



## AIFILL H2 MEGC/TRAILER FILLING – BY IGAS TECHNOLOGY SOLUTIONS

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**We are World Leaders in the innovative design, engineering and delivery of technical solutions to the Industrial Gases & Clean Energy sectors, providing guaranteed, risk-free solutions to maximise return on investment for our customers.**

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iGAS delivers fully integrated, automated hydrogen trailer filling systems designed for maximum safety, reliability, and operational efficiency. Backed by decades of hands-on hydrogen plant and MEGC filling experience, our team brings unmatched technical insight to every project. With proven performance across multiple continents, we combine robust engineering with smart automation—making us the trusted “*safe pair of hands*” for hydrogen trailer filling solutions worldwide.

## Early Engagement



- Early Concept to long-term operation
- Ensures right solution
- Ensures safety & reliability
- Ensure life-cycle performance

## FEED Studies & Process Design



- FEED Studies
- Process Design
- Match customer specific requirements
- IEC61511
- Risk mitigation and control

## Build Quality & Test



- High quality
- Proven
- Robust
- Inspection
- Functional Testing
- Factory Testing

## Commission & Support



- Experienced Engineers
- SAT execution
- Training
- Ramp-up
- Support
- Spares

**AiFill H<sub>2</sub>**



**Future-Proof Control**

Powerful, future-proof control system built on the trusted Siemens S7-1500 (ET200SP) platform with Ignition SCADA/HMI



**Modular**

Standardised software enables fast commissioning, simple operation, and easy local configuration



**Advanced Tools**

Includes tools such as IO debugging. Global deployments, multi-language support, and secure remote access, delivers reliable and scalable performance for hydrogen filling systems worldwide.



**Smart Diagnostics**

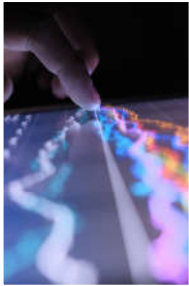
Clear interface with Process View diagnostics - swift troubleshooting. Dashboards, data logging, auto fill records, & certificate generation provide transparency of filling operation

*An Evolution in Filling Technology*



Our advantage is simple: unmatched flexibility. AiFill H<sub>2</sub> is tailored to each customer’s exact needs and seamlessly connects with third-party systems—whether DCS/SCADA, ERP platforms, databases, or remote-monitoring tools. This ensures effortless integration into existing operations while retaining a consistent, reliable, and future-proof core.

***An Evolution in Filling Technology***



**Data exchange with high level DCS**  
Use of common Siemens platform.



**Hose rupture detection and safety shut down**  
Continuous monitoring of pressure in hose, ensures safe shutdown of unmanned process



**Driver/Operator on system data base** Ensures, only authorised and trained individuals can use the system as well as levels of access ensuring authorised access to different features



**Trailer on system data base**  
Ensures, only authorised and in test trailers are filled to the correct pressure / temperature profiles and ensures fill record accuracy



**Automatic leak check of trailer filling hose. Prior to fill**  
Ensures secure leak free connections.

***Not Just an Evolution in Filling Technology,  
THE Evolution in Filling Technology***



**Design removes the operator from point of fill**  
 By having a remote Driver Interface Unit the driver is away from the hazard area during key operations.



**Hose purge routine prior to fill**  
 Prevents impurities being introduced to system.



**Integrated hose park position with feedback**  
 Hose position interlocked with valves so that operations cannot be activated if the hose is still parked



**Our system is designed for unmanned filling**  
 Passive and active monitoring by the system during filling ensures automatic safe shutdown in the event of failures



**Monitoring of initial return trailer pressure.**  
 Minimum positive pressure required for quality of gas as well as trailer manufacture recommendations, non-compliant trailers require authorisation to fill

***Not Just an Evolution in Filling Technology,  
 THE Evolution in Filling Technology***

 **High Pressure** – Engineered for safe high-pressure hydrogen management

 **Different Trailer Pressures** – Dedicated fill points and hoses with PSV and interlocks

 **Flammable Gas** – Welded pipework and integrity checks minimise leak risk

 **Asphyxiant Gas** – Vents routed to safe areas to avoid gas build-up

 **Explosive Atmosphere** – Controlled venting with auto-shutdown on abnormal events

 **Ignition Source** – Electricity – ATEX-certified, CE-inspected equipment

 **Ignition Source** – Static – Dynamic earthing ensures filling only when confirmed safe

 **Burst Hoses** – Auto safe-state response and anti-whip protection

 **Human Factors** – Authorised access, guided operation, automated filling

 **Maintenance** – Safe isolation with inert/purge capability

 **Gas Confusion** – Instrument air clearly separated from nitrogen

 **Loss of Utilities** – Fail-safe design; valves move to safe positions

### **Configuration 1 Mono Fill**

Single-bay H<sub>2</sub> filling solution designed for safe, repeatable operation with a high degree of automation. Suitable for customers operating early-stage H<sub>2</sub> infrastructure projects that require a reliable, compliance-ready system with the ability to expand later

### **Configuration 2 Multi Fill**

Multi-bay H<sub>2</sub> filling solution. Multiple trailers are connected to a common filling module and are then filled individually by controlled sequencing, supporting efficient bay utilisation while maintaining consistent safety and process control.

