



DIS-1

Direct Ion Storage Dosimeter

- direct measurement of $H_p(10)$ and $H_p(0.07)$ over the entire energy range
- instant non-destructive readout and dose reset with a table-top reader
- passive operation
- insensitive to EM and RF interference
- operation at high dose rates and in pulsed fields
- built-in memory chip for user identification storage
- small, rugged and waterproof
- a replacement to TLD and film
- up to 12 month issue period

DIS-1 is a Direct Ion Storage Dosimeter offering an alternative to TLD or film dosimeter. Due to its ion chamber based design, it has a flat energy response. Also, it is not microphonic or susceptible to EM or RF interference (problems inherent in some other types of dosimeters). Combined these properties to its ability in operating in pulsed fields and at high dose rates makes the DIS-1 an ideal device for wide variety of radiation dosimetry applications.



Typical energy response of personal dose equivalent $H_p(0.07)$

Physical characteristics

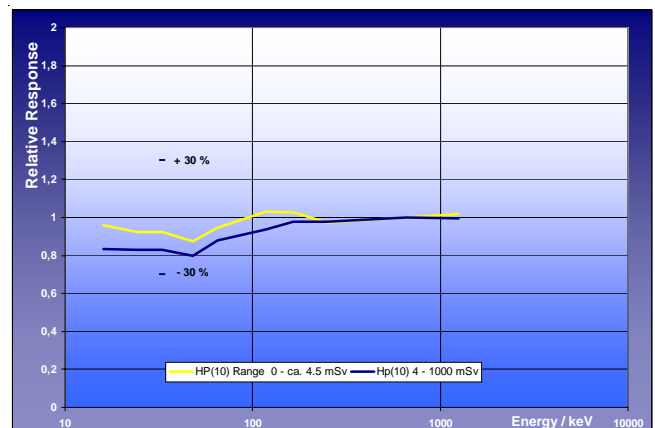
- sensitive to gamma, X-ray and beta radiation
- instant readout of ICRU dose equivalents:
 - $H_p(10)$ 1 μ Sv to 40 Sv* (0.1 mrem to 4000 rem*)
 - $H_p(0.07)$ 10 μ Sv to 40 Sv* (1 mrem to 4000 rem*)
- calibration accuracy:
 - $\pm 5\%$ at 1 mSv Cs-137 $H_p(10)$
 - $\pm 10\%$ at 10 mSv Cs-137 $H_p(0.07)$
- energy response in the dose range up to 1 Sv**
 - photons:
 - $H_p(10)$ $\pm 30\%$ from 15 keV to 9 MeV
 - $H_p(0.07)$ $\pm 30\%$ from 6 keV to 9 MeV
 - beta:
 - $H_p(0.07)$ + 10...-50% from 0.06 to 0.80 MeV (E_{mean})
- angular response:
 - $H_p(10)$ $\pm 20\%$ up to 60° at 65 keV
 - $H_p(0.07)$ $\pm 20\%$ up to 60° at 65 keV
- insensitive to neutrons (<5 %)
- temperature range:
 - from -10°C to $+50^\circ\text{C}$ (14°F to 122°F)

Mechanical characteristics

- size (w/o holder): 41 x 44 x 12 mm (1.61 x 1.73 x 0.47 in)
- weight (w/o holder): 20 g (0.70 oz)
- beta window: aluminized PI (app. 7 mg/cm²)
- holder: anodized aluminium

Functional characteristics

- memory
 - $H_p(10)$ and $H_p(0.07)$ official dose memory for reset only by authorized persons
 - $H_p(10)$ and $H_p(0.07)$ temporary dose memory for daily resetting by dose management system or H_p personnel
- calibration date
- user ID or name up to 16 characters
- $H_p(10)$ and $H_p(0.07)$ alarm thresholds



Typical energy response of personal dose equivalent $H_p(10)$

* When calibrated after every 10 Sv of accumulated dose

** Starting from 2004 With older units up to 0,5 Sv