RADIOACTIVITY

1509_ENG Rev. 01

High sensitive GM-Tube Type 1509-10

The GM-tube is extremely well suited for measurings of radiation which normally would cause problems due to the small number of counts obtained. I.e. the statistics derived from these counts are not very reliable.

The GM-tube has quite a large window, and will e.g. when performing measurings of half-life with the Protactinium Generator give 3 times as many counts as the standard GM-tubes. This GM-tube is also extremely well suited for Radon measurings.

The window of the tube is quite large - diameter 27.8 mm - and very sensitive. In order to minimise the risk of destroying it, the tube is delivered with a grating screwed onto the threaded aperture of the housing. This grating reduces the number of counts with approx. 15%, but still this tube is superior to the standard GM-tubes normally used. The grating may be unscrewed for obtaining the maximum number of counts.

The GM-tube is mounted in a tubular black housing and comes complete with cable mounted with a BNC-plug for connection to GM-counters with BNC-bushing.

Please notice that the GM-tube has no built-in anode resistor. This is build into the GM counters from IMPO.

Technical specifications:

The tube is sensitive to α, β and γ radiation.

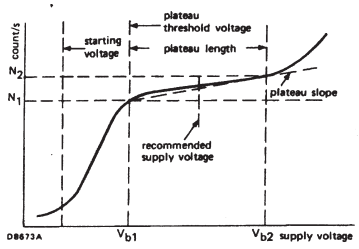
Plateau threshold voltage (Vb1):	450V
Plateau length (Vb2 - Vb1):	250V
Recommended supply voltage:	575V

Window specifications:	
Thickness:	2.0 to 3.0 mg/cm2
Useful diameter:	27.8 mm
Material:	Mica

Gas filling:	Neon, Argon and Halogen
Dead time, typical including cable, at recommended supply voltage:	330 µs

Plateau:

The plateau is the part of the diagram where the number of counts per second is (almost) independent of the voltage applied.



Beta transmission efficiencies:

Isotope	Averange-energy (Mev)	%Trans-mission	Max. Energy	% Trans-mission
P32	0.694	91	1.709	96
P33	0.076	20	0.248	60
C14	0.049	7.5	0.158	55
S35	0.048	7.5	0.167	60

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