AVAILABLE UPON REQUEST</p> <ol style="list-style-type: none">1. Kit to fix the column to the floor2. Warranty extension from 12 months to 24 months |