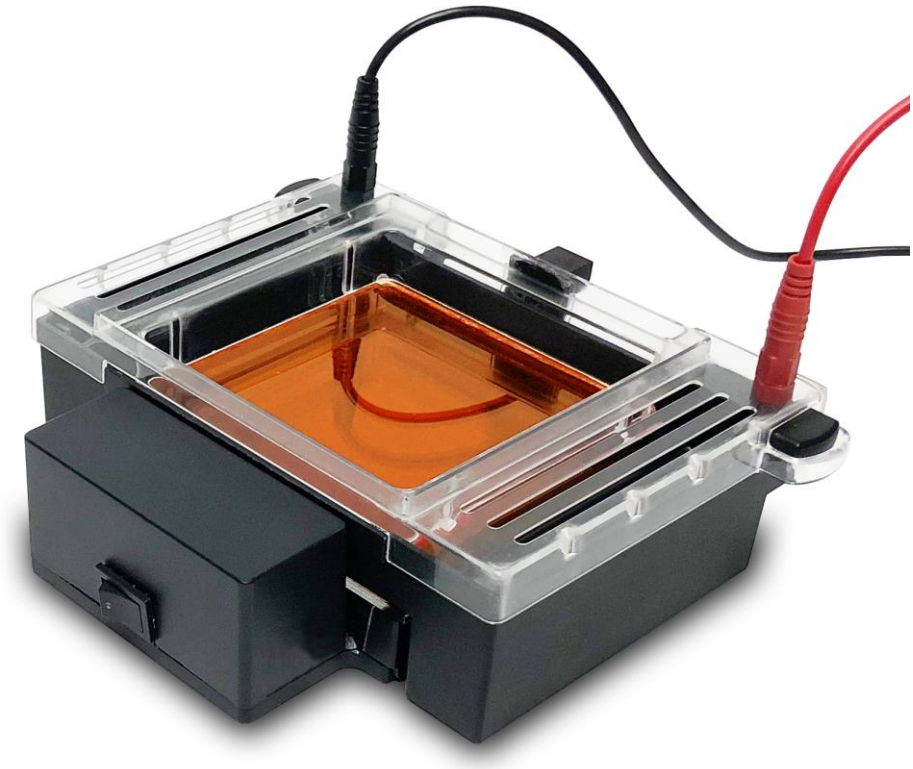
ACCURIS INSTRUMENTS

MyGel™ InstaView Electrophoresis Tank

Operating Manual

Version 1.0



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Contents

1. Introduction

Thank you for purchasing the Accuris MyGel™ InstaView Electrophoresis Tank.

This operating manual includes a product introduction,and operating and safety information. Before using the MyGel InstaView, please read this manual in its entirety and be sure to fully understand the features and methods for proper operation. Keep this manual for future reference.

Please check the list of included components in section 1.1, and if there are any parts missing, damaged, or incorrect, please contact your distributor or Benchmark Scientific's Customer Service Department at 908-769-5555 or by email at info@benchmarkscientific.com.

The MyGel InstaView Gel Tank is a horizontal electrophoresis system that includes a gel running tank, safety lid with viewing filter, blue LED transilluminator, and a gel casting set. The system is designed to connect to an appropriate electrophoresis power supply for separating nucleic acids in agarose gels, and allows viewing the stained DNA bands during electrophoresis without removing the gel from the tank. Accessories are included for casting the agarose gels.

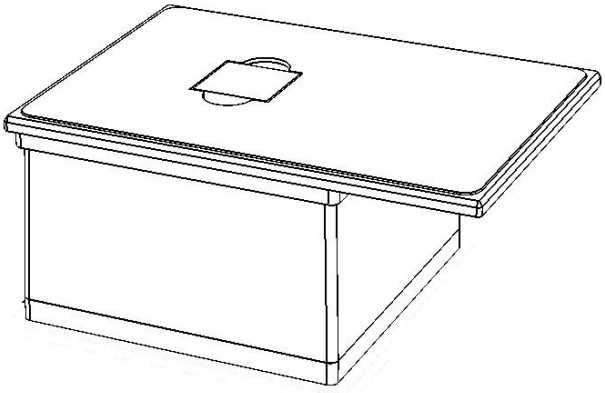
The blue LED transilluminator and viewing filter are compatible with green fluorescent stains such as Accuris SmartGlow PS, SmartGlow LD, SYBR® Green, and other similar stains that fluoresce under 465nm blue light.

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

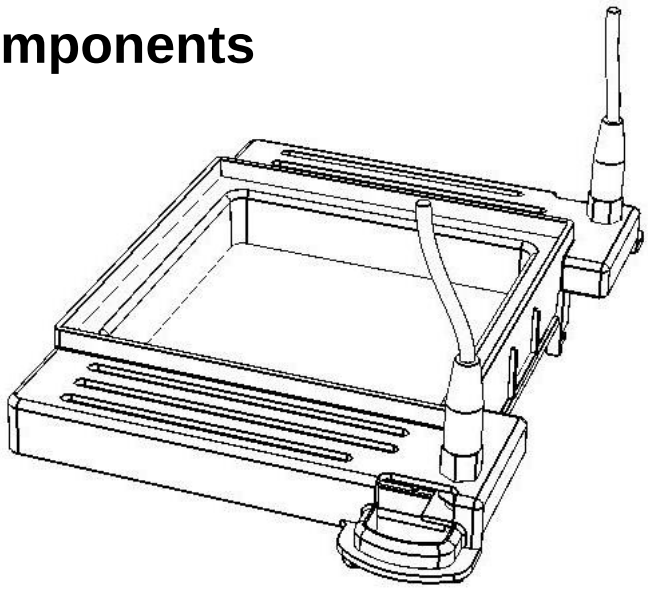
1.1 Included Components

Gel Running Tank Assembly	1 pc
Blue Light LED Illuminator	1 pc
12VDC Power Supply (for LED Illuminator)	1 pc
Gel Casting Stand	1 pc
Gel Casting Divider	1 pc
Long Gel Tray (10.5 x 10cm)	1 pcs
Short Gel Tray (10.5 x 6cm)	2 pcs
Double Sided Comb (12/22 teeth)	2 pcs
User Manual	1 pc

