ENDURO™ VE10 Vertical Gel Electrophoresis Systems
User Manual

ENDURO VE10 System

E2010-PA

ENDURO VE10 Electroblotting System

E2010-PBA

Labnet International, Inc.

Lit #M00608

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SAFETY PRECAUTION

WHEN USED CORRECTLY, THESE UNITS POSE NO HEALTH RISK.
HOWEVER, THESE UNITS CAN DELIVER DANGEROUS LEVELS OF ELECTRICITY AND ARE TO BE OPERATED ONLY BY QUALIFIED PERSONNEL FOLLOWING THE GUIDELINES LAID OUT IN THIS INSTRUCTION MANUAL.

ANYONE INTENDING TO USE THIS EQUIPMENT SHOULD READ THE COMPLETE MANUAL THOROUGHLY.

The current to the unit, provided from external power supply, enters through the lid assembly, providing a safety interlock to the user. When the lid is removed, the current to the unit is broken. DO NOT attempt to use the unit without the safety lid correctly positioned. Always turn the power supply off prior to removing the lid.

THE UNIT SHOULD NOT BE USED IF THERE IS ANY SIGN OF DAMAGE TO THE EXTERNAL TANK OR LID.

ACRYLAMIDE IS A POWERFUL NEUROTOXIN IN SOLUTION FORM.
POLYMERIZED GELS CAN CONTAIN SOME UNPOLYMERIZED SOLUTION AND PROTECTIVE GLOVES, SAFETY GLASSES AND CLOTHING MUST BE WORN.
THESE UNITS COMPLY WITH THE STATUTORY CE SAFETY DIRECTIVES:
73/23/EEC: LOW VOLTAGE DIRECTIVE: IEC 1010-1:1990 plus AMENDMENT 1:1992
EN 61010-1:1993/BS EN 61010-1:1993

Important Notice

Care and Maintenance:

These products and associated accessories should never come into contact with the following cleaning agents, as these will cause irreversible and accumulative damage:

Acetone Chloroform Methanol Carbon tetrachloride

Phenol Alkalis Ethanol Isopropyl alcohol

Water at temperatures above 60°C will cause damage to the acrylic tanks, trays and other parts.

The tanks should be thoroughly rinsed with warm or distilled water but vigorous cleaning is not necessary or advised. Air drying is recommended before use.

Cleaning Products and Accessories

Products are best cleaned using warm water and a mild detergent.

The units should only be cleaned with the following:

Warm water with a low concentration of soap or other compatible mild detergent. Compatible detergents include dishwashing liquid, Hexane and Aliphatic hydrocarbons.

The units should not be left in detergents for more than 30 minutes

PACKING LISTS:

ENDURO VE10 System

Units include tank, lid, internal module and electrodes and include the following accessories:

	Glass Plates	Combs	Casting Base	Cooling Pack	Cables
E2010-PA VE10 Vertical Gel System	(E2110-NG-2) Glass Plates, Notched, Pk/2 (E2110-PG-1-BS) Glass Plates, Plain with bonded 1mm spacers, Pk/2 (E2110-DP) Dummy Plate	(E2110-12-1) qty of 2, 1mm thick, 12 sample combs	E2110-PC	E2110-CP	E1107-EP

ENDURO VE10 Electroblotting System

Units include tank, lid, internal module, electrodes, Blotting module and include the following accessories:

	Glass Plates	Combs	Casting Base	Cooling Pack	Cables
ENDURO VE10 Electroblotting System	(E2110-NG-2) Glass Plates, Notched, Pk/2 (E2110-PG-1-BS) Glass Plates, Plain with bonded 1mm spacers, Pk/2 (E2110-DP) Dummy Plate	(E2110-12-1) qty of 2, 1mm thick, 12 sample combs	E2110-PC	E2110-CP	E1107-EP
Electroblotting module	(E2110-B-MC) 4 Blotting Cassettes, (E2110-B-FP) Pack of 8 Fiber pads				

The packing lists should be referred to as soon as the units are received to ensure that all components have been included. The unit should be checked for damage when received. If damaged, contact carrier and save the box for inspection. Please contact Labnet International if there are any problems or missing items.

Usage Guidance and restrictions:

• Maximum altitude 2,000m.

• Temperature range between 4°C and 60°C.

• Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.

• Not for outdoor use.

