



# Katherm QE

► 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.

**DANGER!****Danger**

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

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## 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

Katherm QE are used to heat indoor spaces (e.g. living rooms, commercial spaces and showrooms). Within the room to be heated, the unit needs to be connected to the in-situ power grid. Observe the operating limits and limits of use described in Chapter 2.2 [▶ 6].

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

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

Any use that goes beyond the intended use or any other type of use may result in fire, electric shock or personal injury.

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

Operating voltage	208 V/ 50/60 Hz; 240 V/ 50/60 Hz; 277 V/ 50/60 Hz
Power/Current consumption	On the typeplate

Tab. 1: Operating voltage

**WARNING!****Danger due to incorrect operating voltage**

It is essential that the operating voltage given on the type label of the unit is observed. Incorrect operating voltage will result in incorrect operation of the unit and can cause serious damage.

**IMPORTANT NOTE!****Warning of misuse!**

In the event of misuse, as outlined below, there is a danger of restricted or failed operation of the unit. Ensure that the air flow 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 use the unit as a site heater.
- ▶ Never use in rooms with a high dust content.
- ▶ Never operate the unit at the wrong operating voltage.
- ▶ Never operate the unit in a covered state.
- ▶ Never operate the unit without the cover grille supplied.

### 2.3 Risk from electrocution!

**DANGER!****Risk of fatal injury from electrocution!**

Contact with live parts will lead to fatal injury from electric shocks. Damage to the insulation or individual components can lead to a fatal injury. There is a risk of fatal injury if the wiring is incorrect or cables are transposed.

- ▶ Only permit qualified electricians to work on the electrical system.
- ▶ Disconnect and de-energise the unit before working on it and prevent it from being re-connected.
- ▶ After shut-down, wait until the fan has come to a standstill.
- ▶ 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.

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## 2.4 Dangers from hot surfaces



### **DANGER!**

#### **Risk of fatal injury from hot surfaces**

This unit is hot when in operation. Do not touch the unit to prevent burns. Keep combustible materials, such as furniture, cushions, bedding, paper, clothing, curtains etc., away from the unit. The unit has hot and arcing or sparking components inside. Never use the unit in areas in which petrol, paint or flammable vapours or liquids are used or stored.

Extreme caution should be exercised when the unit is used by or near children or people with disabilities and when the unit is left unattended when in operation.

Do not operate the unit if it is malfunctioning. Disconnect the power supply and have the unit checked by an approved electrician before re-using it.

Do not insert foreign objects into the ventilation or exhaust air openings, as they can cause electrical shock, fire, or damage the unit. Never block the air inlets and outlets in any way to prevent a possible fire.

This unit is equipped with an audible alarm to warn that parts of the unit are becoming excessively hot.

When the alarm sounds, immediately turn off the unit and check for objects on or near the unit that are blocking the air flow or causing high temperatures. Do not operate the unit when the alarm sounds!

## 2.5 Personnel requirements - Qualifications

### Expertise

The installation of this product requires expertise in heating, installation and electrical engineering, in compliance with national regulations. 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, e.g. National Electric Code (NEC) and Canadian Electric Code (CEC).
- ▶ ANSI/ NFPA
- ▶ Technical wiring regulations (TABs) specified by the regional power suppliers

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.

## 2.6 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.

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## 3 Transport, storage and packaging

### 3.1 General transport instructions

Check on delivery for completeness and transport damage.

Proceed as follows in the event of visible damage:

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



#### IMPORTANT NOTE!

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



#### IMPORTANT NOTE!

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



#### IMPORTANT NOTE!

##### Material damage caused by incorrect transport!

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

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

### 3.2 Scope of delivery



#### IMPORTANT NOTE!

##### Check the scope of delivery!

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

## 3.3 Storage

Store packaging under the following conditions:

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



### **IMPORTANT NOTE!**

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

## 3.4 Packaging

Handling packaging materials



### **IMPORTANT NOTE!**

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



### **IMPORTANT NOTE!**

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

# Katherm QE

Assembly, installation and operating instructions

## 4 Technical data

Operating level [V]	Control signal [V]	Heat output [W]	Fan electrical power consumption [W]	Nominal current 208 V [A]	Nominal current 240 V [A]	Nominal current 277 V [A]	Sound pressure level [dB (A)] <sup>1</sup>	Sound power level [dB(A)]	Air volume flow [m <sup>3</sup> /h]	Leaving air temperature [°C]
<b>Trench length 825 mm / 32.5 inch</b>										
Boost stage	10	660	6	3.2	2.8	2.4	28	36	91	41.6
Design stages	8	530	5	2.5	2.2	1.9	26	34	86	38.4
	6	400	4	1.9	1.7	1.4	21	29	70	37.1
	4	260	3	1.3	1.1	0.9	< 20 <sup>2</sup>	< 28 <sup>2</sup>	52	34.9
Minimum stage	2	130	3	0.6	0.5	0.5	< 20 <sup>2</sup>	< 28 <sup>2</sup>	43	29
<b>Trench length 1250 mm / 49.2 inch</b>										
Boost stage	10	1300	7	6.3	5.4	4.7	31	39	183	41.2
Design stages	8	1040	6	5	4.3	3.8	29	37	172	38.0
	6	780	5	3.8	3.3	2.8	24	32	139	36.8
	4	520	4	2.5	2.2	1.9	< 20 <sup>2</sup>	< 28 <sup>2</sup>	104	34.9
Minimum stage	2	260	3	1.3	1.1	0.9	< 20 <sup>2</sup>	< 28 <sup>2</sup>	87	28.9
<b>Trench length 1700 mm / 66.9 inch</b>										
Boost stage	10	2000	7	9.6	8.3	7.2	33	41	274	41.8
Design stages	8	1600	6	7.7	6.7	5.8	31	39	258	38.5
	6	1200	5	5.8	5	4.3	26	24	209	37.1
	4	800	4	3.8	3.3	2.9	< 20 <sup>2</sup>	< 28 <sup>2</sup>	156	35.3
Minimum stage	2	400	3	1.9	1.7	1.4	< 20 <sup>2</sup>	< 28 <sup>2</sup>	130	29.2

Tab. 2: Technical data for Katherm QE

<sup>1</sup> The sound pressure level was calculated with an assumed room insulation of dB(A). This corresponds to a distance of inches, a room volume of cft and a reverberation period of s.

<sup>2</sup> Sound pressure level < 20 dB (A) and sound power level < 28 dB (A) outside the usual measuring and audible range.

