

# 45' High Cube MEGC

## For transportation of CNG and Biomethane

LOWEST COST TYPE IV IN THE MARKET



**Virtual pipeline**  
Maximise payload.  
Minimise total cost  
of ownership.

Full composite cylinders



High gas-to-weight ratio



Intermodal for transport  
or stationary use



Up to 50% higher gas storage  
capacity than steel Type 1 cylinders



UMOE Advanced Composites (UAC) is the leading global supplier of large glass fibre Type IV cylinders and MEGCs for storage and transportation of hydrogen, biogas and CNG for land-based, marine and offshore applications.

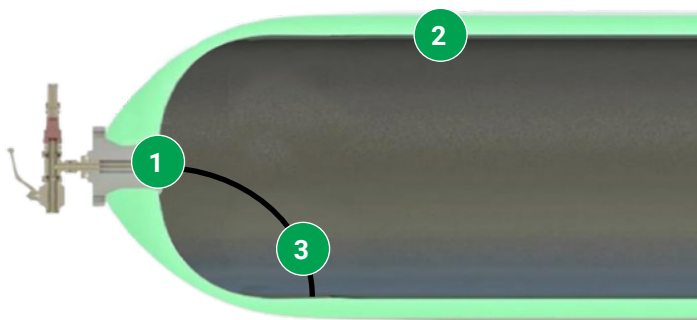
Copyright UMOE Advanced Composites © 2026. Version 1.

**UMOE**  
ADVANCED  
COMPOSITES

# Type IV glass fibre composite cylinder technology

## CYLINDER DESIGN

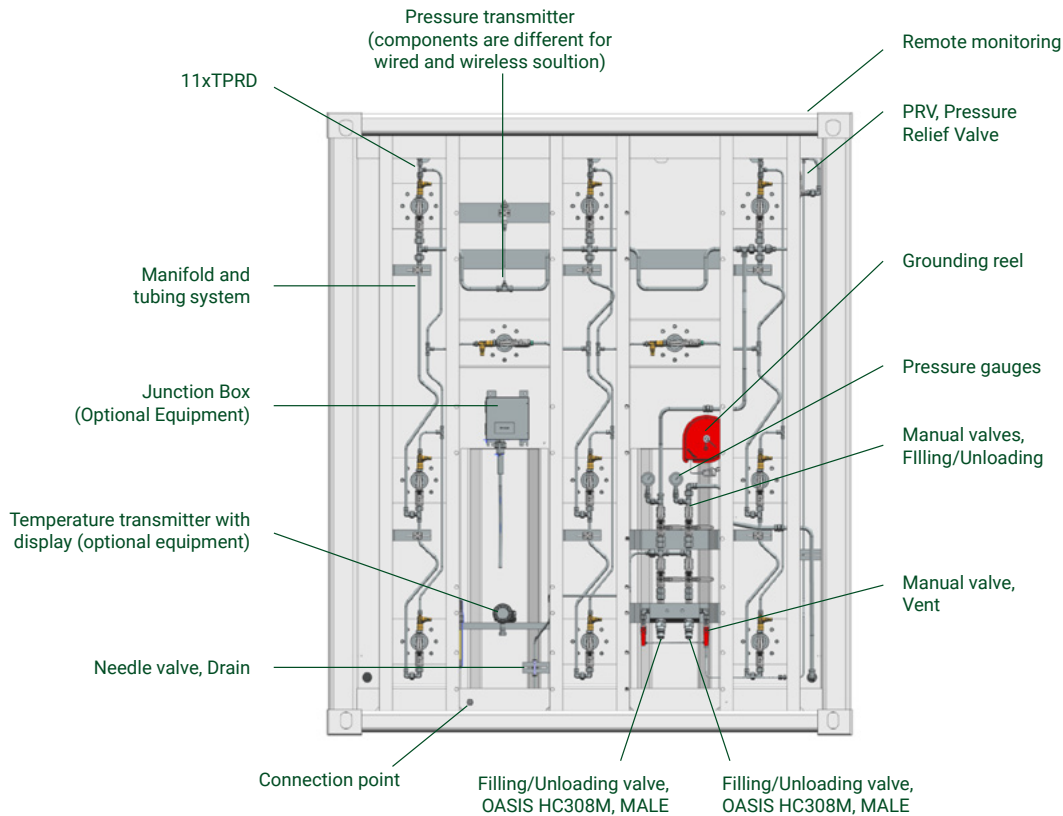
- 1** **Stainless steel (SS316) leak-proof end bosses, embedded for maximum strength**
  - Optional customization of manifold configurations
  - “Leak-before-burst” safety philosophy, ensuring controlled failure and enhanced operational safety
- 2** **High-density polyethylene (HDPE) inner liner, fully protected and heavily reinforced**
  - High-strength glass fibre overwrap
  - Epoxy resin matrix for structural integrity
- 3** **Dip tube**
  - For drainage of residuals