This apparatus is rated POLLUTION DEGREE 2 in accordance with IEC 664. POLLUTION DEGREE 2, states that: “Normally only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation must be expected.”

Care and Maintenance:

Cleaning ENDURO VE10 System

Units are best cleaned using warm water and a mild detergent. **Water at temperatures above 60° C can cause damage to the unit and components.** The tank should be thoroughly rinsed with warm water and distilled water to prevent build up of salts but care should be taken not to damage the enclosed electrode. Vigorous cleaning is not necessary or advised. Air drying is recommended before use.

The units should never come into contact with the following cleaning agents, these will cause irreversible and cumulative damage:-

Acetone, Phenol, Chloroform, Carbon tetrachloride, Methanol, Ethanol, Isopropyl alcohol, Alkalis.

Questions and Service:
Should you have a question about the operation of the Spectrafuge Mini Centrifuge or if service is required, contact Corning at: 800-492-1110. Do not send in a unit for service without first calling to obtain a repair authorization number. Should the unit require return to Corning for service, it should be properly packed to avoid damage. Any damage resulting from improper packaging shall be the responsibility of the user.

RNase Decontamination

This can be performed using the following protocol:-

Clean the units with a mild detergent as described above.

Wash with 3% hydrogen peroxide (H2O2) for 10 minutes.

Rinse with 0.1% DEPC- (diethyl pyrocarbonate) treated distilled water,

Caution: DEPC is a suspected carcinogen**. Always wear gloves and safety glasses**.

RNaseZAP™ (Ambion) can also be used. Please consult the instructions for use with acrylic gel tanks.

Setting up the ENDURO VE10 Gel Tanks:

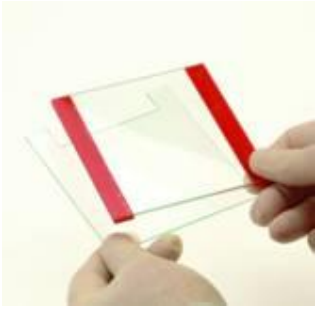
Instructions for installing Electrical Leads.

1. Note the position of the lid on the unit. This shows the correct polarity and the correct orientation of the cables, black is negative and red positive.
2. Remove the lid from the unit. Note if the lid is not removed, fitting the cables may result in un-tightening of the gold plug and damage to the electrode.
3. Screw the cables into the tapped holes in the lid as fully as possible so that there is no gap between the lid and the leading edge of the cable fitting.
4. Refit the lid.

The unit is now ready for use.

Vertical Gel Casting Using the ENDURO VE10 Gel Casting System:-

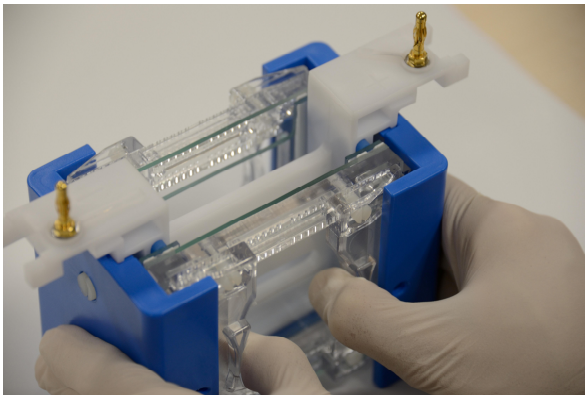
1. Clean a set of glass plates for each gel first with distilled water and then with 70% ethanol. One set of glass plates constitutes one notched glass plate and one plain glass plate with bonded spacers. When using a triple glass plate sandwich, two notched glass plates, one set of free spacers and a set of plain glass plates with bonded spacer. The plain glass plate is positioned outermost, then a notched glass plate, free spacers and second notched glass plate. Alternatively, accessory notched glass plates with bonded spacers are available. **All glass plates, modules and casting base accessories must be completely dry for setup. Wet components are more likely to misalign and cause leaks.**



2. Assemble the glass plates so that the bottom of the glass plates and the spacers are perfectly aligned. For triple plate sandwiches, the free spacers need to be perfectly aligned which is best performed using a small spacer or comb to push the spacers apart. Notched glass plates with bonded spacers do not need

