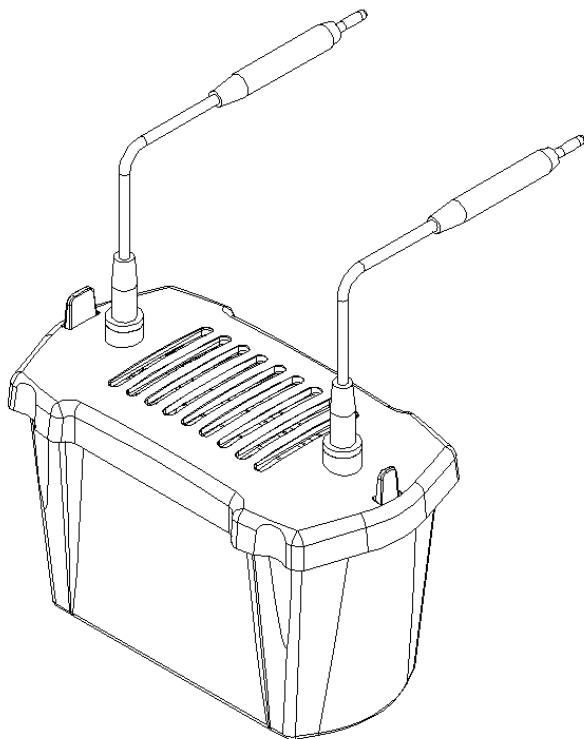


SVE-2 (Vertical Electrophoresis Tank)  
SVT-2 (Transfer Electrophoresis Tank)

# INSTRUCTIONS



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# Contents

<b>SVE-2(Vertical Electrophoresis Tank) Instruction</b>	<b>02</b>
I. Product Overview	02
II. Product Features	02
III. Product Specification	02
IV. Operation Steps	03
Preparation	03
Gel Making	04
Samples Loading	04
Electrophoresis	05
V. Product List	05
<b>SVT-2(Transfer Electrophoresis Tank) Instruction</b>	<b>06</b>
I. Product Introduction	06
II. Product Features	06
III. Operation Steps	06
Preparation	06
Activation	06
Installation	06
Transfer	06
IV. Product List	08

# 01 SVE-2 (Vertical Electrophoresis) Instruction

## Warning

1. Don't operate the products when power is on, (after sample loading, electrophoresis power supply shall be connected after the lid is covered.). Do not touch the electrophoresis tank during the electrophoresis to avoid the risk of electric shock.

2. All parts of this product can be cleaned by clean water, only need to dry naturally or wipe with absorbent paper, do not bake through high temperature to avoid damage and deformation of the product.

## I. Product Overview

Electrophoresis is widely applied in life science, analytical chemistry, clinical chemistry, agents, pharmacology, immunology, food-chemicals industry, etc.

In a DC electric field, the movement of charged particles towards an electrode with opposite signs is called electrophoresis. Small molecules can be separated and analyzed by electrophoresis, which is commonly used in modern medicine to study proteins, nucleic acids, enzymes and even virus cells.

Electrophoresis not only can be used in the separation and determination of protein content, but also has many new applications in immunological experiments. For example: hepatitis B antigen (HBAG) electrophoresis for the diagnosis of hepatitis B, alpha-fetoprotein (AFP) electrophoresis for the diagnosis of primary liver cancer and so on.

## II. Product Features

- Adopt situ gel making mode, the process of gel making and running can be completed without dismantling electrophoresis glass, and it is compatible with the electrophoretic requirements of prefabricated gel products of this model specification.
- Special design of gel-making base is locked by non-spring latch to avoid gel leakage caused by insufficient spring pressure or aging.
- Unique design card plate with the whole gland, so that the glass plate can be sealed by extrusion sealing rubber strip, to avoid the side card lifting is not in place and leakage problem.
- Glass plate and Gel comb (1.5mm, 1mm, 0.75mm) with various thickness intervals can be adapted to meet the needs of different sample loading.
- Compared with other types of electrophoresis tank, this electrophoresis tank requires less electrophoresis buffer, and the minimum 300mL can complete the electrophoresis experiment.
- It can be used with SVT-2 transfer electrophoresis tank.

## III. Product Specification

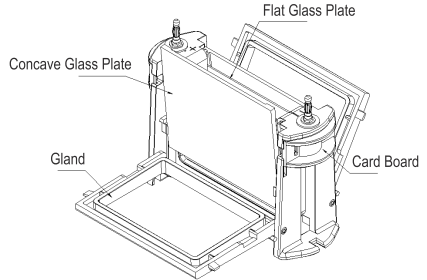
	SVE-2	SVT-2
Dimensions (L * W * H) (mm)	185*108*125	185*108*125
Gel size/Transfer size(mm)	Gel size 83*73	Transfer size 70*90
Maximum volume of buffer solution (mL)	500	500

## IV. Operation Steps

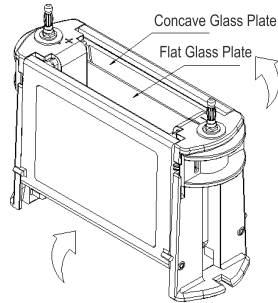
The electrophoresis tank can make and run two electrophoresis gels at the same time. Before making gel, please make sure that concave glass, flat glass, main bracket, gel maker and other parts are clean and dry, make sure that all glass edges without missing Angle.

