

## Luminous Infrared Gas Heaters



## MANUAL FOR INSTALLATION, RUNNING AND MAINTENANCE



Models: 4P, 6P, 8P, 10P, 12PR, 12P, 16P,  
4PB, 6PB, 8PB, 10PB, 12PRB, 12PB, 16PB,  
10+10P, 12+12P, 16+16P,  
10+10PB, 12+12PB, 16+16PB,  
10+10PS, 12+12PS, 16+16PS  
10+10PSB, 12+12PSB, 16+16PSB

**Version “C-RAD and C-RAD<sub>plus</sub>”**

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## GENERAL INSTRUCTIONS FOR INSTALLER, USER AND MAINTENANCE PERSONNEL

**Thank you for your preference and trust granted!** SIABS is pleased to have You among his Customers; our appliances are designed and manufactured to the most modern and rational processing systems and we do think that their use will be fully satisfactory.

To keep appliances perfectly working and safe, time passing, we invite you to **read and follow the instructions** of this handbook and **commit all installation and maintenance (ordinary and extraordinary) operations only to skilled personnel**, with specific technical skills in the field of components of heating, preferably to SIABS authorized Service Centre.

### ***For the INSTALLER:***

- **read carefully the warnings** in the manual **before performing any operation** as they provide important information concerning the safety of installation, use and the necessary maintenance operations to be performed
- this manual is integral and essential part of the product and **must be delivered to the user; retain it carefully for further consultations**
- **in case of non-compliance with the following instructions, the warranty covering the product(s) will be null and void**
- **BEFORE THE INSTALLATION**, verify that local gas distribution (type of gas and pressure) and appliance settings are compatible
- appliance must be **installed only in premises with adequate ventilation**
- installation should be done in **accordance with the Regulations in force** in the country of destination, to the state of art, following instructions by the Manufacturer
- **incorrect installation can cause damage** to people, animals and things; the Manufacturer doesn't accept any contractual and extra-contractual liability in tort and contract for damages caused by errors in installation and use
- use only original accessories and modification kits
- after you have removed all items from packing box, **make sure that all components have been included and their integrity**, in case of doubt not use the appliance and contact the Manufacturer; elements of packaging are potentially dangerous: therefore should not be left within the reach of children and must be disposed according to regulations in force
- before any cleaning or maintenance operation, **wait until the appliance is cold, disconnect it from the electricity supply and bring the fuel shut-off valve in the closed position**

### ***For the USER and OWNER of the plant:***

- this manual is integral and essential part of the product and **must be delivered to the user; retain it carefully for further consultations**
- **in case of non-compliance with the following instructions, the warranty covering the product(s) will be null and void**
- use only original accessories and modification kits
- in case of failure and/or malfunction of the appliance, turn it off refraining from any attempt to repair or direct intervention; **contact SIABS authorized Service Centre**
- when you decide to stop using the appliance, for **DISPOSAL or RESALE**, you will have to render harmless all parties which can be a source of potential danger; **the technical manual is integral and essential part of the product: it must be preserved and accompany the appliance in case of property change, so that it can be consulted by the new user and / or maintenance staff**

**FOR YOUR SAFETY**



**In case of gas smell:** DO NOT operate the heating plant, vent the ambient, DO NOT start apparatus or electric switches; contact the installer and gas supply company and follow scrupulously their instruction

**IMPORTANT:** appliances **MUST NOT be used in domestic environments.** This appliance will be devoted only to the use for which it was expressly provided, **all other uses will be considered improper and therefore dangerous.**

**IMPORTANT:** appliances **MUST NOT be used in ambient with flammable materials, liquids or vapours:** non-compliance with these requirements may be cause of death, injury to persons or damage to things.

## WARRANTY

SIABS guarantees its products, whether installed by authorized personnel, for a period of 24 months from the invoice date. The warranty does not cover the components supplied by third parties, these are subject to the conditions of the original warranty.

The guarantee is only the free supply on Ex-Works basis, of parts with manufacturing or workmanship defects.

The guarantee does not cover problems due to carelessness, incorrect setting, misuse of the appliance or fortuitous accidents, and not dependent on imperfection processing or defective materials, and those due to dismantling or changes without prior authorization from SIABS.

The correct functioning of the appliances depends on a proper installation and start-up. Failure to comply with these rules immediately involves the decay of the guarantee, and therefore of responsibility by the manufacturer.

# Plate label

On each unit you will find a plate with technical data – **do not remove** – placed on the head of the appliance (version C-RADplus) or on the reflectors (version C-RAD).

**Apparatus type A1, gas category : XXXXXXXX**

		This appliance must be installed in accordance with the rules in force. It shall be used in a space ventilated in accordance with the requirements of EN 13410. Consult the instruction before installation and use of this appliance.																													
Tel. 02-90384081 - ITALY www.siabs.com																															
<b>Model</b> 12PB <b>PIN code</b> 0476CT2372			 0476/19																												
<b>Version</b> C-RADplus <b>Destination country</b> XX																															
<b>Gas category</b> XXXXX A1																															
<b>Before making any operation, turn off GAS and disconnect the POWER</b>																															
<table border="1"> <tr> <td>Tension</td> <td>230 Volt</td> <td>Gas type</td> <td>G20</td> </tr> <tr> <td>Frequency</td> <td>50 Hz</td> <td>Nominal heat input Hs</td> <td>MAX / MIN 22.2/16.7 kW</td> </tr> <tr> <td>Absorbed power</td> <td>24 Watt</td> <td>Nominal heat input Hi</td> <td>MAX / MIN 20.0/15.0 kW</td> </tr> <tr> <td>Protection rate</td> <td>IP20</td> <td>Gas consumption</td> <td>MAX / MIN 2.12/1.59 m<sup>3</sup>/h</td> </tr> <tr> <td>Nozzle diameter</td> <td>3.50 mm</td> <td>MAX feeding pressure</td> <td>50.0 mbar</td> </tr> <tr> <td>NOx category</td> <td>4</td> <td>Supply pressure</td> <td>20.0 mbar</td> </tr> <tr> <td></td> <td></td> <td>Nozzle pressure</td> <td>MAX / MIN 16.0/9.5 mbar</td> </tr> </table>				Tension	230 Volt	Gas type	G20	Frequency	50 Hz	Nominal heat input Hs	MAX / MIN 22.2/16.7 kW	Absorbed power	24 Watt	Nominal heat input Hi	MAX / MIN 20.0/15.0 kW	Protection rate	IP20	Gas consumption	MAX / MIN 2.12/1.59 m <sup>3</sup> /h	Nozzle diameter	3.50 mm	MAX feeding pressure	50.0 mbar	NOx category	4	Supply pressure	20.0 mbar			Nozzle pressure	MAX / MIN 16.0/9.5 mbar
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<b>DO NOT USE IN DOMESTIC AMBIENT</b>																															

