



A Geno Technology, Inc. (USA) brand name

# Protein Electrophoresis Unit

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**Cat. No. BT201**

Before using the instrument, please read the operation instruction handbook carefully.

## INTRODUCTION

BT Lab System's BT201 vertical electrophoresis cell runs both hand cast gels and commercial premade gels interchangeably. BT201 includes a casting stand, long and short glass plates with permanently bonded gel spacers that simplify hand casting and eliminate leaking during casting. The cell can run 1-2 gels.

## COMPONENTS

Item	Description
Casting Stand (1)	The casting stand secures the gel cassette assembly during casting. It contains pressure levers that seal the assembly against the rubber gaskets.
External Buffer Tank & Lid (1)	The tank and lid combine to fully enclose the inner chamber during electrophoresis. As a safety feature the electrical circuit is disrupted if the lid is removed during electrophoresis.
Combs (16)	The combs supplied include 4 each of 1mm thick 10 teeth, 1mm thick 15 teeth, 1.5mm thick 10 teeth and 1.5mm thick 15 teeth
Electrode Assembly (1)	The electrode assembly has a dual function. 1) Holding the gels during casting when clamped to the casting stand. 2) Houses the sealing gasket, upper and lower electrodes and the gels during electrophoresis.
Rubber Gaskets (4)	The rubber gaskets are used with the casting stand to seal the bottom of the plates prior to casting.
Short Glass Plates (8)	The short plates are for 8.3 x 7.3cm gels. The glass plates are provided with 2 notched plates with bonded 1.0mm thick spacers, 2 notched plates with bonded 1.5mm thick spacers, and 4 short plates that combine with the spacer plates to form the gel cassette sandwich.
Long Glass Plates (8)	The short plates are for 8.3 x 9.5cm gels. The glass plates are provided with 2 notched plates with bonded 1.0mm thick spacers, 2 notched plates with bonded 1.5mm thick spacers, and 4 short plates that combine with the spacer plates to form the gel cassette sandwich.
Blank plate	The blank plate is used when only running one gel and replaces the second gel in the electrode assembly
Cooling Chamber	A small chamber used to freeze water and keep the running buffers from over-heating during electrophoresis

## PRODUCT OVERVIEW

BT201 vertical electrophoresis apparatus is composed of the following components:

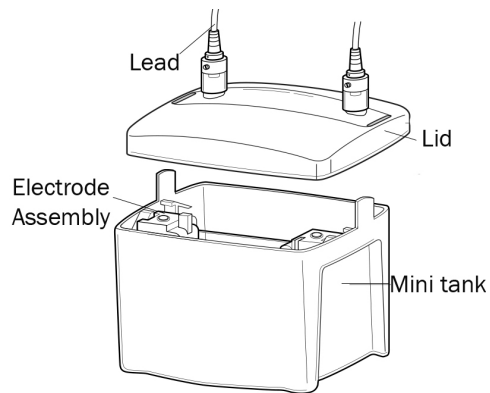


Figure 1

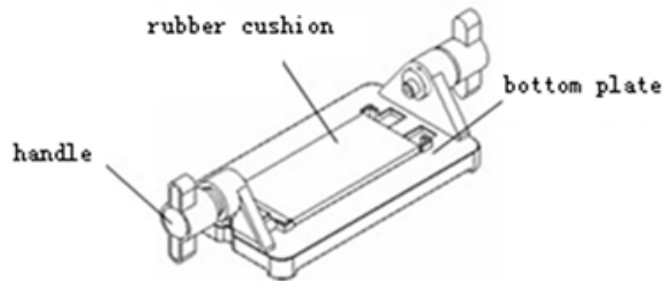


Figure 2

## KEY FEATURES

- Corrosion resistance
- Transparent tank for easy visualization
- No leak upper buffer reservoir
- High temperature resistance
- Closed circuit safety feature

## TECHNICAL SPECIFICATIONS

- 175 x 163 x 165mm
- 83 x 73 and 83 x 95mm gel sizes
- 1.0 and 1.5mm gel thickness
- 10 and 15 well combs
- 1-2 gels at a time
- 200V maximum voltage

## OPERATING INSTRUCTIONS

### ***Electrophoresis apparatus assembly***

Preparation of the Rubber chamber:

**Note:** before operation, please make sure that long/ short glass plate, glass plate, such as sample and the main body are clean and dry.

1. Push short edge of the glass in place along the small slope to seal strip bulge, then long edge against the short glass. Glass bottom should be level (must be flush, otherwise it will leak adhesive) forming a plastic chamber.

