

NEW  
2009

ATTO

NATIVEN®

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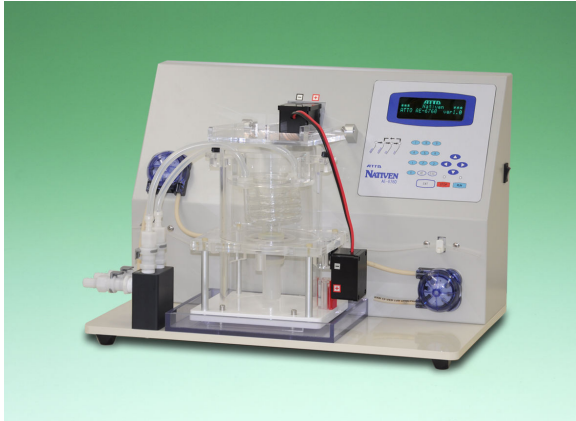
*Nativen can provide a novel way to separate,  
concentrate and recover proteins and DNA*

ATTO

Bioscience & Biotechnology

Preparative Electrophoresis

## Sample Fractionation



AE-6760 (S / L)

### Outline of the product

NATIVEN is a preparative system based on polyacrylamide gel electrophoresis to separate, recover, and concentrate proteins or DNA samples automatically.

This device can be used for the following purposes.

- Fractionation of proteins using SDS-PAGE system
- Fractionation of proteins from Native-PAGE keeping with their activities
- Fractionation of DNA
- Concentration of diluted cell-extract, cell culture medium, serum, urine, or other body fluids.

Code No.	Type	Name
2401150	AE-6760S	NATIVEN® S
2401160	AE-6760L	NATIVEN® L

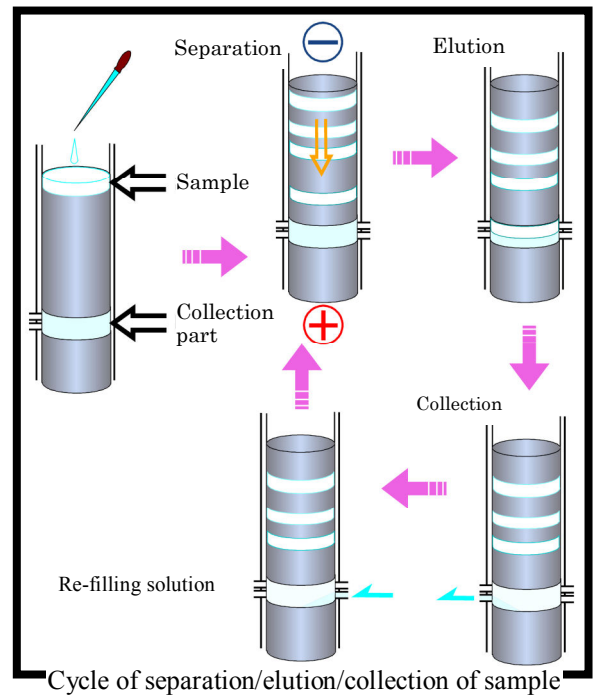
### Principle

NATIVEN carries out automatic fractionation by repeating three processes, i.e. electrophoresis, sample collection and re-filling of recovery solution.

In this product, a polyacrylamide gel consists of three parts – a top gel part for separation, a collection part between gels, and a bottom gel part. The collection part is filled with recovery solution. A sample is applied to the gel top and separated by electrophoresis. After time you set prior to the run, the separated sample is eluted into the recovery solution in the collection part. Then electrophoresis is paused and the sample is pushed out with recovery solution using air pump.

The collection part is sequentially re-filled with new recovery solution.

Each fraction is collected into a titer plate using a fraction collector.



Column set

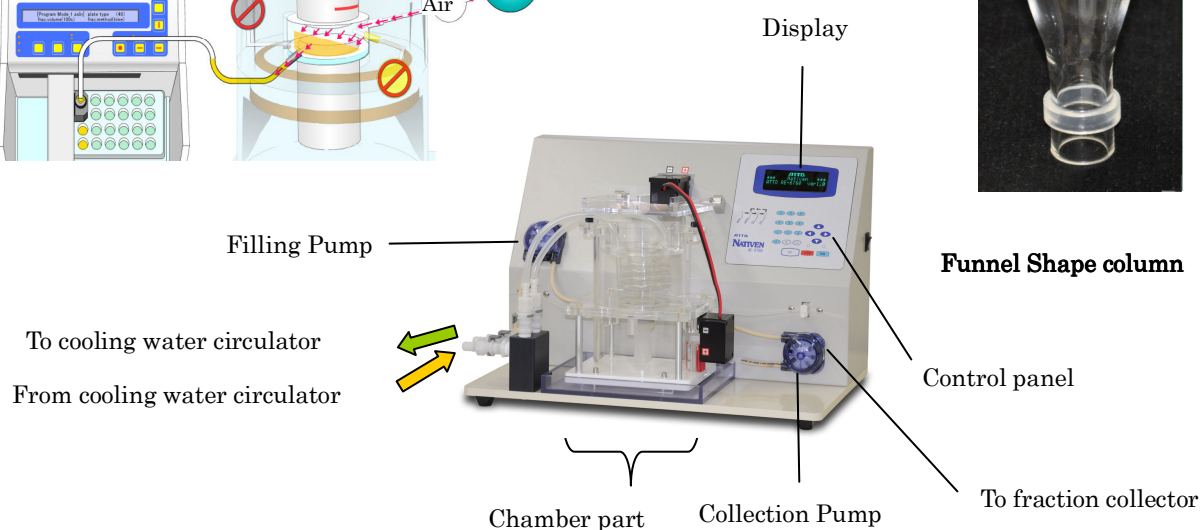
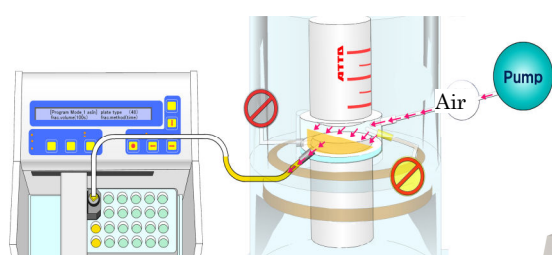