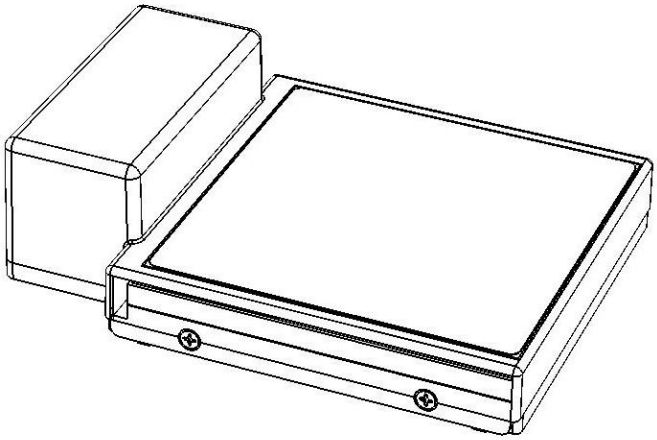
1.2 Diagrams of Included Components



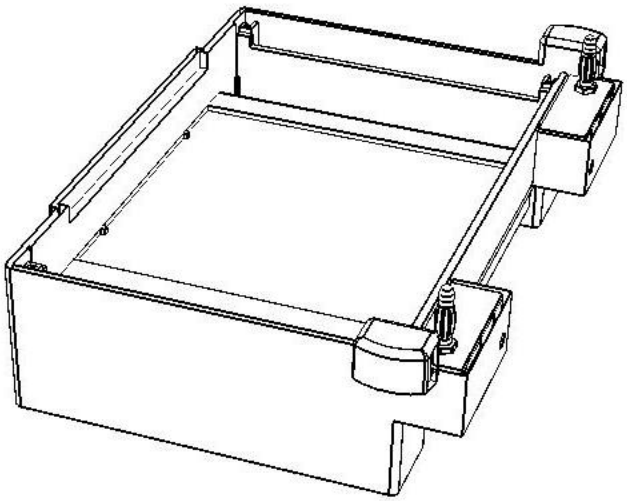
Smart phone imaging enclosure with photo filter



