



Venkon

► Assembly, installation and operating instructions

Keep these instructions in a safe place for future use!

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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.

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 [► 7] must be observed.



IMPORTANT NOTE!

Only use the unit 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

Limits of operation		
Min./max. water temperature	°C	4-90
Min./max. air intake temperature	°C	6-40
Min./max. air humidity	%	20-60
Min. operating pressure	bar/kPa	-
Max. operating pressure	bar/kPa	10/1000
Min./max. glycol percentage	%	0-50

Tab. 1: Limits of operation

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

**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.
- ▶ VDI 6022; maintenance personnel must be trained to Category B (possibly Category C) to comply with hygiene requirements (as required).

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.

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?

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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.

4 Technical data

Unit	Venkon AC			
Model	61	63	66	67
Width of basic unit [mm]	625	925	1375	1725
Casing width [mm]	900	1200	1650	2000
Weight of basic unit [kg]	19	24.5	36.5	46.5
Air volume [m³/h]	125 – 530	240 – 705	350 – 1230	460 – 1510
Internal volume of 2-pipe system [l]	1.3	2.0	3.1	3.9
Internal volume of 4-pipe system [l] heating	0.5	0.6	0.9	1.1
Internal volume of 4-pipe system [l] cooling	1.0	1.6	2.4	2.9
Heat output [kW] ²	1.54 - 7.74	2.89 - 10.65	4.01 - 17.74	5.44 - 23.21
Cooling output [kW] ¹	0.79 - 3.27	1.43 - 4.52	1.86 - 7.67	2.72 - 10.19
Sound power level [dB(A)]	27 – 57	28 – 55	33 - 58	34 - 58

Unit	Venkon EC			
Model	61	63	66	67
Length of basic unit [mm]	625	925	1375	1725
Casing length [mm]	900	1200	1650	2000
Weight of basic unit [kg]	19	24.5	36.5	46.5
Air volume [m³/h]	135 – 560	190 – 850	315 – 1405	355 – 1700
Internal volume of 2-pipe system [l]	1.3	2.0	3.1	3.9
Internal volume of 4-pipe system [l] heating	0.5	0.6	0.9	1.1
Internal volume of 4-pipe system [l] cooling	1.0	1.6	2.4	2.9
Heat output [kW] ²	1.57 - 8.24	2.40 - 12.82	3.67 - 20.30	4.50 - 26.20
Cooling output [kW] ¹	0.81 - 3.42	1.07 - 5.26	1.61 - 8.54	1.99 - 11.26
Sound power level [dB(A)]	28 – 61	23 – 58	29 - 62	27 - 61
Model	61	63	66	67

² at LPHW 75 / 65°C, $t_{l1} = 20^\circ\text{C}$

¹ at CHW 7/12°C, $t_{l1} = 27^\circ\text{C}$, 50% relative humidity

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5 Construction and function

5.1 Overview

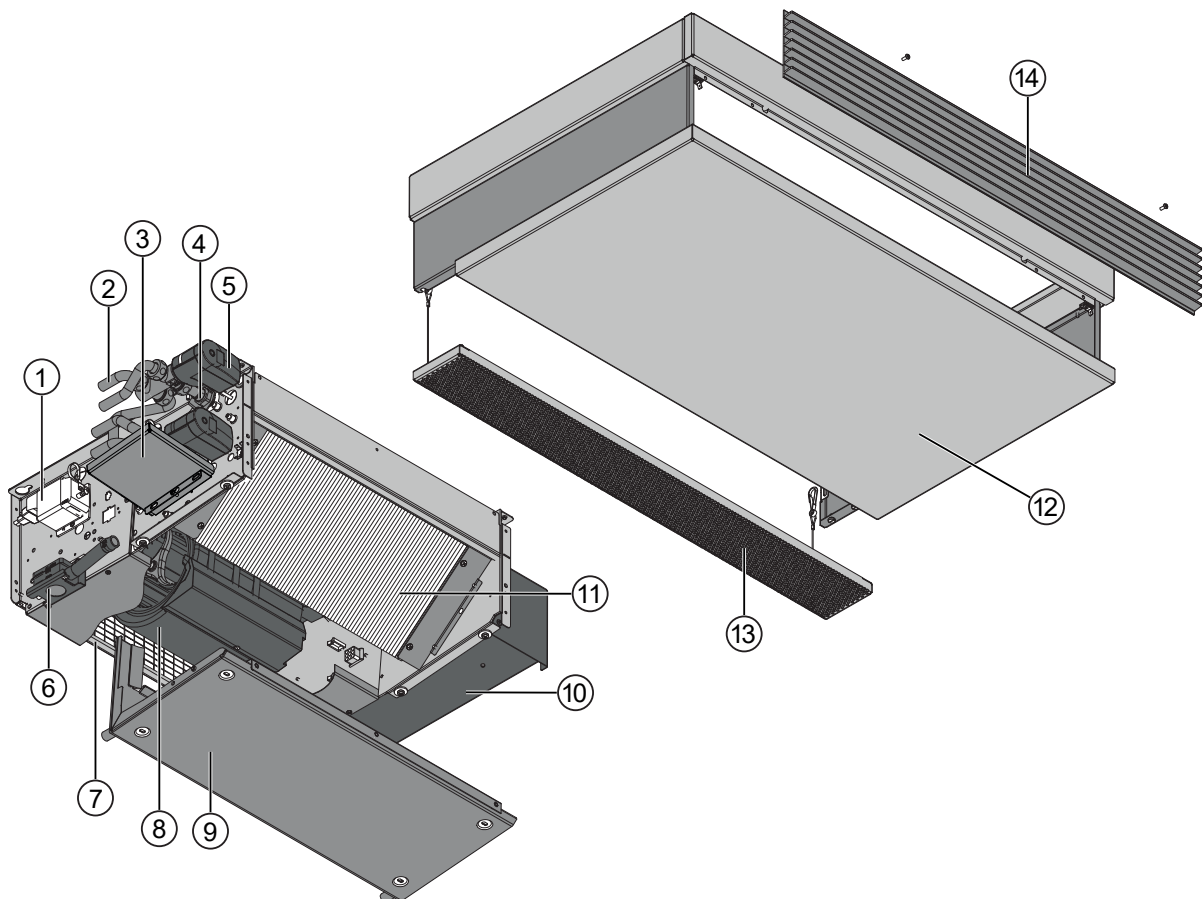



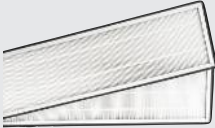
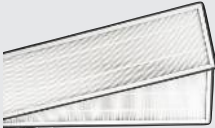
Fig. 1: Venkon at a glance (example of ceiling model)

1	Condensation pump	8	EC or AC fan
2	Pipework	9	Condensation tray
3	Valve condensation tray	10	Control in the electrical housing (e.g. C1 control)
4	Water connections	11	Heat exchanger
5	Actuator	12	Casing
6	Float switch	13	Intake air grille
7	Filter	14	Air outlet grille

5.2 Brief description

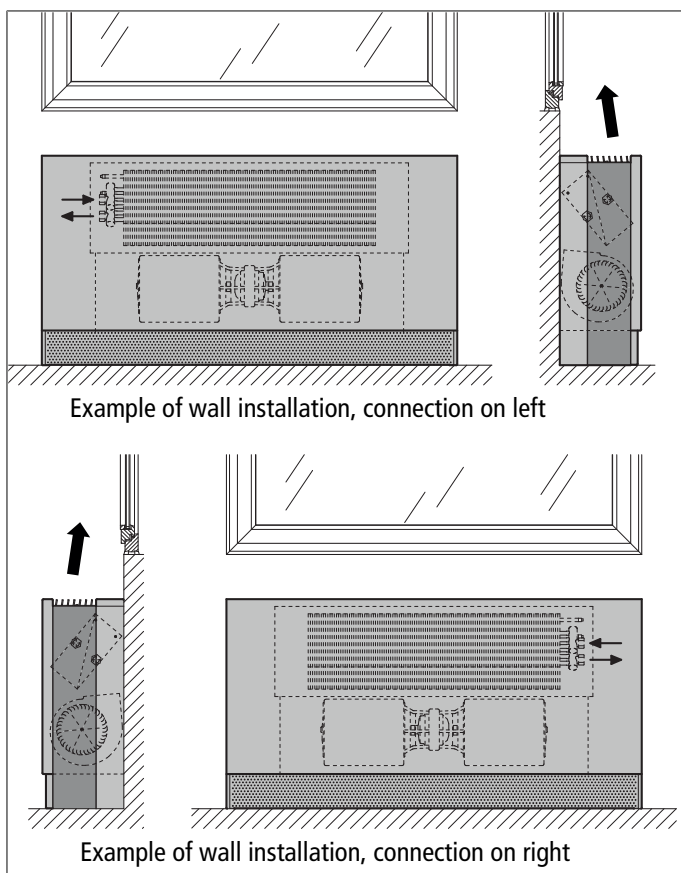
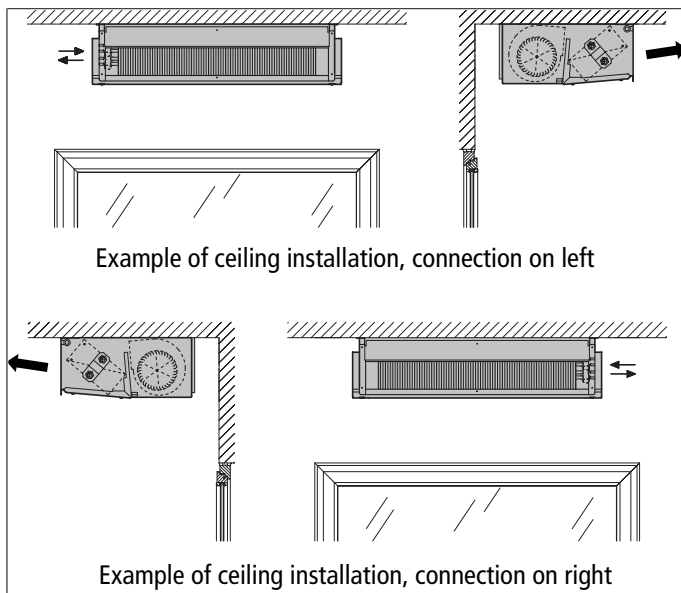
Venkons are decentralised units for heating, cooling and filtering air, for use in hotels, offices and business premises, among others. Secondary air is drawn in filtered by the fan and passed through the copper/aluminium heat exchanger. Here the air is either heated or cooling depending on the temperature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

5.3 Wear parts list

Figure	Article	Properties	Suitable for	Art. no.
	Replacement filter with frame	1 units	Venkon AC and EC	Model 61: 14869BBB0101
				Model 63: 14869BBB0301
				Model 66: 14869BBB0601
				Model 67: 14869BBB0701
	Spare filter ePM10>50% (M5)	1 units	Venkon AC and EC	Model 61: 14869BBB0105
				Model 63: 14869BBB0305
				Model 66: 14869BBB0605
				Model 67: 14869BBB0705
	Spare filter ePM1>50% (F7)	1 units	Venkon AC and EC	Model 61: 14869BBB0107
				Model 63: 14869BBB0307
				Model 66: 14869BBB0607
				Model 67: 14869BBB0707

6 Installation and wiring

6.1 Definition of the connection side

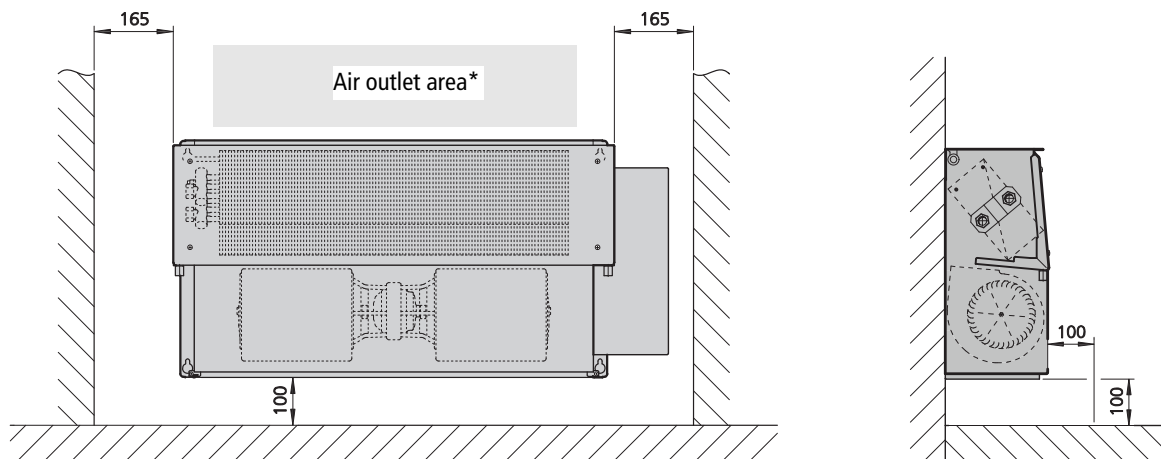


6.2 Requirements governing the installation site

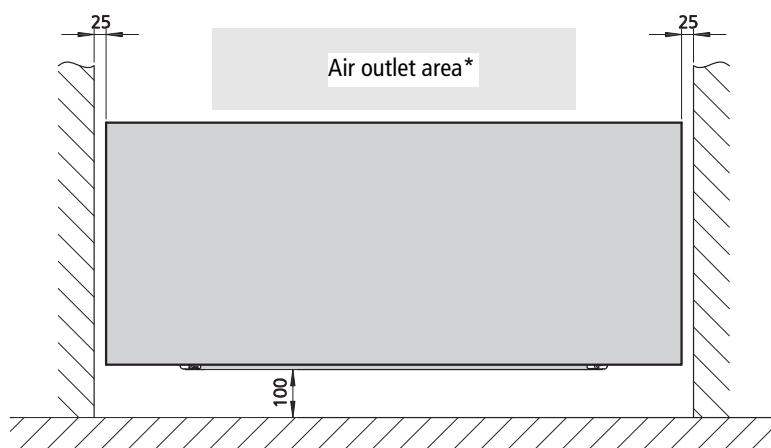
Only install and assemble the unit if the following conditions are met:

- ▶ Make sure that the wall/ceiling is sufficiently load-bearing to take the weight of the unit (Technical data [▶ 13]).
- ▶ 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 [▶ 32]).
- ▶ There is a power supply on site (Maximum electrical rating values [▶ 43]).
- ▶ If need be, provide a condensation connection with a sufficient gradient on site.

6.3 Minimum clearances

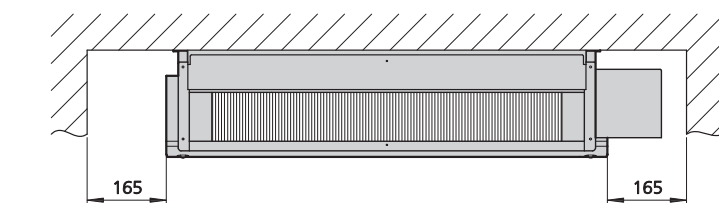


Example of basic unit, wall-hanging (without casing)

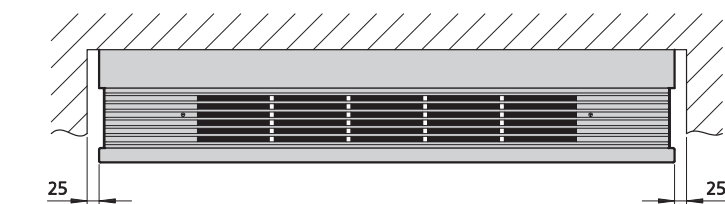
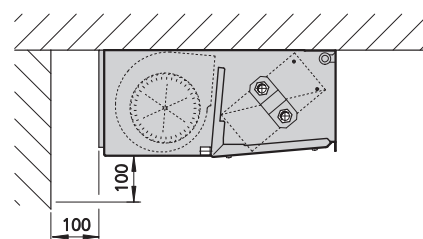


Example of unit, wall-hanging with casing

*The air outlet area needs to be completely barrier-free to guarantee the free circulation of air! There needs to be a 50 mm freely accessible clearance above the casing to be able to remove the casing.



Example of basic unit, ceiling (without casing)



Example of unit, ceiling-mounted with casing

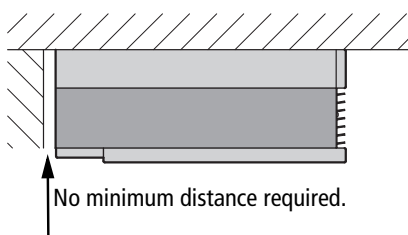


Fig. 2: Minimum clearances

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 and the adjacent building if required.

6.4.1 Installation of basic unit

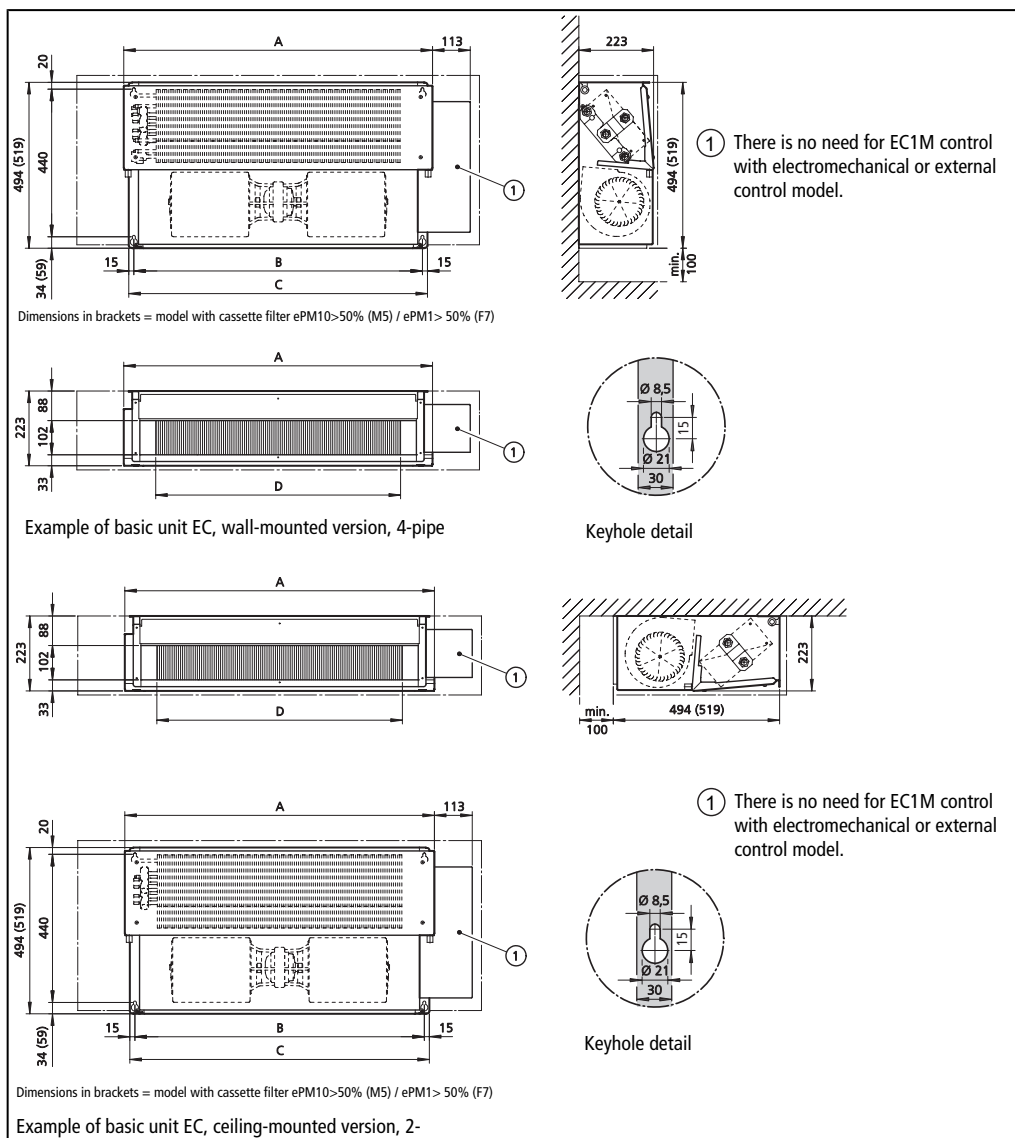


Fig. 3: Suspension points for basic unit

	A (Width of basic unit)	B (Distance of suspension points)	C (Rear wall)	D (Outlet opening)
Model 61	625	560	590	431
Model 63	925	860	890	731
Model 66	1375	1310	1340	1181
Model 67	1725	1660	1690	1531

Tab. 4: Dimensions of basic unit [mm]

Note the Minimum clearances [► 18] 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.