Upper chamber part

## Sample Fractionation

### Specifications

Name	AE-6760S NATIVEN S	AE-6760L NATIVEN L
Column size	Tube type S: 8mm x 80mm Funnel S: 17mm(upper) ~8mm(lower) x 80mm	Tube type L: 16mm x 80mm Funnel L: 37mm(upper) ~16mm(lower) x 80mm
Gel concentration	Polyacrylamide gel/5~15%(uniform)	
Gel sectional area	Round shape 50mm <sup>2</sup> (Tube type) Funnel shape 200mm <sup>2</sup> (upper surface area)	Round shape 200mm <sup>2</sup> (Tube type) Funnel shape 1000mm <sup>2</sup> (upper surface area)
Material	Body : Acrylic plastic      Tubes : Teflon and PharMed Column : Hard glass      Gel caster : Soft glass & silicone	
Sample apply volume	Sample Max.: 0.5mg/Apply Max.: 0.5mL	Sample Max.: 2.0mg/Apply Max.: 2.0mL
Volume of collection space	0.15mL	0.8mL
Collection Method	Collection by air pump system (ON / OFF)	
Chamber buffer volume	S : Upper 120mL Lower 100mL~280mL	L : Upper 300mL Lower 100mL~280mL
Fraction time	1~99min setting in 1 minute steps	
Output to fraction collector	MAKE Switch/open-collector 400ms (Step signal)	
Power output	Constant current : 1~40mA (15steps) Error detector equipped (open/short)	
Display	20 Characters X 4lines LCD and LED indicators for elapsed time	
Program Parameters	<ul style="list-style-type: none"> <li>● Up to 4 programs available to set and save with following parameters</li> <li>① Constant current : 1~40mA (15 steps) output</li> <li>② Delay time : 1~999min</li> <li>③ Run time : 1~99min</li> <li>④ Collect time : 1~255sec</li> <li>⑤ Fill time : 1~255sec</li> <li>⑥ Max tube : 1~999</li> </ul>	
Operating temperature	5°C~65°C	
Power outlets	AC 100V 50/60Hz 45VA	
Dimensions	400mm(W) x 250mm(D) x 200mm(H) · approx. 2kg	



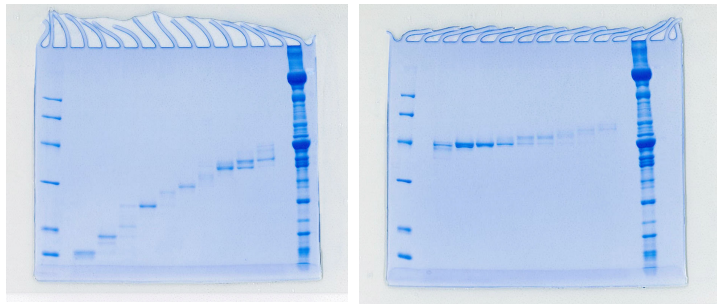
## Sample Fractionation

### Features

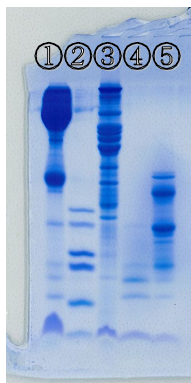
- High resolution of separation and collection of macromolecules as protein, DNA etc.
- Collection system by air pumping can operate with minimized dilution and contamination.
- A large quantity of samples can be applied with funnel shaped glass column for concentration and recovery.
- Two gel sizes (S or L) are available depending on target sample volume.
- Temperature can be controlled with external controller in electrophoresis.
- Integrated system with an electrophoresis chamber, a power supply, a pump, a heat-exchanger and a controller
- Up to 4 program files for sample recovery can be saved.
- Easy-to-use front control panel with LED display

### Sample Data

Recovered protein fractions in every 5 min. through 12.5% polyacrylamid gel(length 25mm), and checked them with 12.5% minislab gel again.



- Example: 4mL of samples can be 5times (final volume : 0.8ml) concentrated.



### Sample Data (Concentration & recovery)

Concentration and recovery of low molecular weight of bovine serum.  
Recovered concentrated proteins under 25K molecular weight.

#### Sample

- ① Solution of bovine serum processed by electrophoresis 3  $\mu$  L
- ② GE peptide marker 3  $\mu$  L
- ③ Chicken muscle extraction solution 3  $\mu$  L
- ④ Recovery fraction No.⑭ 10  $\mu$  L
- ⑤ Recovery fraction No.⑮ 10  $\mu$  L

- Both of Nativen S and L include 2 types of glass column (tube and funnel) types as standard accessory.



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