### Preparation

a. Move both sides of the card plate to the bottom, completely open the gland on both sides, and insert the concave plate glass and flat glass into the bottom. The upper part of the glass is inserted in the slots on both sides.

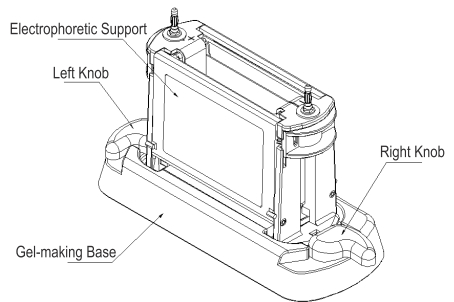


b. Turn up both sides of the gland, pinch the left part of the gland with your hands at the same time, pull the left card plate upward, clamping to the top till a click sound; Then pinch the right side of the gland at the same time, pull the right card plate up to the top till a click sound.



**Note:** Before the experiment, it is necessary to check whether the concave glass and flat glass are aligned up and down, whether the bottom of the glass is placed to the base, and whether the pressing plates at the upper and lower ends of the glass and the buckle are clamped in place.

c. After making sure that the electrophoresis glass clamp is tightly aligned, unscrew the knobs on both sides of the gel-making base holder (as shown the right knob in the picture below), place the electrophoresis bracket in the middle of the gel-making base holder and clamp tightly, then press the main bracket and tighten the knobs on both sides until they are rotated to the limit (as shown the left knob).



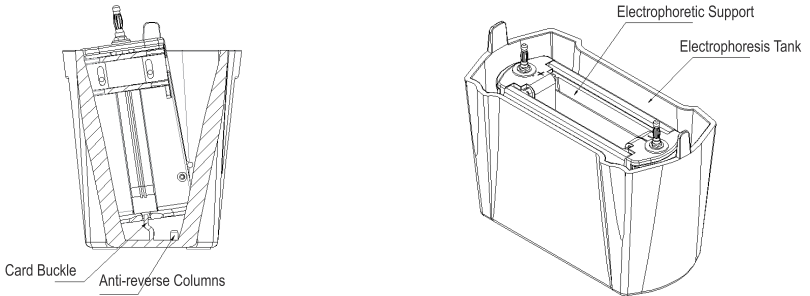
## Gel Making

In the gel chamber between the two glass plates, slowly inject the gel solution prepared to 2/3 to 3/4 of the gel chamber (according to the actual experimental needs), and then use double distilled water or anhydrous ethanol to evenly add back and forth to the gel chamber, so that it plays a sealing role (please be careful to avoid bubbles when adding samples). Let stand for 20mins to 1h to wait for gel polymerization, pour out double distilled water or anhydrous ethanol, and clean the residual liquid in the gel chamber with absorbent paper.

Fill the chamber (up to the top edge of plate glass) with a concentrated gel and insert the comb. Let it stay for 30-45 minutes until the gel polymerization finish.

## Sample Loading

Rotate the knobs on both sides of the gel-making base (as shown above), take out the main body of the electrophoresis bracket and put it into the electrophoresis tank. At the bottom of the tank, there are two buckles on the left and right, and one of them is equipped with an anti-backlash column to avoid putting it in reverse. Align the buckle and the anti-backlash column at an inclination of 20° at the same time and insert them into the tank. If they are put in reverse, they cannot be installed and placed flat (there are red and black marks on the left and right sides of the box, corresponding to the red and black marks on the electrodes).



Inject electrophoresis buffer into the main chamber of the electrophoresis bracket (between two sets of glasses), the liquid level is equal to the upper edge of the concave glass plate, and the level of the buffer outside the chamber should be at least 20mm at the bottom of the glass plate to ensure that it overflows the bottom of the glass plate. Carefully pull out the sample comb in the gel glass and check the sample hole to make sure there is no residual gel and bubbles. If residual gel is found, blow it with a blow tube and blow out the bubbles in the sample hole. Add the sample into the spot sample hole according to the experimental requirements to complete the spot sample step.

## Electrophoresis

Cover the upper electrode at the correct position (red is positive electrode, black is negative electrode), insert the electrophoresis wire into the electrophoresis power supply according to the correct color, select the appropriate voltage and current to start electrophoresis (the specific electrophoresis parameters are adjusted according to the actual experimental parameters).

