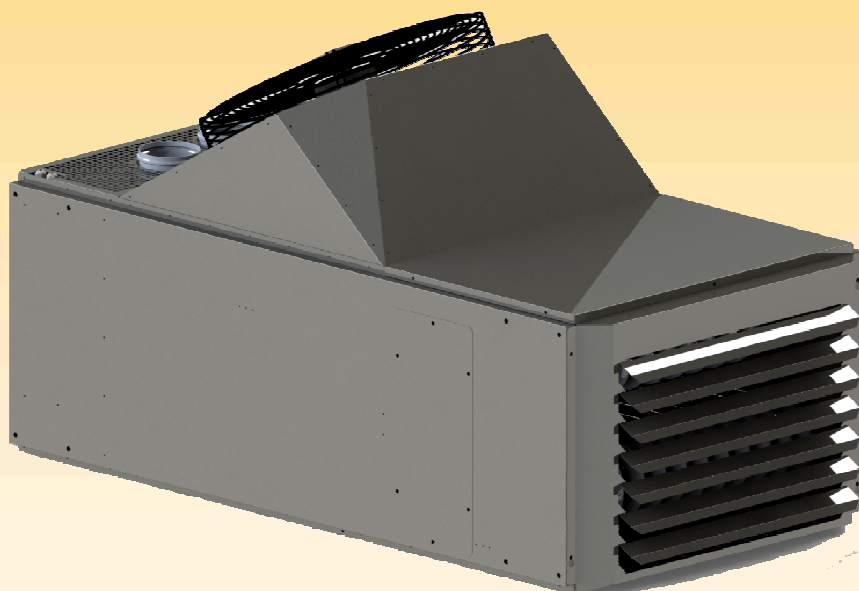


Installation and maintenance manual

INDIRECT GAS FIRED HEATER FOR FARMS

KAFH 75



 1312BO3933

TABLE OF CONTENTS

Section No.	Section	Pages
1	GENERAL INFORMATION 1-1 General recommendations 1-2 Unit description 1-3 Instruction for use 1-4 Operating 1-5 Safety	5 and 6
2	TECHNICAL SPECIFICATIONS 2-1 Performance of gas heater KAFH 2-2 Dimensions	7
3	INSTALLATION 3-1 Recommendations for the installation 3-2 Suspended mounting 3-3 Post-top mounting	8
4	REGULATION AND ELECTRICAL CONNECTION 4-1 Electrical and network connection 4-2 Regulation 4-3 Thermostat with remote probe 4-4 Diagram for CTM 4-5 Electric diagram	9 to 14
5	FLUE PIPE CONNECTION 5-1 Generalities 5-2 Single flue kit 5-3 Concentric flue kit	15 and 16
6	GAS CIRCUIT 6-1 Change of gas 6-2 Adjustment table for 1 stage valve 6-3 Adjustment table for 2 stages valve 6-4 Gas connection	17 and 19
7	COMMISSIONING 7-1 Operating principle 7-2 Bill of material	19 and 20
8	MAINTENANCE	21
9	TROUBLE SHOOTING	22
10	RECOMMENDATION FOR USER	23
11	ACCESORIES	23

© Copyright

This range of products are constantly being updated and refined. We reserve the right to change our products and their relevant technical data contained in this publication at any time and without prior notice.

NOTIFICATION

CE marking

Concerning the technical demands that are required, the CE marking is the official recognition of the quality of design, manufacture and performance of this device. Its long lifetime and its performance will be at optimum level if its use and its maintenance are properly carried out and the regulations in force.

Responsibility

This equipment must be used expressly for the purpose for which **KROMSCHROEDER** has designed and manufactured it. Any contractual liability of **KROMSCHROEDER** is therefore excluded in case of damage undergone by persons, animals or goods, following errors in installation, settings, maintenance and inappropriate use.

The devices must be equipped exclusively with genuine accessories. **KROMSCHROEDER** will not be held responsible for any damage whatsoever arising from the use of an accessory which is inappropriate to the device. The devices must be installed by qualified professional workers, respecting the regulations and decrees in force, and in accordance with the instructions shown in this instruction manual. The installer is required to establish installation conformity certificates produced by the ministries responsible for the construction and safety of gas. References to standards, rules and directives mentioned in this manual are given for information purposes and are only valid at the date of printing this manual.

KROMSCHROEDER is responsible for the conformity of the device to the rules, directives and standards of construction in force at the time of marketing. Knowledge and respect for the legal provisions as well as the standards inherent in the design, implantation, installation, commissioning

Reception – Storage

The gas unit heater is delivered on a wooden pallet, protected by cardboard packing and a plastic film. It is essential to check the condition of the equipment delivered (even if the packing is intact) and its conformity compared to the order. In case of damage or missing parts, you must report the observations on the transport company's receipt form in the most precise way possible, "subject to unpacking" has no legal value, and then you must confirm those reservations by registered letter within 48h to the transport company. We remind you that it is the responsibility of the buyer to check the delivered merchandise, no recourse will be possible if this procedure is not respected.

Store the equipment in a clean and dry room, away from shocks, vibration, divergences in temperature and in an ambient environment with a rate of hygrometry lower than 90%.

Guarantee

Your device benefits from a contractual guarantee against any manufacturing defect, the duration of that guarantee is shown in our catalogue.

Our liability as a manufacturer cannot be committed when incorrect use of a device has occurred, where there is a defect or of an insufficiency in the maintenance of that device, or an incorrect installation of the device (it is your responsibility, as regards this, to check that the latter is carried out by qualified professionals).

In particular we will not be held responsible for material damage, intangible losses or bodily injury resulting from an installation which does not conform:

- to the legal and regulatory provisions or those imposed by local authorities,
- to the national or local or particular provisions governing the installation,
- to our instructions and recommendations for installation, in particular the regular maintenance of the devices,
- to the rules of the trade.

Our guarantee is limited to the exchange or repair of only those parts which are recognised as being defective by our technical departments, excluding the cost of labour, travel and transport.

Our guarantee does not cover the replacement or repair of parts as a result of, in particular, normal wear, incorrect utilisation, service visits by unqualified third parties, a defect in or insufficiency of maintenance or surveillance, non-conforming electrical supply and the use of a fuel which is inappropriate or of bad quality.

Sub-assemblies, such as motors, pumps, electric valves, etc..., are only guaranteed if they have never been removed. The rights established under the European directive 99/44/CEE, transferred by the legislative decree No. 24 of 2 February 2002 published on the Official Journal No. 57 of 8 March 2002, remain valid.

PLEASE READ CAREFULLY BEFORE CONTINUING



This technical manual must be kept in good condition inside the unit.



The specifications, illustrations and description contained in this manual are, to our knowledge, accurate at the time of the approval to print. We reserve the right to stop offering some characteristics or to stop the production of a model without notice it, do not constitute an firm agreement of our share.

Safety rules



- It is forbidden to plug and/or reduce the aeration openings of the installation room or the device,
- Never obstruct the smoke evacuation or the new air intake,
- Never make any modifications to the settings made by qualified personnel,
- Never spray water on the unit heater, or touch the device with parts of the body which are wet and/or with naked feet,
- Never touch hot parts of the unit heater, and/or moving parts,
- Never put or hook any object onto the device,
- Any operation on the device is forbidden unless it has been disconnected from the electricity network and the gas supply has been cut off.
- Do not modify the type of gas used, the settings of the device, the safety systems and regulation systems, since that could create dangerous situations.

Warn the after-sales technician in the case of changing the gas, the gas pressure or modifying the supply voltage.

In the case of a long period of non-operation, disconnect the electrical supply from the device. When starting the operation again, you are advised to call on qualified personnel. As a general rule all repair and/or maintenance visits must be carried out exclusively by authorised and qualified personnel.

The taking out of a maintenance contract is strongly recommended “see this with your installer”.

Cautionary note



Electrical components, drive mechanism and combustible gas can cause injuries. To protect from those risks during the installation or the maintenance, the power supply must be cut and the gas valve closed. Any person involve in the installation or maintenance of this equipment must respect the health and safety standards.

What should you do if you detect a gas smell :



- Close the outside gas valve and the electrical supply then, inform a technician for maintenance.
- Do not try to switch on the device
- Do not switch on the power supply, do not use phone inside the building.
- Call your gas supplier from another phone. Follow the instructions given by your supplier.
- If you cannot contact them, call the fire department.

1-GENERAL INFORMATION

1-1 General recommendations

The gas heater **KAFH** range are intended for the heating of industrial premises and poultry houses, for indoor use only.

The unit can only be installed in rooms which are sufficiently ventilated, except if it has a sealed connection.

The proper functioning of the gas heater depends on correct installation and commissioning.

Installation and maintenance must be carried out by qualified personnel in conformity with the regulatory texts and the rules in force.

The non-compliance with such rules entails the rejection of all responsibility from the manufacturer.

DO NOT INSTALL GAS HEATERS IN :

- Rooms which have a risk of explosion,
- Rooms containing chlorinated combination steam,
- Rooms with a high content of combustible dust,
- Rooms which are excessively humid (electrical danger).
- Domestic premises

After having checked that the installation respects the recommendations of this notice, it is the responsibility of the installer:

1) to inform the user:

- that it cannot carry out itself any modifications to the design of the devices or the method of carrying out the installation; the least modification (exchange, withdrawal....) of safety components or parts which influence the efficiency of the device or the hygiene of combustion will systematically cause the withdrawal of the EC marking.

- that it is necessary to recommend cleaning and maintenance operations.

An annual preventive maintenance operation is compulsory.

