



# 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.



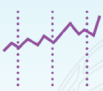
### Lowest Total Life Cycle Costs

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

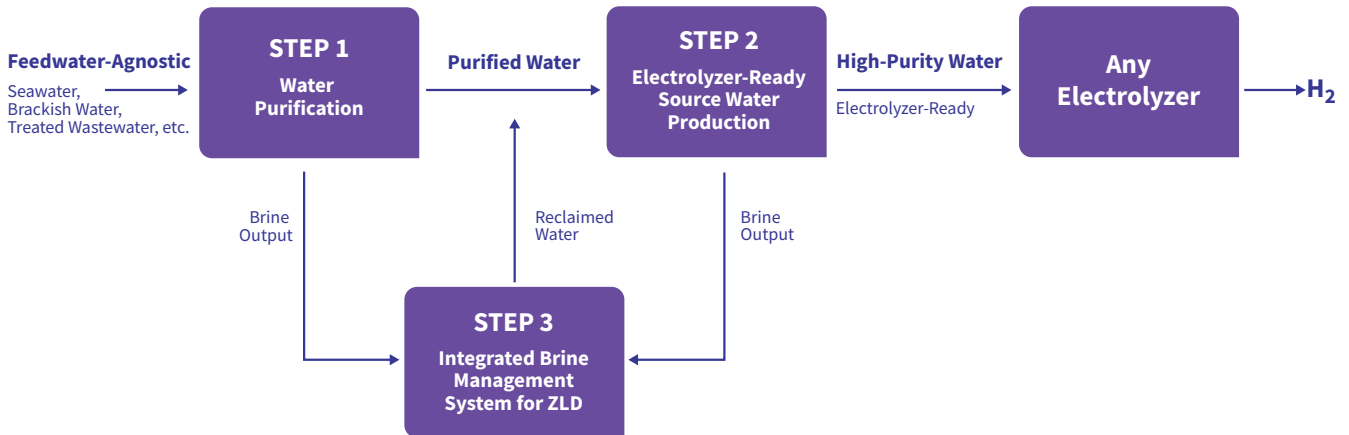
Complete three-step system processes and purifies any feedwater to be electrolyzer-ready with ZLD

## 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.

This document is for general information only. No warranty or guarantee whatsoever is given or implied and Gradiant is not bound by or liable for or by the information contained herein. Customer has the sole responsibility to determine whether the information in this document is appropriate for Customer's use, including without limitation actual site, geographical, and plant conditions, specifications, requirements, disposal, applicable laws and regulations. This document is the intellectual property of Gradiant, including but not limited to any patent or trademark contained in this document. Distribution of this document is not and does not imply any transfer of Gradiant's intellectual property. Trademark Notice: Gradiant, the Gradiant Logos, and all trademarks and services marks denoted with TM or ® are owned by affiliates of Gradiant Corporation and Gradiant International Holdings unless otherwise noted.

Copyright Notice © 2024 Gradiant

Document No. 900-006-01-EN  
September 2024

