

# AX'R

INSTRUCTION AND MAINTENANCE MANUAL





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**For your safety, we recommend the use of PPE (Personal Protective Equipment)**

## 1 - DELIVERY

**The installation and maintenance operations must be performed by qualified and experienced personnel.**

**Follow the operating precautions to the letter when working on the unit. Labels have been placed on the unit to remind you of the safety instructions.**

**This appliance is not designed to be used by persons (including children) with limited physical, sensory or mental capabilities, or by persons with insufficient experience or knowledge, unless they are being supervised by a person responsible for their safety or have received instructions on the use of the appliance from such a person.**

**Children must be supervised to ensure that they do not play on or with the appliance.**

**As a general rule, follow all applicable safety regulations and standards.**

**Damage to the dual-flow air handling unit will be disregarded in the event of failure to follow the instructions in this document.**

Each unit has a data plate with an identification number. This number must be quoted in all correspondence.

In accordance with Article 133-3 of the French Code of Commerce, the recipient is entirely responsible for checking the condition of the goods received. In the event of missing items, the customer must provide the exact number of parcels delivered. Any damaged or missing items must be specified on the delivery note in the presence of the driver before signing the delivery note. This information must be confirmed to the carrier by registered letter within three business days. The comments "conditional" and "pending unwrapping" shall have no value. The client must unwrap the goods in the presence of the driver. Claims must be made at the time of delivery and be described in detail.

The unit must be stored in its packaging and sheltered from weather.

### **AX'R Classic, Classic RHE and Vertical**

- The 3 sizes of the "vertical" model and the 1000 size of the "Classic" and "Classic RHE" models are packaged units, delivered mounted on feet.
- Sizes > 1000 m<sup>3</sup>/h for the "Classic" and "Classic RHE" models are multi-block units, delivered assembled. The blocks can be split in order to facilitate their passage through doorways (see splitting procedure in the HANDLING part).

### **AX'R Ceiling-mounted**

The ceiling-mounted model is a packaged unit delivered on a pallet.

## 2 - HANDLING

The unit can be handled by slings, lifting beam or stacker.

In all cases, the lifting point has to be at the base of the unit. For mono-block or assembled multi-block units, the centre of gravity is at the centre of the unit.

**This operation will be performed by qualified personnel.**



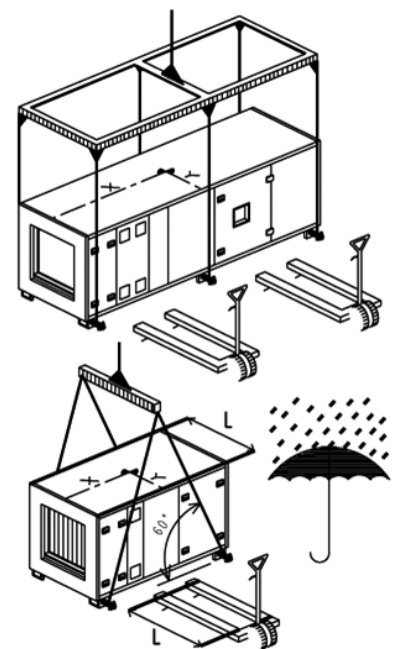
**The unit must be handled with care, and only in the horizontal position. If the unit is handled by a lifting beam + slings, tubes need to be placed in the holes provided in the support feet.**



**Ensure that the crane hook adapter is large enough to prevent the belts applying any pressure to the AHU casing. Furthermore, ensure that the steel tubes are secured to prevent any movement**



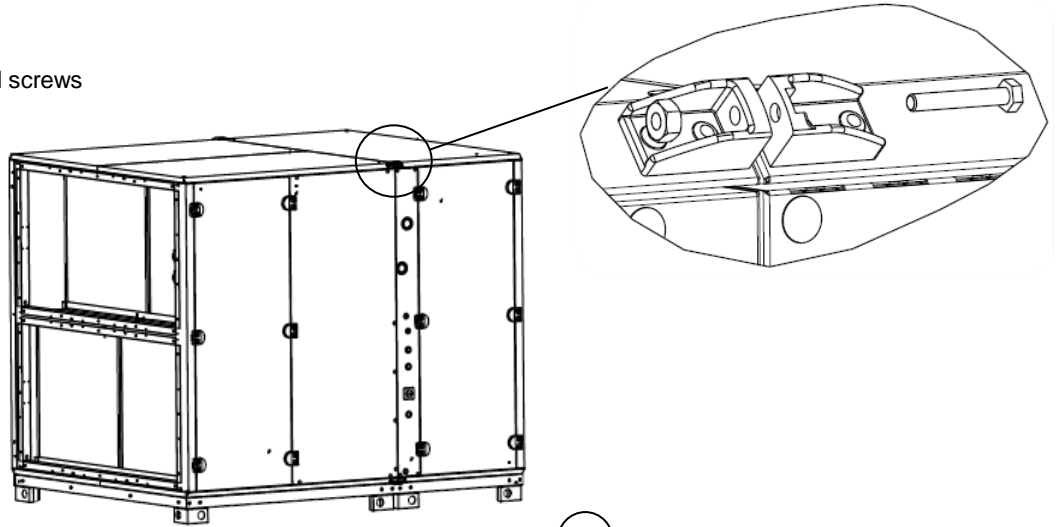
If the above-mentioned lifting methods cannot be used, the unit may be lifted using a forklift truck, taking great care not to dent the lower panel (use forks of a sufficient length). Follow the applicable handling rules.



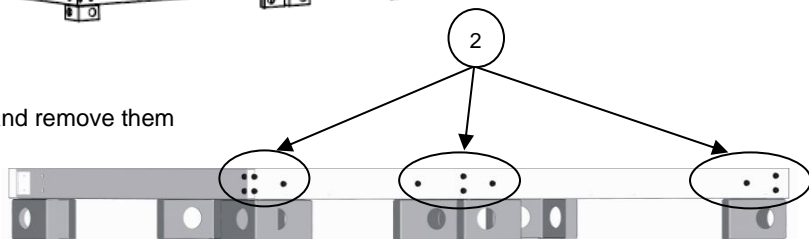
## AX'R Classic and AX'R Classic RHE

### Splitting procedure

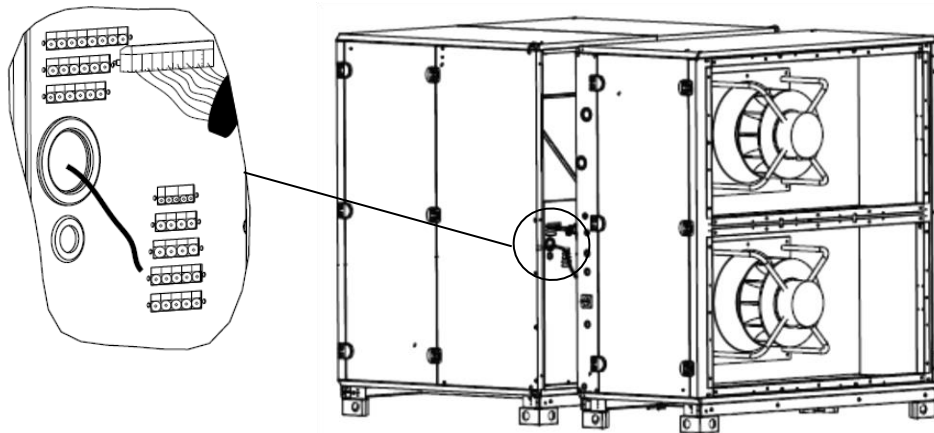
1. Remove the 4 nuts and screws



2. Undo the screws on each beam and remove them



3. Disconnect the electrical connectors on the control and disconnect switch



4. You can now separate the blocks.

Note: Follow the procedure in reverse to re-couple the blocks.



**When uncoupling the blocks, ensure that the 18X10 PVC gasket located between the blocks remains correctly in place to guarantee a perfect seal. If necessary, fit one.**

**Notice :** if there is a roof, remove it first in accordance with the instructions given on the roof fitting plan (see technical specifications).

## AX'R Classic, AX'R Classic RHE, et AX'R Vertical

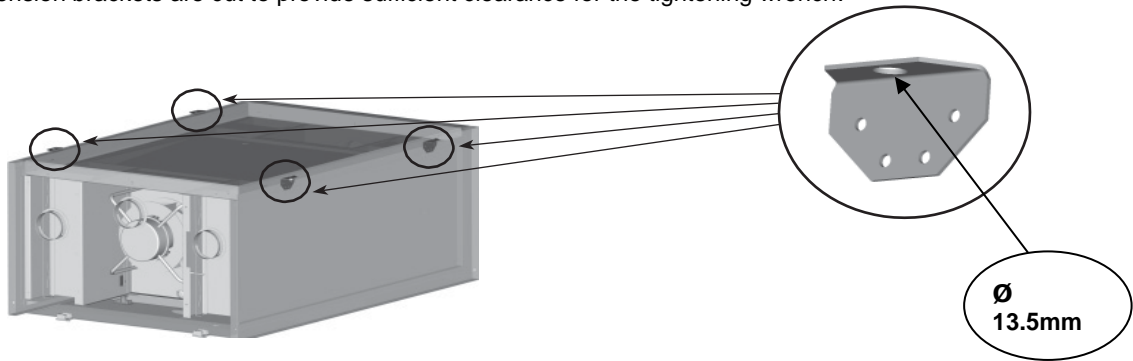
These models are placed directly on a flat, smooth floor. The flatness value must be the best possible, around one per thousand. Under normal conditions of use, there is no need to fix the unit to the floor.

The unit's support feet must be standing fully on their contact surface. It is important to allow sufficient service space to facilitate maintenance operations.

### AX'R Ceiling-mounted

This model has suspension brackets to allow easy ceiling mounting.

These suspension brackets are cut to provide sufficient clearance for the tightening wrench.



## 3 - DESCRIPTION OF THE UNIT & TECHNICAL SPECIFICATIONS

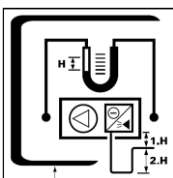
### DESCRIPTION OF THE UNIT

#### Firm data plate

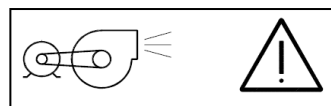
|  |   |
|--|---|
|  <b>HYDRONIC</b><br><small>QUINOA GROUP</small> | 61400 Mortagne-au-Perche - FRANCE             |
|  | Tél: (+33) 02.33.85.14.00<br>www.hydronic.com |
| <b>CE</b>  |   |
| N° série / Serial No. _____  |   |
| Type / Type _____  |   |
| Moteur / Motor _____   |   |
| Electrique / Electrical _____  |   |
| Fluide / Fluid _____   |   |
| Année de construction / Date of Manufacture _____  | Made in France                                |

This is fixed on the unit and shows the unit's specifications as well as the order number and code..

### Pictogrammes



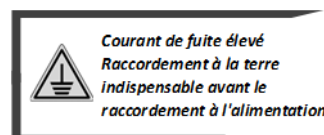
Condensate drain siphon



Danger: fan



Monitor the cleanliness of the filters



Grounding compulsory



Danger: electrics box

## Tables of weights and dimensions

### AX'R Classic RHE

| Sizes | Dimensions (mm) |             |       | Block 1 weight (kg)<br>+/- 10% | Block 2 weight (kg)<br>+/- 10% | Total weight* (kg)<br>+/- 10%<br>Height |
|-------|-----------------|-------------|-------|--------------------------------|--------------------------------|---|
|       | Height          | Length      | Width |                                |                                |   |
| 10    | 958             | 1360        | 810   | -                              |                                | 958                                     |
| 20    | 1158            | 557 + 847   | 1010  | 169                            | 140                            | 1158                                    |
| 30    | 1359            | 800 + 800   | 1210  | 246                            | 186                            | 1359                                    |
| 40    | 1659            | 800 + 800   | 1510  | 327                            | 231                            | 1659                                    |
| 50    | 1659            | 800 + 800   | 1510  | 369                            | 235                            | 1659                                    |
| 60    | 1959            | 800 + 800   | 1810  | 427                            | 275                            | 1959                                    |
| 75    | 1959            | 800 + 800   | 1810  | 473                            | 278                            | 1959                                    |
| 100   | 2090            | 1100 + 1100 | 1920  | 505                            | 450                            | 2090                                    |
| 150   | 2340            | 1100 + 1200 | 2192  | 650                            | 600                            | 2340                                    |