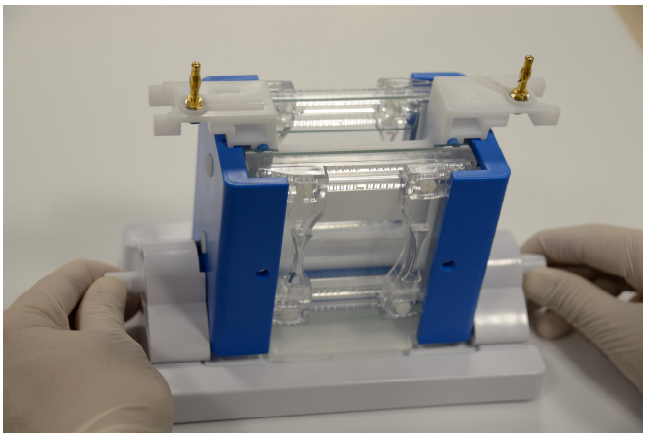
manual alignment. ***NOTE: The spacers bonded to the glass plates are slightly longer than the plates and marked with an arrow to indicate the top.***

3. The ENDURO VE10 Gel insert contains pressure bars which impart even pressure onto the edge of the glass plate. Ensure that the pressure bars are adequately open for the thickness of spacer used. The bar can be opened by sliding open clamps. When using a triple glass plate sandwich, the pressure bars will need to be in the completely open position.



4. Position the ENDURO VE10 Gel module on a flat surface. **Do not insert the ENDURO VE10 Gel module into the casting base at this point.**
5. Place the glass plate/spacer assembly into the Vertical Gel Insert between the pressure bar and the blue gasket. Check that the bottoms of the glass plates are touching the bench and fully tighten the sliding clamps. When only one gel is being run, the dummy plate must be used in the second position and fully tightened. ***NOTE: Be sure that the glass plates and the bottom of the spacers are evenly aligned.***

6. Open the cam handles on the casting stand and position the cams so they face downwards. Position the ENDURO VE10 Gel insert on the gasket of the casting stand so the key holes are facing the cams. The top of the ENDURO VE10 Gel insert will need to be pushed down very slightly to insert the cams.

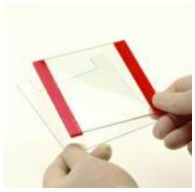


7. With the cam handles facing directly downwards, rotate the cams in the opposite direction 180^0 or until the insert has tightened down onto the gasket**. Do not overturn as this will cause the glass plates to push upwards and the assembly will be more likely to leak.**

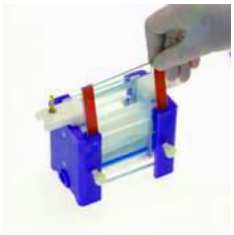
NOTE: Always reverse the gasket after casting to avoid indentations. Do not leave glass plates tightened into the casting stand for long periods of time as this can cause damage the silicone mat. The unit is now ready for gel preparation.

Vertical Gel Casting:

1) Put together bonded spacer plain glass plate with notched plate

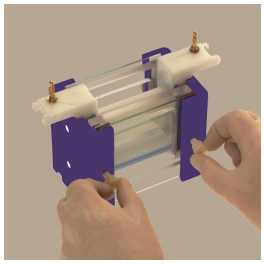


2) Insert **inside** pressure bar with notched plate innermost touching the gasket and module on a flat surface **away from the casting base**



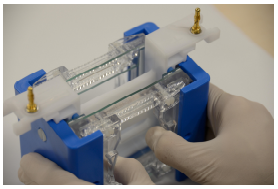
A) Screw Version

3A) Fully tighten screws ensuring not to wobble unit.

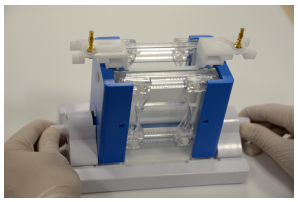


B) Sliding clamp version

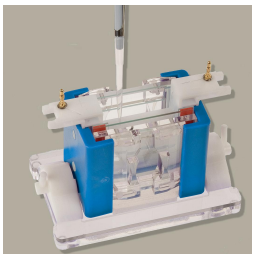
3B) Fully slide clamps tight ensuring not to wobble unit.



