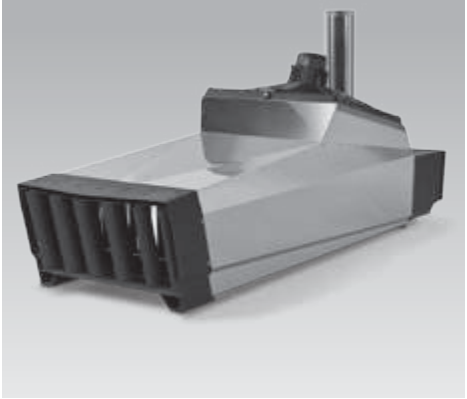
Operating instructions
Heater Thermorizer TR 75



Contents

Safety

Please read and keep in a safe place

Please read through these instructions carefully before installing or operating. Following the installation, pass the instructions on to the operator. This unit must be installed and commissioned in accordance with the regulations and standards in force. These instructions can also be found at www.docuthek.com.

Explanation of symbols

•, **1**, **2**, **3**... = Action
▷ = Instruction

Liability

We will not be held liable for damage resulting from non-observance of the instructions and non-compliant use.

Safety instructions

Information that is relevant for safety is indicated in the instructions as follows:

⚠ DANGER
Indicates potentially fatal situations.

⚠ WARNING
Indicates possible danger to life and limb.

! CAUTION
Indicates possible material damage.

All interventions may only be carried out by qualified gas technicians. Electrical interventions may only be carried out by qualified electricians.
Persons under the age of 18 as well as persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge are not allowed to use, clean or service this device. Staying near the device or its use is prohibited, even if said persons are supervised or have been instructed on the safe use of the devices and are aware of the resulting dangers.

Conversion, spare parts

All technical changes are prohibited. Only use OEM spare parts.

Transport

On receipt of the product, check that the delivery is complete (see Part designations). Report any transport damage immediately.

Storage

Store the product in a dry place. Ambient temperature: see Technical data.

Checking the usage

TR 75

Heater with indirect combustion for agricultural stables and horticultural greenhouses. Depending on the type and setting, the heater can be operated with natural gas or LPG (propane/butane).

This function is only guaranteed when used within the specified limits – see page 27 (Technical data). Any other use is considered as non-compliant.

Type code

Code	Description
TR	Heater
75	Capacity 75 kW, jet length > 50 m

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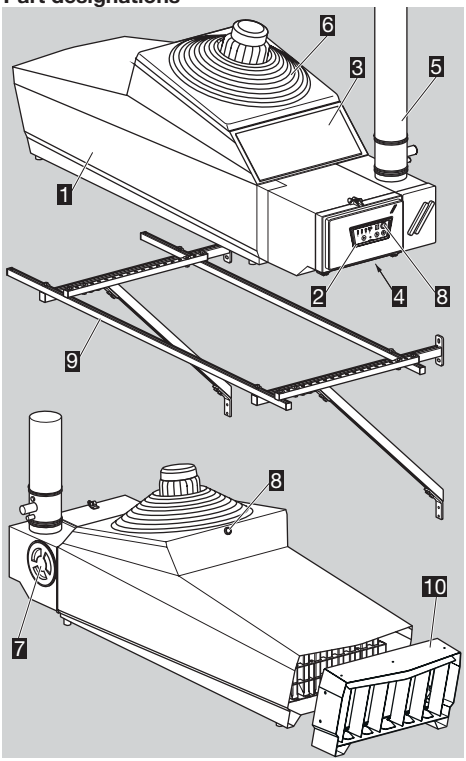
Part designations



1 Thermorizer stainless steel housing
2 Housing cover/Burner control unit
3 Service flap
4 Connection for gas combination control
5 Chimney with condensate vessel (not included in the delivery)
6 Main fan
7 Filter
8 Status indicator (operation/faults)
9 Wall bracket (optional)
10 Air diffuser (optional)

Type label

Air circulation, electrical connection rating, rated heat input, gas type, category, supply pressure, burner pressure, enclosure: see type label.

- Before installation, check whether the device is suitable for the regional gas type and the specified limits, see type code and page 27 (Technical data).

Installation

⚠ DANGER

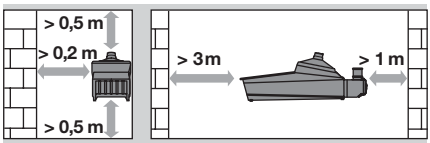
Danger of death! Gases are generated during the storage of slurry which remain partly dissolved in the liquid. If the slurry is strongly agitated during mixing and purging, poisonous, explosive gases such as hydrogen sulphide and methane are released. If an ignition source is present, the released gas can explode.

To avoid damage during operation, please observe the following:

– Switch off the heater before mixing and purging the slurry.
– Close the slide valves when storing slurry outside.
– The fan for the air supply must not be part of a closed pipe system.
– Respect the safety distance of the heater to inflammable materials, see “Installation position”.
– Consult your fire insurance provider and/or local fire protection engineer to assess the foreseeable, general risk of fire.
– For cleaning, care and maintenance, note the applicable national regulations and directives.
– No condensation permitted. Comply with ambient temperature, see page 27 (Technical data).

Installation position

▷ Installation position: horizontal.
▷ Note the safety distance to walls and inflammable materials.



▷ Ensure sufficient free space around the device. There must be no obstructions in front of the inlet and outlet side of the heater.
▷ The distance between the heaters should be greater than 30 m.
▷ To avoid overheating, do not cover the main fan.

Chimney

! CAUTION

The TR is only deemed CE tested and approved when used with the coaxial chimney described in "Accessories".

- ▷ Do not exceed the maximum length (5 m) of the chimney.
- ▷ The design of the chimney depends on the premises and the roof construction.
- ▷ Various chimney elements for individual applications can be supplied, see page 20 (Accessories).
- ▷ The wall bracket cannot be installed in the correct position until the chimney has been selected.

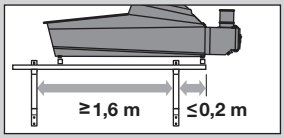
Wall bracket

- ▷ The wall bracket is the support and wall mounting for the heater.
- ▷ The design of the mounting depends on the premises and the wall construction, see page 20 (Accessories).
- ▷ For its alignment, we recommend that the heater is positioned at the correct height using a forklift truck.
- ▷ The heater must remain on the forklift truck until the wall bracket has been mounted to make it easy to install.

! CAUTION

To avoid damage to the heater TR, please observe the following:

– If the slide is used for the wall bracket, position the TR so that when the slide is extended it does not tip over.



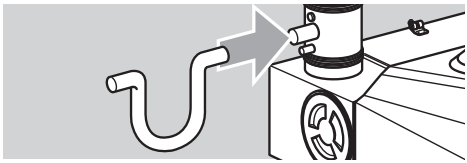
Siphon connection

⚠ DANGER

Risk of poisoning!

– If the TR is operated without a siphon or with an empty siphon, toxic flue gases may escape.

- ▷ A siphon must be connected before commissioning. This prevents the escape of toxic flue gases and will also collect any condensate contained in the flue gas.
- ▷ The siphon is not included in the delivery and must be ordered separately for the nominal size of DN 40.
- ▷ Fill the siphon with water before commissioning.
- ▷ If large volumes of condensate are discharged, we recommend that an additional drain pipe is connected to the siphon.



- ▷ If the heater has not been used for a lengthy period, the siphon must be checked, cleaned and filled with water before commissioning.
- • Unscrew the siphon, remove it and fill it until water flows out of the side drain.
- • Secure the siphon again and ensure that the seal is correctly positioned.

Connecting the gas supply

- ▷ The TR is set to the correct gas type as specified in the purchase order.
- ▷ If you wish to use a different gas type, see page 3 (Changing the gas type).

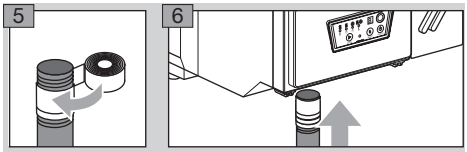
1 Disconnect the system from the electrical power supply.

2 Shut off the gas supply.

3 Remove the sealing plug from the gas inlet on the combination control on the underside of the TR.

4 Connect the gas pipe with an R ¾" threaded connection or gas hose with an R ¾" connector, see page 20 (Accessories).

- ▷ Use approved sealing material only.



Changing the gas type

- ▷ If you wish to use a gas type other than the one specified in the purchase order, you will have to order an appropriate burner chip card.
- ▷ The TR must be set to the new gas type, see page 9 (Adjusting the heater).
- ▷ Mark the new gas type on the type label using waterproof ink.

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Tightness test

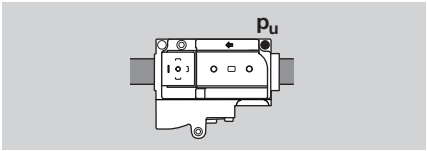
▷ The heater may only be disconnected from the electrical power supply once the device has been switched off.

1 Disconnect the system from the electrical power supply.

▷ The valves are closed when de-energized.

2 Open pressure test point p_u on the gas combination control.

3 Connect a pressure gauge to p_u.



4 Switch on the power supply.

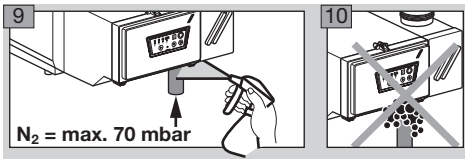
5 Release the gas supply.

6 Do not exceed the maximum inlet pressure p_u.

7 Close the manual valve.

8 Check the pressure gauge on p_u.

▷ The pressure must not drop.



11 Having successfully completed the tightness test, remove the pressure gauge and close pressure test point p_u.

Wiring

! CAUTION

Danger of electric shocks!

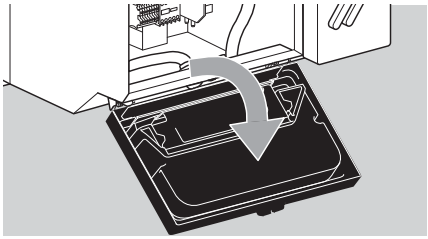
– Before working on possible live components, ensure the unit is disconnected from the power supply.
– The TR 75 must have an external 10 A fuse.
– It must be possible to isolate the system from the power supply. The TR must be equipped with a mains cable or a plug featuring a contact gap according to the specifications for Overvoltage Category III for full isolation at each pin. If this is not the case, the permanently wired electrical installation must include an isolating switch of this type pursuant to the local installation regulations.

▷ The heater may only be disconnected from the electrical power supply once the device has been switched off.

1 Disconnect the system from the electrical power supply.

2 Shut off the gas supply.

3 Open the housing cover of the burner control unit.



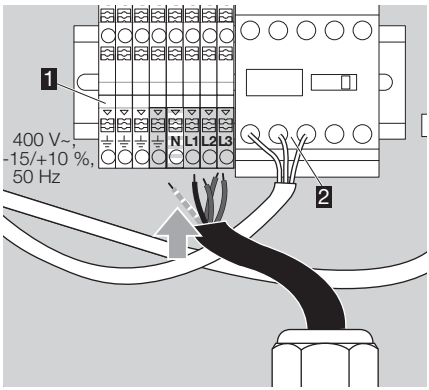
▷ External electrical interference must be avoided.