### AX'R Classic

| Sizes | Dimensions (mm) |            |       | Block 1 weight (kg)<br>+/- 10% | Block 2 weight (kg)<br>+/- 10% | Total weight* (kg)<br>+/- 10%<br>Height |
|-------|-----------------|------------|-------|--------------------------------|--------------------------------|---|
|       | Height          | Length     | Width |                                |                                |   |
| 10    | 958             | 1674       | 810   | -                              | -                              | 958                                     |
| 20    | 1158            | 1197 + 847 | 1010  | 200                            | 150                            | 1158                                    |
| 30    | 1359            | 1264 + 800 | 1210  | 275                            | 190                            | 1359                                    |
| 40    | 1659            | 1264 + 800 | 1510  | 350                            | 230                            | 1659                                    |
| 60    | 1959            | 1407 + 850 | 1810  | 460                            | 305                            | 1959                                    |

### AX'R Ceiling-mounted

| Sizes | Dimensions (mm) |        |       | Weight (kg)<br>+/- 10%<br>Height |
|-------|-----------------|--------|-------|----------------------------------|
|       | Height          | Length | width |                                  |
| 7     | 584             | 1453   | 730   | 584                              |
| 12    | 584             | 1592   | 832   | 584                              |
| 16    | 584             | 1856   | 832   | 584                              |

### AX'R Vertical

| Sizes | Dimensions (mm) |        |       | Weight (kg)<br>+/- 10%<br>Height |
|-------|-----------------|--------|-------|----------------------------------|
|       | Height          | Length | width |                                  |
| 7     | 1385            | 1313   | 730   | 1385                             |
| 15    | 1758            | 1593   | 832   | 1758                             |
| 20    | 1901            | 1735   | 832   | 1901                             |

### Additional box

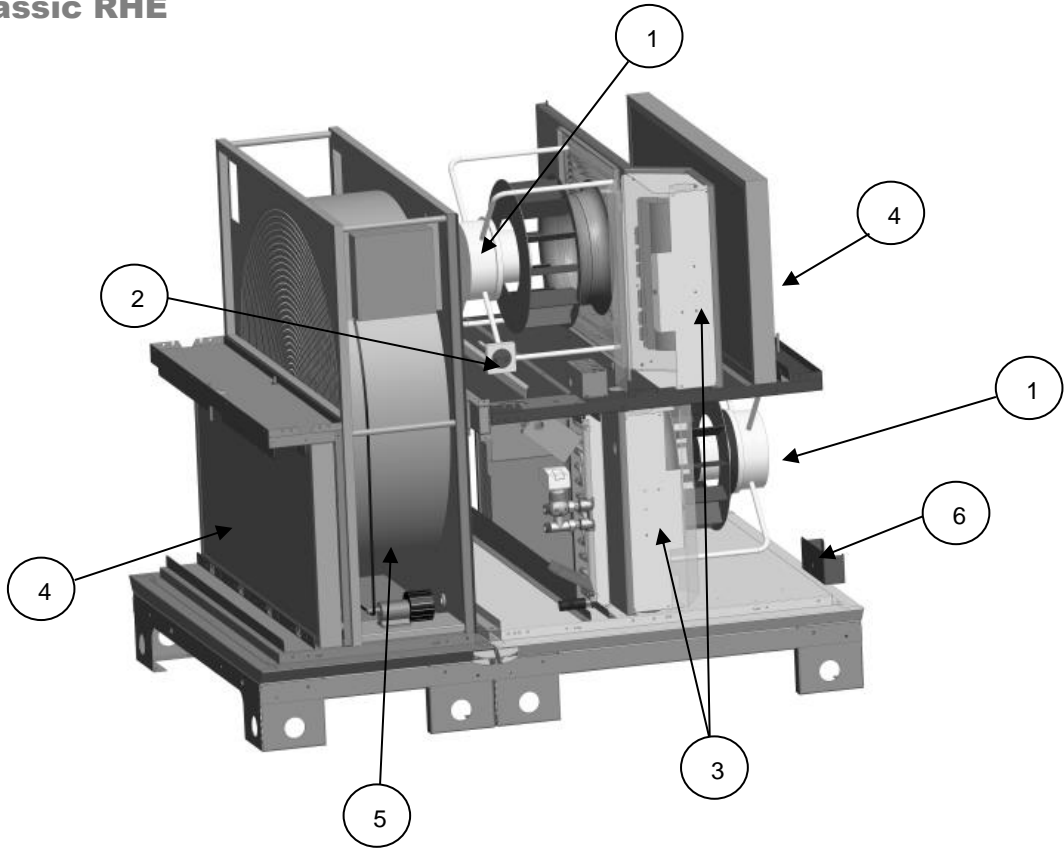
| Additional box sizes | Correspondence with AX'R model   | Additional box casing dimensions | Additional box weight (kg)<br>+/- 10% |
|----------------------|--|----------------------------------|---------------------------------------|
| 1                    | AX'R Classic 10 et AX'R Classic RHE 10<br>AX'R Vertical 7<br>AX'R Cieling 7              | 542x496x810                      | 49                                    |
| 2                    | AX'R Classic 20 et AX'R Classic RHE 20<br>AX'R Vertical 15 et 20<br>AX'R Cieling 12et 16 | 642x496x1010                     | 62                                    |
| 3                    | AX'R Classic 30 et AX'R Classic RHE 30   | 759x400x1210                     | 68                                    |
| 4                    | AX'R Classic 40 et AX'R Classic RHE 40<br>AX'R Classic RHE 50                            | 909x400x1510                     | 88                                    |
| 5                    | AX'R Classic 60 et AX'R Classic RHE 60<br>AX'R Classic RHE 75                            | 1059x400x1810                    | 112                                   |



The dimensions in the tables above include all the components attached to the casing (hinges, collars, feet)

**LOCATION OF COMPONENTS**

**AX'R Classic RHE**



1 – Fan motor assembly

5 – Rotary heat exchanger

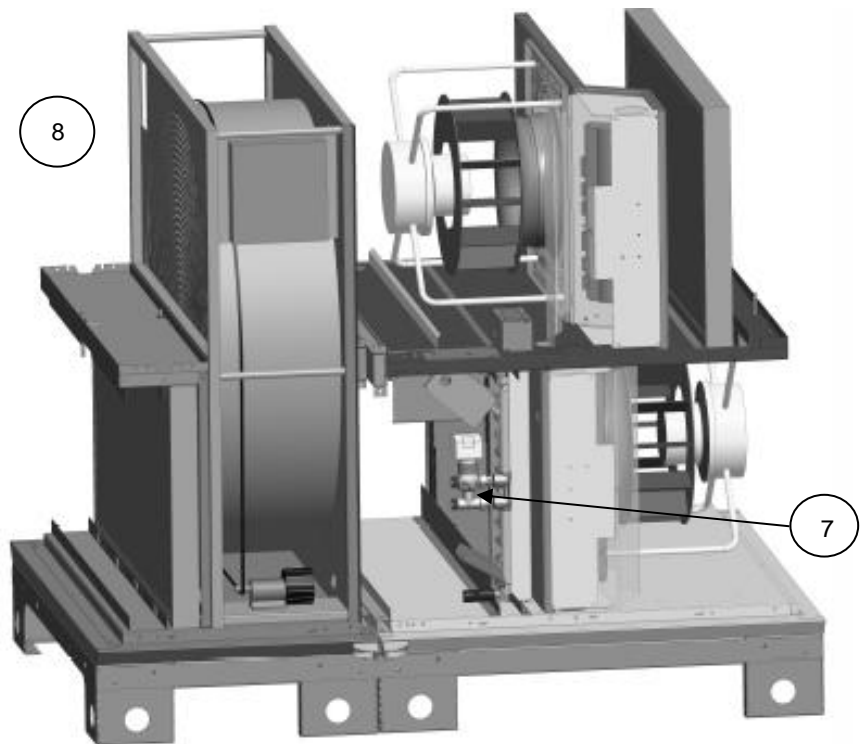
2 – General switch (on outer casing)  
 Main ground terminal (on inner body, see page 18)

6 – Support display

3 – Controller electric box  
 3 – Power electric box  
 4 – Filter

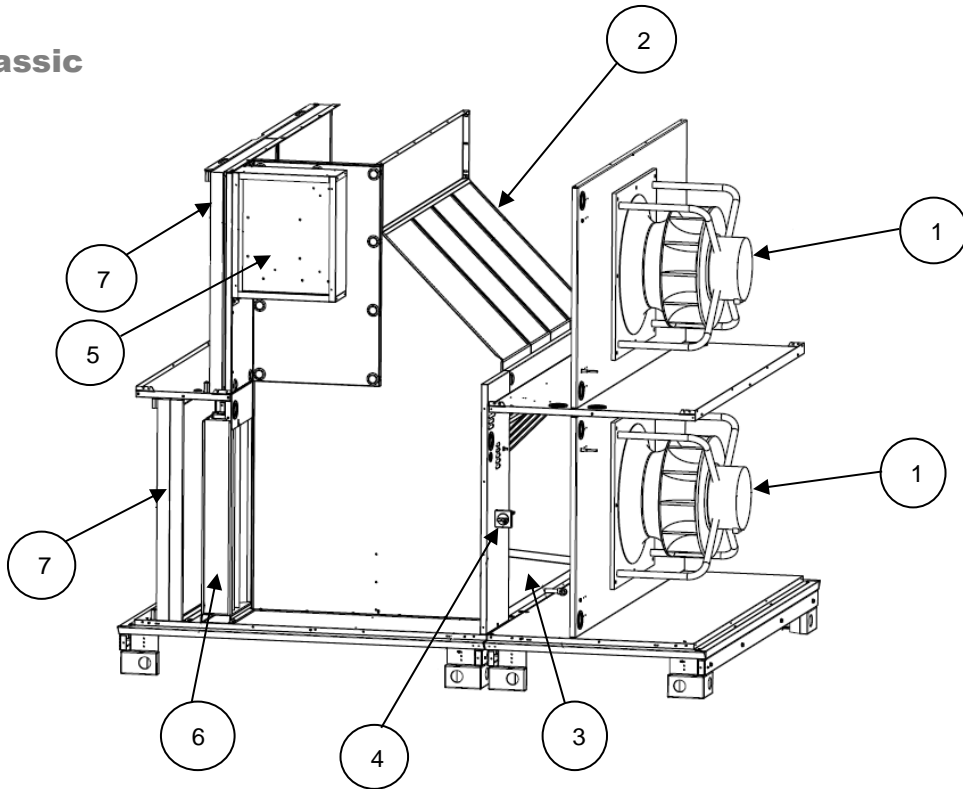
} Depending on the unit configuration

7 – Internal coil + valve mounting  
 8 – Mixing option (damper + servomotor)





## AX'R Classic



1 – Fan motor assembly

2 – Plate recovery unit

3 – Drain pan

4 – General switch (on outer casing)

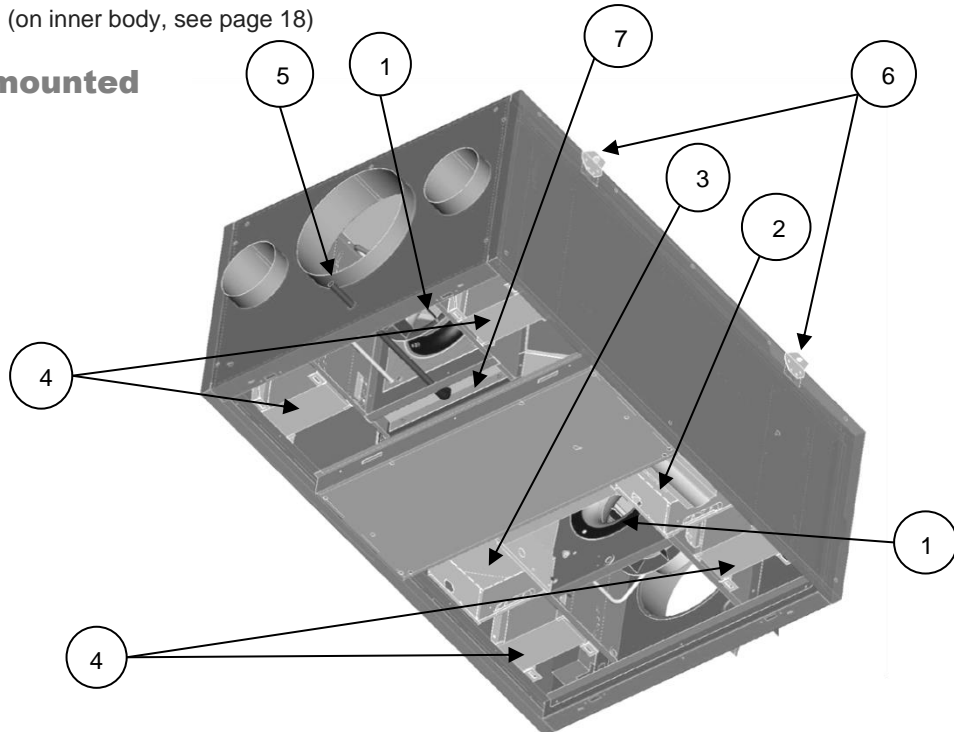
5 – Electrics box (control and power)

