



FERMOD®

Mounting instructions

05/2018

NM2227_CRH-A

PRESSURE RELIEF VALVE 2227 CRH



2227-H

Cable outlet horizontal external to the panel



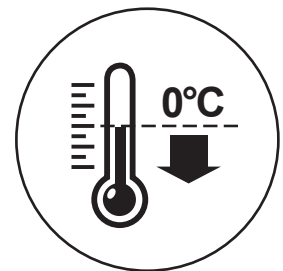
2227-V

Cable outlet vertical external to the panel



2227-M

Cable outlet in the middle of the panel



- ✓ The 2227 Pressure Relief valve is designed for negative temperature cold rooms.
- ✓ If fitted in a positive temperature cold room the power supply should not be connected as the heating element runs continuously.

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This instructions manual includes the mounting, utilization and the maintenance instructions.

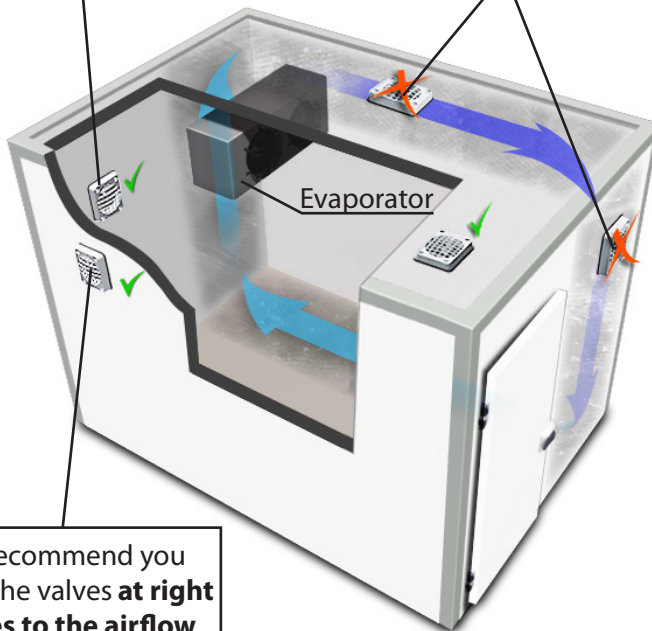
We recommend to read this carefully and to place it at the user's disposal.

1 - WARNINGS

! TO ENSURE CORRECT OPERATION OF THE VALVES

Install valves **as far as possible from evaporators**

Do not install valves **in direct airflow of the evaporator**



We recommend you install the valves **at right angles to the airflow**

We recommend installation of the valves **at a height equal to 2/3 of the cold room**

! CAUTION

The power to the valve must be disconnected if it is fitted to a positive temperature room.

Only install valves in the ceiling when the heating cord is located inside the cold room as illustrated on pages 6/8

Valves must only be installed in a position where there is adequate airflow volume available both sides of the wall

- DO NOT OBSTRUCT THE VALVE GRILLS
- The heating element (E) is permanently powered : should at any time a negative room be converted to a positive temperature room, THE ELECTRICAL POWER MUST BE DISCONNECTED FROM ANY VALVE WITHIN THE COLD ROOM
- DO NOT REMOVE the heating element
- These valves are designed for -30°C to +30°C cold room external temperature

2 - GENERAL INFORMATIONS

■ Liabilities

- 1** – The installer and the user must observe the safety rules applicable during transport, assembly, use, and discarding of the product or its components.
- 2** – The user must scrupulously comply with the recommendations for storage, assembly, use, maintenance, health and safety, use-by date, etc. supplied by the manufacturer. Likewise, where the producer be held liable for the non-conformity of the product, the user may also share the liability, insofar as he has not, from his side, checked this conformity, even if the product in question is administratively in conformity. The user is also held liable if he himself increases the fault in the product. The liability of the manufacturer can be reduced or eliminated, taking all the circumstances into consideration, when the damage is caused jointly by the product, and by the fault of the victim or a person for whom the victim is responsible.
- 3** –The installer or the user's responsibility would be engaged if the working conditions of the cold room (put into service, shutdown) are not respected.
- 4** – The staff of the company installing the equipment, and / or staff of the user company in charge of specific functions, such as maintenance, must be qualified, trained and certified in the case of particularly risky work, such as work under power.
- 5** – The final user must carry out the periodical yearly or twice-yearly checks, or have them carried out, with keeping of a maintenance register.

3 - CHARACTERISTICS

The walls of a cold room are constantly subject to strains caused by pressure variations, either from inside or from outside.

The 2227 valve makes it possible to balance internal and external pressures, through venting. It's mechanically operated valves, with two water tight mobile flaps, one for admission and the other for exhaust. The intake and exhaust are separated by a partition.