## 5 Construction and function

### 5.1 Overview

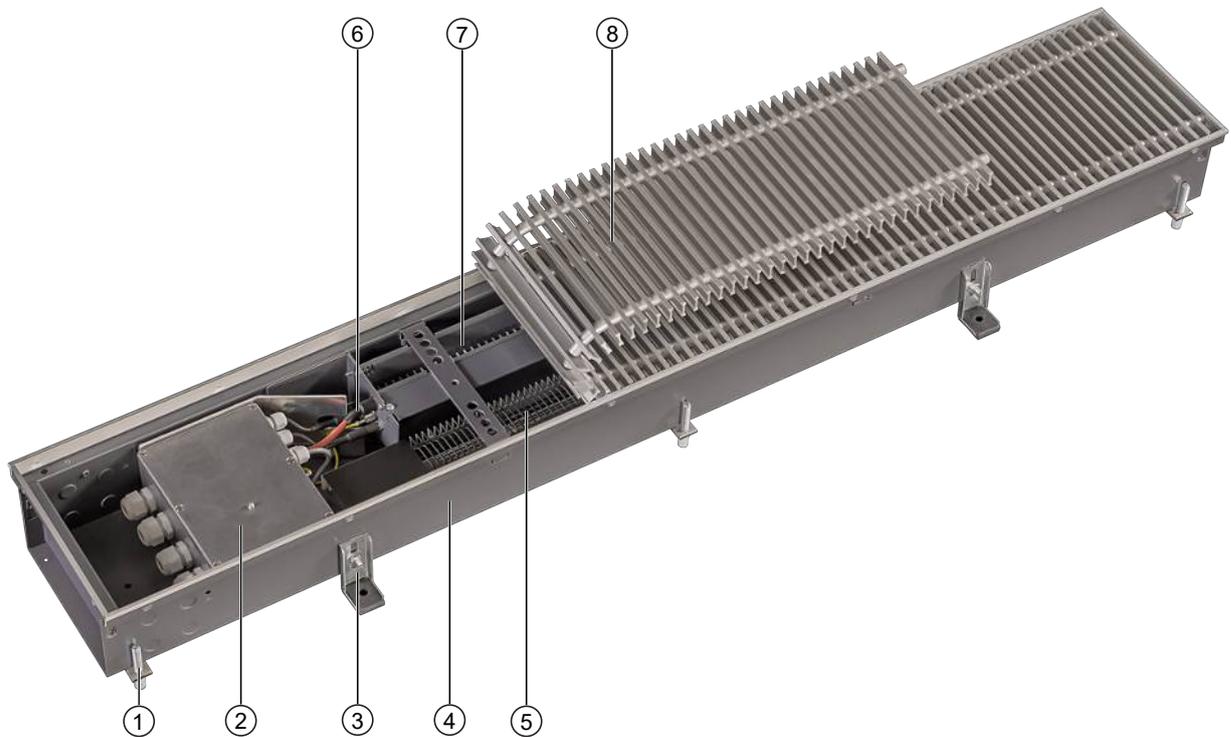


Fig. 1: Katherm QE at a glance

1	Load-bearing height adjustment feet	2	Junction and control box
3	Height adjustment feet with sound insulation	4	Floor trench
5	EC tangential fan	6	Safety pipe
7	Electric heating coil	8	Roll-up grille

### 5.2 Brief description

Katherm QE are decentralised units to heat room air, for use in hotels, offices and business premises, among others. Secondary air is drawn in by the fan and passed through the electric heating coil. The temperature-controlled air rises up the façade of the building to create a pleasant indoor climate.

# Katherm QE

Assembly, installation and operating instructions

## 6 Installation and wiring

### 6.1 Requirements governing the installation site

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

- ▶ Make sure that the unit is securely suspended/standing.
- ▶ Ensure that the airflow can circulate freely.
- ▶ There is a power supply on site (Maximum electrical rating values [▶ 24]).

### 6.2 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.



# Katherm QE

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## 04

**M8**

—

**M6**

Katherm QE [mm]			
825	4 x		2 x
1250	6 x		2 x
1700	8 x		2 x

Katherm QE [Inch]			
32.5	4 x		2 x
49.2	6 x		2 x
66.9	8 x		2 x

## 05

Y

a)

