

INSTRUCTION MANUAL
CAT. 87056-01, 87056-02
EMS MyGel™ Mini Electrophoresis System



Electron Microscopy Sciences

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Introduction

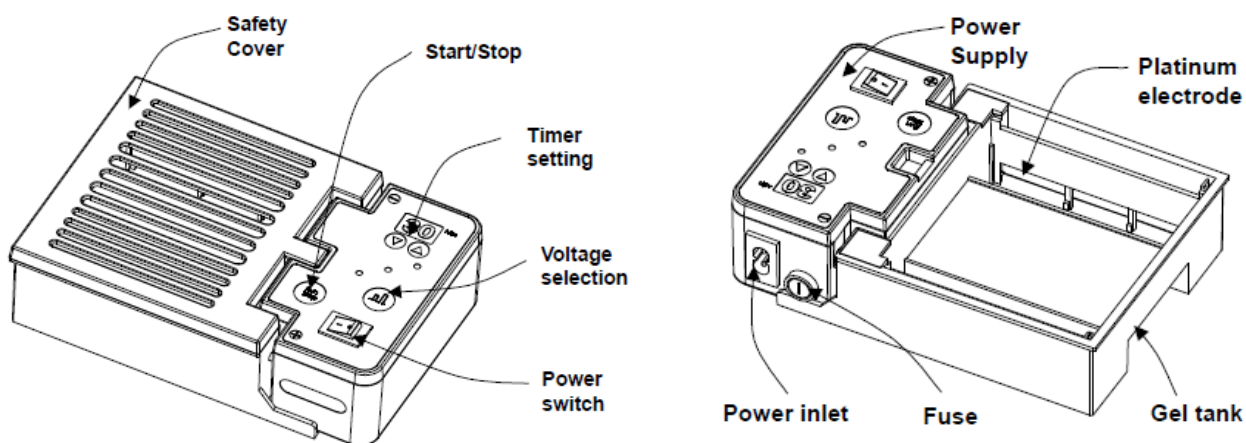
The EMS MyGel™ Mini Electrophoresis is a complete horizontal electrophoresis system that includes a power supply that directly connects to a gel tank. The system is designed for separating nucleic acids in agarose gel. All components and accessories are included for casting and running small gels.

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

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
Instruction Manual	1 pc

Component diagram



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Product specifications

Timer	0 ~ 99 minutes
Migration tank	120 mm x 110 mm x 45 mm (inner dimensions)
Buffer volume	250 ml – 300 ml
Comb specifications	Teeth width x teeth thickness x teeth no. 3 mm x 1 mm x 22 / 5.6 mm x 1mm x 12 3 mm x 1 mm x 18 / 5.6 mm x 1 mm x 10
Gel casting stands	10.5 cm x 6 cm and 5 cm x 6 cm (dimension for each section)
Gel tray specifications	10.5 cm x 6 cm and 5 cm x 6 cm
Dimensions	190 mm x 130 mm x 55 mm (W x D x H)
Net weight	0.45 kg (without AC transformer)

Installation

1. Place the electrophoresis system on a smooth, level surface.
2. 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.
3. When the input voltage is 220VAC, use the transformer inline.

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 EMS MyGel™ system. Contact Electron Microscopy Sciences for service.



Always use the EMS MyGel™ in an environment with low humidity and low dust. Also keep 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 and “O” to turn off.






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

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Operating guide

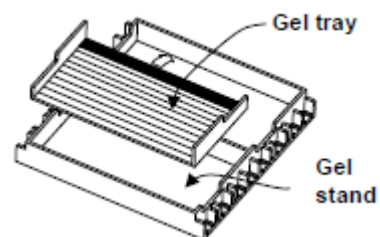
Key functions

-  Stop/Run – Press momentarily to start a run. Press and hold for 1 second to stop a run.
-  Output voltage selection.
-  Time setting. When time is set at 0, display shows “∞”.

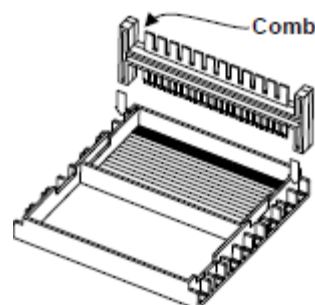
Gel preparation

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

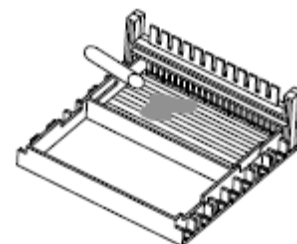
NOTE: If the gel tray is not level, the thickness of the gel will not be uniform and migration may be uneven.