6.4.2 Installation of casing

Casing overview

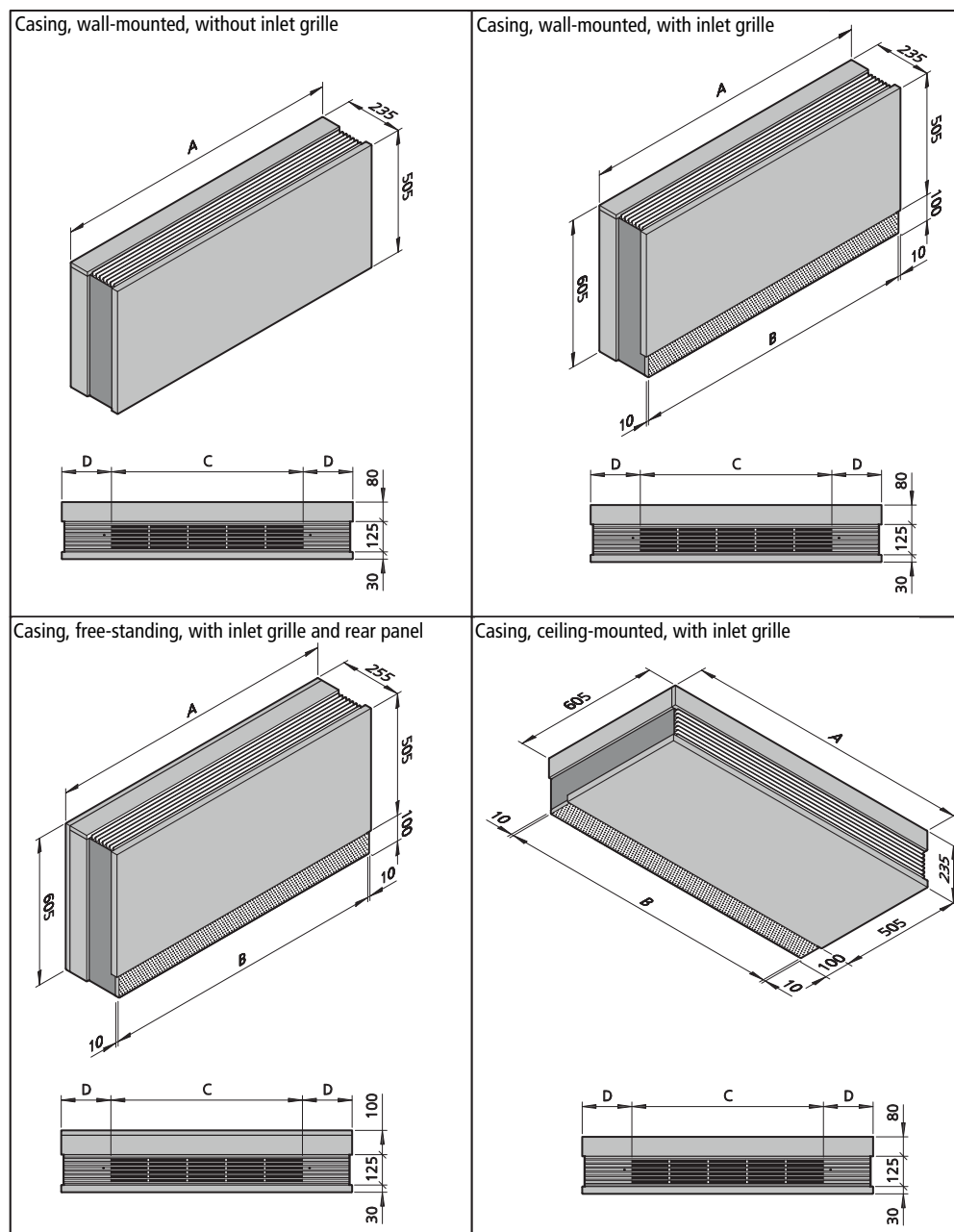


Fig. 4: Overview of casings

	A [mm]	B [mm]	C [mm]	D [mm]
Model 61	900	880	470	215
Model 63	1200	1180	790	205
Model 66	1650	1630	1270	190
Model 67	2000	1980	1590	205

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Note:

The casing can also be fixed at the bottom to the key holes on the left and right to provide greater stability. This is NOT essential for installation, merely an option.

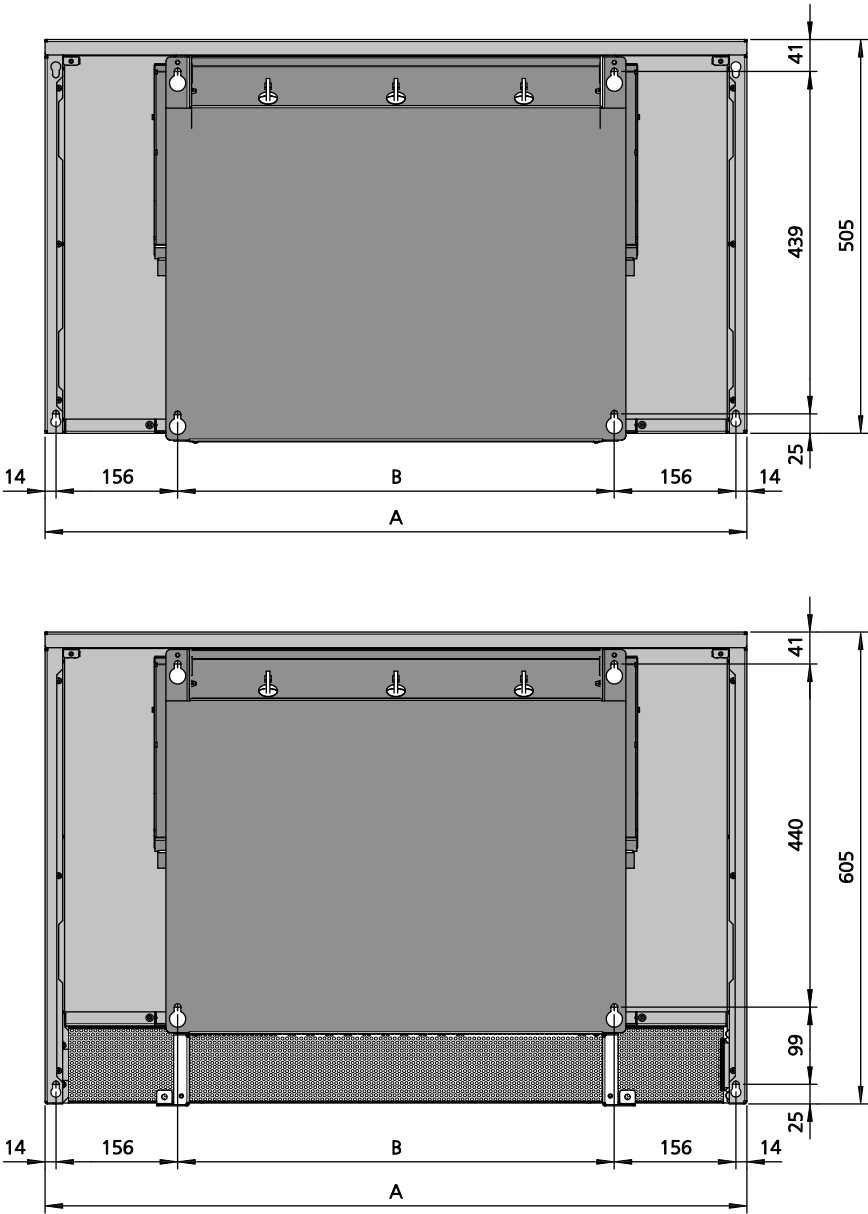


Fig. 5: Drill points

Width	Model 61	Model 63	Model 66	Model 67
A [mm]	900	1200	1650	2000
B [mm]	560	860	1310	1660

General information on casings

- ▶ Casings are factory-fitted as standard.
- ▶ Casings for wall-mounted and ceiling-mounted models are installed and dismantled in the same way.
- ▶ Always remove the casing ahead of maintenance work (apart from filter replacement).

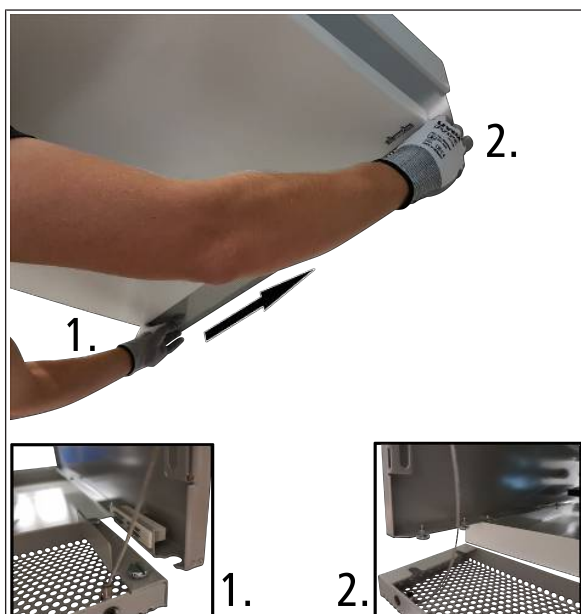


Fig. 6: Dismantling the air inlet grille

1	Loosen the air inlet grille from the magnet.	2	Unhook the air inlet grille.
---	--	---	------------------------------

Dismantling/installing the air inlet grille

With casings with air inlet grille, remove the grille from the casing before installation and dismantling as the casing cannot otherwise be removed or fitted!

Wire cables are fitted to the wire inlet grille on ceiling-mounted units to prevent it from falling out and which are fixed to the side panel of the casing with a carabiner hook.

1. Push the air intake grille to the side so that it comes out of the support in the side panel and from the magnet.
2. Unhook the wire cables and remove the air inlet grille.



Fig. 7: Suspending the casing

Suspending the casing

Push the mounting brackets (left and right) on shoulder screws so that the casing is hooked in place.



Fig. 8: Fold up the casing and press in place

Press the casing upwards and insert the retaining tabs into the slots of the main support panels of the basic unit.



Fig. 9: Fix the casing with screws

Screw the casing to the basic unit with 2 countersunk screws. After screwing the casing in place refit the air inlet grille [► 000].



Fig. 10: Install the air outlet grill.

Insert the air outlet grille and use 2 flat-head screws to attach it to the basic unit.

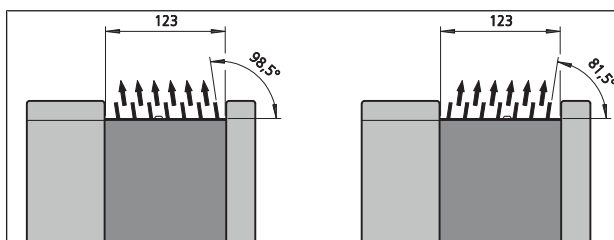


Fig. 11: Standard (left) and alternative (right) air outlet direction

Changing the air outlet direction

To change the air outlet direction, loosen the 2 screws, turn the air outlet grille around 180° and reattach it to the basic unit.

6.4.3 Installation of sheet steel accessories

Overview of air-side sheet steel accessories

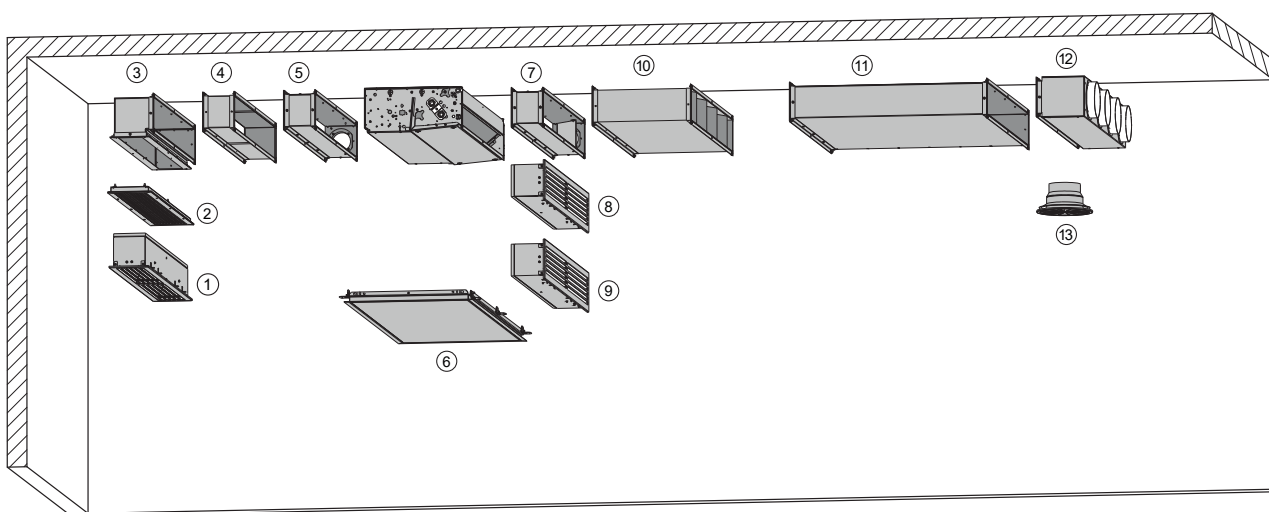



Fig. 12: Diagram of arrangement of sheet steel accessories for ceiling-mounted units

1	Hotel air opening with inlet box and filter	8	Outlet box with hotel diffuser
2	Internal air grille	9	Discharge box with primary air connection and hotel air opening
3	90° duct bend	10	Splitter noise attenuator
4	Flexible connector	11	Air duct
5	Inlet box with primary air connection	12	Flexible pipe connection unit Ø 198 mm
6	Service hatch with frame	13	Ceiling swirl diffuser
7	Outlet box with primary air connection		

Figure	Description	Dimensions [mm]				
	Hotel air opening with inlet box and filter		61	63	66	67
		A	620	920	1370	1720
		B	583	883	1333	1683

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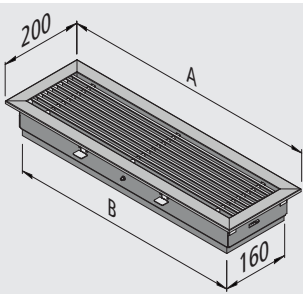
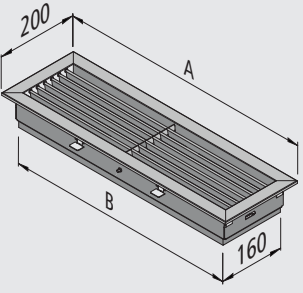
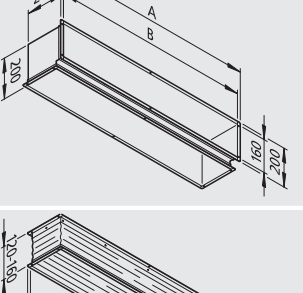
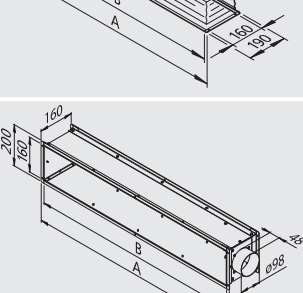
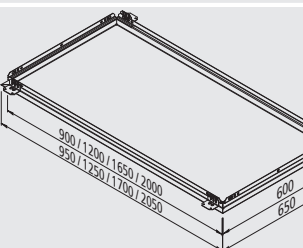
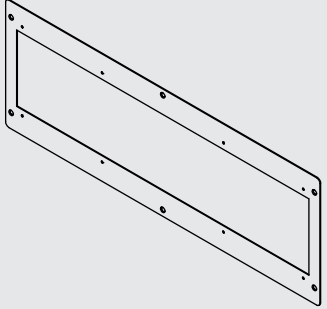
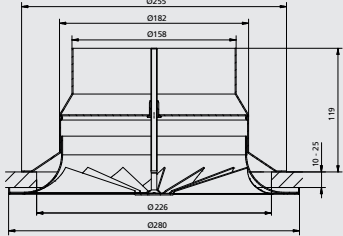
Figure	Description	Dimensions [mm]				
			61	63	66	67
	Internal air grille	A	625	925	1375	1725
		B	583	883	1333	1683
	90° duct bend	A	570	870	1320	1670
		B	530	830	1280	1630
	Flexible connector	A	570	870	1320	1670
		B	530	830	1280	1630
	Inlet box with primary air connection	A	570	870	1320	1670
		B	530	830	1280	1630
	Service hatch with frame					

Figure	Description	Dimensions [mm]				
	Outlet box with primary air connection		61	63	66	67
		A	570	870	1320	1670
	Outlet box with hotel diffuser	B	530	830	1280	1630
		A	620	920	1370	1720
	Discharge box with primary air connection and hotel air opening	B	583	883	1333	1683
		A	620	920	1370	1720
	Splitter noise attenuator	B	530	830	1280	1630
		A	570	870	1320	1670
	Air duct	B	530	830	1280	1630
		A	570	870	1320	1670
	Flexible pipe connection unit Ø 178 mm	B	530	830	1280	1630
		A	570	870	1320	1670

Figure	Description	Dimensions [mm]				
	Transition panel, used to attach to sheet steel accessories to fit air inlet or air outlet diffusers (14867BBB0*03, 14867BBB0*04, 14867BBB0*02, 14867BBB0*12)					
	Ceiling swirl diffuser DN180, including clamping flange for installation in suspended ceilings, white painted, for connection to flexible pipe Ø 158 mm	Outlet Ø 180 mm Flexible pipe Ø 158 mm				

Tab. 5: Air-side sheet steel accessories

Frame connection dimensions

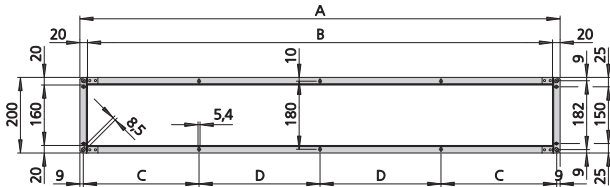


Fig. 13: Frame connection dimensions

Model	A [mm]	B [mm]	C [mm]	D [mm]
61	570	530	276	-
63	870	830	426	-
66	1320	1280	651	-
67	1670	1630	406	420

Installation of outlet box with hotel diffuser

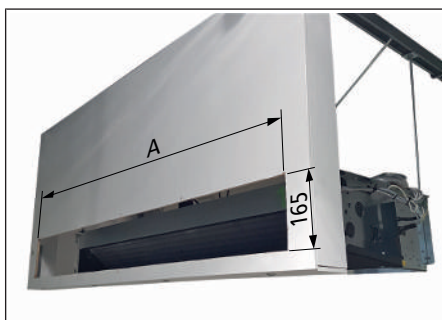


Fig. 14:

Dimensions for opening in drywall element

Model	A [mm]
61	605
63	895
66	1345
67	1695



Fig. 15:

Dismantle the fixing brackets in the outlet box (4 no.).



