

RadEye N/NL



Neutron Radiation Detection	★★★
Neutron Source Verification	★★★
Neutron Source Detection	★★
Neutron Dose Rate	(★)

The new **RadEye N** closes a gap in the classical product spectrum of the radiation measurement technology. Rem-Counters for neutron detection with a He-3 or BF3 tube are usually heavy and bulky since fast neutrons have to be moderated in order to be detected and to provide the correct neutron dose rate response. Low energy neutrons with their lower biological impact however have to be suppressed to a large extent. Thus the rather low sensitivity of Rem-Counters to pre-moderated neutrons can be explained. Dropping the demand for energy compensated dose rate response, a device can be built with one fiftieth of the weight and comparable or even a higher neutron response as compared to a Rem-Counter.

RadEye NL

Users (e.g. service staff) who travel on commercial aircraft should Use the RadEye NL, with a He-3 pressure of 2.5 bar. In this case both the neutron sensitivity and the background effect is only half as much as of the RadEye N.



RadEye can be worn in a holster

High sensitivity for neutron radiation

- Rapid warning of neutron radiation fields
- Applicable as an Area Monitor
- Exceeds the neutron response requirements of ISO 22188
- Ideal complement to passive and active neutron dosimeters

160g lightweight with low power technology

- Always ready for use - can be worn and operated in its holster
- Hands-free operation with no restriction of personal mobility
- Rapid scanning of changing field intensities
- Detection of neutron shielding deficiencies and source presence
- Ideal complement to Rem-Counters

No spill-over from gamma radiation up to 10 mSv/h (1 R/h)

- Ideal for verification of neutron fields when dealing with unknown radiation sources
- No false "Neutron Alarm"
- Can be used in high gamma dose rate fields



RadEye Area Monitor for neutron radiation

Main Applications	Users of industrial neutron sources, e.g. in geology and material testing Operators and users of accelerators in medical science and research Radiation protection staff and inspectors of nuclear facilities First Responders and law enforced officers
Detector	He-3 tube with 10 bar filling pressure (RadEye N) He-3 tube with 2.5 bar filling pressure (RadEye NL)
Sensitivity when worn at the body (RadEye N)	approx. 0.3 cps per $\mu\text{Sv/h}$ (3 cps per mrem/h) for Cf-252, detects 0.01 μg Cf-252 in typically 2 - 3 s for 25 cm (10") distance
Background	approx 0.005 cps at 300 m above sea level (RadEye N)
Gamma spill-over	< 0.2 cps at 10 mSv/h (1 R/h) Cs-137 radiation
Measuring units	Count rate (cps) moving average over 10 s Mean value and peak value over any time period
Operation time (2 AAA alkaline batteries)	400 h (RadEye N) 500 h (RadEye NL)