



KaCompact KG

► Assembly, installation and operating instructions

Keep these instructions in a safe place for future use!

Table of contents

| | |
|--|-----------|
| 1 General | 5 |
| 1.1 About these instructions | 5 |
| 1.2 Explanation of Symbols..... | 5 |
| 2 Safety..... | 6 |
| 2.1 Correct use..... | 6 |
| 2.2 Limits of operation and use..... | 6 |
| 2.3 Risk from electrocution!..... | 8 |
| 2.4 Personnel requirements - Qualifications | 9 |
| 2.5 Personal Protective Equipment | 9 |
| 3 Transport, storage and packaging..... | 10 |
| 3.1 General transport instructions | 10 |
| 3.2 Scope of delivery | 10 |
| 3.3 Storage | 11 |
| 3.4 Packaging | 11 |
| 4 Technical data..... | 12 |
| 5 Construction and function | 14 |
| 5.1 Overview..... | 14 |
| 5.2 Brief description | 14 |
| 5.3 Wear parts list..... | 14 |
| 6 Installation and wiring | 15 |
| 6.1 Defining the extract air side | 15 |
| 6.2 Requirements governing the installation site..... | 15 |
| 6.3 Minimum clearances..... | 16 |
| 6.4 Installation | 17 |
| 6.4.1 Setting up the unit..... | 17 |
| 6.4.2 Installation of the duct system | 19 |
| 6.4.3 Installation of the horizontal chiller module | 20 |
| 6.5 Installation | 20 |
| 6.5.1 Connection to the pipe network | 21 |
| 6.5.2 Overview of ball valves..... | 24 |
| 7 Electrical connection..... | 26 |
| 7.1 Maximum electrical rating values | 26 |
| 7.2 Electromechanical control | 26 |
| 7.2.1 Electromechanical connection and wiring conditions | 26 |

| | | |
|-----------|---|-----------|
| 7.3 | KaControl | 30 |
| 7.3.1 | KaControl connection and wiring conditions | 30 |
| 7.4 | KaControl MC control | 33 |
| 7.4.1 | KaControl MC connection and wiring conditions | 33 |
| 8 | Pre-commissioning checks | 36 |
| 9 | Operation | 37 |
| 9.1 | KaControl | 37 |
| 9.1.1 | Main menu | 37 |
| 9.1.2 | Ventilation overview | 37 |
| 9.1.3 | Fan control | 37 |
| 9.1.4 | Temperature control | 38 |
| 9.1.5 | Timer programs | 38 |
| 9.1.6 | Alarms and messages | 38 |
| 9.1.7 | Settings | 39 |
| 9.2 | KaControl MC | 39 |
| 9.2.1 | Main view | 39 |
| 9.2.2 | Ventilation diagram | 40 |
| 9.2.3 | Hydraulic diagram | 40 |
| 9.2.4 | Menu | 40 |
| 9.2.5 | Operating program | 41 |
| 9.2.6 | Messages and Faults | 41 |
| 9.2.7 | Events | 42 |
| 9.2.8 | KaControl MC settings | 42 |
| 10 | Maintenance | 43 |
| 10.1 | Securing against reconnection | 43 |
| 10.2 | Maintenance Schedule: | 43 |
| 10.3 | Maintenance work | 43 |
| 10.3.1 | Replacing the filter. | 43 |
| 10.3.2 | Visual checks | 45 |
| 10.3.3 | Clean the inside of the unit | 46 |
| 11 | Faults | 48 |
| 12 | Certificates | 49 |
| | Table | 52 |

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.

KaCompact KG

Assembly, installation and operating instructions

2 Safety

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

2.1 Correct use

The units are only designed for ventilation with heat recovery and heating or cooling of the air for installation in frost-free and dry interior spaces. Within the room to be heated, the unit needs to be connected to the building's heating/cooling/ventilation system and to the building's sewage system and power grid. Any sound-absorbing measures and insulation of the air ducts must be put in place (on site). The connection to the air duct is sound-decoupled by the insulating spigots fitted. It is decoupled from the floor by the unit feet. The units cannot be divided. The operating limits and limits of use described in Chapter 2.2 [► 6] must be observed.

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 network.
- ▶ This unit is designed to be accessible to the general public.

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

Any modification to the unit or use of non-original spare parts will cause the expiry of the warranty and will invalidate 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 | -16-(+40) |
| Min./max. air humidity | % | 20-90 |
| 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 | 230/400 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

KaCompact KG

Assembly, installation and operating instructions



IMPORTANT NOTE!

Danger of frost in cooling mode!

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

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



IMPORTANT NOTE!

Warning of misuse!

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

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



IMPORTANT NOTE!

Energy losses due to misuse!

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

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

2.3 Risk from electrocution!



DANGER!

Risk of fatal injury from electrocution!

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

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

2.4 Personnel requirements - Qualifications

Expertise

The installation of this product requires specialist expertise in heating, cooling, ventilation, installation and electrical engineering. As this knowledge is normally acquired through professional training in one of the above fields, it is not dealt with further here.

Damage caused by improper installation is the responsibility of the operator or installer. Installers of these units should have adequate knowledge of the following based on their qualifications

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

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

2.5 Personal Protective Equipment

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

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

KaCompact KG

Assembly, installation and operating instructions

3 Transport, storage and packaging

3.1 General transport instructions

Check on delivery for completeness and transport damage.

Proceed as follows in the event of visible damage:

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



IMPORTANT NOTE!

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



IMPORTANT NOTE!

Material damage caused by incorrect transport!

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

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

3.2 Scope of delivery



IMPORTANT NOTE!

Check the scope of delivery!

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

3.3 Storage

Store packaging under the following conditions:

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



IMPORTANT NOTE!

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

3.4 Packaging

Handling packaging materials



IMPORTANT NOTE!

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

KaCompact KG

Assembly, installation and operating instructions

4 Technical data

| Device | KaCompact KG horizontal | | | |
|--|-------------------------|------|------|------|
| Size | 15 | 25 | 40 | 60 |
| Nominal air volume flow [m³/h] | 1500 | 2500 | 4000 | 6000 |
| Length [mm] ¹⁰ | 1958 | 2507 | 2908 | 3008 |
| Height [mm] ¹⁰ | 1348 | 1722 | 2095 | 2095 |
| Width [mm] ¹⁰ | 797 | 797 | 944 | 1291 |
| Outside air sound power level [dB(A)] ¹¹ | 57 | 58 | 61 | 69 |
| Supply air sound power level [dB(A)] ¹¹ | 77 | 80 | 82 | 88 |
| Extract air sound power level [dB(A)] ¹¹ | 61 | 58 | 60 | 69 |
| Exhaust air sound power level [dB(A)] ¹¹ | 75 | 81 | 83 | 86 |
| Housing sound power level [dB(A)] ¹¹ | 56 | 60 | 60 | 69 |
| Housing sound pressure level measured at a distance of 1 m [dB(A)] ¹¹ | 48 | 52 | 52 | 61 |
| Weight [kg] ¹² | 249 | 368 | 550 | 663 |

| Device | KaCompact KG vertical | | | |
|--|-----------------------|------|------|------|
| Size | 15 | 25 | 40 | 60 |
| Nominal air volume flow [m³/h] | 1500 | 2500 | 4000 | 6000 |
| Length [mm] ¹⁰ | 1800 | 2300 | 2700 | 2800 |
| Height [mm] ¹⁰ | 1445 | 1870 | 2095 | 2095 |
| Width [mm] ¹⁰ | 797 | 797 | 944 | 1291 |
| Outside air sound power level [dB(A)] ¹¹ | 57 | 58 | 61 | 70 |
| Supply air sound power level [dB(A)] ¹¹ | 77 | 80 | 82 | 88 |
| Extract air sound power level [dB(A)] ¹¹ | 61 | 58 | 60 | 69 |
| Exhaust air sound power level [dB(A)] ¹¹ | 75 | 81 | 83 | 86 |
| Housing sound power level [dB(A)] ¹¹ | 56 | 60 | 60 | 69 |
| Housing sound pressure level measured at a distance of 1 m [dB(A)] ¹¹ | 48 | 52 | 52 | 61 |
| Weight [kg] ¹² | 259 | 386 | 550 | 663 |

¹⁰ Including all mounting parts and adjustable feet

¹¹ at rated air volume flow and 300 Pa external pressure

¹² without reheating coil

KaCompact KG

Assembly, installation and operating instructions

KaCompact KG

Assembly, installation and operating instructions

5 Construction and function

5.1 Overview

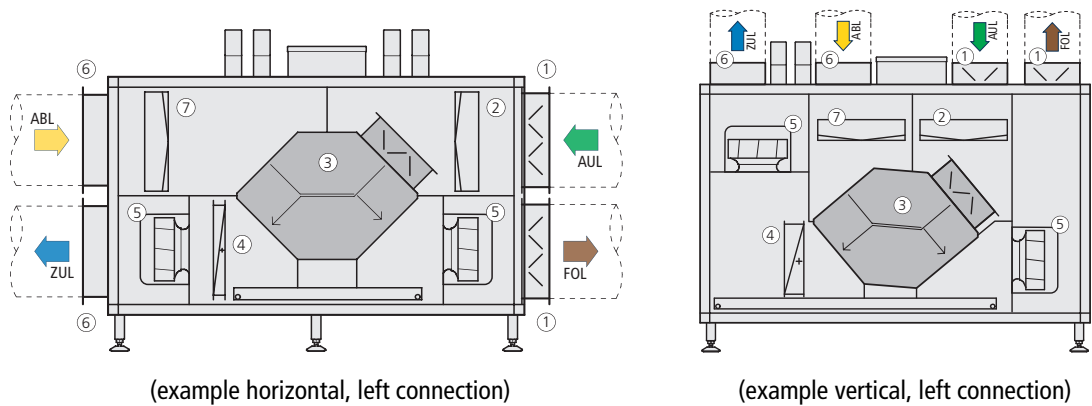


Fig. 1: KaCompact KG at a glance

| | | | |
|---|-----------------------------------|---|-----------------------------------|
| 1 | Louver damper | 2 | External air filter ISO ePM1>70 % |
| 3 | Counterflow plate heat exchanger | 4 | Reheating coil (optional) |
| 5 | EC centrifugal fan | 6 | Sound decoupled connection frame |
| 7 | Outgoing air filter ISO ePM10>50% | | |

5.2 Brief description

The KaCompact KG air handling unit is used in standard applications such as catering, hotels, offices and business premises. EC centrifugal fans are used to bring fresh external air into the building and stale outgoing air out of the building. To save energy, the thermal energy of the outgoing air is transferred to the ingoing air by means of a counterflow plate heat exchanger. For comfortable air introduction, the use of a downstream heating or cooling coil is possible.