Fig. 16:

Insert the outlet box into the recess.

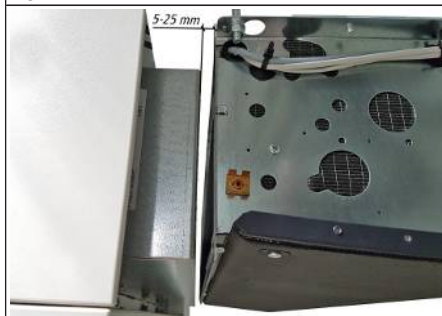


Fig. 17:

Align the basic unit so that a gap of 5-25 mm remains between the rear face of the outlet box and the front face of the basic unit.

Use the template (available on request) that shows the installed basic unit and outlet box, and hence the correct spacings, to align the basic unit.

- ▶ Model 61: SAP 1388109
- ▶ Model 63: SAP 1388172
- ▶ Model 66: SAP 1388104
- ▶ Model 67: SAP 1388093

Venkon

Assembly, installation and operating instructions



Fig. 18:

Remove the outlet box from the recess.



Fig. 19:

Glue expanded foam strip to the frame of the outlet box and reinsert it into the recess.



Fig. 20:

Fit fixing brackets (4 no.) hand-tight to the outlet box.



Fig. 21:

Push the tabs of the fixing brackets onto the drywall element under the outlet box.

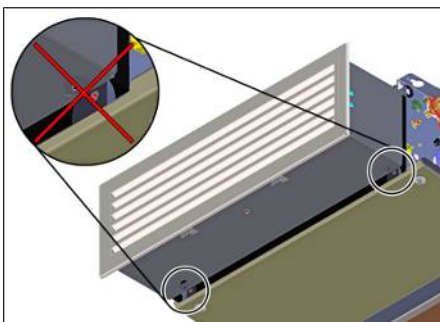


Fig. 22:

Do not use feed nuts to secure the outlet box in place!

IMPORTANT NOTE: Do not use the feed nuts of the condensate tray to fix the outlet box in place! They are **solely** intended for the installation of wall and ceiling cases!

If the feed nuts are used to fix another duct connection in place, then use hex nuts that can be loosened again for maintenance purposes!



Fig. 23:

Press the hotel diffuser from outside onto the frame of the outlet box so that it lies flush.



Fig. 24:

Use retaining screws to fix the hotel diffuser in place on the left and right.



IMPORTANT NOTE!

Protect accessories from dust and dirt

Basic units are fitted as standard with dust protection (blue film). Remove the dust protection before installing the sheet steel accessories or commissioning the unit. Ensure that all parts are also protected from dirt on site after installation until initial commissioning.

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.

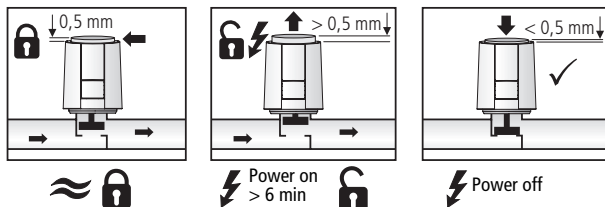


Fig. 25: "First Open" function

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.

6.5.1 Connection to the pipe network

The flow and return connections are located as standard on the left side of the unit, seen from the front panel.

Route the pipes so that no mechanical stresses are transferred to the heat exchanger and to ensure that the unit can be accessed with ease for maintenance and repair work. Proceed as follows when connecting up the unit's hydraulic pipework:

- ▶ Shut off the heating/cooling medium and prevent it from being opened accidentally before connecting to on-site pipework and making the hydraulic connections on the basic unit, as there is a danger of scalding from escaping heating medium!
- ▶ With cooling units there is a danger to the user from cold temperatures and a danger to the environment from the use of glycol. Take appropriate safety measures.
- ▶ Remove protective caps from the flow and return.
- ▶ With cooling mode, route pipes and valves directly over the side condensation tray (accessory) to drain any condensation produced on the pipes during cooling mode into the tray.
- ▶ Seal and tighten the connections. Prevent the connection nuts from shearing and twisting.
- ▶ When connecting the unit to the on-site pipework, make sure that you use a suitable tool to hold the unit's water connections in place!
- ▶ Make sure that the pipes can be vented.
- ▶ Use suitable insulating material, impermeable insulating material for cooling units.
- ▶ Tighten all threaded connections once the pipes have been fitted and check that they are not under any tension.

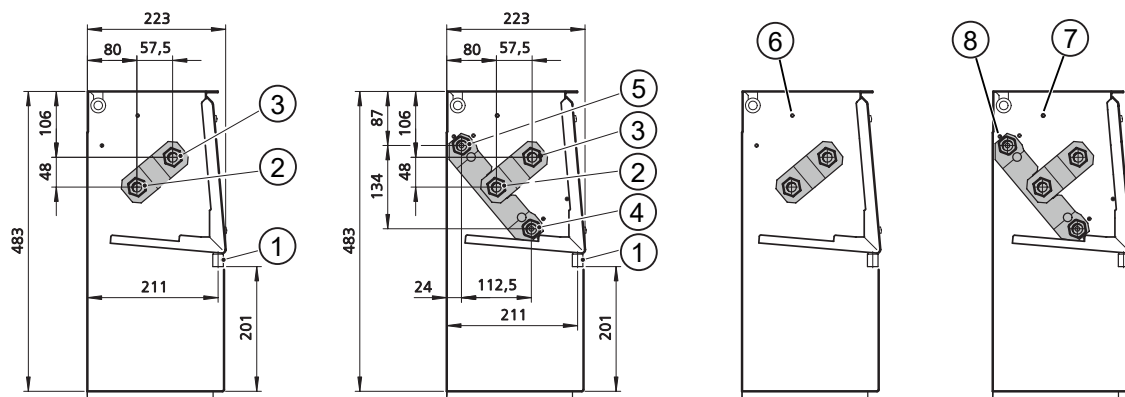


Fig. 26: Wall-mounted basic unit, 2-pipe and 4-pipe

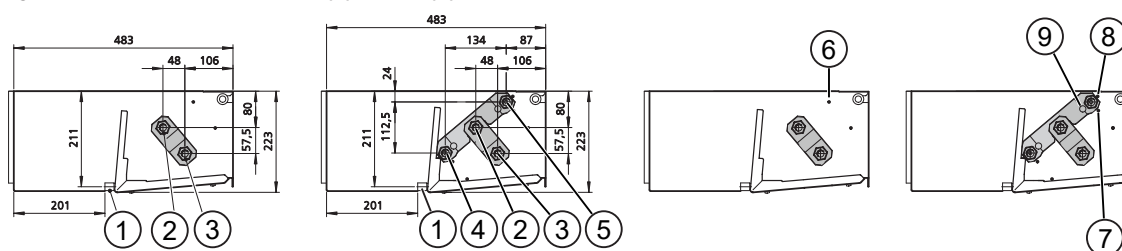


Fig. 27: Ceiling-mounted basic unit, 2-pipe and 4-pipe

1	Drain connection on main condensation tray Ø15	2	Cooling return (also heating with 2-pipe)*
3	Cooling flow (also heating with 2-pipe)*	4	Heating return*
5	Heating flow*	6	Air vent
7	Vent, cooling (with ceiling model 61/63)	8	Vent, heating
9	Vent, cooling (with ceiling model 66/67)		

Water connections	2-pipe		4-pipe		
Model	Models 61 – 63	Models 66 – 67	Models 61 – 63	Models 66 – 67	
Coil	Heating/cooling		Heating/cooling	Heating	Cooling
Connection (Rp)	1/2"	3/4"	1/2"	1/2"	3/4"

Provide a service hatch.

Provide the following service hatch dimensions for maintenance and inspection of suspended ceiling units.

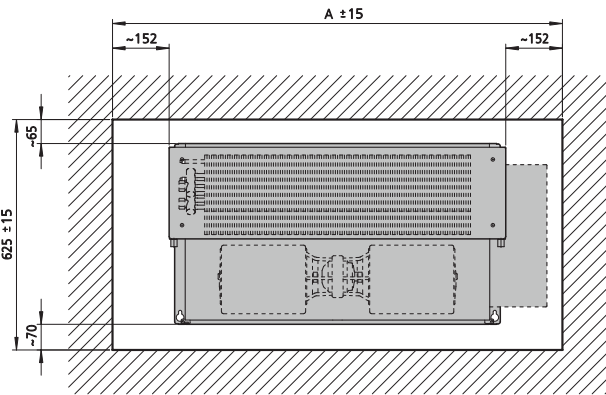


Fig. 28: Service hatch dimensions

Model	Ceiling opening dimension (Width A± 15) [mm]
61	925
63	1225
66	1675
67	2025

6.5.2 Sealing the pipework to the valve condensation tray

Proceed as follows when using the valve condensation tray to collect condensation from the valves:

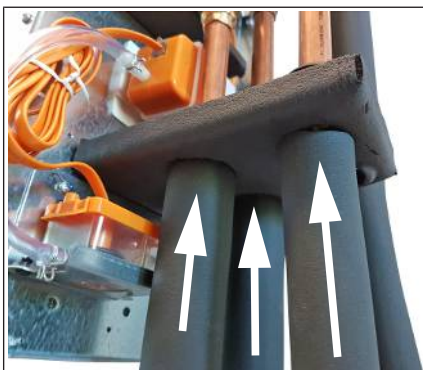


Fig. 29: Insulation with wall-mounted units

Fit diffusion-tight insulation to the pipe from below through the opening of the valve condensation tray to the top edge.

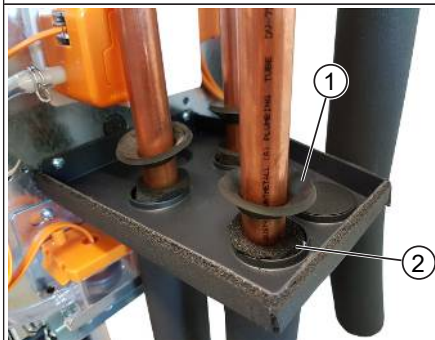


Fig. 30: Gluing rubber pipe collars with insulation

Press the rubber pipe collar **1** to the insulation **2** and the neck of the valve condensation tray and glue in place.

Important: There is a danger that condensation will escape if the insulation is not leak-tight!

1	Rubber pipe collar	2	Insulation
---	--------------------	---	------------

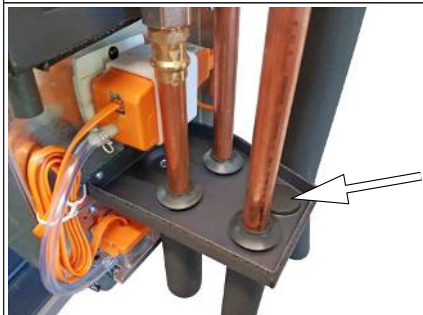


Fig. 31: Closing unused holes

Press plastic plugs (supplied) into unused holes in the valve condensation tray.

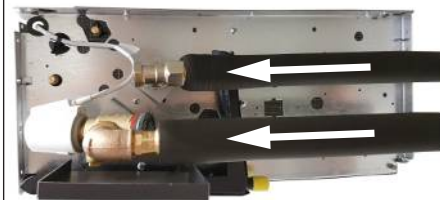
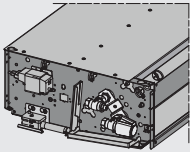
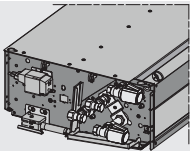
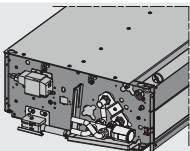
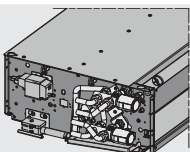
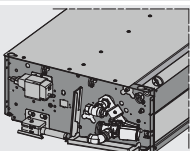
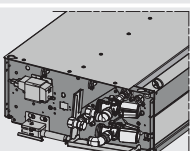


Fig. 32: Insulating with ceiling units

Fit diffusion-tight insulation as far as the area above the valve condensation tray.

6.5.3 Overview of valve kits

Accessories for recirculating air basic unit, water-side, factory-fitted to the basic unit					
	2-way valve kit	Water connection on left	2-pipe model with adjustable 2-way valve with return shut-off valve	Fits all models, combinable control: -00M, -01M, -C1M, -C1E	Art. no. 14863BBL2*2A
		Water connection on right			Art. no. 14863BBR2*2A
		Water connection on left	4-pipe model with adjustable 2-way valve with return shut-off valve	Fits all models, combinable control: -00M, -01M, -C1M, -C1E	Art. no. 14863BBL4*2A
		Water connection on right			Art. no. 14863BBR4*2A
	3-way valve kit	Water connection on left	2-pipe unit with 3-way valve	Fits all models, combinable control: -00M, -01M, -C1M, -C1E	Art. no. 14863BBL2*3A
		Water connection on right			Art. no. 14863BBR2*3A
		Water connection on left	4-pipe unit with 3-way valve	Fits all models, combinable control: -00M, -01M, -C1M, -C1E	Art. no. 14863BBL4*3A
		Water connection on right			Art. no. 14863BBR4*3A
	Differential pressure-independent valve kit	Water connection on left	2-pipe differential pressure-independent valve fit with return shut-off valve	Fits all models, combinable control: -00M, -01M, -C1M, -C1E	Art. no. 14863BBL2*DA
		Water connection on right			Art. no. 14863BBR2*DA
		Water connection on left	4-pipe differential pressure-independent valve fit with return shut-off valve	Fits all models, combinable control: -00M, -01M, -C1M, -C1E	Art. no. 14863BBL4*DA
		Water connection on right			Art. no. 14863BBR4*DA

Tab. 6: Valve kit accessories

Note: The valve kit dimensions are identical for the left and right connection side.