▷ Check the rotating field at L1, L2 and L3.

▷ The terminal block is marked with L1, L2, L3, N and PE.

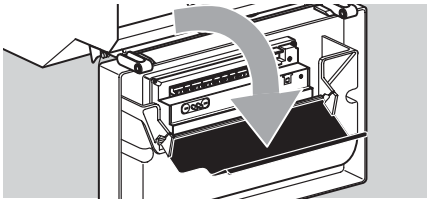
4 Connect the mains cable.
L1, L2, L3 = grey
N = blue
PE = green/yellow

▷ The selection of cables and mains plug must comply with local/national regulations.



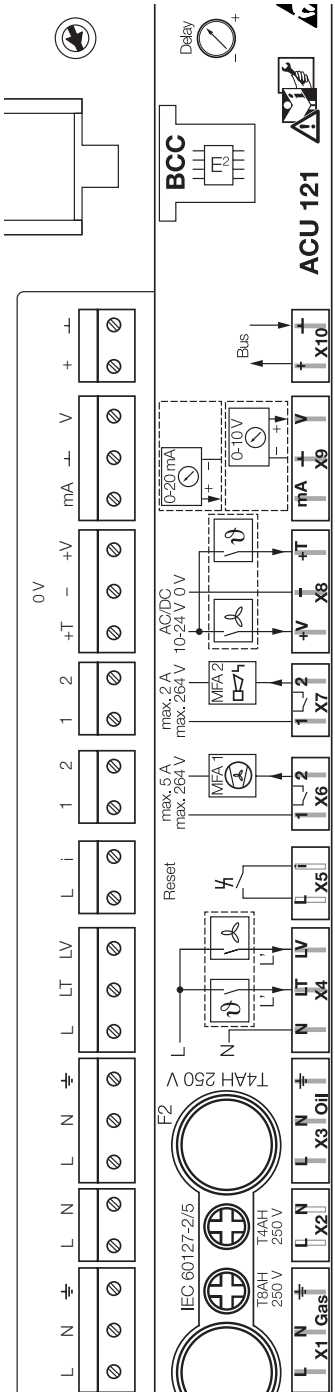
1 Terminal block for the voltage supply
2 Relay for actuating the main fan

5 Open the cover of the burner control unit.



Connection diagram

▷ The burner control unit is fitted with coded plugs to prevent them being mixed up.



Connecting the room thermostat

! CAUTION

To avoid damage to the heater TR, please observe the following:

– Provide post-cooling for the TR. The TR requires a continuous supply of 400 V AC (3NAC), 50 Hz.
– In case of a power failure, an emergency power supply unit should automatically take over the power supply. Emergency power supply units with a cardan shaft drive for tractor attachment are also suitable.

▷ Use a room thermostat with a hysteresis of ± 1°C. It switches on if the room temperature is 1°C less than the set temperature and switches off again once the room temperature is 1°C more than the set temperature.

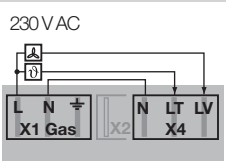
▷ The floating plugs X4 (230 V) or X8 (24 V) are used to connect the room thermostat.

▷ If the room thermostat is connected to the mains supply of other plugs (plug X1 or X3) the heater TR will be damaged.

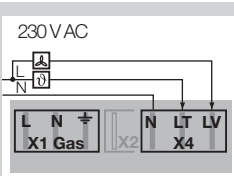
Connecting a single heater to a room thermostat

6 Connect a room thermostat for 230 V AC.

▷ Method 1: power supply via the heater.

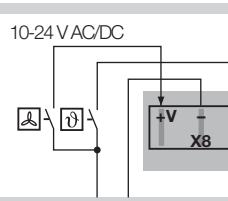


▷ Method 2: power supply via the environmental control computer.



6 Connect a room thermostat for 24 V DC/AC to plug X8.

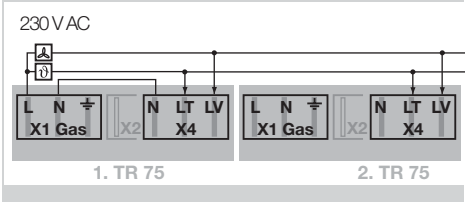
▷ The 24 V power supply must always be from an external source.



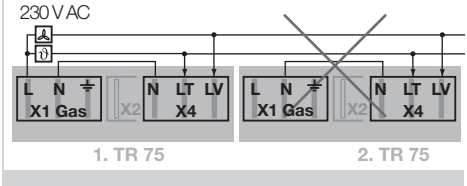
Connecting multiple heaters to a room thermostat or an environmental control computer

6 Connect a room thermostat for 230 V AC.

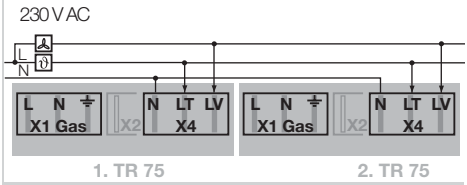
▷ Method 1: power supply via the heater.



▷ "N" may only be connected to plug X4 of one of the heaters.

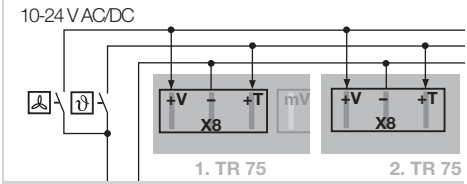


▷ Method 2: power supply via the environmental control computer.

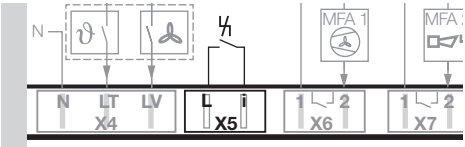


6 Connect a room thermostat for 24 V DC/AC to plug X8.

▷ The 24 V power supply must be from an external source.

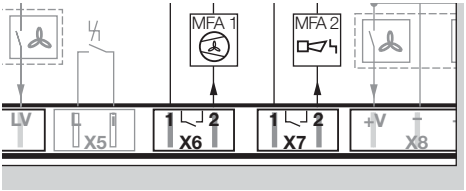


Remote reset



▷ An external remote reset may be connected to plug X5.

Multi-functional outputs



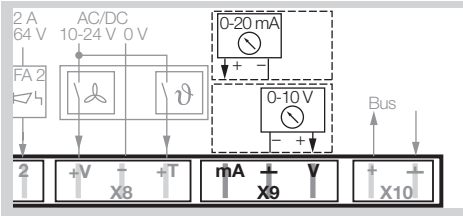
▷ Floating multi-functional outputs can be parameterized using plugs X6 and X7. There are two methods of completing this parameterization:
The PC software for burner control units BCSoft can be used via the optical interface on the burner control unit, see page 20 (Accessories).
The "Setting mode" menu can be opened using the MODE selection button (heater OFF) and used for parameterizing the outputs, see page 9 (Setting mode).

▷ **MFA 1, external fan** (max. 5 A)
For improved air circulation in the room, an additional fan can be connected. The external fan can be actuated with an adjustable delay (BCSoft) for switching it on and off. The exact time relates to the operation of the main fan.

▷ Possible parameterization options:
- Inactive: the external fan is not actuated.
- Main fan active: the external fan is actuated at the same time as the main fan.
- Main fan inactive: the external fan is actuated when the main fan of the TR switches off.
- Modulation enable: the external fan is not actuated until the TR starts modulating operation.

▷ **MFA 2, status signal** (max. 2 A)
Possible parameterization options:
- Fault NO (default setting):
For example, the input for a horn can be set to NO.
- Fault NC:
The input on an environmental control computer can be set to NC (e.g. to indicate a cable discontinuity).
- Operation
- Standby

Selecting the burner capacity



▷ Plug X9 is not wired at the factory. In other words, the burner heats at its full capacity.

▷ A capacity range from 60 to 100% can be selected using a voltage or current signal. A signal sensor is connected to terminal X9 for this purpose:
20 mA/0 V = maximum capacity,
0 mA/10 V = minimum capacity.

Burner Chip Card (BCC)

▷ All the data relevant to the device are saved on the BCC and the internal device memory (EEProm). In addition, the parameters are saved on the BCC.

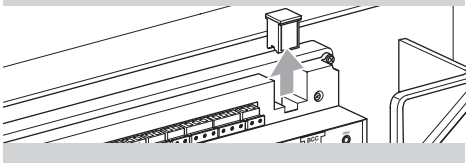
! CAUTION

Danger of electric shocks!

– Before working on possible live components, ensure the unit is disconnected from the power supply.
– If the BCC is removed from the burner control unit, the heater TR will be non-functional.

▷ In the event of faults which cannot be rectified by authorized trained personnel, contact the supplier.

▷ The BCC can be removed from the burner control unit and submitted for diagnostic purposes by agreement with the supplier.

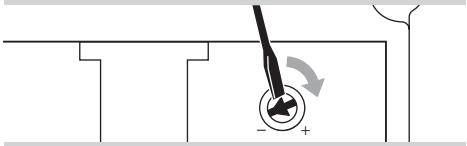


▷ If no other fault is active, the TR can be readied for use again by inserting a new BCC. The BCC must be compatible with the TR 75 and the gas type used.

Setting the switch-on delay

▷ If multiple heaters switch on at the same time, there can be a gas and/or power shortage on individual devices. To avoid this happening, adjust the switch-on delay using the potentiometer on the burner control unit.

▷ The potentiometer is set to 0 s at the factory.



▷ If necessary, a switch-on delay of 5 to 10 s can be set between the devices.

7 After completing the wiring, close the cover and the housing cover on the burner control unit again.

8 Switch on the power supply.

▷ A circulating dash will be displayed when the voltage supply is switched on to indicate that the switch-on delay is running.

9 Release the gas supply.

10 Commission the heater.

Commissioning

! CAUTION

To avoid damage to the heater TR, please observe the following:

– The heater may only be commissioned once it has been ensured that the heater, gas pipes, mains voltage supply and room thermostat have been installed by authorized trained personnel according to the regulations.
– During the initial commissioning procedure, the direction of rotation of the main fan must be checked first, see page 9 (Checking the direction of rotation of the main fan).

▷ The TR may only be commissioned using the gas type specified on the type label.

