

6 Troubleshooting (continued)

| Problem | Causes | Resolutions |
|----------|---|--|
| Error E1 | Lid opened during run or magnet switch problem. | Seat lid properly. Check magnet on lid.. |
| Error E3 | Lid not closed upon start or magnetic switch problem. | Seat lid properly. Check magnet on lid. |
| Error E5 | Electric current not flowing normally. Buffer missing, or concentration too high. | Check proper buffer level in the tank. Check buffer concentration (1X or 0.5X TAE or TBE is standard). Check electrodes and connections. |
| Error E7 | Buffer concentration too high, current too high, power over 50W, or internal electronic problem | Check buffer concentration. Replace electronic board. |



MyGel™ Mini

Electrophoresis System

Operating Manual

Version 1.2



Service and Contact:

In the event that service or technical support is required, please contact Ward's Scientific by phone at 1-800-962-2660 or by email at wardscs@vwr.com.

Contents

| | |
|--------------------------------------|---|
| 1. Introduction..... | 1 |
| 1.1 Included Component List..... | 1 |
| 1.2 Component Diagram..... | 2 |
| 1.3 Specifications..... | 3 |
| 2. Installation..... | 3 |
| 3. Warnings..... | 5 |
| 4. Operating Guide..... | 5 |
| 4.1 Control Panel Key Functions..... | 5 |
| 4.2 Gel Preparation..... | 5 |
| 4.3 Electrophoresis | 7 |
| 5. Maintenance..... | 9 |
| 6. Troubleshooting..... | 9 |

Thank you for purchasing the Ward's MyGel™ Mini Electrophoresis System.

This operating manual includes a product introduction, operating and safety information. Before using the MyGel, please read this manual in its entirety and be sure to fully understand the features and methods for proper operation. Keep this manual for future reference.

Please check the packing list when first opening the box, and if there are any parts missing, damaged, or incorrect, please contact your distributor or Ward's Scientific Customer Service Department at 1-800-962-2660 or by email wardscs@vwr.com.

5. Maintenance



Always disconnect the power cord for cleaning. When cleaning the surfaces of the instrument, use a damp cloth with mild detergent if needed. Do not use any corrosive solutions that could damage plastic..



When cleaning the gel tank, first separate the Power Supply. Use water or neutral cleaner. Use caution when cleaning the areas near the platinum electrodes at the bottom edges of the gel tank.

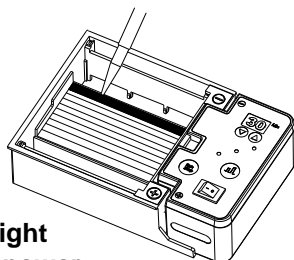


Clean gel casting stands, gel tray and combs with water or a neutral cleaner.

6. Troubleshooting

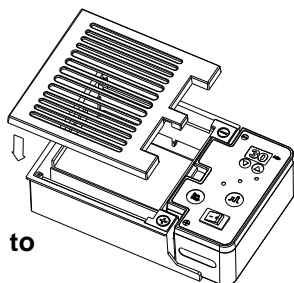
| Problem | Causes | Resolutions |
|-----------------------------------|---|--|
| No display | Power not connected. Switch failure. Fuse blown. Controller failure. | Check power supply, Unplug and re-attach power cord. Check fuse. Contact Benchmark for repair. |
| No Migration | Power switch off, no power | Turn on power switch. Contact Benchmark for repair. |
| Abnormal Electrophoresis Distance | Incorrect input voltage | Check main power supply. |
| Key function failure | Control panel switch failure | Contact Benchmark for repair. |


Use an appropriate pipette to carefully dispense samples into the wells of the gel.



Attach the lid. The display screen will light when the lid is properly seated and the power switch is turned on.

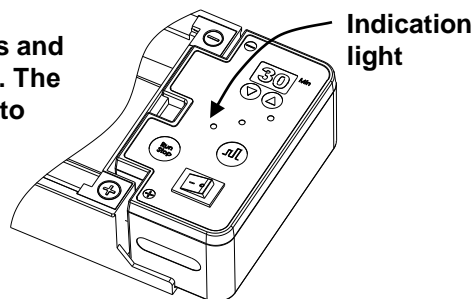
Press ▲▼ to set the run time from 1 to 99 min. For a continuous run, set the timer to “00”.



Press the Voltage Selection button  to select the appropriate output voltage.

Press the “Start/Stop” button once to start a run. The set output voltage LED will blink to indicate a run is in process. At the end of a timed run, the alarm will beep 3 times, and the display will show “Ed” to indicate END. Press any key to clear “Ed” and set up another run.

To stop a run in process, press and hold “Start/Stop” for 3 second. The voltage LED will stop blinking to indicate the run has stopped.



At the end of an electrophoresis run, turn off the power and open the lid to remove the gel tray.