### **Configuration 3 Fill Decant**

Combines automated filling with an integrated decant capability, enabling the system to handle both filling and controlled transfer/emptying of the trailer/MEGC depending on site requirements.

### **Configuration 4 Multi Fill & Decant**

A solution for sites that require both automated filling and integrated decant capability across multiple trailer/MEGC connections. Several trailers can be connected to a common module and are then processed individually through controlled sequencing

**BCGA CP4** Gas supply and distribution systems

**BCGA CP41** The design, construction, maintenance and operation of filling stations dispensing gaseous fuels

**BCGA CP33** Gas supply and distribution systems. Compressed flammable gases.

**BCGA CP29** Battery-vehicles and multiple-element gas containers. Design and operation.

**EIGA Doc 15** Gaseous Hydrogen Installations

**EIGA Doc 63** Prevention of Tow-away incidents

**EIGA Doc 11** Hydrogen Vent systems for customer applications

**EIGA Doc 215** Plant Gas Leak Detection and response practices

**EIGA Doc 238** Prevention of plant Instrument and utility gas system cross contamination

**EIGA Doc 247** H2 Overview - Distribution storage applications

**EIGA Doc 250** Standard Procedures for H2 supply systems

**EIGA TB 051** H2 Interface for trailer to refuelling stations

Safety and compliance are fundamental to every IGPH hydrogen solution. Our systems are engineered in line with applicable international standards and recognised industry guidance. IGPH is an active member of the BCGA and MEGA, and we work in accordance with relevant EIGA standards, reflecting established best practice for industrial gas and hydrogen applications



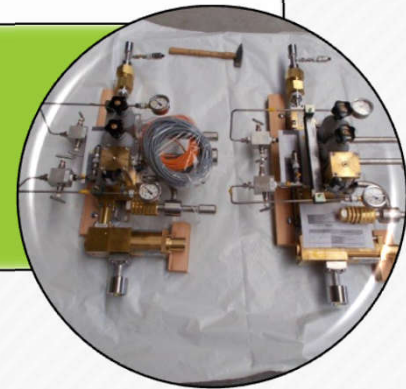
- Dedicated resource
- Offer at project
- Tailored

## Support



- Dedicated resource
- Offered early in project
- Onsite for SAT
- Strategic holding

## Spares





Projects

Cryogenic  
Equipment

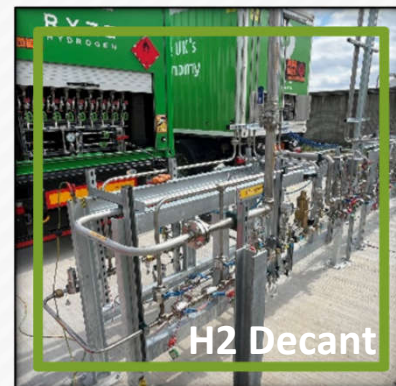
Filling  
Equipment

Hoses &  
Connectors

Refrigerant  
Equipment



**IGPH** INDUSTRIAL  
GAS  
PROJECTS  
HOUSE



## Tier 2 Gas Company

- KSA
- O2, H2 cylinder, bundle and trailer filling and refrigerant blending plant
- In operation since 2023



## Tier 1 Gas Company

- GERMANY
- 10 bay H2 trailer filling plant
- 200 & 300 bar
- EPC
- In operation since 2023



## Hydrogen Gas Company

- FINLAND
- 9 bay H2 MEGC filling plant
- 350 bar
- In operation since 2025



### OEM

- UK
- H2 Bouser filling
- 635 bar
- In operation since 2025



### Gas Supplier

- UK
- 2 x Projects
- H2 trailer decant systems
- 350 to 6 bar
- 150 to 1075 Nm3/hr
- In operation since 2024

## Tier 1 Gas Company

- SWEDEN
- H2 Bundle filling plant
- 300 bar
- In operation since 2023



## OEM

- GERMANY
- 1 Bay H2 Trailer Filling with decanting included
- 380 bar
- Commissioned in 2026



Proud to be Supporting



شركة عبدالله هاشم للغازات الصناعية المحدودة  
Abdullah Hashim Industrial Gases & Equipment Co.Ltd.



روابي المتكاملة للغاز  
RAWABI INTEGRATED GAS

- Proven Track Record in global Solutions delivery
- Experienced Team
- Gases Expertise (Operations & Projects)
- Client Partnering
- Turnkey or Part-Turnkey
- Factory Testing Methodology, 'plug & play'
- High quality, proven technology