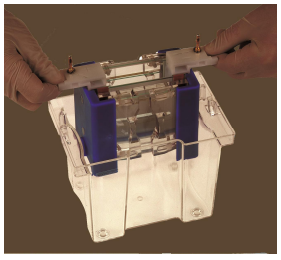
4) Insert into casting base. Push the cams into the holes in the insert. Turn cams about 90^0 or until tight. Do not over tighten.



5) Pour resolving gel and allow to set. Then stacking gel solution and insert comb.



6) Once set, transfer to tank and fill inner and outer chambers with buffer.



Gel Preparation:-

1. Stock solutions for SDS PAGE gels should be prepared prior to use and chilled. For native gel formulas and running conditions, please consult the appendix. The protocol below is given for use of the standard stock solutions.
2. Table 1 below shows the total volume of gel solution required. In subsequent tables, amounts of gel and solutions are given for two 1mm thick gels. If gels of other thickness are to be run adjustments will need to be made.

Table 1.

ENDURO VE10	
	Total Gel volume for a 1mm thick gel.
For different thicknesses of gel, multiple the below amounts by the spacer thickness.	
Single – one gel, one dummy plate	7.5 mL
Double – two gels	15 mL
Using a Triple Plate sandwich – 4 gels	30 mL

Gel Selection:

Care should be taken when selecting the pore size of the gel to be used. These formulas are for Tris- glycine-SDS gels

The pore size or % of gel determines the resolving ability given different sizes of protein. See Table 2 below which details which percentage of gel to use to separate the sizes of proteins indicated.

Table 2.

Acrylamide Percentage	Separating Resolution
5 %	60 - 220 KD
7.5 %	45 - 120 KD
10 %	25 - 75 KD
12%	14.4 – 65 KD
15 %	6.5 -45 KD
17.5%	5.5 – 30 KD

3. Using the stock solution provided in the appendix prepare gel solutions as per tables below. First mix the ddi Water, 30% Acrylamide solution and the 4x TRIS-SDS solutions. After mixing, degas for 5 minutes to remove free oxygen (which will inhibit polymerization).
4. To the above solution add the ammonium persulfate and TEMED and mix gently to avoid air bubbles.

Table 3: Preparation of the resolving gel solution for two 10 x 10cm gels using 1 mm spacers.

Solution	5%	7.50%	10%	12%	15%	17.5%
Distilled Water	8.7 mL	7. 5mL	6.3 mL	5.25 mL	3.75mL	2.5 mL
30 % Stock Acrylamide Solution	2.5 mL	3.75 mL	5 mL	6 mL	7.5 mL	8.75mL
4 X Tris-SDS Solution pH 8.8	3.75 mL	3.75 mL	3.75 mL	3.75 mL	3.75 mL	3.75mL
10 % Ammonium Persulphate	150 µl	150 µl	150 µl	150 µl	150 µl	150 µl

Gel Pouring:

For discontinuous gels:-

1. Insert the comb between the glass plates and mark a point on the glass plates 1cm below the bottom of the teeth. This is the level for the resolving gel.
2. Add 15 µl of TEMED to the resolving gel solution.
3. Fill the glass plates to the line and avoid generating any air bubbles. Filling must be performed quickly before the TEMED causes the gel to become too viscous.
4. Carefully, overlay the gel with 1 ml of 1% Isobutanol, Isopropanol or distilled water. When using distilled water, extra care must be taken to ensure there is no mixing with the gel solution.
5. Allow the resolving gel to polymerize. This usually takes 15 to 30 minutes, but can vary due to freshness of reagents used. If polymerization time is excessive, use a fresh stock solution or add more APS and TEMED.
6. Prepare the stacking gel using Table 5 below as a guide. (See appendix for stock solutions.)

Table 5.

Solution	ENDURO VE10
Distilled Water	4.2 mL
30 % Stock Acrylamide Solution	0.65 mL
4 X Stacking Gel Tris-SDS Solution pH 6.6	1.6 mL
10 % Ammonium Persulphate	67µl

7. Carefully mix the stacking gel solution, avoiding generating air bubbles.
8. Pour off the overlay liquid and rinse the gel with distilled water.
9. Add 6.7µl of TEMED to the stacking gel solution. Mix well. Use a Pasteur pipette to fill the glass plates up to the top with stacking gel solution.
10. Carefully insert the comb making sure that no air bubbles are trapped under the ends teeth as these will inhibit sample progression.
11. Allow the stacking gel polymerize for 30 minutes.