► 3 references

REFERENCE	Frame thickness	Cable outlet	Description
2227-M	75 to 150 mm	In the middle of the panel	Wall or ceiling mounted valve with heating cord , only for negative temperature cold room down to -30°C
2227-H		Horizontal / external to the panel	
2227-V		Vertical / external to the panel	

► Electric parts

The product you have acquired complies to **the European Directive of Low Voltage Electrical Equipment 2014/35/UE and to the Norm NF P75-401 (for French installation).**

⚠ Tension: 230 V AC - 50/60 Hz - Valve power: 8W

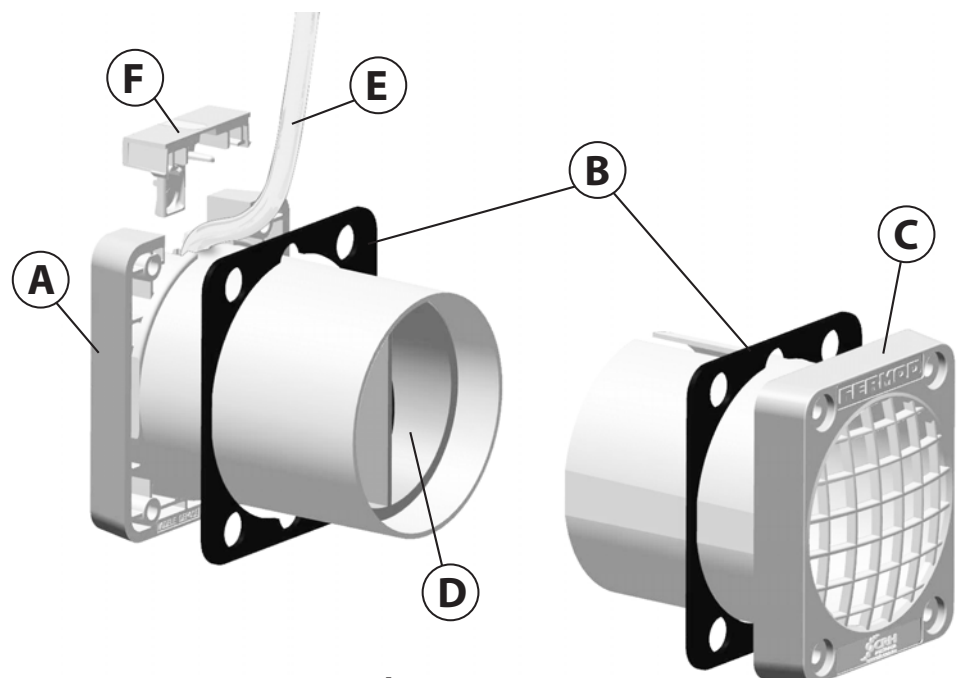
Note: in case of protection of the electrical installation, use a **200 mA** fuse.

4 - TRANSPORT AND STORAGE

This equipment must be protected from bad weather during transport and storage. The original packing is designed for all types of transportation means.

5 - PARTS LIST

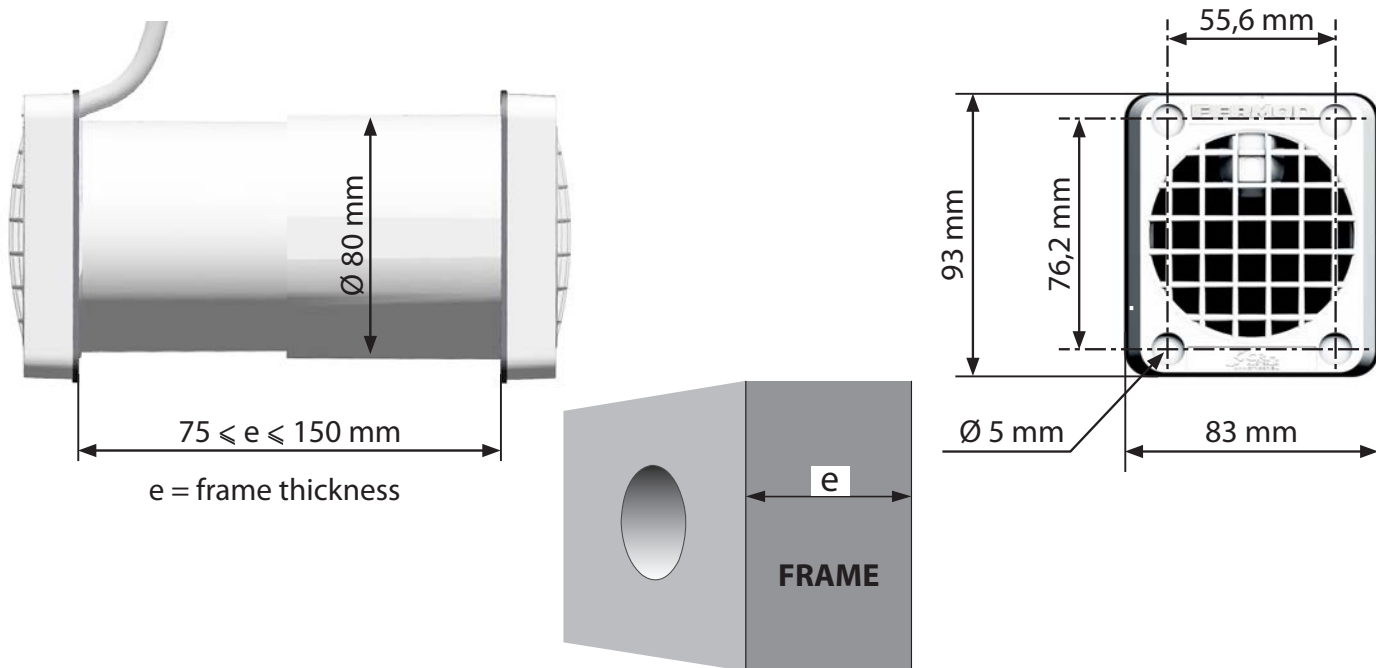
2227	
A	Valve
B	Joint
C	Clamp
D	Flap (or shutter)
E	Heating cord
F	Cable outlet