5.3 Wear parts list

| Figure | Article | Properties | Suitable for | Art. no. |
|--------|--|------------|---------------------|--------------|
| | Replacement filter ISO ePM1>70% (F7) | 1x | Horizontal, size 15 | 462015013070 |
| | | 1x | Horizontal, size 25 | 462025013070 |
| | | 1x | Horizontal, size 40 | 462040013070 |
| | | 2x | Horizontal, size 60 | 462060013070 |
| | | 1x | Vertical, size 15 | 462015023070 |
| | | 1x | Vertical, size 25 | 462025023070 |
| | | 1x | Vertical, size 40 | 462040023070 |
| | | 2x | Vertical, size 60 | 462060023070 |
| | Replacement filter ISO ePM10>50% (M5) | 1x | Horizontal, size 15 | 462015013050 |
| | | 1x | Horizontal, size 25 | 462025013050 |
| | | 1x | Horizontal, size 40 | 462040013050 |
| | | 2x | Horizontal, size 60 | 462060013050 |
| | | 1x | Vertical, size 15 | 462015023050 |
| | | 1x | Vertical, size 25 | 462025023050 |
| | | 1x | Vertical, size 40 | 462040023050 |
| | | 2x | Vertical, size 60 | 462060023050 |

6 Installation and wiring

6.1 Defining the extract air side

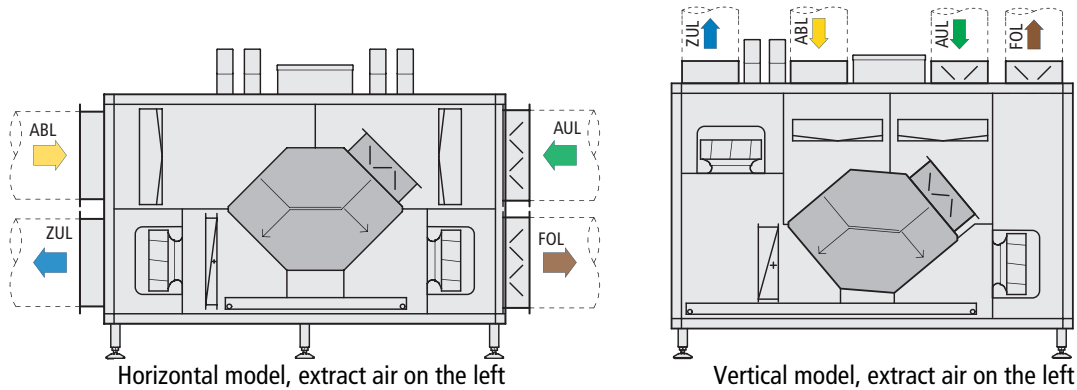


Fig. 2: Extract air side on the left

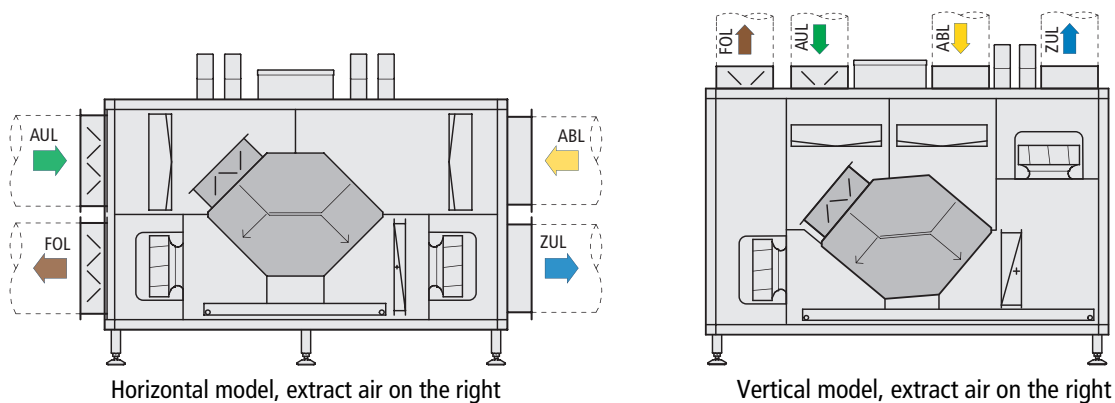


Fig. 3: Extract air side on the right

6.2 Requirements governing the installation site

- ▶ Make sure that the floor is sufficiently load-bearing to withstand the weight of the unit.
- ▶ Ensure that the unit is standing securely.
- ▶ 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 [► 21]).
- ▶ There is a power supply on site (Maximum electrical rating values [► 26]).
- ▶ If need be, provide a condensation connection with a sufficient gradient on site.
- ▶ Minimum clearance of 50 cm is required above the unit for electrical connections and may not be blocked by ceilings or cable routings.

KaCompact KG

Assembly, installation and operating instructions

6.3 Minimum clearances

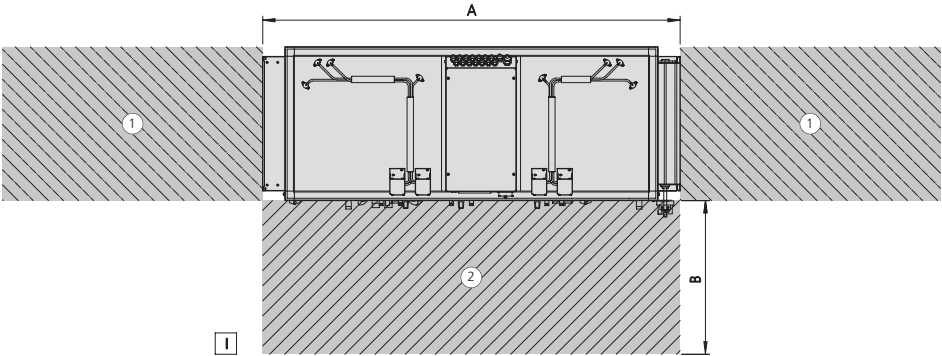


Fig. 4: Inspection area horizontal

| | | | |
|---|--|---|---------------------------------|
| 1 | Mounting area Duct system according to dimensions provided by customer | 2 | Inspection area for maintenance |
|---|--|---|---------------------------------|

| Dimensions inspection area horizontal | A [mm] | B [mm] |
|---------------------------------------|--------|--------|
| 15 | 1958 | 1100 |
| 25 | 2508 | 1150 |
| 40 | 2908 | 1300 |
| 60 | 3008 | 1350 |

Tab. 4: Dimensions inspection area horizontal

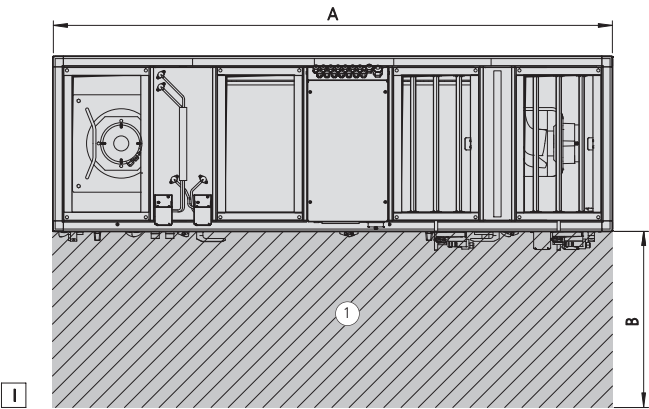


Fig. 5: Inspection area vertical

| | | | |
|---|---------------------------------|--|--|
| 1 | Inspection area for maintenance | | |
|---|---------------------------------|--|--|

| Dimensions inspection area vertical | A [mm] | B [mm] |
|-------------------------------------|--------|--------|
| 15 | 1800 | 1100 |
| 25 | 2300 | 1150 |
| 40 | 2700 | 1300 |
| 60 | 3800 | 1350 |

Tab. 5: Dimensions inspection area vertical

6.4 Installation



CAUTION!

Risk of injury from sharp metal housing!

The inner metal of the casing can have sharp edges.

- ▶ Wear suitable protective gloves.

6.4.1 Setting up the unit



- ▶ Unit as delivered



- ▶ Use an industrial truck to position the unit at the required position.



- ▶ Alternatively use lifting equipment to position the crane lugs.



- ▶ Loosen the hexagon socket screws and remove the crane lugs.

KaCompact KG

Assembly, installation and operating instructions



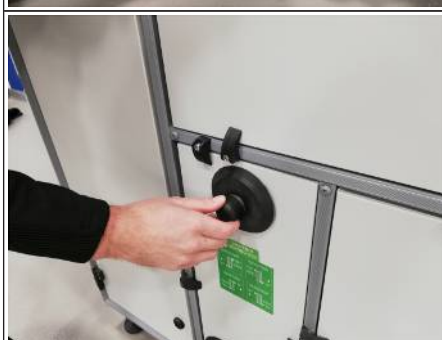
- ▶ Permanently screw the screws into the profile.



- ▶ Use the caps supplied to seal the corners.



- ▶ Remove the yellow protective cap from the condensate drain.
- ▶ Connect the $\frac{3}{4}$ " male condensate drain.
- ▶ Note: Suction-side trap with heat recovery, pressure-side trap with the chiller.



- ▶ Remove the black protective cap from the optional heating and cooling coil.

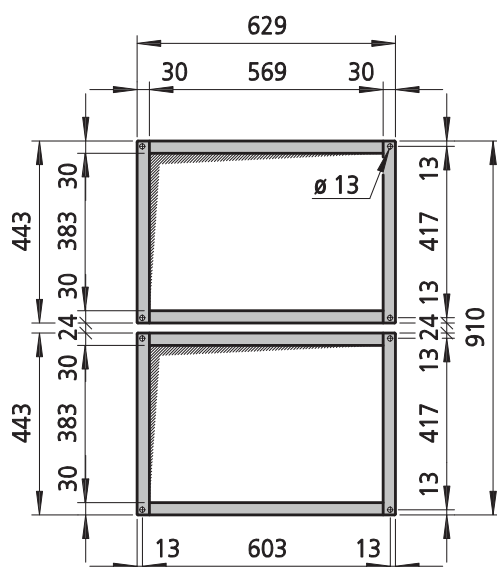
Note the minimum clearances [▶ 16] when installing the units!

- ▶ Ensure that the unit is standing securely; level the unit using the adjustment feet.
- ▶ Level the unit for correct operation. The unit needs to be horizontal if condensate will be produced, to enable the condensate to drain out of the condensate tray.

