



Venkon XL

► Assembly, installation and operating instructions

Keep these instructions in a safe place for future use!

Table of contents

| | |
|---|-----------|
| 1 General | 5 |
| 1.1 About these instructions | 5 |
| 1.2 Explanation of Symbols..... | 5 |
| 2 Safety..... | 6 |
| 2.1 Correct use..... | 6 |
| 2.2 Limits of operation and use..... | 6 |
| 2.3 Risk from electrocution!..... | 8 |
| 2.4 Personnel requirements - Qualifications | 9 |
| 2.5 Personal Protective Equipment | 9 |
| 3 Transport, storage and packaging..... | 10 |
| 3.1 General transport instructions | 10 |
| 3.2 Scope of delivery | 10 |
| 3.3 Storage | 11 |
| 3.4 Packaging | 11 |
| 4 Technical data..... | 12 |
| 5 Construction and function | 13 |
| 5.1 Overview..... | 13 |
| 5.2 Brief description | 14 |
| 5.3 Wear parts list..... | 14 |
| 6 Installation and wiring | 15 |
| 6.1 Definition of the connection side | 15 |
| 6.2 Requirements governing the installation site..... | 16 |
| 6.3 Minimum clearances..... | 16 |
| 6.4 Installation | 16 |
| 6.4.1 Installation of basic unit..... | 17 |
| 6.4.2 Installation of casing | 18 |
| 6.4.3 Installation of sheet steel accessories..... | 21 |
| 6.5 Installation | 24 |
| 6.5.1 Connection to the pipe network | 24 |
| 6.5.2 Overview of valve kits | 28 |
| 6.5.3 Connection of 2-way valve kit..... | 29 |
| 6.5.4 Connection of differential pressure-dependent valve kit | 31 |
| 6.5.5 Connection, on-site pipework..... | 33 |
| 6.5.6 Condensation connection | 33 |

| | | |
|-----------|---|-----------|
| 7 | Electrical connection..... | 38 |
| 7.1 | Maximum electrical rating values | 38 |
| 7.2 | Electromechanical control, Venkon XL..... | 38 |
| 7.2.1 | Connection (*00 or 00D), Venkon XL | 38 |
| 7.2.2 | Cabling, Venkon XL (*00), control by Climate Controller 30155 | 40 |
| 7.2.3 | Cabling, Venkon XL (*00), control by Climate Controller 30155, with condensate pump | 41 |
| 7.2.4 | Cabling, Venkon XL (*00), control by Climate Controller 30256 | 42 |
| 7.2.5 | Cabling, Venkon XL (*00), control by Climate Controller 30256, with condensate pump | 43 |
| 7.2.6 | Cabling, Venkon XL (*00), control by Climate Controller type 148941/148942 | 44 |
| 7.2.7 | Cabling, Venkon XL (*00), control by Climate Controller type 148941/148942, with condensate pump .. | 45 |
| 7.3 | KaControl (*C1) | 46 |
| 7.3.1 | KaController installation..... | 46 |
| 7.3.2 | Connection (*C1)..... | 47 |
| 7.3.3 | Cabling, Venkon XL, KaControl (*C1), control by KaController | 49 |
| 7.3.4 | Cabling, Venkon XL, KaControl (*C1), control by in situ 0-10 V DC signal | 50 |
| 8 | Pre-commissioning checks..... | 51 |
| 9 | Maintenance | 52 |
| 9.1 | Securing against reconnection | 52 |
| 9.2 | Maintenance Schedule:..... | 52 |
| 9.3 | Maintenance work | 53 |
| 9.3.1 | Replacing the filter. | 53 |
| 9.3.2 | Visual checks | 54 |
| 9.3.3 | Cleaning the main condensation tray | 54 |
| 9.3.4 | Cleaning the valve condensation tray..... | 55 |
| 9.3.5 | Cleaning the float switch..... | 56 |
| 9.3.6 | Clean the inside of the unit | 56 |
| 10 | Faults | 57 |
| 10.1 | Fault table..... | 57 |
| 10.2 | KaControl faults | 58 |
| 10.3 | Start-up after rectification of fault | 58 |
| 11 | List of KaControl parameters..... | 59 |
| 11.1 | Venkon XL parameter list..... | 59 |
| 11.2 | KaController parameter list..... | 62 |
| 12 | Certificates..... | 64 |
| | Table | 71 |

1 General

1.1 About these instructions

These instructions ensure the safe and efficient handling of this equipment. These instructions form an integral part of the equipment and have to be kept in the direct vicinity of the equipment and available to personnel at all times.

All personnel must have carefully read through these instructions prior to commencing all work on the equipment. A fundamental prerequisite for safe working is compliance with all the stated safety instructions and other instructions contained in this manual.

In addition all local occupational health and safety at work regulations apply, as do general safety provisions governing the use of the equipment.

Illustrations in this guide are intended to provide a basic understanding and may differ from the actual model.

Ongoing tests and further developments may result in small variations between the unit supplied and the instructions.

1.2 Explanation of Symbols

**DANGER!**

This combination of symbol and signal word indicates an immediately dangerous situation caused by electrical power, which will cause death or serious injury if not avoided.

**WARNING!**

This combination of symbol and signal word indicates a possible hazardous situation.

**IMPORTANT NOTE!**

It represents a potentially hazardous situation, which could lead to damage to property or for a measure to optimise workflows.

**IMPORTANT NOTE!**

This symbol highlights useful hints, recommendations and information for efficient and trouble-free operation.

Venkon XL

Assembly, installation and operating instructions

2 Safety

This section provides an overview of all important safety aspects to ensure optimum protection of personnel as well as safe and trouble-free operation. In addition to the safety instructions in these operating instructions, the valid safety, accident prevention and environmental protection regulations must be observed for the area of use of the unit. It is the duty of the operator to ensure that instructions relating to maintenance (e.g. relating to hygiene) are complied with.

2.1 Correct use

The units are only intended to be used for heating and cooling air in frost-free and dry rooms. Within the room, the unit needs to be connected to the building's heating/cooling/ventilation system and to the building's waste water and power network. The operating limits and limits of use described in Chapter 2.2 [► 6] must be observed.



IMPORTANT NOTE!

Only use the unique after completion of the complete building and system. Site heating is not deemed to be correct and proper use.

Intended use of the unit also includes adherence to these instructions.

Information in accordance with EN60335-1

- This unit can be used by children aged 8 years or more and also by people with reduced physical, sensory or mental capabilities or a lack of experience and knowledge, if they are supervised or have been instructed in the safe use of the unit and the resulting dangers. Do not allow children to play with the unit. Do not allow children to clean and maintain the unit without supervision.
- The unit is not intended for operation above 2,000 m.a. s.l.
- This unit is not intended for permanent connection to the drinking water supply system.
- This unit is intended for being accessible to the general public.

Any use beyond or other than the stated intended use is considered as misuse.

Any change to the unit or use of non-original spare parts will cause the expiry of the warranty and the manufacturer's liability.

2.2 Limits of operation and use

| Operating limits | | |
|----------------------------------|-------------|---------|
| Min./max. water temperature | °C/°F | 4-90 |
| Min./max. air intake temperature | °C/°F | 6-40 |
| Min./max. air humidity | % | 20-60 |
| Min. operating pressure | bar/kPa | - |
| Max. operating pressure | bar/kPa/psi | 10/1000 |
| Min./max. glycol content | % | 0-50 |

Tab. 1: Operating limits

| | |
|---------------------------|------------------|
| Operating voltage | 230 V/ 50/60 Hz |
| Power/current consumption | On the typeplate |

Tab. 2: Operating voltage

We would refer to VDI-2035 Sheets 1 & 2, DIN EN 14336 and DIN EN 14868 with regard to the properties of the medium used to protect the equipment. The following values provide further guidance.

The water used should be free of contamination, such as suspended substances and reactive substances.

| Water quality | | |
|---|-------|----------------|
| pH value (at 20 °C) | | 8-9 |
| Conductivity (at 20 °C) | µS/cm | < 700 |
| Oxygen content (O ₂) | mg/l | < 0.1 |
| Hardness | °dH | 4-8.5 |
| Sulphur ions | | not measurable |
| Sodium ions (Na ⁺) | mg/l | < 100 |
| Iron ions (Fe ²⁺) | mg/l | < 0.1 |
| Manganese ions (Mn ²⁺) | mg/l | < 0.05 |
| Ammonia ions (NH ⁴⁺) | mg/l | < 0.1 |
| Chlorine ions (Cl) | mg/l | < 100 |
| CO ₂ | | < 50 |
| Sulfate ions (SO ₄ ²⁻) | mg/l | < 50 |
| Nitrite ions (NO ₂ ⁻) | mg/l | < 50 |
| Nitrate ions (NO ₃ ⁻) | mg/l | < 50 |

Tab. 3: Water quality

Venkon XL

Assembly, installation and operating instructions



IMPORTANT NOTE!

Danger of frost in cooling mode!

There is a risk of the heat exchanger freezing when used in unheated rooms.

- ▶ Make sure that the unit is equipped with a frost protection sensor and/or thermostat in this case.



IMPORTANT NOTE!

Warning of misuse!

In the event of misuse, as itemised below, there is a danger of limited or failing operation of the unit. Ensure that the airflow can circulate freely.

- ▶ Never operate the unit in humid areas, such as swimming pools, wet areas etc.
- ▶ Never operate the unit in rooms with an explosive atmosphere.
- ▶ Never operate the unit in aggressive or corrosive atmospheres (e.g. sea air).
- ▶ Never operate the unit above electrical equipment (such as switch cabinets, computers or other electrical units, or contacts that are not drip-proof).
- ▶ Never use the unit as a construction site heater.
- ▶ Never operate the unit in areas with a high dust content.



IMPORTANT NOTE!

Energy losses due to misuse!

Operating the unit with open windows (or other room openings) can result in significant energy losses.

- ▶ Heating and cooling modes (particularly when operating different units) need to be coordinated with each other.

2.3 Risk from electrocution!



DANGER!

Risk of fatal injury from electrocution!

Contact with live parts will lead to fatal injury from electrocution. Damage to the insulation or individual components can lead to a fatal injury.

- ▶ Only permit qualified electricians to work on the electrical system.
- ▶ Immediately disconnect the system from the power supply and repair it in the event of damage to the insulation.
- ▶ Keep live parts away from moisture. This can cause a short circuit.
- ▶ Properly earth the unit.

2.4 Personnel requirements - Qualifications

Expertise

The installation of this product requires specialist knowledge of heating, cooling, ventilation, installation and electrical engineering. This knowledge, generally learned in professional training in one of the fields mentioned above, is not described separately.

Damage caused by improper installation is the responsibility of the operator or installer. The installer of these units should have adequate knowledge of the following gained from specialist professional training

- ▶ Safety and accident prevention regulations
- ▶ Guidelines and recognised technical regulations, i.e. Association of German Electricians VDE regulations, DIN and EN standards.

The installation, operation and maintenance of this unit must comply with the applicable laws, standards, provisions and regulations in the respective country and the current state of the art.

2.5 Personal Protective Equipment

Personal protective equipment is used to protect people from impaired safety and health when working with the unit. The applicable accident prevention regulations at the place of use apply in all cases.

Personnel have to wear personal protective equipment during maintenance and troubleshooting on and with the unit.

Venkon XL

Assembly, installation and operating instructions

3 Transport, storage and packaging

3.1 General transport instructions

Check on delivery for completeness and transport damage.

Proceed as follows in the event of visible damage:

- ▶ Do not accept delivery or only accept with reservations.
- ▶ Record any transport damage on the transportation documents or on the transport company's delivery note.
- ▶ Submit a complaint to the freight forwarder.



IMPORTANT NOTE!

Warranty claims can only be made within the applicable period for complaints. (More information is available in the T&Cs on the Kampmann website)



IMPORTANT NOTE!

2 people are needed to transport the unit. Wear personal protective clothing when transporting the unit. Only lift the unit on both sides and not by the pipes / valves.



IMPORTANT NOTE!

Material damage caused by incorrect transport!

Units being transported can drop or topple over if transported wrongly. This can cause serious material damage.

- ▶ Proceed carefully when unloading the equipment on delivery and when transporting it on site and note the symbols and instructions on the packaging.
- ▶ Only use the holding points provided.
- ▶ Only remove packaging shortly before assembling the unit.

3.2 Scope of delivery



IMPORTANT NOTE!

Check the scope of delivery!

- ▶ Check the delivery for damage.
- ▶ Check that the articles and type numbers are correct.
- ▶ Is the delivery and number of items delivered correct?

3.3 Storage

Store packaging under the following conditions:

- ▶ Do not store outdoors.
- ▶ Store in a dry and dust-free place.
- ▶ Store in a frost-free place.
- ▶ Do not expose to aggressive media.
- ▶ Protect from direct sunlight.
- ▶ Avoid mechanical vibrations and shocks.



IMPORTANT NOTE!

Under certain circumstances, packages can carry storage instructions that exceed the requirements listed here. Comply with these instructions accordingly.

3.4 Packaging

Handling packaging materials



IMPORTANT NOTE!

Dispose of packaging materials in line with the applicable statutory requirements and local regulations.



IMPORTANT NOTE!

The packaging is also use to protect the product from site dust and dirt. Only remove packaging shortly before assembling the unit.

Venkon XL

Assembly, installation and operating instructions

4 Technical data

| Unit | Venkon XL | | | |
|------------------------------------|-----------|------|------|------|
| Model | 1 | 2 | 3 | 4 |
| Width base unit [mm] | 645 | 945 | 1395 | 1745 |
| Height base unit [mm] | 650 | 650 | 650 | 650 |
| Depth base unit [mm] | 260 | 260 | 260 | 260 |
| Width cladding [mm] | 1000 | 1300 | 1750 | 2100 |
| Height cladding [mm] | 890 | 890 | 890 | 890 |
| Depth cladding [mm] | 275 | 275 | 275 | 275 |
| Weight base unit [kg] | | | | |
| Internal volume 2-pipe [l] | 2.1 | 3.4 | 5.4 | 6.8 |
| Internal volume 4-pipe heating [l] | 0.7 | 1.4 | 2.2 | 2.8 |
| Internal volume 4-pipe cooling [l] | 1.5 | 2.1 | 3.3 | 4.1 |

| Operating voltage | | 230 V | | | | | 230 V | | | |
|-----------------------------|---------|--------------|-------------|--------------|--------------|--------------------|--------------|--------------|--------------|--------------|
| Size | | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 |
| | Unit | | | | | Unit | | | | |
| Air volume | [l/s] | 59 - 254 | 60 - 438 | 112 - 683 | 118 - 878 | [cfm] | 125 - 538 | 127 - 928 | 237 - 1447 | 250 - 1860 |
| MCA | [A] | | | | | [A] | | | | |
| MOP | [A] | | | | | [A] | | | | |
| Heat output ¹ | [kW] | 2.03 - 13.53 | 2.6 - 23.43 | 4.78 - 36.6 | 5.2 - 47.45 | [MBH] ² | 3.24 - 21.98 | 4.54 - 38.22 | 8.21 - 59.64 | 9.15 - 77.77 |
| Cooling output ³ | [kW] | 1.29 - 5.76 | 1.53 - 9.98 | 2.76 - 15.62 | 3.08 - 20.27 | [MBH] ⁴ | 3.05 - 13.79 | 3.63 - 24.24 | 6.67 - 37.76 | 7.33 - 50.02 |
| Sound power level | [dB(A)] | 47 - 73 | 47 - 72 | 49 - 75 | 48 - 73 | [dB(A)] | 47 - 73 | 47 - 72 | 49 - 75 | 48 - 73 |
| Sound pressure level | [dB(A)] | 39 - 65 | 39 - 64 | 41 - 67 | 40 - 65 | [dB(A)] | 39 - 65 | 39 - 64 | 41 - 67 | 40 - 65 |

Tab. 4: Technical specifications Venkon XL 230 V

¹ at LPHW 75 / 65°C, t_{l1} = 20°C

² at LPHW 120 / 100°F, t_{l1} = 68°F

³ at CHW 7/12°C, t_{l1} = 27 °C, 50% relative humidity

⁴ for car 45/55 °F, t_{l1} = 51 °F, rel. humidity 50 %

5 Construction and function

5.1 Overview

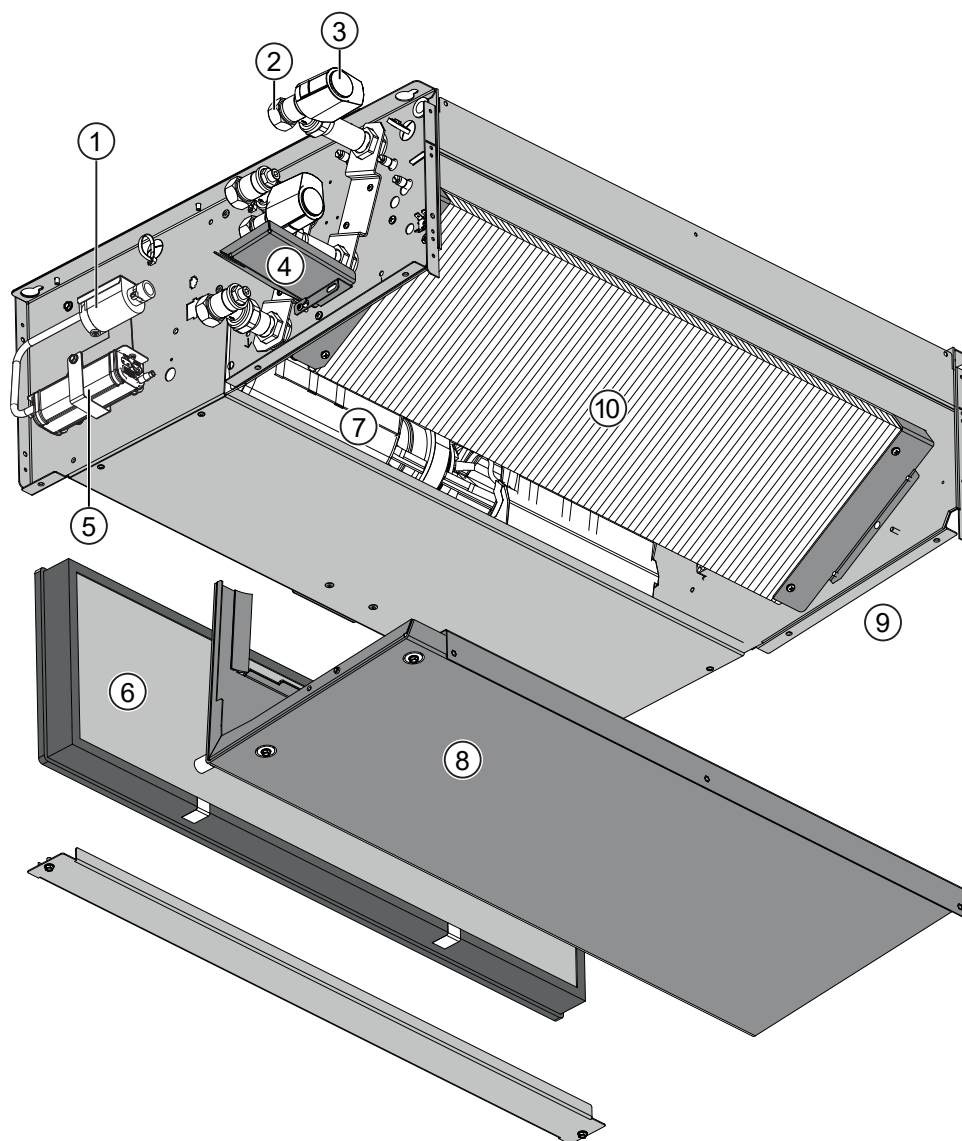


Fig. 1: Venkon XL at a glance (example ceiling version)

| | | | |
|---|------------------|----|---------------------------|
| 1 | Float switch | 2 | Water connection |
| 3 | Actuator | 4 | Valve condensate tray |
| 5 | Condensate pump | 6 | Filter |
| 7 | Fan | 8 | Main condensate drip tray |
| 9 | Control (hidden) | 10 | Heat exchanger |



Venkon XL

Assembly, installation and operating instructions

5.2 Brief description

Venkon XL are decentralised units for the heating, cooling and filtering of air, for use in hotels, offices and business premises, among others. Secondary air is drawn in filtered by the fan and passed through the copper/aluminium heat exchanger. Here the air is either heated or cooling depending on the temperature of the water in the heat exchanger. The heated or cooled air is discharged into the room through the optional connection unit for circular pipes.

5.3 Wear parts list

| Figure | Item | Features | Suitable for | Item no. |
|---|---|----------|--------------|--------------|
|  | Replacement filter ePM10>50% (M5) MERV 8 | 1 piece | Size 1 | 34869B0B0105 |
| | | | Size 2 | 34869B0B0205 |
| | | 1 piece | Size 3 | 34869B0B0305 |
| | | | Size 4 | 34869B0B0405 |
|  | Replacement filter ePM10>50% (F7) MERV 13 | 1 piece | Size 1 | 34869B0B0107 |
| | | | Size 2 | 34869B0B0207 |
| | | 1 piece | Size 3 | 34869B0B0307 |
| | | | Size 4 | 34869B0B0407 |

The device may only be operated with filters conforming to the manufacturer's specifications or with sufficient external pressure drop, as otherwise drops may be ejected from the device in the event of cooling.

