Electrodeionization device system

Brief introduction

EDI electrodeionization device clamps ion exchange resin between anion / cation exchange membranes to form EDI unit. The working principle of EDI is shown in the figure. In EDI components. A certain number of EDI units are separated by a mesh to form a concentrated water chamber. The negative / positive current is set at both ends of the unit group.

The cation and anion in the fresh water chamber flow enter the concentrated water chamber through the cation and anion exchange membrane and are removed in the fresh water chamber. The water passing through the concentrated water chamber carries the ions

Out of the system and become concentrated water.

Technical introduction of EDI electrodeionization equipment:

EDI electrodeionization equipment generally uses reverse (RO) pure water as EDI feed water. The conductivity of RO pure water is generally 40-2 μ S/cm（25℃）。 EDI pure water resistivity Up to 13m Ω. Cm (25 ℃), but according to different uses, system processes and configurations of deionized water, EDI pure water is suitable for preparing ultrapure water with resistivity requirements of 1-18.2m Ω. Cm (25 ℃).

Development history of EDI electrodeionization technology:

Stage I: pretreatment - > cation bed - > anion bed - > mixed bed

Stage II: pretreatment - > reverse osmosis - > mixed bed

Current stage: pretreatment - > reverse osmosis - > EDI (without alkali)

In recent decades, mixed bed ion exchange technology has been used as the standard process for the preparation of ultrapure water. Because it needs periodic regeneration and is used in the regeneration process.

A large number of chemicals (alkali) and pure water, and cause certain environmental problems, so it is necessary to develop an ultra pure water system without alkali treatment.

Because the traditional ion exchange has been unable to meet the needs of modern industry and industry, EDI technology combining membrane, resin and electrochemical principle has become a new technology

An innovation in water treatment technology. The regeneration of its ion exchange resin uses electricity instead of alkali, so it can meet the requirements of today.

Since the industrialization of EDI membrane stack technology in 1986, thousands of EDI Electrodeionization systems have been installed in many places, especially in pharmaceutical, semiconductor, power, surface cleaning and other industries have developed vigorously. At the same time, it is also widely used in the fields of wastewater treatment, beverage and

microorganism.

Characteristics of EDI electrodeionization equipment:

a. the produced water quality is high, stable and continuous
b. simple operation
c. no shutdown due to regeneration
d. regeneration without alkali chemicals
e. the operating cost is lower than that of mixed bed
f. small floor area
g. no sewage discharge
h. easy to realize full-automatic control

Specifications

Model	SEDI-6	SEDI-11	SEDI-23	SEDI-34	SEDI-45	SEDI-68
Maximum water volume	6 m3/h	11 m3/h	23 m3/h	34 m3/h	45 m3/h	68 m3/h
Number of modules	1-2	2-4	4-8	6-12	8-16	12-24
Pipe diameter	1.5”	2”	3”	4”	4”	4”
Piping material	SCH80 PVC PIPE	SCH80 PVC PIPE	SCH80 PVC PIPE	SCH80 PVC PIPE	SCH80 PVC PIPE	SCH80 PVC PIPE
Dimensions (cm)	198Wx 107Dx182H	137Wx 234Dx213H	315Wx 151Dx213H	174Wx 107Dx182H	183Wx 251Dx334H	312Wx 259Dx425H