



TYPES IB90 CK1020
 CK1018 CK1021
 CK1019 CK1023

RADIATION COUNTER TUBES

DESCRIPTION

These tube types are all glass, thin-wall, self-quenching counter tubes for detecting beta and gamma radiation. They are designed for use in battery operated survey instruments and Prospector's Units for locating radioactive material.

TYPE		IB90	CK1018	CK1019	CK1020	CK1021	CK1023	
MECHANICAL DATA	Envelope	T6	T6	T6	T5½	T5	T5½	Glass
	Thin Wall, nominal*	35	35	35	35	35	35	mg. per sq. cm.
	Base	None	None	None	3-Pin	3-Pin	None	inches
	Lead Diameter	.040	.040	.040	—	—	.012	
	Mounting Position	Any	Any	Any	Any	Any	Any	
MAXIMUM RATINGS	Testing Voltage, max.**	.Thr #150	1000	1050	1000	1000	1000	volts, dc
	Counting Rate, max.	12000	12000	12000	12000	12000	12000	CPM
	Temperature Range	-40 to +55	-40 to +55	-40 to +55	-40 to +55	-40 to +55	-40 to +55	°Cent.
ELECTRICAL DATA	Geiger Threshold, max.	1100	850	880	850	850	850	volts, dc
	Plateau Length **	150	150	150	150	150	150	volts, dc
	Relative Plateau Slope	2	3	3	3	3	3	% per 100 volts
	Operating Voltage**	Thres #50	925	970	925	925	925	volts, dc
	Background†	60	60	60	60	60	60	CPM, approx.
	Efficiency, min.	90	90	90	90	90	90	%
	Life	10 ⁸	10 ⁸	10 ⁸	10 ⁸	10 ⁸	10 ⁸	counts
	Capacity, ave. ††	1.2	1.2	1.2	1.6	1.6	1.6	µµfd.

* Use caution when handling thin wall of bulb.

** The plateau length for new tubes is longer than indicated, however, do not test for maximum length as tubes are readily damaged by very short discharges at the end of plateau. The maximum rating test voltage should not be exceeded during test. Operating voltage shown is for fixed voltage operation. For portable units three 300 volt batteries will furnish the voltage for the types with 925 volts recommended operating voltage. Application of reverse battery polarity will destroy the characteristics of the tube.

† The tube is covered with an opaque coating to exclude light.

†† Capacity includes pins on based types, but not leads on unbased types.

APPLICATION NOTES

The CK1020 or CK1021 can be used as replacements in present survey instrument probes by using a connector inside the probe, such as Amphenol #91-MPF3S.

There are available, microphone connectors, such as Amphenol #91-MC3F, which could provide the basic unit for a simple probe using type CK1021. A splash-proof fitting, having a rubber washer which clamps around the cable, is also available from Amphenol as #91-714.

As the connector terminal numbers do not agree with the RMA base numbering system, the wiring to the connector should be carefully checked before inserting the tube.

Tentative Data
 May 9, 1949

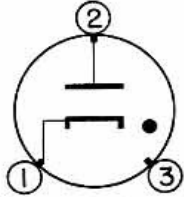
CS-2556

TYPES IB90 CK1020
 CK1018 CK1021
 CK1019 CK1023

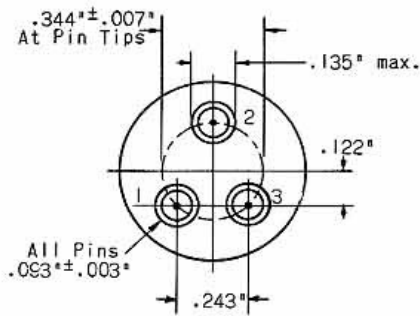


RADIATION COUNTER TUBES

TERMINAL CONNECTIONS

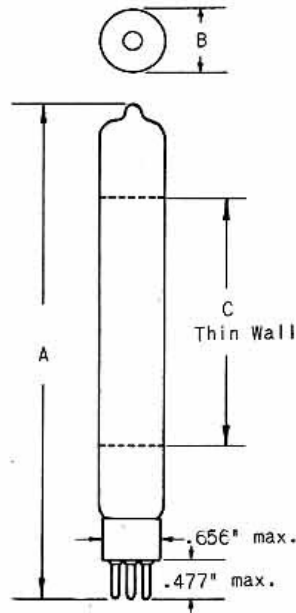


BOTTOM VIEW OF BASE



BASE DIMENSIONS

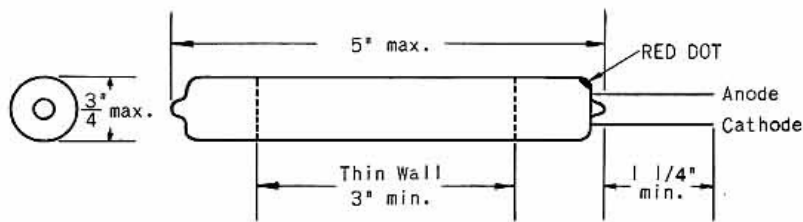
CK1020 - CK1021



TUBE DIMENSIONS

Tube	A max.	B max.	C min.
CK1020	6"	3/4"	3"
CK1021	5 1/4"	21/32"	2 1/2"

CK1023



IB90 - CK1018 - CK1019