1. Introduction

The MyGel is a complete horizontal electrophoresis system that includes a power supply that directly connects to a gel tank. The system is designed for separating nucleic acids in agarose gel. All components and accessories are included for casting and running small gels.

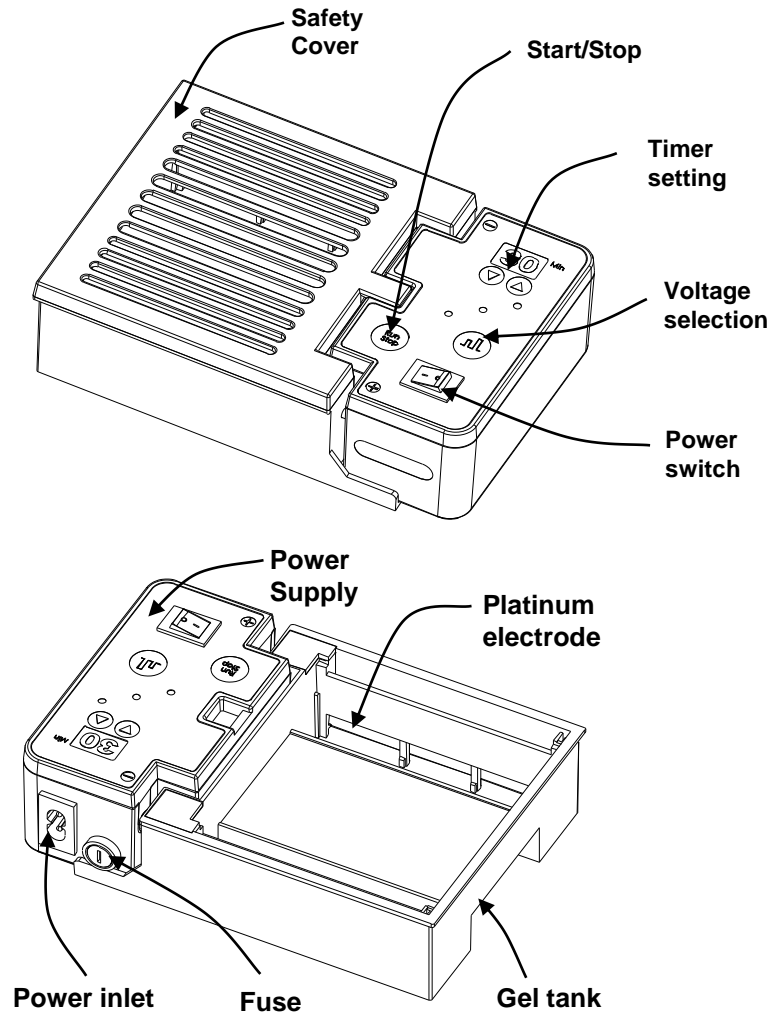
Before use, please read this operating manual in its entirety.

1.1 Included Components

| | |
|--------------------------------|-------|
| Power Supply and Tank Assembly | 1 pc |
| Power cord | 1 pc |
| Gel Casting Stand (A) | 1 pc |
| Gel Casting Stand (B) | 1 pc |
| Gel Tray (A) | 2 pcs |
| Gel Tray (B) | 4 pcs |
| Combs (A) | 2 pcs |
| Combs (B) | 2 pcs |
| AC transformer * | 1 pc |
| User Manual | 1 pc |

* Note: only model “MyGel –E” includes the AC transformer.

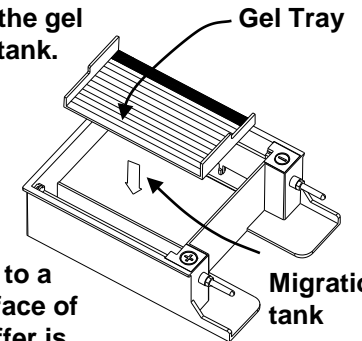
1.2 Component Diagram



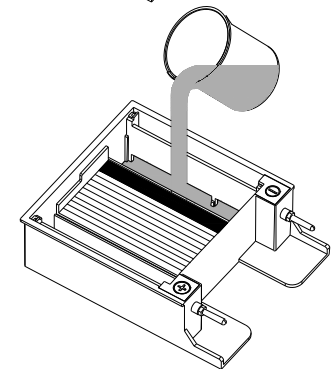
4.3 Electrophoresis

Note: Make sure that the MyGel System is installed on a stable and level surface to ensure even sample migration.

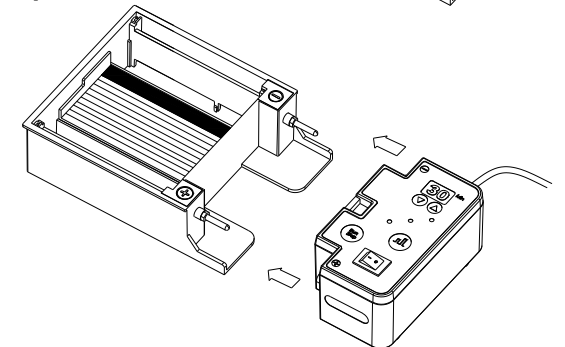
Place a prepared gel, together with the gel tray onto the gel bed inside the gel tank.