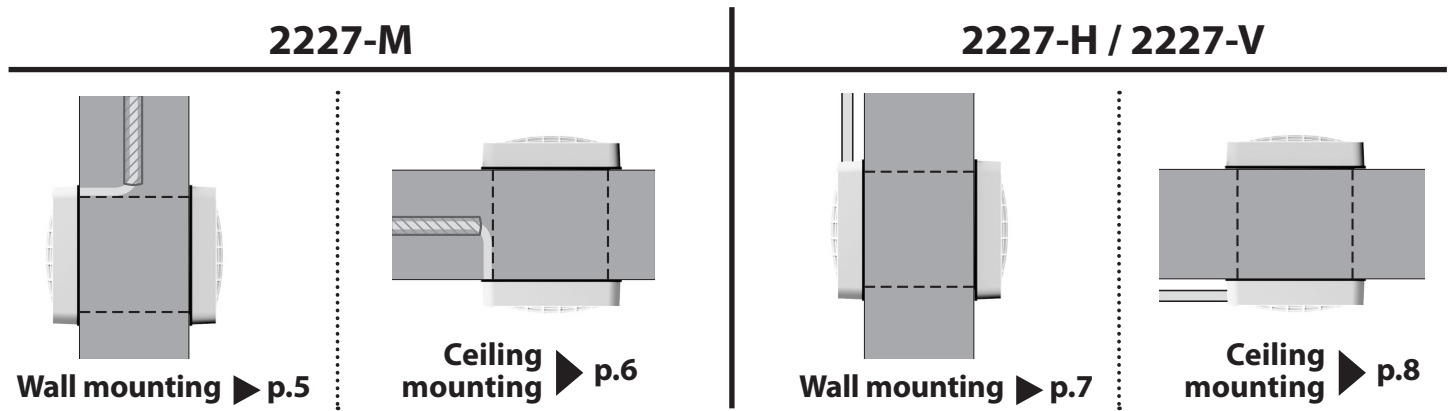
⚠ DO NOT REMOVE

Nota: drawing showing 2227-M / Same as 2227-H and 2227-V

■ Measurements



6 - MOUNTING INSTRUCTIONS



■ Calculation of required number of valves

The following formula determines number of valves needed for a given case:

V = Volume of the room in m^3 T = Time variation in minute for 1°C t = Temperature of the room in $^\circ\text{C}$ $273 / 4,5 / 5,5 = \text{constant values}$

According to DTU 45.1 (Norm NF P75-401-1):
 for a maximum evenly distributed pressure of **200 Pa** (20 kg/m^2):

$\text{Number of valves} = \frac{5,5 V}{T(273 + t)}$	<i>Example:</i> $V = 120 \text{ m}^3$ $T = 3 \text{ minutes for } 1^\circ\text{C}$ $t = -25^\circ\text{C}$ $\text{Number of valves} = \frac{5,5 \times 120}{3(273 - 25)} = 0,89 = 1 \text{ valve}$
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As an indication, for a maximum evenly distributed pressure of **300 Pa** (30 kg/m^2):

$\text{Number of valves} = \frac{4,5 V}{T(273 + t)}$	<i>Example:</i> $V = 75 \text{ m}^3$ $T = 1,5 \text{ minute for } 1^\circ\text{C}$ $t = -25^\circ\text{C}$ $\text{Number of valves} = \frac{4,5 \times 75}{1,5(273 - 25)} = 0,91 = 1 \text{ valve}$
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If the data used for calculation are exactly observed, our valves will ensure that the maximum evenly distributed pressure is not exceeded.



