# Maintenance Manual cooling units and air/air or air/water exchangers from Universal Enclosures.

Routine maintenance.

Schneider Electric

# Routine maintenance.

- Air/air exchangers.
- Air/water exchangers.
- Cooling units.

- **The maintenance frequency depends on the environment in which the product is installed. It may be a few days to few months.**
- **Only regular inspections on the field allow the determination.**

# Routine maintenance – Air/air exchangers.

**DANGER**

**RISK OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH**

■ Before any intervention, the cooling unit must be disconnected from the mains.

**Not complying can cause death or serious injury.**

**WARNING**

**RISK OF PRODUCT DAMAGE**

■ Do not use flammable and / or corrosive chemicals during cleaning operations.

■ Clean with compressed air at a maximum pressure of 4 bar

**Any modifications carried out by non-specialized personnel may cause damage or breakdown.**

**DANGER**

**RISK OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH**

■ After carrying out the maintenance, it is very important to check that the ground wire of the heat exchanger cover is still connected.

■ The repairs that may be necessary can only be carried out by specialized and authorized personnel using original spare parts.

**Any modifications carried out by non-specialized personnel may cause damage or breakdown and endanger personal safety.**

**DANGER**

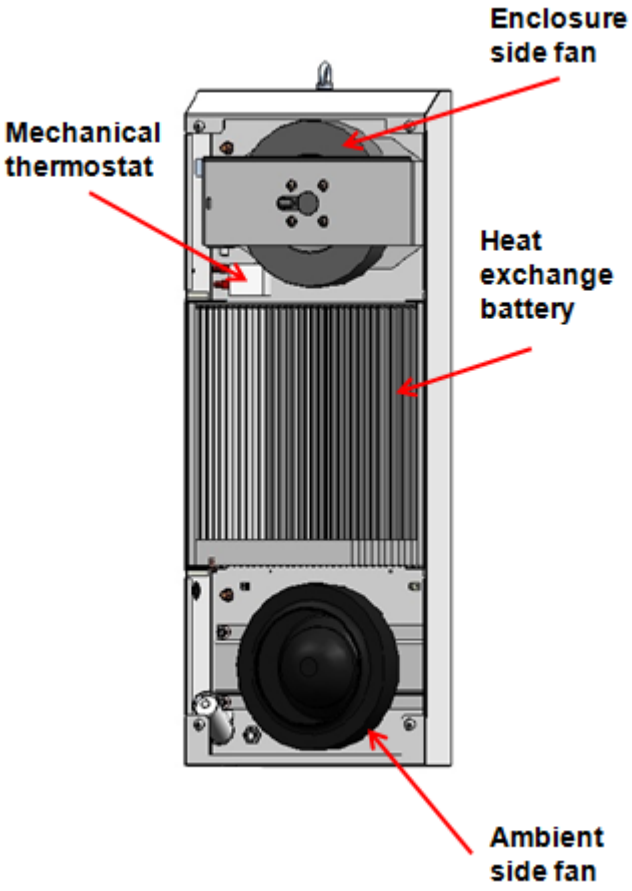
**RISK OF PHYSICAL HARM TO PERSONS**

■ During maintenance use IPE (individual protective equipment) to prevent injury. Some tubes may be hot and can cause burns.

**Any modifications carried out by non-specialized personnel may cause damage or breakdown and endanger personal safety.**

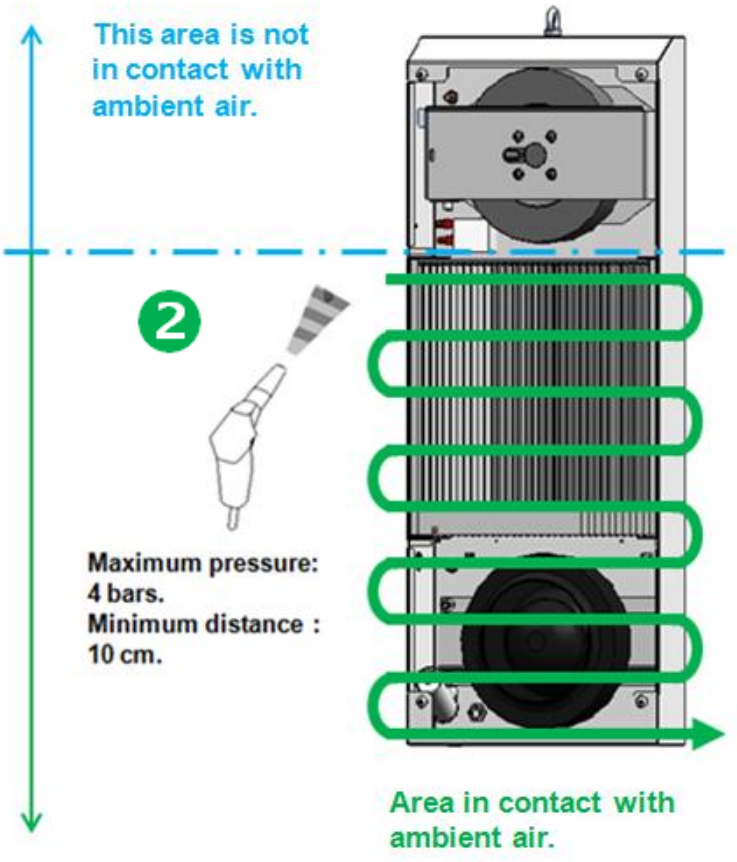
# Routine maintenance – Air/air exchangers.

- The only operations required are to clean the heat exchange battery and the outer fan (ambient air side) and periodically monitor the following elements:
  - Control and cleaning of the outer portion of the heat exchange battery and external fan. **Every 2 months at least.**
  - Control of external and internal fan against overheating or excessive vibration. **Every 6 months at least.**



# Routine maintenance – Air/air exchangers.

- Operating mode: **These operations require the intervention of 2 people.**
  - Cleaning with compressed air to eliminate dust.
  - Cleaning with a cloth and detergent compatible with PVC (polyvinyl chloride), PE (polyethylene), PP (polypropylene) and silicones to remove fats or oils.

# Routine maintenance – Air/water exchangers.

**DANGER**

**RISK OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH**

■ Before any intervention, the cooling unit must be disconnected from the mains.

**Not complying can cause death or serious injury.**

**WARNING**

**RISK OF PRODUCT DAMAGE**

■ Do not use flammable and / or corrosive chemicals during cleaning operations.

**Any modifications carried out by non-specialized personnel may cause damage or breakdown.**

**DANGER**

**RISK OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH**

■ After carrying out the maintenance, it is very important to check that the ground wire of the heat exchanger cover is still connected.

