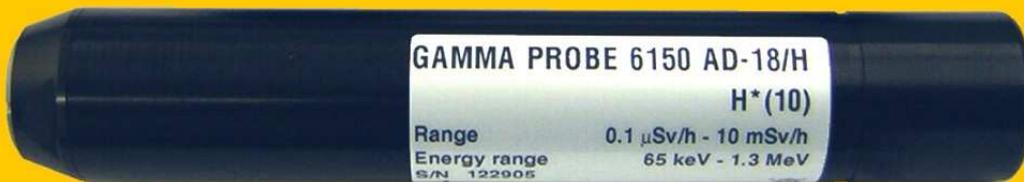
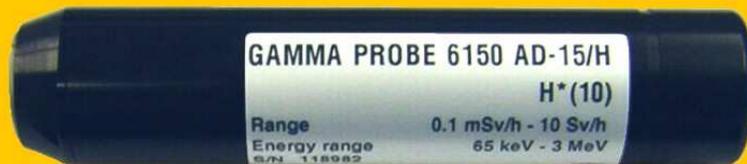


approved  
by PTB  
(government  
authority)



- **Detector: Built-in GM counter**  
6150AD-15: useful range 1 mSv/h to 10 Sv/h  
6150AD-18: useful range 2 µSv/h to 10 mSv/h
- **Gets all the benefits from the 6150AD:**
  - Automatic range selection
  - Smart time constant
  - Digital calibration providing high accuracy
  - Simultaneously measures current value, average value, and maximum value of dose rate, as well as dose
  - Alarm thresholds for both dose and dose rate including one freely programmable threshold each
- **May use probe cables up to 100 metres in length**
- **Power supply through probe cable, does not require a battery of its own, very low current consumption**
- **Robust waterproof aluminium housing**

## Gamma Probes 6150AD-15 and 6150AD-18

External Probes for the Dose Rate Meter 6150AD® for Measuring Photon Radiation (Gamma and X-radiation)

6150AD® is our trademark (German registration number 303 55 582)

**APPLICATION**

The Gamma Probes 6150AD-15 and 6150AD-18 are probes to be used with the Dose Rate Meter 6150AD to measure photon radiation (gamma and X-radiation). Both probes use a GM counting tube as the detector. They differ by the type of the built-in counting tube and therefore by dose rate range. If dose rates above 10 mSv/h are unlikely to occur, the 6150AD-18 is preferred, otherwise the 6150AD-15 with its high range up to 10 Sv/h.

This data sheet only specifies the probes, not the 6150AD meter the probes are used with. It is assumed throughout this data sheet that the reader is familiar with the 6150AD (see the 6150AD data sheet).

Models without »/H« or »/E« suffix are designed for the classical quantity  $J_s$ . »/H« models are for Ambient Dose Equivalent  $H^*(10)$ . »/E« models are the same as »/H« models except a different internal probe code requiring 6150AD »/E« basic meters. The German PTB approval only applies to »/E« models. This shall eliminate classical  $J_s$  models. Nevertheless, for international use we strongly recommend »/H« models over »/E« models.

Just like the 6150AD itself, the probes are only suited for measuring photon radiation (not alpha or beta radiation). There are two reasons to use an external gamma probe rather than the internal counting tube of the 6150AD:

- Place of measurement and place of reading are different, e.g. when measuring at places difficult to reach.
- Extending dose rate range up to 10 Sv/h with the high range probe 6150AD-15, or down to approximately 0.1  $\mu$ Sv/h with the low range probe 6150AD-18. Using the 6150AD-18 with a 6150AD2 or 6150AD6 will not extend dose rate range because all these units use the same type of counting tube. Only the first reason makes such a combination meaningful.

**ACCESSORIES**

**Probe Cable (required accessory)**

A probe cable (not included) is necessarily required to operate a probe. These standard lengths are available: 1.25m / 3m / 5m / 10m / 20m / 75m / 100m.