**Plate label** (example: appliance 12PB, version C-RADplus, two-stages, G20 natural gas)

Essential features of the appliance are given on the packing label, outside on the packing box.

www.siabs.com Tel. +39 02 90384081		0476		
DESTINATION COUNTRY: XXXXX GAS CATEGORY: XXXX A1	<table border="1" style="background-color: yellow;"> <tr> <td>                     Gas: G20                      20 mbar                 </td> </tr> </table>			Gas: G20 20 mbar
Gas: G20 20 mbar				
<b>Radiant heater:</b> 12PB				
<b>Version:</b> C-RADplus				
NOTE: Two Stages				
		This appliance must be installed in accordance with the rules in force. It shall be used in a space ventilated in accordance with requirements of EN 13410. Consult the instruction before installation and use of this appliance.		
		 8 057014 803723		

## TECHNICAL DATA

**IMPORTANT: "GAS supply pressure", defined as the dynamic pressure of the circuit, or part of the circuit downstream of the pressure reducer, with all the appliances running, and must be detected in this condition. With lower pressure difficulties in start-up may occur.**

Appliance model, ON-OFF version		4P	6P	8P	10P	12PR	12P	16P	10+10P	12+12P	16+16P
Appliance model, TWO-STAGES version		4PB	6PB	8PB	10PB	12PRB	12PB	16PB	10+10PB	12+12PB	16+16PB
Ceramic plates	nr.	4	6	8	10	12	12	16	2 x 10	2 x 12	2 x 16
Electric feeding		230 Volt - singlephase - 50 Hz									
MAX feeding pressure	(mbar)	50.0									
Gas group, type P, PR, PB and PRB	nr.	1	1	1	1	1	1	1	2	2	2
Gas connection		1 x 1/2"	1 x 1/2"	1 x 1/2"	1 x 1/2"	1 x 1/2"	1 x 1/2"	1 x 1/2"	1 x 3/4"	1 x 3/4"	1 x 3/4"
Absorbed power	(Watt)	24	24	24	24	24	24	24	2 x 24	2 x 24	2 x 24
NOx class		4	4	4	4	4	4	4	4	4	4
<b>Version</b>	<b>Weight (kg)</b>	14	17	21	24	28	28	35	40	47	57
<b>C-RADplus</b>	<b>Length (mm)</b>	583	766	953	1137	1376	1376	1747	1216	1455	1826
	<b>Gas group (mm)</b>	162	162	162	162	218	218	218	297	297	297
	<b>Width (mm)</b>	592	592	592	592	592	592	592	822	822	822
	<b>Height (mm)</b>	348	348	348	348	348	348	348	348	348	348
<b>Version</b>	<b>Weight (kg)</b>	8	10	12	14	18	18	22	30	34	38
<b>C-RAD</b>	<b>Length (mm)</b>	593	775	962	1146	1384	1384	1755	1146	1384	1755
	<b>Gas group (mm)</b>	162	162	162	162	218	218	218	297	297	297
	<b>Width (mm)</b>	380	380	380	380	380	380	380	606	606	606
	<b>Height (mm)</b>	202	202	202	202	202	202	202	202	202	202
<b>GAS G20</b>											
Heat input MAX (Hs)	(kW)	7,2	9,6	16,1	18,3	19,0	22,2	34,4	36,6	44,4	68,8
Heat input MAX (Hi)	(kW)	6,5	8,6	14,5	16,5	17,1	20,0	31,0	33,0	40,0	62,0
Heat input MIN (Hs)	(kW)	5,4	7,2	12,1	13,8	14,2	16,7	31,1	27,6	33,4	62,2
Heat input MIN (Hi)	(kW)	4,9	6,5	10,9	12,4	12,8	15,0	28,0	24,8	30,0	56,0
GAS supply pressure	(mbar)	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0
NOZZLE pressure MAX	(mbar)	15,5	14,0	14,0	15,0	13,5	16,0	14,0	15,0	16,0	14,0
NOZZLE pressure MIN	(mbar)	8,5	7,5	8,0	9,0	7,5	9,5	10,5	9,0	9,5	10,5
Gas consumption MAX	(Sm <sup>3</sup> /h)	0,69	0,91	1,53	1,75	1,81	2,12	3,43	3,50	4,24	6,70
Gas consumption MIN	(Sm <sup>3</sup> /h)	0,52	0,69	1,15	1,31	1,35	1,59	2,95	2,62	3,18	5,90
Nozzle diameter	(mm)	2,10	2,45	3,10	3,30	3,50	3,50	4,50	2 x 3,30	2 x 3,50	2 x 4,50
<b>GAS G30</b>											
Heat input MAX (Hs)	(kW)	7,0	9,3	13,5	17,9	17,8	21,7	33,6	35,8	43,4	67,2
Heat input MAX (Hi)	(kW)	6,5	8,6	12,5	16,5	16,5	20,0	31,0	33,0	40,0	62,0
Heat input MIN (Hs)	(kW)	5,3	7,0	10,2	13,4	15,7	16,3	27,1	26,8	32,6	54,2
Heat input MIN (Hi)	(kW)	4,9	6,5	9,4	12,4	14,5	15,0	25,0	24,8	30,0	50,0
GAS supply pressure	(mbar)	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0
NOZZLE pressure MAX	(mbar)	28,2	28,0	28,0	28,5	28,0	28,1	27,6	28,5	28,1	27,6
NOZZLE pressure MIN	(mbar)	16,5	16,0	15,5	16,0	23,0	16,0	18,0	16,0	16,0	18,0
Gas consumption MAX	(kg/h)	0,51	0,68	0,99	1,30	1,30	1,58	2,42	2,60	3,16	4,84
Gas consumption MIN	(kg/h)	0,39	0,51	0,74	0,98	1,14	1,18	1,96	1,96	2,36	3,91
Nozzle diameter	(mm)	1,30	1,50	1,80	2,10	2,10	2,30	2,80	2 x 2,10	2 x 2,30	2 x 2,80
<b>GAS G31</b>											
Heat input MAX (Hs)	(kW)	7,0	9,3	13,5	17,9	17,8	21,7	33,6	35,8	43,4	67,2
Heat input MAX (Hi)	(kW)	6,5	8,6	12,5	16,5	16,5	20,0	31,0	33,0	40,0	62,0
Heat input MIN (Hs)	(kW)	5,3	7,0	10,2	13,4	15,7	16,3	27,1	26,8	32,6	54,2
Heat input MIN (Hi)	(kW)	4,9	6,5	9,4	12,4	14,5	15,0	25,0	24,8	30,0	50,0
GAS supply pressure	(mbar)	37,0	37,0	37,0	37,0	37,0	37,0	37,0	37,0	37,0	37,0
NOZZLE pressure MAX	(mbar)	36,2	35,7	35,7	36,2	35,7	36,2	35,5	36,2	36,2	35,5
NOZZLE pressure MIN	(mbar)	22,0	20,0	20,0	20,0	28,0	20,0	23,5	20,0	20,0	23,5
Gas consumption MAX	(kg/h)	0,50	0,67	0,97	1,28	1,28	1,55	2,40	2,56	3,10	4,80
Gas consumption MIN	(kg/h)	0,38	0,50	0,73	0,96	1,13	1,16	1,94	1,92	2,32	3,90
Nozzle diameter	(mm)	1,30	1,50	1,80	2,10	2,10	2,30	2,80	2 x 2,10	2 x 2,30	2 x 2,80