2. Then fasten the clamping plate as shown in figure 3.

**Note:** if you do only a piece of rubber use rubber with single wall plate.

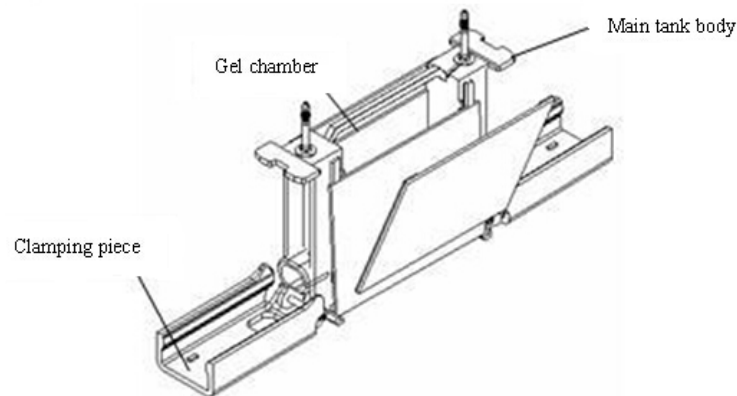


Figure 3

3. Put the main body into gel casting device (**note:** put the main body in the system before binder, rubber must be on binder positioning groove, the rubber can be used on both sides and can be used interchangeably. Use after each system's glue is water rinsed, dried naturally or with blotting paper. Must not use dry heating method). At this point, handle the start bit and base with the arrow aligned (as shown in figure 4), at the same time push the handle to the subject, until it does not move, then start the handle into knob end position.

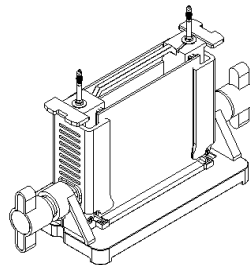


Figure 4

### ***Casting gel***

1. Pour the separating (lower) gel into the gel chamber.
2. When the top of the separating gel reaches 3/4 of the gel chamber, add some water on the top of the separating gel to get rid of air bubbles and separate oxygen. Leave this standing 30 minutes to 1 hour, completing polymerization.
3. After the gel polymerization, remove the water on the top of the separating gel, and using upper stock or stacking buffer to wash the surface of gel twice. Then inject the upper stock or stacking buffer to 3mm away from notched glass plate. Finally insert the combs, leaving it standing to complete polymerization.

### **Loading samples**

1. After the gel polymerization, screw the handle in the opposite direction, then the handle will come out automatically.
2. Remove main body from gel casting device, then put it into buffer tank.
3. Pour the buffer solution (about 150ml) into the upper tank which includes gel area and main body. Make sure buffer solution is higher than notched glass plate.
4. Pour the buffer solution (about 1000ml) into the buffer tank.
5. Take the combs away carefully.
6. Load the sample into wells with pipette.
7. Connect the electrophoresis cell and power supply correctly with the electrical leads.
8. Set the parameters and then start running. The running time is about 45 minutes to 1 hour.

### **RECOMMENDED POWER SUPPLY**

<b>Cat. #</b>	<b>Description</b>	
BT402	Mini 300 Power Supply	400mA maximum current, 60W maximum power
BT403	BT-300 Power Supply	Advanced capacity: 150W, 700mA, 300V
BT404	Mini 500 Power Supply	400mA maximum current, 60W maximum power
BT405	BT-500 Power Supply	500V maximum voltage, 800mA maximum current, 300W maximum power

This product should be separated from the power supply so as to avoid splashing with liquids that could damage it. Do not use the cell above the power supply. Do not move the electrophoresis cell while running.

### **IMPORTANT INFORMATION**

The main body and some of its accessories are fragile. Do not allow the instrument to fall and get bumped during the course of packing, transportation and experiment. The platinum installed in the electrophoresis cell is easy to break off. You should pay attention to this during the experiment, especially when you clean the cell.

1. Please do not put buffer tank into cooling chamber or freezer again during the experiment to avoid buffer tank cracking.
2. Rubber cushion will be out of shape after it is used for a long time, please replace it. If it is still good, please put it in the shade, then it will recover its initial shape and be reusable.

The product should be stored under the following conditions:

- Ambient temperature: - 40-55°C, 40-131°F
- Relative humidity: ≤93%
- Not in area of corrosive gas
- Not in a drafty area

Please clean the electrophoresis cell after you finish an experiment. You can use mild soap and warm water to clean the electrophoresis cell. Please be careful when you clean the main body. Avoid stretching or breaking the platinum wires. Avoid scratching or marring the platinum plates. Do not use abrasives or strong detergents to clean electrophoresis cell. Wash the tank with water (deionized water). Air-dry it for the next use.

### **TECHNICAL SUPPORT**

BT Lab Systems offers technical support for all of its products. If you have any questions about the product's use or, operation, please contact BT Lab Systems at the following info.

E-Mail: [info@BTLabSystems.com](mailto:info@BTLabSystems.com)