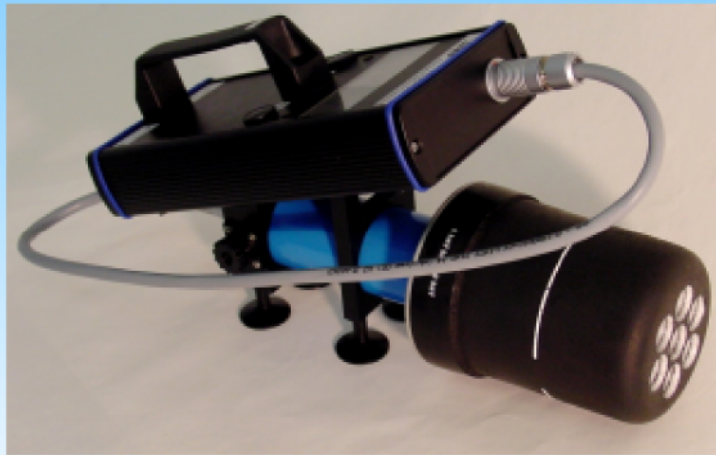


Survey meter OD-01

Dose and dose rate meter for measuring the ambient dose equivalent $H^*(10)$ and dose rate equivalent $dH^*(10)/dt$ as well as the directional dose equivalent $H'(0,07)$ and dose rate equivalent $dH'(0,07)/dt$ in mixed radiation fields.