Safety Lid with Integral Viewing Filter and Power Leads



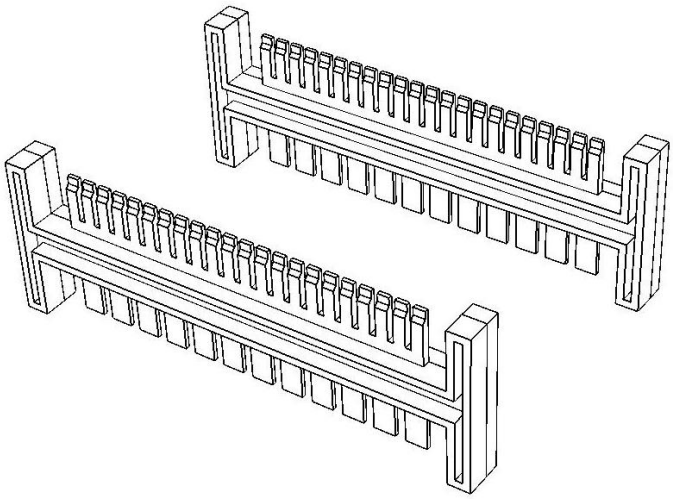
Blue LED Transilluminator



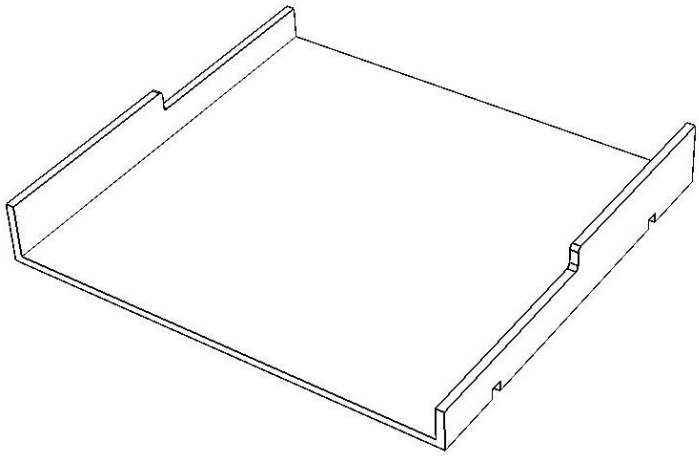
Gel Running Tank

12V Power Supply

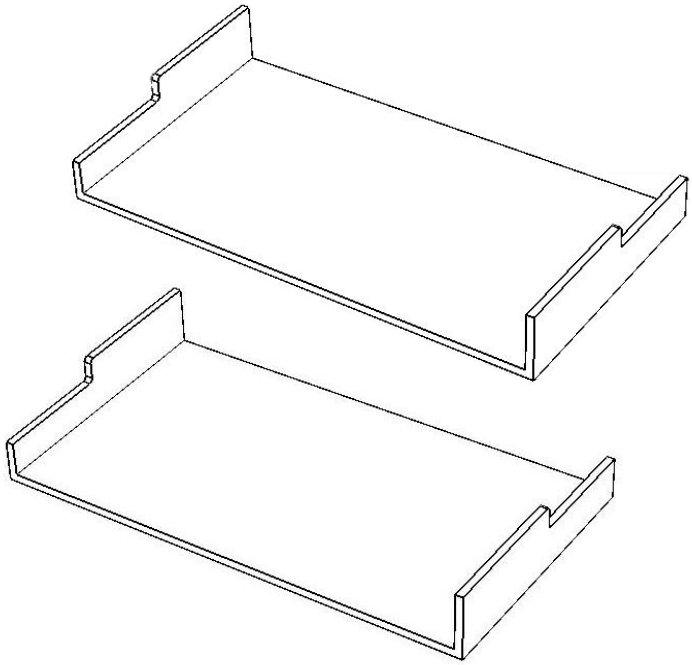
Diagram of Included Components (Gel Casting Set)



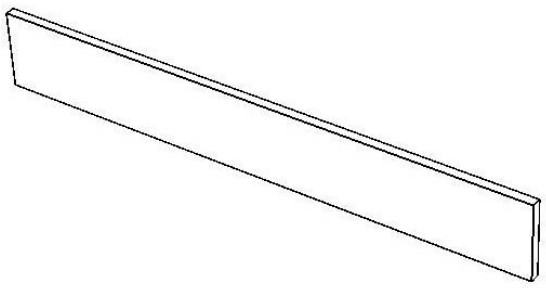
Double Sided Comb (12/22 teeth)



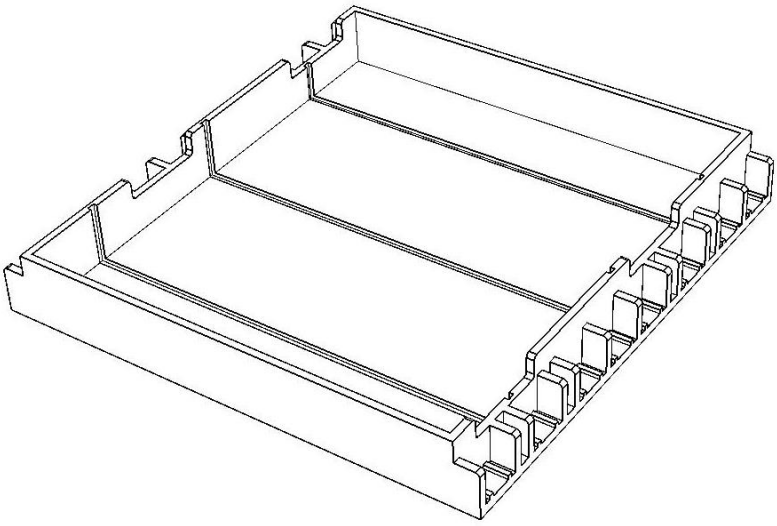
Long Gel Tray (10.5 x 10cm)



Short Gel Trays (10.5 x 6cm)



Gel Casting Divider



Gel Casting Stand

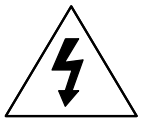
1.3 Product Specifications

Migration Tank	
Dimension	120mm×110mm×45mm（inner dimension）
Buffer volume	200ml-225ml
Electrodes	Platinum wire
Blue LED Transilluminator	
Viewing area dimension	10.5cm x 10.5cm
Wavelength	465nm
Input voltage	12VDC (Power Adapter included for 100VAC to 240VAC input)
Gel Casting Set	
Gel casting stand	Accommodates 10.5cm x 11cm and 10.5cm×6cm trays (Divider included)
Comb specifications	Teeth width x Teeth thickness x Teeth no.） 3mm×1mm×22 5.6mm×1mm×12
Gel trays	10.5cm x 11cm and 10.5cm×6cm

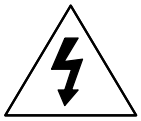
2. Installation

Place the electrophoresis tank on a smooth, level surface. Confirm that the power supply to be used is suitable for the voltage and amperage requirements for DNA electrophoresis and that the output jacks on the power supply can accept the banana plugs on the myGel InstView power cords. The *Accuris myVolt Touch* and *myVolt Mini* are recommended as compatible power supplies.

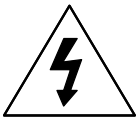
3. Warnings



This product is capable of delivering potentially lethal voltage when connected to a high powered power supply, and should be operated only by qualified and trained personnel.



Use only appropriate power supplies that are designed for electrophoresis applications, and have safety features such as no load and over load detection.



When operating, do not move or bump the system, do not put your finger or any other objects into the migration tank when connected to a running power supply.

The blue light transilluminator produces a high intensity light, and users should not stare directly at the light.

Do not detach the power supply cords from the safety lid and do not remove the safety lid when the attached power supply is running. Attempting to do so can cause damage, and can also create a shock hazard.

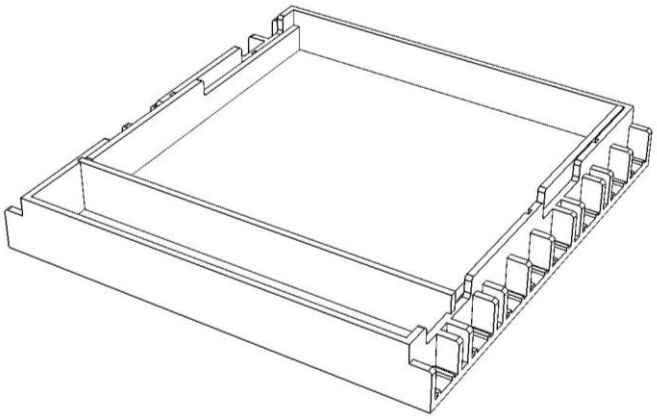
Please carefully read this instruction manual before operation to avoid any personal injury. Only trained laboratory personnel should operate the system.