6 – Damper

7 – Filters

⏏ Main ground terminal (on inner body, see page 18)

## AX'R Ceiling-mounted



1 – Fan motor assembly

2 – Electrical control box

3 – Power electrics box

4 – Filters

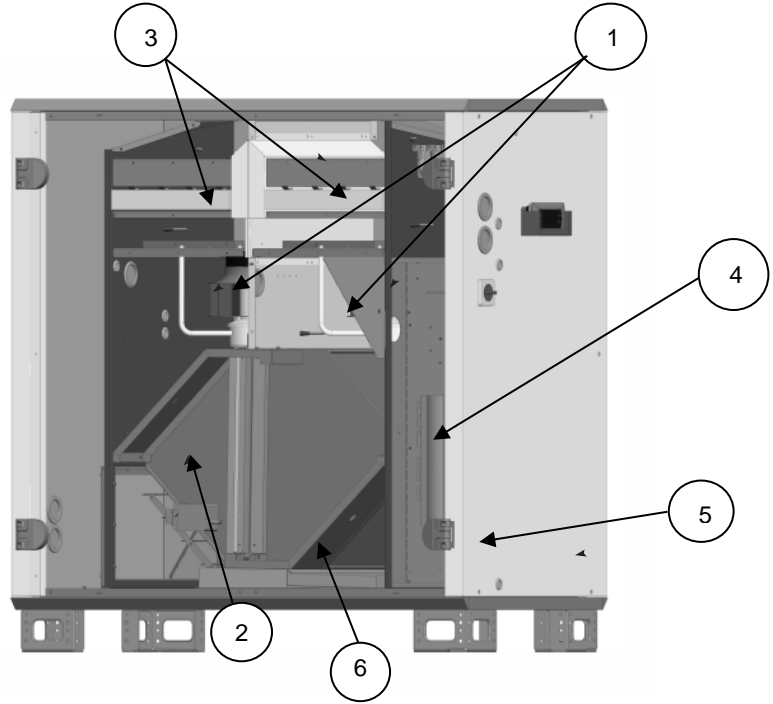
5 – Condensate drain

6 – Suspension brackets

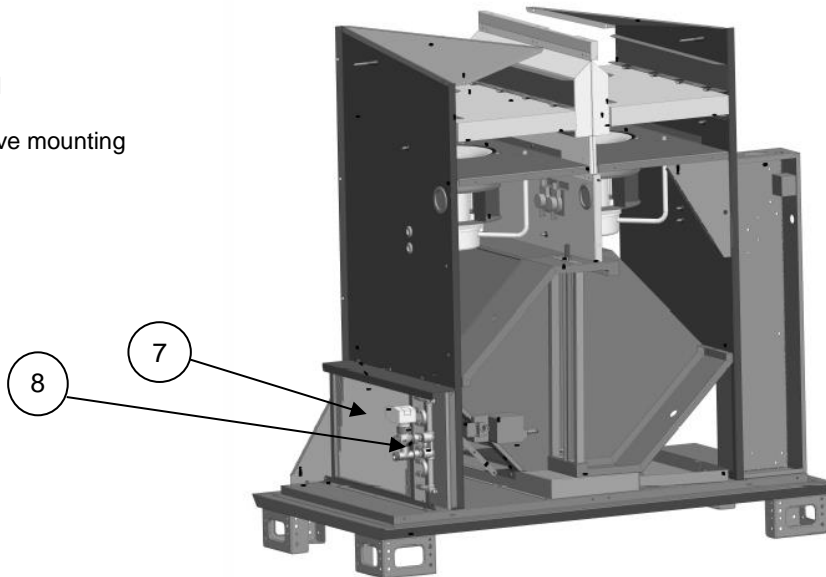
7 – Condensate drain pan

**AX'R Vertical**

- 1 – Fan motor assemblies
- 2 – Plate heat exchanger
- 3 – Filters
- 4 – Control and power electrics box
- 5 – Condensate drain
- 6 – Condensate drain pan

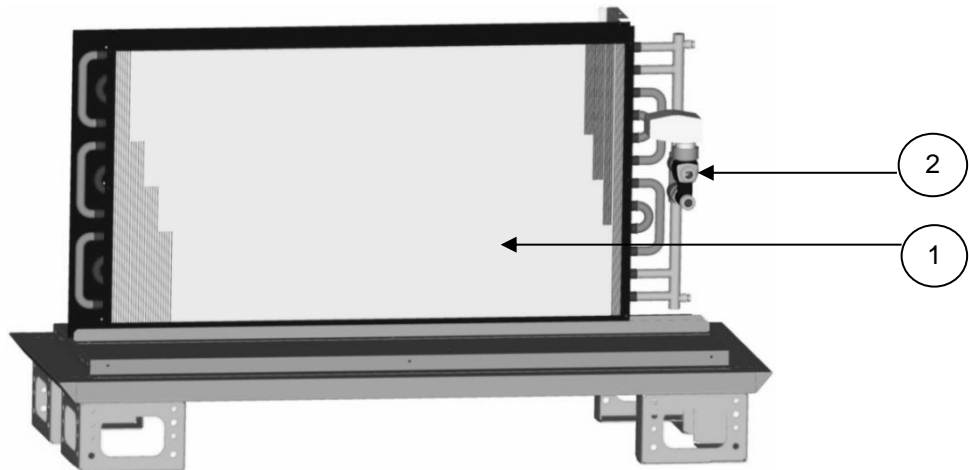


- 7 – Coil
- 8 – Valve mounting



**Additional coil box**

- 1 – Coil
- 2 – Valve mounting



## TECHNICAL CHARACTERISTICS

### Air flows

#### AX'R Classic

| Sizes | AX'R Classic                          |                                     |                                     |
|-------|---------------------------------------|-------------------------------------|-------------------------------------|
|       | Minimum flow rate (m <sup>3</sup> /h) | Nominal Flow Rate m <sup>3</sup> /h | Maximum flow rate m <sup>3</sup> /h |
| 10    | 300                                   | 1000                                | 1200                                |
| 20    | 500                                   | 2000                                | 2200                                |
| 30    | 700                                   | 3000                                | 3700                                |
| 40    | 900                                   | 4500                                | 5100                                |
| 60    | 1400                                  | 6000                                | 6600                                |

Operating limit temperature: -20°C/+ 60°C with preheating coil

#### AX'R Classic RHE

| Sizes | AX'R Classic RHE                      |                                     |                                     |  |
|-------|---------------------------------------|-------------------------------------|-------------------------------------|--|
|       | Minimum flow rate (m <sup>3</sup> /h) | Nominal Flow Rate m <sup>3</sup> /h | Maximum flow rate m <sup>3</sup> /h | Maximum flow rate without cooling coil m <sup>3</sup> /h |
| 10    | 300                                   | 1000                                | 1200                                | 1450   |
| 20    | 500                                   | 2000                                | 2500                                | 2800   |
| 30    | 700                                   | 3000                                | 3700                                | 4500   |
| 40    | 900                                   | 4500                                | 5700                                | 5700   |
| 50    | 900                                   | 5000                                | 5700                                | 7000   |
| 60    | 1400                                  | 6000                                | 8500                                | 8500   |
| 75    | 1400                                  | 7500                                | 8500                                | 11000  |
| 100   | 2500                                  | 10 000                              | 14 000                              | 14000  |
| 150   | 3000                                  | 15 000                              | 18 000                              | 18000  |

Operating limit temperature: -30°C/+ 60°C

#### AX'R Ceiling

| Sizes | Minimum flow rate (m <sup>3</sup> /h) | Nominal Flow Rate m <sup>3</sup> /h | Maximum flow rate m <sup>3</sup> /h |
|-------|---------------------------------------|-------------------------------------|-------------------------------------|
| 7     | 300                                   | 700                                 | 1000                                |
| 12    | 500                                   | 1200                                | 1400                                |
| 16    | 600                                   | 1600                                | 1900                                |

Operating limit temperature: -20°C/+ 60°C with preheating

#### AX'R Vertical

| Sizes | Minimum flow rate (m <sup>3</sup> /h) | Nominal Flow Rate m <sup>3</sup> /h | Maximum flow rate m <sup>3</sup> /h |
|-------|---------------------------------------|-------------------------------------|-------------------------------------|
| 7     | 300                                   | 700                                 | 1200                                |
| 15    | 700                                   | 1500                                | 2000                                |
| 20    | 700                                   | 2000                                | 2600                                |

Operating limit temperature: -20°C/+ 60°C with preheating coil

## Filters

### M5 HEE filter:

Thickness: 48 or 98 mm  
 Efficiency: 40% < opacimetric > 60%  
 Fire rating: M1

### F7 HEE filter:

Thickness: 48 or 98 mm  
 Efficiency: 80% < opacimetric > 90%  
 Fire rating: M1

### F9 HEE filter:

(Only Classic, Classic RHE and Vertical)  
 Thickness: 48 or 98 mm  
 Efficiency: 90% < opacimetric > 95%  
 Fire rating: M1

## AX'R Classic and AX'R Classic RHE filters

|   | Sizes           |                 |                 |                 |                 |                 |                 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|   | 10              | 20              | 30              | 40              | 50              | 60              | 75              |
| <i>Filter Dimensions x Number of cells/air flow</i> | (704x327x48) x1 | (452x435x48) x2 | (552x535x48) x2 | (466x685x48) x3 | (466x685x48) x3 | (566x835x48) x3 | (566x835x48) x3 |

|  |                | Sizes                       |                |
|--|----------------|-----------------------------|----------------|
|  |                | 100                         | 150            |
|  |                | <i>Universal dimensions</i> | 592 x 592 x 48 |
|  | 287 x 592 x 48 | 3                           | 4              |

\*(The sizes concern the "Classic RHE" model)

## AX'R Ceiling-mounted filters

|                                 | Sizes              |                    |                    |
|---------------------------------|--------------------|--------------------|--------------------|
|                                 | 7                  | 12                 | 16                 |
| <i>Filter Dimensions</i>        | 449x189x <b>98</b> | 449x279x <b>98</b> | 449x343x <b>98</b> |
| <i>Thickness (mm)</i>           | 98                 | 98                 | 98                 |
| <i>Number of cells/air flow</i> | 2                  | 2                  | 2                  |

## AX'R Vertical filters

|   | Sizes           |                 |                 |
|---|-----------------|-----------------|-----------------|
|   | 7               | 15              | 20              |
| <i>Filter Dimensions x Number of cells/air flow</i> | (330x597x48) x1 | (471x697x48) x1 | (541x697x48) x1 |

## Dual filtration

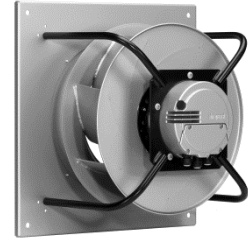
When dual-stage filtration is installed, the two stages of cells are installed on the same runner. This assembly is available on "Classic", "Classic RHE" and "Vertical" models.

## Fan motor assembly

### EC motor

This fan motor assembly is a direct coupling "Plug fan" with rotation speed adjustment via the portable micro-terminal, or by automatic adaptation to a given setpoint.

The AX'R is equipped with 2 fan motor assemblies: 1 at the inlet and 1 at the exhaust. It is also equipped with 4 fan motor assemblies for the 100 and 150 sizes of the "Classic RHE" model



### AX'R Classic and AX'R Classic RHE

|                      | Sizes |        |        |         |         |          |          |
|----------------------|-------|--------|--------|---------|---------|----------|----------|
|                      | 10    | 20     | 30     | 40 & 50 | 60 & 75 | 100      | 150      |
| Fan motor assembly Ø | 250   | 280    | 355    | 400     | 450     | 450      | 500      |
| Quantity             | 2     | 2      | 2      | 2       | 2       | 2 x 2    | 2 x 2    |
| Max. power (W)       | 2x448 | 2x1000 | 2x1700 | 2x1850  | 2x2730  | 2x2x2730 | 2x2x3510 |
| Max. current (A)     | 2x2.8 | 2x1.6  | 2x2.6  | 2x2.9   | 2x4.2   | 2x2x4.2  | 2x2x5.4  |

### AX'R Ceiling

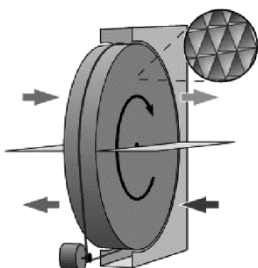
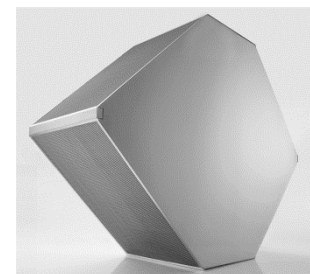
|                      | Sizes   |         |          |
|----------------------|---------|---------|----------|
|                      | 7       | 12      | 16       |
| Fan motor assembly Ø | 250     | 250     | 280      |
| Quantity             | 2       | 2       | 2        |
| Max. power (W)       | 2 x 448 | 2 x 448 | 2 x 1000 |
| Max. current (A)     | 2 x 2.8 | 2 x 2.8 | 2 x 1.6  |

### AX'R Vertical

|                      | Sizes   |          |          |
|----------------------|---------|----------|----------|
|                      | 7       | 15       | 20       |
| Fan motor assembly Ø | 250     | 280      | 280      |
| Quantity             | 2       | 2        | 2        |
| Max. power (W)       | 2 x 448 | 2 x 1000 | 2 x 1000 |
| Max. current (A)     | 2 x 2.8 | 2 x 1.6  | 2 x 1.6  |

### Heat recovery unit

"Counter Flow" plate heat recovery unit (for AX'R Ceiling and AX'R Vertical models) equipped with a condensate drain pan, a motorised bypass and controlled by "AX'R Control".