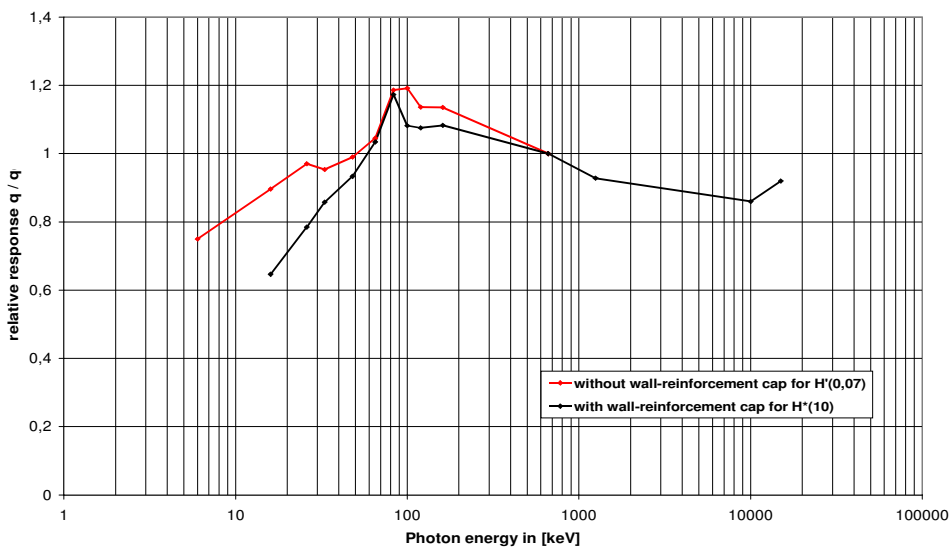


Survey meter OD-01

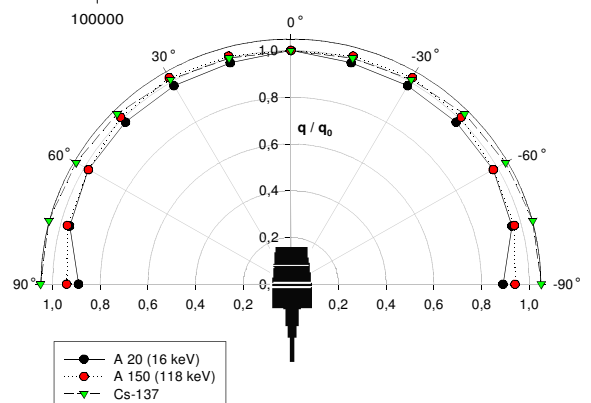
Product characteristics

- Compact device consisting of display and control unit, probe, device support and 0.7m of connecting cable
- Radiation detector: air opened ionisation chamber
- Display ranges:
 - Dose rate:* 0 .. 2000 mSv/h, 0 .. 2000 μ Sv/h
 - Dose:* 0 .. 2000 μ Sv
- Measurement range: 3 decades for dose, 6 decades for dose rate measurement
- Automatic switch of the fine measurement ranges
- Measurement of ambient and directional dose of pulsed radiation fields
- Measurement of photon radiation above 6 keV
- Measurement of hard X-rays and gamma radiation as well as bremsstrahlung of up to 7.5 MeV (up to 15 MeV using an additional acrylic plastic shielding)
- Measurement of beta radiation of energies from 60 keV up to 2 MeV
- Probe disposable up to 100 m from display and control unit
- Easy-to-read back-lighted LCD panel
- Battery powered, transportable and stationary applicable device

Relative energy response for the OD-01 detector



Angular response



End use

The OD-01 is a new development that is directly linked to the success of the gamma-ray dosimeter RGD 27091/U.

As a portable, battery-powered dose and dose rate meter with ionization chamber it is versatile used, e.g. in nuclear laboratories, nuclear medicine clinics, irradiation facilities and reactor systems for measurement of X-ray, gamma and beta radiation.

Beta Radiation may be measured quantitatively from Energies $E \geq 60$ keV to 2 MeV.

The high sensitivity and wide energy range together with low directional dependence allow you to use the OD-01 as a precision radiation protection device.

Measurement principle and electronics allow the measurement of pulsed radiation fields.

The wide measuring range permits to use the device as a dose and dose rate meter for high dose rates.

For stationary measuring arrangements the probe can be disposed of up to 100 meters from the device.

Scope of services

- OD-01 display and control unit
- OD-01 probe with detachable wall reinforcement cap
- OD-01 device carrier
- 0.7 m probe cable
- 4 x batteries LR06
- Equipment case
- Technical description and operating instructions
- Certificate of calibration

Optional equipment

- USB cable and software for measurement evaluation via PC
- Power supply (DC 6 V) with power lead
- Variable probe extension cable up to 100 m upon customer request
- Acrylic plastic shielding for energy values $E > 7.5$ MeV
- Wall holder for stationary application

Design and functionality

The OD-01 basically consists of the control and display unit, the removable probe and the device carrier. The device carrier allows the use of the device as a compact unit.

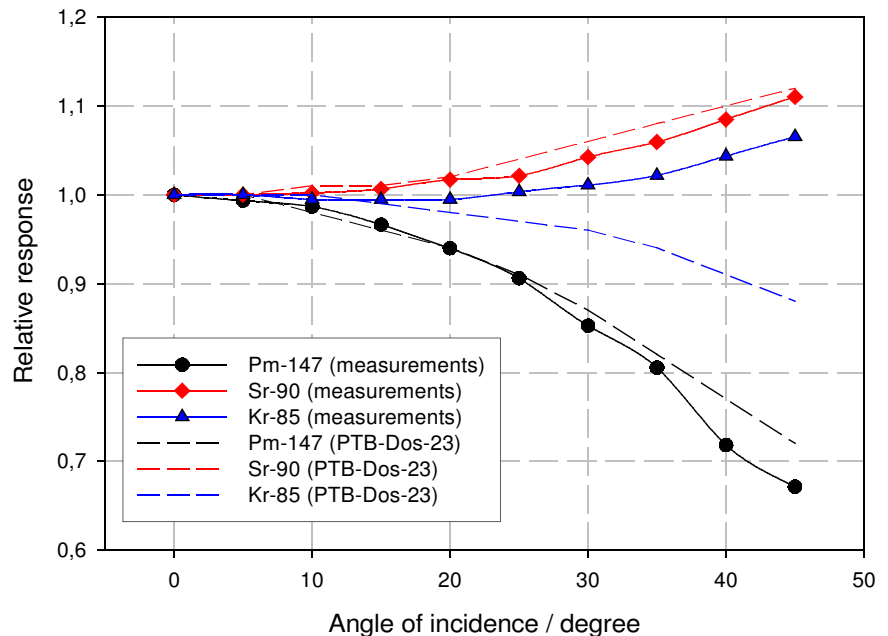
The large energy range of the OD-01, which extends from 6 keV to 15 MeV, demands in accordance to the energy and measuring methods the probe with or without set up wall reinforcement cap and maybe with an additional PMMA-shielding.