Do not attempt to open or repair any parts of the system. Contact your distributor or Benchmark Scientific for service.

Always use the MyGel InstaView 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.

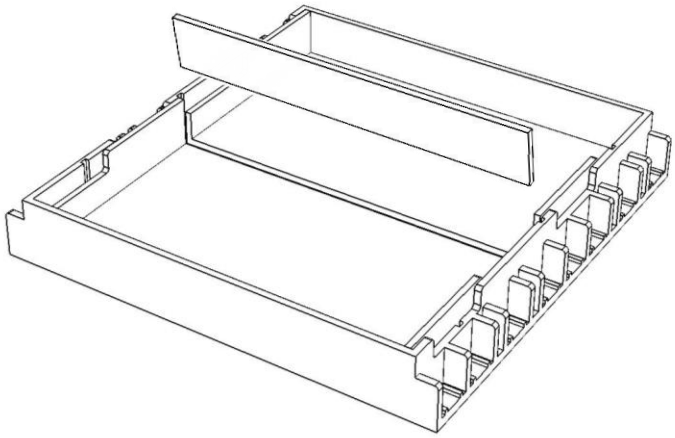
4. Gel Preparation

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

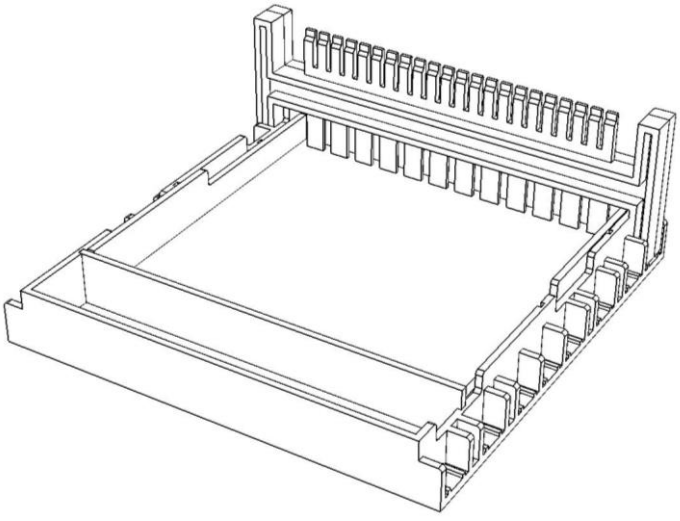


Either one long gel tray, or two short trays can be inserted into the casting stand (see diagrams on right).

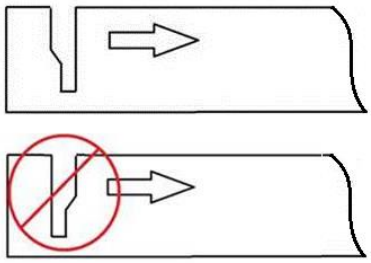
Note: If the gel tray is not level, the thickness of the gel will not be uniform and DNA migration may be uneven.



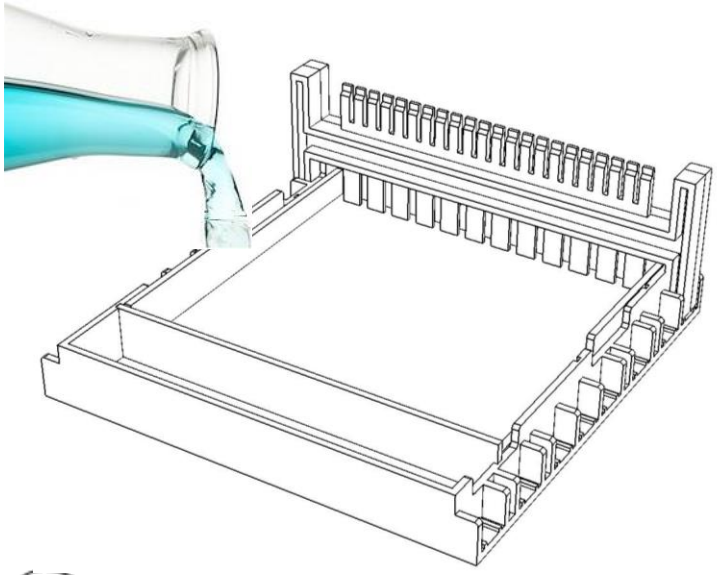
Insert the comb(s) into the gel casting stand as per image on the right. Multiple combs can be inserted depending on the number of samples and desired run distance.



Note: when using the fine toothed comb, the flat side of the well comb should be facing the direction of DNA travel. See figure below.



