

**UM
OE**

ADVANCED
COMPOSITES

Hydrogen, CNG and biomethane storage and transportation solutions



www.uac.no

Delivering safe and sustainable gas storage and transportation solutions to enable the energy transition.



About UAC

UMOE Advanced Composites (UAC) is a global leader in large Type IV glass-fibre high pressure vessels and modules for storage and transportation of hydrogen, CNG and biomethane.

UAC products are used across a wide range of applications including gas transport and storage, shipping, rail and offshore.

Our advanced composites solutions balance safety, durability and cost-efficiency, helping our customers reduce emissions and improve project economics.

With over two decades of expertise in composite technology, UAC combines industry-leading expertise with state-of-the-art and sustainable manufacturing in Kristiansand Norway, and Jiaxing, China.



Applications

Our solutions enable decarbonization in industrial, maritime, mobility and offshore applications.

TRANSPORTATION & STORAGE



Onshore distribution



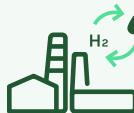
Industry



Gas refueling station



Remote & Off-grid



Power-to-X



Agriculture & Biogas

ONBOARD FUEL TANKS/CYLINDERS



Maritime



Cargo rail

OFFSHORE /CAPV



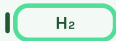
Offshore



Products

All our products are based on our Type IV, lightweight, glass fibre, high-pressure cylinders, engineered for safety, durability and reliability. Our products cover a wide range of volumes from 800 litres to 2500 litres, with pressure ratings from 200 to 450 bar.

CYLINDERS



H₂ cylinders



CNG cylinders



Biomethane cylinders



Other industrial gases

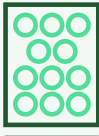


Heavy compensation air cylinders

CONTAINERS



Standard container



High Cube Container



Hook Load container

CONTAINER SIZES

Standard containers

20 ft 9 Cylinders	
40 ft 9 Cylinders	+ 9 Cylinders
45 ft 9 Cylinders	+ 9 Cylinders

High cube containers

20 ft 11 Cylinders *	
40 ft 11 Cylinders *	+ 11 Cylinders *
45 ft 11 Cylinders *	+ 11 Cylinders *

* 9 cylinders for 450 bar 20', 40' and 45' High cube containers
Specialized container sizes can be discussed

Our commitment to safety

Safety is at the core of our engineering. Decades in demanding offshore and energy sectors have shaped our uncompromising commitment to operational safety.

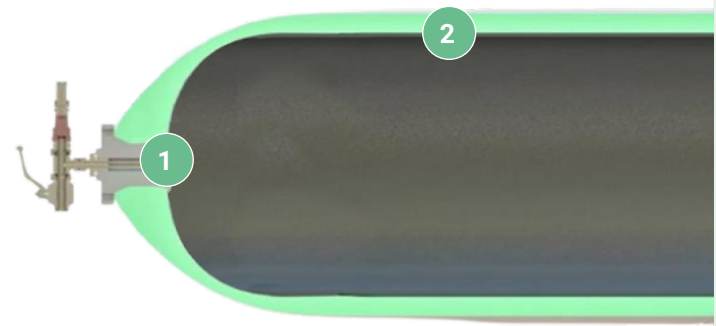
UAC cylinders are designed to meet stringent safety and regulatory requirements, offering:

- Best-in-class fire performance
- Impact resistance comparable to steel
- Exceptional durability and long-term reliability
- Leak-before-burst safety philosophy
- Zero corrosion risk



Cylinder design

1. Stainless steel leak-proof end bosses, embedded for maximum strength
 - Optional customization of manifold configurations
 - “Leak-before-burst” safety philosophy, ensuring controlled failure and enhanced operational safety
2. High-density polyethylene (HDPE) inner liner, fully protected and heavily reinforced
 - High-strength glass fibre overwrap
 - Epoxy resin matrix for structural integrity



Superior performance and cost efficiency

-40%
lower CAPEX
Compared to
Type IV

-25%
reduced OPEX
Compared to
Type I*

Long
lifespan

Lowest
TCO

Lightweight
material



* Depending on gas type/geography

UAC Advantage



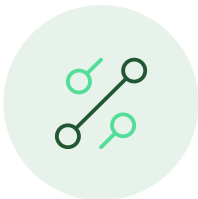
Low-cost Type IV cylinders

Lightweight glass fibre construction reduces transport weight and improves payload efficiency, enabling more cost-efficient gas logistics, a lower total cost of ownership and a cost-effective alternative to carbon fibre solutions.