6 Installation and wiring

6.1 Definition of the connection side

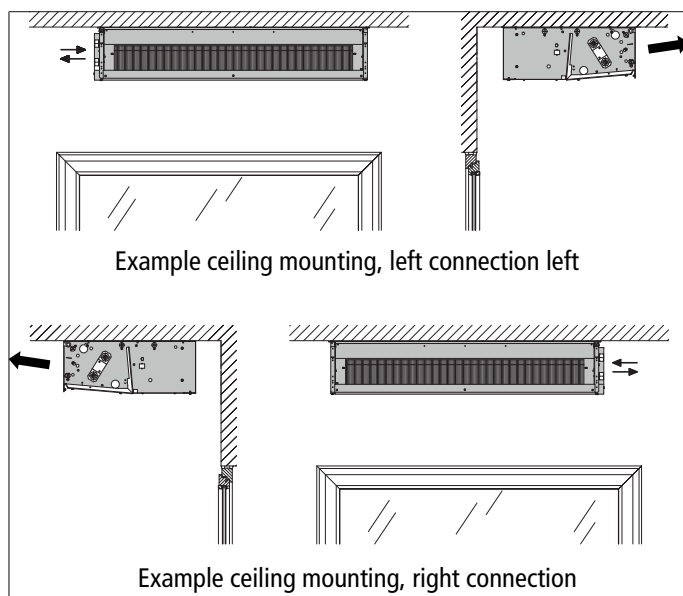


Fig. 2: Ceiling mounting, left and right connection

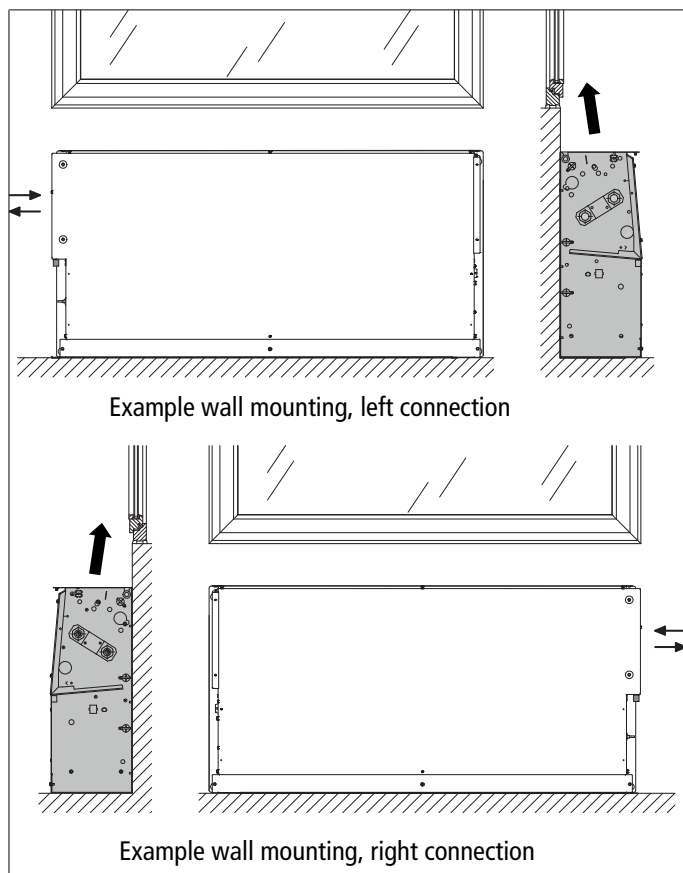


Fig. 3: Wall mounting, left and right connection

Venkon XL

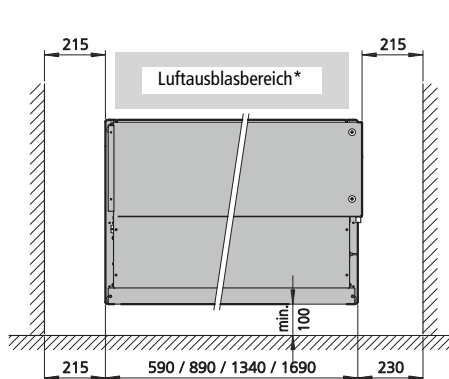
Assembly, installation and operating instructions

6.2 Requirements governing the installation site

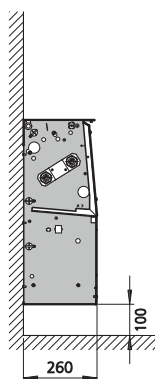
Only install and assemble the unit if the following conditions are met:

- ▶ Make sure that the wall/ceiling is sufficiently load-bearing to take the weight of the unit (Technical data [► 12]).
- ▶ Make sure that the unit is securely suspended/standing.
- ▶ Ensure that the airflow can circulate freely.
- ▶ Provide adequate space for appropriately sized flow and return water connections on site (Connection to the pipe network [► 24]).
- ▶ There is a power supply on site (Maximum electrical rating values [► 38]).
- ▶ If need be, provide a condensation connection with a sufficient gradient on site.

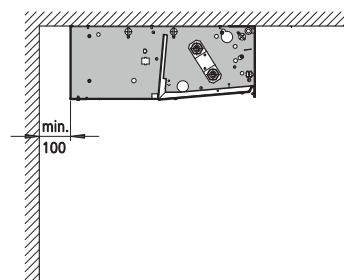
6.3 Minimum clearances



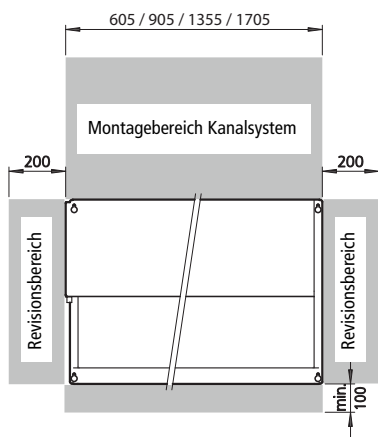
Mindestabstände Baugröße 1-4



Wandmontage



Deckenmontage



Montage- und Revisionsbereiche

*Der Luftausblasbereich muss komplett barrierefrei sein, um eine ungehinderte Luftzirkulation zu gewährleisten! Oberhalb der Verkleidung müssen min. 50 mm frei zugänglich sein, um die Verkleidung abnehmen zu können.

6.4 Installation

2 people are needed to install the unit.



CAUTION!

Risk of injury from sharp metal housing!

The inner metal of the casing can have sharp edges.

- Wear suitable protective gloves.



IMPORTANT NOTE!

Horizontal installation of units!

When installing the units, ensure that they are completely horizontal to ensure proper operation.



IMPORTANT NOTE!

Avoid draughts!

Consider the occupied zone when installing/suspending the units. Do not expose people to the direct air flow. Position the unit accordingly and adjust the air outlet if required.



IMPORTANT NOTE!

Sound insulation

Provide for sound isolation between the Venkon XL and the adjacent building if required.

Venkon XL

Assembly, installation and operating instructions

6.4.1 Installation of basic unit

Note the Venkon minimum clearances when installing the basic units!

- ▶ Highlight the dimensions and clearances of the key holes on the wall or ceiling as per the table, drill the holes and use appropriate fixing materials to install the basic unit.
- ▶ Align the basic unit for correct operation. Install the basic unit with a gradient on the condensation discharge side should condensation be produced.
- ▶ Once the basic unit has been aligned, prevent the fixing material from coming loose.

Venkon XL are fixed per unit at 4 points on the ceiling or on a construction provided by the customer. For this purpose, the devices are suspended from the suspension brackets, e.g. from threaded rods (M8).

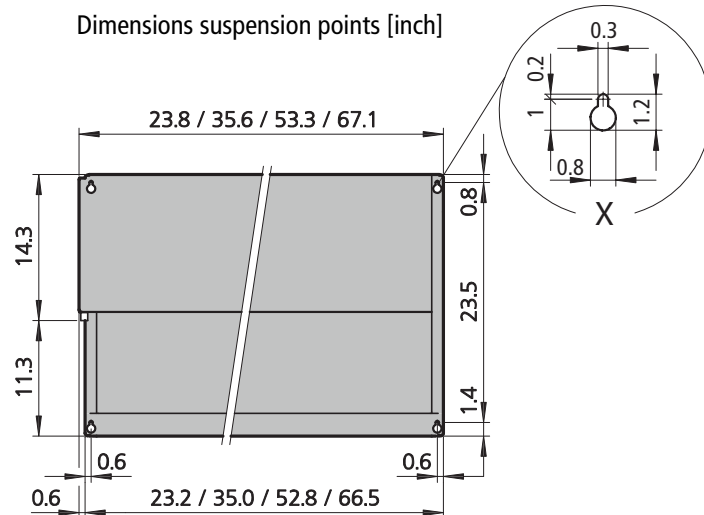
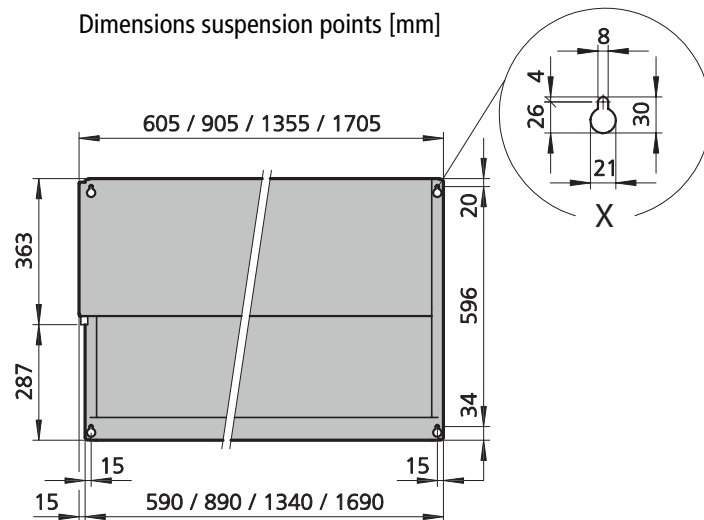


Fig. 4: Suspension points

6.4.2 Installation of casing

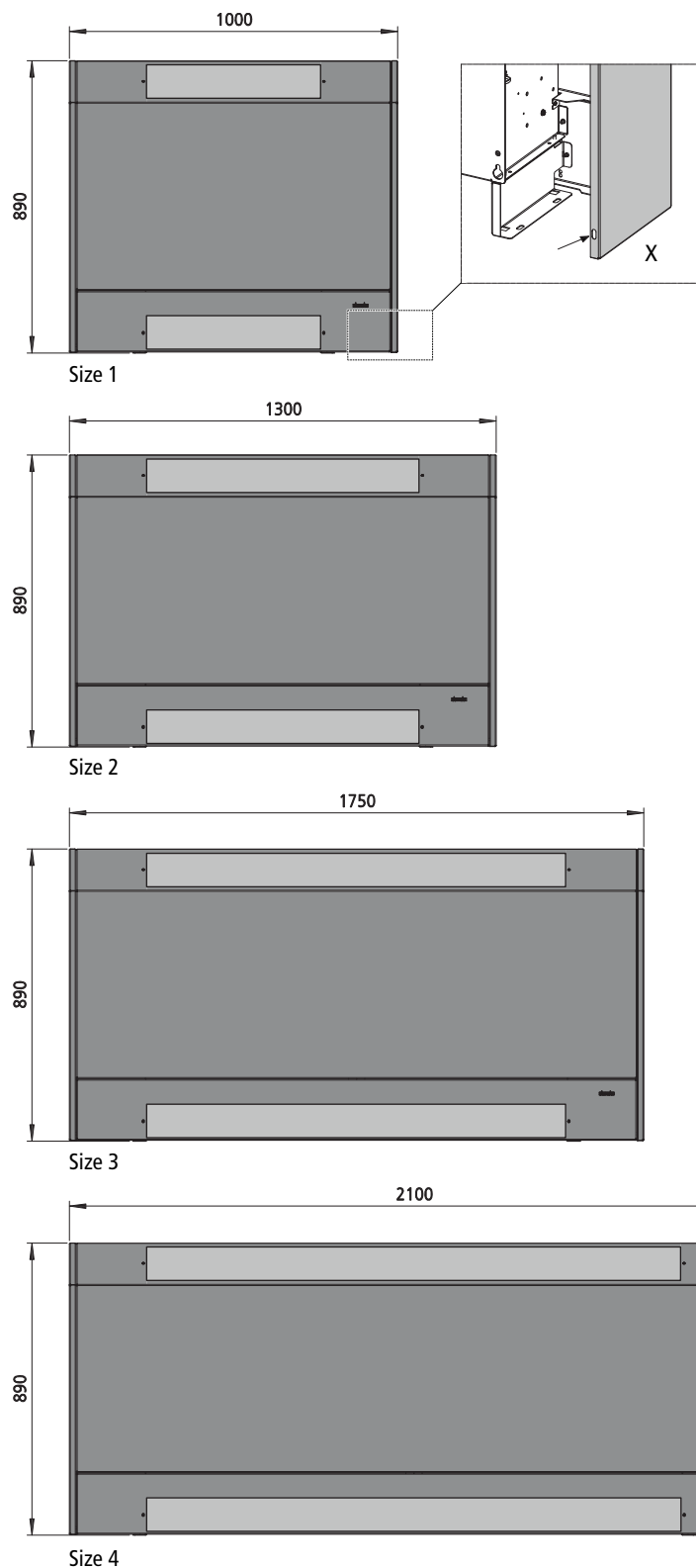







Fig. 5: Views cladding (simplified representation)

The cladding depth X for all sizes is 275 mm / 10.8 inches.

By means of the holes in the side panels (see detail X), the cladding can be fixed to the wall for better fixation.

Venkon XL

Assembly, installation and operating instructions

| | |
|---|---|
|  | <p>► Fit the fixing brackets for the casing.</p> |
|  | <p>► Glue the spacers; maintain a min. distance of 2 cm from above to prevent the edge of the casing from colliding with the spacers.</p> |
|  | <p>► Position the casing on the basic unit.</p> |
|  | <p>► Attach the casing to the basic unit.</p> |
|  | <p>► Attach the suction panel to the basic unit.</p> |

6.4.3 Installation of sheet steel accessories

Overview, air side steel sheet accessories

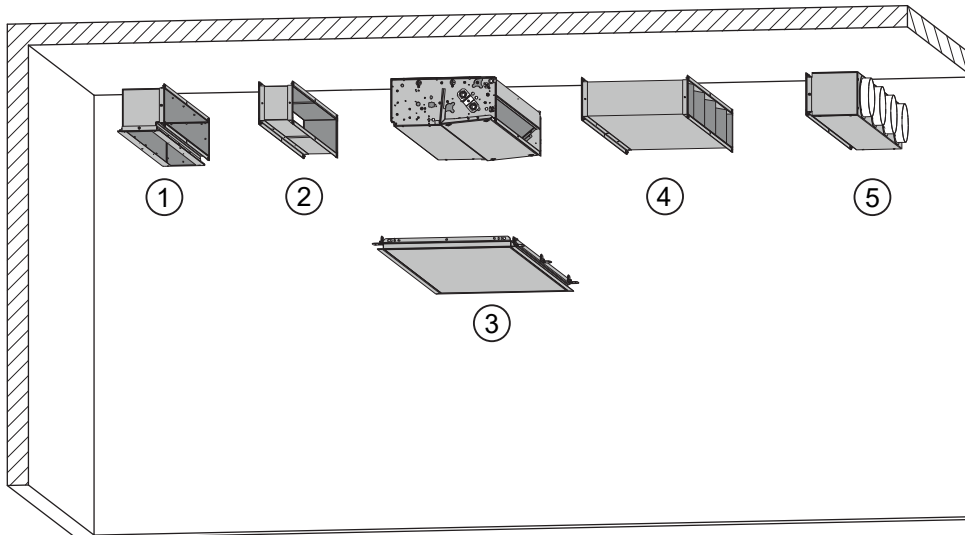
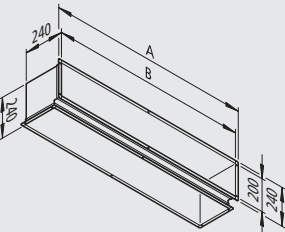
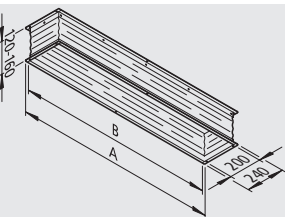
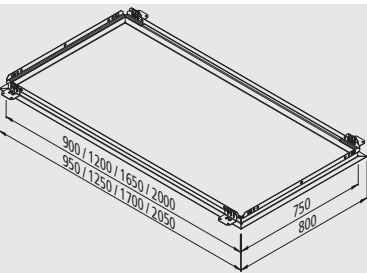
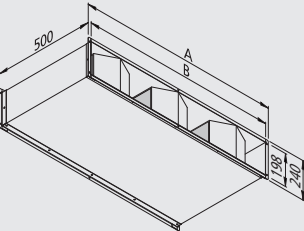
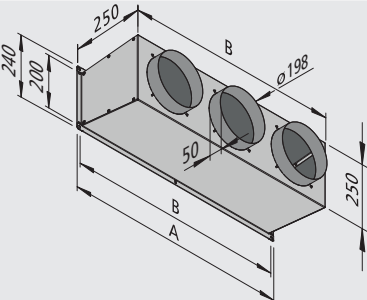


Fig. 6: Schematic layout of steel sheet accessories for ceiling mounting

| | | | |
|---|-----------------------------|---|---|
| 1 | Air duct bend 90° | 4 | Splitter silencer |
| 2 | Elastic connecting piece | 5 | Flex pipe connection unit Ø 198 mm (other diameters available upon request) |
| 3 | Inspection hatch with frame | | |

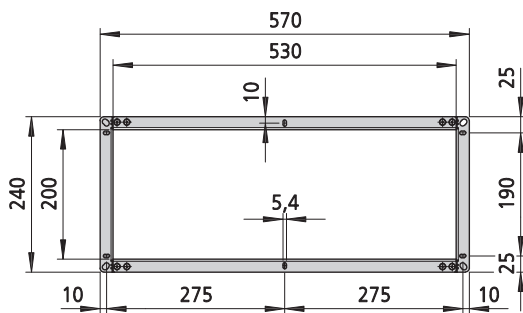
Venkon XL

Assembly, installation and operating instructions

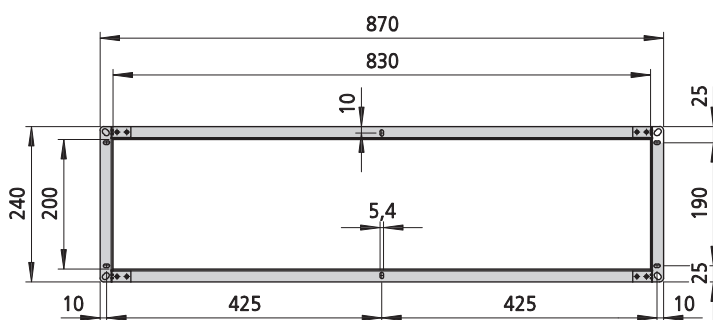
| Figure | Description | Dimensions [mm] | | | | |
|---|---|-----------------|-----|-----|------|------|
|  | Air duct bend 90° | | 1 | 2 | 3 | 4 |
| | | A | 570 | 870 | 1320 | 1670 |
| | | B | 530 | 830 | 1280 | 1630 |
|  | Elastic connecting piece | | 1 | 2 | 3 | 4 |
| | | A | 570 | 870 | 1320 | 1670 |
| | | B | 530 | 830 | 1280 | 1630 |
|  | Inspection hatch with frame | | | | | |
|  | Splitter silencer | | 1 | 2 | 3 | 4 |
| | | A | 570 | 870 | 1320 | 1670 |
| | | B | 530 | 830 | 1280 | 1630 |
|  | Flex pipe connection unit Ø 198 mm (other diameters also available) | | 1 | 2 | 3 | 4 |
| | | A | 570 | 870 | 1320 | 1670 |
| | | B | 530 | 830 | 1280 | 1630 |

Tab. 5: Air side steel sheet accessories

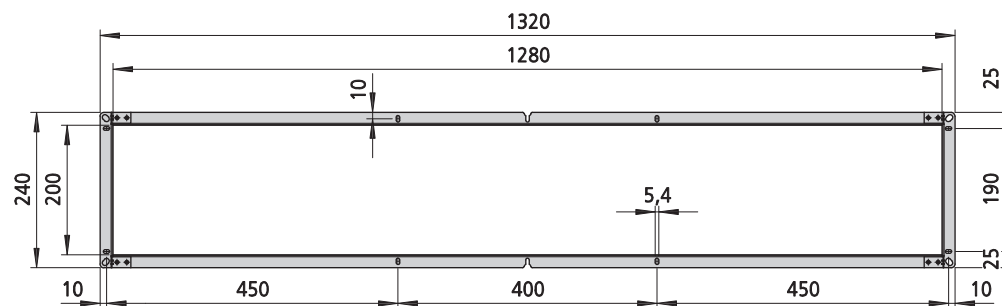
Frame connection dimensions



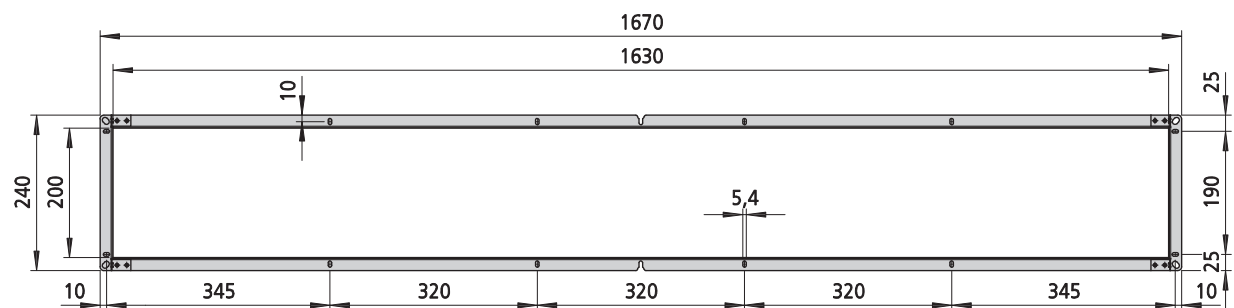
Size 1



Size 2



Size 3



Size 4

Fig. 7: Frame connection dimensions

Venkon XL

Assembly, installation and operating instructions

6.5 Installation

Actuator with 'First Open' function

- ▶ When delivered, the actuator is normally open in a de-energised state, thanks to the First Open function. This enables heating mode to run even if the electric wiring is not yet completed.
- ▶ When subsequently commissioned and with the application of power (for longer than 6 minutes), the First Open function is automatically unlocked so that the actuator becomes fully operational.