# Product List

No.	Name	QTY
1	Electrophoretic body	1 set
2	Gel-making Base	1 set
3	Electrophoretic box	1 set
4	1.0mm Electrophoretic glass plate	2 set
5	1.5mm Electrophoretic glass plate	2 set
6	1.0mm 11 combs	2 pcs
7	1.5mm 11 combs	2 pcs
8	Glass replacement	1 pcs
9	Gel cutting card	3 pcs
10	Prefabricated gel seal	2 pcs

# 02 SVT-2 (Transfer Electrophoresis) Instruction

## I. Product Introduction

This product can be used with SVE-2 vertical electrophoresis tank. The proteins and nucleic acids in the gel after electrophoresis were transferred to the transfer film by electric field, and then the charged particles were further analyzed and studied by biochemical analysis.

## II. Product Features

- a. Double plate structure, can be used with SVE-2 electrophoresis tank.
- b. The tank of the instrument is integrated injection molding with high transparency polycarbonate, it's corrosion resistance, high transparency, consistent performance, etc..
- c. The positive and negative poles of the transfer clip are distinct, and a handle is made to makes it easy to operate.
- d. High transfer efficiency, transfer time is about 20-40min.
- e. Strong structure can be synchronized with the ice bath cooling to avoid interference caused by overheating, so as to ensure reliable experimental results.

## III. Operation Steps

### Preparation

Prepare 8 pieces of 7x9cm membrane transfer filter paper or 2 pieces of thick filter paper of the same specification and 1 piece of 7x9cm PVDF film in advance (at present, 0.45 $\mu$ m membrane with pore size greater than 20kDa is used, and 0.2 $\mu$ m membrane with pore size smaller than 20kDa is used).

### Activation

PVDF membrane should be activated with methanol for 2min before use.

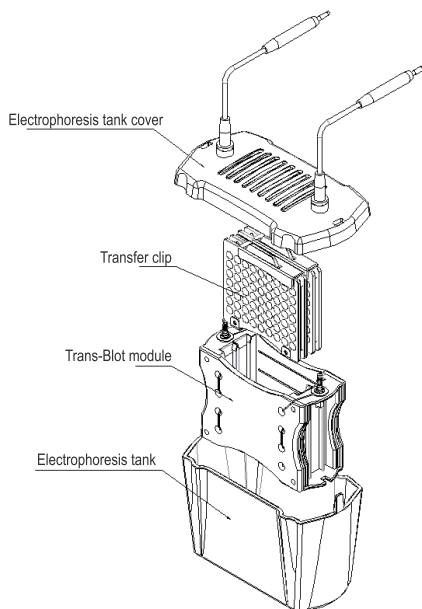
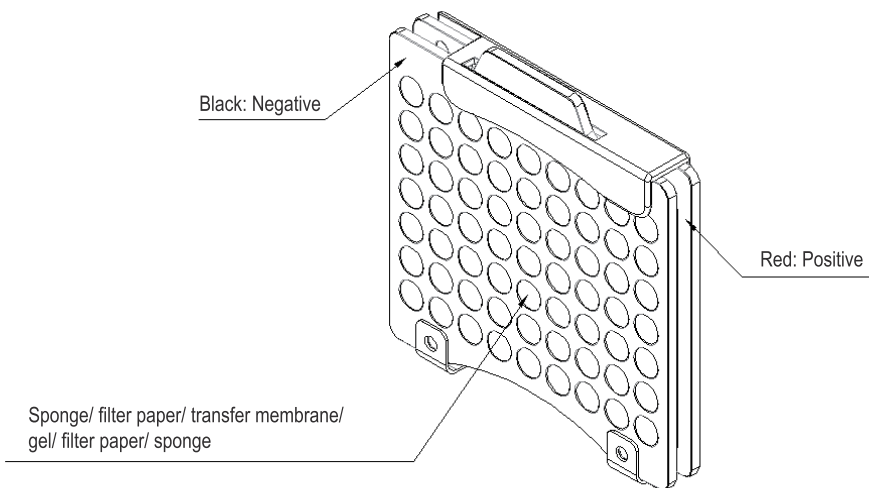
### Installation

According to the order of || positive (+) > sponge > Filter paper > Transfer film > gel > Filter paper > sponge > negative (-)||, place the improved printing material in the transfer clip in turn, and remove bubbles. The red side is positive and the black side is negative. According to the direction of red to red, black to black, the transfer clip into the transfer core. Transfer core can be placed at the same time two transfer clip.

### Transfer

Connect the electrophoresis power supply, set the transfer conditions, and start the film transfer.





Connect electrophoresis, set transfer conditions: 300mA, constant current for 30min, start film transfer.

# Product List

No.	Name	QTY
1	Transfer clip	2 set
2	Trans-Blot module	1 set
3	Electrophoresis tank	1 set
4	Transfer sponge	1 set
5	Transfer filter paper	1 set

## NOTES

I. The main parts of this series of products are fragile, so do not knock or fall off the products during packaging, transportation and use, which may lead to damage and damage of the products and lead to normal use of the products.

II. In the use, cleaning and maintenance of platinum wire, electrode column and other metal parts, attention should be paid to whether there are oxidation, fracture, loosening and other problems, please replace and maintain in time. Platinum wire is easily broken and should be handled with care.

III. After daily use, please wash with deionized water in time, and place in a dust-free place to dry for later use.





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