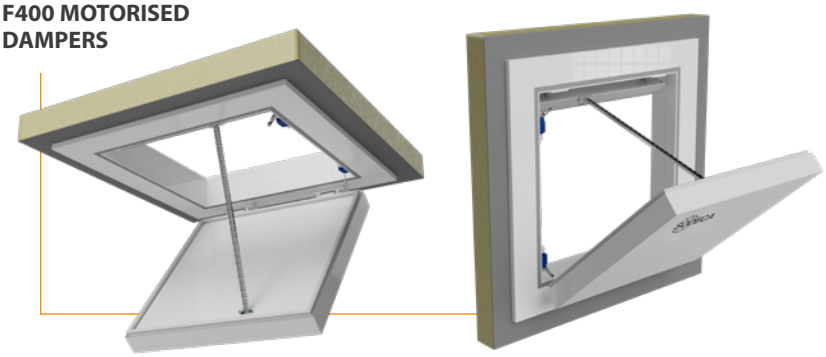
Solutions for smoke evacuation in cold rooms

F400 MOTORISED DAMPERS



F400 EXTRACTOR FANS WITH MOTORISED DAMPER

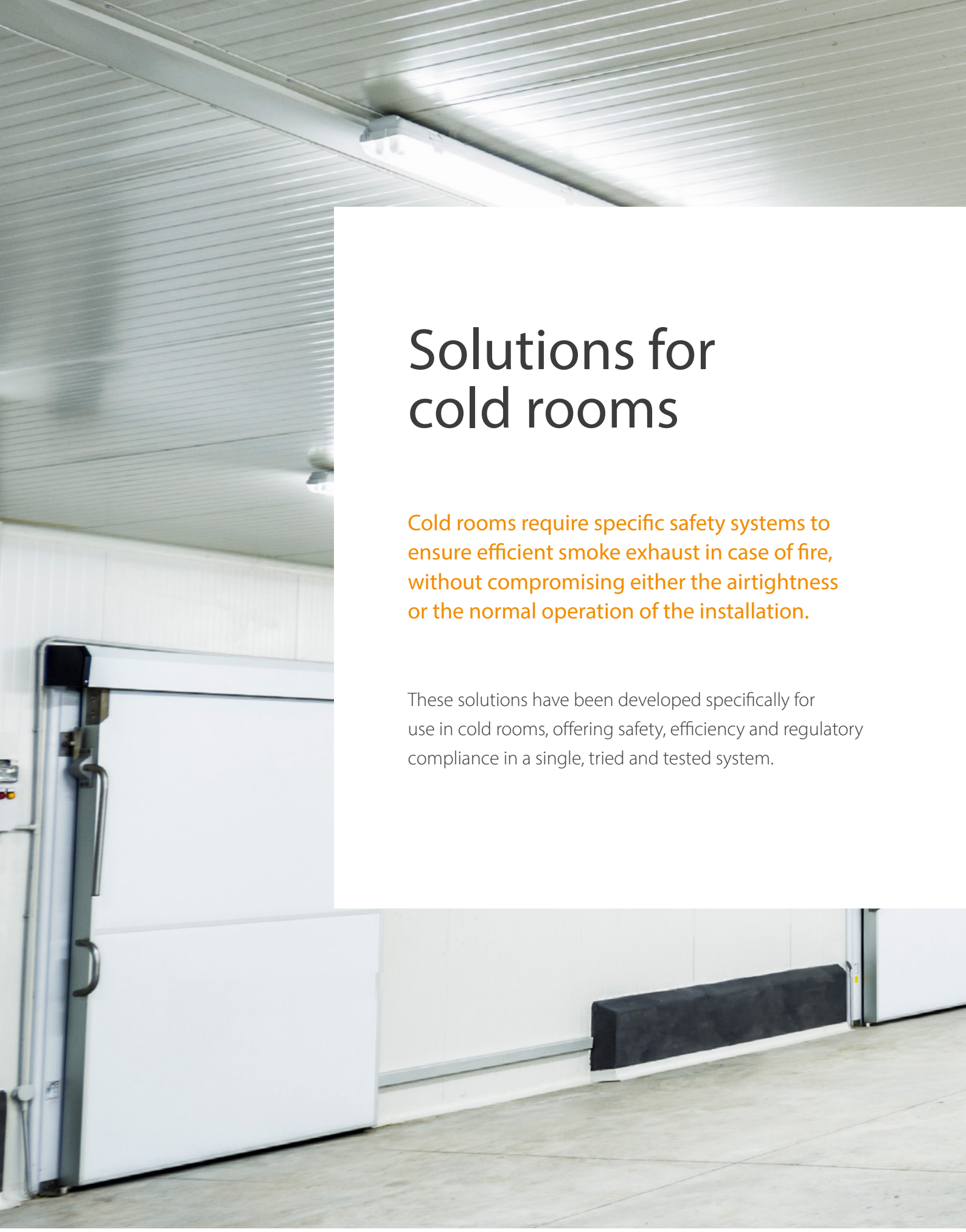
F400 certified in accordance with EN 12101-3