---

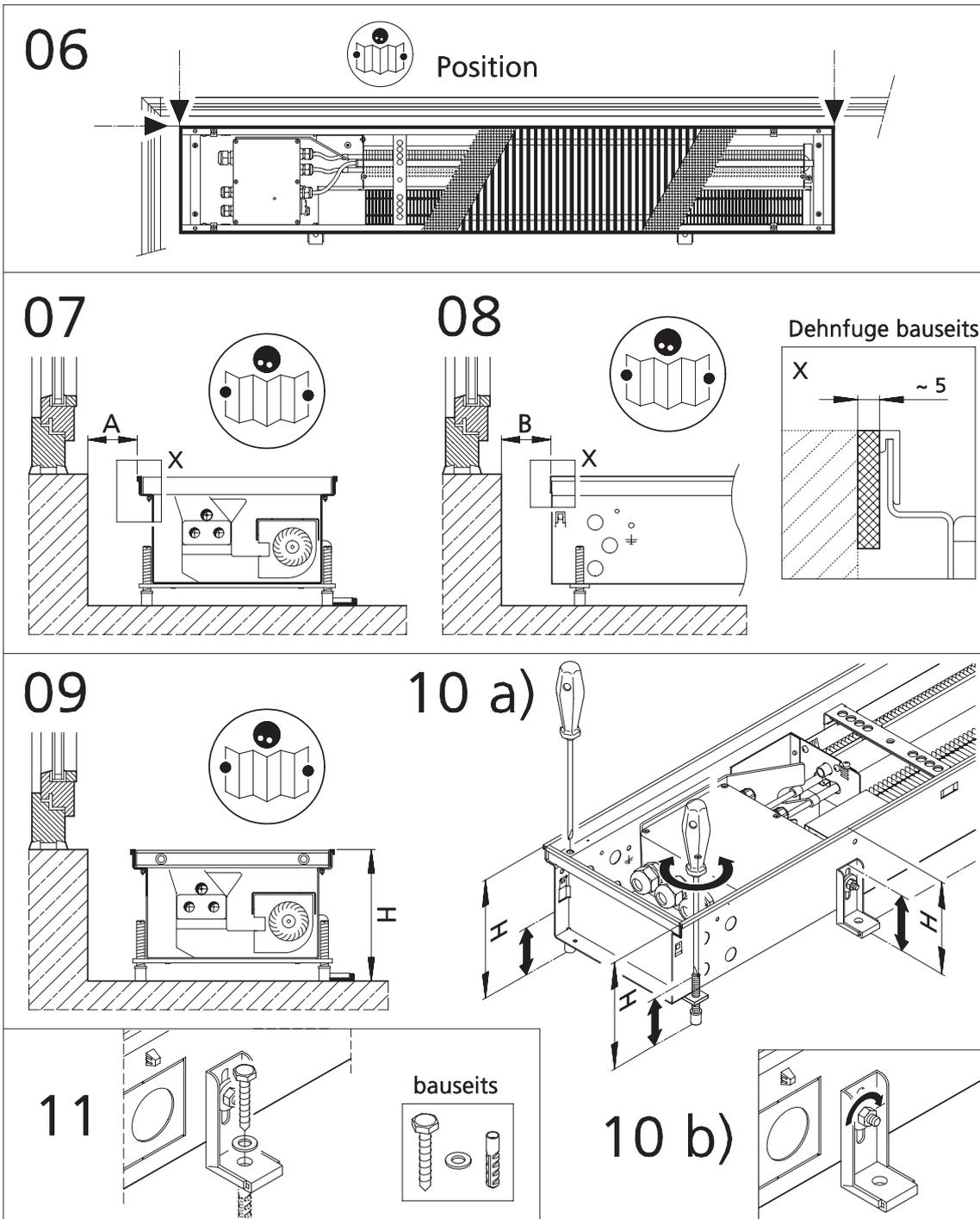
Y

b)

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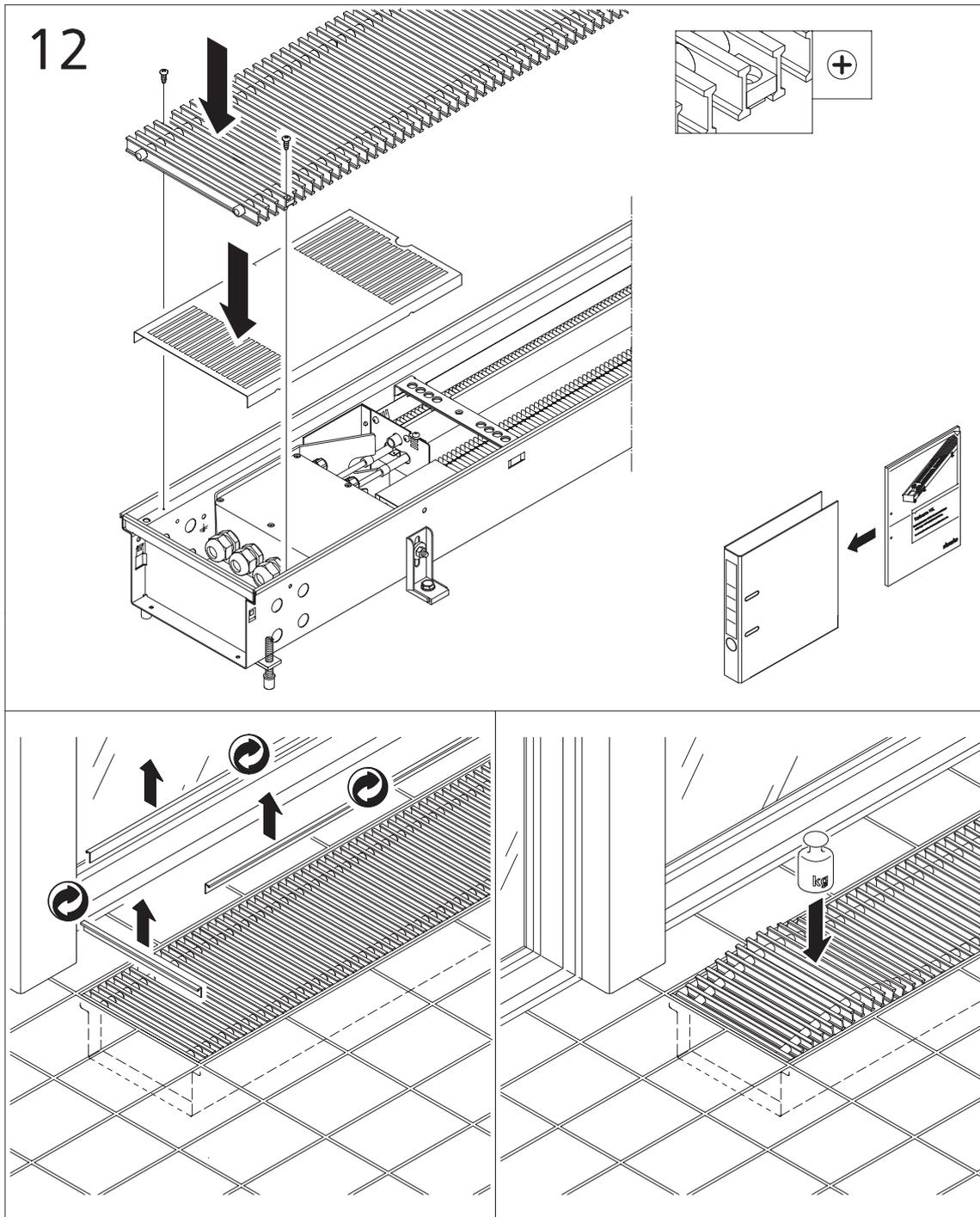
Y

c)



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Separately packed roll-up grilles, for instance when using installation covers to protect the trenches from dirt, are rolled up in the factory. The grille can become slightly over-long due to the steel springs extending. Unrolling the grille and laying it flat for a few hours can return the grille to its original length. Laying the grille into the trench helps it to fit more easily into the frame.

