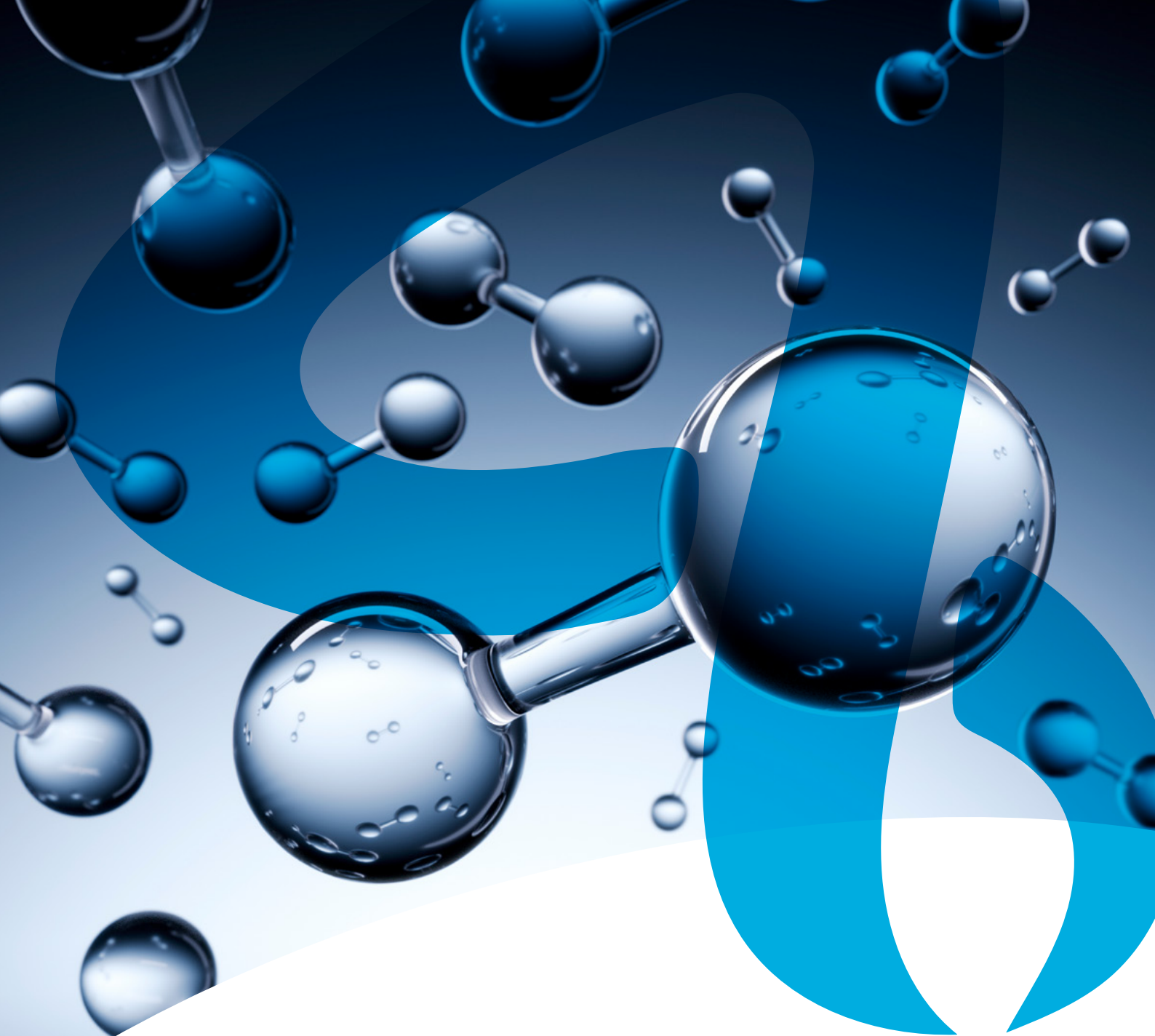




HYDROGEN SOLUTIONS



About us

Puretech Process Systems is a British engineering company based in Surrey providing pioneering high purity pipework installations and process systems worldwide. For over four decades we have created and cared for the delivery of vital purified water, pure steam, high purity bulk gas installations, high pressure gas installations, medical gases, and process systems for hospitals, pharmaceutical, biopharma, life science, semiconductor, laboratories, and emerging sectors such as Green Hydrogen, SMR (Nuclear) and battery filling/Gigafactories.

