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ISO 9001:2000 Certified

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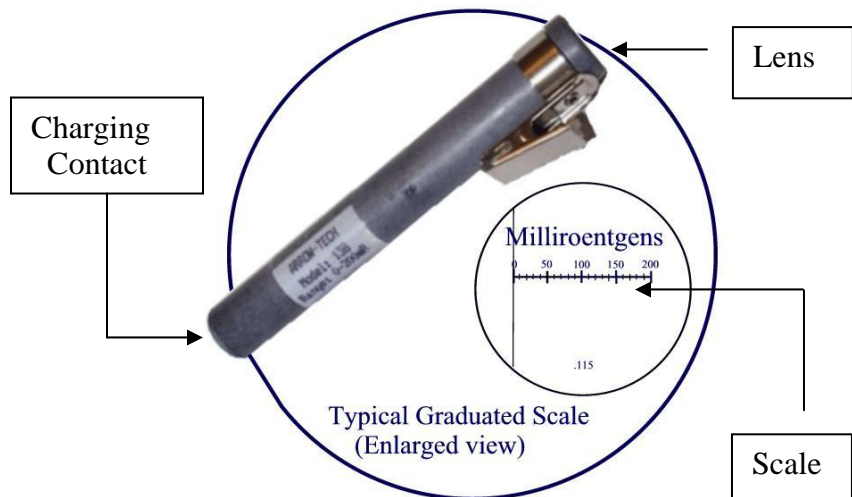
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**“Protection Begins with Detection”**

## Direct Reading Dosimeters

Model	Range
138	0-200 mR
138-S	0-2 mSv
500	0-500 mR
500-S	0-5 mSv
720	0-2 R
725	0-5 R
725-S	0-50 mSv
730	0-20 R
735	0-50 R
740	0-100 R
742	0-200 R
746	0-600 R



**Model 138 shown**

A hardened sapphire window can be added to any model, this may be needed in harsh environments to prevent scratching of the lens

**The Direct-Reading dosimeter is a pocket-sized instrument used to measure x-ray and gamma exposure.**

Licensed from the U.S. Government under Patent No. 5,426,305  
Our instruments do not contain any radiation sources, they detect radiation only

### Specifications

Radiation Detected:	Gamma and x-ray from 16 keV to 6 MeV
Ranges:	0 – 2 mR to 0 – 600R
Detector:	Fiber electrometer mounted in an electrically conductive plastic ion chamber
Detector Housing:	Very low permeability plastics-hermetically sealed
Accuracy:	Within + or – 10% of true exposure
Rate Response:	Dose rate independent for gamma and x-ray
Electrical Leakage:	Less than 1.0% of full scale for 24 hours at 50 C
Temperature Range:	-20 degrees C to + 50 degrees C
Relative Humidity:	Up to 90%
Dimensions:	Length: 4.5" (12.4 cm) Diameter .6 " (1.5 cm)
Weight:	1.0 oz (25 grams)
Finish:	Barrel and end caps are Natural matte black with metal clips
Warranty:	2 year limited warranty
ANSI Spec:	Manufactured to 13.5 and ANSI N322-1997

The Direct-Reading reading dosimeter is a pocket-size, carbon fiber electroscop with an ion chamber for detecting and indication of integrated exposure to gamma and x-ray. It has a thin wall which permits the penetration and detection of radiation.

**Arrow-Tech, Inc. recommends a yearly calibration of the Direct Reading Dosimeter which is generally consistent with good health physics practices. More frequent calibration may be necessary should the user's license require a shorter calibration interval.**

Accumulated radiation is read directly on an internal calibrated scale. More detailed instructions on back

## Instructions for reading a Direct Reading Dosimeter (DRD)

The way to "read" a DRD is to just point it at a light source so that you can look through it and see the scale. The conductive fiber moves across a very clear well marked scale that produces the reading.



Because the dosimeter scale is linear, it is possible to determine the total amount of radiation exposure for any selected period of time by merely subtracting the reading taken at the start from that taken at the end of the selected period.

### Wearing a Dosimeter

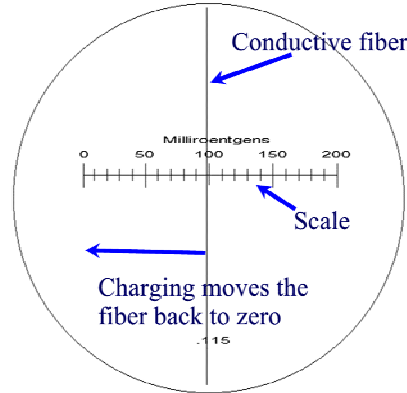
You can wear the dosimeter like a pen in your pocket, or clip it to your belt. You can also set it outside for an hour, this will tell you the radiation rate. You don't have to have a radiation meter if you have a dosimeter and are not in a hurry to measure the rate



It is not necessary to recharge the dosimeter after each reading, unless the instrument reads close to full scale.

### The Dosimeter scale

Arrow-Tech dosimeters use an extremely sensitive fiber electrometer type voltmeter and a small volume of air to measure the total amount of radiation to which the instrument has been exposed. A reading may be made at any time by merely looking at a source of light through the eyepiece end of the instrument.



The graduated scale shown is what is viewed when looking through the Dosimeter

The reading in this picture is approx. 99 Milliroentgens (mR).

This particular dosimeter is the model 138, a 0 to 200 Milliroentgen (mR) dosimeter. **Our most popular model.**

## Preventative Maintenance

Dosimeters are extremely sensitive instruments. Although they are constructed for rugged use, they should receive the same care as a wristwatch. Since dosimeters are hermetically sealed at the factory, they cannot be repaired or adjusted in the field. Therefore, if instrument malfunctioning is experienced, the instrument should be returned to the factory or your dealer. Dosimeters may be maintained in operating condition simply by cleaning the eye-piece lens and the charging switch insulator with clean water (**Do not use any alcohol based products**) and a cloth that is free of lint and grit. Make sure the charging switch insulator is absolutely free of lint and moisture at all times. **Caution: Do not insert any sharp objects into, or tamper with parts in the charging switch recess.**