## INSTALLATION

# Ventilation of the ambient



**Appliances must be installed in well-ventilated and manned ambient, in compliance with current legislation**

The unit leaves the combustion products into the environment in which it is used (appliance type A1). It is therefore necessary to **ensure ventilation and air changes of the premises in which the appliance is installed**, realizing appropriate air outlet openings on the perimeter walls of the same, or creating a system of mechanical ventilation. To ensure a sufficient air change, the flow of air needed can be calculated using the following equation (UNI EN 13410):

$$V_{\text{tot}} = \Sigma Q_{\text{nb}} \times L$$

- $V_{\text{tot}}$  air change flow rate in m<sup>3</sup>/h
- $\Sigma Q_{\text{nb}}$  total heating power installed in the premises in kW
- $L$  air change coefficient (must be  $\geq 10$  m<sup>3</sup>/h / kW)

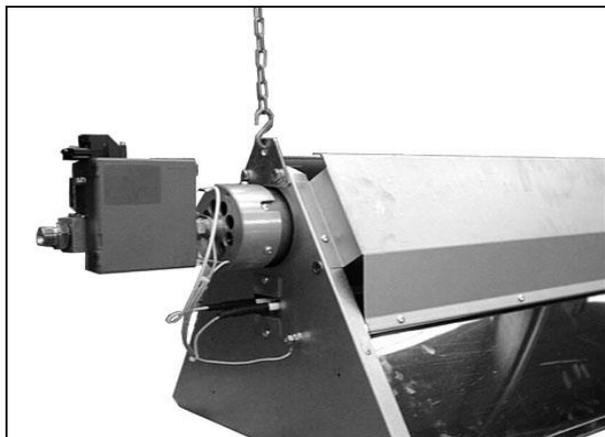
**IMPORTANT:** air change coefficient “L” to be used **MUST NOT** be lower than **10 m<sup>3</sup>/h for each kW of installed power**

For **NO reason** the appliance(s) can be installed:

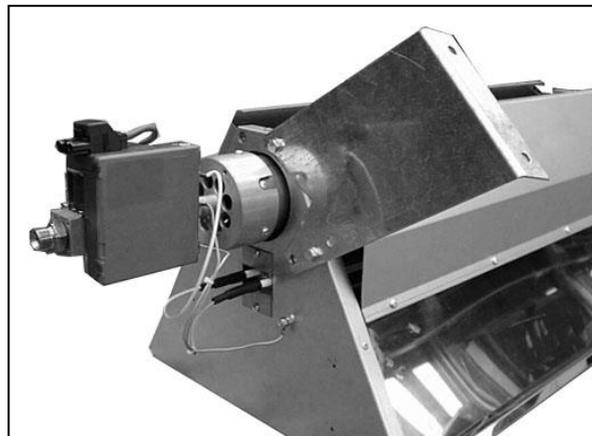
- in rooms smaller than 12 m<sup>3</sup>
- in ambient used as residential ambient
- where wind speed is higher than 2 m/s

# Positioning

The appliances can be installed on walls / pillars, or hanging at ceiling. On request, we can provide **supports** (S hooks and chains are excluded) for suspension at ceiling (picture 1), or **wall brackets** to fix the heaters on the wall (picture 2) with **different angled positions for the heater**. The following figures will show you how to install all types of appliances.



picture 1 – Installation with chains **C-RADplus**



picture 2 – Installation at wall **C-RADplus**



picture 1 – Installation with chains **C-RAD**



picture 2 – Installation at wall **C-RAD**

The brackets provided by SIABS allow an angle of installation variable once mounted on a wall or pillar, in order to get a better heat distribution (picture 3, supports for C-RAD version)



picture 3 – different angles : 5° , 15° , 30° , 45°

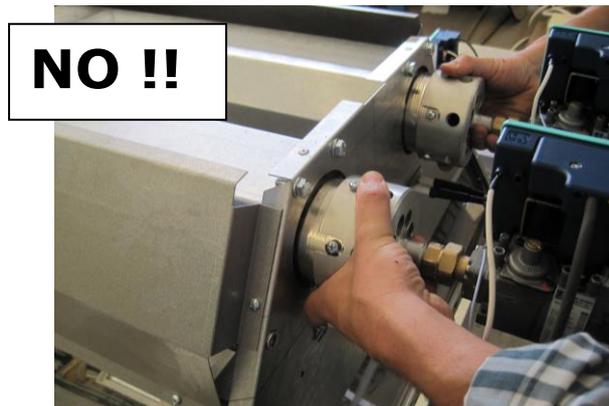
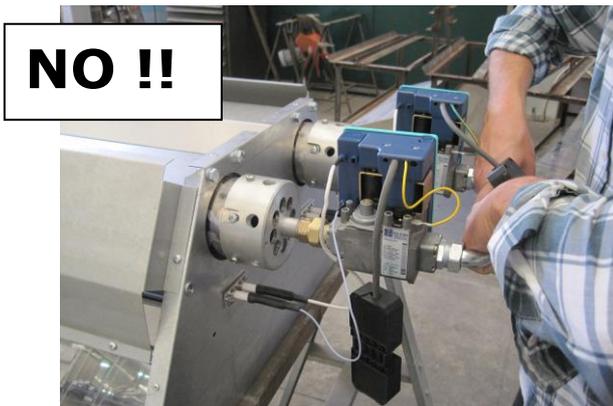
**IMPORTANT!**

- at each side of the burner 2 hooks are provided with M8 inserts, for fixing to a wall or at ceiling by means of appropriate brackets (not supplied, available on request); **do not create other anchor points on the carpentry of the heater and in particular on the body burner, but use only those designed by the factory**
- **we recommend SIABS original brackets** for installation of the radiant heaters
- for fixing brackets on a wall or pillars **assess the consistency of walls and the load applied, in order to choose the correct anchors to be used**; in any case provide blocks with M8 screw minimum diameter (e.g. anchor Fischer TA - M in steel, with M8 screw)

**IMPORTANT:** appliances must be installed **in horizontal position**, contact us in case of different inclination. In any case, the system of fixing / suspension must allow thermal expansion of appliance (some millimetres depending on the model).