## 6.2.2 Screed work

**The following work needs to have been completed before screeding can begin:**

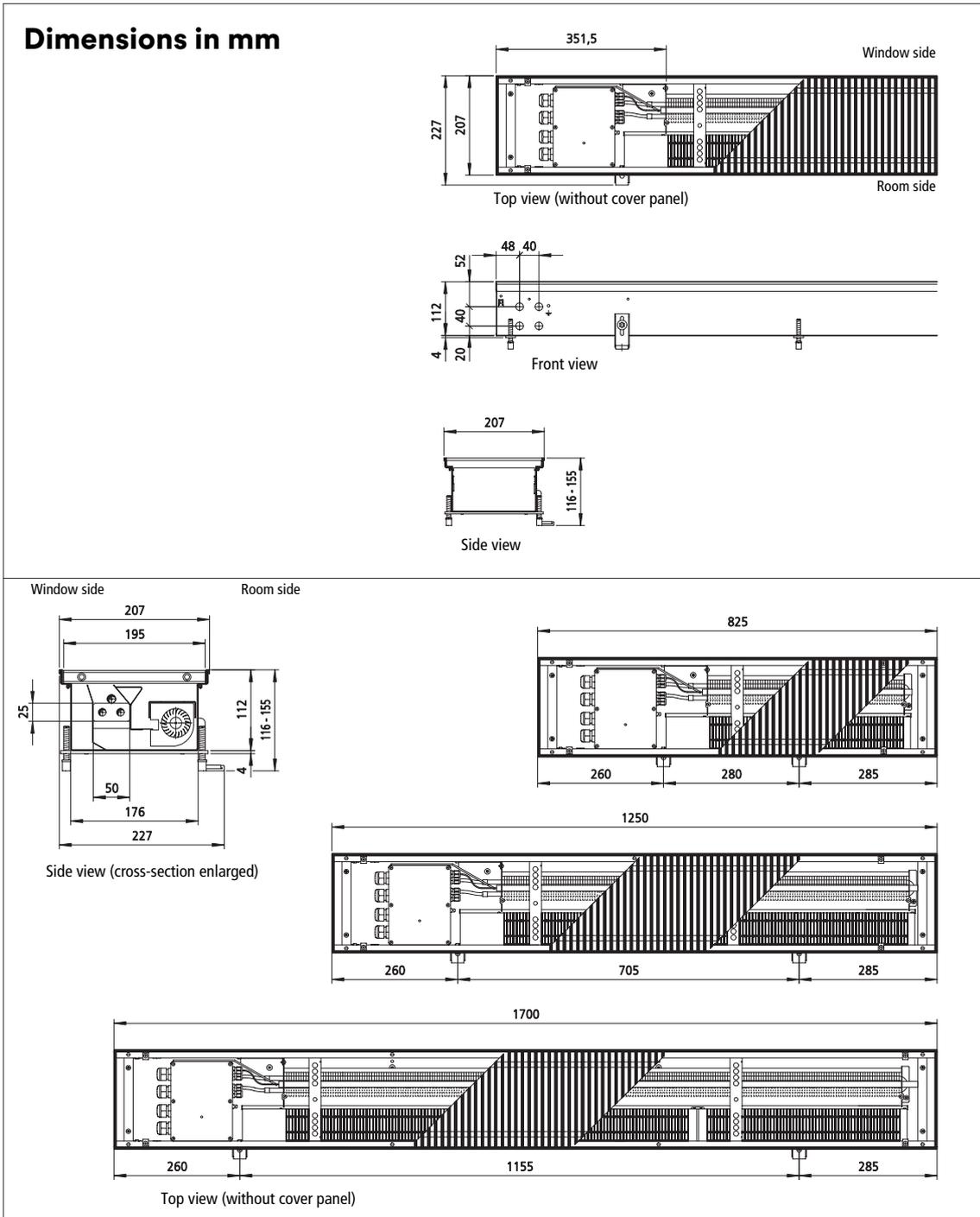
- ▶ The electrical connections have been correctly wired.
- ▶ The unit is correctly positioned and levelled.
- ▶ There are no sound bridges to the concrete slab, especially in the area of the height adjustment feet.
- ▶ Expansion joints have been provided on site to prevent the unit from being compressed by the floor or screed.
- ▶ All the appropriate cable conduits have been laid.
- ▶ Appropriate material has been used to seal all the openings and punched openings in the unit. They also need to be additionally sealed when using floating screed or other low-viscosity floor coverings!
- ▶ Cover the grille and floor trench with the transparent installation cover to protect the trench from dirt or cement.

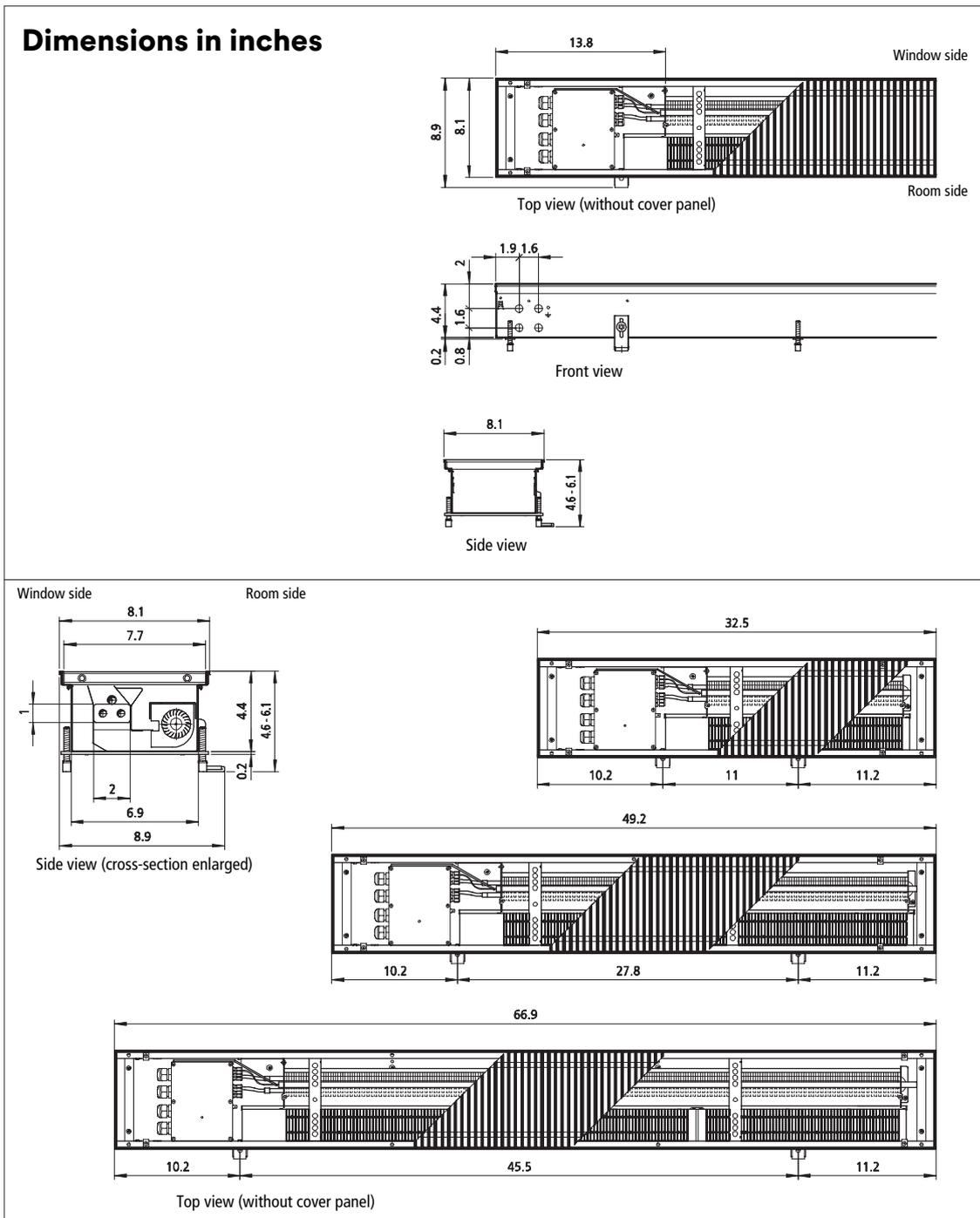
# Katherm QE

Assembly, installation and operating instructions

## 6.3 Installation

### 6.3.1 Connection to the pipe network





### 6.3.2 Fitting the grille

High surface temperatures occur at the electric heating coil. For this reason, additional grille fixings are factory-fitted on both longitudinal sides of the duct as a safety guard. They can be removed using a screwdriver. The grille fixing only needs to be removed on one side, the electrical connection side, when wiring. Once wiring has been completed, attach the grille fixing again as per the figure.

