Integrated smoke control solutions

- Car parks
- Staircases
- Firefighting lobbies
- Evacuation routes

EN-12101-3
Powered smoke and heat exhaust ventilators for use in Construction Works

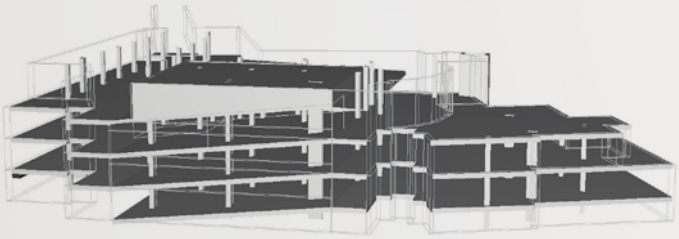
SODECA

SODECA offers solutions in industrial ventilation, smoke evacuation, staircase pressurisation, tunnel ventilation and indoor air quality improvement.

SODECA has grown looking for the best way forward, always innovating and offering the best customer service, respecting the environment and committed to energy saving. For this reason SODECA wants to be part of the change and focus on a sustainable model.

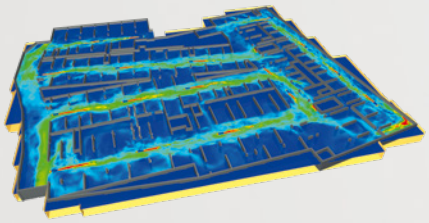
The environmental management system at SODECA's production plant is **certified ISO 14001 by Bureau Veritas**, which endorses the environmental performance and the continuous improvement resulting from the development of activities to mitigate the impact on the environment. At SODECA, sustainable solutions are integrated into the business strategy by manufacturing using clean energy, reducing emissions and working to reduce waste.

Experts in smoke control



SODECA has wide experience in the design and fabrication of equipment for ventilation and smoke exhaust in car parks.

Our projects department distinguishes itself from other companies by offering project design services and best-practise advice. It has specialist technicians who can deliver a comprehensive technical study, including sizing of equipment and required plant space.



They are experienced users of advanced Computational Fluid Dynamics (CFD) software, which they use to validate design parameters and simulate values such as smoke behaviour, temperature, visibility, air velocities and CO concentration.

Comprehensive **solutions**

SODECA adapts to the needs of each client, offering comprehensive ventilation and smoke control solutions:

— **CAR PARK VENTILATION.**

— **PRESSURISATION FOR STAIRCASES AND ESCAPE ROUTES.**

— **SMOKE EXTRACT CONTROL SYSTEMS.**

In addition, SODECA **offers the option of testing installations using real** (hot) smoke tests.

Ventilations for **car parks**

In modern buildings, car parks are now another feature of the building architecture. In many cases, they are the first space visitors enter in buildings such as shopping centres, entertainment complexes, offices and passenger transport hubs.

Correct car park ventilation plays an important role in the first impressions of a visitor. For this reason, they must be designed to satisfy the highest environmental quality standards. In other words, the lowest possible concentrations of contaminant gases must be achieved, whilst at the same time, eliminating foul odours.

But these are not the only factors. A high degree of safety must be guaranteed in the event of fire and car park ventilation is essential for providing adequate conditions for evacuation of occupants and to aid fire-fighting operations.

VISIBILITY
Improved visibility in the fire zone

AIR
Supply of fresh air to reduce smoke toxicity

TEMPERATURE
Reduction of air temperature in the fire zone

Jet fan smoke control system

Jet fan smoke control systems are considered the most suitable ventilation solution for large, unobstructed spaces such as car parks and tunnels.

Installing this type of fan reduces the need to install air supply and extract ducts, improving visibility in car parks and increasing available clearance height. In the event of fire, the jet fans generate an air current that pushes smoke toward extract points.

JET FANS		OTHER		
				
THT/IMP	**CI**	**THT**	**THT/HATCH**	**THT/WALL** **THT/WALL-F**
Applications				
Ventilation for contaminant gas control. Ventilation in the event of fire.	Ventilation for contaminant gas control. Ventilation in the event of fire.	Ventilation for contaminant gas control. Ventilation in the event of fire.	Ventilation for contaminant gas control. Ventilation in the event of fire.	Ventilation for contaminant gas control. Ventilation in the event of fire.
Installation				
Indoor. Below ceiling	Indoor. Below ceiling	Indoor, in ventilation shafts or plant room.	On the roof	Façade
Safety switch				
Included in L and O versions. C version on request.	Included	On request	Included	On request
2-speed fan				
Yes	Yes	1 or 2-speed versions	1 or 2-speed versions	1 or 2-speed versions
Temperature classification based on EN 12101-3				
F300 / $F400_{120}$	F300 / $F400_{120}$	F300 / $F400_{120}$	F300 / $F400_{120}$	F300 / $F400_{120}$
Version without temperature classification				
HCT/IMP	CI-CO	HCT/HGT	HCT/HATCH	WALL/DUCT
Reversible fan version				
Yes	No	Yes	Yes	Yes

Pressurisation for **staircases and escape routes**

Pressurisation control systems prevent smoke from entering escape routes by pressurising those spaces. When the system is running, if doors are opened or in the event of air leakage, the system reacts by increasing the airflow rate. This guarantees that escape routes are always free of smoke in an emergency situation.

Escape routes include corridors, staircases, lifts and lobbies.

VISIBILITY
Visibility is ensured

EVACUATION
Safe evacuation of occupants

SAFETY
Easy access for firefighters

When selecting and classifying a system for a specific project, it is necessary to consider the building use, size and evacuation instructions in the event of fire. These criteria will help determine the necessary flow rate delivered by the pressurisation equipment.

