

ALKALINE ELECTROLYSIS · PLANT INFRASTRUCTURE

Balance of Plant (BoP)

The engineered backbone around your electrolyser — utilities, power, safety and control delivered as one integrated, certified package.

10-1000+

NM³/HR PLANT SCALE

8

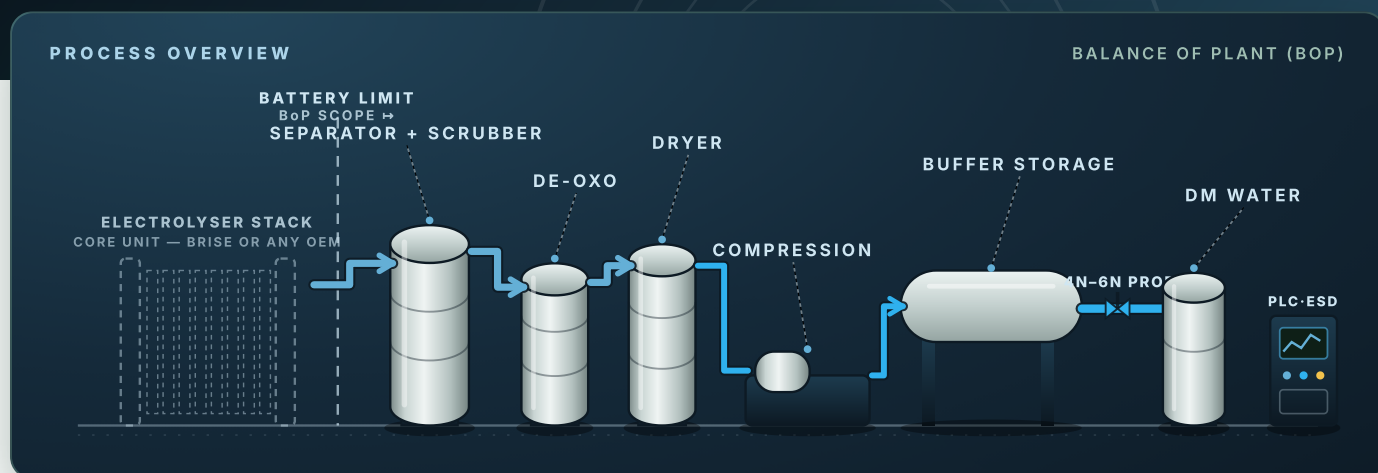
INTEGRATED SUBSYSTEM
FAMILIES

4N-6N

PURITY VIA BOP
PURIFICATION

Any OEM

BRISE OR THIRD-PARTY
STACKS



01 Overview

An electrolyser is the stack — the electrochemical heart. Everything else that turns that stack into a working hydrogen plant is the Balance of Plant, and that is Brise territory: gas-liquid separation, scrubbing, De-Oxo purification and drying of the product gas, water treatment, cooling, power electronics, compression, storage, instrumentation and safety systems, delivered as one engineered package for hydrogen electrolysis, industrial gas generation and advanced chemical processing plants.

Because we design both stacks and BoP under one roof, our packages integrate cleanly — eight subsystem families arrive as a coherent, certified whole rather than a collection of vendor islands. The purification train alone takes raw stack outlet gas to 4N-6N product quality. Packages are modular and scalable, engineered for future expansion.

