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Operating instructions

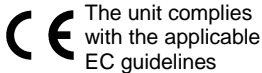


Fig. 1: Geiger-Muller counter tube, 45 mm 09007-01

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1 PURPOSE AND CHARACTERISTICS

The Geiger-Mueller Counter tube, 45 mm is a self-extinguishing halogen counting tube for the detection of α , β and γ radiation.

A long plateau (approx. 425 V...650 V) with only a slight slope renders the selection of the operating point uncritical.

The actual counting tube, which is mounted in a metal cylinder with a permanent BNC connecting cable, has a thin-walled metal sheath that is permeable to γ radiation. A mica window is located at the front of the counting tube for registering α particles and low-energy β particles which cannot penetrate the sheath of the tube. Since it is very sensitive, the window is protected by a grid that protects it against mechanical damage.



Attention!

Please avoid touching the climate window. Otherwise irreparable damage of the counter tube may occur, resulting in termination of your warranty claim.

The axial counting wire of the counter tube is connected to the internal conductor via a 10 M Ω resistor, and the counter tube sheath is connected to the outer conductor via a BNC cable.

2 HANDLING

In operation the lead of the counting tube is directly connected to the counting tube input socket on the counting unit that is used. Suitable counting units (see Accessories) are those that have the operating voltage for the counting tube on the input socket (+500 V DC is recommended).

The external air pressure should not fall below 320 mbar and not exceed normal atmospheric pressure.

For a safe support we recommend the Holder for counter tube large (order no. 09206-00).

3 TECHNICAL DATA

- Self-extinguishing halogen counting tube for detection of α , β and γ radiation
- Mounted in a metal cylinder with BNC-plug
- Grid to protect the counting tube included
- Sheath 2–3 mg/cm²
- Operating voltage 500 V
- Length of plateau 200 V
- Slope of plateau 0,04 %/V
- Dead time approx. 100 μ s
- Background effect approx 45 pulses/min
- Diameter of housing 60 mm
(Ring for fastening of the stem 75 mm)
- Diameter of counter tube 45 mm
- Length 80 mm
- Mass 320 g

4 ACCESSORIES

Items included:

- Screened cable, BNC, $l = 750$ mm 07542-11
- Support rod to fix the device

We recommend the following counting devices for operation of the Geiger-Muller counting tube:

Required accessories:

- Counter
 - Geiger-Müller-Counter 13606-99
 - or Universal Counter 13601-99
 - or Cobra3 Basic Unit 12150-50
 - Power supply 12 V / 2 A 12151-99
 - Counter tube module 12106-00
 - Software Cobra3 Radioactivity 14506-61

Optional accessories:

- Support, e.g. barrel base 02006-55
- Holder for counter tube large 09206-00

5 WARRANTY

We give a warranty of 24 months for units supplied by us inside the EU, and a warranty of 12 months outside the EU. The following is excluded from the warranty: Damage that is due to non-compliance with the operating instructions, improper use, or natural wear.

The manufacturer can only be held liable for the function and safety-relevant properties of the unit, if the maintenance, service, and modifications of the unit are performed by the manufacturer or by an institution that is expressly authorised by the manufacturer.

6 WASTE DISPOSAL

The packaging mainly consists of environmentally-friendly materials that should be returned to the local recycling stations.



Do not dispose of this product with normal household waste. If this unit needs to be disposed of, please return it to the address that is stated below for proper disposal.

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