2) to give these instructions to the user. They form an integral part of the device and must be retained and must accompany the device, even in the case of sale to another owner or user.

Being always intent on improving the quality of our products, we seek to improve them on a permanent basis. We therefore reserve the right, at any moment, to modify the specifications shown in this document.

1-2 Description of equipment

The gas heater **KAFH** is an independent hot air generator, running on natural gas and on propane; it is in conformity with the European directives 2009/142/CE and 2009/142/CE applicable to gas devices (EN1050:2009 and EN1196:2011 Standard), certificate n°01430098200 of 30/10/2014.

It constitutes a "direct" heating gas system ; it is a device for the production and the emission of heat without an intermediate vehicular fluid. For the whole range described in these instructions, the combustion products are evacuated out of the room by an extractor. The combustible air is taken from the ambient environment or from outside. Those units can be connected with concentric flue kit, C12-C32 type or with single flue kit, B22 type.

The gas heaters of the **KAFH** range work with different gas indicated on the identification plate in conformity with the European directive.

1-3 Instruction for use

- Please read the instructions in this manual carefully for the operation and maintenance of this device.
- Carry out maintenance at least once a year by qualified personnel. The frequency of the maintenance operations depends on the environment in which the device is installed. More regular inspection must be carried out in dusty locations. If the unit is used in poultry houses, it must be cleaned after each lot of animals, or more if there is a high degree of pollution.
- Regularly check that device, the chimney or the gas pipe are not damaged.
- Regularly check that air openings in the building and around the device are not obstructed.
- Check that hot air circulates normally in the room, and therefore that there is no obstacle on the suction side (fan side), and in front of the blowing side of the unit (check that the grille is well opened).
- The control box must have a cut off electricity each 24 hours.

1-4 Operation

- When heat is required, the burner ignites using the ignition electrode then the fan starts running, hot air is blown into the room. When the setting temperature is reached, the burner is turned off. The fan continues to turn for about one minute, until it has cooled the heat exchanger.

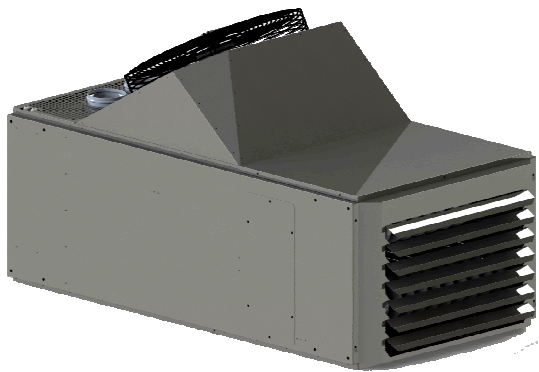
1-5 Safety

- The ionization sensor detects if there is a flame or not. If not, the gas valves are immediately closed.
- The thermal protection of the heat exchanger is ensured by two thermostats. The first, which is automatically reset, protects against insufficient air flow (obstructions, fan failure). The second, which has to be manually reset, is set to a higher threshold than the first one. It protects the device against overheating due to a functioning problem or unsuitable use.

If the operation shows any difficulty whatsoever, please contact your installer or the After Sale Service of your dealer.

Make sure that the device can be normally supplied with combustion air at atmospheric pressure (it must be taking into account if there is any modification of the building after the installation of the device). An excessive vacuum inside the room can harm the proper functioning of the device and deprive it of air necessary combustion.

2- TECHNICAL CHARACTERISTICS



KAFH Model

Depending of its capacity, the **KAFH** heaters are equipped with one or two axial fan.

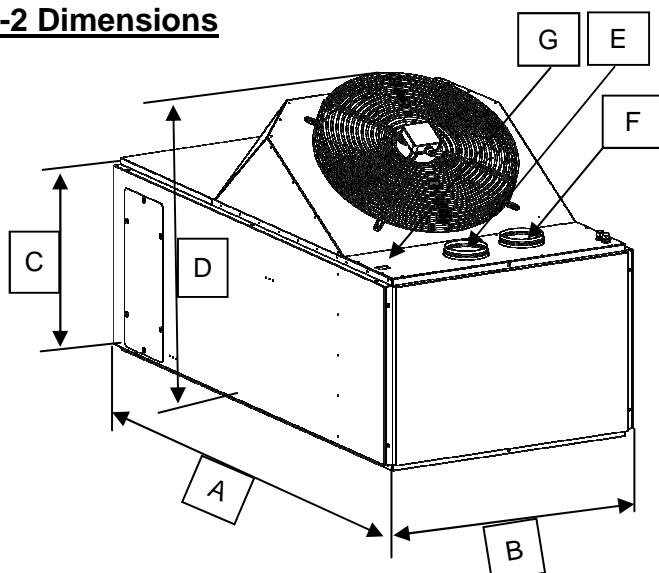
They are designed for direct blowing into the room.

They can be suspended or equipped with supports for installation on the floor.

2-1 Performance of ATL gas unit heater

TYPES		KAFH 75
Calorific output	kW	76
Usable power	kW	70
Efficiency	%	92
Fan	mm	600
Rotation speed	rpm	1.350
Air flow at 15 °C	m ³ /h	6.600
Delta T° of the air	°C	31,20
Throw	m	35
Gas flow at 15°C	Natural G20 (20 mbar) Groningen G25 (25 mbar) Propane G31 (37 mbar)	8,04 m ³ / h 8,94 m ³ / h 5,93 kg/h
Smoke exhaust diameter	mm	130
Air inlet diameter	mm	130
Supply voltage		Single-phase 230 Volts / 50 Hz - IP54
Electrical power	W	720
Electrical current	A	3,4
Operating temperature	°C	0/+40
Weight	kg	200

2-2 Dimensions



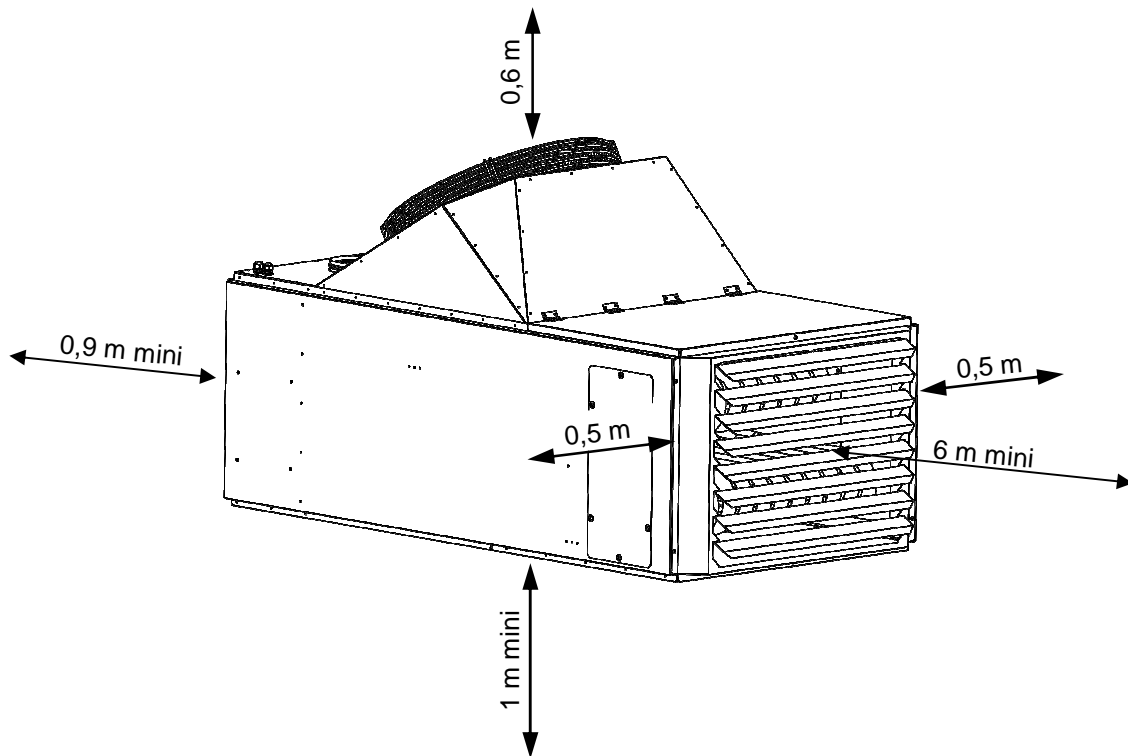
Types	KAFH 75
A (mm)	1791
B (mm)	892
C (mm)	617
D (mm)	1026
E (mm)	130
F (mm)	130
G	3/4"

3- INSTALLATION

3-1 Recommendations for installation

For a good functioning and the security of the device, it's necessary to respect the minimum installation spaces here below:

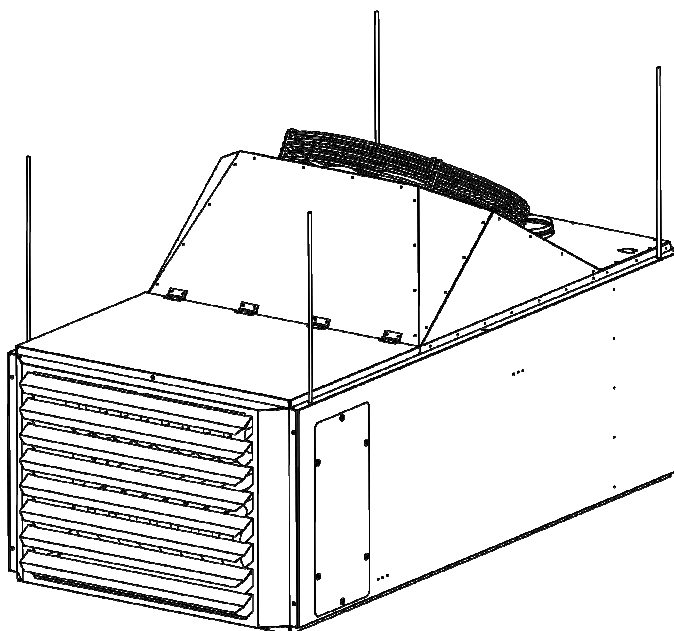
- Foresee a minimum space of 0,6 m above the unit (fan side).
- Foresee sufficient clearance for the opening of the burner door.
- The heater must be installed at minimum 1 m from the floor.
- No object can be placed at less than 0,5 m around the heater.