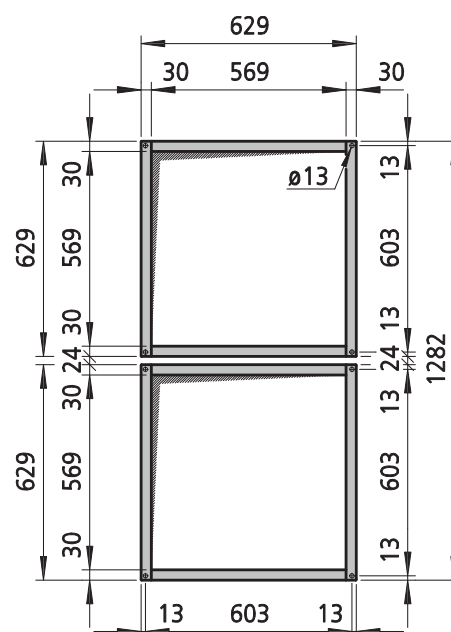
6.4.2 Installation of the duct system

Overview of the horizontal connecting frame

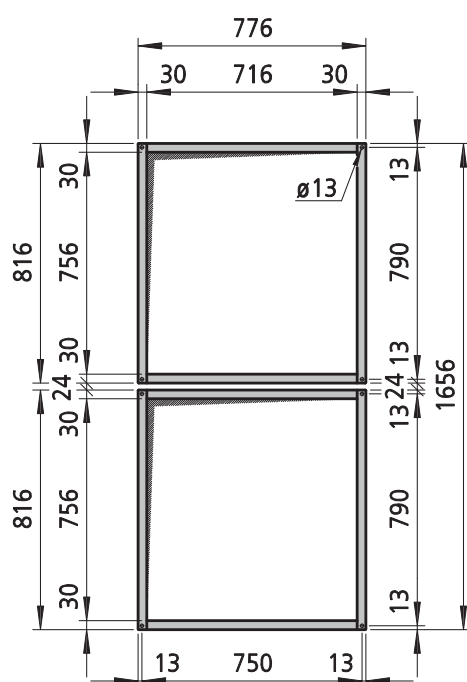
Size 15, horizontal



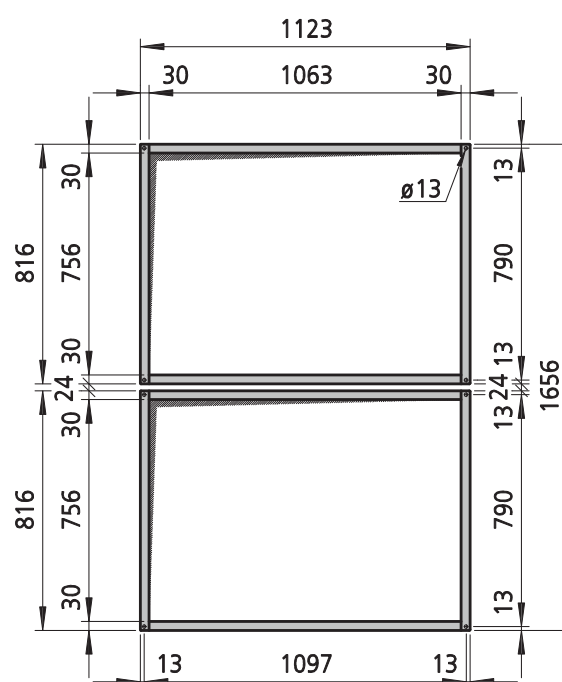
Size 25, horizontal



Size 40, horizontal



Size 60, horizontal

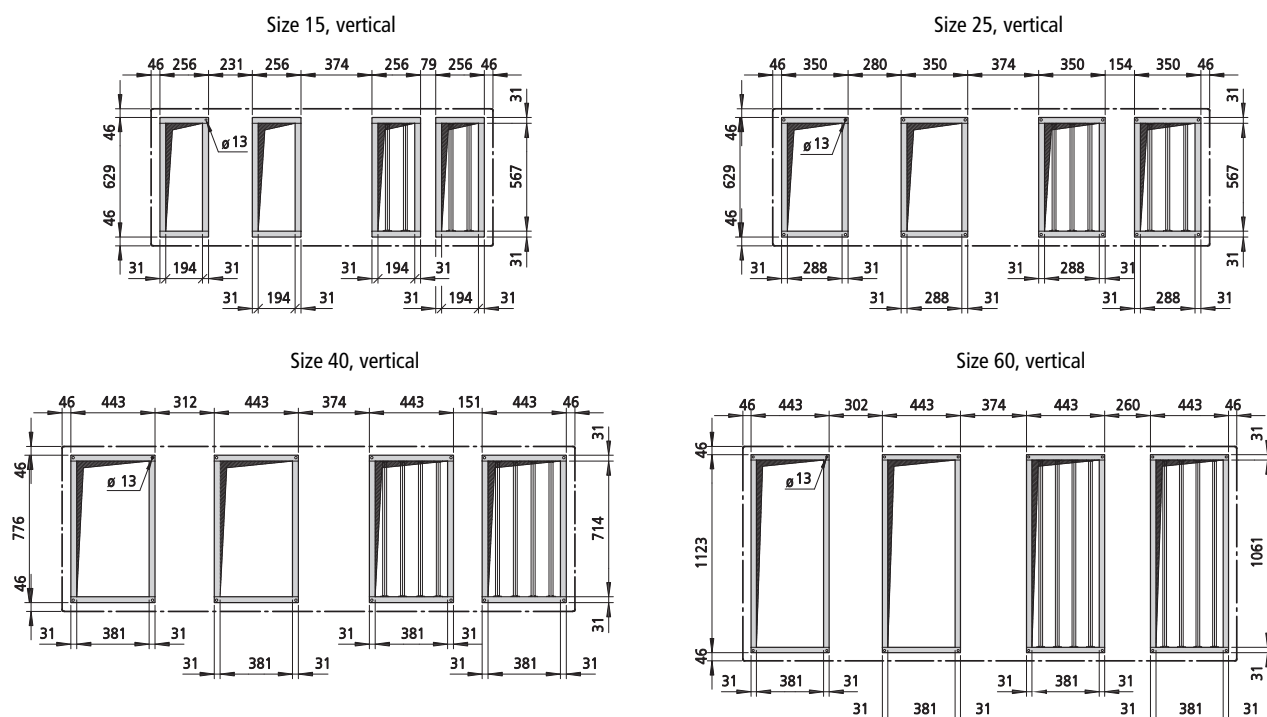


The dimensions of the connecting frames are identical with units with extract air on the left and extract air on the right.

KaCompact KG

Assembly, installation and operating instructions

Overview of the vertical connecting frame



The dimensions of the connecting frame are shown for extract air on the left. The dimensions are correspondingly reversed for extract air on the right.

6.4.3 Installation of the horizontal chiller module

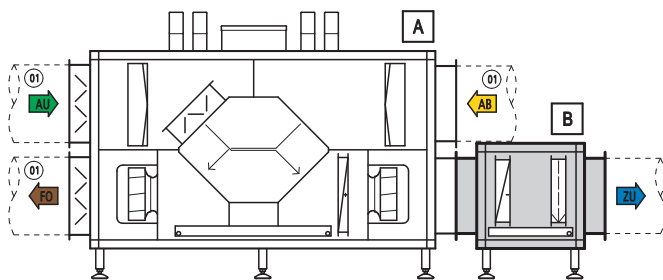


Fig. 6: Horizontal chiller module

| | | | |
|----|----------------------|----|---------------------|
| A | KaCompact KG | B | Chiller unit |
| AU | Outside air (green) | ZU | Supply air (blue) |
| AB | Extract air (yellow) | FO | Exhaust air (brown) |

The horizontal chiller module is fitted to the supply air connection of the KaCompact in accordance with the diagram above. The frame connection of the KaCompact and the chiller module are identical.

It is essential that the 3/4" male condensate drain is connected in the same way as the ventilation unit!

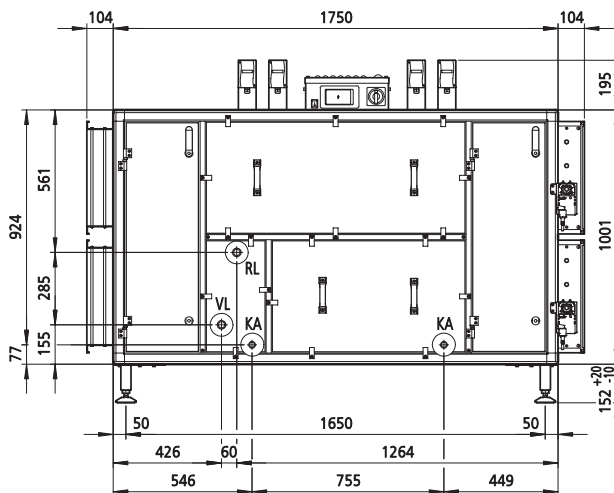
6.5 Installation

6.5.1 Connection to the pipe network

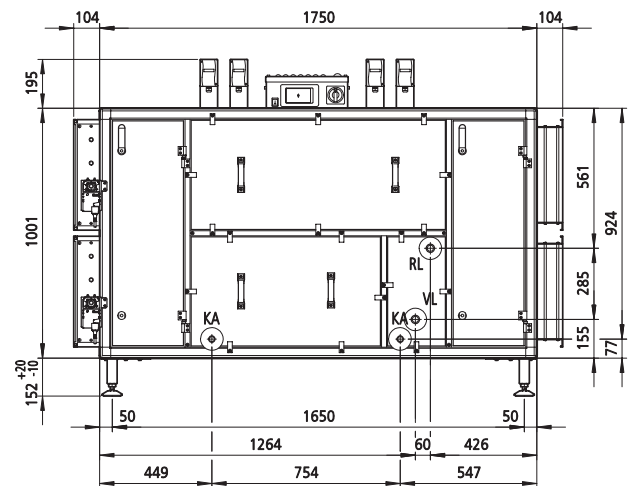
The supply and return connections are located on the front side of the unit as standard.

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

- ▶ Before installing the piping provided by the customer and the hydraulic connection of the base unit, shut off the heating/cooling medium and secure it against unintentional opening, otherwise there is a risk of scalding due to escaping heating medium!
- ▶ With cooling equipment, there is danger to the user from cold and danger to the environment when glycol is used. Follow appropriate safety precautions.
- ▶ Remove the protective covers from the supply and return pipes.
- ▶ Seal and screw in the connections. Secure the connecting nut against shearing and twisting.
- ▶ When connecting the unit to the piping provided by the customer, it is essential to hold the water connections in place with a suitable tool!
- ▶ Ensure venting of the pipelines by the customer.
- ▶ Use suitable insulating material, for cooling units use diffusion-tight insulating material.
- ▶ After completion of all connection work, all screw connections must be retightened and checked for tension-free assembly.