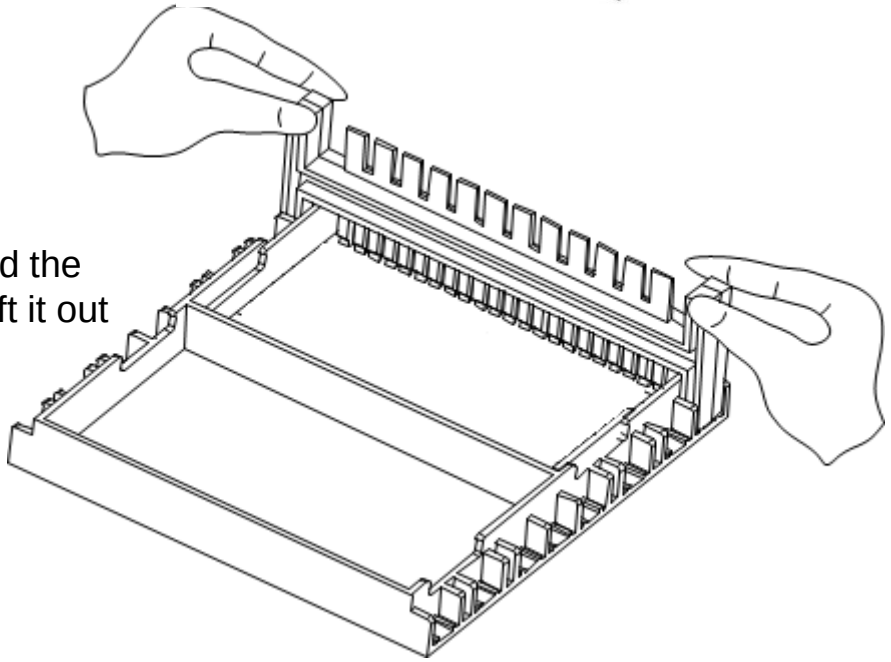
Note: After mixing and heating agarose solution, let it cool to approximately 60° C before pouring into the gel trays



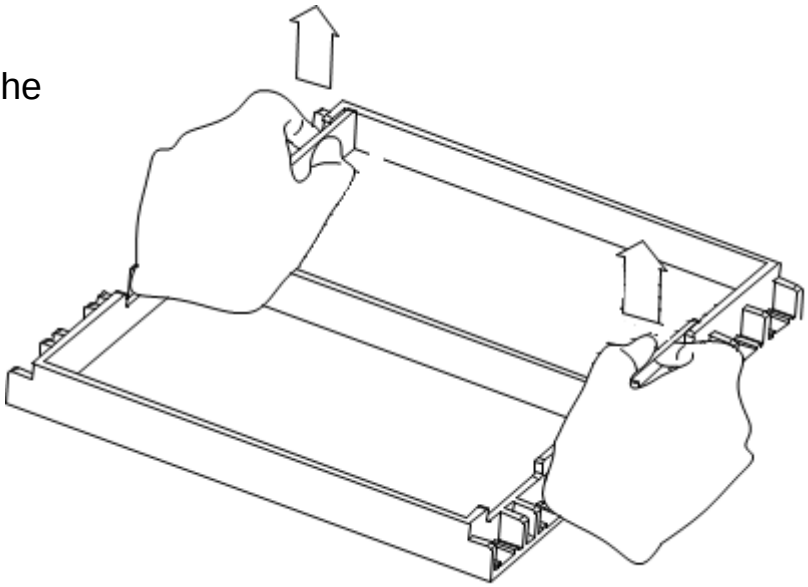
Pour the agaose gel/DNA stain solution into the gel tray to make a gel approximately 4mm thick. Each 6x10.5cm tray requires about 25ml of agarose.

Note: Accuris SmartGlow PS is recommended for gel stain.

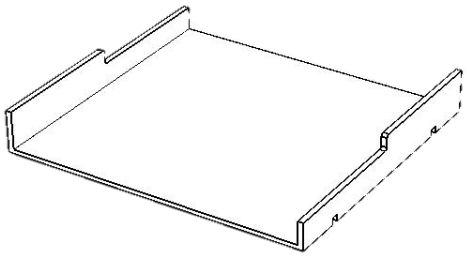
After the gel has solidified (approximately 20 minutes) hold the two sides of comb and gently lift it out of the gel. The wells should be straight and undamaged.



Carefully remove the gel tray with the gel from the stand and place it into the migration tank in the correct orientation. (DNA samples will migrate from the – to + electrode).

