

MultiPhor II Buffer Strip Positioner

User Manual

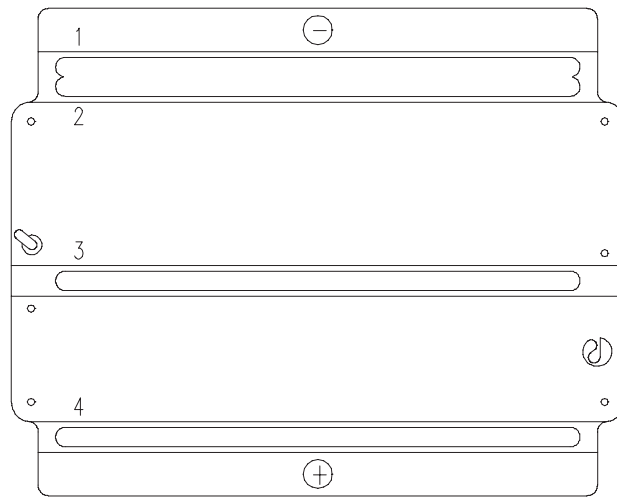


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1 Important user information

All users must read this entire manual to fully understand the safe use of MultiPhor II Buffer Strip Positioner.

**WARNING**

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury. It is important not to proceed until all stated conditions are met and clearly understood.

**CAUTION**

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. It is important not to proceed until all stated conditions are met and clearly understood.

Tip: *A tip contains useful information that can improve or optimize your procedures.*

Note: *A note is used to indicate information that is important for trouble-free and optimal use of the product.*

2 Introduction

The MultiPhor™ II Buffer Strip Positioner is a frame with slots that sits on top of an ExcelGel™ SDS gel on the MultiPhor II cooling plate. The slots in the positioner facilitate placement of the buffer strips for electrophoresis and hold them securely in place. A locking cam secures the positioner on the cooling plate.

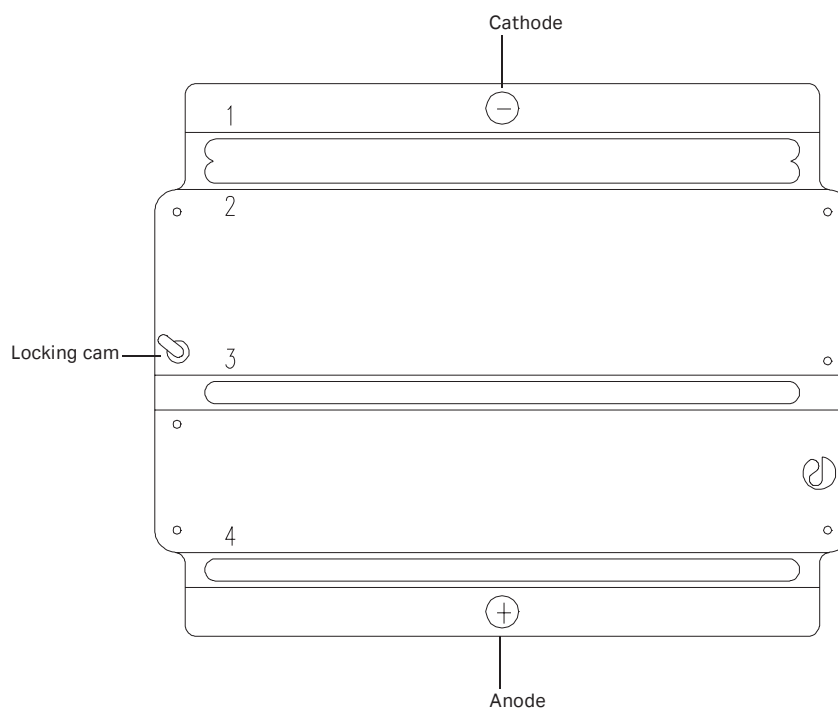


Figure 2.1: Features of the MultiPhor II Buffer Strip Positioner

Slot #	Use for placing
1	Cathodic buffer strip, Phase 1 or entire run
2	Sample wells Immobiline™ DryStrip gels (IPG strips), Phase 1 ¹ Cathodic buffer strip, Phase 2 ¹
3	Anodic buffer strip (with 11 × 25 cm ExcelGel SDS gels)
4	Anodic buffer strip (with 18 × 25 cm ExcelGel SDS gels)

¹ For a description of Phases 1 and 2, see the Application Note "Multiple Mini-format 2-D Electrophoresis" (Code Number 80-6443-47) and the instructions for any ExcelGel SDS gels.

3 Placing the positioner on the cooling plate



IMPORTANT

To avoid contaminating gels with spurious protein, always wear gloves when handling Immobiline DryStrip gels (IPG strips) and ExcelGel SDS gels.