■ The repairs that may be necessary can only be carried out by specialized and authorized personnel using original spare parts.

**Any modifications carried out by non-specialized personnel may cause damage or breakdown and endanger personal safety.**

**DANGER**

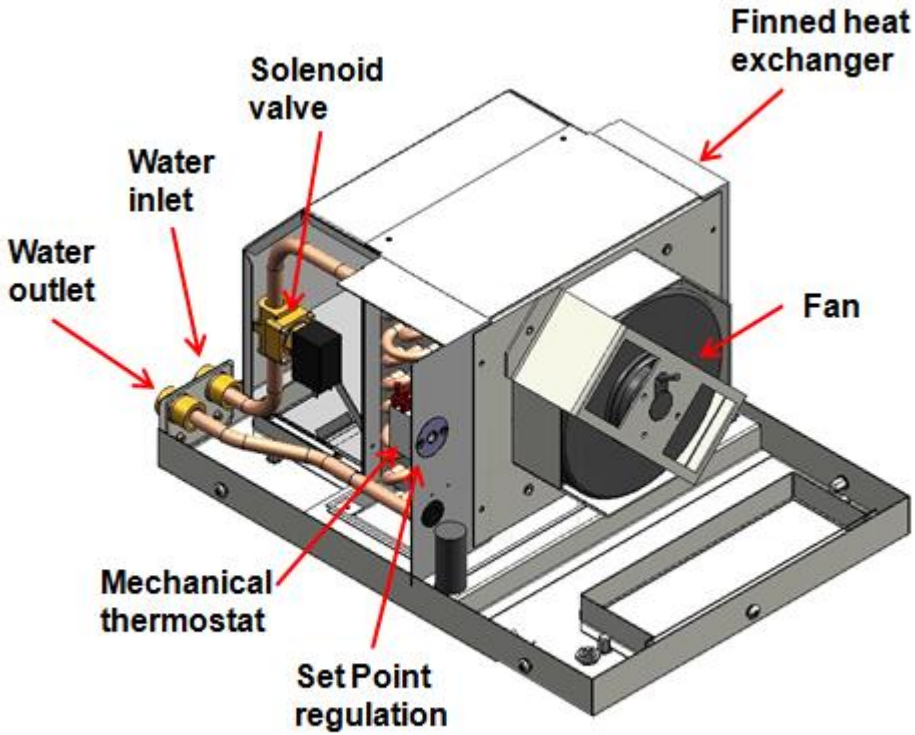
**RISK OF PHYSICAL HARM TO PERSONS**

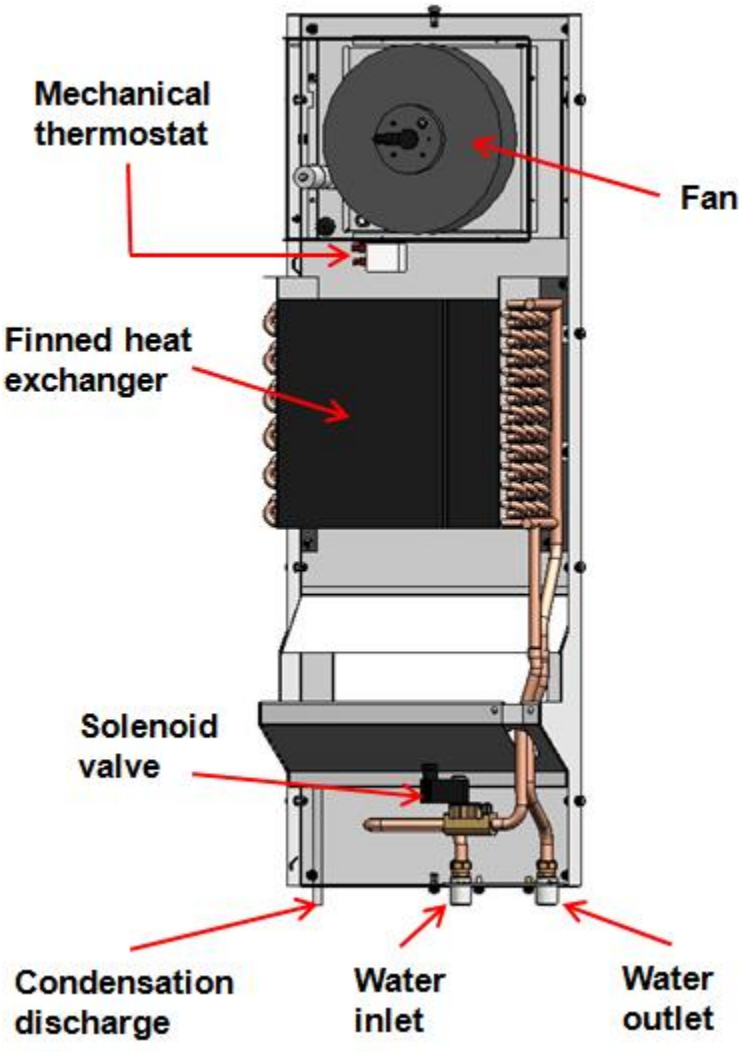
■ During maintenance use IPE (individual protective equipment) to prevent injury. Some tubes may be hot and can cause burns.

**Any modifications carried out by non-specialized personnel may cause damage or breakdown and endanger personal safety.**

# Routine maintenance – Air/water exchangers. Roof and side models.

- The only necessary operations are to control the fan against overheating and excessive vibration and condensate drain pipe. **Every 6 months at least.**