6.5.4 Connection of 2-way valve kit

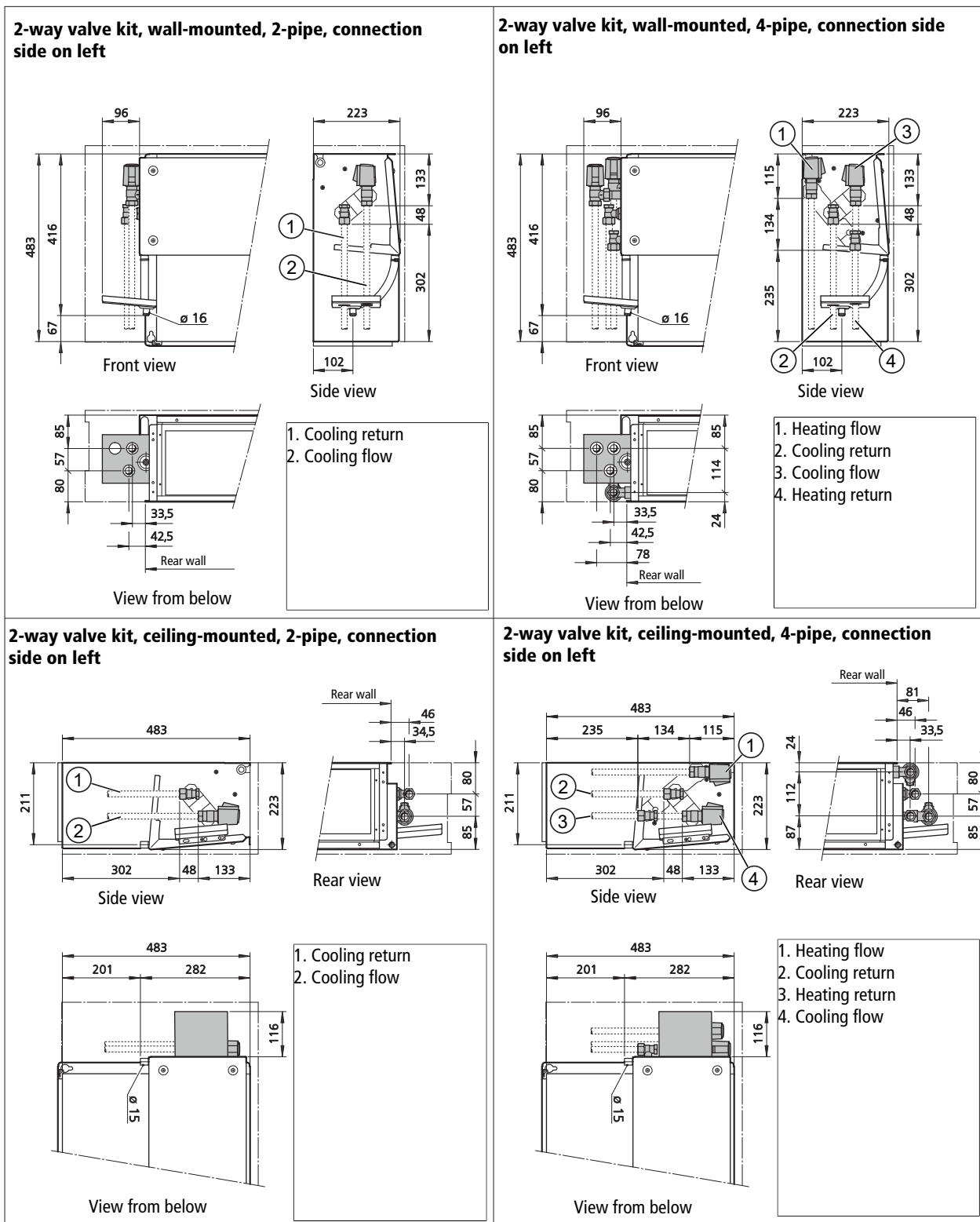


Fig. 33: Dimensions of 2-way valve kit

6.5.5 Connection of 3-way valve kit

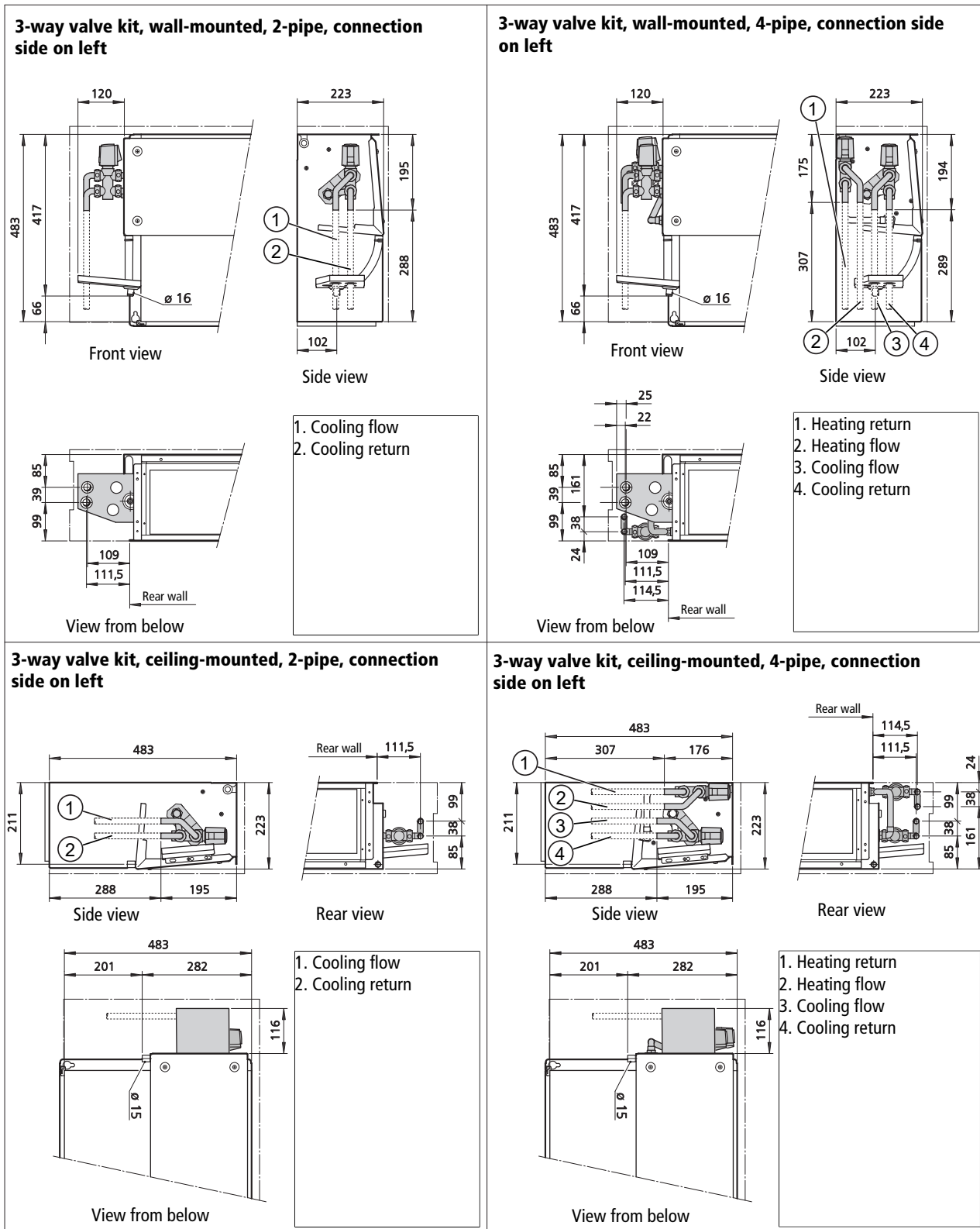


Fig. 34: Dimensions of 3-way valve kit

6.5.6 Connection of differential pressure-dependent valve kit

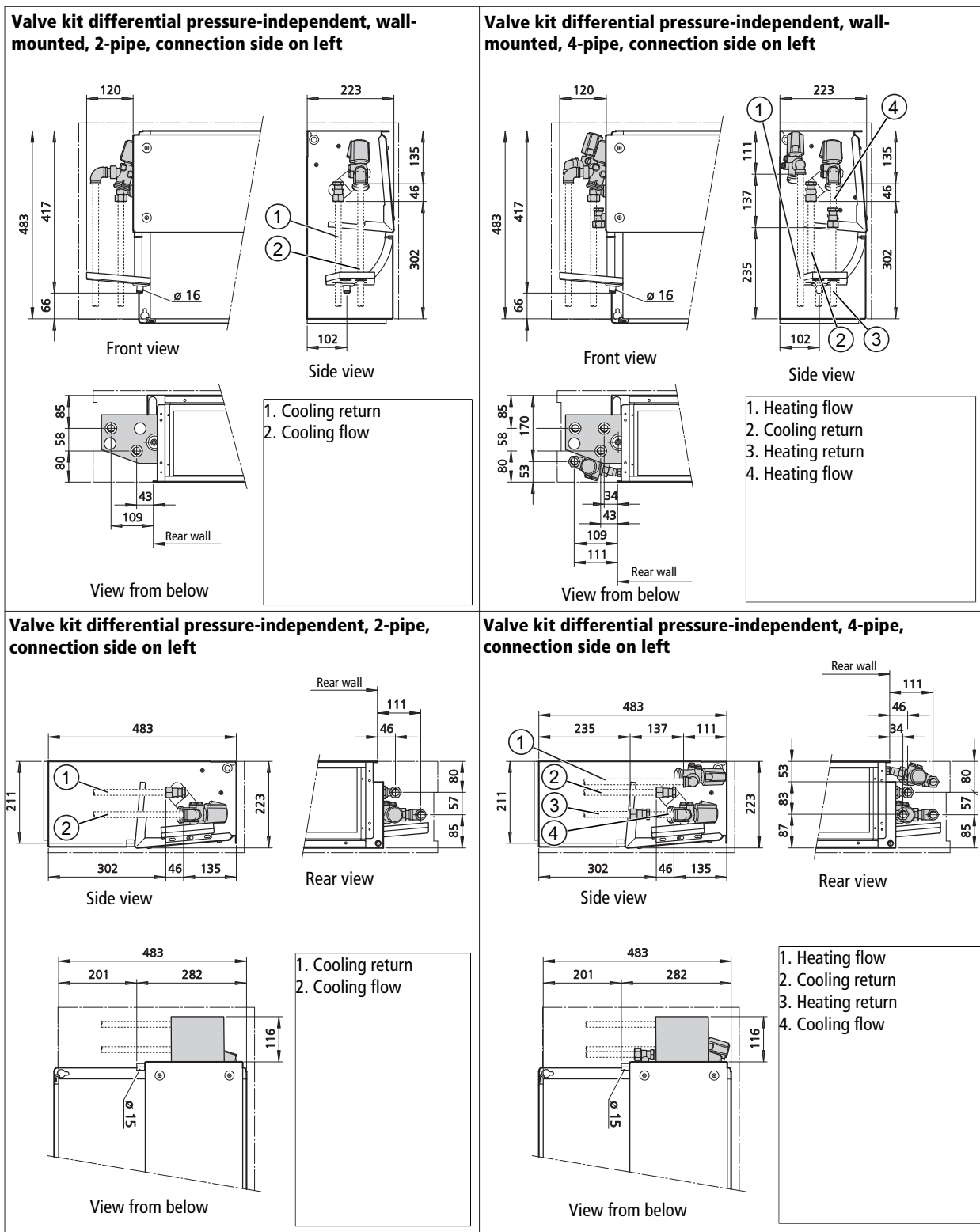


Fig. 35: Dimensions of differential pressure-dependent valve kit

6.5.7 Connection, on-site pipework

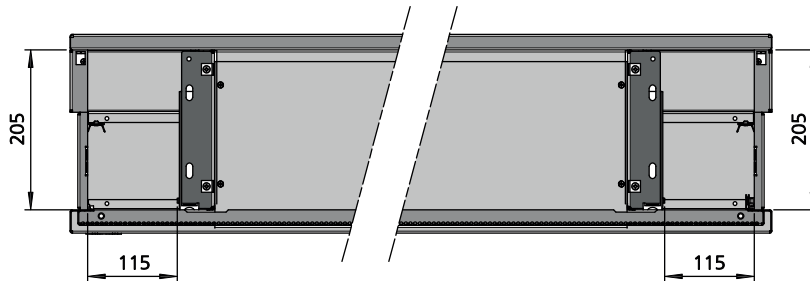


Fig. 36: View from below (basic unit with casing)

6.5.8 Condensation connection

6.5.8.1 Condensation drain with natural gradient

It is essential that a condensation drain is connected and appropriately fixed to a Venkon condensation drain connector (drain size 15 mm). Ensure that the gradient is at least 1 cm/m, without restrictions and without rising sections of pipe to ensure the drainage of condensate from the basic unit (in accordance with DIN EN 12056; formerly: DIN 1986-100). Take into account all applicable regulations, such as the use of a ball trap, when connecting the condensation line to the sewer system. Protect the trap from drying out. The suction effect of the fan on the condensation drain neck could otherwise produce troublesome odours. Consider using water vapour-impermeable insulation depending on the pipe material used for the condensation drain. You will need a condensation pump (optional accessories) should a natural gradient be impossible on site. This is used to pump the condensate into higher collection or discharge equipment. When delivered, the condensation pump and float switch is factory-fitted to the unit.

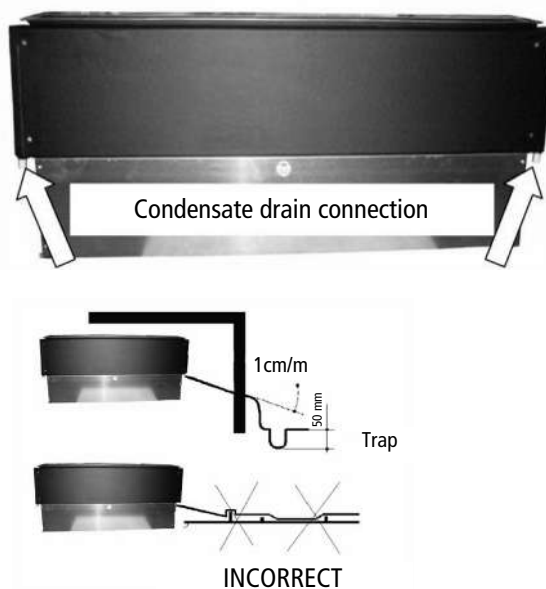


Fig. 37: Correct condensation drainage

6.5.8.2 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).

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.

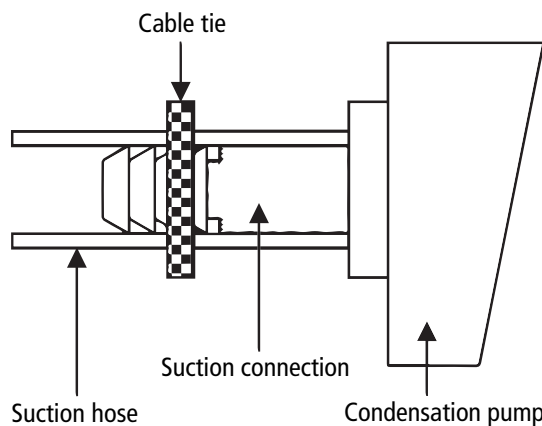


Fig. 38: Fixing the suction hose

- ▶ 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

Operating voltage [V]	120	230
Mains frequency [Hz]	60	50/60
Electrical supply [A / W]	0.29 / 15	0.17 / 16
Max. delivery volume 0 m / ft per hour [l / US gal]	12 / 3.2	12 / 3.2
Max. delivery height [m / ft]	10 / 33	10 / 33
Noise level at a distance of 1 m / 3.3 ft	25	21
Operating mode	S1: Continuous operation	S1: Continuous operation
Protection class	II	II
Maximum output [kW / Btu/h]	9 / 30000	9 / 30000
Max. water temperature [°C / °F]	40 / 104	40 / 104
Inner diameter of drain hose [mm / "]	6 / 1/4	6 / 1/4
Suction height [m / ft]	1 / 3.3	1 / 3.3

Tab. 7: Technical data for condensate pump

- ▶ Potential-free alarm contacts, 3 A, normally closing, sound power for inductive loads 5 A at 230 V
- ▶ Hall effect semiconductor-based level sensors, excellent safety
- ▶ Integrated thermal cut-out
- ▶ Fully sealed
- ▶ Fuse 1 A (by others)

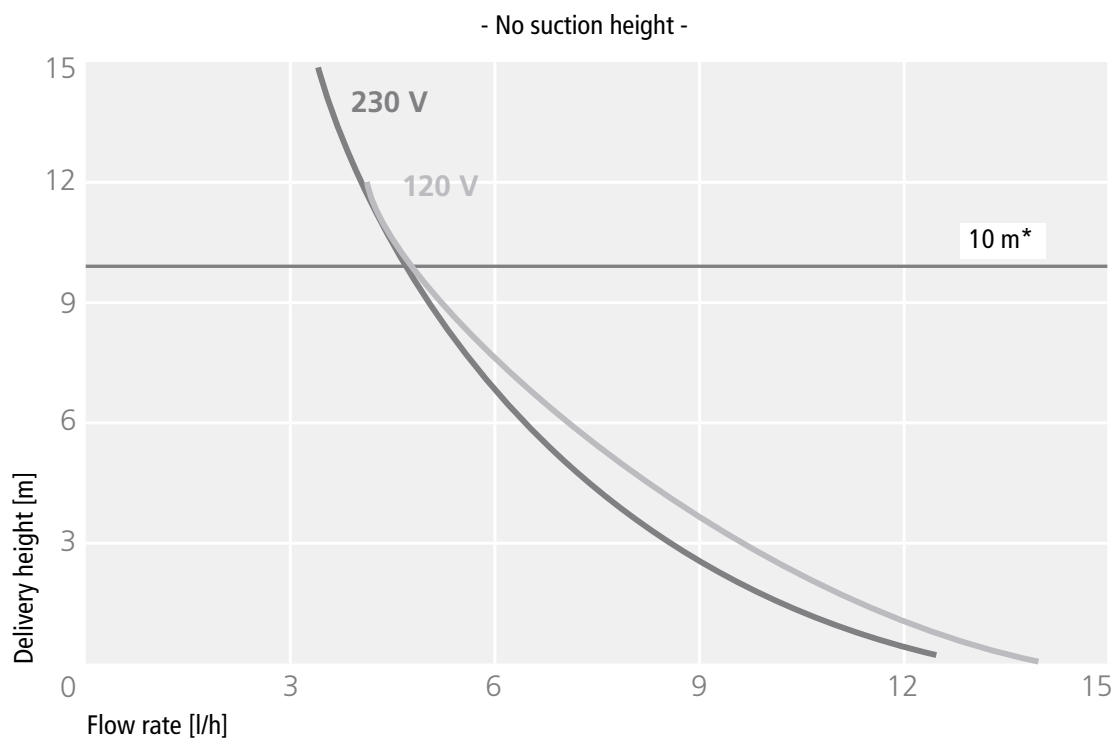


Fig. 39: Characteristic curves of the condensate pump

* Maximum recommended operating delivery height

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 AC, electromechanical model (*00M / *01M)

Model	Number of fans	Nominal voltage	Mains frequency	Nominal power	Nominal current	Protection rating	Protection class
61	1x Single	230 V~	50 Hz	62 W	0.27 A	IP21	I
63	1x Tandem	230 V~	50 Hz	68 W	0.34 A	IP21	I
66	1x Single, 1x Tandem	230 V~	50 Hz	129 W	0.59 A	IP21	I
67	2x Tandem	230 V~	50 Hz	145 W	0.71 A	IP21	I

Tab. 8: Maximum electrical rating values for Venkon AC

Venkon EC, electromechanical model (*00M / *01M)

Model	Number of fans	Nominal voltage	Mains frequency	Nominal power	Nominal current	Leakage current	Ri analogue input	Protection rating	Protection class
61	1x Single	230 V AC	50 Hz	45 W	0.39 A	< 3.5	100 kΩ	IP21	I
63	1x Tandem	230 V AC	50 Hz	51 W	0.44 A	< 3.5	100 kΩ	IP21	I
66	1x Single, 1x Tandem	230 V AC	50 Hz	95 W	0.84 A	< 3.5	50 kΩ	IP21	I
67	2x Tandem	230 V AC	50 Hz	102 W	0.89 A	< 3.5	50 kΩ	IP21	I

Tab. 9: Maximum electrical rating values for Venkon EC

Venkon EC, KaControl model (*C1M / *C1E)

Model	Number of fans	Nominal voltage	Mains frequency	Nominal power	Nominal current	Leakage current	Ri analogue inputs	Protection rating	Protection class
61	1x Single	230 V AC	50 Hz	48 W	0.42 A	< 3.5	20 kΩ	IP21	I
63	1x Tandem	230 V AC	50 Hz	54 W	0.47 A	< 3.5	20 kΩ	IP21	I
66	1x Single, 1x Tandem	230 V AC	50 Hz	98 W	0.87 A	< 3.5	20 kΩ	IP21	I
67	2x Tandem	230 V AC	50 Hz	105 W	0.92 A	< 3.5	20 kΩ	IP21	I

Tab. 10: Maximum electrical rating values for Venkon EC, KaControl

Venkon

Assembly, installation and operating instructions

7.2 Electromechanical control, Venkon AC

7.2.1 Connection (*00M or 01M), Venkon AC

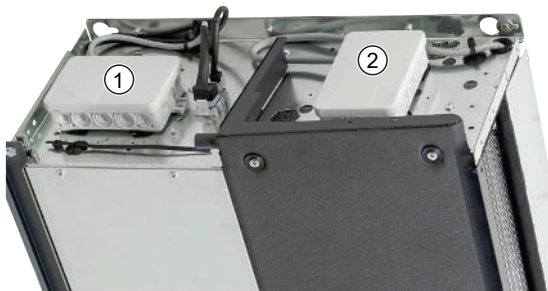


Fig. 40: Position of junction boxes, electromechanical control


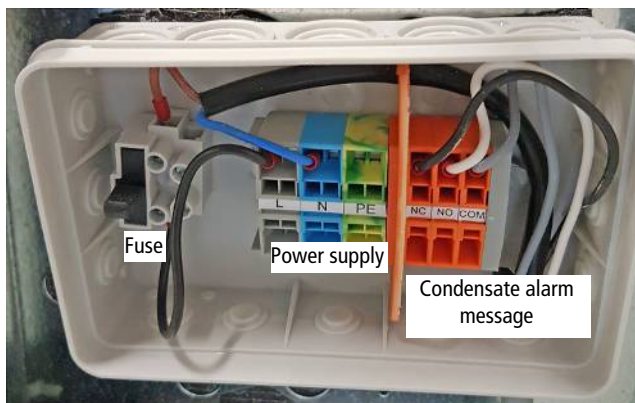
1	Electromechanical control	2	Condensation monitor
		<p>The junction box for electromechanical control (AC and EC) as well as the junction box for the condensation monitor can be electrically installed separately from the side panel of the basic unit by Velcro fitting. Simply remove the plastic lid to open the junction box.</p>	

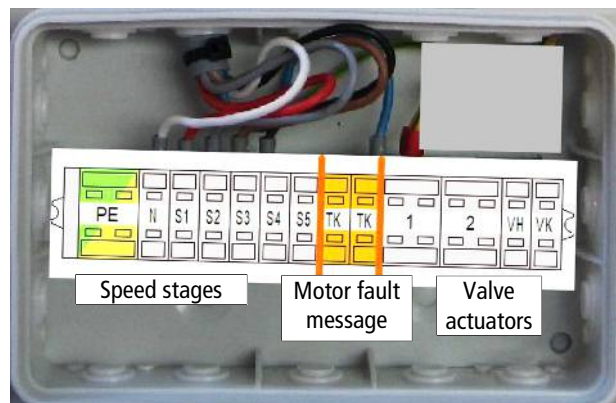
Fig. 41: Remove junction box from the Velcro strip

Description of wiring

- ▶ Factory-fitted actuators are wired to the terminal. If no valve actuators are factory-fitted, support terminals are available for on-site valve actuators.
- ▶ The AC fans used can be controlled between 5 stages via switched voltage terminals 230 V~, 50 Hz.
- ▶ **Control version *00M:** The built-in thermal contact automatically switches off the fan when it heats up impermissibly and switches it on when it cools down again.
- ▶ **Control version *01M:** The built-in thermal contact is wired to terminals. It needs to be evaluated by the external control. When the thermal contact is triggered, the fan needs to be de-energised.