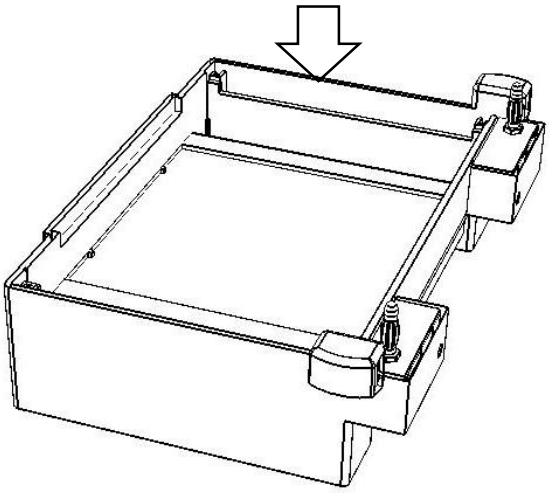


5. Gel Tank Set Up



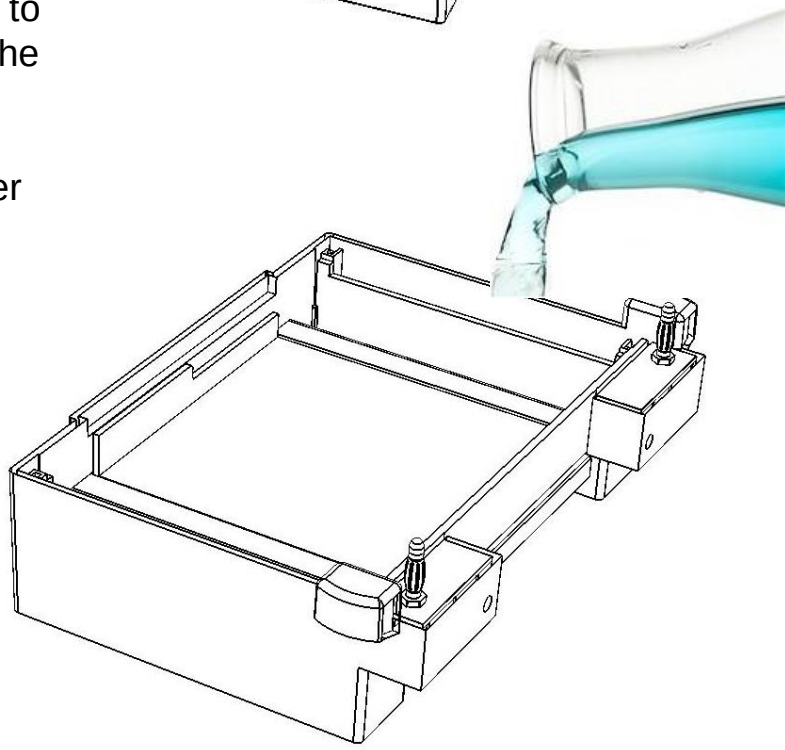
Note: Make sure that the MyGel System is installed on a stable and level surface. This will ensure even sample migration.

Place a prepared gel, together with the gel tray onto the gel bed inside the gel tank.



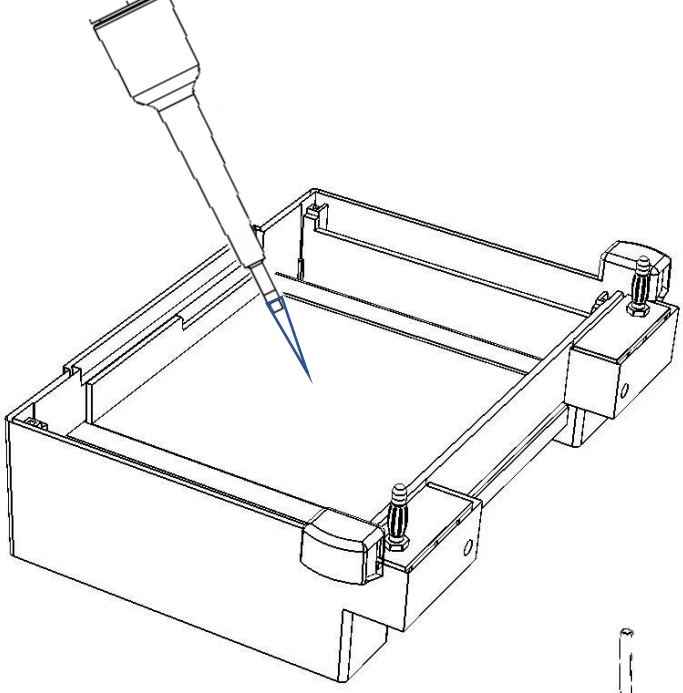
Carefully pour an appropriate buffer solution to a level of about 2 mm above the surface of the gel. Typically, 200ml of buffer is required.

It is recommended to use Accuris QuickSilver TAE or TBE at a concentration of 0.5X, or QuickSilver Fast Running buffer at a concentration of 1X for best results.