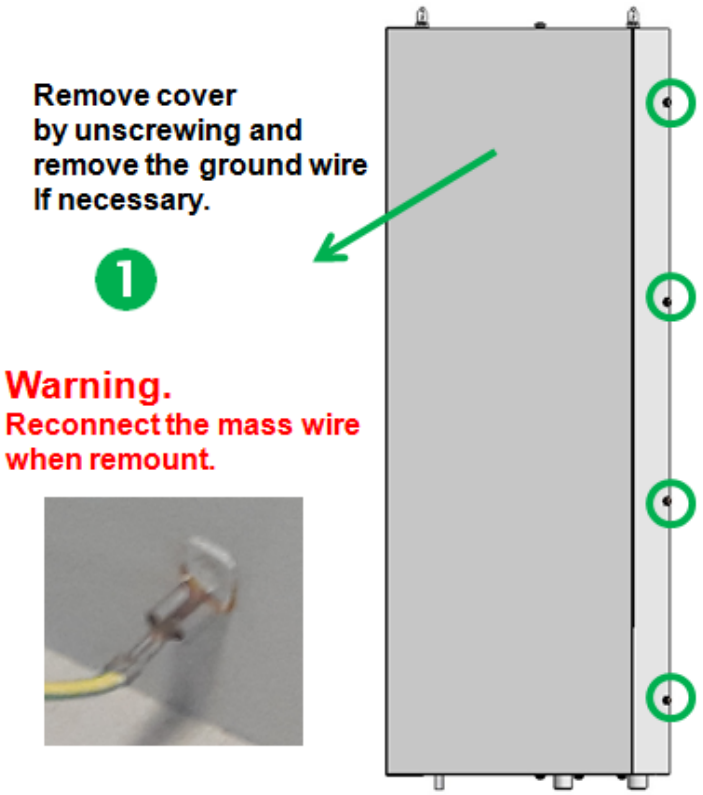


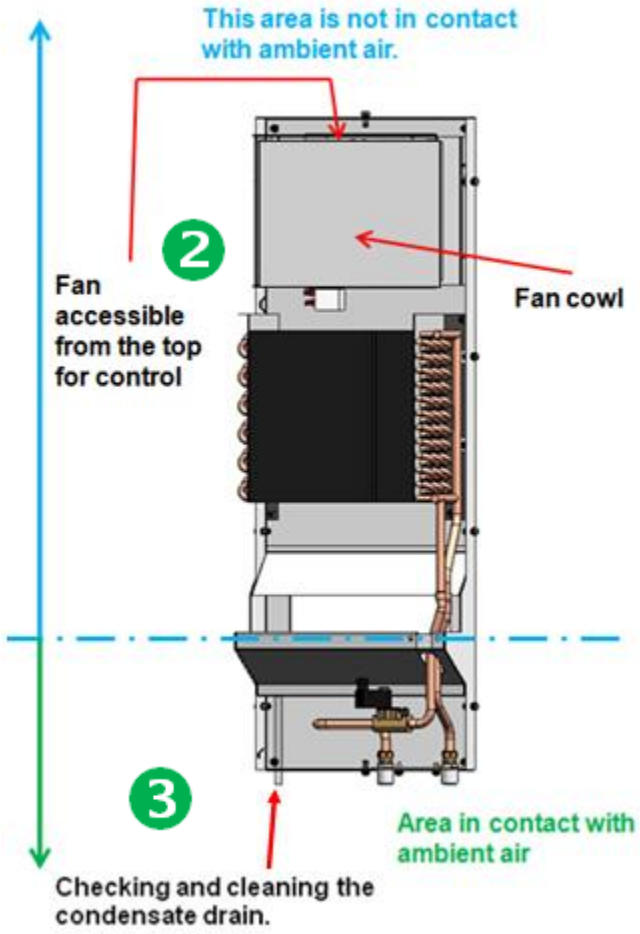



# Routine maintenance – Air/water exchangers. Side model.

Operating mode: **These operations require the intervention of 2 people.**

- Visual and tactile inspection.

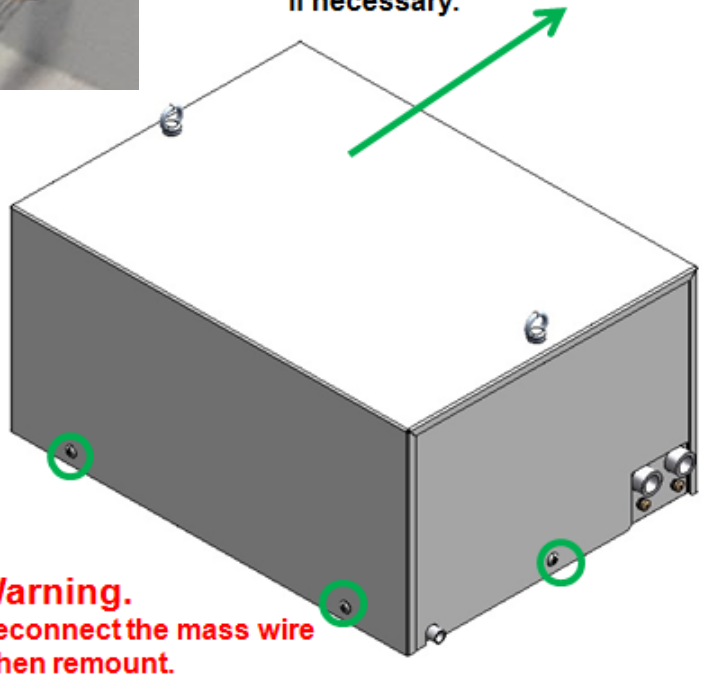


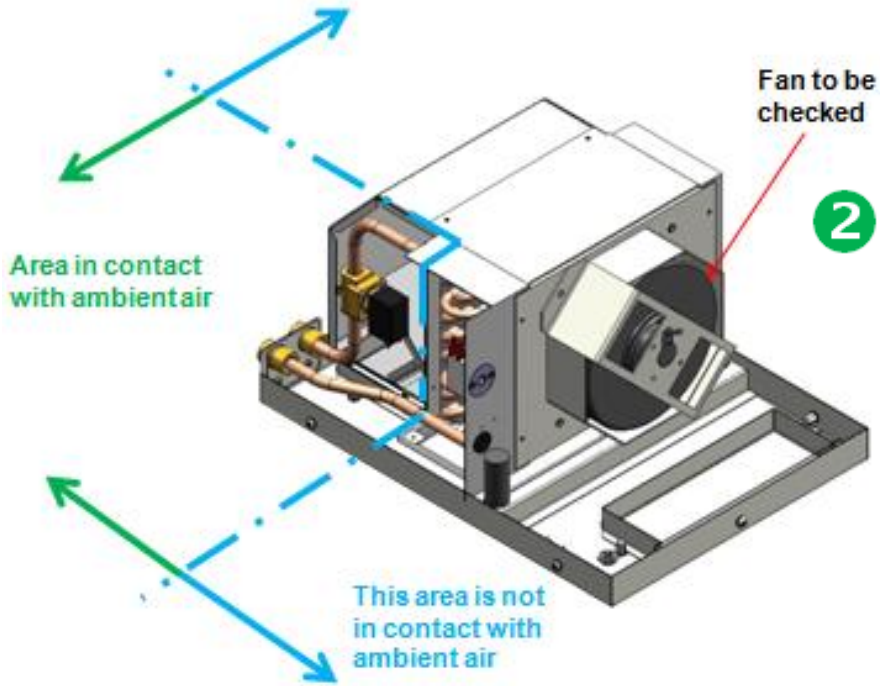
# Routine maintenance – Air/water exchangers. Roof model.

