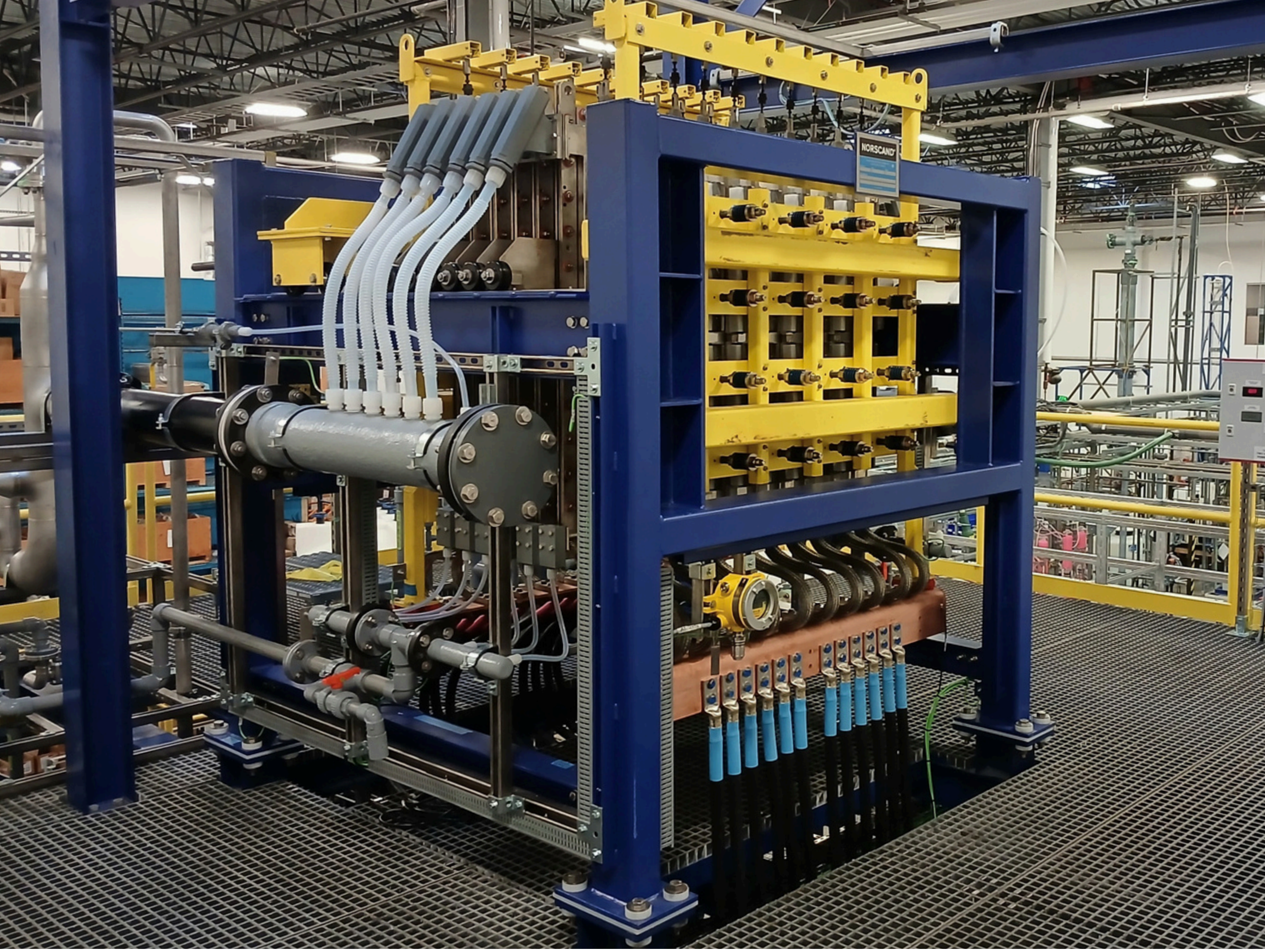
