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Submarine Electrophoresis apparatus
Blotting device for hybridization

Submarine Electrophoresis apparatus Pico-1/Pico-2

For Agarose mini gel with power supply. Pico-1 can make two sized gel while Pico-2 can make three sized gel. Gel tray with Thick, Durable and UV transparent.

Pico-1

Pico-2

Features

- **The number of wells 8/15 in Pico-1 and 8/18/32 in Pico-2**
- **Electrophoresis voltage is switchable between High/Low**

The thickness of Gel tray and Gel preparation bath 5 mm for reducing Thermal deformation.

The thickness doubled compared to conventional one. Thus even if the hot gel solution poured in it the risk of deformation due to heat is reduced.

Applications

- **Agarose gel Electrophoresis of DNA and RNA**

For Agarose gel

Mini and Middle-sized Submarine electrophoresis apparatus.

Comes with plural sizes of Gel Tray

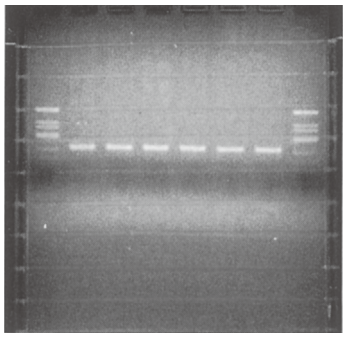
Pico-1 can make three different sized gel while Pico-2 can make five different sized gel.

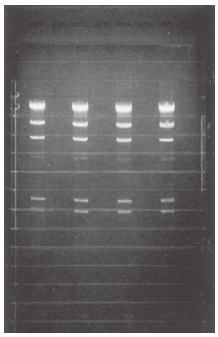
Verification on Electrophoresis using UV Permeable Gel tray

The gel on tray placed on UV transilluminator was photographed after electrophoresis of DNA fragment (325bp) amplified with PCR by 2% agarose gel (EtBr included) for 25 minutes at 100V with Pico-1 (left figure).

The gel on tray whole was photographed after electrophoresis of λDNA cut by HindIII with 1% agarose gel at 100V for 1.5h with Pico-2. As the trays in Pico series not absorb UV light, although the scale lines slightly reflected, the gel can be placed on the UV transilluminator as it is and confirmation during electrophoresis also easy.

Plural sizes of Gel Tray come as set and enables widely applied to fractionation of genomic DNA such as Southern blotting from confirmation of PCR products.





Model	Pico-1	Pico-2
Size of Gels/Number of Productionable	2pcs x W50 x L60mm	2pcs x W50 x L60mm
	1pc x W110 x L60mm	2pcs x W50 x L100mm
	-	W110 x L100mm x 1pc
Combs (included)	1pc/8 samples x 2 connected	2pcs/8 samples x 2 connected
	1pc/18 samples	2pcs/18 samples
Size of Teeth combs	Width 4mm, Thickness 1mm	
Electrophoresis voltage	High/Low Changeable (by included compact-sized power supply)	
Size of Electrophoresis bath	207(W) x 129(D) x 68(H)mm	247(W) x 129(D) x 68(H)mm
Configuration	1 x Electrophoresis bath, 1 x Gel preparation bath, 1 x Compact-sized power supply, 1 x UV transmission gel tray Combs (see above for Qty)	

● Protuberances not included in Dimensions. ● Vessels of photo not included.

Maru-Raku Electrophoresis apparatus Pico-96/Pico-192

Equipped with a newly-devised guide for easy to inject samples with 8/12-channel pipette. Two models for 96 samples and for 192 samples.

Pico-96

Pico-192

Features

•Compatible with 8/12-channel pipette
•Comes with Power supply

Ultra easy sample injection with a newly-devised guide

Removable pipette guide (utility model acquired) accurately guides the tip of multi-channel pipette to the injection part and greatly reducing sample injection failures due to hand shaking etc. Optimum for labs where large-scale electrophoresis performed.

Applications

•Agarose gel electrophoresis of multiple samples such as PCR products

Pipette Guide
(for Pico-96)

Electrophoreses Max. 96 samples simulataneosly while the compact size [Pico-96]

Although the size of electrophoresis bath the same as that for the conventional Mini gel, Max. 96 samples simulataneosly can be electrophoresed by the deviced comb. Comes with a compact sized power supply that can switch voltage.

Large-scale 192 samples. Buffer pH bias reduced [Pico-192]

Mini sized and Middle size Submarine electrophoresis apparatus. Max. 192 samples can be electrophoresed simultaneously in Electrophoresis bath and Gel larger than the body of Pico-96 (compact power supply is not included Pico-192). As the buffer bath also connected at the bottom, enables to reduce pH bias during electrophoresis and provide cleaner electrophoresis pattern.

