



biosystems

X-CLARITY™

Tissue Clearing System

Quick Start Guide

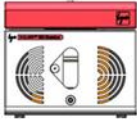


This Quick Start Guide provides instructions to install and use the X-CLARITY™ Tissue Clearing System. Before using this system, read the user manual in the supplied USB drive carefully to ensure that you know how to operate it safely and correctly.

CAUTION!!!

1. **DO NOT** open or close the ETC Chamber safety cover with the snap-lock connector tube still attached.
2. **DO NOT** detach the snap-lock connector tube when it has liquid in it. Drain the tube before detaching it from the ETC Chamber.
3. **DO NOT** pour liquids directly into the ETC Chamber. Always use the pump to fill or drain the ETC Chamber. See the user manual for more details.
4. **BEWARE** of electric shock. Keep the ETC Chamber as dry as possible. If buffer spills or leaks occur, immediately turn off the power. Clean up the liquid as quickly as possible with a clean, dry cloth to prevent damage.

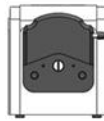
Tissue Clearing System Components



ETC Chamber
C10101



ETC Controller
C10201



Pump
C10301



Reservoir
C10401



Multi-Cable
C12101



Snap-Lock Connector Tube
C12103



Peristaltic Pump Tube
C12104



Tissue Container (5)
C12001



Container Holder
C12002



Power Cord (2)
C12201



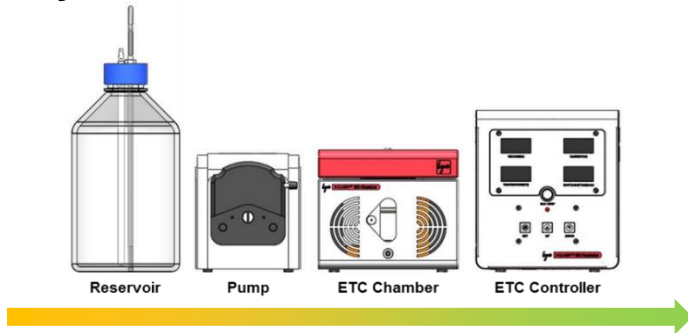
USB Drive, 16 GB
U10005



**Electrophoretic Tissue
Clearing Solution (12)**
C13001

**note: pictures are not to scale*

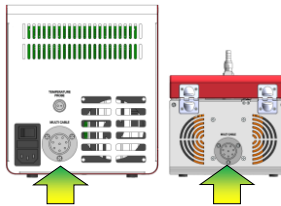
The Layout



Making the Connections

A. Multi-Cable: ETC Controller and the ETC Chamber

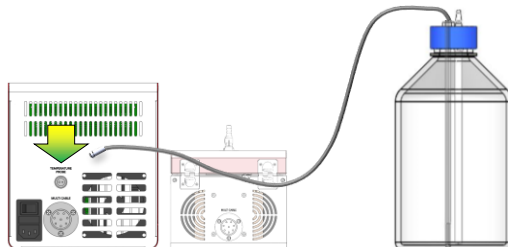
1. Connect the ends of the multi-cable to the ports on the rear panels of the ETC Controller and Chamber. Check the homing grooves and the orientation of the pins on the ends of the multi-cable for proper orientation.



2. Fasten the nuts tightly to ensure a tight connection.

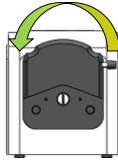
B. Temperature Probe Connector: Temperature Probe and the ETC Controller

1. Screw the reservoir cap onto the reservoir. Make sure the temperature probe and reservoir outlet tube are both inside the reservoir.
2. Plug the temperature probe connector into the temperature probe port on the rear panel of the ETC Controller. Check the homing groove on the end of the connector and the thickness of the pins in the port for proper orientation.



C. Peristaltic Pump Tube: Reservoir Outlet and the ETC Chamber Inlet

1. Attach one end of the peristaltic pump tube to the ETC Chamber inlet located on the front panel of the ETC Chamber. Make sure there is a tight seal to prevent buffer leakage.
2. Attach the other end of the peristaltic pump tube to the reservoir outlet (the reservoir outlet is connected to tubing that extends into the reservoir). Make sure there is a tight seal to prevent buffer leakage.
3. Pull the pump head lever to the left to open the compression block.



