MAHYTEC H2 tank
500 Bar

Multiple Element Gas Container (MEGC)

Solution for Hydrogen Logistic

HDS Multimodal Container 20ft

To meet the cost challenge of green hydrogen, the best solution is to centralise its production.
The HDS container aims to facilitate the transport and use of hydrogen for applications such as vehicle dispensers or power generation on board ships.

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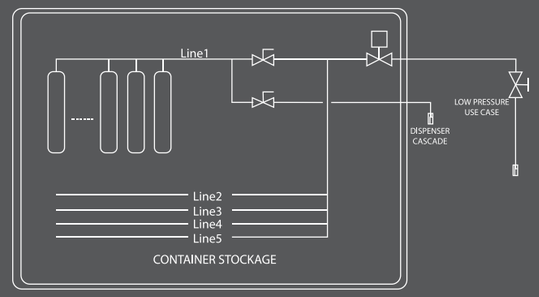
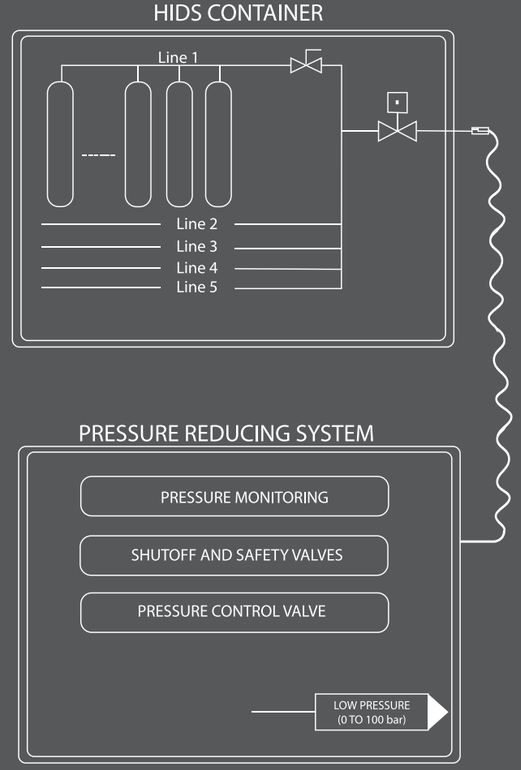
Conteneur HDS

General P&I Diagram



Use of low pressure hydrogen

- An external pressure reduction system can be supplied
- Safety functions in one junction box



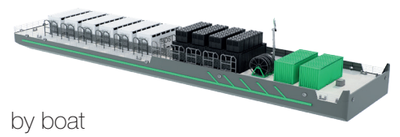
Use cases

Hydrogen transport

Multiple Element Gas Container for transport:

- by road (ADR)
- by rail (RID)
- by ship (IMDG)
- by boat (ADN)

by train



by boat

by road

Use of hydrogen as fuel for stationary fuel cells

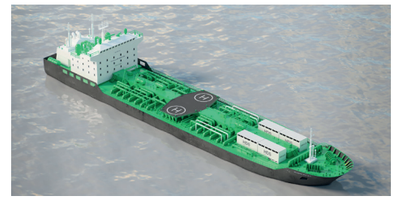
- Remote sites can be supplied with H2
- Low noise and zero emission genset

Use of hydrogen with dispenser for vehicles

- High hydrogen availability for filling 350 bar vehicles, partial filling of 700 bar vehicles
- No compressor required

Use of hydrogen as on-board fuel

- Designed to integrate IGF ships
- No need for dispenser as additional harbor facility
- Container can be loaded on board



Key Features

- High Density Storage container
- Maximum filling pressure of 500 bar
- Compact solution thanks to type IV tanks
- The mass ratio (mass of H2 / total mass) 4 times higher than that of a standard CGEM with type 1 tanks.
- The MEGC contains 450 kg of compressed H2
- Multimodal MEGC
- Marine design
- ISO668 dimensions

Detailed Features

- Stationary storage: maximum pressure of 500 bar at 15°C
- Standard dimensions iso 20ft HC: 6058 x 2438 x 2896 mm
- Total weight < 17 tons
- Can be used with 1 main outlet or 5 independent outlets
- Automatic valve for specific safety purposes
- Quick couplings for fast and safe connexion
- Pressure and temperature monitoring
- Gas detection provided (fire and ambient H2)

Filling the container

Filling method	Time
Cooled gas injection (-40 to -20°C)	2 to 3 hours
Without cooling Exemple at 25°C (ambient) with a gas at 30°C	3 to 8 hours 5 hours and 40 minutes

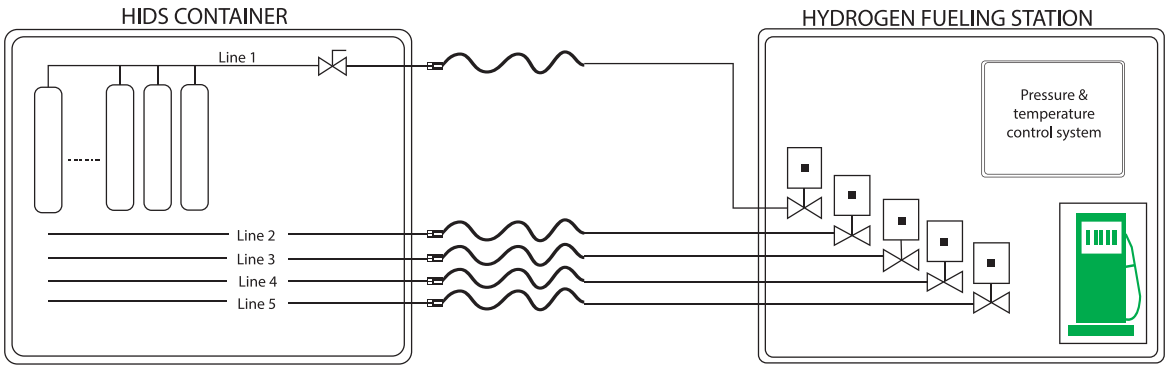
Type IV H2 tank 250L

H2 Fueling Station

Features

- Cost effective solution and excellent availability
- No compressor, no buffer tank
- Low cost maintenance
- 65% of the hydrogen available for filling 350 bar vehicles
- Partial filling of 700 bar vehicles
- Filling according to SAEJ 2601
- With cooling (SAEJ standards) or without cooling
- Typical filling time
- 3 to 10 min for light vehicles with gas cooling
- 4 to 50 min for heavy vehicles
- Daily rate : 0 to 600 kg/day distributed
- IR Connexion for communication vehicle/dispenser

P&I Diagram: container coupled to cascade dispenser



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