

2018-2023 Global Ion Exchange Membrane of All-Vanadium Redox Flow Battery Consumption Market Report

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Abstracts

The report requires updating with new data and is sent in 48 hours after order is placed.

In this report, LP Information covers the present scenario (with the base year being 2017) and the growth prospects of global Ion Exchange Membrane of All-Vanadium Redox Flow Battery market for 2018-2023.

The vanadium redox battery (VRB) (or Vanadium flow battery) is a type of rechargeable flow battery that employs vanadium ions in different oxidation states to store chemical potential energy. The vanadium redox battery exploits the ability of vanadium to exist in solution in four different oxidation states, and uses this property to make a battery that has just one electroactive element instead of two.

As the schematic shown in Fig, a vanadium redox-flow battery has two chambers, a positive chamber and a negative chamber, separated by an ion-exchange membrane. These two chambers are circulated with electrolytes containing active species of vanadium in different valence states, $\text{VO}_2^+/\text{VO}^{2+}$ in the positive electrolyte and $\text{V}^{2+}/\text{V}^{3+}$ in the negative electrolyte. During discharge process, VO_2^+ is reduced to VO^{2+} at the positive electrode and V^{2+} is oxidized to V^{3+} at the negative electrode, as shown in Equation(1) and (2). The reactions proceed in the opposite direction during charge process. The active species are normally dissolved in a strong acid, and the protons transport across the ion-exchange membrane to balance the charge.

In our report, we cover the ion exchange membrane of all-vanadium redox flow battery. Commercial ion-exchange membranes should have high proton conductivity, good selectivity, and especially low cost. At present, ion-exchange membrane prices are still

too high. This affects the installed capacity of vanadium redox flow battery.

Over the next five years, LPI(LP Information) projects that Ion Exchange Membrane of All-Vanadium Redox Flow Battery will register a 18.8% CAGR in terms of revenue, reach US\$ 27 million by 2023, from US\$ 10 million in 2017.

This report presents a comprehensive overview, market shares, and growth opportunities of Ion Exchange Membrane of All-Vanadium Redox Flow Battery market by product type, application, key manufacturers and key regions.

To calculate the market size, LP Information considers value and volume generated from the sales of the following segments:

Segmentation by product type:

Full-fluorinion Ion Exchange Membrane

Non-fluorinion Ion Exchange Membrane

Others

Segmentation by application:

Renewable Power Supply

Industrial Grid (Excluding Renewable Power) Adjustment and Management

This report also splits the market by region:

Americas

United States

Canada

Mexico

Brazil

APAC

China

Japan

Korea

Southeast Asia

India

Australia

Europe

Germany

France

UK

Italy

Russia

Spain

Middle East & Africa

Egypt

South Africa

Israel

Turkey

GCC Countries

The report also presents the market competition landscape and a corresponding detailed analysis of the major vendor/manufacturers in the market. The key manufacturers covered in this report:

Chemours (DuPont)

FuMa-Tech

Golden Energy Fuel Cell

Dalian Institute of Chemical Physics

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In addition, this report discusses the key drivers influencing market growth, opportunities, the challenges and the risks faced by key manufacturers and the market as a whole. It also analyzes key emerging trends and their impact on present and future development.

Research objectives

To study and analyze the global Ion Exchange Membrane of All-Vanadium Redox Flow Battery consumption (value & volume) by key regions/countries, product type and application, history data from 2013 to 2017, and forecast to 2023.

To understand the structure of Ion Exchange Membrane of All-Vanadium Redox Flow Battery market by identifying its various subsegments.

Focuses on the key global Ion Exchange Membrane of All-Vanadium Redox Flow Battery manufacturers, to define, describe and analyze the sales volume, value, market share, market competition landscape, SWOT analysis and development plans in next few years.

To analyze the Ion Exchange Membrane of All-Vanadium Redox Flow Battery with respect to individual growth trends, future prospects, and their contribution to the total market.

To share detailed information about the key factors influencing the growth of the market (growth potential, opportunities, drivers, industry-specific challenges and risks).

To project the consumption of Ion Exchange Membrane of All-Vanadium Redox Flow Battery submarkets, with respect to key regions (along with their respective key countries).

To analyze competitive developments such as expansions, agreements, new product launches, and acquisitions in the market.

To strategically profile the key players and comprehensively analyze their growth strategies.

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