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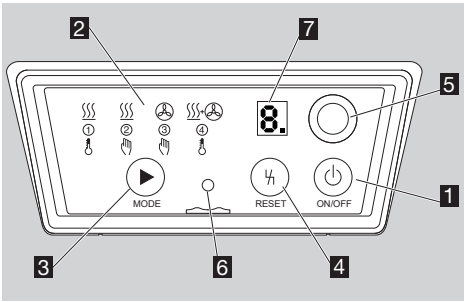
Operation



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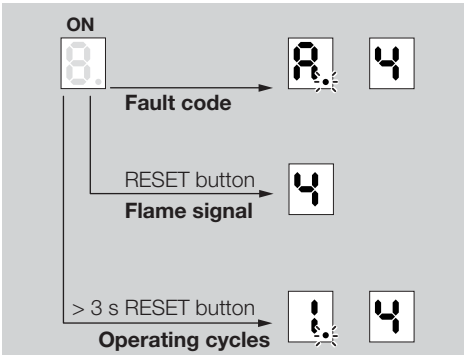
1 ON/OFF ⏻
2 Operating modes
3 MODE selection button
4 RESET
5 Status indicator
6 Optical interface
7 7-segment display

Description

1 ON/OFF ⏻: to switch the heater on and off.
2 Operating modes:

Operating mode	Explanation
≋ ① 🌡	The burner control unit waits for the signals for controlled air flow or heating (automatic)
≋ ② ✋	Continuous heating (manual)
✇ ③ ✋	Control air flow in continuous operation (manual)
≋✇ ④ 🌡	Controlled air flow in continuous operation and heating when a thermostat signal is applied (automatic)

3 MODE selection button (heater switched on):
By pressing the MODE selection button, it is possible to switch between the different operating modes.
By pressing and holding the MODE selection button in operating mode ② ≋ Heating, the current capacity setting is displayed and can be selected, see page 10 (Display and selection of the capacity setting).
MODE selection button (heater switched off):
By pressing and holding the MODE selection button, you can go to Setting mode, see page 9 (Setting mode). The multi-functional outputs can be assigned and the eBus address specified in this mode.
4 RESET: internal reset button
5 Status indicator (light):
red: fault
yellow: standby/ready for operation
green: TR in operation
6 Optical interface:
The PC software BCSoft can be used with the PC opto-adapter via this interface, see page 20 (Accessories).
7 7-segment display:
Fault code
Flame signal
Number of operating cycles
can be displayed. The decimal point indicates that another figure follows.



Fault code: a fault is displayed immediately in the form of an alternating letter and number indicating a warning or fault, see page 12 (Assistance in the event of malfunction).
Flame signal: pressing the RESET button displays the flame signal, see page 11 (Flame signal).
Operating cycles: pressing and holding the RESET button for more than 3 s displays the number of operating cycles in changing displays, see page 19 (Maintenance).

▷ Press the RESET button to exit the display of the flame signal or operating cycles.

Switching on

• Press ON/OFF ⏻.
• The LED for the last selected operating mode will flash. A different operating mode can be selected within 2 s. If you retain the selection, the flashing light will change to permanently lit after 2 s.
▷ The heater will start once the thermostat signal has been applied and the set switch-on delay elapsed, see page 7 (Setting the switch-on delay).
▷ The burner starts after approx. 15 s and operates in the last selected operating mode.

Switching off

• Press ON/OFF ⏻. The burner control unit display and the burner will switch off immediately. Mains voltage is still supplied however. The display indicates "–".

▷ The main fan cools the heater down until it reaches switch-off temperature.

! CAUTION

– Do not disconnect the heater from the electrical power supply until the cooling process has been completed.

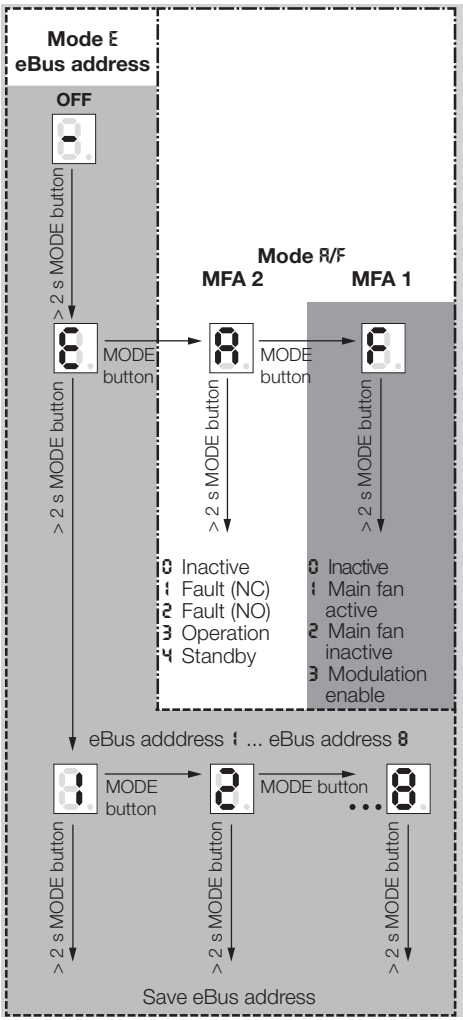
▷ The display "–" will go out.

Setting mode

▷ You can go to Setting mode by pressing and holding the MODE selection button when the heater is switched off.

• Switch off the heater ⏻.

▷ Mode E: eBus addresses can be saved. Mode A/F: multi-functional outputs can be parameterized.

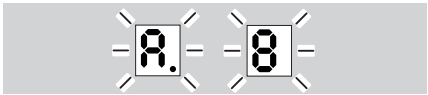


▷ Press the RESET button to return to the previous menu.

▷ After a timeout of 20 s, the display will automatically return to the initial mode. The display indicates "–".

Checking the direction of rotation of the main fan

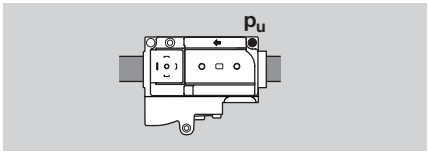
1 Switch on the power supply.
2 Release the gas supply.
3 Switch on the TR. Press ON/OFF ⏻.
4 Select operating mode ③ Controlled air flow.
▷ The main fan will start.
▷ If it is turning in the correct direction, the fan blades will turn clockwise.
▷ If the direction of rotation is incorrect, fault code A8 will be displayed.



5 Switch off the TR. Press ON/OFF ⏻.
6 Disconnect the heater from the electrical power supply and rectify the fault, see page 12 (Assistance in the event of malfunction).

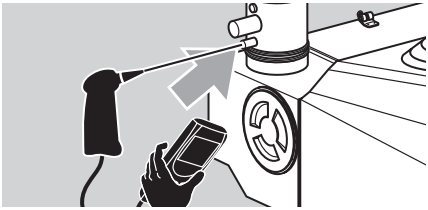
Adjusting the heater

▷ The heater is set to the gas type specified in the purchase order.
▷ The fine adjustment on the gas combination control is made on the basis of the CO_2 measurements on the chimney.
▷ The following are required for setting:
– 2.5 mm Allen key,
– pressure gauge with display range 0 to 50 mbar,
– CO_2 flue gas analyzer. The flue gas analyzer must be able to measure O_2, CO and CO_2. The sensor should be suitable for temperatures of up to 300°C.
▷ The inlet pressure p_u must comply with the technical data, see page 27 (Technical data).
▷ The inlet pressure p_u can be measured using a test point on the combination control.



1 Open test point p_u.
▷ Do not use force!
2 Connect a pressure gauge to p_u.
3 Disconnect the system from the electrical power supply.
▷ The heater may only be disconnected from the electrical power supply once the device has been switched off and post-cooling is complete.
4 Shut off the gas supply.
5 Remove the plastic cap from the CO_2 test point on the chimney.

GB



6 Place the analyzer sensor in the test point.
7 Ensure that there is no air in the gas system.
8 Switch on the power supply.
9 Release the gas supply.
10 Measure the CO and CO_2 values simultaneously and observe them.
11 Switch on the burner control unit. Press ON/OFF ⏻ until an LED lights up.
▷ The burner control unit switches on in the last operating mode selected.
12 Select operating mode ② ≋ Heating.

Display and selection of the capacity setting

▷ This display is only possible when the heater is switched on.
▷ The current capacity setting can be displayed by pressing and holding the MODE selection button in operating mode ② ≋ Heating.

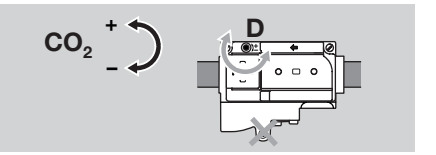
▷ If the top dash is lit, the heater is operating at full capacity.
▷ If the bottom dash is lit, the heater is operating at minimum capacity.
▷ If the dash flashes, the heater has not yet reached the capacity setting.
▷ When the capacity setting has been reached, the dash will be lit for 15 s. During this time, you can switch between minimum and maximum capacity setting by pressing and holding the MODE selection button again.
▷ The display will go out after 15 s. The display can be reactivated by pressing and holding the MODE selection button again.
▷ The display can be cancelled at any time by pressing the RESET button.

Setting the high-fire rate

! CAUTION

To avoid damage to the heater TR, please observe the following:
– CO_2 adjustment may only be made at the restrictor **D**.
– The zero point setting is sealed and should not be changed.

▷ The heater must be operated at maximum capacity.
▷ Having initiated the ignition process, the burner should start within 4 s.
▷ If the burner does not ignite after several attempts, the CO_2 value is set too low.
▷ Turn the restrictor half a turn in the + direction using the Allen key.



▷ If the burner still does not ignite, turn the restrictor further in the + direction.
▷ If the burner starts successfully, you can watch on the flue gas analyzer how the CO_2 value rises.
13 Monitor the CO value.
▷ During a normal start-up, the CO value will rise briefly and then fall quickly again.

! CAUTION

To avoid damage to the heater and flue gas analyzer, please observe the following:
– The CO value may rise briefly to 500 ppm immediately after ignition.
If the CO value does not drop after a short time, immediately reduce the CO_2 value by turning the restrictor **D** clockwise.
Take the flue gas analyzer sensor out of the test point immediately.

14 Allow the heater to operate for 10 minutes.
▷ During a normal start-up, it may take up to 15 s for the main fan to start the cooling process.
15 Set the CO_2 value on the combination control to the correct value shown in the table.

	CO_2 [%-by-vol.]	Inlet pressure $p_{u\,min.}$ [mbar]	$p_{u\,max.}$ [mbar]
Natural gas L G 25	9.6	18	70
Natural gas H G 20	9.6	17	70
Butane G 30 LPG	13.4	25	70
Propane G 31 LPG	12.3	42.5	70

▷ If the measured CO_2 value corresponds to the details on the type label and in the table, the heater has been set correctly. Otherwise, continue with the measurement and fine adjustment until the heater is correctly set.
▷ High-fire rate adjustment is now complete.
16 The low-fire rate setting must be checked.

Checking the low-fire rate setting

! CAUTION

To avoid damage to the heater TR, please observe the following:

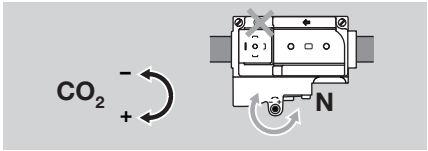
– The low-fire rate may only be set by authorized trained personnel by agreement with the manufacturer.

▷ The heater must be operated at minimum capacity, see page 10 (Display and selection of the capacity setting).

▷ The combination control regulates the gas supply according to the reduced air supply.

17 Contact the manufacturer if the measured CO_2 value differs from the high-fire rate by 0.5%. Further adjustments may only be made by agreement with the manufacturer. Otherwise, the warranty will be voided.

▷ The CO_2 value is adjusted by changing the zero point on the combination control at N.



