

SOLID HYDROGEN STORAGE

The solution for decarbonisation & net zero 2050

MHYT: METAL HYDRIDE TANK

Applications:



Off-road



Maritime



Railway



Large-capacity
storage



Industrial
decarbonisation



Decarbonisation
of buildings



Highlights:



High safety:
pressure at
10 bar



Room temperature:
20 °C



Modular design:
up to
2.5 m



Capacity:
up to
1.415 kg

KEY ADVANTAGES



Cost-Effective Infrastructure:
No cryogenic or high-pressure
systems (CAPEX / OPEX)

System Efficiency:
~40% system efficiency gain
vs compressed gas at 700 bar



Very low maintenance costs
vs compress gas (no compressor)

No heating costs
of our metal hydrides



High Volumetric Density

No ATEX:
No leaks
< 0.2g / year / tank



Infinitely recyclable

Service life:
10 000 cycles



No rare earth

Loading time with cooling:
< 20 min



MODULAR TANK:



SPECIFICATIONS FOR 1 KG H2 WITH COOLING

Weight:	85 kg
Volume:	Ext - 30 L / Int - 18 L
Dimensions:	L = 1850 / d = 140 mm
Operating temperature:	From -16°C to 80°C
Storage temperature:	From -40°C to 100°C
Equilibrium pressure:	Customizable features
Loading pressure:	Max. 50 bar

Loading time:	< 20 min
Tank material:	Aluminum alloy
Service life:	10 000 cycles
Product capacity:	+/- 7%
H2 input flow rate:	50 g/min
H2 output flow rate:	22 g/min

HYDROGEN STORAGE COMPARISON

Feature	Compressed Gas	Liquid Hydrogen	Mincatec Energy Solid Storage
Pressure	350–700 bar	Around 1 bar	3 / 10 / 13 or 20 bar
Temperature	Ambient	-253°C	Ambient
Safety	High risk	High risk	Very safe
Energy Density	Low	High	Medium
Maintenance	High	High	Low
Regulatory Complexity	Very high	High	Low
Recyclability	Moderate	Low	High

WITH MINCATEC ENERGY, YOUR HYDROGEN IS ROCK-SOLID!



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