For continuous gels:

4. Follow the instructions for mixing the acrylamide solution. Add 15µ of TEMED and mix well but avoid generating air bubbles.
5. Fill the glass plates to 1 cm below top of notched plate, again avoiding generating any air bubbles. Filling must be performed quickly before the TEMED causes the gel to become too viscous.
6. Carefully insert the comb making sure that no air bubbles are trapped under the teeth as these will inhibit sample progression.
7. Let the gel polymerize. Usually this takes around 15 minutes but this can vary due to the freshness of the reagents used. If polymerization is taken a lot longer than this, use fresher stock solutions or add more APS and TEMED.

Preparation of denatured protein samples for loading:

The instructions given below are for denatured samples. For Native samples, please consult a laboratory handbook.

1. Prepare the protein samples for loading. The volume of sample depends on the capacity of the wells. See well chart in the Appendix.
2. Using a 0.5 ml micro-centrifuge tube or other convenient receptacle, combine the protein sample and 4 X sample buffer. It is always advisable to use protein markers in one of the end lanes to indicate sizes of bands. These should be prepared according to the manufacturer's instructions.
3. Heat the samples in a water bath or heating block for 2 minutes to denature. NOTE: heating should be done under a fume hood.
4. Centrifuge the samples in a microcentrifuge for 20 seconds at 12,000 rpm. The protein samples are now ready to load.

Loading the samples:

1. If desired, fit the previously frozen cooling pack(s) into the tank. The longest side of the ice pack should be positioned horizontal with the side(s) of the tank and pressed into the recess. One pack is supplied as standard. Additional packs can be purchased.

   NEVER FIT THESE UNDERNEATH THE MODULE IN THE BOTTOM OF THE TANK AS THIS WILL PREVENT THE FLOW OF CURRENT THROUGH THE GEL AND CAUSE SLOW RUNS AND OVER-HEATING.

2. Remove the combs with a gentle rocking motion; rinse the well out with ddi H2O to eliminate any residue.
3. Transfer the Inner gel module containing cast gels into the main tank in the correct orientation as indicated +ve on the module aligned with +ve on the tank, -ve on the module aligned with -ve on the tank.
4. Fill the outer tank with 1 x reservoir buffer. See Appendix for recommended running buffer solution. Table 6. Shows the volume of buffer required.

Table 6.

Buffer Volume	ENDURO VE10
Minimum – Inner tank is filled to above the wells. Outer Tank is filled to just flood the bottom of the glass plates. Cooling potential is at a minimum which may affect resolution.	250 mL
Maximum – Inner tank is filled to above the wells. Outer Tank is filled to the maximum fill line. Cooling is high offering good resolution of samples.	1200 mL
Using the cooling packs – Inner tank is filled to above the wells. Cooling packs are inserted behind the gels. Outer Tank is filled to the maximum fill line. Cooling is at a maximum. Only 1 cooling pack comes standard with unit.	1000 mL

5. Load the samples into the wells using a pipette tip taking care not to damage the wells or induce any air bubbles.
6. Fill any unused wells with 1X sample buffer.
7. It is a good idea to note the orientation and order the samples were loaded in. This can be done by noting which samples were loaded adjacent to each electrode.

Gel Running:

1. Fit the lid and connect to a power supply.
2. Consult Table 7 for details on recommended power supply voltage settings.
3. Run times vary with concentration and protein size. When the dye front is approximately 1 cm, from bottom, turn off the power supply. If resolving proteins less than 4Kd, the power supply should be turned off sooner.
4. Always unplug the power cord from the power supply prior to removing the lid.
5. Remove the gel running module, first emptying the inner buffer into the main tank. Buffer can be re-used but this may affect run quality.

6. Release the pressure bars and gently pry apart the glass plates. The gel will usually stick to one of the plates and can be removed by first soaking in running buffer and then gently lifting with a spatula.
7. The gel is now ready to be stained with Coomassie or silver stain for specific band identification and further analysis. If using the Enduro GDS for imaging you will need the white light conversion screen.

Table 7.

