

DESCRIPTION / APPLICATION

The P4502 Dosimeter Hinged Holder is a component of the Genesys 30 Dosimetry System specially designed to control the dosimeter position in the spectrophotometer throughout the readout process, and to minimize light scatter from the film surfaces. The dosimeter holder is precision-machined to specified tolerances.

SPECIFICATIONS

Physical Specifications:

Material:	2 piece Delrin with metal hinge pin
Unit Dimensions:	<ul style="list-style-type: none"> Outer Dimensions: 2.900" (L) x 0.500" (W) x 0.525" (H) ($\pm 0.005"$) Inner Window Pocket: 0.413" (W) x 0.413" (L) ($+ 0.005"/ - 0.000"$)
Color:	Black
Printing:	Each unit engraved with unique ID number
Packaging Dimensions:	3" x 5.5" bag
Packaged Weight:	0.05 lbs.
Other:	Easy open hinge, no sticking

- GEX P/N: P4502 is part of the WINdose Dosimeter Holder for the Genesys 30 (GEX part# P4420)
- Custom designed dosimeter film holders are available.

Storage/Shelf Life:

Maintain the instrument in an area that minimizes personnel traffic with minimal particulate potential and meets the temperature and RH conditions specified in the spectrophotometer Operator Manual (see References). Users are advised to observe the 'wear and tear' or overall usage effects on the holder over time. Daily visual checks and periodic replacements should be considered.

USAGE

The center of the aperture is 8.0mm from the bottom of the holder. The holder is 12.7mm across and 13.3mm thick. The back portion of the holder has a conical opening that must face in the direction of the instrument light source. The back surface of the holder is flat and faces away from the beam. Users should be careful to align and use the holder correctly. If the holder is positioned backwards you will obtain inaccurate readings.

Open the sample compartment lid on the spectrophotometer and insert the dosimeter holder into the cuvette holder bracket. The holder needs to be positioned fully down in the cuvette holder for accurate measurements. The spring in the cuvette holder positions the dosimeter holder into the proper vertical alignment within the instrument. Only moderate pressure is required during insertion. Shut the sample compartment lid gently, if applicable (Genesys 30 instruments with light enclosure tubes do not need the lid to close). Do NOT force the dosimeter holder down too hard or slam the lid, as the motion can jar the alignment of lamp or the light detector, and cause the instrument to lose the zero value.

Check your zero reading before each session and frequently throughout the session to be sure that the holder is positioned properly during use. Reference GEX Procedure 100-251 (see References section) for a recommended practice for qualifying personnel to perform measurements.

Placing Dosimeter into the Holder:

Use a dosimeter-handling device to place a WINdose dosimeter into the holder (see Figure 1 below).

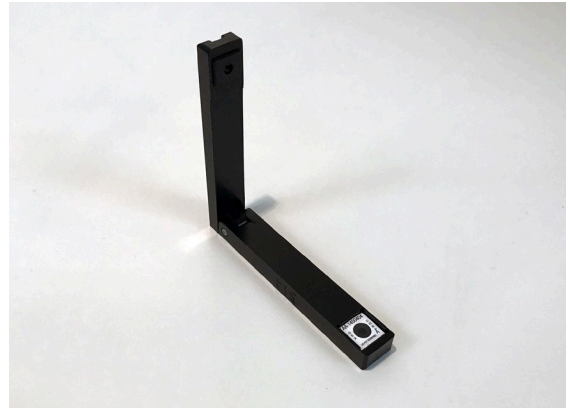


FIGURE 1: loaded WINDose Dosimeter Holder

Dosimeters should lie completely flat and should not be force fit or bent in any way. Trim any excess material from dosimeter edges if necessary. Observe film surfaces for scratches or dents that may affect measurement results.

Maintenance:

Users are advised to observe wear and tear on both the P4502 Dosimeter Holder and the cuvette (holder bracket) over time. Daily checks should be made and periodic replacements should be considered.

Use filtered or clean air washes to remove particulate build-up from the holder, as well as the cuvette as needed. Wash with mild soap and water. Rinse thoroughly and dry completely before use. If necessary use a small diameter swab to clean the apertures. Routinely clean and replace the cuvette holder as needed.

PRODUCT PHOTOS



ACCESSORIES

GEX Part No.	Description	Purpose	Link
P4400	Genesys 30 Spectrophotometer	Use for measuring the optical absorbance of dosimeters	https://www.gexcorp.com/pricelist.html
P4405	Dosimeter Holder Base System (G30)	Holder system for Genesys 30	https://www.gexcorp.com/pricelist.html
P8005	PENvac Dosimeter Handling tool	Dosimeter handling tool	https://www.gexcorp.com/pricelist.html
P8006	Dosimeter Handling Forceps	Dosimeter handling tool	https://www.gexcorp.com/pricelist.html
P4220	Spectronic Standards Set	For performance verification testing of Spectrophotometer	https://www.gexcorp.com/pricelist.html

LIMITATIONS/PRECAUTIONS

Caution:

The WINdose Dosimeter Holder is specifically designed for use in the WINdose holder system for the Thermo Genesys™ 30 (GEX P/N: P4420). The P4502 holders have not been tested in other instruments. Using these Holders in any other cuvette holder or bracket should be done with caution, and requires the user to validate the P4502 holder for use with that particular configuration. Make sure the holder rests reproducibly and positions correctly so that the holder aperture is centered in the beam spot.

HEALTH/ENVIRONMENTAL INFORMATION

The holder is non-toxic and can be safely discarded in general waste receptacles.

WARRANTY/GUARANTEES

Guarantee

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

REFERENCES

- ISO 10012 – Measurement Management Systems -- Requirements for Measurement Processes and Measuring Equipment
- ISO/ASTM 51261 – Calibration of Routine Dosimetry Systems for Use in Radiation Processing (Section 7)
- 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.

GEX RECOMMENDED PROCEDURES <https://library.gexcorp.com/>

- **100-251:** Recommended practice for qualifying personnel to perform measurements.
- **100-252:** Instruments and Personnel Characterization Form
- **100-253:** Dosimetry Lab Requirements
- **100-258:** Measuring GEX Dosimeters
- **100-269:** Spectrophotometer Performance Verification Forms
- **100-270:** Genesys 30 Performance Verification Procedure

GEX DOCUMENTS <https://library.gexcorp.com/>

- **100-101** B3 Film Dosimeters Specifications and Usage Document – Products# B3000, B3001, and B3002

To learn more about GEX products and services, visit www.gexcorp.com or contact a GEX representative at +1 303 400-9640. Genesys is a trademark of Thermo Electron Corp.