## Handling

During extraction of the appliances from package and for all operations of handling till final place of installation, gas valves / flame controls or flanges of the injection group must **NOT** be used as lifting points, as in the pictures below.



Appliances must be taken at the installation point / height inside its package or using M8 inserts: **all other parts of the appliances are NOT designed to withstand its weight.**

## MINIMUM HEIGHT OF INSTALLATION (FOR PEOPLE COMFORT)

Indicative heights for the installation of appliances are as follows:

MODEL	HEIGHT of INSTALLATION (mt)
4P	3,0
6P	3,5
8P	4,0
10P	5,0
12PR	5,5
12P	6,0
16P	7,0
10+10P	8,0
12+12P	9,0
16+16P	10,0

Height "MIN" means the minimum height at which the appliance should be installed so that people who are in radiated zone, **are not subject to excessive heat**.

Quotes relate to appliances **installed in horizontal position**; for appliances with angled position (15 ÷ 60 °), the minimum height can be reduced roughly between a 5 % (15 ° angle) and a 20 % (60 ° angle).

Quotes relate to installation with **ambient temperature of 10 ÷ 12 °C**; in case of ambient with higher or lower temperatures the minimum height of installation must be reviewed; consider a reduction of 5 % (for temperatures lower of approx. 5 ° C) or increase of 5 % (for temperatures higher of approx. 5 ° C).

Above MINIMUM **heights of installation are indicative**, consult us each case to select the most advisable unit and the best height of installation (mostly for limit values), and for doubts about MAXIMUM height of installation.

## MINIMUM DISTANCES FROM FLAMMABLE SURFACES

**IMPORTANT:** flammable materials inside the radiation could begin to burn and cause fires.



**SURFACES CLOSE to APPLIANCES MUST BE DONE IN MATERIAL of CLASS 'A0' with respect TO FIRE RESPONSE (NOT COMBUSTIBLE and NOT FLAMMABLE) and with DEGREE of RESISTANCE TO FIRE EQUAL or MORE THAN "REI 90"**

Minimum distances of installation must be respected between the heating surface of the appliances and the adjacent walls, **inside the area of radiation and outside**, if they are not protected against radiation or are flammable materials; in case below minimum distances can not be met, consider to mount screens for the heat.

Pay special attention also in cases of installing appliances above crane ways, to prevent damage to motor and electric cables!

The **MINIMUM** distances are as follows:

MODEL	MINIMUM distance (mt) between heater and ...			
	ceiling	floor	front	sides
4P	1,0	2,0	1,0	1,0
6P	1,0	2,5	1,0	1,0
8P	1,5	3,0	1,5	1,5
10P	1,5	4,0	1,5	1,5
12PR	1,5	4,5	2,0	1,5
12P	1,5	4,5	2,0	1,5
16P	1,5	5,0	2,0	1,5
10+10P	2,0	5,5	2,5	2,0
12+12P	2,0	6,0	2,5	2,0
16+16P	2,0	6,5	2,5	2,0

**NOTE – contact us in case of different distances or special cases**

## CONNECTION TO GAS SUPPLY

**IMPORTANT:** hydraulic connection of the appliances to the gas distribution net must be made according to information given in this technical book exclusively by professionally qualified staff.

The appliances are supplied according to the type of gas chosen, and then before making the connection to the power network of gas, **make sure that the gas used and pressure of gas circuit correspond to what is shown on the data plate label** of the unit. **Before connection to the gas pipeline, make sure that the pipes are properly cleaned and produced in accordance with regulations in force in the country of installation.**

**NOTICE:** provide a **fuel interception tap** close to the appliance, and with easily accessible position; make the **connection between the appliance and the gas network using an approved steel flexible pipe.**

**IMPORTANT:** "GAS supply pressure", defined as the dynamic pressure of the circuit, or part of the circuit downstream of the pressure reducer, **with all the appliances running**, and must be detected in this condition. **With lower pressure difficulties in start-up may occur.**

Once the connection is made, **in compliance with the rules in force in the country of installation**, **a)** verify the sealing of hydraulic pipes and gas connection to the unit, **b)** check that the pressure is correct, **c)** make sure that the apparatus functions in the conditions for which it was prepared.

Gas connection is 1/2" for appliances with 1 burner (models: 4P, 6P, 8P, 10P, 12PR, 12P e 16P); 3/4" for appliances with 2 burners and 2 gas groups (models: 10+10P, 12+12P, 16+16P).

Appliances are equipped with a multifunctional group comprising: double seat valve fitted with pressure stabilizer and integrated flame control. **The stabilizer accepts a maximum inlet pressure of 50 mbar** and the valve is equipped with a pressure intakes, to measure and control incoming and outgoing pressures.

**IMPORTANT:** all appliances are **supplied already tested and set** to the properly operating pressure; **DO NOT remove seal on the pressure regulator (R): expiring of guarantee!**



Feeding gas pipeline **must be kept at a distance of at least 1 m from the zone of discharge of the combustion products** and **must not be exposed to direct irradiation of appliances**

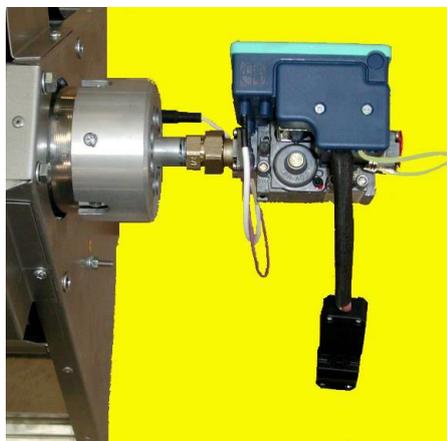
## CONNECTION TO ELECTRIC FEEDING

**IMPORTANT:** the **electrical connection of the equipment shall be made in accordance with the directions given in this technical book** exclusively by professionally qualified personnel. **The installation must be carried out in accordance with regulations in the country of installation.**

The appliance must be fed with 230 Volt / Single Phase / 50 Hz feeding. The control flame mounted on gas valve has a plug/socket connection with security hook (picture 3). Mount a bipolar switch upstream of the heater for switch-on and switch-off, so you can isolate it from electric supply. Use this manual for the size of

the power supply line, or refer to the data given in the plate label of the heater. In any case, use a cable with minimum section  $3 \times 1.5 \text{mm}^2$  (ON-OFF version) or  $4 \times 1.5 \text{mm}^2$  (TWO-STAGE version).