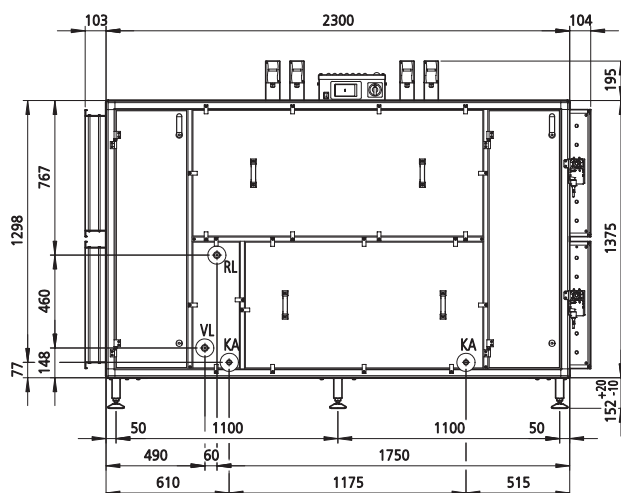
BG 15 horizontal, outgoing air left



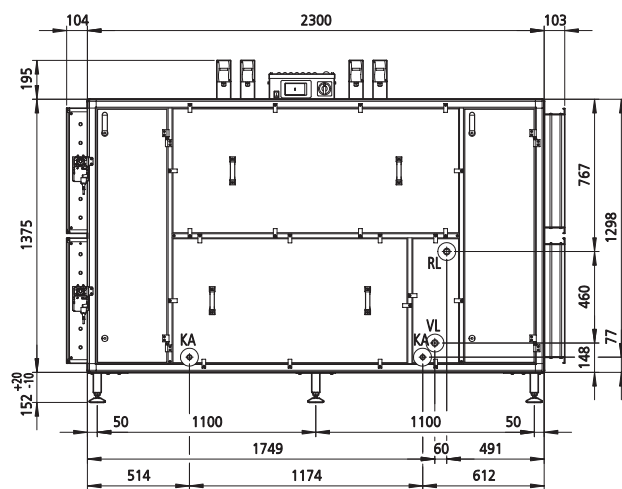
BG 15 horizontal, outgoing air right

KaCompact KG

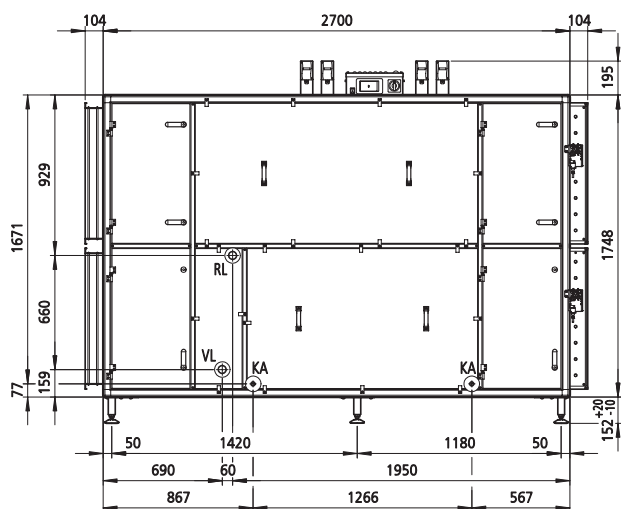
Assembly, installation and operating instructions



