



LUXFER
GAS CYLINDERS

De-carbonising transport on the road to Net Zero – How Luxfer are innovating hydrogen fuel storage systems for a range of mobility applications



Luxfer Gas Cylinders

Over 70million cylinders globally

Leading player in the industry

Longevity in cylinder industry – founded:

- Aluminium industry in 1930s
- Composite industry in 1980s

Industry leadership and innovation

Large Global footprint

High volumes of G-Stor Pro type 3 and G-Stor Go type 4 for many years





WORLD'S LARGEST MANUFACTURER OF HIGH-PRESSURE COMPOSITE CYLINDERS

**We Are Luxfer
Gas Cylinders**

Pomona USA
Riverside USA

Calgary Alberta, Canada

Graham USA

Nottingham UK

Shanghai China

Sydney Australia

5
plants and
global distribution

- Composite operations
- Sales office
- Combined aluminium & composite operations



Vehicle Fuel System Integration

Luxfer Nottingham

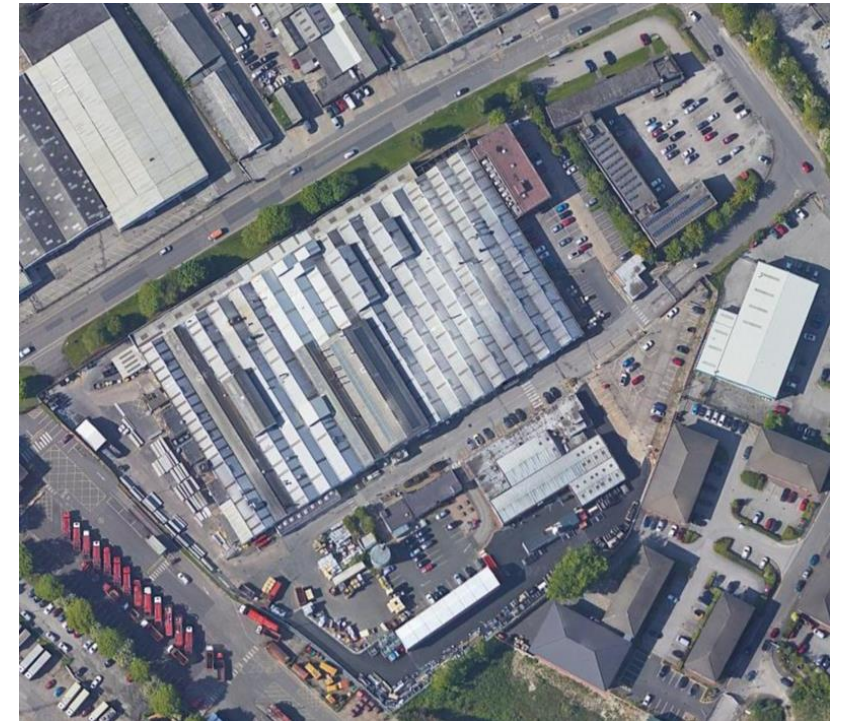
**1,800 vehicle systems per year,
40% share of for Europe and
APAC market**

Global centre of excellence for
design and assembly of vehicle fuel
systems

**International customer base
includes Hyundai, MAN, Iveco,
Scania, Hyster Yale, Renault,
CNH, Wrightbus, Van Hool...**

Pressure and leak testing of every
system before delivery

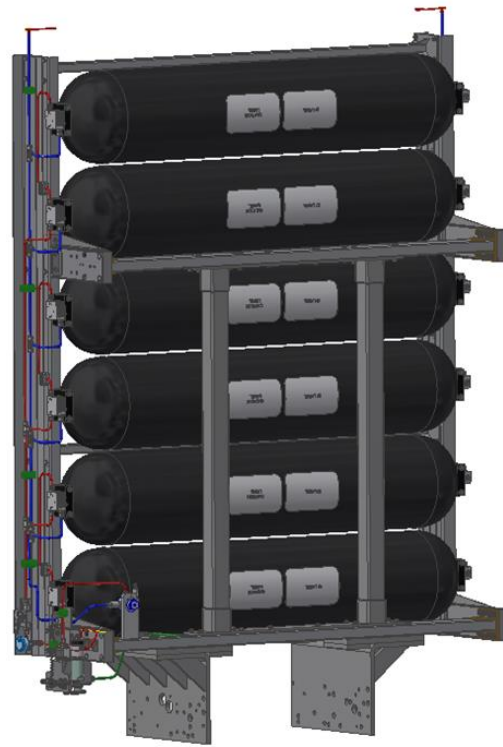
**Blast proof test facility rated up to
13,100psi (900bar)**





Luxfer Hydrogen H2 Fuel Storage Solutions on the Road

- H2 focus on Truck and Bus
- Plug and Play Ready to Fit Systems
- 25kg to c.120kg depending upon duty cycle
- 350 bar is real. >350 bar is complicated
- Type 3 fill speed v Type 4 weight



