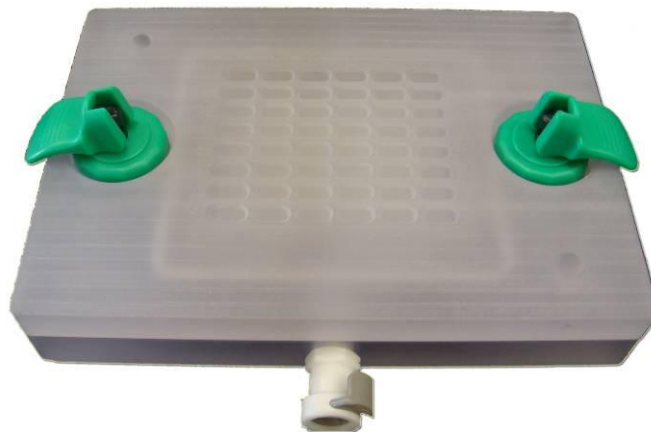




Wealtec Corp.

Smart Blotter



Installation and Operation Manual
Version 1.4
Item #01130

****This instrument is intended for laboratory use only***

Index

A. Important Notice	1
A-1. Warranty	
A-2. Technical and Service Contact	
A-3. Safety Notice	
B. Introduction	2
C. Standard Using Procedures of Smart Blotter	3
D. Care and Maintenance	4
E. Trouble Shooting	5
F. Package List	6
G. Order Information	7

A. Important Notice

Before setting up and operating Smart Blotter, please carefully read these instructions to get familiarized with the installation and operation process. Any improper usage of the instruments may cause damage. Please refer to the safety notice included in this instrument.

The instruments shall not be modified or altered in any way. Any modification or alteration will void the warranty and the regulatory certifications as well as to create potential safety hazard. Wealtec will not be responsible for any injury or damage caused by using the instruments for any non-intended purpose or injury as a result of modification of the instruments by any person who is not authorized by Wealtec Corp.

A-1. Warranty

Smart Blotter is warranted to be free from defects in materials or workmanship for one year valid from the original invoice date under normal operation. Any defect is occurring within warranty period, Wealtec Corp. will repair or replace defective products or parts without extra charge unless the defects arise from conditions outlined below. The defects described below are specially excluded from Wealtec warranty policy.

1. Improper operation of the instrument.
2. Repair or modification by any person who is not authorized by Wealtec Corp.
3. Damage caused by any (in)-direct accident, neglect or misuse.
4. Damage caused by disaster.
5. Damage caused by any improper solvents or samples.