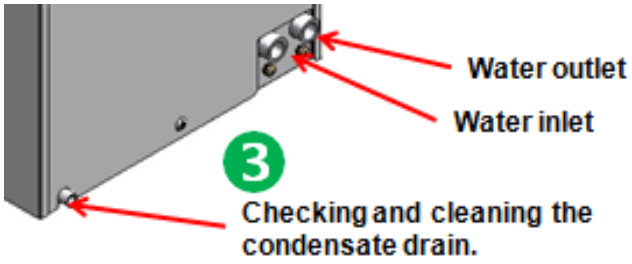
- Operating mode: **These operations require the intervention of 2 people.**
  - Visual and tactile inspection.

**1** Remove cover by unscrewing and remove the ground wire If necessary.



**Warning.**
**Reconnect the mass wire when remount.**



# Routine maintenance – Cooling units.

**DANGER**

**RISK OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH**

■ Before any intervention, the cooling unit must be disconnected from the mains.

**Not complying can cause death or serious injury.**

**WARNING**

**RISK OF PRODUCT DAMAGE**

■ Do not use flammable and / or corrosive chemicals during cleaning operations.

■ Clean with compressed air at a maximum pressure of 4 bar

**Any modifications carried out by non-specialized personnel may cause damage or breakdown.**

**DANGER**

**RISK OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH**

■ After carrying out the maintenance, it is very important to check that the ground wire of the heat exchanger cover is still connected.

■ The repairs that may be necessary can only be carried out by specialized and authorized personnel using original spare parts.

**Any modifications carried out by non-specialized personnel may cause damage or breakdown and endanger personal safety.**

**DANGER**

**RISK OF PHYSICAL HARM TO PERSONS**

■ During maintenance use IPE (individual protective equipment) to prevent injury. Some tubes may be hot and can cause burns.

**Any modifications carried out by non-specialized personnel may cause damage or breakdown and endanger personal safety.**

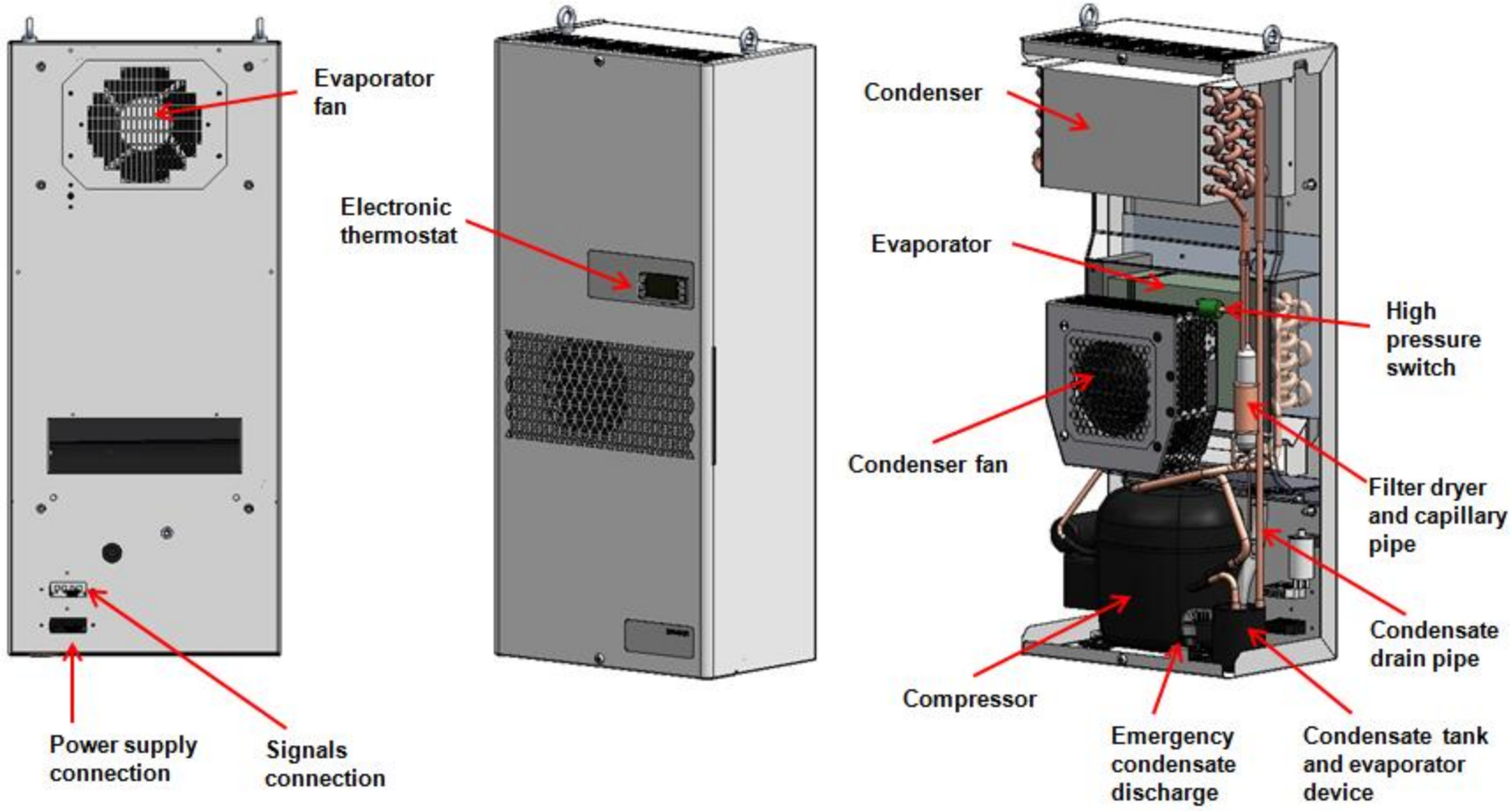
# Routine maintenance – Cooling units.
## Side and roof models.