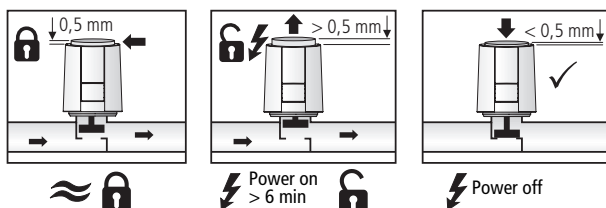


Fig. 8: "First Open" function

Hydraulic connection

Note the following points when connecting the hydraulic side:

- ▶ Install and test safety components (expansion vessels, pressure relief valves and overflow valves).
- ▶ Route condensation lines with a sufficient cross-section without bends and narrow sections with a gradient to the in situ waste water pipe.
- ▶ Allow adequate space for the air flow (air inlet and outlet).

Observe the following additional points for cooling operation:

- ▶ Install continuous, vapor diffusion-tight insulation on all water-bearing components (piping, valves, connections), in each case up to the unit.
- ▶ Select suitable pipe hangers (cold clamps) for cooling operation.
- ▶ Sufficiently dimension the diameter of the condensate pipe.
- ▶ Protect siphons (if any) in the condensate pipe from drying out.
- ▶ When using the units without filters, ensure that the unit is operated at a maximum of 7.3 V, otherwise condensate may drip. This will not happen with Kampmann filters installed.
- ▶ When using filters not approved by the manufacturer, no guarantee regarding the performance specifications can be given. In such a case, drops may also be ejected from the device.

6.5.1 Connection to the pipe network

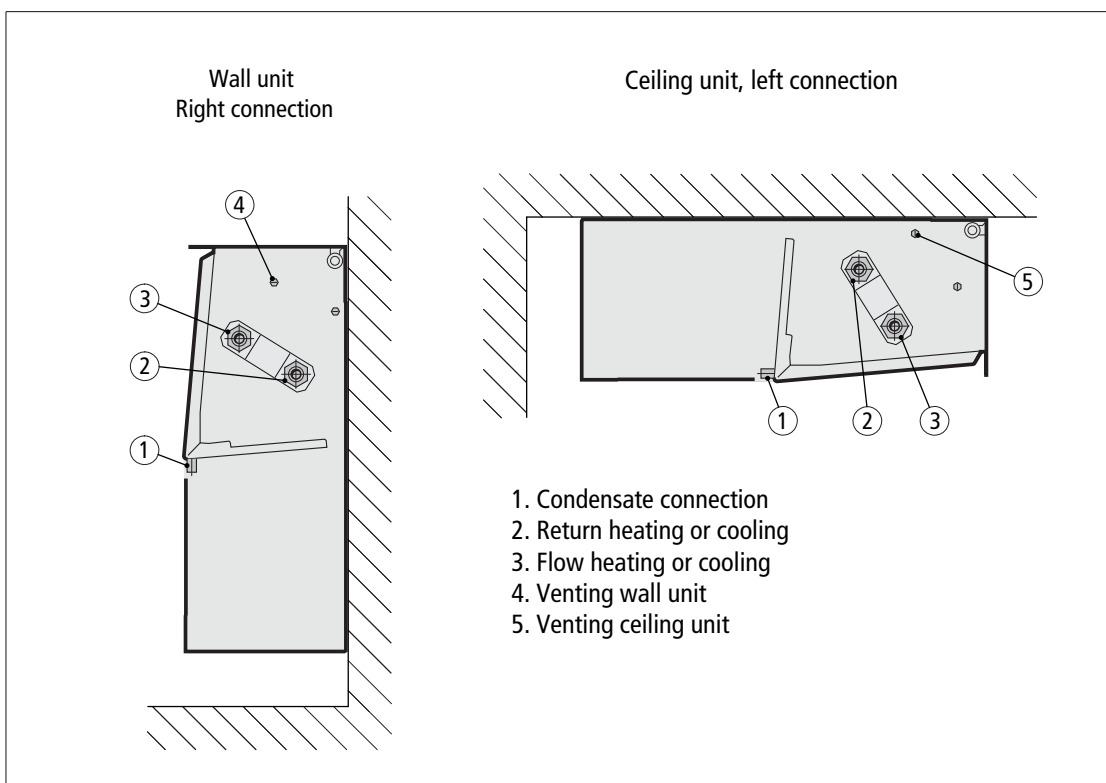
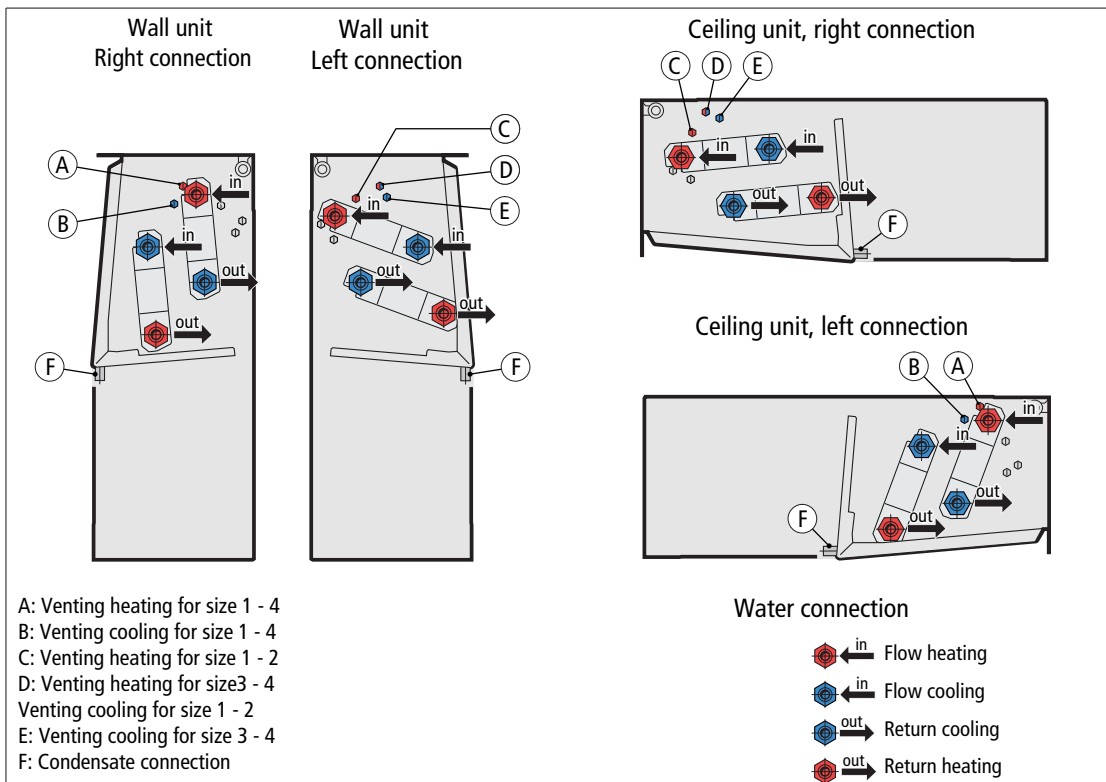
The supply and return connections are located on the left or right side of the unit, as seen in the direction of the air flow.

The piping must be laid in such a way that no mechanical stresses are transferred to the heat exchanger and the accessibility of the unit during maintenance and repair work is not impaired. Proceed as follows when connecting the unit hydraulically:

- ▶ Before installing the piping provided by the customer and the hydraulic connection of the base unit, shut off the heating/cooling medium and secure it against unintentional opening, otherwise there is a risk of scalding due to escaping heating medium!
- ▶ With cooling equipment, there is danger to the user from cold and danger to the environment when glycol is used. Follow appropriate safety precautions.
- ▶ Remove the protective covers from the supply and return pipes.
- ▶ **For 2-pipe:** Remove red protective caps from $\frac{3}{4}$ " connection.
- ▶ **For 4-pipe:** Remove red protective caps from $\frac{3}{4}$ " connection.
- ▶ In the case of cooling operation, install pipes and, if necessary, valves directly above the protruding condensate tray in order to drain the condensate occurring on the pipes into the tray during cooling operation.
- ▶ Seal and screw in the connections. Secure the connecting nut against shearing and twisting.
- ▶ When connecting the unit to the piping provided by the customer, it is essential to hold the water connections in place with a suitable tool!
- ▶ Ensure venting of the pipelines by the customer.
- ▶ The connections of the heat exchanger are made in $\frac{3}{4}$ " with NPT female thread and a transition piece to $\frac{3}{4}$ " R female thread.
- ▶ Use suitable insulating material, for cooling units use diffusion-tight insulating material.
- ▶ After completion of all connection work, all screw connections must be retightened and checked for tension-free assembly.

Venkon XL

Assembly, installation and operating instructions



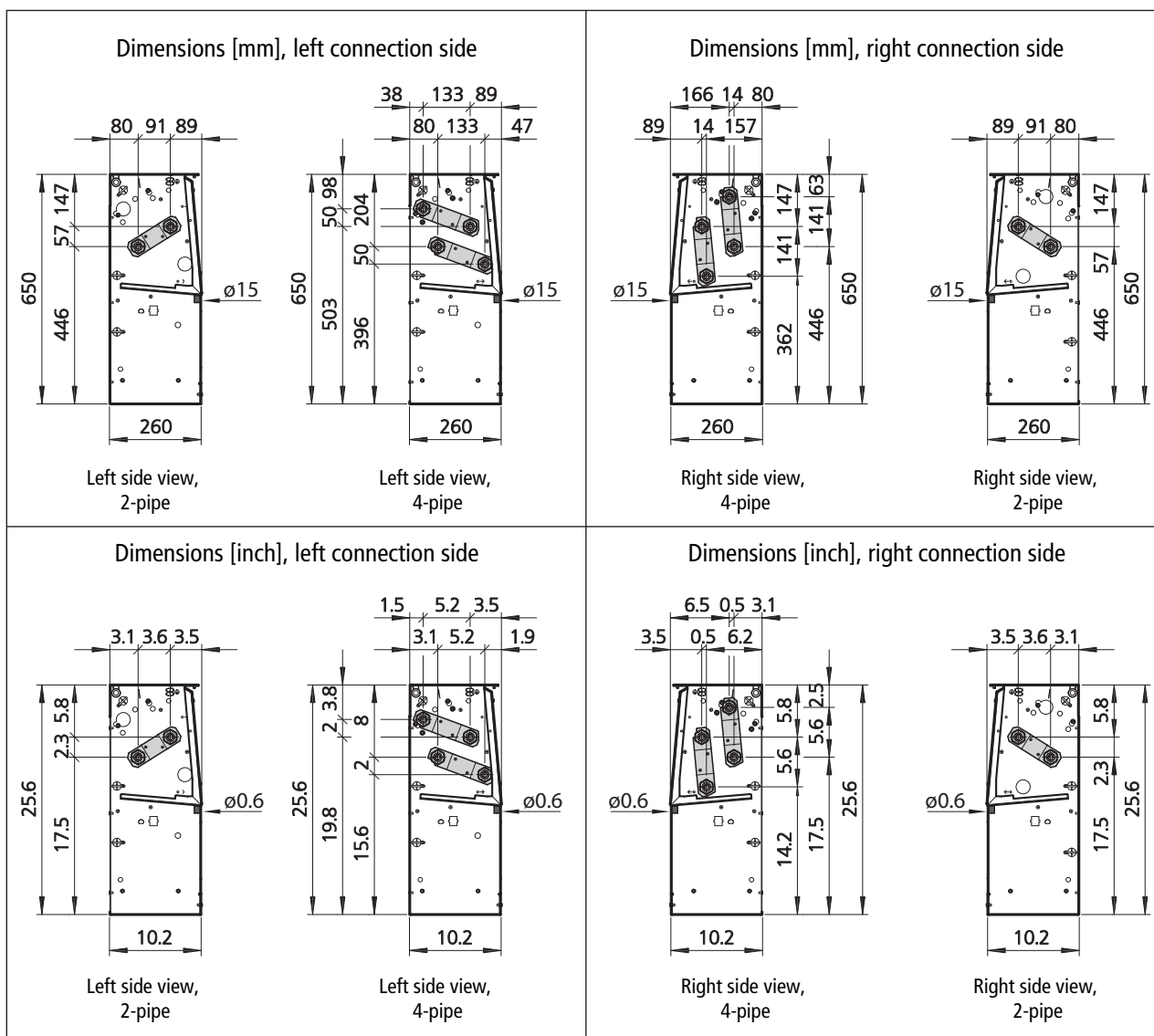


Fig. 9: Water connections dimensions

Provide inspection port.

For maintenance and inspection of false ceiling units, provide the following inspection port dimensions.

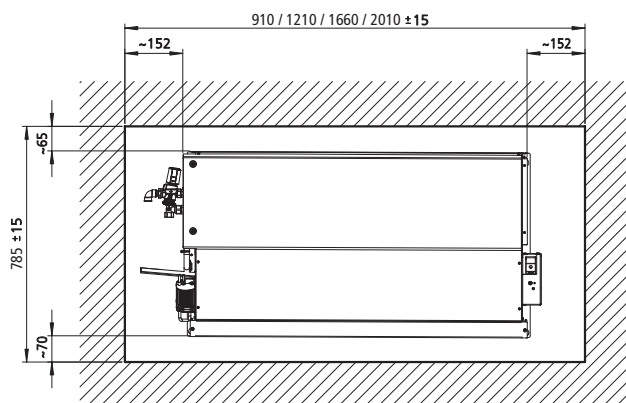
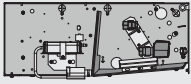
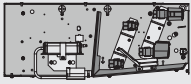

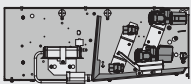


Fig. 10: Dimensions for inspection port

Venkon XL

Assembly, installation and operating instructions

6.5.2 Overview of valve kits

| Accessories recirculation basic unit, water side, factory mounted on base unit | | | | | |
|---|---|---------------------------------|---|------------------------|----------------------|
|  | 2-way valve kit | Mounting water connection left | 2-pipe version with preset 2-way valve, can be shut off with return screw fitting | Suitable for all sizes | Item no. 34823B0B2*2 |
| | | Mounting water connection right | | | |
|  | 2-way valve kit | Mounting water connection left | 4-pipe version with preset 2-way valve, can be shut off with return screw fitting | Suitable for all sizes | Item no. 34823B0B4*2 |
| | | Mounting water connection right | | | |
|  | Differential pressure independent valve kit | Mounting water connection left | 2-pipe differential pressure-independent valve kit, can be shut off with return screw fitting | Suitable for all sizes | Item no. 34823B0B2*D |
| | | Mounting water connection right | | | |
|  | Differential pressure independent valve kit | Mounting water connection left | 4-pipe differential pressure-independent valve kit, can be shut off with return screw fitting | Suitable for all sizes | Item no. 34823B0B4*D |
| | | Mounting water connection right | | | |

Tab. 6: Valve seat accessories

Note: The valve kit dimensions are the same for both the left and right connection sides.

6.5.3 Connection of 2-way valve kit

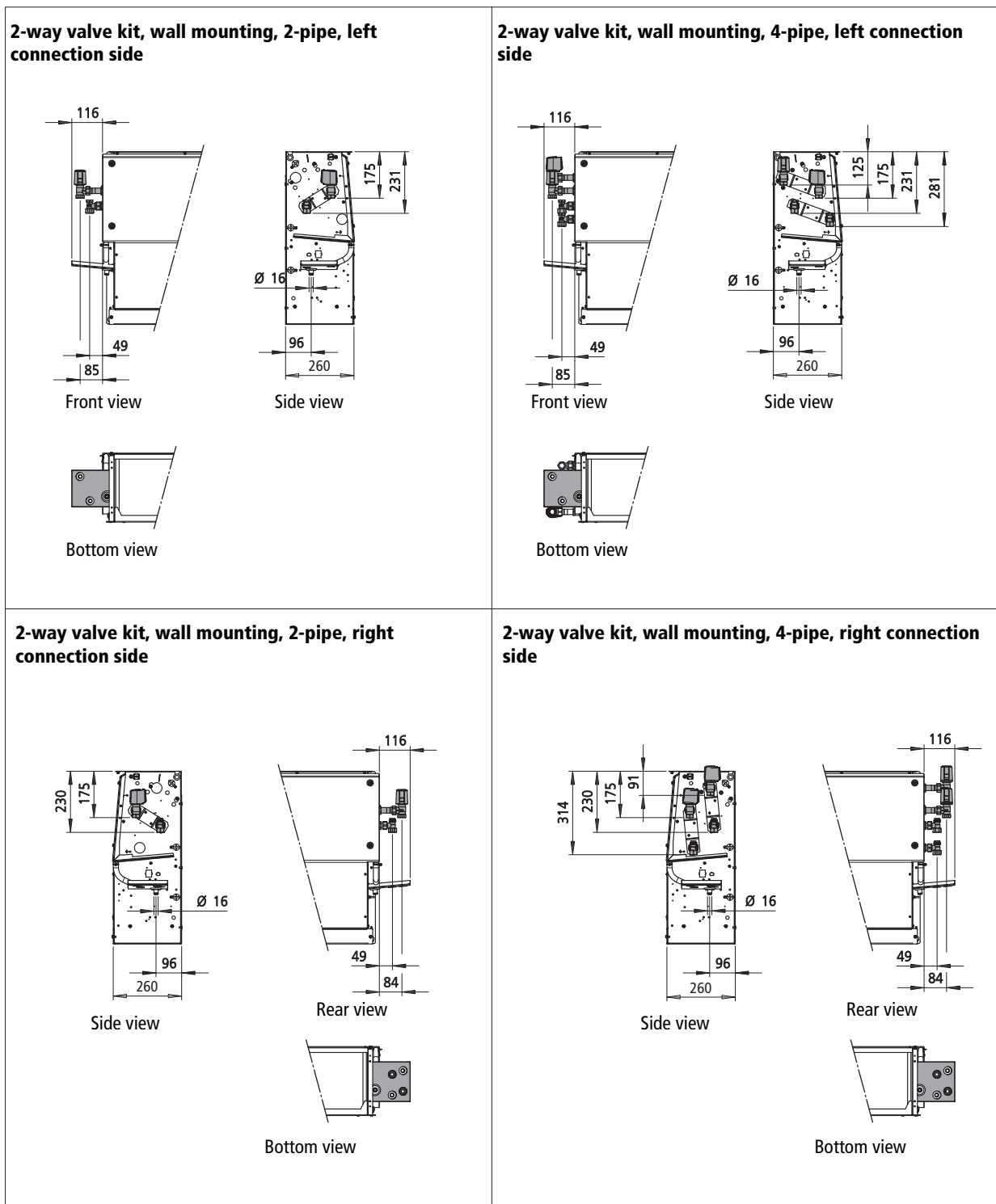


Fig. 11: Dimensions 2-way valve kit (wall-mounted version)

Venkon XL

Assembly, installation and operating instructions



Fig. 12: Dimensions 2-way valve kit (ceiling-mounted version)