Tested with damper and extract fan for smoke exhaust according to test 21/32306-460

- High performance in airtightness and insulation
- Suitable for temperatures down to -28°C
- Operational reliability in excess of 20,000 cycles

F400

In accordance with standard EN 12101-3



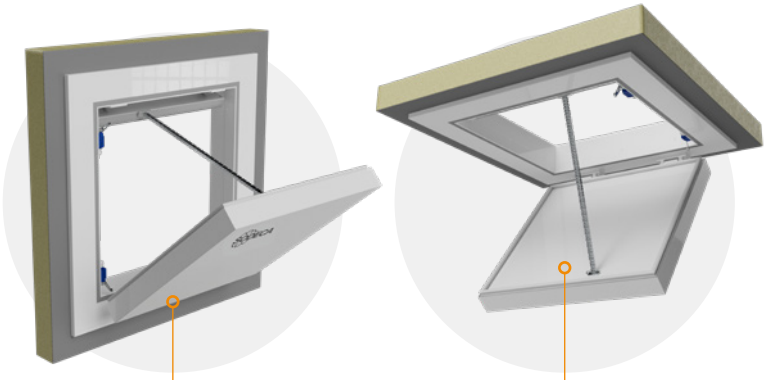
Solutions for cold rooms

Cold rooms require specific safety systems to ensure efficient smoke exhaust in case of fire, without compromising either the airtightness or the normal operation of the installation.

These solutions have been developed specifically for use in cold rooms, offering safety, efficiency and regulatory compliance in a single, tried and tested system.

To respond to this need, **we offer integrated solutions for cold rooms,** consisting of an **extract fan** for smoke exhaust and a **motorised damper**, F400 certified for working together.

The **motorised damper** remains closed during normal operation of the cold room, thereby ensuring thermal insulation, and it opens automatically when the exhaust system is activated.



The **extract fan** ensures that smoke and hot gases are properly exhausted, thereby contributing to the safety of people and the installation.

F400 certified in accordance with EN 12101-3.
Tested with damper and extract fan for smoke exhaust according to test 21/32306-460.

F400 ventilation systems with motorised dampers

High-performance in **insulation** and in **airtightness**

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

Possibility of **customising the damper** with the finish of the façade

Certifications of airtightness, rainproof, fire resistance and snow load

Smoke exhaust in case of fire, with certifications for working at 400ºC/2h

Motorised opening

The damper is opened by means of extremely robust motorised actuators. They ensure reliable operation even under the most unfavourable conditions. In the event of any external overload, the system performs safely and reliably, while complying with the most demanding regulations.

High performance

Completely airtight ventilation system and motorised damper assembly with high insulating and sealing performance to prevent thermal leakage from the interior of the building. Additionally, the motorised dampers incorporate a thermal break to prevent condensation and improve the energy insulation.

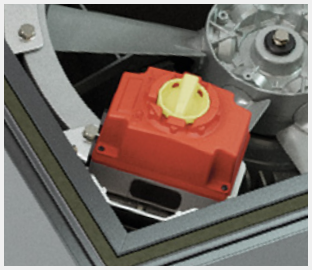
Cutting-edge materials

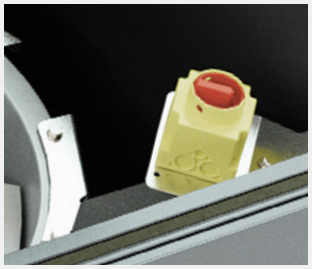
Airtightness
Maintains the climate control of the building and at the same time prevents exterior air from entering the building.

Acoustic
The unit has an acoustically insulated casing that acts as a barrier against interior and exterior noise.

Energy efficiency
Minimises energy losses, thereby optimising the system's performance.

Insulation and water-tightness
Completely water-tight unit, consequently preventing water from entering and avoiding practically any heat loss through transmission when not in use.