- The only operations required are to clean the heat exchange battery and the outer fan (ambient air side), clean the filter if installed and periodically monitor the following elements:
  - Control and cleaning of the outer portion of the heat exchange battery and external fan. **Every 2 months at least.**
  - Control of external and internal fan against overheating or excessive vibration. **Every 6 months at least**.
  - Control and cleaning of the removal system and condensate drain. **Every 3 months at least**
  - Control and filter cleaning if it's clogged. **Every two months at least. Maybe every day if necessary.**
    - **A dirty filter reduces the cooling performance.**

# Routine maintenance – Cooling units.

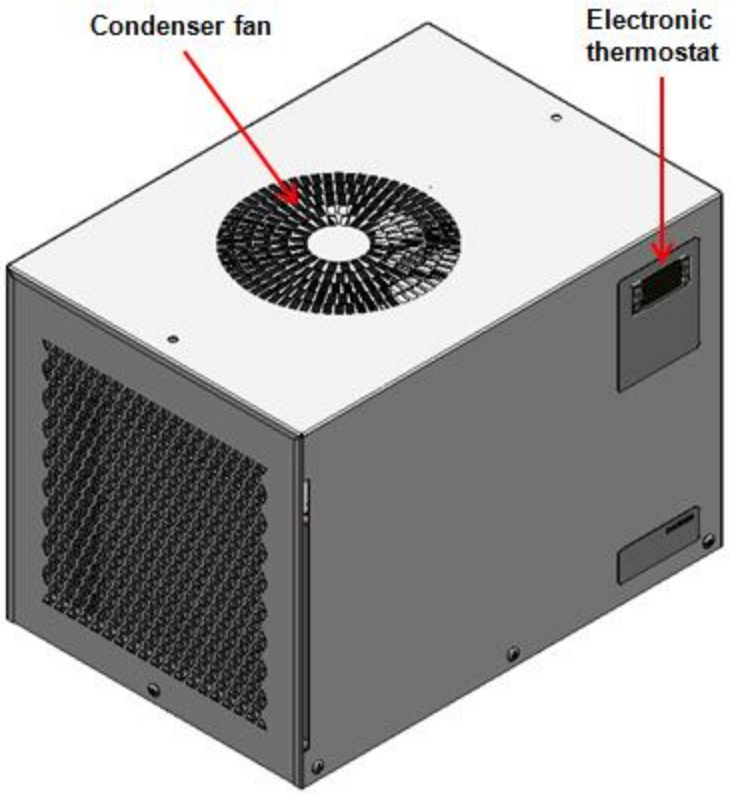
## Side model.

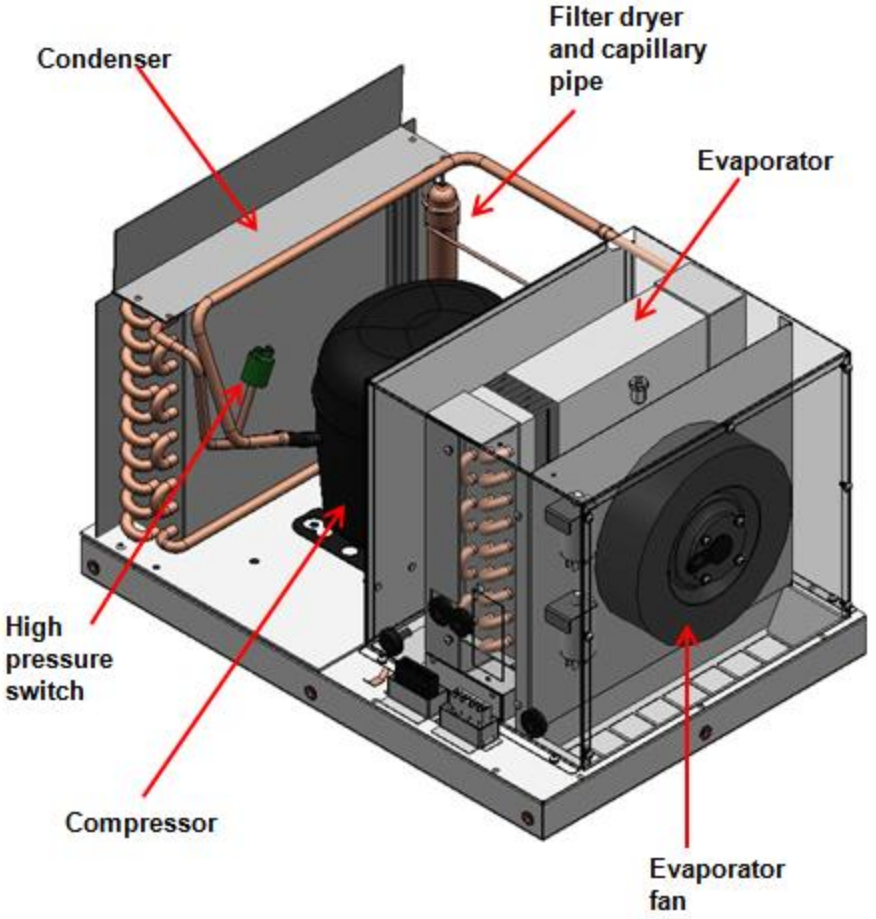
- Architecture of side cooling unit model.



# Routine maintenance – Cooling units.

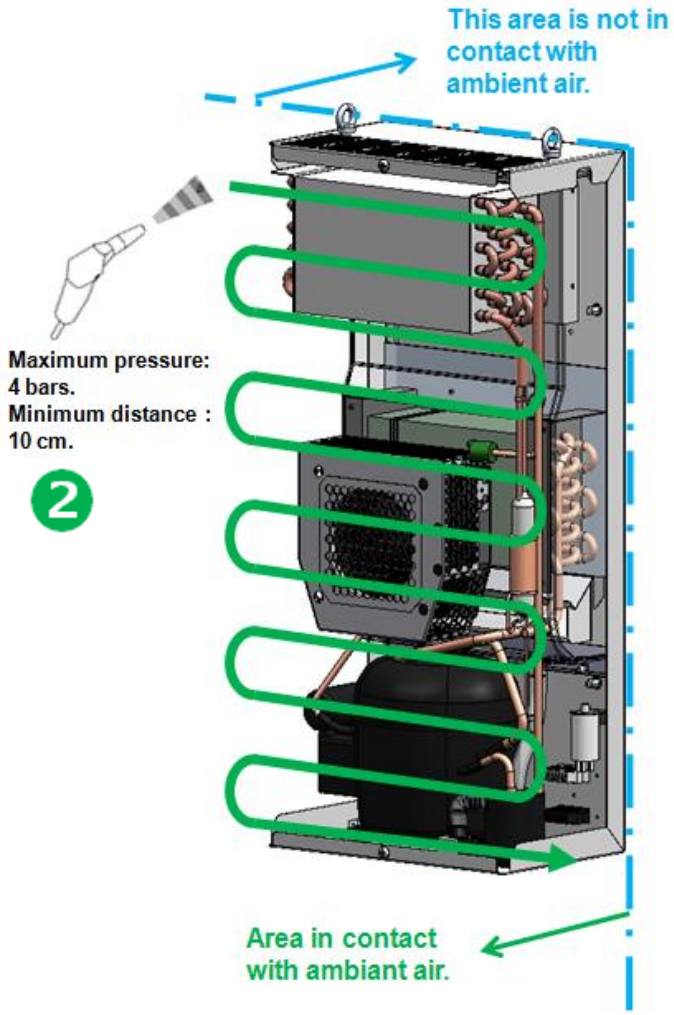
- Architecture of roof cooling unit model.