Model	Pico-96	Pico-192
Size of Gels/Number of Productionable	1pc x W124 x L100mm	1pc x W158 x L165mm
Combs	4pcs/26 samples	6pcs/34 samples
Size of Teeth combs	Width 3mm, Thickness 1mm	
Electrophoresis voltage	High/Low Changeable (by included compact-sized power supply)	(*1)
Size inside Electrophoresis bath	180(W)×135(D)×50(H)mm	236(W)×168(D)×43(H)mm
Pipette Guide	4-row integrated (4-row x 26 holes)	Separate type (34 holes)
Configuration	1 x Electrophoresis bath, 1 x Gel preparation bath (*2), 1 x Pipette Guide, 1 x UV permeable gel tray and Combs (see above for Qty), 1 x Compact-sized power supply (Pico-96)	

(*1) Prepare a power supply for electrophoresis separately. (*2) When making a 5 mm thick gel Pico-96 requires approx 70 ml of agarose solution and Pico-192 requires approx 140 ml of agarose solution.
•The movement distance is below 2.5cm when electrophoresis of 96 samples with Pico-96. •The movement distance is below 2.5cm when electrophoresis of 96 samples with Pico-192. Below 2.5cm with 192 samples.

Optional accessories (for addition or exchange)

Product name	Quantity
Gel preparation bath + UV transmission gel tray for Pico-96	1pc each
Comb Set for Pico-96	4pcs
Gel preparation bath + UV transmission gel tray for Pico-192	1pc each
Comb Set for Pico-192	6pcs

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G Capillary Blotter C-set/D-set

The falling pad method rises transfer efficiency as gravity promotes the transfer of buffer in addition to water absorption by "Pad" and paper towel.

Submarine Electrophoresis apparatus --> P.160

Features

- Smoothly transfer of even DNA/RNA with large molecular amount.
- Resin water absorption pad can be washed in water and used for many times
- Works even small amount of buffer

Applications

- Transfer in Southern blotting
- Transfer in northern blotting

Model	G Capillary Blotter C-set	G Capillary Blotter D-set
Max. Gel size	150 x 220mm	120 x 120mm
Configuration	Pad bath PB-2426 (Base part 350 x 220 mm, Bath inner 290 x 200 x 40Hmm)	
	Buffer bath (upper part) BF-2426	
	Pad P-1824 (180 x 240 mm)	Pad P-1515 (150 x 150 mm)

•As New pads might not have absorb water enough. Soak in the buffer for a while etc. before use. Wash the pad with water and allow it to dry naturally after use it (The water absorption decrease if it put in the dryer etc.)

The effective transfer for just 2 hours. Even DNA/RNA with large molecular amount.

Conventionally the membrane was placed on gel and the paper towel transferred the band to the membrane with the force of sucking up the buffer. In other words it had defied gravity. This product realized to get synergy effect and prompt transfer by adding gravity to the capillary force of paper towel to buffer by placing the membrane under gel. Transfers smoothly even DNA/RNA with large amount of molecular (See next page for the structure).

Works smaller amount of buffer than conventional one

The efficiency of falling pad method and the effect of water absorption pad reduce buffer amount.

Resin water absorption pad can be used for many times

Resin water absorption pad adopted to reduce the amount of paper towel used. Enables use for many times by washing with water and naturally drying after use.

The effect of Falling pad method: Southern blot hybridization

Prepared two gels for comparison experiments. Subsequently performed the transfer using two gels.

In order to compare between the falling method for 2 hours and the conventional method for overnight, stained again the gels with ethidium bromided that were finished the transfer and verified remaining DNA in the gel (Conventional method: Fig. 2a, Falling pad method: Fig 2b).

In falling pad method, no remaining DNA observed. Also performed hybridization to confirm whether DNA was transferred to the membrane (A, B, C, D in Fig. 3). A: conventional method (10 x SSC buffer) and B to D : Falling pad method (using alkaline and 10/20 x SSC buffer in each). Verified the perfomance of falling pad method for 2 hours equivalent to that of conventional method for overnight in each buffer.

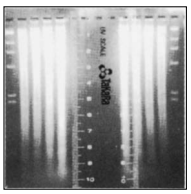


Figure1

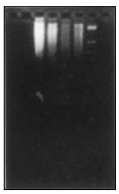


Figure2a


Figure2b

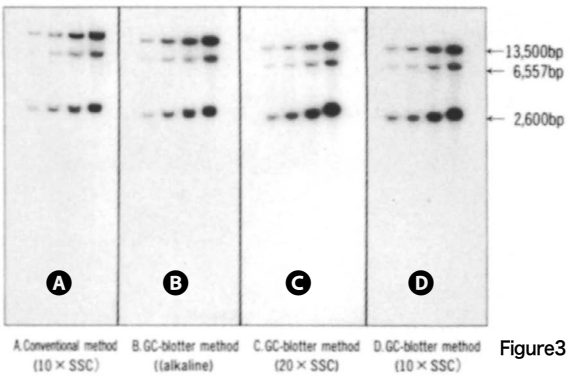


Figure3

● Protuberances not included in Dimensions. ● Vessels of photo not included.