The wiring diagrams are shown on page 14 (ON-OFF version) and page 17 (TWO-STAGE version) of this manual.



Picture 3 – Connector for electric connection

For the electrical connection unlock the plug and unscrew its case; connect a cable according to the indications given on the terminal plug, namely:

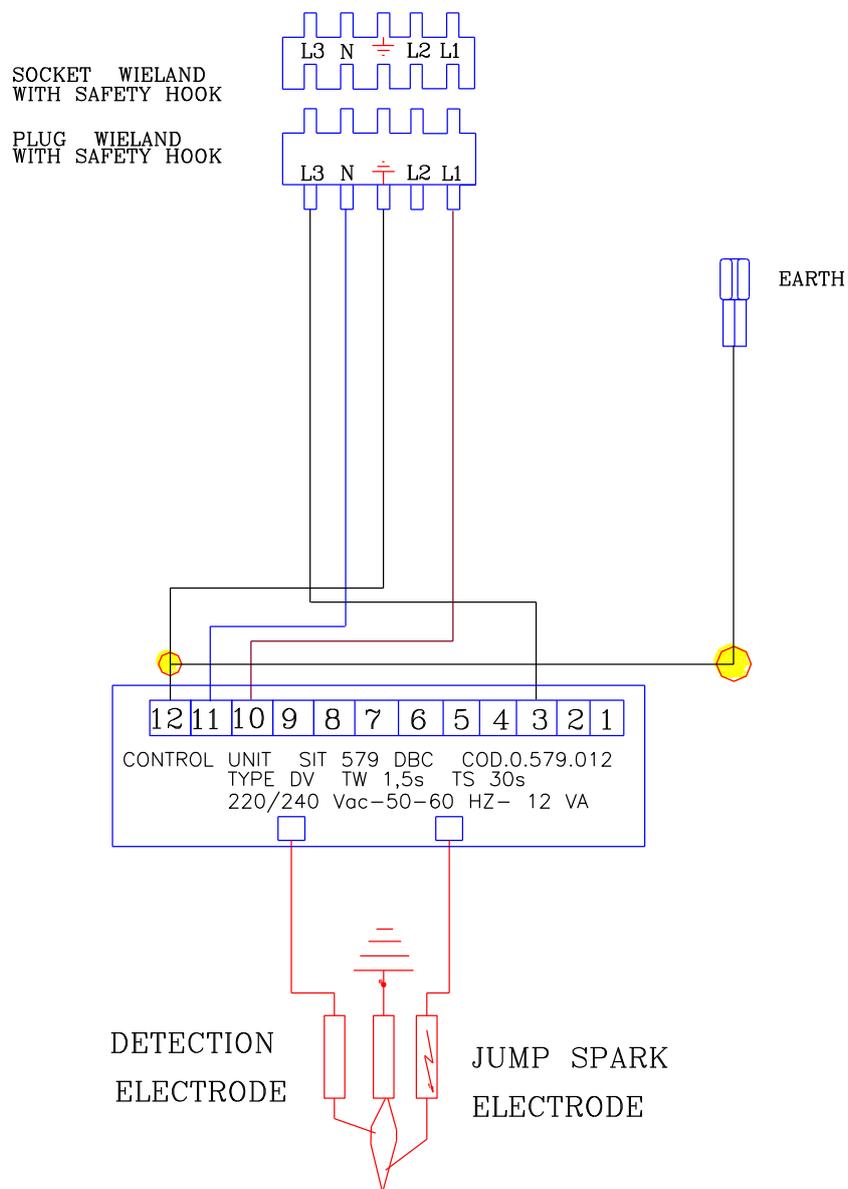
- L1** phase wire
- N** neutral wire
-  earth wire
- L2** modulator command for two-stages gas valve (if provided)
- L3** signal for burner block (if provided)

**IMPORTANT:** it is **essential** for the smooth functioning of the appliances, to **respect the Phase / Neutral polarity**, with that indicated on the power connector.

**IMPORTANT:** for safety of the user, and smooth functioning of the appliances, heater must be equipped with **efficient plant grounding**, executed according to existing regulations in the Country of installation. Under no circumstances you can use the gas connection pipeline as grounding of equipment.

## WIRING DIAGRAM

# “SIT” control unit ON-OFF



LEGEND

- L1 = BROWN, PHASE WIRE
- L2 = CONTACT for TWO-STAGES VERSION (if provide)
- L3 = BLACK, ALARM for BURNER BLOCK 220Volt (if provided)
- N = BLUE, NEUTRAL WIRE
- ⏚ = YELLOW/GREEN, EARTH WIRE

# Note for “SIT” TWO-STAGE gas valve

**IMPORTANT:**

- for this version, a specific switch for pressure modulator feeding must be placed in the main electric switchboard
  - modulator fed: HIGH pressure running
  - modulator NOT fed: LOW pressure running
- start-up of the appliance **must always take place** with the modulator fed (HIGH pressure running)
- you will find the data (heat input, pressure and gas flow rate) referring to the appliances with TWO-STAGE version, in the tables at page 6 of this manual.

