

INTEGRATED PEM HYDROGEN SYSTEM

ST-1.0

Integrated PEM water electrolysis hydrogen production system with a nominal hydrogen production rate of 1.0 Nm³/h.



1.0	Nm ³ /h HYDROGEN OUTPUT
20-120%	LOAD RANGE
3.0 MPa	MAX. WITHSTANDING PRESSURE
4.4	kWh/Nm ³ H ₂ DC POWER CONSUMPTION

APPLICATION FIT

Reference applications stated in the source brochure

Industrial processes Glass manufacturing and metal smelting.	Cogeneration Combined heat and power (CHP) projects.
Manufacturing Semiconductor industry applications.	Distributed energy Integrated multi-energy independent microgrids.

Document status

Standard configuration, customizable for project requirements. Published values are based on the supplied English product brochure; the issued quotation and project technical agreement define the final configuration, guarantees, interfaces and supply scope.

TECHNICAL DATA

Standard configuration specifications

PARAMETER	UNIT	STANDARD CONFIGURATION
Gas production rate	Nm ³ /h	1.5
Hydrogen production rate	Nm ³ /h	1.0
Operating temperature	deg C	5-65
Hydrogen purity	%	99.5-99.999999
Dew point	deg C	-70
Feed-water quality requirement	-	ASTM D1193 Type I deionized water (>10 MOhm-cm)
Maximum withstanding pressure	MPa	3.0
Power supply voltage	V	380
Dimensions (L x W x H)	mm	1100 x 800 x 1600
Net weight	kg	400
DC power consumption	kWh/Nm ³ H ₂	4.4
Wide power / load range	%	20-120

Important interpretation notes

Pressure The brochure identifies 3.0 MPa as maximum withstanding pressure. Operating and outlet pressure must be confirmed separately.	Purity The brochure provides a purity range. The treatment train, measurement method and guaranteed value must be confirmed for each project.
Energy The stated 4.4 kWh/Nm³ H₂ is DC power consumption, not confirmed complete-system AC consumption.	Reference conditions Ambient conditions, test pressure, water temperature and test duration are not stated in the supplied page.

No value in this document should be interpreted as a project-specific performance guarantee without written confirmation in the controlling technical agreement.

CONFIGURATION & QUALIFICATION

Items to confirm before quotation

Hydrogen duty Required continuous and peak flow, operating hours and load profile.	Gas quality Required purity, dew point, residual oxygen and verification method.
Pressure boundary Required outlet pressure, downstream storage and applicable safety design basis.	Site utilities Power frequency and phase, water supply, ventilation, drainage and vent routing.
Interfaces Hydrogen, oxygen, water, drain, electrical, control and communication connections.	Documentation Destination-market compliance, drawings, test records and supplier-qualification package.

BROCHURE-STATED CAPABILITIES

The source brochure presents the following system capabilities. Standard versus optional scope and model applicability remain subject to written confirmation.

High-pressure / high-purity configuration Final operating pressure and purity train to be defined for the project.	Hydrogen leakage detection Brochure-stated safety capability; sensor scope and interlocks to be confirmed.
Load adaptability Brochure-stated wide load capability, with a listed 20-120% range.	Single-cell voltage monitoring Brochure-stated monitoring capability; channel scope to be confirmed.
Cold / hot start Brochure-stated start capability; start time and conditions are not provided.	Tailored solutions Specialized configurations are described as available subject to engineering review.

COMMERCIAL & TECHNICAL RESPONSIBILITIES

ST Hydrogen is the international commercial brand operated by Scribble Tree Import & Export Co., Ltd. Scribble Tree coordinates international specification, contracting, export documentation and customer communication. Manufacturing and technical supply are provided by Chunhua Hydrogen Technology.

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DISCLAIMER

Images may show optional or manufacturer-branded equipment. Specifications are subject to configuration and product development. The issued quotation, model-specific technical agreement, acceptance criteria and contract are controlling.