

PBI 非氟离子交换膜

Non-fluoride Ion Exchange Membranes

PBISJ-V20 非氟离子交换膜, 所用 聚苯并咪唑树脂 (PBI) 及复合材料为自主开发, 生产设备精密, 产品一致性优异, 可广泛应用于液流电池。

The polybenzimidazole (PBI) polymer and composite materials used for non-fluorinated ion exchange membranes are independently developed, with precise production equipment, excellent product consistency, and can be used as liquid flow batteries.

技术优势: Technical advantages

1. 离子选择性好、质子电导率高、阻钒性能优异。
High ion selectivity, High proton conductivity, Excellent vanadium resistance performance.
2. 厚度薄、强度高、尺寸稳定性好。
Very thin membrane can be provided, High strength, Good dimensional stability.
3. 耐高温, 抗氧化, 化学稳定性优异。
High temperature resistance, Oxidation resistance, Excellent chemical stability.

测试项目	PBISJ-20V
颜色 Color	棕色
推荐厚度 Thickness (um)	20±1
拉伸强度 Tensile strength (MPa)	≥ 100
断裂伸长率 Elongation at break (%)	≥ 30
溶胀率 Swelling ratio (%)	≤ 3
全钒液流电池用非氟离子交换膜参数 Application parameters of VRFB	
质子电导率 Proton conductivity (mS/cm)	≥ 40
钒离子渗透率 Vanadium ion permeability ($10^{-7}\text{cm}^2\text{min}^{-1}$)	≤ 1
钒电池库伦效率 Vanadium battery coulombic efficiency (%)	≥ 99
钒电池能量效率 Vanadium battery energy efficiency (%)	≥ 82