Junction box for condensation monitor



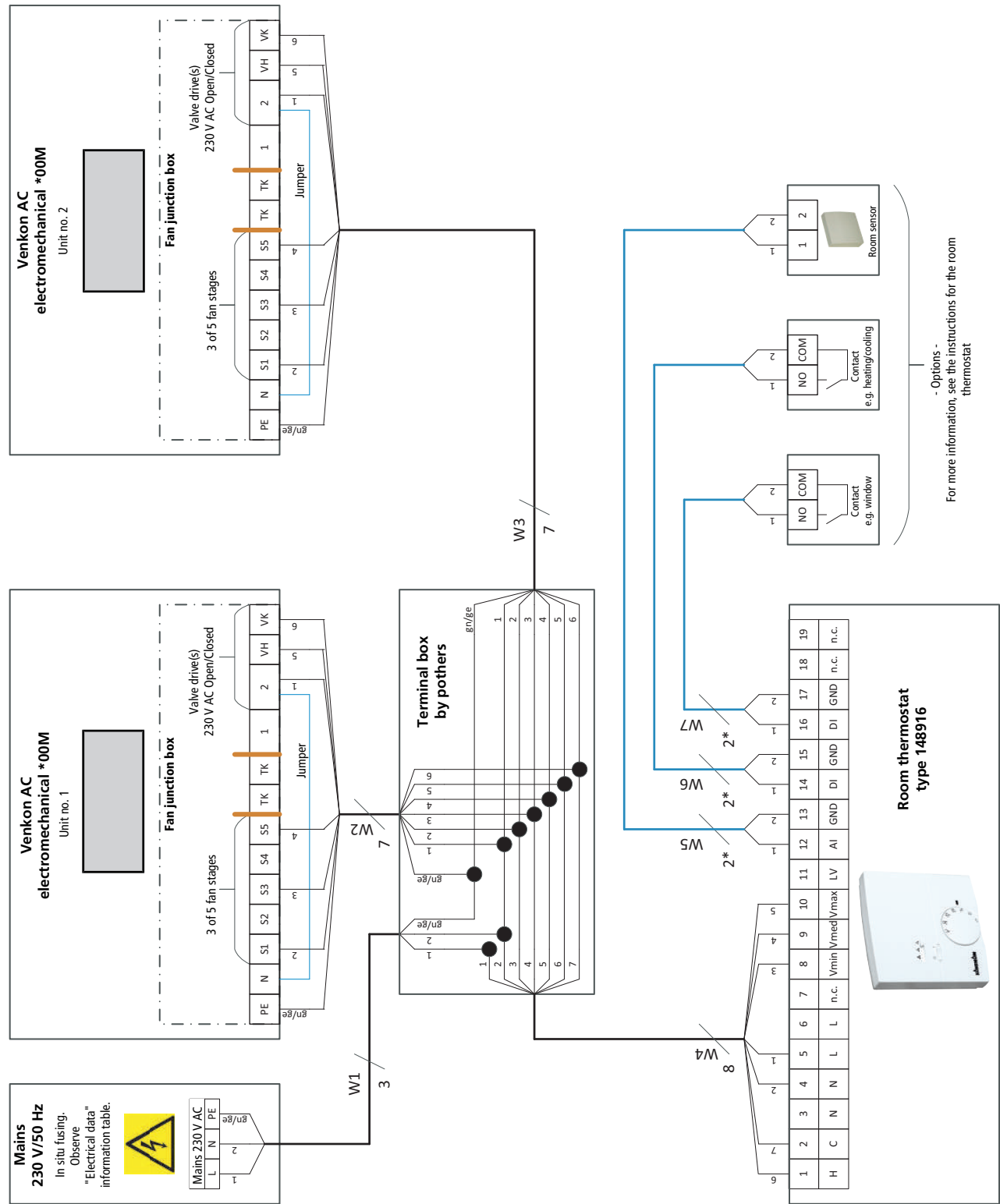
Junction box for Venkon AC electromechanical

Fig. 42: Junction boxes Venkon AC

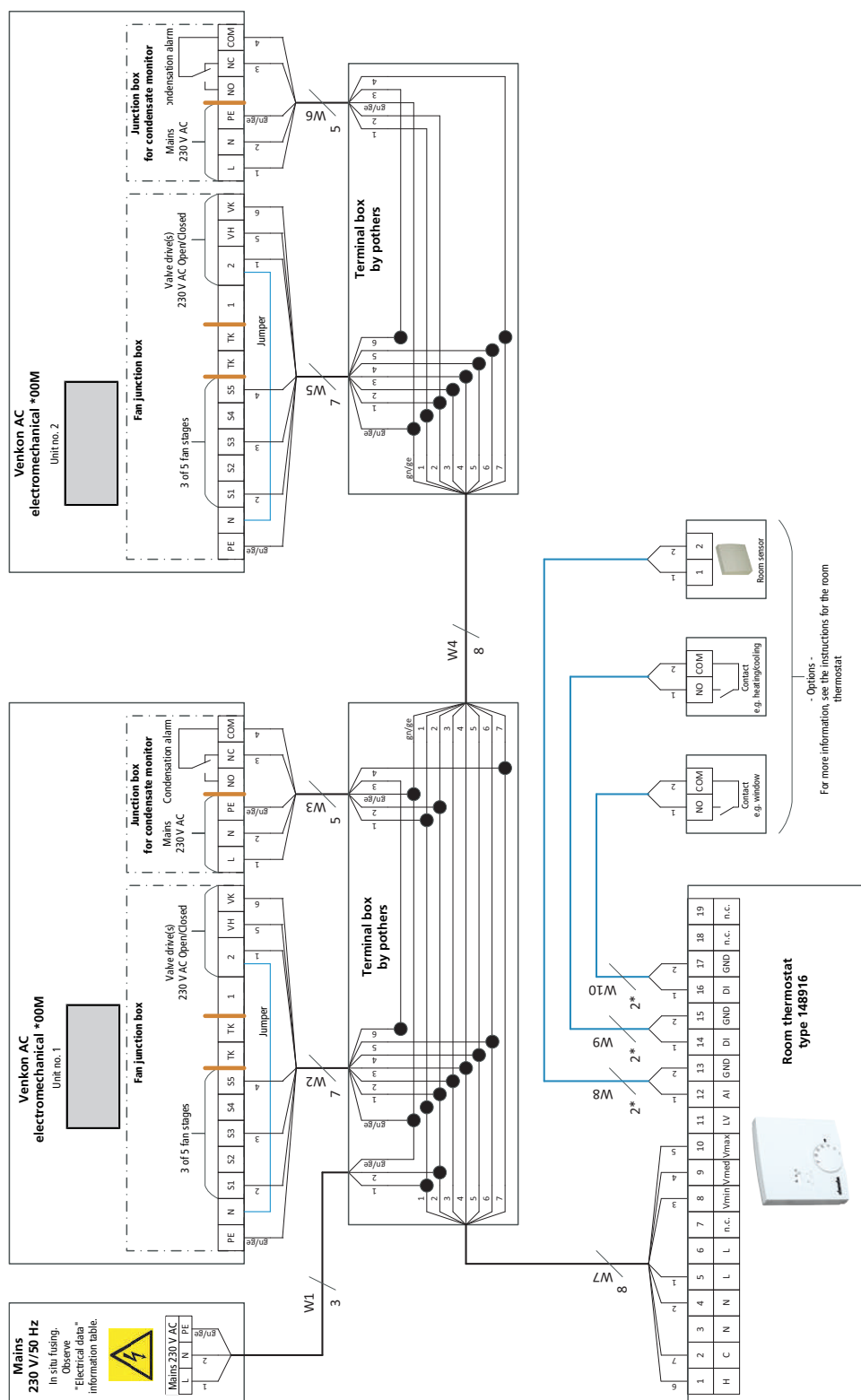
Note these points in the following wiring diagrams for Venkon AC with electromechanical control:

- ▶ Comply with the details on cable types and cabling with due consideration for VDE 0100.
- ▶ Without *: NYM-J. The requisite number of wires, including protective earth, 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 0.8mm. Lay separately from power 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.
- ▶ The electrical data [▶ 43] need to be respected when rating the in situ mains power supply and fusing.

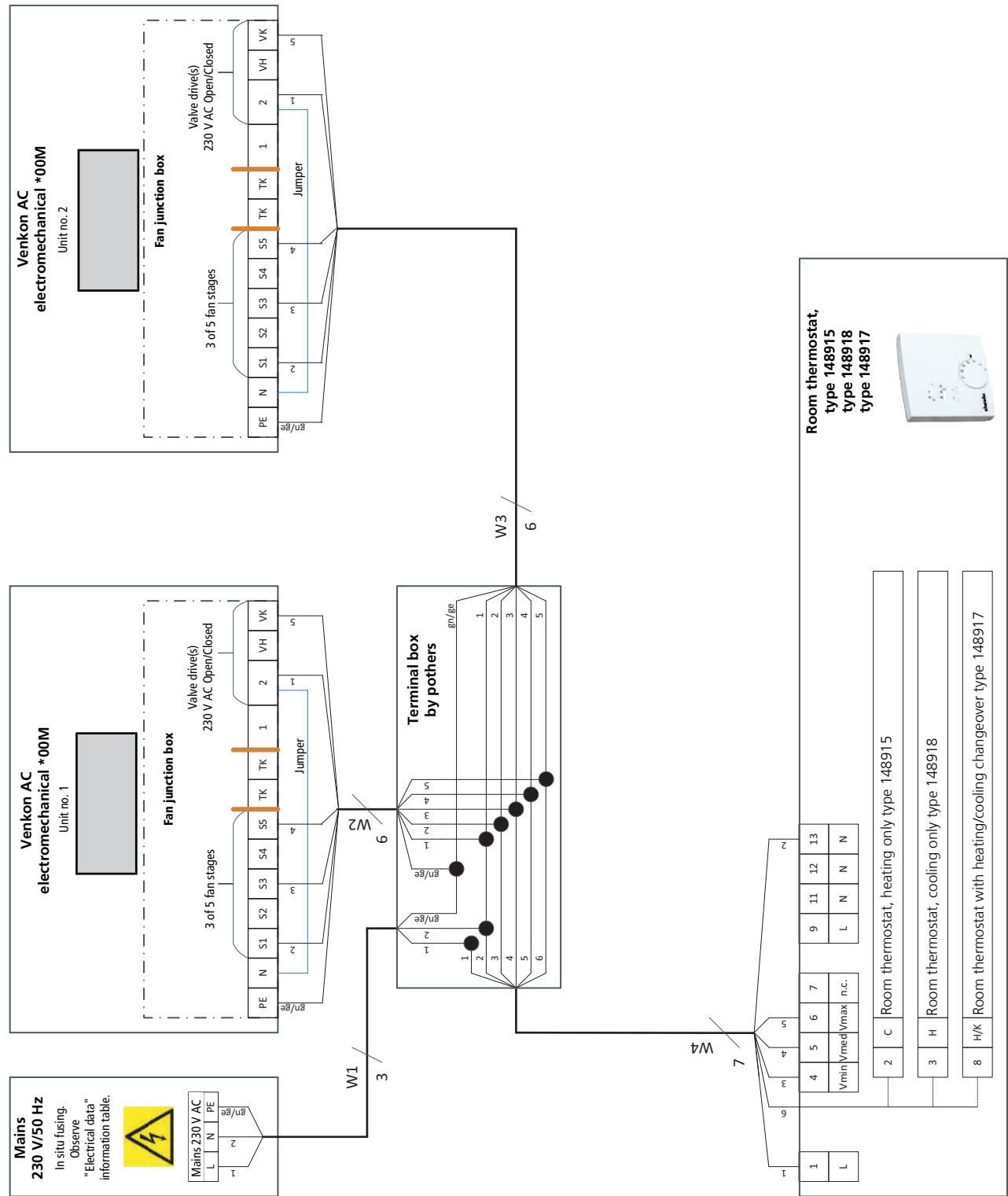
7.2.2 Cabling, Venkon AC (*A00M), control by room thermostat type 148916



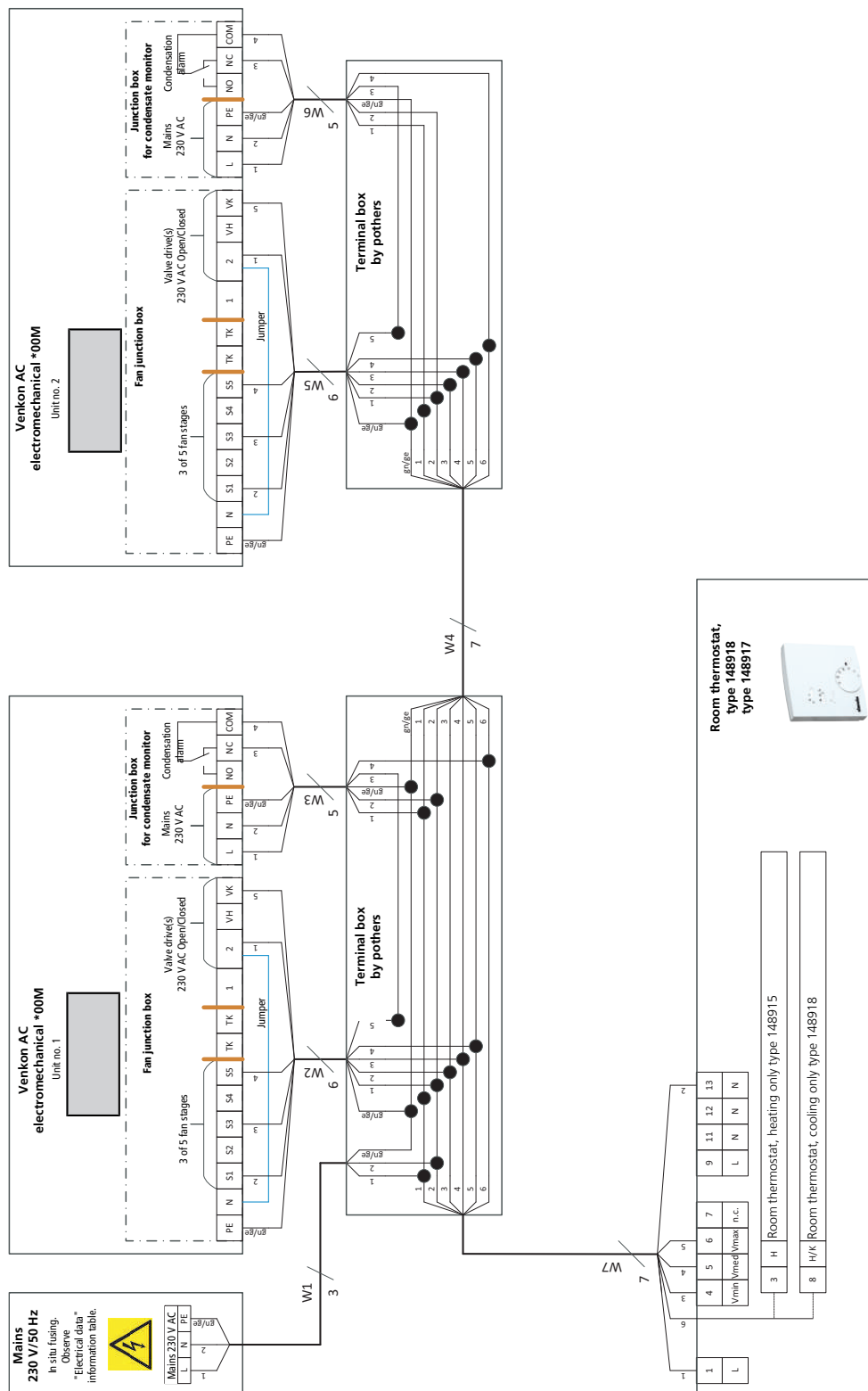
7.2.3 Cabling, Venkon AC (*A00M), control by room thermostat type 148916, with condensation monitor



7.2.4 Cabling, Venkon AC (*A00M), control by room thermostat type 148915/148918/148917



7.2.5 Cabling, Venkon AC (*A00M), control by room thermostat type 148915/148918/148917, with condensation monitor



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7.3 Electromechanical control, Venkon EC

7.3.1 Connection (*00M or 01M), Venkon EC

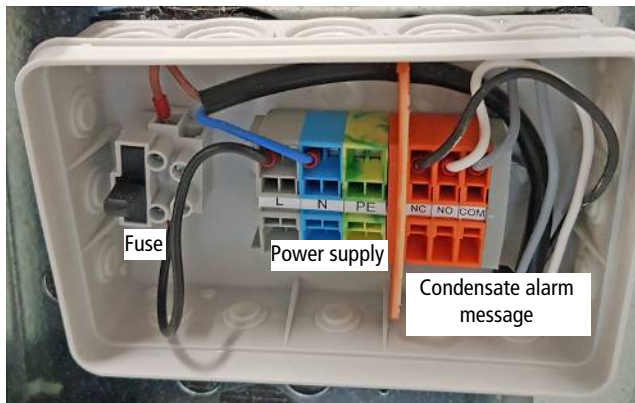


Fig. 43: Remove junction box from the Velcro strip

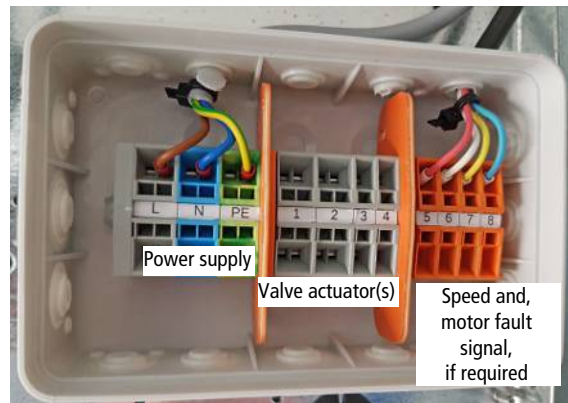
The junction box for electromechanical control (AC and EC) as well as the junction box for the condensation monitor can be electrically installed separately from the side panel of the basic unit by Velcro fitting. Simply remove the plastic lid to open the junction box.

Description of wiring

- ▶ Factory-fitted actuators are wired to the terminal. If no valve actuators are factory-fitted, support terminals are available for on-site valve actuators.
- ▶ 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.
- ▶ **Control version *01M:** A potential-free “motor fault signal” contact is also available for external evaluation.