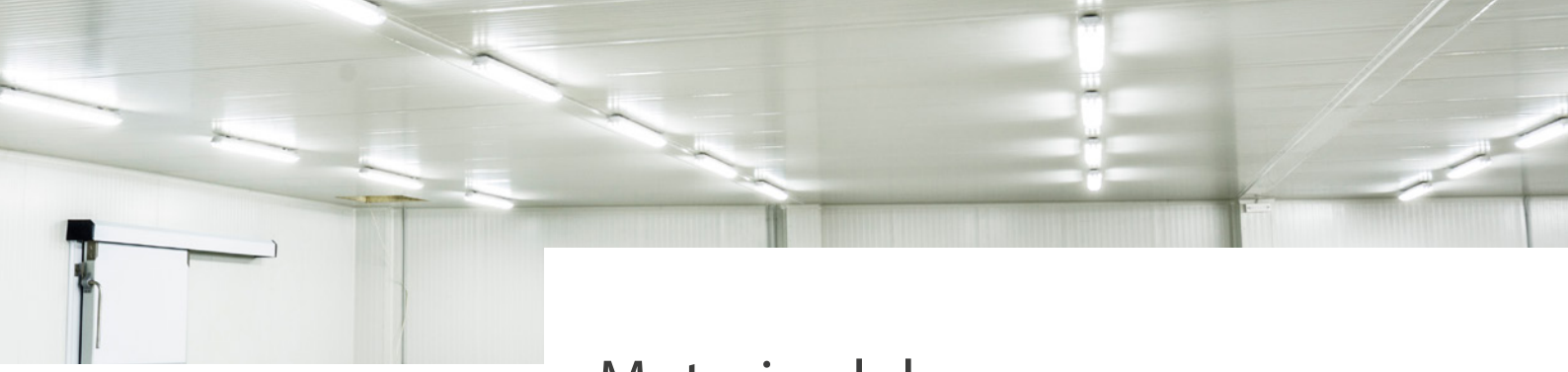


Maintenance switches inside the casing

We recommend installing maintenance switches inside the casing to:

- Ensure complete water-tightness and airtightness
- Avoid unauthorised manipulation of the switches
- Increase the useful service life of the maintenance switches

* For models with F300/2h and F400/2h certifications, the fan maintenance switch is temperature resistant.



Motorised dampers that are F400 certified for cold rooms

20,000 cycles

Reliability

Chain actuator with an operational reliability of more than 20,000 cycles and an opening and closing time of 30 seconds.

Opening

Motorised opening, with manual opening system in case of failure (Utility model ES 1 259 375 U).

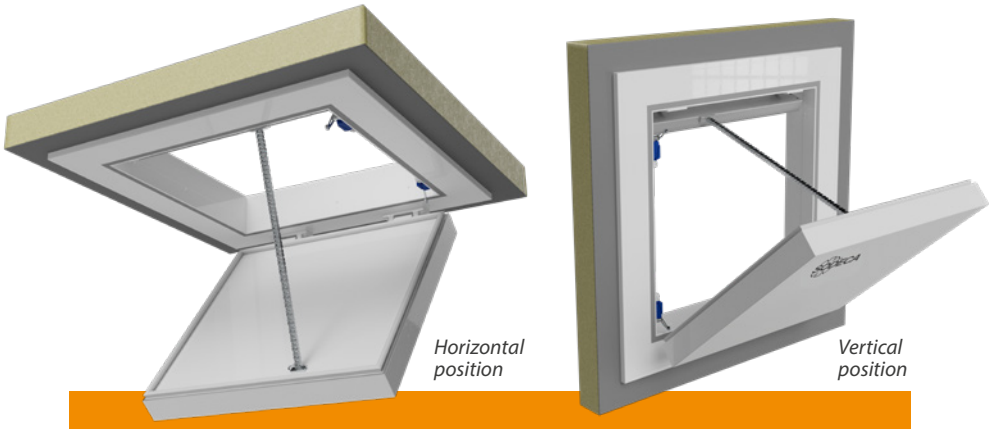
Signalling

Position indicators with voltage-free contacts for monitoring whether the damper is open or closed.

FRIDGE/FLAP

F400 In accordance with standard EN 12101-3

INMERSO 400ºC/2h



Horizontal position

Vertical position

F400 certified in accordance with EN 12101-3

Tested with damper and extract fan for smoke exhaust according to test 21/32306-460

Advanced protection systems

The FRIDGE/FLAP motorised dampers incorporate an intelligent closing system that guarantees maximum safety in every opening and closing cycle. In the event of any obstacle or an external overload, the system operates safely and reliably.

