STX100

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 30 days 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 10 days after receipt of shipment. Claims for lost shipments must be made within 30 days of invoice or other notification of shipment.

Please save damaged or pilfered cartons until claim settles. 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.

- WPI cannot be held responsible for items damaged in shipment en route to us. Please enclose merchandise in its original shipping container to avoid damage from handling. We recommend that you insure merchandise when shipping. The customer is responsible for paying shipping expenses including adequate insurance on all items returned.

- Do not return any goods to WPI without obtaining prior approval and instructions (RMA#) from our returns department. Goods returned unauthorized or by collect freight may be refused. The RMA# must be clearly displayed on the outside of the box, or the package will not be accepted. Please contact the RMA department for a request form.

- Goods returned for repair must be reasonably clean and free of hazardous materials.

- A handling fee is charged for goods returned for exchange or credit. This fee may add up to 25% of the sale price depending on the condition of the item. Goods ordered in error are also subject to the handling fee.

- Equipment which was built as a special order cannot be returned.

Warning: This equipment is not designed or intended for use on humans.

INSTRUCTIONS MANUAL

STX100

for TEER measurements in high throughput screening (HTS) cell culture filter plates

Serial No._____________________

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
1 Hunting Gate, Hitchin, Hertfordshire SG4 0TJ
Tel: 44 (0)1462 424700 • Fax: 44 (0)1462 424701 • E-mail: wpiuk@wpi-europe.com

Germany
Zossener Str. 55, 10961 Berlin
Tel: 030-6188845 • Fax: 030-6188670 • E-mail: wpide@wpi-europe.com

China & Hong Kong
WPI Shanghai Trading Co., Ltd.
Rm 29a, No8 Dongfang Rd., Pudong District, Shanghai, 200120 PR China
Tel: +86 21 6888 5517 • E-mail: chinasales@china.wpiinc.com

Brazil
Av. Conselheiro Nébias, 756 sala 2611, Santos-CEP: 11045-002, São Paulo Brazil • Tel: (013) 406-29703 • E-mail: info@brazil.wpiinc.com

Internet
www.wpiinc.com • www.wpi-europe.com • www.wpiinc.cn
STX100 models are designed for specific HTS plates: 
• EVOM2 improving reproducibility over hand-held or manually placed electrodes. 

The STX100 is a miniature electrode designed for measurement of transepithelial electrical resistance (TEER) in high throughput screening (HTS) cell culture plates in combination with WPI’s EVOM2. The STX100 exhibits nearly the same reproducibility for tissue resistance measurements (<±5Ω), as do WPI’s Endohm chambers. It also has the advantage of being able to perform resistance measurements directly in an HTS plate, common or divided, thus reducing the possibility of contamination as well as mechanical damage to the cultured cells. The STX100 employs a specially shaped adapter designed for Corning HTS 96-well plates. The STX100 is also designed for the BD Falcon HTS Multiwell insert system. STX100M is designed for Millipore’s new 96-well Multiscreen™ cell culture filter system. 

Positioning the Electrode
To perform a measurement, place the STX100 so that the shorter electrode is in the center of the insert and the slightly longer electrode is outside of the insert. (In the case of the STX100M, the electrode with the wider base goes in the center of the stainless steel holder.) Let the electrode sit by its own weight on top of the keyhole-shaped insert when taking a TEER reading. Holding the electrode by hand during the measurement can cause error due to even slight movement of the electrode.

Making Measurements
Refer to the EVOM2 manual for complete instructions on making measurements.

For Resistance Measurements:
1. Disconnect the EVOM2 from the charger and turn the Power on (I).
2. Sterilize the electrode.
3. Connect the electrode to the meter.
4. Precondition the electrode in growth media.
5. Set the Function switch to Ohms.
6. Measure the blank resistance and record the value.
7. Perform the measurements. To obtain the actual tissue reading, subtract the blank resistance value.
8. Clean, dry and store the electrode.

For Voltage Measurements:
1. Sterilize the electrode.
2. Connect the electrodes to the EVOM2 and leave the power off.
3. Equilibrate the electrode in growth media with the EVOM2 power off and the Function switch set to Ohms.
4. Disconnect the EVOM2 from the charger and set the Function switch to Millivolts.
5. Turn the Power on (I).
6. Measure the blank voltage and record the value.
7. Make your voltage measurements across the membranes you are testing. To obtain the actual tissue reading, subtract the blank voltage value.
8. Clean, dry and store the electrode.

Cleaning the STX Electrode
With use, the electrode surface can become coated with protein or other foreign materials. This build-up, or contamination, can degrade the performance of the system. After every use, rinse the STX electrodes with distilled water and store them dry. Periodically clean your STX electrodes with Tergazyme, a proteolytic detergent manufactured by Alconox.

1. Rinse with the electrodes with distilled water and dry them.
2. Make a 1% solution of Tergazyme according to the manufacturer’s instructions.
3. Soak the tips of the electrodes in the Tergazyme solution, with the exposed electrode surfaces fully immersed. During soaking, the surfaces of the electrodes may be brushed with a soft brush (like a toothbrush), if desired. The soaking time varies according to your maintenance schedule and the frequency of your cleaning. 
   • Soak overnight when electrodes have not been on a routine maintenance cleaning schedule.
   • Soak 30–60 minutes if you are on a weekly cleaning schedule.
   • Soak 5 minutes if you clean your electrodes daily.
4. Rinse well with distilled or de-ionized water. Allow them to air dry and store the electrodes dry away from exposure to sunlight.

Disinfecting the STX Electrode
The STX electrodes are resistant to most methods of low temperature chemical disinfection. A solution of 5% sodium hypochlorite (undiluted household bleach) is a good choice. Ortho-phthalaldehyde (Cidex OPA or Rapicide OPA), ethanol or isopropyl alcohol are also acceptable.

1. Sterilizing the STX Electrode
The STX2 electrodes are non-sterile as supplied. Acceptable low temperature sterilization methods for the electrodes include gamma irradiation, hydrogen peroxide plasma and ethylene oxide gas (ETO).

2. Disinfecting the STX Electrode
The STX2 electrodes are non-sterile as supplied. Acceptable low temperature sterilization methods for the electrodes include gamma irradiation, hydrogen peroxide plasma and ethylene oxide gas (ETO).

Storing the Electrode
Short term storage: place the STX electrodes with distilled water and store in the dark. Long term storage: When storing electrodes, rinse the electrode with distilled water and store it dry in the dark.