Safe and cost-efficient storage and transportation solutions for H2

UM OE
ADVANCED COMPOSITES

Main benefits:

- Larger gas volume
- Superior safety levels
- High-strength durability
- Extended service lifetime
- Reduced cost of ownership

Hydrogen

Secure and profitable storage and transportation solutions

The combination of UAC type IV low-weight pressure vessels and the secure structural design of our fully metal containers offer increased safety and greater space utilization for on-road transportation of larger volumes of compressed hydrogen.

UAC type IV pressure vessels in fibre glass and epoxy resin materials are lightweight, robust and non-corrosive. Excellent impact and fire resistance, wide temperature tolerances, high safety levels and price-competitiveness of our solutions prove to be an intelligent alternative to carbon fibre or steel tanks.

We supply standard configurations and tailored solutions to meet specific customer requirements and regulatory standards.

The future is LIGHTER.

General Specification

General Specification	ISO Standard or High Cube	Hook load SS3021 or SFS4417
Container/MEGC Type	Steel container with composites doors with corner casting position as per ISO 668 Corrosion protection: Level C4 as per ISO 12944-2 Colour: White RAL 9003	Galvanized steel frame with aluminum box
Pressure vessel	Type IV with HDPE innerliner and composite outerlayer of high strength glassfiber and epoxy	Type IV with HDPE innerliner and composite outerlayer of high strength glassfiber and epoxy
Pressure vessel size	1666L (20', 40'), 1925L (45')	1666L
Piping material	Stainless steel	Stainless steel
Manifold connections	Customized configurations	Customized configurations
Operational temperature range	-40°C / +65°C	-40°C / +65°C
Type approval certification - Pressure vessel	EN 12245-3	EN 12245-3
Type approval certification - MEGC	EN 13807 - ADR / TPED / RID / RHO / PED	ADR / TPED

MEGC Overview

Container size	Unit	20' Hook load	20' ISO standard	20' ISO high cube	40' ISO standard	40' ISO high cube	45' ISO standard	45' ISO high cube	Remarks
Number of cylinders	#	9	9	11 (9*)	18	22 (18*)	18	22 (18*)	
Cylinder volume	l	1 666	1 666	1 666	1 666	1 666	1 925	1 925	
Total storage volume (wc)	l	15 000	15 000	18 333	30 000	36 666	34 650	42 350	
Storage capacity (Wp 250 bar)	kg	278	278	339	555	678	641	783	@15C
Storage capacity (Wp 300 bar)	kg	323	323	394	635	775	733	896	@15C
Storage capacity (Wp 350 bar)	kg	na	360	na	720	na	831	na	@15C
Storage capacity (Wp 425 bar)*	kg	na	na	420*	na	839*	na	969*	@15C
Height	mm	2739	2590	2894	2590	2894	2590	2894	

* valid for 425 bar configuration

Optional Features for ISO Standard or High Cube

Pneumatically actuated main / sections valves (closed when depressurized)	For externally controlled fill/discharge
Manual shut down buttons front and rear side	Manually shut down pneumatic valves when filling/discharging
Residual pressure valve	To protect Type IV pressure vessels against low pressure
Additional filling and/or discharge couplings	Could also be quick connectors
Pressure sensor and transmitter	For external control of pressure
Temperature sensor and transmitter	For external control of temperature
Immobilizer / Anti-Tow away	Activation of trailers parking brake when charging / discharging
CSC approved MEGC	Containers can be delivered in compliance with CSC requirements for different stacking options
Corrosion protection	Level C5 as per ISO 12944-2
MEGC painted in customized RAL code	Dark colours not recommended
Logo or customized text foiled on container walls	For customer logo/name and slogans

UMOE Advanced Composites (UAC) is the leading global supplier of large fibre glass type IV pressure vessels and modules for containment, storage and transportation of hydrogen, biogas and CNG for land-based, marine and offshore applications.

UMOE ADVANCED COMPOSITES

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