# Katherm QE

Assembly, installation and operating instructions

## Installation cover:

**Caution:** Do not operate the Katherm QE or the electric heating coil with the installation cover in place. After removing the installation cover, position the grille and screw in place with the grille fixings and the self-tapping screws.

Do not cover the roll-up grille when the unit is in operation!

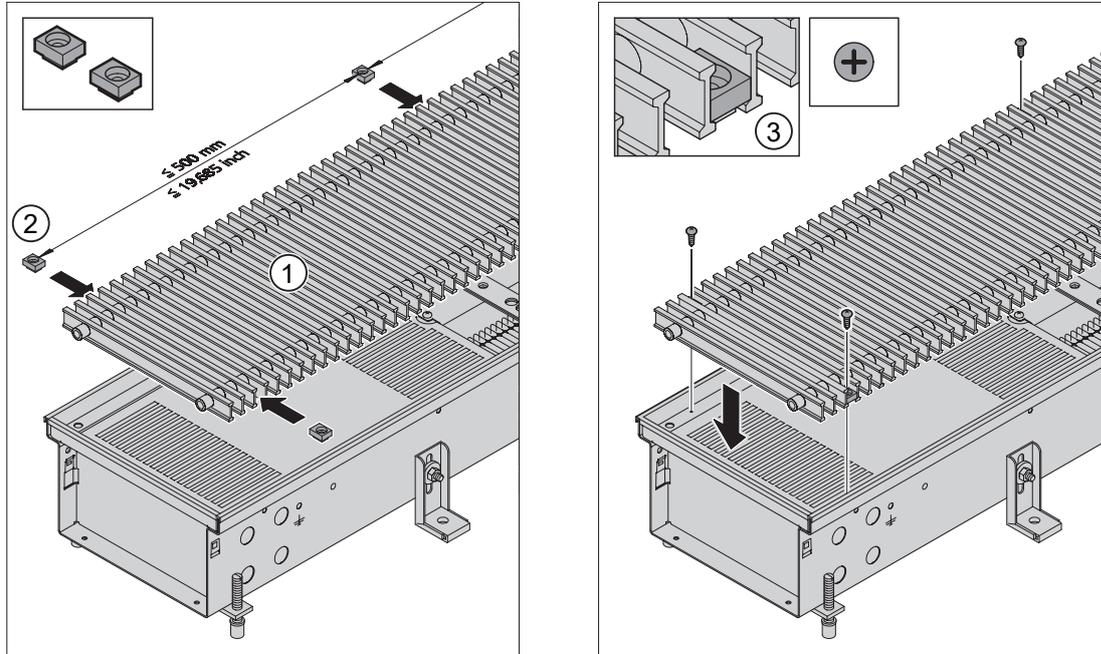


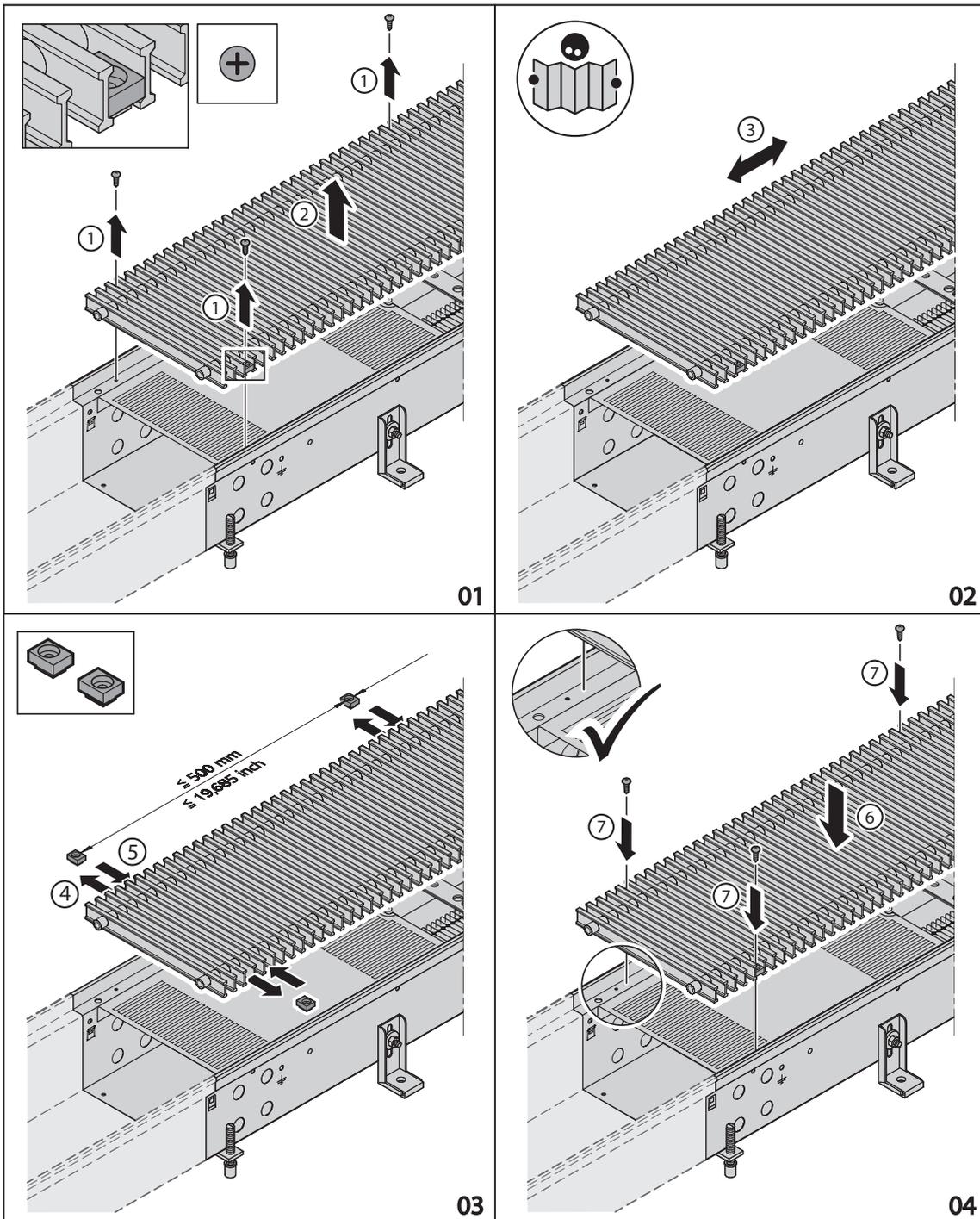
Fig. 2: Grille fixing

1	Roll-up grille	2	Grille fixing with self-tapping screws
3	Detail of grille fixing		

## Fixing the grille on trench extensions

Proceed as follows to adapt the grille to structural conditions on site with trench extensions:

- ▶ Loosen the fastening screws.
- ▶ Position the grille.
- ▶ Re-position and attach the grille fixings.
- ▶ Note the spacing of the grille fixings.



# Katherm QE

Assembly, installation and operating instructions

## 7 Electrical connection



### IMPORTANT NOTE!

#### Electrical work

Only have qualified electricians carry out electrical work. Additional connections, e.g. to building management systems or external controls, may be required. Refer to the manufacturer's literature for this.

- ▶ Wire the unit according to the enclosing wiring diagram.
- ▶ Wire the unit in accordance with the applicable national regulations and technical wiring regulations stipulated by the power supply companies.
- ▶ Only connect the unit to permanently routed cables.



### IMPORTANT NOTE!

Provide an all-pole mains separator in the electrical installation on site that can be reliably secured to avoid the system being reconnected (e.g. a lockable switch with a contact opening of at least 3 mm up to a rated voltage of 480 V). No protective measures are indicated in the wiring diagrams. These must be provided when installing the system and when connecting the units in accordance with the regulations of each energy supply company. According to the National Electrical Code, ANSI/NFPA 70, 14 AWG (2.1 mm<sup>2</sup>) is the smallest wire gauge that may be used to wire branch lines and also the smallest wire gauge that can be provided on a terminal for connection of a power supply wire. AWG 14 is also the largest wire gauge that can be connected to the terminals.

### 7.1 Maximum electrical rating values

#### Katherm QE, UL version (\*UL, \*U04, \*U06)

Length [mm / inch]	Nominal voltage [V AC]	Mains frequency [Hz]	Nominal power [W]	Nominal current [A]	Ri analogue input [kΩ]	IP class	Protection class
825 / 32.5	208	60	660	3.2	100	21	I
	240			2.8			
	277			2.4			
1250 / 49.2	208	60	1300	6.3			
	240			5.4			
	277			4.7			
1700 / 66.9	208	60	2000	9.6			
	240			8.3			
	277			7.2			

Tab. 3: Maximum electrical connection values, electromechanical model

## 7.2 Electromechanical connection, 208/240/277 V (\*00)

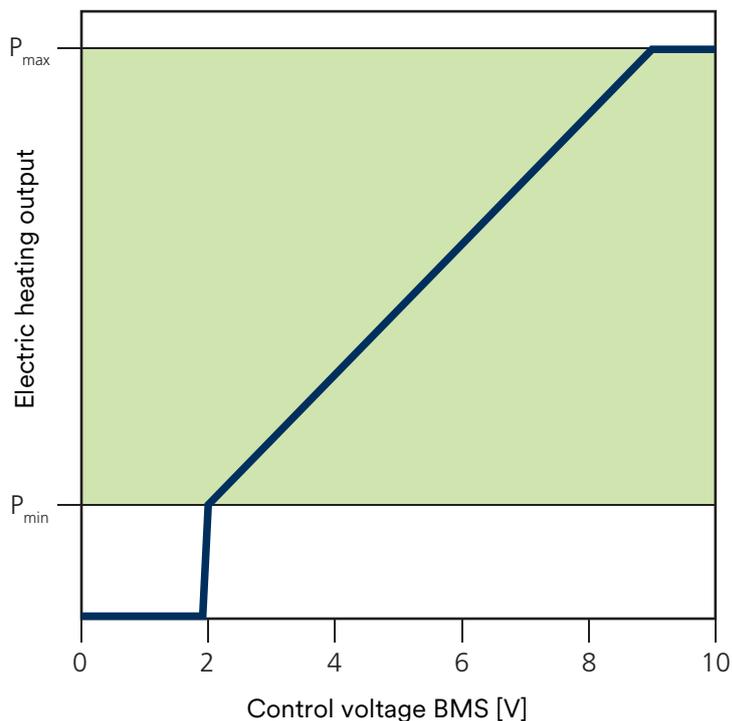
### Circuit description Katherm QE

- ▶ Katherm QE requires a 208 / 240 / 277 V AC power supply.
- ▶ The output of the electric heating coil and EC fan can be controlled continuously variably by a 0-10 V DC signal.
- ▶ Internal safety shut-down: In the event of improper use, the heat output is reduced or switched off.
- ▶ The temperature is monitored by an additional NTC10K sensor in the safety chain. The heat output is automatically lowered above a temperature of 65 °C (149 °F). The heating element is switched off at a temperature of 80 °C (176 °F).
- ▶ Faults (motor malfunction, electric heater fault etc.) are issued by a potential-free collective alarm contact (max. 60 V / 1 A).
- ▶ Once the cause of the fault has been remedied, the fault message is acknowledged by resetting the supply voltage.

### Control via 0 – 10 V DC

At a control signal of 2 V, the EC tangential fan is operated at minimum fan speed and the electric heating coil is activated at the lowest heat output.

