FORBLUE™
SELEMION

CREATION THROUGH SEPARATION

Laboratory scale electrodialzer for FORBLUE™ SELEMION

DW-Lab

The DW-Lab are miniaturized electrodialyzer units to be used in the laboratory.
These sets contain an electrodialyzer, rectier, pumps, tanks and all the accessories necessary to start experiments with SELEMION™ ion-exchange membranes.

※ In addition to the main body, a power supply for a rectifier and a pump is attached.

※ The photograph is a prototype machine, it may be different from a mass production machine.

Feature

- Ions in solution can be separated.
- It is possible to freely set the movement amount of ions.
- It can respond flexibly to adjustment of desalination water and concentration change of raw water.
- It is easy to disassemble and clean.
- Depending on the experimental content, membrane exchange is possible.

Application

Desalination in the food industry	Separation and purification of organic substances	Recycling of wastewater and recovery of valuables
Soy sauce, Seasoning, Sugar, Dairy products, Juice, Wine etc.	Amino acids (glutamic acid etc.) Taurine, Chitosan Gluconic acid	Etchant Plating solution Rinse water etc.

Specification

TYPE	DW-Lab
MEMBRANE SIZE	80 x 130mm
CELL PAIRS	5
RECTIFIER OUTPUT	DC 18V / 2A
SIZE	W300 x D200 x H400mm
WEIGHT	10kg
RECTIFIER INPUT	AC100V ※ Use pump AC adapter (included)

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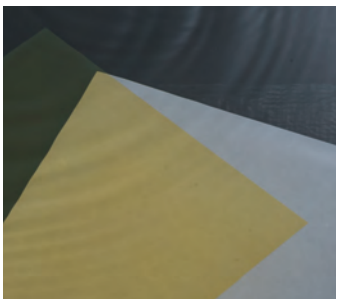
FORBLUE™ SELEMION

SELEMION™ is a hydrocarbon type ion-exchange membrane that has been developed and manufactured by AGC group. Since we entered the membrane business in 1950, we have made continuous developments as a pioneering company, and through this we have tried to expand the range of applications of membranes. On the basis of our long and wide-ranging experience, we are able to propose the optimum membrane process for each of our customers.

Cation Exchange Membranes			CMVN	CMTE	HSF	CMF
	Characteristic		Standard	Strong	H^+ selective	High durability
	Usage		ED	ED	ED	ED
	Thickness	μm	100	220	150	440
	Counterion		Na^+	Na^+	H^+	H^+
Burst Strength	kPa		200	1150	200	1000
Resistance	0.5mol/L	NaCl	2.0	4.2	19	2.5
Transport Number		t-Na^+	>0.97	>0.94		>0.95
		t-Cl^-				



Anion Exchange Membranes			AMVN	DSVN	AAV	ASVN	AHO
	Product Name						
	Characteristic		Standard	Low resistance	Low proton leakage	Monovalent-ion-selective	High temp. & Alkali-proof
	Usage		ED	DD	ED	ED	ED
	Thickness	μm	100	95	120	100	300
	Counterion		Cl^-	Cl^-	SO_4^{2-}	Cl^-	Br^-
Burst Strength	kPa		250	150	300	200	1200
Resistance	0.5mol/L	NaCl	2.0	1.1	6.4	4.0	20
Transport Number		t-Na^+					
		t-Cl^-	>0.95		>0.95	>0.95	>0.95

※ The data published in this catalog are subject to change without notice.

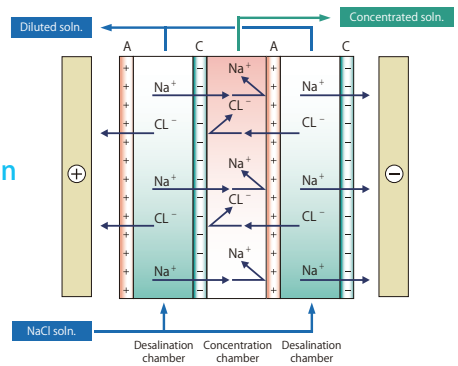
※ The values in these tables are only for reference, and are not guaranteed values.

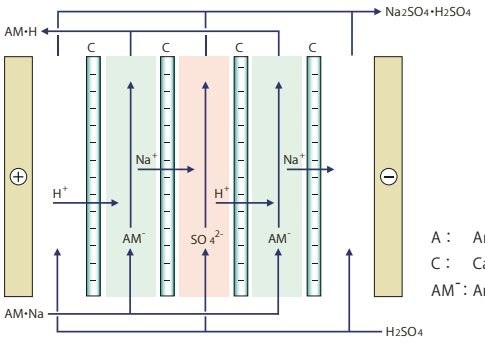
Summary

- An ion-exchange membrane is a sheet made of organic polymer materials.
- Membranes are basically classified into two categories: anion-exchange membranes and cation-exchange membranes.
- Electrodialysis is a method of desalination and concentration involving the application of a DC current.
- Electrodialysis does not require chemicals that are commonly used in ion-exchange resin tower regeneration.
- Electrodialysis can separate valuable organic materials from salt because it only permits ionic materials to pass through the membrane.

Precautions for applying solution on SELEMION™
Oils, suspended solids, surfactants, oxidants and ionized organic polymers may cause a decrease in the efficiency of the membrane.

Description





Ion substitution can be tested by changing membrane type.