



Produce Green Hydrogen with PROTIUMSOURCE

The world's most complete electrolyzer-ready water solution,
tailored to the needs of green hydrogen producers

Lets producers focus on
green hydrogen, not
source water

ProtiumSource is the world's most advanced end-to-end solution for electrolyzer-ready water, engineered to be feedwater-agnostic, generate zero discharge, and operate with renewable energy at industry-leading efficiency to produce green hydrogen from ANY electrolyzer.

A DIFFERENT KIND OF SOURCE WATER

Offering producers the solution they need to fulfill the promise of green hydrogen by delivering high-purity, electrolyzer-ready water with the lowest energy demand, fully powered by renewable energy.

ProtiumSource results from collaboration, combining H+E's decades of expertise in ultrapure water with innovation from The Gradiant Labs.



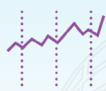
Lowest Total Life Cycle Costs

Our high-purity source water exceeds the specified requirements for all electrolyzer systems, extending their usable life and reducing CAPEX, OPEX, and Total Life Cycle Costs.



Feedwater-Agnostic

ProtiumSource outputs a guaranteed, high purity, electrolyzer-ready water from any feedwater. This includes seawater, brackish water, and treated wastewater, making it highly adaptable to operating environments with poor-quality input water.



Industry-Leading Efficiency

Gradiant's award-winning RO Infinity with CFRO technology delivers best-in-class performance with the lowest energy, reducing overall capital requirements for renewable energy infrastructure.



Zero Liquid Discharge

Brine management challenges are mitigated by recycling all water with the option to produce zero or minimal liquid discharge.

OFFERS PRODUCERS COMPELLING BENEFITS

Lower OPEX

From lower maintenance demands with reduced CIP and minimal consumables

Zero CAPEX

Option for Gradiant to build, own, and operate the complete electrolyzer-ready water system

Supercharged with SmartOps AI

For immediate savings in efficiency and operating cost

World's Most Efficient Electrolyzer-Ready Water

Consuming up to 40% less energy to purify and produce electrolyzer-ready water

Fully Integrated, Balanced System

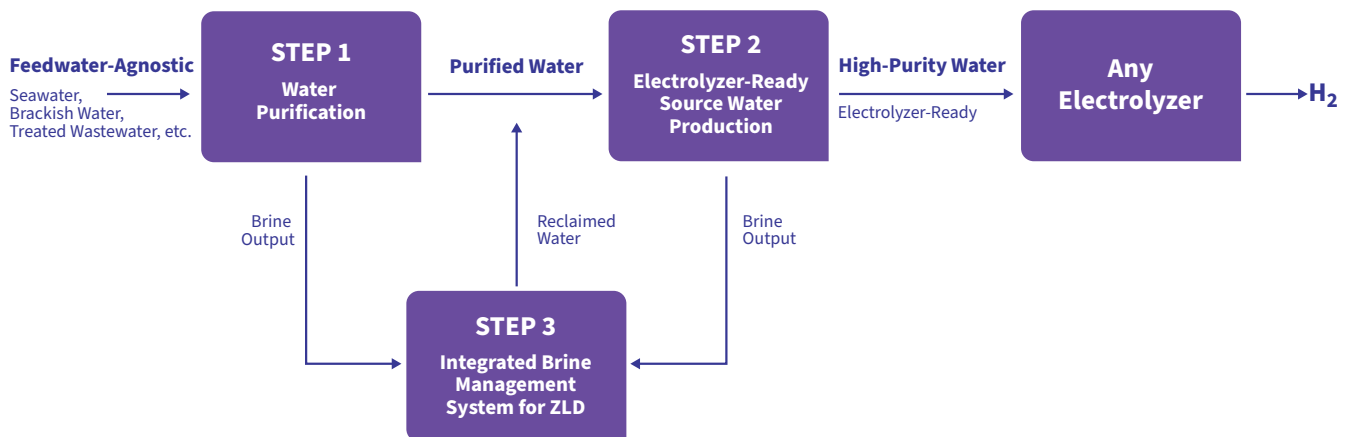
Complete three-step system processes and purifies any feedwater to be electrolyzer-ready with ZLD

Scalable System Throughput

From modular skid-mounted to compact permanent installations, tailored to meet demands of any hydrogen production system

TAILORED TO THE SPECIFIC NEEDS OF ANY GREEN HYDROGEN PRODUCERS

ProtiumSource is a fully integrated, balanced three-phase system that leverages Gradiant's award-winning technology stack:



STEP 1

Water Purification

Leverages Gradiant's award-winning pretreatment and RO Infinity technologies to remove a complete range of inorganic and organic contaminants from any feedwater, including fluoride, potassium, iron, and TOC. Incorporates unique Selective Contaminant Extraction technology for highly efficient impurities and metals removal.

STEP 2

Electrolyzer-Ready Source Water Production

Building on H+E's ultrapure water knowledge, including extensive experience in generating UPW to parts per trillion levels for semiconductor and solar panel facilities, to combine IX, EDI, and UV technologies that polish large volume flows and yield electrolyzer-ready water that exceeds industry specifications.

STEP 3

Integrated Brine Management Systems for ZLD

Using Gradiant's acclaimed RO Infinity with CFRO technology to reclaim water from brine at the pretreatment and high-purity stages for zero liquid discharge, or minimum liquid discharge with the greatest energy efficiency.

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