G Capillary Blotter Mini

For the transfer with conventional method. Water absorption pad reduces paper towel used."Pad" and paper towel.

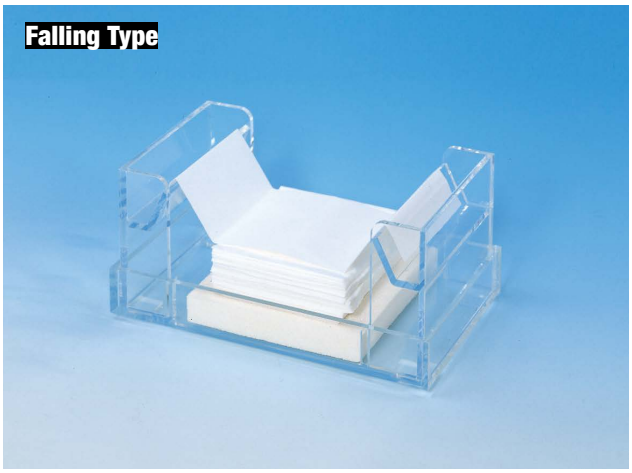
Submarine Electrophoresis apparatus --> P.160

Features

- Smoothly transfer of even DNA/RNA with large molecular amount.
- Resin water absorption pad can be washed in water and used for many times
- Small amount of buffer, Footprint quite small.

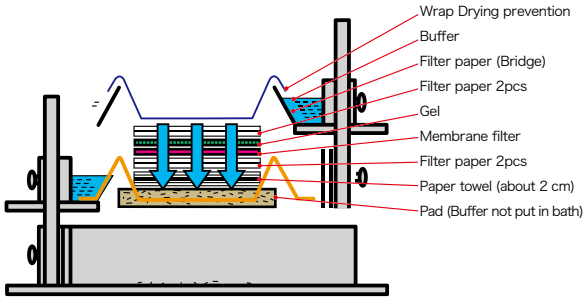
Applications

- Transfer in Southern blotting
- Transfer in northern blotting



The structure of G Capillary blotter

As the gel placed on membrane and the water absorption pad placed under the gel, the buffer flows down by gravity and absorption and accordingly DNA and RNA in the gel are transferred to the membrane. Since DNA and RNA cannot pass through the membrane, they are trapped on membrane. The transfer continues as the buffer continues to flow downward by the absorbent pad.



The performance even equivalent to that of G Capillary blotter

Footprint quite small. Corresponds to the gel with up to 100 x 100mm. The transfer efficiency equivalent to that of G Capillary blotter C-set/ D-set.

Model	G Capillary Blotter Mini
Max. Gel size	100 x 100mm
Configuration	Pad bath
	Buffer bath
	Pad P-1212 (120 x 120 mm)

Pad type blotter A-set / B-set

For the transfer with conventional method. Water absorption pad reduces paper towel used.

Features

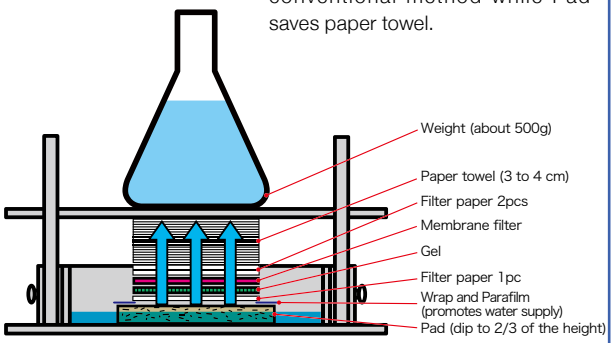
- The conventional absorption method
- Resin water absorption pad can be washed in water and used for many times

Applications

- Transfer in Southern blotting
- Transfer in northern blotting

The structure of Pad type blotter

The rising pad method has the same transfer direction as the conventional method while Pad saves paper towel.



Secure transfer

Enables Secure transfer by buffer absorption with the whole surface of water absorption pad (conventional absorption method).

Water absorption pad reduces paper towel used.

Enables use for many times by washing with water and naturally drying after use.

Simple assembly type

Easy to assemble and disassemble.

Model	Pad type blotter A-set	Pad type blotter B-set
Max. Gel size	150 x 220mm	120 x 120mm
Configuration	Pad bath PB-2426 (Buffer bath combined use) (Base part 350 x 220 mm, Bath inner 290 x 200 x 40Hmm)	
	Pad P-1824 (180 x 240 mm)	Pad P-1515 (150 x 150 mm)

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