3-2 Suspended mounting

Before mounting the device, it is necessary to make sure of the support's strength.

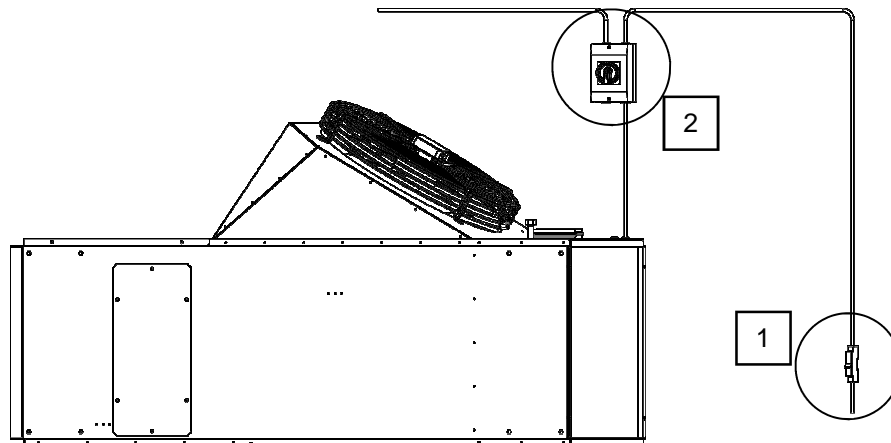
The unit is equipped with 4 M8 threaded inserts on the top, to can be suspended. It is necessary to used slings or threaded rods adapted to the weight of the unit. *The mounting must be perfectly aligned, as shown on the drawing here below.*



Be careful, make sure to always use lock nuts to ensure the fastening.

4- Regulation and electrical connection

4-1 Electrical and network connection



The power supply is in single-phase 230 V with a protected electrical cable (1). The section of the cable and its protection must be sized according to the number of units on the line and its length.

The regulation box will be connected to the gas heaters by a pilot wire. Connect the regulator to the first heater, then connect the first heater to second and proceed in the same for the others until the last one.

For people and equipment safety, it is recommended to install switch disconnections (2).

The connection must be realized by a qualified installer following the diagram above.

Refer to the technical manual given with the regulation.

Caution : Be sure that general power supply is cut off before any operation on the line.

Electrocution hazard.

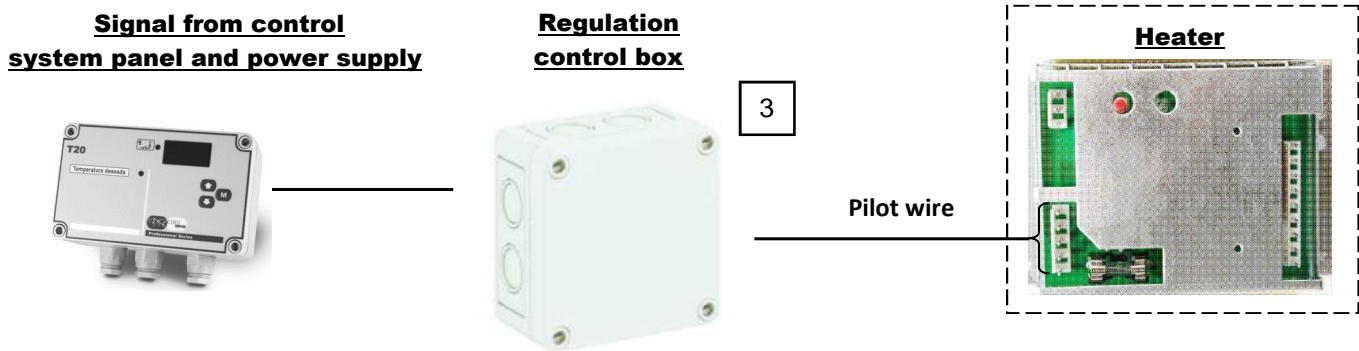
4-2 Control and regulation

All gas heaters are equipped from the factory with a pilot card. There is the possibility to connect an external regulation control box (3) to the pilot card through the pilot wire . As a result, it is possible to command the heater with external control signalling (from a thermostat or control panel). It will be On-Off 230 Vac signalling and as the same phase as the generator power supply.

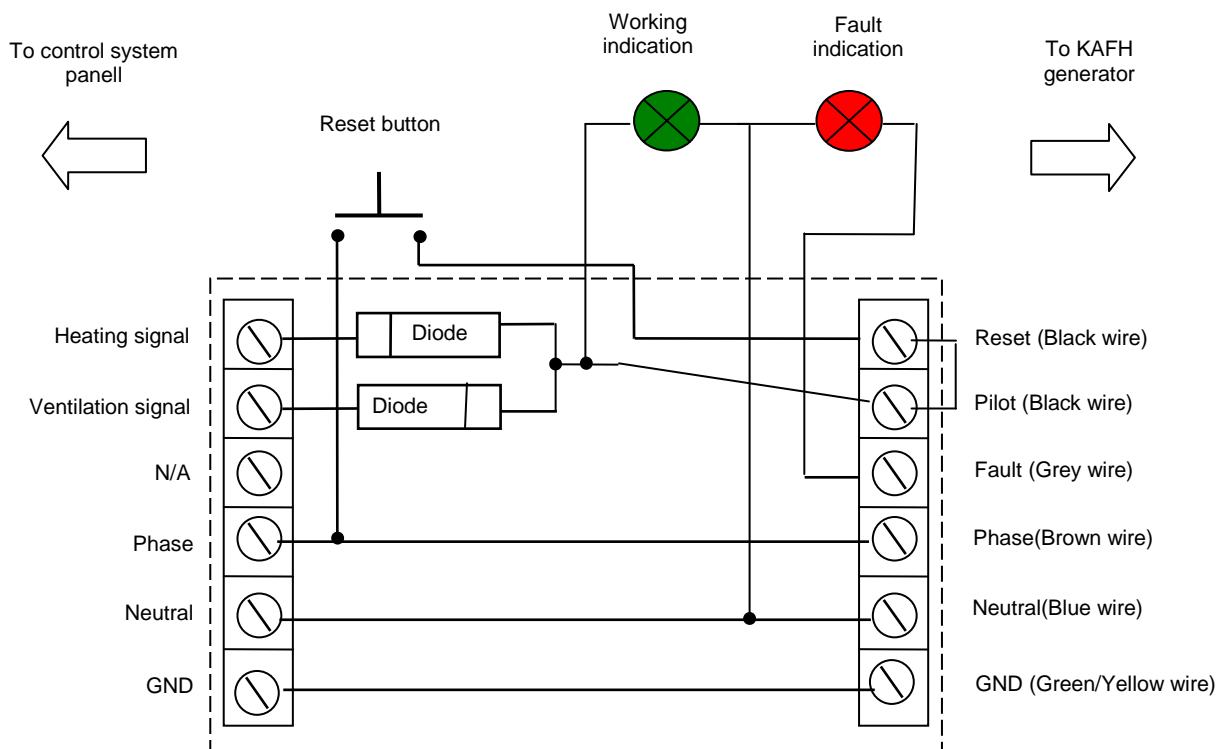
There are three operation mode and two signal indication into the regulation control box:

- Heating/Ventilation mode
- Ventilation only mode
- Reset
- Fault signal
- Working signal

According to the external signalling, the regulation control box sends the order to the pilot card which the selected action



