User Instructions

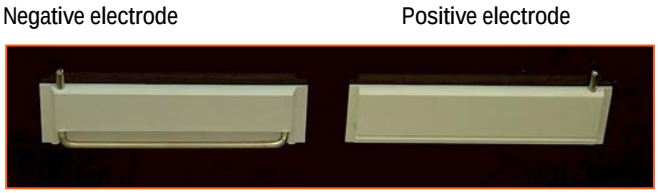
Rapid Gel System (RGS)

Package components

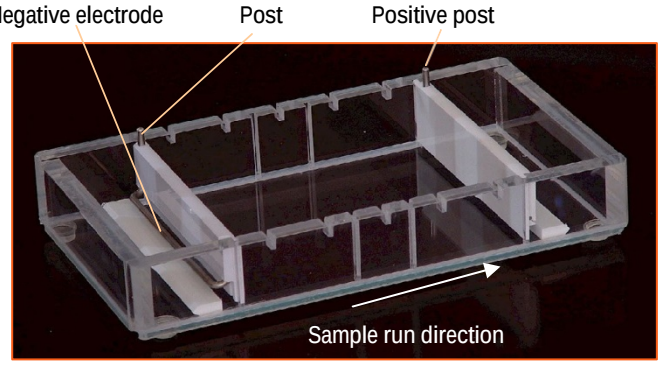
This package contains 1 chamber, 1 cover with power cords, 1 gel scoop, 1 pair of electrodes, 1 pair of cables,1 dam and aluminum bar for medium / short gel, and 2 units of combs (CMR-1315 and CMR-2615). Additional parts should be ordered separately.

Setup for running a long gel

1. Know your two electrodes. The Negative electrode has a metal rod. The Positive electrode has a metal strip, as shown below.



2. Use both hands to evenly insert two electrodes into slots on chamber wall, as shown below.



3. Prepare 95ml of agarose gel solution in 1X buffer, let it cool down for a while, add 9.5ul of Gel Red stain and mix, pour the gel solution into gel tray, place combs into comb slots (tapered side facing forward) and let it set for 20-30 minutes. (Gel width: 12.7cms)

Electrophoresis

4. Prepare samples ready for loading.

5. Just before sample loading, add 350ml deionized water on the gel and 80ml of 1x running buffer to the buffer reservoir at each end. The buffer surface should be at the same as or a little lower than water surface. Then load samples (multi-channel pipette is recommended).

   Tip: Reduce loading volume for higher resolution.

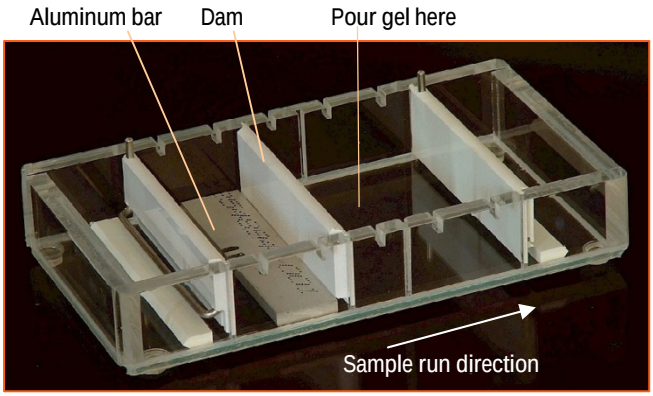
6. Place cover on electrode post and run gel 220V for 8-15 minutes depending on how many combs being used.
   In general, its speed is about 2-3 times faster than your old gel systems. Watch dye migration to determine your actual running time. Check electric current and air bubbles to confirm its working condition.

7. After Electrophoresis, turn power off, pour off liquid, remove electrodes, and take the chamber to imaging station.

8. Using the Gel Scoop, transfer the gel from the chamber to the transilluminator for viewing/imaging. Rinse all components of the RGS with water and dry prior to storage.

Setup for running a medium gel

9. After electrode setup, use both hand to evenly insert a dam into slots at middle, then put aluminum bar against the dam, as shown below.



10. Prepare 65ml of agarose gel solution in 1X buffer, let it cool down for a while, mix 6.5ul Gel Red stain, mix and pour the gel solution into gel tray, place combs into comb slots, and let it to set for 20-30 minutes.

11. Just before sample loading, remove aluminum bar, add 200ml deionized water on gel top, add 80ml 1x running buffer to positive reservoir, add 200ml 1x running buffer to negative reservoir.

12. Follow steps 4-8 for electrophoresis.

Setup for running a short gel

13. The operation of short gel is the same as running a medium gel except the insert position and volume changes shown below.

	Gel Vol	Water Vol	Negative Buffer Vol	Positive Buffer Vol	Gel Length
Long	95ml	350ml	80ml	80ml	12cms
Medium	65ml	200ml	200ml	80ml	9cms
Short	45ml	140ml	300ml	80ml	6cms