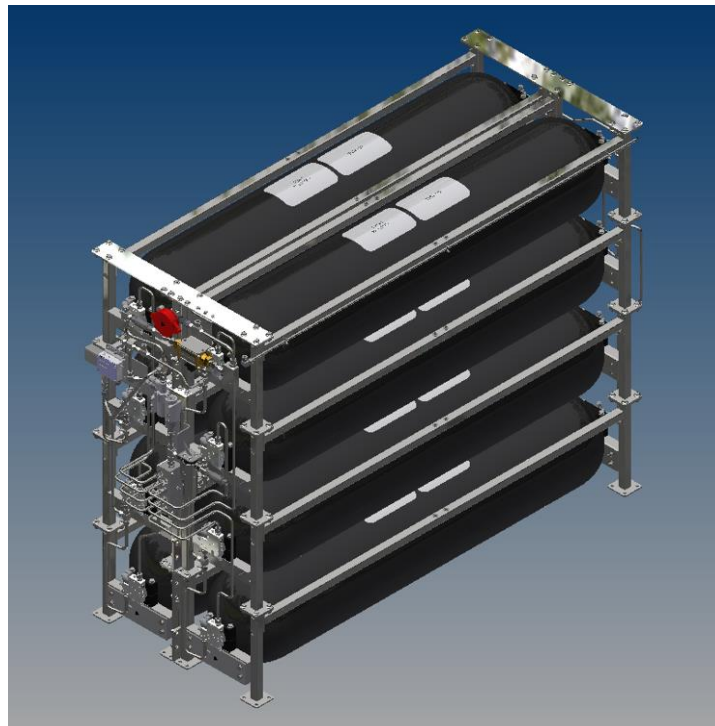
**Truck and Bus
Leaders in H2
Mobility**



Luxfer Hydrogen H2 Fuel Storage Solutions on Rail

- Significant trials and approvals in progress
- 200kg +_depending upon duty cycle
- 350 bar seems to be preferred
- Type 3 fill speed v Type 4 weight
- Large systems need infrastructure

Leading the way in Europe and North America



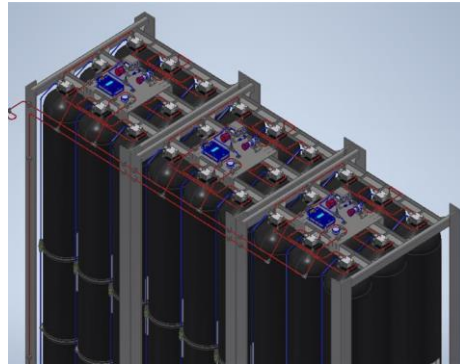


Luxfer Hydrogen H2 Fuel Storage Solutions for Specialist Vehicles

- A tough environment where space is at a premium
- Optimise using Luxfer's wide range of cylinders
- 5 to 100+ kg + depending upon duty cycle
- 350 bar is preferred. No chilling on filling.
- Operating cycle influence infrastructure solutions



Luxfer Hydrogen H2 Fuel Storage Solutions for Marine



- Focus on short duty cycle of 1-2 days
- Safer operation through standardisation & modularisation
- 5 to 450+ kg depending upon vessel size
- 350 bar is preferred. Lightweight is important
- Luxfer cylinders part of Marine classification

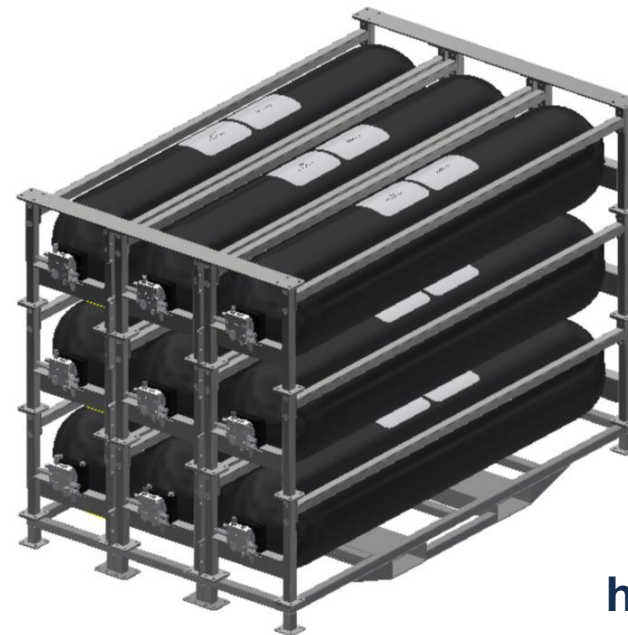


Luxfer breakthroughs on the water



Luxfer Hydrogen H2 Transport and Refuelling Solutions

- Up to 1.35T H2 on the road in the UK
- Smart system - a fully connected, merchandising asset
- 250 - 380 bar Type 3 or Type 4 – optimised for customers
- Lowest Cost of Operation or Lowest Asset Cost options
- 44kg and 70kg MCPs to be available for hard to access areas
- Build and after sales supported by Luxfer in Nottingham



Luxfer getting hydrogen moving