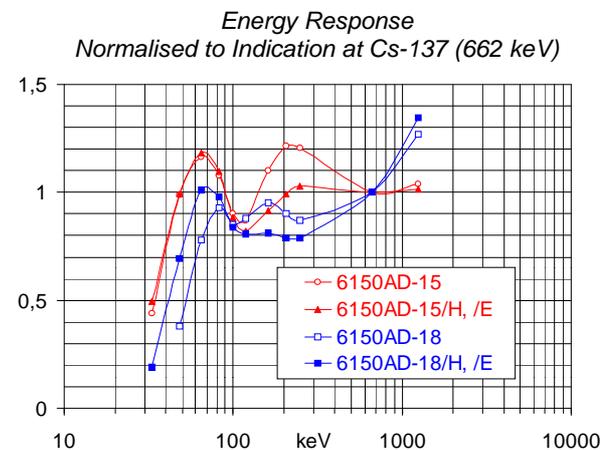
**Source Holder 761.2 (optional accessory)**

The source holder 761.2 serves to mount the check source 6706 (333 kBq Cs-137) or equivalent onto either probe type in a well-defined position. This allows reproducible radiological checks.

**TECHNICAL DATA**

	6150AD-15(/H,/E)	6150AD-18(/H,/E)
Detector (energy compensated)	GM tube ZP1300, effective length 8 mm, sensitivity approx. 100 pulses per $\mu$ Sv	GM tube ZP1200, effective length 40 mm, sensitivity approx. 5800 pulses per $\mu$ Sv
Measuring quantity	/H, /E models: ambient dose equivalent $H^*(10)$ ; others: exposure dose $J_s$	
Energy range and angular range (preferential direction is perpendicular to the probe axis)	65 keV - 3 MeV $\pm 45^\circ$	65 keV - 1.3 MeV $\pm 60^\circ$
Analog (A) and digital (D) dose rate range	A: 0.1 mSv/h to 10 Sv/h D: 0.00 mSv/h to 9.99 Sv/h	A: 0.1 $\mu$ Sv/h to 10 mSv/h D: 0.00 $\mu$ Sv/h to 9.99 mSv/h

	6150AD-15(/H,/E)	6150AD-18(/H,/E)
Useful dose rate range (low fluctuations)	1 mSv/h to 9.99 Sv/h	2 $\mu$ Sv/h to 9.99 mSv/h
Linearity of dose rate measurement	deviation max. $\pm 10\%$ , calibration with Cs-137	
Instrumental background	approx. 30 nSv/h	approx. 10 nSv/h
Overload resistance	dose rates up to 50 times the full range, but not exceeding 100 Sv/h	
Digital dose range	with 6150AD1 or 6150AD2: 0 $\mu$ Sv - 9.99 Sv   0 $\mu$ Sv - 99.9 mSv	
	with 6150AD5 or 6150AD6: 0.00 $\mu$ Sv-9.99 Sv   0.00 $\mu$ Sv-99.9mSv	
Dose rate alarm thresholds	250 $\mu$ Sv/h 1 mSv/h 2.5 mSv/h 10 mSv/h 25 mSv/h (disabled)	7.5 $\mu$ Sv/h 25 $\mu$ Sv/h 100 $\mu$ Sv/h 2 mSv/h 3 mSv/h (disabled)
Dose alarm thresholds (with smart models AD5 & AD6 only)	15 mSv 100 mSv 250 mSv (disabled)	1 mSv 2 mSv (disabled)
User programmable alarm thresholds	one freely programmable threshold for each dose and dose rate (with smart models 6150AD5 & AD6 only)	
Temperature range	-30°C to + 50°C, deviation max. $\pm 10\%$ referred to indication at +20°C	
Humidity	nominal range 0 to 95% within specified temperature range	
Atmospheric pressure	nominal range 60 to 130 kPa (600 to 1300 mbar)	
Geotropism	none (no change of response as a result of gravitational effects)	
Power supply	4.75 Volt out of 6150AD	
Battery life including the 6150AD	with a 6LR61 alkaline battery: approx. 1500 hours at low dose rates with the 6150AD's illumination off	
Housing	black anodised aluminium, waterproof, protection class IP 67 according to DIN 40050	
Dimensions	diameter 26 mm, length 118 mm	diameter 26 mm, length 149 mm
Weight	approx. 75 g	approx. 110 g



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