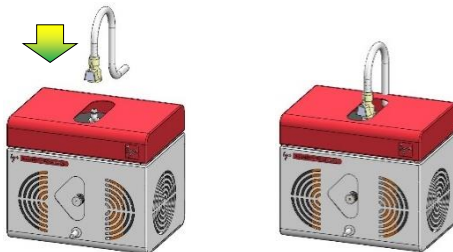
4. Lift the clamps on both sides of the pump head.
5. Load the middle of the peristaltic pump tube into the pump head. Make sure the tube is between the rollers and the compression block.
6. Release the clamps.
7. Pull the pump head lever to the right to close the compression block.

D. Power Cords

1. Plug in a power cord to the pump. Connect to a power outlet.
2. Plug in a power cord to the ETC Controller. Connect to a power outlet.

E. Snap-Lock Connector Tube: ETC Chamber Outlet and the Reservoir Inlet

1. Screw the chamber cap onto the ETC Chamber.
2. Close the safety cover.
3. Attach the plastic head of the snap-lock connector tube to the chamber outlet protruding from the chamber cap. You will feel and hear a click when it has attached properly.



4. Attach the other end of the snap-lock connector tube to the reservoir inlet. Make sure there is a tight seal to prevent buffer leakage.

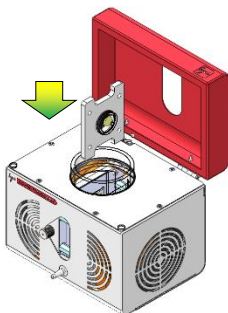
Ready, Set, Run!

A. Buffer Flow

1. Fill the reservoir with 1.2 L Electrophoretic Tissue Clearing Solution.
2. Screw on the reservoir cap. Make sure all tubes are connected securely and properly.
3. Turn on the pump.
4. Set the pump speed to 30-50 rpm and direction to pump the Electrophoretic Tissue Clearing Solution from the reservoir to the ETC Chamber. Make sure the buffer is flowing in the right direction: **Reservoir** → **reservoir outlet** → **chamber inlet** → **ETC Chamber**
5. Stop the pump when the ETC Chamber is half full.

B. Sample Insertion

1. Press the stainless steel button on the side of the snap-lock connector to release the tube from the ETC Chamber.
2. Open the safety cover and unscrew the chamber cap.
3. Insert the sample holder into the chamber (upright).



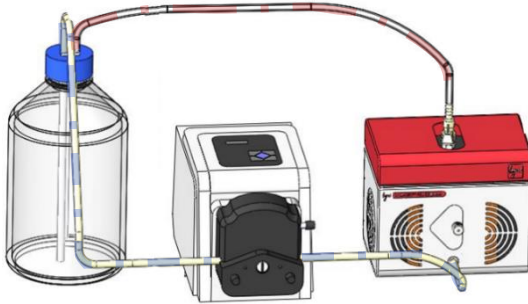
4. Screw on the chamber cap tightly and close the safety cover. If the safety cover is open, the system will not run even if you push the RUN/STOP button.
5. Attach the plastic head of the snap-lock connector tube to the chamber outlet protruding from the cap. You will feel and hear a click when it has attached properly.

C. Tissue Clearing

1. Turn on the ETC Controller. Red numbers will appear on the LED displays.
2. Push the SET button to select current, temperature, or time. Use the UP and DOWN buttons to adjust the values. Push the SET button again to complete the setting.

Recommended Settings	
Current	1.5 A
Temperature	37-45°C
Time	Sample-dependent
Pump speed	30 rpm

3. Start the pump. Make sure the buffer is flowing in the right direction.



**Reservoir → reservoir outlet → chamber inlet → ETC Chamber →
chamber outlet → reservoir inlet → Reservoir**

4. Push the RUN/STOP button on the ETC Controller to start clearing. A red halo will appear around the button when the instrument is running.

Opening the ETC Chamber

1. Push the RUN/STOP button on the ETC Controller to stop clearing.
2. Turn the ETC Controller off.
3. Drain the ETC Chamber and the snap-lock connector tube.
 - a) Reverse the direction of the pump.
 - b) The snap-lock connector tube will empty into the ETC Chamber. Make sure the tube is completely empty before disconnecting it from the ETC Chamber.
 - c) The buffer will flow out of the chamber inlet back into the reservoir. You can watch the buffer level drop through the window of the ETC Chamber.
4. When the ETC Chamber is sufficiently drained, turn off the pump.
5. Press the stainless steel button on the side of the snap-lock connector to release the tube from the ETC Chamber.
6. Detach the snap-lock connector tube from the chamber outlet.
7. Open the safety cover and unscrew the chamber cap.
8. Check your sample.



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