



Liquid Waveguide Cleaning Kit

Part # 501609

Liquid Waveguide Cleaning Kit

WARRANTY

WPI (World Precision Instruments, Inc.) warrants to the original purchaser that this equipment, including its components and parts, shall be free from defects in material and workmanship for a period of one year* from the date of receipt. WPI's obligation under this warranty shall be limited to repair or replacement, at WPI's option, of the equipment or defective components or parts upon receipt thereof f.o.b. WPI, Sarasota, Florida U.S.A. Return of a repaired instrument shall be f.o.b. Sarasota.

The above warranty is contingent upon normal usage and does not cover products which have been modified without WPI's approval or which have been subjected to unusual physical or electrical stress or on which the original identification marks have been removed or altered. The above warranty will not apply if adjustment, repair or parts replacement is required because of accident, neglect, misuse, failure of electric power, air conditioning, humidity control, or causes other than normal and ordinary usage.

To the extent that any of its equipment is furnished by a manufacturer other than WPI, the foregoing warranty shall be applicable only to the extent of the warranty furnished by such other manufacturer. This warranty will not apply to appearance terms, such as knobs, handles, dials or the like.

WPI makes no warranty of any kind, express or implied or statutory, including without limitation any warranties of merchantability and/or fitness for a particular purpose. WPI shall not be liable for any damages, whether direct, indirect, special or consequential arising from a failure of this product to operate in the manner desired by the user. WPI shall not be liable for any damage to data or property that may be caused directly or indirectly by use of this product.

CLAIMS AND RETURNS

Inspect all shipments upon receipt. Missing cartons or obvious damage to cartons should be noted on the delivery receipt before signing. Concealed loss or damage should be reported at once to the carrier and an inspection requested. All claims for shortage or damage must be made within ten (10) days after receipt of shipment. Claims for lost shipments must be made within thirty (30) days of receipt of invoice or other notification of shipment. Please save damaged or pilfered cartons until claim is settled. In some instances, photographic documentation may be required. Some items are time-sensitive; WPI assumes no extended warranty or any liability for use beyond the date specified on the container

Do not return any goods to us without obtaining prior approval and instructions from our Returns Department. Goods returned (unauthorized) by collect freight may be refused. Goods accepted for restocking will be exchanged or credited to your WPI account. Goods returned which were ordered by customers in error are subject to a 25% restocking charge. Equipment which was built as a special order cannot be returned.

REPAIRS

Contact our Customer Service Department for assistance in the repair of apparatus. Do not return goods until instructions have been received. Returned items must be securely packed to prevent further damage in transit. The Customer is responsible for paying shipping expenses, including adequate insurance on all items returned for repairs. Identification of the item(s) by model number, name, as well as complete description of the difficulties experienced should be written on the repair purchase order and on a tag attached to the item.

* Electrodes, batteries and other consumable parts are warranted for 30 days only from the date on which the customer receives these items.



World Precision Instruments, Inc.

USA

International Trade Center, 175 Sarasota Center Blvd., Sarasota FL 34240-9258
Tel: 941-371-1003 • Fax: 941-377-5428 • E-mail: sales@wpiinc.com

UK

Astonbury Farm Business Centre • Aston, Stevenage, Hertfordshire SG2 7EG
Tel: 01438-880025 • Fax: 01438-880026 • E-mail: wpiuk@wpi-europe.com

Germany

Liegnitzer Str. 15, D-10999 Berlin
Tel: 030-6188845 • Fax: 030-6188670 • E-mail: wpide@wpi-europe.com

Japan

Physio-Tech Co., Ltd.
1-6-3 Iwamoto-cho, Chiyoda-ku, Tokyo 100-0032
Tel: 81-3-3864-2781 • Fax: 81-3-3864-2787 • E-mail: sales@physio-tech.co.jp

Australia

Coherent Life Sciences Pty. Ltd.
116 Sir Donald Bradman Dr • Hilton, South Australia 5033
Tel: (03) 9887-6262 • Fax: (03) 9887-9585 • E-mail: wpi.au@ozemail.com.au

Internet

www.wpiinc.com • www.wpi-medical.com
www.nitricoxide.net • www.pipetter.com

www.wpiinc.com

INSTRUCTION MANUAL

070902

World Precision Instruments

INTRODUCTION

The solutions in this cleaning kit are formulated to remove contamination from WPI's liquid waveguide capillary cells (**LWCC**) and WPI's **UltraPath** multiple pathlength sample cell. The stringent cleaning practices outlined in this manual will ensure trouble free use of WPI's waveguides. Each kit contains sufficient solution for approximately 120 cleaning cycles; using 1 mL per cycle of each solution.