18 Repeat this fine adjustment process on **D** and **N** until the CO_2 value is correct at both capacity settings.

▷ Adjustment is complete when the CO_2 value corresponds to the specifications.

▷ The heater is currently set to low-fire rate. To switch to high-fire rate, exit operating mode ② ⟆ Heating and reselect it or hold the MODE selection button, go to "Select capacity setting" and select the maximum capacity setting.

19 Remove the pressure gauge.

20 Close test point p_u tightly again.

▷ The heater is ready for operation.

Flame signal

▷ The flame signal can be displayed when the burner is operating.

1 Pressing the RESET button displays the flame signal.

▷ It appears in coded form as a number from 0 to 9. For a gas appliance the number must be multiplied by a factor of 2. The result of this multiplication is the flame current in µA. Example: the number 3 corresponds to a flame current of 6–8 µA.

Display	Flame current [µA]	Display	Flame current [µA]
0	0–2	5	10–12
1	2–4	6	12–14
2	4–6	7	14–16
3	6–8	8	16–18
4	8–10	9	18...

2 Check the flame signal.

▷ The flame signal is displayed for 20 s.

3 Press the RESET button to exit the flame signal display.

▷ If the flame signal < 2 µA, the fault *F* (flame fault) *1* or *2* is displayed, see page 12 (Assistance in the event of malfunction).

Cleaning

! CAUTION

To ensure that no damage occurs during operation and cleaning, please observe the following instructions. Otherwise, injuries or damage to the device may occur and/or the function of the device may be impaired, and the manufacturer's warranty will be cancelled.

– Sharp-edged metal sheets. Always wear protective gloves.

– After cleaning, check that the components on and in the heater are in good condition. The device may only be restarted if all safety devices have been installed and the safety functions have been checked.

– Clean the heater once a year when used in horticulture and at regular intervals as well as after each fattening period when used in agriculture, as described below. Inadequate or irregular cleaning can cause the device to overheat and can thus lead to fire damage or damage to the device. For example, dirt particles can catch fire and can be blown out of the device.

▷ The TR is made of high-quality stainless steel and is resistant to external influences such as dirt and moisture.

▷ It is designed so that it can be cleaned carefully both inside and outside with a high-pressure cleaner.

▷ The housing cover and cable glands on the burner control unit must be closed during the cleaning process.

▷ The electrical components are protected from moisture by additional water drip edges on the housing cover. Nevertheless, direct water influence on the edges of the housing cover should be avoided.

▷ A downward slope inside the device ensures that dirty water drains out.

▷ Never direct the high-pressure cleaner at the heater when it is set to water jet. Always use the spray setting.

▷ The distance between the nozzle and the surface to be cleaned must always be at least 50 cm. Too short a water jet from the high-pressure cleaner can cause serious damage to the device.

1 Switch off the burner control unit.

2 Disconnect the system from the electrical power supply.

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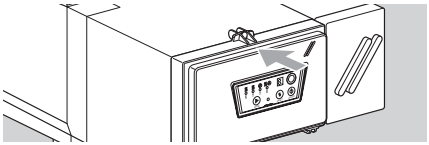
▷ The heater may only be disconnected from the electrical power supply once the device has been switched off and post-cooling is complete.

3 Shut off the gas supply.

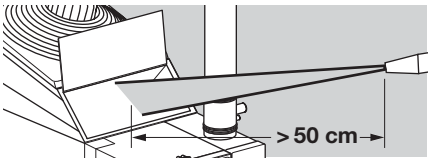
4 Check the cover on the burner control unit and the housing cover to ensure they are both tightly closed



GB

▷ The heat exchanger can be easily accessed via the service flap.

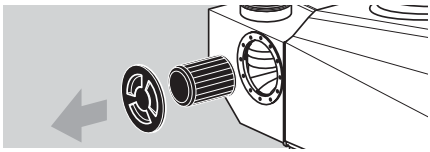
5 Open the service flap and carefully clean the fins on the heat exchanger with the high-pressure cleaner (spray setting).



▷ The rubber seals between the electrodes and electrode plugs may be displaced by the water jet.

6 After cleaning, check that all the parts on and in the heater are in the correct positions, for example whether the rubber seals between the electrodes and electrode plugs are fitted correctly.

7 Remove the air filter and check it for dirt.



8 Tap the air filter.

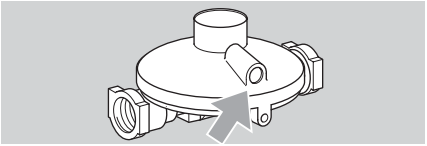
9 The air filter can be rinsed under running water if it contains stubborn dirt particles.

10 Chemical cleaning agents, disinfectants and/or pesticides contain corrosive substances which can even corrode stainless steel. Always rinse the devices with water after cleaning using such agents to remove any residue of these agents from the surface.

11 After cleaning, select operating mode ③ Controlled air flow so that the interior of the device can dry properly.

12 After cleaning the heater, check it is functioning faultlessly in normal operation, see page 19 (Checking the safety functions and burner operation).

13 When operating with LPG, check and clean the breather orifice of the pressure reducer.



Assistance in the event of malfunction

⚠ WARNING

To avoid harm to persons and animals or damage to the heater, please observe the following:

– Electric shocks can be fatal! Before working on possible live components, ensure the unit is disconnected from the power supply.
– Fault-clearance must only be undertaken by authorized trained personnel!
– Repairs to components, e.g. the burner control unit or the combination control, may only be carried out by the manufacturer. Otherwise, the warranty will be voided. Unauthorized repairs or incorrect electrical connections, e.g. the connection of power to outputs, can cause gas valves to open and the burner control unit to become defective. In this case, fail-safe operation can no longer be guaranteed.
– (Remote) resets may only be conducted by authorized personnel with continuous monitoring of the devices concerned.

▷ In the event of an installation fault, the burner control unit closes the gas valves and the status indicator light will be red at the latest after a restart has been unsuccessful.

▷ The 7-segment display will show a fault code in the form of a letter with a decimal point and a number alternately indicating a warning. Together with the red status indicator light, this then constitutes a fault.

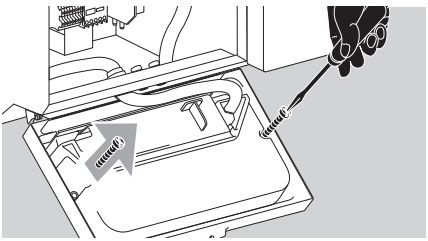
▷ Warnings and faults may be cleared only using the remedies described below.

Internal wiring

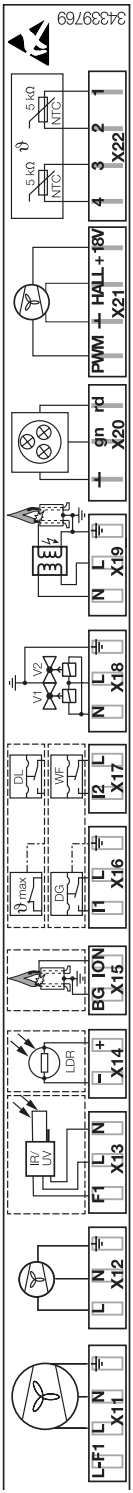
▷ To rectify a fault, it is sometimes necessary to check the internal wiring.

1 Open the housing cover of the burner control unit.

2 Undo the two screws (M3) using a Phillips screwdriver and remove the complete plastic cover from the burner control unit.



Internal connection diagram



3 Press the RESET button to reset. The unit then reverts to the last operating mode selected.

▷ Possible faults

Display	Fault type
F	Flame fault
A	Air fault
C	Temperature fault
E	Electronics fault
U	Other possible faults

4 If the burner control unit does not respond even though all the possible faults have been rectified as described below, contact your supplier.

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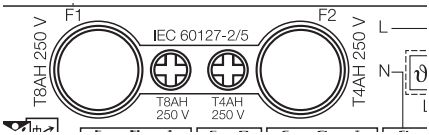
? Fault
! Cause
• Remedy

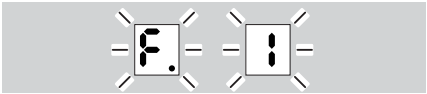
? The 7-segment display has gone out despite the voltage supply being OK?

! Fuse F2 is defective.

• Check the fuse contacts.
There is a spare fuse directly next to the fuse holder.
Important! Fit the correct fuse for 4 A.



? Fault code *F.* and *1* flash alternately?
On burner start-up, the burner control unit has not detected a flame during the safety time. Several automatic start-up attempts will be completed if a restart has been programmed.



! Inadequate inlet pressure available.
• Check the inlet pressure.
! Ignition is not working properly.
• Check the connection of the ignition cables for damage or moisture. The spark plug must be fitted correctly.
• Check the ignition spark acoustically during the 3-second ignition time from the burner fan side.
• Clean the ignition electrode.
• Check the ignition transformer and replace it if necessary.
! Poor flame signal due to incorrect burner adjustment.
• Readjust the CO_2 value, see page 9 (Adjusting the heater).
! Poor flame signal due to dirty or badly connected ionization electrode.
• Check the ionization electrode and clean it with fine abrasive paper if necessary.

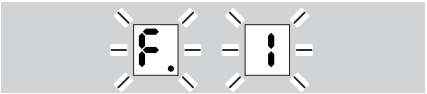
- Check the cable connection, cable and plug for damage or moisture. The plug must be fitted correctly.
- Check the yellow and green burner ground cable for corrosion and to ensure it is firmly connected.
- The ionization electrode is defective and must be replaced.

! Air in the gas pipe.
- Vent the gas pipe.

! Valves do not open.
- Disconnect the valve plug on the gas combination control and measure the voltage at the valve plug during the safety time.
- If the voltage is not adequate, first check fuse F2 (4 A). If the display and the LEDs are not lit, it is defective.
- If the voltage is not adequate, replace the gas combination control and return it to the supplier.

? Fault code *F.* and *1* flash alternately and the light is red?

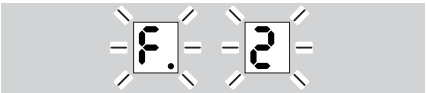
The fault could not be rectified. All start-up attempts have been used and the burner control unit goes into lock-out.



▷ Reset is only possible by pressing the RESET button on the burner control unit or using the remote reset if there is one.
- Rectify the cause of the fault as described above for warning *F.1*.

? Fault code *F.* and *2* flash alternately?

The flame has gone out during operation. If a restart has been programmed, an automatic restart will be completed.

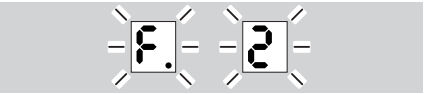


! Poor flame signal due to incorrect burner adjustment.
- Readjust the CO_2 value, see page 9 (Adjusting the heater).

! Poor flame signal due to dirty or badly connected ionization electrode.
- Check the ionization electrode and clean it with fine abrasive paper if necessary.
- Check the cable connection, cable and plug for damage or moisture. The plug must be fitted correctly.
- Check the yellow and green burner ground cable for corrosion and to ensure it is firmly connected.
- The ionization electrode is defective and must be replaced.

? Fault code *F.* and *2* flash alternately and the light is red?