Pin-out of the regulation control box



4-3 Thermostat with remote probe

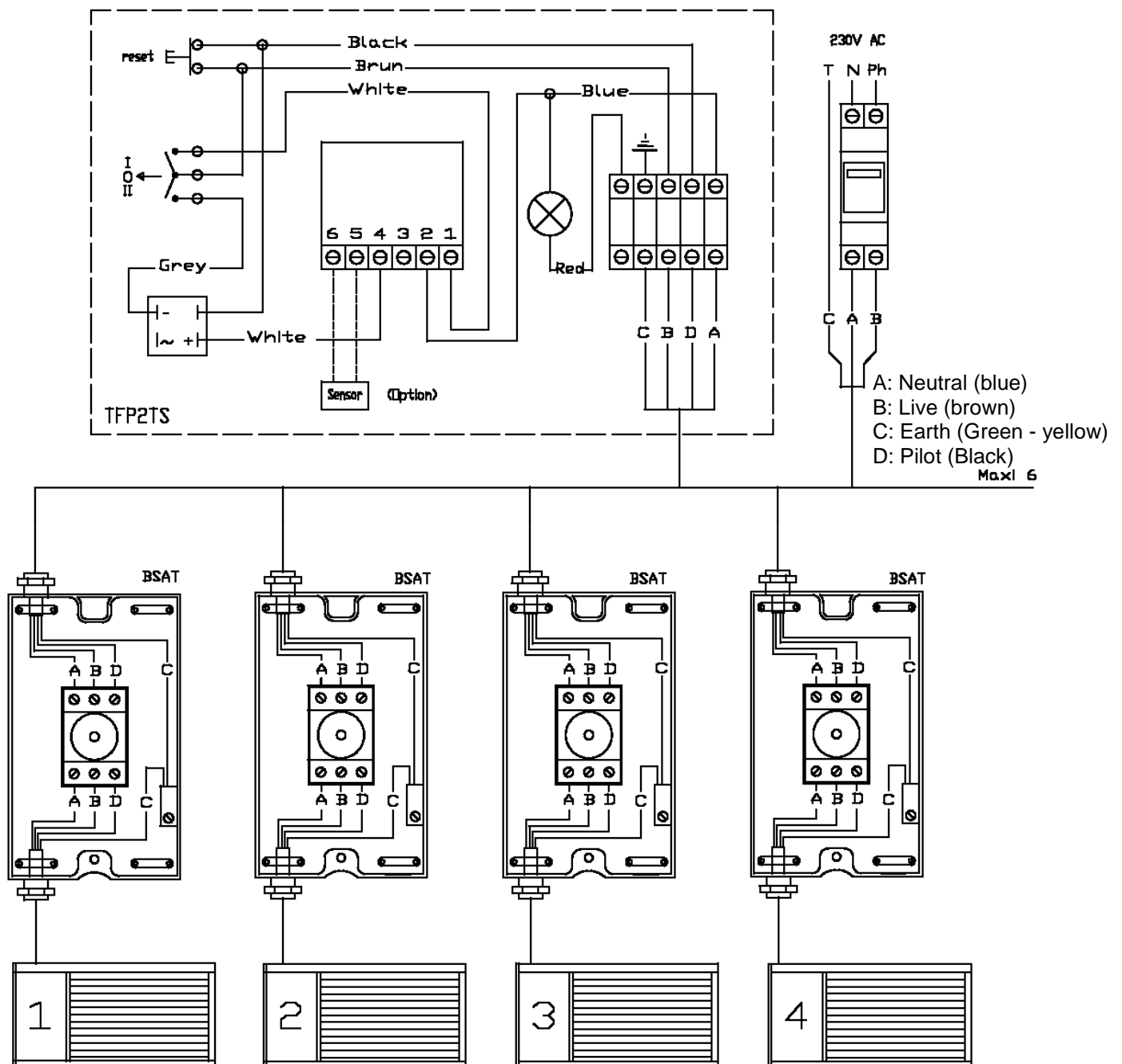
Control box with programmable touchscreen and remote probe.

This regulation can manage up to 6 heaters. The use of a remote probe allows you to install the control box outside the managed area.

This box has also a default light which is possible to connect. However, if the thermostat is connected to several units, it is impossible to identify the one which has a defect.

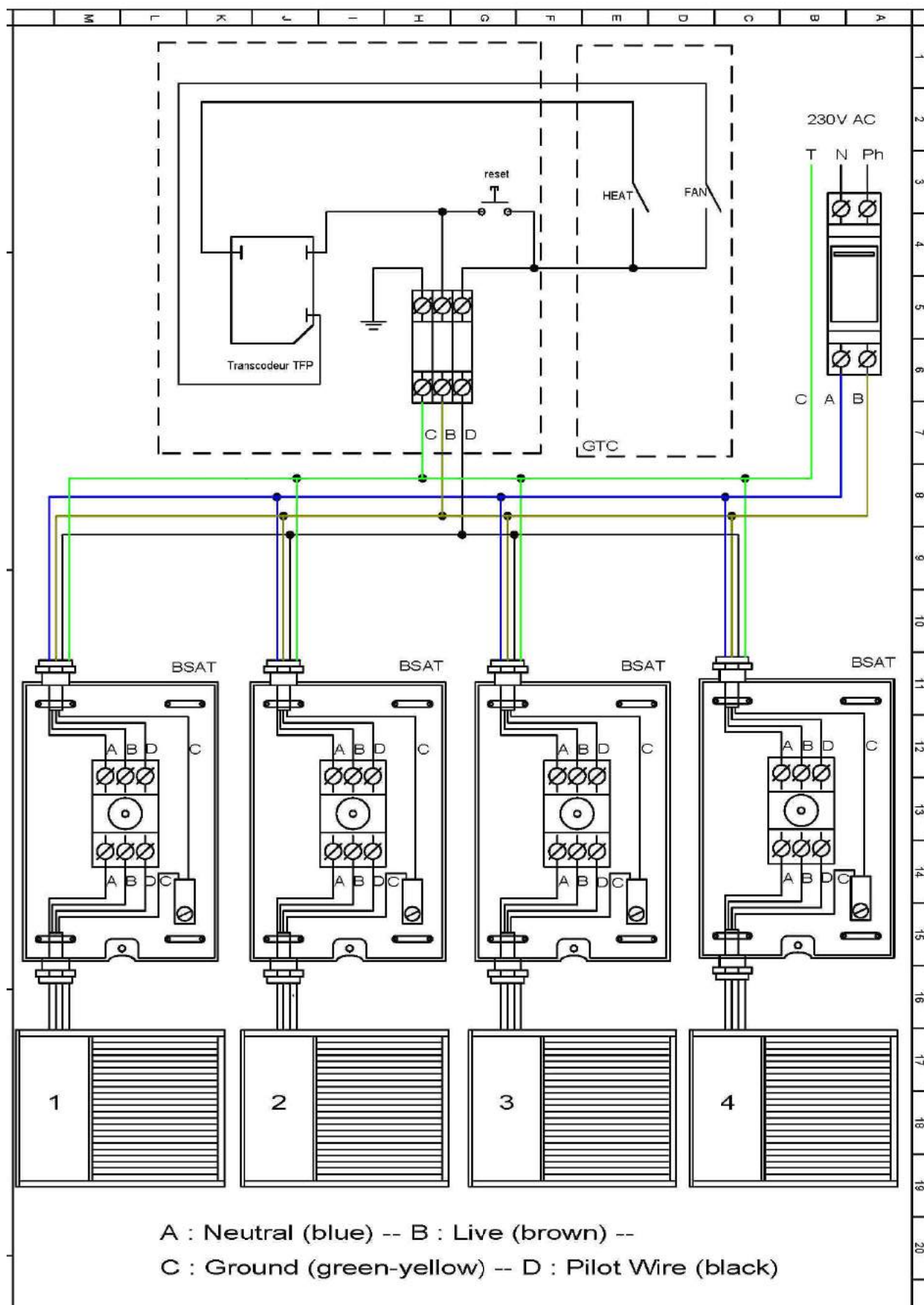


Diagram connection:

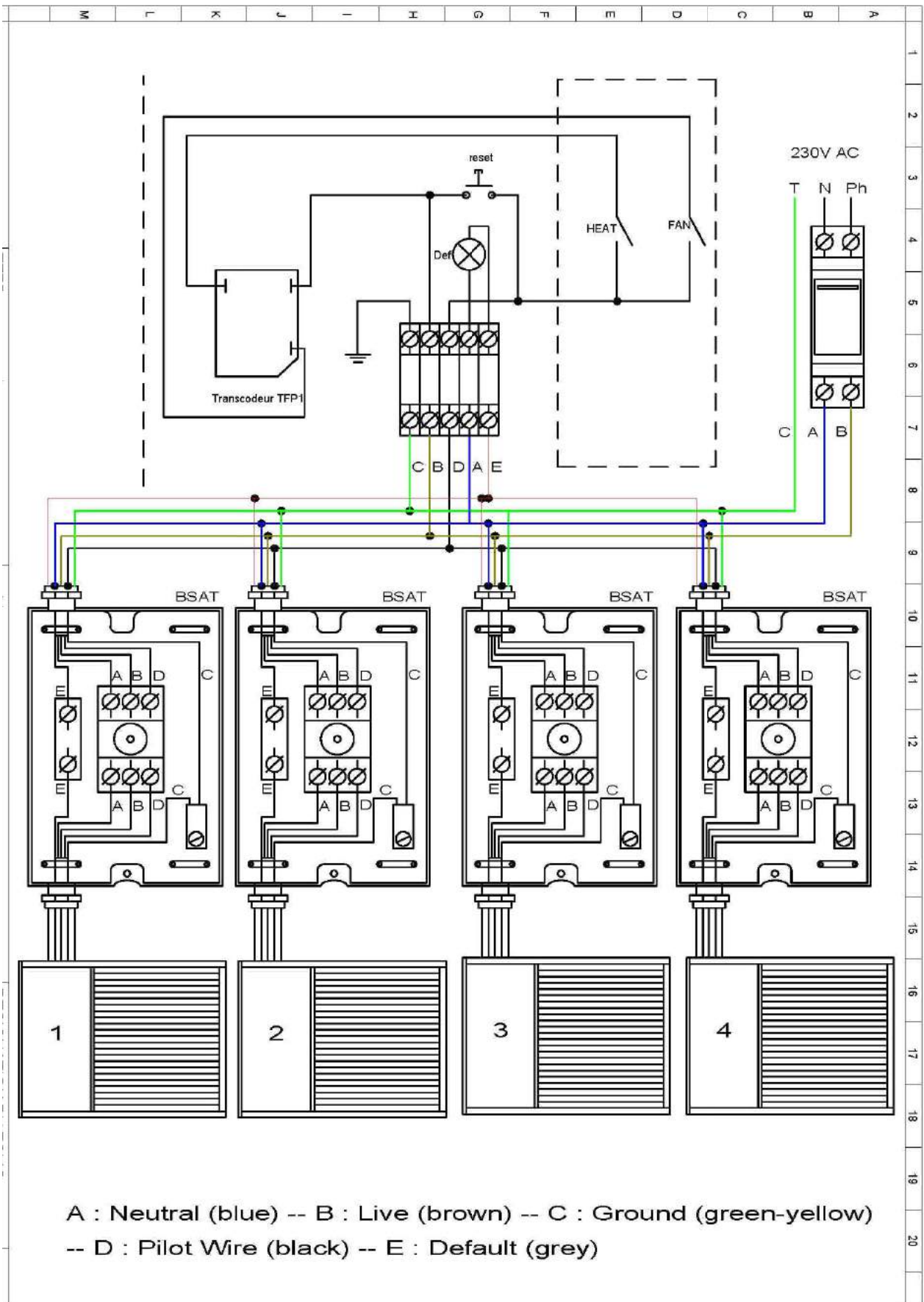


4-4 Diagram for CTM

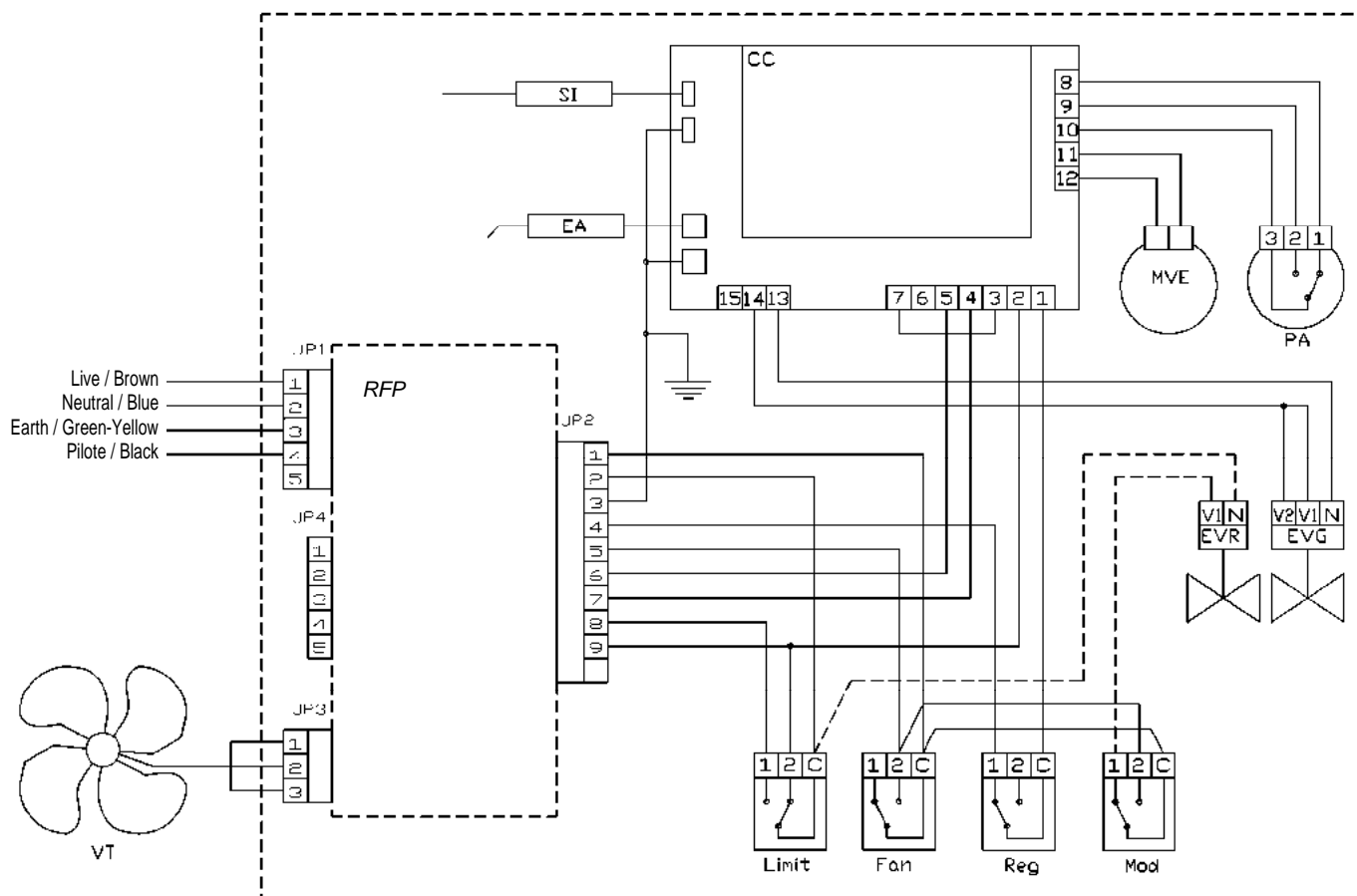
A- Control and regulation



B- Control, regulation and default



4-5 Electrical diagram



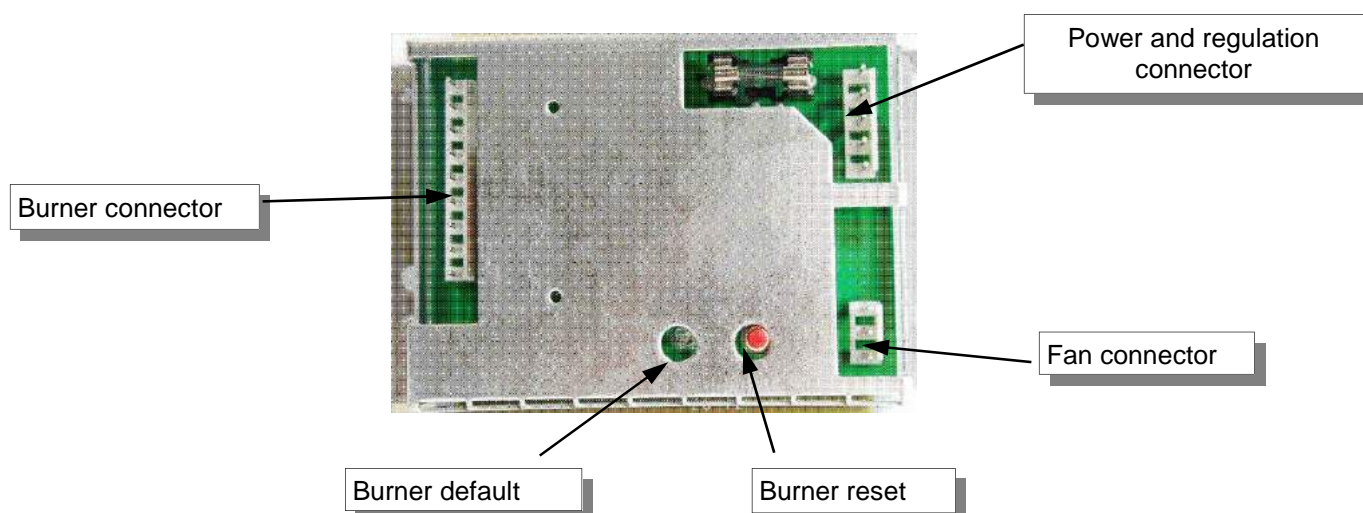
The temperature sensor of the burner modulation thermostat (Mod) is placed on the fan's protection grille

VT	Blowing fan
RFP	Pilot wire receptor
Limit	Overheat thermostat with manual reset
Fan	Thermostat for fan start up
Reg	Thermostat for burner regulation
Mod	Thermostat for burner modulation (2 stages option)
CC	Control box with isolation transformer

MVE	Extractor fan
PA	Burner air pressure
SI	Ionization probe
EA	Ignition probe
EVR	Modulating gas valve (2 stage option)
EVG	Gas valve

In normal operation, never stop the unit by cutting the power supply. Wait the shutdown of the fan.

RFP Card



5- FLUE PIPE CONNECTION

5-1 Generalities

During the commissioning and the maintenance, make sure that:

- Combustion air intake and smoke exhaust are not obstructed.
- For concentric installation, check that the 2 circuits (combustion air intake and smoke exhaust) are well separated and sealed. Check also the installation of flue pipes and seals.
- Seals are not damaged during the installation of the flue pipes, between them or on the unit. Ensure the tightness.
- There is no water which can come inside the unit by the flue pipes (electrical hazard). For this, use: drain tee, condensate drain pan,...
- For big extension and concentric installation, it is necessary to foresee a condensate drain pan.

5-2 Single flue kit connexion

The combustion air is taken directly into the room and the smoke exhaust is done to the exterior thanks to a single flue through the roof.