6.5.4 Connection of differential pressure-dependent valve kit

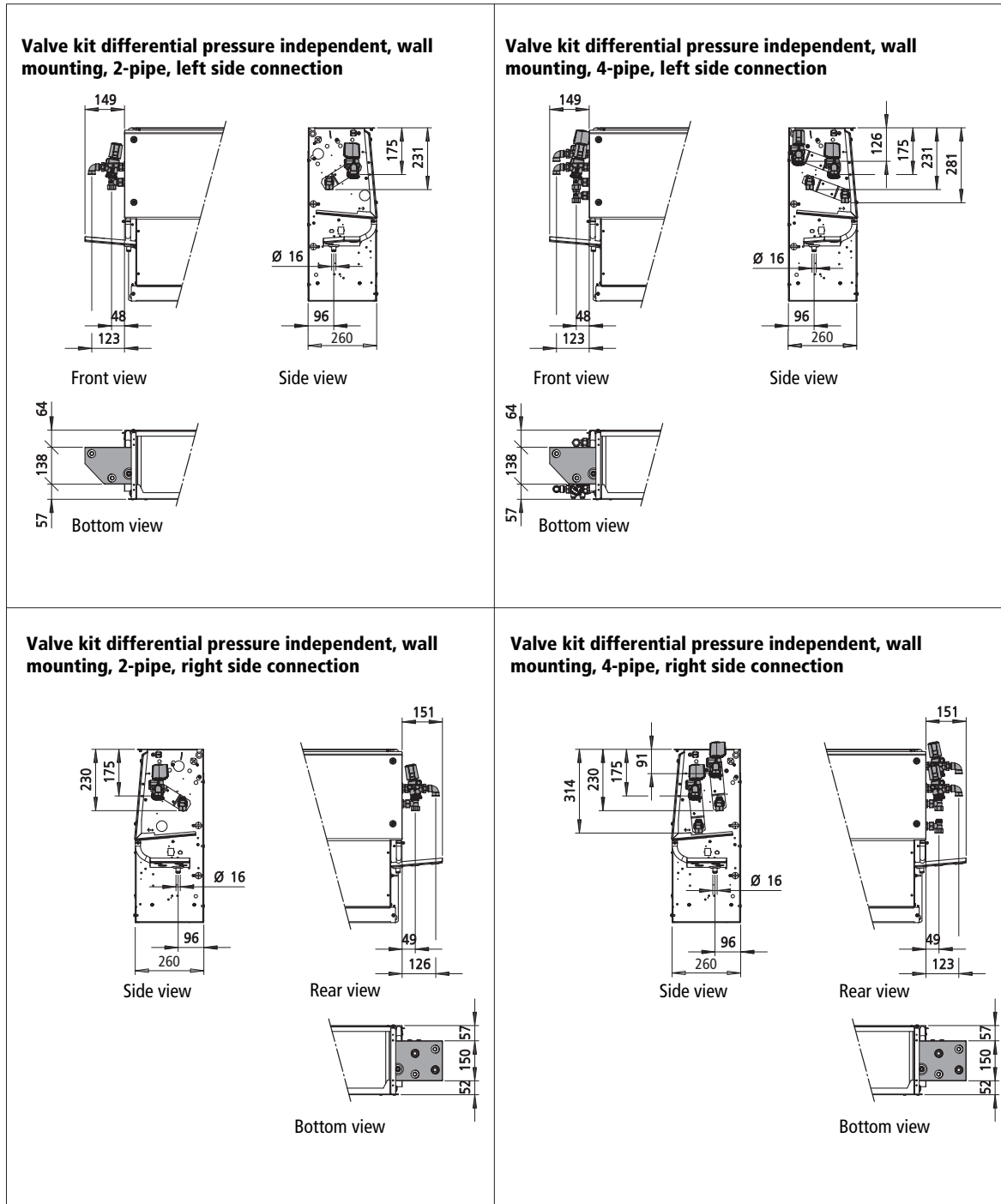


Fig. 13: Dimensions valve kit differential pressure independent (wall-mounted version)

Venkon XL

Assembly, installation and operating instructions

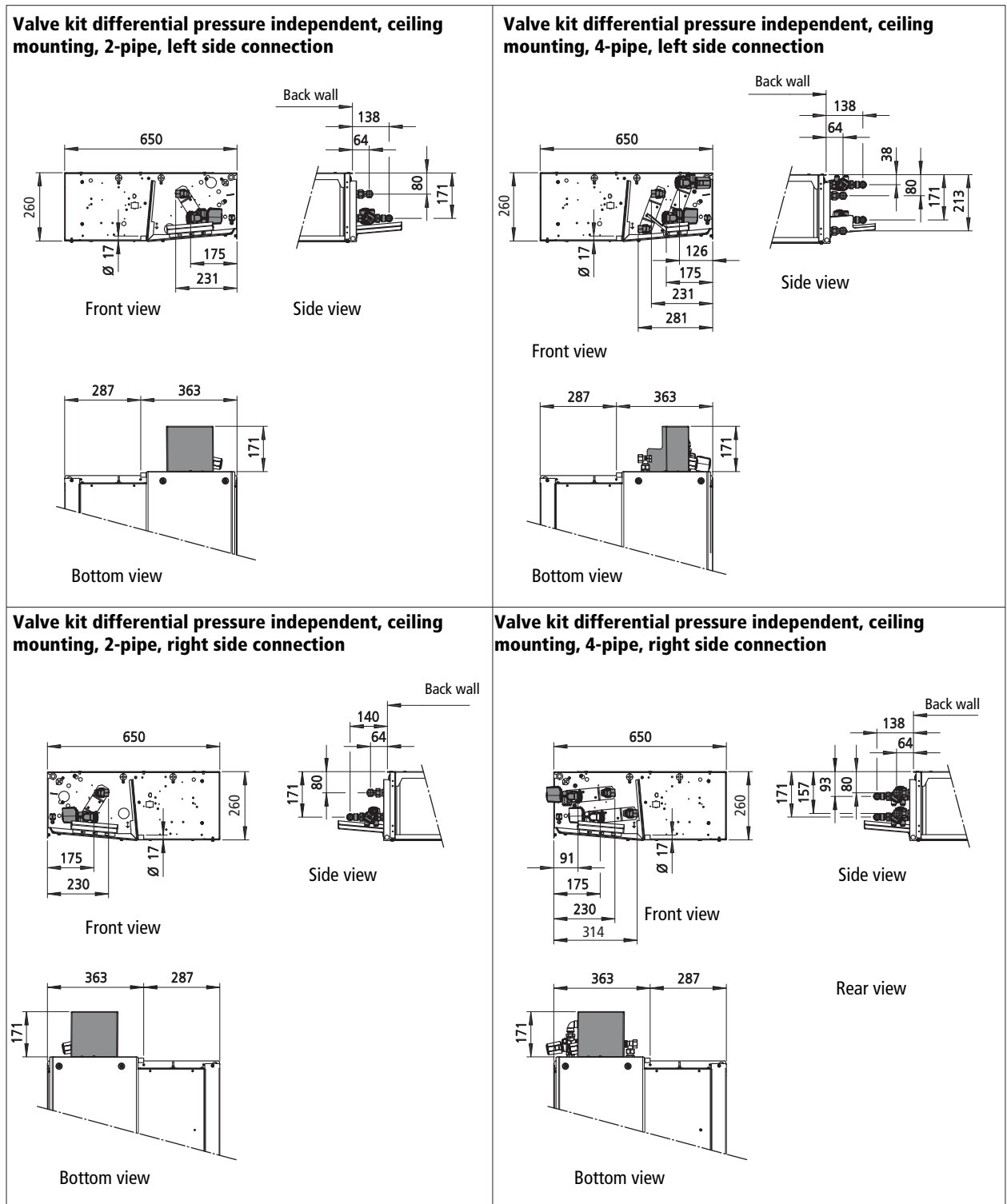
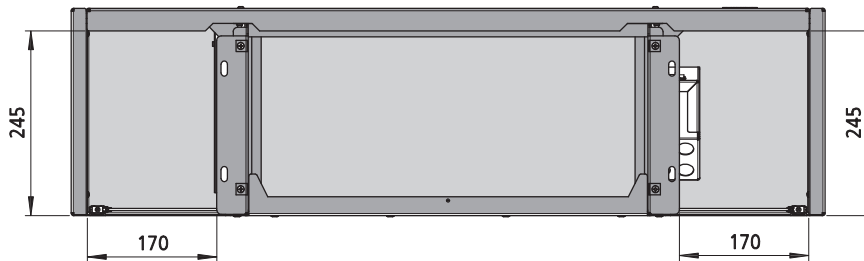


Fig. 14: Dimensions valve kit differential pressure independent (ceiling-mounted version)

6.5.5 Connection, on-site pipework



6.5.6 Condensation connection

6.5.6.1 Condensation drain with natural gradient

A condensate drain provided by the customer must be connected to a condensate drain socket of the Venkon (size of drain 15 mm / 0.6 inch) and fastened accordingly. To ensure condensation drainage from the base unit, the slope must be at least 1 % without restriction and without rising pipe sections (according to DIN EN 12056; old: DIN 1986-100). Ensure that the base unit is mounted horizontally. Should this not be possible, only install the unit with a slight slope in the condensate drain direction, otherwise condensate will remain in the main condensate tray. When connecting the condensate drain to the sewage system, the valid regulations must be observed, such as the use of a ball siphon. The siphon must be protected from drying out. Due to the suction effect of the fan on the condensate drain socket, it could otherwise lead to odor nuisance. Depending on the pipe material used by the customer for the condensate drainage, vapor diffusion-tight insulation may be required. Should a natural slope not be possible on site, a condensate pump (optional accessory) is required. Its purpose is to transport the condensate to collection or discharge facilities located at a higher level.

When ordered, the condensate pump with float switch is mounted to the unit by the manufacturer.

Venkon XL

Assembly, installation and operating instructions

6.5.6.2 Condensate drainage using a condensate pump (accessory)

The water is drawn off by the condensate pump and discharged along a hose (supplied loose) connected on the pressure side. Depending on conditions on site, the water can be discharged into drainage lines, possibly with a trap connection.

In the event of a fault with the condensate drain, the water level will continue to rise until the float switch triggers an alarm contact. The contact can be analysed by external signalling devices.

We would recommend automatically terminating cooling operation, possibly with a shut-off valve, if the alarm contact is triggered to prevent the condensate tray from overflowing.

Condensation drain

- ▶ Drainage of condensation from the condensation pump has to be provided along a natural gradient with an adequate cross-section (minimum 1/2"). Increase the cross-section of the line with longer condensate lines.
- ▶ Check whether the condensation line needs to be insulated to prevent the build-up of condensation along the line.
- ▶ Do not use a rigid transition to the on-site condensation drain, as this lengthens the pump's pressure hose. We would recommend free overflow into a trap.

Installation, cabling of the condensation pump (accessory)

The condensate pump needs a separate power supply 230 V/50 Hz. We would generally advise against connecting it via the room thermostat, as residual condensate could be produced after it has been switched off. Additional wires are needed to analyse the alarm contact.

Use the following types of cable:

- ▶ Mains supply: NYM-J, 1.5 mm²
- ▶ Alarm contact: The cable for the alarm contact depends on the kind of alarm analysis used (e.g. shielded cable).

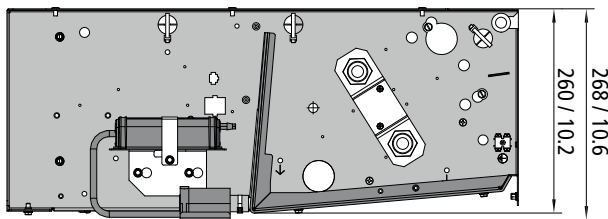


Fig. 15: Installation height with factory-mounted condensate pump

Note: With the condensate pump installed at the factory, the minimum installation height increases from 260 mm to 268 mm or from 10.2 inches to 10.6 inches.

Connecting the condensate pump

Push the suction hose as far as it will go and fix in place with a cable tie to prevent the pump from running dry.

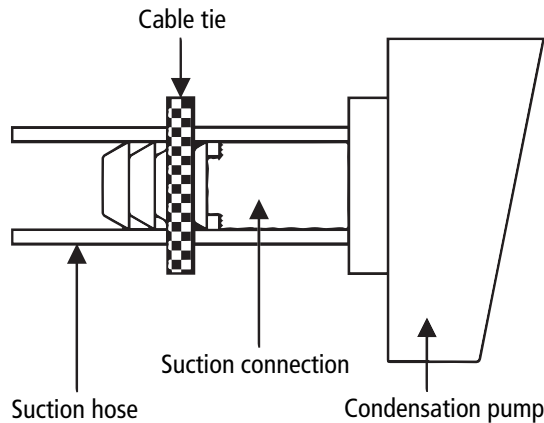


Fig. 16: Fixing the suction hose

- ▶ Supply power and wire alarm contact (separate cable with plug) as per the wiring diagram.
- ▶ Connect the hose to the condensate drain (separate). Direction of flow: refer to the arrow on the side of the housing

| Technical Data | |
|------------------------|---|
| Maximum flow rate | 42 l/Hr. (11 GPH) |
| Maximum suction | 3 m (9.80 ft.) self priming |
| Maximum head | 20 m (65.60 ft.) |
| Maximum horizontal run | 100 m (330 ft.) at 0 head and 0 suction |
| Sound | 20 dBA at 1 m DIN EN ISO 3741:2011 / DIN EN ISO 3744:2010 |
| Voltage | 100 ~ 240 VAC 50/60 Hz auto sensing universal power input |
| Power | 8W during maximum operation at 110V |
| Alarm relay | 7 Amps contacts with integrated replaceable 6.3A fuse 5 × 20 mm |
| Weight | 1'000 g (2.2 lb.) |
| Discharge star tube | 6.25 mm I.D. (1/4") × 1 m (3.3 ft.) |
| Packaging dimensions | 250 x 340 x 54 mm (9.9 x 13.4 x 2.1 inches) |
| Color | RAL #7040 Grey and RAL #1023 Yellow |
| Protection: | Fully potted, IP-44 |
| Operation temp: | Ambient 5°C to 40°C (41°F to 104°F) / Water 5°C to 40°C (41°F to 104°F) |
| Compliance: | Conforms to UL: 778 and certified to CSA C22.2 #68 |

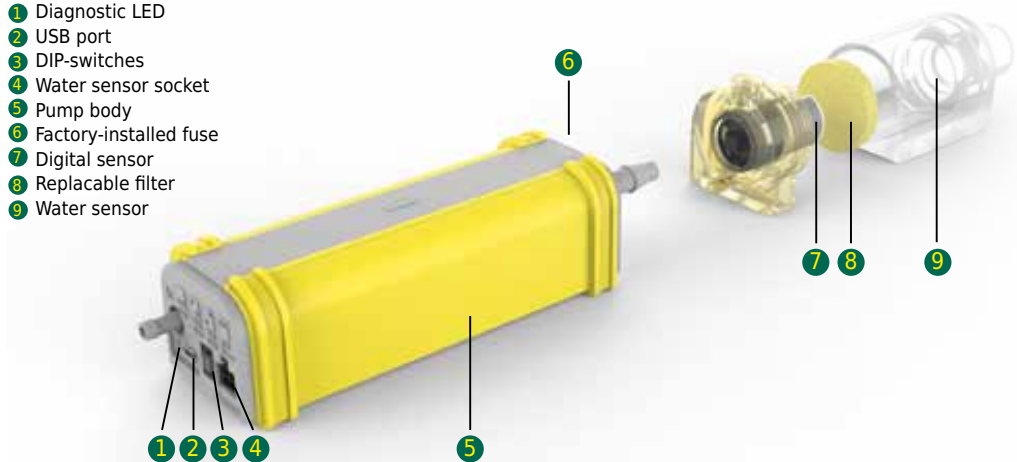
Tab. 7: Technical data for condensate pump

Venkon XL

Assembly, installation and operating instructions

Product description

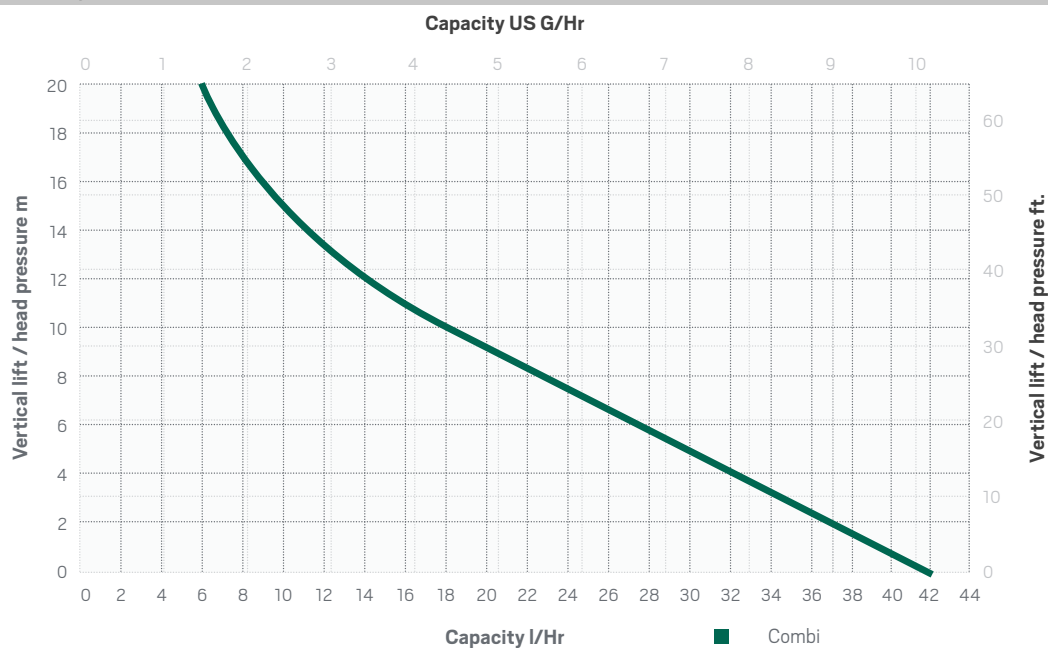
- 1 Diagnostic LED
- 2 USB port
- 3 DIP-switches
- 4 Water sensor socket
- 5 Pump body
- 6 Factory-installed fuse
- 7 Digital sensor
- 8 Replacable filter
- 9 Water sensor



Dimensions pump



Capacity



DO NOT use tools to connect the tubing.

DO NOT operate this product in ambient temperatures below 5 °C (41 °F).

DO NOT operate with incoming water above a temperature of 40 °C (104 °F).

CAUTION: Do not allow any chemicals to come in contact with this condensate pump. Please remove the pump and water sensor before using any coil cleaning solutions and other chemicals. Flush the evaporator coils with water before reinstalling the condensate pump and water sensor.

Ensure the evaporator coils are free of chemicals before reinstallation of the REFCO Combi pump.

CAUTION: This appliance incorporates an earth connection for functional purposes only.



Power cable ⑪ must not be entered with a tensile load.



Alarm cable ⑫ and power cable must be completely pressed into the jack.



Only use the original power cable ⑪ and alarm cable ⑫.

Technical data

| | |
|-------------------------|---|
| Maximum flow rate: | 42 l/Hr. (11 GPH) |
| Maximum suction: | 3 m (9.80 ft.) self priming |
| Maximum head: | 20 m (65.60 ft.) |
| Maximum horizontal run: | 100 m (330 ft.) at 0 head and 0 suction |
| Sound: | 20dBA at 1 m DIN EN ISO 3741:2011 / DIN EN ISO 3744:2010 |
| Voltage: | 100 ~ 240 VAC 50/60 Hz auto sensing universal power input |
| Power: | 8W during maximum operation at 110V |
| Alarm relay: | 7 Amps contacts with integrated replaceable 6.3A fuse 5 x 20 mm |
| Weight: | 1'000 g (2.2 lb.) |
| Discharge star tube: | 6.25 mm I.D. (1/4") x 1 m (3.3 ft.) |
| Packaging dimensions: | 250 x 340 x 54 mm (9.9 x 13.4 x 2.1 inches) |
| Bulk pack dimensions: | 10 Pcs dimensions are 590 x 265 x 365 mm (23.2 x 10.4 x 14.4 inches) |
| Color: | RAL #7040 Grey and RAL #1023 Yellow |
| Protection: | Fully potted, IP-44 |
| Operation temp: | Ambient 5°C to 40°C (41°F to 104°F) / Water 5°C to 40°C (41°F to 104°F) |
| Compliance: | Conforms to UL: 778 and certified to CSA C22.2 #68 |



Venkon XL

Assembly, installation and operating instructions

7 Electrical connection



IMPORTANT NOTE!

Condensation formation in the cooling unit!

In the event of on-site valve control, the cooling valve must be closed when the fans are switched off.

