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Operating instructions



Fig. 1: 09005-00 Counting Tube, Type B

TABLE OF CONTENTS

- 1 SAEFTY PRECAUTIONS
- 2 PURPOSE AND CHARACTERISTICS
- 3 FUNCTIONAL AND OPERATING ELEMENTS
- 4 TECHNICAL DATA
- 5 LIST OF EQUIPMENT
- 6 NOTES ON THE GUARANTEE
- 7 WASTE DISPOSAL

1 SAEFTY PRECAUTIONS



Caution!

- Carefully read these operating instructions before operating this instrument. This is necessary to avoid damage to it, as well as for user-safety.
- Do not start up this instrument in case of visible signs of damage to it.
- Only use the instrument for the purpose for which it was designed.

2 PURPOSE AND CHARACTERISTICS

The Counting Tube, Type B is a self-extinguishing halogen counting tube for the detection of α , β and γ radiation. A long plateau (approx. 425...650V) 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 a 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 removable plastic cap that protects it against mechanical damage. The axial counting wire in the tube is connected via a 10-M Ω -resistance to the central conductor and the sheath of the counting tube is connected to the external conductor on the BNC lead.

3 FUNCTIONAL AND OPERATING ELEMENTS

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 List of equipment) are those which have the operating voltage for the counting tube on the input socket (+500VDC is recommended).



Caution!

The very thin-walled mica window should be treated with extreme care and should on no account be touched. The plastic protective cap should always be replaced when the window is not in use. There is no need to remove the cap when measuring γ or energetic β radiation. The external air pressure should not fall below 320 mbar and not exceed normal atmospheric pressure. When the cap is placed in position the central hole should remain open to allow pressure equalization.

4 TECHNICAL DATA

Type	trigger counting tube, self-extinguishing
Types of detectable radiation	α , β , γ
Extinguishing material	halogen
Mass distribution	
Sheath	250 mg/cm ²
Window	2...3 mg/cm ²
Operating voltage	500 VDC
Length of plateau	> 200 V
Slope of plateau	0.04 %/V
Dead time	approx. 100 μ s
Background effect	approx. pulses/min
Service life	> 10 ¹⁰ pulses

5 LIST OF EQUIPMENT

We recommend the following counting devices for operation of the Counting Tube 09005.00:

XR 4.0 X-ray Counter tube holder	09057-07
Geiger-Müller-Counter	13606-99
Universal Counter	13601-99
Cobra4 Mobile-Link 2	13620-10
Cobra4 Sensor-Unit Radioactivity	12655-00

6 NOTES ON THE GUARANTEE

We guarantee the instrument supplied by us for a period of 24 months within the EU, or for 12 months outside of the EU. Excepted from the guarantee are damages that result from disregarding the Operating Instructions, from improper handling of the instrument or from natural wear.

The manufacturer can only be held responsible for the function and technical safety characteristics of the instrument, when maintenance, repairs and alterations to the instrument are only carried out by the manufacturer or by personnel who have been explicitly authorized by him to do so.

7 WASTE DISPOSAL

The packaging consists predominately of environmentally compatible materials that can be passed on for disposal by the local recycling service.



Should you no longer require this product, do not dispose of it with the household refuse.

Please return it to the address below for proper waste disposal.

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