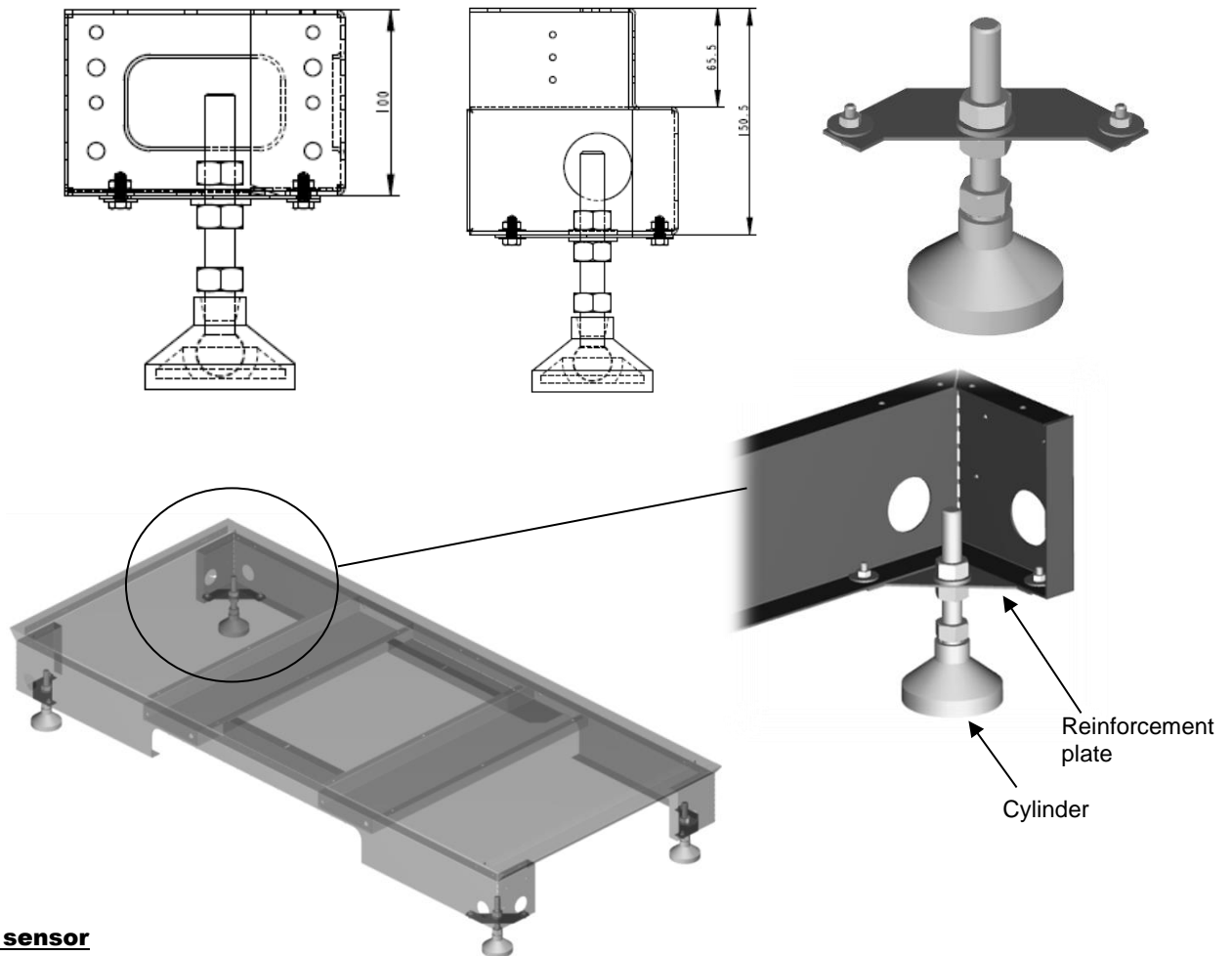


Variable speed rotary heat exchanger ("AX'R Classic RHE" model), controlled by "AX'R Control".

**Options and accessories**

**Support feet and accessories (AX'R "Vertical" and "Classic" only)**

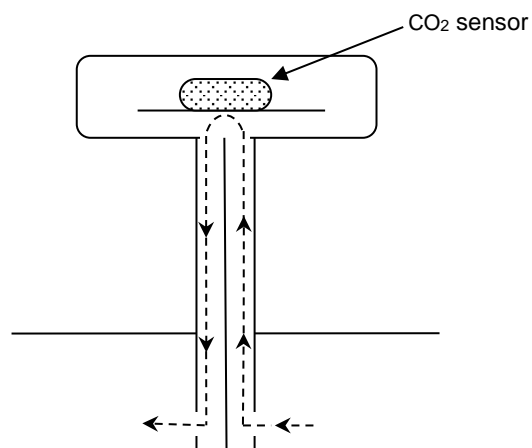
To obtain a greater clearance height, fit the adjustable feet (30 to 100 mm) underneath the standard feet.



**CO<sub>2</sub> sensor**

The CO<sub>2</sub> sensor must be positioned on the return air duct, so that it can measure the CO<sub>2</sub> level emitted from the part(s) treated.  
This sensor is supplied as a spare part and the manual for this is included in its packaging.

**Operating principle**



To configure the CO<sub>2</sub> level activation threshold, refer to the information on air quality for the town/city in which the AHU is installed.

CO<sub>2</sub> concentration scale and the effects on humans:  
 (Our CO<sub>2</sub> sensor has an operating range of 0 to 2000 ppm)

| CO <sub>2</sub> concentration | Effect on humans                    |
|-------------------------------|-------------------------------------|
| 380 - 480 ppm                 | Normal atmospheric level            |
| 600 - 800 ppm                 | Correct level for enclosed spaces   |
| 1000 - 1100 ppm               | Tolerable level for enclosed spaces |
| 5000 ppm                      | Upper limit for 8 hours of exposure |

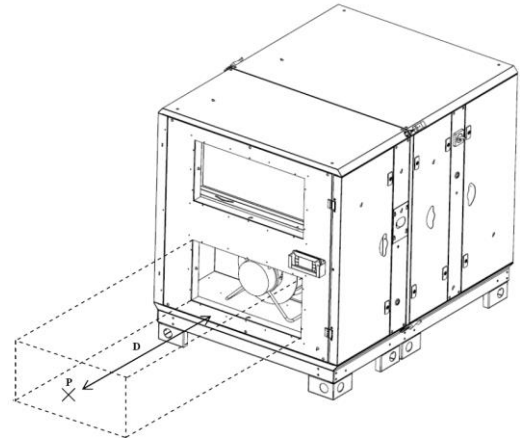
\*CO<sub>2</sub> sensor (sensor in duct): refer to the attached supplier manual

**Constant pressure sensor**

The constant pressure is only controlled for the flow of fresh supply air (if optional constant pressure kit sold).  
 The fresh air fan is controlled by the signal from this pressure sensor in the duct.  
 The exhaust air flow is controlled by the flow rate signal read off the flow of fresh air, and may vary according to a factor M (0.5 – 1.5).  
 Two pressure values can be configured: Nominal pressure and Reduced pressure.  
 The duct pressure sensor must be positioned on the supply air inlet duct at a distance:

**$D = 2 Dh$**  (hydraulic Ø)

- If the duct is circular, Dh = Ø of the duct
- If the duct is rectangular  $Dh = \frac{2 \times L \times l}{L + l}$

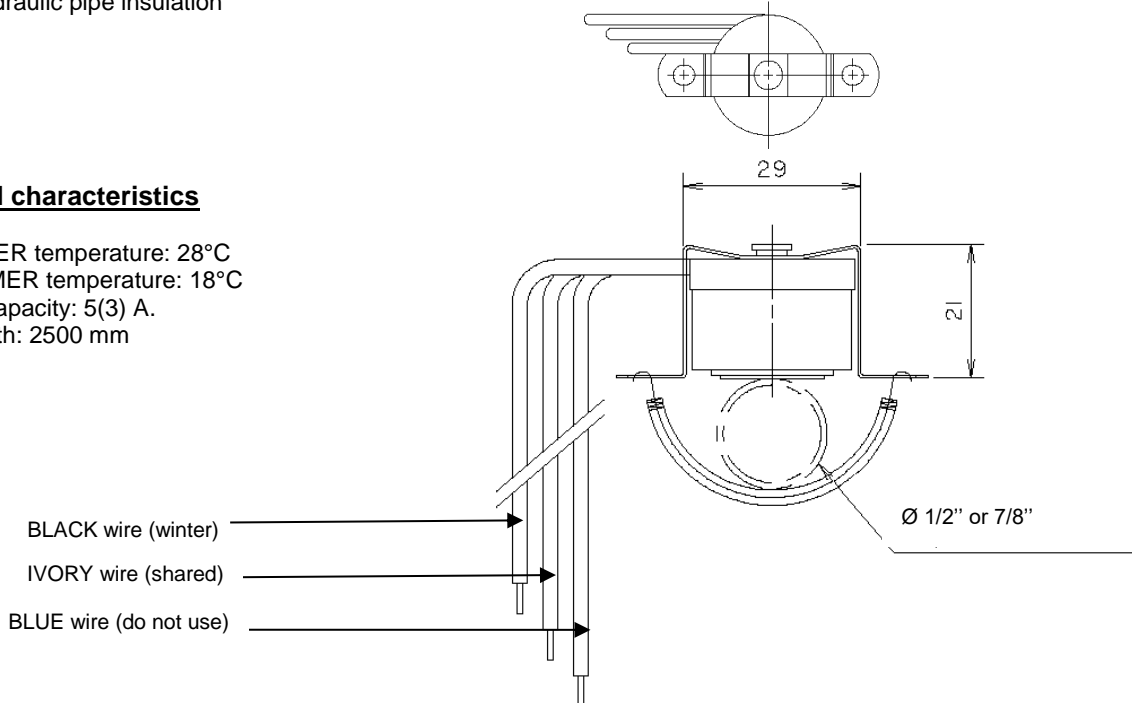


**Changeover thermostat for mixed coil**

Installation on the hydraulic network is the responsibility of the customer.  
 The Changeover thermostat installed on the pipe must be integrated into the hydraulic pipe insulation

**Technical characteristics**

Min. WINTER temperature: 28°C  
 Min. SUMMER temperature: 18°C  
 Breaking capacity: 5(3) A.  
 Cable length: 2500 mm



**Damper**



The damper is not protected against the weather if the canopy option has not been selected.

## 4 - INSTALLATION AND CONNECTIONS INSTALLATION



The installation of equipment must comply with the regulations in force in the country of destination.

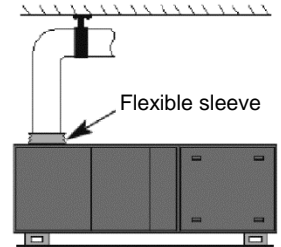
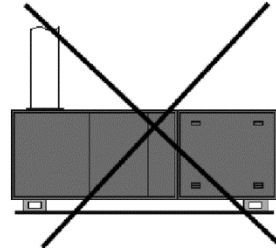
Be sure to connect all electrical parts to the ground.

The additional box must be positioned in sheath so that the temperature sensor is on the downstream side (air blowing).

Equipment must be inaccessible to the public.

### Special recommendations:

- Connections must not place mechanical stresses on the unit.
- Keep all inspection doors closed while the unit is operating
- If fitted outdoors (Classic and Classic RHE models only), the units must be installed so as to withstand the climatic conditions in the installation location (risk of snow: height from ground/risk of wind: suitable mountings, swan-neck type electrical connection to the unit etc.).



Ensure all electrical components are earthed.

## OUTDOOR INSTALLATION ("Classic and "Classic RHE" model only)

The installation of a AX'R dual-flow unit outdoors requires a roof and a canopy to be fitted; these are usually supplied mounted\* and adapted to suit each configuration.