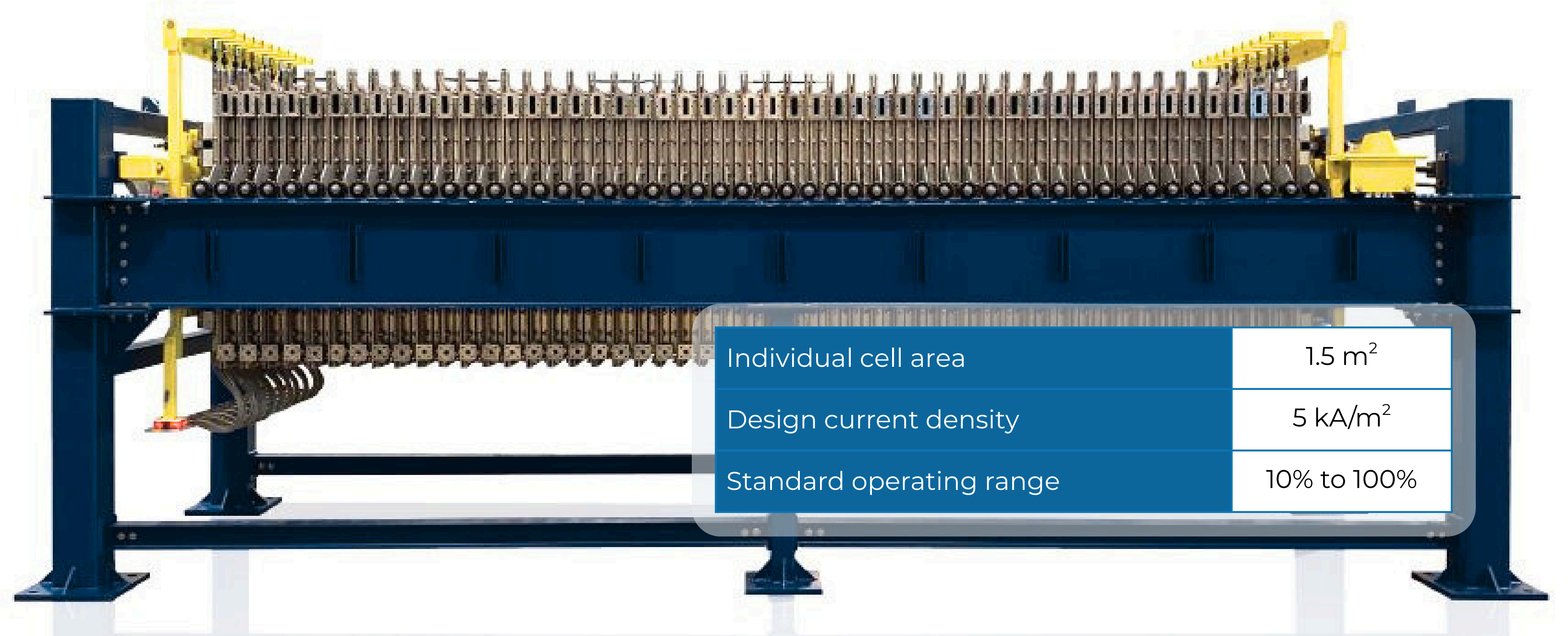