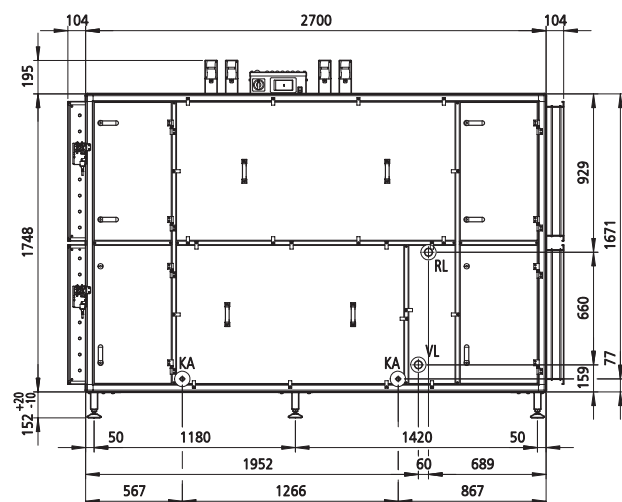
BG 25 horizontal, outgoing air left



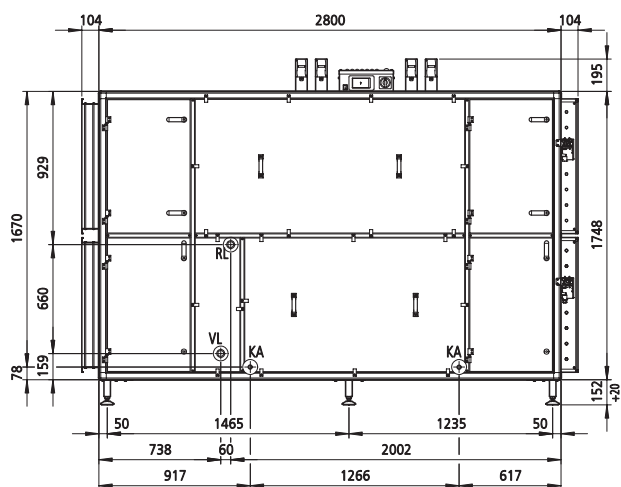
BG 25 horizontal, outgoing air right



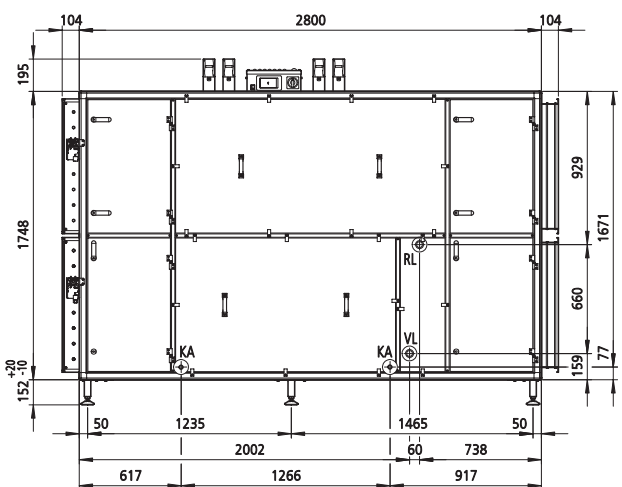
BG 40 horizontal, outgoing air left



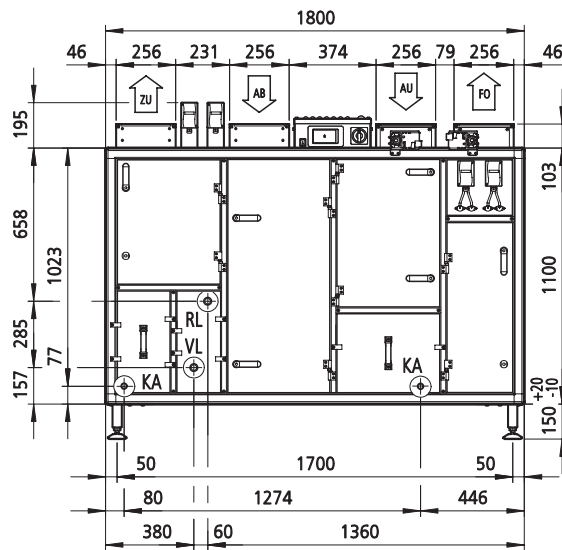
BG 40 horizontal, outgoing air right



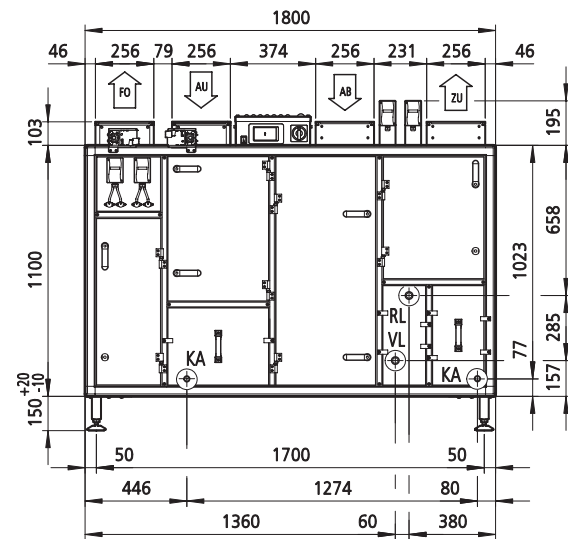
BG 60 horizontal, outgoing air left



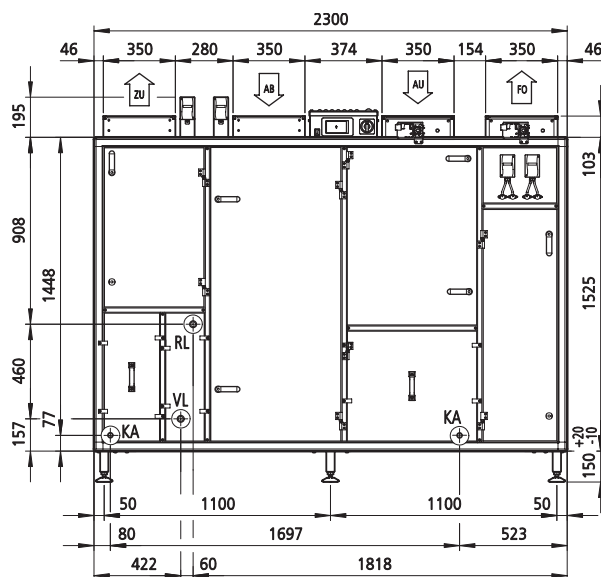
BG 60 horizontal, outgoing air right



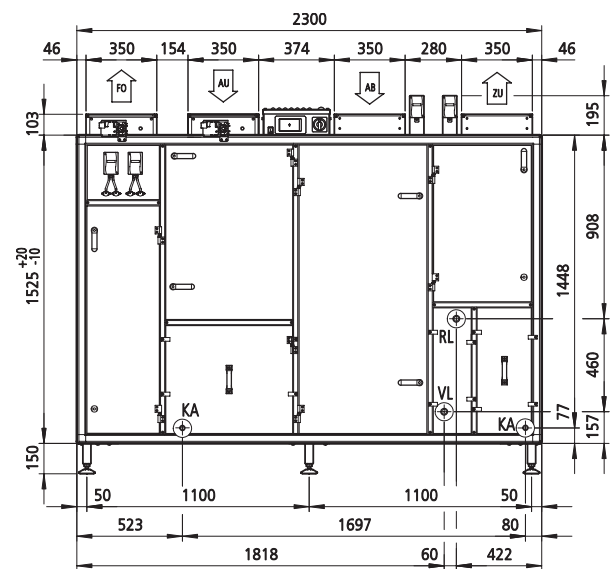
BG 15 vertical, outgoing air left



BG 15 vertical, outgoing air right



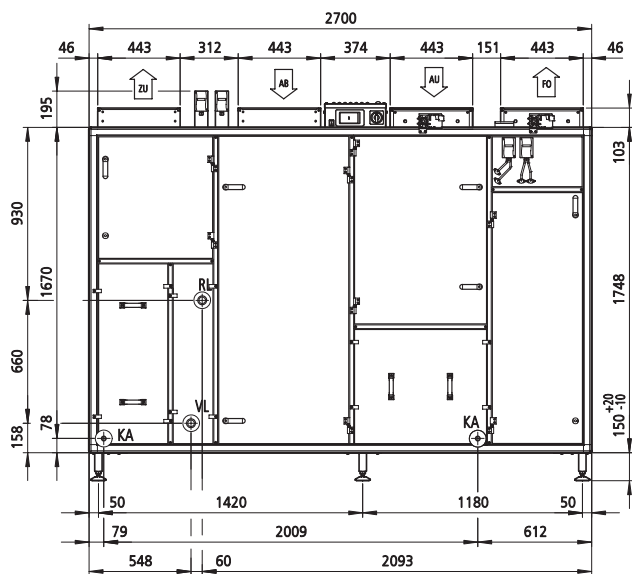
BG 25 vertical, outgoing air left



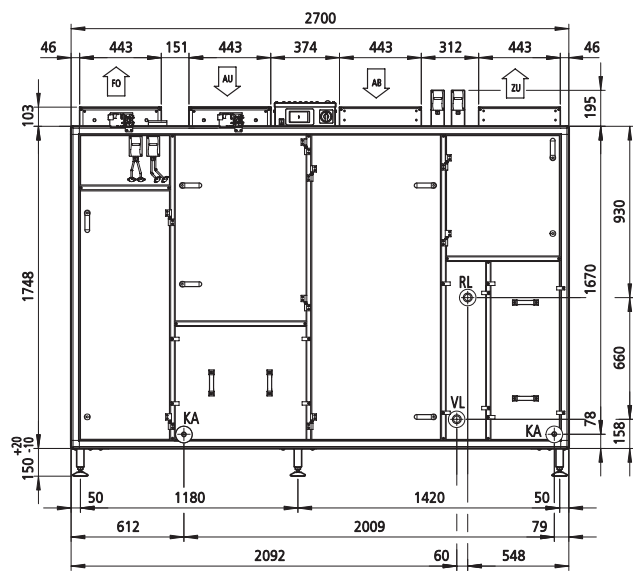
BG 25 vertical, outgoing air right

KaCompact KG

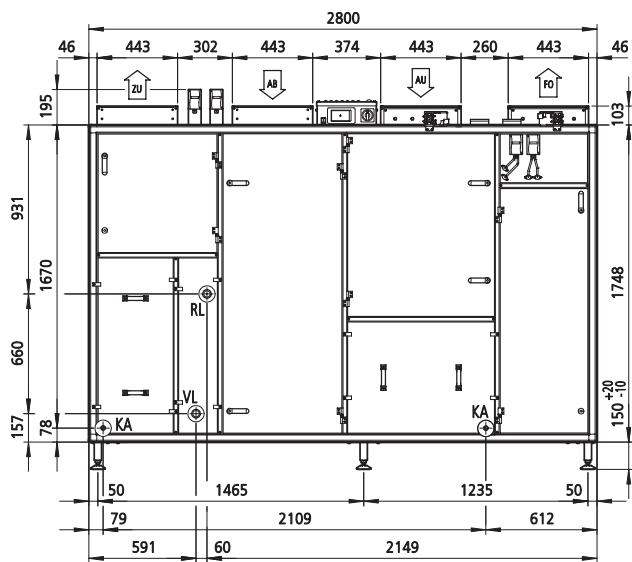
Assembly, installation and operating instructions



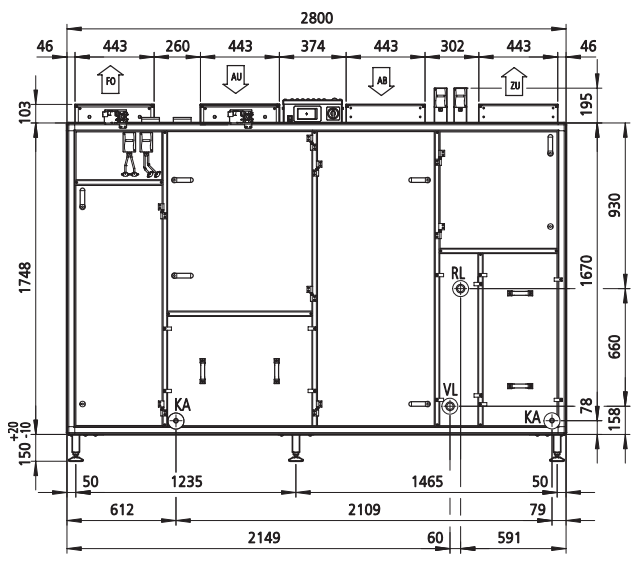
BG 40 vertical, outgoing air left



BG 40 vertical, outgoing air right



BG 60 vertical, outgoing air left



BG 60 vertical, outgoing air right

| Water connections | | | | |
|--------------------------|-----------------|----|-----------------|-----|
| Size | 15 | 25 | 40 | 60 |
| Registry | Heating/cooling | | Heating/cooling | |
| Connection (AG) | 1" | 1" | 1½" | 1½" |
| Condensate connection AG | ¾" | ¾" | ¾" | ¾" |

6.5.2 Overview of ball valves

| Nominal size | Air flow volume [m³/h] | Article number |
|----------------|------------------------|----------------|
| DN15. KVS 1.0 | 0.25 - 0.4 | 196000050890 |
| DN15. KVS 1.6 | 0.4 - 0.6 | 196000050891 |
| DN15. KVS 2.5 | 0.6 - 1.0 | 196000050892 |
| DN20. KVS 2.5 | 1.0 - 1.6 | 196000050893 |
| DN20. KVS 6.3 | 1.6 - 2.5 | 196000050894 |
| DN25. KVS 10.0 | 2.5 - 4.0 | 196000050895 |
| DN32. KVS 16.0 | 4.0 - 6.3 | 196000050896 |
| DN50. KVS 25.0 | 6.3 - 9.6 | 196000050897 |

Tab. 6: 3-way ball valve for the mixing circuit with 24 V actuator, continuous 0 - 10 V

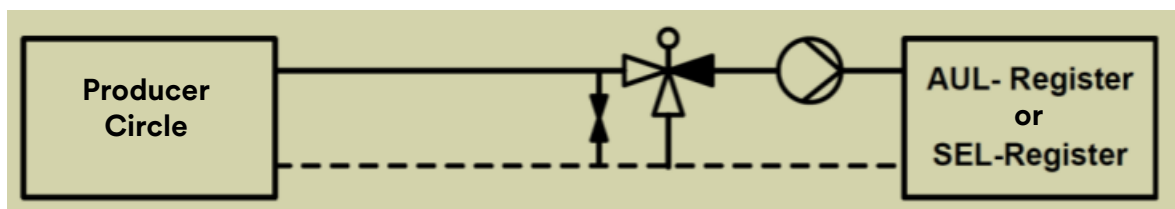


Fig. 7: Diagram of the mixing circuit

Note: Fitting and pump for the mixing circuit are not included in the scope of delivery and must be provided on site.

KaCompact KG

Assembly, installation and operating instructions

7 Electrical connection

7.1 Maximum electrical rating values

| Size | Nominal voltage [V] | Mains frequency [Hz] | Nominal power [kW] | Nominal current [A] | IP class | Protection class |
|------|---------------------|----------------------|--------------------|---------------------|----------|------------------|
| 15 | 230 | 50 | 1.30 | 5.6 | IP21 | I |
| 25 | 400 | 50 | 2.16 | 3.2 | IP21 | I |
| 40 | 400 | 50 | 4.40 | 6.4 | IP21 | I |
| 60 | 400 | 50 | 5.80 | 8.8 | IP21 | I |

Tab. 7: Maximum electrical rating values

7.2 Electromechanical control

7.2.1 Electromechanical connection and wiring conditions

All components are supplied wired from the factory and the cables are all routed centrally into the electrical housing at the top of the unit. There is also a terminal block with spring-mounted terminals to which all the internal component cables are connected.

Die folgenden Angaben zu den Leitungstypen und der Leitungsverlegung sind unter Berücksichtigung der VDE 0100 einzuhalten. Andernfalls kann eine korrekte Funktion nicht gewährleistet werden und ggf. entfallen dadurch Gewährleistungsansprüche.

Die Installation, der Betrieb und die Wartung dieser Geräte muss den länderspezifisch geltenden Gesetzen, Normen, Vorschriften und Richtlinien entsprechen.

Nach Abschluss der Installation kann eine kostenpflichtige Funktionsprüfung durch den Kampmann Kundendienst erfolgen. Diese ist in der Servicezentrale in Lingen unter Tel. 0591/7108-670 oder per Email unter service@kampmann.de anzufordern.

*) Steuerleitung
Abgeschirmte Leitung, IV(ST)Y 0,8mm oder mindestens gleichwertig.
Getrennt von Starkstromleitungen verlegen.

**) BUS-Leitung
Abgeschirmte, paarig versilberte Leitung z.B. UNITRONIC® BUS LD 2x2x0,22 oder mindestens gleichwertig.
Getrennt von Starkstromleitungen verlegen.

Alle anderen Verbindungen können in NYM-J (o. glw.) ausgeführt werden.
Leitungsquerschnitte der nicht abgeschirmten Leitungen sind nicht angegeben, da die Leitungslänge in die Querschnittsberechnung einfließt.
Angabe der Aderanzahl inkl. Schutzleiter.

Im Außenbereich verlegte Leitungen gegen Witterung schützen oder gleichwertige witterungsbeständige Leitungen verwenden.

