



# SRFC - Self Recharging Fuel Cell

Renewable Energy Storage through cost effective Hydrogen Production on-site

## Powered By Nature

SRFC is designed to be a logistics-free backup power solution, powered by renewables, that eliminates the need for on-site refuelling and maintenance visits, normally required for traditional power solutions.

SRFC completely removes the logistic issues relating to using fossil fuel-based generators in remote locations. The AEM electrolyzers produce clean and dry hydrogen, directly compressed to 35 Bar and combines the benefits of cost-efficient alkaline electrolysis with those of the flexible (polymer electrolyte membrane) PEM. With a capacity of up to 10m<sup>3</sup> litres of hydrogen per hour, the rack mountable Electrolysers are ideally suited for on-site hydrogen generation to store surplus energy for power applications.

With Hydrogen Fuel Cell power output options ranging from 1kW, 2.5kW, 4kW to 20kW per cabinet, the SRFC is the ideal Long-Term energy Storage (LTS) for any off-grid or micro grid application. The SRFC requires no air conditioning, can be deployed in outdoor IP55 cabinets and is pre-installed with SDEMS, an AI based control system, which manages and optimizes energy production, energy storage and loads.

### Hydrogen production

500 NL/hr or 0.5 Nm<sup>3</sup>/hr

### High Efficiency

4.8 kWh for 1 Nm<sup>3</sup> of H<sub>2</sub>

### Output Pressure

35 bar

### Hydrogen Purity

99.95% - 99.999%

### Power Output

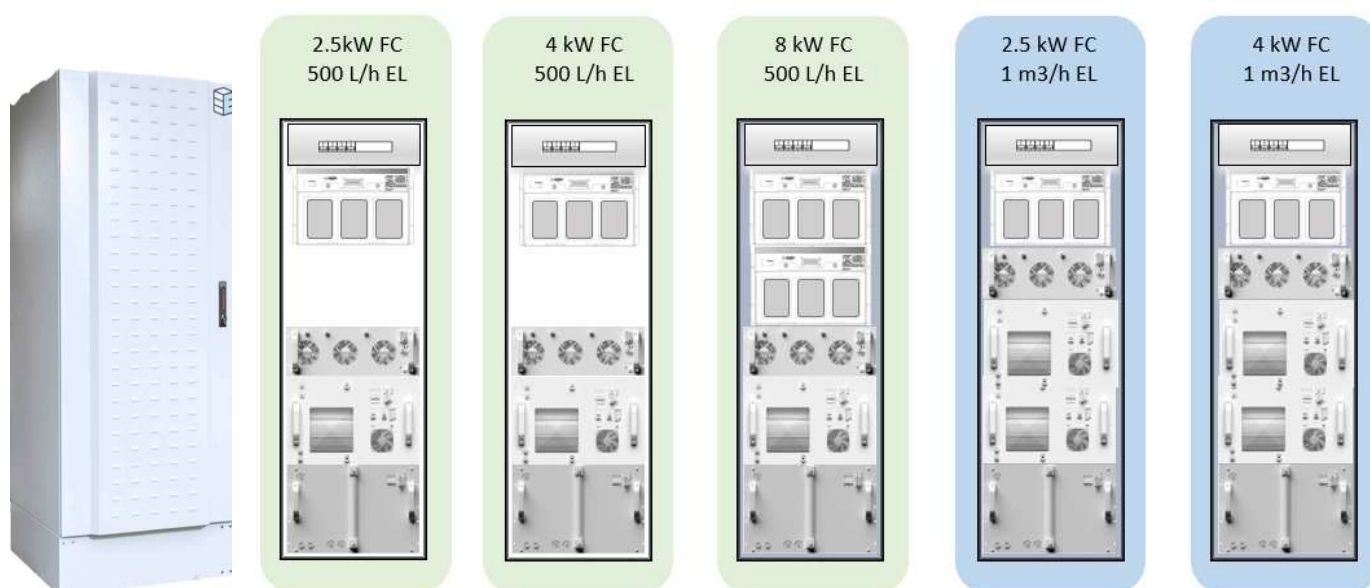
2 kW to 20kWp per Cabinet

### Hydrogen Storage

50kWh, 75kWh, 240kWh in expandable modules.



## System Configurations



	0.5m3 per hour H2 Production			1m3 per hour H2 Production	
Configuration	2.5kW-0.5m3/h	4kW-0.5m3/h	8kW-0.5m3/h	2.5kW-1m3/h	4kW-1m3/h
Power Output (Charging)	2.5kW @ 48V or 1.92kW @ 24V	4kW @ 48V or 2.88kW @ 24V	8kW @ 48V or 5.76kW @ 24V	2.5kW @ 48V or 1.92kW @ 24V	4kW @ 48V or 2.88kW @ 24V
Rated Current	52A @ 48V or 80A @ 24V	83A @ 48V or 120A @ 24V	166A @ 48V or 240A @ 24V	52A @ 48V or 80A @ 24V	83A @ 48V or 120A @ 24V
H2 Cons.	Less than 70g per kWh				
Emissions	Water Vapor				
Operation	Altitude 0 – 4000m   Ambient Temp +5°C to +40°C   Humidity 10 to 90%				
H2 Production (Storage)	500 NL/hr 1.0785 kg/24 hr	500 NL/hr 1.0785 kg/24 hr	500 NL/hr 1.0785 kg/24 hr	1000 NL/hr 2.157 kg/24 hr	1000 NL/hr 2.157 kg/24 hr
Power Cons.	2.2 kW	2.2 kW	2.2 kW	4.4 kW	4.4 kW
Standby Cons.	15W	15W	15W	30 W	30 W
Water Cons.	0.4 L/h	0.4 L/h	0.4 L/h	0.8 L/h	0.8 L/h
Output Press.	35 Bar				
H2 Purity	~ 99.9% (Impurities: ~1000 ppm H2O, < 1 ppm of any N2/O2/Ar/CO/CO2)				
With Dryer	> 99.999% (Impurities: < 1 ppm of any H2O/N2/O2/Ar/CO/CO2)				
Water purity	< 20 µS/cm (at 25°C)				

## Hydrogen Storage

1m3 Steel Vessel	1.5m3 Steel Vessel	12 Magazine Cluster	Super Cap.
35m3 / 50kWh	52.5m3 / 75kWh	126m3 / 180kWh	3.55 kWh Module
			7.1 kWh Module