Roof type B22

Mounting type B22 :

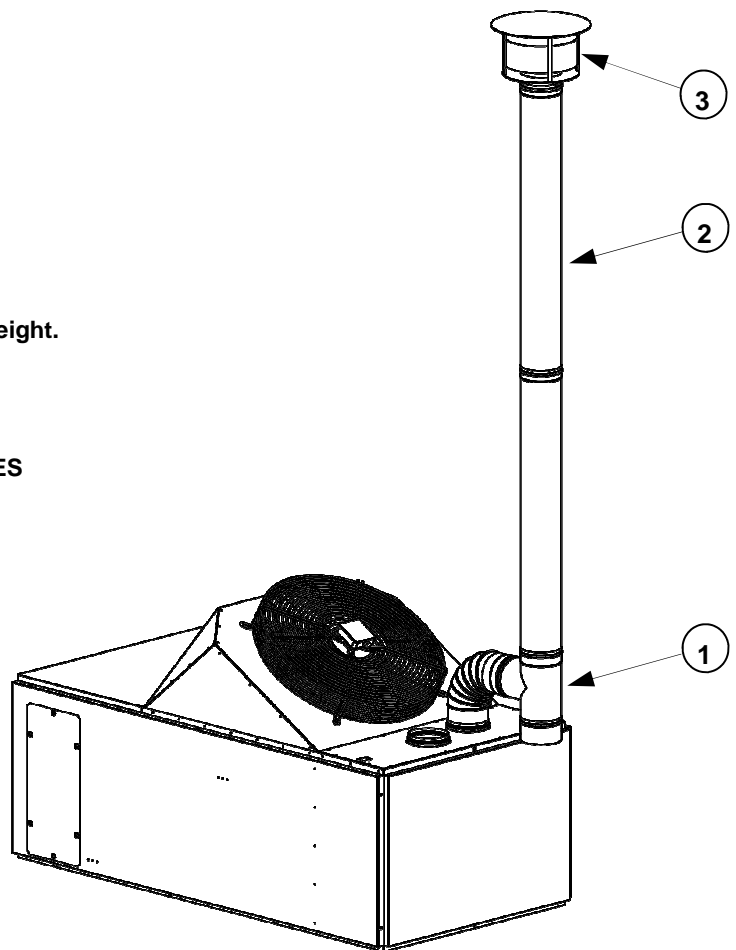
Diameter of flue pipe: 130 mm

- 1 tee with airtight (1),
- 2 single extension of 1 m (2),
- 1 single roof terminal (3)

The roof outlet must be located at least at the ridge height.



NOT SUITABLE FOR POULTRY HOUSES



CAUTION

Foresee a sufficient ventilation in the room. The required fresh air for combustion must be at least of 100 m³/h /unit. The section of flue must be at least equal to the diameter of the heater outlet.

The smoke exhaust cannot be vertical or at 45° mini mum.

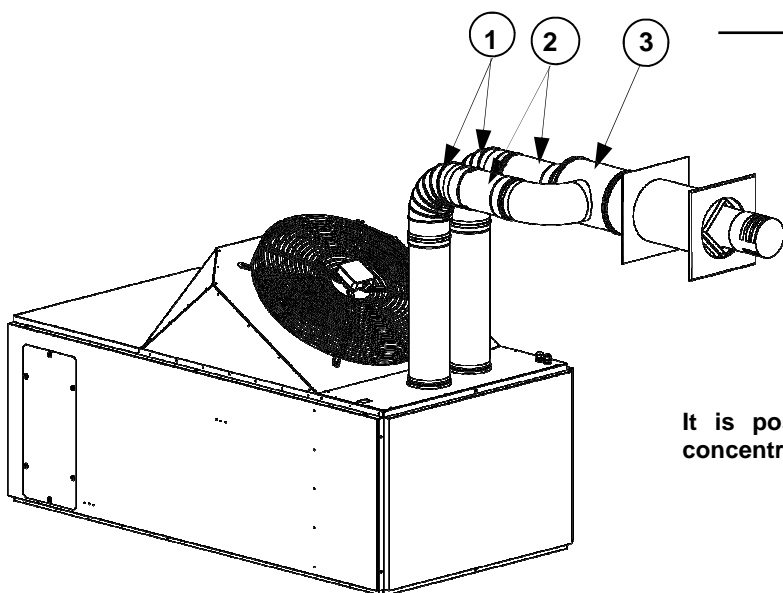
The total length of the connection cannot exceed 6 m, knowing that : elbow 90° or 45° = 1 m of flue.

If the outside part of the flue is higher than 2 m, foresee an insulated pipe.

5-3 Concentric flue kit connection

The connection for combustion air intake and smoke exhaust is made horizontally or vertically towards the outside of the room.

Caution: the fumes condensates should not flow inside the unit, risk of corrosion. If it is needed, foresee a condensate collector. In case of horizontal concentric installation, foresee a slope of 2° minimum and opposed to the unit to drain the condensate.



Wall type C12

Mounting type C12 :

- Flue pipe diameter: 130 mm
- 2 single elbow at 90° (1)
 - 2 single extensions (2),
 - 1 concentric wall terminal (3)

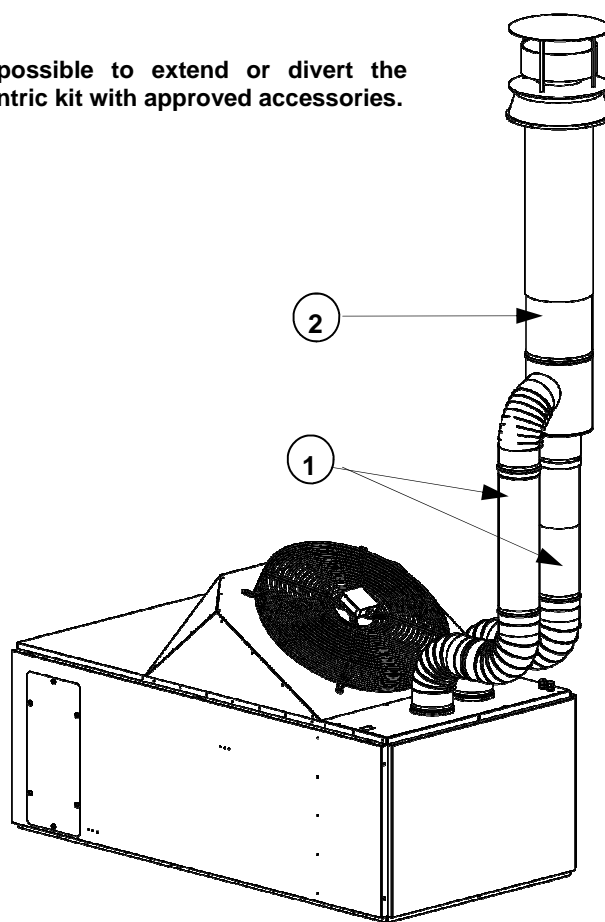
It is possible to extend or divert the concentric kit with approved accessories.

Roof type C32

Mounting type C32 :

- Flue pipe diameter: 130 mm
- 2 single extensions (1),
 - 1 concentric roof terminal (2)

It is possible to extend or divert the concentric kit with approved accessories.



The use of flues involves a perfect sealing. To facilitate the installation, it is necessary to use a lubricant, non-aggressive for the gasket, example: soapy water.

CAUTION

The junctions must be sealed and rigid.

The section of flue must be at least equal to the diameter of the heater outlet.

The smoke exhaust cannot be vertical or at 45° minimum.

The total length of the connection cannot exceed 6 m, knowing that : elbow 90° or 45° = 1 m of flue.

If the outside part of the flue is higher than 2 m, foresee an insulated pipe.

6– GAS CIRCUIT

6-1 Change of gas

The unit heaters are equipped with atmospheric gas torch burners, permitting the use of Natural gas G20, Natural gas G25 and Propane.

The combustion ports are engineered so as to ensure very good stability of the flame without separation or return towards the injectors.

THE SERVICE VISITS MUST BE CARRIED OUT BY A QUALIFIED PROFESSIONAL PERSON .

Changing the gas is carried out in the following manner:

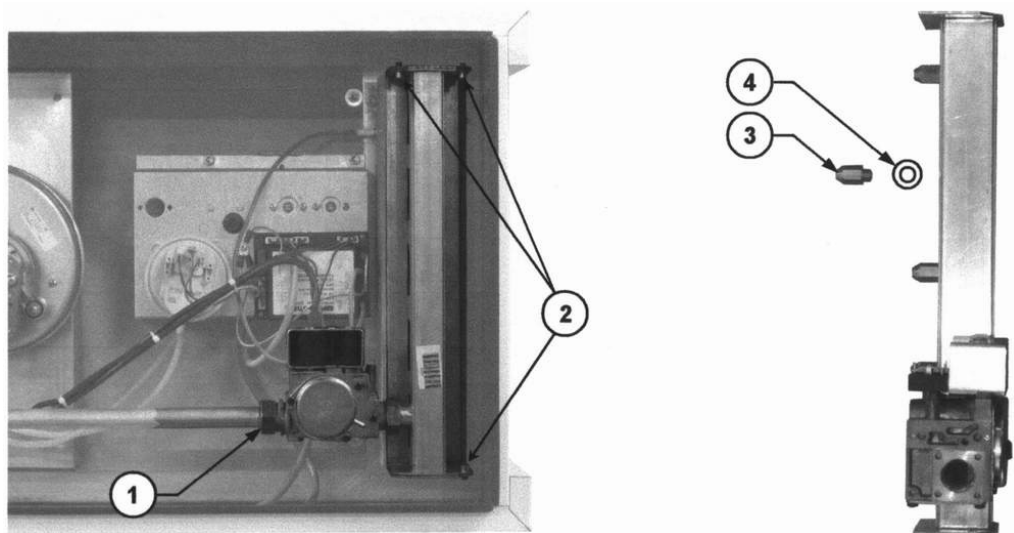
- 1- Disconnect the electrical supply connector and close the gas inlet.
- 2- Unscrew the gas line fixing nut (Item 1) on the gas valve and also the three screws (Item 2) which retain the injector ramp on the burner block.
- 3 – Change the injectors (see adjustment table).
- 4 – Screw in the new injectors (Item 3) changing the seals (Item 4) and making sure concerning sealing.

The injectors must be installed dry.

5 – Reassemble the ramp and connect the gas line to the gas valve, **replacing the seal**, make sure during assembly not to forget, or damage the seal.

6 – Check for sealing after assembly.

7 – Adjust the gas ramp pressure on the regulator.

