



ERAC is a new development of **Bitt Technology** and is a low-priced solution for the comprehensive environmental monitoring of radioactive aerosols.

ERAC is an addition to the gamma dose rate for the collection of aerosol activity in the ground level air and can be installed just like the gamma sensors outdoor.

ERAC is fully automatic continuously working measuring equipment, which measures the total alpha and beta activity.

ERAC can be used in radiation early warning systems as well as for the monitoring of radon concentration in buildings and outdoor.

ERAC measures the EEC radon concentration in air and by comparison of alpha and beta activity can figure out also artificial nuclides.

The measuring data of the **ERAC** can be transmitted via all modern data communication systems.

Measurement principle:

Air will be electro statically charged over an ionization channel and the aerosols will be deposited on household aluminium foil.

Two proportional window counting tubes are designed to measure on the one hand the gamma + beta activity. This counter tube is arranged below the foil. The second counting tube measures the directly struck down part of the alpha activity above the foil.

The measurement takes place in 2 steps:

At the 1. step the gamma rate is measured during the ionization and the deposit of the aerosols. In 2. step the alpha activity and the beta + gamma activity is measured at the same time.

In summary **ERAC** is a fully automatic working aerosol measuring instrument for α , β and γ aerosol radioactivity, which can be used both outdoor and for the laboratory range.

ERAC will be available in three kinds of casing :

The basic equipment can be built into each existing 19 " cabinet (12HE-420mm, d=600mm)

Two further casing kinds are possible, one for indoor use (laboratories) and one for outdoor.

Available 2008

for more information

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BITT Technology

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Temporary technical data:

Measured media: Radio aerosol (with Aerosol aligned radon nuclides)

Measured data:

Artificial beta activity concentration:

Limit of Detection (LD): 2 Bq/m³ (5 Bq/m³ Radon background)

1 Bq/m³ (3 Bq/m³ Radon background)

Measuring range: LD..... 1000 Bq/m³

Natural (Radon) activity concentration:

Measuring range: 1000 Bq/m³

Measuring method:

Electrostatic aerosol deposition on measuring tape

Deposition voltage: ~5 kV controlled

Effective flow rate: 20 m³/h

Detectors:

Alpha (flow) proportional detector

Efficiency [Am²⁴¹]: 30 %

Beta+Gamma (flow) proportional detector:

Beta efficiency [Sr⁹⁰/Y⁹⁰]: 20 %

Gamma efficiency [Cs¹³⁷]: 15 %

Power input: ~ 15W

Power supply: 230V/50Hz

Communication: LAN, switched line, ADSL, GPRS

Software compatibility: BITTSCADA

Environment: weatherproof

Temperature range: -20° C to + 40° C

Humidity: 0 to 100%

Maintenance-free operation time: 3 (6) months

Weight: ~ 90 kg

Dimensions: 600 mm x 600 mm x 1750 mm

A vertical rainbow-colored bar with the text 'face the invisibility' written vertically in white.

face the invisibility

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