DESCRIPTION

The P4508 Reference DoseStix Dosimeter Holder is specially designed to encapsulate a single DoseStix dosimeter inside and is used as a reference tool for a spectrophotometer. The Reference DoseStix Dosimeter Holder includes a P4121 Cuvette Cup.

APPLICATION(S)

The Reference DoseStix Dosimeter Holder is used for processes such as equipment performance verification and calibration verification of a spectrophotometer. The encapsulated DoseStix dosimeter is located in the same position each time when inserted into the spectrophotometer throughout the readout process, and minimizes light scatter from the film surface. The Reference Dosimeter Holder is used before and after use of a spectrophotometer to verify that drifting of the instrument did not occur while performing measurements.

SPECIFICATIONS

Physical Specifications:

Materials:	DoseStix holder: 2 piece Delrin with 2 metal screws Cuvette cup: molded plastic
Unit Dimensions:	DoseStix holder: 2.80” x 1.20” x 0.56” Cuvette cup: 2.75” x 2” x 3.25”
Color:	DoseStix holder: Black Cuvette cup: Black
Printing:	Each DoseStix holder unit is engraved with a unique ID number
Packaging Dimensions:	DoseStix holder: 3.0” x 5.0” Cuvette cup: 5.2” x 4.3” x 3.4”
Packaged Weight:	DoseStix holder: 0.1 lb. Cuvette cup: 0.3 lb.

Included Components:

- Spectrophotometer cuvette cup
- Standard cuvette holder

Storage / Shelf Life:
Holders and any components should be stored in an area with minimal potential for particulates. Reference holders loaded with a B3 dosimeter should be stored properly to avoid UV exposure. Avoid storing in areas with a high volume of personnel traffic. Periodic replacements should be considered as the plastic may become weak with frequent use.

Maintenance:
Users are advised to observe wear and tear over time. Visual checks prior to use to look for any missing, broken, or damaged pieces should be performed.

Use filtered or compressed air to remove lighter particulate residue fropm the holder as needed. The holder may be unscrewed using an Allen wrench to access and clean the interior. Hand-wash with mild soap and water if necessary. Rinse and dry thoroughly before use.

PRODUCT PHOTOS

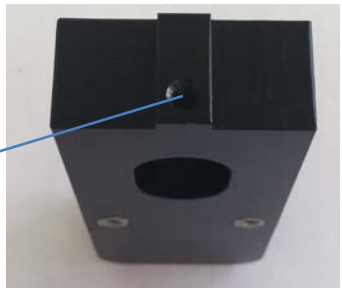
USAGE

The P4508 Reference DoseStix Dosimeter Holder replaces the standard cuvette holder. To do this, simply remove the cuvette cup from the spectrophotometer, then the cuvette holder by unscrewing the unit. Replace the cuvette holder with the P4508 reference holder, and re-install the cuvette cup into the spectrophotometer. Detailed instructions below:

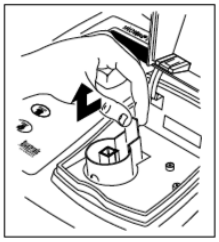
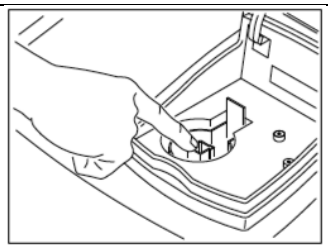
1. Remove the cup

2. Unscrew the cuvette holder

3. Align and screw in the P4508 holder



4. Re-insert the cup

Removing the Cuvette Cup:	**Installing the Cuvette Cup:**
	
Firmly grasp the tab on the back of the cuvette cup and pull up and forward.	*Press down firmly until you hear the cuvette cup snap into place.*

Set-Up / Operation:

1) Unscrew the two points which keep the reference holder parts together. Carefully place a single irradiated DoseStix dosimeter into the P4508 holder's slot as pictured below. The dosimeter should have a minimum absorbance value of 0.250A, which covers a measurement range from 545nm through 559nm. *Always check dosimeter film surfaces for defects to include scratches or dents which may affect measurement results.*

2) Re-assemble the reference holder's parts and tighten the two screws.

3) Turn the spectrophotometer on and wait for the instrument to warm-up according to current protocol. Once the instrument is ready, zero the instrument to reflect absorbance value of 0.000A on the display.

4) Verify the reference holder is positioned correctly (centered) inside of the cuvette cup and so the holder's aperture is centered in the beam spot.

5) Install the P4508 cuvette cup into the spectrophotometer. The instrument should reflect the dosimeter's absorbance value on the display.

ACCESSORIES

GEX Part No.	Description	Purpose	Link
P4120	Genesys 20 Spectrophotometer	Measuring the optical absorbance of dosimeters	http://www.gexcorp.com/purchase-pricelist.php
P4220	Spectronic Standards Set 1 or 2	Performance verification testing of a spectrophotometer	http://www.gexcorp.com/purchase-pricelist.php

LIMITATIONS/PRECAUTIONS

The P4508 GEX Reference DoseStix Dosimeter Holder was specifically tested and designed for use in conjunction with the Genesys 20 Spectrophotometer and P4121 cuvette cup; it has not been tested in any other instruments. Using this reference holder in any other cuvette holder or bracket should be done with caution, and requires the user to validate the P4508 holder for use with that particular configuration.

HEALTH/ENVIRONMENTAL INFORMATION

Non-toxic. Can be safely discarded in general waste receptacles.

WARRANTY/GUARANTEE

Guarantee:
1 year GEX satisfaction guarantee. May be returned with or without reason with one year from the date of delivery.

REFERENCES

- ISO/ASTM 52628: Describes the basic requirements that apply when making absorbed dose measurements in accordance with the ASTM E61 series of dosimetry standards. In addition, it provides guidance on the selection of dosimetry systems and directs the user to other standards that provide specific information on individual dosimetry systems, calibration methods, uncertainty estimation, and radiation processing applications.

- ISO/ASTM 51275: Practice for use of a radiochromic film dosimetry system.

GEX DOCUMENTS: http://www.gexcorp.com/library-documents.php

- *100-101, B3 Film Dosimeters Specifications and Usage*

GEX RECOMMENDED PROCEDURES: http://www.gexcorp.com/library-documents.php

- *100-251, Instruments and Personnel Characterization*
- *100-252, Instruments and Personnel Characterization Form*
- *100-253, Dosimetry Lab Requirements*
- *100-254, Genesys 20 Calibration and Maintenance*
- *100-258, Measuring GEX Dosimeters*
- *100-262, Genesys 20 Spectrophotometer Calibration Form*

GEX TECHNICAL REPORTS: http://www.gexcorp.com/library-documents.php

- *100-210, Genesys 20 – General Practices and Information*

To learn more about GEX products and services, visit http://www.gexcorp.com or contact a GEX representative at +1 303 400-9640.