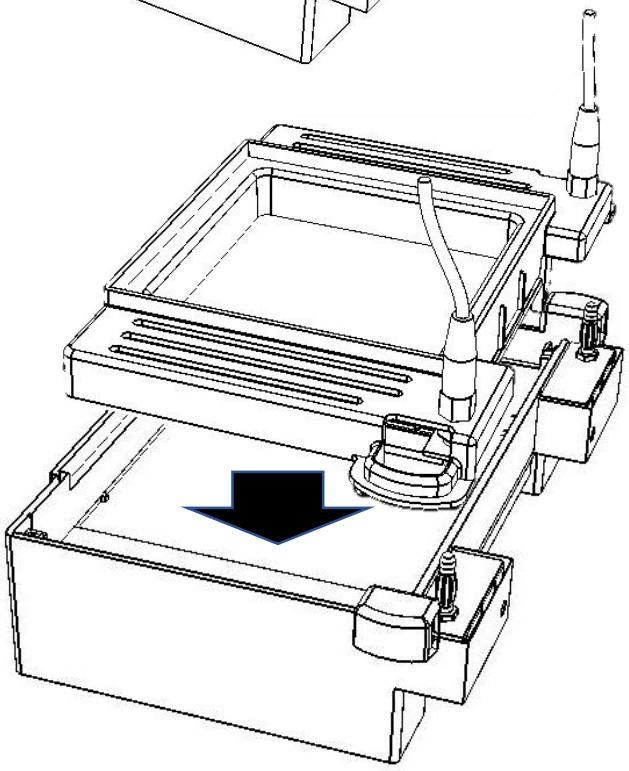
Add DNA samples to the gel

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

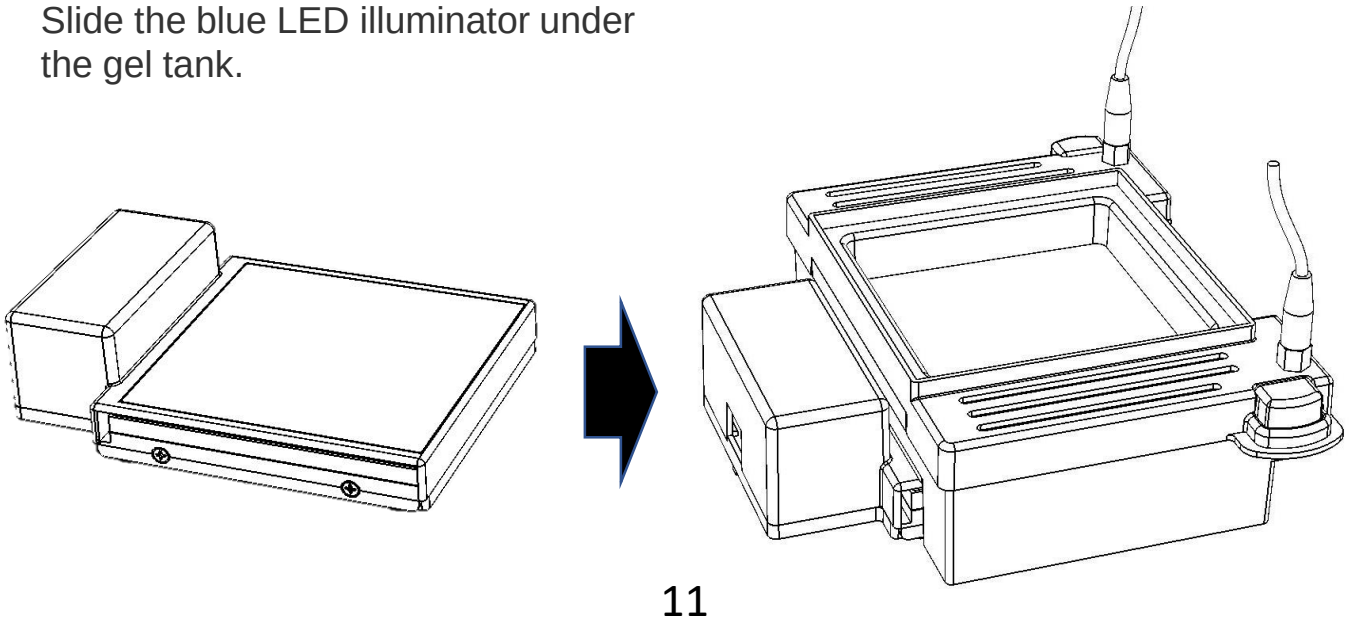


Note: Gel loading buffer should be mixed with the DNA samples so they will sink to the bottom of the wells.

Carefully lower the safety cover onto the gel tank. The orange viewing filter should fully contact the surface of the buffer so there are no bubbles visible. If the buffer level is too low to contact the orange filter, remove the cover, and add more buffer to the tank.



Slide the blue LED illuminator under the gel tank.

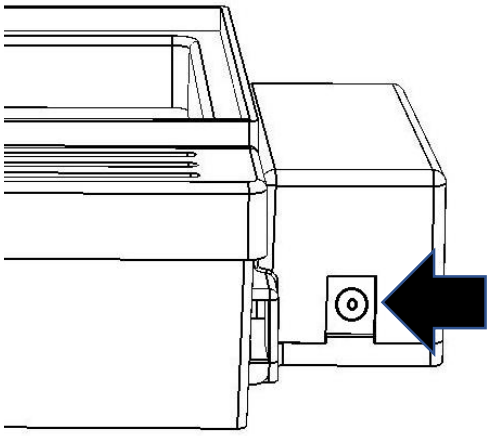


6. Electrophoresis

Connect the positive (red) and negative (black) power leads from the myGel safety cover to the + and – outputs of a power supply.

Set the power supply output voltage appropriately for the application. Generally 100V with constant voltage setting is acceptable for most applications. If using QuickSilver Fast Running buffer, the voltage can be increased to 300V for fast separation.

Connect the included 12V DC power supply to the inlet on the InstView transilluminator.



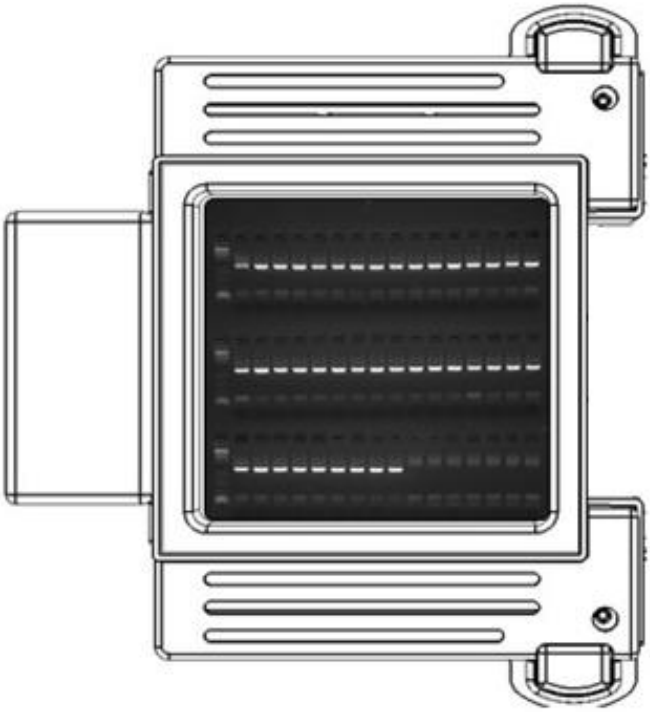
Connect the 12V power supply to the LED transilluminator

