

Modular hydrogen refueling station

Gas-to-gas series | From light to heavy duty vehicles



With about 150 hydrogen stations delivered all over the world, Air Liquide provides **global hydrogen refueling solutions** from project definition to operation and maintenance support.

Part of the **modular refueling station product line**, the station dedicated to light and medium duty vehicles can supply gaseous hydrogen at 700 or 350 bar dispensed through a safe protocol for fast refueling. The modularity of the station enables support for different layouts and types of projects with a capacity from **300 to 1,000 kg per day**.





Key benefits

- ✓ Modularity and upgradable concept for light and heavy duty vehicles
- ✓ Reliability proven by endurance test
- ✓ Can support all type of dispensers
- ✓ Simultaneous fueling through multiple fuelings positions
- ✓ Compliant with SAE J2601, MC Method, Wenger protocol

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Performances

	Small configuration GM-S-70/35	Medium configuration GM-M-70	Full buses configuration GM-L-35	Mixed configuration GM-L-70/35
 Dispenser	1 for cars + 1 for buses	2 for cars	1 for buses	1 for cars + 1 for buses
 Source	30 m ³ trailer, 300 bar	45 m ³ trailer, 300 bar	45 m ³ trailer, 300 bar	45 m ³ trailer, 300 bar
 Max vehicles in 1 hour ⁽¹⁾	9 cars ⁽³⁾	18 cars ⁽³⁾	4 buses	2 buses + 7 cars
 Daily performance ⁽²⁾	125 cars (500 kg), 6 buses & 20 cars	150 cars (600 kg)	30 buses (750 kg) within 12h	20 buses & 50 cars (500 kg + 200 kg)

⁽¹⁾ From full trailer, 3 minutes between 2 vehicles, 4 kg per car, 25 kg per buses.

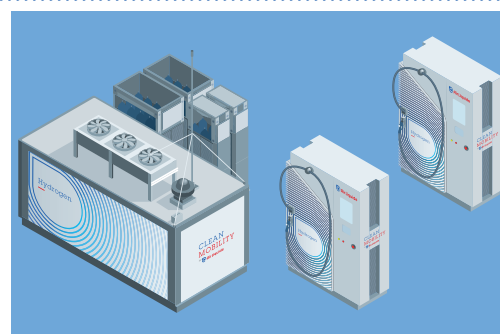
⁽²⁾ Number of vehicle with realistic daily profile, from full trailer: peak and off-peak periods for cars and bus + cars scenarios/back to back with 12 h night for 100% bus scenario.

⁽³⁾ Limitation is not due to station capacity, but to protocol speed and handling time.

Note: possibility to refuel high duty H70 truck (up to 80 kg) performance upon request.

Technical specifications

Fueling time	H70: 4.5 kg in 3.5 min H35: 25 kg in 12 min/35 kg in 16 min
Specific energy	< 2.5 kWh/kg of H ₂ (measured @120 bar), 0.47 kWh/h in standby mode
Minimum inlet pressure	30 bar
Noise	< 80 dBA at 1 m
Utilities	<ul style="list-style-type: none"> • 400 V, 3 phases, 50 Hz, breaker 200 kW • Autonomous compressed air system included with back ups as options • Nitrogen for maintenance purposes only
Safety	<ul style="list-style-type: none"> • Hydrogen/flame detection • Emergency stop buttons • Flare adapted to urban use • Tilt sensor as option
Environment	<ul style="list-style-type: none"> • Ambient operating temperature: -20°C to +45°C • Humidity: up to 95% (range extension as option)
Codes and standard	<ul style="list-style-type: none"> • CE marking – EN17127 – EN17268 • ISO 19880-1 + SAT tests certified by 3rd party (CEP) • IR communication: SAE TIR J2799 • Metrology: OIML R139 – Certification by 3rd party (e.g. LNE, PTB)
Footprint (L x W x H) / Weight	<ul style="list-style-type: none"> • Container: 5,950 x 3,000 x 4,000 mm / 20,000 kg • HP buffer: 1,170 x 602 x 2,690 mm / 2,300 kg • MP buffer: 2,022 x 1,170 x 2,690 mm / 6,790 kg
Documentation	<ul style="list-style-type: none"> • Engineering documentation for permitting • Operation and maintenance documents



Modularity

Compatible hydrogen sources

- Gas trailer and ground storage – up to 500 bar, possible source in parallel
- Pipeline or electrolyzers
- LP stage to boost performances as **option**

Dispensers

- Up to 3 dispensers per station
- Parallel refuellings possible
- Adaptable branding and colors
- A large range of point of sales supported

Vehicles and refueling protocols

- Light duty H35/H70 – up to 10 kg – SAEJ 2601
- Heavy duty H70 – more than 10 kg – SAEJ 2601
- Heavy duty H35 – 20 to 42.5 kg – “Wenger”
- In-house protocol for private station upon request

Services & maintenance support

- Preventive and corrective maintenance contract
- Technical assistance and training
- Spare parts supply
- Remote control for operation and assistance

Contacts

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