Junction box for condensation monitor



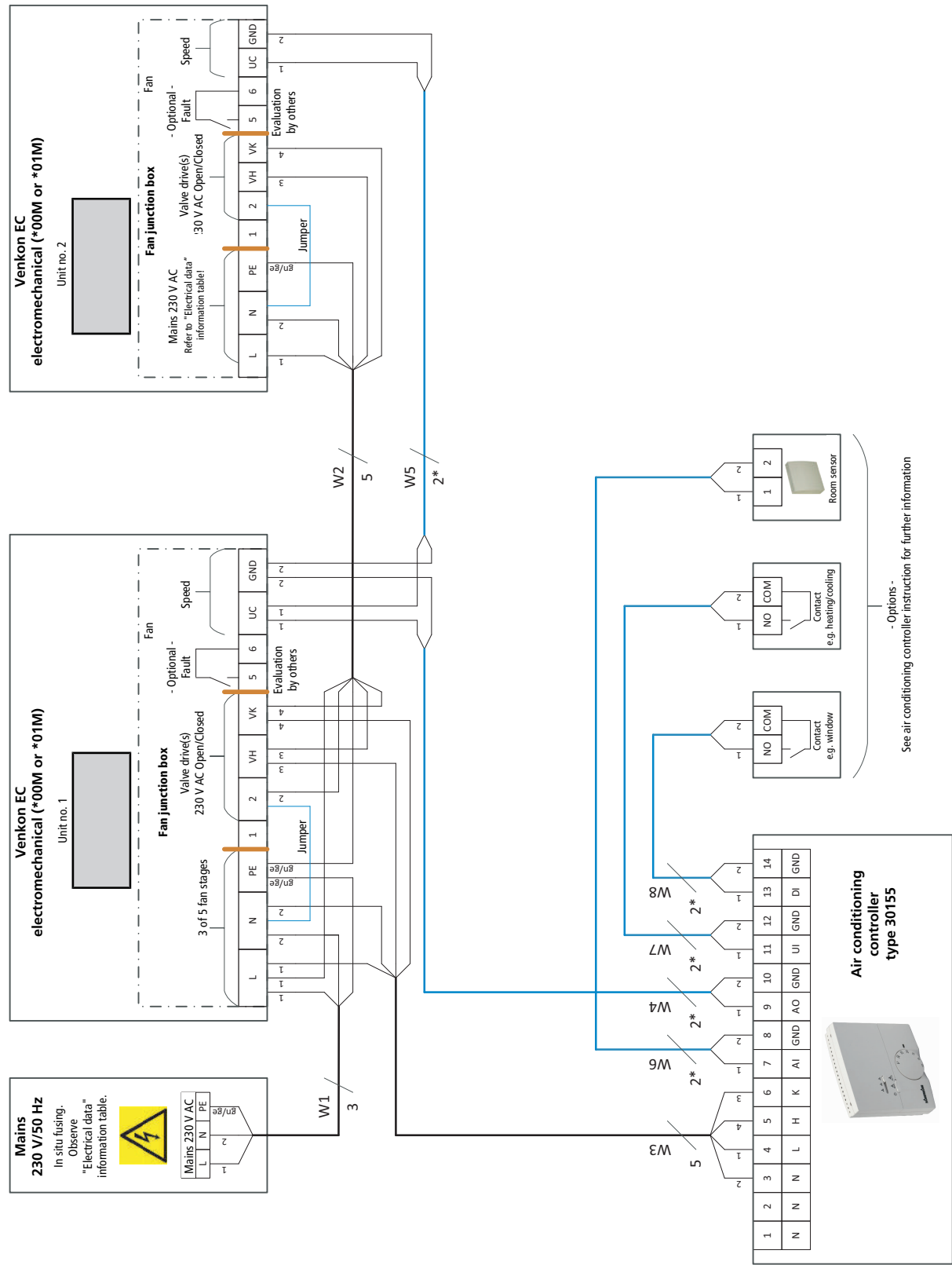
Junction box for Venkon EC electromechanical

Fig. 44: Junction boxes Venkon EC

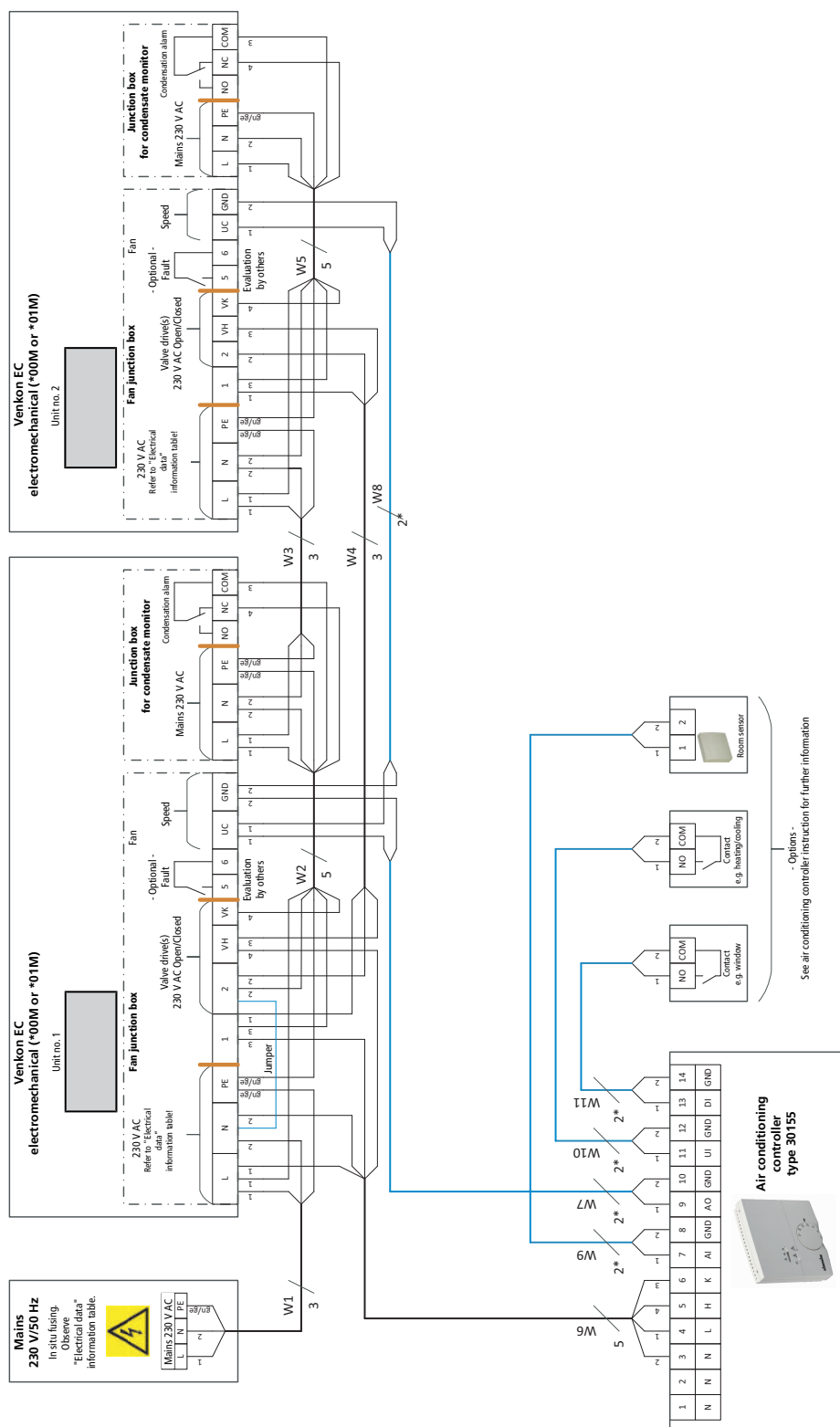
Note these points in the following wiring diagrams for Venkon EC with electromechanical control:

- ▶ Comply with the details on cable types and cabling with due consideration for VDE 0100.
- ▶ Without *: NYM-J. The requisite number of wires, including protective earth, 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 0.8mm. Lay separately from power 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.
- ▶ Only pulse and/or all-current sensitive residual current protective devices (type A or B) are permitted when using residual current protective devices. When power is applied to the unit, pulse-like capacitor load currents in the integrated EMC filter can lead to the RCCB being immediately tripped. We recommend residual current protective switches with a threshold of 300 mA and delayed triggering (super resistant, characteristic K).
- ▶ The electrical data [▶ 43] need to be respected when rating the in situ mains power supply and fusing.

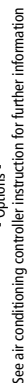
7.3.2 Cabling, Venkon EC (*00M or 01M), control by Climate Controller 30155



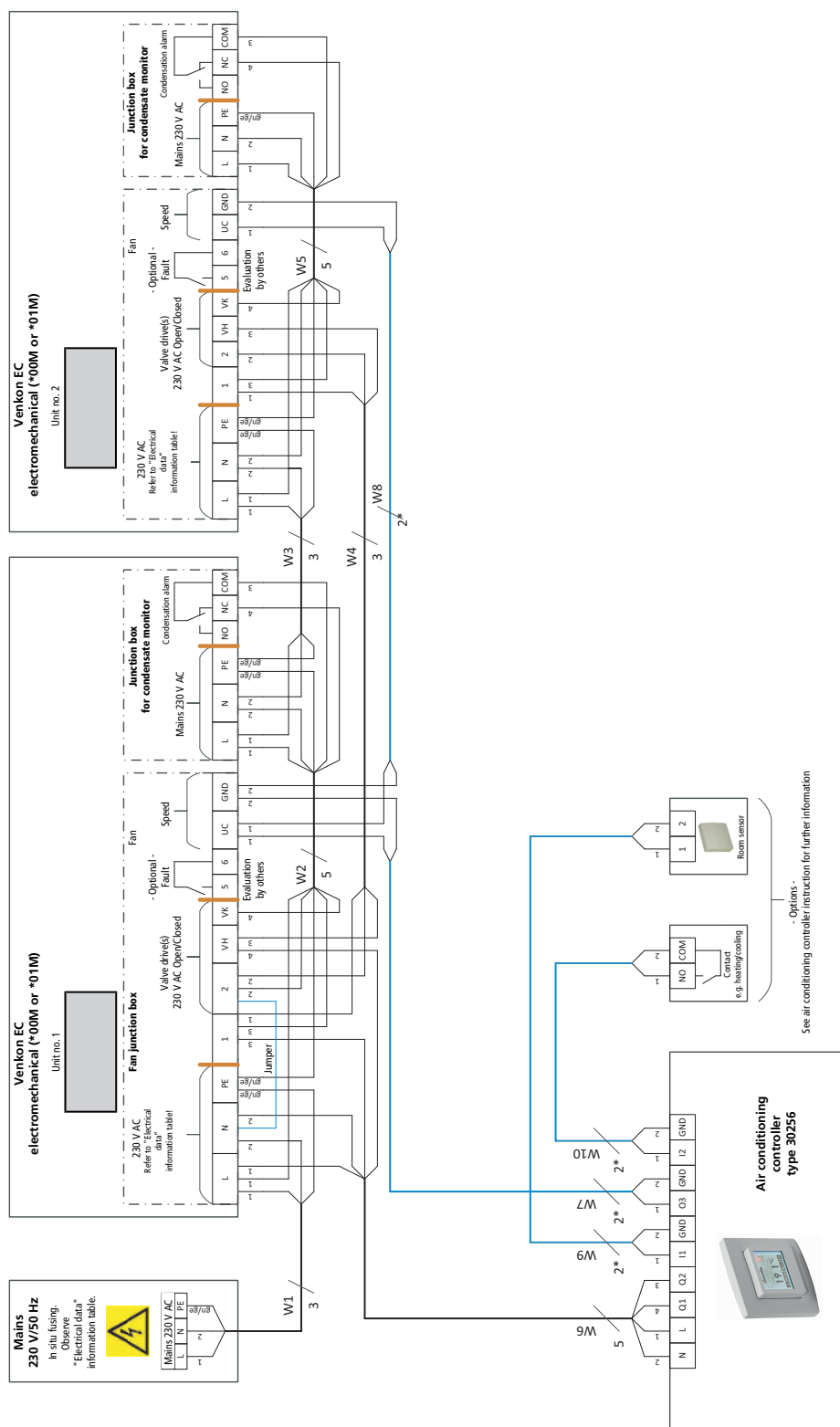
7.3.3 Cabling, Venkon EC (*00M or 01M), control by Climate Controller 30155, with condensation monitor



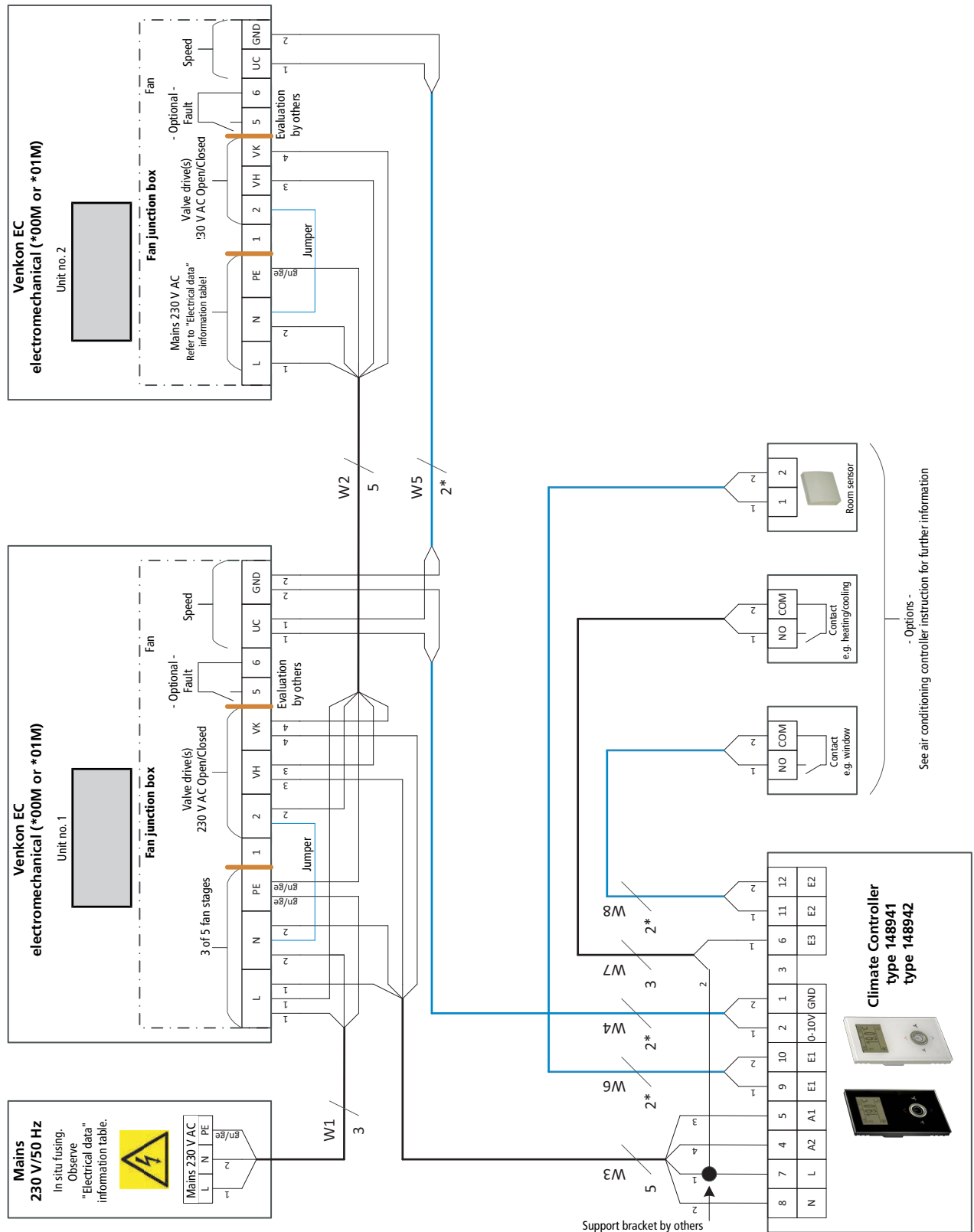
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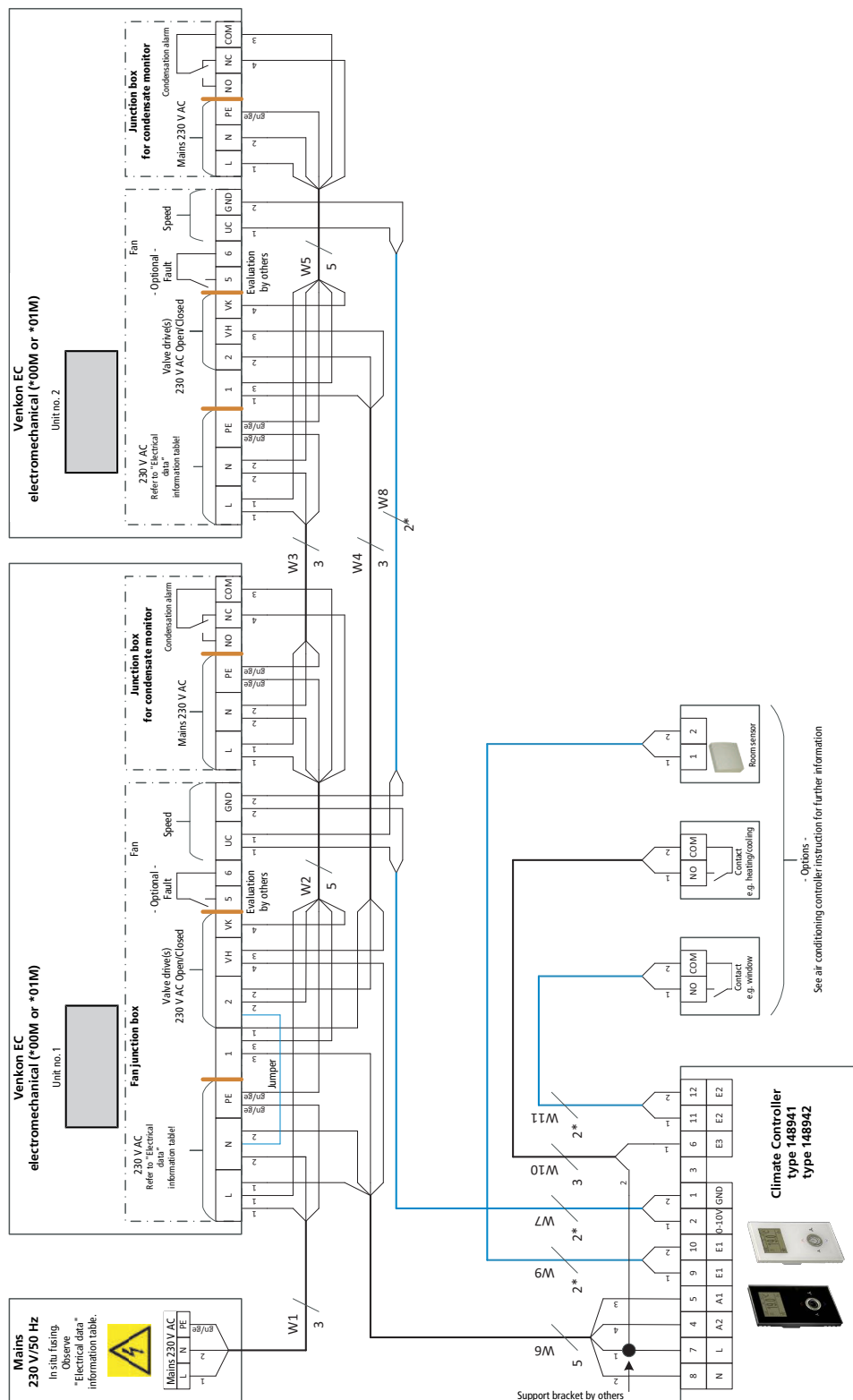
7.3.5 Cabling, Venkon EC (*00M or 01M), control by Climate Controller 30256, with condensation monitor



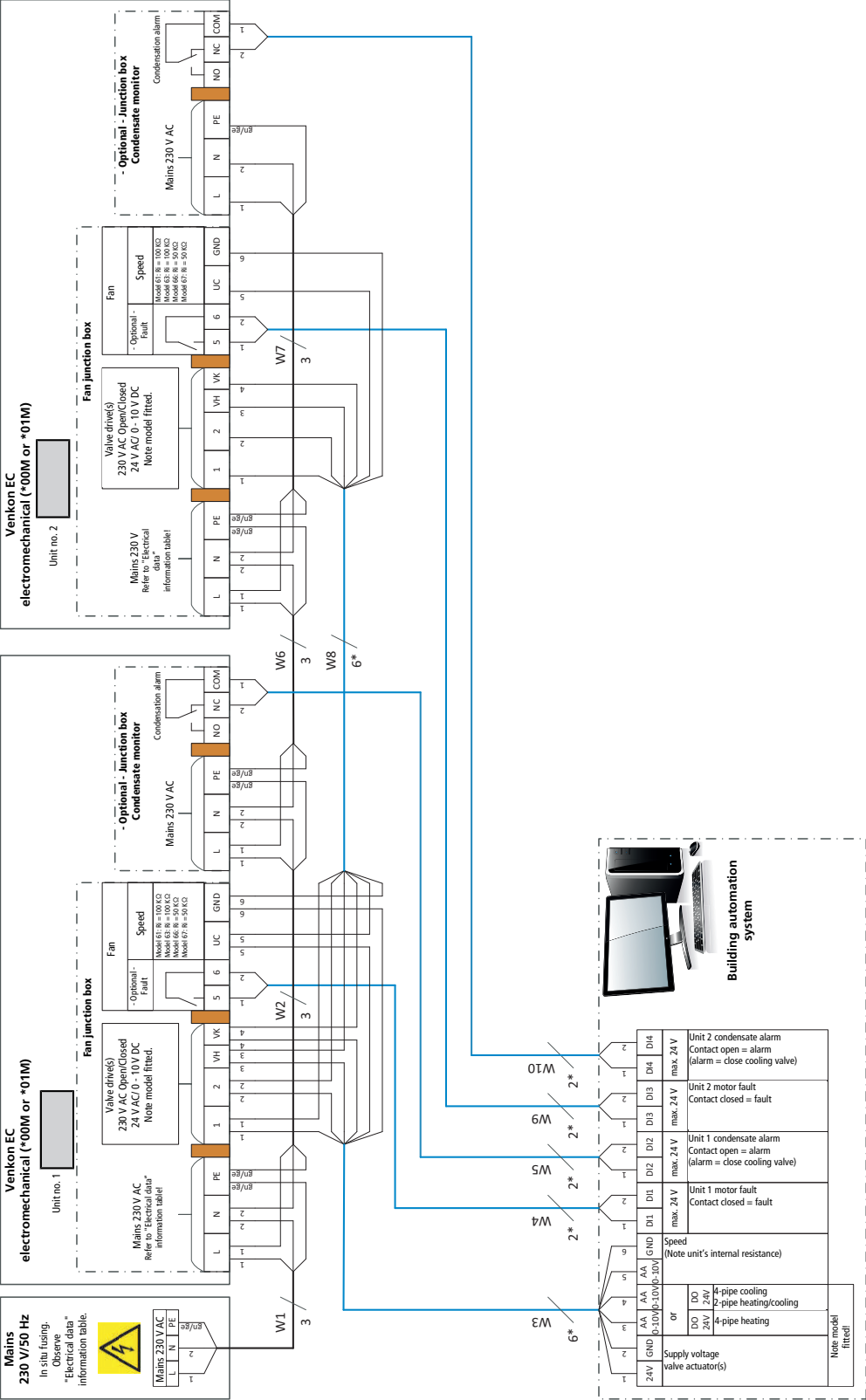
7.3.6 Cabling, Venkon EC (*00M or 01M), control by Climate Controller Type 148941/148942