7. Viewing Electrophoresis Progress

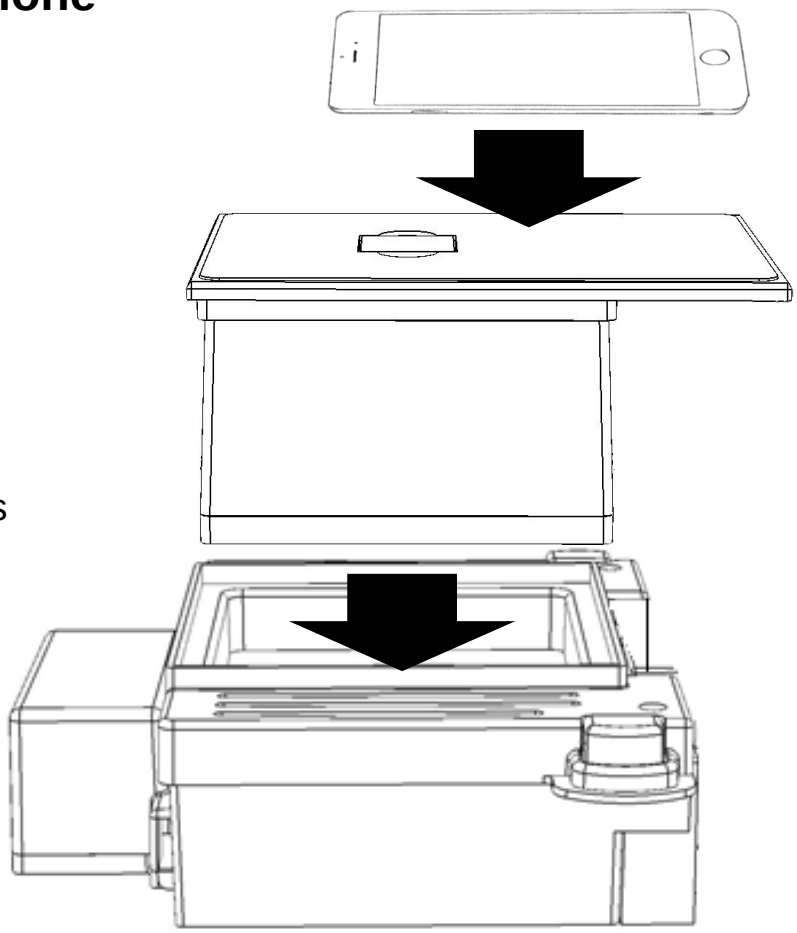
To visualize the DNA separation in the gel during electrophoresis, turn on the blue LED illuminator using the ON/OFF switch.

It may be necessary to dim or turn off ambient lights for best viewing results.

The LED illuminator has a built in timer, so the light will automatically switch off after 5 minutes.



8. Imaging using a smart phone



To take a picture of the gel using a smart phone camera, fit the imaging enclosure onto the lid of the gel running tank.

Insert the included orange photo filter into the top platform of the enclosure. Turn on the smart phone's camera application, and align the camera lens with the photo filter.

Zoom and focus as necessary to optimize the image, and take the picture.

9. Maintenance

⚠ Always disconnect the 12V power supply when cleaning the transilluminator. When cleaning the surfaces of the instrument and LED transilluminator, use a damp cloth with mild detergent if needed. Do not use any corrosive solutions that could damage plastic.

⚠ When cleaning the gel tank, use caution when cleaning the areas near the platinum electrodes at the bottom edges of the gel tank.

⚠ Do not submerge the LED transilluminator in water.

⚠ Clean gel casting stands, gel tray and combs with water or a neutral cleaner.

10. Troubleshooting

Problem	Causes	Resolutions
No Migration	Power supply not operating or not correctly connected or gel inserted backwards	Check the proper operation of the power supply and proper connection of the power leads to + and - outputs. Check that the gel is properly oriented (DNA will migrate towards + electrode)
Abnormal Electrophoresis speed.	Incorrect voltage setting, incorrectly prepared buffer.	Check power supply output, check that buffer is the proper type and appropriate concentration.
Abnormal heating of buffer or gels	Buffer concentration too high, voltage too high, or buffer has been reused too many times.	Use 0.5X TAE/TBE buffer, 1X QuickSilver Fast Running Buffer, or reduce running voltage. If buffer has been used in previous runs, replace with freshly prepared buffer.

myGel InstaView Accessories and Power Supplies:

Gel Casting Accessories	
E1200-CS1	Extra casting set, includes casting stand, divider, 2 trays for 10.5x6cm gels, one tray for 10.5x10cm gels, 2 double sided combs (12/22 teeth)
E1101-COMB1	Extra double sided combs, 12/22 teeth, pack of 2

Blue Light Viewing Accessories	
E4000-VG1	SmartBlue Viewing Glasses
E1200-OC	Orange viewing cover for InstaView Mini Transilluminator

myVolt™ Power Supplies	
E2100	myVolt™ Mini power supply, 115V
E2100-E	myVolt™ Mini power supply, 230V
E2301	myVolt™ Touch power supply, 115V
E2301-E	myVolt™ Touch power supply, 230V

Additional Electrophoresis Products from Accuris:

SmartGlow™ Reagents	
E4500-LD	SmartGlow™ Loading Dye with Safe Green Stain, 1.0ml
E4500-PS	SmartGlow™ Safe Green Pre Stain, 1.0ml

QuickSilver™ Powdered Buffer Packs	
EB1000	QuickSilver TAE Buffer Powder, 100 pouches
EB1001	QuickSilver TBE Buffer Powder, 50 pouches
EB1002	QuickSilver Fast Running Buffer Powder, 100 pouches

Benchmark Agarose LE (Molecular Biology Grade)	
A1705	Benchmark Agarose LE, 500g
A1701	Benchmark Agarose LE, 100g
A1700	Benchmark Agarose LE, 25g

Please contact your Accuris distributor for pricing and to order

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