Automatic detection

The system stops, opens for 10 seconds and then closes again.

Protection against damage

After three failed closing attempts, the system locks.

Reinforced safety

During the final closing phase, the speed is reduced to 5 mm/s to allow more time to react in case of an incident.

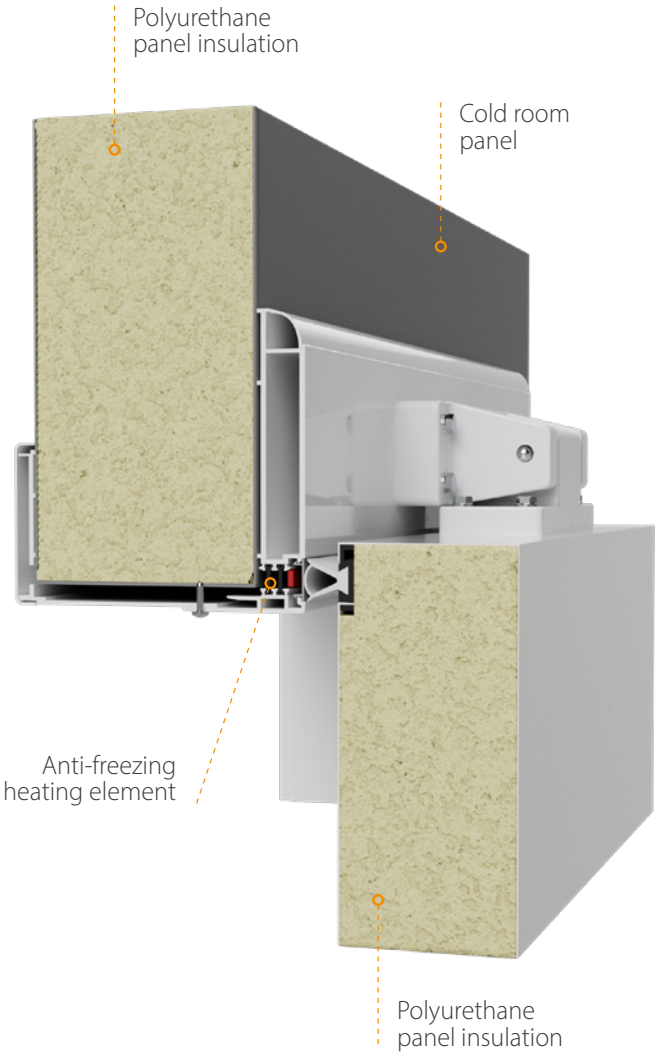
Insulation

The damper leaf is made of lacquered sheet steel with expanded polyurethane and injected in a class B press according to UNE-EN 13501.

The perimeter profiles of both the damper leaf and the fixed frame are made of aluminium and incorporate a thermal break.

F400 certified in accordance with EN 12101-3

Tested with damper and extract fan for smoke exhaust according to test 21/32306-460