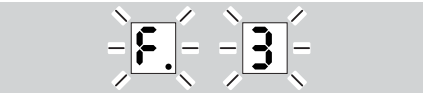
The fault could not be rectified. All start-up attempts have been used and the burner control unit goes into lock-out.



▷ Reset is only possible by pressing the RESET button on the burner control unit or using the remote reset if there is one.
- Rectify the cause of the fault as described above for warning *F.2*.

? Fault code *F.* and *3* flash alternately?

The burner control unit detects a flame signal during start-up or in fault status.



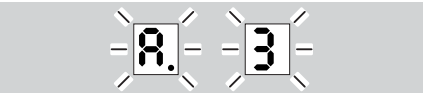
! Incorrect flame signal due to leakage/creepage current.
- Check the wiring, see page 4 (Wiring).
- Check the ionization electrode.

! Incorrect flame signal through conductive ceramic insulation, e.g. surge via PE wire, possible.
- Remedy incorrect flame signal. Replace the ionization electrode and, if necessary, also the complete burner control unit and housing.

▷ Reset is only possible by pressing the RESET button on the burner control unit or using the remote reset if there is one.

? Fault code *A.* and *3* flash alternately and the light is red?

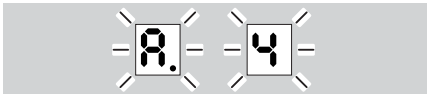
The fault could not be rectified after four automatic start-up attempts. All start-up attempts have been used and the burner control unit goes into lock-out.



! This air filter is not OK.
- Check the air filter and clean it if necessary, see page 11 (Cleaning).

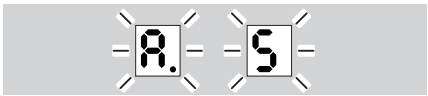
▷ Reset is only possible by pressing the RESET button on the burner control unit or using the remote reset if there is one.

? **Fault code A. and 4 flash alternately and the light is red?**
Burner fan continues to operate when the burner control unit is in idle state.



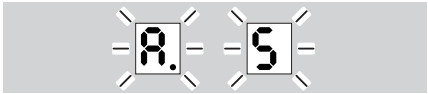
! Wiring fault.
• Check whether the wiring from plug X21 to the burner fan has continuity.
! A vacuum is generated in the chimney due to strong wind and this affects the burner fan.

? **Fault code A. and 5 flash alternately?**
The burner fan does not reach the required speed when starting up.



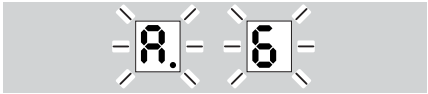
! The air route is blocked.
• Check the air supply route.
! This air filter is not OK.
• Check the air filter and clean it if necessary, see page 11 (Cleaning).
! Fan motor defective.
• Check motor.
! Wiring fault.
• Check wiring (plugs X21 and X12).

? **Fault code A. and 5 flash alternately and the light is red?**
The fault could not be rectified. All start-up attempts have been used and the burner control unit goes into lock-out.



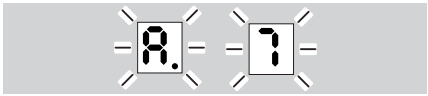
▷ Reset is only possible by pressing the RESET button on the burner control unit or using the remote reset if there is one.
• Rectify the cause of the fault as described above for warning *F.5*.
• Check the air filter and replace it if necessary.

? **Fault code A. and 6 flash alternately?**
The burner fan does not reach the required speed during operation.



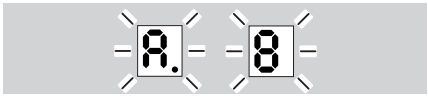
! The air route is blocked.
• Check the air supply route.
! This air filter is not OK.
• Check the air filter and clean it if necessary, see page 11 (Cleaning).
! Fan motor defective.
• Check motor.
! Wiring fault.
• Check wiring (plugs X21 and X12).

? **Fault code A. and 7 flash alternately?**



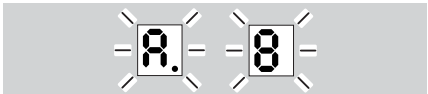
! The air filter is becoming blocked and must be cleaned shortly.
• Check the air filter and clean it if necessary, see page 11 (Cleaning).

? **Fault code A. and 8 flash alternately?**
The main fan does not start during the start-up attempts.



! The pressure switch does not switch.
• Check the air hose on the pressure switch for dirt and moisture and clean it.
• Check the pressure switch and replace it if necessary.
! The main fan is rotating in the wrong direction.
• Check the wiring. The rotating field may be incorrect. Swap L1 and L2, see page 4 (Wiring).
! Main fan defective.
• If possible, remove the main fan and replace it.

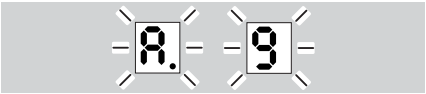
? **Fault code A. and 8 flash alternately and the light is red?**
The fault could not be rectified. All start-up attempts have been used and the burner control unit goes into lock-out.



▷ Reset is only possible by pressing the RESET button on the burner control unit or using the remote reset if there is one.
• Rectify the cause of the fault as described above for warning *A.8*.

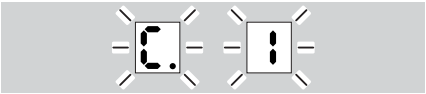
GB

? **Fault code A. and 9 flash alternately and the light is red?**
The main fan continues to operate after the device has been switched off.



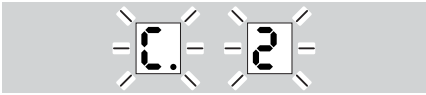
! Wiring fault.
• Check the wiring to actuate the main fan, see page 4 (Wiring).
! The pressure switch does not switch.
• Check the air hose on the pressure switch for dirt and moisture and clean it.
! The main fan is switched off but the pressure switch signal does not drop.
• Check the pressure switch and replace it if necessary.
! The relay to actuate the main fan is defective.
• Replace the relay.

? **Fault code C. and 1 flash alternately and the light is red after 5 minutes?**
Signal from safety temperature monitor (STM).



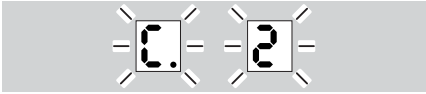
! Temperature has been exceeded.
• Leave heater to cool down for longer.
! The main fan does not switch on.
• Check the main fan.
! Wiring fault.
• Check the wiring to actuate the main fan, see page 4 (Wiring).
! The safety temperature monitor (STM) is incorrectly aligned.
• Check the position of the safety temperature monitor (STM).
! Ambient temperature exceeded.
• The temperature is > 40°C. Allow the room to cool.
! The safety temperature monitor (STM) is measuring an incorrect temperature.
• Replace the safety temperature monitor.
! The heater is badly soiled.
• The heater must be cleaned urgently.
! Installation position.
• The heater is too close to other heaters, see page 2 (Installation).
! Incorrect CO_2 value.
• The heater is not set correctly and must be adjusted, see page 9 (Adjusting the heater).

? **Fault code C. and 2 flash alternately?**
Signal from safety temperature limiter (STL).



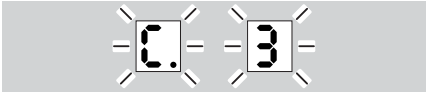
! Temperature has been exceeded.
In the event of a power failure during operation, the heater will be switched off without a cooling phase. In the event of a brief power failure (< 5 minutes), the heat exchanger will heat the device excessively and the STL will issue a signal.
• In this case, Controlled air flow mode is activated. If the heater has been successfully cooled within 1 minute, it will restart.

? **Fault code C. and 2 flash alternately and the light is red?**
Signal from safety temperature limiter (STL).



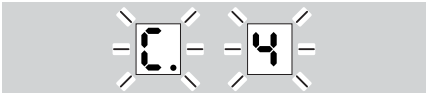
! The cause of the fault as described above for warning C.1 could not be rectified.
• Check the heater for damage, see page 19 (Visual inspection).

? **Fault code C. and 3 flash alternately and the light is red?**
Temperature limiter (TL) has tripped.



! Wiring fault.
• Check contact at plug X16.

? **Fault code C. and 4 flash alternately?**
Capacity reduction function active. The capacity reduction function is activated 10°C below the trip temperature of the safety temperature monitor (STM).



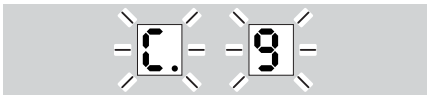
! The main fan does not switch on.
• Check the main fan.
! Wiring fault.
• Check the wiring to actuate the main fan, see page 4 (Wiring).
! Ambient temperature exceeded. The temperature is > 40°C.
• Allow the room to cool.
! The heater is badly soiled.
• The heater must be cleaned urgently.
! Installation position.

- The heater is too close to other heaters, see page 2 (Installation).

! Incorrect CO_2 value. The heater is not correctly set.

- Adjust the heater, see page 9 (Adjusting the heater).

? Fault code C. and 9 flash alternately and the light is red?



! Temperature sensor incorrectly connected.

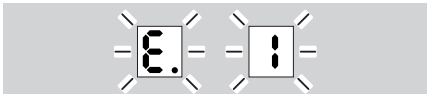
- Check contact at plug X22.

! Temperature sensor is below -30°C.

! Temperature sensor defective.

- Replace the temperature sensor.

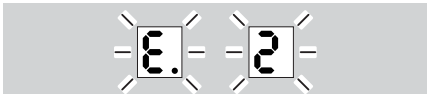
? Fault code E. and 1 flash alternately?



! The remote reset input is defective.

- If you use the remote reset input, contact your supplier.

? Fault code E. and 2 flash alternately and the light is red?

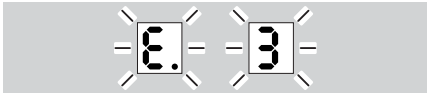


! An adjustable parameter and the CRC check are not the same. The parameters are implausible.

- Order a new BCC. Contact your supplier.

▷ Reset is only possible by pressing the RESET button on the burner control unit or using the remote reset if there is one.

? Fault code E. and 3 flash alternately and the light is red?

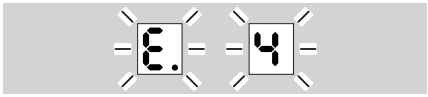


! A fixed parameter and the CRC check are not the same. The parameters are implausible.

- Order a new BCC. Contact your supplier.

▷ Reset is only possible by pressing the RESET button on the burner control unit or using the remote reset if there is one.

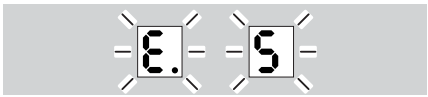
? Fault code E. and 4 flash alternately and the light is red?



! Limits for fixed parameters not observed.

- Order a new BCC. Contact your supplier.

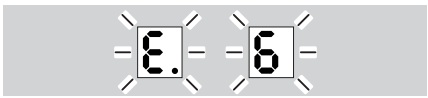
? Fault code E. and 5 flash alternately and the light is red?



! The BCC is not connected.

- Connect the BCC to the printed circuit board.

