

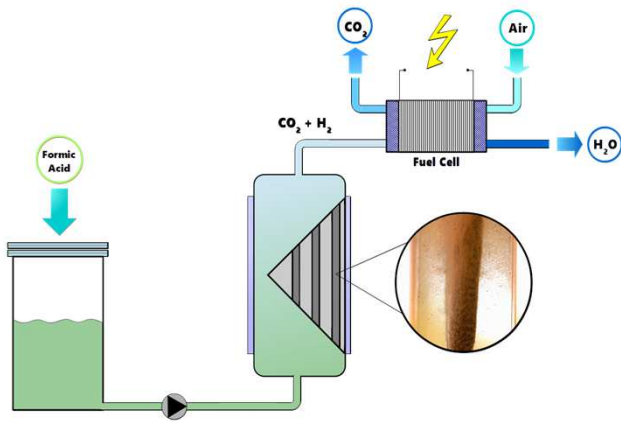
HYFORM

hydrogen production from formic acid (FA)



The catalytic reformer has been developed for on-demand hydrogen production.

The reformer (a H₂ source) can be coupled with a commercial fuel cell.



SPECIFICATIONS

- ✓ Stable performance - during 1000 hours
- ✓ Fast reaction
- ✓ Reactor volume: 1-2 L/kW_e
- ✓ Low CO: <3 ppm
- ✓ Pressure: 1 to 900bar
- ✓ Operation temperatures: 40°-90°C.

APPLICATIONS

- ✓ Fuel cell based electricity or backup power generators (both stationary and mobile).
- ✓ Transportation: bikes, cars, buses etc.
- ✓ High pressure Hydrogen production and delivery

AVAILABILITY

Different catalysts and reformers available upon application.
Engineering team available for application-specific developments.

FORMIC ACID AS FUEL ADVANTAGES

Liquid at ambient conditions: → easy and cost effective to transport, to store and to handle.

High capacity Liquid Organic Hydrogen Carrier:

- H₂ content up to 53 kg/m³
- H₂ content up to 600 Nm³/m³

FA allows long-term energy storage and fast refuelling (vs batteries slow recharging).

Low volatility, non-explosive fuel.

Common chemical compound available worldwide.

It can be produced from renewable sources.

REFORMER ADVANTAGES

Low cost H₂ source, suitable for both PEMFC and SOFC.

Allows the use of diluted (50-100wt.%) FA for H₂ production in a continuous mode.

The catalyst can be shaped into various compact geometries, optimized for specific flow conditions.

No Sulfur.

Boost in process simplicity and safety.

Possibility to split and capture CO₂ before Fuel Cell.