KIT CONTAINS

- 125 mL of Solution 1 "Cleaning Solution"
- 125 mL of Solution 2 "Methanol Solution"
- 125 mL of Solution 3 "HCl Solution"
- (2) 30 mL bottles of Concentrated Cleaning Solution
- (1) 125 mL Sample Bottle
- (1) 125 mL Reference Bottle
- Convenient Carrying Case

CAUTIONS

- Follow good laboratory practices when using these chemicals.
- Wear NIOSH compliant safety glasses, protective clothing and gloves as necessary.
- Use chemicals for intended purposes ONLY!
- Keep all containers tightly closed and in an upright position when not in use.
- Store in a cool dry place – 25°C is recommended.

INSTRUCTIONS

For Liquid Waveguide Capillary Cells (LWCC) follow these steps:

1. Connect exit tubing (*i.e.*, silicon or equivalent) from the *OUTFLOW* of the LWCC to a waste container.
2. Rinse the cell thoroughly using *Ultra Pure* water. Obtain a new reference intensity and take a baseline absorbance reading.

3. Fill a 1 cc syringe with "**Cleaning Solution 1**" and inject it into the LWCC's *INFLOW* via the Luer fitting adapters provided with your LWCC
4. Fill a 1 cc *glass* type syringe with "**Methanol Solution 2**" and inject it into the *INFLOW* of the LWCC.
5. Fill a 1 cc syringe with "**HCl Solution 3**" and inject it into the *INFLOW* of the LWCC.
6. Flush out cleaning solutions with distilled, *Ultra Pure*, reverse osmosis or equivalent quality water and take an absorbance reading.
7. Repeat these cleaning cycles until a stable absorbance signal can be obtained.

The sample injector assembly kit (WPI Part **#58006**) can be used to conveniently fill all LWCC models, unlike syringe type injection methods described above. Further, using the sample injector, the injection volume of the cleaning solutions per cycle can be reduced to the internal volume of the LWCC (*e.g.*, 0.26-mL for a 100 cm LWCC).

For Ultrathin follow these steps:

1. Rinse the cell thoroughly using *Ultra Pure* water. Obtain a new reference intensity and take a baseline absorbance reading.
2. Inject 3 injector volumes, separated by air bubbles, of:
Solution 1 "Cleaning Solution" followed by:
Solution 2 "Methanol Solution" followed by:
Solution 3 "HCl Solution".
3. Then re-fill cell with **1-2 volumes of de-ionized water**, take a reference measurement and compare it with the initial absorbance baseline signal.
4. Repeat Step 2 until scans show little or no change.

NOTE: Use scans for pathlength = 200-cm cell as criteria for determining a clean system.

NOTES

1. All solutions in cleaning kit are HPLC grade solvents.
2. Sample solutions should NEVER be left inside waveguide between uses.
3. Before extensive periods of storage (greater than 24 hours), flush with a solution of 20% methanol / 80% water, then remove. This prevents most of the inevitable formation of organics from developing inside the waveguide sample cells.

ACCESSORIES

Description	WPI part number
1 cc B-D Plastic Luer Lock Syringe (box of 100)	501363
2 cc Glass Luer Lock Syringe (box of 6)	SYRNG002
Sample Injector Kit for Liquid Waveguides (LWCC)	58006
Waveguide Cleaning Kit	501609
Cleaning Solution Concentrate 100 mL (refill for solution 1 of WPI# 501609)	15807
Silicone Tubing, 1 m length, 1.6 mm I.D., 1.6 mm wall thickness	500320

WHERE TO GO FOR MORE HELP

If you have questions about any aspect of cleaning your liquid waveguide, you are welcome to contact WPI. WPI's e-mail address for spectroscopy products is spectroscopy@wpiinc.com.

MSDS Sheets are available upon request.