

# Neutron Ambient Dose Equivalent (Rate) Meter



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## 1. Product Overview

The Neutron Ambient Dose Equivalent (Rate) Meter is a portable intelligent instrument specially designed for monitoring the equivalent dose rate around the neutron. The product was verified by National Institute of Metrology.



## 2. Product Principle

The instrument consists of two parts: a detector and a host. The detector converts the neutron rays into an identifiable signal and sends it to the host. After being processed by host computer, it is converted to the actual dose equivalent rate and transmitted to the human-computer interface. In this way, dose equivalent rate measurement can be achieved.

## 3. Product Features

- High detection efficiency and quick response.
- High accuracy and low false alarm rate.
- The range of energy response is wide and the performance of gamma suppression is good.
- Easy operation and complete functions.
- Colored touch screen and reasonable human-machine interface.
- Unique design of triangle support, and easy for long-time measurement.

## 4. Product Parameters

- Measuring range: 0.1 $\mu$ Sv/h $\sim$ 100mSv/h
- Energy range: 0.025eV $\sim$ 16MeV
- Inherent error: less than  $\pm 20\%$

- Repeatability: less than 20%
- Gamma rejection ratio: greater than 100:1 in 10mSv/h for Cs-137 field
- Angle response: varies less than  $\pm 25\%$  ( $0^\circ \sim \pm 90^\circ$ )
- Power supply: built-in charged lithium battery or external power adapter
- Continuous working hours of battery: more than 12h
- Alarm mode: Audible and visual alarm
- Protection level: IP51
- Working temperature:  $-10^\circ\text{C} \sim +50^\circ\text{C}$
- Weight: 6.6kg

### 5. Product application

- It is used for the detection of radiation leakage or radioactive material leakage in nuclear reactors, nuclear power plants such as nuclear power stations;
- It is used for the inspection of import and export goods, such as border, customs, etc.;
- It is used to detect the neutron dose rate during the usage, storage and treatment of radioactive sources in the area under the jurisdiction of the Environmental Protection Bureau;
- It is used for the dose detection in the series of products such as neutron activation analyzer, neutron moisture analyzer, oil logging analyzer and so on;
- It is used for neutron dose rate detection in neutron test and the other neutron ray place.



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