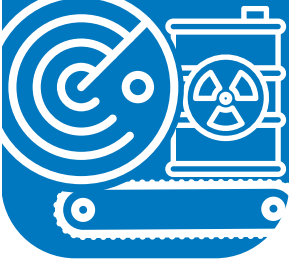




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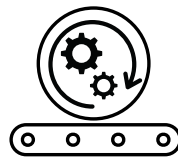


CARONTE

CONVEYOR BELT GAMMA CONTAMINATION MONITOR



Fast contamination
monitoring



Automatic scanning cycle



High counting
efficiency

Detectors: up to 4 shielded
plastic scintillators

Movable upper detector
along vertical axis

Wheel-mounted frame

Automatic, photocell-
surveyed monitoring cycle

MDA (Co-60): 200 Bq (10 s)

The **CARONTE** gamma contamination monitor is designed to easily measure the radioactivity level of small objects, such as boxes, tools or laundry bags, transported across a measurement area by a conveyor belt. The scanning cycle and the measurement procedure are entirely controlled by the software installed on the control PC, which manages the PLC commands sequence.

The materials to be monitored are placed on one side of the conveyor belt, which is constantly moving, and a set of photocells allows the software to know the object position and properly manage the scanning steps. A static, operator-guided mode is also available.

At the end of each scanning sequence, if the pre-set alarm thresholds are exceeded, a proper visual and acoustic indication will be activated.

The automatic cycle includes the following steps:

- calculation of the object length
- data acquisition for a pre-set time inside the measurement area
- presentation of measurement results
- if not contaminated, transportation of the object to the end of the conveyor belt

The cycle is then automatically resumed; if the object is longer than the measurement area, consecutive steps are performed until the entire length of the object is scanned.

CONFIGURATION

Up to 4 detectors are mounted in the tunnel-shaped measurement area:

- one at each side (left and right)
- one under the conveyor (inside a drawer)
- one at the top

The upper detector is lodged on a motorised assembly that can be vertically moved towards the conveyor according to the object dimensions, i.e. improving the counting efficiency.

The detectors are shielded with lead panels on the external sides, to minimize the environmental background contribution to the measurement.

CARONTE is mounted on 4 blocking wheels, allowing an easy deployment according to the customer needs.

TECHNICAL SPECIFICATIONS

Conveyor belt

- Speed: 13 cm/s
- Chassis on wheels
- Belt cover resistant to cuts and chemical corrosion

Detection units

- Plastic scintillators: up to 4
- Detector dimensions: 40 x 40 x 5 cm
- Pb shielding: 10 mm thick
- Distance between upper and lower detector (min-max): 8 cm - 80 cm

Management software

- Comparison of the measured background value with the preset threshold
- Management of the measurements steps
- Acquisition and display of detector count rates
- Calculation of activity in Bq or in Bq/cm²

PLC

- Management of conveyor belt motion
- Manual control available
- Warning for failure status
- Safety management



CARONTE software interface

ACCESSORIES AVAILABLE UPON REQUEST

- External digital scale
- Warranty extension from 12 months to 24 months