02 At a Glance



One integrated package

Eight subsystem families engineered together, not stitched later



Purification included

Separator, scrubber, De-Oxo and dryer — stack gas to 4N-6N product



OEM-agnostic

Compatible with Brise alkaline stacks or any third-party electrolyser

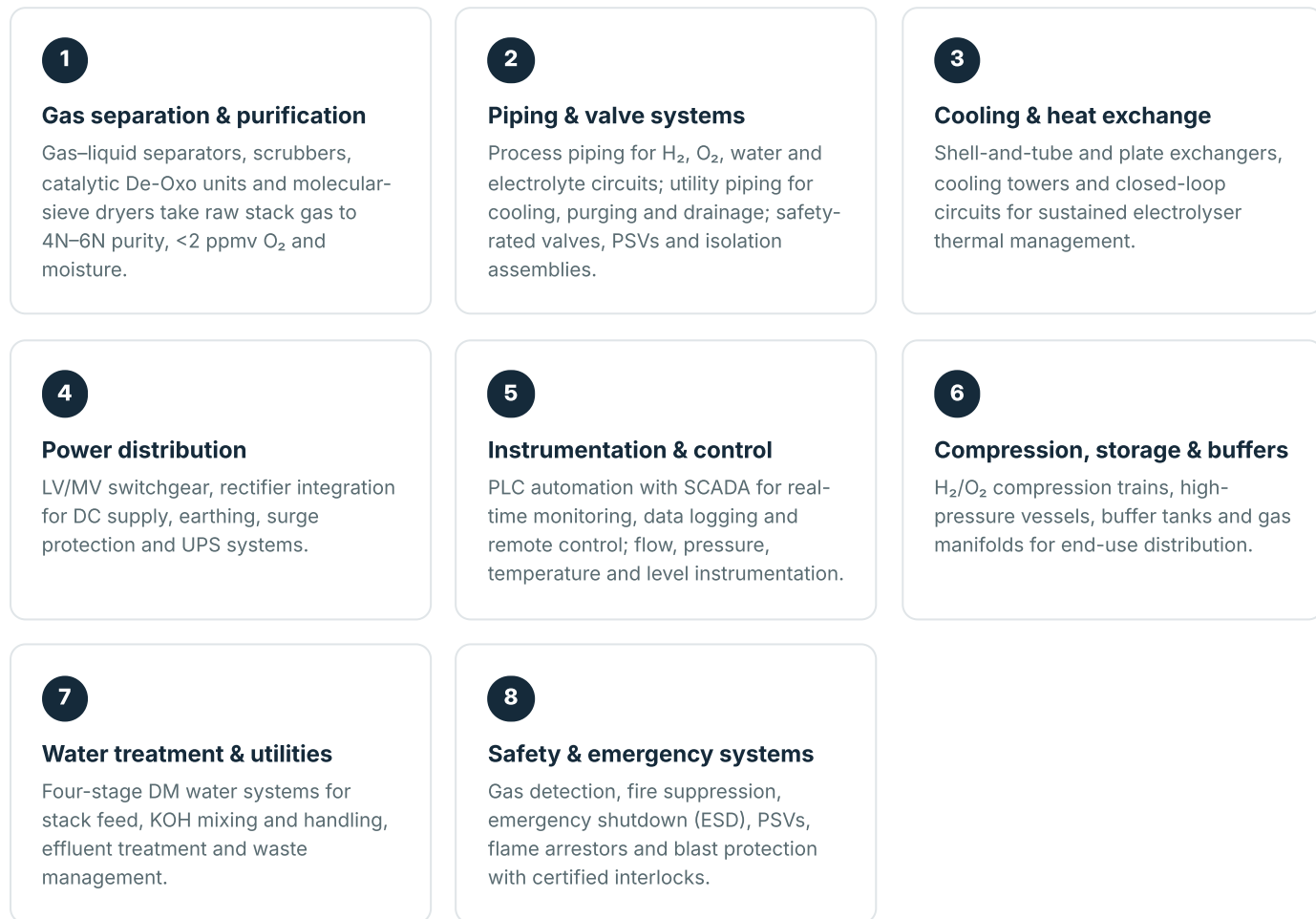


Safety-first

Fail-safe interlocks per PESO, ATEX, IEC and IS standards

03 Technology & Process

Brise BoP packages integrate eight engineered subsystem families around the core stack — sized, specified and safety-rated for the specific electrolyser and site:



Alkaline vs PEM — the BoP differs

BoP design follows the stack chemistry. Brise engineers both variants:

Alkaline systems	KOH electrolyte mixing, handling and recovery circuits; alkali-compatible materials
PEM systems	Ultra-pure deionised water polishing loops and different compression staging
Third-party stacks	BoP engineered to any OEM specification after datasheet review

04 Technical Specifications

PARAMETER	SPECIFICATION
Plant scale	10 Nm ³ /hr to 1000+ Nm ³ /hr hydrogen output
Purification train	Separator · scrubber · De-Oxo · dryer → 4N–6N product
Stack compatibility	Brise alkaline electrolyzers & third-party OEM stacks (alkaline / PEM)
Quality certifications	ISO 9001:2015 · ISO 14001:2015 · ISO 45001:2018
Safety compliance	PESO, ATEX, IEC and IS standards
Engineering deliverables	FEED study, Basic Engineering Package, detailed engineering
Automation	PLC + SCADA with remote monitoring
Water systems	DM water plant, KOH handling, effluent treatment
Delivery model	Modular, scalable, expansion-ready packages
Coverage	Pan-India + export projects, engineered from Pune

- ✓ Each BoP package is sized from OEM stack datasheets and site utility conditions during FEED / basic engineering. Figures shown are design values from Brise Chemicals product documentation; final specifications are confirmed during detailed engineering.

05 Key Features

 Higher plant availability Well-engineered utilities and redundancy cut unplanned shutdowns and protect production.	 Lower energy per kg H₂ Efficient cooling and power systems reduce parasitic electricity consumption.	 Hydrogen-safe by design Flammability hazards managed with detection, ESD and certified interlocks.
 CAPEX & OPEX optimised Smart integration avoids over-sizing and trims lifetime operating cost.	 Regulatory compliance Meets Indian and international codes — PESO, ATEX, IEC, IS.	 Modular & future-proof Skidded packages sized for today with clean paths to expansion.