Recommended Voltage and Current settings for 1mm thick, 12% gels.	**VE10**
One gel	90-225V, 20-45mA
Two gels	90-225V, 40-90mA
Three gels	90-225V, 60-135mA
Four gels	90-225V, 80-180mA

The recommended power condition for optimal resolution with minimal thermal band distortion is 150 volts, constant voltage setting. No adjustment of the setting is necessary for thickness or number of gels. The usual run time is approximately 40-45 minutes. Current should be approximately 50mA per gel (120mA for two gels) at the beginning of the run. During the 45 minute run, the current will slowly drop to about 20mA per gel. This drop is caused by the change in buffer ions in the gel, causing a slow rise in the resistance in the gel. As one would expect from the Ohms law (V=I*R), at constant voltage (V) a rise in the resistance (R) results in a drop in the current (I).

Protein Blotting using the ENDURO VE10 Electroblotting Insert

Setting up the cassette sandwich: (Common buffer solutions are listed in the Appendix.)

1. Each blot sandwich should be set up as follows:-

   a. Cassette clamp -ve (black) side placed in a tray or other suitable surface.

   b. Pre-soaked fiber pad.

   c. Two pieces of .45µm filter paper, pre-soaked in buffer.

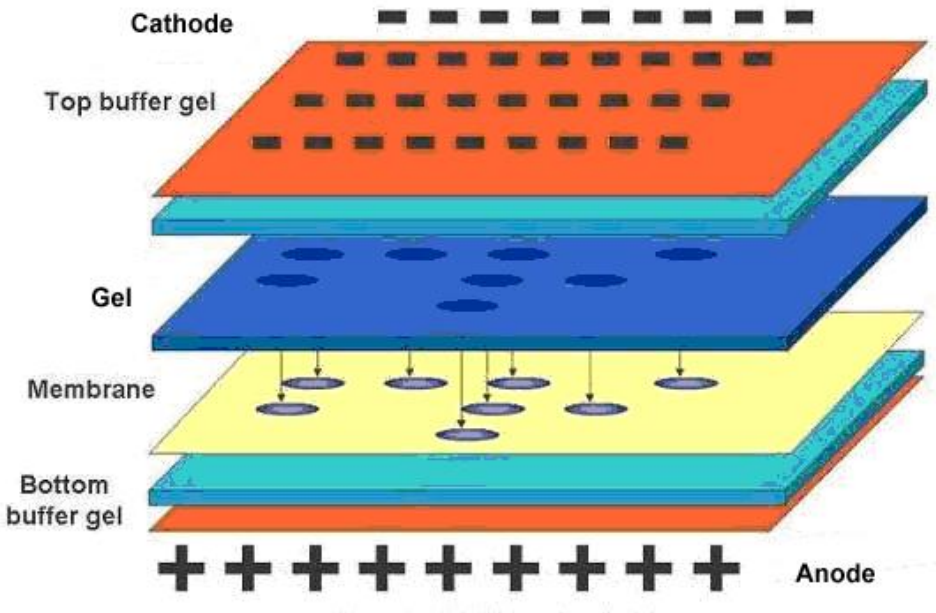
   d. Gel - cut the left hand corner for indexing,

   e. Transfer membrane. Follow manufacturer's directions for presoaking. Smooth out any air bubbles that may be trapped under the membrane.

   f. Two pieces of filter paper, pre-soaked in buffer.

   g. Pre-soaked fiber pad.

   h. Cassette clamp +ve (red) side slotted into the groove in the bottom of the black cassette.



Note**: **do not handle the membrane without gloves.

2. Assemble the fiber pads, filter papers, gel and transfer membrane in the above order and roll with a pipette to remove any trapped air. Place on the black and red cassette with the membrane facing the anode (red) side, close the hinge carefully so as to not disturb the sandwich.
3. Fill the tank with buffer solution up to the **maximum fill line** indicated on the side of each unit. See the Appendix for recommended buffer solutions. Improved transfer can be obtained by using chilled buffer.

Table 8. shows the volume of buffer required.

Buffer Volume	**ENDURO Electroblotting**
One Cassette	1380 mL
Two Cassettes	1290 mL
Three Cassettes	1200 mL
Each cooling pack takes the place of 100 mL of buffer.	