6.1 - VALVE 2227-M MOUNTING

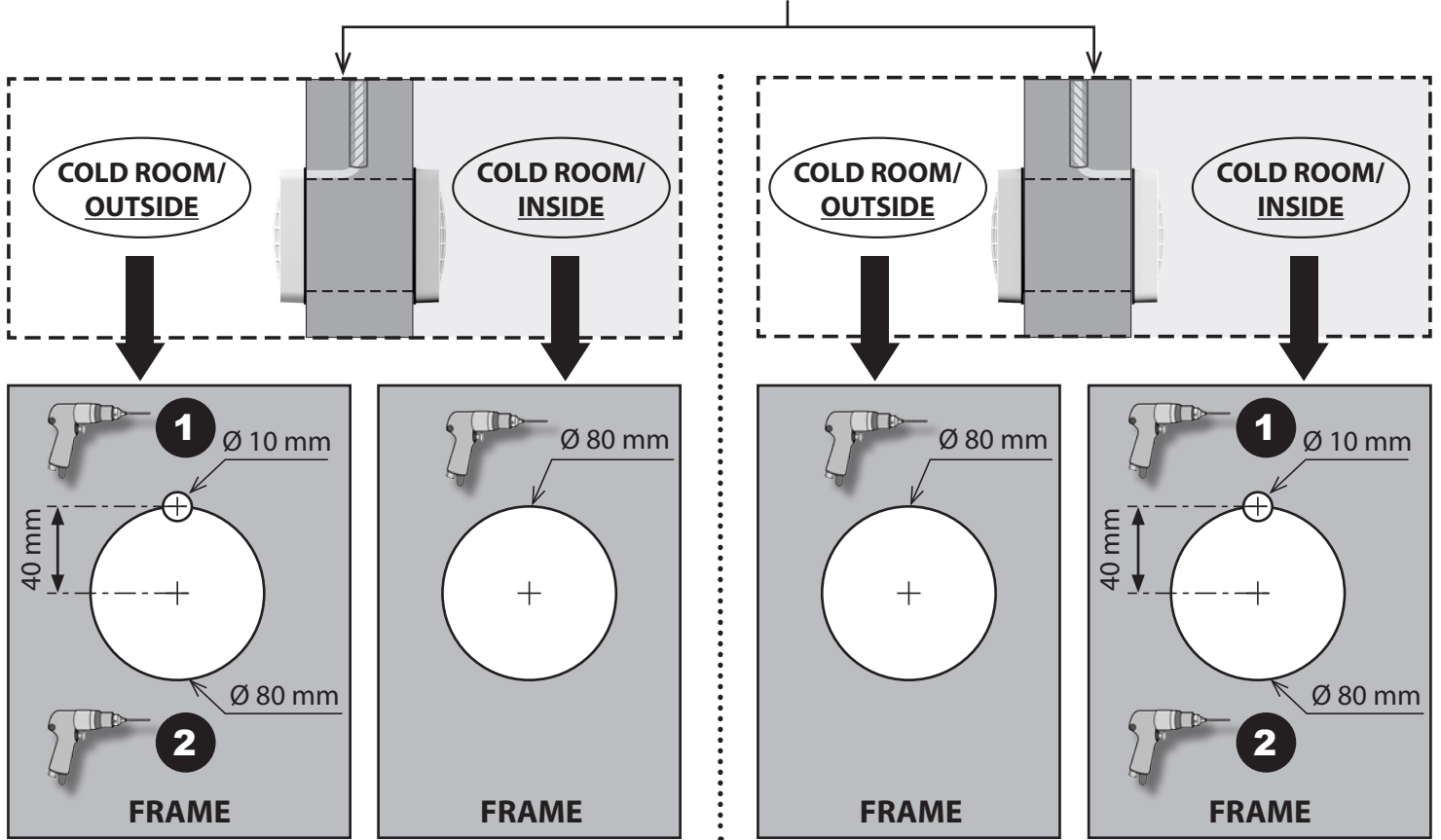
WALL MOUNTING

Ceiling mounting: see page 6

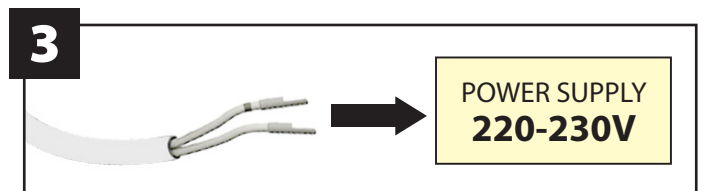
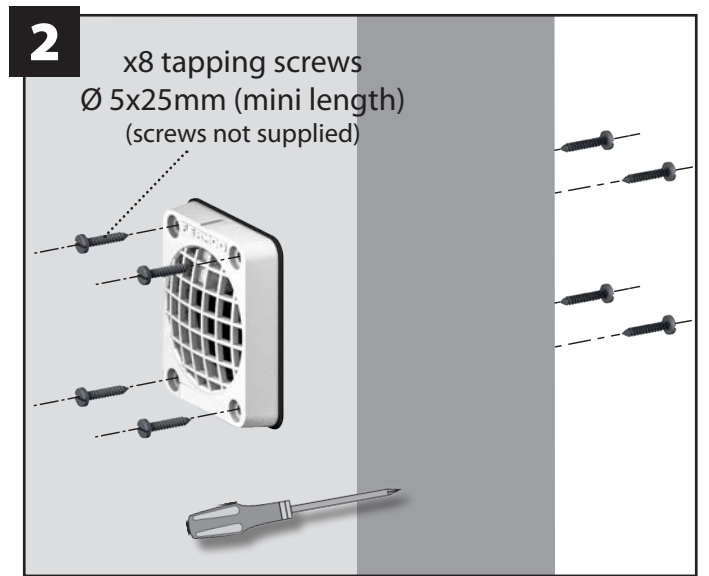
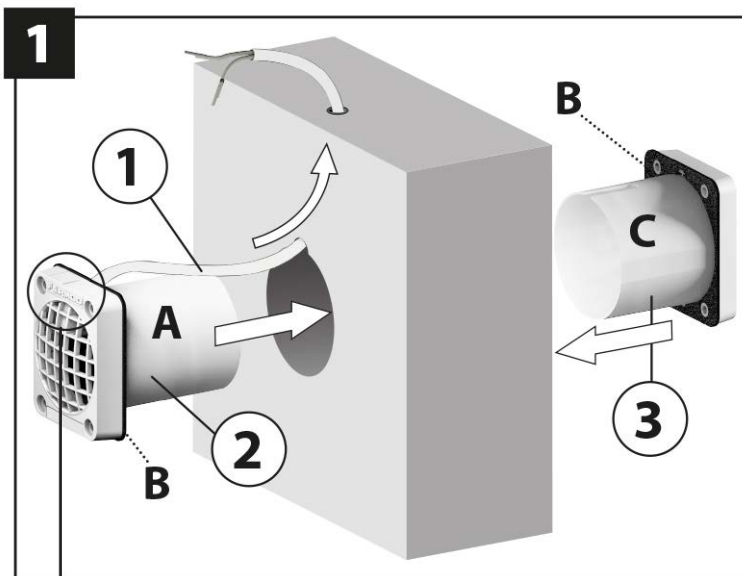
Drilling the wall