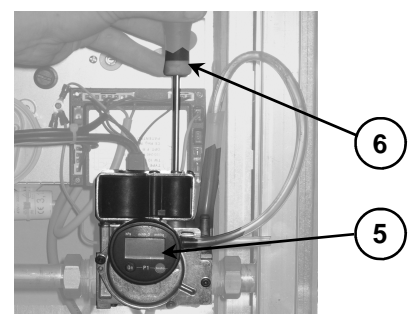


CAUTION : This operation must be done with the gas and electricity supplies cut off.

The adjustment of the gas pressure is made with the burner running

Adjusting the gas pressure is done in the following manner:

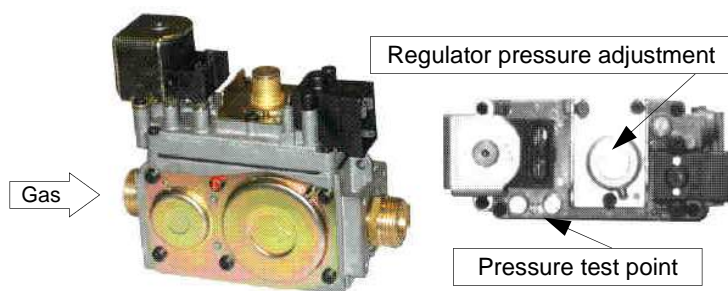
- 1– Open the valve pressure regulating protection screw.
- 2- Unscrew the pressure test point, connect the pressure gauge (5)
- 2- Adjust the ramp pressure (6), in accordance with the adjusting table.
- 3- **After adjustment, do not forget to put the protective screw back in place and to close the pressure test point.**
- 6 – **Check for sealing after making the adjustment.**



6-2 Adjustment table for 1 stage valve

Types	Adjustment for G20			Adjustment for G25			Adjustment for G31		
	Regulator pressure	Gas ramp injectors	Washer extractor	Regulator pressure	Gas ramp injectors	Washer extractor	Regulator pressure	Gas ramp injectors	Washer extractor
KAFH 75	7,5	12 x AL 2,50	35	10	12 x AL 2,50	35	20	12 x AL 1,50	30

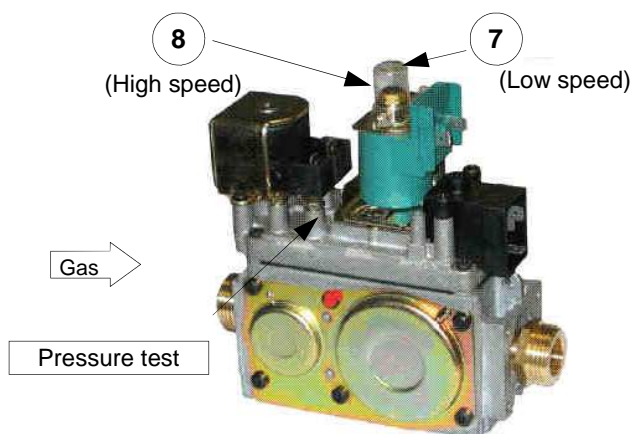
Gas valve KAFH 75



6-3 Adjustment table for 2 stage valve

Types	Adjustment for G20				Adjustment for G25				Adjustment for G31			
	Regulator pressure		Gas ramp injectors	Washer extractor	Regulator pressure		Gas ramp injectors	Washer extractor	Regulator pressure		Gas ramp injectors	Washer extractor
	Low speed	High speed			Low speed	High speed			Low speed	High speed		
KAFH 75	4,5	7,5	12 x AL 2,50	35	5,5	10	12 x AL 2,50	35	13	20	12 x AL 1,50	35

Gas valve KAFH 75



6-4 Gas connection

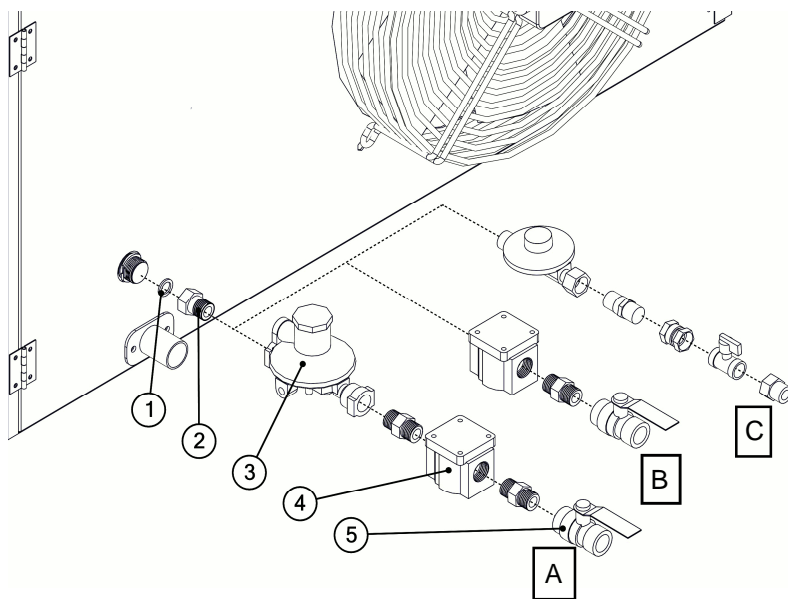
First of all it is necessary to check that the device is in conformity with the type of gas distributed. For this purpose, you must refer to the indications shown on the identification plate.

The gas supply must be appropriated to the power of the heater and be equipped with all the security and inspection devices required by current standards.

A precise study must be carried out on the diameters of the piping depending on the type and the flow of gas and the length of the piping. It is necessary to make sure that pressure drops in the piping do not exceed 5 % of the supply pressure.

The gas connections must be made in conformity with the recommendations for indoor installations whatever the type of gas, by qualified personnel holder of necessary approvals.

Caution: before opening the gas network, check the sealing up to the unit heater solenoid valve



Gas connection:

- A—Over 50mbar natural gas supply
- B— Under 50 mbar natural gas supply
- C— LPG supply

Gas connection kit*:

- 1— Gasket (supplied)
- 2— Connection with air heater (supplied)
- 3— Gas regulator
- 4— Filter
- 5— Gas valve

*To know more about this kit, please refer to the instruction manual supplied with connection kits

7– COMMISSIONING

7-1 Operating principle

1- For the commissioning of the device, turn the regulation to demand.

The control box tests the break contact of the air pressure switch and turns on the smoke extractor. Its proper functioning is controlled by the differential air pressure switch. In case of lack of air, it prevents the control box from following its cycle.

2- After pre-ventilation, the ignition electrode lights up and the valve allows the gas passing through the injectors.

3- If the air/gas mixture is not ignited or is not detected by the ionization sensor, the flame control box tries once more and switches on safety position.

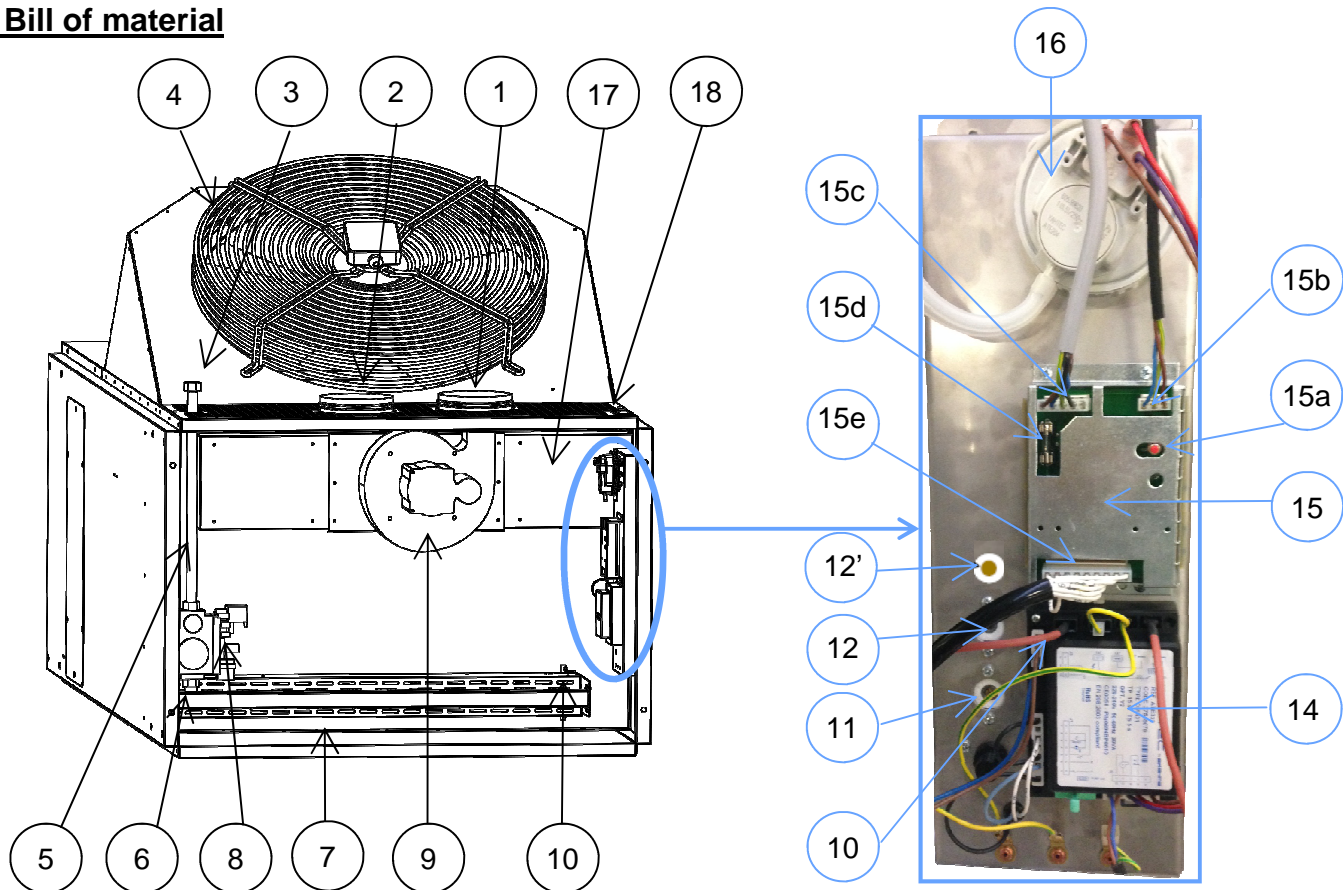
4- Once the burner is ignited, the blowing fan is triggered when the air temperature is higher than the fan thermostat value (35°C to 40°C).