SODIUM CARBONATE VALORIZATION

USING THE NORSCAND® A15 COMMERCIAL ELECTROLYSER

NORSCAND® A15

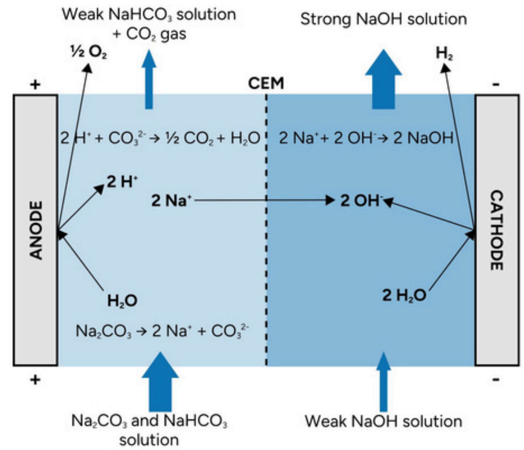


Individual cell area	1.5 m^2
Design current density	5 kA/m^2
Standard operating range	10% to 100%

A Proven Path to Sustainable Sodium Hydroxide

Sodium carbonate is a byproduct generated in several chemical and pollution abatement processes. It is also mined as a alkali source. Electrochemical conversion of sodium carbonate presents a elegant circular solution — regenerating sodium hydroxide for reuse or resale. Electrochemical conversion of sodium carbonate has the critical capability of decoupling sodium hydroxide production from chlorine production. This approach not only minimizes waste but also enhances resource efficiency and sustainability across the value chain.

The NORSCAND® electrolyser converts a sodium carbonate solution into sodium hydroxide electrolytically. In the cell, a cation exchange membrane separates the anode and cathode chambers. Water is reduced at the cathode and oxidized at the anode, producing hydroxide ions and protons, which then combine with the ions from the salt solution to form sodium hydroxide, carbon dioxide, and sodium bicarbonate without generating chlorine gas.



2 compartment Na_2CO_3 Electrolysis Schematic

The NESI Advantage

Sustainable

- Valorization of a waste streams
- Reduced reagent consumption and transport

Scalable

- Engineered turnkey systems
- Flexible single element design
- Modular electrolysers

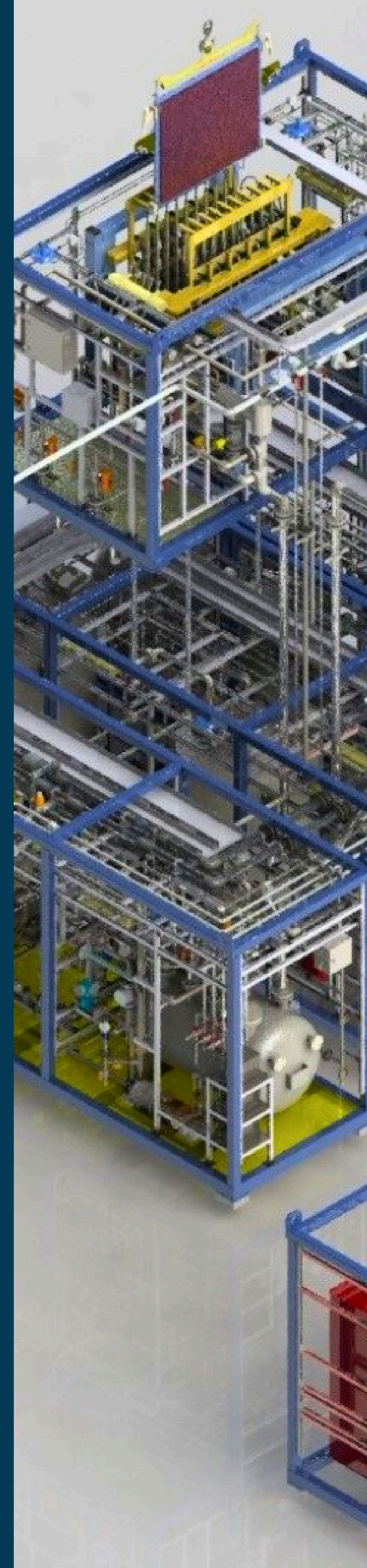
Reliable

- Proven industrial validation
- Simplified supply chains
- Comprehensive support

WE ARE HERE TO HELP

Integrating NESI's technology to your advantage

With decades of experience in both electrochemistry and globally delivering industrial process plants, NESI has the ability to successfully deliver our sodium carbonate splitting process as well as the knowledge to optimize it for your unique project and feedstocks. Our team of engineers and project delivery experts are available to help you explore the financial, environmental, and permitting benefits of using the NORSCAND® A15 electrolyser for your sodium carbonate valorization project.



NORAM Electrolysis Systems Inc.
12920 Mitchell Rd,
Richmond, BC V6V 1M8
Canada

+1 (604) 696-6901

questions@nesi.tech

www.nesi.tech