7.1 Maximum electrical rating values

Venkon XL, KaControl model (*C1)

| Size | Number of fans | Nominal voltage [V AC] | Mains frequency [Hz] | Nominal power [W] | Nominal current [A] | Leakage current [mA] | Ri analogue input [KΩ] | IP class | Protection class |
|------|----------------------|------------------------|----------------------|-------------------|---------------------|----------------------|------------------------|----------|------------------|
| 1 | 1x single | 230 | 50 | 172 | 1.5 | 1.29 | 20 | IP21 | I |
| 2 | 1x tandem | 230 | 50 | 244 | 2.0 | 1.29 | 20 | IP21 | I |
| 3 | 1x single, 1x tandem | 230 | 50 | 423 | 3.3 | 2.58 | 20 | IP21 | I |
| 4 | 2x tandem | 230 | 50 | 498 | 3.9 | 2.58 | 20 | IP21 | I |

Tab. 8: Maximum electrical rating values for Venkon XL, KaControl (*C1)

Venkon XL, electromechanical model (*00/*01)

| Size | Number of fans | Nominal voltage [V AC] | Mains frequency [Hz] | Nominal power [W] | Nominal current [A] | Leakage current [mA] | Ri analogue input [KΩ] | IP class | Protection class |
|------|----------------------|------------------------|----------------------|-------------------|---------------------|----------------------|------------------------|----------|------------------|
| 1 | 1x single | 230 | 50 | 172 | 1.5 | 1.29 | 100 | IP21 | I |
| 2 | 1x tandem | 230 | 50 | 244 | 2.0 | 1.29 | 100 | IP21 | I |
| 3 | 1x single, 1x tandem | 230 | 50 | 423 | 3.3 | 2.58 | 50 | IP21 | I |
| 4 | 2x tandem | 230 | 50 | 498 | 3.9 | 2.58 | 50 | IP21 | I |

Tab. 9: Maximum electrical rating values for Venkon XL EC, electromechanical model (*00/*01)

7.2 Electromechanical control, Venkon XL

7.2.1 Connection (*00 or 00D), Venkon XL

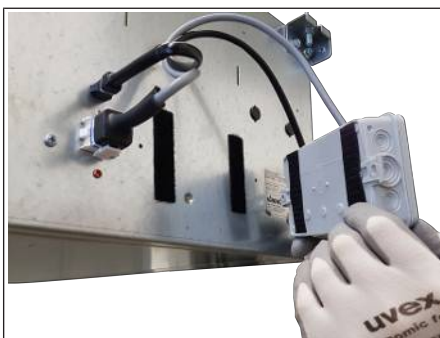


Fig. 17: Remove junction box from the Velcro strip

The junction box for electromechanical control can be electrically installed separately from the side panel of the basic unit by Velcro fitting. Simply remove the plastic lid to open the junction box.

Description of wiring

- ▶ Factory-fitted actuators are wired to the terminal. The appropriate terminals are available for valve drives on site.
- ▶ The speed of EC fans used is continuously variably controlled by a 0 – 10 V DC signal. The "intelligent" motor electronics detects any possible motor fault and automatically switches off the fan.



Fig. 18: Junction box of Venkon XL

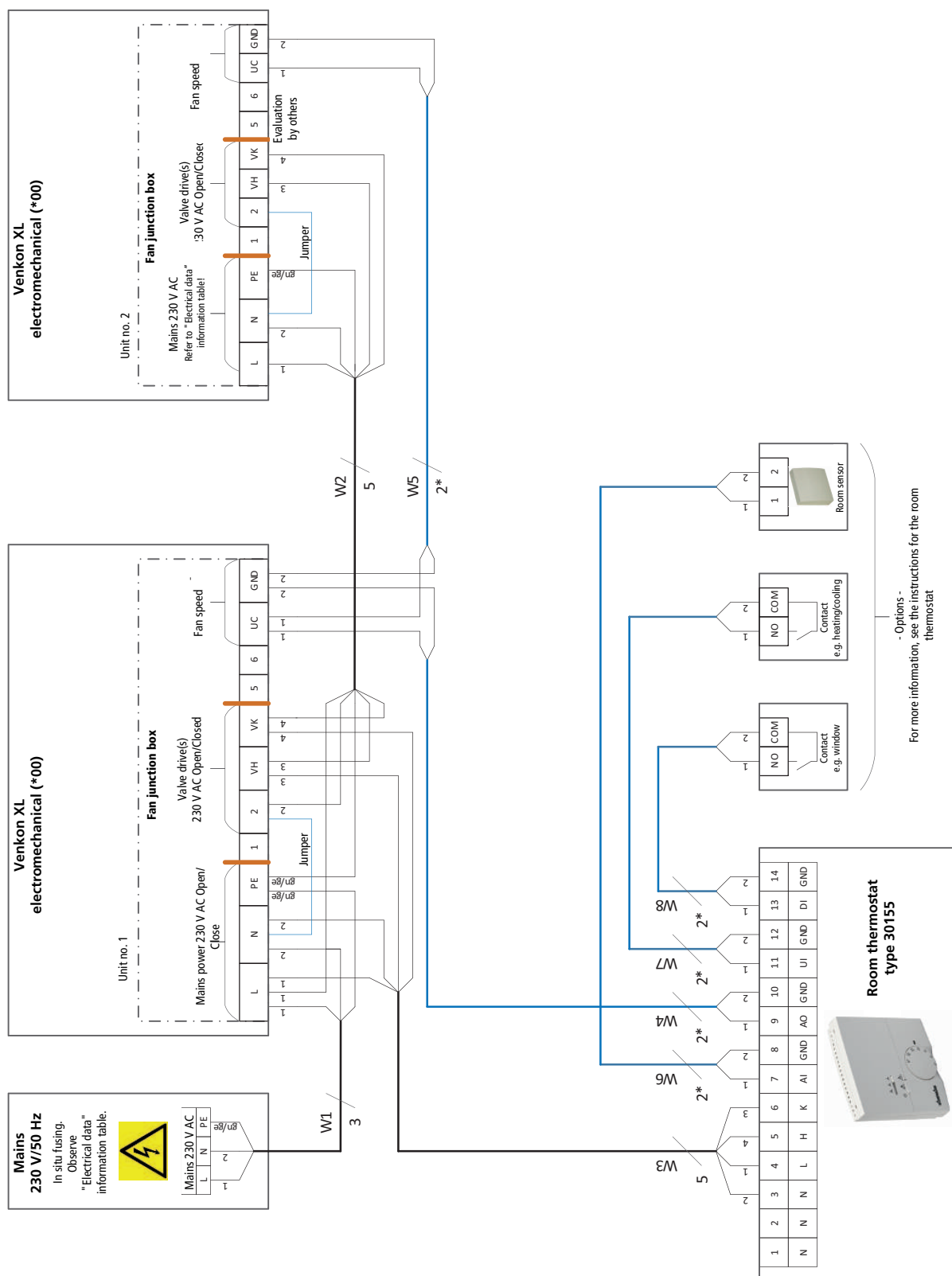
Note these points in the following wiring diagrams for Venkon XL with electromechanical control:

- ▶ Comply with the details on cable types and cabling with due consideration of VDE 0100.
- ▶ Without *: NYM-J. The requisite number of wires, including PE conductor, is stated on the cable. Cross-sections are not stated, as the cable length is involved in the calculation of the cross-section.
- ▶ With *: J-Y(ST)Y 0.8 mm. Lay separately from high-voltage lines.
- ▶ If other types of cables are used, they must be at least equivalent.
- ▶ The terminals on the unit are suitable for a maximum wire cross-section of 2.5 mm².
- ▶ We recommend type F when using RCCBs. Refer to the provisions of DIN VDE 0100 Parts 400 and 500 when configuring the rated fault current.
- ▶ Note the electrical data [▶ 38] when rating the in-situ mains power supply and fuse.

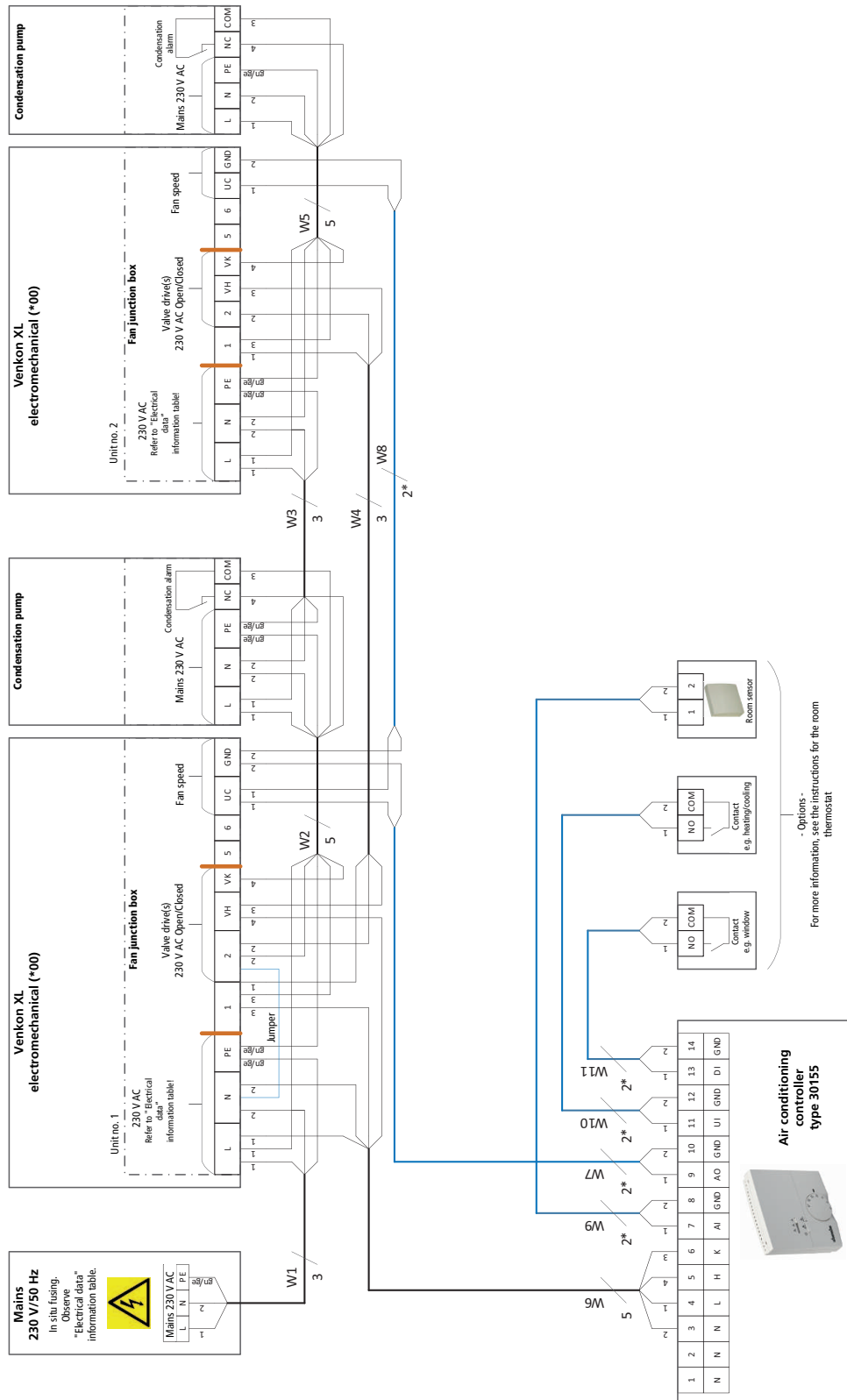
Venkon XL

Assembly, installation and operating instructions

7.2.2 Cabling, Venkon XL (*00), control by Climate Controller 30155



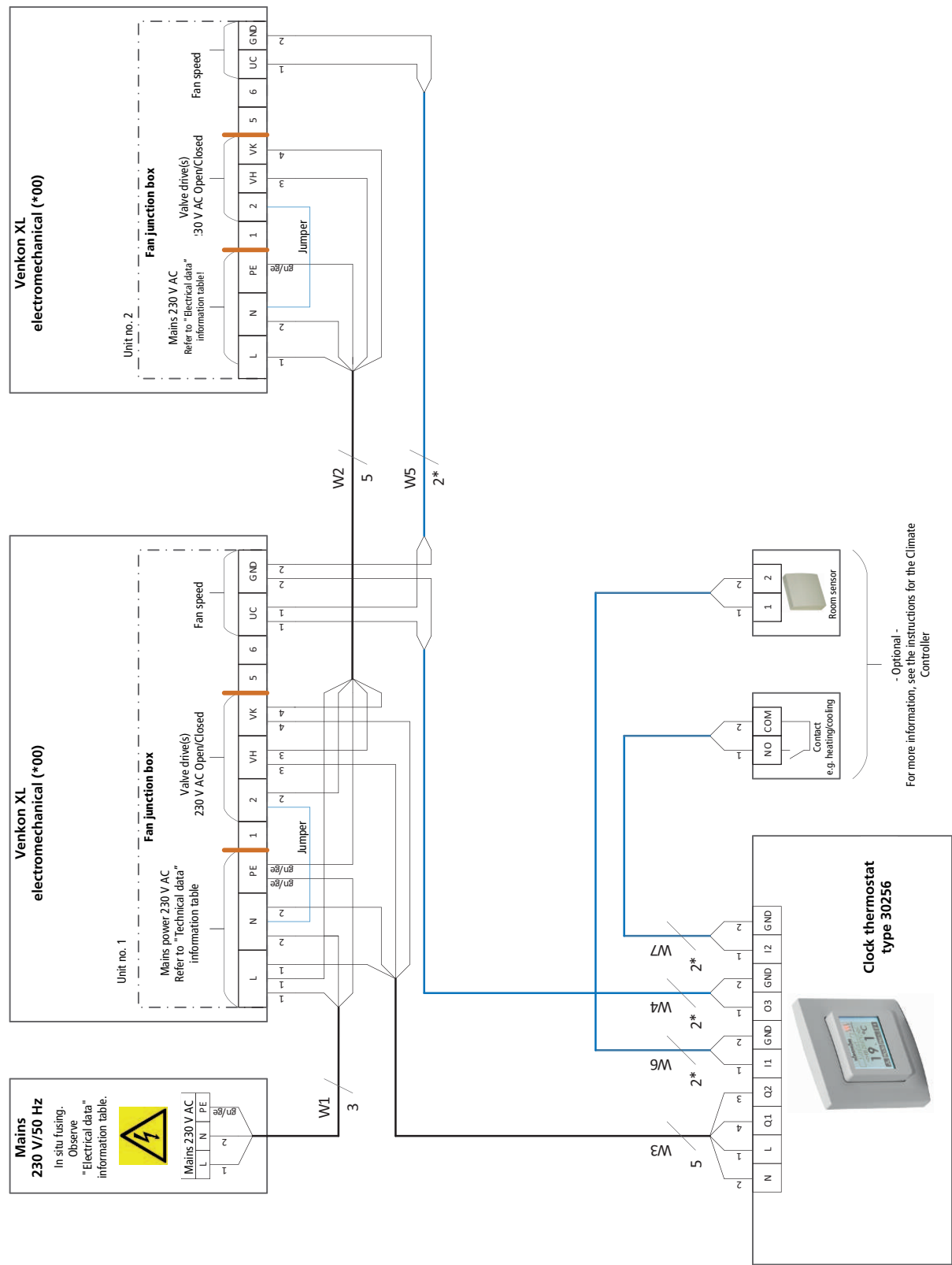
7.2.3 Cabling, Venkon XL (*00), control by Climate Controller 30155, with condensate pump



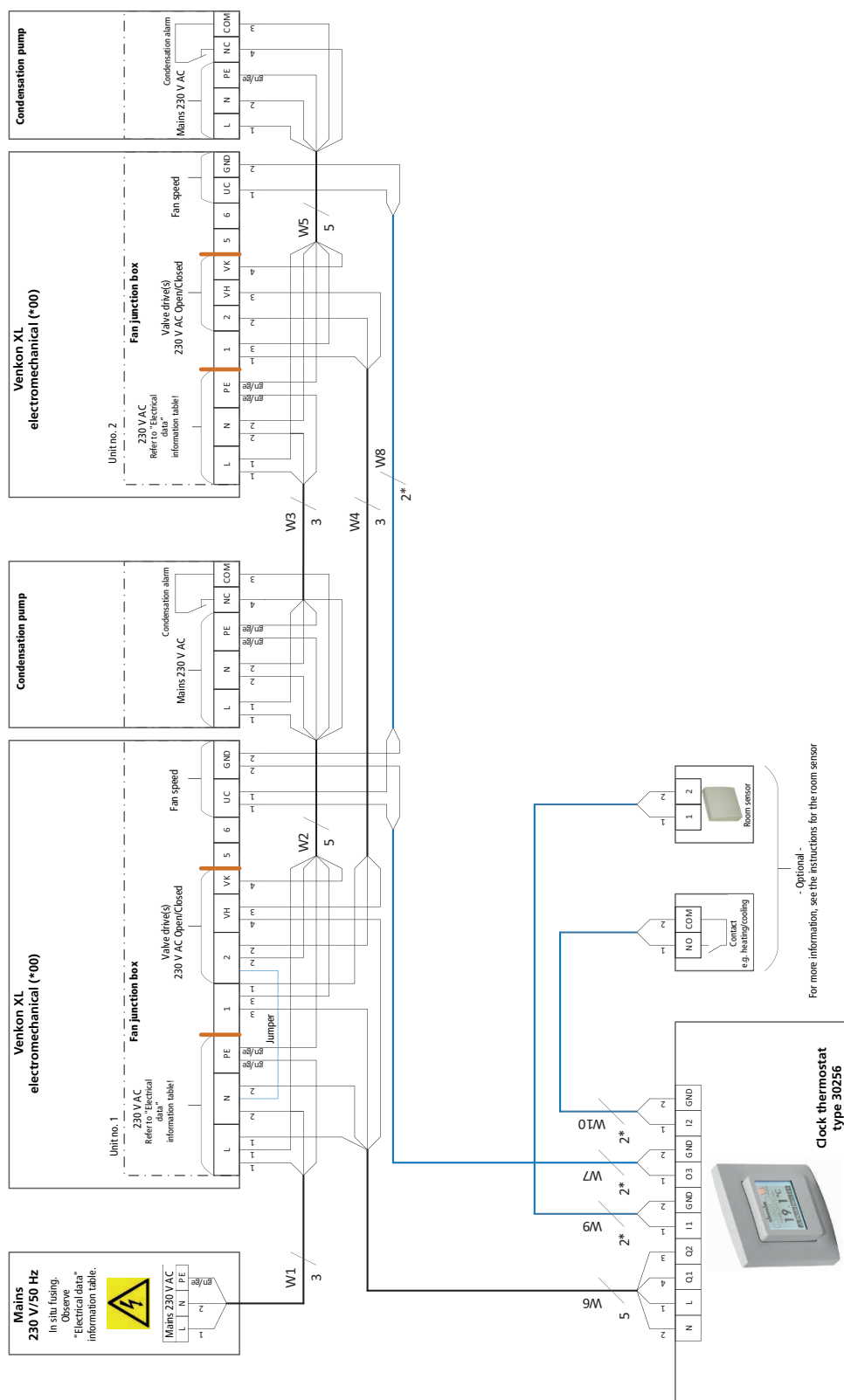
Venkon XL

Assembly, installation and operating instructions

7.2.4 Cabling, Venkon XL (*00), control by Climate Controller 30256



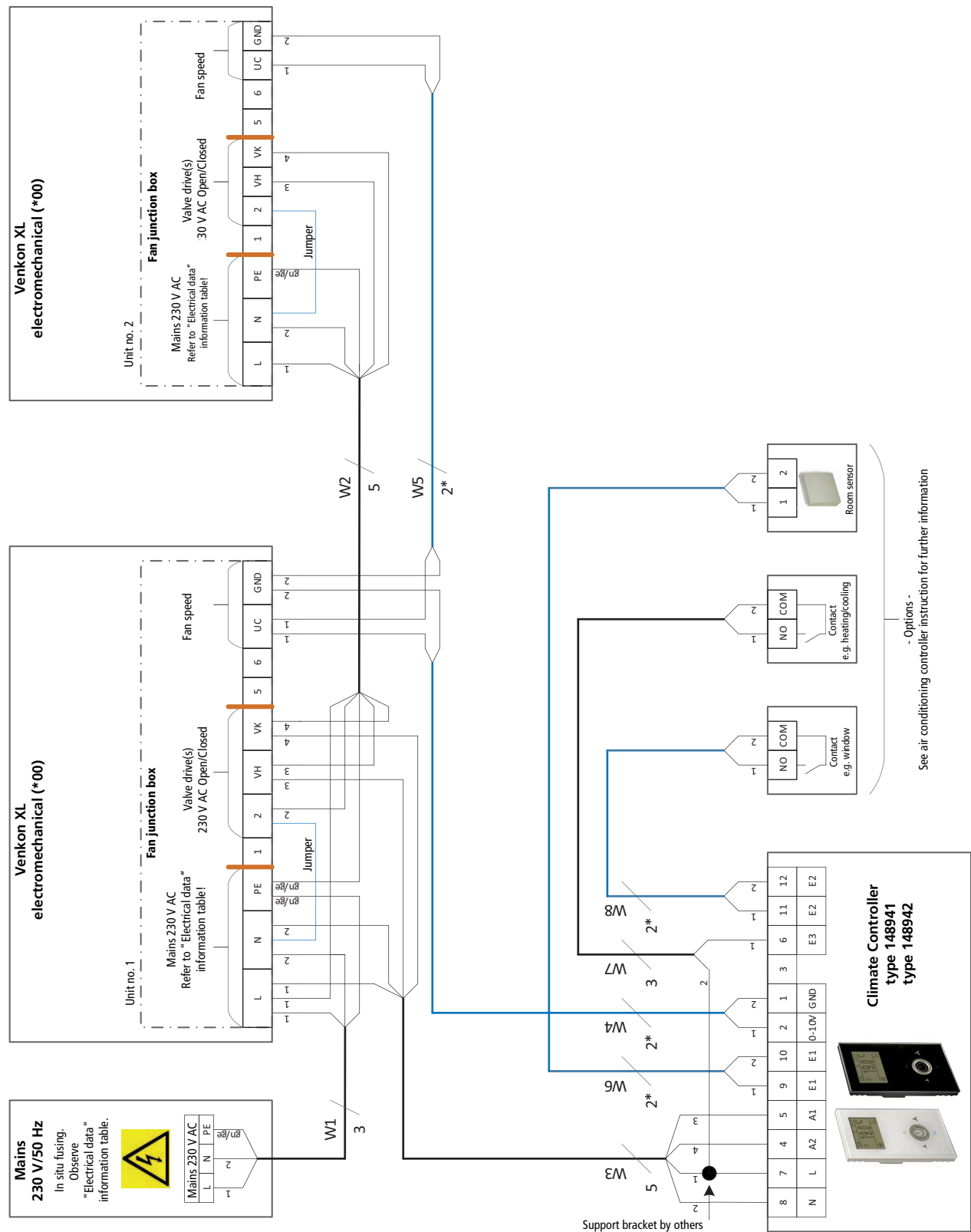
7.2.5 Cabling, Venkon XL (*00), control by Climate Controller 30256, with condensate pump