The valve 2227-M can be mounted in either direction:



Wall mounting



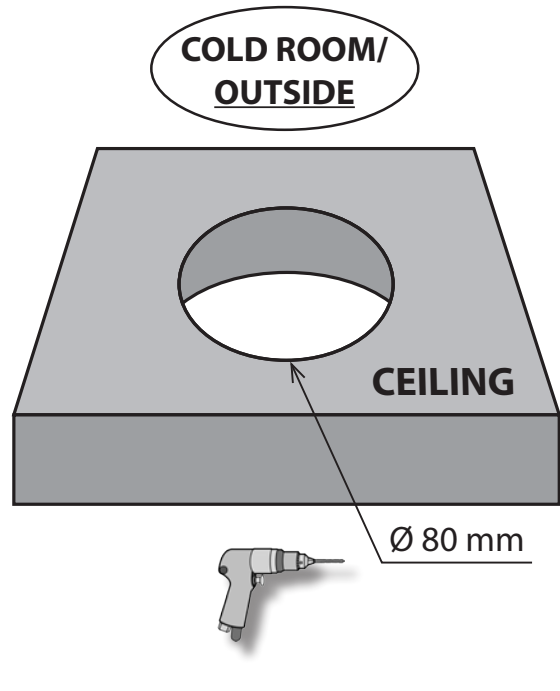
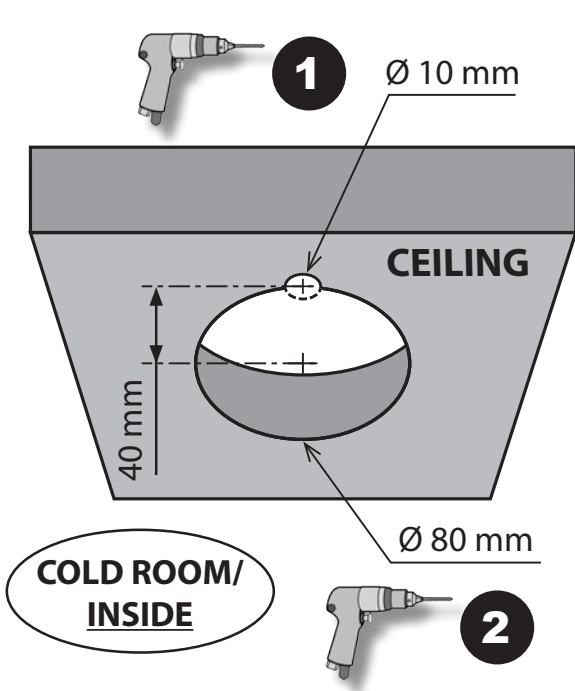
To ensure correct operation, install the valve with "FERMOD" upward.