Blot Running Conditions:

1. Insert the cassettes into the slots in the module with the black side of each adjacent to the negative electrode. It is a good idea to note the orientation and order in which the blot sandwiches were loaded.
2. Use of a magnetic stirring bar and plate is recommended to mix the buffer to give consistency of transfer. A 4mm diameter stirring bar should be placed underneath the module, in the center of the tank. The cooling pack provided, pre-frozen, can be inserted at the side or front of the tank for extended blots. Additional cooling packs can be purchased as accessories to further aid cooling.
3. Insert the module, attach the lid and connect to a power supply.
4. Consult Table 9 for details on recommended power supply voltage settings and blot times. Please note voltages and current will vary according to the amount of cassettes, type and temperature of buffer and thickness and percentage of gel. This will also affect quality of transfer so adjust the time of the blot to your particular samples and conditions.

5. When the blot time is completed, turn the power supply off and remove the lid of the unit.
6. Remove the cassettes from the main tank.
7. Lift the hinge of each cassette and gently pry apart the blot sandwich and remove the membrane from the gel.
8. The membrane can now be further processed. Remember to save the filter paper behind the gel to check for blow through of smaller proteins.

Table 9. Recommended voltage and current settings.

Duration of Blot	**Volts / mAmp**
One Hours	100V, 400mA
Three Hours	50V, 200mA

Appendix

Stock Solutions for SDS PAGE gels:-

Stock 30% Acrylamide Gel Solution:-

30.0 g acrylamide
0.8 g methylene bisacrylamide
Distilled Water to 100 mL

Stock 4X Resolving Gel Tris (1.5 M Tris. HCl pH8.8, 0.4 % SDS)

To 110 mL Distilled Water add 36.4 g of Tris base
Add 8 mL of 10 % SDS
Adjust pH to 8.8 with 1N HCl
Adjust the final volume to 200 mL with Distilled Water.

Stock 4X Stacking Tris (0.5 M Tris. HCL pH 6.8, 0.4 % SDS)

To 110 mL Distilled Water add 12.12 g of Tris base
Add 8 mL of 10 % SDS
Adjust pH to 6.8 with 1N HCl
Adjust the final volume to 200 mL with Distilled Water

Stock 4X Tris-glycine tank buffer - SDS

36 g Tris base
172.8 g glycine
Distilled Water to 3 L

1X Tris-glycine tank buffer - SDS

750 mL of 4X Tris-glycine tank buffer - SDS
30 mL of 10 % SDS
Distilled Water to 3L

10 % APS (ammonium persulphate solution)

0.1 g ammonium persulphate
1 mL Distilled Water
Note ammonium persulfate degrades quickly in solution.

Stock 4X Sample Buffer

4ml glycerol

2ml 2-mercaptoethanol

1.2 g SDS

5ml 4X Stacking Tris

0.03 g Bromophenol blue

Aliquot into 1.5ml microcentrifuge tubes. Store at -20°C.

Membrane Selection

Nitrocellulose

Good binding capacity, proteins bind by hydrophobic interactions

Pore Size .45µm or 22µm

Western Transfer

Amino acid analysis

Nylon

Microporous membrane modified with strongly basic charged groups

Binds negatively charged macromolecules, DNA or RNA with low background

Pore Size .45µm

Can Re-probe

Southern Transfer

Northern Transfer

Solid phase immobilization

Enzyme immobilization

Gene probe assays

PVDF

High binding capacity

High hydrophobic binding, solvent resistant

Compatible with protein stains and immunodetection techniques

Pore Size .45µm or .22µm

Can re-probe

Western Transfer

Protein Sequencing

Amino Acid Analysis

Solid Phase Assay Systems

Buffer Preparation - Proteins

Towbin Buffers

Native Gels

Towbin Buffer pH 8.3

25 mM TRIS, 192 mM glycine, 20% Methanol,

3.0 gm TRIS

14.4 gm glycine

200 ml Methanol

add ddi H_2O to 1 liter

Denatured Gels

Towbin Buffer pH 8.3, no Methanol

25 mM TRIS, 192 mM glycine

3.0 gm TRIS

14.4 gm glycine

add ddi H_2O to 1 liter

Warranty Statement

Corning Incorporated (Corning) warrants that this product will be free from defects in material and workmanship for a period of one (1) year from date of purchase. CORNING DISCLAIMS ALL OTHER WARRANTIES WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. Corning's sole obligation shall be to repair or replace, at its option, any product or part thereof that proves defective in material or workmanship within the warranty period, provided the purchaser notifies Corning of any such defect. Corning is not liable for any incidental or consequential damages, commercial loss or any other damages from the use of this product.

