Power Blotter System with Power Blotter Pre-cut Membranes, Filters, and 1-Step Transfer Buffer

Catalog Number See Power Blotter System User Guide Pub. No. MAN0017053

Pub. No. MAN0017052 Rev. C.0

Set up after unpacking

Once unpacked and installed, power on the system and follow the touchscreen prompts to set up the instrument.

Note: For detailed information and safety symbols on this instrument, refer to the Power Blotter System User Manual (Pub. No. MAN0017053).

Assemble membrane and filters on the cassette

Note: Perform blotting within 15 minutes of assembling the stacks with the gel.

1. For each gel, use 4 sheets of provided filter paper (mini- or regular-size) and 1 sheet of nitrocellulose or PVDF membrane (mini- or regular-size).

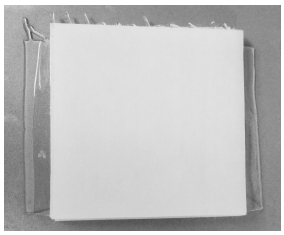
2. Equilibrate filter papers and membrane in 1X Power Blotter 1-Step Transfer Buffer for at least 5 minutes. Use sufficient buffer volume to cover filter papers and membrane: ~50 mL per mini-size sandwich (7 × 8.4 cm) and ~100 mL per regular-size sandwich (8.5 × 13.5 cm).

   Note: PVDF membrane must be briefly wetted with methanol or ethanol before equilibration in 1X transfer buffer.

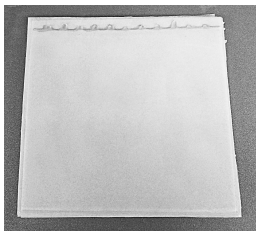
3. After electrophoresis, remove gel(s) from cassette and briefly place in a tray containing deionized water or 1X transfer buffer. This will ensure even wetting, facilitate proper gel placement, and improve gel contact with the membrane.

   Note: Ensure there is no overhang of the gel around the sides of the transfer stack as this can result in inconsistent transfer. Trim the gel fingers and sides of the gel in order to fit the size of filter paper.

Incorrect stack



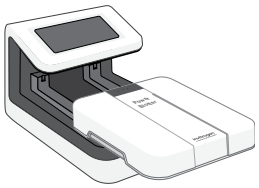
Correct stack



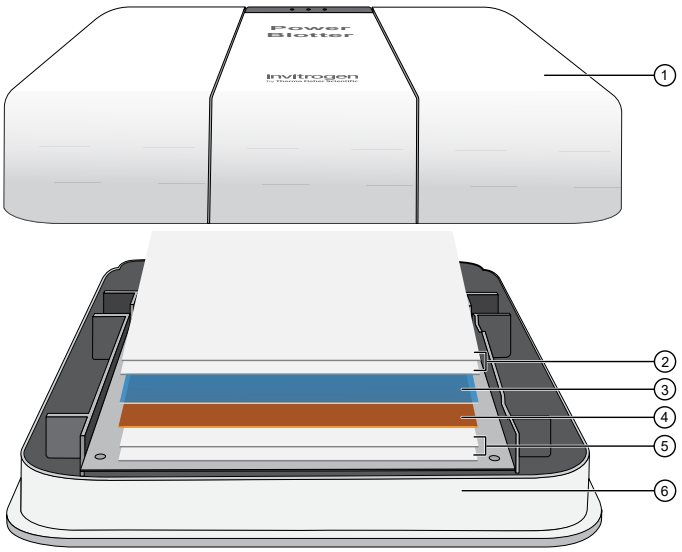
4. Assemble and center the sandwich(es) on the anode to ensure even pressure. Carefully roll the gel(s) with the blotting roller to remove any trapped air bubbles.

   Note: When transferring more than one gel, allow for 5-10 mm spaces between the stacks.

5. Lock the top of the cassette (cathode) into place and slide the assembled cassette into the Power Blotter Station.



Transfer stack assembly



① Cathode
② 2 sheets of pre-wet filter paper (not to exceed 1.8 mm thickness)
③ Pre-run gel
④ Membrane
⑤ 2 sheets of pre-wet filter paper (not to exceed 1.8 mm thickness)
⑥ Anode

Transfer

On the blotter touchscreen:

1. Touch **Begin Blotting**.
2. In the **Blotting Methods** menu, touch **Select Pre-Programmed Methods**.
3. Select the cassette size and number of gels.
   - Small Blot Cassette (Power Blotter Cassette) - Choose 1 or 2 gels for transfer
   - Blot Cassette (Power Blotter XL Cassette) - Choose 1, 2, 3, or 4 gels for transfer

Options		Electrical Current Setting
A	1 mini-sized gel	1.3 amps
B	2 mini-sized gels or 1 midi-sized gel	2.5 amps
C	3 mini-sized gels	3.8 amps
D	4 mini-sized gels or 2 midi-sized gels	5.0 amps

Note: Programs C and D are not available when transferring with the Small Blot Cassette.

4. Select a **Method** and ensure the parameters are correct.

Options		Protein Weight Range
A	**Low MW**	< 30 kDa
B	**Mixed Range MW**	25-150 kDa
C	**High MW**	> 150 kDa
D	**Std Semi-Dry**	10-250 kDa
E	**1.5 mm thick gels or unknown**	10-250 kDa (Add 2 minutes of transfer time for 1.5 mm low, mixed, or high molecular-weight proteins)

Note: For fast blotting programs (A, B, C, and E), use Power Blotter 1-Step Transfer Buffer. Transfer time may be increased to 12 minutes for high molecular-weight proteins > 200 kDa). Do not use Power Blotter 1-Step Transfer Buffer with the Std Semi-Dry transfer program (D).

5. Touch **Start** to begin the transfer. The elapsed time displays on the screen.

   An audible alarm and touchscreen message will alert for the transfer completion.
6. Disengage cassette from the Power Blotter Station and open the cassette.
7. Carefully remove and discard the top stack(s) and gel(s).
8. Using tweezers, remove the transfer membrane from the bottom stack. Discard the bottom stack.
9. Wash the membrane briefly in water and proceed with the blocking procedure or membrane staining.
10. Clean the cassette. After transfers are complete, thoroughly wash the anode and cathode after each use by rinsing or soaking the unassembled cassette under hot water. Remove any residue with a gloved hand. Rinse with deionized water and stand parts in a rack to dry or proceed with additional transfers. Please allow 5-10 minutes between repeated transfers to prevent excess instrument heating.

    For a more thorough cleaning, immerse the unassembled cassette anode and cathode in hot water.

    Note: Failure to maintain a clean anode and cathode can result in component degradation and lead to poor transfer efficiency.

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For descriptions of symbols on product labels or product documents, go to thermofisher.com/symbols-definition.

Revision history: Pub. No. MAN0017052

Revision	Date	Description
C.0	5 September 2023	Correcting sandwich dimension in "Assemble membrane and filters on the cassette" section.
B.0	21 November 2017	Revised stack images.
A.0	27 July 2017	New document for Power Blotter System with Power Blotter Pre-cut Membranes, Filters, and 1-Step Transfer Buffer.