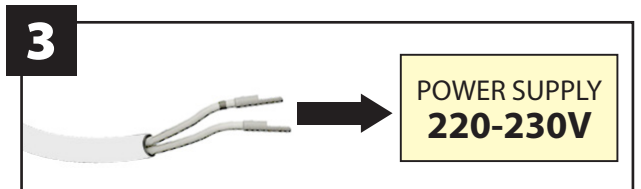
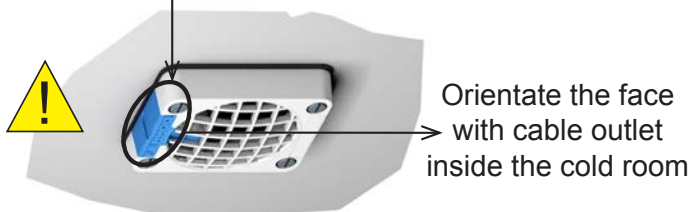
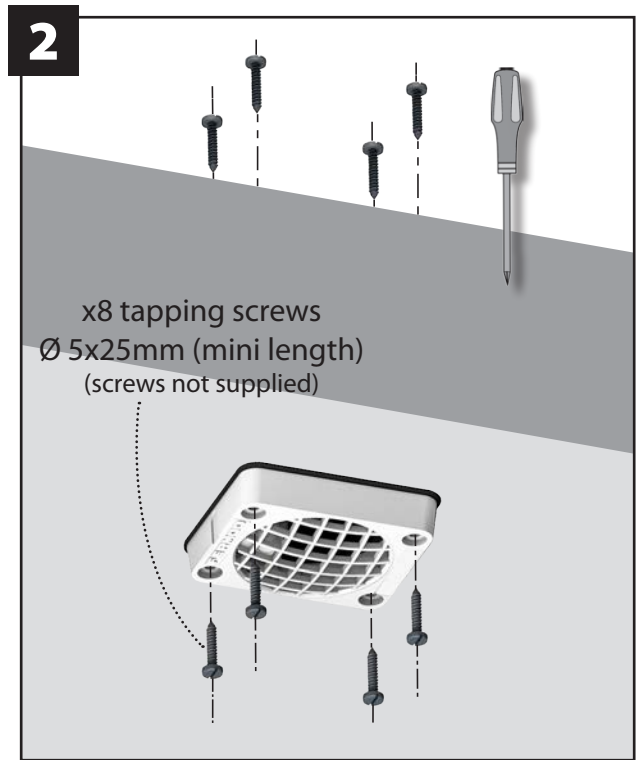
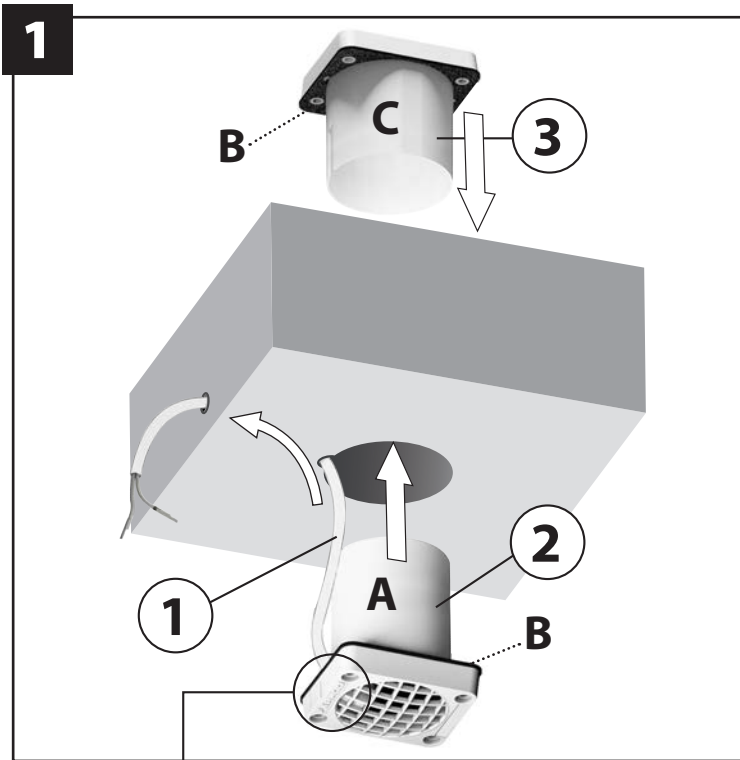
CEILING MOUNTING