## CYLINDER BENEFITS

- 01. Impact resistance comparable to steel** delivering high safety margins with significantly lower weight
- 02. Best in class fire performance** exceeding stringent international safety standards
- 03. Low maintenance** with zero corrosion risk from environmental exposure, internal gas, or contaminants
- 04. Cost-effective glass fibre construction** offering a lower-cost alternative to Type IV carbon fibre cylinders
- 05. Exceptional durability and long-term reliability** even in extreme climates and demanding operating conditions





<b>Container Dimensions</b>	According to ISO 668 standard: L 13,716 m × W 2,438 m × H 2,894 m
<b>Gas Type</b>	CNG / Biomethane
<b>Nominal Working Pressure</b>	250 bar
<b>Total Gas Capacity*</b>	8,981 kg / 12,614 Nm <sup>3</sup>
<b>Maximum Allowable Working Pressure</b>	312 bar @ +65 °C
<b>Cylinder Count</b>	22 cylinders / 1,925 Litres / Total water capacity 42,350 Litres
<b>Cylinder Diameter</b>	710 mm
<b>Cylinder Length</b>	6,600 mm
<b>Container Weight (Empty)</b>	30.9 tonnes
<b>Container Weight (Full)</b>	39.9 tonnes
<b>Design Temperature</b>	-40 °C to +65 °C
<b>Certification</b>	ADR / TPED / PED / DOT / RID
<b>Production Standard</b>	EN 12245:2022
<b>Intended Use</b>	Transportation and storage of compressed gas
<b>Cylinder Construction</b>	Type IV Glass fibre cylinders
<b>C5 paint</b>	Corrosion protection

\*based on a gas density of 0.212 g/cm<sup>3</sup> at 15°C

## OPTIONAL FEATURES FOR ISO STANDARD OR HIGH CUBE

<b>Pneumatically actuated main / sections valves</b>	For externally controlled fill/discharge
<b>Manual shut down buttons front and rear side</b>	Manually shut down pneumatic valves when filling/discharging
<b>Immobilizer /Anti-tow-away</b>	Activation of trailers parking brake when charging / discharging
<b>Additional connection points</b>	More unloading/filling valves
<b>Customizable connections</b>	Preferred connections available
<b>Remote Monitoring</b>	GPS, Online access and MEGC surveillance
<b>Logo or customized text foiled on container walls</b>	Customer branding
<b>Cascade design</b>	Design option of PID

# UAC'S MEGC PORTFOLIO OVERVIEW

Container Size	UNIT	20' ISO STANDARD*	20' ISO HIGH CUBE*	40' ISO STANDARD	40' ISO HIGH CUBE	45' ISO HIGH CUBE
Number of cylinders	#	9	11	18	22	22
Cylinder volume	l	1,666	1,666	1,666	1,666	1,925
Total storage volume (wc)	l	15,000	18,326	30,000	36,652	42,350
Storage capacity (Wp 250 bar) at 15°C	kg	3,180	3,886	6,360	7,772	8,981
Storage capacity	Nm³	4,468	5,460	8,936	10,916	12,614
Height	mm	2,590	2,894	2,590	2,894	2,894
Filled Weight	kg	14,800	17,350	28,650	34,500	39,900

\* 20 foot containers available as a Hook Container



## CERTIFICATION OVERVIEW

Certification	Purpose
EN 12245:2022	International standard for composite gas cylinders, including Type IV designs
PI Mark	"Pressure Vessel for Industrial use" – indicates type approval under EN 12245:2022
Rho Mark (ρ)	For UK applications
TPED / ADR / PED	European transport compliance (Transportable Pressure Equipment Directive/ADR)
DOT-SP 21935	For US applications

### CONTACT DETAILS



UMOE Advanced Composites AS  
 Vige Havnevei 64, 4633 Kristiansand, Norway | sales@uac.no | Tel. +47 38 27 92 00