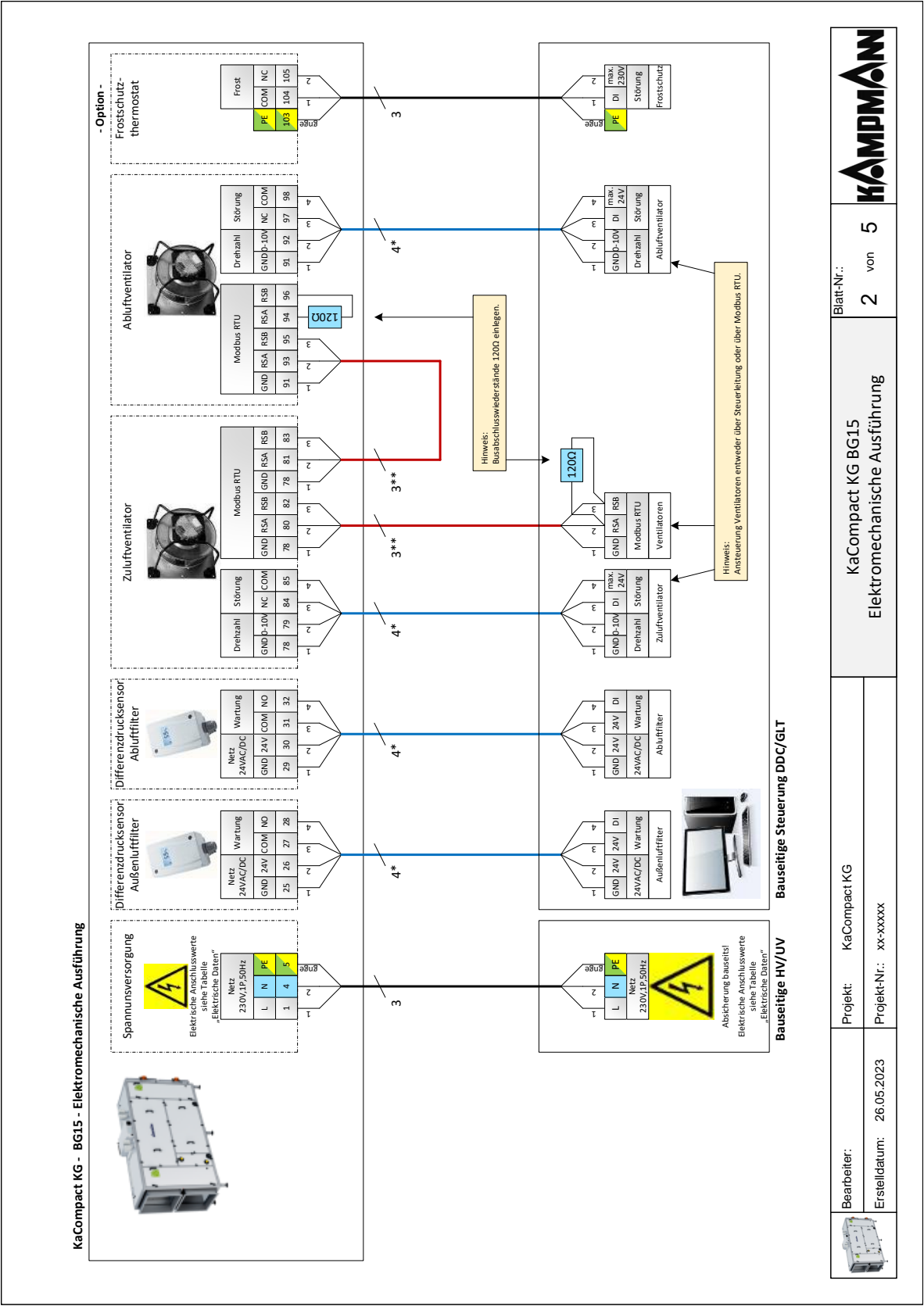
Leitungslänge Steuerleitungen: max. 100m.

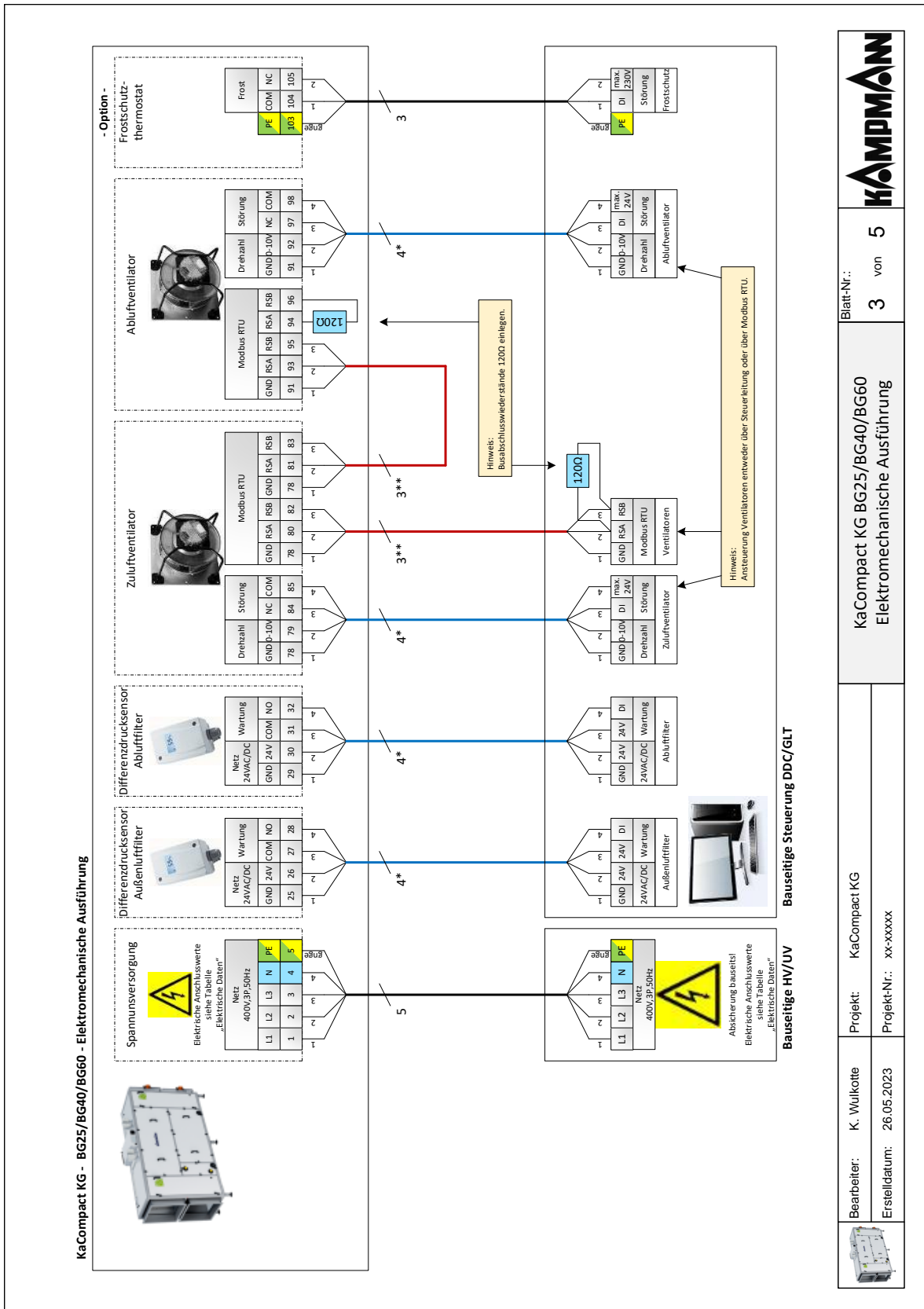
Leitungslänge Modbus-Netzwerk: max. 500m.

Leitungen für Daten- bzw. Bus-Signale sind mit einseitig angeschlossenem Schirm dargestellt. Leitungen für analoge Signale sind mit nicht angeschlossenem Schirm dargestellt. Aufgrund bauartlicher bzw. örtlicher Gegebenheiten und je nach Art und Höhe der Störungseinflüsse, die u.a. durch magnetische und/oder elektrische Felder in hohen und/oder niedrigen Frequenzbereichen verursacht werden können, kann ein davon abweichender Anschluss des Schirms (beidseitig angeschlossen oder nicht angeschlossen) erforderlich sein. Dies ist bauseits zu prüfen und ggf. abweichend von den Angaben in der Dokumentation auszuführen!

Beim Einsatz von Fehlerstrom-Schutzschaltern für Motoren mit EC-Technologie müssen diese allstromsensitiv sein (Typ B). Andere Fehlerstrom-Schutzschalter (Typ AC oder Typ A) dürfen nach EN 50178 Art. 5.2. nicht eingesetzt werden. Für eine möglichst hohe Betriebssicherheit empfehlen wir beim Einsatz eines Fehlerstrom-Schutzschalters einen Auslösestrom von 300 mA.

| | | | | | | |
|---|--------------------------|----------------------|--------------------------|--|-----------------------|---|
|  | Bearbeiter: | Projekt: | Allgemeine Informationen | | Blatt-Nr.: 1 von 5 |  |
| | Erstelldatum: 26.05.2023 | Projekt-Nr.: xx-xxxx | | | | |






KaCompact KG

Assembly, installation and operating instructions


7.3 KaControl

7.3.1 KaControl connection and wiring conditions

In this case, all the components are cabled and the cables are pulled centrally into the electrical connection box. All the actuators and sensors are connected to the control electronics in such a way that the I&C technicians only need to connect the power supply to the terminal blocks and use a timer program to get the unit up and running.



KaCompact KG - BG15 – KaControl MC



Spannungsversorgung

Elektrische Anschlusswerte
siehe Tabelle
„Elektrische Daten“


| | |
|----------------|---------|
| Netz | |
| 230V, 1P, 50Hz | |
| L | N PE |
| 301 | 304 305 |

1

2

3

enge



Bauseitige HV/UV

Absicherung bauseits
Elektrische Anschlusswerte
siehe Tabelle
„Elektrische Daten“


| | |
|----------------|------|
| Netz | |
| 230V, 1P, 50Hz | |
| L | N PE |

1

2

3

enge




Bearbeiter:

Projekt: KaCompact KG

Projekt-Nr.: xx-xxxx

KaCompact KG BG15
KaControl MC
Netzzuleitung

Blatt-Nr.: 4 von 5




KAMPMANN

31


KaCompact KG

Assembly, installation and operating instructions



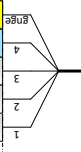
KaCompact KG - BG25/BG40/BG60 – KaControl MC


Spannungsversorgung



Elektrische Anschlusswerte
siehe Tabelle
„Elektrische Daten“

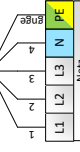
| Netz | | | | |
|--------------|-----|-----|-----|-----|
| 400V/3P/50Hz | | | | |
| L1 | L2 | L3 | N | PE |
| 301 | 302 | 303 | 304 | 305 |






Absicherung bauseits
Elektrische Anschlusswerte
siehe Tabelle
„Elektrische Daten“

| Netz | | | | |
|--------------|----|----|---|----|
| 400V/3P/50Hz | | | | |
| L1 | L2 | L3 | N | PE |