Part of the Indutrade group, a £2 billion multi-national company incorporating nearly 250 specialist companies and providing a wealth of resource and financial backing to give our customers the stability they demand.



Puretech Hydrogen Solutions Designed and manufactured in the UK

We design, engineer, manufacture and deliver equipment and turnkey projects for Hydrogen applications to the Industrial Gases sector, such as pipework systems, inc. Coax, decanting, delivery panels/skids and Ultra-Pure water for hydrogen production. Providing guaranteed, risk-free solutions and maximising our customers return on investment.



High Purity Systems and Skid Building

Puretech designs and manufactures high purity systems for the semiconductor, solar, nuclear and Hydrogen Industries.

- Ultra high purity bulk installations - including UPW, nitrogen, oxygen, hydrogen and argon
- Design and installation of high purity chemical systems - including solvents, acids and slurry systems
- Ultra high purity special gas installations - including Silane, Phosphine, HCL, HBR etc.
- UHP manufacturing - including chemical dispense modules (CDM's), gas cabinets, valve manifold boxes and purifiers down to ppb levels.
- Site gas analysis service - for particles, O2 and moisture



Pipework System Design, Fabrication & Installation

We design, manufacture and install pipework systems for the production and distribution of hydrogen, inc. decanting, delivery panels and skids and Ultra-Pure Water Systems.

Orbital Welding

Unsurpassed Ability. Uncompromising Quality.

At Puretech, we set the standard when it comes to high purity orbital welding and pipework installations. We've heavily invested in new technology and ensured each weld that comes out is the best quality it can be.

- **Highest Quality Standards:** We maintain rigorous quality controls, achieving 3.1b certification and ensuring all parts conform to the most stringent specifications before welding begins.
- **Advanced Pipe Preparation:** Our facing tools ensure that pipe ends are perfectly square with zero deviation, ensuring full weld penetration and structural integrity.
- **Certified & Experienced Welders:** Our team consists of ASME coded, highly experienced welders operating to ASME IX and other relevant global standards.
- **Daily Weld Testing & Total Traceability:** Before the start of each working day, our welders test and prepare a sample to guarantee accuracy. Every weld is then recorded in our Engineering Data Book, recording vital information such as pipe & fitting details, weld location (using Isometric drawings), welding operative and certification numbers for total traceability.

Infrared (IR) fusion welding

Perfect for high-purity applications

This non-contact form of welding, which uses infrared radiation to heat and melt parts made from thermoplastics such as Polypropylene and PVDF, makes it perfect for high-purity piping systems where contamination is a concern.

Coaxial Tube in Tube Piping

Absolute Containment

For an added degree of safety in dangerous gases, a COAX tube and fitting is used. This is a double-walled tube system which consists of an inner process tube and an external safety tube allowing for gas leakage monitoring and alertion.



Ultra-Pure Water - experts in our field

The quality of feed water supplied to electrolyzers is critical for the safe and efficient production of hydrogen. To ensure optimal performance and longevity of electrolyzers, high-quality ultra-pure water systems are imperative. Leveraging our expertise, engineering capabilities, and manufacturing prowess, we deliver top-tier ultra-pure water systems sourced from various inputs, including mains water, seawater, or borehole water. Our tailored solutions guarantee the reliability and sustainability of hydrogen production processes, paving the way for a cleaner energy future.

Service Capabilities

Puretech understands how crucial your systems are to your business and clients, from their reliability to ensure continuous manufacturing and the quality of the end product or service, to system compliance ensuring all regulatory body standards are met.

Our service contracts are tailored to our clients' individual needs and the service is expertly provided through our network of experienced and qualified engineers. We can offer contracts of 1-5 years with the numbers of visits specified by you. All of our contracts as standard receive 24/7 telephone support, recommended spare parts list and a detailed service report to ensure you comply with all regulatory body standards.

Hydrogen – Cylinder, Bundle, Trailer-filling and decant solutions

In the pursuit of sustainable energy solutions, hydrogen has emerged as a frontrunner, promising clean, efficient energy across various sectors. Harnessing the full potential of hydrogen requires not only innovative technologies but also meticulous design, engineering, and manufacturing processes.