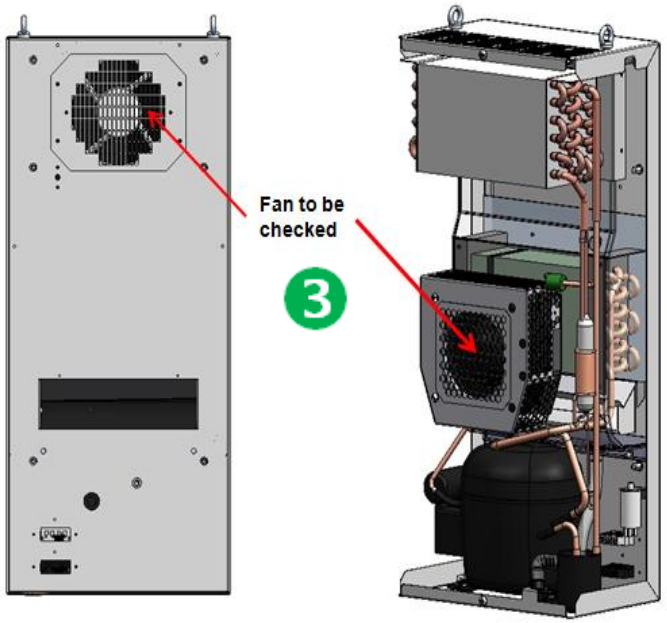
# Routine maintenance – Cooling units.
## Side model.

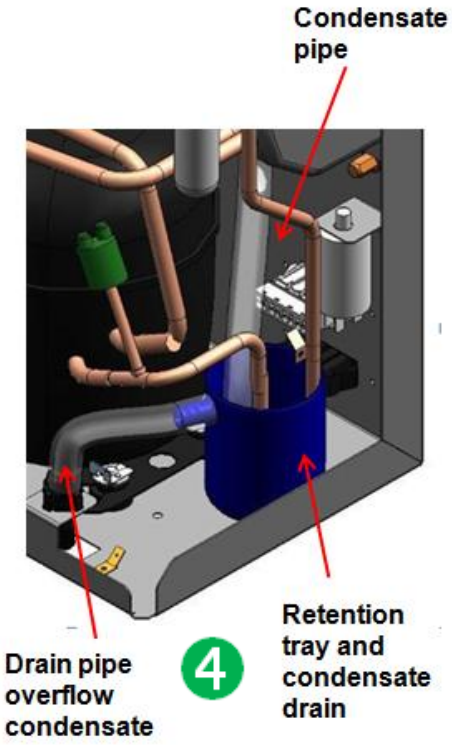
- Operating mode: **These operations require the intervention of 2 people.**
  - Cleaning with compressed air to eliminate dust.
  - Cleaning with a cloth and detergent compatible with PVC (polyvinyl chloride), PE (polyethylene), PP (polypropylene) and silicones to remove fats or oils.

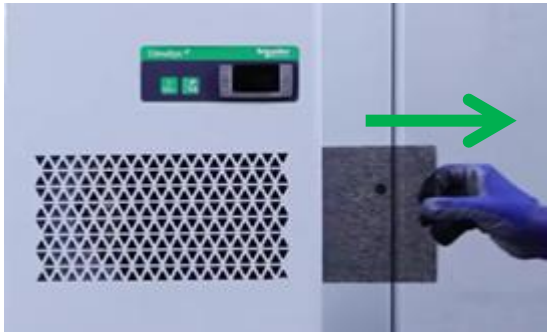



# Routine maintenance – Cooling units. Side model.

- Operating mode: **These operations require the intervention of 2 people.**
  - Visual and tactile inspection of the fans.
  - Control and cleaning of the removal system and condensate drain.
  - Filter cleaning with compressed air if necessary.



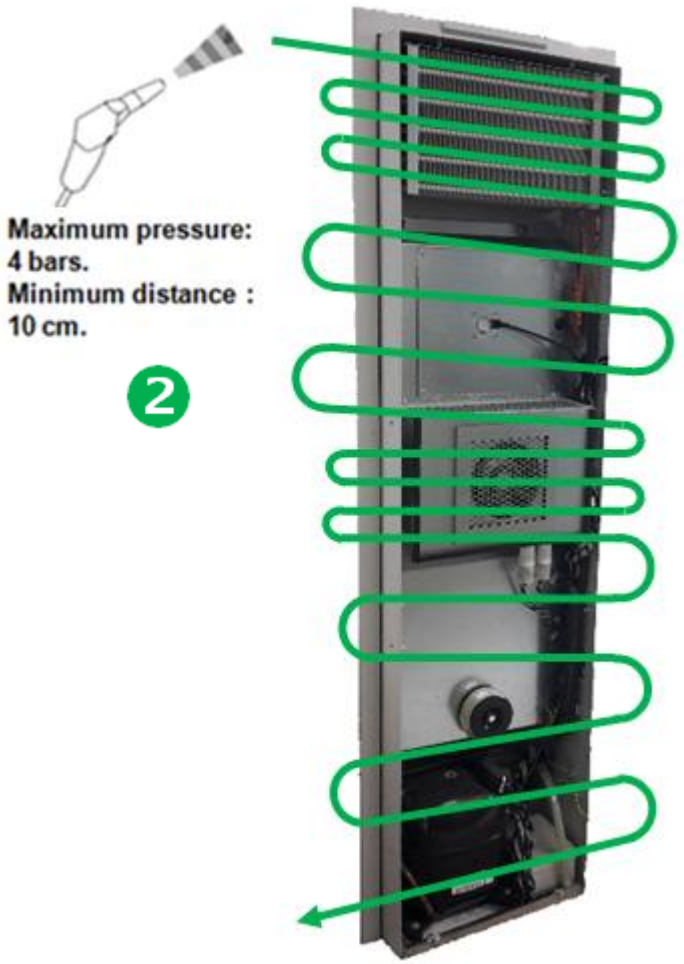

Maximum pressure: 4 bars.
Minimum distance : 10 cm.

