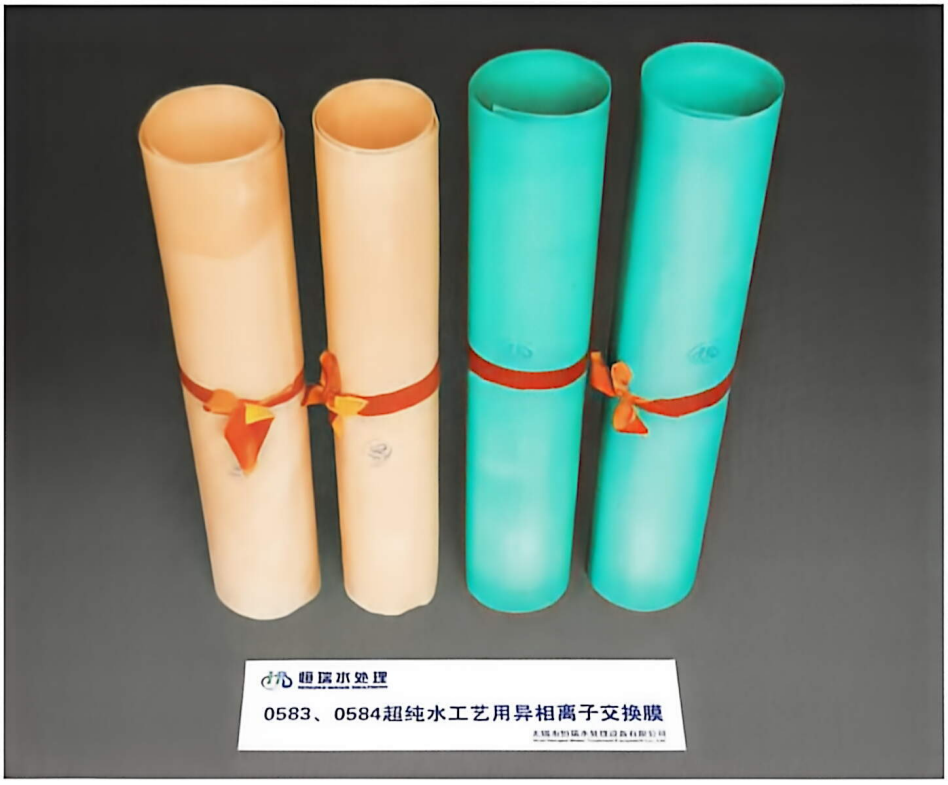
0583、0584超纯水工艺用异相离子交换膜

0583, 0584 Heterogeneous Ion Exchange Membrane for Ultrapure Water Process

超纯水工艺用异相离子交换膜是由苯乙烯磺酸型阳离子交换树脂、苯乙烯季胺型阴离子交换树脂以聚乙烯为粘合剂，经混炼拉片，用增强材料加固层压而成阳离子交换膜（简称超纯水阳膜）和聚乙烯阴离子交换膜（简称超纯水阴膜）。

Heterogeneous ion exchange membrane for ultrapure water process, with polyethylene as adhesive, is composed of styrene-sulfoacid-type cation exchange resin and styrene-quaternary amine-type anion exchange resin, which, through the process of mixing and pulling, is laminated with reinforcing material into polyethylene cation exchange membrane or "ultrapure water cation membrane" for short and polyethylene anion exchange membrane or "ultrapure water anion membrane" for short.



