

EH Power Block

3 MW Fuel Cell Container

System Configuration

System Power [MW]	3.0* * Power at BoL (beginning of life)
Configuration	12 × 250 kW FC modules
Container	40-ft standard ISO container (single unit)
Service Access	Central walkway - all main components technician-accessible
Modularity	Scalable / combinable into multi-MW blocks (e.g. N+1 genset arrays)
Standards	IEC 62282

Electrical Specifications

Container Power [kW]	3,000
System peak efficiency [%]	57
System Power [kW]	250 per module × 12
Voltage after DC/DC [V]	800 (750 - 900 on demand)
Power Electronics	Integrated DC/DC per system; DC/AC inverter at container level optional
Dynamic Response	~5 - 10% of rated output per second (follows load changes within ~30 s)
Target lifetime [hours]	20,000 (influenced by operating conditions, load cycles, H2 purity)

Cathode Line (Air)

Requirements	Fresh air supply (no chemical, salt or particle contamination)
	Depleted air extraction / ventilation
	Drainage for condensed water

Mechanical Specifications

Enclosure	40-ft standard ISO container (single unit) - exact external dimensions per selected container
Module dimensions [mm]	1,155(W) × 785(L) × 1,700 (H) (per 250 kW module)
System weight [kg]	1,100 (per 250 kW module)
Container weight	Configuration dependent (BoP-driven)

Anode Line (Hydrogen Supply)

Connections	Swagelok standard fittings or welded pipes
Inlet pressure [barg]	16-18
Quality	ISO 14687:2019 grade D with H2 purity > 99.995%
Fuel flexibility	Pressurised gaseous, cylinders or on-demand supply via natural-gas reformer (SMR)

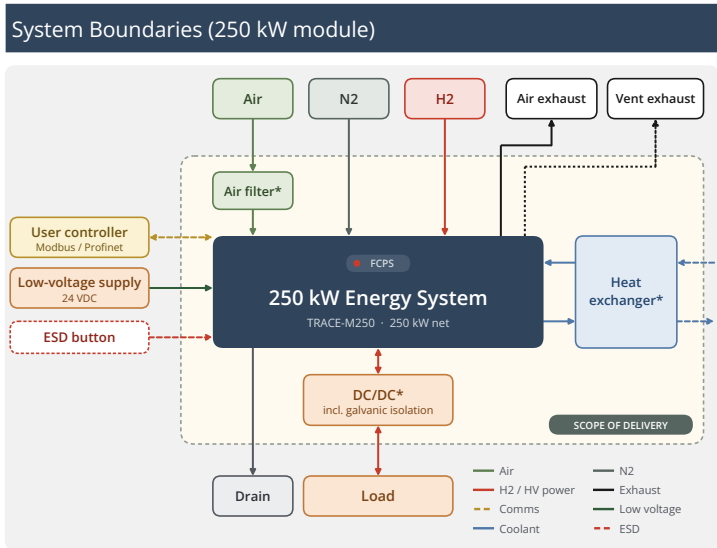
Cooling Line

Coolant	DI water and glycol (fuel cell specific)
T _{IN} [°C]	5 – 50
T _{OUT} [°C]	65 (max)
Heat recovery (Optional)	Liquid-to-liquid HEX; up to 20 – 30 % higher total CHP efficiency

Balance of Plant (Containerised)	
Power conversion	Standard conversion is DC/DC and optionality to go to DC/AC + auxiliary converters
Thermal management	Heat-exchanger unit/air-cooled rejection
Air handling	Air filtration, ventilation, air-conditioning (per ambient)
Start-up	Battery pack for fast start < 1 min (use-case dependent)
Control	Client control interface + FC system internal controllers

Highlights

- Turnkey containerised solution - DC/DC converters, thermal management, air handling and controls included
- 12 × 250 kW modules per 40-ft container
- Online monitoring of the system
- Fuel-flexible: natural gas with integrated reformer, pressurised hydrogen



Other Interfaces & Environment	
Communication	Modbus or Profinet (other protocols possible)
Inside Container Temperature [°C]	0 – 45 (air-conditioned)
Emissions	Zero-emission - electricity, water and heat only