# Routine maintenance – Cooling units.
## SLIM model.

- Operating mode: **These operations require the intervention of 2 people.**
  - Cleaning with compressed air to eliminate dust.
  - Cleaning with a cloth and detergent compatible with PVC (polyvinyl chloride), PE (polyethylene), PP (polypropylene) and silicones to remove fats or oils.

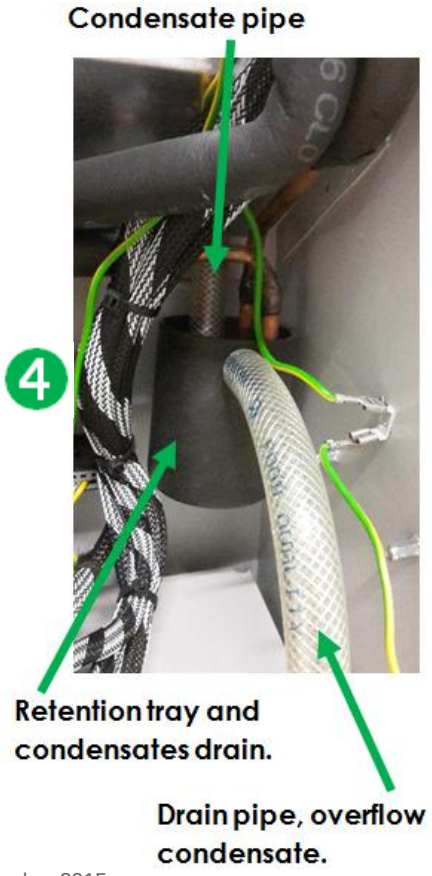
# Routine maintenance – Cooling units.
## SLIM model.

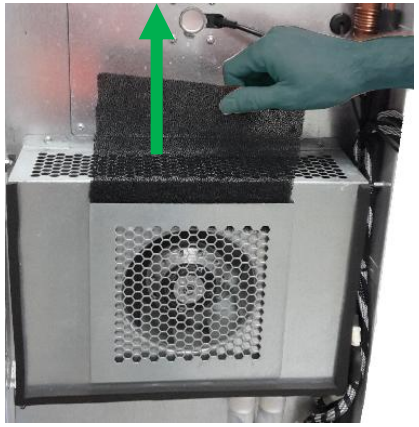
- Operating mode: **These operations require the intervention of 2 people.**
  - Cleaning with compressed air to eliminate dust.
  - Cleaning with a cloth and detergent compatible with PVC (polyvinyl chloride), PE (polyethylene), PP (polypropylene) and silicones to remove fats or oils.

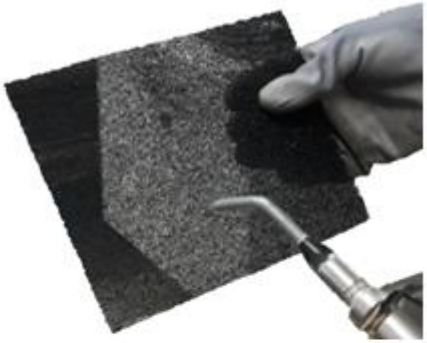


# Routine maintenance – Cooling units.
## SLIM model.

- Operating mode: **These operations require the intervention of 2 people.**
  - Visual and tactile inspection of the fans.
  - Control and cleaning of the removal system and condensate drain.
  - Filter cleaning with compressed air if necessary.