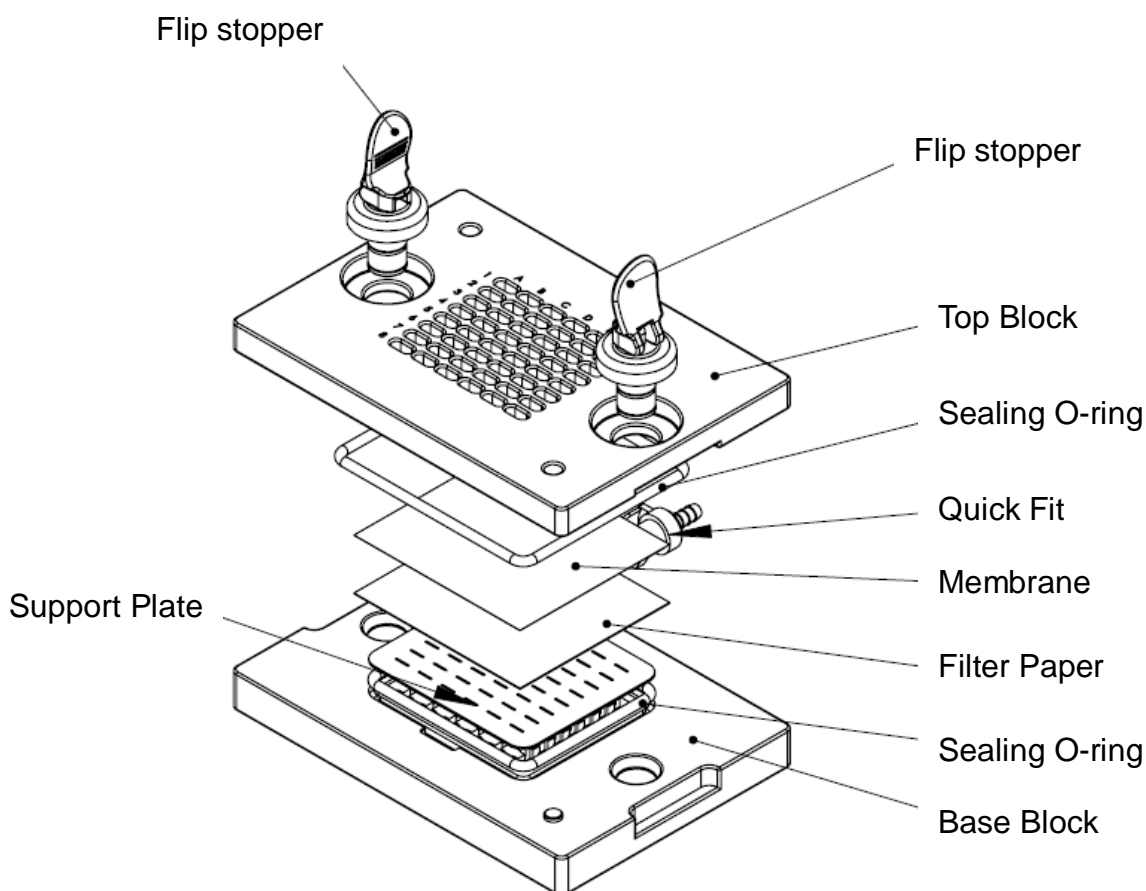
A-2. Technical and Service Contact

Most of the operation details are described in this instruction manual to assist and guide operator for an appropriate solution. For any other technical/ service question, please contact your local representative or contact Wealtec international technical/ service specialist by E-mail: support@wealtec.com.

B. Introduction

Smart Blotter assay, also called dot blot assay, is a simple and rapid method for analyze samples. Smart Blotter assay helps to transfer the samples directly to the membrane without the separation by electrophoresis. In addition, the membrane can use for hybridization with different kinds of probes, such as nucleic acids (Southern and Northern Blot) or monoclonal antibodies (Western Blot). It can give a quick result for screening samples and significantly safe time for the customers.

The Wealtec Smart Blotter provides more focusing and capable to be quantitated by densitometry slot shapes. Wells arranged in 8 rows and 6 columns are also capable used with standard 8-channels pipette. Using of flip stoppers in the Wealtec module provide much faster and easier assembling procedures for customers to compose the system. Easy assembling design also offers more evenly pressure to the membrane that can prevent unwanted mistakes happens in the screened data.



Specifications:

Sample format	48 wells, 6 x 8
Sample volume per well	Max, 700 μ l
Well size (W x L)	12 x 5 mm
Membrane size (W x L)	97.8 x 83.8 mm
Slot dimension(W x L)	6.9 x 0.9 mm
Slot spacing	13.8 mm (from center to center)
Unit dimensions(W x L x H)	200 x 140 x 35 mm

C. Standard Use Procedures of Smart Blotter

Smart Blotter system is suitable for many different kinds of experiments, including Northern, Southern, and Western. To determine the amount of samples that is needed for each slot and the particular membrane that is going to be used. It is strongly recommended to prepare a series of sample dilutions for the first time usage. Here is the standard usage of the Smart Blotter. For the further treatment of the membrane, please refer to the instruction of the membrane that is in used.

1. Please wear gloves through all experiment to avoid leaving the fingerprints on the membrane and handle the membrane and filter papers with forceps all the time.
2. Pre-cut the filter paper (7.5 x 9 cm) and membranes (7 x 8.5 cm).
3. Soak two pieces of the 3 mm filter paper into the transfer buffer.
4. Put two filter papers on top of the support plate and make sure that there have no bubbles on it.
5. Pre-treat the membrane with the instruction on the membrane's manual. Make sure that the membrane is not dry out before operation.
6. Put the membrane on the filter paper, and make sure to cover all the slots on the support plate.
7. Close the top block gently.
8. Plug in and close the flip stopper on both sides, simultaneously.
9. Adjust the clamp with the diameter of the tube is 3 mm, and clip it on the connecting tube.
10. Adjust the water flow rate around 20 ~ 100 ml/sec for the aspirator pump. (The greater of the water flow rate, the less focusing effect will get for the result.)
11. Assemble the Smart Blotter system to the aspirator pump.