Wall mounting: see page 5

Drilling the ceiling



Ceiling mounting





6.2 - VALVE 2227-H and VALVE 2227-V MOUNTING

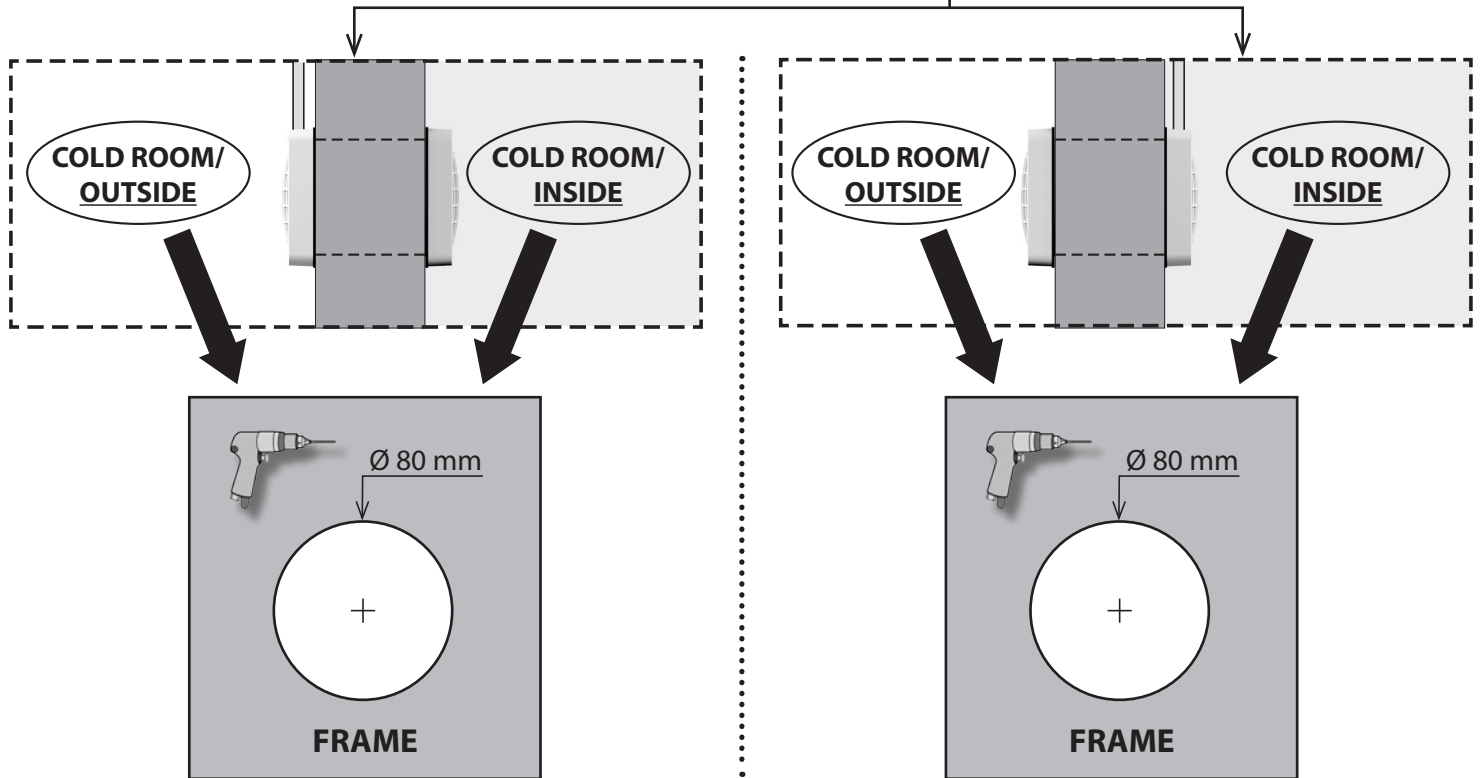
WALL MOUNTING

Ceiling mounting: see page 8

Drilling the wall

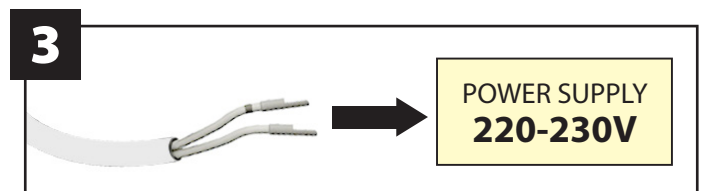
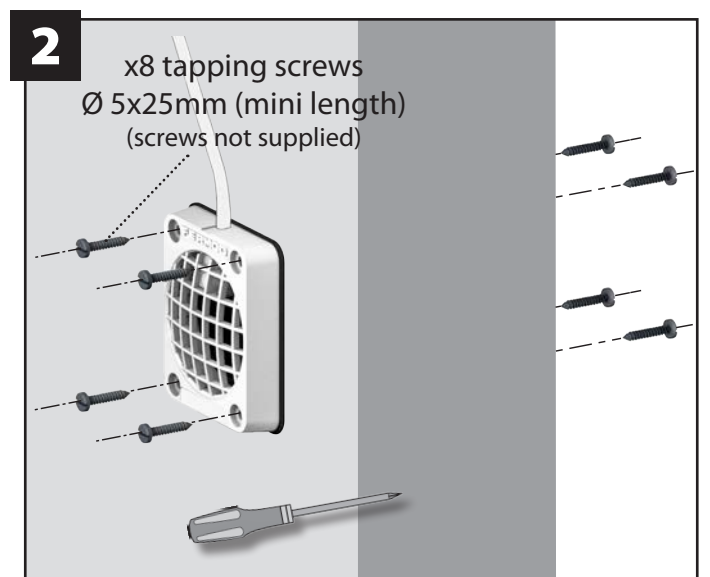
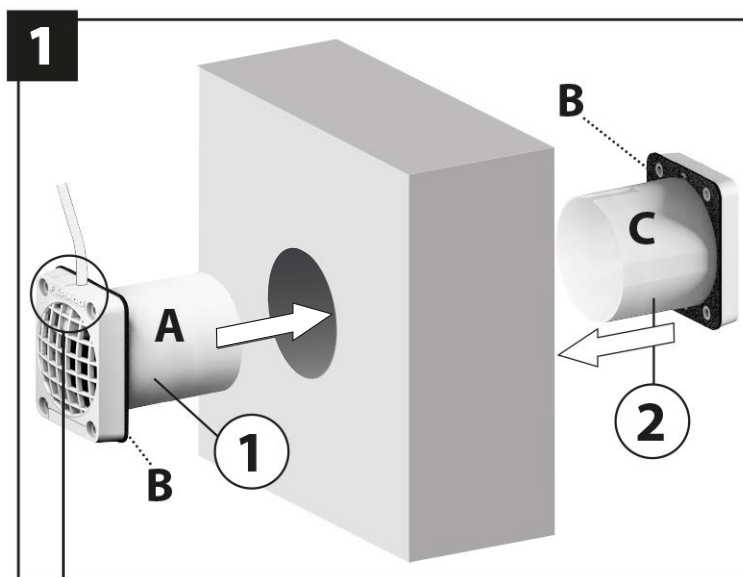


The valves 2227-H and 2227-V can be mounted in either direction:



Nota: drawings showing 2227-V / Same as 2227-H

Wall mounting



POWER SUPPLY
220-230V

To ensure correct operation,
install the valve with
"FERMOD" upward.

