



# **TRANSPORT AND STORAGE SOLUTIONS FOR COMPRESSED HYDROGEN, CNG & BIOGAS**



## ABOUT GAZNET OÜ

Gaznet OÜ is an exclusive distributor of Norwegian Multiple Element Gas Container (MEGC) in Eastern Europe, including Poland, Ukraine, and the Baltic countries. Production is made by UMOE Advanced Composites AS in Norway. Gaznet is offering Multi Element Gas Containers for Hydrogen and Compressed Natural Gas for transport and as filling solutions in add-it-on. All applications are ADR approved and inspected. The benefits of this MEGC are lightness, lifetime, extreme high flow, safety and the amount of charge and discharge that no competitor can offer. The UAC container lasts 3 times longer than the average steel container and needs spend up to 10 times less testing. From 2005 Gaznet OÜ is group of companies active in various gas industrial.

## THE PRESSURE VESSELS

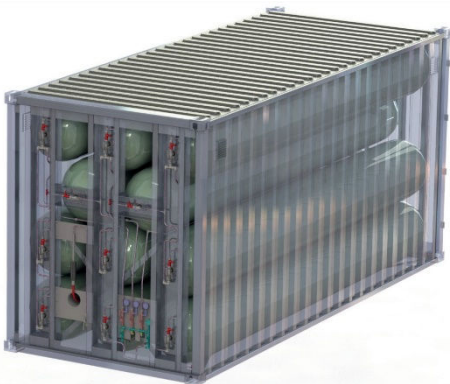
The pressure vessels are type 4 with plastic liner, stainless steel end bosses and composite structure made of high strength glass fiber and epoxy resin.

Because of the materials, there are no corrosion issues, also no galvanic corrosion risks.

The pressure vessels have been tested to a safety factor of 3.2 to 3.4. The 250-bar pressure vessel has a typical burst pressure of 840 bar or higher.

The pressure vessels are approved according to EN 12245 and perform far better than the standard requirements. This is especially important for flaw tests, impact tests and fire tests.

The pressure vessels can be delivered for working pressures of 250 to 450 bar for different volumes. Each pressure vessel can hold up to 1925 liters of water capacity for incorporation in a solution for transport or storage of Hydrogen and CNG or Biogas.





## CONTAINER VARIANTS for CNG and BIOGAS

Technical characteristics	20 ft standard	20 ft HC	40 ft standard	40 ft HC	45 ft HC type 4 cylinders
Container standard	ISO/ADR	ISO/ADR	ISO/ADR	ISO/ADR	ISO/ADR
Quantity of Cylinders	9	11	18	22	22
Volume of Cylinders	1 666	1 666	1 666	1 666	1925
Volume of Container(MEGC)L	15 000	18 333	30 000	36 666	42350
Work pressure at 15 °C, bar	250	250	250	250	250
Volume of gas at 15 °C, m <sup>3</sup>	4 587	5 504	9 174	11 212	12177
Weight of CNG at 15 °C, kg	3 256	3 908	6 513	7 961	9 020
Tare weight in kg	10 500	12 550	20 400	25 490	27 500
Gross weight in kg	13 756	16 456	26 913	33 451	27 500

## CONTAINER VARIANTS for HYDROGEN

		20 ft std	20 ft HC	40 ft std	40 ft HC	45 ft std	45 ft HC
container standard		ISO/ADR	ISO/ADR	ISO/ADR	ISO/ADR	ISO/ADR	ISO/ADR
quantity of cylinders	#	9	11	18	22	18	22
volume of cylinders	(l)	1 667	1 667	1 667	1 667	1 925	1 925
container chassis weight (non-csc)	(kg)	2 130	2 320	3 700	4 030	4 150	4 500
total storage volume	(l)	15 000	18 333	30 000	36 667	34 650	42 350
container filled weight (250 bar)	(kg)	10 778	12 889	20 995	26 168	23 691	28 383
container filled weight (300 bar)	(kg)	12 128	14 539	23 695	28 468	26 945	32 361
container filled weight (350 bar)	(kg)	13 515	16 235	26 470	31 860	30 001	36 096
container filled weight (450 bar)	(kg)	17 913	COMING SOON	35 267	COMING SOON	40 533	COMING SOON
capacity hydrogen (250 bar)	(kg)	278	339	555	678	641	783
capacity hydrogen (300 bar)	(kg)	323	394	645	788	745	911
capacity hydrogen (350 bar)	(kg)	360	440	720	880	831	1016
capacity hydrogen (450 bar)	(kg)	438	COMING SOON	877	COMING SOON	1013	COMING SOON

# SAFETY

Safety is very important when transporting and storing combustible gases under high pressure. In the products from UAC this is reflected both in the property of the pressure vessel as well as in the container design.

The containers

- have full coverage steel or aluminum side walls to protect the pressure vessels from external impact.
- are designed, calculated, and verified according to ADR requirements (regulation for transport of dangerous goods)
- All type approval tests are witnessed by DNV-GL and approved according to TPED/ADR

The pressure vessels perform 8 times better than the requirement on fire tests without any over pressure or thermal relief devices. The customer can therefore decide whether to equip the containers with these devices or not.

The pressure vessels are very suitable for stationary storage solutions up to 450 bar with different configurations depending on the volume required.

