



The EFOY H₂Cabinet X-Series

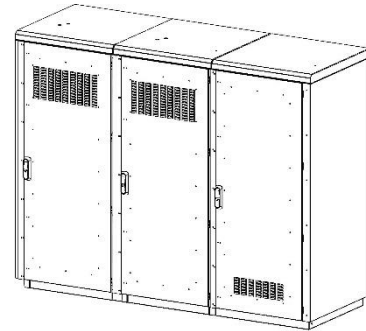
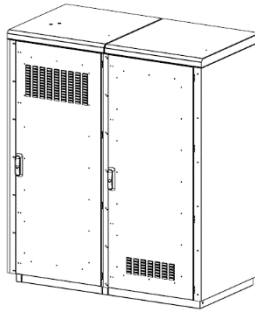
Our EFOY Hydrogen Energy Solutions for outdoor installation come as a fully integrated cabinet solutions. Depending on the customer's needs, we provide set-ups for stand-alone power supply, hybrid solutions for PV integration or total UPS-systems.

Made for your outdoor application: the X-Series.

| Configuration | EFOY H ₂ Cabinet X2.5 | EFOY H ₂ Cabinet X5.0 |
|----------------------------------|---|---|
| Fuel Cell Output Power | 2.5 kW | 5.0 kW |
| Fuel Cell(s) | EFOY Hydrogen Fuel Cell 2.5 (1 unit) | EFOY Hydrogen Fuel Cell 2.5 (2 units) |
| Controller | EFOY Hydrogen Controller Monitoring and control of the EFOY Hydrogen Fuel Cell(s) | |
| Power Distribution | Power distribution and protection of all components inside the cabinet | |
| System voltage | 48 V DC | |
| Output voltage | 41 - 57 V DC | |
| Compatible H ₂ source | 6 bottles ¹ , 300 bar, Hydrogen 3.0 or higher | |
| Battery installation | 48 V / 30 Ah 4 batteries of 12 V and 30 Ah in series | |
| Housing | EFOY H ₂ Cabinet X2.5 1FC-6H2-P300-39U or EFOY H ₂ Cabinet X2.5 1FC-12H2-P300-39U | EFOY H ₂ Cabinet X5.0 2FC-6H2-P300-39U or EFOY H ₂ Cabinet X5.0 2FC-12H2-P300-39U |
| Optional Configuration | <ul style="list-style-type: none"> - Remote Monitoring System - Rectifier and/or Inverter for AC power output - DC/DC module for constant DC power output - Charge controller for integration of PV-modules - Uninterruptible power supply module - Additional hydrogen storage (space for 6 extra bottles, additional hydrogen compartment, bigger cabinet dimensions) - Flexible hydrogen connection to various hydrogen storage solutions | |

The EFOY H₂Cabinet Housing

The housing of your outdoor energy solution is available in different variants, according to the number of EFOY Hydrogen Fuel Cells and the amount of hydrogen you need.



| EFOY H ₂ Cabinet variants | H ₂ Cabinet X2.5 1FC-6H2-P300-39U | H ₂ Cabinet X5.0 2FC-6H2-P300-39U | H ₂ Cabinet X2.5 1FC-12H2-P300-39U | H ₂ Cabinet X5.0 2FC-12H2-P300-39U |
|--------------------------------------|---|---|---|--|
| Coupling for Fuel Cell(s) | 1 | 2 | 1 | 2 |
| Coupling for H ₂ bottles | 6 | 6 | 12 | 12 |
| Dimensions (H x W x D) | approx. 2000 x 1720 x 944 mm | | approx. 2000 x 2580 x 944 mm | |
| Weight | 450 kg (empty cabinet) Up to 1.100 kg (fully equipped) | | 650 kg (empty cabinet) Up to 1.600 kg (fully equipped) | |
| Housing | Aluminium, powder coated, RC2 | | | |
| Temperature range | -33 °C to +45°C | | | |
| IP class | IP 54 | | | |
| Features | <ul style="list-style-type: none"> - Active ventilation and heating of the cabinet - Air supply and waste heat duct - Robust design: RC2 ready - IP 54 and F30 - Pressure sensors and blowers - Pressure reducer with pressure sensors and solenoid valve - Relaxation station with 6 connections for hydrogen bottles 3.0 or higher (300 bar)* - Documentation and maintenance plan - Built-in 19" rack: installation space for EFOY Hydrogen Fuel Cell(s), EFOY Hydrogen Controller, power distribution, power converting, batteries and further electronics | | | |



The EFOY Hydrogen Fuel Cell 2.5

The EFOY Hydrogen Fuel Cell is the centre of your energy solution: here the chemical reaction takes place and electrical energy is produced. You can equip your solution with either one or two fuel cells, according to your power demand.

EFOY Hydrogen Fuel Cell 2.5

| | |
|---------------------------|--------------------|
| Power output ² | 2.500 W |
| Nominal voltage | 48 V |
| Weight | 28.5 kg |
| Nominal consumption | 0.06 kg/kWh |
| Dimensions (L x W x H) | 536 x 483 x 311 mm |



The EFOY Hydrogen Controller

The EFOY Hydrogen Controller is the control centre your energy solution: it controls the one or two EFOY Hydrogen Fuel Cells of your energy solution and provides interfaces for external signal transmission.

EFOY Hydrogen Controller

| | |
|----------------------------------|--|
| Dimensions (L x W x H) | 446 x 483 x 133 mm |
| Weight | 7.6 kg |
| Supply voltage | 36 – 57 V DC |
| Current consumption | Max. 2 A @ 48 V basic structure |
| Connectors / external Interfaces | <ul style="list-style-type: none"> - RS 485 Interface - Ethernet - Alarm contacts - Stop signal - Rectifier voltage reduction - Heating / cooling - 24 V power supply |
| Communication / Protocols | <ul style="list-style-type: none"> - MODBUS RTU (RS 485) - Web Interface (Ethernet: Firefox 44.0 and Java SE 8) |

Hydrogen Supply

You can order your energy solution with a total of 6 connections for hydrogen bottles or with a total of 12 bottles, according to the chosen housing variant.

In both cases the hydrogen bottles will not be provided directly by SFC but by your local hydrogen supplier.



Hydrogen

| | | |
|-------------------|-----------------------------------|--------------------|
| Content | 6 x 50 l | 12 x 50 l |
| Pressure | 300 bar | |
| Connection thread | W 21.80 x 1/14 LH (DIN 477 no. 1) | |
| Weight | 480 kg (6 x 80kg) | 960 kg (12 x 80kg) |
| Nominal capacity | 108 kWh | 216 kWh |
| Autonomy @ 2.5 kW | 43.2 h | 86.4 h |
| Autonomy @ 5.0 kW | 21.6 h | 43.2 h |

¹ Hydrogen bottles are not provided by SFC Energy but can be purchased from standard hydrogen suppliers.

² The output power decreases with the operating hours, depending on the installation situation and the operating conditions. Power reduction at temperatures above +35 °C.

All technical data at test conditions of 20 °C / 68 °F
Subject to modifications and errors
Valid from 01.06.2023