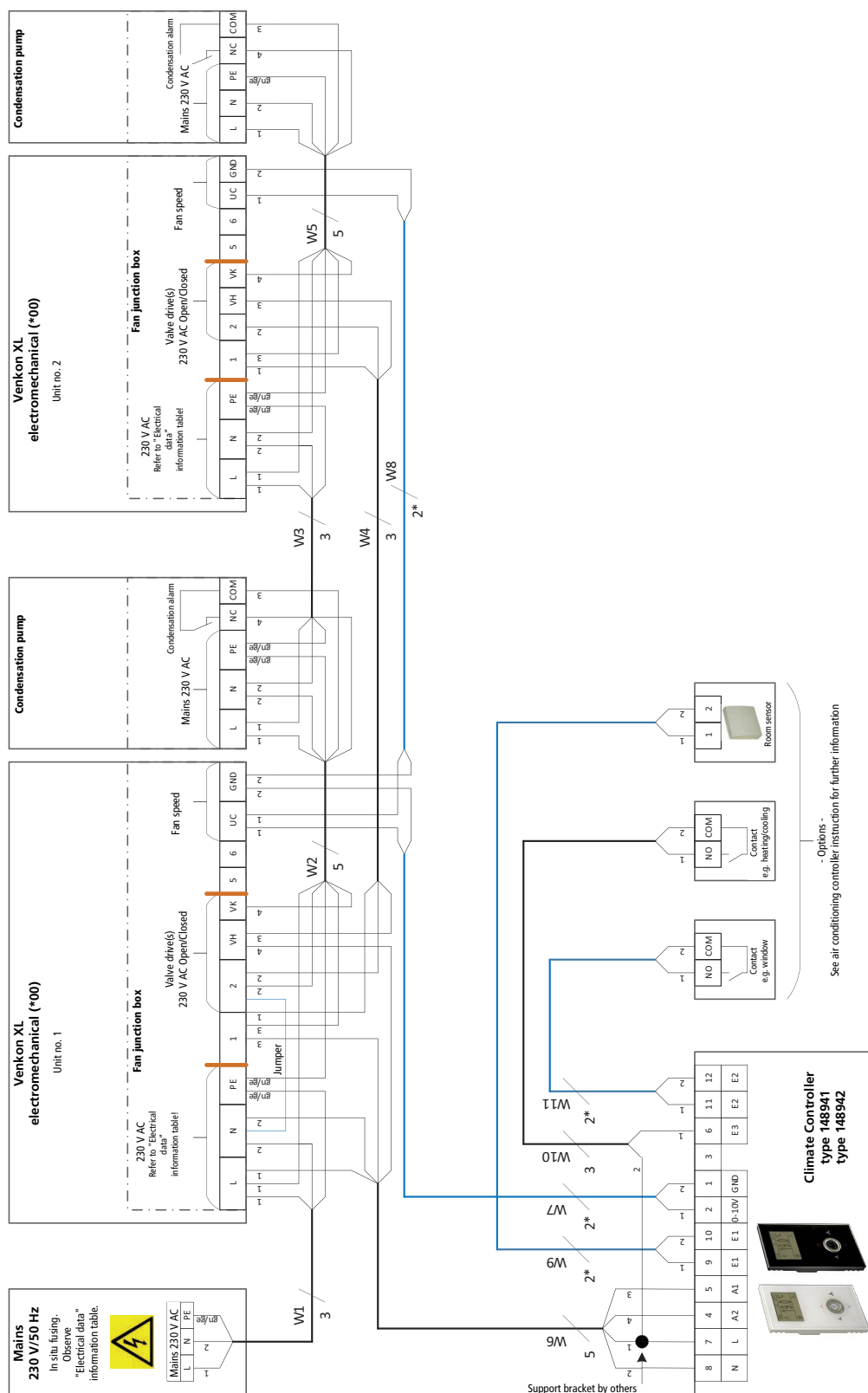
Venkon XL

Assembly, installation and operating instructions

7.2.6 Cabling, Venkon XL (*00), control by Climate Controller type 148941/148942



7.2.7 Cabling, Venkon XL (*00), control by Climate Controller type 148941/148942, with condensate pump



Venkon XL

Assembly, installation and operating instructions

7.3 KaControl (*C1)

7.3.1 KaController installation

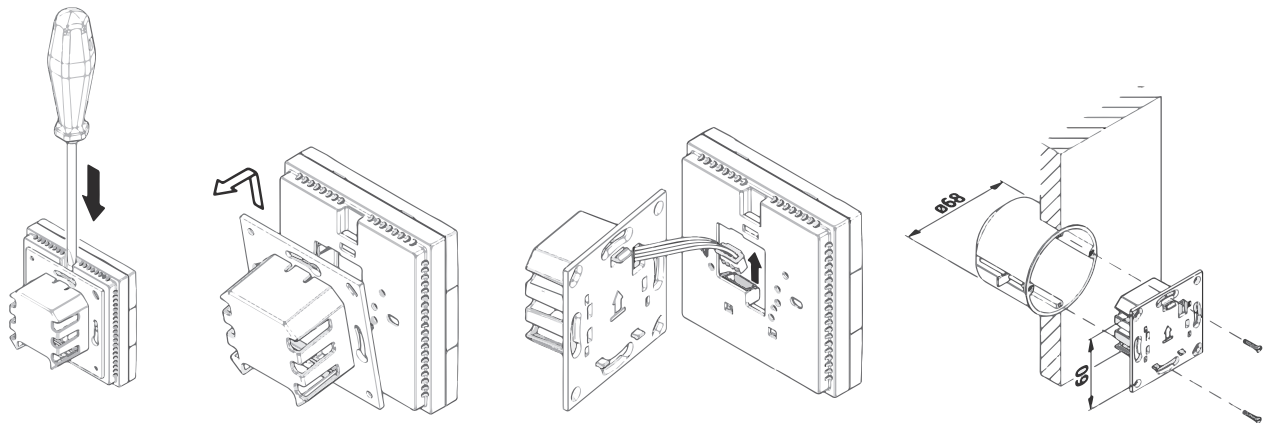
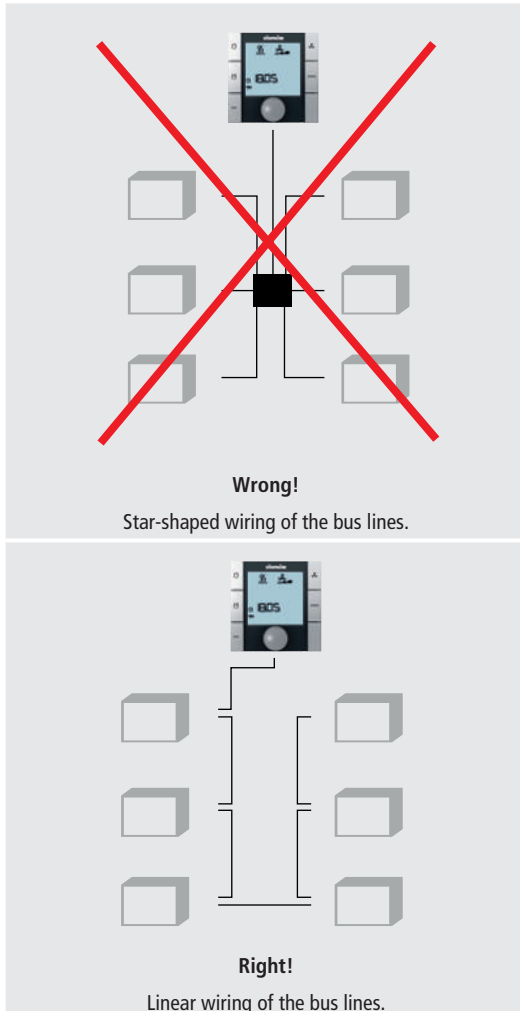


Fig. 19: Installation of flush-mounted back box

| | |
|--|---|
| | Electrical connection <ul style="list-style-type: none">▶ Connect the KaController to the nearest KaControl unit in line with the wiring diagram. The maximum bus length between the KaController and the KaControl master unit is 30 m.▶ The respective KaControl automatically becomes the master unit in the control circuit when a KaController is connected to it. |
| | DIP switch setting <p>The DIP switches on the rear of the KaController should be set according to the illustration:</p> <ul style="list-style-type: none">▶ DIP switch 1: ON▶ DIP switch 2: OFF |

Fig. 21: DIP switch setting on KaController

7.3.2 Connection (*C1)



General information

- ▶ Route all low voltage cables along the shortest route.
- ▶ Ensure that low-voltage and power cables are separated, using metal partitions on cable harnesses.
- ▶ Use only shielded cables as low-voltage and bus cables.
- ▶ Lay all BUS cables in a linear pattern. Star-shaped wiring is not permitted.
- ▶ The KaController is connected via a bus connection to the respective control PCB on the unit.

Tab. 10: Wiring of bus lines



IMPORTANT NOTE!

Use shielded, paired cables as bus cables, UNITRONIC® BUS LD 2x2x0.22, but at least of the same value or higher.



IMPORTANT NOTE!

When laying bus cables, avoid the formation of star points, for instance in junction boxes. Loop the cables through to the units!

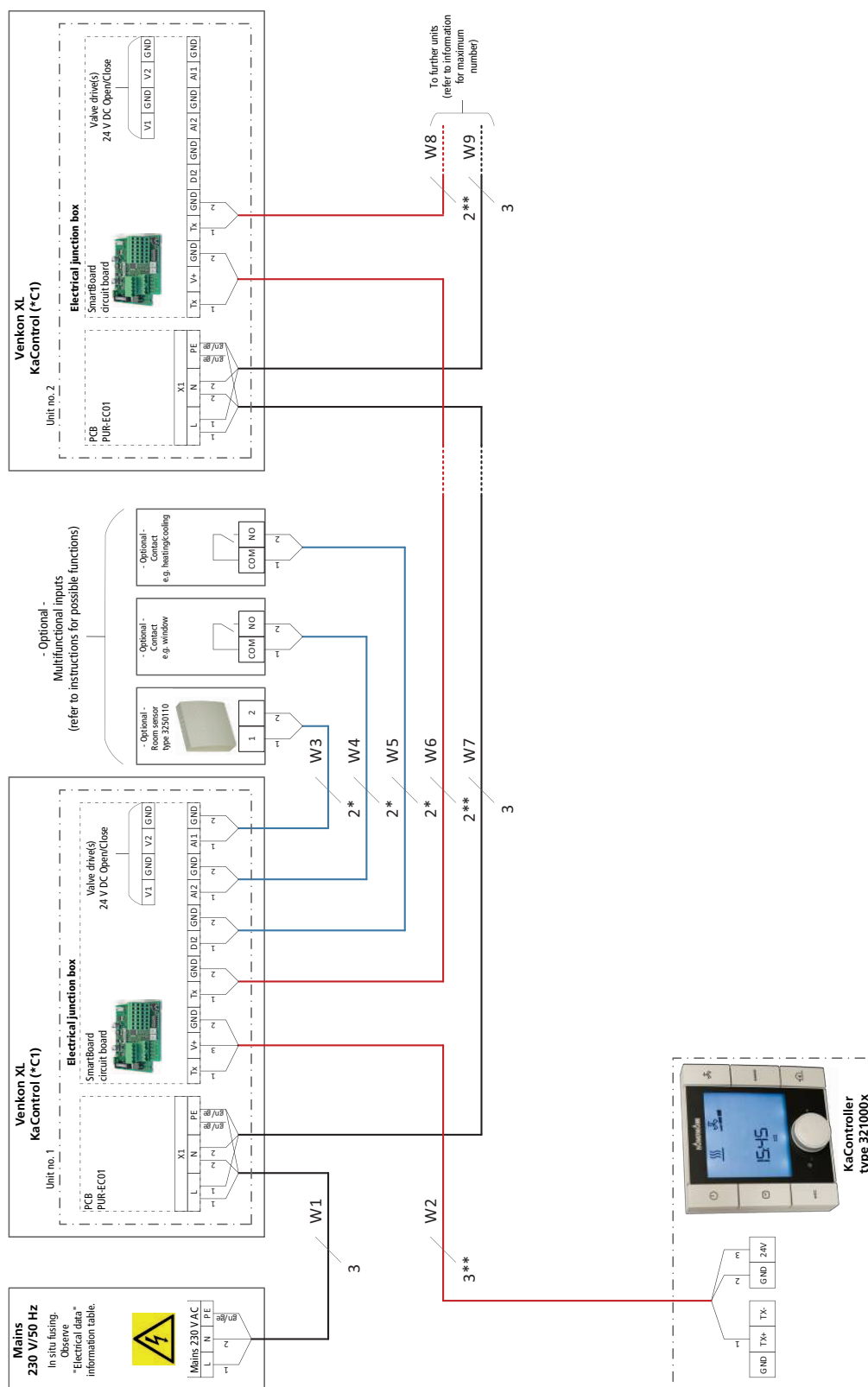
Venkon XL

Assembly, installation and operating instructions

Note these points in the following wiring diagrams for Venkon XL with KaControl:

- ▶ Comply with the details on cable types and cabling with due consideration of VDE 0100.
- ▶ Without *: NYM-J. The requisite number of wires, including PE conductor, is stated on the cable. Cross-sections are not stated, as the cable length is involved in the calculation of the cross-section.
- ▶ With *: J-Y(ST)Y 0.8 mm. Lay separately from high-voltage lines.
- ▶ With **: Lay UNITRONIC BUS LD 0.22 mm² or similar separately from high voltage lines.
- ▶ If other types of cables are used, they must be at least equivalent.
- ▶ Length of the BUS line from the KaController to unit 1: max. 30 m.
- ▶ Maximum number of parallel units: 6 units. CAN bus cards type 3260301 needed for each unit (see accessories) maximum 500 m.
- ▶ Length of bus line from unit 1 to the last unit max. 30 m. The cable length can be increased to 500 m using CAN bus cards type 3260301 (see accessories).
- ▶ The terminals on the unit for the mains power supply are suitable for a maximum wire cross-section of 2.5 mm².
- ▶ We recommend type F when using RCCBs. Refer to the provisions of DIN VDE 0100 Parts 400 and 500 when configuring the rated fault current.
- ▶ Note the electrical data when rating the in-situ mains power supply and fuse.

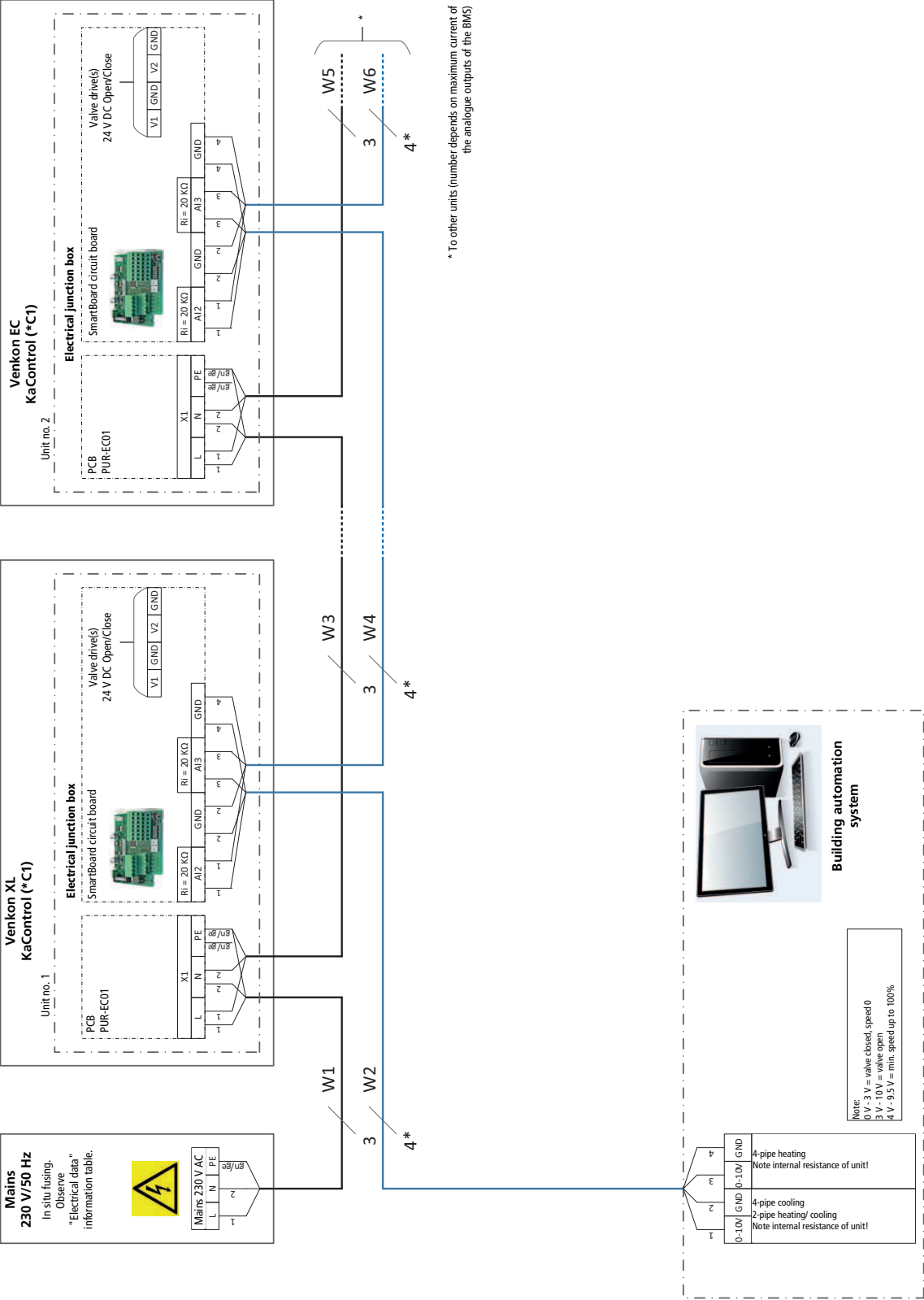
7.3.3 Cabling, Venkon XL, KaControl (*C1), control by KaController



Venkon XL

Assembly, installation and operating instructions

7.3.4 Cabling, Venkon XL, KaControl (*C1), control by in situ 0-10 V DC signal



8 Pre-commissioning checks

When commissioning the device for the first time, ensure that all the necessary requirements are met so that the device can function safely and in accordance with its intended use.

Structural tests

- ▶ Check that the unit is securely standing and fixed.
- ▶ Check the horizontal installation/suspension of the unit.
- ▶ Check the completeness and correct seating of all filters (dirt side).
- ▶ Check whether all components are properly fitted.
- ▶ Check whether all dirt, such as packaging or site dirt, has been removed.

Electrical tests

- ▶ Check whether all lines have been properly laid.
- ▶ Check whether all lines have the necessary cross-section.
- ▶ Are all wires connected in accordance with the electric wiring diagrams?
- ▶ Is the earth wire connected and wired throughout?
- ▶ Check all external electrical connections and terminal connections are fixed in place and tighten if necessary.

Water-side checks

- ▶ Check whether all supply and drainage lines have been properly connected.
- ▶ Fill pipes and unit with water and bleed.
- ▶ Check whether all bleed screws are closed.
- ▶ Check leak tightness (pressure test and visual inspection).
- ▶ Check whether the parts carrying water have been flushed through.
- ▶ Check whether any shut-off valves fitted on site are open.
- ▶ Check whether any electrically actuated shut-off valves have been properly connected.
- ▶ Check whether all valves and actuators are working properly (note permitted mounting position).