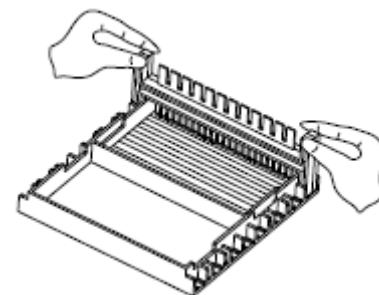
2. Insert the comb into the gel casting stand.



3. Pour the gel into the gel tray to make a gel approximately 4 mm thick. Each 60 x 110mm tray requires about 25ml of agarose.



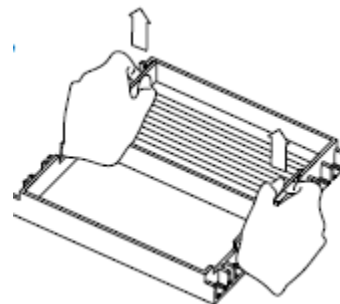
4. After the gel has solidified (this takes approx. 20 minutes), hold the two sides of the comb and gently lift it out of the gel. The wells should be straight and undamaged.



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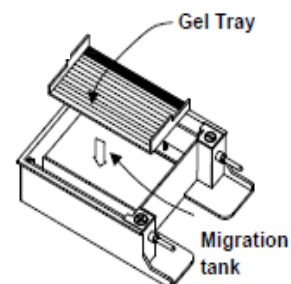
- Remove the gel tray with the gel from the stand and place it into the migration tank.



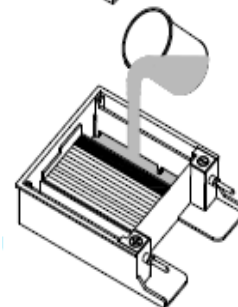
Electrophoresis

NOTE: Make sure that the EMS MyGel™ system is installed on a stable and level surface to ensure even sample migration.

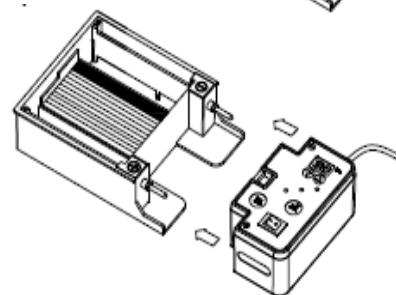
- Place a prepared gel, together with the gel tray onto the gel bed inside the gel tank.
- Pour an appropriate buffer solution to a level about 3mm above the surface of the gel. Generally, 250 – 300ml of buffer is required.



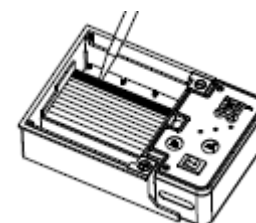
- Connect the power supply to the migration tank and insert the electric plug into an outlet. The electric current cannot be turned on with the lid open.



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




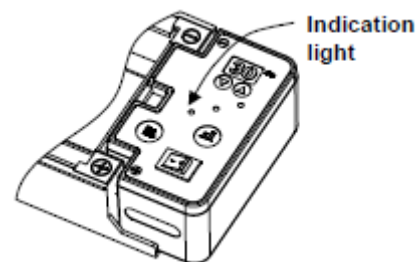
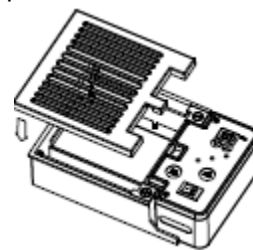
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5. Attach the lid. The display screen will light when the lid is properly seated and the power switch is turned on.
6. Press ▲▼ to set the run time from 1 to 99 minutes. For a continuous run, set the timer to "00".
7. Press the Voltage Selection button  to select the output voltage.
8. Press the "Stop/Run" 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.
9. To stop a run in process, press and hold "Stop/Run" for 1 second. The voltage LED will stop blinking to indicate the run has stopped.
10. At the end of an electrophoresis run, turn off the power and open the lid to remove the gel tray.



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 neutral cleaner.

Troubleshooting

Problem	Causes	Measures
No display	Power not connected. Switch failure. Controller failure.	Check power supply. Unplug and re-attach power cord. Replace switch.
No migration	Power switch off. No power.	Turn on power switch.
Abnormal electrophoresis distance	Incorrect input voltage	Check main power supply
"E1" displayed	Lid not closed	Seat lid properly
Key function failure	Control panel switch failure	Contact Electron Microscopy Sciences for repair.

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