06 Applications & Industries



Green hydrogen plants

Alkaline and PEM electrolysis facilities



Medical & industrial O₂

Hospitals, steel and glass industry plants



Nitrogen generation

Pharma, food packaging and electronics



Ammonia synthesis

Fertiliser and chemical industry plants



Air separation units

Cryogenic O₂, N₂ and argon production



Oil & gas facilities

H₂ for hydrocracking and desulphurisation



Steel & metals

DRI hydrogen and annealing furnace supply

07 Scope of Supply



Complete integrated BoP package (8 subsystem families)



Gas separation & purification train (separator, scrubber, De-Oxo, dryer)



FEED study, Basic Engineering Package & detailed engineering



Procurement, fabrication & skid assembly



Site installation, commissioning & interlock validation



AMC/CMC lifecycle support

**CERTIFIED &
COMPLIANT**

ISO 9001:2015

ISO 14001:2015

ISO 45001:2018

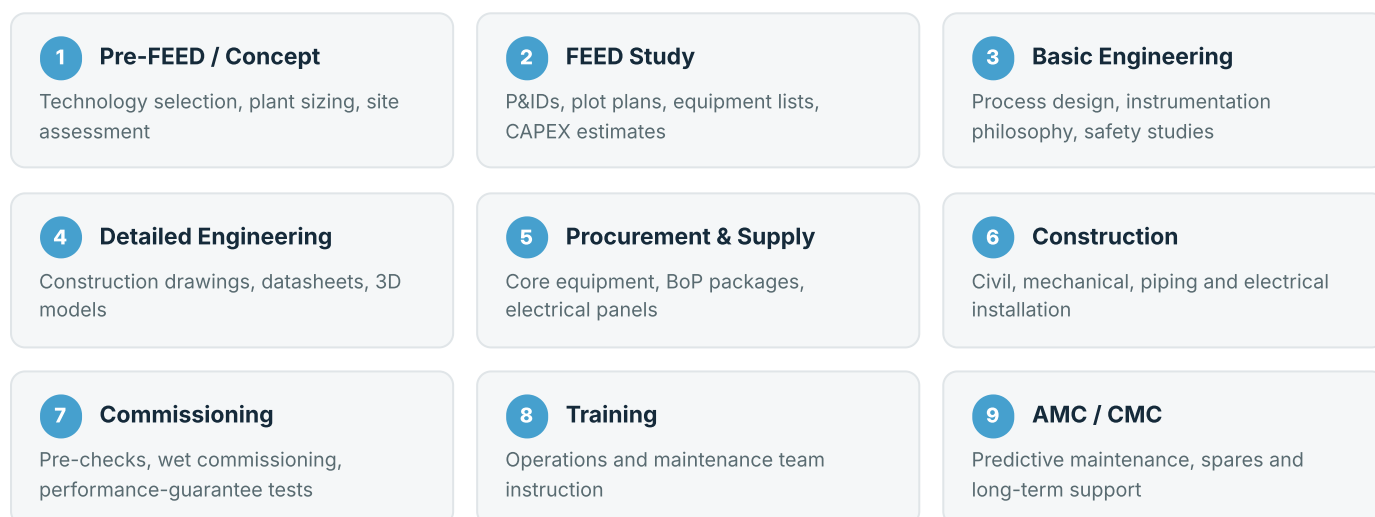
Designs compliant with PESO, IEC, ATEX & IS safety standards

08 About Brise Chemicals

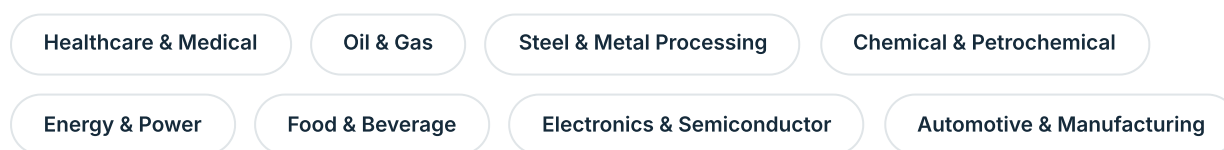
Brise Chemicals Pvt. Ltd. is a technology-driven OEM and industrial gas plant technology owner, founded by professionals with deep experience across turbo-machinery, oil & gas, refineries and the industrial gas sector. From our engineering and fabrication base in Pune, India, we design, engineer, manufacture, install and commission cryogenic and non-cryogenic gas plants — spanning alkaline electrolysis, gas generation, gas purification, ammonia and methanol synthesis, air separation and hydrogen liquefaction.

Our name derives from the ballet step “Brisé” — a reminder that precision, integrity and discipline underpin everything we build. With in-house fabrication, certified welding, an HVOF catalyst-coating facility and rigorous QA/QC, we deliver complete EPC projects and stand behind them through long-term AMC/CMC support.

09 The Brise EPC Lifecycle



10 Industries We Serve



Let's engineer your plant.

Request a detailed proposal, FEED study or site consultation for the Balance of Plant (BoP).


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