

RoSCAN

Gamma Scanner System

The gammascanner RoSCAN was developed to measure radioactive contaminated rooms or objects. But it can be also used to find leaks in tanks and pipelines or for observation tasks. RoSCAN takes a picture with a digital camera and measures afterwards with a collimated detector gamma spectra from the object. The radiation intensity will be superimposed as color information to the picture.

Hardware

The gammascanner consists of two units, the measuring head itself and a portable control unit. Both components can be connected with a cable up to 100m long. The power supply of the whole system is placed inside the control unit and gets their current from the mains. Consequently only one hermetic leakproof cable, which is easy to clean, is needed for connecting the control unit with the measuring head.



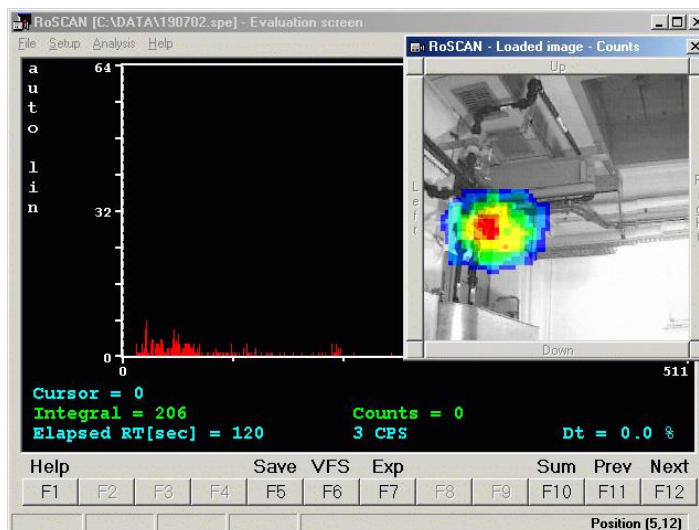
The measuring head itself consists of a very stable metal body which includes the motors, a camera, the collimated detector, a MCA527, a laser pointer and the control electronic. A SC2525 (CsI) or a CZT500 (CdZnTe) gamma ray detector is used to measure the gamma radiation. Depending on the necessary spatial resolution or sensitivity other detectors can be used. To integrate other detectors, only the collimator must be modified in that way that it fits to the new detector geometry. The laser pointer is very useful to find the contaminated areas.

Inside the control unit a laptop for controlling the measuring head and the power supply for the whole system are integrated. Because of this integration only two cables must be connected to the unit externally - the power supply cable (mains) and the control cable for the measuring head.

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Software

All functions of the measuring head, including the subset of the camera and the MCA527, can be controlled with the program RoSCAN. RoSCAN offers a lot of routines for evaluation and automation to the user. So it is possible to generate and save reports. Furthermore the customer can use the complete set of evaluation programs like **Identify** and **MCAPrint** for interpreting the collected data. A mouseclick on any place inside the picture window shows the corresponding spectrum in the main window.



Technical Data

main power supply	100 to 240Vac (50 to 60Hz)
communication	Ethernet, 100MBit/s, 100m max. distance
weight of the control unit	11kg (with laptop)
weight of the measuring head	20kg (without collimator)
weight of the cable reel (50m)	10kg
max. rotation range (horizontal / vertical)	420° / 270°
collimator CZT500	
weight / aperture angle / lead thickness	7.5kg / 5° / 38mm
measuring range	30 ... 2000keV
spectroscopic resolution	<30keV (<18keV with CZT500S) at 662keV
collimator SC2525	
weight / aperture angle / lead thickness	12kg / 5° / 38mm
measuring range	100 ... 3000keV
spectroscopic resolution	60keV at 662keV
operating temperature range	0 ... 50°C
protection class control unit	IP42
protection class measuring head	IP42
dimension measuring head (H x W x D)	41.5 x 41.5 x 29cm (without collimator)
dimension control unit (H x W x D)	18 x 59 x 38cm
operating systems	Win98, Win2000, WinME, WinXP, Win7

Customer specific changes and modifications are possible. Don't hesitate to contact us!