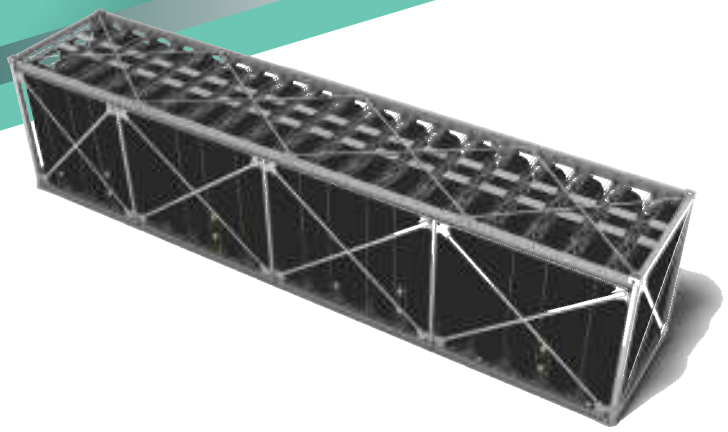
EKC

Clean Energy Solution Company

EKC MAX-STORE

CONTAINER FOR BULK TRANSPORTATION OF CNG

EKC INTERNATIONAL FZE, DUBAI



Model EKC 41571, Type 4, Multiple Element Gas Container (MEGC) manufactured and approved as per ADR standard for CNG application suitable for 40' Trailer. The container frame is CSC certified as per ISO 668 standard.

TECHNICAL SPECIFICATIONS	Model-EKC41571
MEGC SPECIFICATIONS	
Storage Pressure (Wp)	250 Bar
Total Water Capacity	41571 Liters
Total Gas Capacity** (m^3)	12815 m^3 (approx.)
Total Gas Weight (in Kg)	8910 Kg (approx.)
Number of Elements	93 Nos.

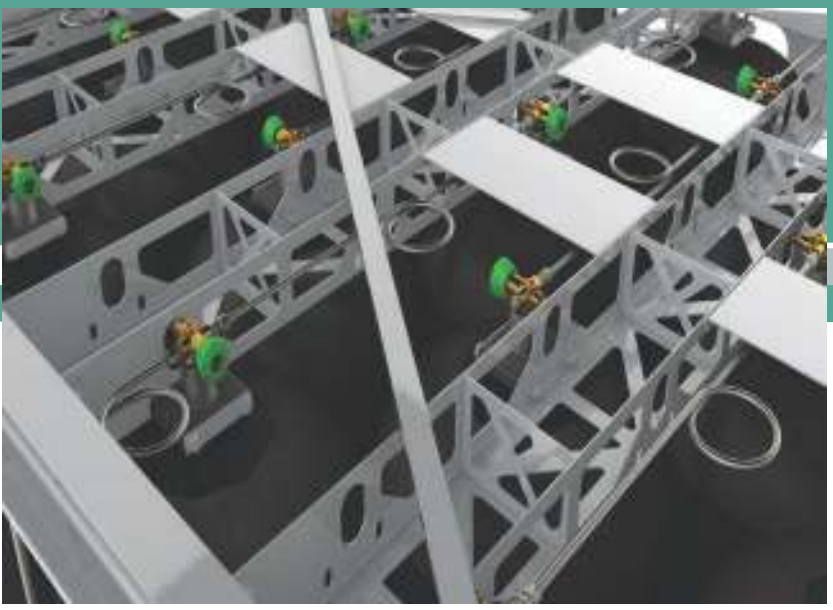
**Note: CNG capacity is based on normal condition at 20 degree Celsius temperature and atmospheric pressure at 1.01 Bar.

MEGC DIMENSIONS	
Length	12192 mm
Width	2438 mm
Height	2896 mm
Empty Weight (approx.)	~ 18.7 Tons
Total weight including gas (approx.)	~ 27.67 Ton

CYLINDER SPECIFICATIONS	
Manufacturing standard	ISO 11119-3
Type	Full Carbon Composite, Type 4
Cylinder neck	Double neck
Design pressure	250 bar (3625 PSI)
Design service life	20 years

SALIENT
FEATURES

- EKC MEGC has double neck cylinders, placed vertically and interconnected. Top side Necks of cylinders are connected to the pressure line via isolation valves having thermal and pressure safety relief devices and the bottom side necks are connected to the "drain line" as an option.
- EKC MEGC has unique design whereby we are providing a drain line facility in our system to facilitate periodical draining of the water & compressor oil residue settled at the bottom of elements in order to keep the elements & system in healthy condition and in order to utilize the maximum gas carrying capacity of the elements and also to avoid carrying dead weight in the trailer.
- All cylinders will be certified for conformity to the relevant manufacturing standard by third party certification agency like Arrowhead, U.K.
- Structural stability, manifold design, testing, inspection and certification for ADR will be carried out and approved by Third party agency (Apragaz Belgium)
- Usage of High Density Polyethylene (HDPE) Liner of the cylinder imparts highest corrosion resistance and least amount of permeability.
- Filament wound epoxy Carbon fiber composite shell is a high strength material and shows no fatigue during operation. Polyurethane protection caps are applied to the domes to increase impact and abrasion resistance.
- Our design provides high gas flow rate due to proper selection of tube diameters and gas passages in the manifold. Optimized manifolds and line for best fill and discharge rates.
- Low noise level during filling and discharging based on optimized piping and manifold design
- All joints connected with High Quality SS compression fittings, welding is not used.
- Gas filling/discharging point is provided at the rear end of the MEGC for ease of operation.
- To reduce time for filling/discharge, multiple receptacles can be provided (optional).
- Complete unit construction on standard 40' ISO 1496-3 container.
- 93 Elements assembled in a 40' CSC container having 12815 M^3 storage Capacity weighs only 18700 Kgs.



HIGH STRENGTH
LIGHT WEIGHT STRUCTURE

Cylinder assembly

Split bracket to hold boss

TRANSPORT SAFETY & REDUCED OPEX

- No corrosion issues
- No fatigue issues
- 20 years designed service Life.
- Minimum Maintenance
- Reduced Transport cost up to 55%
- Stainless steel Boss & double neck cylinder design offer:
  - Corrosion resistance
  - Fatigue resistance much higher that other Type III or Type IV cylinders with aluminum neck/bosses
  - Unique possibility of maintenance of the sealing area between boss and Liner
- Serviceable cylinder top mounting.
  - For best maintenance the mounting bracket is cut in half, valves do not need to be disassembled for changing cylinders.
  - Approved bushing which adjusts axial mismatch and alignment errors (used since more than 15 years)
- CNG market leader Oasis, Swagelok & Parker parts are used.
- Structure and Frame is designed through Finite Element Analysis and calculations compliance fulfilling all ADR Requirements. Additional FEA is done to ISO 1496-3. The estimation of fatigue strength is done through computer simulations for best performance in the long run.
- The MEGC frame is equipped with 4 bottom corner castings and 4 top corner casting for connection to ISO standard chassis and container crane or reach stacker.
- Suitable for sea transportation with CSC standard for maritime containers, CSC plate is fixed on the container.
- The container frame and structural parts are made of High strength steel S355 or better.
- Epoxy Primer and Polyurethane to coat for steel protection.
- Valves and piping are protected by perforated sheet covering.
- Container sides are covered by PU painted louvered metal sheets.
- Each cylinder is equipped with a manual isolation valve having Pressure and Thermal safety relief devices.
- Elastomer ring at bottom of cylinder and frame to absorb shocks and vibrations.

Cylinder valve

Cylinder boss

Cylinder bottom plug

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