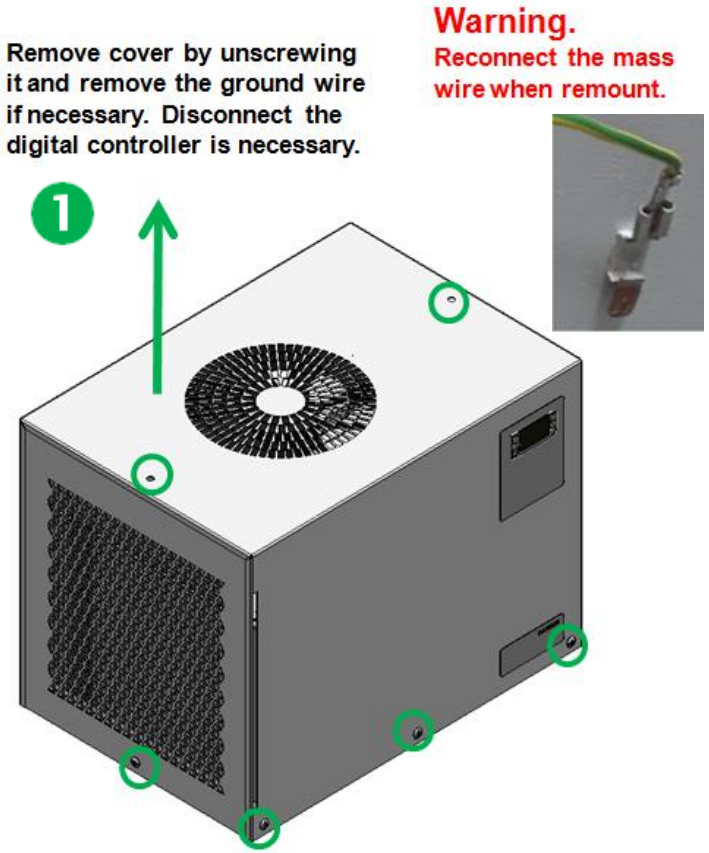



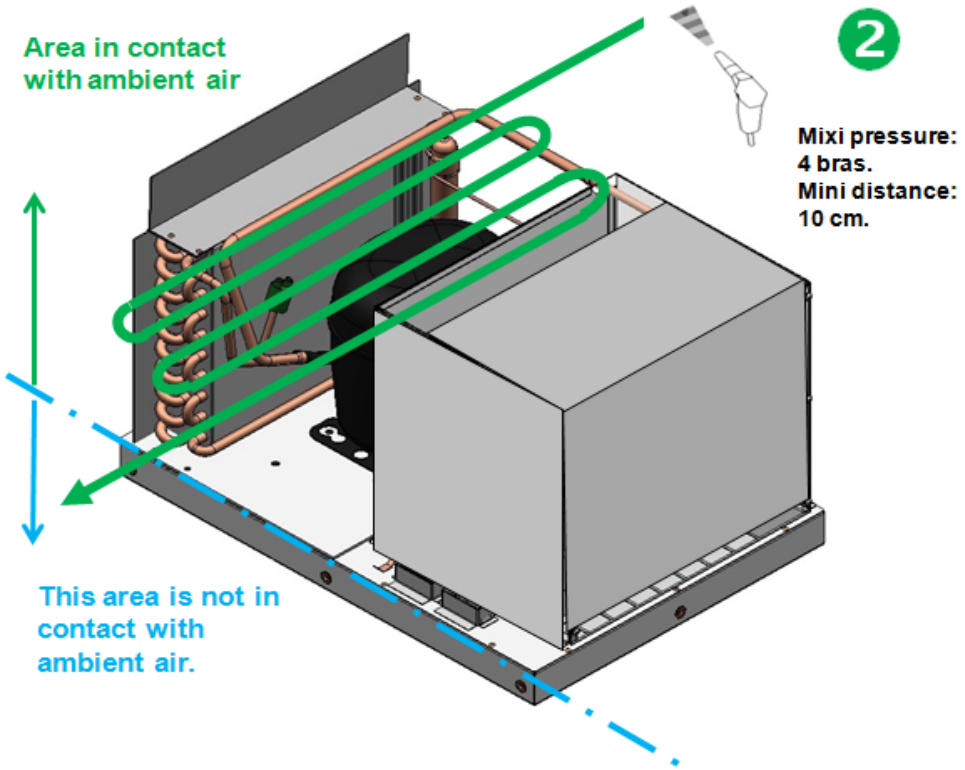





# Routine maintenance – Cooling units.
## Roof model.

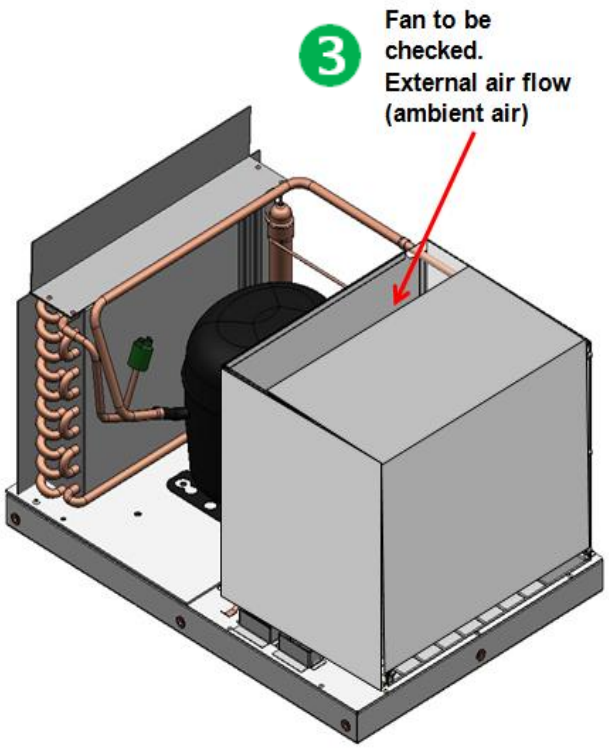
- Operating mode: **These operations require the intervention of 2 people.**
  - Cleaning with compressed air to eliminate dust.
  - Cleaning with a cloth and detergent compatible with PVC (polyvinyl chloride), PE (polyethylene), PP (polypropylene) and silicones to remove fats or oils.

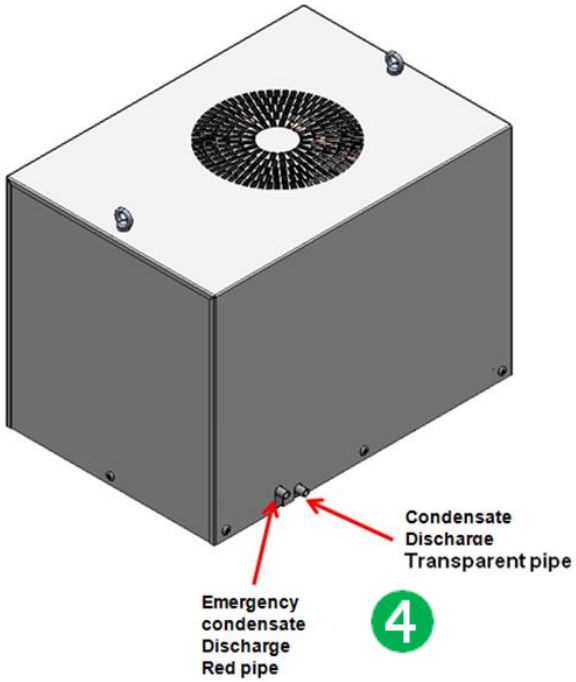


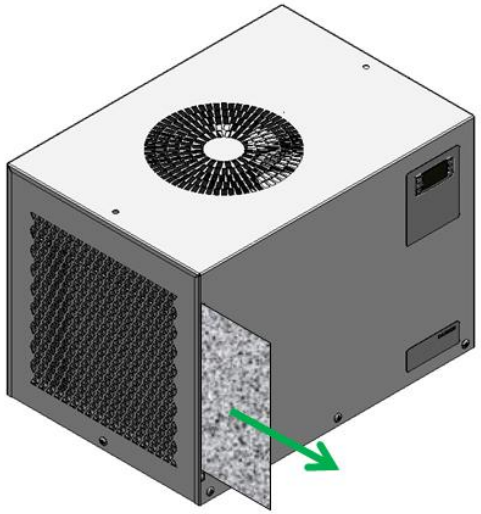



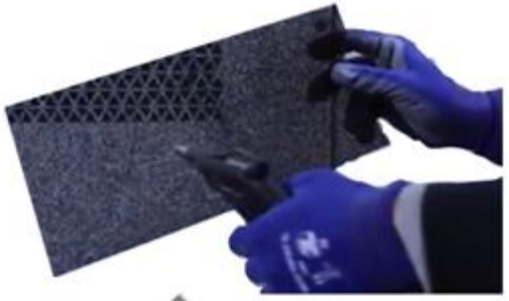
# Routine maintenance – Cooling units.
## Roof model.

- Operating mode: **These operations require the intervention of 2 people.**
  - Visual and tactile inspection of the external fan.
  - Checking and cleaning the condensate drain system if necessary.
  - Filter cleaning with compressed air if necessary.



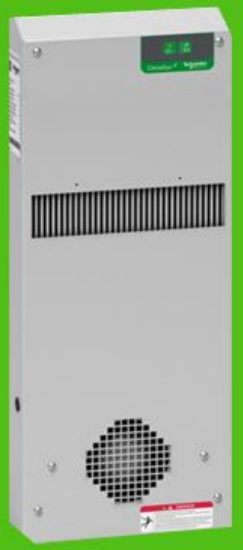





5

**Maximum pressure: 4 bars.**
**Minimum distance : 10 cm.**

# Thank you for your attention.



Schneider Electric