Bauseitige HV/UV



Bearbeiter:


Projekt: KaCompact KG

Erstelldatum: 26.05.2023

Projekt-Nr.: xx-xxxx

KaCompact KG BG25/BG40/BG60
KaControl MC
Netzzuleitung

Blatt-Nr.: 5 von 5



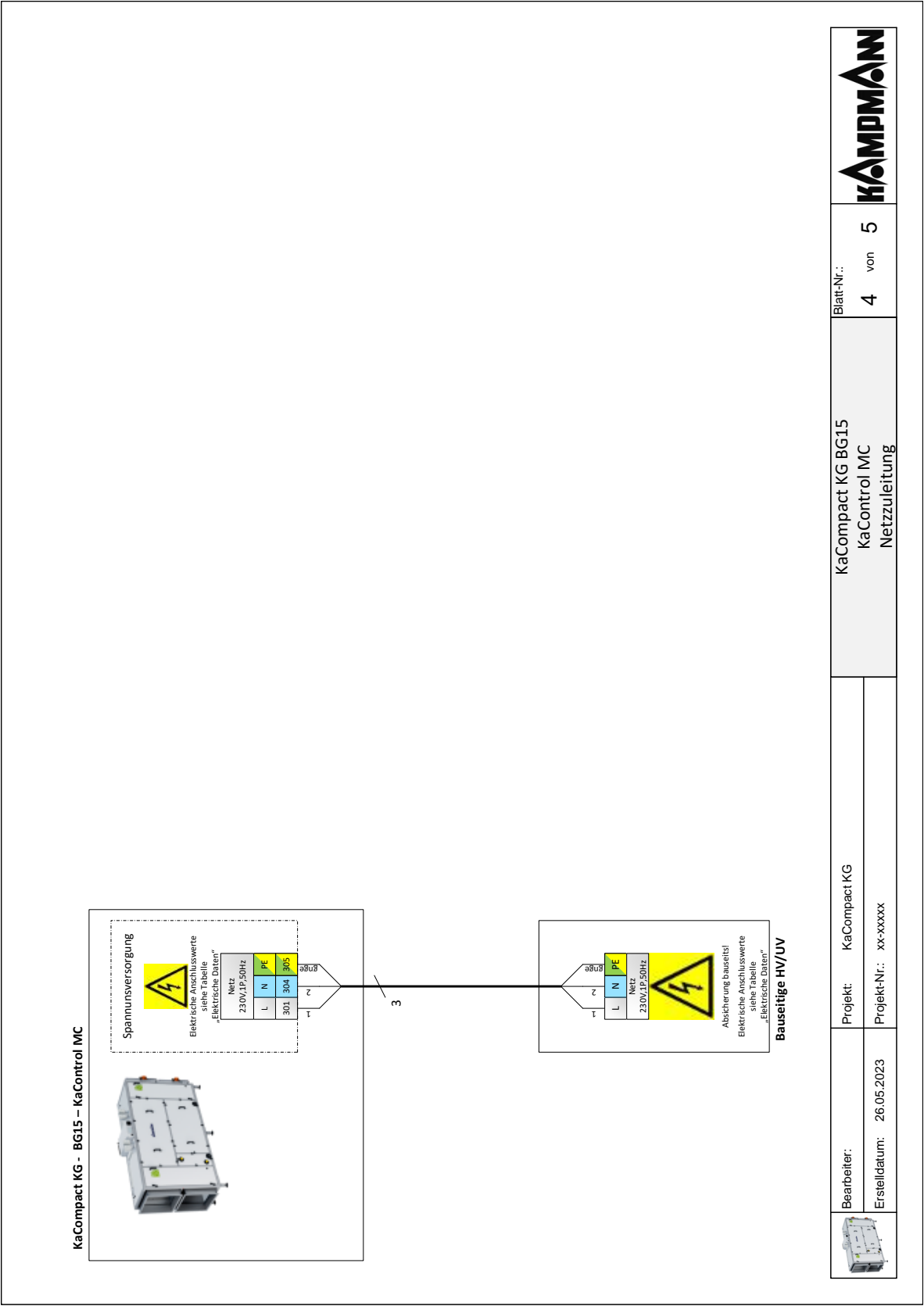
7.4 KaControl MC control


7.4.1 KaControl MC connection and wiring conditions

In this case, all the components are cabled and the cables are pulled centrally into the electrical connection box. All the actuators and sensors are connected to the control electronics in such a way that the I&C technicians only need to connect the power supply to the terminal blocks and use a timer program to get the unit up and running.

KaCompact KG


Assembly, installation and operating instructions





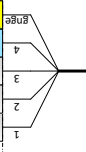
KaCompact KG - BG25/BG40/BG60 – KaControl MC


Spannungsversorgung



Elektrische Anschlusswerte
siehe Tabelle
„Elektrische Daten“

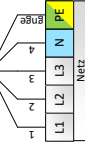
| Netz 400V/3P/50Hz | | | | |
|----------------------|-----|-----|-----|-----|
| L1 | L2 | L3 | N | PE |
| 301 | 302 | 303 | 304 | 305 |






Absicherung bauseits
Elektrische Anschlusswerte
siehe Tabelle
„Elektrische Daten“

| Netz 400V/3P/50Hz | | | | |
|----------------------|----|----|---|----|
| L1 | L2 | L3 | N | PE |



Bauseitige HV/UV



Bearbeiter:


Erstelldatum: 26.05.2023

Projekt: KaCompact KG

Projekt-Nr.: xx-xxxx

KaCompact KG BG25/BG40/BG60
KaControl MC
Netzzuleitung

Blatt-Nr.: 5 von 5



KAMPMANN

35

KaCompact KG

Assembly, installation and operating instructions

8 Pre-commissioning checks

Before initial commissioning, check whether all the necessary conditions have been met so that the unit can operate safely and properly.

Structural tests

- ▶ Are all the air passages on the ducts and adapters the correct size?
- ▶ 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 all external electrical connections and terminal connections are fixed in place and tighten if necessary.
- ▶ Check whether DIP switches have been correctly set in accordance with the wiring diagram.

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 that all air filters are mounted and free of dirt.

Condensation water connection

- ▶ Check whether the condensation tray is free of building rubble.
- ▶ 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.

9 Operation

9.1 KaControl

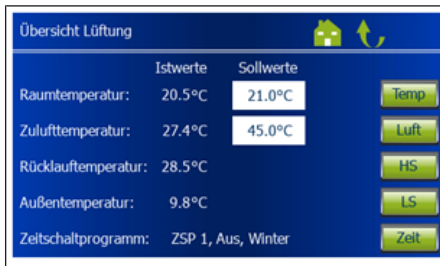
The KaCompact KG is operated by a touch display, which is always positioned centrally at the top of the unit. This user interface enables the operator to observe current statuses, enter settings, and read out warnings/faults.

9.1.1 Main menu



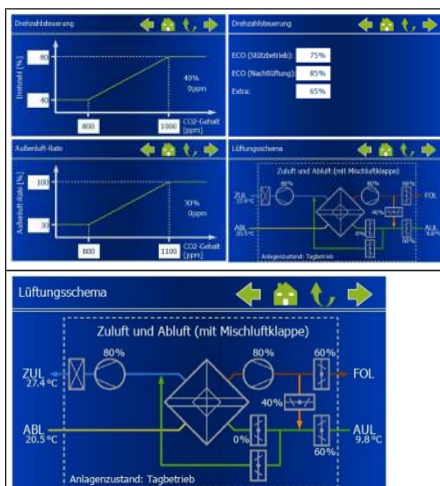
- The main menu features a menu bar at the top of the screen and a rotation menu in the centre. Tapping the "House" icon in the menu bar at the top of the screen takes the user back to the home screen. Tapping the "i" icon in the menu bar at the top of the screen displays information on the software status of the control and touch display.

9.1.2 Ventilation overview



- The "Ventilation overview" sub-menu displays the current statuses of the timer program and the temperature setpoints and actual temperature values, depending on the configuration of the system.
- Tapping the keys on the right of the screen provides direct access to the pages to set the temperature setpoints and the air flow volume setpoints and the switching points of the timer program, depending on the configuration of the system. Ventilation and hydraulic diagrams within the system can also be accessed.

9.1.3 Fan control



- Depending on the configuration of the system, the setpoints for the air volumes (speeds, air flow volumes, duct pressures and outside air volumes) can be set in the "Fan control" sub-menu. They can be displayed as a fixed value but also as a function of the air quality.
- A ventilation system diagram is also displayed according to the current configuration of the system. Current operating statuses and temperatures are also displayed there.

KaCompact KG

Assembly, installation and operating instructions

9.1.4 Temperature control

| | Sommer | Winter |
|---------|--------|--------|
| Tag: | 21.0°C | 10.0°C |
| Extra: | 20.0°C | 20.0°C |
| ECO: | 39.0°C | 16.0°C |
| Offset: | 0.0K | |

| | Sommer | Winter |
|-------------|--------|--------|
| Zuluft min: | 15.0°C | 20.0°C |
| Zuluft max: | 40.0°C | 45.0°C |

- Depending on the configuration of the system, the setpoints for the temperatures (room temperature and supply air temperature) can be set in the "Temperature control" sub-menu. They can be displayed as pure supply air temperature control or as room temperature-supply air temperature cascade control.

9.1.5 Timer programs

- Depending on the configuration of the system, the switching points of the timer program as well as the holiday program can be set and the corresponding operating modes assigned in the "Timer programs" sub-menu.

| Montag | | | |
|--------|------|--------------|--------------------|
| 00 | : 00 | Ecobetrieb | 08 : 00 Tagbetrieb |
| 20 | : 00 | Extrabetrieb | 00 : 00 --- |
| 00 | : 00 | --- | 00 : 00 --- |

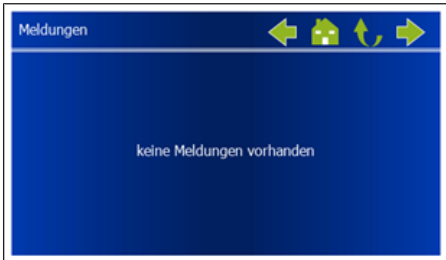
26.11.2018
14:43
Tagbetrieb aktiv

Daten auf Folgetag übertragen: ✓



- The current date, the current time and the current system status are displayed in the overview of the timer program. Selected settings can be carried over to the following day by pressing the key.