- N.B.**
- **MINIMUM heating capacity** = feed L1 + N
  - **MAXIMUM heating capacity** = feed L1 + L2 + N

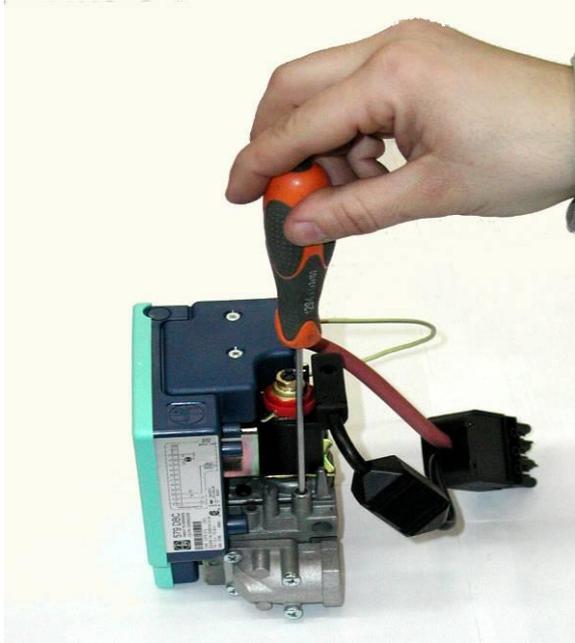
You will find the data (heat input, pressure and gas flow rate) referring to the appliances with TWO-STAGE version, in the tables at page 6 of this manual.

The TWO-STAGE version allows:

- save on gas consumption
- better comfort condition for people
- lower number of start-up / switch-off of the heater
- power reserve for particularly cold winters

## Setting of the pressure

Unscrew the screw of the **PO** pressure intake of the gas valve before the nozzle (pictures 1.A and 1.B), and connect a water column manometer. Feed the modulator and take out the yellow tap of the pressure regulator. Act, as shown in picture 2, on the CH10 screw for setting of the maximum pressure, till you get the required pressure (**turn clockwise to increase and counter clockwise to decrease**). Take out tension at the pressure modulator, and with a screw-driver act on the inner screw for minimum setting (picture 3) till you get the required pressure (**turn clockwise to increase and counter clockwise to decrease**).



Picture 1.A



Picture 1.B

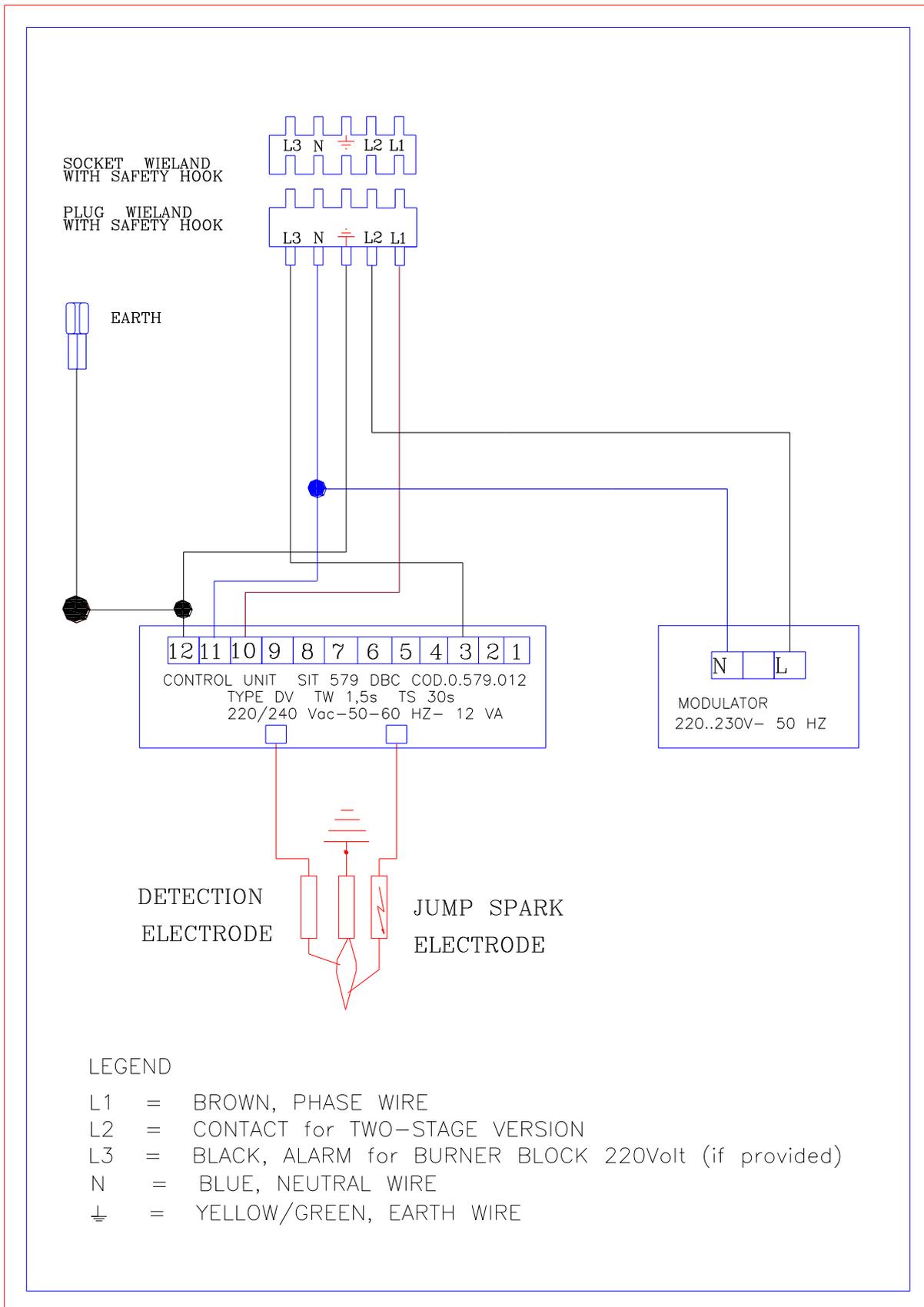


Picture 2



Picture 3

# “SIT” control unit TWO-STAGE

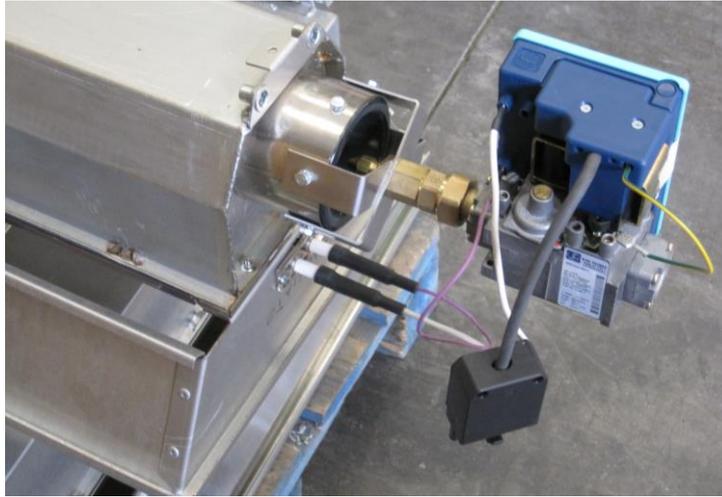


## GAS GROUP (GAS VALVE AND FLAME CONTROL)

You can find 2 different cases (both ON-OFF and TWO-STAGES versions):

