

Enapter commissions Scanning Electron Microscope

The powerful SEM will accelerate the company's R&D.

Berlin (July 14, 2020) Enapter has acquired a highly sophisticated Scanning Electron Microscope (SEM) to enhance R&D of the AEM electrolyser. The SEM is regarded as one of the most powerful tools for R&D in the world. It has a resolution far superior to that of conventional light microscopes with lenses.

Enapter previously used associated laboratories and nearby universities for SEM work. The use of the Leica SEM on-site will significantly increase the speed of R&D. The detectors unique to an SEM are critical to Enapter in assessing failure modes and for quality control. In particular, the electrochemistry team can learn more with Energy Dispersive X-ray Spectroscopy (EDS)/backscattering than any optical microscope could ever hope to do. As electrochemistry in general puts such an importance on component interfaces/surfaces, the acquisition of the SEM is significant.

The SEM can differentiate the critical components of the cell in the electrolyser stack including the catalyst layer, gas diffusion layer, membrane and bipolar plate. The interfaces between them can be maintained and cross-sections probed, allowing simultaneous quality control. All electrochemical reactions around Enapter's AEM technology occur at interfaces and the SEM can probe these interfaces to make critically important interfacial parameters known.

"Being a part of the Enapter R&D team, having immediate access to such a device, can only be compared to lifting a blindfold that had been hitherto restricting your sight". Sean Chapman, R&D Electrochemist at Enapter.

With Enapter actively increasing mass production of the AEM electrolyser, the SEM will be increasingly used for quality control purposes to statistically ensure batches are within their respective tolerances. It will help to streamline tests and make trials more effective. It is therefore a vital tool for research and in advancing electrochemical energy storage and conversion systems.

For more information on Enapter's SEM, read our blog [here](#).

About Enapter

Enapter is an award-winning company. It manufactures highly efficient, modular hydrogen generators using Anion Exchange Membrane (AEM) electrolysis. Its core technology has a 10-year

proven track record. It is the foundation for the unique low-cost, compact electrolyser. They are used internationally in industries like energy, mobility, telecommunications, heat and more. Enapter has offices in Italy, Germany, Thailand and Russia. Enapter plans to open its office in Japan mid-2020.

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