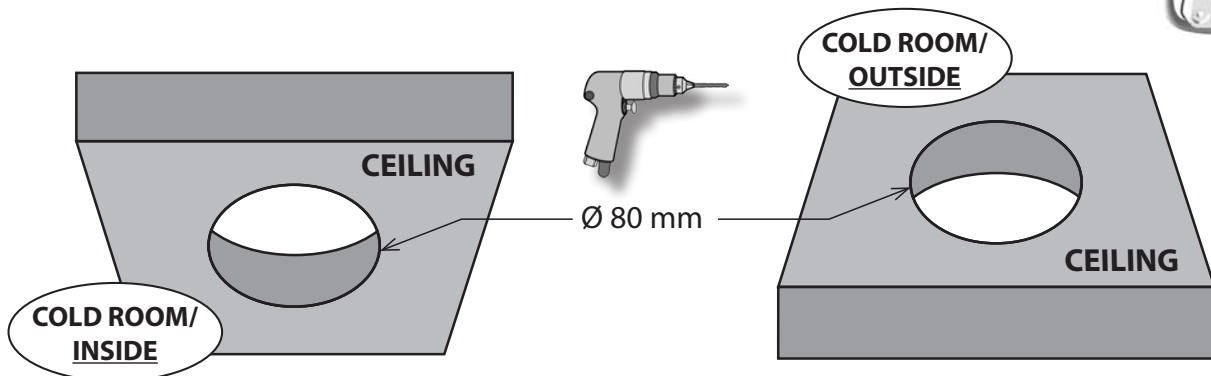


CEILING MOUNTING

Wall mounting: see page 7

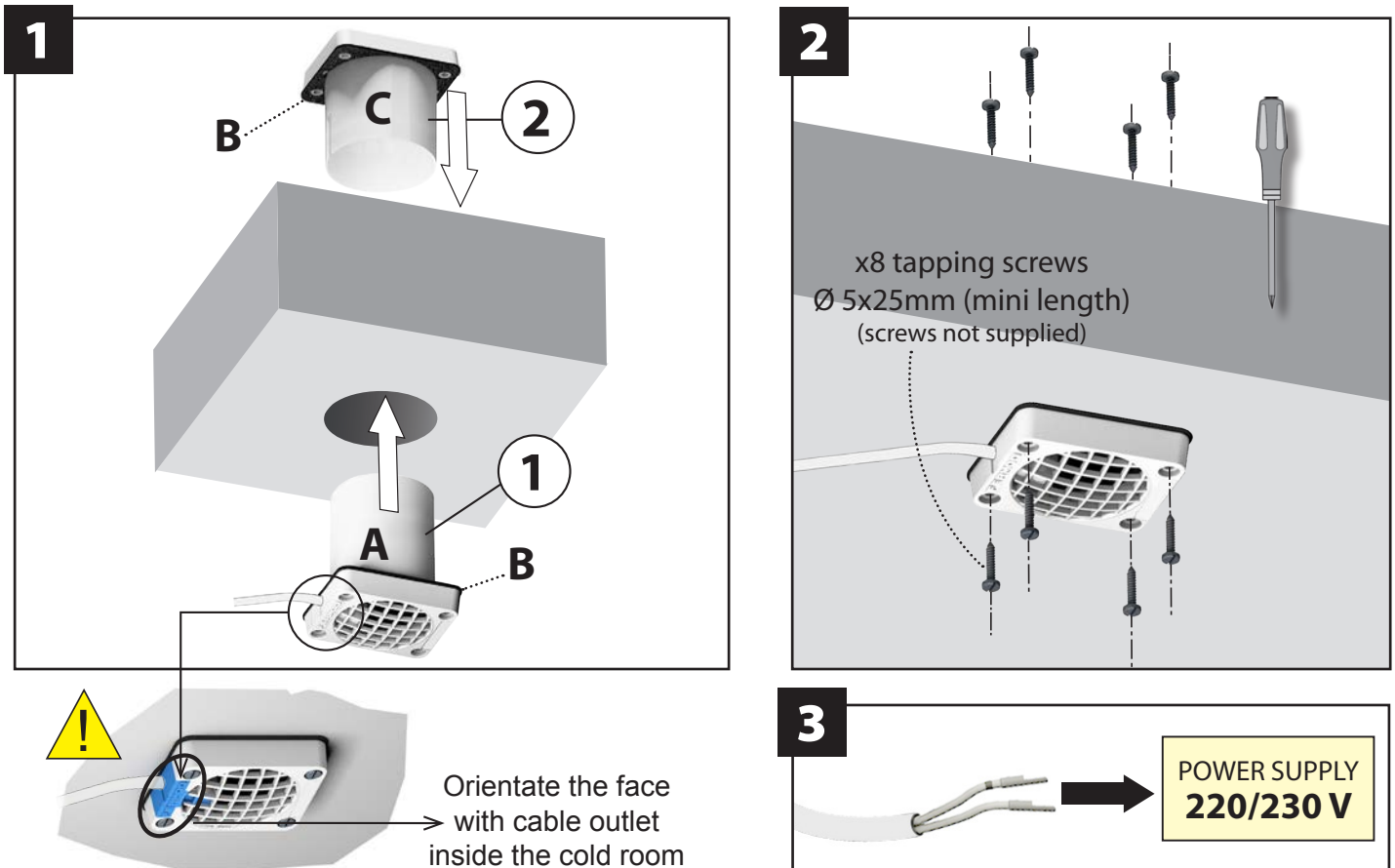


Drilling the ceiling



Nota: drawings showing 2227-V / Same as 2227-H

Ceiling mounting



7 - USING and MAINTENANCE

Normal using: Valve functionment is fully automatic.

Cleaning: Do not use a water jet under hight pressure for the cleaning of the valve.

The equipment should be cleaned using cleaning agents that are compatible with the materials of the supplied product. For the dilution percentages, refer to the instructions of the cleaning agents to be used.

Maintenance: Maintenance must be carried out by qualified staff.

When replacing a component, choose the right component from the manufacturer's after-sales service, and respect the instructions of the different sections in this instructions manual.

Check the flaps mobility.

When starting or stopping the cold room, please follow the Local Regulations.