### **A\_appliances with 1 burner, models 4P, 6P, 8P, 10P, 12P e 16P**

They are equipped with 1 gas valve and 1 flame control



### **B\_appliances with 2 burners, models 10+10P, 12+12P e 16+16P**

Appliances with 2 burners are equipped with:

- 2 gas valves and 2 flame controls



## PUT IN OPERATION AND FIRST START-UP

When you first start the appliances is important to **make some preliminary checks** to ensure its proper running; operations listed below are considered essential:

- make sure there are no losses in the gas line and that is properly sized
- **check that the pressure and type of gas used comply with the data on the plate of the characteristics of the appliance**
- check that the power electric line has been correctly sized, which has been respected phase - neutral polarity and that the cable grounding is connected
- make sure the mechanical installation (supports) of the appliance have been properly carried out and that the connections bolts are tight
- use only steel materials, since heat is transferred from appliances to supports

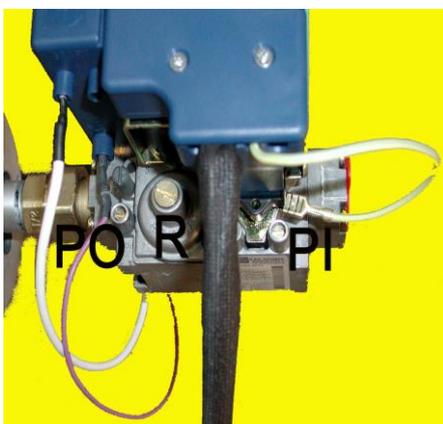
Start-up sequence includes the following phases:

- giving tension to the appliances, ignition electrode begins sparking, and the gas valve opens
- the sparking electrode ends after 30 seconds
- in the case has not been detected the presence of flame, control flame goes into block after 30 seconds; for re-start it is necessary to remove tension for a period of not less than 20 seconds: after that period of time, the start-up sequence can be repeated; if the heater continues going into block, refer to the section 'Maintenance' of this manual
- switch-off of the heater is done by taking out power supply to control unit

**IMPORTANT:** in case of failure at time of first start-up, **pressure settings have to be checked, acting on PO and PI pressure intakes**

**Only in case of maintenance**, following instruction of qualified SIABS personnel, pressure settings can be modified using the following procedure:

- remove the cap of pressure regulator (R)
- unscrew the screw of intake pressure, upstream at the nozzle (PO) and connect a suitable gauge, to check correct pressure during setting
- remove the cap of pressure regulator (R) and act, as shown in pictures (**turn clockwise to increase and counter clockwise to decrease**), on the screw of adjustment till match up to the pressure gauge reading with that stated on plate on the characteristics
- the new and correct nozzle pressure should be checked at intake pressure PO
- disconnect the pressure gauge and close the screw of intake pressure (PO)
- reassemble the cap of the regulator R and place a new suitable seal



## MAINTENANCE

# Ordinary maintenance

An appropriate use of the appliances, plus their proper and regular maintenance are essential to ensure better performance and longer working life.



**Before making any maintenance, make sure that both the gas and the power supply have been excluded, and that the apparatus is cold.** For all routine and / or extraordinary maintenance, contact only professionally qualified staff, or rather a Technical Assistance Centre authorized by SIABS

**At least once a year before the season of use**, it is strongly advisable to perform an intervention for control / inspection and cleaning:

- visual inspection of radiant surface (if any cracked ceramic plate)
- cleaning of radiant surface with compressed air with NO HUMIDITY at LOW PRESSURE from inside
- nozzle cleaning
- electrodes cleaning, correct position and efficiency sparkling
- check of keeping all the electrical connections
- search for possible losses on the gas circuit and gas valve
- check of gas pressure at nozzle
- general control of all components of the appliance
- control of openings and ventilation systems (natural and/or mechanical)
- control of alarm signals, if any

If the appliances are installed in dusty environments is advisable to clean more frequently the burners blowing compressed air at low pressure, working from holes in the flange / venturi pipe. In case the appliance is running, shut it down and wait, before you blow, that it is cold.

# Nozzle replacement

In case you need to change the type of gas for which the appliance was prepared, you should contact SIABS to get the specific transformation kit, specifying the model of appliance, serial number and the new gas. The operations must be performed by qualified personnel and in compliance with the regulations.

**IMPORTANT:** If you change the **nozzle** to move to a different type of gas (f.e.: from LPG G30 to G20 natural gas) **it is compulsory to change also the plate label with technical data**, placing a new label with the new data, **repeat checks listed at page 20** "PUT IN OPERATION and FIRST START-UP", afterwards put seal again after operation.

Act as follows:

- unscrew and take out the gas nozzle using a CH13 spanner
- screw properly new gas nozzle



## **N.B. – appliances running with G31 / G30 gases**

- some models require a special plate to be mounted on flange (reduction of air intake)
- dismount the plate (if mounted) in case of change from G31 / G30 gas to G20 gas
- mount the plate (if supplied) in case of change from G20 gas to G31 / G30 gas