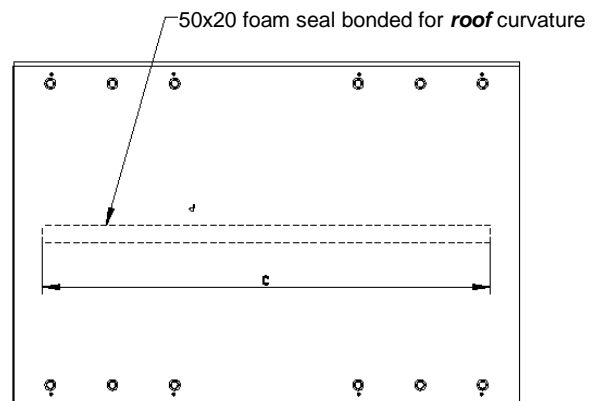
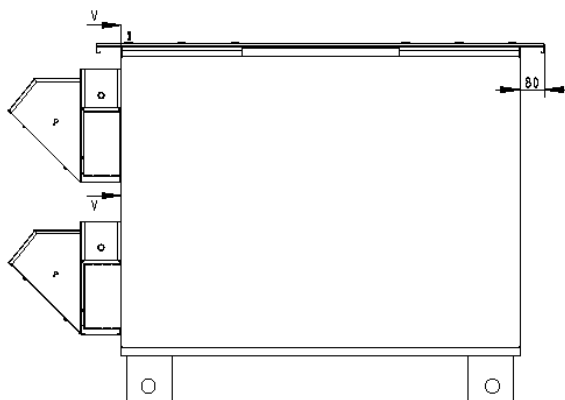
(\* Supplied in kit form if delivery of the elements assembled is not possible)

### Fitting the roofs:

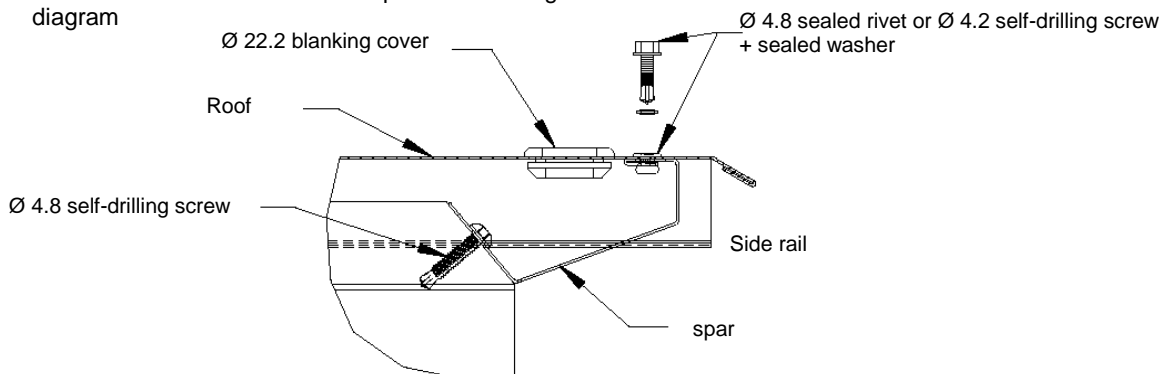
The roofs for AX'R units are designed to provide sufficient protection against adverse weather conditions, as they overlap the edge of the unit by 80 mm.

#### Fitting procedure:

1. Fix the foam seal along the length of the unit. (50 x 20 foam seal).
2. Fix the roof panel(s) along the entire length of the unit.



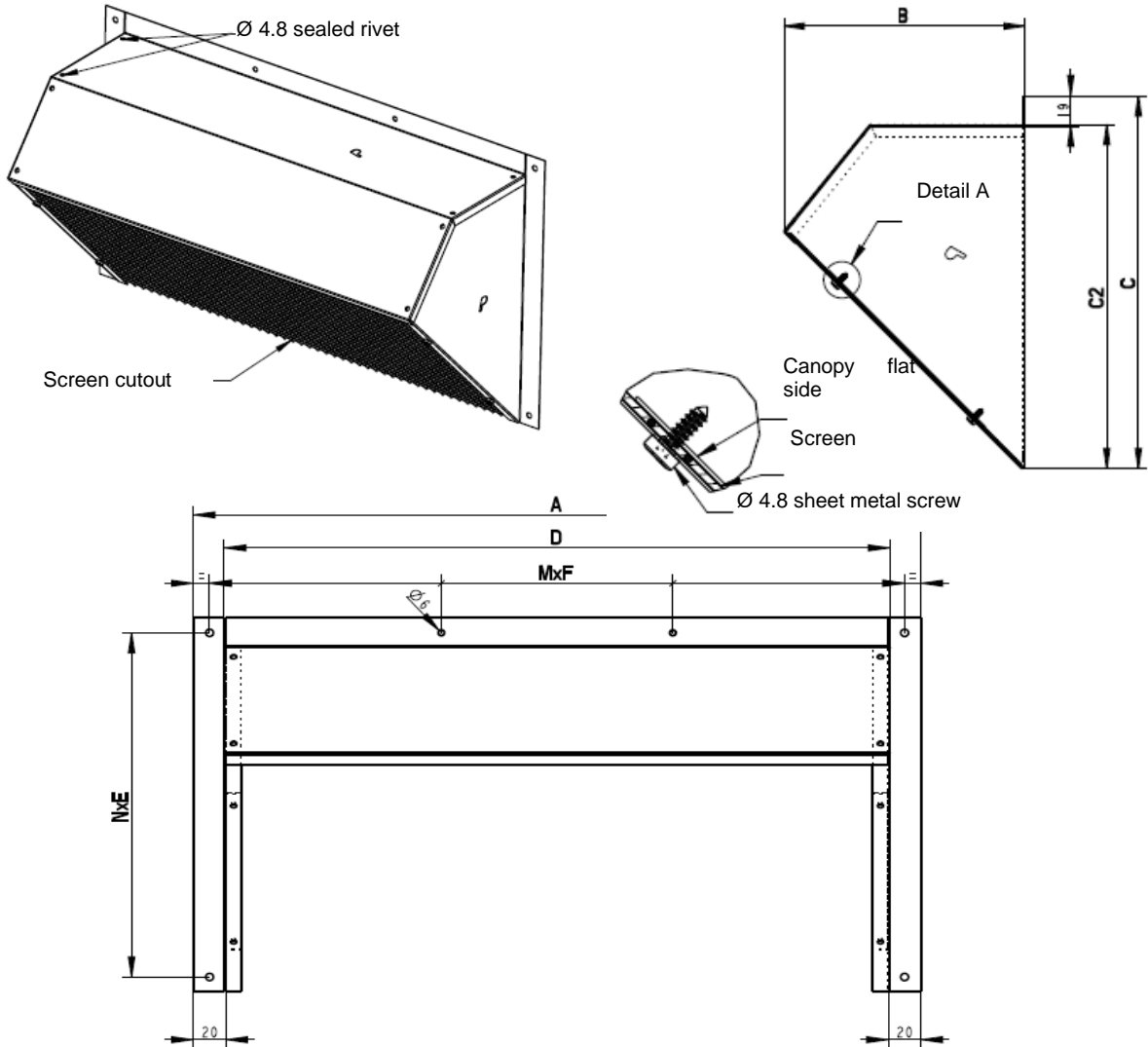
3. Assemble the roof on the unit as per the following diagram





**Fitting the Canopy without damper:**

The upper panel will be assembled on the two side panels using screws, washers and nuts or sealed rivets. Also fit the protective screen during installation. Fix a sealing gasket around the edge of the canopy which will be in contact with the unit and apply mastic if necessary



| CLASSIC | A   | B   | C   | C2  | D   | N x E | M x F | Weight (kg) | OPENINGS |
|---------|-----|-----|-----|-----|-----|-------|-------|-------------|----------|
| 10      | 350 | 205 | 355 | 336 | 310 | 2x170 | 2x170 | 1,780       | Circular |
| 20      | 450 | 268 | 455 | 436 | 410 | 2X220 | 2X220 | 2,875       |          |

| CLASSIC RHE | A      | B   | C   | C2  | D     | N x E | M x F | Weight (kg) | OPENINGS    |
|-------------|--------|-----|-----|-----|-------|-------|-------|-------------|-------------|
| 10          | 637    | 274 | 394 | 376 | 598.5 | 2x190 | 2x313 | 2,5         | Rectangular |
| 20          | 737    | 304 | 494 | 476 | 698,5 | 2x240 | 2x363 | 3,4         |             |
| 30          | 1188,5 | 358 | 579 | 560 | 1150  | 2x265 | 3x340 | 5,3         |             |
| 40/50       | 1488,5 | 390 | 669 | 650 | 1149  | 2x310 | 6x220 | 6,7         |             |
| 60/75       | 1788,5 | 528 | 869 | 841 | 1750  | 2x405 | 5x324 | 12,2        |             |
| 100         | 1788,5 | 524 | 881 | 861 | 1750  | 3x275 | 5x324 | 15.3        |             |
| 150         | 2050   | 422 | 870 | 851 | 2011  | 3x275 | 6x324 | 16.2        |             |

**CONNECTIONS**  
**DIMENSIONS OF AIR FLOW CIRCUITS**  
**AX'R Classic and Classic RHE**

|  | Sizes |       |         |          |          |          |          |
|--|-------|-------|---------|----------|----------|----------|----------|
|  | 10    | 20    | 30      | 40 / 50  | 60 / 75  | 100      | 150      |
| <i>Connections (mm)<br/>air intake and discharge</i> | Ø 250 | Ø 355 | 458x984 | 608x1284 | 758x1584 | 797x1577 | 807x1907 |

\*Internal dimensions

**AX'R Ceiling**

|                           |                      | Sizes |       |       |
|---------------------------|----------------------|-------|-------|-------|
|                           |                      | 7     | 12    | 16    |
| <i>Ø Connections (mm)</i> | <i>Air inlet</i>     | 2x160 | 2x250 | 2x250 |
|                           | <i>Air discharge</i> | 315   | 355   | 400   |

\*Internal dimensions



Air duct network and pressure drop to be balanced on the two inlets of each air flow

**AX'R Vertical**

|                           |                      | Sizes |     |     |
|---------------------------|----------------------|-------|-----|-----|
|                           |                      | 7     | 15  | 20  |
| <i>Ø Connections (mm)</i> | <i>Air inlet</i>     | 250   | 355 | 355 |
|                           | <i>Air discharge</i> | 250   | 355 | 355 |

\*Internal dimensions

**Additional box**

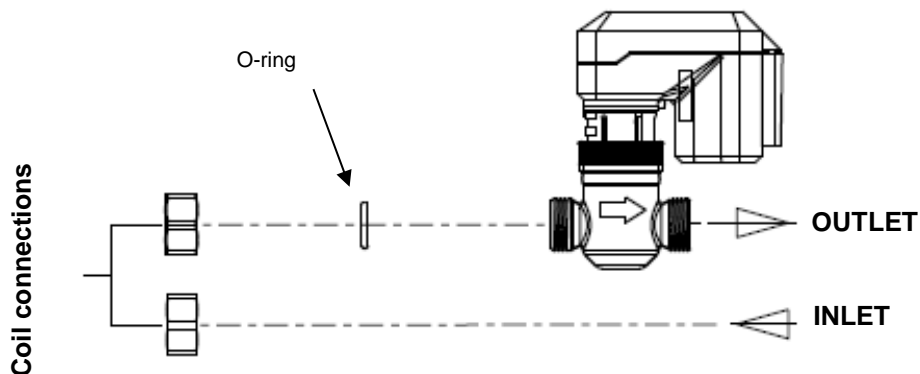
|                         |                      | Sizes |       |         |          |          |
|-------------------------|----------------------|-------|-------|---------|----------|----------|
|                         |                      | 1     | 2     | 3       | 4        | 5        |
| <i>Connections (mm)</i> | <i>Air inlet</i>     | Ø 250 | Ø 355 | 458x984 | 608x1284 | 758x1584 |
|                         | <i>Air discharge</i> | Ø 250 | Ø 355 | 458x984 | 608x1284 | 758x1584 |

\*Internal dimensions

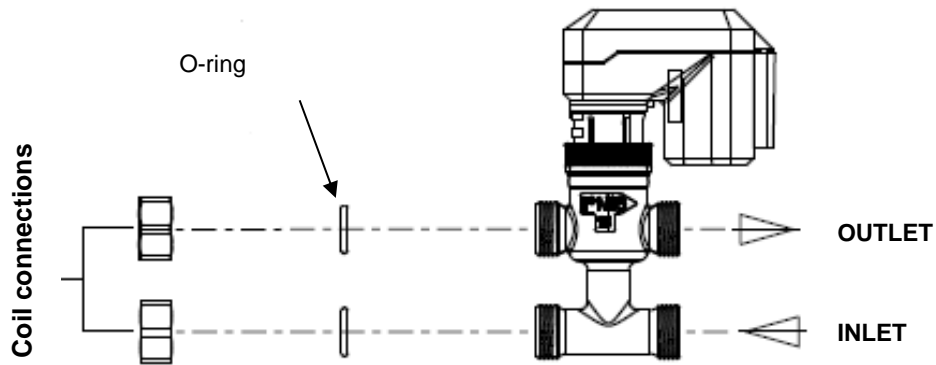
**DIMENSION OF HYDRAULIC CIRCUITS (Internal hydraulic coil and additional box)**  
**Valve connection**