This warranty is valid only if the product is used for its intended purpose and within the guidelines specified in the supplied instruction manual. This warranty does not cover damage caused by accident, neglect, misuse, improper service, natural forces or other causes not arising from defects in original material or workmanship. This warranty does not cover motor brushes, fuses, light bulbs, batteries or damage to paint or finish. Claims for transit damage should be filed with the transportation carrier.

In the event this product fails within the specified period of time because of a defect in material or workmanship, contact Corning's Customer Service at the following numbers: USA: 1-800-492-1110; Canada: 1-978-442-2200. For other regions of the world, please visit www.corning.com/lifesciences or see the included instruction manual for a list of World Wide Support Offices.

Corning's Customer Service team will help arrange local service where available or coordinate a return authorization number and shipping instructions. Products received without proper authorization will be returned. All items returned for service should be sent postage prepaid in the original packaging or other suitable carton, padded to avoid damage. Corning will not be responsible for damage incurred by improper packaging. Corning may elect for onsite service for larger equipment.

Some states do not allow limitation on the length of implied warranties or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights. You may have other rights which vary from state to state.

No individual may accept for, or on behalf of Corning, any other obligation of liability, or extend the period of this warranty.

For your reference, make a note of the serial number, date of purchase and supplier here.

Serial No. _____ Date Purchased _____

Supplier _____

Warranty/Disclaimer: Unless otherwise specified, all products are for research use only. Not intended for use in diagnostic or therapeutic procedures. Corning makes no claims regarding the performance of these products for clinical or diagnostic applications.

Please register your product online at:
www.labnetinternational.com

Accessories

Additional accessories available. Contact Labnet International for details.

Labnet Cat#	Description
E2010-BM	Blotting Module
E2010-B-FB	Fiber Blotting Pads, Pack of 6 pads
E2010-2D-CT	Capillary Tubes, disposable, Pack of 10.
E2010-2D-BP	Capillary Blanking Ports, Pack of 10
E2010-CP	Mini Cooling Pack

Plates and Spacers Labnet Cat No.	Description
E2110-NG-2	Notched glass plate, 10 x 10 cm
E2110-PG-2	Glass plate, 10 x 10 cm
E2110-PG-0.75-BS	Glass Plate with bonded 0.75 mm spacers 10 x 10 cm
E2110-PG-1-BS	Glass Plate with bonded 1mm spacers 10 x 10 cm
E2110-PG-1.5-BS	Glass Plate with bonded 1.5 mm spacers 10 x 10 cm
E2110-PG-2-BS	Glass Plate with bonded 2 mm spacers 10 x 10 cm
E2110-NG-0.75-BS	Notched Glass Plate bonded 0.75 mm spacers, 10 x 10 cm
E2110-NG-1-BS	Notched Glass Plate with bonded 1 mm spacers, 10 x 10 cm
E2110-NG-1.5-BS	Notched Glass Plate with bonded 1.5 mm spacers, 10 x 10 cm
E2110-NG-2-BS	Notched Glass Plate with bonded 2 mm spacers, 10 x 10 cm
E2110-DP	Dummy plate, 10 x 10 cm
E2110-0.75-S	Gel spacer, 0.75 mm
E2110-1-S	Gel spacer, 1 mm
E2110-1.5-S	Gel spacer, 1.5 mm
E2110-2-S	Gel spacer, 2 mm

Combs

Labnet Cat No.	Description	Well width mm	Thickness mm	Well volume
E2110-12-1	12 well comb.	3.75	1	35ul
E2110-12-1	12 well comb	3.75	1.5	50ul
E2110-12-1	10 well comb	4	1	40ul
E2110-10-1.5	10 well comb	4	1.5	60ul
E2110-10-0.75	10 well comb	4	0.75	30ul
E2110-5-1.5	5 well comb	10	1.5	150ul
E2110-5-0.75	5 well comb	10	0.75	75ul
E2110-16MC-1	16 well comb	2.5	1	25ul
E2110-20-1	20 well comb	2	1	20ul
E2110-5-1	5 well comb	10	1	100ul
E2110-20-0.75	20 well comb	2	0.75	15ul
E2110-12-2	12 well comb	3.75	2	70µl
E2110-8MC-1	8 well comb	6	1	60µl
E2110-20-1.5	20 well comb	2	1.5	30µl

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