# Trouble shooting

TROUBLE	POSSIBLE CAUSE	SOLUTION
<b>A the heater turns on, the ignition electrode continues to sparkle then goes to block</b>	<b>A1</b> Phase and Neutral with wrong connection <b>A2</b> The flame detection electrode is too far from the plates superface <b>A3</b> The control unit is defective	<b>A1</b> Check Phase / Neutral polarity and eart connection <b>A2</b> Verify that the flame detection electrode is approx. 4 mm from the radiant surface <b>A3</b> Replace the control unit
<b>B the heater turns on partially</b>	<b>B1</b> Insufficient gas flow <b>B2</b> Inlet gas pressure of the burner is too low <b>B3</b> Dirty nozzle	<b>B1</b> Check that gas supply has sufficient flow rate compared to gas consumption of the heater <b>B2</b> Check that the gas pressure corresponds to that shown on the plate label <b>B3</b> Clean nozzle with compressed air (NO mechanical device)
<b>C the burner does flash-back</b>	<b>C1</b> Inlet gas pressure of the burner is too high <b>C2</b> Burner or ceramic plates are dirty <b>C3</b> Ceramic plates are cracked	<b>C1</b> Check that the gas pressure corresponds to that shown on the plate label <b>C2</b> After burner is cold, blow air at low pressure on the ceramic plates surface, from inside <b>C3</b> Replace the ceramic plates
<b>D the heater doesn't turn because no gas is getting</b>	<b>D1</b> Interruption in the elctric plant <b>D2</b> No tension <b>D3</b> Solenoid valve is live, but coils are not energized	<b>D1</b> Verify voltage at connector of power supply <b>D2</b> Replace the control unit <b>D3</b> Replace the gas valve
<b>E the ignition electrode doesn't sparkle, and burner goes to block</b>	<b>E1</b> The electrode doesn't spark because of wrong distance between its tip and earth <b>E2</b> Power interruption <b>E3</b> The spark of the ignition electrode starts close to the ceramic protection, due to its breakcage, or between cable and mass	<b>E1</b> Adjust distance (closer or further) between tip of ignition electrode and mass : should be 3 ÷ 4 mm <b>E2</b> Check contacts connection of electrodes and control unit <b>E3</b> Replace the whole ignition and detection devi or just the cable, or just the electrode
<b>F the gas valve turns on, but the heater doesn't turn and goes to block</b>	<b>F1</b> Air in the gas pipe <b>F2</b> No gas	<b>F1</b> Repeat the ignition cycle several times, waiting a time of approx. 20 sec between an ignition and the other <b>F2</b> Verify that all devices of fuel interception, on gas pipeline, do not prevent passage

# Serial number (bars code)

It is advisable to communicate us the **serial number** of the appliance(s) (label with bars code) for all operation of regular or extraordinary maintenance, and for orders of spare-parts.



On the burner



Outside, on packing box

## Suggested SPARE-PARTS list

Description	Code	Quantity
. ceramic plates	2.011101145	_____
. insulating mat (white fibre)	2.000.02	_____
. kit for gas conversion = nozzle + plate label (page 5)	_____	_____
. nozzle ( <u>specify the kind of heater and gas at the order</u> )	2.000.05	_____
. SIT gas valve SIGMA 840 for models ON-OFF	2.0.840.041	_____
. SIT gas valve SIGMA 843 for models TWO-STAGES	2.0.843.008	_____
. SIT flame control 579 DBC	2.0.579.012	_____
. wiring (from flame control to electrodes)	_____	_____
. wiring (from flame control to plug)	_____	_____
. start-up device (electrodes set)	2.08312538	_____

**N.B. – specify appliance(s) model and gas type when ordering spare-parts**

## Decommissioning and disposal

**INFORMATION TO USERS** "Implementation of Directives 2002/95/EC, 2002/96/EC and 2003/108/EC, relating to the use of hazardous substances in electrical and electronic equipment, as well as waste disposal"

The product at the end of its useful life **must be separated from other waste**. You should therefore **give the equipment at end of its working life to appropriate separate collection centres of electric and electronic waste**, or return it to the dealer when purchasing a new device to be equivalent in terms of one to one.

The proper differentiated collection to deliver the decommissioned apparatus to recycling, treatment and environmentally compatible disposal, helps to avoid possible negative effects on environmental and health, and promote the recycling of materials making up the equipment.

Illegal disposal of the product by the holder imply the application of administrative penalties according to law.



**N.B. – Do not dispose of the product in mixed waste**

# CE certificate



# CERTIFICATE

Number	KIP-15966/G Rev.1	Scope	Regulation (EU) 2016/426
Issue date	30-01-2019	Module	B
Expire date	27-09-2028		
PIN	0476CT2372	Report	2002372
Replaces	—	Page	1 of 2

## EU TYPE-EXAMINATION CERTIFICATE

**Kiwa Cermet Italia declares that the products type:**

Non-domestic overhead luminous radiant heaters

Trade mark: **SIABS**

Models: *as specified in the Annex 1*

Placed on the market by **SIABS S.r.l.**

Viale del Lavoro 7, 20010 Casorezzo (MI)  
Italy

meet the essential requirements as described in the  
**Regulation (EU) 2016/426 relating to appliances burning gaseous fuels.**

Appliance type: A<sub>1</sub>

Countries: AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,  
HR, HU, IE, IS, IT, LT, LU, LV, MK, MT, NO, NL, PL, PT, RO,  
SE, SI, SK, TR

Related to the following gas groups:

Group	mbar	Group	mbar	Group	mbar
E	20	L	25	P	30; 37; 50
E+	20/25	LL	20	B	30; 50
H	20;25	3+	28-30/37	B/P	30; 50

*The above gas groups can be combined according to the standard EN437:2009 and national situation of countries.*

The assessment test have been performed using the following standards as guidelines:  
EN 419-1:2009

The validity of this certificate can be verified on request at the following e-mail address: [info@kiwa.it](mailto:info@kiwa.it)  
This certificate will expire if there have been any changes to the product that may have an impact on compliance with the requirements of the Directive. This certificate will expire if there have been any updates and / or changes to the Technical Standards applicable unless specifically approved by Kiwa Cermet Italia.

**Chief Operating Officer**  
*Giampiero Belcredi*

Firmato digitalmente da: BELCREDI GIAMPIERO  
Data: 18/02/2019 11:13:47

**Kiwa Cermet Italia S.p.A.**  
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[www.kiwa.it](http://www.kiwa.it)  
[www.kiwacermet.it](http://www.kiwacermet.it)

**GASTEC**



PRD N° 069B

Organismo Notificato n. 0476

Rev.0



Number	KIP-15966/G Rev.1	Scope	Regulation (EU) 2016/426
Issue date	30-01-2019	Module	B
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PIN	0476CT2372	Report	2002372
Replaces	—	Page	2 of 2

## EU TYPE-EXAMINATION CERTIFICATE

### ANNEX 1

#### Models:

4P, 4PM, M4D/08, UFO EB/08, 4PB, 6P, 6PM, M6D/08, ST6/08, 6PB, 8P, ST8/08, 8PB, 10P, 10PB, 10+10P, 10+10PB, 12PR, 12PRB, 12P, 12PB, 12+12P, 12+12PB, 16P, 16PB, 16+16P, 16+16PB

# CERTIFICATE

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**GASTEC**

**DATE and STAMP**

**OPERATION / NOTES**

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**DATE and STAMP**

**OPERATION / NOTES**

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**OPERATION / NOTES**

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**via Del Lavoro, 7**  
**20010 – Casorezzo (MILAN)**  
**ITALY**

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*Continuous development to improve the product could cause changes of above without notice.*