**Heating/cooling assembly**

**2-WAY VALVE**



### 4-WAY VALVE



The diameter of the condensate tube on all the pans is 16 mm

### AX'R Classic and Classic RHE

|                                   |              | Sizes  |        |        |        |        |         |         |               |              |
|-----------------------------------|--------------|--------|--------|--------|--------|--------|---------|---------|---------------|--------------|
|                                   |              | 10     | 20     | 30     | 40     | 50     | 60      | 75      | 100<br>2 rows | 1502<br>rows |
| Ø Connections (mm)<br>4-way valve | Valve inlet  | G 1/2" | G 1/2" | G 3/4" | G 3/4" | G 3/4" | G 1"    | G 1"    | G2"           | G2"          |
|                                   | Valve outlet | G 1/2" | G 1/2" | G 3/4" | G 3/4" | G 3/4" | G 1"1/2 | G 1"1/2 | G2"           | G2"          |

|                                   |              | Sizes         |               |
|-----------------------------------|--------------|---------------|---------------|
|                                   |              | 100<br>4 rows | 150<br>4 rows |
| Ø Connections (mm)<br>3-way valve | Valve inlet  | G2"1/4        | G2"1/4        |
|                                   | Valve outlet | G2"1/4        | G2"1/4        |

### AX'R Ceiling

|                                   |              | Sizes       |             |             |
|-----------------------------------|--------------|-------------|-------------|-------------|
|                                   |              | 7           | 12          | 16          |
| Ø Connections (mm)<br>4-way valve | Valve inlet  | 1/2"<br>GAS | 1/2"<br>GAS | 1/2"<br>GAS |
|                                   | Valve outlet | 1/2"<br>GAS | 1/2"<br>GAS | 1/2"<br>GAS |

### AX'R Vertical

|                                   |              | Sizes       |             |             |
|-----------------------------------|--------------|-------------|-------------|-------------|
|                                   |              | 7           | 15          | 20          |
| Ø Connections (mm)<br>4-way valve | Valve inlet  | 1/2"<br>GAS | 1/2"<br>GAS | 1/2"<br>GAS |
|                                   | Valve outlet | 1/2"<br>GAS | 1/2"<br>GAS | 1/2"<br>GAS |

### Additional box

|                    |              | Sizes  |         |         |        |         |
|--------------------|--------------|--------|---------|---------|--------|---------|
|                    |              | 1      | 2       | 3       | 4      | 5       |
| Coil 1 and 2 racks | Valve inlet  | G 1/2" | G 1/2"  | G 3/4"  | G 3/4" | G 1"    |
|                    | Valve outlet | G 1/2" | G 1/2"  | G 3/4"  | G 3/4" | G 1"1/2 |
| Coil 3 and 4 racks | Valve inlet  | G 3/4" | G 1"1/2 | G 1"1/2 | G 2"   | G 2"    |
|                    | Valve outlet | G 3/4" | G 1"1/2 | G 1"1/2 | G 2"   | G 2"    |

## ELECTRICAL CONNECTIONS

### AX'R Classic and Classic RHE

|   | Sizes      |      |            |     |      |      |      |      |       |
|---|------------|------|------------|-----|------|------|------|------|-------|
|   | 10         | 20   | 30         | 40  | 50   | 60   | 75   | 100  | 150   |
| Voltage (V)                               | 230 V 1-Ph |      | 400 V 3-Ph |     |      |      |      |      |       |
| Current (A) without electric heater       | 6.2        | 3.6  | 5.5        | 6.1 | 6.1  | 8.7  | 8.7  | 17.1 | 21.9  |
| Current (A) with internal electric heater | 26.6       | 19.7 | 24.2       | 31  | 35.4 | 42.5 | 54.7 | 89.3 | 115.7 |

### AX'R Ceiling

|             | Sizes      |     |            |
|-------------|------------|-----|------------|
|             | 7          | 12  | 16         |
| Voltage (V) | 230 V 1-Ph |     | 400 V 3-Ph |
| Current (A) | 6.2        | 6.2 | 3.6        |


### AX'R Vertical

|   | Sizes      |      |            |
|---|------------|------|------------|
|   | 7          | 15   | 20         |
| Voltage (V)                               | 230 V 1-Ph |      | 400 V 3-Ph |
| Current (A) without electric heater       | 6.2        | 3.6  | 3.6        |
| Current (A) with internal electric heater | 26.6       | 16.2 | 20.2       |

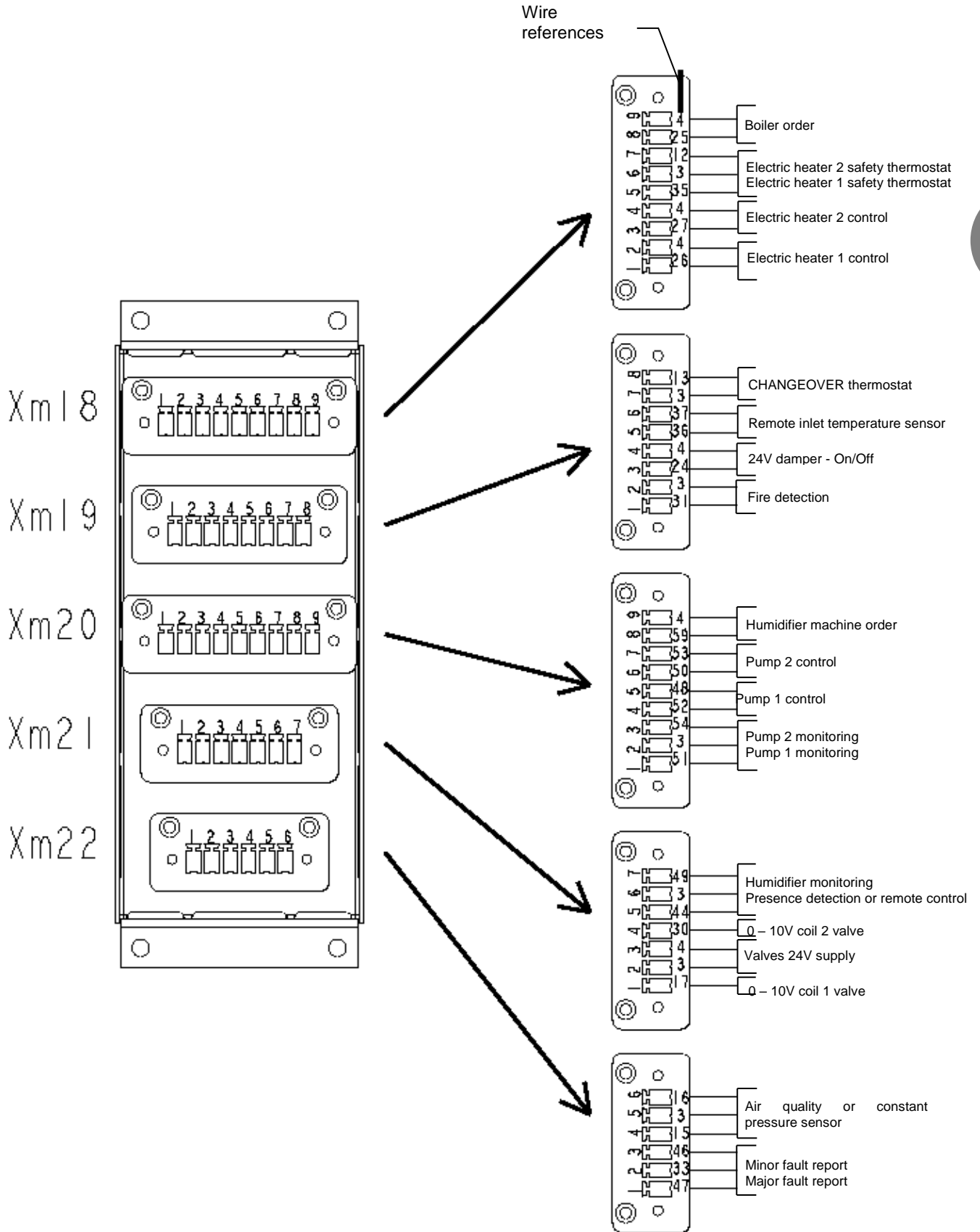
### Additional box

|                  | TAILLE  |            |                           |  |                          |                          |              |                          |              |
|------------------|---|------------|---------------------------|--|--------------------------|--------------------------|--------------|--------------------------|--------------|
|                  | 1   | 2          | 2                         | 2  | 3                        | 4                        | 4            | 5                        | 5            |
| Associated model | Class.* 10<br>Class.RHE 10<br>Vertical 7<br>Cieling 7 | Cieling 12 | Vertical 15<br>Cieling 16 | Class. 20<br>Class.RHE 20<br>Vertical 20 | Class.30<br>Class.RHE 30 | Class.40<br>Class.RHE 40 | Class.RHE 50 | Class.60<br>Class.RHE 60 | Class.RHE 75 |
| Tension          | MONO 230  |            |                           | TRI 400                                  |                          |                          |              |                          |              |
| Current          | 20  | 11         | 16                        | 19                                       | 25                       | 29                       | 34           | 46                       |              |

\*Class. = Classic

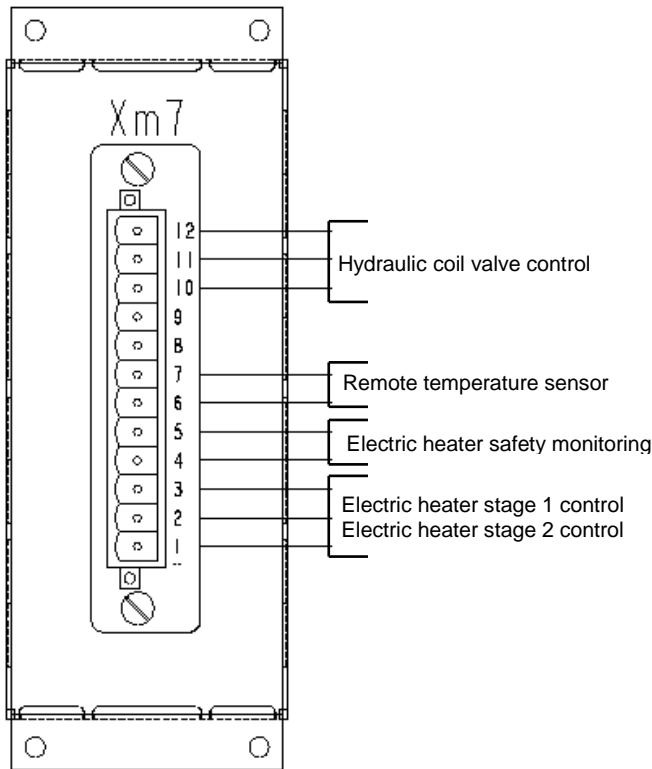
- Electrically connect the unit according to the table above.
- Connection to the disconnecting switch of the machine located inside it (Ø 22.2 plug provided for this purpose).
- For sections between 0.75 to 2.5 mm<sup>2</sup>, a cable type H 05 VV-F can be used, otherwise the cable must be type H07 RN-F.
- The power cable is to be dimensioned according to the rules and standards in force.
- The power supply cable must be fastened using the appropriate pull-out (located between the isolating switch and the Ø 22.2 shutter). Once the power cable is connected and plugged in, tighten the collar as far as it will go. The cable diameters recommended for a good use of the strain relief are in the table below.
- Observe the rated current of the disconnect switch of the air handling unit.
- Grounding is imperative. Each device is provided with 2 earth terminals (PE) indicated by the logo , one near the switch disconnecter, the other on a foot of the unit. The 2 terminals must be connected.

- **Machine/customer terminal block references**



Note: the maximum cross-section of the stripped wire is  $\varnothing$  1.5 mm and  $\varnothing$  0.5 mm for wire with an end-piece.