Air-side checks

- ▶ Check whether there is unimpeded flow at the air inlet and outlet.
- ▶ Check whether the air inlet filter is fitted and dirt-free.

Condensation water connection

- ▶ Check whether the condensation tray is free of building rubble.
- ▶ Check the condensation drain and operation of the alarm signal on the condensation pump.
- ▶ Check whether the cooling valve switches off in the event of an alarm signal.
- ▶ Check whether the unit is connected leak-free to the on-site condensation connection.
- ▶ Check whether the waste water lines are clean and have a sufficient gradient.
- ▶ Check whether the condensation pump has a working power supply.
- ▶ Ensure that a suitable filter (M5 or F7) is installed in the air intake area, otherwise condensate may escape in the air outlet area during cooling.

Venkon XL

Assembly, installation and operating instructions

9 Maintenance

9.1 Securing against reconnection



DANGER!

Risk of death by unauthorised or uncontrolled restart!

Unauthorised or uncontrolled restarting of the equipment can result in serious injury or death.

- Before restarting, ensure that all safety devices are fitted and working properly and that there is no hazard to humans.

Always follow the procedure described below to prevent accidental restart:

1. de-energise.
2. Prevent accidental re-connection.
3. Check that the equipment is de-energised.
4. Cover and cordon off adjacent live parts.



WARNING!

Risk of injury from rotating parts!

The fan impeller can cause severe injuries.

- Switch off the unit and prevent it from reconnection before commencing any work on moving components of the fan. Wait until all parts have come to a standstill.

9.2 Maintenance Schedule:

The sections below describe maintenance work needed for the proper and trouble-free operation of the equipment.

If there are signs of increased wear during regular checks, shorten the required maintenance intervals to the actual wear and tear. Contact the manufacturer with any questions about maintenance work and intervals.

| Interval | Maintenance task | Personnel |
|------------------|---|---------------------|
| As required | Regular visual checks and acoustic checks for damage, dirt and function. | User |
| quarterly | Check filter for dirt, clean and change filter when needed. | User |
| every six months | Clean unit components (heat exchanger, condensate tray, condensate pump, float switch). | User |
| every six months | Check water-side connections, valves and fittings for dirt, leak-tightness and function. | User |
| every six months | Check the electrical wiring. | Qualified personnel |
| every six months | Clean components/surfaces that come into contact with air. | Qualified personnel |
| quarterly | Check the heat exchanger for dirt, damage, corrosion and leak-tightness. Carefully vacuum the heat exchanger if dirty. | User |
| quarterly | Check the condensation tray, float switch and drain connection for dirt, damage and leak-tightness. Remove any condensation deposits that have accumulated. | User |

9.3 Maintenance work

9.3.1 Replacing the filter.



CAUTION!

Risk of injury from sharp metal housing!

The inner metal of the casing can have sharp edges.

- ▶ Wear suitable protective gloves.



- ▶ Loosen the screws of the filter cover.



- ▶ Remove the filter cover.



- ▶ Change filter.
- ▶ When inserting the filter, ensure that the arrow on the filter points in the direction of the device.
- ▶ Ensure that a suitable, manufacturer-compliant filter (M5 / MERV 8 or F7 / MERV 13) is installed in the air intake area, otherwise condensate may escape in the air outlet area during cooling.

Venkon XL

Assembly, installation and operating instructions

9.3.2 Visual checks

Clean the heat exchanger.

Check the heat exchanger for soiling and carefully vacuum if necessary. Avoid damage to the pipework and fins.

9.3.3 Cleaning the main condensation tray



- Loosen the main condensate tray screws.



- Remove the main condensate tray.



- Clean the main condensate tray.

9.3.4 Cleaning the valve condensation tray



- Clean the valve condensate tray.

Venkon XL

Assembly, installation and operating instructions

9.3.5 Cleaning the float switch



- Pull off the float switch from the Velcro.



- Clean the float switch.
- Pull the yellow strainer out of the intake area, clean it as well and reinsert it.

9.3.6 Clean the inside of the unit

Check all elements that come into contact with air (internal surfaces of the unit, outlet elements etc.) for dirt or deposits during maintenance and use a commercially available product to remove.

10 Faults

The following chapter describes possible causes of faults and the work needed to rectify them. Should faults occur frequently, shorten the maintenance intervals in line with the actual loading on the unit.

Contact the manufacturer with any faults that cannot be rectified using the following information.

Behaviour in the event of faults

The following applies:

1. Immediately switch off the unit with faults that pose an immediate danger to persons or property!
2. Determine the cause of the fault!
3. Switch off the unit and prevent it from being reconnected if rectifying the fault requires work in the hazard area. Immediately advise a supervisor on site about the fault.
4. Either rectify the fault yourself or have it repaired by authorised personnel, depending on the nature of the fault.

The Fault table [► 57] provides information on who is authorised to rectify and remedy faults.

10.1 Fault table

| Fault | Possible cause | Remedy |
|---|--|--|
| System water leakage | Heat exchanger defect. | Replace heat exchanger if necessary. |
| | Hydraulic connection not correct. | Check flow and return, retighten if necessary. |
| Water leakage condensate | Drains of the condensate tray clogged. | Clean condensate drains and check for sufficient slope. |
| | Cold water pipe not properly insulated. | Check insulation. |
| | Condensate drain not properly installed. | Check the function of the condensate pump. Check condensate drain, clean if necessary. |
| | Air-conducting accessory components not properly insulated. | Check insulation. |
| Water leakage condensate | In humid cooling mode, no manufacturer-compliant M5 / MERV 8 or F7 / MERV 13 filter is used. | Use manufacturer-compliant filter. |
| Unit not heating or cooling sufficiently (LPHW/CHW) | Fan is not switched on. | Switch on fan at controller. |
| | Air volume is too low. | Set a higher speed. |
| | Filter is dirty. | Replace filter. |
| | No heating or cooling medium. | Switch on heating and/or cooling system, switch on circulation pump, vent unit/system. |
| | Valves not operating. | Replace faulty valves. |
| | Water volume too low. | Check pump output, check hydraulics. |
| | Setpoint temperature on the controller set too low/high. | Adjust temperature setting on the controller. |
| | Operating unit with integral sensor and/or external sensor is exposed to direct sunlight or positioned over a heat source. | Place operating unit with integral sensor and/or external sensor in a suitable position. |
| | Air cannot blow out or in freely. | Remove obstacles at the air outlet/air inlet. |
| | Heat exchanger dirty. | Clean heat exchanger. |
| | Air in the heat exchanger. | Vent heat exchanger. |
| Unit too loud | Speed too high. | Set a lower speed, if possible. |
| | Air inlet/outlet opening is obstructed. | Free air ducts. |
| | Filter dirty. | Replace filter. |
| | Rotating parts unbalanced | Clean and/or replace impeller. Please make sure that no balancing clips are removed during cleaning. |
| | Fan dirty. | Clean dirt from fan. |
| | Heat exchanger dirty. | Clean dirt from Heat exchanger. |

Venkon XL

Assembly, installation and operating instructions

10.2 KaControl faults

| Code | Alarms | Priority |
|------|---------------------------------------|----------|
| A11 | Faulty control sensor. | 1 |
| A12 | Motor fault. | 2 |
| A13 | Room frost protection. | 3 |
| A14 | Condensation alarm. | 4 |
| A15 | General alarm. | 5 |
| A16 | Sensor AI1, AI2 or AI3 faulty. | 6 |
| A17 | Unit frost protection. | 7 |
| A18 | EEPROM error. | 8 |
| A19 | Offline slave in the CAN bus network. | 9 |

Tab. 11: KaControl unit alarms

| Code | Alarms |
|------|--|
| tAL1 | Temperature sensor in the KaController faulty. |
| tAL3 | Real-time clock in the KaController faulty. |
| tAL4 | EEPROM in the KaController faulty. |
| Cn | Communication fault with the external control. |

Tab. 12: KaController alarms



IMPORTANT NOTE!

Important note!

More information on control settings can be found in the separate KaControl SmartBoard user manual.

10.3 Start-up after rectification of fault

After correction of the fault, carry out the following steps for recommissioning:

1. Make sure that all maintenance covers and access openings are sealed.
2. Switch off the unit.
3. Acknowledge the fault on the controller, if necessary.

11 List of KaControl parameters

11.1 Venkon XL parameter list

| Parameter | Function | Standard | Min. | Max. | Unit | Venkon XL* |
|-----------|--|----------|------|------|------|------------|
| P000 | Software version | 24 | 0 | 255 | - | 24 |
| P001 | Basic setpoint for setpoint input $\pm 3K$ | 22 | 8 | 32 | °C | 22 |
| P002 | Switch-on and switch-off hysteresis for valves | 3 | 0 | 255 | K/10 | 1 |
| P003 | Neutral zone in a 4-pipe system (only in automatic mode) | 3 | 0 | 255 | K/10 | 20 |
| P004 | Cooling without fan assistance (natural convection) | 0 | 0 | 255 | K/10 | 0 |
| P005 | Heating without fan assistance (natural convection) | 5 | 0 | 255 | K/10 | 0 |
| P006 | Fan On/Off hysteresis (only in ventilation mode) | 5 | 0 | 255 | K/10 | 5 |
| P007 | P-band, heating | 20 | 0 | 100 | K/10 | 25 |
| P008 | P-band, cooling | 20 | 0 | 100 | K/10 | 25 |
| P009 | Shifting to the basic setpoint for setpoint input $\pm 3K$ | 3 | 0 | 10 | C | 3 |
| P010 | Contact sensor: temperature limit value to activate fan stages 1 and 2 in heating mode | 26 | 0 | 255 | °C | 26 |
| P011 | Contact sensor: temperature limit value to activate fan stages 3 and 4 in heating mode | 28 | 0 | 255 | °C | 28 |
| P012 | Contact sensor: temperature limit value to activate fan stage 5 in heating mode | 30 | 0 | 255 | °C | 30 |
| P013 | Contact sensor: hysteresis for limit temperatures P010, P011, P012, P014 | 10 | 0 | 255 | K/10 | 10 |
| P014 | Contact sensor: limit value temperature to activate fan stages in cooling mode | 18 | 0 | 255 | °C | 18 |
| P015 | Function of input AI1 | 0 | 0 | 19 | - | 0 |
| P016 | Function of input AI2 | 0 | 0 | 19 | - | 0 |
| P017 | Function of input AI3 | 0 | 0 | 9 | - | 0 |
| P018 | Temperature increase of cooling setpoint in Eco operation | 30 | 0 | 255 | K/10 | 30 |
| P019 | Temperature reduction of heating setpoint in Eco operation | 30 | 0 | 255 | K/10 | 30 |
| P020 | ADC limit coefficient | 6 | 0 | 15 | - | 6 |
| P021 | ADC average coefficient | 6 | 0 | 15 | - | 6 |
| P022 | Activation/deactivation of sun symbol in Comfort mode | 0 | 0 | 1 | - | 0 |
| P023 | Difference for compensation when cooling | 0 | -99 | 127 | K/10 | 0 |
| P024 | Coefficient for compensation when cooling | 0 | -20 | 20 | 1/10 | 0 |
| P025 | Difference for compensation when heating | 0 | -99 | 127 | K/10 | 0 |
| P026 | Coefficient for compensation when heating | 0 | -20 | 20 | 1/10 | 0 |
| P027 | Fan setting: maximum run-time for manual fan mode | 0 | 0 | 255 | min. | 0 |
| P028 | Rinsing function: fan stage during the rinsing function | 2 | 1 | 5 | - | 2 |
| P029 | Activation of continuous fan mode | 0 | 0 | 1 | - | 0 |
| P030 | Ventilation temperature activation | 12 | 0 | 255 | °C | 12 |
| P031 | Ventilation interval | 27 | 0 | 255 | °C | 27 |
| P032 | Rinsing function: maximum idle time of fan | 15 | 0 | 255 | min. | 15 |
| P033 | Rinsing function: duration of the rinsing function | 120 | 0 | 255 | s | 120 |
| P034 | Rinsing function: activation in operating modes | 0 | 0 | 3 | - | 0 |
| P035 | Fan run-on time after an operating mode is switched to stage 1 | 0 | 0 | 255 | s | 0 |
| P036 | Type of setpoint setting | 0 | 0 | 1 | - | 0 |
| P037 | Display | 1 | 0 | 7 | - | 1 |

Venkon XL

Assembly, installation and operating instructions

| Parameter | Function | Standard | Min. | Max. | Unit | Venkon XL * |
|-----------|--|----------|------|------|---------|-------------|
| P038 | Lock/disable function on the control unit | 72 | 0 | 255 | - | 72 |
| P039 | Function of digital output V2 (in a 2-pipe system) | 0 | 0 | 3 | - | 0 |
| P040 | Valve control by pulse width modulation | 0 | 0 | 1 | - | 0 |
| P041 | Reset time of PI controller to activate the fan in automatic fan mode | 0 | 0 | 20 | min. | 0 |
| P042 | Fan setting: lock and activate fan stages | 0 | 0 | 127 | - | 2 |
| P043 | Function of digital input DI1 | 0 | 0 | 22 | - | 12 |
| P044 | Function of digital input DI2 | 0 | 0 | 22 | - | 0 |
| P045 | Threshold voltage for potentiometer to switch on the unit | 10 | 0 | 100 | kiloohm | 10 |
| P046 | Temperature setting corresponds to the minimum resistance value = 10 kiloohm in the potentiometer | 18 | 12 | 34 | °C | 18 |
| P047 | Temperature setting corresponds to the maximum resistance value = 100 kiloohm in the potentiometer | 24 | 13 | 35 | °C | 24 |
| P048 | Threshold voltage for potentiometer for starting up the fans | 10 | 0 | 100 | kiloohm | 10 |
| P049 | Threshold voltage for potentiometer for maximum fan speed | 90 | 0 | 100 | kiloohm | 90 |
| P050 | Fan setting: max. fan speed | 100 | 0 | 100 | % | 100 |
| P051 | Fan setting: min. fan speed | 0 | 0 | 90 | % | 15 |
| P052 | Fan setting: activation of fan speed limit | 0 | 0 | 1 | - | 1 |
| P053 | Valve activation by pulse width modulation of the valve switching cycle | 15 | 10 | 30 | min. | 15 |
| P054 | Configuration of bus system | 0 | 0 | 2 | - | 0 |
| P055 | Display of heating/cooling symbols in automatic mode | 0 | 0 | 1 | - | 1 |
| P056 | DI2 setting (polarity) when DIP 4 = ON | 1 | 0 | 1 | - | 1 |
| P057 | Reset setpoint to the value of P01 (after changing an operating program) | 0 | 0 | 1 | - | 0 |
| P058 | Sensor adjustment: sensor AI1 | 0 | -99 | 127 | K/10 | 0 |
| P059 | Supply air temperature setpoint in heating mode | 35 | 0 | 50 | °C | 35 |
| P060 | Supply air temperature setpoint in cooling mode | 18 | 0 | 50 | °C | 18 |
| P061 | Sensor adjustment: sensor in the KaController | 0 | -99 | 127 | K/10 | 0 |
| P062 | Sensor adjustment: sensor AI2 | 0 | -99 | 127 | K/10 | 0 |
| P063 | Outside temperature <P63 fan increase by P122 | 0 | -99 | 127 | °C | 0 |
| P064 | Sensor adjustment: sensor AI3 | 0 | -99 | 127 | K/10 | 0 |
| P065 | reserved | - | - | - | - | - |
| P066 | Master/slave assignment in CAN bus | 0 | 0 | 1 | - | 0 |
| P067 | Serial CAN bus address | 1 | 1 | 125 | - | 1 |
| P068 | Logic of the hydronic algorithms | 0 | 0 | 7 | - | 0 |
| P069 | Network address | 1 | 0 | 207 | - | 1 |
| P070 | Dependence of the hydronic algorithms (on slaves) | 0 | 0 | 7 | - | 0 |
| P071 | Serial address of slave 1 | 0 | 0 | 207 | - | 0 |
| P072 | Serial address of slave 2 | 0 | 0 | 207 | - | 0 |
| P073 | Serial address of slave 3 | 0 | 0 | 207 | - | 0 |
| P074 | Serial address of slave 4 | 0 | 0 | 207 | - | 0 |
| P075 | Serial address of slave 5 | 0 | 0 | 207 | - | 0 |
| P076 | Serial address of slave 6 | 0 | 0 | 207 | - | 0 |
| P077 | Serial address of slave 7 | 0 | 0 | 207 | - | 0 |
| P078 | Serial address of slave 8 | 0 | 0 | 207 | - | 0 |

| Parameter | Function | Standard | Min. | Max. | Unit | Venkon XL * |
|-----------|--|----------|------|------|------|-------------|
| P079 | Serial address of slave 9 | 0 | 0 | 207 | - | 0 |
| P080 | Serial address of slave 10 | 0 | 0 | 207 | - | 0 |
| P081 | Dependence of the hydronic algorithms, slave 1 | 0 | 0 | 7 | - | 0 |
| P082 | Dependence of the hydronic algorithms, slave 2 | 0 | 0 | 7 | - | 0 |
| P083 | Dependence of the hydronic algorithms, slave 3 | 0 | 0 | 7 | - | 0 |
| P084 | Dependence of the hydronic algorithms, slave 4 | 0 | 0 | 7 | - | 0 |
| P085 | Dependence of the hydronic algorithms, slave 5 | 0 | 0 | 7 | - | 0 |
| P086 | Dependence of the hydronic algorithms, slave 6 | 0 | 0 | 7 | - | 0 |
| P087 | Dependence of the hydronic algorithms, slave 7 | 0 | 0 | 7 | - | 0 |
| P088 | Dependence of the hydronic algorithms, slave 8 | 0 | 0 | 7 | - | 0 |
| P089 | Dependence of the hydronic algorithms, slave 9 | 0 | 0 | 7 | - | 0 |
| P090 | Dependence of the hydronic algorithms, slave 10 | 0 | 0 | 7 | - | 0 |
| P091 | Load default values | 0 | 0 | 255 | - | 0 |
| P092 | Password management | 0 | 0 | 255 | - | 0 |
| P093 | Type of pre-comfort (room occupancy) | 0 | 0 | 3 | - | 0 |
| P094 | Pre-comfort timer | 60 | 1 | 255 | min. | 60 |
| P095 | Disable DIP switch settings | 0 | 0 | 1 | - | 0 |
| P096 | Digital outputs continuously activated | 0 | 0 | 1 | - | 0 |
| P097 | Read off DIP switch | - | 0 | 63 | - | - |
| P098 | 0..10 V control: valve switch on limit | 30 | 0 | 100 | V/10 | 40 |
| P099 | 0..10 V control: min. switch-on limit for fan speed | 40 | 0 | 100 | V/10 | 40 |
| P100 | 0..10 V control: max. switch-on limit for fan speed | 90 | 0 | 100 | V/10 | 90 |
| P101 | Valve activation by pulse width modulation of P-band in heating mode | 15 | 0 | 100 | K/10 | 15 |
| P102 | Valve activation by pulse width modulation of P-band in cooling mode | 15 | 0 | 100 | K/10 | 15 |
| P103 | Valve activation by pulse width modulation of PI controller reset time | 0 | 0 | 20 | min. | 0 |
| P104 | Minimum ON time with PWM valve activation | 3 | 0 | 20 | min. | 3 |
| P105 | Compensation: max. negative delta setpoint | 50 | 0 | 150 | K/10 | 50 |
| P106 | Compensation: max. positive delta setpoint | 50 | 0 | 150 | K/10 | 50 |
| P107 | Duration of valve open to check water temperature | 5 | 0 | 255 | min. | 5 |
| P108 | Duration of valve closed | 240 | 35 | 255 | min. | 240 |
| P109 | Dead zone PI control for 3-way valve | 10 | 0 | 100 | K/10 | 10 |
| P110 | Hysteresis to switch between heating/fan mode | 0 | 0 | 20 | °C | 0 |
| P111 | Threshold to switch between heating/fan mode | 0 | 0 | 50 | °C | 0 |
| P112 | reserved | - | - | - | - | - |
| P113 | reserved | - | - | - | - | - |
| P114 | reserved | - | - | - | - | - |
| P115 | reserved | - | - | - | - | - |
| P116 | reserved | - | - | - | - | - |
| P117 | Lock function buttons on the KaController | 0 | 0 | 7 | - | 0 |
| P118 | On delay time | 0 | 0 | 255 | sec | 0 |
| P119 | Off delay time | 0 | 0 | 255 | sec | 0 |
| P120 | reserved | - | - | - | - | - |
| P121 | reserved | - | - | - | - | - |
| P122 | Relative fan speed increase via contact | 2 | 0 | 5 | - | 2 |