Step	Action
1	Place the MultiPhor II Buffer Strip Positioner over the gel and cooling plate (see Fig 3.1). The cathodic edge of the ExcelGel SDS gel must align flush with the cathodic end of the grid on the cooling plate. The pegs protruding from the bottom of the positioner should be in contact with the shorter sides of the cooling plate. Match the cathode (-) and anode (+) symbols on the positioner to the cathode and anode symbols on the cooling plate.



Figure 3.1: Placing the positioner over the gel and cooling plate

2	Slide the positioner so that the cathodic (-) edge of the gel bisects the slot at position 1 (see Fig 3.2).
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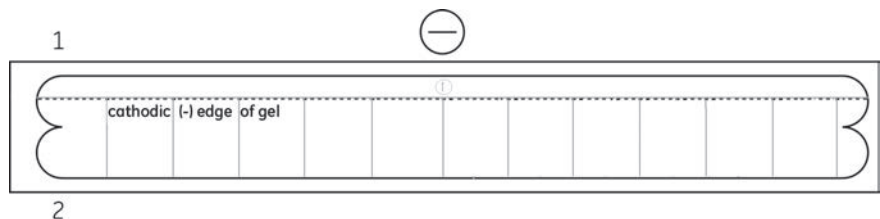


Figure 3.2: The cathodic (-) edge of the gel bisects the slot at position 1

3 Placing the positioner on the cooling plate

Step	Action
3	<p data-bbox="448 321 1449 427">If using an ExcelGel SDS gel with application wells, the wells should be clearly visible through the slot at position 2. With this arrangement, the cathodic edge of the gel might not bisect the slot at position 1.</p> <p data-bbox="448 449 1449 523">Lock the positioner in place by turning the grey locking cam until the positioner cannot be moved.</p>

4 Applying the ExcelGel SDS buffer strips

Note: *Moisten your gloves with distilled water before removing the ExcelGel SDS buffer strips from their packaging. Always handle the buffer strips by their ends.*

Step	Action
1	Carefully peel back the foil on the colourless cathodic (-) buffer strip and turn the narrow face of the strip downward. Align the buffer strip with the edge of the slot at position 1 and place it in the slot.
2	Place a few drops of distilled water along the top face of the buffer strip. Stroke the buffer strip with a spatula or flat forceps to ensure complete contact along the full length of the cathodic (-) edge of the gel (see Fig 4.2). The buffer strip should sit snugly within the slot.

Note:

If a buffer strip breaks, put the pieces together in the positioner on the gel surface.

- | | |
|---|--|
| 3 | Carefully peel back the foil on the yellow-coloured (+) anodic buffer strip and place it in the appropriate slot of the positioner (see Fig 4.1).

For 11 × 25 cm ExcelGel SDS gels, place the anodic buffer strip in slot 3, in the centre of the positioner.

For 18 × 25 cm ExcelGel SDS gels, place the anodic buffer strip in slot 4, at the anodic (+) edge of the positioner. |
|---|--|

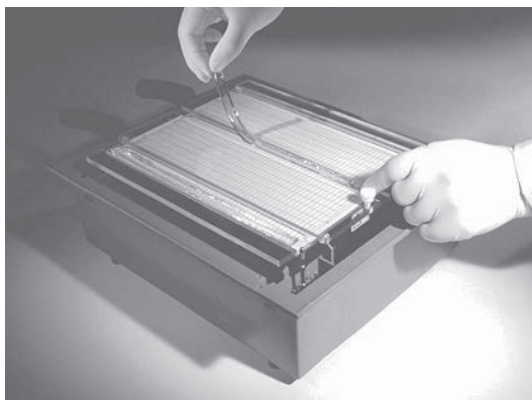


Figure 4.1: Applying the buffer strip to the centre slot

4 Applying the ExcelGel SDS buffer strips

Step	Action
4	Place a few drops of distilled water along the top face of the buffer strip. Stroke the buffer strip with a spatula or flat forceps to ensure complete contact with the gel (see Fig 4.2). The buffer strip should sit snugly within the slot.