**Additional box terminal block references**



**Electric heaters**

➤ *Pre-heats 1 stage: 4 wires*

| Machine terminal block | Additional box connector | Notes   | Inlet/Outlet    |
|------------------------|--------------------------|---|-----------------|
| Xm 18 _ b-1            | Xm 7 _ b-1               | On/off control<br>24 VAC                                | Digital outputs |
| Xm 18 _ b-2            | Xm 7 _ b-2               |   |                 |
| Xm 18 _ b-5            | Xm 7 _ b-5               | Electric heater safety thermostat return<br>Dry contact | Digital inputs  |
| Xm 18 _ b-6            | Xm 7 _ b-4               |   |                 |

Remote temperature sensor not connected if there is a pre-heating coil

➤ *Pre-heats 2 stages: 6 wires*

| Machine terminal block | Additional box connector | Notes   | Inlet/Outlet    |
|------------------------|--------------------------|---|-----------------|
| Xm 18 _ b-1            | Xm 7 _ b-1               | On/off control stage 1<br>24 VAC                        | Digital outputs |
| Xm 18 _ b-2            | Xm 7 _ b-2               |   |                 |
| Xm 18 _ b-3            | Xm 7 _ b-3               | On/off control stage 2<br>24 VAC                        |                 |
| Xm 18 _ b-4            | Xm 7 _ b-2               |   |                 |
| Xm 18 _ b-5            | Xm 7 _ b-5               | Electric heater safety thermostat return<br>Dry contact | Digital inputs  |
| Xm 18 _ b-6            | Xm 7 _ b-4               |   |                 |

The remote temperature sensor is not connected if there is a pre-heating coil

➤ Pre-heats 1 stage + Post-heats 1 stage: 4 + 6 wires

| Machine terminal block | Additional box connector.<br>Pre-heats | Additional box connector.<br>Post-heats | Notes  | Inlet/Outlet    |
|------------------------|--|---|--|-----------------|
| Xm 18 _ b-1            | Xm 7 _ b-3                             |   | On/off control pre-heats<br>24V AC                                   | Digital outputs |
| Xm 18 _ b-2            | Xm 7 _ b-2                             |   |  |                 |
| Xm 18 _ b-3            |  | Xm 7 _ b-3                              | On/off control post-heats<br>24V AC                                  |                 |
| Xm 18 _ b-4            |  | Xm 7 _ b-2                              |  |                 |
| Xm 18 _ b-5            | Xm 7 _ b-5                             |   | Electric heater safety thermostat return<br>Dry contact              | Digital inputs  |
| Xm 18 _ b-6            | Xm 7 _ b-4                             | Xm 7 _ b-4                              |  |                 |
| Xm 18 _ b-7            |  | Xm 7 _ b-5                              |  |                 |
| Xm 19 _ b-5            |  | Xm 7 _ b-6                              | Remote temperature sensor measurement.<br>Resistivity-response curve | Analogue inputs |
| Xm 19 _ b-6            |  | Xm 7 _ b-7                              |  |                 |

➤ Post-heats 1 stage: 6 wires

| Machine terminal block | Additional box connector | Notes  | Inlet/Outlet    |
|------------------------|--------------------------|--|-----------------|
| Xm 18 _ b-1            | Xm 7 _ b-3               | On/off control<br>24 VAC   | Digital outputs |
| Xm 18 _ b-2            | Xm 7 _ b-2               |  |                 |
| Xm 18 _ b-7            | Xm 7 _ b-5               | Electric heater safety thermostat return<br>Dry contact              | Digital inputs  |
| Xm 18 _ b-6            | Xm 7 _ b-4               |  |                 |
| Xm 19 _ b-5            | Xm 7 _ b-6               | Remote temperature sensor measurement.<br>Resistivity-response curve | Analogue inputs |
| Xm 19 _ b-6            | Xm 7 _ b-7               |  |                 |

➤ Post chauffe 2 étages : 8 fils

| Machine terminal block | Additional box connector | Notes  | Inlet/Outlet    |
|------------------------|--------------------------|--|-----------------|
| Xm 18 _ b-1            | Xm 7 _ b-3               | On/off control stage1<br>24 VAC                                      | Digital outputs |
| Xm 18 _ b-2            | Xm 7 _ b-2               |  |                 |
| Xm 18 _ b-3            | Xm 7 _ b-1               | On/off control stage2<br>24 VAC                                      |                 |
| Xm 18 _ b-4            | Xm 7 _ b-2               |  |                 |
| Xm 18 _ b-7            | Xm 7 _ b-5               | Electric heater safety thermostat return                             | Digital inputs  |
| Xm 18 _ b-6            | Xm 7 _ b-4               |  |                 |
| Xm 19 _ b-5            | Xm 7 _ b-6               | Remote temperature sensor measurement.<br>Resistivity-response curve | Analogue inputs |
| Xm 19 _ b-6            | Xm 7 _ b-7               |  |                 |

**Hydraulic coil**

➤ Hydraulic 1: 5 wires

| Machine terminal block | Additional box connector | Notes   | Inlet/Outlet    |
|------------------------|--------------------------|---|-----------------|
| Xm 19 _ b-5            | Xm 7 _ b-6               | Remote temperature sensor<br>measurement.<br>Resistivity-response curve | Analogue inputs |
| Xm 19 _ b-6            | Xm 7 _ b-7               |   |                 |
| Xm 21 _ b-2            | Xm 7 _ b-10              | 24V supply  |                 |
| Xm 21 _ b-3            | Xm 7 _ b-11              |   |                 |
| Xm 21 _ b-1            | Xm 7 _ b-12              | 0 -10V coil valve control   | Analogue output |

➤ Hydraulic 2: 5 wires

| Machine terminal block | Additional box connector | Notes   | Inlet/Outlet    |
|------------------------|--------------------------|---|-----------------|
| Xm 19 _ b-5            | Xm 7 _ b-6               | Remote temperature sensor<br>measurement.<br>Resistivity-response curve | Analogue inputs |
| Xm 19 _ b-6            | Xm 7 _ b-7               |   |                 |
| Xm 21 _ b-2            | Xm 7 _ b-10              | 24V supply  |                 |
| Xm 21 _ b-3            | Xm 7 _ b-11              |   |                 |
| Xm 21 _ b-4            | Xm 7 _ b-12              | 0 -10V coil valve control   | Analogue output |

If there are several coils in the additional box, only connect the "last" temperature sensor to the air supply.

➤ Changeover battery present: 2 wires

| Machine terminal block | Notes                        | Inlet/Outlet   |
|------------------------|------------------------------|----------------|
| Xm 19 _ b-7            | Black wire of C/O thermostat | Digital inputs |
| Xm 19 _ b-8            | White wire of C/O thermostat |                |

The changeover thermostat must be positioned on the "customer" side of the hydraulic duct, the "fluid into the coil" side (so that it is in the insulation).

Contact open: normal operation in cooling mode

Contact closed: operation in heating mode (contact closed from 28°C)

If the unit is equipped with an internal hydraulic coil, coil no. 2 in the additional box must be connected to the fast-on connectors provided for this purpose. (see additional box terminal block references)

➤ Boiler order: 2 wires (Selection: boiler, heat pump in heating mode, heat pump in cooling mode)

| Machine terminal block | Notes                    | Inlet/Outlet    |
|------------------------|--------------------------|-----------------|
| Xm 18 _ b-8            | On/off control<br>24 VAC | Digital outputs |
| Xm 18 _ b-9            |                          |                 |

The ON command is given when the heating/cooling demand is true

➤ Damper control: 2 wires

| Machine terminal block | Notes                                    | Inlet/Outlet    |
|------------------------|--|-----------------|
| Xm 19 _ b-3            | Damper opening/closing control<br>24 VAC | Digital outputs |
| Xm 19 _ b-4            |  |                 |

Relay closed = Damper open (relay normally closed)

Relay opened = Damper closed

➤ Fire detection: 2 wires

| Machine terminal block | Notes                                    | Inlet/Outlet   |
|------------------------|--|----------------|
| Xm 19 _ b-1            | Fire detection activation<br>Dry contact | Digital inputs |
| Xm 19 _ b-2            |  |                |

Contact normally closed

➤ Humidifier: 4 wires

| Machine terminal block | Notes   | Inlet/Outlet    |
|------------------------|---|-----------------|
| Xm 20 _ b-9            | Humidifier activation<br>Dry contact                    | Digital outputs |
| Xm 20 _ b-8            |   |                 |
| Xm 21 _ b-7            | Humidifier fault monitoring<br>Dry contact (shared b-6) | Digital inputs  |
| Xm 21 _ b-6            |   |                 |

Humidifier ON command if air flow detected

➤ Pump 1 monitoring: 4 wires

| Machine terminal block | Notes   | Inlet/Outlet    |
|------------------------|---|-----------------|
| Xm 20 _ b-4            | ON command Pump 1<br>Dry contact                    | Digital outputs |
| Xm 20 _ b-5            |   |                 |
| Xm 20 _ b-1            | Pump 1 fault monitoring<br>Dry contact (shared b-2) | Digital inputs  |
| Xm 20 _ b-2            |   |                 |

Pump 1 ON command if Hydraulic coil 1 operating order

➤ Pump 2 monitoring: 4 wires

| Machine terminal block | Notes   | Inlet/Outlet    |
|------------------------|---|-----------------|
| Xm 20 _ b-6            | ON command Pump 2<br>Dry contact                    | Digital outputs |
| Xm 20 _ b-7            |   |                 |
| Xm 20 _ b-3            | Pump 2 fault monitoring<br>Dry contact (shared b-2) | Digital inputs  |
| Xm 20 _ b-2            |   |                 |

Pump 2 ON command if Hydraulic coil 2 operating order



➤ Presence detector or remote command: 2 wires

| Machine terminal block | Notes  | Inlet/Outlet   |
|------------------------|--|----------------|
| Xm 21 _ b-5            | Unit ON/OFF monitoring<br>Dry contact (shared b-6) | Digital inputs |
| Xm 21 _ b-6            |  |                |

➤ IAQ monitoring sensor: 3 wires

| Machine terminal block | Notes  | Inlet/Outlet   |
|------------------------|--|----------------|
| Xm 22 _ b-4            | Ground   |                |
| Xm 22 _ b-5            | Sensor 24V supply  |                |
| Xm 22 _ b-6            | CO <sub>2</sub> sensor/transmitter 0-10 V active rear sensor | Analogue input |

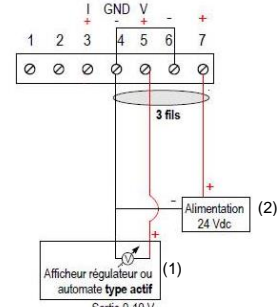
➤ Fault feedback: 3 wires

| Machine terminal block | Notes  | Inlet/Outlet    |
|------------------------|--|-----------------|
| Xm 22 _ b-1            | "Danger" fault monitoring<br>Dry contact (shared b-2)      | Digital outputs |
| Xm 22 _ b-2            | Shared   |                 |
| Xm 22 _ b-3            | "Maintenance" fault monitoring<br>Dry contact (shared b-2) |                 |

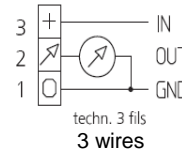
➤ Constant intake duct pressure sensor: 3 wires

| Machine terminal block | Notes                                   | Inlet/Outlet   |
|------------------------|---|----------------|
| Xm 22 _ b-4            | Ground                                  |                |
| Xm 22 _ b-5            | (IN) sensor 24V supply                  |                |
| Xm 22 _ b-6            | (OUT) pressure monitoring signal 0-10 V | Analogue input |

CO112-ANA



- (1) Controller display or active controller 0-10 V output
- (2) 24 V DC supply



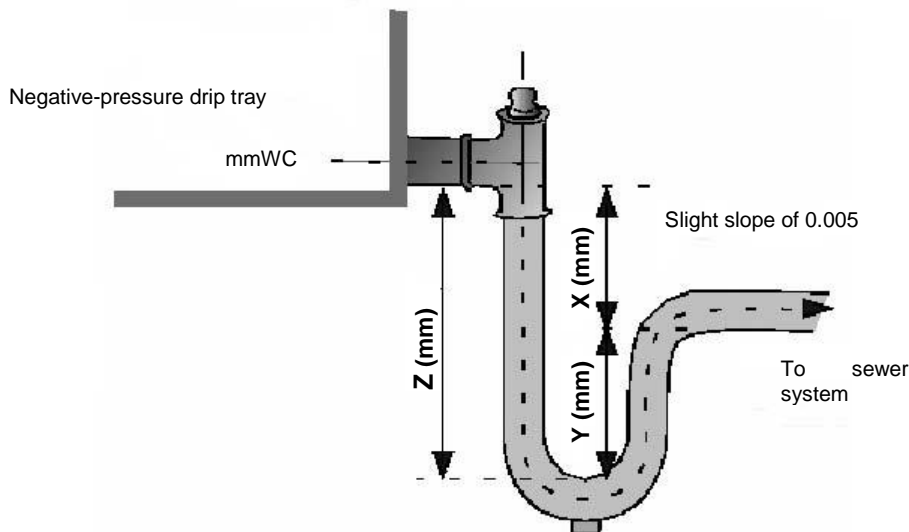
**SIPHON INSTALLATION (“Vertical”, “Ceiling-mounted” and “Classic” models equipped with a cooling or mixed coil)**