Power is supplied by 4 batteries LR 6 1.5 V type AA. The display device includes an LCD display with backlight, on which the current operating condition will be displayed.

The measured value is displayed as a digital value and as a quasi-analogue bar. The measurement of $H^*(10)$ takes place with wall reinforcement cap. The measurement of $H'(0.07)$ and $H^*(10)$ in mixed radiation fields takes place without wall reinforcement cap. Methods of measurement are shown by the symbols γ for $H^*(10)$ and by $\gamma + \beta$ for $H^*(10) + H'(0.07)$ in the display.

A USB port allows the transfer and evaluation of the measurements on a computer.

Angular response for beta radiation
(beta fields according to ISO 6980)



Technical data

Measuring values

Ambient dose equivalent $H^*(10)$
Ambient dose rate equivalent $dH^*(10)/dt$
Directional dose equivalent $H'(0,07)$
Directional dose rate equivalent $dH'(0,07)/dt$

Type of measuring radiation:

Photon and beta radiation
pulsed, continuous and mixed radiation fields

Display and measuring ranges:

Dose:
1 coarse measuring range μSv
3 fine measuring ranges*: 20 / 200 / 2000
(final values)

Dose rate:
2 coarse measuring ranges: $\mu\text{Sv/h}$, mSv/h
3 fine measuring ranges*: 20 / 200 / 2000
(final values)

* automatic switch of the fine measuring ranges

Radiation direction:

-45° .. +45° for $H'(0,07)$
-90° .. +90° for $H^*(10)$

Energy ranges

Without wall reinforcement cap
With wall reinforcement cap
With optional PMMA shielding
Beta radiation

6 keV to 662 keV
20 keV to 7.5 MeV
up to 15 MeV
60 keV to 2 MeV

Radiation detector

Type: air-opened ionisation chamber
Volume: 600 cm³
Wall reinforcement cap: disposable, 550 mg/cm²
Entry window: 3.3 mg/cm² (PET foil metallised on one side)
Preferred direction: Axial
Point of reference: Marked on detector
Wall potentials: + 400 V mSv/h ,
+ 40 V $\mu\text{Sv/h}$

Measurement uncertainty

< 15 % (fine measurement range 20)
< 10 % (fine measurement ranges 200 and 2000)
Linearity: 5 %
Saturation deficit: - 5 % @ 2000 mSv/h

Power supply

Batteries: 4 batteries or rechargeable batteries type LR06 (AA)
External power supply (option): 4 .. 6.2 V DC voltage (delay safety fuse: 315 mA)
Power consumption: Approx. 30 mA @ 6 V
Battery life time: Approx. 100 h
Control battery voltage: battery symbol on display

Dimensions:

Measurement probe ($\varnothing \times L$): 112 x 260 mm
Display unit (L x W x H): 250 x 108 x 42 mm
Cable length: 0.7 m (standard, available up to 100 m)

Weight:

Measurement probe: 600g
Display unit: 900g

Temperature ranges:

Operating mode - 10 °C .. + 45 °C
Storage and transport - 20 °C .. + 55 °C

Air pressure:

80 .. 110 kPa

Humidity:

max. 80 %

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