



A new concept filling station for combined Electrofuels and Electric Vehicle Charging with integrated fuel production system operating on renewable energy

The SUNTHETICS Electrofuel station is based on a novel patented fuel synthesis process that produce Hydrogen gas and Methanol fuel.

The system utilize CO2 captured from the air with regular tap water to produce a clean renewable and biodegradable fuel. The unit contains an integrated MEOH reactor that produce Electrofuel with seasonal energy storage capacity.

It is self-sourced in a circular system energized by an on-site solar panel park with optional grid power connection.

The unit provides both off-grid power and optional on-grid power balancing for renewables.

The SUNTHETICS Electrofuel station make hydrogen and e-methanol available to the general public and at the same time contribute to fill the demand gap of accessible EV-charging sites.

The SUNTHETICS Electrofuel station concept is designed to be fully operational even unmanned. The station is remotely controlled and maintained via wifi and 5G.

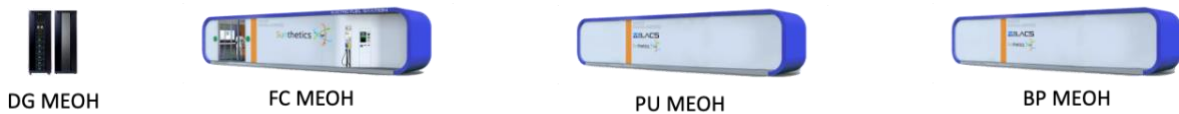
It is possible to make bigger capacity configurations to achieve a higher production volume with a larger solar panel or by connecting several MEOH units in parallel to enable MW sized systems.

Functions:

- **Electrofuels**
 - Hydrogen ISO197
 - Methanol ISO6583
 - Methanol/Bio-gasoline EN228
- EV charging electric power
- Grid balance power via batteries and fuel cells and steam expanders
- Solar power inverter system for off-grid and on-grid applications
- Remote control

STATION MODEL	DG MEOH	FC MEOH	PU MEOH	BP MEOH
Inverter peak power, kW	35	250	500	1000
Electrolyser power, kW	12	96	480	96
Methanol reactor power, kW	12	95	480	96
Hydrogen storage, kg	3,6	30	144	30
Methanol tank, m3	4	36	external	36
Methanol energy, MWh	19	173	variable	173
Battery power, kW	60	400	100	1000
Battery energy, kWh	60	400	100	1000
Water consumption, Liter/Day	32	256	896	256
CO2 consumption, kg/day	16	128	448	128
Integrated shop/office area	NA	Option	NA	NA
Oil products dispenser	Option	Option	NA	NA
CCTV motion sensor and recording	Option	Option	Option	Option
Auto fire fighting system	Included	Included	Included	Included
Payment method	Option	NA	NA	NA
Size L/D/H (m)	12x3x2,6	12x3x2,6	12x3x2,6	12x3x2,6

(Note: Technical data are preliminary and may be subject to change)



DG=Decentralized Generation, FC=Fueling Station, PU=Production Unit, BP=Balancing Power