Airtightness

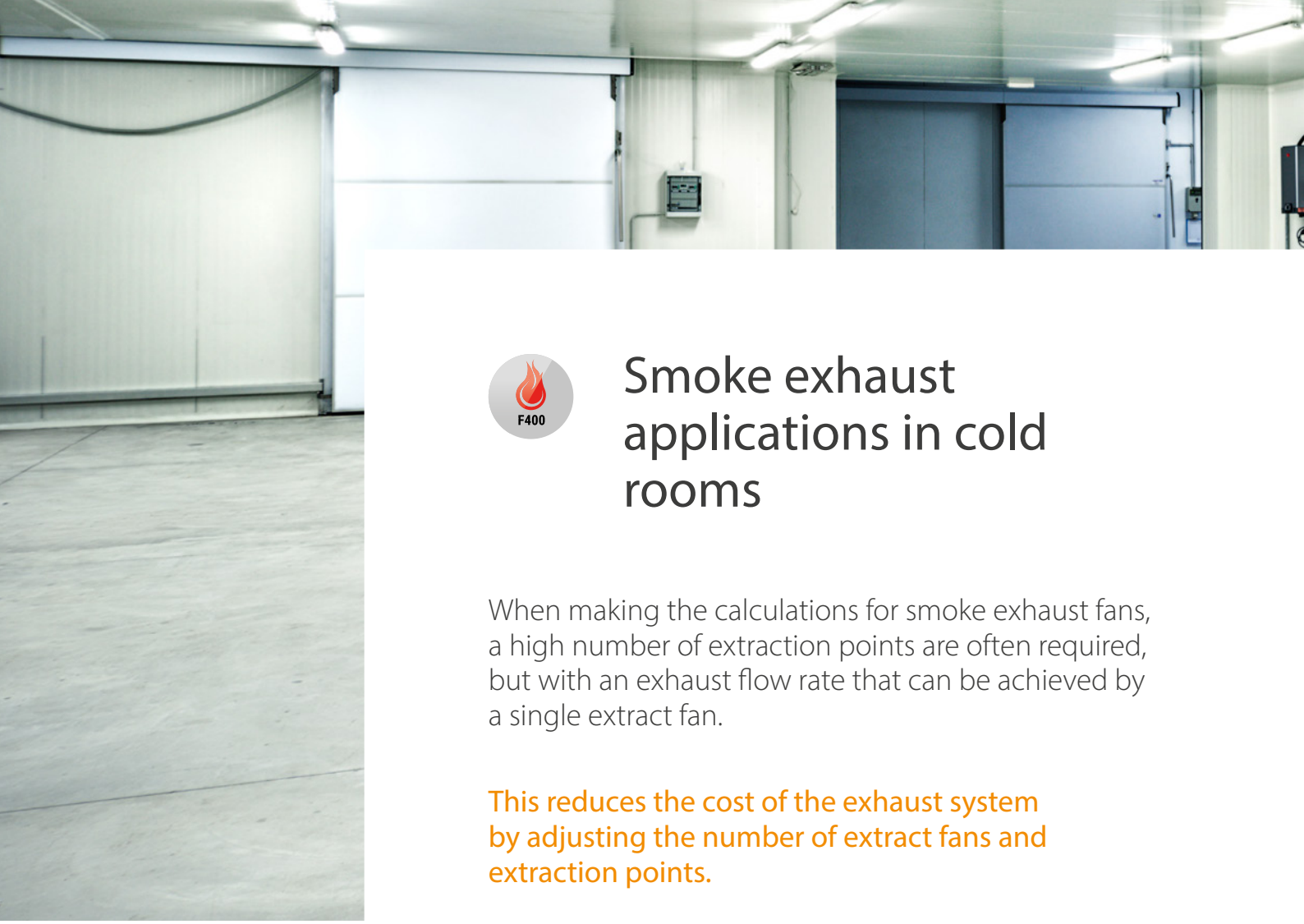
The double air chamber perimeter seal provides Class D airtightness in accordance with EN 12207.

Anti-freezing protection

To prevent the airtightness seal from freezing and the damper from becoming jammed, the frame is fitted with a 40 W/m heating element around the perimeter to prevent the formation of ice.

Installation

Suitable for cold rooms (>4°C) and freezers (from 4°C to -28°C).



Smoke exhaust applications in cold rooms

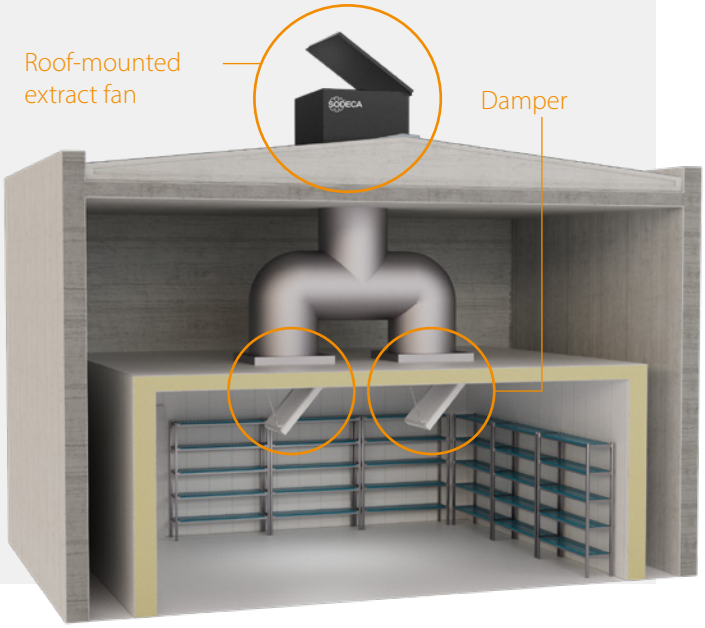
When making the calculations for smoke exhaust fans, a high number of extraction points are often required, but with an exhaust flow rate that can be achieved by a single extract fan.