Control signal	Function
0 V	Off
2 V – 9 V	0 – 100 %



# Katherm QE

Assembly, installation and operating instructions

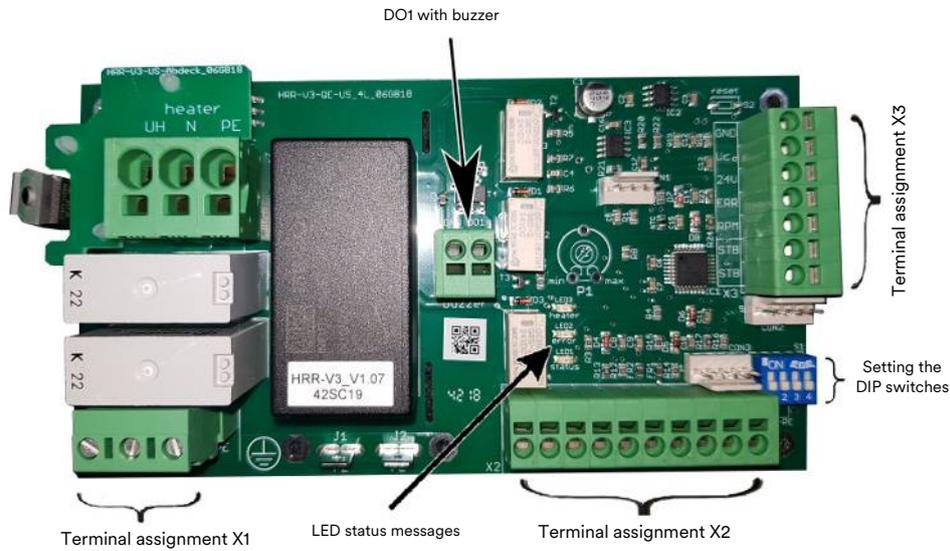


Fig. 3: Katherm QE PCB (only for 208 V and 240 V)

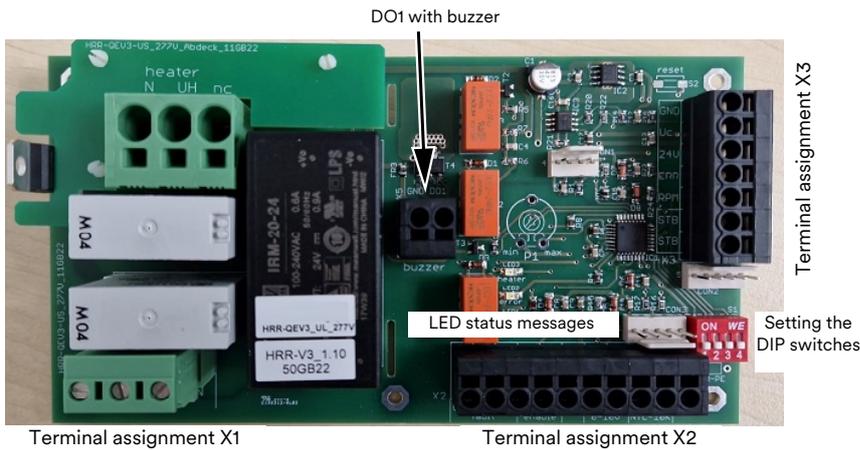


Fig. 4: Katherm QE 277 V PCB

Terminal assignment		
X1	mains	Mains connection (208/ 240/ 277 V/ 50 Hz)
X2	Fault	Potential-free fault alert output (max. load 60 V AC/DC 1 A)
	Enable	D11, potential-free enable contact
	24 V	Voltage output 24 V DC ( max. 40 mA)
	0 - 10 V	AI1, Control signal 0...10 V = Heat output 0...100% (Ri = 100 KΩ)
	NTC 10 K	AI2, temperature sensor
	X3	Safety temperature limiter
RPM		Input signal of the number of revolutions of the EC tangential fan
ERR		Input signal of the status of the EC tangential fan
24 V		Supply voltage (+) for the EC tangential fan
GND		Supply voltage (-) for the EC tangential fan

## DIP switch settings

DIP	Factory setting	OFF	ON
DIP 1	OFF	Enable not required	Enable required
DIP 2	OFF	Fan speed increase Off	Fan speed increase On
DIP 3	OFF	Minimum heat output = 20%	Minimum heat output = 30%
DIP 4	OFF	Power reduction 100%	Power reduction 90%

## LED status messages

LED	Function	Colour	Code	Description
1	Status	Green	OFF	No voltage / Error
			Flashes cyclically	Control active
			Alternating fast/slow flashing	No DI1 enable
			Lights up	Standby
2	Fault alarm	Red	1x flashing	EC motor fault
			2x flashing	EC motor fan speed
			3x flashing	PCB temperature sensor has triggered
			4x flashing	Power reduction over 50%
			5x flashing	Sensor short circuit
			Lights up	Safety temperature limiter has tripped, buzzer sounds
3	Heating	Yellow	Flashes cyclically	Electric heater PWM signal
			Lights up	Electric heater 100%

### Status coding of the red LED fault signal

Lights up = Continuously lit

1 x flashing = On (0.2 sec.) Off (0.8 sec.) ...

2 x flashing = On (0.2 sec.) Off (0.8 sec.) On (0.2 sec.) Off (2 sec.) ...

3 x flashing = On (0.2 sec.) Off (0.8 sec.) On (0.2 sec.) Off (0.8 sec.) On (0.2 sec.) Off (2 sec.) ...

4 x flashing = On (0.2 sec.) Off (0.8 sec.) On (0.2 sec.) Off (0.8 sec.) On (0.2 sec.) Off (0.8 sec.) On (0.2 sec.) Off (2 sec.) ...

5 x flashing = On (0.2 sec.) Off (0.8 sec.) ...

Alternating = On (0.5 sec.) Off (0.2 sec.) On (0.1 sec.) Off (0.2 sec.) ...

**Informationen zur Kabelverlegung:**

Die folgenden Angaben zu den Leitungstypen und der Leitungsverlegung sind unter Berücksichtigung der National Electric Code einzuhalten.

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

Ohne \*: NYM-J. Die notwendige Aderanzahl inkl. Schutzleiter ist an der Leitung angegeben. Querschnitte sind nicht angegeben, da die Leitungslänge in die Berechnung des Querschnittes einfließt.

\*) : Abgeschirmte Leitung, J-Y(ST)Y 0,8mm. Getrennt von Starkstromleitungen verlegen.

\*\*) : Abgeschirmte, paarig verseilte Leitung z.B. UNITRONIC® BUS LD 2x2x0,22, UNITRONIC® BUS LD 3x2x0,22. Getrennt von Starkstromleitungen verlegen.