No corrosion

Glass fibre composite is inherently resistant to rust, moisture, and harsh chemical exposure, eliminating corrosion-related degradation seen in steel cylinders and reducing inspection and maintenance requirements.



Composite materials

Advanced composite design provides high strength-to-weight performance, space-efficient storage, and stable operation across a wide temperature range, even in demanding environments.



Ultimate safety

Safety is delivered both by the material properties of fibre glass and by the structural design of our transportation modules. Our products are subject to rigorous fire, fatigue, stress rupture, burst, impact, and proof testing, exceeding industry safety requirements.



25+ years design life

Designed for a service life exceeding 25 years, enabling high-performance utilization, long-term operational reliability, and dependable asset performance throughout its lifecycle.



Leading technology

Proprietary design, manufacturing, and testing processes ensure consistent product quality and performance, and have a lower carbon footprint than alternative gas storage and transportation solutions.

Reducing emissions across the lifecycle

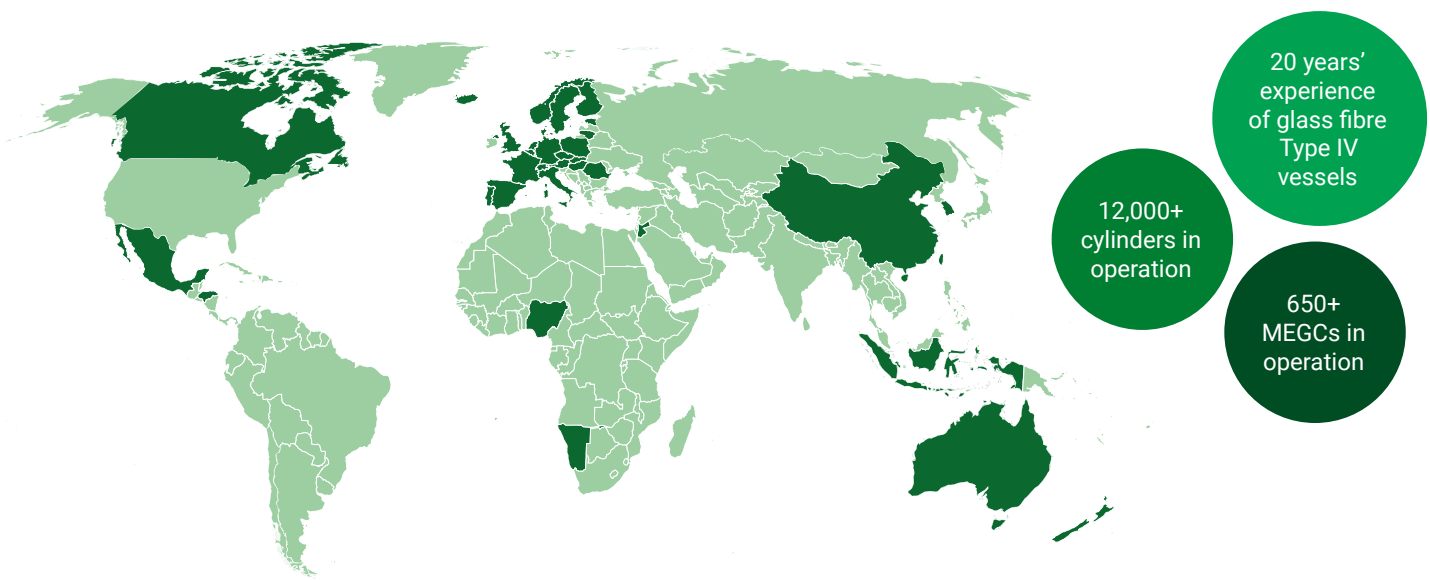
UAC’s glass fibre Type IV composite cylinders deliver a lower lifecycle carbon footprint than both steel Type I and carbon fibre Type IV alternatives.