The choice of system is very important as, this will also determine flow rates depending on the class.

	FULL RANGE			ADVANCED			BASIC		
									
	KIT HATCH PDS	KIT BOXPDS SMART KIT BOXPDS SMART II	KIT BOXPDS KIT BOXPDS II	KIT BOXSMART KIT BOXSMART II	KIT BOXSMART FLAP	KIT BOXSMART EC	KIT BOXPRES PLUS KIT BOXPRES PLUS II	KIT SOBREPRESIÓN	PRESSKIT
APPLICATIONS	Staircases, passageways, lift shafts, lobbies								Lobbies
INSTALLATION	Roofs	Roofs, interiors							Only lobbies
NO/NC SELECTABLE ACTIVATION CONTACT	YES	YES	YES	YES	YES	YES	-	-	YES
OPERATES IN THE EVENT OF LOSS OF ACTIVATION SIGNAL	YES	YES	YES	YES	YES	YES	YES	-	YES
STATUS MEMORY IN THE EVENT OF A LOSS OF POWER	YES	YES	YES	YES	YES	-	-	-	YES
EQUIPMENT STATUS INDICATOR LIGHTS	YES	YES	YES	YES	YES	YES	YES	YES	YES
EQUIPMENT STATUS INFORMATION SIGNALS	YES	YES	YES	YES	YES	YES	YES	-	YES
REMOTE RESET	YES	YES	YES	YES	YES	-	-	-	YES
DAILY VENTILATION OPTION	YES	YES	YES	YES	YES	YES	-	-	-
BUILT-IN CONTROL PANEL	YES	YES	YES	YES	YES	YES	YES	-	-
CONTROL OF MULTIPLE INDEPENDENT LOBBIES	YES	YES	YES	-	-	-	-	-	-
REVERSIBLE FOR SMOKE EXTRACTION	-	YES	-	-	YES	-	-	-	-
STANDBY FAN	-	YES	YES	YES	-	-	YES	YES	-
COMPATIBLE WITH FIRE-FIGHTER CONTROL PANEL	YES	YES	YES	YES	YES	YES	YES	-	-
INLET SMOKE DETECTION	YES	YES	YES	YES	-	-	-	-	-
INLET MOTORISED HATCH CONTROL	1	3	2	1/2	1	-	-	-	-
SELF-CALIBRATION AND LEAK DETECTION	YES	YES	YES	-	-	-	-	-	-
QUICK SETUP	-	YES	-	-	-	-	-	-	-
CONNECTION TO BMS SYSTEMS	YES	YES	YES	YES	YES	YES	YES	YES	YES
TOUCH SCREEN FOR PROGRAMMING PARAMETERS	YES	YES	YES	-	-	-	-	-	YES
MENU FOR CHECKING SYSTEM COMPONENTS	YES	YES	YES	-	-	-	-	-	-
TEST SELECTOR FOR STARTING THE FAN	-	YES	-	YES	YES	YES	YES	YES	-
ALARMS MENU	YES	YES	YES	-	-	-	-	-	YES
DUAL SPACE OVERPRESSURE CONTROL	-	YES	-	-	-	-	-	-	-
CONFIGURABLE MODE TO CLOSE EXIT DOOR	-	YES	-	-	-	-	-	-	-
VENTILATION OPTION WITH ENVIRONMENTAL SENSORS	-	YES	-	-	-	-	-	-	-

Smoke extract control systems

For air supply and smoke extract systems in fires, with or without jet fans, SODECA has the **BOXPARK**, which facilitate the integration of the ventilation system with CO and fire detection alarms.

The BOXPARK is adapted to common ventilation system needs in fires, and can also be customised for large projects with the **possibility of adding modules to the system.**

We also supply fire-fighting and maintenance control panels.

Control system
BOXPARK CONTROL MASTER

	BOXPARK ADVANCED PLC	**BOXPARK ADVANCED**	**BOXPARK BASIC**
PLC with sequencing and advanced communications	**Includes PLC** with sequencing algorithm for ventilation systems (ducted or Jet fans). **MODBUS and WEB communications** for supervision and remote control	**Includes PLC** No advanced communications	**Not included** No advanced communications
Number of zones and damper control	Can manage a **single zone or multiple zones**. **Controls motorised** dampers	Can manage a **single zone or multiple zones**. **Controls motorised** dampers	Designed for a **single zone only**. Does not **manage motorised dampers**
Option to add a remote panel for firefighters	Option of remote **operation by firefighters**	Option of remote **operation by firefighters**	**Not available**

Smoke extract and **CO control systems**

For automated operation of ventilation systems, depending on the specific needs of the car park.

This equipment controls the ventilation system operation, depending on the CO concentration or through the activation from a fire detection station. It also allows day-to-day programming of the car park ventilation system.

BOXPARK

CENTRAL CO

Applications	
Automated or manual ventilation control	CO concentration control
Installation	
In plant room	In plant room
Automated operating modes	
By fire detection. By CO detection.	Standard automation. Advanced automation with power savings.
Manual operation	**Programmable activation levels**
Speed selection (high/low). Fan selection.	Three levels with digital outputs. Analogue output for variable frequency drive.
Time programming	**Programmable activation levels**
Ventilation system (high/low). Operating periods.	1, 2 or 3 zones with up to 32 sensors per zone. Independent zone management.
Connection to	
MODBUS, RTU and CAN open systems	MODBUS
Ventilation control	
By contactors. Variable frequency control.	1, 2 or 3 progressive stages. Proportional control.

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