

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.



STEP - Sensortechnik und Elektronik Pockau GmbH Germany



Distribuito in Italia da **Active RadSys** <http://www.activeradsys.it>

E-mail: info@activeradsys.it Tel:0544408071 Fx:0544276014

Survey meter OD-01

Product characteristics

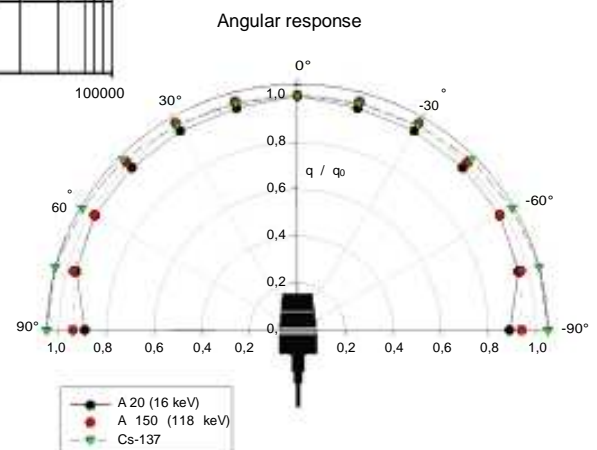
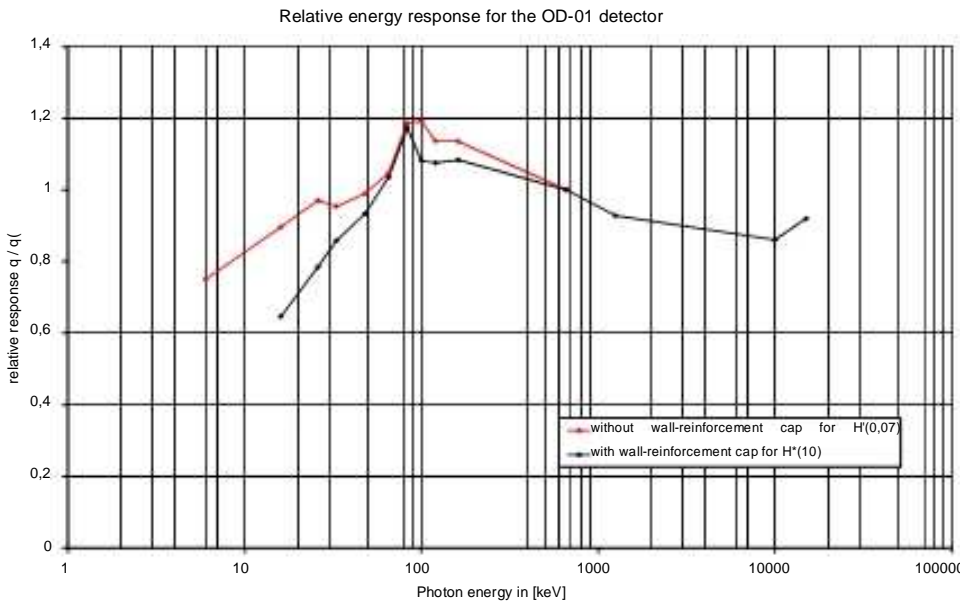
- Compact device consisting of display and control unit, probe, device support and 0.7m of connecting cable
- Radiation detector: air opened ionisation chamber
- Display ranges:
 - Dose rate: 0 .. 2000 mSv/h, 0 .. 2000 μ Sv/h
 - Dose: 0 .. 2000 μ Sv
- Measurement range: 3 decades for dose, 6 decades 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



End use

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

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-01Hx display and control unit
- OD-01Hx probe with detachable wall reinforcement cap
- OD-01Hx 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.

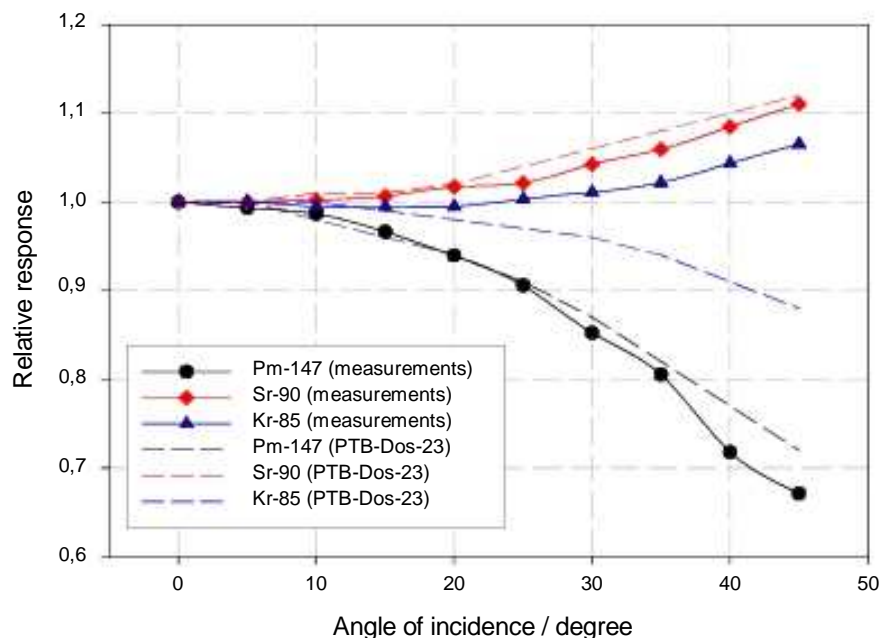
The large energy range of the OD-01, which extends from 6 keV to 15 MeV, demands in accordance to the energy and measuring methods the probe with or without set up wall reinforcement cap and maybe with an additional PMMA-shielding.

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.

An 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	6 keV to 662 keV
With wall reinforcement cap	20 keV to 7,5 MeV
With optional PMMA shielding	up to 15 MeV
Beta radiation	60 keV to 2 MeV
Radiation detector	
Type:	air-opened ionisation chamber
Volume:	600 cm^3
Wall reinforcement cap:	disposable, 550 mg/cm^2
Entry window:	3,3 mg/cm^2 (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 x 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 %



STEP-Sensortechnik und Elektronik Pockau GmbH Germany

Distribuito in Italia da **Active RadSys** <http://www.activeradsys.it>
E-mail: info@activeradsys.it Tel:0544 408071 Fx:0544276014