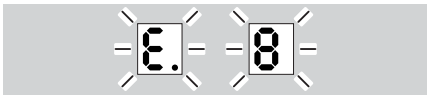
? Fault code E. and 6 flash alternately and the light is red?



! An incorrect BCC is connected. The BCC must be compatible with the TR 75.

- Remove the BCC and connect the correct BCC to the printed circuit board, see page 7 (Burner Chip Card (BCC)).

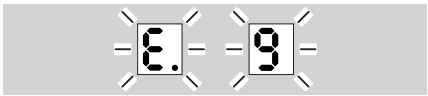
? Fault code E. and 8 flash alternately?



! Programming mode is active.

- As soon as Programming mode has been deactivated, the display will go out.

? Fault code E. and 9 flash alternately?



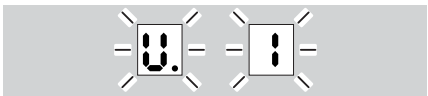
! Internal electronics fault.

- Remove the BCC and send it to your supplier.

! Fuse defective.

- Check external fuse F1 (8 A).

? Fault code U. and 1 flash alternately and the light is red?

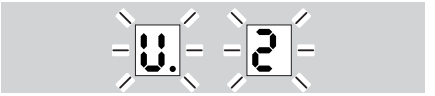


! Voltage supply is below the limit (programmable limit, e.g. < 160 V).

- Ensure that adequate mains voltage is supplied.

GB

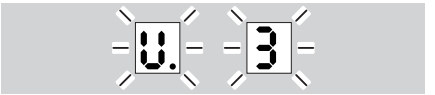
? Fault code U. and 2 flash alternately and the light is red?



! Voltage supply is above the limit (programmable limit, e.g. > 260 V).

• Ensure that adequate mains voltage is supplied.

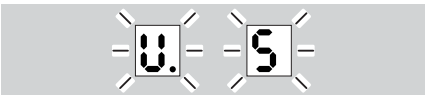
? Fault code U. and 3 flash alternately and the light is red?



! All start-up attempts in the programmed voltage range (e.g. 160–180 V) are unsuccessful. The last start-up attempt is not made to prevent a lock-out.

• Ensure that adequate mains voltage is supplied.

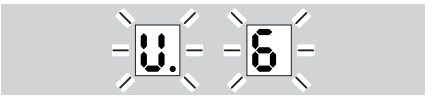
? Fault code U. and 5 flash alternately and the light is red?



! While a fault was pending, the unit has been successfully reset more than 5 times within 15 minutes using the remote reset input.

▷ Reset is only possible by pressing the RESET button on the burner control unit or using the remote reset if there is one.

? Fault code U. and 6 flash alternately and the light is red?



! The unit has been unsuccessfully reset more than 10 times within 15 minutes using the remote reset input.

▷ Reset is only possible by pressing the RESET button on the burner control unit or using the remote reset if there is one.

? A circulating dash is displayed rather than a fault code?

▷ After switching on the voltage, a circulating dash is displayed.

▷ Three possible pieces of information are output:

! Switch-on delay time running.
Or

! Cycle lock active. The time (cycle lock) between two starts is too short.

• The display will go out automatically as soon as the time between two starts is long enough. The burner control unit will ensure a pause between start-up attempts on the basis of its parameterization. This warning is displayed during this time.
Or

! The main fan is switched off but the pressure switch signal does not drop. A burner restart is not possible.

• After 25 s, the display will change to fault code A. 9.

Maintenance

! CAUTION

To ensure that no damage occurs during operation and maintenance, please observe the following instructions. Otherwise, injuries or damage to the device may occur and/or the function of the device may be impaired. The supplier/manufacturer cannot accept liability for damage resulting thereof.

– Have the heater cleaned at least once a year by qualified maintenance personnel.
– Have the safety functions checked at least once a year by qualified maintenance personnel, see page 19 (Checking the safety functions and burner operation).
– Check the chimney once a year with your local chimney sweep to find whether the flue gas and air supply routes are clear.
– Sharp-edged metal sheets. Always wear protective gloves.
– After cleaning or repair work, check that the components on and in the heater are in good condition. The device may only be restarted if all safety devices have been installed and the safety functions have been checked, see page 19 (Checking the safety functions and burner operation).

1 Switch off the burner control unit.

Visual inspection

2 Check all heaters for dirt and clean them accordingly, see page 11 (Cleaning).
3 Check all heaters for damage and loose parts.
4 The rubber seals between the electrodes and electrode plugs may be displaced by the water jet. Check whether the seals are fitted correctly.
5 Check the wiring.
6 Check the cable glands.
7 Depending on the number of operating cycles, we recommend that the ignition electrode and ionization electrode are replaced once per year.
8 Check the seal on the housing cover of the burner control unit. Replace it if necessary.
9 Check the inside of the housing cover for traces of dust, dirt or moisture. If you find such traces, the cause must be rectified at all times, e.g. by sealing an open cable gland.
10 Check the cable harness and wiring for signs of damage.

Number of operating cycles

2 Check the number of operating cycles (heater ON): the number of operating cycles can be displayed by pressing and holding the RESET button. The number of operating cycles is composed as follows in alternating displays:
The first character (X.) stands for X,000,000 operating cycles, the second character (Y) stands for Y00,000 operating cycles. For example, the first character is the number 2: the unit has exceeded 2,000,000 operating cycles. The second character is the number 3: the unit has exceeded 300,000 operating cycles. The total number of operating cycles is composed of the numbers 2 and 3. This gives a total number of operating cycles of 2,300,000.
3 Disconnect the system from the electrical power supply.
▷ The heater may only be disconnected from the electrical power supply once the device has been switched off and post-cooling is complete.
4 Shut off the gas supply.

GB

Checking the safety functions and burner operation

⚠ WARNING

Risk of explosion!

– If these checks are not carried out, the gas valves might remain open allowing non-combusted gas to escape.

Safety functions

1 Switch off the heater during operation. Press ON/OFF ⏻.
▷ The flame goes out < 1 s.
▷ The main fan cools the heater down until it reaches switch-off temperature.
2 Remove the valve plug on the combination control during operation.
▷ The gas valves close < 1 s.
▷ The flame goes out.
▷ The burner control unit displays the fault message "The flame has gone out during operation". Fault code *F.* and *2* flash alternately.
▷ If a restart has been programmed, the burner control unit will initially attempt to restart and will then perform a fault lock-out. Fault code *F.* and *1* flash and indicate the fault message "No flame has been detected during the safety time".
3 Shut off the inlet pressure during operation.
▷ The burner control unit performs a safety shutdown: the gas valves are disconnected from the electrical power supply.
▷ The flame goes out.
▷ The burner control unit displays the fault message "The flame has gone out during operation". Fault code *F.* and *2* flash alternately.

▷ If the burner control unit responds in a different way to that described, a fault has occurred, see page 12 (Assistance in the event of malfunction).

! CAUTION

The fault must be remedied before the system may be operated.

Checking burner operation

1. Switch on the burner control unit ACU.
2. Select operating mode ② ⟆⟆⟆ Heating.
3. Check the CO_2 value, see page 9 (Adjusting the heater).

GB

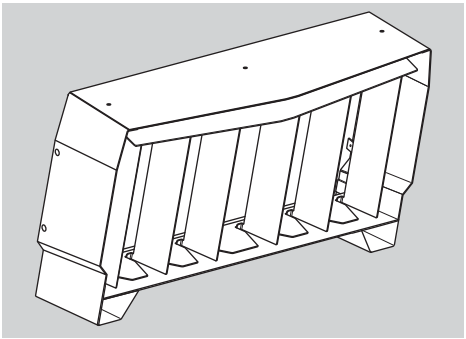
Accessories

Air diffuser

The air diffuser allows the flow of heated air to be channelled in the required direction. By bending the plates in the housing, the air flow can be aligned horizontally and vertically.

! CAUTION

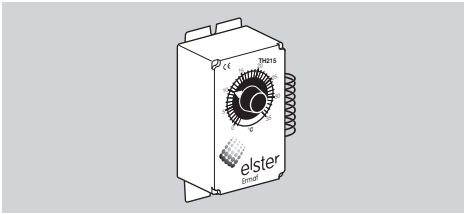
Ensure that the plates are always aligned so that the air can flow out properly. If the air flow is blocked, the heater will overheat.



Order No.: N70000001

Room thermostat

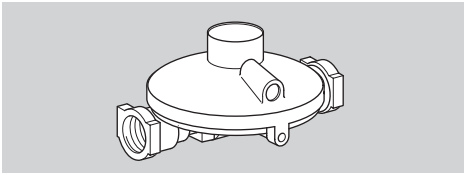
Use a room thermostat with a hysteresis of ± 1°C, 230 V, Type TH 215.



Order No.: N50260145

Pressure reducer

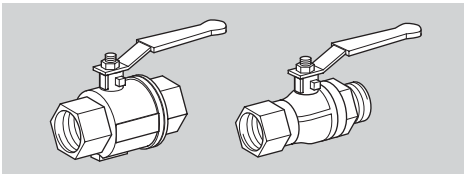
Pressure reducer for LPG.



RECA 1.5 bar to 50 mbar, 2 x ½" internal thread connection, 10 kg/h, Order No.: N50260023.

Manual valve

Manual valve for gas.



2 x ½" internal thread connection,
Order No.: N50260019.
½" internal and external thread connection,
Order No.: N50260027.

BCSoft

There are two PC opto-adapters (PCO) available for the connection to the PC and BCSoft:
Wireless connection using Bluetooth technology:
Bluetooth adapter PCO 300
Including BCSoft CD-ROM,
Order No.: N70000066.
Cable connection via USB port:
Opto-adapter PCO 200
Including BCSoft CD-ROM,
Order No.: N70000065.

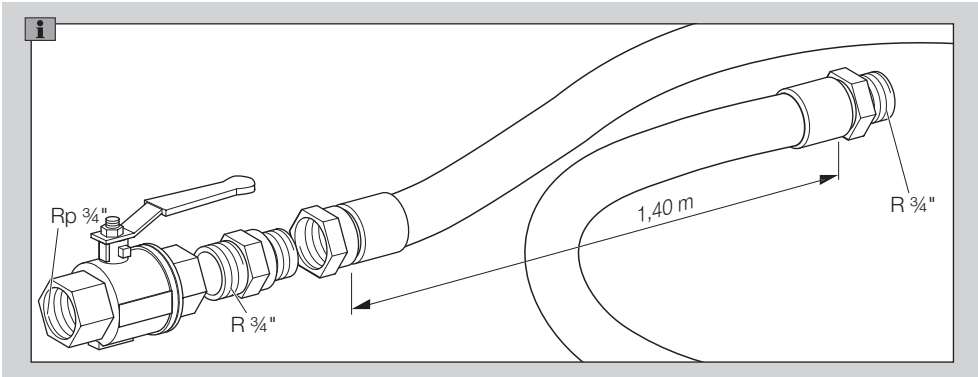
▷ See operating instructions PCO 200 and PCO 300 at http://www.docuthek.com.

▷ The current BCSoft software can be downloaded from our Internet site at http://www.docuthek.com. To do so, you need to register in the DOCUTHEK.