5- In the case of a fan malfunctioning, the overheating thermostat cuts off the burner if the temperature exceeds 90 °C.

CAUTION :

Never stop the device before the fan has totally stopped. The lack of cooling can necessitate to reset the overheating thermostat and can damage the heat exchanger over the long term.

7-2 Bill of material



No.	Description	Spare parts reference
		KAFH 75
1	Smoke outlet	ATE260
2	Air inlet	ATE260
3	Gas inlet	ATE213
4	Axial fan	ATE8074P
5	Copper tube for gas supply	-
6	Ignition electrode + cable	ATE021 + ATE023
7	Gas ramp	-
8	Gas valve with pressure regulator	9EL0070
9	Smoke extractor	ATE113
10	Ionization cable	ATE022 + ATE025
11	Fan thermostat (30 to 35°C)	ATE254
12	Burner regulation thermostat (65°C)	ATE254
12'	Airstat 2 nd stage (25 to 30°C) (optional)	ATE254
13	Overheating thermostat with reset (100°C)	ATE422
14	Control and safety box	ATE332
15	Pilot wire receptor	ATE521
15a	Burner reset	-
15b	Fan connector	-
15c	Power supply connector	-
15d	5 A heater protecting fuse	-
15e	Burner connector	-
16	Lack of air pressure switch	ATE204
17	Smoke box	-
18	Electric connexion	-

8– MAINTENANCE

The maintenance visits must be carried out by a qualified professional person

Correct and regular use and maintenance of the unit heater allows an efficient operation, minimum consumption , as well as a long life.

THE MAINTENANCE MUST BE DONE WITH THE DEVICE COLD, WITH THE GAS AND ELECTRICITY SUPPLIES CUT OFF.

Check the proper functioning of all safety devices and check that all screws are correctly tightened.

Heat exchanger, smoke extractor and venturi :

Unscrew and open the blowing grille and the upper access door to clean the heat exchanger.

To get access to the rear of the heat exchanger bends, unscrew the 2 metal plates on the lateral sides.

Clean the smoke extractor and the venturi by opening the burner compartment door.

Fan :

Clean it with compressed air

Flue pipe :

Dismantle the pipe, sweep it and check leaks.

Body and grilles :

Clean it using a duster

Gas burner :

Dismantle the burner, check the burner ramp state and clean it.

Check the state of the ionization sensor and ignition electrode, change it if it is necessary.

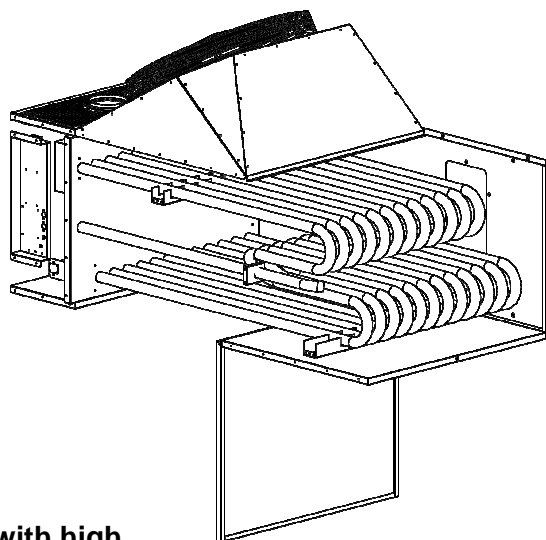
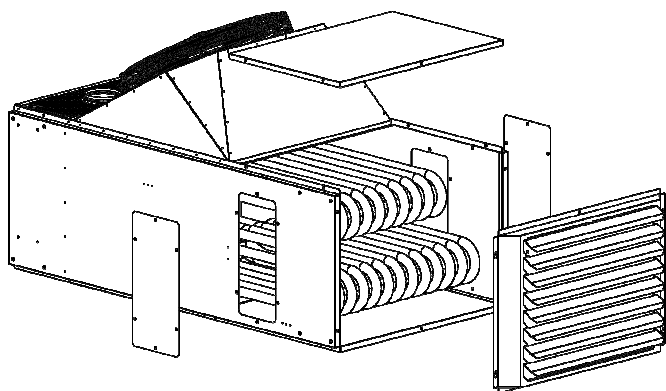
Gas filter :

Dismantle the dirty cartridge and clean it with compressed air.

The heaters used for poultry houses must be cleaned and maintained more frequently.

It is necessary to clean the device each time a change is made to a new batch!

The heat exchanger can resist to a high pressure cleaner and can be cleaned with water. The upper access door allows a good angle to clean the heat exchanger. And the two lateral metal plates allow a good access to the rear of the heat exchanger bends. The water will flow towards the lower access door.



CAUTION:



Do not clean the burner compartment or the fan with high pressure jet! Do not get wet the electrical parts, ELECTRICAL HAZARD !

Do not spray through the doors, it can damage the door gasket.

Do not spray directly on temperature sensors.

9– TROUBLESHOOTING

In case of problems, make sure that the conditions required prior to operating the heater are present. If the control box is in the safety position (with the burner defect indicator lamp lighted up), reset it.

CAUTION : All electrical or mechanical operations must be carried out when the electrical supply is cut off and the gas supply is closed.

Defect	Cause	Remedy
The device does not start	<ul style="list-style-type: none">- Incorrect wiring- Lack of voltage- The ambient thermostat is not triggered- The pilot wire receptor is not on automatic position- Overheat safety thermostat is triggered.	<ul style="list-style-type: none">- Check the wiring- Verify the electrical supply- Increase the setting point of the ambient thermostat- Check the position of the receptor switch inside the heater- Reset the thermostat
The burner prevents continuously	<ul style="list-style-type: none">- Extractor out of services- Air pressure switch disconnected- Air pressure switch out of services	<ul style="list-style-type: none">- Replace the extractor- Reconnect the pressure air pipes- Replace the air pressure switch
The ignition electrode is sparking, the burner ignites, the control box turns on safety position (the burner default lights)	<ul style="list-style-type: none">- Gas valve defective- Control box defective- Ionization sensor incorrectly adjusted or defective- Air in the piping- no gas	<ul style="list-style-type: none">- Replace it- Replace it- Adjust it or replace it- Bleed the piping- Check the pressure
The unit turns on safety position (red led switched on)	<ul style="list-style-type: none">- Gas supply interrupted	<ul style="list-style-type: none">- Reset by pressing the red button on the control box
Cold air when starting	<ul style="list-style-type: none">- Incorrect adjustment of internal thermostat	<ul style="list-style-type: none">- Check the adjustment of the ventilation thermostat (adjustment 35°C)
The device does not heat sufficiently	<ul style="list-style-type: none">- Incorrect placing of the thermostat- Incorrect adjustment of the thermostat- Insufficient gas pressure- Injectors are unsuitable	<ul style="list-style-type: none">- Change its location- Adjust the thermostat- Check the gas supply pressure- Check that the injectors are correctly selected and replace them if necessary
The device never stops	<ul style="list-style-type: none">- Thermostat is set too high or is defective- Incorrect wiring	<ul style="list-style-type: none">- Lower the setting point or replace it- Check the wiring

10– RECOMMENDATIONS FOR USER

Precaution to be respected :

- Never obstruct the smoke exhaust system and the fresh air intake.
- Never make any modifications to the adjustments which have been carried out by the qualified professional person.
- Never spray any water into the gas heater
- Warn the after-sales technician when there is a change of gas, gas pressure or a modification of the power supply voltage.

You are strongly recommended to take out a maintenance contract: “see with your installer”.

What should be done in case of problems?

PROBLEMS	REMEDIES
<i>Smell of gas</i>	<i>- Close the external gas valve and the electricity supply then warn the maintenance technician.</i>
<i>The burner stays in safety position (burner defect led is lighted)</i>	<i>- Press the reset button of the burner located on thermostat control box. - If the problem persists, contact the after sales technician.</i>

10– ACCESSORIES

DESCRIPTION	CODE
KAFH SUPPORT LEGS	064100
KAFH CONCENTRIC ROOF FLUE KIT Ø 130	064106
KAFH CONCENTRIC WALL FLUE KIT Ø 130	064107
CONDENSATE VESSEL Ø 130 KAFH	064108
KAFH REGULATION CONTROL BOX	064109



Santa Eulalia, 213
08902 L'Hospitalet de Llobregat (BARCELONA)
Tel. 93 432 96 00
Fax. 93 422 20 90
info@kromschroeder.es
www.kromschroeder.es