12. Apply adequate volume (normally 200 μ l) of sample buffer to each well. Sample volume should be in the range of 10 ~ 700 μ l. The recommend loading sample volume is 200 μ l. If the applied sample volumes are less than 200 μ l, please apply the sample to the center of the slot with good care.

Notice: Avoid having bubbles at the bottom of the wells. In case, the solution will not go through the membrane. The interval time of applying the first to the last samples should not longer than five minutes.

13. Turn on the water.
14. Wait for all the solution goes through the membrane. Disconnect quick connector to break the vacuum state.
15. Turn off the water and reconnect the quick connector.
16. Apply the same volume with buffer of protein solution to each well and turn on the suction system.
17. Disconnect the tube to break the vacuum state, and then turn off the water.
18. Flip off the flip stopper and de-assemble the Smart Blotter.
19. Take out the membrane for further treatment.
20. Clean Smart Blotter after every time usage.

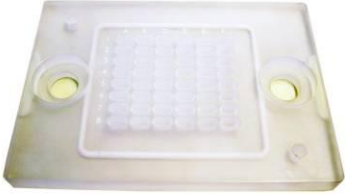
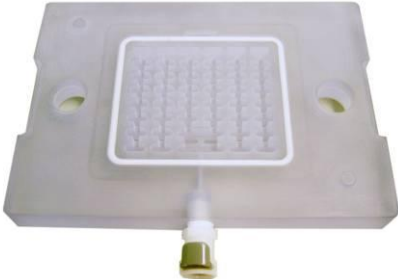
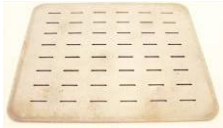




D. Care and Maintenance

- Always wear gloves and use forceps when handling membranes.
- Wash all the blocks after every time usage and rinse with ddH₂O.
- Store the Smart Blotter away from direct sunlight. If store it with assembled whole set, do not tighten the flip stopper.
- If the Smart Blotter is used with the radioactive materials, please decontaminate the sealing O-ring between uses.
- If it is needed to sterilize the Smart Blotter, the only parts that can be sterilized are top block and the support plate. Please sterilize both parts separately in case damage to the top block.




E. Trouble Shooting

Problem	Solution
If the sample size on the membrane is larger than slot size or the sample is leak out of the slot...	
1. Didn't press the top block while assembling	Press slightly on the top block while assembling
2. Wait too long before applying the vacuum system	To speed up the sample loading procedures.
3. Membrane dry out	Make sure to immerse the membrane thoroughly into the buffer before assembling the module
4. Low vacuum pressure or suction speed	Increase the water flow rate of the aspiration pump.
If there have impressions which show on the membrane around the slot...	
1. Too low of water flow rate of aspirator pump and cause the diffusion of the sample	Increase the water flow rate and test again.
2. Too large of sample volume or too low of the sample concentration	Concentrate the sample or lower down the sample volume.
3. Wrong using of the membrane	Change the membrane
If there has blank spot within the slot...	
1. Over water flow rate of aspirator pump and cause the un-even pass through of the sample or pass though too fast	Lower down the water flow rate
2. Un-even distribution of the sample solution	Make sure samples are loaded into the center of the slots, and cover the slots evenly.

F. Package List

Item	Quantity
Upper plate 	1
Base plate with quick connector 	1
Supporter plate 	1
Flip Stopper 	2
Tube Adaptor 	1
PP tubing with Male Quick Connector 	1 x 17 cm
PP tubing 	1 x 24 cm

Smart Blotter V 1.4

<p>Screw Clamp</p> 	<p>1</p>
<p>Blotting Paper</p> 	<p>1 (50 pcs/pk)</p>
<p>Instruction Manual</p> 	<p>1</p>

G. Order Information

Item #	Description
1050001	SB-10 Smart Blotter complete system, includes aspirator pump, top and base block, membrane support plate, sealing O-ring pair, Flip stopper, Quick fit set, filter papper/50 pcs, vacuum hose with adaptor assembly and instruction manual.
1051001	SB-10 Smart Blotter complete apparatus only

Accessories

1051101	Filter paper 100 pc/pk, 9 x 7 cm
1051111	Membrane support plate, 1 pc
1051112	Sealing O-ring, one pair
1051113	Flip stopper, 2 pc
1051114	Aspirator pump
1051115	Vacuum hose with Quick fit connector assembly