Connection kit

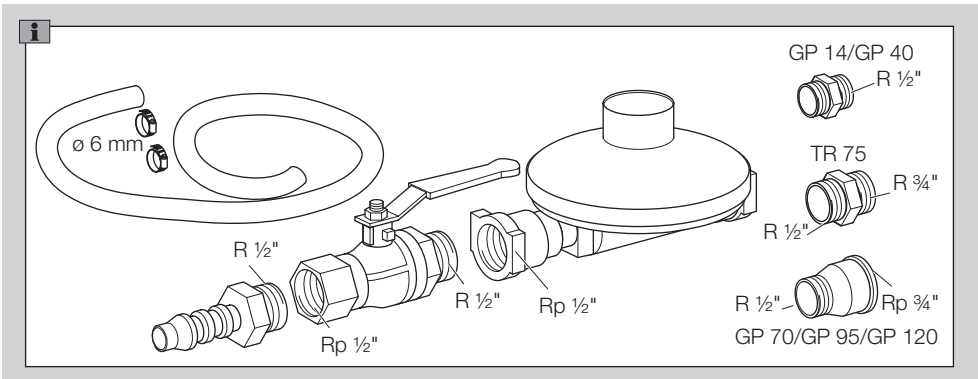
Connection kit for natural gas

Manual valve and gas hose to connect the gas combination control CG to the gas supply.

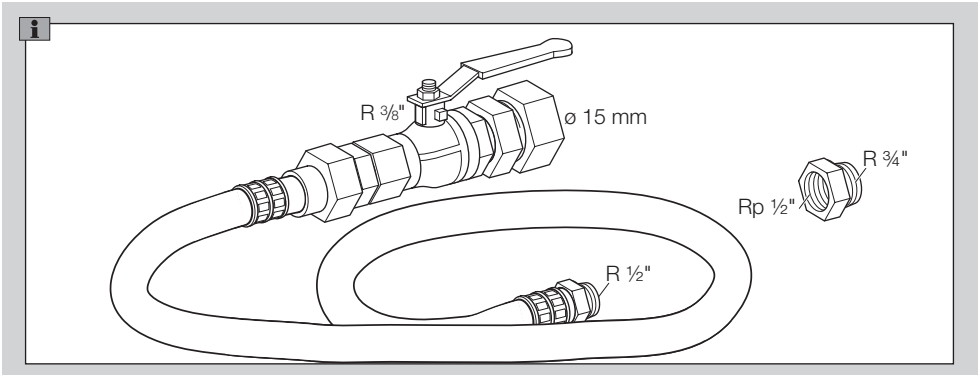


Connection kit: R ¾" threaded connection, total length = 1.50 m, Order No.: N70000013.

Connection kit for propane



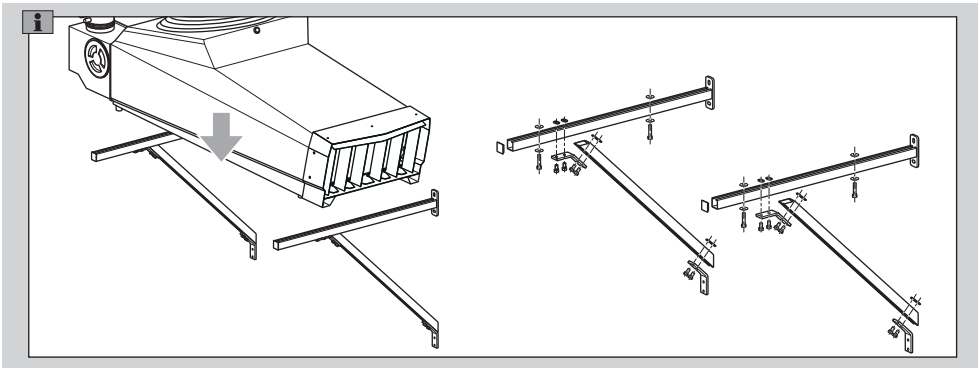
Pressure reducer, manual valve, hose (length = 2 m), 2 hose clamps, R ½" double nipple for GP 14/GP 40, R ½"/R ¾" double nipple for TR 75, R ½" – Rp ¾" reducing fitting for GP 70 – GP 120, to connect the gas combination control CG to the gas supply, Order No.: N70000014.



Manual valve and hose (DVGW certified, length = 2 m) to connect the gas combination control CG to the gas supply, Order No.: N52990209. Rp ½" – R ¾" connector, Order No.: N70000018.

Wall bracket

The wall bracket is the support and wall mounting for the heater. The position of the heater is fixed.

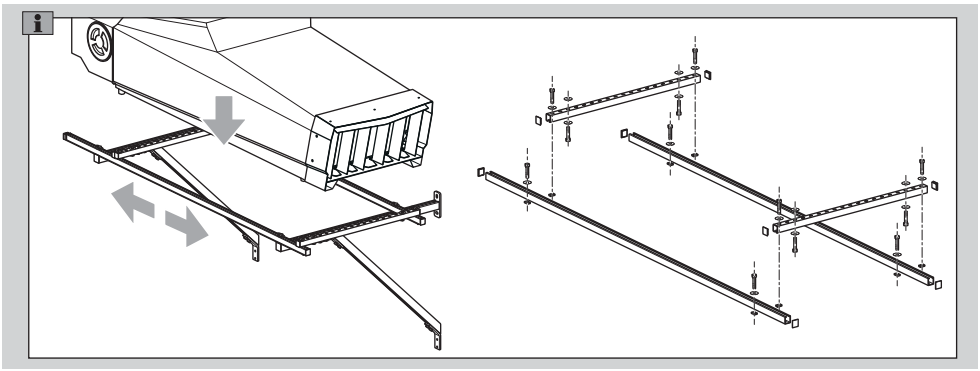


GB

Two wall mounts with angle brackets and fastening elements, Order No.: N70000002.

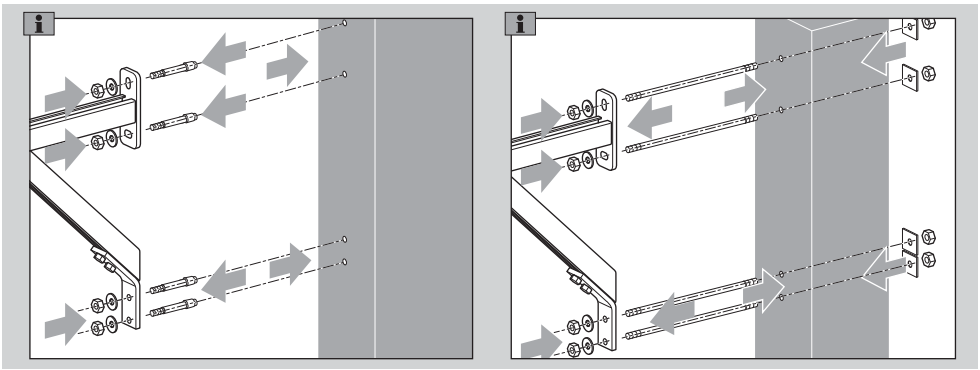
Slide for the wall bracket

The slide on the wall bracket enables the heater to be moved horizontally.



4 struts with fastening elements, Order No.: N70000015.

Wall bracket fastening set



Fastening set for wall plug mounting, consisting of 8 x M8 fastening elements for the wall bracket, Order No.: N70000017.

Fastening set for a through-hole in the wall, consisting of 4 x M10 threaded rods, each 1 m long, and 8 x fastening elements. The threaded bolts can be cut as desired to a maximum of 500 mm in length for securing the wall bracket, Order No.: N70000016.

Chimney

Double-walled coaxial chimney with integrated flue gas and air supply route, category C33.

▷ Internal/External diameter: 100/150 mm, maximum length: 5 m.

! CAUTION

To avoid damage during operation, please observe the following instructions.

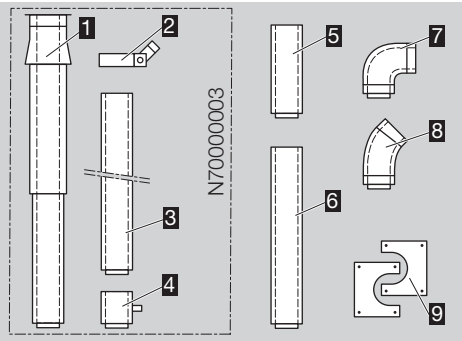
– The TR is only CE tested and approved with the coaxial chimney described below.
– Do not exceed the maximum length of the chimney. Otherwise the CE approval will be voided and the function of the device may be impaired. The supplier/manufacturer cannot accept liability for damage resulting thereof.
– Check the applicable building regulations, standards and the relevant accident prevention regulations before installation. The same applies to the erection and maintenance of a scaffold.

▷ The design of the chimney depends on the premises and the roof construction.

▷ Before installation, the site and any wall mounting which may be required for a chimney length in excess of 2 m must be defined.

▷ The elements are sealed and connected using clamp strips. Each chimney element is supplied with a clamp strip. A seal is provided for each clamp strip which is either integrated or supplied loose.

▷ The clamp strips are only designed for sealing and connection purposes, not for absorbing axial forces.



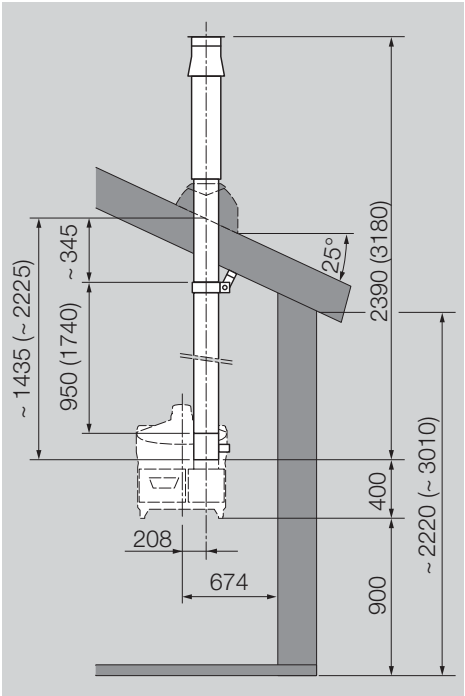
	Designation	Order number		Length [mm]
1	Roof hood	N70000004	N70000003	1300
2	Roof hook	N70000007		
3	Telescopic pipe	N70000005		950–1740
4	Condensate vessel	N70000006		140
5	Pipe	N70000008		450
6	Pipe	N70000009		950
7	90° elbow	N70000012		
8	45° elbow	N70000011		
9	2 x cover plates	N70000010		

▷ Any roof bushing depends on the roof construction and must be ordered separately.

Examples of application

This example of application shows the chimney as a standard kit.

▷ The telescopic pipe is adjusted to minimum length (maximum length) to match the wall height.



Standard chimney kit, Order No. N70000003: roof hood, roof hook, telescopic pipe and condensate vessel.