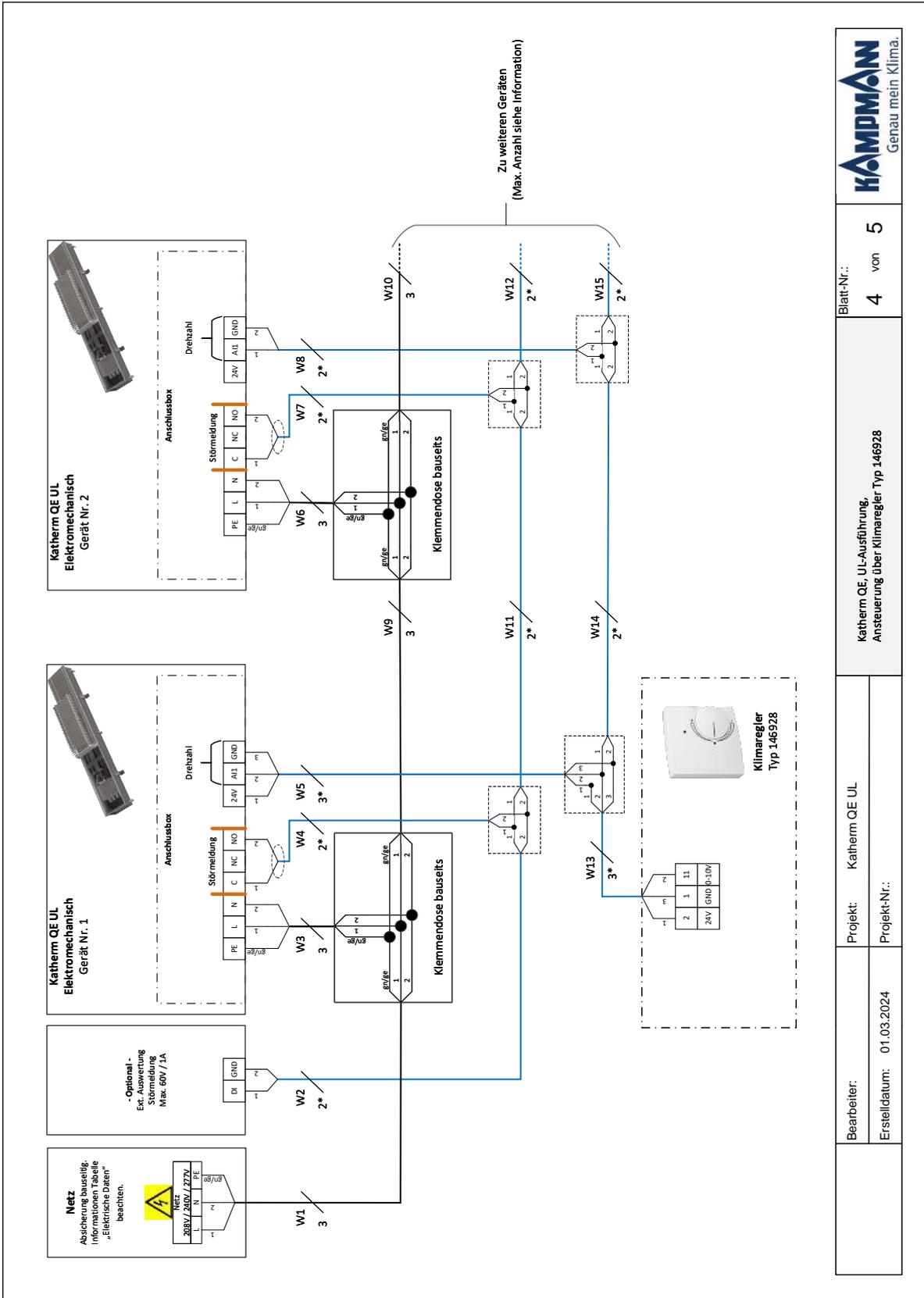
- Bei Verwendung anderer Leitungstypen müssen diese mindestens gleichwertig sein.

- Leitungen für Daten- bzw. Bus-Signale sind mit einseitig abgeschlossener Schirm dargestellt. Leitungen für analoge Signale sind mit nicht abgeschlossener Schirm dargestellt. Aufgrund baulicher bzw. örtlicher Gegebenheiten und je nach Art und Höhe der Störungseinfüsse, 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 abgeschlossen oder nicht abgeschlossen) erforderlich sein. Dies ist baurechtlich zu prüfen und ggf. abweichend von den Angaben in der Dokumentation auszuführen!

Bearbeiter: Erstelldatum: 01.03.2024	Projekt: Katherm QE UL	Allgemeine Informationen		Blatt-Nr.:
	Projekt-Nr.:			2 von 5







Blatt-Nr.: 4 von 5

Katherm QE, UL-Ausführung, Ansteuerung über Klimaregler Typ 146928

Projekt: Katherm QE UL  
Projekt-Nr.: 01.03.2024

Bearbeiter:  
Erstelldatum: 01.03.2024

## 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

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

### Electrical tests

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

### Air-side checks

- ▶ Check whether there is unimpeded flow at the air inlet and outlet.

Once all checks have been completed, initial commissioning can be carried out in line with Chapter 9 "Operation" [▶ 32].

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Assembly, installation and operating instructions

## 9 Operation

### 9.1 Operation of electromechanical control



#### Room temperature controller type 146928

- ▶ room temperature controller for 2- and 4-pipe applications, surface-mounted wall installation on a flush-mounted box
- ▶ setpoint display by threshold arrows
- ▶ heating or cooling via active 0-10 V signals
- ▶ option for external room sensor connection
- ▶ digital input for ECO operation
- ▶ for use with Katherm QE, max. 5 units

## 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
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 electric heating coil for dirt, damage, corrosion and leak-tightness. Carefully vacuum the electric heating coil if dirty.	User

### 10.3 Maintenance work

#### 10.3.1 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.

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## 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 [▶ 34] 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.
Unit is not heating sufficiently	Fan is not switched on.	Switch on fan at the controller.
	Air output is too low.	Set a higher fan speed.
	Filter is dirty.	Replace filter.
	Setpoint temperature on the controller is set too low.	Adjust the temperature setting on the controller.
	Control unit with integral sensor and/or external sensor is exposed to direct sunlight or positioned over a heat source.	Locate the control unit with integral sensor and/or external sensor in a suitable position.
	Air cannot blow out or in freely.	Remove obstacles at the air intake / air discharge.
	Electric heating coil is dirty.	Clean the electric heating coil.
Unit too loud	Fan speed too high.	Set a lower fan speed, if possible.
	Air intake / air discharge opening is obstructed.	Free air routes.
	Filter dirty.	Replace filter.
	Rotating parts unbalanced	Clean and/or replace impeller. Make sure that no balancing brackets are removed during cleaning.
	Fan dirty.	Clean dirt from fan.
	Electric heating coil dirty.	Clean dirt from the Electric heating coil.

### 11.2 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. Make sure that the cover grille is securely reattached to the unit.
3. Switch off the unit.
4. Acknowledge the fault on the controller, if necessary.

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<b>Standard(s):</b> Fixed And Location-Dedicated Electric Room Heaters [UL 2021:2015 Ed.4+R:14Dec2016]  Electric Air-Heaters (R2018) [CSA C22.2#46:2013 Ed.9]
<b>Product:</b> Electric Heater
<b>Models:</b> Katherm QE



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<b>Product:</b>	Electric Heater
<b>Models:</b>	Katherm QE





<https://www.kampmann.ca/en/hvac/products/trench-technology/katherm-qe>

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