一、用途

I Application

超纯水工艺用异相离子交换膜含有足够的固定基因和可解离的离子，对溶液中的离子具有一定的选择透过性和导电性，以及耐化学性和耐腐蚀性，其次，以独特的高致密性，使水的渗透率小，从而达到高纯度的水。目前被电子、医药、电力、化工等行业的超纯水制备接受，是又一具有革命性意义的水处理技术膜。

选择机理：超纯水阳膜具有强酸性活性基因$R-SO_3^-$构成负电场，带正电荷的离子易吸入通过。超纯水阴膜具有强碱性活性基因$R-N^+(CH_3)_3$构成正电场，带负电荷的离子易吸入通过。

Heterogeneous ion exchange membrane for ultrapure water process, containing adequate fixed genes and dissociative ions, is of certain selective permeability and electrical conductivity to the ions in solution, and is of chemical resistance and corrosion resistance. With unique high density and little water permeability suitable for high-purity water processing, the membrane is widely accepted for ultrapure water preparation by electronics, pharmaceuticals, power industry and chemical industry, thus it being recognized as an another water treatment technology of revolutionary significance.

Mechanism for selection:

Ultrapure water cation membrane is of strong-acidity active gene $R\text{-}SO_3^-$ forming a negative electric field, and ions with positive charge are easy to be inhaled through.

Ultrapure water anion membrane is of strong-basicity active gene $R\text{-}N^+(CH_3)_3$ forming a positive electric field, and ions with negative charge are easy to be inhaled through.

二、外观

II Outer appearance

超纯水工艺用异相离子交换膜应平整均匀、无明显的机械损伤（折伤）、无脱网轧皱、不允许有影响质量的杂质存在。

0583阳膜外观为棕黄色、粉红色；0584阴膜为黄绿色、紫色。

Heterogeneous ion exchange membrane for ultrapure water process shall be of smooth uniformity without obvious mechanical damage (breakage), crease or existence of any matter impairing the quality.

0583 cation membrane comes in brown and pink, and 0584 anion membrane in blue.

三、规格

III Specifications

超纯水工艺用异相离子交换膜外型尺寸规定如下：

External dimensions and specifications of heterogeneous ion exchange membrane for ultrapure water process

厚度 Thickness	厚度允许公差 Allowable tolerance	有效面积 Effective area
0.42mm	±0.03mm（干态 dry state）	≧800×1600mm²

四、性能

IV Properties

0583、0584主要物理、化学性能如下表之规定：

Main physical and chemical properties of 0583, 0584 membrane

试验项目 Test items	单位 Unit	指标 Index	
		0583	0584
交换容量≧ Exchange capacity ≧	mol/Kg(干dry)	2.0	1.8
膜面电阻≦ Membrane surface resistance ≦	Ω · cm^2	15	20
尺寸变化率（纵、横）≦ Dimensional change rate (vertical and horizontal) ≦	%	5	5
爆破强度≧ Bursting strength ≧	MPa	0.6	0.6
化学稳定性 Chemical stability	PH	1–10	1–10
选择透过率≧ Selective transmittance ≧	%	90	89
透水率（在0.1MPa压力下）≦ Permeable rate (under the pressure of 0.1 MPa) ≦	ml/h · cm^2	0.2	0.2
热稳定性 Thermal stability	℃	40	40

五、标志、包装、运输、贮存

V Signs, packing, transport and storage

1、超纯水工艺用异相离子交换膜以瓦楞纸板箱包装，每箱装50张，约40公斤重，箱外应标明生产单位、产品名称、批号、制造日期、规格、数量，并附有生产单位质量检验部门的合格证及运输注意事项的标志。

2、超纯水工艺用异相离子交换膜应贮存在清洁、阴凉、干燥、通风的库房内，运输过程中不应受到日晒雨淋及机械损伤。

1 Heterogeneous ion exchange membrane for ultrapure water process shall be packed in corrugated board carton, each carton containing 50 pieces, about 40kg in weight, and shall be indicated on the carton with the name of manufacturer, product name, batch number, manufacturing date, specifications, quantity, and shall be accompanied with the certificate of quality to be issued by the quality inspection department of the manufacturer as well signs of attention for transport.

2 Heterogeneous ion exchange membrane for ultrapure water process shall be stored in clean, cool, dry and ventilated storeroom, and shall avoid exposing to the sun and rain, or mechanical damage on the way of delivery.