Equipment:

- Automatic Trailer Filling and Decanting Panels: These panels are designed to operate at a working pressure of up to 600 bar. They facilitate the automatic filling and decanting of trailers.
- Pressure Reduction Systems: These systems are capable of reducing pressure from 600 bar to operational levels.
- Automatic & Manual Cylinder Filling Systems
- Bundle, Genie, and Amplifier Filling Systems
- Custody Transfer Metering Skids
- SCADA: Supervisory Control and Data Acquisition system.
- Driver Interface Panels: Panels designed to interact with drivers for operational control.
- RFID Driver & Trailer Management System
- Fire & Gas Detection Systems
- Analysis Systems
- Compressor Isolation Panels

Design & Engineering:

- Process, Mechanical, Electrical, and Instrumentation Design
- Functional Safety Lifecycle Design: Adherence to IEC61511 standards, including:
 - HAZOP Studies
 - Layer of Protection Analysis (LOPA)
 - Safety Integrated Layer Protection (SIL)
- Safety Requirements Specification (SRS): Document specifying safety requirements.
- Zoning & Safety Design: Design compliant with international standards like ATEX and IECEx.
- Integration & Specification: Integration of various components and specifications including:
 - H2 Source
 - Compressors
 - Purifiers

Company Expertise - UK based in-house capabilities

Project Management

- Project Managers
- Project Engineers
- Project Supervisors
- Welders/Fitters

Design Department

- AutoCAD Engineers
- Design Engineers
- Revit/3D Modelling

Production Department

- Coded Welders (ASME IX)
- Fabrication Engineers
- Electrical Engineers
- Test Engineers

Controls Department

- C&I Engineers
- GAMP 5
- Designers
- IEEE (17th ed.)

Commercial Department

- NEC, ICHEME, GC
- Contracts
- QS Activities

QA/QC

- QC Procedures
- CSWIP Inspectors/Validation
- Engineers

Accounts Department

- Accounting Clerks

Sales & Estimating

- Estimators
- Sales

Purchasing & Logistics

- Suppliers
- Audits/Questionnaires

Validation Department

- DQ/IQ/OQ Protocols

Trusted technology, sustainable methods

As the world transitions towards sustainable energy solutions, hydrogen emerges as a promising alternative. Puretech's innovations in decanting, delivery, and the production of ultra-pure water represent a pivotal step towards realising a hydrogen-powered future.

Its versatility, zero-emission potential, and compatibility with existing infrastructure position it as a key player in decarbonising various sectors, including transportation, industry, and power generation.



Sustainability in practice

As a business, we use 100% green power and have ISO14001 (Environmental Management System). We are also working towards being a NetZero company and the accreditation ISO14064-1 2019, the Greenhouse Gases (GHG) Emissions and Removals Standards.

Our parent company Indutrade has signed the UN Global Compact Sustainability Initiative. In doing so, Puretech has indirectly committed itself to working with the Global Compact's ten principles for sustainable development in the four areas of human rights, labour, environment and anti-corruption.



Puretech Headquarters

Head Office and Manufacturing Facility

- South London (10 minutes from Gatwick airport)
- 40,000 sq. ft facility
- Offices
- Manufacturing
- Dedicated wet & dry FAT areas
- Design
- Project Management
- Manufacturing
- QA/QC – Validation
- AutoCAD
- Estimation
- Health & Safety



Manufacturing Facilities

Our new, cutting-edge manufacturing facility, spanning over 40,000 square feet, represents a significant expansion driven by the high demand for our products. Strategically positioned near Gatwick, providing for superb accessibility for overseas clients and great national transport links for our UK based clients.

This milestone underscores our dedication in advancing our manufacturing capacity. The expansion of our premises is a testament to Puretech's growth and development, marking an exciting phase in our continued commitment to be a driving force in the progression of UK Manufacturing.





Head Office

5 Polar Drive
Salfords
Surrey
RH1 5HW

+44 (0) 1737 378 000
sales@puretech.uk.com
www.puretech.uk.com

Durham Office

8 Durham Workspace
Abbey Road
Durham
DH1 5JZ

+44 (0) 191 468 2019