This reduces the cost of the exhaust system by adjusting the number of extract fans and extraction points.

With the HATCH/HP roof extract fan with high thermal insulation

Installations where there is an external roof and where high thermal insulation for the smoke extract fan is required. This combination provides complete water-tightness against rainwater, achieves optimum thermal insulation and allows smoke to be conducted from one or more extraction points.

Smoke exhaust **conducted** from the cold room



With the HATCH/HP roof extract fan with high thermal insulation

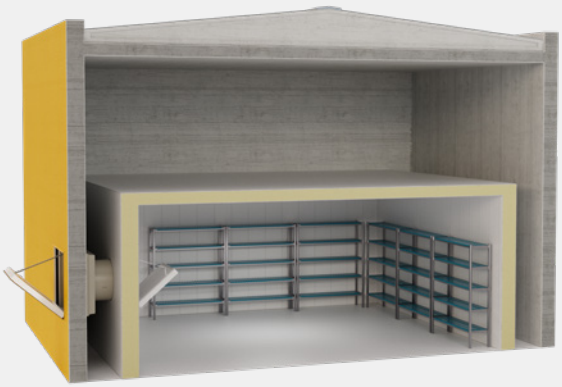
For installations where the cold room does not have an external roof, the smoke exhaust extract fan can be installed directly at the extraction point. This combination provides complete water-tightness against rainwater and optimum thermal insulation.

Smoke exhaust **directly** from the cold room

With the THT/WALL wall-mounted extract fan with high thermal insulation

Installations where it is preferable to exhaust fumes through a façade of the building and where high thermal insulation for the external enclosure is required. This combination achieves optimum thermal insulation and allows smoke to be conducted from one or more extraction points.

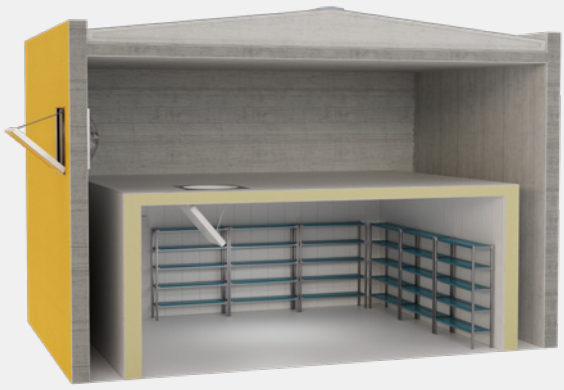
Smoke exhaust **conducted** from the cold room



Smoke exhaust **via plenum**

With the THT/WALL-F wall-mounted extract fan with high thermal insulation

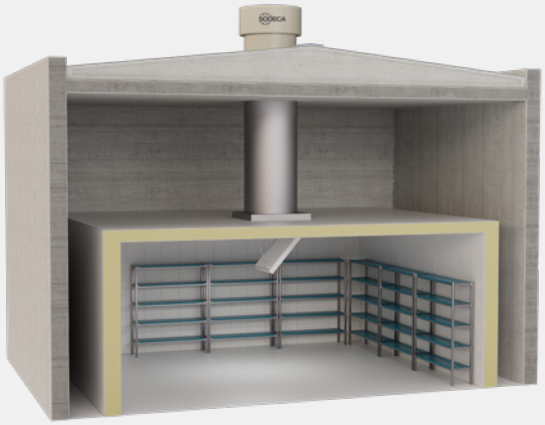
Installations where it is preferable to exhaust fumes through a façade of the building and where high thermal insulation for the external enclosure is required. This combination achieves optimum thermal insulation, while allowing smoke to be exhausted from the room or the plenum.



Smoke exhaust **conducted** from the cold room

THT/ROOF roof extract fan with vertical discharge

Installations where there is an external roof and where high thermal insulation for the smoke extract fan is not required. This combination provides complete water-tightness against rainwater and allows smoke to be conducted from one or more extraction points.



F400-certified extract fans in accordance with EN 12101-3

With HTMF roof extract fan with horizontal discharge

Installations where there is an external roof and where high thermal insulation for the extract fan is not necessary. This combination achieves complete water-tightness against rainwater, while allowing smoke to be exhausted from the room or the plenum.

Smoke exhaust **via plenum**

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