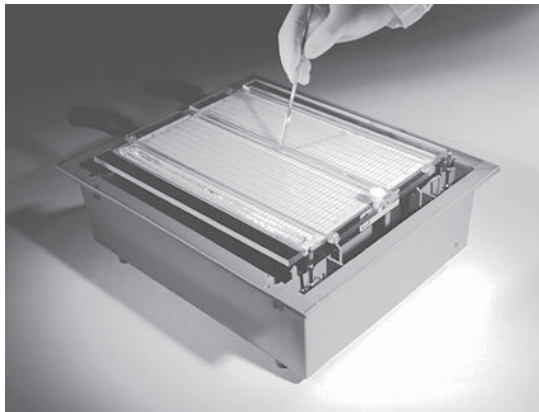


Figure 4.2: Stroking the buffer strip with a spatula or flat forceps

5 Applying the equilibrated IPG strips

Step	Action
1	Use forceps to remove the IPG strips from the equilibration solution. Remove excess equilibration solution from the surface of the IPG strips by lightly tapping edgewise onto a sheet of moistened filter paper. Alternatively, the IPG strips can be lightly and quickly blotted, gel side down, onto moistened filter paper. The IPG strips can be left resting, gel side up, on the moistened filter paper for up to 10 minutes before proceeding to the next step.
2	Place the IPG strip(s) gel side down on the ExcelGel through the slot at position 2. The IPG strip(s) should lie in the centre of the slot, parallel to the buffer strip, with approximately 3 mm between the buffer strip and the IPG strip(s). If you are applying multiple short IPG strips to the same second dimension gel, place the strips in a single, straight line. Leave about at least 1 cm between the ends of each IPG strip (see Fig 5.1).

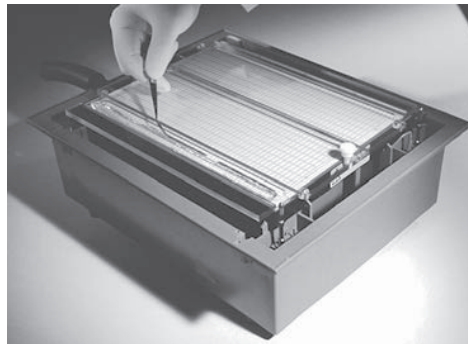


Figure 5.1: Placing IPG strips in slot at position 2

3	Use forceps to place one IEF sample application piece at the ends of each IPG strip underneath the plastic tab formed by the overhanging gel support film at each end of the IPG strip. Be sure that the application pieces touch the ends of the IPG strip (Fig 5.2). Make sure that the IPG strip is in full, direct contact with the SDS gel. To remove any air bubbles, stroke the plastic backing of the IPG strip gently with a spatula or forceps.
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Note:

Application pieces absorb any water that flows out of the IPG strips during electrophoresis.

5 Applying the equilibrated IPG strips

Step **Action**

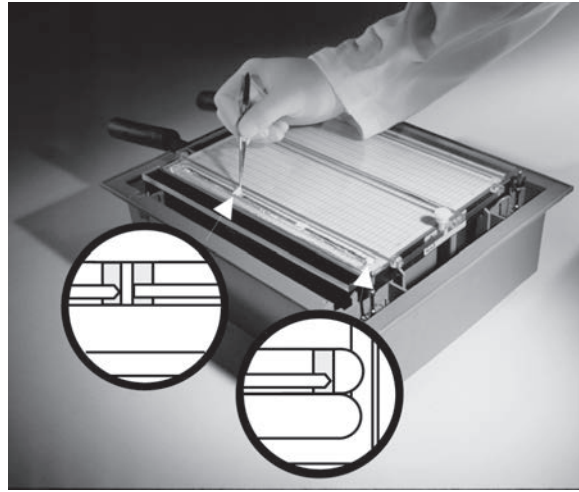


Figure 5.2: Inserting the sample application pieces at the end of each IPG strip

6 To load marker proteins

Place an extra application piece (or half piece) on the surface of the gel between two of the IPG strips, or just beyond the end of one of the outer IPG strips. Pipette the marker proteins onto the extra sample application piece. Apply the maker proteins in a volume of 15 to 20 μl . For less volume, decrease the size of the sample application piece proportionally.

7 Positioning the electrodes

Step	Action
1	Place the IEF electrode holder on the electrophoresis unit, in the upper (non-contact) position, and align the electrodes with the centre of the buffer strips.
2	Plug in the electrode connectors and carefully lower the electrode holder onto the buffer strips. See the MultiPhor II User Manual.
3	Place the safety lid on the MultiPhor II unit and connect the power supply.

8 Troubleshooting

Symptom	Possible Cause	Solution
Crooked or wavy dye front.	Gaps in contact between buffer strip and SDS gel	Stroke the top of the buffer strip with a wet, flat forceps or spatula to flatten the strip against the gel.

9 Care Instructions



IMPORTANT

Do not autoclave the MultiPhor II Buffer Strip Positioner. Do not use alcohols or organic solvents to clean the Positioner. After each use, carefully wash the MultiPhor II Buffer Strip Positioner with mild detergent and rinse with distilled water. Air dry.

10 Ordering Information

	Qty.	Code No.
MultiPhor II Buffer Strip Positioner	1	80644290
Positioner Repair Kit	1 kit	80644575
Includes 8 screws + washers and 2 locking cams		



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