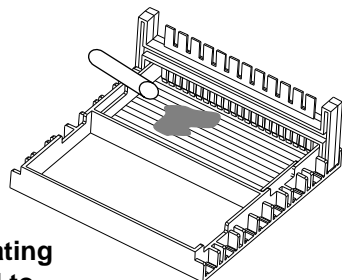
Pour an appropriate buffer solution to a level about 1 to 3mm above the surface of the gel. Generally, 250-300ml of buffer is required.



Connect the power supply to the migration tank and insert the electric plug into an outlet. The electric current cannot be turned on with the lid open.

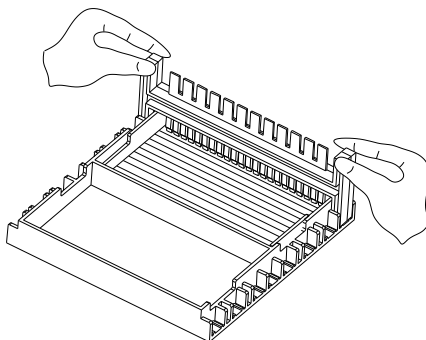


Pour the agarose gel solution into the gel tray to make a gel approximately 4mm thick. Each 60x110mm tray requires about 25ml of agarose.

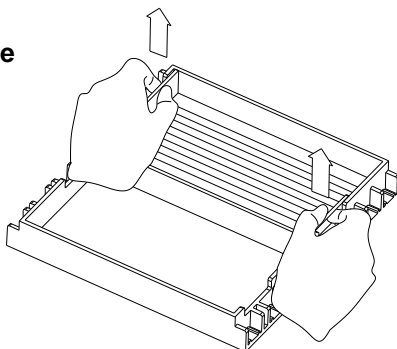


Note: After mixing and heating agarose solution, let it cool to approximately 60 C before pouring into the gel trays

After the gel has solidified (approximately 20 minutes) hold the two sides of comb and gently lift it out of the gel. The wells should be straight and undamaged.



Remove the gel tray with the gel from the stand and place it into the migration tank in the correct orientation. (DNA samples will migrate from the - to + electrode.



1.3 Product Specifications

| Model | MyGel Mini 110V | MyGel Mini 230V |
|--------------------|--|-----------------|
| Output voltage | DC35V , DC50V, DC100V | |
| Timer | 0 ~ 99min | |
| Migration Tank | 120mm×110mm×45mm (inner dimension) | |
| Buffer Volume | 250ml-300ml | |
| Comb Specs | Teeth width x Teeth thickness x Teeth no.) 3mm×1mm×22 / 5.6mm×1mm×12 3mm×1mm×18 / 5.6mm×1mm×10 | |
| Gel Casting Stands | 10.5cm×6cm and 5cm×6cm (Dimension for each section) | |
| Gel tray Specs | 10.5cm×6cm and 5cm×6cm | |
| Fuse | 250V 2A | |
| Dimensions | 190mm×130mm×55mm (W×D×H) | |
| Net weight | 0.45 kg (without AC transformer) | |

2. Installation

Place the electrophoresis system on a smooth, level surface.

Connect one end of the power cord to the instrument and the other end to an appropriate outlet, the input voltage should be between 100~120VAC.

When the input voltage is 220VAC, use the transformer inline.

3 Warnings



To avoid electrical shock, do not use this product with wet hands.



When operating, do not move or bump the system, do not put your finger or any other objects into the migration tank.



Do not detach the power supply module from the migration tank when the power is on. Attempting to do so can cause damage.



Please carefully read this instruction manual before operation to avoid any personal injury. Only trained laboratory personnel should operate the system.



Do not attempt to open or repair the MyGel system. Contact your distributor or Benchmark Scientific for service.



Always use the MyGel in an environment with low humidity and low dust, also keep it away from water, direct sunlight / strong light, corrosive gas, high magnetic fields, heaters, fires and other heat sources.



The power switch is located on the control box, press "I" to power on, "O" to turn off.



Always turn off the power after operation. When not in use, detach the power supply and store it in an area that is free from moisture and dust.

4. Operating guide

4.1 Key Functions

Start/Stop----Press momentarily to start a run. Press and hold for 3 seconds to stop a run.



-----Output voltage selection.

▲▼ -----Time setting. For continuous run, set to "00"

4.2 Gel Preparation

Place the gel casting stand on a level surface, and place the gel trays into the proper positions in the stand.

Note: If the gel tray is not level, the thickness of the gel will not be uniform and migration may be uneven.

Insert the comb into the gel casting stand as per photo on the right.

Note: when using the fine toothed comb, use the orientation so the flat side of the well is facing the direction of DNA travel. See figure below.