- 50–85% lower energy use in manufacturing compared to steel or carbon fibre cylinders
- Lightweight, high-pressure design reduces emissions during transport by lowering the number of required journeys

UAC is continuously searching for stronger materials to reduce material consumption and to reduce energy use in our manufacturing process.



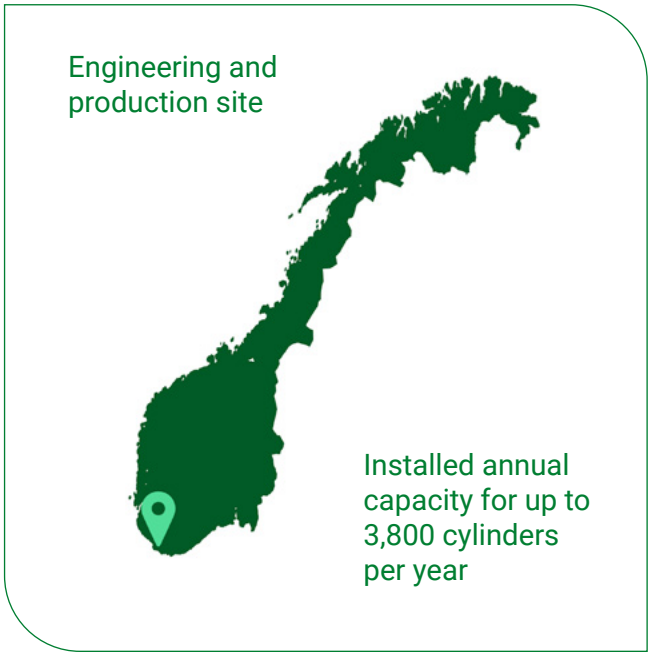
Delivering to customers in 40+ countries



Global manufacturing

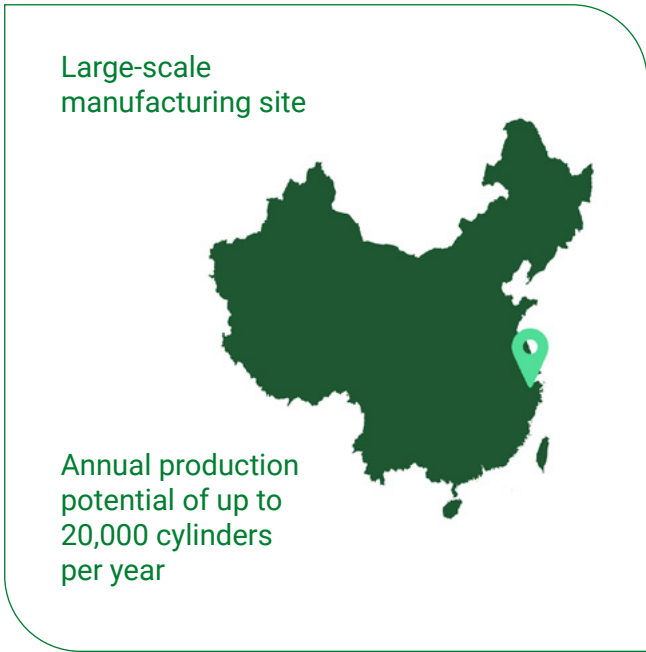
Norway

Umoe Advanced Composites AS



China

UAC Technology (Jiaxing) Co., Ltd.



Our team of industry experts in Norway and China consist of highly skilled engineers, production specialists, and professionals with multi-skilled expertise from industrial energy, shipping, oil & gas, business development and innovation sectors. We have two decades of experience in composite technology development and manufacturing.





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