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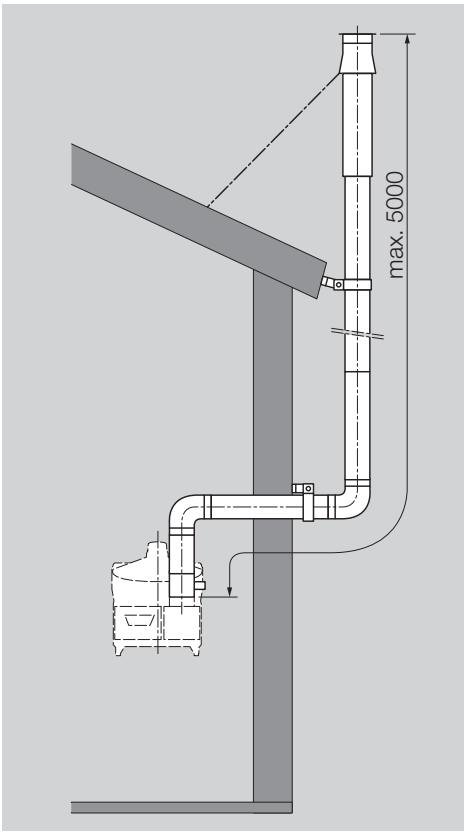
This example of application shows the chimney with the maximum installation length of 5 m.

- ▷ The telescopic pipe can be adjusted to a shorter wall height (...).
- ▷ Two pipes (950 mm) from the accessories range can be used as extensions.

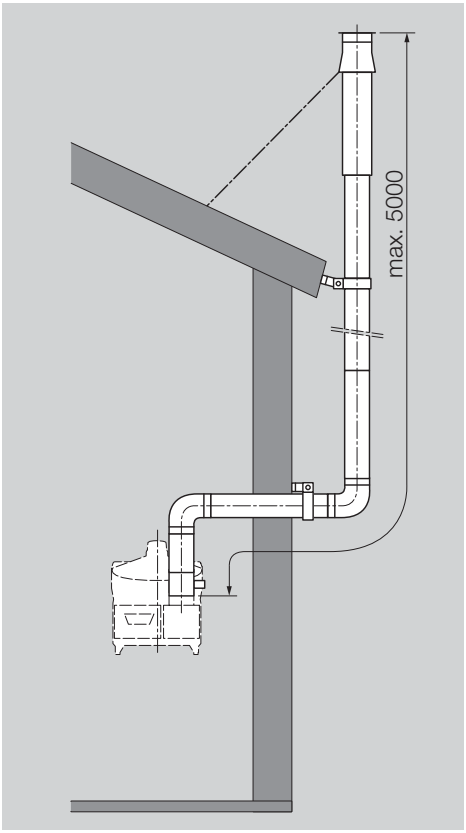


Standard chimney kit, 2 x pipes,
Order No.: N70000003, 2 x N70000009.

- ▷ The pipe (450 mm), Order No. N70000008, may also be used for a lower wall height.
- ▷ Additional wall mountings may be required.

In this example of application, the chimney is routed sideways along the exterior wall rather than on the roof. Additional elbows from the accessories range are used for this purpose. Here, too, the maximum installation length is 5 m.

- ▷ If the chimney only has to bypass a single obstacle in the roof construction, its vertical installation position can also be compensated using a 45° elbow.

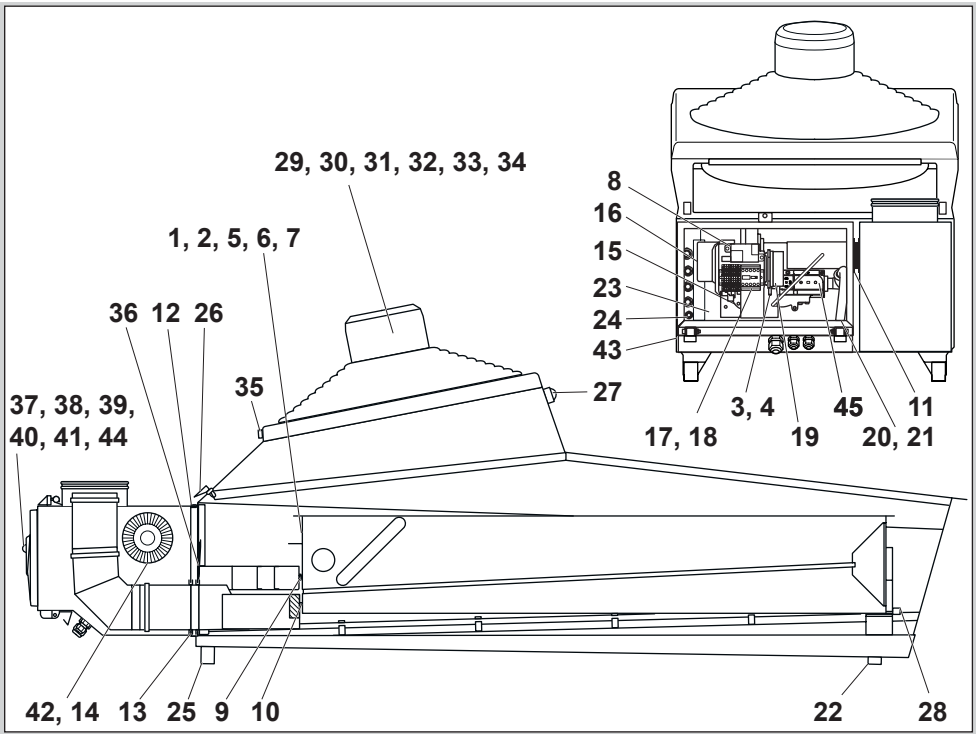


Standard chimney kit, 2 x pipes, 2 x elbows,
Order No.: N70000003, 2 x N70000009, 2 x N70000012.

- ▷ The pipe (450 mm), Order No. N70000008, may also be used for a smaller installation length.
- ▷ One roof hook is included in the standard chimney kit package.
- ▷ Additional wall mountings may be required.

Spare parts

- ▷ When ordering spare parts, please quote the order number along with the designation and item no. of the spare part as well as the heater serial number.
- ▷ When ordering spare parts which are not listed here below, please quote the edition of these operating instructions and the heater serial number.
- ▷ Use original spare parts only to ensure the replacement complies with the requirements stipulated by the manufacturer.



Item	Order number	Designation
1	N50260150	Ignition cable 1 x 7 mm, TPE, black (per metre)
2	N50500016	Splash guard cap for ionization/ignition electrode
3	N50820058	Rigid silicone hose, 6 x 4 mm (per metre)
4	N52500050	Silicone hose, 7 x 5 mm (per metre)
5	N70000019	TR 75 ionization electrode
6	N70000020	TR 75 ignition electrode
7	N70000021	TR 75 seal for ionization/ignition electrode
8	N70000022	TR 75 ignition transformer
9	N70000023	TR 75 seal for combustion chamber
10	N70000024	TR 75 seal for flue gas chamber
11	N70000027	TR 75 seal, Ø 60 mm, axial seal
12	N70000028	TR 75 rubber seal, U section (per metre)
13	N70000029	TR 75 seal, Ø 100 mm
14	N70000030	TR 75 filter service cover
15	N70000031	TR 75 burner fan seal
16	N70000032	TR 75 burner fan RG 148
17	N70000035	TR 75 3-phase relay
18	N70000036	TR 75 3-phase relay socket
19	N70000037	TR 75 air pressure switch DL 2E
20	N70000038	TR 75 metal hose, 3/4" x 290 mm
21	N70000039	TR 75 flange for metal hose
22	N70000040	TR 75 vibration damper, Ø 30 x 15 x M8 x 10
23	N70000041	TR 75 rubber seal, U section, radial seal (per metre)

Item	Order number	Designation
24	N70000042	TR 75 star ring, 12 mm
25	N70000043	TR 75 vibration damper, Ø 30 x 40 x M8 x 10
26	N70000045	TR 75 rubber fastener
27	N70000046	TR 75 status indicator
28	N70000047	TR 75 temperature sensor
29	N70000048	TR 75 main fan Multifan PGR 43Q
30	N70000049	TR 75 main fan motor
31	N70000050	TR 75 main fan motor bracket
32	N70000051	TR 75 main fan blade
33	N70000052	TR 75 main fan safety grille
34	N70000053	TR 75 main fan suspension
35	N70000054	TR 75 service flap magnet
36	N70000055	TR 75 seal for heat exchanger
37	N70000056	TR 75 electronic control unit ACU 121
38	N70000057	TR 75 BCC for natural gas L
39	N70000058	TR 75 BCC for natural gas H
40	N70000059	TR 75 BCC for LPG (propane)
41	N70000060	TR 75 BCC for LPG (butane)
42	N70000061	TR 75 air filter K & N
43	N70000062	TR 75 cover sheet for cable gland
44	N70000064	TR 75 electronic main filter Delta
45	N70000067	TR 75 gas combination control CG 10 with seals

Technical data

Gas types: II2ELL3B/P,
natural gas H and L (gases of category 2);
LPG, gaseous (gases of category 3): propane, propane/butane, butane.
Fused with 10 A.
NOx Class: depending on gas type up to Class 5.
Inlet pressure p_u: 20 to 70 mbar.
Resistant to high-pressure cleaning.
Gas connection: Rp ¾ to ISO 7-1.
Staged control: On/Off signal (240 V AC or 24 V AC/DC via coupling relay).
Continuous control: capacity control from 60–100% (0–10 V/0–20 mA actuating signal).
Efficiency: 75 kW = 92%, 45 kW = 98%.
Burner control unit with direct spark ignition and ionization control.
Fan type:
main fan: axial, burner fan: radial.
Material:
housing: stainless steel,
heat exchanger: stainless steel,
burner control unit: flame-retardant polymer blend made of polycarbonate (PC) and acrylonitrile butadiene styrene copolymer (ABS).
Ambient temperature T_{max}: ≤ 40°C,
temperature differential ΔT_{max}: ≤ 35°C,
example for calculating the temperature of emissions:
$T + \Delta T = 40°C + 35°C = 75°C$.
No condensation permitted.
Cycle lock: 15 s.
Capacity: 45–75 kW.
Jet length: > 50 m,
velocity at the jet end: 0.5 m/s.
Gas consumption:
natural gas L: 8.75 m^3/h,
natural gas H: 7.52 m^3/h,
propane: 5.82 kg/h,
butane: 5.91 kg/h.
Connection rating:
400 V AC, -15/+10%, 50 Hz, 1022 W.
Current consumption: I_N: 2.3 A.
Air circulation:
controlled air flow: ± 7000 m^3/h,
heating: ± 8000 m^3/h.
Dimensions: 2145 x 811 x 653 mm.
Sound level: ≤ 68 dB.
Weight: 130 kg.

Declaration of conformity

CE

We, the manufacturer, hereby declare that the product TR complies with the requirements of the listed Directives:

– 2009/142/EC
– 2006/95/EC
– 2004/108/EC

The relevant product corresponds to the type tested by the notified body 0085. The production is subject to the surveillance procedure pursuant to annex II, paragraph 3 of Directive 2009/142/EC, Deutscher Verein des Gas- und Wasserfaches e.V. (German Technical and Scientific Association for Gas and Water, DVGW), Notified Body 0085.
Elster-Instromet B.V.

Scan of the Declaration of conformity (D, GB) – see www.docuthek.com

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