7.3.7 Cabling, Venkon EC (*00M or 01M), control by Climate Controller Type 148941/148942, with condensation monitor



7.3.8 Cabling, Venkon EC (*00M or 01M), control by DDC/BMS



7.4 KaControl (*C1)

7.4.1 KaController installation

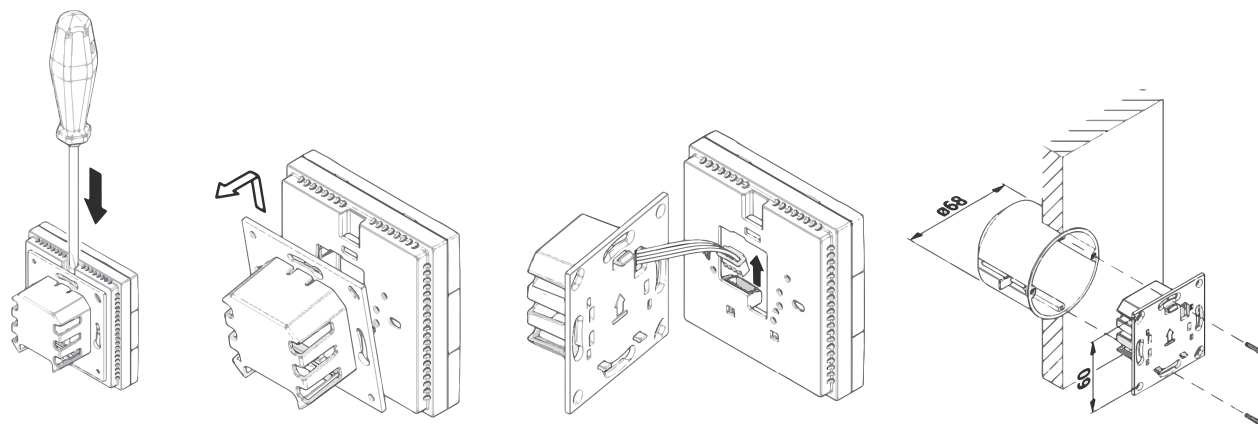


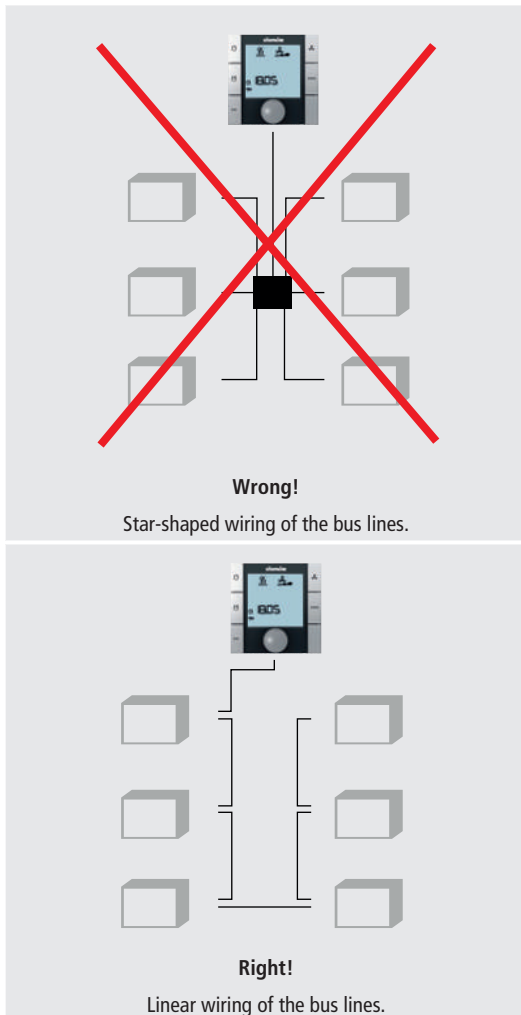
Fig. 45: Installation of flush-mounted back box

	<p>Electrical connection</p> <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.
	<p>DIP switch setting</p> <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. 46: KaController terminals

Fig. 47: DIP switch setting on KaController

7.4.2 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. 11: 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!

Description of wiring

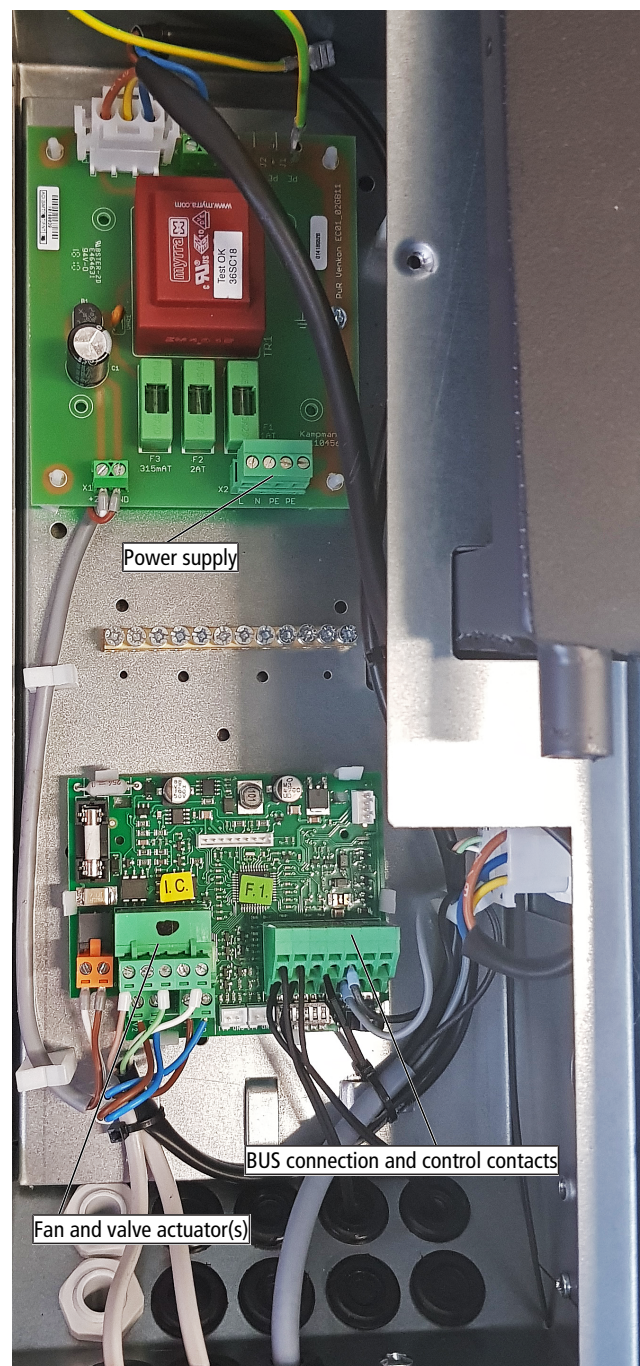
- ▶ Units configured for operation with KaControl are fully wired and fitted with all electrical parts ready for connection (with the exception of optional accessories).
- ▶ The speed of the EC fans are controlled by a 0-10 V DC signal from the KaControl. The "intelligent" motor electronics detects any possible motor fault and automatically switches off the fan.



Open control box C1 and remove cover.



Fig. 48: KaControl connection box



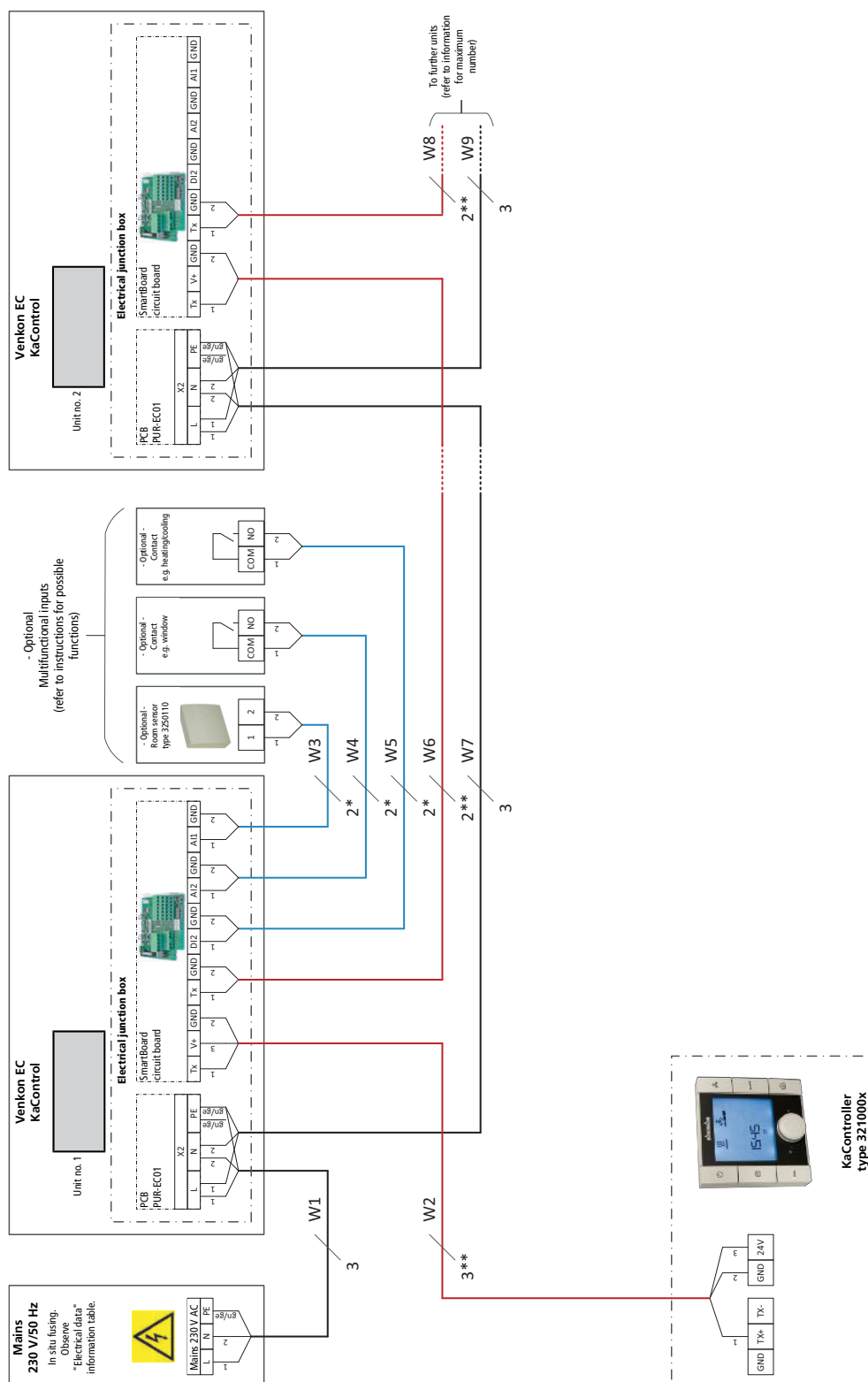
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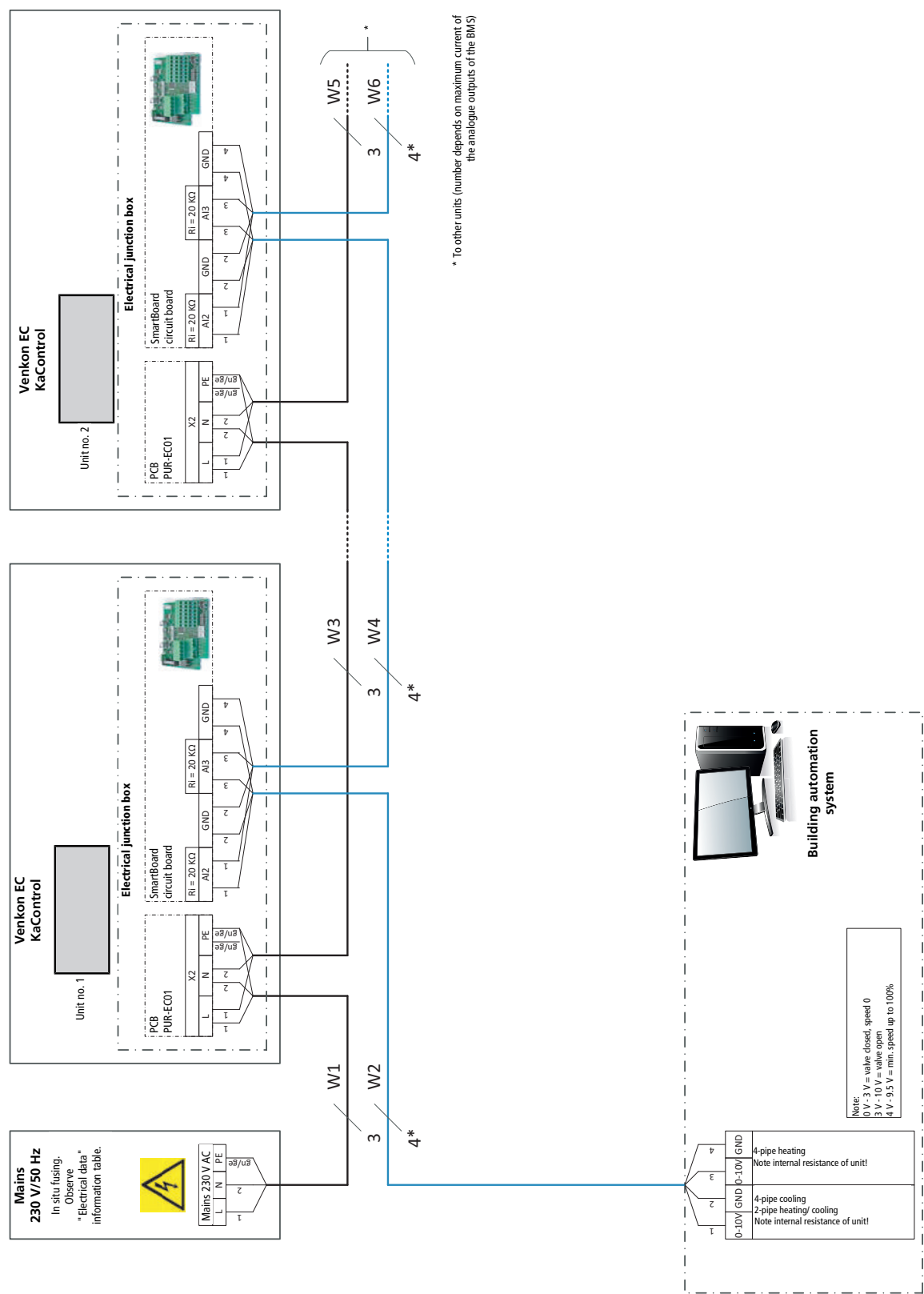
Note these points in the following wiring diagrams for Venkon EC with KaControl:

- ▶ Comply with the details on cable types and cabling with due consideration for VDE 0100.
- ▶ Without *: NYM-J. The requisite number of wires, including protective earth, 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 0.8mm. Lay separately from power lines.
- ▶ With **: Lay UNITRONIC BUS LD 0.22 mm² or similar separately from high-voltage cables.
- ▶ If other types of cables are used, they must be at least equivalent.
- ▶ Length of BUS cable from the KaController to unit 1: max. 30 m.
- ▶ Maximum number of parallel units: 6 units. CANbus cards type 3260301 needed for each unit (see accessories) maximum 30 no.
- ▶ Length of BUS cable from unit 1 to the last unit max. 30 m. The cable length can be increased to 300 m using CANBUS 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.
- ▶ Only pulse and/or all-current sensitive residual current protective devices (type A or B) are permitted when using residual current protective devices. When power is applied to the unit, pulse-like capacitor load currents in the integrated EMC filter can lead to the RCCB being immediately tripped. We recommend residual current protective switches with a threshold of 300 mA and delayed triggering (super resistant, characteristic K).
- ▶ The electrical data [▶ 43] need to be respected when rating the in situ mains power supply and fusing.

7.4.3 Cabling, Venkon EC, KaControl (*C1*), control by KaController



7.4.4 Cabling, Venkon EC, 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

- ▶ Remove air outlet protection from the outlet air area.
- ▶ Remove protective film from the intake area.
- ▶ 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 air ducts are mechanically fixed in place.
- ▶ 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 whether the fault signal contacts of the EC fans have been correctly connected (break contacts in series with multiple units).
- ▶ 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.

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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.

Once all checks have been completed, initial commissioning can be carried out in line with Chapter 9 "Operation" [▶ 67].

9 Operation

9.1 Operation of electromechanical control

Controls, Venkon AC



Fig. 49: Room thermostat, type 196000148915/
196000148918/ 196000148917

Room thermostat, type 196000148915/ 196000148918/ 196000148917

Electronic room thermostat with 3-stage switch for 2-pipe applications, surface-mounted wall mounting on a flush-mounted box in visually unobtrusive design. Parallel operation of 2 units is possible.