Venkon XL

Assembly, installation and operating instructions

| Parameter | Function | Standard | Min. | Max. | Unit | Venkon XL * |
|-----------|---|----------|------|------|------|-------------|
| P123 | Maximum valve running time | 150 | 0 | 255 | sec | 150 |
| P124 | Minimum P + I output variation for valve movement (0 to 10) | 5 | 0 | 100 | % | 5 |
| P125 | reserved | - | - | - | - | - |
| P126 | Operating weeks | 0 | 0 | 255 | week | 0 |
| P127 | Information on operating weeks reached (filter message) | 0 | 52 | 255 | week | 0 |
| P128 | Reset operating week counter | 0 | 0 | 1 | - | 0 |
| P129 | Fan speed limiter activation in certain operating modes | 0 | 0 | 1 | - | 0 |
| P130 | Absolute fan speed increase via contact | 2 | 0 | 5 | - | 2 |
| P131 | External ventilation, delay time | 0 | 0 | 255 | min. | 0 |
| P132 | Operating level, master password | 22 | 0 | 255 | - | 22 |
| P133 | Hysteresis for outside temperature to switch between heating/fan mode | 0 | 0 | 255 | K/10 | 0 |
| P134 | Threshold for outside temperature to switch between heating/fan mode | 0 | 0 | 50 | °C | 0 |
| P135 | Activate virtual sensor | 0 | 0 | 1 | - | 0 |
| P136 | Activate external ventilation | 0 | 0 | 2 | - | 0 |

Tab. 13: Parameter key, SAP no. 9001373, dated 10.07.2020

11.2 KaController parameter list

| Parameter | Function | Standard | Min. | Max. | Unit | Comment |
|-----------|---|----------|------|------|------|----------------------------|
| t001 | Serial address | 1 | 0 | 207 | - | Address in Mod-bus network |
| t002 | Baud rate 0 = Baud rate 4800 1 = Baud rate 9600 2 = Baud rate 19200 | 2 | 0 | 2 | - | |
| t003 | Background lighting function 0 = Slow fade in, fast fade out 1 = Slow fade in, slow fade out 2 = Fast fade in, fast fade out | 0 | 0 | 2 | - | |
| t004 | Strong background lighting | 4 | 0 | 5 | - | |
| t005 | Sensor calibration of KaController sensor | 0 | 60 | 60 | °C | |
| t006 | LCD display contrast | 15 | 0 | 15 | - | |
| t007 | BEEP setting 0 = BEEP ON 1 = BEEP OFF | 0 | 0 | 1 | - | |
| t008 | Password for KaController Parameter menu | 11 | 0 | 999 | - | |
| t009 | Minimum settable setpoint temperature | 8 | 0 | 20 | °C | |
| t010 | Maximum settable setpoint temperature | 35 | 10 | 40 | °C | |
| t011 | Interval of setpoint setting 0 = Automatic setting depending on PCB (parameterisable, freely programmable) 1 = Increment of 1 °C (parameterisable PCBs) 2 = Increment of 0.5 °C (freely programmable PCBs) | 0 | 0 | 2 | - | |
| t012 | Date/Time setting: Year | 9 | 0 | 99 | - | |
| t013 | Date/Time setting: Month | 1 | 1 | 12 | - | |
| t014 | Date/Time setting: Day | 1 | 1 | 31 | - | |
| t015 | Date/Time setting: Weekday | 1 | 1 | 7 | - | |
| t016 | Date/Time setting: Hour | 0 | 0 | 23 | - | |
| t017 | Date/Time setting: Minute | 0 | 0 | 59 | - | |

12 Certificates



EU-Konformitätserklärung

EU Declaration of Conformity
Déclaration de Conformité CE
Deklaracja zgodności CE
EU prohlášení o konformite

Wir (Name des Anbieters, Anschrift):

We (Supplier's Name, Address):
Nous (Nom du Fournisseur, Adresse):
My (Nazwa Dostawcy, adres):
My (Jméno dodavatele, adresa):

KAMPMANN GMBH & Co. KG
Friedrich-Ebert-Str. 128-130
49811 Lingen (Ems)

erklären in alleiniger Verantwortung, dass das Produkt:

declare under sole responsibility, that the product:
déclarons sous notre seule responsabilité, que le produit:
deklarujemy z pełną odpowiedzialnością, że produkt:
deklarujeme, vědomi si své odpovědnosti, že produkt:

Type, Modell, Artikel-Nr.:

Venkon XL 34821*

Type, Model, Articles No.:
Type, Modèle, N° d'article:
Typ, Model, Nr artykułu:
Typ, Model, Číslo výrobku:

auf das sich diese Erklärung bezieht, mit der / den folgenden Norm(en) oder normativen Dokumenten übereinstimmt:

to which this declaration relates is in conformity with the following standard(s) or other normative document(s):
auquel se réfère cette déclaration est conforme à la (aux) norme(s) ou autre(s) document(s) normatif(s):
do którego odnosi się niniejsza deklaracja, jest zgodny z następującymi normami lub innymi dokumentami normatywnymi:
na který se tato deklarace vztahuje, souhlasí s následující(mi) normou/normami nebo s normativními dokumenty:

DIN EN 1397

**DIN EN 55014-1; -2
DIN EN 61000-6-1; -6-2; -6-3
DIN EN 60335-1; -2-40**

**Wasserübertrager – Wasser-Luft-Ventilator-konvektoren –
Prüfverfahren zur Leistungsfeststellung
Elektromagnetische Verträglichkeit
Elektromagnetische Verträglichkeit
Sicherheit elektr. Geräte f. den Hausgebrauch und
ähnliche Zwecke**



Gemäß den Bestimmungen der Richtlinien:

Following the provisions of Directive:
Conformément aux dispositions de Directive:
Zgodnie z postanowieniami Dyrektywy:
Odpovídající ustanovení směrnic:

| | |
|--------------|--|
| 2014/30/EU | EMV-Richtlinie |
| 2014/35/EU | Niederspannungsrichtlinie |
| 2009/125/EG | ErP-Richtlinie |
| 2016/2281 EU | Durchführungsverordnung für Luftheizungsprodukte, Kühlungsprodukte, Prozesskühler mit hoher Betriebstemperatur und Gebläsekonvektoren |

Frank Bolkenius

Lingen (Ems), 06.03.2023

Ort und Datum der Ausstellung

Place and Date of Issue
Lieu et date d'établissement
Miejsce i data wystawienia
Místo a datum vystavení

Name und Unterschrift des Befugten

Name and Signature of authorized person
Nom et signature de la personne autorisée
Nazwisko i podpis osoby upoważnionej
Jméno a podpis oprávněné osoby



Richtlinie VDI 6022 Blatt 1 – Herstellererklärung

Hiermit erklärt der Hersteller **Kampmann GmbH & Co. KG**

des Sekundärluftgeräts **Venkon XL,**

dass die von ihm gelieferten Komponenten und Geräte die zutreffenden Hygieneanforderungen der VDI 6022 Blatt 1 (Ausgabe 2018-01) erfüllen.

Der Unterzeichner besitzt die Qualifizierung der Kategorie A nach VDI 6022 Blatt 4.

Diese Erklärung bestätigt dabei insbesondere die Erfüllung der Anforderungen aus Tabelle 7 der VDI 6022 Blatt 1 (Ausgabe 2018-01) mit den laufenden Nummern:

- 0.9 Herstellerinformationen zur Eignung von Reinigungs- und Desinfektionsmitteln
- 4.1 Einhaltung der Forderungen hinsichtlich verwendeter Materialien des Gerätegehäuses
- 8.1 Einhaltung der Forderungen hinsichtlich verwendeter Materialien der Luftfilter (in Kombination mit einem Filter mindestens ISO ePM10 50%)
- 11.1 Einhaltung der Forderungen hinsichtlich verwendeter Materialien der Ventilatoren

Lingen, 01.03.2023

Marcel Rakers

Product Compliance Manager

Geprüft nach VDI 6022 Blatt 2 Kategorie A

| |
|---|
| Information requirements for fan coils according to regulation (EU) No 2016/2281 Informationsanforderungen für Fan Coils gemäß Verordnung (EU) Nr. 2016/2281 |
|---|

| Venkon XL mit ePM10>50% Filter heating and cooling Heizen und Kühlen 2-pipe unit 2-Rohrsystem | | cooling capacity (sensible) | Kühlleistung (sensibel) | cooling capacity (latent) | Kühlleistung (latent) | Heating capacity | Wärmeleistung | Total electric power input | Elektrische Gesamtleistungsaufnahme | Sound power level (per speed setting, if applicable) | Schallleistungspegel (ggf. je Geschwindigkeits- einstellung) |
|--|-------------------|--------------------------------|----------------------------|------------------------------|--------------------------|----------------------------|---------------|----------------------------|--|---|--|
| Model size Baugröße | Fan Ventilator | P _{rated,c} kW | | P _{rated,c} kW | | P _{rated,h} kW | | P _{elec} kW | | L _{WA} dB (A) | |
| 1 | EC | 4,0 | | 1,6 | | 6,1 | | 0,170 | | 73 | |
| 2 | EC | 6,9 | | 2,8 | | 10,6 | | 0,231 | | 72 | |
| 3 | EC | 10,8 | | 4,4 | | 16,5 | | 0,411 | | 75 | |
| 4 | EC | 13,9 | | 5,8 | | 21,4 | | 0,469 | | 73 | |

| Standard rating conditions for fan coil units according to regulation (EU) No 2016/2281 | | | | | | |
|---|---|---|-----------------------------|--|------------------------------|---|
| Norm-Prüfbedingungen für Gebläsekonvektoren gemäß Verordnung (EU) Nr. 2016/2281 | | | | | | |
| Cooling Test | Air temperature | 27 °C (dry bulb) 19 °C (wet bulb) | Inlet water temperature | 7 °C | Water temperature rise | 5 °C |
| Test Kühlbetrieb | Lufttemperatur | 27 °C (Trockenkugel) 19 °C (Feuchtkugel) | Wassertemperatur am Einlass | | Anstieg der Wassertemperatur | |
| Heating Test | Air temperature | 20 °C (dry bulb) | Inlet water temperature | 45 °C for 2-pipe units 65 °C for 4-pipe units | Water temperature decrease | 5 °C for 2-pipe units 10 °C for 4-pipe units |
| Test Heizbetrieb | Lufttemperatur | 20 °C (Trockenkugel) | Wassertemperatur am Einlass | 45 °C für 2-Rohrsysteme 65 °C für 4-Rohrsysteme | Sinken der Wassertemperatur | 5 °C für 2-Rohrsysteme 10 °C für 4-Rohrsysteme |
| Sound power test | At ambient conditions without water flow | | | | | |
| Test Schallleistungspegel | Bei Umgebungsbedingungen ohne Wasserdurchsatz | | | | | |

| Contact Details | Kampmann GmbH & Co. KG |
|----------------------|---|
| Kontaktinformationen | Friedrich-Ebert-Straße 128-130, D-49811 Lingen (Ems), Germany |

Venkon XL

Assembly, installation and operating instructions

| Information requirements for fan coils according to regulation (EU) No 2016/2281 Informationsanforderungen für Fan Coils gemäß Verordnung (EU) Nr. 2016/2281 | | | | | | | | | | | |
|--|---|---|--------------------------------|------------------------------|--|---------------------------------|---------------|---|--|---|--|
| Venkon XL mit ePM10>50% Filter heating and cooling Heizen und Kühlen 4-pipe unit 4-Rohrsystem | | cooling capacity (sensible) | Kühlleistung (sensibel) | cooling capacity (latent) | Kühlleistung (latent) | Heating capacity | Wärmeleistung | Total electric power input | Elektrische Gesamtleistungsaufnahme | Sound power level (per speed setting, if applicable) | Schallleistungspegel (ggf. je Geschwindigkeits- einstellung) |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Model size Baugröße | Fan Ventilator | P _{rated,c} kW | | P _{rated,c} kW | | P _{rated,h} kW | | P _{elec} kW | | L _{WA} dB (A) | |
| 1 | EC | 3,6 | | 1,2 | | 7,1 | | 0,170 | | 73 | |
| 2 | EC | 6,2 | | 2,2 | | 14,7 | | 0,231 | | 72 | |
| 3 | EC | 9,7 | | 3,5 | | 22,9 | | 0,411 | | 75 | |
| 4 | EC | 12,5 | | 4,5 | | 29,6 | | 0,469 | | 73 | |
| Standard rating conditions for fan coil units according to regulation (EU) No 2016/2281 Norm-Prüfbedingungen für Gebläsekonvektoren gemäß Verordnung (EU) Nr. 2016/2281 | | | | | | | | | | | |
| Cooling Test | Air temperature | 27 °C (dry bulb) 19 °C (wet bulb) | Inlet water temperature | | 7 °C | Water temperature rise | | 5 °C | | | |
| Test Kühlbetrieb | Luft- temperatur | 27 °C (Trockenkugel) 19 °C (Feuchtkugel) | Wassertemperatur am Einlass | | | Anstieg der Wassertemperatur | | | | | |
| Heating Test | Air temperature | 20 °C (dry bulb) | Inlet water temperature | | 45 °C for 2-pipe units 65 °C for 4-pipe units | Water temperature decrease | | 5 °C for 2-pipe units 10 °C for 4-pipe units | | | |
| Test Heizbetrieb | Luft- temperatur | 20 °C (Trockenkugel) | Wassertemperatur am Einlass | | 45 °C für 2-Rohrsysteme 65 °C für 4-Rohrsysteme | Sinken der Wassertemperatur | | 5 °C für 2-Rohrsysteme 10 °C für 4-Rohrsysteme | | | |
| Sound power test | At ambient conditions without water flow | | | | | | | | | | |
| Test Schallleistungspegel | Bei Umgebungsbedingungen ohne Wasserdurchsatz | | | | | | | | | | |
| Contact Details | | Kampmann GmbH & Co. KG | | | | | | | | | |
| Kontaktinformationen | | Friedrich-Ebert-Straße 128-130, D-49811 Lingen (Ems), Germany | | | | | | | | | |

| Information requirements for fan coils according to regulation (EU) No 2016/2281 | | | | | | | | | | | |
|---|-------------------|--------------------------------|----------------------------|------------------------------|--------------------------|----------------------------|---------------|----------------------------|--|---|--|
| Informationsanforderungen für Fan Coils gemäß Verordnung (EU) Nr. 2016/2281 | | | | | | | | | | | |
| Venkon XL mit ePM1>50% Filter heating and cooling Heizen und Kühlen 2-pipe unit 2-Rohrsystem | | cooling capacity (sensible) | Kühlleistung (sensibel) | cooling capacity (latent) | Kühlleistung (latent) | Heating capacity | Wärmeleistung | Total electric power input | Elektrische Gesamtleistungsaufnahme | Sound power level (per speed setting, if applicable) | Schallleistungspegel (ggf. je Geschwindigkeits-einstellung) |
| | | | | | | | | | | | |
| Model size Baugöße | Fan Ventilator | P _{rated,c} kW | | P _{rated,c} kW | | P _{rated,h} kW | | P _{elec} kW | | L _{WA} dB (A) | |
| 1 | EC | 3,7 | | 1,4 | | 5,6 | | 0,169 | | 73 | |
| 2 | EC | 6,1 | | 2,5 | | 9,3 | | 0,208 | | 72 | |
| 3 | EC | 9,6 | | 4,0 | | 14,7 | | 0,383 | | 75 | |
| 4 | EC | 12,1 | | 5,1 | | 18,5 | | 0,419 | | 73 | |

| Standard rating conditions for fan coil units according to regulation (EU) No 2016/2281 | | | | | | |
|---|---|---|-----------------------------|--|------------------------------|---|
| Norm-Prüfbedingungen für Gebläsekonvektoren gemäß Verordnung (EU) Nr. 2016/2281 | | | | | | |
| Cooling Test | Air temperature | 27 °C (dry bulb) 19 °C (wet bulb) | Inlet water temperature | 7 °C | Water temperature rise | 5 °C |
| Test Kühlbetrieb | Luft-temperatur | 27 °C (Trockenkugel) 19 °C (Feuchtkugel) | Wassertemperatur am Einlass | | Anstieg der Wassertemperatur | |
| Heating Test | Air temperature | 20 °C (dry bulb) | Inlet water temperature | 45 °C for 2-pipe units 65 °C for 4-pipe units | Water temperature decrease | 5 °C for 2-pipe units 10 °C for 4-pipe units |
| Test Heizbetrieb | Luft-temperatur | 20 °C (Trockenkugel) | Wassertemperatur am Einlass | 45 °C für 2-Rohrsysteme 65 °C für 4-Rohrsysteme | Sinken der Wassertemperatur | 5 °C für 2-Rohrsysteme 10 °C für 4-Rohrsysteme |
| Sound power test | At ambient conditions without water flow | | | | | |
| Test Schallleistungspegel | Bei Umgebungsbedingungen ohne Wasserdurchsatz | | | | | |

| | |
|----------------------|---|
| Contact Details | Kampmann GmbH & Co. KG |
| Kontaktinformationen | Friedrich-Ebert-Straße 128-130, D-49811 Lingen (Ems), Germany |

Venkon XL

Assembly, installation and operating instructions

| Information requirements for fan coils according to regulation (EU) No 2016/2281 Informationsanforderungen für Fan Coils gemäß Verordnung (EU) Nr. 2016/2281 | | | | | | | | | | | |
|---|-------------------|--------------------------------|----------------------------|------------------------------|--------------------------|----------------------------|---------------|----------------------------|--|---|--|
| Venkon XL mit ePM1>50% Filter heating and cooling Heizen und Kühlen 4-pipe unit 4-Rohrsystem | | cooling capacity (sensible) | Kühlleistung (sensibel) | cooling capacity (latent) | Kühlleistung (latent) | Heating capacity | Wärmeleistung | Total electric power input | Elektrische Gesamtleistungsaufnahme | Sound power level (per speed setting, if applicable) | Schallleistungspegel (ggf. je Geschwindigkeits-einstellung) |
| Model size Baugöße | Fan Ventilator | P _{rated,c} kW | | P _{rated,c} kW | | P _{rated,h} kW | | P _{elec} kW | | L _{WA} dB (A) | |
| 1 | EC | 3,3 | | 1,2 | | 10,0 | | 0,169 | | 73 | |
| 2 | EC | 5,5 | | 2,0 | | 19,6 | | 0,208 | | 72 | |
| 3 | EC | 8,7 | | 3,2 | | 20,0 | | 0,383 | | 75 | |
| 4 | EC | 10,9 | | 4,0 | | 26,8 | | 0,419 | | 73 | |

| Standard rating conditions for fan coil units according to regulation (EU) No 2016/2281 Norm-Prüfbedingungen für Gebläsekonvektoren gemäß Verordnung (EU) Nr. 2016/2281 | | | | | | |
|--|---|---|-----------------------------|--|------------------------------|---|
| Cooling Test | Air temperature | 27 °C (dry bulb) 19 °C (wet bulb) | Inlet water temperature | 7 °C | Water temperature rise | 5 °C |
| Test Kühlbetrieb | Lufttemperatur | 27 °C (Trockenkugel) 19 °C (Feuchtkugel) | Wassertemperatur am Einlass | | Anstieg der Wassertemperatur | |
| Heating Test | Air temperature | 20 °C (dry bulb) | Inlet water temperature | 45 °C for 2-pipe units 65 °C for 4-pipe units | Water temperature decrease | 5 °C for 2-pipe units 10 °C for 4-pipe units |
| Test Heizbetrieb | Lufttemperatur | 20 °C (Trockenkugel) | Wassertemperatur am Einlass | 45 °C für 2-Rohrsysteme 65 °C für 4-Rohrsysteme | Sinken der Wassertemperatur | 5 °C für 2-Rohrsysteme 10 °C für 4-Rohrsysteme |
| Sound power test | At ambient conditions without water flow | | | | | |
| Test Schallleistungspegel | Bei Umgebungsbedingungen ohne Wasserdurchsatz | | | | | |

| | |
|----------------------|---|
| Contact Details | Kampmann GmbH & Co. KG |
| Kontaktinformationen | Friedrich-Ebert-Straße 128-130, D-49811 Lingen (Ems), Germany |

Table

| | | |
|---------|---|----|
| Tab. 1 | Operating limits | 7 |
| Tab. 2 | Operating voltage | 7 |
| Tab. 3 | Water quality..... | 7 |
| Tab. 4 | Technical specifications 230 V..... | 12 |
| Tab. 5 | Air side steel sheet accessories | 22 |
| Tab. 6 | Valve seat accessories..... | 28 |
| Tab. 7 | Technical data for condensate pump | 35 |
| Tab. 8 | Maximum electrical rating values for Venkon XL, KaControl (*C1)..... | 38 |
| Tab. 9 | Maximum electrical rating values for Venkon XL EC, electromechanical model (*00/*01)..... | 38 |
| Tab. 10 | Wiring of bus lines | 47 |
| Tab. 11 | KaControl unit alarms | 58 |
| Tab. 12 | KaController alarms | 58 |
| Tab. 13 | Parameter key, SAP no. 9001373, dated 10.07.2020..... | 59 |

<https://www.kampmanngroup.com/hvac/products/fan-coils/venkon-xl>

| Land | Kontakt |
|---------|--------------------------------|
| Germany | Kampmann GmbH & Co. KG |
| | Friedrich-Ebert-Str. 128 - 130 |
| | 49811 Lingen (Ems) |
| | T +49 591/ 7108-660 |
| | F +49 591/ 7108-173 |
| | E export@kampmann.de |
| | W Kampmann.eu |