Ventilation and smoke extract solutions **for data centers**

F400



- F400 smoke exhaust
- High-performance in airtightness and insulation
- Motorised hatch
- Energy efficiency

LOW ENERGY

F400



SODECA provides industrial ventilation, smoke exhaust, staircase pressurisation, indoor air quality improvement and climate control solutions using air curtains for commercial and industrial applications.



SODECA has grown by seeking the best way forward, always innovating and providing the best customer service, while respecting the environment and remaining committed to energy savings. It would therefore like to be a part of the change and focus on a sustainable model.

The environmental management system of the production plant at SODECA's headquarters is certified to **ISO 14001 by Bureau Veritas**, thereby endorsing its environmental performance and the continuous improvement resulting from measures implemented to mitigate the environmental impact of its activities. At SODECA, sustainable solutions are integrated into its business strategy by using clean energy in production, reducing emissions and working to reduce waste generation.



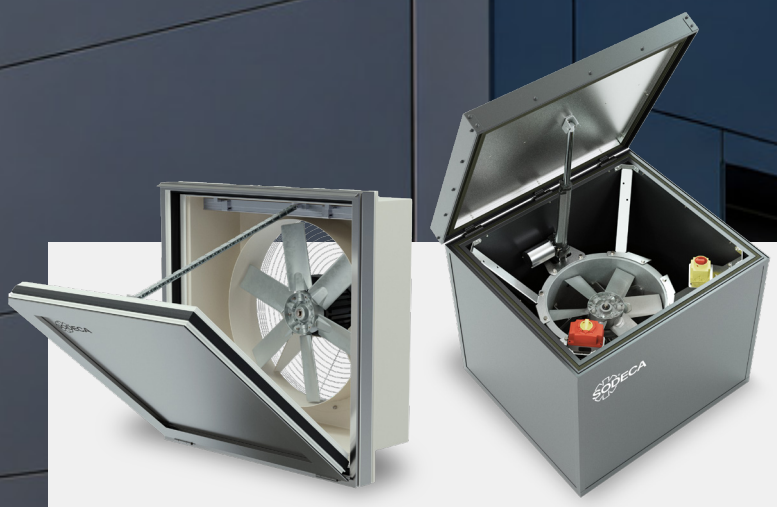
SAFETY FOR CRITICAL INFRASTRUCTURE:
DATA CENTERS AND BESS

The growth of data centers and BESS is increasing ventilation and safety requirements.

The high concentration of power generates significant thermal loads and, in the event of a fire caused by high temperatures or battery failures, facilities must be equipped to limit damage, protect critical infrastructure and help ensure service continuity.

For these demanding infrastructures, SODECA offers ventilation solutions and F400-certified smoke exhaust units, designed to protect the infrastructure and help ensure service continuity in the event of a fire.

F400



Smoke exhaust in data centers requires solutions that ensure not only safety in the event of a fire, but also a high level of airtightness during normal operation.

F400 units with motorised hatches reduce air leakage and energy losses, helping to maintain optimal conditions within the facilities. In the event of a fire, the hatches open automatically to allow smoke exhaust.

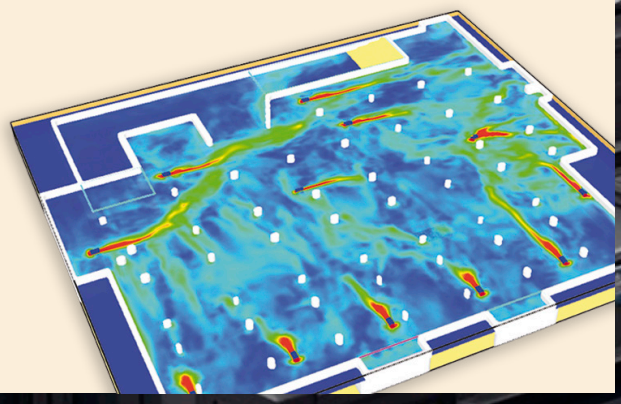
THE IMPORTANCE OF SMOKE EXHAUST AT DATA CENTERS

Ensuring safety in data centers is essential for to protect critical infrastructure and ensure service continuity in the event of any incident.

Ventilation solutions for smoke exhaust with motorised hatches extract smoke and combustion gases, limit their spread and maintain safer conditions for emergency services.

CFD simulations

CFD simulations to analyse the behaviour and spread of smoke in the event of a fire, allowing the effectiveness of the smoke exhaust system in data centers to be assessed.





In the event of a fire, smoke is one of the main risk factors in a data center, given that it reduces visibility, hampers emergency response efforts and can compromise critical equipment and infrastructure long before the flames reach other areas of the facility.

SMOKE EXHAUST SOLUTIONS
WITH MOTORISED HATCHES

The high concentration of power and the continuous operation of data centers make adequate ventilation essential to maintain optimal operating conditions.

Energy efficiency
Optimising airflow reduces energy consumption and operating costs, thereby improving the overall performance of the data center

F400 certification
Tested and certified for smoke exhaust in the event of a fire, in accordance with standard EN 12101-3



Motorised hatch
The hatch remains closed, ensuring thermal insulation, and opens automatically when the smoke extract system is activated

Airtightness
Completely airtight units to prevent thermal leakage from the interior of the building

Thermal insulation
It reduces the risk of condensation and protects the system against changes in temperature and humidity

VENTILATION
SOLUTIONS

F400-certified ventilation solutions in accordance with EN 12101-3 for daily ventilation and smoke extraction in the event of a fire in data centers.