- ▶ type 148915 (heating only)
- ▶ type 148918 (cooling only)
- ▶ type 148917 (heating/cooling changeover)



Fig. 50: Room thermostat type 196000148916

Room thermostat type 196000148916

- ▶ Electronic room thermostat with 3-stage switch for 2- and 4-pipe applications, surface-mounted wall mounting on a flush-mounted box in visually unobtrusive design
- ▶ Option for external room sensor
- ▶ Control input for heating/cooling changeover with 2-pipe applications
- ▶ Digital input can be set to Comfort/ECO or ON/OFF switchover
- ▶ Parallel operation of 2 units is possible

Controls, Venkon EC




 <p>A white, rectangular room thermostat with a large rotary dial on the front. The dial has numbers from 15 to 25. Above the dial are three small buttons labeled 'MAN', 'AUTO', and a power symbol. The top of the device has several screw holes for wall mounting.</p>	<p>Room thermostat, type 30155</p> <ul style="list-style-type: none"> ▶ Electronic room thermostat with 3-stage automatic function for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box in visually unobtrusive design ▶ simple operation using a large rotary dial for temperature setting with mechanical range limitation of the temperature setpoint, operating mode selector switch, Standby, Manual fan, Automatic fan, 3-stage switch for pre-selecting the fan speed when the operating mode selector switch is in the "Manual fan" position ▶ option for external room sensor connection ▶ control input for heating/cooling changeover with 2-pipe applications ▶ digital input can be set to Comfort/ECO or ON/OFF switchover
 <p>A square, white clock thermostat with a color LCD display. The display shows 'KAMPMANN komfort', a target temperature of '28.0°C', and a current temperature of '19.1°C'. At the bottom, it shows 'Mode Menu' and a battery level icon.</p>	<p>Clock thermostat 230 V, type 30256</p> <ul style="list-style-type: none"> ▶ Electronic clock thermostat for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box in visually unobtrusive design ▶ Operation using 4 sensor keys ▶ Timer with automatic summer/winter changeover ▶ Option for external room sensor ▶ Control input for heating/cooling changeover with 2-pipe applications ▶ Digital input can be set to Comfort/ECO or ON/OFF switchover ▶ Parallel operation of 2 units is possible
 <p>A square, white clock thermostat with a color LCD display, identical to the 30256 model. It shows 'KAMPMANN komfort', a target temperature of '28.0°C', and a current temperature of '19.1°C'.</p>	<p>Clock thermostat 24 V, type 30456</p> <ul style="list-style-type: none"> ▶ Electronic clock thermostat for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box in visually unobtrusive design ▶ operation using 4 sensor keys ▶ timer with automatic summer/winter switch-over ▶ option for external room sensor connection ▶ control input for heating/cooling changeover with 2-pipe applications ▶ digital input can be set to Comfort/ECO or ON/OFF switchover ▶ parallel operation of 5 units is possible

Fig. 51: Room thermostat, type 30155

Fig. 52: Clock thermostat type 30256

Fig. 53: Clock thermostat, type 30456



Fig. 54: Climate controller type 196000148941

Climate controller, white, type 196000148941

- ▶ for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box with a visually unobtrusive design with 2.5" LCD display and high-quality glass finish with capacitive keys
- ▶ automatic LED backlight
- ▶ parametrisable language: German or English
- ▶ timer program with 3 time channels, each with 4 switch-over points
- ▶ option to connect an external room sensor
- ▶ 3 control inputs (functions parametrisable, e.g. window contact, presence detector, heating/cooling switchover)



Fig. 55: Climate controller type 196000148942

Climate controller, black, type 196000148942

- ▶ for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box with a visually unobtrusive design with 2.5" LCD display and high-quality glass finish with capacitive keys
- ▶ automatic LED backlight
- ▶ parametrisable language: German or English
- ▶ timer program with 3 time channels, each with 4 switch-over points
- ▶ option to connect an external room sensor
- ▶ 3 control inputs (functions parametrisable, e.g. window contact, presence detector, heating/cooling switchover)



Fig. 56: Climate controller type 196000148943

Climate controller, white, type 196000148943

- ▶ with Modbus interface
- ▶ for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box with a visually unobtrusive design with 2.5" LCD display and high-quality glass finish with capacitive keys
- ▶ automatic LED backlight
- ▶ parametrisable language: German or English
- ▶ timer program with 3 time channels, each with 4 switch-over points
- ▶ Modbus-RTU interface as a slave device
- ▶ option to connect an external room sensor
- ▶ 2 control inputs (functions parametrisable, e.g. window contact, presence detector, heating/cooling switchover)



Fig. 57: Climate controller type 196000148944

Climate controller, black, type 196000148944

- ▶ with Modbus interface
- ▶ for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box with a visually unobtrusive design with 2.5" LCD display and high-quality glass finish with capacitive keys
- ▶ automatic LED backlight
- ▶ parametrisable language: German or English
- ▶ timer program with 3 time channels, each with 4 switch-over points
- ▶ Modbus-RTU interface as a slave device
- ▶ option to connect an external room sensor
- ▶ 2 control inputs (functions parametrisable, e.g. window contact, presence detector, heating/cooling switchover)

9.2 Operation of the KaController

The following information is limited to the key content on the operation of the KaController and KaControl system. More information is included separately in the KaControl SmartBoard user manual.

9.2.1 Function keys, display elements

All menus can be selected and set using the navigator dial.

The LED background lighting is automatically switched off 5 seconds after the KaController is last used. The LED background lighting can be permanently disabled using a parameter setting.

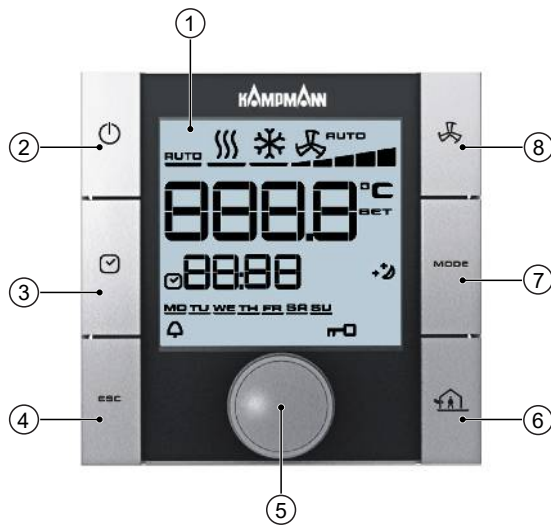


Fig. 58: KaController with function keys, type 3210002

1	Display with LED background lighting	2	ON/OFF key (depending on setting) ► ON/OFF ► Eco mode/Day mode (factory setting)
3	TIMER button ► Set time ► Set timer programs	4	ESC button ► back to standard view
5	Navigator dial ► Change settings ► Call up menus	6	House symbol ► External ventilation
7	MODE button ► Set operating modes (disabled with 2-pipe applications)	8	FAN button ► Set fan control

<p>Fig. 59: KaController type 3210001</p>	<p>KaController without operating keys (one-button operation) type 3210001</p> <ol style="list-style-type: none"> Display with LED background lighting Navigator dial <ul style="list-style-type: none"> ► Change settings ► Call up menus
<p>Fig. 60: KaController black, type 3210006</p>	<p>KaController, black without function keys (one-button operation) type 3210006</p> <ol style="list-style-type: none"> Display with LED background lighting Navigator dial <ul style="list-style-type: none"> ► Change settings ► Call up menus

The symbols shown on the display depend on the application (2-pipe, 4-pipe etc.) and the parameters set.

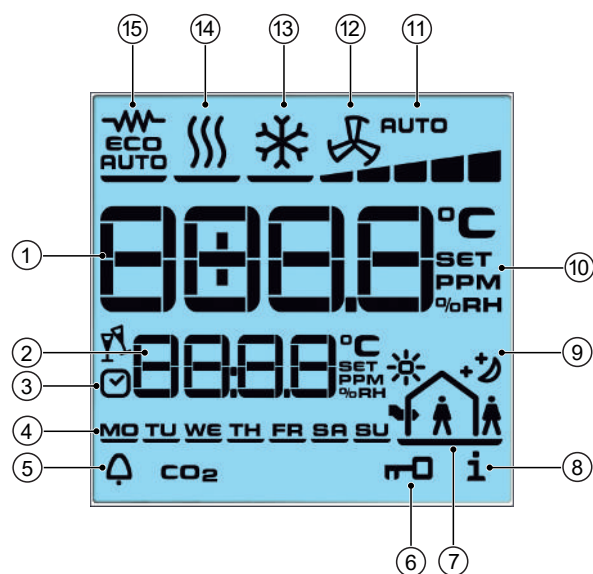


Fig. 61: Display

1	Display of setpoint room temperature	2	Current time
3	Timer program enabled	4	Weekday
5	Alarm	6	Selected function is locked
7	"External ventilation" mode is locked	8	Filter alert
9	Eco mode	10	Setpoint setting enabled
11	Fan control setting Auto-0-1-2-3-4-5	12	Ventilation mode
13	Cooling mode	14	Heating mode
15	Automatic Heating/Cooling changeover mode		

10 Maintenance

10.1 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.

10.2 Maintenance Schedule:




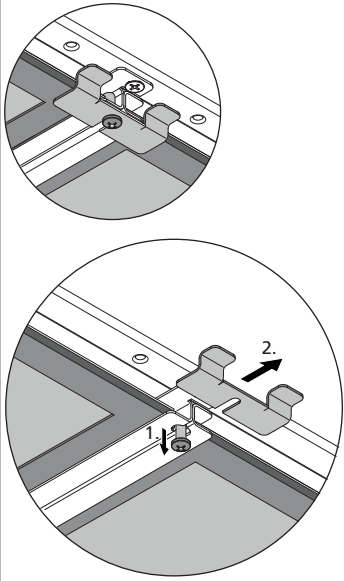
The sections below describe maintenance work needed for the proper and trouble-free operation of the equipment.

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

10.3 Maintenance work

10.3.1 Replacing the filter.

	<p>CAUTION!</p> <p>Risk of injury from sharp metal housing!</p> <p>The inner metal of the casing can have sharp edges.</p> <p>► Wear suitable protective gloves.</p>
	<p>Turn latches (left and right) downwards using a flat-blade screwdriver.</p> <p>Note: With units with casing with air inlet grille, the grille needs to be dismantled before changing the filter (Installation of casing [► 000]).</p>
	<p>Remove the filter.</p>
	<p>Two filters are used in the size 7 basic unit, which are adjusted centrally using a filter attachment. This must be removed to change the filter.</p> <ul style="list-style-type: none">► Use a screwdriver to unscrew the tapping screw until the filter fixing can be moved.► Remove the filter fixing.► Evenly pull the filter out of the filter rails.► Refit the filter fixing once the filter has been replaced.

10.3.2 Visual checks

Check heat exchanger for dirt and carefully vacuum if necessary. Avoid damage to the pipes and fins.

Remove the casing prior to visual inspections!

Remove the casing before all visual inspections and maintenance work to access the basic unit.

With units with casing with air inlet grille, the grille needs to be dismantled before changing the filter. Then proceed as follows:



Fig. 65: Loosening screws

Undo 2 screws and remove the air outlet grille.



Fig. 66: Remove the screws

Remove 2 screws in casing.



Fig. 67: Lift the casing tabs from the basic unit

Raise the casing to remove the tabs from the basic unit.

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Fig. 68: Lowering the casing

Lower the casing and pull it so that the mounting brackets come out of the pivot bolt.

10.3.3 Cleaning the main condensation tray



Fig. 69: Dismantling the main condensation tray (ceiling model)

Remove 4 screws.



IMPORTANT NOTE!

Re-use rubber washers.

When screwing on the main condensation tray, it is essential that you use the rubber washers to guarantee a good seal.



Fig. 70: Removing the main condensation tray (ceiling)

Remove the main condensation tray downwards and forwards.



Fig. 71: Removing the main condensation tray (wall)

Remove 4 screws.



IMPORTANT NOTE!

Re-use rubber washers.

When screwing on the main condensation tray, it is essential that you use the rubber washers to guarantee a good seal.



Fig. 72: Removing the main condensation tray

Remove the main condensation tray horizontally.

10.3.4 Cleaning the valve condensation tray



Fig. 73: Dismantle the valve condensation tray (ceiling model)

Dismantle and clean the valve condensation tray.

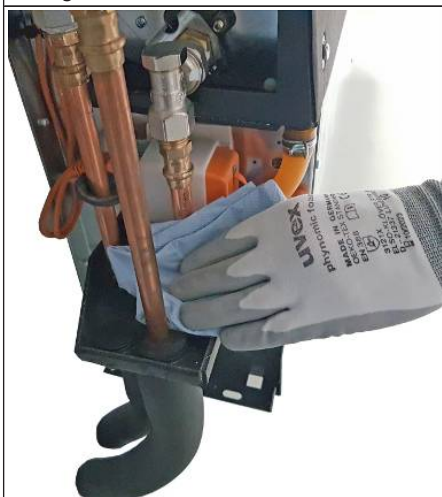


Fig. 74: Valve condensation tray (wall model)

Clean the valve condensation tray.

10.3.5 Cleaning the float switch

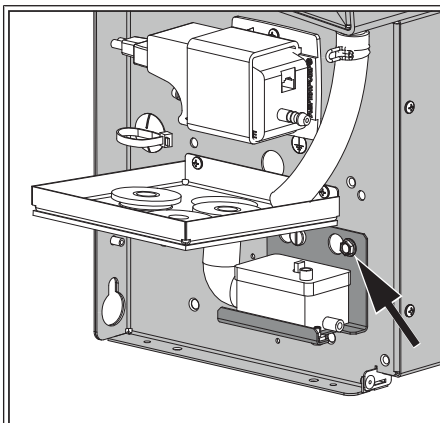


Fig. 75: Dismantling the float switch

Loosen the screw on the retaining plate and remove the retaining plate with the float switch fitted. Carefully remove the black hose bend from the underside of the valve condensation tray.



Fig. 76: Clean the float switch.

Remove the cover and clean the open float switch.

After cleaning, make sure that the float switch is water-tight when you assemble it!

10.3.6 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.

11 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 [► 79] provides information on who is authorised to rectify and remedy faults.

11.1 Fault table

Fault	Possible cause	Remedy
No function.	No power supply.	Check voltage, switch on repair switch. Replace fuse.
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.
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.

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Fault	Possible cause	Remedy
	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.

11.2 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. 12: 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. 13: KaController alarms



IMPORTANT NOTE!

Important note!

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

11.3 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.

12 List of KaControl parameters

12.1 Venkon parameter list

Parameter	Function	Standard	Min.	Max.	Unit	Venkon ¹²
P000	Software version	24	0	255	-	24
P001	Base setpoint for setpoint input $\pm 3K$	22	8	32	°C	22
P002	Switching on / 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	3
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	3
P006	Fan On/Off hysteresis (only in ventilation mode)	5	0	255	K/10	5
P007	P-band, heating	20	0	100	K/10	17
P008	P-band, cooling	20	0	100	K/10	20
P009	Offset to the base setpoint for setpoint input $\pm 3K$	3	0	10	C	3
P010	Clip-on sensor: limit temperature to enable fan stages 1 and 2 in heating mode	26	0	255	°C	26
P011	Clip-on sensor: limit temperature to enable fan stages 3 and 4 in heating mode	28	0	255	°C	28
P012	Clip-on sensor: limit temperature to enable fan stage 5 in heating mode	30	0	255	°C	30
P013	Clip-on sensor: hysteresis for limit temperatures P010, P011, P012, P014	10	0	255	K/10	10
P014	Clip-on sensor: limit temperature for enabling the 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 mode	30	0	255	K/10	30
P019	Temperature decrease of heating setpoint in Eco mode	30	0	255	K/10	30
P020	ADC limit coefficient	6	0	15	-	6
P021	ADC average coefficient	6	0	15	-	6
P022	Activation/disabling of sun symbol in Comfort mode	0	0	1	-	0
P023	Difference for compensation during cooling	0	-99	127	K/10	0
P024	Coefficient for compensation during heating	0	-20	20	1/10	0
P025	Difference for compensation during heating	0	-99	127	K/10	0
P026	Coefficient for compensation during heating	0	-20	20	1/10	0
P027	Fan setting: maximum run-time for manual fan mode	0	0	255	min	0
P028	Flushing function: fan stage during the flushing function	2	1	5	-	2
P029	Activation of continuous fan mode	0	0	1	-	0
P030	Vent temperature enable	12	0	255	°C	12
P031	Vent interval	27	0	255	°C	27
P032	Flushing function: maximum idle time of fan	15	0	255	min	15
P033	Flushing function: duration of flushing function	120	0	255	s	120
P034	Flushing function: activation in operating modes	0	0	3	-	0

¹²

Parameter key Venkon SAP no. 9000816, dated 1.02.2018

Parameter	Function	Standard	Min.	Max.	Unit	Venkon ¹²
P035	Fan run-on time after operating mode is switched to stage 1	0	0	255	s	0
P036	Type of setpoint	0	0	1	-	0
P037	Display	1	0	7	-	1
P038	Lock/disable function on control unit	72	0	255	-	72
P039	Function of digital output V2 (in 2-pipe system)	0	0	3	-	0
P040	Valve actuation via 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	-	0
P043	Function of digital input DI1	0	0	22	-	5
P044	Function of digital input DI2	0	0	22	-	0
P045	Threshold voltage for potentiometer, which switches on unit	10	0	100	kOhm	10
P046	Temperature setting corresponds to minimum resistance value = 10 kOhm in the potentiometer	18	12	34	°C	18
P047	Temperature setting corresponds to maximum resistance value = 100 kOhm in the potentiometer	24	13	35	°C	24
P048	Threshold voltage for potentiometer for starting up fans	10	0	100	kOhm	10
P049	Threshold voltage for potentiometer for maximum fan speed	90	0	100	kOhm	90
P050	Fan setting: max. fan speed	100	0	100	%	100
P051	Fan setting: min. fan speed	0	0	90	%	0
P052	Fan setting: enable speed limit	0	0	1	-	0
P053	Valve activation via pulse width modulation of 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 calibration: 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 calibration: sensor in the KaController	0	-99	127	K/10	0
P062	Sensor calibration: sensor AI2	0	-99	127	K/10	0
P063	Outside temperature <P63 fan increase by P122	0	-99	127	°C	0
P064	Sensor calibration: 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 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

Parameter	Function	Standard	Min.	Max.	Unit	Venkon ¹²
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
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 DIP switch	-	0	63	-	-
P098	Activation 0..10V: switch on limit for valves	30	0	100	V/10	30
P099	Activation 0..10V: min. switch on limit for fan speed	40	0	100	V/10	40
P100	Activation 0..10V: 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 reset time of PI controller	0	0	20	min	0
P104	Minimum ON time with valve activation PWM	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 operation	0	0	20	°C	0
P111	Threshold for switching between heating/fan operation	0	0	50	°C	0
P112	reserved	-	-	-	-	-
P113	reserved	-	-	-	-	-
P114	reserved	-	-	-	-	-
P115	reserved	-	-	-	-	-
P116	reserved	-	-	-	-	-
P117	Lock function buttons on KaController	0	0	7	-	0
P118	On delay time	0	0	255	sec	0

Parameter	Function	Standard	Min.	Max.	Unit	Venkon ¹²
P119	Off delay time	0	0	255	sec	0
P120	reserved	-	-	-	-	-
P121	reserved	-	-	-	-	-
P122	Relative fan speed increase via contact	2	0	5	-	2
P123	Maximum valve running time	150	0	255	sec	150
P124	Minimum P + I output variation for valve motion (0 to 10)	5	0	100	%	5
P125	reserved	-	-	-	-	-
P126	Weeks of operation	0	0	255	week	0
P127	Info weeks of operation reached (filter message)	0	52	255	week	0
P128	Reset weeks of operation 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 for switching between heating/fan mode	0	0	255	K/10	0
P134	Threshold for outside temperature for switching between heating/fan mode	0	0	50	°C	0
P135	Enable virtual sensor	0	0	1	-	0
P136	Enable external ventilation	0	0	2	-	0

Tab. 14: Key parameters, standard revision 1.024 from 01.05.2018

12.2 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	-	

13 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

148***

Type, Model, Articles No.:

Type, Modèle, N° d'article:

Type, 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:

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DIN EN 1397

DIN EN 55014-1; -2

DIN EN 61000-3-2; -3-3

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
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**

Lingen (Ems), den 01.09.2020

Ort und Datum der Ausstellung

Place and Date of Issue
Lieu et date d'établissement
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Místo a datum vystavení

Hendrik Kampmann

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

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www.kampmanngroup.com/hvac/products/fan-coils/venkon

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

Country	Contact
Great Britain	Kampmann UK Ltd.
	Dial House, Govett Avenue
	Shepperton, Middlesex, TW17 8AG
	T +44 1932/ 228592
	F +44 1932/ 228949
	E info@kampmann.co.uk
	W Kampmann.co.uk