9.1.6 Alarms and messages

- Current alarms and messages are listed in the "Alarms & Messages" sub-menu. Use the "Right arrow" and "Left arrow" keys to switch between both lists.


| | |
|---|---|
|  | <ul style="list-style-type: none"> ► An active alarm can be reset using the "Acknowledge" key. |
|---|---|

9.1.7 Settings

| | |
|--|---|
|  | <ul style="list-style-type: none"> ► The full PGD menu (Emulation) of the AUL outside air control panel and the H2 control panel can also be accessed. |
|  | <ul style="list-style-type: none"> ► In-depth settings can be entered here. |

9.2 KaControl MC

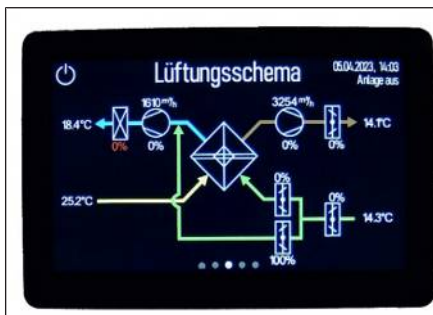
9.2.1 Main view

| | |
|---|--|
|  | <ul style="list-style-type: none"> ► Temperatures can always be displayed in the main view, independently of the settings. Depending on the project and system-specific configuration of the unit, it displays the most relevant parameters from the temperatures and operating program area. |
|---|--|

KaCompact KG

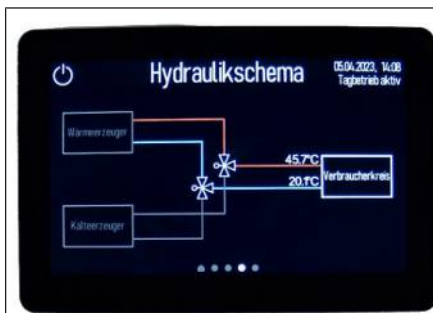
Assembly, installation and operating instructions

9.2.2 Ventilation diagram



- The "Ventilation diagram" page displays the actual layout of the system depending on the configuration of the ventilation unit. The relevant parameters of the ventilation system are also displayed.

9.2.3 Hydraulic diagram



- The "Hydraulic diagram" page displays the actual layout of the system depending on the configuration of the temperature control. Relevant parameters are also displayed.

9.2.4 Menu



- Users can access more unit and system parameters via the "menu" page.

9.2.5 Operating program



There are a total of four different operating programs. Each program has different effects on the air volume and, possibly, also on the temperature control of the supply air. The operating programs have the following background. However, parametrisation enables the respective function to be completely changed.

| Indicator | Designation | Action |
|-----------|-------------|--|
| 1 | Day | For air movement and supply air temperature control when the space is occupied (occupied office, store opening hours etc.) |
| 2 | Extra | Additional operating mode (e.g. to flush through the rooms in the morning, at midday or during break times) |
| 3 | Eco | No air movement when absent |
| 4 | Off | No air movement, only safety functions can be used |

Each of these operating programs can be activated by ten timer programs. They are intended to enable every customer to set up the KaCompact KG to suit their individual needs. Each one is assigned a priority. Low priority takes precedence.

| Timer program | Priority | Settable operating mode |
|-------------------|----------|------------------------------|
| Monday - Sunday | 10 | 1:Day, 2:Extra, 3:Eco, 4:Off |
| Monday – Friday | 9 | 1:Day, 2:Extra, 3:Eco, 4:Off |
| Saturday – Sunday | 9 | 1:Day, 2:Extra, 3:Eco, 4:Off |
| Monday | 8 | 1:Day, 2:Extra, 3:Eco, 4:Off |
| Tuesday | 8 | 1:Day, 2:Extra, 3:Eco, 4:Off |
| Wednesday | 8 | 1:Day, 2:Extra, 3:Eco, 4:Off |
| Thursday | 8 | 1:Day, 2:Extra, 3:Eco, 4:Off |
| Friday | 8 | 1:Day, 2:Extra, 3:Eco, 4:Off |
| Saturday | 8 | 1:Day, 2:Extra, 3:Eco, 4:Off |
| Sunday | 8 | 1:Day, 2:Extra, 3:Eco, 4:Off |

Two holiday programs with a higher priority are also available. One is for recurring holidays or public holidays. The second holiday program is for one-off holidays or public holidays. Both holiday programs are assigned a priority level. Low priority takes precedence. They would therefore overwrite the previous timer programs (Priority 10, 9, 8).

| Holiday program | Priority | Date | Settable operating mode |
|-----------------|----------|---------------------------|------------------------------|
| Recurring | 7 | 10 adjustable date ranges | 1:Day, 2:Extra, 3:Eco, 4:Off |
| One-off | 6 | 10 adjustable date ranges | 1:Day, 2:Extra, 3:Eco, 4:Off |

9.2.6 Messages and Faults

All currently pending events can be viewed under the two Messages and Faults menu items. They help with fault troubleshooting, which could disrupt the optimum operation of the ventilation unit. The messages or faults are presented in a clear and compact form.

KaCompact KG

Assembly, installation and operating instructions

9.2.7 Events

The "Events" menu shows a list of active events. Active events are not displayed in the overview pages or the homepage. This menu offers the option of acknowledging all active events, messages and faults. The "Event logger" menu can also be accessed.

9.2.8 KaControl MC settings

The "Settings" menu accesses the Service and Manufacturer's menu, depending on the password used. This menu lists all control parameters or a list of the firmware parameters. The parameters displayed depend on the active user level.

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.

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 |
| every six months | Check the electrical wiring. | Qualified personnel |
| every six months | Clean components/surfaces that come into contact with air. | Qualified personnel |

10.3 Maintenance work

10.3.1 Replacing the filter.



CAUTION!

Risk of injury from sharp metal housing!

The inner metal of the casing can have sharp edges.

- Wear suitable protective gloves.



- Remove the opener provided.

KaCompact KG

Assembly, installation and operating instructions



- ▶ Release the lower door latch with the opener provided.



- ▶ Release the upper door latch by turning the handle.



- ▶ Open the inspection door.



- ▶ Loosen wing nut at top and bottom of clamping rail.



- ▶ Pull the clamping rail forward to release the filter.



- ▶ Remove the filter to the front and dispose of it in the household waste.



- ▶ Insert new filter. Pay attention to the air direction arrow when inserting!
- ▶ Press clamping rails back in and tighten wing screws.

10.3.2 Visual checks

Inspect heat exchanger for contamination and carefully vacuum if necessary. Avoid damage to the piping and fins.

Dismount inspection panels before visual inspections!

Before all visual inspections and maintenance work, the inspection panel must be dismantled to make the unit accessible.

First open the inspection hatches as described in the chapter Replacing the filter. [▶ 43]. Afterwards proceed as follows:



- ▶ Loosen the clip lock.



- ▶ Turn the clip lock to the side.

KaCompact KG

Assembly, installation and operating instructions



- ▶ Remove the inspection panel at the top.



- ▶ Remove the inspection panel at the bottom.



- ▶ Inspect the device for contamination and remove contamination if necessary.

10.3.3 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.



- ▶ For cleaning, open the device according to the chapter Visual checks [▶ 45].
- ▶ Clean the air conducting surfaces.



- Clean the bypass valve.



- The counterflow heat exchanger can be flushed with water in both air directions. Rinsing water is discharged to the outside via the condensate tray on both sides.



- Wipe the condensate tray.



- Clean the fan impellers.



- The dismantling of the panels is done in reverse order. Make sure that the drip rail of the inspection panel is properly inserted into the condensate tray.

KaCompact KG

Assembly, installation and operating instructions

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 provides information on who is authorised to rectify and remedy faults.

12 Certificates



EU-Konformitätserklärung

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

Wir (Name des Anbieters, Anschrift):

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

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

erklären in alleiniger Verantwortung, dass das Produkt:

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

Type, Modell, Artikel-Nr.: KaCompact KG 462*

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

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

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

DIN EN 61000-3-2; -3-3
DIN EN 61000-6-1; -6-2; -6-3
DIN EN ISO 12100
DIN EN 349
DIN EN ISO 13857

Elektromagnetische Verträglichkeit
Elektromagnetische Verträglichkeit
Sicherheit von Maschinen
Sicherheit von Maschinen
Sicherheit von Maschinen

KaCompact KG

Assembly, installation and operating instructions



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 |
| 2006/42/EG | Maschinenrichtlinie |
| 2009/125/EG | ErP-Richtlinie |
| 1253/2014/EU | Durchführungsverordnung für Lüftungsanlagen |

Bevollmächtigter für die Zusammenstellung der relevanten technischen Unterlagen:

Person authorised to compile the relevant technical documentation:
Personne autorisée à établir la documentation technique pertinente:
Osoba upoważniona do sporządzenia odpowiedniej dokumentacji technicznej:
Oprávněná osoba pro sestavení příslušných technických dokumentů:

Kampmann GmbH & Co. KG
- Product Compliance Manager –
Herr Marcel Rakers
Friedrich-Ebert-Str. 128-130
49811 Lingen

Frank Bolkenius

Lingen (Ems), den 06.03.2023

Ort und Datum der Ausstellung

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

Name und Unterschrift des Befugten

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

2/2

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Persönlich haftende Gesellschafterin:
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Geschäftsführer: Hendrik Kampmann



Richtlinie VDI 6022 Blatt 1 – Herstellererklärung

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

des RLT-Geräts **KaCompact KG,**

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

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

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

- 0.9 Herstellerinformationen zur Eignung von Reinigungs- und Desinfektionsmitteln
- 4.1 Einhaltung der Forderungen hinsichtlich verwendeter Materialien des Gerätegehäuses
- 4.2 Das Gehäuse hat die erforderliche Dichtheitsklasse
- 8.1 Einhaltung der Forderungen hinsichtlich verwendeter Materialien der Luftfilter
- 11.1 Einhaltung der Forderungen hinsichtlich verwendeter Materialien der Ventilatoren
- 12.1 Einhaltung der Forderungen hinsichtlich verwendeter Materialien des Wärmerückgewinners
- 12.3 Der Wärmerückgewinner hat die erforderliche Dichtheitsklasse.

Lingen, 01.03.2023

A handwritten signature in black ink that reads "M. Rakers".

Marcel Rakers

Product Compliance Manager

Geprüft nach VDI 6022 Blatt 2 Kategorie A

KaCompact KG

Assembly, installation and operating instructions

Table

| | | |
|--------|---|----|
| Tab. 1 | Limits of operation | 7 |
| Tab. 2 | Operating voltage | 7 |
| Tab. 3 | Water quality..... | 7 |
| Tab. 4 | Dimensions inspection area horizontal..... | 16 |
| Tab. 5 | Dimensions inspection area vertical | 16 |
| Tab. 6 | 3-way ball valve for the mixing circuit with 24 V actuator, continuous 0 - 10 V | 25 |
| Tab. 7 | Maximum electrical rating values | 26 |

<https://www.kampmanngroup.com/hvac/products/air-handling-units/kacompact-kg>

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