



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 pressure vessels in fibre glass and epoxy resin materials are lightweight, robust and non-corrosive. They offer excellent fatigue durability, wide temperature tolerances, increased safety and cost-efficiency, challenging traditional steel or carbon fibre alternatives.

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

MAIN BENEFITS

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

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 | 645 | 788 | 745 | 911 | @15C |
| Storage capacity (Wp 350 bar) | kg | 360 | 360 | na | 720 | na | 831 | na | @15C |
| Storage capacity (Wp 425 bar)* | kg | na | na | 438* | na | 877* | na | 1 013* | @15C |
| Height | mm | 2739 | 2590 | 2894 | 2590 | 2894 | 2590 | 2894 | |

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 CNG, biogas and hydrogen for land-based, marine and offshore applications.

Note: Modifications to specifications presented here may be made without notice.
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