It is important to ensure the siphon is correctly fitted, as per the diagram below. For a depression H in the condensate drain, the sizing of the siphon must incorporate dimensions of 2H

Schematic diagram of siphon

Assembly with depression :

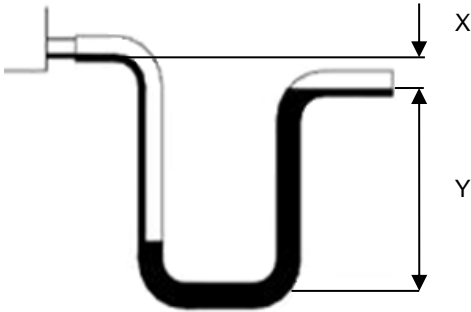
- Z: X+Y+tubing diameter + insulation thickness
- Y:  $Y = 0.5 * X$
- X: X = 25 mm for each 250 Pa of negative static pressure + 25 mm



### Assembly with pressure:

X = 12 mm

Y = 12 mm + total static pressure (1 mm for 10 Pa)



**NB: the condensate pan on the heat recovery unit is pressurised on the "VERTICAL" model, and is also pressurised if there is a cooling or mixed coil in the additional casing.**

## **5 - COMMISSIONING**



**Commissioning must be performed by qualified personnel, trained in air handling technology. Keep all inspection doors closed while the unit is operating.**

Once the electrical and hydraulic connections have been carried out, proceed with the commissioning of the unit, checking the steps below:

- Check the tightness of all connections,
- Make sure that the unit is clean internally, and that there are no foreign bodies inside it,
- Check the wiring
- Check the power supply voltage and overload protection calibration in accordance with the current ratings of the various components,
- To configure the setpoints, refer to the corresponding manual.
- Simulate activation of the various electric components, controlled components and alarms,
- Check the currents:
  - Temperature alarm,
  - Air flow alarm,
  - Fan motor assembly
- Check the air flow rates
- After a few hours' operation, check the filter fouling condition.

### **REGULATION: AX'R CONTROL**

To set and configure the "AX'R Control" regulation, refer to the corresponding manual (N09.61)

## 6 - MAINTENANCE/SERVICE INTERVALS

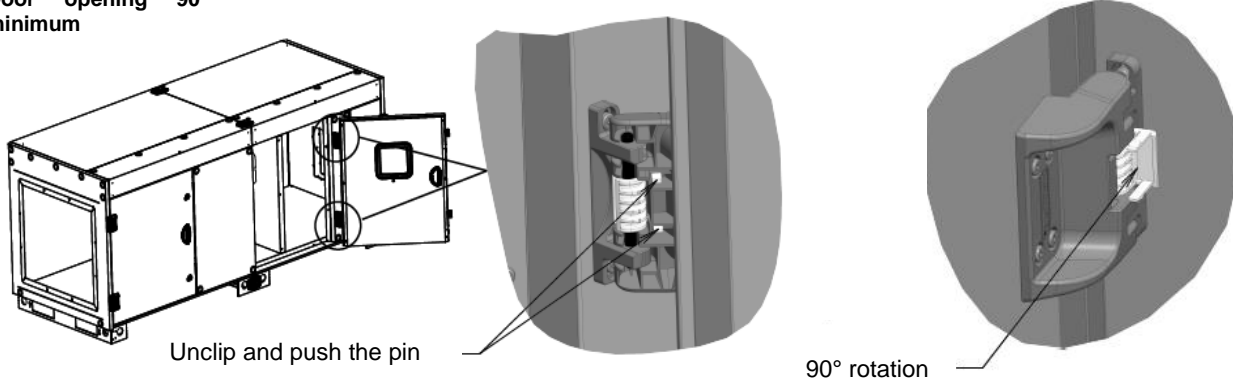


Switch off the electrical supply to the air handling unit before carrying out any work

### Details of hinges/handles

To make the doors removable, see the diagrams below.

Door opening 90°  
minimum



### Allen key locks, size 10

## FILTERS

After commissioning, the speed of filter fouling will depend on the care taken when cleaning the air flow circuits. Hence the frequency of filter checks should be increased during this period.

### Maintenance intervals

The filter life depends essentially on the amount of dust in the air and the efficiency of the filtration system. The filtration quality cannot be maintained if the filter medium has been damaged during maintenance. We recommend that the filters be replaced once every two years, even in the case of moderate use

### Filter replacement method

During filter maintenance operations, it is important not to spread the dust that has accumulated in the filters.

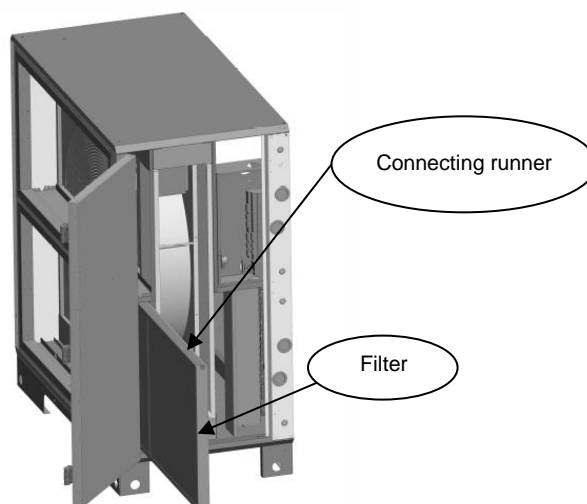
Shut down the unit,

Access the filters by opening the door panels,

Simply pull on the filters

Pull the connecting runner (on AX'R Classic and RHE  $\geq 3000$  m<sup>3</sup>/h models), then you can remove the filters. For the other models, simply pull directly on the filters.

### Example: AX'R Classic



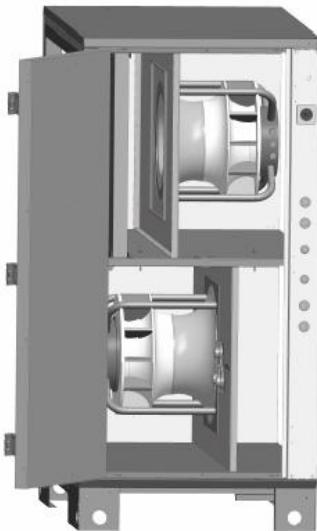
## FAN MOTOR ASSEMBLY

Check and retighten the electrical connections once a year.

### FMA removal method

Open the door as explained above,  
Unlock the 4 x M8 screws using the ratchet wrench and its extension,  
Disconnect the motor's electrical connections,  
Take out the FMA via the access door.

### Example: AX'R Classic



## HEAT EXCHANGER

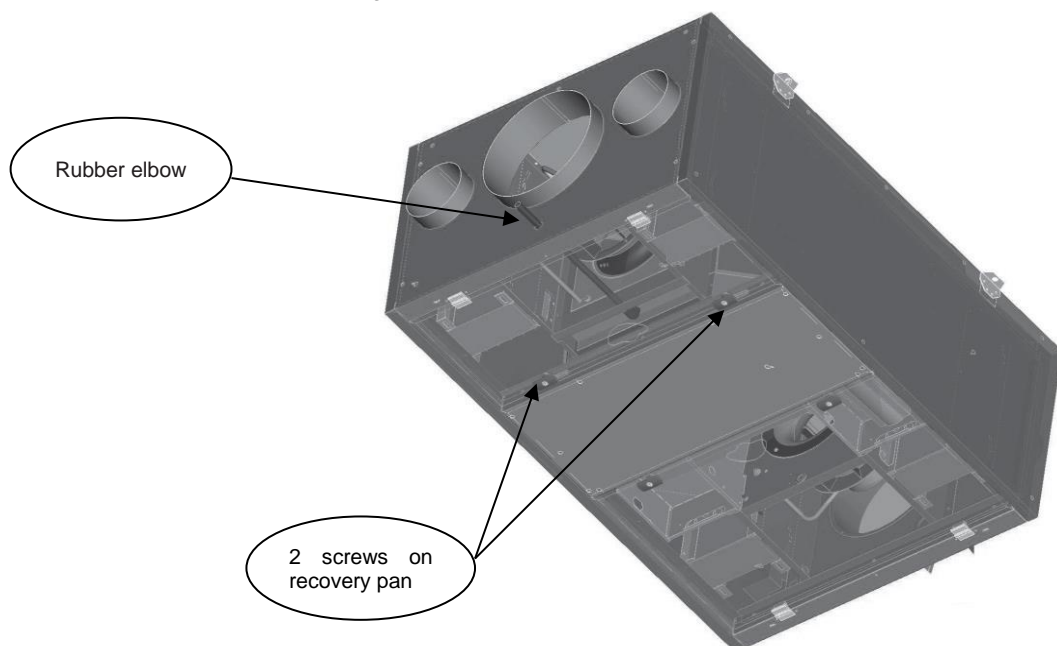
### Plate heat exchanger ("Ceiling", "Vertical" and "Classic" models)

Schedule annual dust removal / degreasing and maintenance of the bypass damper.

It is important to remember to clean and degrease the condensate drain pan using water and non-abrasive detergents: The heat recovery unit on the "vertical" model is accessible via the door and can be removed by the sliding runner.

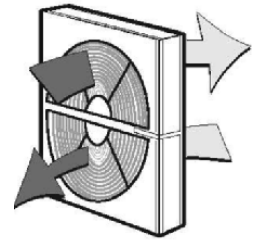
The pan on the "Ceiling-mounted" model can be removed as follows:

- Uncouple the condensate drain pipe elbow,
- Remove the 2 condensates drain pan retaining screws: the pan can now be removed.



### **Rotary heat exchangers (“Classic RHE” model)**

Check the maximum and minimum rotation speeds once a year.  
When stationary, the rotary heat exchangers accumulate dust and moisture at their lowest point.  
Schedule cleaning during prolonged stoppages.  
Check the permanently lubricated bearings once a year.



### **Wheel consumption**

|                |             | Sizes     |    |    |    |    |    |     |     |     |
|----------------|-------------|-----------|----|----|----|----|----|-----|-----|-----|
|                |             | 10        | 20 | 30 | 40 | 50 | 60 | 75  | 100 | 150 |
| Variable speed | Power (W)   | 25        | 25 | 40 | 40 | 90 | 90 | 180 | 180 | 180 |
|                | Voltage (V) | 1 x 230 V |    |    |    |    |    |     |     |     |

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### **ELECTRICS BOX**

Retighten the connections twice a year.  
Visually inspect the components, wires and cables.

### **ELECTRIC HEATERS**

The electric heater requires very little maintenance. However, the following checks are necessary:  
Visually inspect the heating elements, wires and connection cables after every 1500 hours of operation.  
Check and retighten the connections once or twice a year.

### **HYDRAULIC COIL**

The hydraulic coil requires very little maintenance as it is protected by the filter.

### **SERVICE INTERVALS**

Regular maintenance will keep the unit running at optimum performance. The values given in the table below are provided for guidance only. They do not consider individual factors that can lengthen or shorten the unit's service life.

## 7 - PROBLEMS/CAUSES/SOLUTIONS

Refer to the "AX'R Control" control manual

| <i>Components</i>                  | <i>At commissioning</i>                         | <i>2 to 3 months</i>                                 | <i>12 months</i>  | <i>Operating readings</i> |
|------------------------------------|---|--|---|---------------------------|
| <i>Filters</i>                     |   | Check the fouling level and replace if necessary     | Replace   |                           |
| <i>Fans</i>                        | Check the connections                           |  | Retighten the connections   |                           |
| <i>Electrics box</i>               | Check the connections                           | Operating check                                      | Retighten the electrical connections<br>Check the components<br>Operating check |                           |
| <i>Pressure/temperature sensor</i> | Check correct operation and setpoint adjustment | Check correct operation and setpoint adjustment      | Check correct operation and setpoint adjustment                                 |                           |
| <i>Condensate pan</i>              |   | Clean with water and a <b>non-abrasive</b> detergent | Clean with water and a <b>non-abrasive</b> detergent                            |                           |

## **8 - TESTS AND GARANTEES**

To guarantee the product's quality, each AX'R air handling unit undergoes a variety of tests: EMC (electromagnetic compatibility) test, component functional tests (fan motor assembly, heat recovery unit, sensor, etc.).

However, our units are guaranteed for a period of 12 months from the commissioning date, when this date occurs within three months of the invoice date.

It is effective for a period of 15 months from the unit invoice date in all other cases.

HYDRONIC's guarantee on motors is limited to the terms of guarantee extended by its supplier.

Under no circumstances must the fitter carry out work on the motor. This will invalidate any future claims on the guarantee.

**Note:** for more information, refer to the application of the HYDRONIC guarantee.



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As part of our continuous drive to improve our products, HYDRONIC reserves the right to make any technical modifications without prior notice.