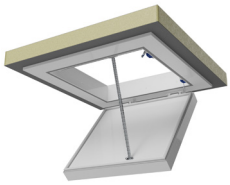
F400



THT/WALL-F

Dynamic wall mounted extractor fans with motorised hatch, for smoke exhaust in case of fires, 400 ºC/2h and 300 ºC/2h

EN 12101-3 · F400/2h · F300/2h	Certified operation at 400 °C/2h and 300 °C/2h for smoke extraction in the event of a fire.
EN 12101-3 · Opening <30 s · Wind load 200 Pa + 3 cycles	Opening tests of the motorised system and resistance to wind loads.
Tests based on EN 12101-2 · –25 °C · RE-20000	Low-temperature operation tests and motorised system reliability over 20,000 cycles.



FRIDGE/FLAP

F400 motorised flaps for smoke evacuation in cold rooms

EN 12101-3 · Combined test No. 21/32306-460	Damper and fan assembly tested for smoke extraction in the event of a fire.



HATCH/HP

Dynamic smoke vents with motorised opening, equipped with roof-mount extract fan, for smoke exhaust with high thermal efficiency enclosure

EN 12101-3 · F400/2h · F300/2h	Certified operation at 400 °C/2h and 300 °C/2h for smoke extraction in the event of a fire.
EN 12101-3 · Opening <30 s · Wind load 200 Pa + 3 cycles · SL1000	Opening tests, resistance to wind loads and opening capability under snow loads of 1,000 Pa.
Tests based on EN 12101-2 · –25 °C · RE-11000	Low-temperature operation tests and motorised system reliability over 11,000 cycles.
Tests based on EN 12207 · Class 4	High airtightness, helping to reduce air leakage and energy losses.
Tests based on EN 10140-2 · Rw 32 (–2;–4) dB	Sound insulation of the assembly, helping to reduce noise transmission.
Tests based on EN 12208 · Class E 1350	High resistance to rainwater penetration.



THT/CL

400 ºC/2h and 300 ºC/2h tubular axial extract fans with long casing and external terminal boxes

EN 12101-3 · F400/2h · F300/2h · CPR 840443	Fan certified for smoke extraction at 400 °C/2h and 300 °C/2h, with certification in accordance with the Construction Products Regulation (CPR).

RISK OF EXPLOSION
AND GAS ACCUMULATION

In addition to the risk of fire, there are hazards such as battery overheating and the potential generation of flammable gases, including hydrogen leaks in certain storage technologies.

Data centers are increasingly incorporating battery-based systems which, under certain conditions, can create potentially hazardous atmospheres.

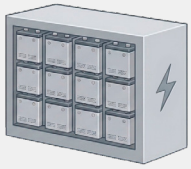
The accumulation of gases in confined spaces can create explosive atmospheres, making it essential to have ventilation and extract systems capable of ensuring effective air renewal and preventing hazardous concentrations.

Battery systems



UPS
Uninterruptible power supply

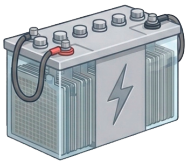
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BESS
Energy storage

Lead-acid batteries

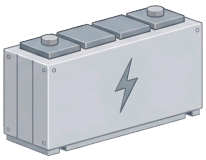
They can release **hydrogen** during charging or as a result of a fault.





Lithium-ion batteries

A **thermal runaway** can cause the release of flammable and toxic gases, increasing the risk of fire and, under certain circumstances, explosion.





VENTILATION SOLUTIONS FOR
EXPLOSIVE ATMOSPHERES

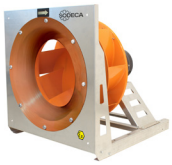
ATEX-certified ventilation solutions in accordance with EN 14986:2017 for safe use in Zone 1 (Category 2) and in compliance with Directive 2014/34/EU.



HCDF
Axial fans with square frames, ATEX II 2G certification and Ex db motors, for use with hydrogen



HC/ATEX
Wall mounted axial fans, with ATEX 2G or 2D certification and Ex db, Ex eb or Ex tb motor



PF/ATEX
High efficiency centrifugal fans (Plug Fan type), with ATEX 2G or 2D certification and Ex db, Ex eb or Ex tb motor



HCT/ATEX
Extremely robust, tubular axial fans, with ATEX 2G or 2D certification and Ex db, Ex eb or Ex tb motor



CMP/ATEX
Medium pressure centrifugal fans fitted with forward curved impeller, ATEX 2G or 2D certification and Ex db, Ex eb or Ex tb motor



CMR/ATEX
Extremely robust, medium pressure centrifugal fans with a backward curved impeller, ATEX 2G or 2D certification and Ex db, Ex eb or Ex tb motor



THT/CL/ATEX
Long-cased tubular axial fans rated for 400 °C/2h and 300 °C/2h, with ATEX II 3G certification for Zone 2.

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